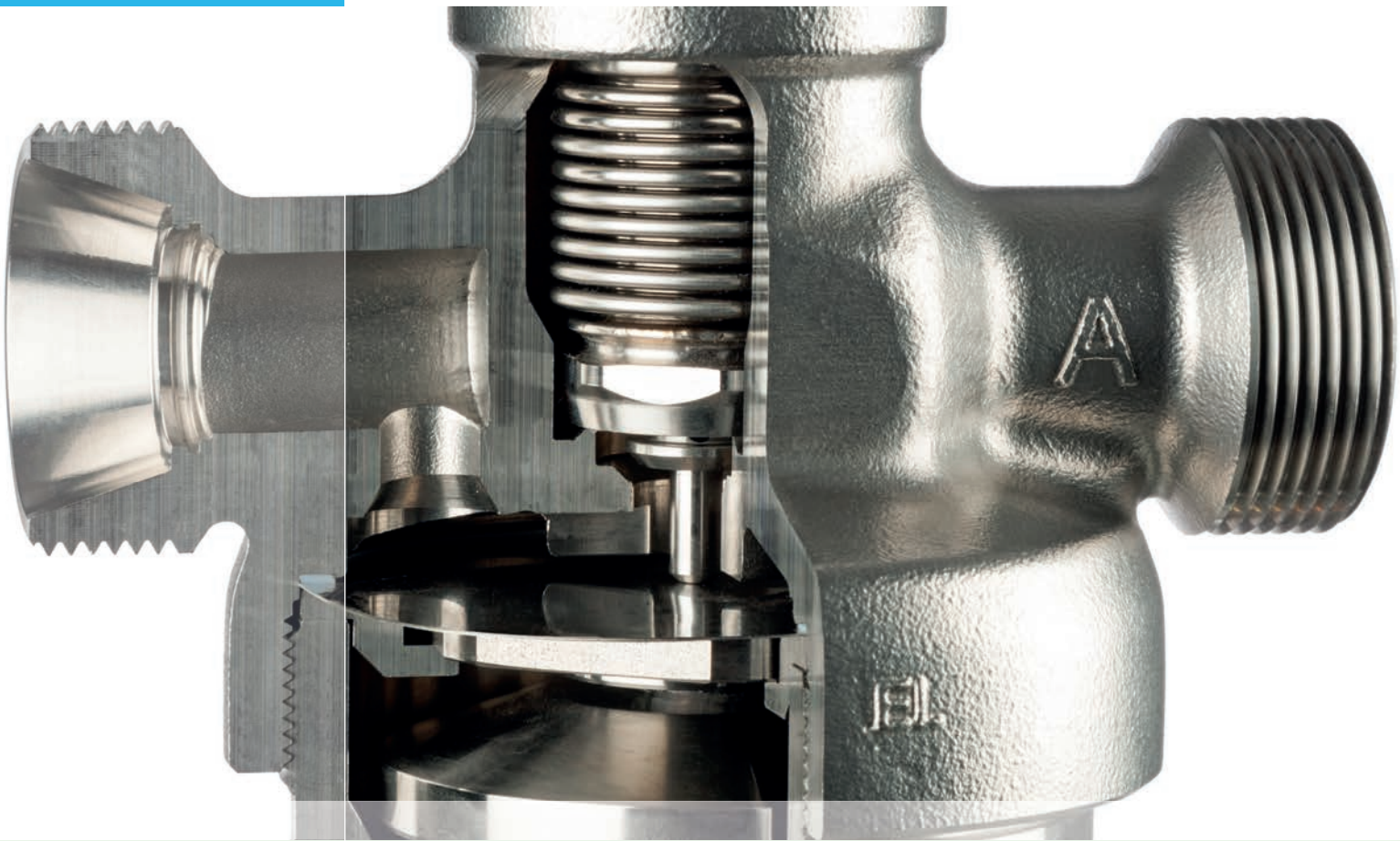
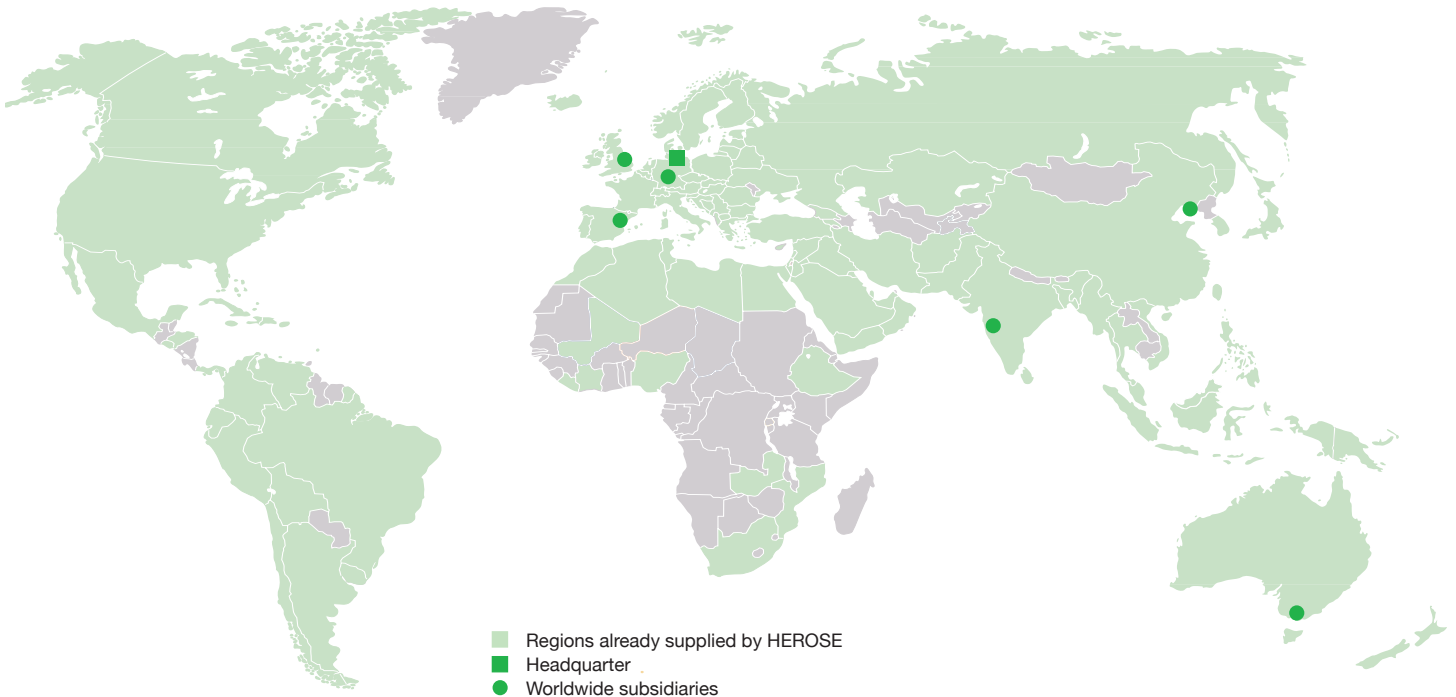


**CRYOGENIC
2024**

Valves for Cryogenic Applications



HEROSE worldwide



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





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Our aim is simple: Perfection.
The result: products on the very highest level.



Valves for cryogenic liquefied industrial gases

When liquefied at cryogenic temperatures, the volume of industrial gases reduces by a factor of up to 600 and therefore enables economic solutions for transport and storage. Our know-how in the development and manufacture of valves for

cryogenic applications guarantees maximum process reliability in the handling of industrial gases. All components are automatically de-greased and therefore meet the stringent requirements for use with oxygen.

Transport



Industrial gases are liquefied at cryogenic temperatures and transported in special trailer from the air separation plant to the customer. Thanks to lightweight HEROSE valves, the payload can be increased.

Storage



Depending on the quantity, cryogenic air gases are stored in fixed storage tanks with capacities from 5,000 to 50,000 litres. Compact HEROSE filling modules ensure safe and convenient handling during the filling process.

Processes



For the industrial production of high purity nitrogen, oxygen, argon and other air gases, the individual air components are separated using a thermal process in air separation plants.

The necessary repair and maintenance work in the Cold Box is greatly simplified by the use of HEROSE Top Entry valves.

HEROSE is one of the worldwide leading manufacturers of valves for industrial applications. For over 145 years we have developed, produced and sold valves for cryogenic technology and pressure vessel construction and set standards for the safe handling of technical gases, vapours and liquids. With a production volume of more than 400,000 valves per year, we are one of the most experienced suppliers in our sector. Our products are in successful use throughout the world.

Our partners in industry and business expect us to supply reliable valves, which meet the high demands of the future. They also expect a sound company and continuous product development from their business partners. These values form the foundation of the HEROSE company philosophy.



Valves for cryogenic liquefied natural gas (LNG)

Natural gas is liquefied at a temperature of -161°C and enables this versatile fuel to be supplied without depending on pipelines. We use our many years of experience in the

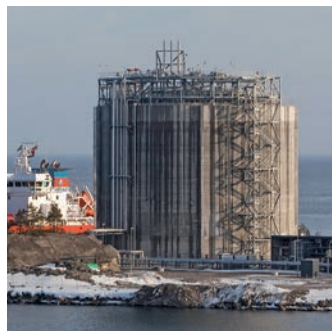
field of industrial air gases to provided valves which are optimised for small-scale LNG applications. If required, Fire Safe according to EN ISO 10497.

Transport



Special road trailer are used to transport LNG from the liquid gas storage facility to the users' satellite stations. Because of frequent filling, transportation and unloading, they are subjected to extreme stresses. HEROSE supplies the valves for liquefied natural gas, approved for LNG according to DIN EN 12567.

Storage



Cryogenic liquefied natural gas is stored in small-scale tank storage facilities with capacities from 10,000 to 100,000 m^3 . HEROSE valves have proved themselves in many tank storage filling and removal lines, including for safety-relevant valves, which are fire safe approved according to EN ISO 10497.

Fuelling



The use of LNG as fuel for ships has considerable environmental advantages – lower emissions of carbon dioxide, sulphur dioxide and nitrogen oxides. We offer a wide range of valves for marine installations with extreme demands with regard to fire safety. In addition, we have developed complete solutions for the associated infrastructure.

Processes



To supply customers with natural gas in various aggregate states according to their requirements, increasing numbers of decentralised liquefaction and re-gasification units are being constructed. HEROSE supplies a wide range of valves to cater for the various process requirements.

Storage and Transportation of Cryogenic Gases

Overview of Products



Globe Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01301	DN10 - DN50	Socket for copper stubs Socket for stainl. steel stubs	PN50	-196°C - +120°C 77K - 393K	27
01301	DN10 - DN50	Copper stubs	PN50	-196°C - +120°C 77K - 393K	28
01301	DN10 - DN50	Stainless steel stubs	PN50	-196°C - +120°C 77K - 393K	29
01305	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	30
02401	DN10 - DN50	Male thread	PN50	-196°C - +120°C 77K - 393K	31
02401	DN10 - DN50	Union type braze fittings for copper pipe	PN50	-196°C - +120°C 77K - 393K	32
02401	DN10 - DN50	Union type weld fittings for stainless steel pipe	PN50	-196°C - +120°C 77K - 393K	33
01331	DN10 - DN150	Butt weld connection Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	34
01335	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	35
03331	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	36
03331	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	37
03331	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	38
01351	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	39
01355	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	40
03351	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	41
03351	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	42
03351	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	43
01311	DN10 - DN50	Socket for copper stubs Socket for stainl. steel stubs	PN50	-196°C - +120°C 77K - 393K	44
01311	DN10 - DN50	Copper stubs	PN50	-196°C - +120°C 77K - 393K	45
01311	DN10 - DN50	Stainless steel stubs	PN50	-196°C - +120°C 77K - 393K	46
01315	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	47
02411	DN10 - DN50	Male thread	PN50	-196°C - +120°C 77K - 393K	48
02411	DN10 - DN50	Union type braze fittings for copper pipe	PN50	-196°C - +120°C 77K - 393K	49
02411	DN10 - DN50	Union type weld fittings for stainless steel pipe	PN50	-196°C - +120°C 77K - 393K	50

Storage and Transportation of Cryogenic Gases

Overview of Products



Globe Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01321	DN10 - DN150	Butt weld connection Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	51
01325	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	52
03321	DN15 - DN150	Flanged DIN EN PN16	PN16	-196°C - +120°C 77K - 393K	53
03321	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	54
03321	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	55
03321	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	56
01341	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	57
01341	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	58
01345	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	59
03341	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	60
03341	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	61
03341	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	62
03341	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	63
01252	DN10 - DN50	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	64
03252	DN15 - DN50	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	65
03252	DN15 - DN50	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	66
03252	DN15 - DN50	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	67
01420	DN10 - DN100	Butt weld connection	PN50 (DN100=PN40)	-196°C - +120°C 77K - 393K	68-70
01950	DN6 - DN15	Butt weld or threaded connection	PN42	-196°C - +7°C 77K - 348K	71
11C01	DN10 - DN50	Butt weld connection	PN63	-269°C - +80°C 4K - 353K	72-77

Storage and Transportation of Cryogenic Gases

Overview of Products



Angle Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01332	DN15 - DN50	Butt weld connection Socket weld connection	PN50	-196°C - +120°C 77K - 393K	78
01352	DN15 - DN50	Butt weld connection Socket weld connection	PN50	-196°C - +120°C 77K - 393K	79
01322	DN15 - DN50	Butt weld connection Socket weld connection	PN50	-196°C - +120°C 77K - 393K	80
01342	DN15 - DN50	Butt weld connection Socket weld connection	PN50	-196°C - +120°C 77K - 393K	81

Gate Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
09340	DN25 - DN100	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	82
09345	DN25 - DN65	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	83
09440	DN25 - DN65	Male thread for union connection	PN50	-196°C - +120°C 77K - 393K	84
09440	DN25 - DN65	Union type butt weld fittings	PN50	-196°C - +120°C 77K - 393K	85

Butterfly Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
17800	DN80 - DN400	Butt weld connection	PN10-PN25	-165°C - +100°C 108K - 373K	86
17800	DN100 - DN400	Butt weld connection	PN10-PN25	-165°C - +100°C 108K - 373K	87

Fill Cluster

Type	Nominal size	Connections	Working pressure	Temperature	Page
07003	DN25 - DN40	Inlet: female thread Outlet: 2x stainless steel pipes	PN50	-196°C - +120°C 77K - 393K	88
07004	DN25 - DN40	Inlet: Mueller flange Outlet: 2x stainless steel pipes	PN50	-196°C - +120°C 77K - 393K	89
07013	DN25 - DN40	Inlet: female thread Outlet: 2x stainless steel pipes	PN50	-196°C - +120°C 77K - 393K	90
07018	DN25 - DN40	Inlet: female thread Outlet: 2x stainless steel pipes	PN50	-196°C - +120°C 77K - 393K	91
07015	DN25 - DN40	Inlet: Air Liquide flange Outlet: socket weld conn.	PN50	-196°C - +120°C 77K - 393K	92
07015	DN25 - DN40	Inlet: Air Liquide flange Outlet: socket weld conn.	PN50	-196°C - +120°C 77 conn.K - 393K	93
07016	DN25 - DN40	Inlet: Mueller flange Outlet: 2x stainless steel pipes	PN50	-196°C - +120°C 77K - 393K	94
07012	DN25 - DN40	Inlet: Flange DIN EN PN40 Outlet: socket weld conn.	PN40	-196°C - +120°C 77K - 393K	95
07017	DN25 - DN40	Inlet: Air Liquide flange Outlet: socket weld conn.	PN50	-196°C - +120°C 77K - 393K	96

Storage and Transportation of Cryogenic Gases

Overview of Products



Fill Cluster

Type	Nominal size	Connections	Working pressure	Temperature	Page
07017	DN25 - DN40	Inlet: Air Liquide flange Outlet: socket weld conn.	PN50	-196°C - +120°C 77K - 393K	97
070XX	DN25 - DN40	Flow rates Fill Cluster			98

Spare Parts for Valves and Fill Cluster

Type	Specification	Nominal size	Suitable for Valve type	Page
28203	Disc complete, brass	DN10 - DN150	01301, 01305, 01311, 01315, 01321, 01322, 01325, 01331, 01332, 01335, 01420, 01423, 02401, 02411, 03321, 03331	99
28203	Disc complete, stainless steel	DN10 - DN200	01341, 01342, 01345, 01351, 01352, 01353, 01355, 03341, 03351	99
28203	Check disc complete, brass	DN10 - DN150	01301, 01305, 01311, 01315, 01321, 01322, 01325, 01331, 01332, 01335, 02401, 02411, 03321, 03331	100
28205	Check disc complete, stainless steel	DN10 - DN150	01341, 01342, 01345, 01351, 01352, 01355, 03341, 03351	100
29240	Disc complete, brass	DN25 - DN100	09340, 09343, 09345, 09440, 09443	101
29256	Wedge complete	DN25 - DN100	09340, 09343, 09345, 09440, 09443	102
28301	Topwork, bronze	DN10 - DN150	01301, 01305, 01331, 01335, 02401, 03331	103
28351	Topwork, stainless steel	DN10 - DN150	01351, 01355, 03351	104
28311	Topwork, bronze	DN10 - DN150	01311, 01315, 01321, 01325, 02411, 03321, 07003, 07004	105
28341	Topwork, stainless steel	DN10 - DN200	01341, 01345, 03341	106
01950	Topwork, brass	DN6 - DN15	01950	107
28302	Topwork angle type, bronze	DN15 - DN50	01332	108
28352	Topwork angle type, stainless steel	DN15 - DN50	01352	109
28312	Topwork angle type, bronze	DN15 - DN50	01322, 07003, 07004, 07015	110
28342	Topwork angle type, stainless steel	DN15 - DN50	01342, 07017	111
29340	Topwork gate valve, stainless steel	DN25 - DN100	09340	112
30000	Sealing spare part kit	DN10 - DN150	01301, 01305, 01311, 01315, 01321, 01322, 01325, 01331, 01332, 01335, 01353, 02401, 02411, 03321, 03331	113
30290	Sealing spare part kit	DN25 - DN100	09340, 09345, 09440	114
30293	Sealing spare part kit	DN25 - DN100	09343, 09443	115
30001, 30002, 30341, 30343	Sealing spare part kit	DN10 - DN200	01341, 01342, 01343, 01345, 01351, 01352, 01355, 01420, 01423, 03341, 03343, 03351	116
30353	Sealing spare part kit	DN20 - DN80	01353	117
31514	Disc sealing spare part kit	DN10 - DN150	01301, 01305, 01311, 01315, 01321, 01322, 01325, 01331, 01332, 01335, 01341, 01342, 01345, 01351, 01352, 01355, 02401, 02411, 03321, 03331, 03341, 03351	118
17800	Spare part kit	DN80 - DN400	17800	119
55317, 55318	Handwheel	DN10 - DN200	all manually operated valves	120
55379	Position indicator	DN10 - DN150	55379	121
55579	Valve safety catch capsule	DN15 - DN150	all manually operated valves	122
66394	Alcatraz valve locking	DN10 - DN200	all manually operated valves	123

Storage and Transportation of Cryogenic Gases

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Spare Parts for Valves and Fill Cluster

Type	Specification	Nominal size	Suitable for Valve type	Page
11C01	Sealing spare part kit - without bellow & bellow top position	DN10 - DN50	11C01	124
11C01	Sealing spare part kit - bellow bottom position	DN10 - DN50	11C01	125
11C01	Disc complete, stainless steel	DN10 - DN50	11C01	126
50155	Anti-icing shield	DN10 - DN200	all manually and actuated valves with bonnet extension	127-131

Ball Valves and Spare Parts

Type	Nominal size	Connections	Working pressure	Temperature	Page
15C01	DN15 - DN50	Socket weld connection, Butt weld connection, Thread type NPT, Thread type BSPT	PN50-100	-196°C - +65°C 77K - 338K	132-134
15C01	DN15 - DN50	-	PN50-100	-196°C - +65°C 77K - 338K	135
15C01	DN15 - DN50	-	PN50-100	-196°C - +65°C 77K - 338K	136
15C01	DN15 - DN50	-	PN50-100	-196°C - +65°C 77K - 338K	137
15C01	DN15 - DN50	-	PN50-100	-196°C - +65°C 77K - 338K	138
15C02	DN15 - DN50	Socket weld connection, Butt weld connection, Thread type NPT, Thread type BSPT	PN70-100	-60°C - +190°C 213K - 463K	139-141
15C01	DN15 - DN50	-	PN70-100	-196°C - +65°C 77K - 338K	142-144
15C02	DN15 - DN50	-	PN70-100	-60°C - +190°C 213K - 463K	145-147

Storage and Transportation of Cryogenic Gases

Overview of Products



Actuated Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01313	DN10 - DN50	Socket for copper stubs Socket for stainl. steel stubs	PN50	-196°C - +120°C 77K - 393K	148
01313	DN10 - DN50	Stainless steel stubs	PN50	-196°C - +120°C 77K - 393K	149
01314	DN10 - DN50	Thread type G, Thread type NPT	PN50	-196°C - +120°C 77K - 393K	150
02413	DN10 - DN50	Male thread	PN50	-196°C - +120°C 77K - 393K	151
01343	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	152
01343	DN10 - DN150	Butt weld connection, Socket weld connection, Thread type G (BSPP) Thread type NPT	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	153-155
01343	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	156
03323	DN15 - DN150	Flanged DIN EN PN16	PN16	-196°C - +120°C 77K - 393K	157
03323	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	158
03323	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	159
03323	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	160
03343	DN15 - DN150	Flanged DIN EN PN16	PN16	-196°C - +120°C 77K - 393K	161
03343	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	162
03343	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	163
03343	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	164
03343	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	165
01343	DN15 - DN100	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	166/167
01423, 01428	DN10 - DN100	Butt weld connection	PN50	-196°C - +120°C 77K - 393K	168-170
11C01	DN10 - DN25	Butt weld connection	up to PN63	-269°C - +80°C 4K - 353K	171-182
27100	DN10 - DN150	Electric actuator for globe valves		-20°C - +60°C 253K - 333K	183

Storage and Transportation of Cryogenic Gases

Overview of Products



Actuated Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
27511	DN10 - DN150	Pneumatic actuator for globe valves, spring to close		-20°C - +80°C 253K - 353K	184
27511	DN10 - DN150	Pneumatic actuator for control valves, spring to close		-20°C - +80°C 253K - 353K	185
27512	DN10 - DN150	Pneumatic actuator for globe valves, spring to open		-20°C - +80°C 253K - 353K	186
27512	DN10 - DN150	Pneumatic actuator for control valves, spring to open		-20°C - +80°C 253K - 353K	187
27514	DN10 - DN150	Pneumatic actuator for globe valves, spring to close		-40°C - +100°C 233K - 373K	188
27514	DN10 - DN150	Pneumatic actuator for globe valves, spring to close		-40°C - +100°C 233K - 373K	189
27514	DN10 - DN150	Pneumatic actuator for control valves, spring to close		-40°C - +100°C 233K - 373K	190
27514	DN10 - DN25	Pneumatic actuator for globe valves FullX, spring to close		-40°C - +100°C 233K - 373K	191/192
27515	DN10 - DN150	Pneumatic actuator for globe valves, spring to open		-40°C - +100°C 233K - 373K	193
27515	DN10 - DN150	Pneumatic actuator for globe valves, spring to open		-40°C - +100°C 233K - 373K	194
27515	DN10 - DN150	Pneumatic actuator for control valves, spring to open		-40°C - +100°C 233K - 373K	195
27553	DN10 - DN50	Piston actuator for 11C01, spring to close		-20°C - +80°C 253K - 353K	196/197
01353	DN20 - DN80	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	198
09343	DN25 - DN100	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	199
09443	DN25 - DN65	Male thread for union connection	PN50	-196°C - +120°C 77K - 393K	200
17800	DN80 - DN400	Butt weld connection	PN10-PN25	-165°C - +100°C 108K - 373K	201
17800	DN100 - DN400	Butt weld connection	PN10-PN25	-165°C - +100°C 108K - 373K	202

Storage and Transportation of Cryogenic Gases

Overview of Products



Accessories for Actuated Valves

Type	Specification	Temperature	Page
40060	Solenoid valve	-30°C - +90°C 243K - 363K	203
41060	Solenoid valve	-30°C - +90°C 243K - 363K	204
41060	Solenoid valve, suitable for oxygen	0°C - +90°C 273K - 363K	205
40061	Solenoid valve EEx	0°C - +80°C 273K - 353K	206
41061	Solenoid valve EEx	0°C - +80°C 273K - 353K	207
40070, 40071	Position and limit switches	-20°C - +80°C 253K - 353K	208
41070, 41071	Position and limit switches	-20°C - +80°C 253K - 353K	209
40080	Inductive proximity switches	-25°C - +70°C 248K - 343K	210
41080	Inductive proximity switches	-25°C - +70°C 248K - 343K	211
08002	Air control sets	-10°C - +60°C 263K - 333K	212
08003	Air control sets	-60°C - +90°C 213K - 363K	213
40090	Electropneumatic positioner	-30°C - +80°C 243K - 353K	214
41090	Electropneumatic positioner	-30°C - +80°C 243K - 353K	215
40091	Electropneumatic positioner EEx	-30°C - +50°C 243K - 323K	216
41091	Electropneumatic positioner EEx	-30°C - +50°C 243K - 323K	217
40090	Pneumatic positioner	-40°C - +80°C 233K - 353K	218
41090	Pneumatic positioner	-40°C - +80°C 233K - 353K	219
41281	Inductive proximity switches EEx-box	-40°C - +80°C 233K - 353K	220
55177	Weather protection hood	-196°C - +120°C 77K - 393K	221
55287	Pipe Fittings	-196°C - +120°C 77K - 393K	222
74394	Bracket for accessories	-196°C - +120°C 77K - 393K	223

Spare Parts for Actuated Valves

Type	Specification	Nominal size	Suitable for Valve type	Page
29343	Topwork gate valve, stainless steel	DN25 - DN100	09343, 09443	224
30003	Spare part kit	DN20 - DN100	01353, 01653, 01753, 01853, 09343, 09443	225

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Pressure Regulator

Type	Nominal size	Connections	Working pressure	Temperature	Page
4185	DN20	Male thread Thread type G (BSPP) Thread type NPT	PN50	-196°C - +65°C 77K - 338K	226
4186	DN20	Male thread Thread type G (BSPP) Thread type NPT	PN50	-196°C - +65°C 77K - 338K	227,229
4182	DN20	Male thread Thread type G (BSPP) Thread type NPT	PN50	-196°C - +65°C 77K - 338K	228
T118	DN20	Male thread	PN50	-196°C - +60°C 77K - 333K	230

Check Valves

Type	Nominal size	Connections	Opening pressure	Working pressure	Temperature	Page
05412	DN10 - DN50	Socket for copper stubs Socket for stainl. steel stubs	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	231
05412	DN10 - DN50	Copper stubs	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	232
05412	DN10 - DN50	Stainless steel stubs	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	233
05413	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	234
05411	DN10 - DN50	Male thread	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	235
05411	DN10 - DN50	Union type braze fittings for copper pipe	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	236
05411	DN10 - DN50	Union type weld fittings for stainless steel pipe	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	237
05416	DN10 - DN100	Butt weld connection, Socket weld connection	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	238
05415	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	239
05418	DN15 - DN100	Flanged DIN EN PN40	ca. 0,1 bar	PN40	-196°C - +120°C 77K - 393K	240
05418	DN15 - DN100	Flanged ASME B16.5 class 300	ca. 0,1 bar	class 300	-196°C - +120°C 77K - 393K	241
05418	DN15 - DN100	Flanged ASME B16.5 class 150	ca. 0,1 bar	class 150	-196°C - +120°C 77K - 393K	242

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Check Valves

Type	Nominal size	Connections	Opening pressure	Working pressure	Temperature	Page
05414	DN10 - DN100	Butt weld connection, Socket weld connection	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	243
05414	DN200	Socket weld connection	ca. 0,1 bar	PN25	-196°C - +120°C 77K - 393K	244
05417	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	ca. 0,1 bar	PN50	-196°C - +120°C 77K - 393K	245
05419	DN15 - DN100	Flanged DIN EN PN40	ca. 0,1 bar	PN40	-196°C - +120°C 77K - 393K	246
05419	DN15 - DN100	Flanged ASME B16.5 class 300	ca. 0,1 bar	class 300	-196°C - +120°C 77K - 393K	247
05419	DN15 - DN100	Flanged ASME B16.5 class 150	ca. 0,1 bar	class 150	-196°C - +120°C 77K - 393K	248

Spare Parts for Check Valves

Type	Specification	Nominal size	Suitable for Valve type	Page
28205	Check disc complete, brass	DN10 - DN150	05411, 05412, 05413, 05415, 05416, 05418	249
28206	Check disc complete, stainless steel	DN10 - DN150	05414, 05417, 05419	249
30514	Sealing spare part kit	DN10 - DN150	05411, 05412, 05413, 05414, 05415, 05416, 05417, 05418, 05419	250
31514	Disc sealing spare part kit	DN10 - DN100	05411, 05412, 05413, 05414, 05415, 05416, 05417, 05418, 05419	251

Strainers

Type	Nominal size	Connections	Mesh size	Working pressure	Temperature	Page
08411	DN10 - DN50	Male thread	0,25 mm	PN50	-196°C - +120°C 77K - 393K	252
08411	DN10 - DN50	Union type braze fittings for copper pipe	0,25 mm	PN50	-196°C - +120°C 77K - 393K	253
08411	DN10 - DN50	Union type weld fittings for stainless steel pipe	0,25 mm	PN50	-196°C - +120°C 77K - 393K	254
08412	DN10 - DN50	Socket for copper stubs Socket for stainl. steel stubs	0,25 mm	PN50	-196°C - +120°C 77K - 393K	255
08412	DN10 - DN50	Copper stubs	0,25 mm	PN50	-196°C - +120°C 77K - 393K	256
08412	DN10 - DN50	Stainless steel stubs	0,25 mm	PN50	-196°C - +120°C 77K - 393K	257
08413	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	0,25 mm	PN50	-196°C - +120°C 77K - 393K	258
08414	DN10 - DN100	Butt weld connection, Socket weld connection	0,25 mm	PN50	-196°C - +120°C 77K - 393K	259
08415	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	0,25 mm	PN50	-196°C - +120°C 77K - 393K	260

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Strainers

Type	Nominal size	Connections	Mesh size	Working pressure	Temperature	Page
08431	DN15 - DN100	Flanged DIN EN PN40	0,25 mm	PN40	-196°C - +120°C 77K - 393K	261
08431	DN15 - DN100	Flanged ASME B16.5 class 300	0,25 mm	class 300	-196°C - +120°C 77K - 393K	262
08431	DN15 - DN100	Flanged ASME B16.5 class 150	0,25 mm	class 150	-196°C - +120°C 77K - 393K	263
08417	DN10 - DN100	Butt weld connection, Socket weld connection	0,25 mm	PN50	-196°C - +120°C 77K - 393K	264
08417	DN200	Socket weld connection	0,25 mm	PN25	-196°C - +120°C 77K - 393K	265
08416	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	0,25 mm	PN50	-196°C - +120°C 77K - 393K	266
08432	DN15 - DN100	Flanged DIN EN PN40	0,25 mm	PN40	-196°C - +120°C 77K - 393K	267
08432	DN15 - DN100	Flanged ASME B16.5 class 300	0,25 mm	class 300	-196°C - +120°C 77K - 393K	268
08432	DN15 - DN100	Flanged ASME B16.5 class 150	0,25 mm	class 150	-196°C - +120°C 77K - 393K	269

Spare Parts for Strainers

Type	Specification	Nominal size	Suitable for Valve type	Page
30800, 30801	Strainer screen, Filter	DN10 - DN200	08412, 08413, 08414, 08415, 08416, 08417, 08431, 08432, 08716, 08717	270

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Abbreviations: in column Medium - type tested for
S = Steams, **G** = Gases, **L** = Liquids

Safety Valves

Type	Orifice d ₀	Inlet	Medium	Temperature	Set pressure range	Approval		Page
						TÜV-SV	ASME	
06001 gastight	6.0	Male thread 1/4" up to 1/2"	S/G/L	-196°C - +65°C 77K - 338K	5,0 - 55,0 bar 72,5 - 797,7 PSI	1048		272/273
06002, 06006	6.0	Male thread 1/4" up to 1/2"	S/G	-196°C - +150°C 77K - 423K	1,0 - 55,0 bar 14,5 - 797,7 PSI	1048	✓	274/275
06002 gastight	6.0	Male thread 1/4" up to 1/2"	S/G	-196°C - +150°C 77K - 423K	1,0 - 55,0 bar 14,5 - 797,7 PSI	1048	✓	276/277
06011 gastight	6.0	Male thread 1/4" up to 1/2"	S/G/L	-196°C - +65°C 77K - 338K	5,0 - 55,0 bar 72,5 - 797,7 PSI	1048		278/279
06012, 06016	6.0	Male thread 1/4" up to 1/2"	S/G	-196°C - +150°C 77K - 423K	1,0 - 55,0 bar 14,5 - 797,7 PSI	1048	✓	280/281
06012 gastight	6.0	Male thread 1/4" up to 1/2"	S/G	-196°C - +150°C 77K - 423K	1,0 - 55,0 bar 14,5 - 797,7 PSI	1048	✓	282/283
06474	6.0	Male thread 1/4" up to 3/4"	S/G	-196°C - +150°C 77K - 423K	0,4 - 55,0 bar 5,8 - 797,7 PSI	836		284/285
06478	6.0	Male thread 1/4" up to 3/4"	S/G	-196°C - +150°C 77K - 423K	0,4 - 55,0 bar 5,8 - 797,7 PSI	836		286/287
06386	10.5 - 14.0	Male thread 1/2" up to 1"	S/G	-196°C - +185°C 77K - 458K	0,2 - 40,0 bar 2,9 - 580,1 PSI	780	✓	288/289
06416	10.5 - 14.0	Male thread 1/2" up to 1"	S/G	-196°C - +185°C 77K - 458K	0,2 - 40,0 bar 2,9 - 580,1 PSI	780	✓	290/291
06387	10.5	Female thread 1/2"	S/G	-196°C - +185°C 77K - 458K	0,2 - 25,0 bar 2,9 - 362,6 PSI	780		292/293
06417	10.5	Female thread 1/2"	S/G	-196°C - +185°C 77K - 458K	0,2 - 25,0 bar 2,9 - 362,6 PSI	780		294/295
06388	7.0 - 23.0	Male thread 1/2" up to 2"	S/G	-196°C - +185°C 77K - 458K	2,0 - 50,0 bar 29,0 - 725,1 PSI	780	✓	296-299
06389	7.0 - 10.5	Male thread 1/2" up to 3/4"	S/G	-196°C - +185°C 77K - 458K	1,8 - 40,0 bar 26,1 - 580,1 PSI	780	✓	300/301
06418	7.0 - 23.0	Male thread 1/2" up to 2"	S/G	-196°C - +185°C 77K - 458K	2,0 - 50,0 bar 29,0 - 725,1 PSI	780	✓	302/305
06381	10.5	Male thread 1/2" up to 3/4"	S/G	-196°C - +185°C 77K - 458K	0,2 - 25,0 bar 2,9 - 362,6 PSI	780	✓	306/307
06382	10.5	Male thread 1/2" up to 3/4"	S/G	-196°C - +185°C 77K - 458K	0,2 - 25,0 bar 2,9 - 362,6 PSI	780	✓	308/309
06383	7.0 - 23.0	Male thread 1/2" up to 2"	S/G	-196°C - +185°C 77K - 458K	2,0 - 50,0 bar 29,0 - 725,1 PSI	780	✓	310/311
06413	7.0 - 23.0	Male thread 1/2" up to 2"	S/G	-196°C - +185°C 77K - 458K	2,0 - 50,0 bar 29,0 - 725,1 PSI	780	✓	312/313
06420	7.0 - 23.0	Male thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	314/315
06425	7.0 - 23.0	Male thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	316/317
06421	7.0 - 23.0	Female thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	318/319
06426	7.0 - 23.0	Female thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	320/321

Storage and Transportation of Cryogenic Gases

Overview of Products



Safety Valves

Type	Orifice d ₀	Inlet	Medium	Temperature	Set pressure range	Approval		Page
						TÜV-SV	ASME	
06440	7.0 - 23.0	Male thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	322/323
06445	7.0 - 23.0	Male thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	324/325
06441	7.0 - 23.0	Female thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	326/327
06446	7.0 - 23.0	Female thread 1/2" up to 1-1/4"	S/G	-196°C - +185°C 77K - 458K	0,4 - 50,0 bar 5,8 - 725,1 PSI	1111	✓	328/329
06801	12.5 - 23.0	Male thread 1/2" up to 1"	S/G/L d ₀ =12,5 S/G	-270°C - +225°C 3K - 498K	3,0 - 25,0 bar 43,5 - 362,6 PSI	1105		330/331
06806	12.5 - 23.0	Male thread 1/2" up to 1"	S/G/L d ₀ =12,5 S/G	-270°C - +225°C 3K - 498K	3,0 - 25,0 bar 43,5 - 362,6 PSI	1105		332/333
06800	12.5 - 23.0	Female thread 1/2" up to 1"	S/G/L d ₀ =12,5 S/G	-270°C - +225°C 3K - 498K	3,0 - 25,0 bar 43,5 - 362,6 PSI	1105		334/335
06805	12.5 - 23.0	Female thread 1/2" up to 1"	S/G/L d ₀ =12,5 S/G	-270°C - +225°C 3K - 498K	3,0 - 25,0 bar 43,5 - 362,6 PSI	1105		336/337
06810, 06815	6.0 - 10.0	Male thread 1/2" up to 3/4"	S/G/L	-270°C - +400°C 3K - 673K	0,5 - 550,0 bar 7,3 - 7977,0 PSI	1130		338-345
06820	6.0	Male thread 3/4"	S/G/L	-270°C - +400°C 3K - 673K	30,0 - 550,0 bar 435,1 - 7977,0 PSI	1130		346/347
06850, 06855	10.0 - 18.0	Male thread 1/2" up to 1-1/2"	S/G/L	-270°C - +400°C 3K - 673K	0,5 - 250,0 bar 7,3 - 3626,0 PSI	1130		348-356
55335		Female thread 3/8" up to 1"	-	-270°C - +225°C 3K - 498K	-	-		357
50288		Female thread 1/2" up to 1 1/2"	-	-	-	-		358

Overflow Valves

Type	Orifice d ₀	Inlet	Medium	Temperature	Set pressure range	Approval		Page
						TÜV-SV	ASME	
06386	10.5	Male thread 1/2" up to 3/4"	S/G	-196°C - +185°C 77K - 458K	0,5 - 35,0 bar 7,3 - 507,6 PSI	-		360/361
06381	10.5	Male thread 1/2" up to 3/4"	S/G/L	-196°C - +185°C 77K - 458K	0,5 - 35,0 bar 7,3 - 507,6 PSI	-		362/363
06001	6.0	Male thread 1/2"	S/G/L	-196°C - +65°C 77K - 338K	11,0 - 36,0 bar 159,5-522,1 PSI	-		364/365

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Changeover Valves

Type	Nominal size	Inlet	Outlet	Temperature	Working pressure	Page
06510	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	PN 50	366
06510	DN20	Union braze/weld fittings	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	PN 50	367
06510	DN32	Female thread 1-1/2"	Female thread 1" up to 1-1/2"	-196°C - +120°C 77K - 393K	PN 50	368
06512	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	PN 50	369
06520	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	PN 50	370
06530	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	PN 50	371
7111	DN32	Female thread 1" up to 1-1/2"	Female thread 1/2" up to 1"	-196°C - +120°C 77K - 393K	PN 50	372/373
06405	DN15 DN25	Female thread 3/4" up to 1"	Female thread 1/2" up to 1"	-196°C - +185°C 77K - 458K	DN15: PN 40 DN25: PN 45	374
06401	DN15	Locking sleeve Female thread	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 125 (up to max. PN250)	375
06401	DN15	Flanged	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 160 (up to max. PN 250)	376
06401	DN25	Locking sleeve Female thread	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 125 (up to max. PN250)	377
06401	DN25	Flanged	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 160 (up to max. PN 250)	378
06401	DN15 DN25	Locking sleeve, Female thread, Flanged	Locking sleeve, Female thread, Flanged	-196°C - +185°C 77K - 458K	PN 63 (up to max. PN 100)	379
06900	1/2"	Male thread	-	-196°C - +120°C 77K - 393K	-	380
06901	1/2"	Male thread	-	-196°C - +120°C 77K - 393K	-	381

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Overview of Products



Fire Safe Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01651	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	383
01655	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	384
03651	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	385
03651	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	386
03651	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	387
01641	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	388
01641	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	389
01645	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-196°C - +120°C 77K - 393K	390
03641	DN15 - DN150	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	391
03641	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	392
03641	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	393
03641	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	394

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Fire Safe Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01643	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	395
01643	DN10 - DN150	Butt weld connection, Socket weld connection, Thread type G (BSPP) Thread type NPT	PN50 (DN150=PN40)	-196°C - +120°C 77K - 393K	396-398
01643	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	399
01653	DN20 - DN80	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	400
05614	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-196°C - +120°C 77K - 393K	401

Fire Safe and Offshore Applications

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Offshore Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01751	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	402
01755	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	403
03751	DN15 - DN150	Flanged DIN EN PN16	PN16	-255°C - +120°C 18K - 393K	404
03751	DN15 - DN150	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	405
03751	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	406
03751	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	407
01741	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-255°C - +120°C 18K - 393K	408
01741	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	409
01745	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	410
03741	DN15 - DN150	Flanged DIN EN PN16	PN16	-255°C - +120°C 18K - 393K	411
03741	DN15 - DN150	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	412
03741	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	413
03741	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	414
03741	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	415
01272	DN10 - DN50	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	416
01470	DN10 - DN100	Butt weld connection	PN50 (DN100=PN40)	-196°C - +120°C 77K - 393K	417
01743	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-255°C - +120°C 18K - 393K	418
01743	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	419

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Offshore Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
03743	DN15 - DN150	Flanged DIN EN PN16	PN16	-255°C - +120°C 18K - 393K	420
03743	DN15 - DN150	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	421
03743	DN15 - DN150	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	422
03743	DN15 - DN150	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	423
03743	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	424
01473	DN10 - DN100	Butt weld connection	PN50	-255°C - +120°C 18K - 393K	425
01753	DN20 - DN80	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	426
27521	DN10 - DN100	Pneumatic actuator for globe valves, spring to close	-	-40°C - +80°C 233K - 353K	427
27521	DN10 - DN100	Pneumatic actuator for control valves, spring to close	-	-40°C - +80°C 233K - 353K	428
27522	DN10 - DN100	Pneumatic actuator for globe valves, spring to open	-	-40°C - +80°C 233K - 353K	429
27522	DN10 - DN100	Pneumatic actuator for control valves, spring to open	-	-40°C - +80°C 233K - 353K	430
05714	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	431
05717	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	432
05719	DN15 - DN100	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	433
05719	DN15 - DN100	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	434
05719	DN15 - DN100	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	435
08717	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	436
08716	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	437
08732	DN15 - DN100	Flanged DIN EN PN40	PN40	-196°C - +120°C 77K - 393K	438
08732	DN15 - DN100	Flanged ASME B16.5 class 300	class 300	-196°C - +120°C 77K - 393K	439
08732	DN15 - DN100	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	440

Fire Safe and Offshore Applications

Overview of Products



Fire Safe and Offshore Valves

Type	Nominal size	Connections	Working pressure	Temperature	Page
01851	DN10 - DN100	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	441
01855	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	442
03851	DN15 - DN100	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	443
03851	DN15 - DN100	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	444
03851	DN15 - DN100	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	445
01841	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-255°C - +120°C 18K - 393K	446
01841	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	447
01845	DN10 - DN50	Thread type G (BSPP) Thread type R (BSPT) Thread type NPT	PN50	-255°C - +120°C 18K - 393K	448
03841	DN15 - DN100	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	449
03841	DN15 - DN100	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	450
03841	DN15 - DN100	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	451
03841	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	452
01843	DN10 - DN150	Butt weld connection, Socket weld connection	PN50 (DN150=PN40)	-255°C - +120°C 18K - 393K	453
01843	DN200	Butt weld connection, Socket weld connection	PN25	-196°C - +120°C 77K - 393K	454
03843	DN15 - DN100	Flanged DIN EN PN16	PN16	-255°C - +120°C 18K - 393K	455
03843	DN15 - DN100	Flanged DIN EN PN40	PN40	-255°C - +120°C 18K - 393K	456
03843	DN15 - DN100	Flanged ASME B16.5 class 300	class 300	-255°C - +120°C 18K - 393K	457
03843	DN15 - DN100	Flanged ASME B16.5 class 150	class 150	-255°C - +120°C 18K - 393K	458
03843	DN200	Flanged ASME B16.5 class 150	class 150	-196°C - +120°C 77K - 393K	459
01853	DN20 - DN80	Butt weld connection, Socket weld connection	PN50	-255°C - +120°C 18K - 393K	460

Fire Safe and Offshore Applications

Overview of Products



Spare Parts for Fire Safe and Offshore Applications

Type	Specification	Nominal size	Suitable for Valve type	Page
28651	Topwork, stainless steel	DN10 - DN150	01651, 01655, 03651	461
28641	Topwork, stainless steel	DN10 - DN150	01641, 01645, 03641	462
28751	Topwork, stainless steel	DN10 - DN150	01751, 01755, 03751	463
28741	Topwork, stainless steel	DN10 - DN150	01741, 01745, 03741	464
28851	Topwork, stainless steel	DN10 - DN150	01851, 01855, 03851	465
28841	Topwork, stainless steel	DN10 - DN150	01841, 01845, 03841	466
28203	Disc complete, stainless steel	DN10 - DN100	01741, 01745, 01751, 01755	467
29203	Disc complete, stainless steel	DN10 - DN150	01641, 01645, 01651, 01655, 03641, 03651	467
29203	Disc complete, stainless steel	DN10 - DN150	01841, 01845, 01851, 01855, 03841, 03851	467
29205	Check disc complete, stainless steel	DN10 - DN150	01641, 01645, 01651, 01655, 03641, 03651	468
29205	Check disc complete, stainless steel	DN10 - DN150	01841, 01845, 01851, 01855, 03841, 03851	468
28205	Check disc complete, stainless steel	DN10 - DN150	01741, 01745, 01751, 01755, 03741, 03751	468
28206	Check disc complete, stainless steel	DN10 - DN150	05714, 05717, 05719	469
29206	Check disc complete, stainless steel	DN10 - DN150	05614	469
30641, 30643	Sealing spare part kit	DN10 - DN200	01641, 01643, 01645, 01651, 01655, 01841, 01843, 01845, 01851, 01855, 03641, 03651, 03841, 03843, 03851	470
30653	Sealing spare part kit	DN15 - DN80	01653, 01753, 01853, 03653, 03753, 03853	471
30741, 30743	Sealing spare part kit	DN10 - DN200	01741, 01743, 01745, 01751, 01755, 03741, 03743, 03751	472
30714	Sealing spare part kit	DN10 - DN150	05714, 05717, 05719	473

Storage and Transportation of Cryogenic Gases



Transport and storage: The gas mixing plant in Easington on the east coast of the UK ensures for proper gas composition with the help of nitrogen. Equipped with HEROSE valves for cryogenic service.

Globe Valves

Type 01301 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

- Bronze body and topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Part No. 01301.X.0001

Part No. 01301.X.5001 Globe/Check Valve

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Socket end for stainless steel pipes acc. to ISO 1127
- Valve with control disc (tapered design)



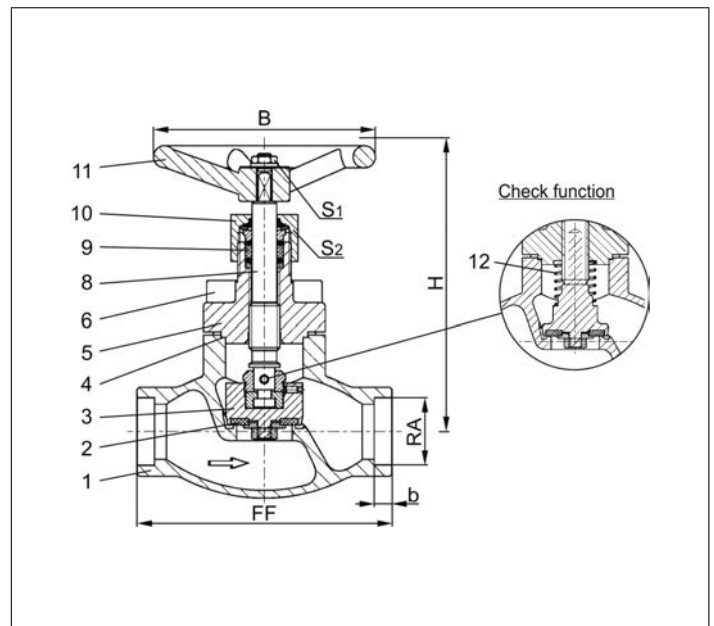
Applications:

Approved for air gases, vapours and cryogenic liquified gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01301 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA, Example: valve DN10 for copper pipe RA _Ø 12mm, X=1012						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	140	140	140	140	170	175	200
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Handwheel-Ø	B	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	2.0	2.8	4.2	6.7
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01301 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN10-25), PN40 (DN32), PN35 (DN40-50)

- Bronze body and topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Part No. 01301.X.0008

Part No. 01301.X.5008 Globe/Check Valve

Complete with brazed copper stubs acc. to DIN EN 12449

Available options - on request only:

- Valve with control disc (tapered design)



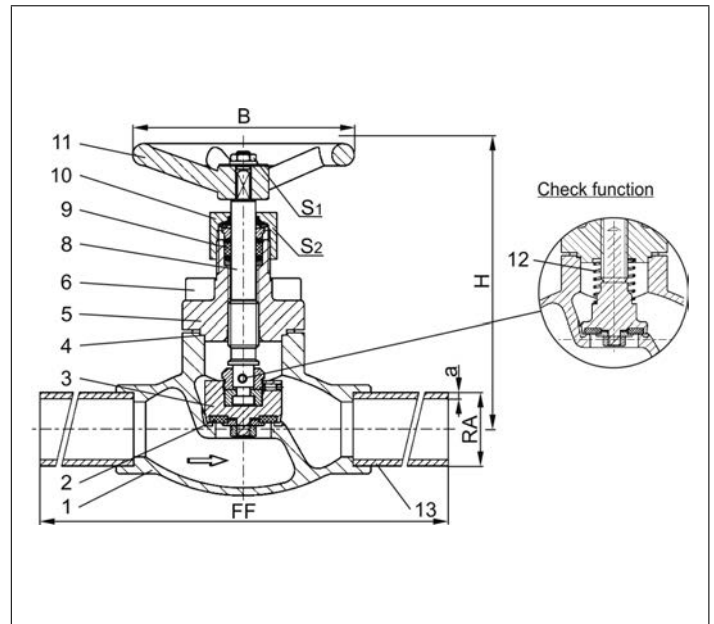
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: - 196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Copper stubs	CW024A	B 152 UNS C12200



Type 01301 - Standard design	Technical data								
Nominal size	DN	10	15	15	20	25	32	40	50
Dimension code	.X.	1012	1515	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	360	385	385	385	415	415	420	460
Height	H	140	140	140	140	140	170	175	200
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Wall thickness pipe	a	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.1	1.4	1.4	1.8	2.4	3.2	4.8	7.5
Kvs-Value	m ³ /h	2.2	4.3	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	5.0	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01301 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

- Bronze body and topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

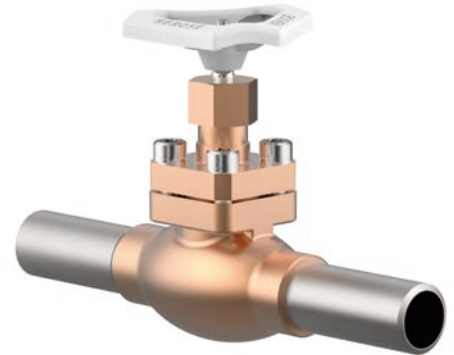
Part No. 01301.X.0007

Part No. 01301.X.5007 Globe/Check Valve

Complete with brazed stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Further pipe wall thicknesses



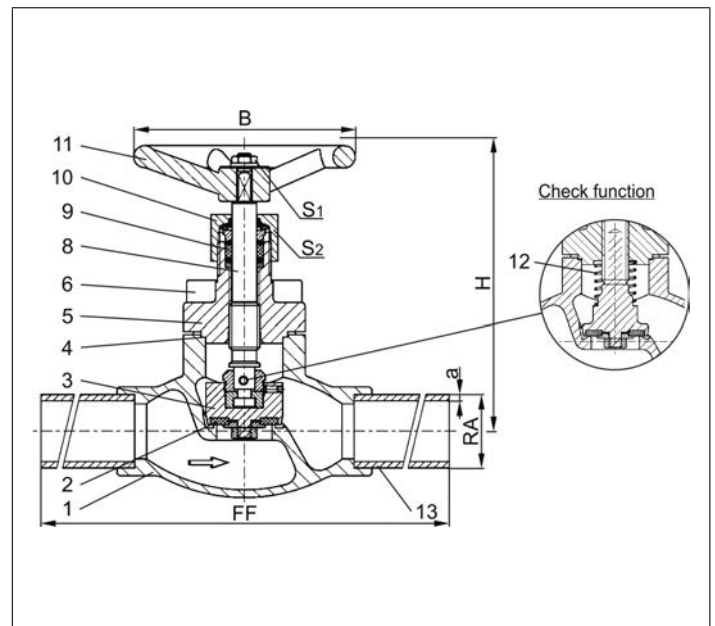
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Stainless steel stubs	1.4306	A 312 TP304L



Type 01301 - Standard design	Technical data									
Nominal size	DN	10	10	15	20	25	32	40	50	
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060	
Face-to-face dimension	FF	210	210	235	235	265	265	290	310	
Height	H	140	140	140	140	140	170	175	200	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3	
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6	
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.4	42.16	48.26	60.33	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Handwheel-Ø	B	100	100	100	100	100	125	125	125	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	
Weight	ca. kg	1.05	1.15	1.5	1.8	2.4	3.2	4.8	7.5	
Kvs-Value	m ³ /h	2.2	2.2	4.3	6.7	11.5	12.1	22.6	37.1	
Cv-Value	gal/min	2.6	2.6	5.0	7.8	13.4	14.1	26.3	43.2	

Dimensions in mm.

Globe Valves

Type 01305 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

- Bronze body and topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Part No. 01305.X.0001

Part No. 01305.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01305.X.0006

Part No. 01305.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1



Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)

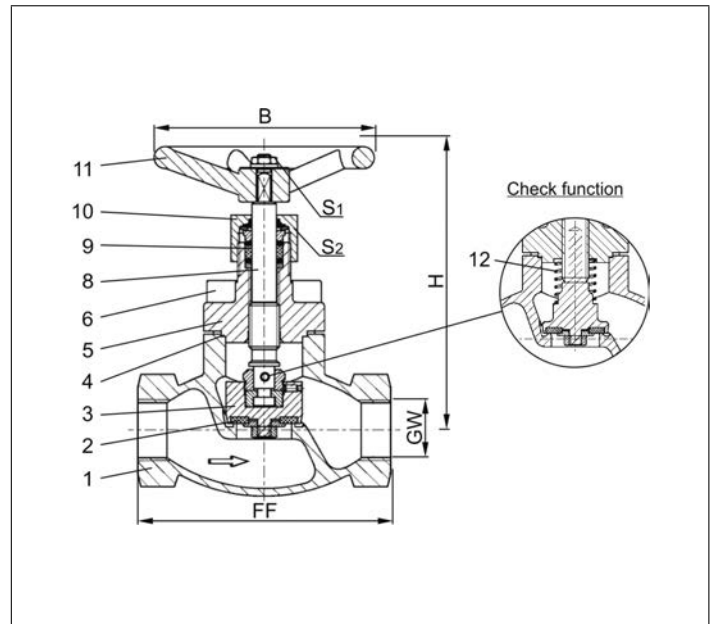
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01305 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	140	140	140	140	140	170	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	2.8	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 02401 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 02401.X.0001

Part No. 02401.X.5001 Globe/Check Valve

Male thread for union connection

Available options - on request only:

- Valve with control disc (tapered design)



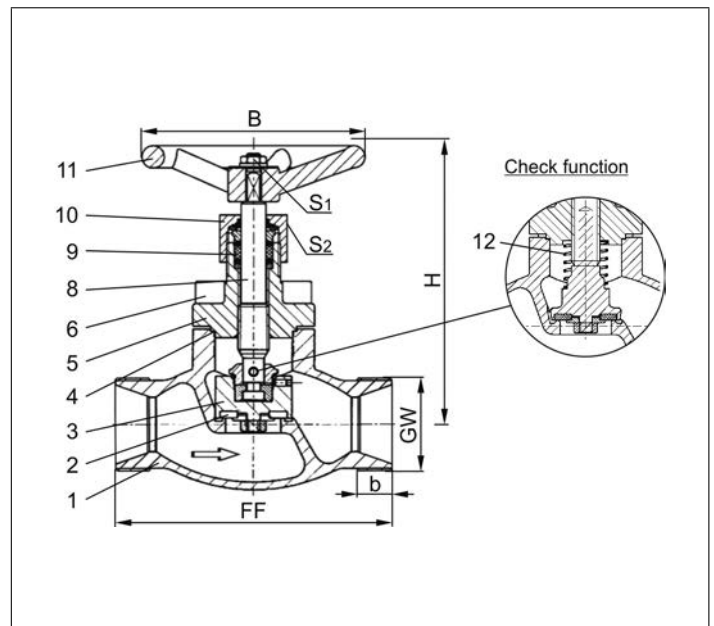
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 02401 - Standard design	Technical data						
	DN	10	20	32	40	50	
Nominal size	.X.	0100	0200	0320	0400	0500	
Dimension code	FF	60	85	115	140	160	
Face-to-face dimension	H	140	140	170	175	200	
Height	GW	M26x1.5	M40x2.0	M55x2.0	M65x2.0	M78x2.0	
Union thread	b	10	11	14	17	20	
Thread length	B	100	100	125	125	125	
Handwheel-Ø	S ₁	7	7	10	10	10	
Wrench size across flats	S ₂	30	30	36	36	36	
Wrench size across flats	Weight	ca. kg	1.0	1.7	2.8	4.2	6.7
Weight	Kvs-Value	m ³ /h	2.2	6.7	12.1	22.6	37.1
Kvs-Value	Cv-Value	gal/min	2.6	7.8	14.1	26.3	43.2
Cv-Value							

Dimensions in mm.

Globe Valves

Type 02401 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

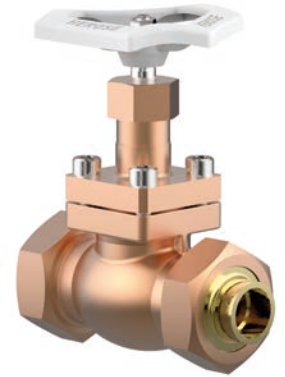
Part No. 02401.X.0008

Part No. 02401.X.5008 Globe/Check Valve

Completed with union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Valve with control disc (tapered design)



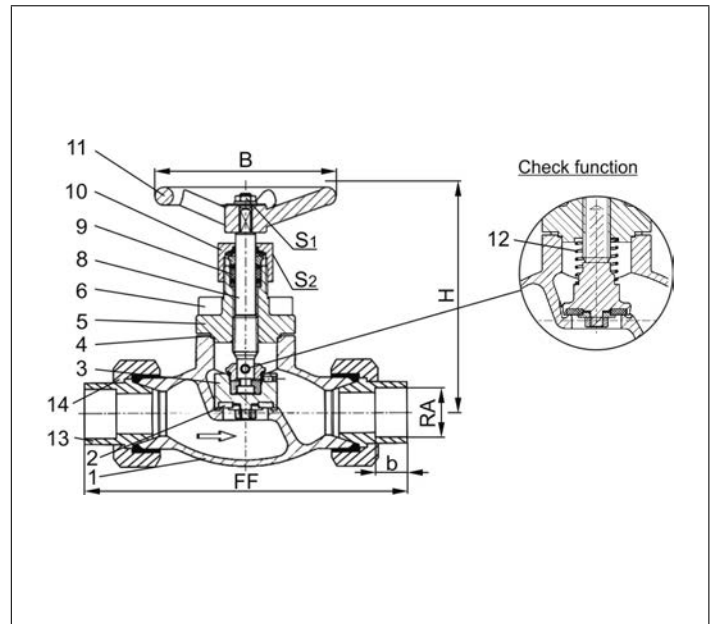
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Braze fitting	CC493K	B 505 UNS C93200
14 Union nut	CC493K	B 505 UNS C93200



Type 02401 - Standard design	Technical data								
Nominal size	DN	10	10	20	20	32	32	40	50
Dimension code	.X.	1012	1015	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	98	98	132	132	171	171	230	230
Height	H	140	140	140	140	170	170	175	200
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Socket depth	b	11	11	14	14	17	17	17	17
Handwheel-Ø	B	100	100	100	100	125	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36
Weight	ca. kg	1.2	1.2	2.4	2.4	4.0	4.0	6.3	9.5
Kvs-Value	m ³ /h	1.6	2.2	6.0	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	2.6	7.1	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 02401 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

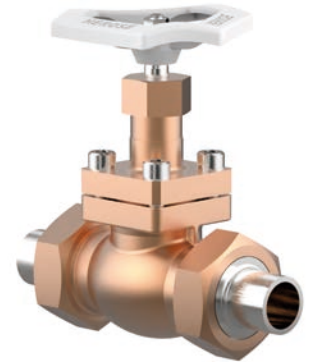
Part No. 02401.X.0007

Part No. 02401.X.5007 Globe/Check Valve

Completed with union type butt weld fittings for stainless steel pipes
 acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Further pipe wall thicknesses



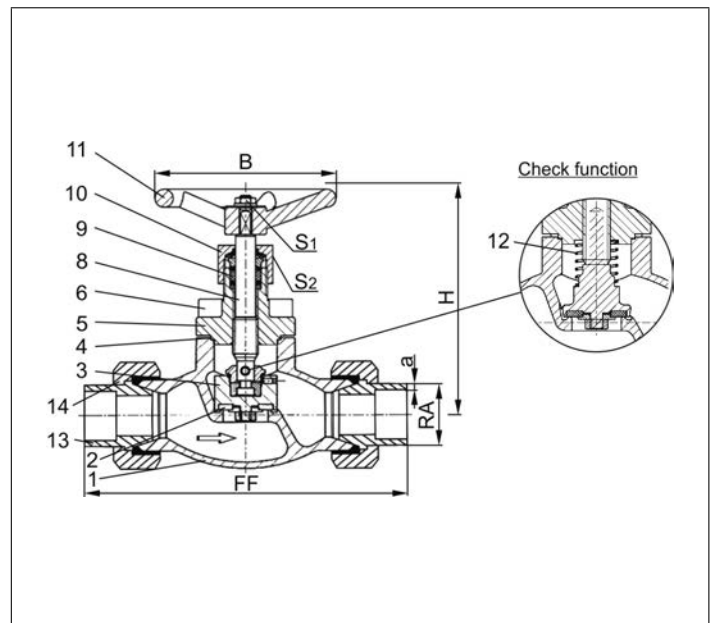
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Weld fitting	1.4301 A 276 Grade 304	
14 Union nut	CC493K	B 505 UNS C93200



Type 02401 - Standard design	Technical data									
Nominal size	DN	10	10	20	20	32	32	40	50	
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060	
Face-to-face dimension	FF	137	141	168	168	203	203	230	263	
Height	H	140	140	140	140	170	170	175	200	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3	
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.0	3.2	2.0	3.6	3.6	
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.40	42.16	48.26	60.33	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Handwheel-Ø	B	100	100	100	100	125	125	125	125	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36	
Weight	ca. kg	1.2	1.2	2.4	2.4	4.0	4.0	6.3	9.5	
Kvs-Value	m ³ /h	1.6	2.2	6.7	6.7	12.1	12.1	22.6	37.1	
Cv-Value	gal/min	1.9	2.6	7.8	7.8	14.1	14.1	26.3	43.2	

Dimensions in mm.

Globe Valves

Type 01331 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

- Stainless steel body and bronze topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Part No. 01331.X.000*

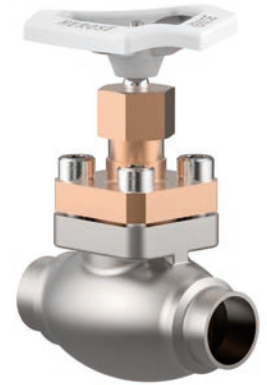
Part No. 01331.X.500* Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01331.X.0004

Part No. 01331.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312



Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

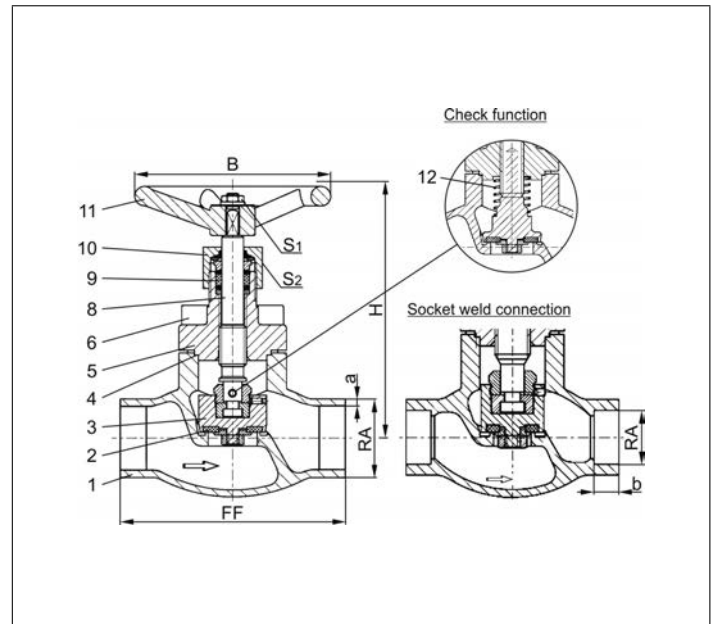
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01331 - Standard design	Technical data														
	Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	420	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.32	73.02	88.90	114.30	168.27	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	22.0	54.1	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01335 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01335.X.0001

Part No. 01335.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01335.X.0006

Part No. 01335.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



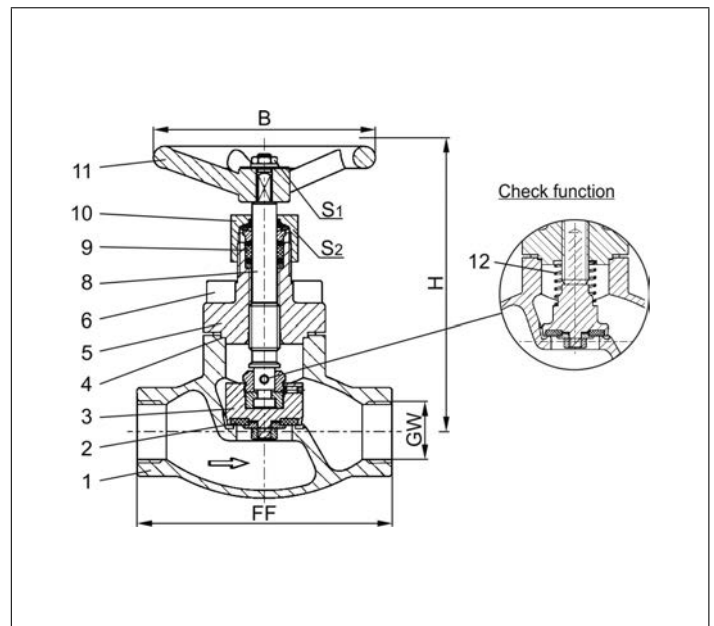
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01335 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03331 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03331.X.0002

Part No. 03331.X.5002 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- Valve with control disc (tapered design)



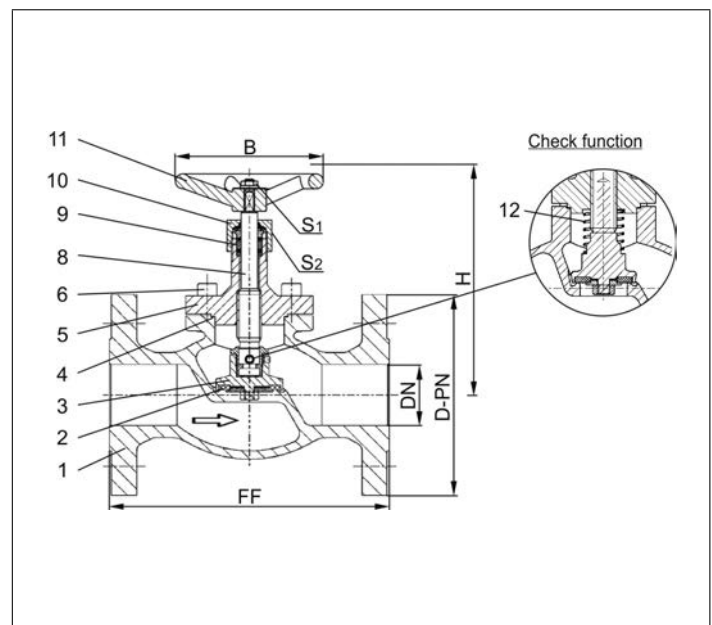
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03331 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	130	130	140	175	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03331 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03331.X.0003

Part No. 03331.X.5003 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- Valve with control disc (tapered design)



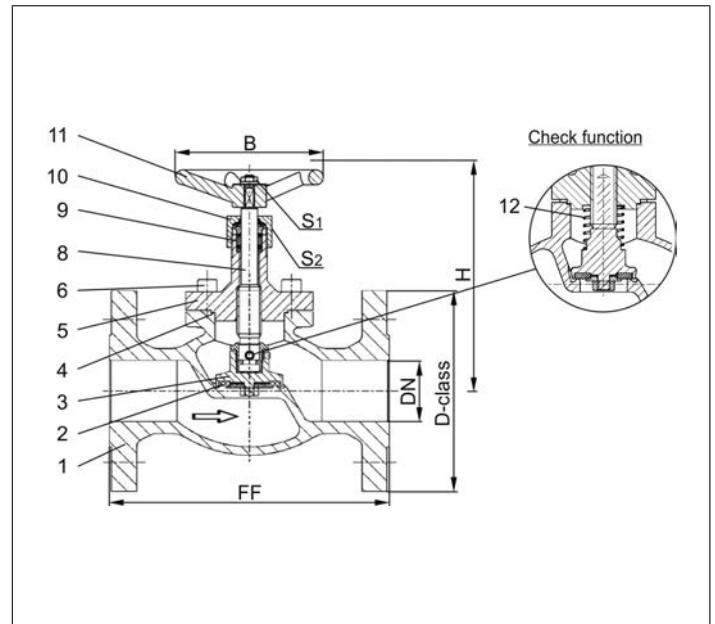
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03331 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	130	130	140	175	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03331 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03331.X.0001

Part No. 03331.X.5001 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- Valve with control disc (tapered design)



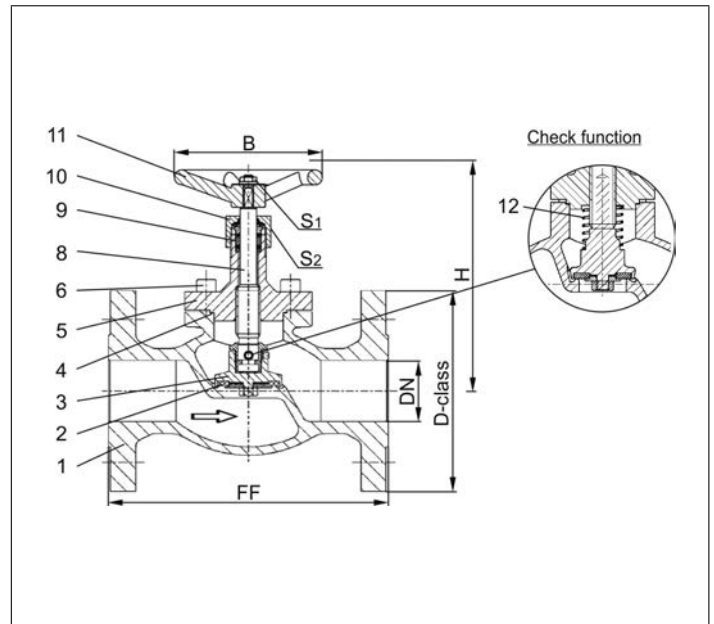
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03331 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	130	130	140	175	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01351 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01351.X.000*

Part No. 01351.X.500* Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01351.X.0004

Part No. 01351.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312



Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

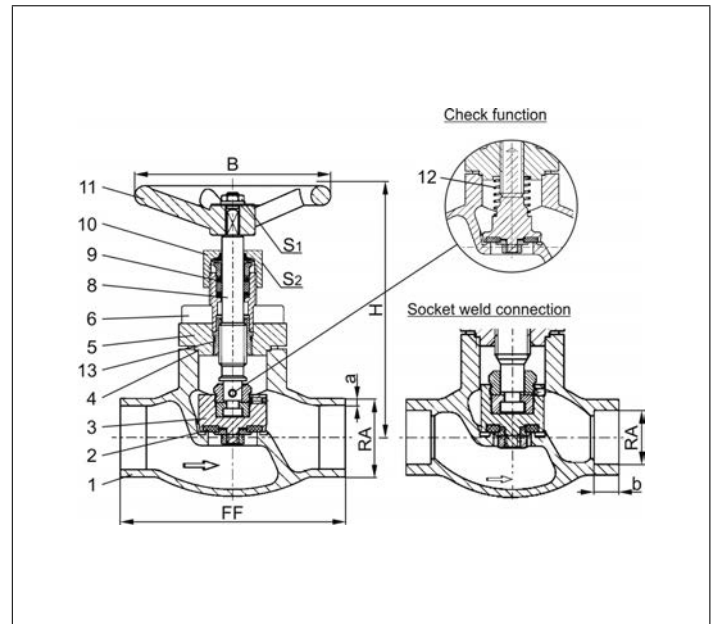
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01351 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	420	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.32	73.02	88.90	114.30	168.27	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	23.0	54.1	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01355 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01355.X.0001

Part No. 01355.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01355.X.0006

Part No. 01355.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1



Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)

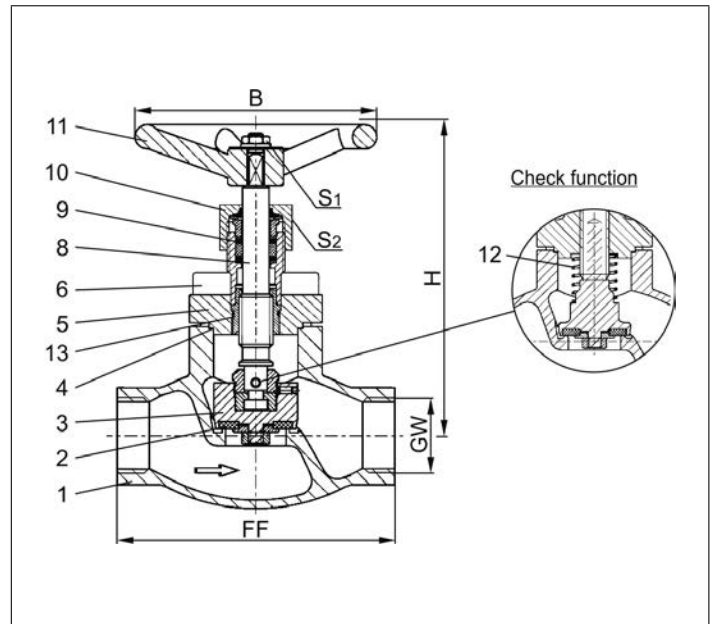
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01355 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03351 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03351.X.0002

Part No. 03351.X.5002 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- Valve with control disc (tapered design)



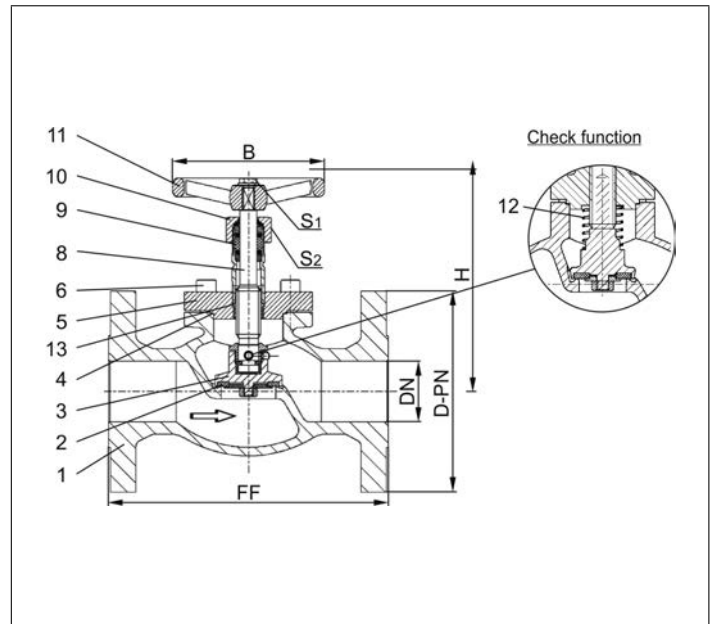
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03351 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03351 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03351.X.0003

Part No. 03351.X.5003 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- Valve with control disc (tapered design)



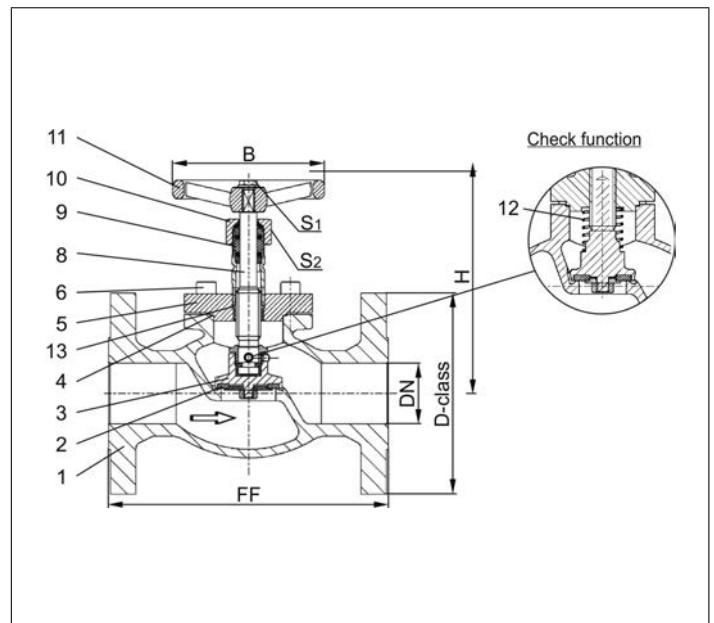
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03351 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03351 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03351.X.0001

Part No. 03351.X.5001 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- Valve with control disc (tapered design)



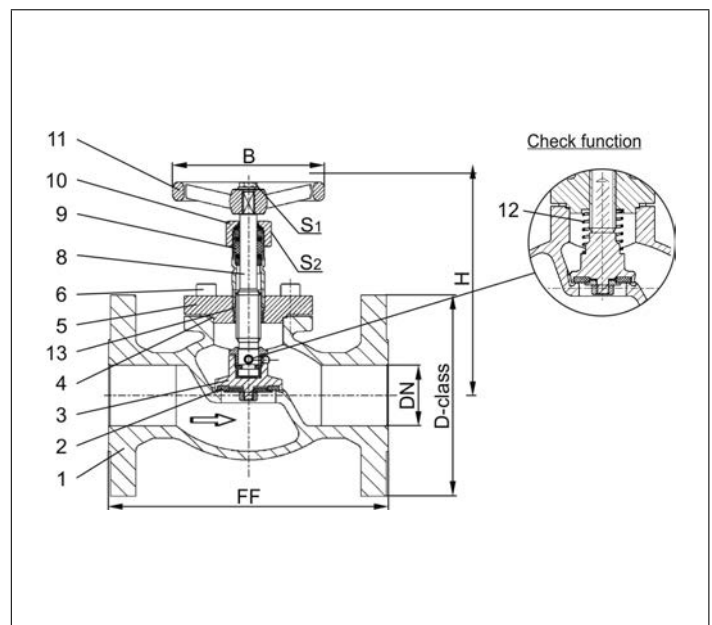
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03351 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01311 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 01311.X.0010 (H=270mm)**
- Part No. 01311.X.0020 (H=370mm)**
- Part No. 01311.X.5010 (H=270mm) Globe/Check Valve**
- Part No. 01311.X.5020 (H=370mm) Globe/Check Valve**
- Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

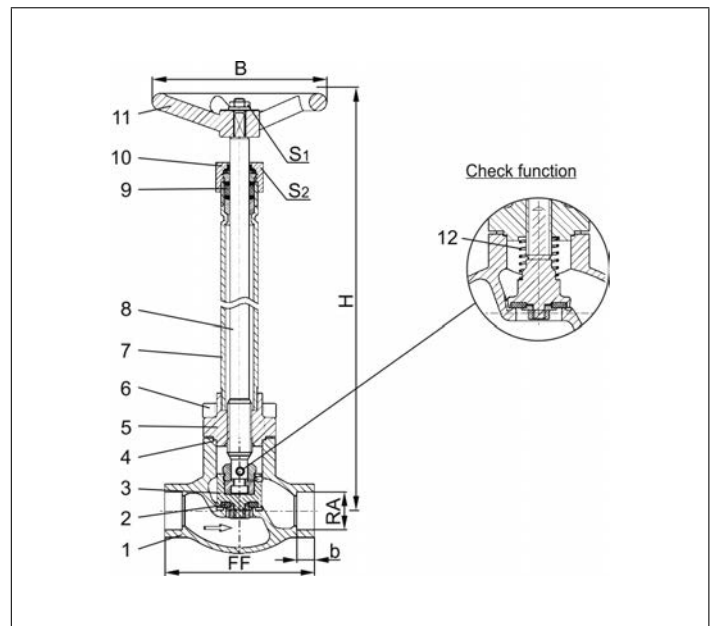
- Socket end for stainless steel stubs acc. to ISO 1127
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01311 - Standard design	Technical data							
	DN	10	15	20	25	32	40	50
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA. Example: valve DN15 for copper stub RA _Ø 18mm. X=1518						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	270mm or 370mm						
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Handwheel-Ø	B	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.7	2.1	2.4	3.3	4.7	7.2
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01311 - Globe Valve

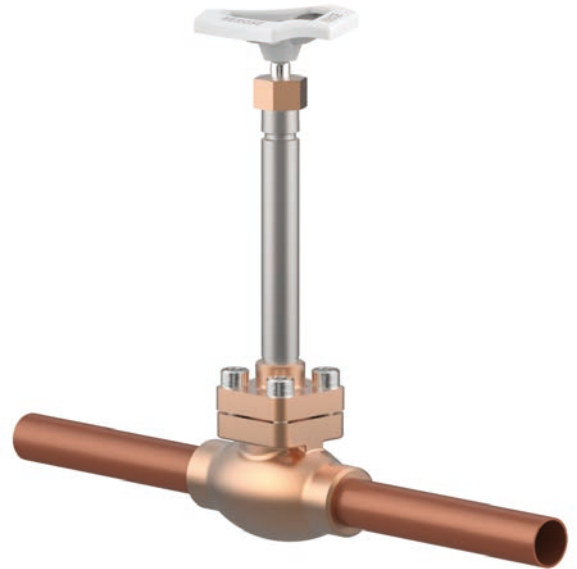


Cryogenic-Globe and Globe/Check Valves, PN50 (DN10-25), PN40 (DN32), PN35 (DN40-50)

- Bronze body and topwork
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

- Part No. 01311.X.0018 (H=270mm)
- Part No. 01311.X.0028 (H=370mm)
- Part No. 01311.X.5018 (H=270mm) Globe/Check Valve
- Part No. 01311.X.5028 (H=370mm) Globe/Check Valve
- Complete with copper stubs acc. to DIN EN 12449

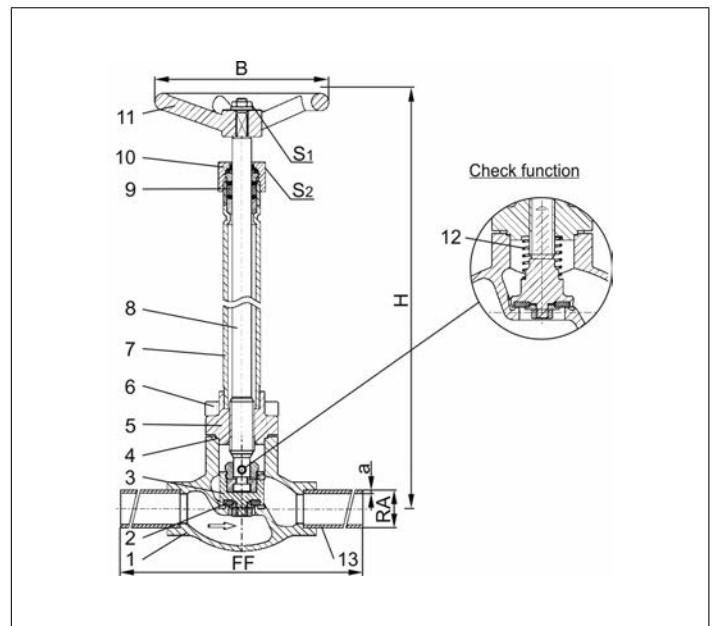
- Available options - on request only:
- Extension H up to 900mm
 - Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Copper stubs	CW024A	B 152 UNS C12200



Type 01311 - Standard design	Technical data									
	DN	10	15	15	20	25	32	40	50	
Nominal size	.X.	1012	1515	1518	2022	2528	3235	4042	5054	
Dimension code	FF	360	385	385	385	415	415	420	460	
Face-to-face dimension	H	270mm or 370mm								
Height	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0	
Outside pipe-Ø	a	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0	
Wall thickness pipe	B	100	100	100	100	100	125	125	125	
Handwheel-Ø	S ₁	7	7	7	7	7	10	10	10	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	
Wrench size across flats	ca. kg	1.5	1.9	1.9	2.4	2.8	3.7	5.2	7.8	
Weight	m ³ /h	2.2	4.3	4.3	6.7	11.5	12.1	22.6	37.1	
Kvs-Value	gal/min	2.6	5.0	5.0	7.8	13.4	14.1	26.3	43.2	
Cv-Value										

Dimensions in mm.

Globe Valves

Type 01311 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01311.X.0017 (H=270mm)

Part No. 01311.X.0027 (H=370mm)

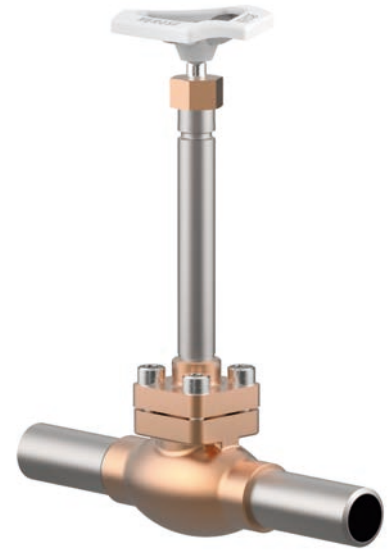
Part No. 01311.X.5017 (H=270mm) Globe/Check Valve

Part No. 01311.X.5027 (H=370mm) Globe/Check Valve

Complete with stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available options - on request only:

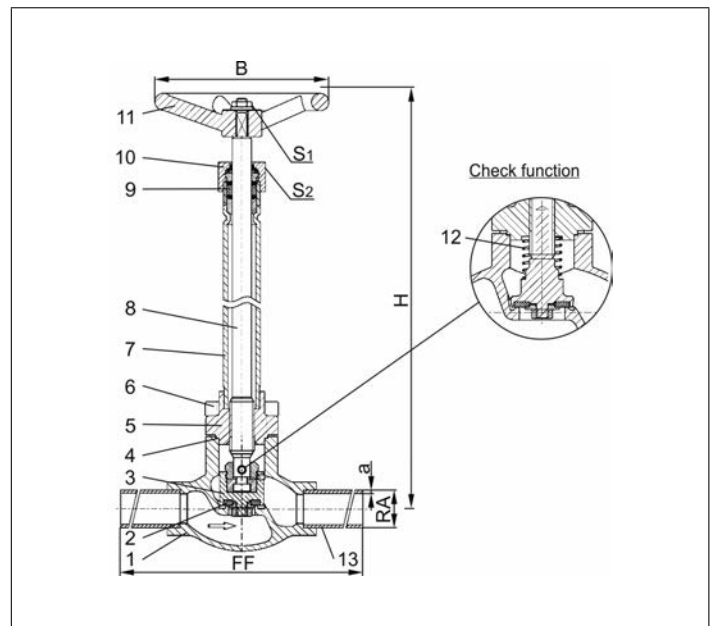
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Stainless steel stubs	1.4306	A 312 TP304L



Type 01311 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	210	210	235	235	265	265	290	310
Height	H	270mm or 370mm							
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.4	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.45	1.55	2.0	2.4	2.8	3.7	5.2	7.8
Kvs-Value	m ³ /h	2.2	2.2	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	2.6	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01315 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01315.X.0011 (H=270mm)
Part No. 01315.X.0021 (H=370mm)
Part No. 01315.X.5011 (H=270mm) Globe/Check Valve
Part No. 01315.X.5021 (H=370mm) Globe/Check Valve
 Female thread connection (G) acc. to ISO 228/1

Part No. 01315.X.0016 (H=270mm)
Part No. 01315.X.0026 (H=370mm)
Part No. 01315.X.5016 (H=270mm) Globe/Check Valve
Part No. 01315.X.5026 (H=370mm) Globe/Check Valve
 Female thread connection NPT acc. to ANSI B 1.20.1

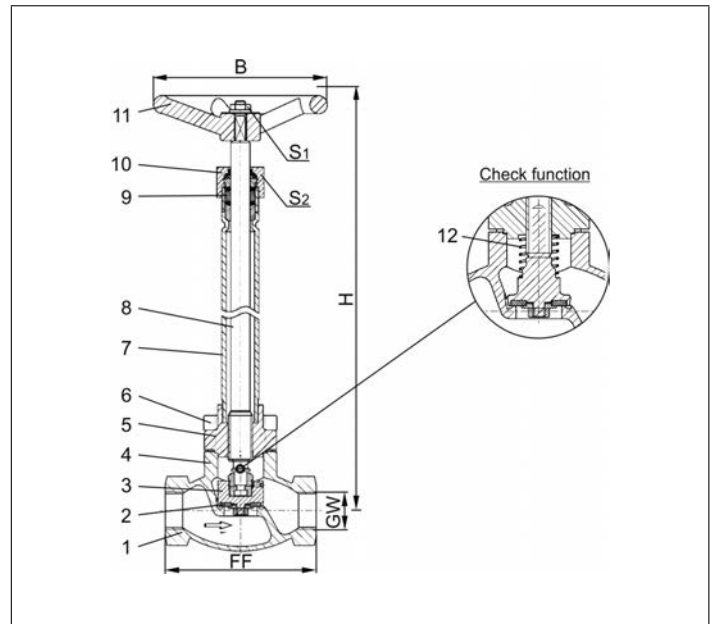
Available options - on request only:
 · Female thread connection (R) acc. to ISO 7-Rc
 · Extension H up to 900mm
 · Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01315 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	3.3	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 02411 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 02411.X.0011 (H=270mm)
 - Part No. 02411.X.0021 (H=370mm)
 - Part No. 02411.X.5011 (H=270mm) Globe/Check Valve
 - Part No. 02411.X.5021 (H=370mm) Globe/Check Valve
- Male thread for union connection



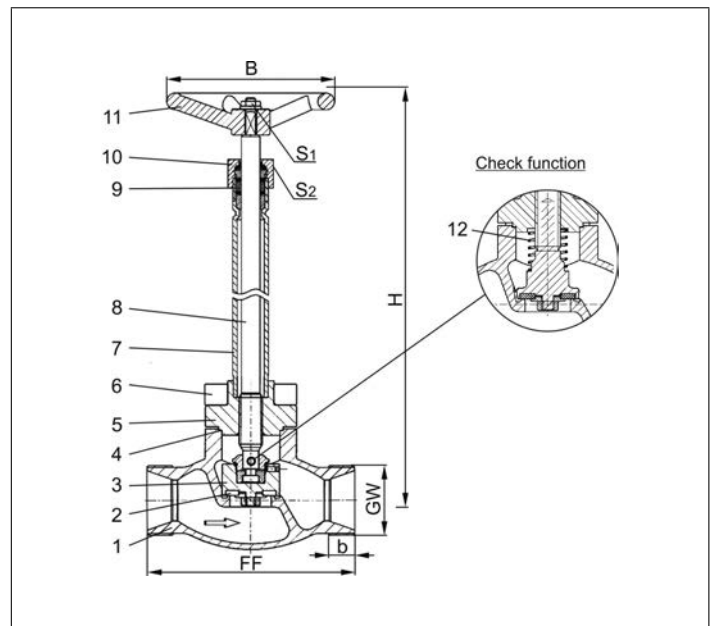
Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 02411 - Standard design	Technical data						
	DN	10	20	32	40	50	
Nominal size	.X.	0100	0200	0320	0400	0500	
Dimension code	FF	60	85	115	140	160	
Face-to-face dimension	H	270 mm or 370 mm					
Height	GW	M26x1.5	M40x2.0	M55x2.0	M65x2.0	M78x2.0	
Union thread	b	10	11	14	17	20	
Thread length	B	100	100	125	125	125	
Handwheel-Ø	S ₁	7	7	10	10	10	
Wrench size across flats	S ₂	30	30	36	36	36	
Wrench size across flats	Weight	ca. kg	1.4	2.1	3.3	4.7	7.2
Weight	Kvs-Value	m ³ /h	2.2	6.7	12.1	22.6	37.1
Kvs-Value	Cv-Value	gal/min	2.6	7.8	14.1	26.3	43.2
Cv-Value							

Dimensions in mm.

Globe Valves

Type 02411 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 02411.X.0018 (H=270mm)

Part No. 02411.X.0028 (H=370mm)

Part No. 02411.X.5018 (H=270mm) Globe/Check Valve

Part No. 02411.X.5028 (H=370mm) Globe/Check Valve

Completed with union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)

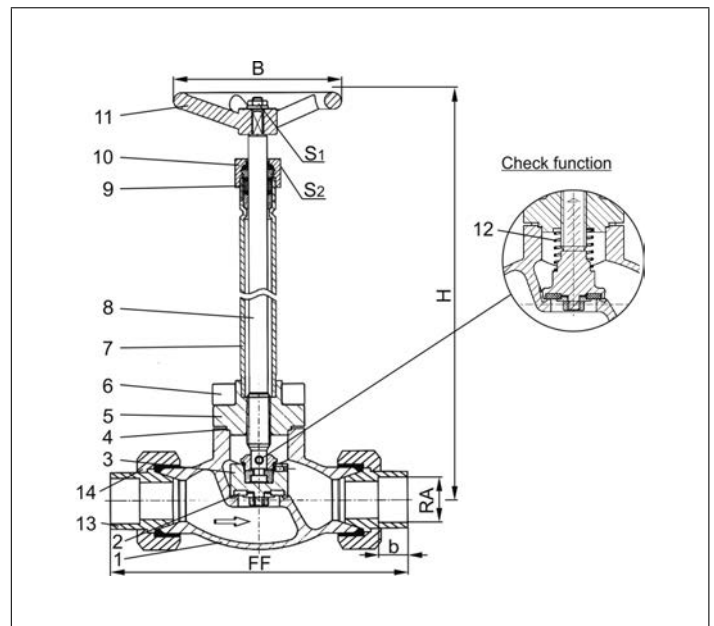


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2 A 194 B8	
7 Elongation tube	1.4541 A 213 TP 321	
8 Stem	1.4301 A 276 Grade 304	
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Braze fitting	CC493K	B 505 UNS C93200
14 Union nut	CC493K	B 505 UNS C93200



Type 02411 - Standard design	Technical data								
	DN	10	10	20	20	32	32	40	50
Nominal size	.X.	1012	1015	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	98	98	132	132	171	171	230	230
Height	H	270 mm or 370 mm							
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Socket depth	b	11	11	14	14	17	17	17	17
Handwheel-Ø	B	100	100	100	100	125	125	125	125
Wrench size across flats	S ₁	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36
Weight	ca. kg	1.5	1.5	2.8	2.8	4.5	4.5	6.8	10.0
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm.

Globe Valves

Type 02411 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Bronze body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

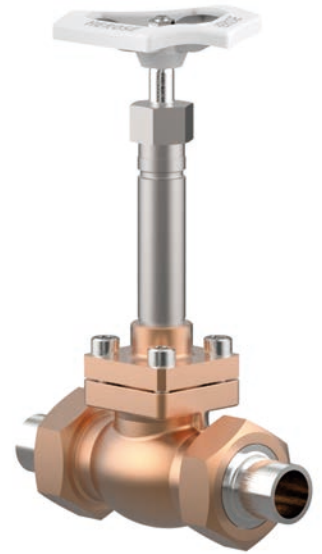
Part No. 02411.X.0017 (H=270mm)

Part No. 02411.X.0027 (H=370mm)

Part No. 02411.X.5017 (H=270mm) Globe/Check Valve

Part No. 02411.X.5027 (H=370mm) Globe/Check Valve

Completed with union type butt weld fittings for stainless steel pipes
 acc. to ISO 1127 or ASTM A312



Available options - on request only:

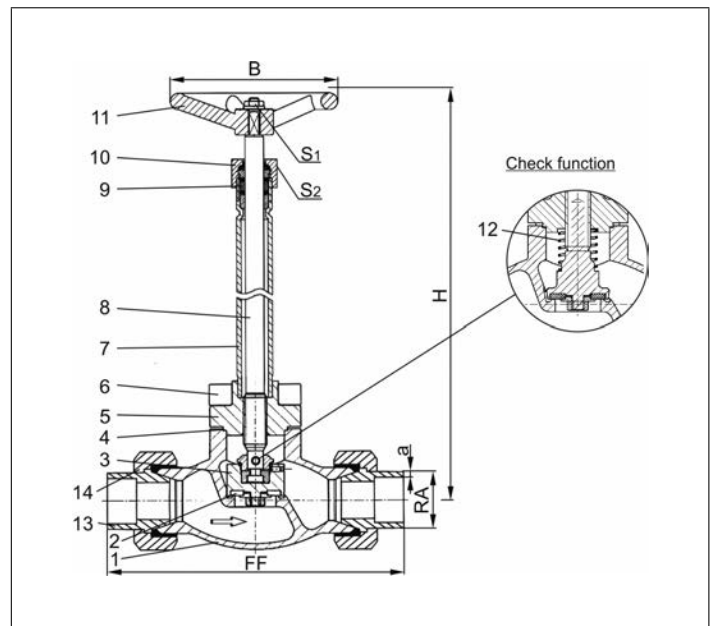
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900
13 Weld fitting	1.4301	A 276 Grade 304
14 Union nut	CC493K	B 505 UNS C93200



Type 02411 - Standard design	Technical data										
Nominal size	DN	10	10	20	20	32	32	40	50		
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060		
Face-to-face dimension	FF	137	141	168	168	203	203	230	263		
Height	H	270 mm or 370 mm									
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3		
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.0	3.2	2.0	3.6	3.6		
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.40	42.16	48.26	60.33		
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40									
Handwheel-Ø	B	100	100	100	100	125	125	125	125		
Wrench size across flats	S ₁	7	7	7	7	10	10	10	10		
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36		
Weight	ca. kg	1.5	1.5	2.8	2.8	4.5	4.5	6.8	10.0		
Kvs-Value	m ³ /h	1.6	2.2	6.7	6.7	12.1	12.1	22.6	37.1		
Cv-Value	gal/min	1.9	2.6	7.8	7.8	14.1	14.1	26.3	43.2		

Dimensions in mm.

Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and bronze topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 01321.X.001* (H = 270mm)

Part No. 01321.X.002* (H = 370mm)

Part No. 01321.X.501* (H = 270mm) Globe/Check Valve

Part No. 01321.X.502* (H = 370mm) Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01321.X.0014 (H = 270mm)

Part No. 01321.X.0024 (H = 370mm)

Part No. 01321.X.5014 (H = 270mm) Globe/Check Valve

Part No. 01321.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

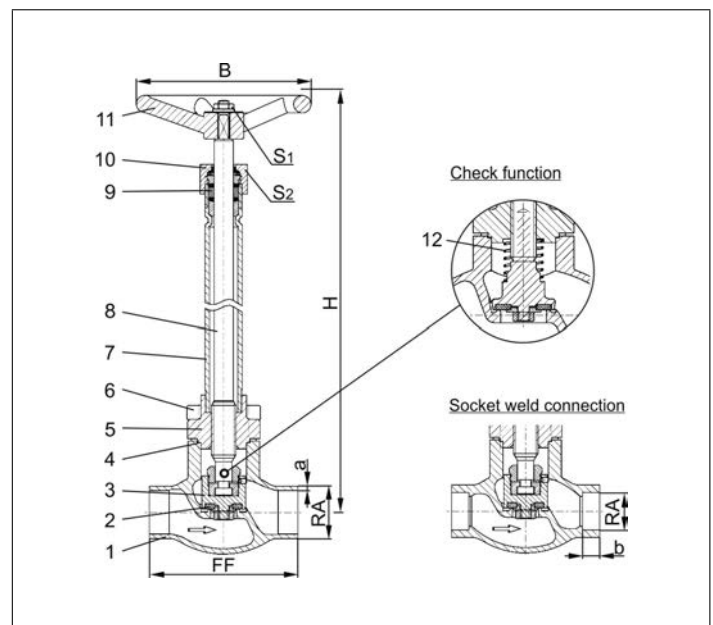
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01321 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	270mm or 370mm										320/370	320/370	370	420
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.32	73.02	88.90	114.30	168.27	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	5.7	12.7	17.0	24.5	54.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01325 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01325.X.0011 (H = 270mm)
Part No. 01325.X.0021 (H = 370mm)
Part No. 01325.X.5011 (H = 270mm) Globe/Check Valve
Part No. 01325.X.5021 (H = 370mm) Globe/Check Valve
 Female thread connection (G) acc. to ISO 228/1

Part No. 01325.X.0016 (H = 270mm)
Part No. 01325.X.0026 (H = 370mm)
Part No. 01325.X.5016 (H = 270mm) Globe/Check Valve
Part No. 01325.X.5026 (H = 370mm) Globe/Check Valve
 Female thread connection NPT acc. to ANSI B 1.20.1

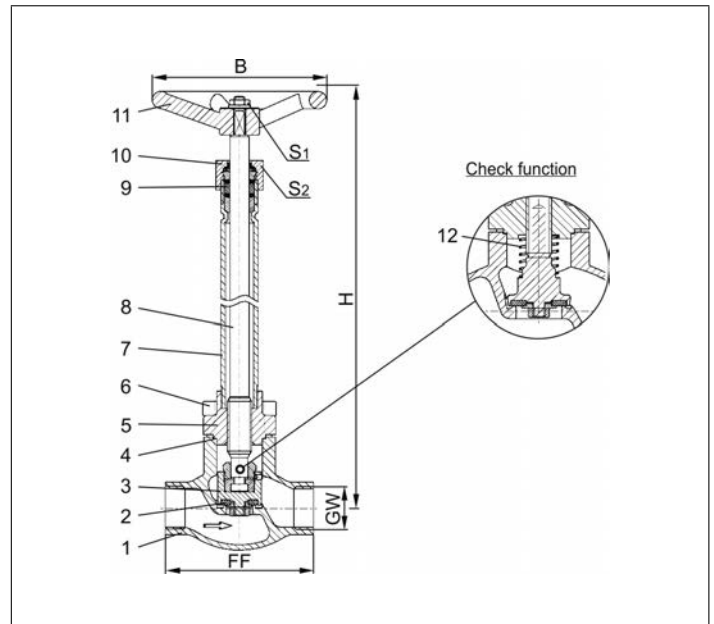
Available options - on request only:
 · Female thread connection (R) acc. to ISO 7-Rc
 · Extension H up to 900mm
 · Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 01325 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03321 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN16

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03321.X.0014 (H = 270mm)

Part No. 03321.X.0024 (H = 370mm)

Part No. 03321.X.5014 (H = 270mm) Globe/Check Valve

Part No. 03321.X.5024 (H = 370mm) Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN16

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)

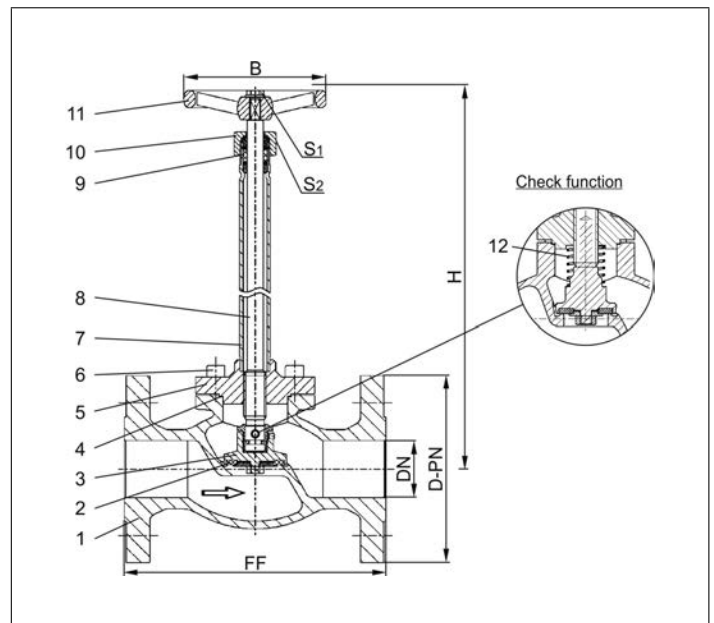


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03321 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500	
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285	
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03321 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03321.X.0012 (H = 270mm)
 - Part No. 03321.X.0022 (H = 370mm)
 - Part No. 03321.X.5012 (H = 270mm) Globe/Check Valve
 - Part No. 03321.X.5022 (H = 370mm) Globe/Check Valve
- Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

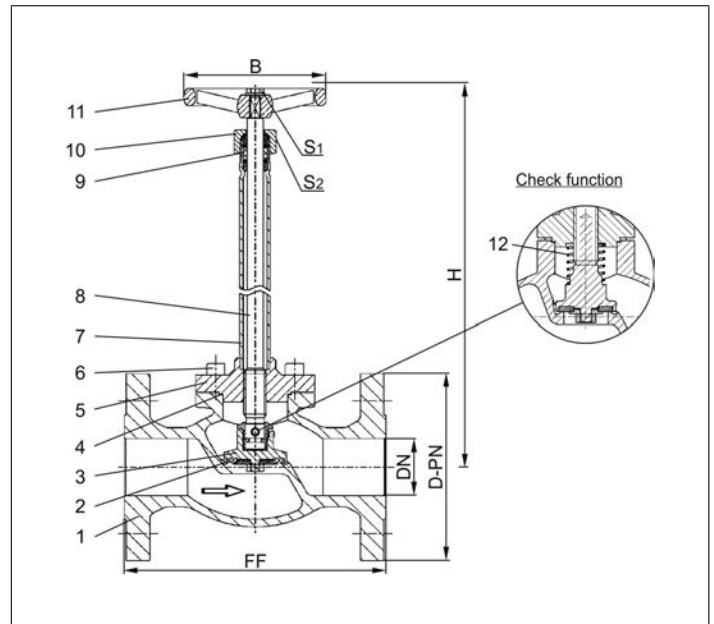
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03321 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500	
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03321 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03321.X.0013** (H = 270mm)
 - Part No. 03321.X.0023** (H = 370mm)
 - Part No. 03321.X.5013** (H = 270mm) **Globe/Check Valve**
 - Part No. 03321.X.5023** (H = 370mm) **Globe/Check Valve**
- Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

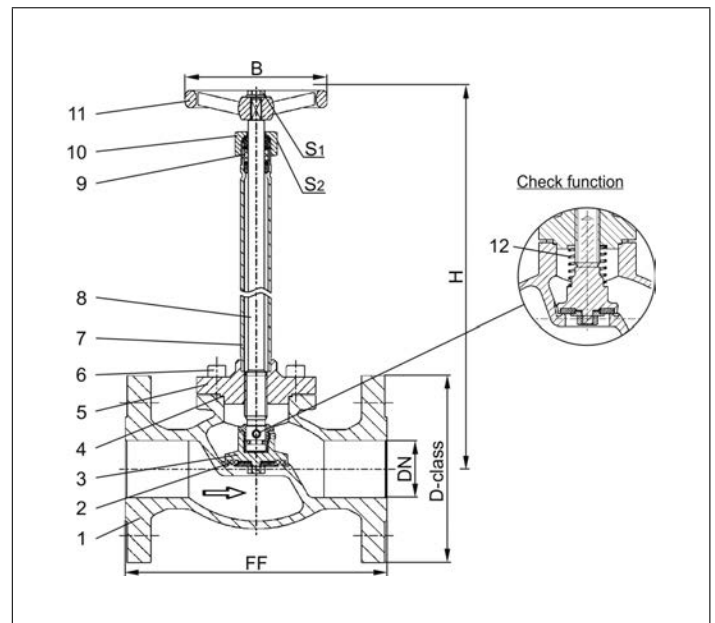
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03321 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03321 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03321.X.0011 (H = 270mm)**
 - Part No. 03321.X.0021 (H = 370mm)**
 - Part No. 03321.X.5011 (H = 270mm) Globe/Check Valve**
 - Part No. 03321.X.5021 (H = 370mm) Globe/Check Valve**
- Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

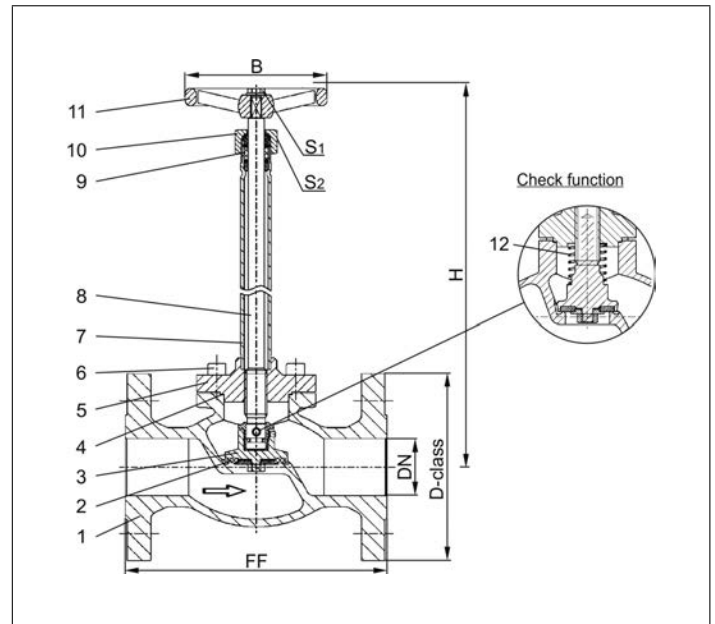
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	
12 Spring	CW452K	B 159 UNS C51900



Type 03321 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01341 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 01341.X.001* (H = 270mm)

Part No. 01341.X.002* (H = 370mm)

Part No. 01341.X.501* (H = 270mm) Globe/Check Valve

Part No. 01341.X.502* (H = 370mm) Globe/Check Valve

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01341.X.0014 (H = 270mm)

Part No. 01341.X.0024 (H = 370mm)

Part No. 01341.X.5014 (H = 270mm) Globe/Check Valve

Part No. 01341.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

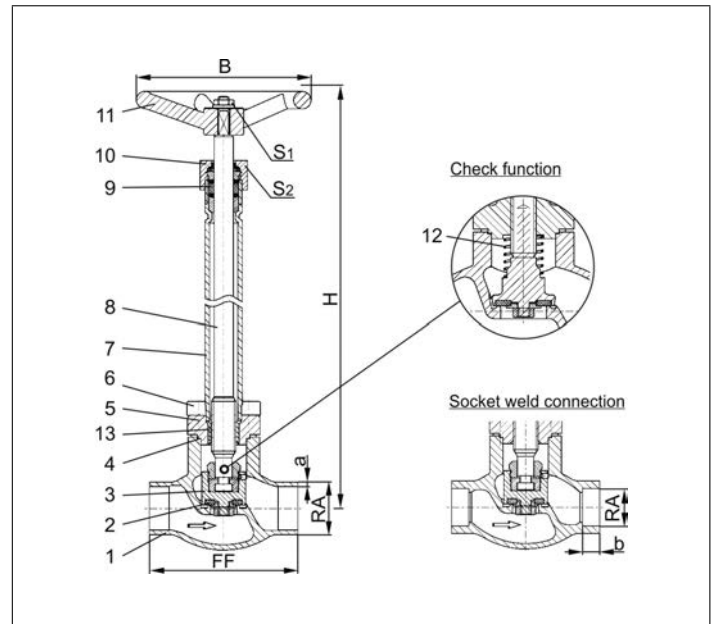
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01341 - Standard design	Technical data	Nominal size													
		DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	270mm or 370mm										300/370	320/370	370	420
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	7.2	12.7	17.0	24.5	54.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 01341 - Globe Valve



Cryogenic Globe Valves

Stainless steel body and topwork
"live loaded" gland packing

Part No. 01341.0219.001* (H=560), PN20/25

Part No. 01341.0219.006* (H=1000), PN20/25

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01341.0219.00*4, PN25

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available options - on request only

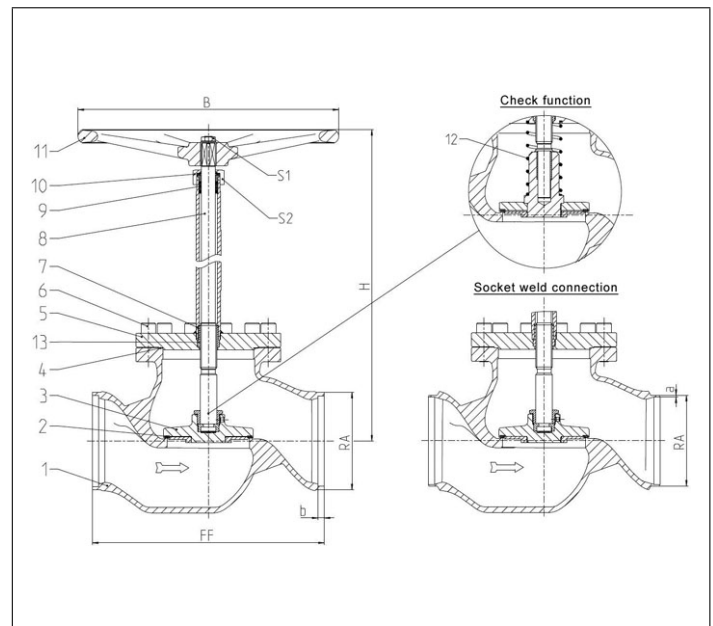
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 01341 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	560
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.

Globe Valves

Type 01345 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 01345.X.0011 (H = 270mm)**
- Part No. 01345.X.0021 (H = 370mm)**
- Part No. 01345.X.5011 (H = 270mm) Globe/Check Valve**
- Part No. 01345.X.5021 (H = 370mm) Globe/Check Valve**
- Female thread connection (G) acc. to ISO 228/1
- Part No. 01345.X.0016 (H = 270mm)**
- Part No. 01345.X.0026 (H = 370mm)**
- Part No. 01345.X.5016 (H = 270mm) Globe/Check Valve**
- Part No. 01345.X.5026 (H = 370mm) Globe/Check Valve**
- Female thread connection NPT acc. to ANSI B 1.20.1

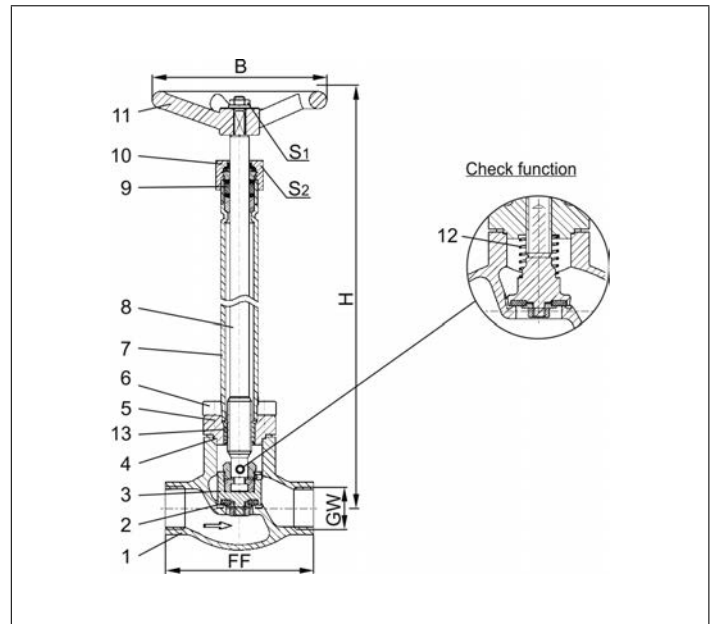
- Available options - on request only:
- Female thread connection (R) acc. to ISO 7-Rc
 - Extension H up to 900mm
 - Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01345 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270mm or 370mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03341 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03341.X.0012 (H = 270mm)
 - Part No. 03341.X.0022 (H = 370mm)
 - Part No. 03341.X.5012 (H = 270mm) Globe/Check Valve
 - Part No. 03341.X.5022 (H = 370mm) Globe/Check Valve
- Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

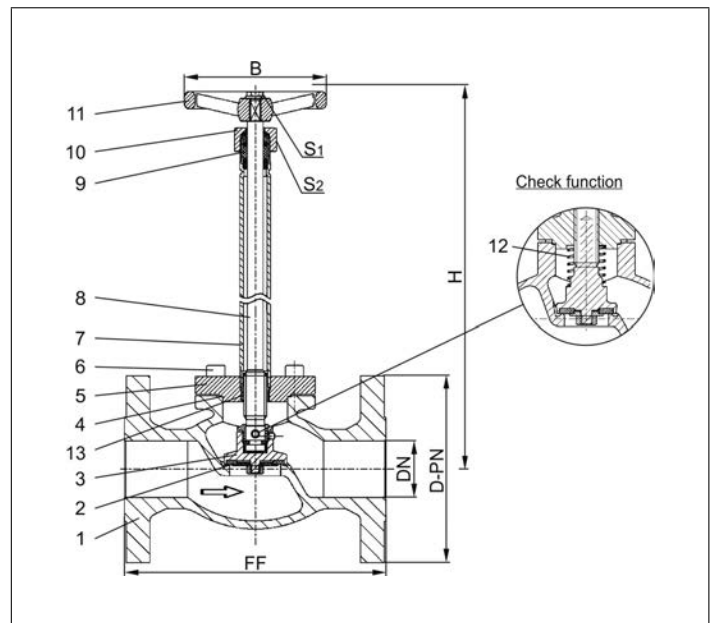
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03341 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	270 mm or 370 mm							370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03341 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03341.X.0013 (H = 270mm)**
 - Part No. 03341.X.0023 (H = 370mm)**
 - Part No. 03341.X.5013 (H = 270mm) Globe/Check Valve**
 - Part No. 03341.X.5023 (H = 370mm) Globe/Check Valve**
- Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

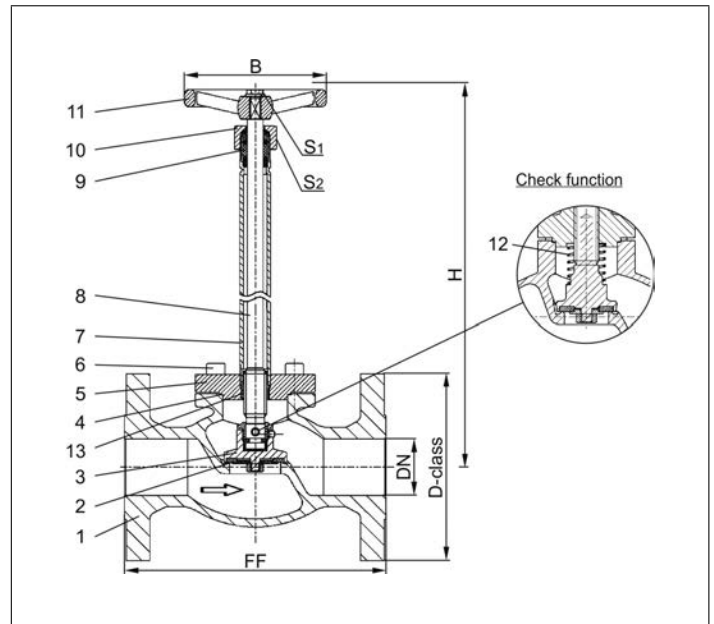
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03341 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03341 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03341.X.0011 (H = 270mm)**
 - Part No. 03341.X.0021 (H = 370mm)**
 - Part No. 03341.X.5011 (H = 270mm) Globe/Check Valve**
 - Part No. 03341.X.5021 (H = 370mm) Globe/Check Valve**
- Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

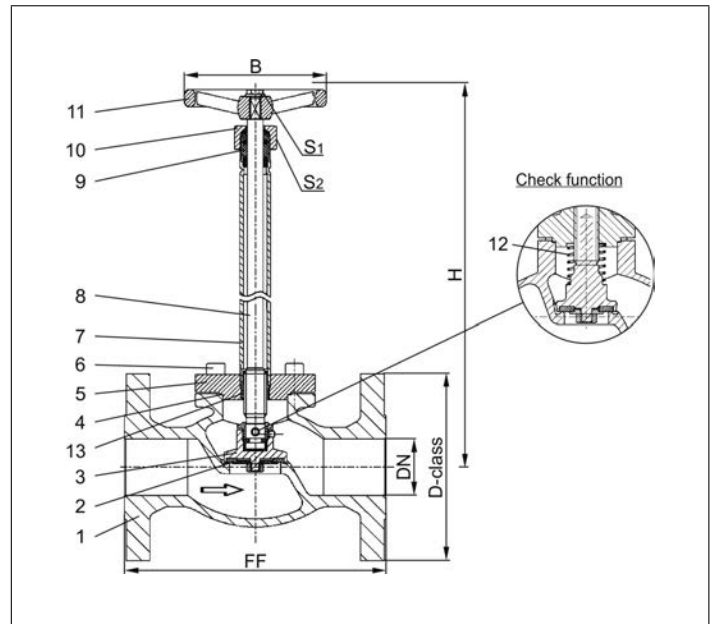
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03341 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Globe Valves

Type 03341 - Globe Valve, ASME B16.5 Flanges



Cryogenic Globe Valves, class 150

Stainless steel body and topwork,
"live loaded" gland packing

Part No. 03341.8000.0011 (H=560)

Flanged connection acc. to ASME B16.5 class 150

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available options - on request only

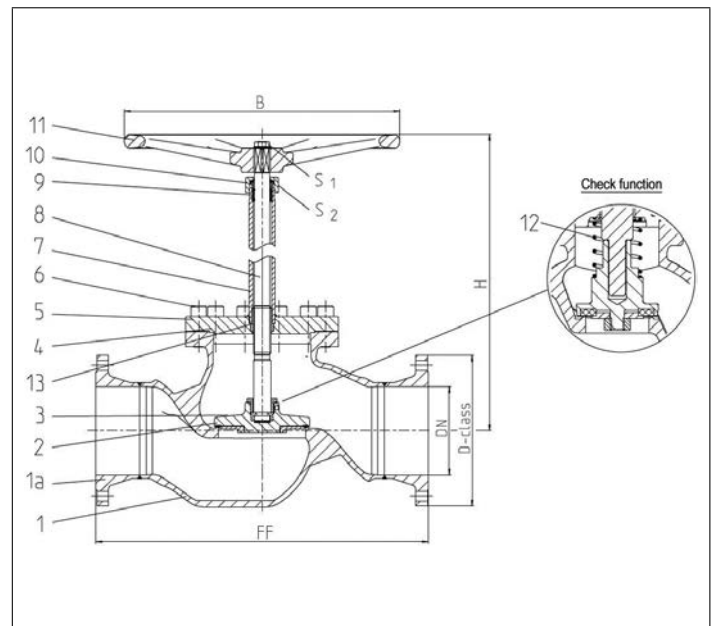


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
1a Flange	1.4301	A 276 Grade 304
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4571	A 313 Grade 316Ti
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03341 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	560
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.

Globe Valves

Type 01252 - Bellow Sealed Globe Valve



Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01252.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01252.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

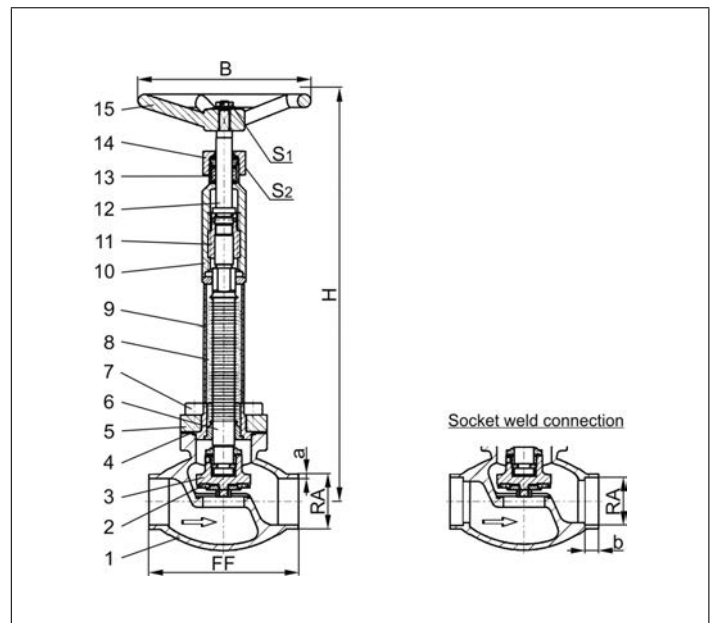
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)
 Leak rate: 10⁻⁶ mbar ltr / sec outside
 10⁻⁴ mbar ltr / sec seat



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 276 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 276 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	Aluminium alloy	



Type 01252 - Standard design	Technical data										
Nominal size	DN	10	15	15	20	25	32	40	40	50	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	
Height	H	380	380	380	380	380	380	380	380	380	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40									
Socket depth	b	6	10	10	13	13	-	13	13	16	
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7	
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	23.9	26.3	43.2	

Dimensions in mm.

Globe Valves

Type 03252 - Bellow Sealed Globe Valve



Cryogenic-Bellow Sealed Globe Valve, PN40

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03252.X.0022

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

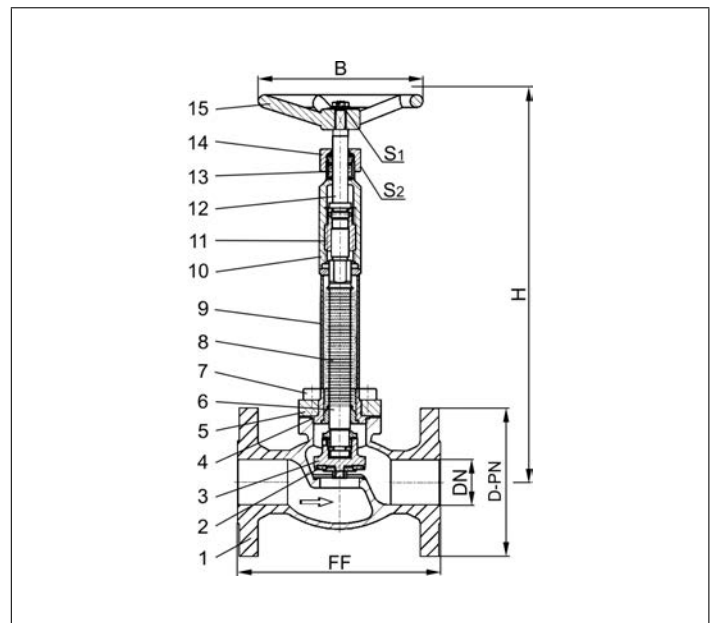
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)
 Leak rate: 10⁻⁶ mbar ltr / sec outside, 10⁻⁴ mbar ltr / sec seat

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 276 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 276 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	Aluminium alloy	



Type 03252 - Standard design	Technical data					
Nominal size	DN	15	20	25	40	50
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500
Flange-Ø	D-PN	95	105	115	150	165
Face-to-face dimension	FF	140	150	160	200	230
Height	H	380	380	380	380	380
Handwheel-Ø	B	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	10	10
Wrench size across flats	S ₂	30	30	30	36	36
Weight	ca. kg	3.5	5.0	5.2	10.1	13.8
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03252 - Bellow Sealed Globe Valve



Cryogenic-Bellow Sealed Globe Valve, class 300

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03252.X.0023

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

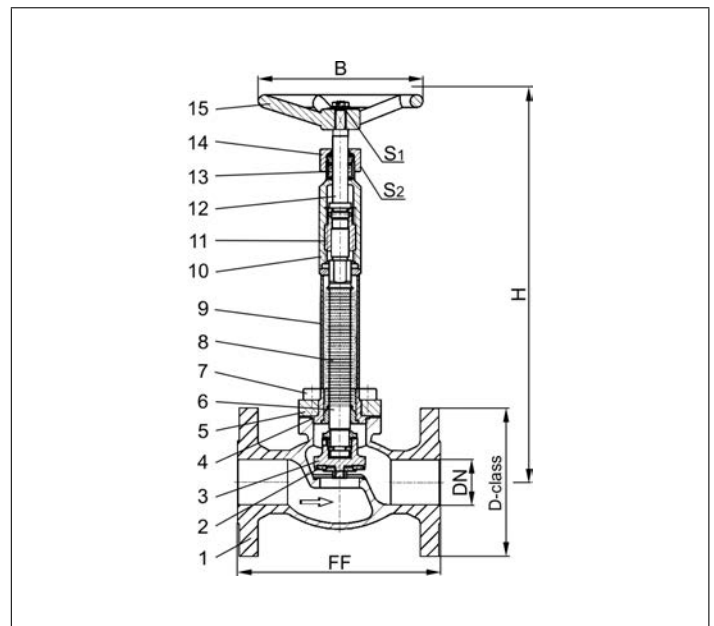
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)
 Leak rate: 10^{-6} mbar ltr / sec outside, 10^{-4} mbar ltr / sec seat

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 276 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 276 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	Aluminium alloy	



Type 03252 - Standard design	Technical data					
Nominal size	DN	15	20	25	40	50
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000
Flange-Ø	D-class	95	115	125	155	165
Face-to-face dimension	FF	140	150	160	200	230
Height	H	380	380	380	380	380
Handwheel-Ø	B	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	10	10
Wrench size across flats	S ₂	30	30	30	36	36
Weight	ca. kg	3.5	5.0	5.2	10.1	13.8
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2

Dimensions in mm.

Globe Valves

Type 03252 - Bellow Sealed Globe Valve



Cryogenic-Bellow Sealed Globe Valve, class 150

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03252.X.0021

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

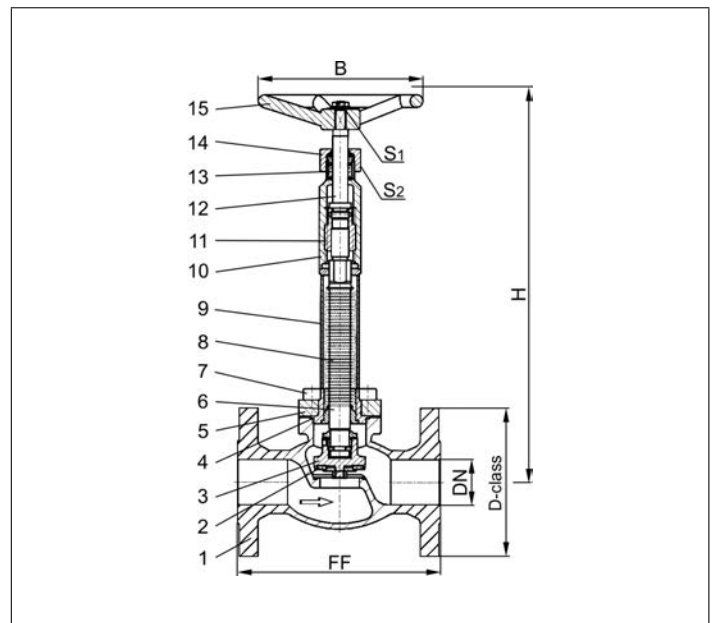
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)
 Leak rate: 10⁻⁶ mbar ltr / sec outside, 10⁻⁴ mbar ltr / sec seat

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bellow stem	1.4571	A 276 Grade 316Ti
7 Bolts	1.4301/A2	A 194 B8
8 Bellow	1.4571	A 276 Grade 316Ti
9 Elongation tube	1.4541	A 213 TP 321
10 Headpiece	1.4301	A 276 Grade 304
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Handwheel	Aluminium alloy	



Type 03252 - Standard design	Technical data					
Nominal size	DN	15	20	25	40	50
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000
Flange-Ø	D-class	90	100	110	125	150
Face-to-face dimension	FF	140	150	160	200	230
Height	H	380	380	380	380	380
Handwheel-Ø	B	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	10	10
Wrench size across flats	S ₂	30	30	30	36	36
Weight	ca. kg	3.5	5.0	5.2	10.1	13.8
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01420 - Globe Valve



Top Entry Cryogenic-Globe Valves, PN50 (DN100=PN40)

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01420.X.0*81

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

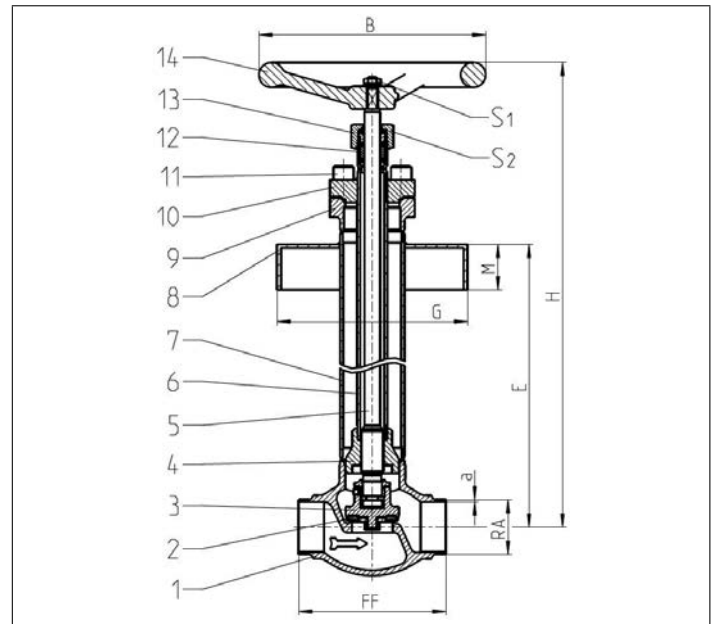
- Extension H and E acc. to customer specification
- Valve with check disc



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	CW453K	B 103 UNS C52100
5 Stem	1.4301	A 276 Grade 304
6 Elongation tube	1.4541	A 213 TP 321
7 Elongation tube	1.4541	A 213 TP 321
8 Cold box feature	1.4301	A 276 Grade 304
9 Headpiece flange	1.4301	A 276 Grade 304
10 Headpiece	1.4301	A 276 Grade 304
11 Bolts	1.4301/A2	A 193 B8
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4404	A 276 Grade 316L
14 Handwheel	Aluminium alloy	



Type 01420 - Standard design	Technical data										
Nominal size	DN	10	15	20	25	40	50	65	80	100	
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114	
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280	
Height	H	690	690	690	690	710	780	790	840	960	
Handwheel-Ø	B	100	100	100	100	200	200	250	315	315	
Outside pipe -Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.02	88.90	114.30	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40									
Length	A	540	540	540	540	540	610	610	640	750	
Length	G	acc. to customer specification									
Length	M	acc. to customer specification									
Wrench size across flats	S ₁	10	10	10	10	13	13	13	13	13	
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41	
Weight	ca. kg	4.0	4.0	4.8	5.1	9.1	11.5	19.6	26.9	37.4	
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	22.6	37.1	71.1	104.0	168.0	
Cv-Value	gal/min	1.9	5.0	7.8	13.4	26.3	43.2	82.9	121.3	196.0	
Stroke	mm	11	12	12	12	15	19	23	25	30	

Dimensions in mm.

Globe Valves

Type 01420 - Top-Entry-Valve T-Model



Cryogenic-Globe Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01420.X.CD21 (DN15, DN25)

Part No. 01420.X.CD31 (DN40, DN50)

Available options - on request only:

- Extension H and E acc. to customer specification

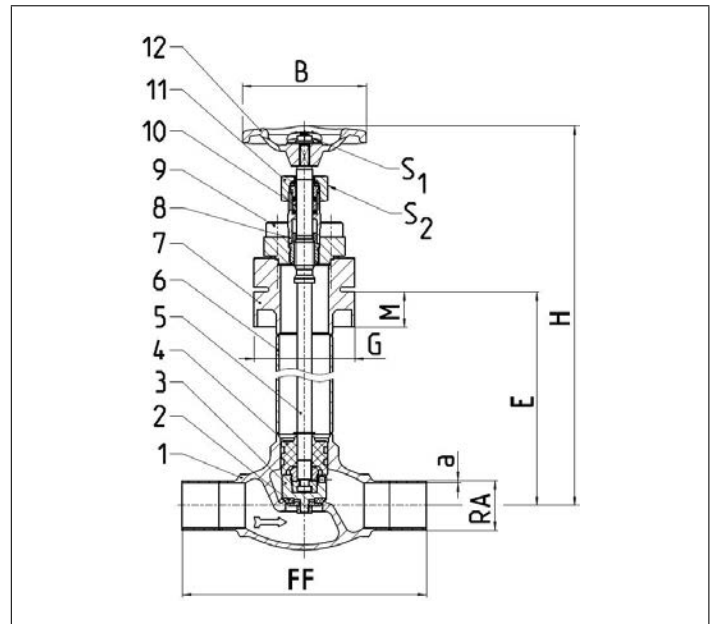


Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PCTFE	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	PTFE	
5 Stem	1.4301	A 276 Grade 304
6 Elongation tube	1.4306	A 312 Grade 304L
7 Headpiece flange	1.4301	A 276 Grade 304
8 Headpiece	1.4301	A 276 Grade 304
9 Bolts	1.4301	A 193 B8
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	



Type 01420 - T-Model	Technical data				
Nominal size	DN	15	25	40	50
Dimension code	.X.	1521	2533	4048	5060
Face-to-face dimension	FF	85	115	130	155
Height	H	401	402	498	519
Handwheel-Ø	B	100	100	200	200
Outside pipe -Ø ASTM A312	RA	21.34	33.70	48.26	60.33
Wall thickness pipe ASTM A312	a	1.6	1.6	1.6	1.6
Length	E	290	290	350	350
Length	G	68	68	109	134.5
Length	M	14	24	18.5	21.5
Wrench size across flats	S ₁	10	10	13	13
Wrench size across flats	S ₂	27	27	32	32
Weight	ca. kg	2.2	3.5	7.2	12.4
Kvs-Value	m ³ /h	4.3	11.5	22.6	37.1
Cv-Value	gal/min	5.0	13.4	26.3	43.2

Dimensions in mm.

Globe Valves

Type 01420 - Top-Entry-Valve T-Model



Cryogenic-Globe Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01420.XYCD21 (DN15, DN25)

Part No. 01420.XYCD31 (DN40, DN50)

Available options - on request only:

- Extension H and E acc. to customer specification

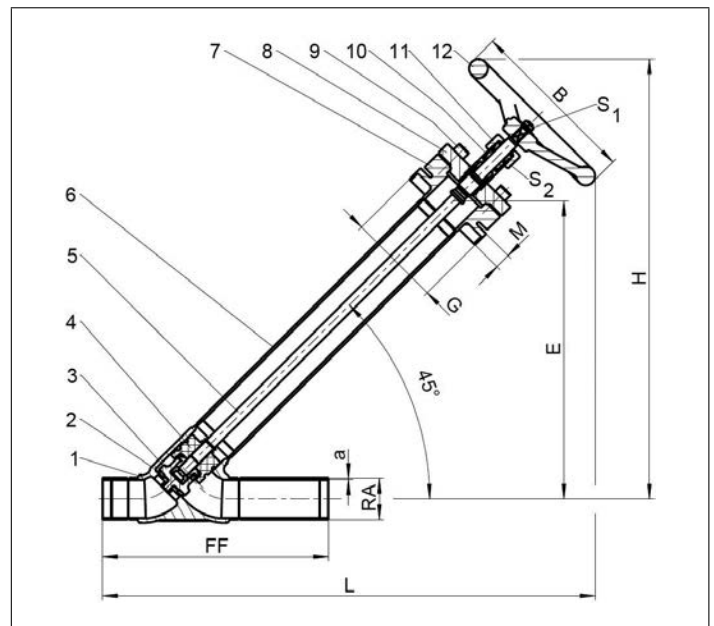


Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PCTFE	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	PTFE	
5 Stem	1.4301	A 276 Grade 304
6 Elongation tube	1.4301	A 276 Grade 304
7 Headpiece flange	1.4301	A 276 Grade 304
8 Headpiece	1.4301	A 276 Grade 304
9 Bolts	A2-70	B8
10 Gland packing	Graphite / PTFE	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	



Type 01420 - T-Model	Technical data				
Nominal size	DN	15	25	40	50
Dimension code	.X.	1521	2533	4048	5060
Face-to-face dimension	FF	178	203	265	344
Height	H	395	395	516	532
Handwheel-Ø	B	100	100	200	200
Outside pipe -Ø ASTM A312	RA	21.34	33.70	48.26	60.33
Wall thickness pipe ASTM A312	a	1.6	1.6	1.6	1.6
Length	E	290	290	350	350
Length	G	68	68	109	134.5
Length	M	14	24	18.5	21.5
Length	L	442	453	578	628
Wrench size across flats	S ₁	10	10	13	13
Wrench size across flats	S ₂	27	27	32	32
Weight	ca. kg	2.4	3.0	7.6	11.5
Kvs-Value	m ³ /h	4.9	13.3	32.0	51.0
Cv-Value	gal/min	5.7	15.6	37.4	59.7

Dimensions in mm.

Globe Valves

Type 01950 - Globe Valve



Liquid Cylinder Valves (LCV), PN42

Brass body and topwork,
42.0 bar (4200 KPa)

"cleaned and degreased for oxygen service"

Handwheel colors: green, blue or grey

Part No. 01950.T001.XXXXXX (H=73mm)

Part No. 01950.T003.XXXXXX (H=107mm)

Part No. 01950.T005.XXXXXX (H=165mm)

Inlet: stub end, female thread type G (BSPP) or NPT

Outlet: stub end, female thread type G (BSPP) or NPT



Available options - on request only:

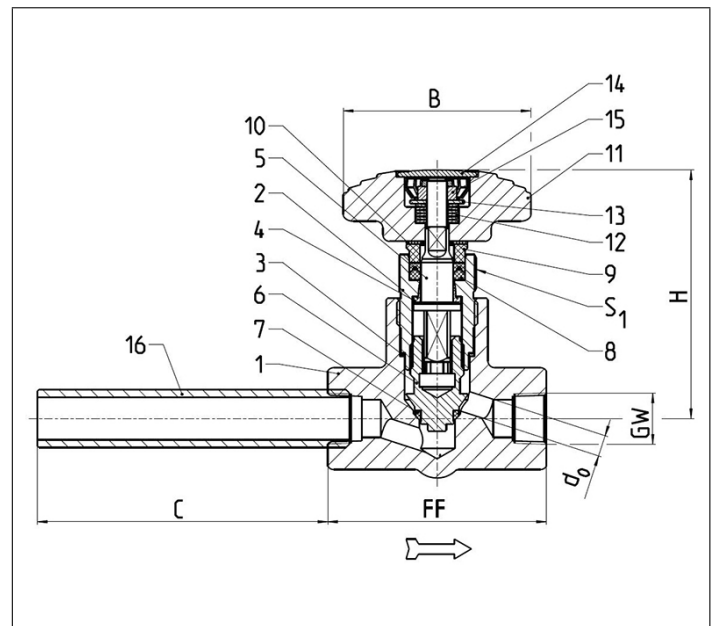
- Customised stub length
- Printed hub cap with customised design
- Additional handwheel color

Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +75°C / +167°F (348K)

Materials	DIN EN	ASTM
1 Body	CW617N	B 283 UNS C37700
2 Bonnet	CW614N	B 455 UNS C38500
3 Gasket	Copper	
4 Stem seal gasket	PTFE	
5 Upper stem	CW614N	B 455 UNS C38500
6 Lower spindle	CW614N	B 455 UNS C38500
7 Disc	PCTFE	
8 V packing	PTFE	
9 Gland packing	CW614N	B 455 UNS C38500
10 Top washer	PTFE	
11 Handwheel	C.Alum. + P.C.	
12 Disc washer	1.4301	A 276 Grade 304
13 Flat washer	1.4301	A 276 Grade 304
14 Hub cap	Mild steel zinc plated powder coating	
15 Nyloc nut	1.4301	A 276 Grade 304
16 Stubs	1.4306	A 312 TP 304/304L



Type 01950 - Standard design	Technical data				
Nominal size	DN	6	8	10	15
Thread size	GW	1/8	1/4	3/8	1/2
Face-to-face dimension	FF	64.5	64.5	64.5	64.5
Height	H	73 / 107 / 165			
Orifice	d ₀	6.25	6.25	10.25	10.25
Stub length	C	53.85	53.85	53.85	53.85
Outside pipe-Ø ISO 1127	RA	10.2	13.5	17.2	21.3
Wall thickness pipe ISO 1127	a	1.6	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	10.3	13.7	17.1	21.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S40			
Handwheel-Ø	B	67.0	67.0	67.0	67.0
Wrench size across flats	S ₁	22	22	22	22
Weight	ca. kg	0.65 / 0.75 / 0.83			
Kvs-Value	m ³ /h	0.94	0.94	1.78	1.74
Cv-Value	gal/min	1.09	1.09	2.08	2.01

Dimensions in mm.

Globe Valves

Type 11C01 - Globe Valve FullX



**Top-Entry Cryogenic-Globe Valves, forged steel body, up to PN63
A001 series**

Stainless steel body and topwork,
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options:

- Bellow, top position
- Bellow, bottom position
- Bellow monitoring
- Check function
- Control function
- Throttle function
- Purge port

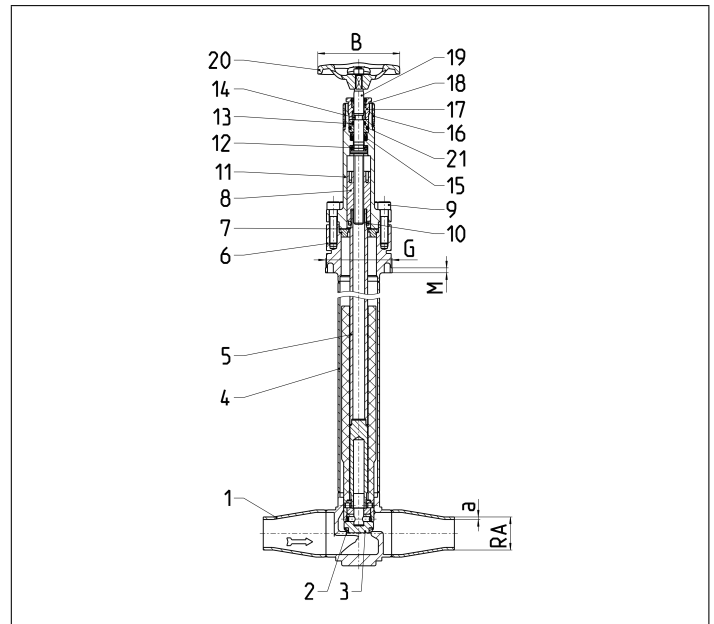
- on request only:
- Further connection types

Applications:

Approved for hydrogen, air gasaes, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -269°C / -452°F (4K) bis +80°C / +176°F (353K)



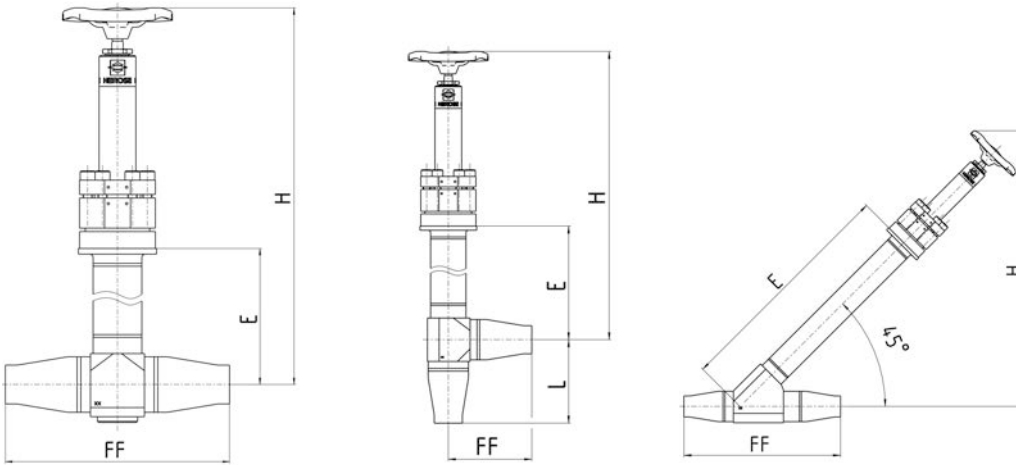
Materials	DIN EN	ASTM
1 Body	1.4571	A 313 Grade 316TI
2 Valve seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hallow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Nut	1.4404	A 276 Grade 316L
11 Head piece	1.4404	A 276 Grade 316L
12 Ball bearing	1.4125	440C
13 Sliding bushing	CW452K	B 159 UNS C51900
14 Stem ring	CW452K	B 159 UNS C51900
15 Gasket	PTFE / Elektrocarbon (25%)	
16 Cap	PVC	
17 Gland bold	1.4404	A 276 Grade 316L
18 Wiper	PEEK	
19 Stem	1.4404	A 276 Grade 316L
20 Handwheel	1.4409	A 351 CF3M
21 O-ring	FPM (VITON)	



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Handwheel-Ø	B	100	100	100	100	125	125	125
Outside pipe-Ø ISO	Ra	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.8	2.0	2.3	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

Dimensions in mm.

Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	150	150	195	195	235	235	280
Height	H	535	535	535	535	690	690	775
Length	E	325	325	325	325	445	445	525
Kvs-value	m ³ /h	3.4	4.4	9.8	12.3	25.8	28.3	44.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	4.0	5.1	11.4	14.3	30.0	32.9	51.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight	ca. kg	3.05	3.07	3.67	3.71	7.95	8.08	11.21

* with bellow

Body angle type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	80	80	100	100	120	120	140
Height	H	535	535	535	535	690	690	775
Length	E	325	325	325	325	445	445	525
Length	L	80	80	100	100	120	120	140
Kvs-value	m ³ /h	4.7	5.7	19.8	22.3	41.1	43.6	80.0
Kvs-value*	m ³ /h	4.7	5.7	16.5	19.0	33.3	35.8	63.0
Cv-value	gal/min	5.5	6.6	23.0	25.9	47.8	50.7	93.0
Cv-value*	gal/min	5.5	6.6	19.2	22.1	38.7	41.6	73.3
Weight	ca. kg	3.03	3.05	3.62	3.66	7.73	7.76	10.54

* with bellow

Body Y type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	185	185	250	250	285	285	340
Height	H	430	430	440	440	570	570	640
Length	E	365	365	370	370	505	505	600
Kvs-value	m ³ /h	4.2	5.2	11.9	14.4	34.4	36.9	69.8
Kvs-value*	m ³ /h	4.2	5.2	7.7	10.2	28.6	31.1	35.0
Cv-value	gal/min	4.9	6.0	13.8	16.7	40.0	42.9	81.2
Cv-value*	gal/min	4.9	6.0	9.0	11.9	33.3	36.2	40.7
Weight	ca. kg	3.36	3.37	4.36	4.40	9.15	9.18	13.51

* with bellow

Globe Valves

Type 11C01 - Globe Valve FullX



**Top-Entry Cryogenic-Globe Valves, casted body, up to PN50
A002 series**

- Stainless steel body and topwork,
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options:

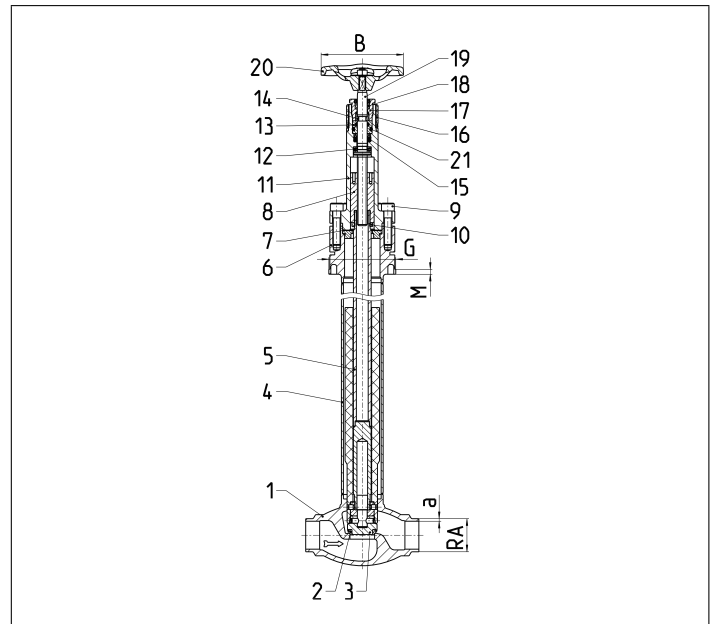
- Bellow, top position
 - Bellow, bottom position
 - Bellow monitoring
 - Check function
 - Control function
 - Throttle function
 - Purge port
- on request only:
- Further connection types



Applications:

Approved for hydrogen, air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) bis +80°C / +176°F (353K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve Seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hollow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Nut	1.4404	A 276 Grade 316L
11 Head piece	1.4404	A 276 Grade 316L
12 Ball bearing	1.4125	440C
13 Sliding bushing	CW452K	B 159 UNS C51900
14 Stem ring	CW452K	B 159 UNS C51900
15 Gasket	PTFE / Elektrocarbon (25%)	
16 Cap	PVC	
17 Gland bolt	1.4404	A 276 Grade 316L
18 Wiper	PEEK	
19 Stem	1.4404	A 276 Grade 316L
20 Handwheel	1.4409	A 351 CF3M
21 O-ring	FPM (VITON)	



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Handwheel-Ø	B	100	100	100	100	125	125	125
Outside pipe-Ø ISO	Ra	13.5	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.6	2.0	2.0	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

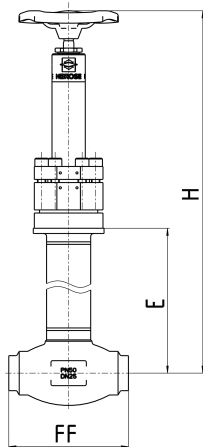
Dimensions in mm.

Globe Valves

Type 11C01 - Globe Valve FullX



Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	85	85	115	115	130	130	155
Height	H	535	535	535	535	690	690	775
Length	E	325	325	325	325	445	445	525
Kvs-value	m ³ /h	2.8	3.8	10.0	13.3	16.0	25.0	46.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	2.8	4.4	11.6	15.4	18.5	28.9	53.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight	ca. kg	3.05	3.07	3.67	3.71	7.95	8.08	11.21

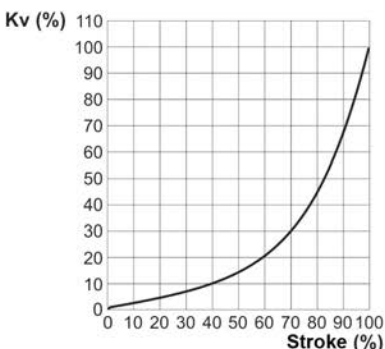
* with bellow

Flow coefficient for Control Valves - Control characteristic equal percentage Kvs-Value in m³/h, Cv-Value in gal/min. These figures refer to measurements for the flow direction.

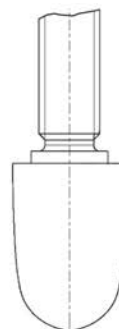
Type 11C01 control function - A001 and A002 series

DN	Kvs [m ³ /h]	Cv [gal/min]	Stroke [mm]
10	1.0	1.2	10
15	3.5	4.1	10
20	4.0	4.7	10
25	6.3	7.3	10
32	10.0	11.6	20
40	19.0	22.1	20
50	30.0	34.9	20

Ideal inherent equal percentage characteristic curve acc. to DIN IEC 60534 Part 2-4



Sample drawing cone, control characteristic equal percentage



Configurable options

For configurable types, the HEROSE part number consists as follows:

Type	Series	Dimension code	Option codes
11C01.	A001.	0250.	ESR-MYJ-CBQ-QXY-KCZ-JRB-LYV-SNP-HTW-GCX
1	2	3	4 up to 13

Selection of the type					Type
1	Type	Product group	Market segment	Valve design	Product approval
	Globe Valve FullX	Cryogenic	Top Entry	PED	11C01

Selection of the series				Series
2	Series	increased external tightness	medium pressure rating	A001
		normal external tightness	medium pressure rating	A002

Selection of the nominal size			Dimension code
3	Nominal sizes		
		DN10	0100
		DN15	0150
		DN20	0200
		DN25	0250
		DN32	0320
		DN40	0400
		DN50	0500

Selection of options			Option codes
4	Pressure rating		
		PN50	JAT
		PN63	ESR

5	Approvals		MYJ
		PED DIN EN 1626	

6	Body types		
		Body angle type	CBQ
		Straight body	HJC
		Body Y type	PYU

7	Disc function		
		lockable function	KCZ
		lockable check function	JDA
		lockable control function	SWX
		lockable throttle function	WVV

8	Operation		
		manual	YFW
		actuated 'diaphragm actuator'	RQZ
		actuated 'piston actuator'	CEA

9	Handwheel options	Material 1.4409	silver (natural)	JRB

10	Bellow options	Bellow	Bellow position	Bellow monitoring	Dimension bellow monitoring	
		not selected	not selected	not selected	not selected	LYV
		selected	top	not selected	not selected	MUR
		selected	bottom	not selected	not selected	FYX
		selected	top	selected	DIN EN ISO 8434-1-WDS-S6	GXD
		selected	bottom	selected	DIN EN ISO 8434-1-WDS-S6	XHA

11	Collar options	Nominal size	Body type	Collar diameter Ø [mm]	Collar height (M) [mm]	Collar position (E) [mm]	
		DN10-25	Body angle type/ Straight body	68.0	5.0	325.0	YWF
		DN10/15	Body Y type	68.0	5.0	365.0	YTU
		DN20/25	Body Y type	68.0	5.0	370.0	XCX
		DN32/40	Body angle type/ Straight body	84.4	5.0	445.0	RBD
		DN32/40	Body Y type	84.4	5.0	505.0	DML
		DN50	Body angle type/ Straight body	100.0	5.0	525.0	UAC
		DN50	Body Y type	100.0	5.0	600.0	WQA

12	Purge port		
		w/o purge port	CBG
		with NPT 1/8"	EPH
with VCR 1/4"	ANK		

13	Valve height	Nominal size	Body type	Bonnet extension	Valve height (H) [mm]	
		DN10/15	Body angle type/ Straight body	with	535.0	GCX
		DN10/15	Body Y type	with	430.0	HDP
		DN20/25	Body angle type/ Straight body	with	535.0	GCX
		DN20/25	Body Y type	with	440.0	VCG
		DN32/40	Body angle type/ Straight body	with	690.0	AKQ
		DN32/40	Body Y type	with	570.0	WAM
		DN50	Body angle type/ Straight body	with	775.0	QJN
		DN50	Body Y type	with	640.0	FTP

Angle Valves

Type 01332 - Globe Valve Angle Type



Cryogenic-Globe Valves Angle Type, PN50

Stainless steel body and bronze topwork,
 "live loaded" Stainless steel body and bronze topwork,
 "cleaned and degreased for oxygen service"

Part No. 01332.X.000*

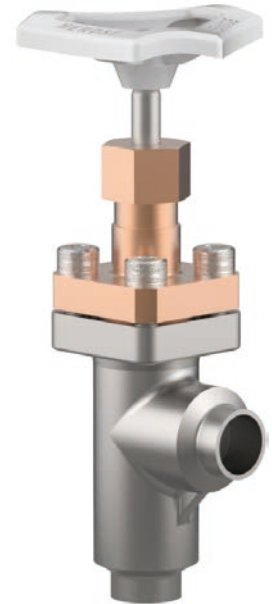
* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01332.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses



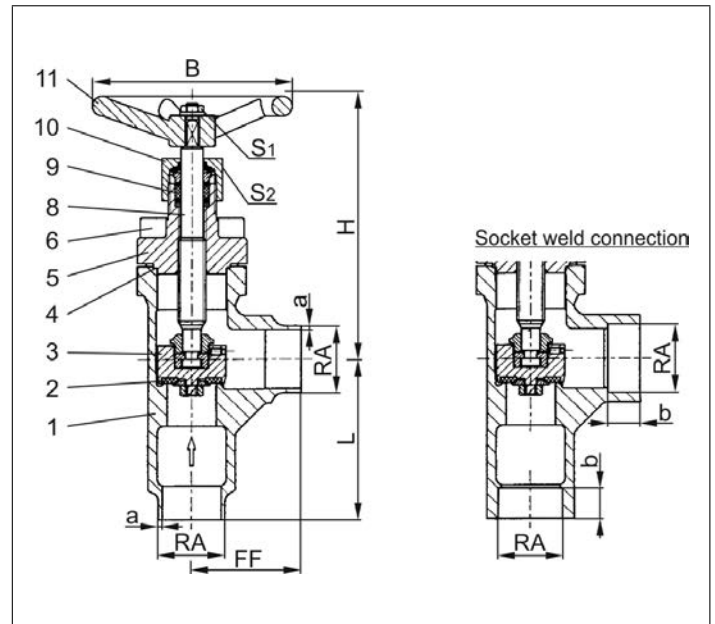
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	



Type 01332 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	140	140	140	170	175	200
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	3.1	3.3	6.0
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Angle Valves

Type 01352 - Globe Valve Angle Type



Cryogenic-Globe Valves Angle Type, PN50

- Stainless steel body and topwork,
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"

Part No. 01352.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01352.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses



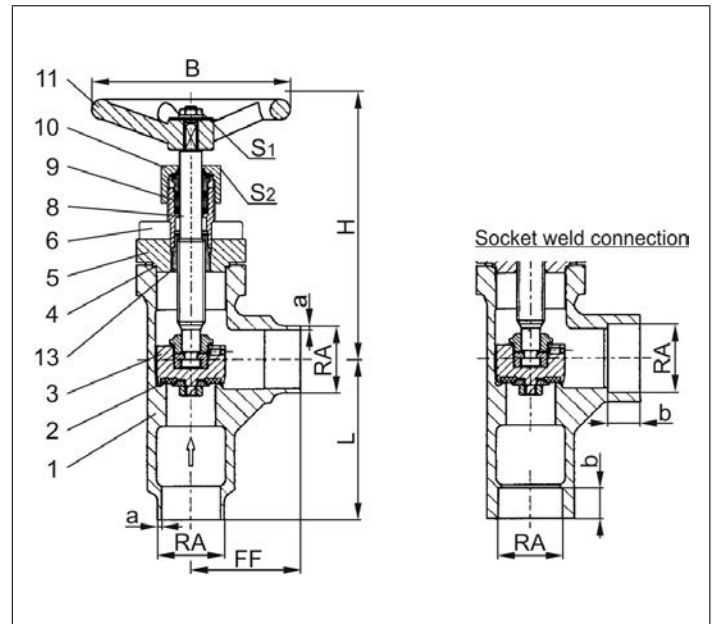
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2 A 194 B8	
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 01352 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	140	140	140	170	175	200
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.0	1.3	1.7	3.1	3.3	6.0
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Angle Valves

Type 01322 - Globe Valve Angle Type



Cryogenic-Globe Valves Angle Type, PN50

Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01322.X.001* (H = 270mm)

Part No. 01322.X.002* (H = 370mm)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01322.X.0014 (H = 270mm)

Part No. 01322.X.0024 (H = 370mm)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312



Available options - on request only:

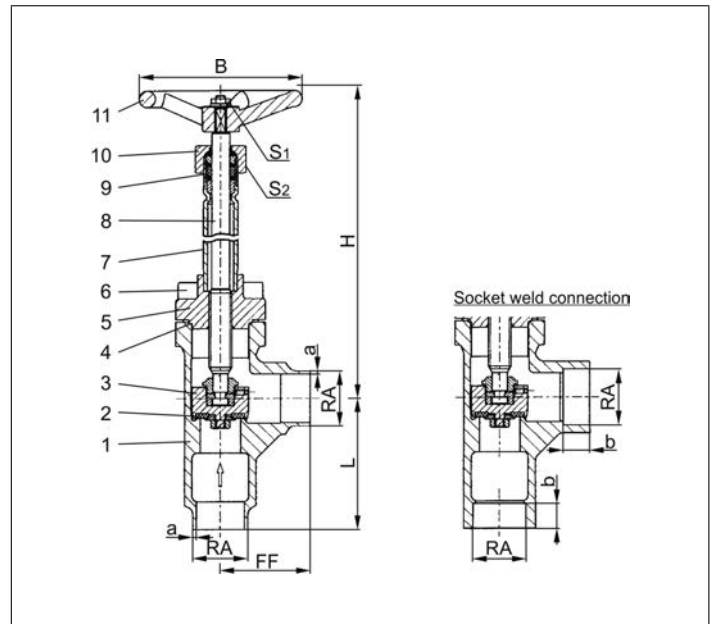
- Extension H up to 900mm
- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpieceflansch	CC493K	B 505 UNS C93200
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE	
10 Gland nut	CW614N	B 283 UNS C38500
11 Handwheel	Aluminium alloy	



Type 01322 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	270mm or 370mm					
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.4	1.6	2.2	4.0	4.3	6.5
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Angle Valves

Type 01342 - Globe Valve Angle Type



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01342.X.001* (H = 270mm)

Part No. 01342.X.002* (H = 370mm)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01342.X.0014 (H = 270 mm)

Part No. 01342.X.0024 (H = 370 mm)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)
- Valve with check disc
- Further pipe wall thicknesses

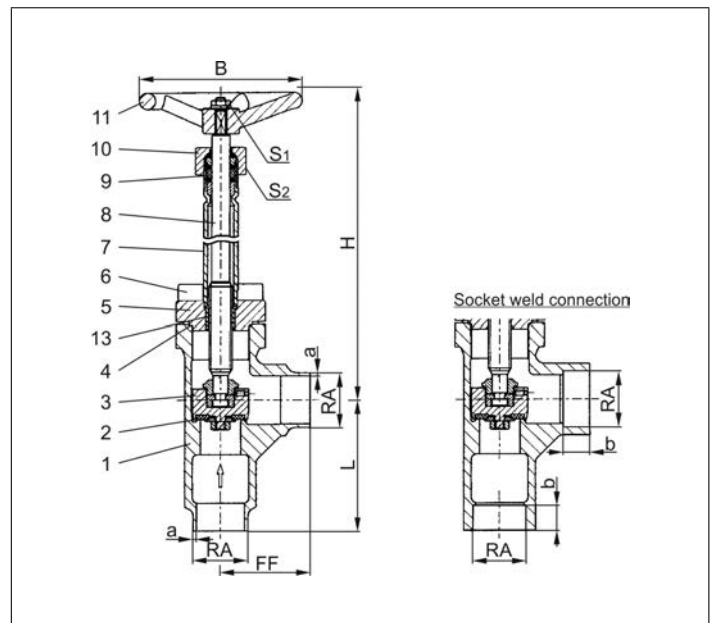


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 01342 - Standard design	Technical data						
Nominal size	DN	15	20	25	32	40	50
Dimension code	.X.	1521	2026	2533	3242	4048	5060
Face-to-face dimension	FF	40	50	55	60	58	85
Height	H	270 mm or 370 mm					
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.0	48.3	60.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	10	13	13	13	13	16
Handwheel-Ø	B	100	100	100	125	125	125
Length	L	50	65	80	80	90	90
Wrench size across flats	S ₁	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	36	36	36
Weight	ca. kg	1.4	1.6	2.2	4.0	4.3	6.5
Kvs-Value	m ³ /h	6.0	10.5	17.2	32.0	35.0	57.0
Cv-Value	gal/min	7.0	12.2	20.0	37.2	40.7	66.3

Dimensions in mm.

Gate Valves

Type 09340 - Gate Valve



Cryogenic-Gate Valves, PN50 (DN65=PN45)

Stainless steel body and topwork,
 one way tightening (in flow direction),
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266
 Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09340.X.001* (Height H for size DN25, DN40 und DN100)

Part No. 09340.X.002* (Height H for size DN50, DN65 und DN80)

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 09340.X.0014 (Height H for size DN25, DN40 und DN100)

Part No. 09340.X.0024 (Height H for size DN50, DN65 und DN80)

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312



Available options - on request only:

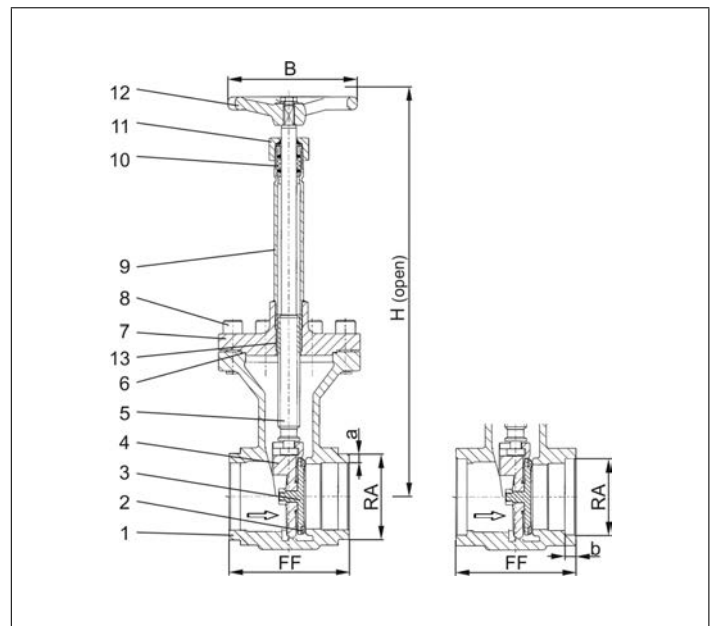
- Further pipe wall thicknesses

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4308	A 351 CF8
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 09340 - Standard design	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	2533	4048	5060	657x	8088	0114
Face-to-face dimension	FF	133	133	110	110	110	130
Height	H	330	360	410	440	450	570
Outside pipe-Ø ISO 1127	RA	33.7	48.3	60.3	76.1	88.9	114.3
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.9	3.2	3.2
Outside pipe-Ø ASTM A312	RA	33.40	48.26	60.33	73.03	88.90	114.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	8	13	16	16	16	20
Handwheel-Ø	B	125	125	150	150	150	200
Weight	ca. kg	3.3	4.8	7.5	8.6	11.4	21.8
Kvs - Value	m ³ /h	43	93	125	227	310	792
Cv - Value	gal/min	51	111	149	264	361	924

Dimensions in mm.

Gate Valves

Type 09345 - Gate valve



Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
one way tightening (in flow direction),
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266
Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09345.X.0011*

Female thread connection (G) acc. to ISO 228/1

Part No. 09345.X.0015

Female thread connection (R) acc. to ISO 7-Rc

Part No. 09345.X.0016

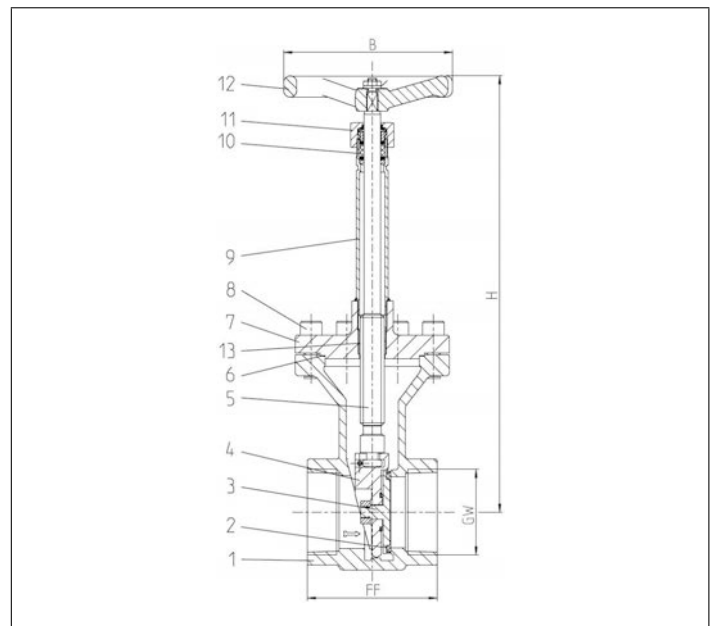
Female thread connection (NPT) acc. to ANSI 1.20.1



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4308	A 351 CF8
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 09345 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Thread size	GW	1	1-1/2	2	2-1/2
Dimension code	.X.	1000	1400	2000	2400
Face-to-face dimension	FF	133	133	110	110
Height	H	330	360	410	440
Handwheel-Ø	B	125	125	150	150
Weight	ca. kg	3.3	4.8	7.5	8.6
Kvs - Value	m ³ /h	43	93	125	227
Cv - Value	gal/min	51	111	149	264

Dimensions in mm.

Gate Valves

Type 09440 - Gate valve



Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
 one way tightening (in flow direction),
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266
 Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09440.X.0121

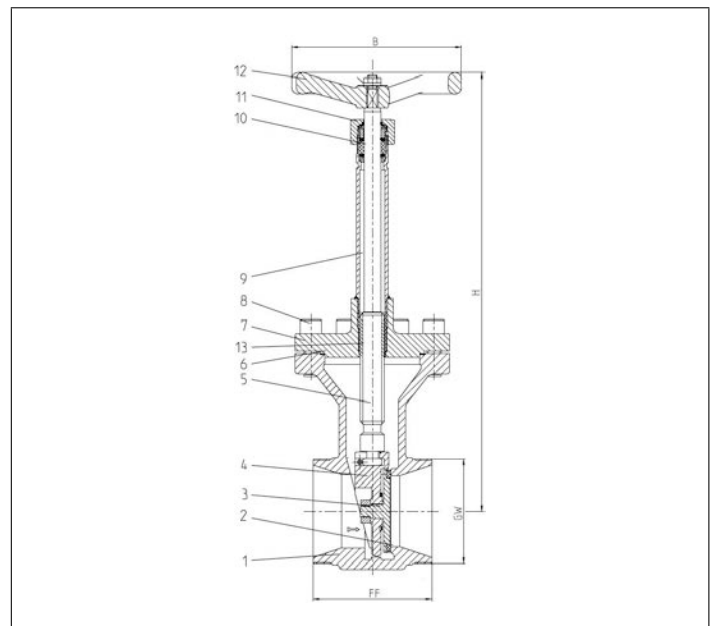
Male thread for union connection



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 159 UNS C51900
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4301	A 276 Grade 304
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 09440 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Thread size (G- / M-thread)	GW	- / M40x2	G2 / M65x2	G2-1/2 / M78x2	G3 / M88x2
Dimension code	.X.	0250	0400	0500	0650
Face-to-face dimension	FF	133	133	110	100
Height	H	330	360	410	440
Handwheel-Ø	B	125	125	150	150
Weight	ca. kg	3.3	4.8	7.5	8.6
Kvs - Value	m ³ /h	43	93	125	227
Cv - Value	gal/min	51	111	149	264

Dimensions in mm.

Gate Valves

Type 09440 - Gate valve



Cryogenic-Gate Valves, PN50

Stainless steel body and topwork,
one way tightening (in flow direction),
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266
Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09440.X.002*

Completed with union type butt weld fittings for stainless steel pipes
acc.to ISO 1127 or ASTM A312

Available options - on request only:

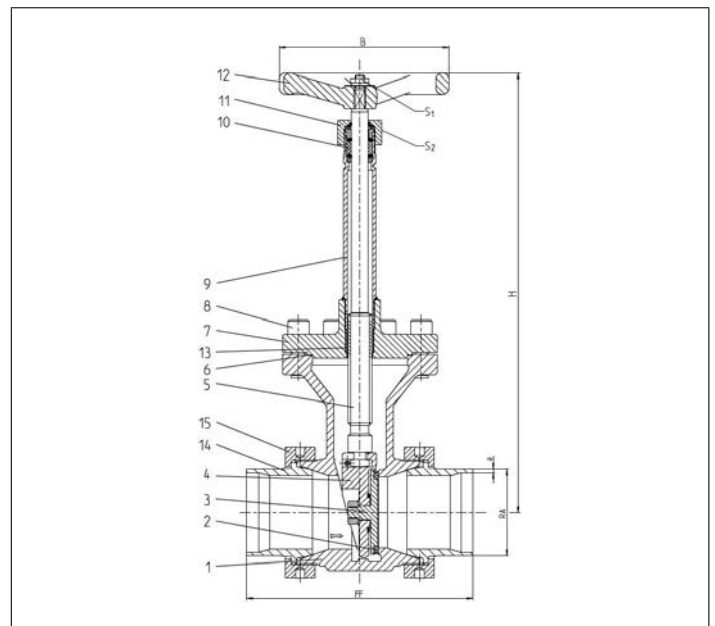
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 159 UNS C51900
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4301	A 276 Grade 304
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900
14 Weld fitting	1.4301	A 276 Grade 304
15 Union nut	1.4301	A 276 Grade 304



Type 09440 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Dimension code	.X.	2533	4048	5060	657x
Face-to-face dimension	FF	193	193	170	160
Height	H	330	360	410	440
Outsid pipe-Ø ISO 1127	RA	33.7	48.3	60.3	76.1
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.6
Outsid pipe-Ø ASTM A312	RA	33.40	48.26	60.33	73.03
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40			
Handwheel-Ø	B	125	125	150	150
Weight	ca. kg	3.5	5.1	7.8	9.0
Kvs - Value	m ³ /h	43	93	125	227
Cv - Value	gal/min	51	111	149	264

Dimensions in mm.

Butterfly Valves

Type 17800 - Butterfly Valve



Cryogenic Butterfly Valves Buttweld Type, PN16

Manual operated with gear unit

Also available in PN10 and PN25

Type test approval acc. to DIN 12567 for LNG use

“ Fire safe ” type test approval acc. to EN ISO 10497

Available options - on request only:

- Further connection types
- Pressure range
- Accessories

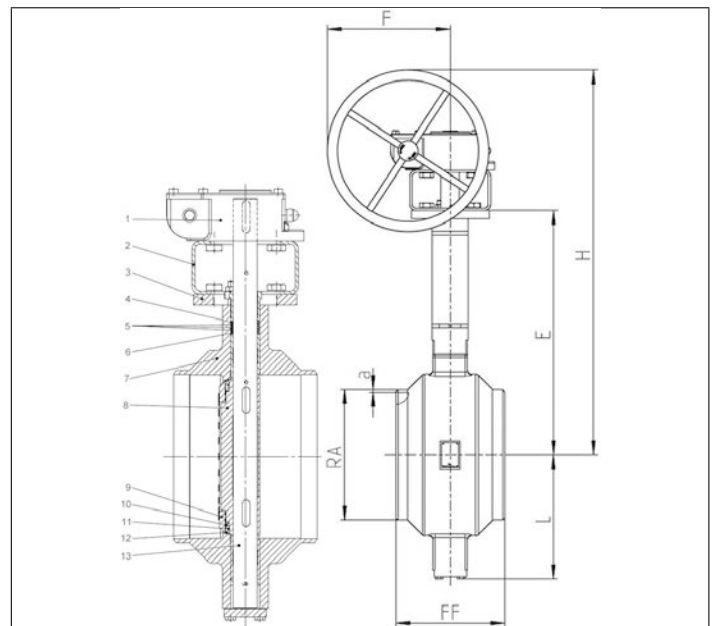


Applications:

Approved for LNG Marine applications. Other applications on request only.

Working temperature: -196°C / -321°F (77K) up to +100°C / +212°F (373K)

Materials	DIN EN	ASTM
1 Gearbox	GG25 offshore painted	
2 Bracket	1.4404/1.4571	316L/316Ti
3 Flange	1.4404	316L
4 Gland packing	Graphite braid	
5 Gland packing	Graphite	
6 Gland packing	Graphite braid	
7 Body	1.4408	316
8 Disc	1.4408	316
9 Clamp ring	1.4404/1.4571	316L/316Ti
10 Seal	1.4571	316Ti
11 CSI ring	Inconel	
12 CSE ring	Inconel	
13 Shaft	1.4980/1.4571	-/316Ti



Type 17800 - Standard design	Technical data								
Nominal size	DN	80	100	150	200	250	300	350	400
Face-to-face dimension	FF	180	190	210	230	250	270	290	310
Max. Height (depending on PN)	H	622	676	780	891	983	1009	1130	1206
Outside pipe-Ø ISO 1127	RA	88.9	114.3	168.3	219.1	273.0	323.9	355.6	406.4
Wall thickness pipe ISO 1127	a	3.2	3.6	4.5	6.3	7.1	8.0	8.0	8.8
Outside pipe-Ø ASTM A312	RA	on request							
Wall thickness pipe ASTM A312	a	on request							
Length	E	428	462	503	540	579	605	625	685
Length	L	129	158	204	241	281	307	333	383
Length (depending on PN)	F	152	152	221	286	355	355	355	380
Max. Weight (depending on PN)	ca. kg	21.0	26.0	57.0	85.0	149.0	179.0	262.0	365.0
Kvs-Value	m ³ /h	118	258	654	1443	2431	3720	5120	7321
Cv-Value	gal/min	137	300	760	1680	2850	4314	5953	8513

Dimensions in mm.

Butterfly Valves

Type 17800 - Butterfly Valve, Top Entry



Cryogenic Butterfly Valves Top Entry Buttweld Type, PN16

Manual operated with gear unit

Also available in PN10 and PN25

Type test approval acc. to DIN 12567 for LNG use

“ Fire safe ” type test approval acc. to EN ISO 10497

Available options - on request only:

- Further connection types
- Pressure range
- Accessories

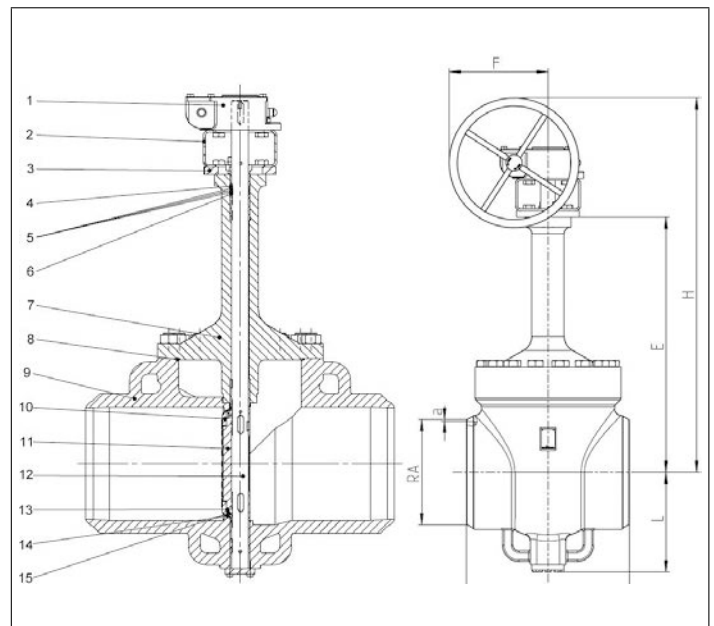


Applications:

Approved for LNG Marine applications. Other applications on request only.

Working temperature: -196°C / -321°F (77K) up to +100°C / +212°F (373K)

Materials	DIN EN	ASTM
1 Gearbox	GG25 offshore painted	
2 Bracket	1.4404/1.4571	316L/316Ti
3 Flange	1.4404	316L
4 Gland packing	Graphite braid	
5 Gland packing	Graphite	
6 Gland packing	Graphite braid	
7 Topwork	1.4408	316
8 CSI ring	Inconel	
9 Body	1.4408	316
10 Clamp ring	1.4404/1.4571	316L/316Ti
11 Disc	1.4408	316
12 Shaft	1.4980/1.4571	-/316Ti
13 Seal	1.4571	316Ti
14 CSI ring	Inconel	
15 CSE ring	Inconel	



Type 17800 - Standard design	Technical data							
Nominal size	DN	100	150	200	250	300	350	400
Face-to-face dimension	FF	305	403	418	457	502	762	838
Max. Height (depending on PN)	H	876	980	1091	1183	1209	1330	1406
Outside pipe-Ø ISO 1127	RA	114.3	168.3	219.1	273.0	323.9	355.6	406.4
Wall thickness pipe ISO 1127	a	3.6	4.5	6.3	7.1	8.0	8.0	8.8
Outside pipe-Ø ASTM A312	RA	on request						
Wall thickness pipe ASTM A312	a	on request						
Length	E	662	703	740	779	805	825	885
Length	L	158	204	241	281	307	333	383
Length (depending on PN)	F	152	152	221	286	355	355	380
Max. Weight (depending on PN)	ca. kg	46.0	82.0	145.0	244.0	299.0	452.0	640.0
Kvs-Value	m ³ /h	258	654	1443	2431	3720	5120	7321
Cv-Value	gal/min	300	760	1680	2850	4314	5953	8513

Dimensions in mm.

Fill Cluster

Type 07003 - Fill cluster with check function



Cryogenic-Fill cluster, PN50

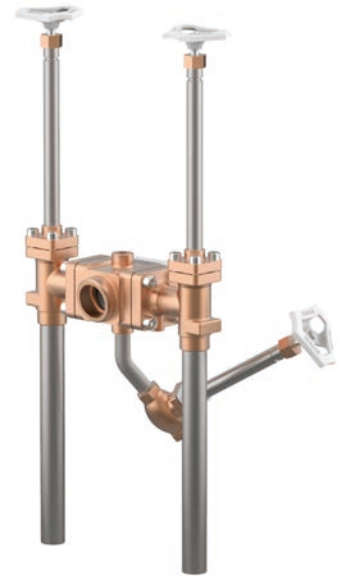
Bronze body and topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07003.X.7027

Fill connection: Female thread type R (BSPT) acc. to ISO 7-Rc
Outlet: 2x complete with brazed stainless steel stubs acc. to ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

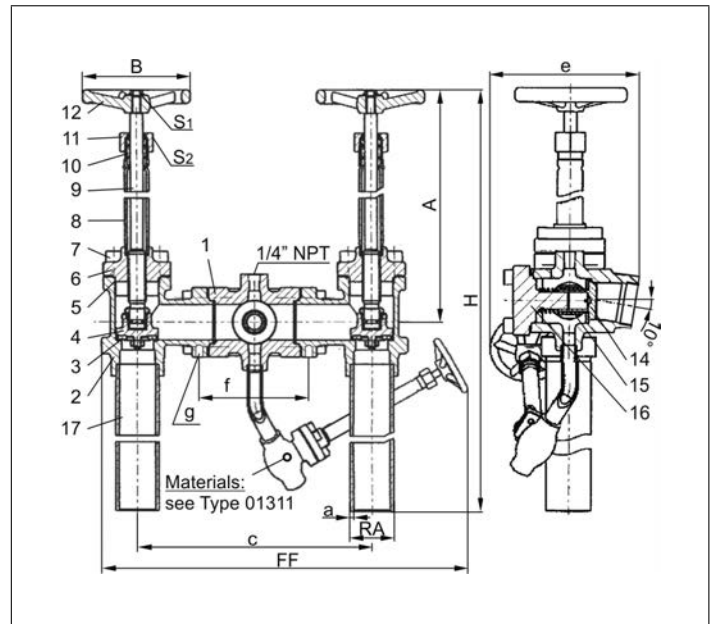
- brazed stainless steel stubs acc. to ISO 1127
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	CC491K	B 62 UNS C83600
2 Body	CC491K	B 62 UNS C83600
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	
14 Check disc	CW452K	B 159 UNS C51900
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	CC491K	B 62 UNS C83600
17 Stainless steel stubs	1.4306	A 312 TP304L



Type 07003 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	340	340
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40	
Height	A	370	370
Height	H	735	735
Length	c	260	260
Length	e	172	172
Length	f	125	125
Thread	g	M12, 11 mm deep	M12, 13 mm deep
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	14.4	18.4

Dimensions in mm.

Fill Cluster

Type 07004 - Fill cluster with check function



Cryogenic-Fill cluster, PN50

Bronze body and topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07004.X.7027

Fill connection: Mueller flange
Outlet: 2x complete with brazed stainless steel stubs acc. to ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

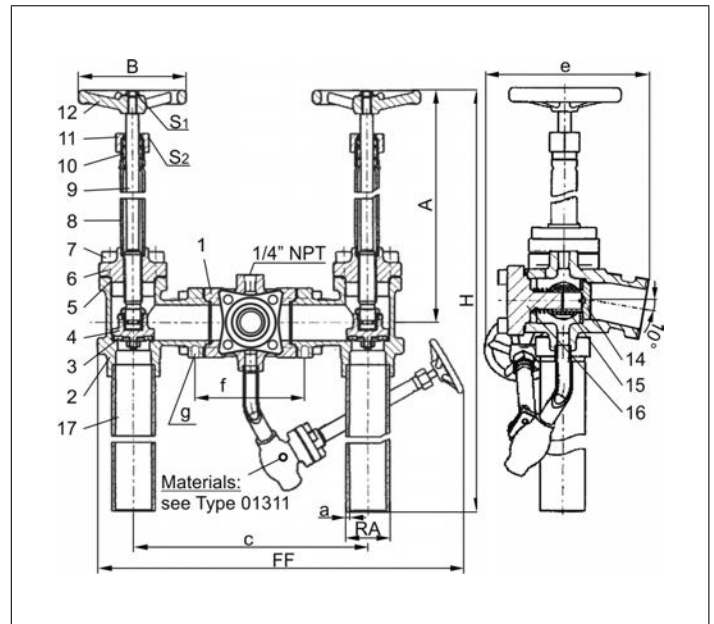
- brazed stainless steel stubs acc. to ISO 1127
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / 248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	CC491K	B 62 UNS C83600
2 Body	CC491K	B 62 UNS C83600
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	
14 Check disc	CW452K	B 159 UNS C51900
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	CC491K	B 62 UNS C83600
17 Stainless steel stubs	1.4306	A 312 TP304L



Type 07004 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	340	340
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40	
Height	A	370	370
Height	H	735	735
Length	c	260	260
Length	e	235	245
Length	f	125	125
Thread	g	M12, 11 mm deep	M12, 13 mm deep
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	15.4	19.4

Dimensions in mm.

Fill Cluster

Type 07013 - Fill cluster with check function



Cryogenic-Fill cluster, PN50

stainless steel body and bronze topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07013.X.5***

Fill connection: Female thread type R (BSPT) acc. to ISO 7-Rc
Outlet: 2x complete with brazed stainless steel stubs acc. to ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

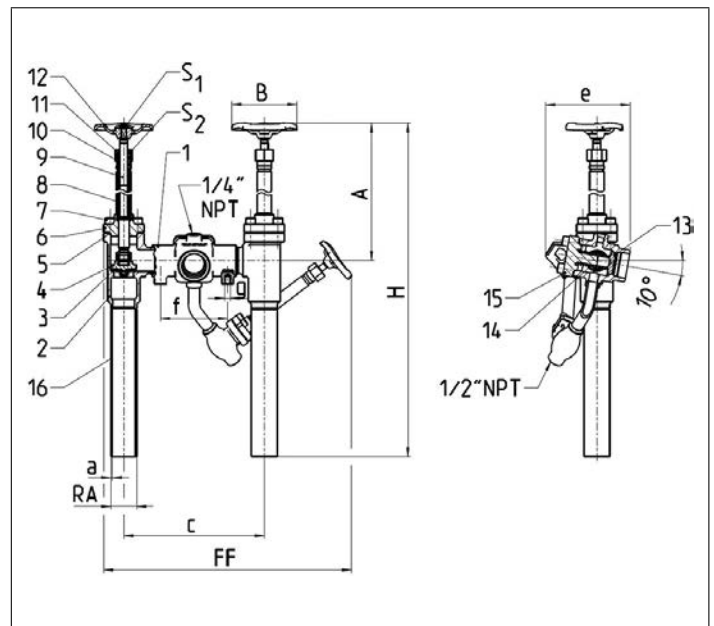
- brazed stainless steel stubs acc. to ISO 1127
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CC493K	B 505 UNS C93200
12 Handwheel	Aluminium alloy	
13 Check disc	CW452K	B 159 UNS C51900
14 Spring	1.4571	A 313 Grade 316Ti
15 Cap	CC493K	B 505 UNS C93200
16 Stainless steel stubs	1.4306	A 312 TP304L



Type 07013 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	446	461
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40	
Height	A	370	370
Height	H	735	735
Length	c	260	260
Length	e	156	157
Length	f	125	125
Thread	g	M12, 11 mm deep	M12, 13 mm deep
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	10	13
Wrench size across flats	S ₂	27	32
Weight	ca. kg	11.3	15.4

Dimensions in mm.

Fill Cluster

Type 07018 - Fill cluster with check function



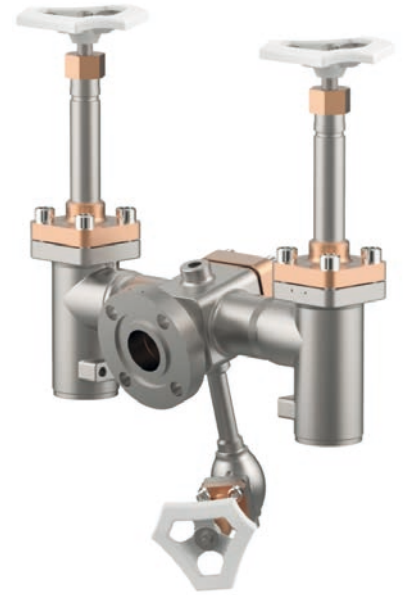
Cryogenic-Fill cluster, PN50

Stainless steel body and bronze topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07018.X.****

Fill connection: Mueller flange
Outlet: welded stainless steel stubs acc. to ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

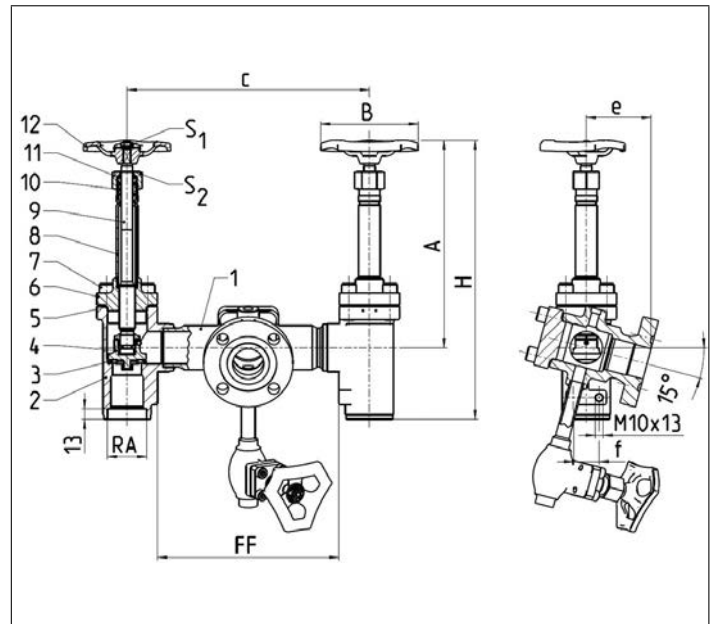
Available options - on request only:
· with strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CC493K	B 505 UNS C93200
12 Handwheel	Aluminium alloy	



Type 07018 - Standard design	Technical data			
Nominal size	DN	25	40	40
Dimension code	.X.	2533	4045	4048
Face-to-face dimension	FF	225	225	225
Outside pipe-Ø ASTM A312	RA	33.7	45.4	48.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40		
Socket depth	b	13	13	13
Height	A	270	270	270
Height	H	735	735	735
Length	c	295	301	301
Length	e	82	82	82
Length	f	32	32	32
Handwheel-Ø	B	100	125	125
Wrench size across flats	S ₁	10	13	13
Wrench size across flats	S ₂	27	32	32
Weight	ca. kg	11.5	14.9	14.9

Dimensions in mm.

Fill Cluster

Type 07015 - Fill cluster



Cryogenic-Fill cluster, PN50

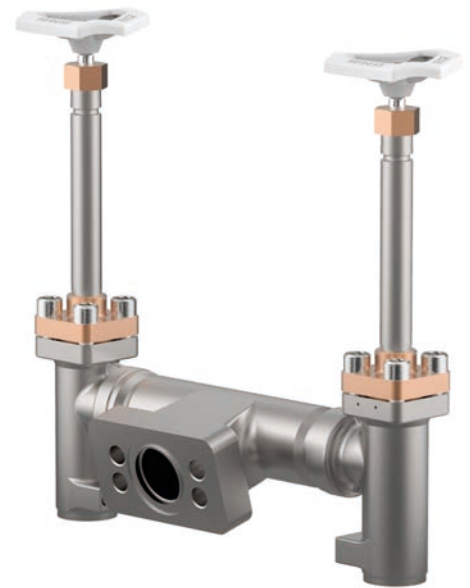
Stainless steel body and bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 07015.X.0000

Fill connection: Air Liquide specified flange
 Socket weld connection for stainless steel pipes
 acc. to ISO 1127 or ASTM A312

Available options - on request only:

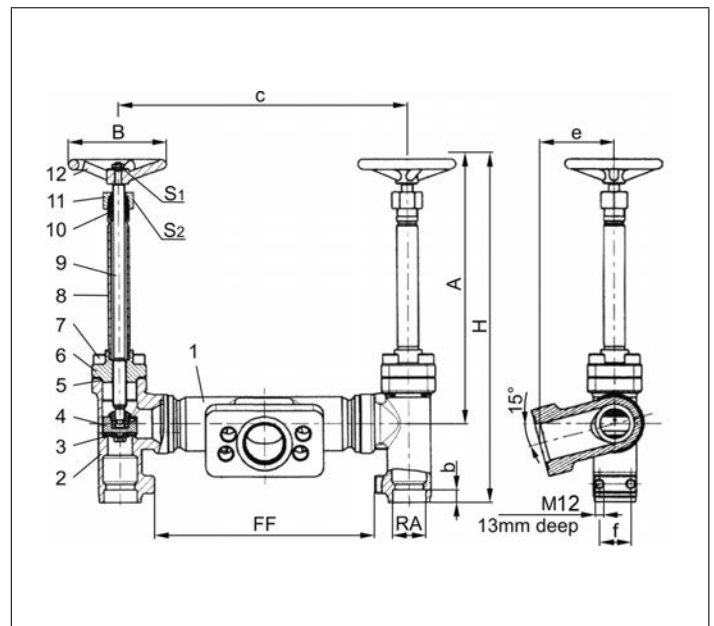
- other fill connections
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	



Type 07015 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	8.4	11.2

Dimensions in mm.

Fill Cluster

Type 07015 - Fill cluster with check function



Cryogenic-Fill cluster, PN50

Stainless steel body and bronze topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07015.X.5000

Fill connection: Air Liquide specified flange
Socket weld connection for stainless steel pipes
acc. to ISO 1127 or ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

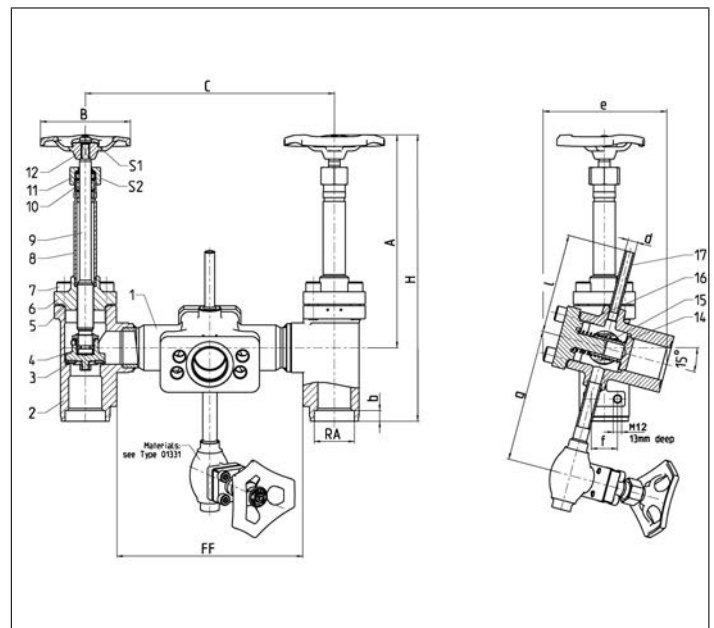
- other fill connections
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	
14 Check disc	CW452K	B 159 UNS C51900
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	CC493K	B 505 UNS C93200
17 Tube	1.4541	A 213 TP 321



Type 07015 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Length	g	160	160
Length	l	120	120
Diameter	d	12x2	12x2
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	11.2	14.0

Dimensions in mm.
Edition 2024-01

Fill Cluster

Type 07016 - Fill cluster with check function



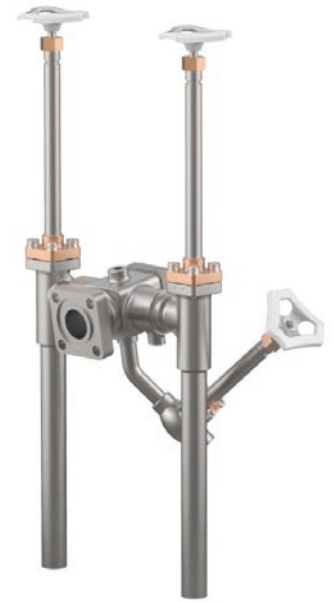
Cryogenic-Fill cluster, PN50

Stainless steel body and bronze topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07016.X.5000

Fill connection: Mueller flange
Outlet: welded stainless steel stubs acc. to ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

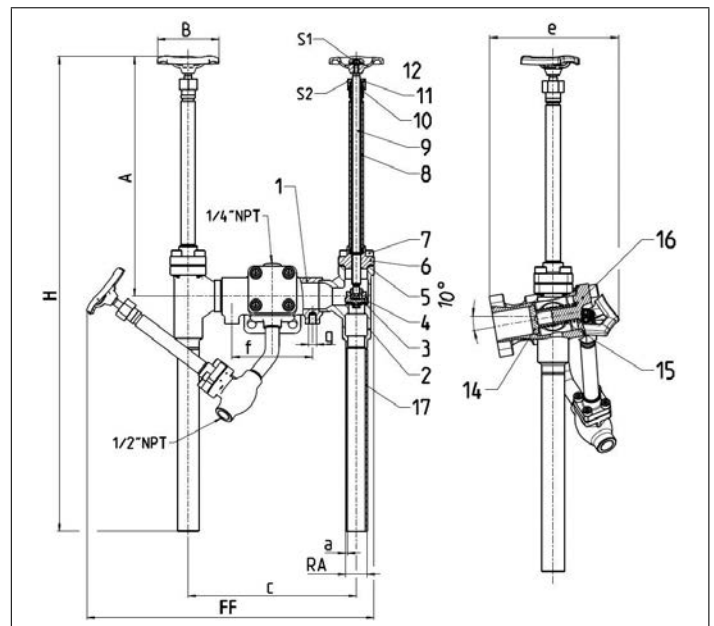
Available options - on request only:
· with strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	
14 Check disc	CW452K	B 159 UNS C51900
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	CC493K	B 505 UNS C93200
17 Pipe	1.4306	A 312 TP 304L



Type 07016 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ASTM A312	RA	33.7	48.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40	
Socket depth	b	13	13
Height	A	370	370
Height	H	735	735
Length	c	295	301
Length	e	76	76
Length	f	125	125
Length	g	M12, 11mm deep	M12, 13mm deep
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	11.5	14.9

Dimensions in mm.

Fill Cluster

Type 07012 - Fill cluster with check function



Cryogenic-Fill cluster, PN40

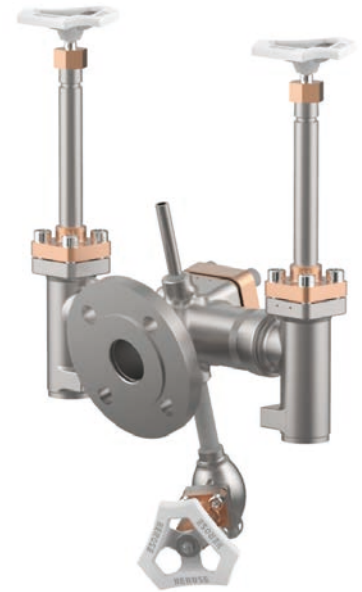
Stainless steel body and bronze topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07012.X.5000

Fill connection: Flange DN40 acc. to DIN EN 1092-1 PN40
Socket weld connection for stainless steel pipes
acc. to ISO 1127 or ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

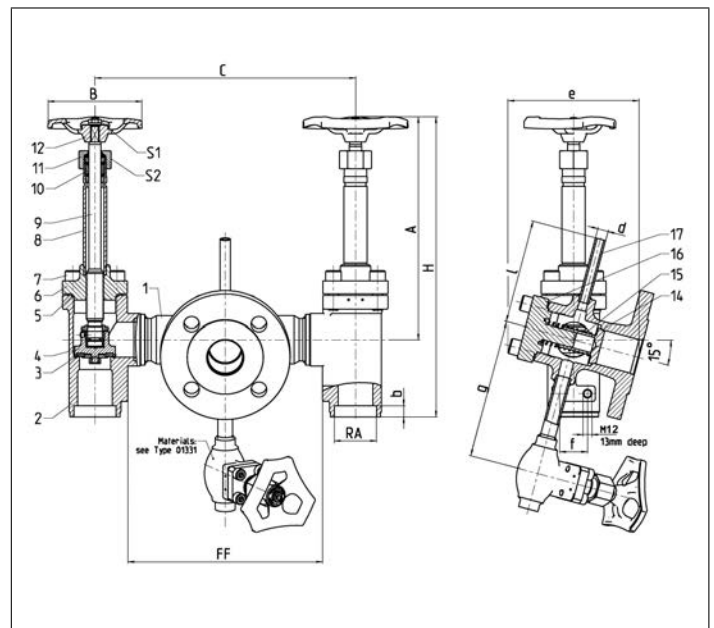
- other fill connections
- integrable strainer



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW614N	B 283 UNS C38500
5 Bonnet gasket	PTFE	
6 Headpiece	CC493K	B 505 UNS C93200
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE	
11 Gland nut	CW614N	B 283 UNS C38500
12 Handwheel	Aluminium alloy	
14 Check disc	CW452K	B 159 UNS C51900
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	CC493K	B 505 UNS C93200
17 Tube	1.4541	A 213 TP 321



Type 07012 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Length	g	160	160
Length	l	120	120
Diameter	d	12x2	12x2
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	12.6	15.4

Dimensions in mm.
Edition 2024-01

Fill Cluster

Type 07017 - Fill cluster



Cryogenic-Fill cluster, PN50

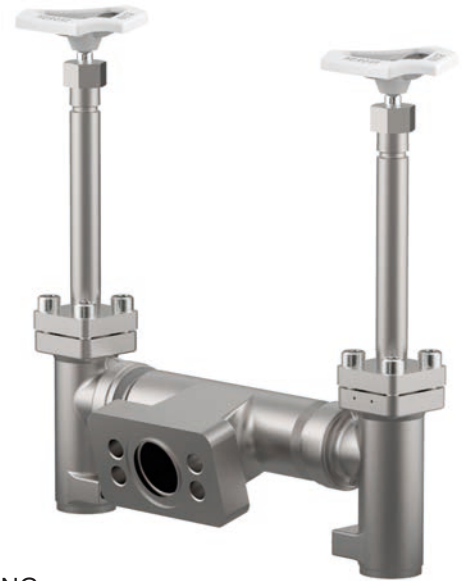
Stainless steel body and topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 07017.X.0000

Fill connection: Air Liquide specified flange
 Socket weld connection for stainless steel pipes
 acc. to ISO 1127 or ASTM A312

Available options - on request only:

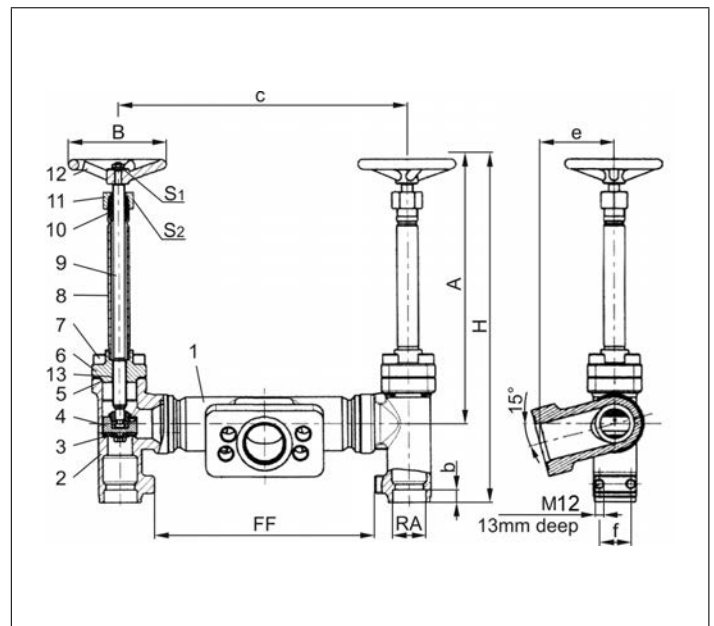
- other fill connections
- integrable strainer



Applications:

Applications: Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	1.4301	A 276 Grade 304
5 Bonnet gasket	PTFE	
6 Headpiece	1.4308	A 351 CF8
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900



Type 07017 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	8.4	11.2

Dimensions in mm.

Fill Cluster

Type 07017 - Fill cluster with check function



Cryogenic-Fill cluster, PN50

Stainless steel body and topwork
with check function and drain valve
"live loaded" gland packing
"cleaned and degreased for oxygen service"

Part No. 07017.X.5000

Fill connection: Air Liquide specified flange
Socket weld connection for stainless steel pipes
acc. to ISO 1127 or ASTM A312
Non-return unit metal to metal seated, leakage rate D acc. to EN12266-1

Available options - on request only:

- other fill connections
- integrable strainer

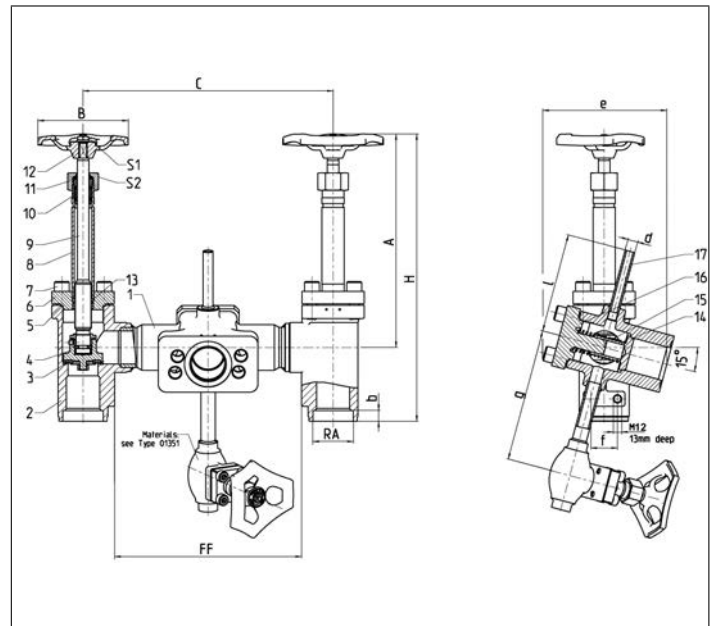


Applications:

Applications: Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Fill body	1.4308	A 351 CF8
2 Body	1.4308	A 351 CF8
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	1.4301	A 276 Grade 304
5 Bonnet gasket	PTFE	
6 Headpiece	1.4308	A 351 CF8
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Stem	1.4301	A 276 Grade 304
10 Gland packing	Graphite / PTFE / MICA	
11 Gland nut	1.4305	A 276 Grade 303
12 Handwheel	Aluminium alloy	
13 Bush	CW452K	B 159 UNS C51900
14 Check disc	1.4301	A 276 Grade 304
15 Spring	1.4571	A 313 Grade 316Ti
16 Cap	1.4301	A 276 Grade 304
17 Tube	1.4541	A 213 TP 321



Type 07017 - Standard design	Technical data		
Nominal size	DN	25	40
Dimension code	.X.	2533	4048
Face-to-face dimension	FF	225	225
Outside pipe-Ø ISO 1127	RA	33.7	48.3
Outside pipe-Ø ASTM A312	RA	33.40	48.26
Socket depth	b	13	13
Height	A	270	270
Height	H	350	350
Length	c	295	301
Length	e	76	76
Length	f	32	32
Length	g	160	160
Length	l	120	120
Diameter	d	12x2	12x2
Handwheel-Ø	B	100	125
Wrench size across flats	S ₁	7	10
Wrench size across flats	S ₂	30	36
Weight	ca. kg	11.2	14.0

Dimensions in mm.
Edition 2024-01

Fill Cluster

Type 070XX - Flow rate Fill Cluster



Flow rates of the Fill Cluster

Typ 070XX - Standard design	Technical data			
	Nominal size	DN	25	40
Kvs-Value both-sided open	m ³ /h	36.5	60.0	
Kvs-Value one-sided open	m ³ /h	18.0	33.0	
Kvs-Value both-sided open with check function	m ³ /h	32.5	50.5	
Kvs-Value one-sided open with check function	m ³ /h	17.0	29.0	
Kvs-Value both-sided open with screen	m ³ /h	27.0	37.0	
Kvs-Value one-sided open with screen	m ³ /h	13.5	18.5	
Kvs-Value both-sided open with check function and screen	m ³ /h	21.0	27.0	
Kvs-Value one-sided open with check function and screen	m ³ /h	12.5	15.5	
Cv-Value both-sided open	gal/min	42.0	69.5	
Cv-Value one-sided open	gal/min	21.0	38.5	
Cv-Value both-sided open with check function	gal/min	38.0	58.5	
Cv-Value one-sided open with check function	gal/min	20.0	33.5	
Cv-Value both-sided open with screen	gal/min	31.0	43.0	
Cv-Value one-sided open with screen	gal/min	15.5	21.5	
Cv-Value both-sided open with check function and screen	gal/min	24.0	31.0	
Cv-Value one-sided open with check function and screen	gal/min	14.5	18.0	

Spare Parts for Valves and Fill Cluster

Type 28203 - Disc complete



for Cryogenic-Globe Valves

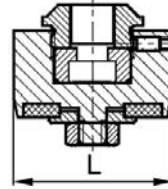
brass disc CW614N

"cleaned and degreased for oxygen service"

Part No. 28203.X.0000

suitable for:

Type	Nominal size
01301, 01311	DN10 - DN50
01305, 01315, 02401, 02411	DN10 - DN50
01331	DN10 - DN100
01321	DN10 - DN150
01332, 01322	DN10 - DN50
01335, 01325	DN10 - DN50
03331, 03321	DN25 - DN150



Type 28203.X.0000	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.06	0.09	0.12	0.18	0.22	0.30	0.55	0.75	1.05	3.10

Dimensions in mm.

for Cryogenic-Globe Valves

stainless steel disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 28203.X.0765

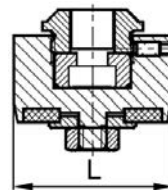
suitable for:

Type	Nominal size
01351	DN10 - DN150
01341, 01343	DN10 - DN200
03341, 03343	DN15 - DN200
01352, 01342	DN15 - DN50
01355, 01345	DN10 - DN50
03351	DN15 - DN150
01353	DN20 - DN80
01420	DN15 - DN100
01423	DN25 - DN100

Part No. 28203.X.A76*

suitable for:

Type	Nominal size
01420	DN10
01423	DN10 - DN20



Type 28203.X.*76*	Technical data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	217
Weight	ca. kg	0.05	0.06	0.09	0.12	0.18	0.22	0.30	0.55	0.75	1.05	3.10	9.28

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28203, Type 28205 - Check Disc complete



for Cryogenic-Globe/Check Valves

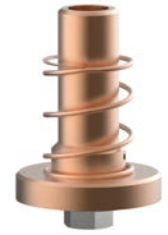
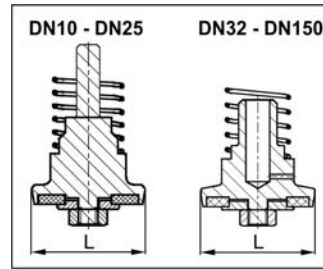
brass check disc CW614N

"cleaned and degreased for oxygen service"

Part No. 28203.X.5000

suitable for:

Type	Nominal size
01301, 01311	DN10 - DN50
01305, 01315, 02401, 02411	DN10 - DN50
01331	DN10 - DN100
01321	DN10 - DN150
01332, 01322, 01335, 01325	DN10 - DN50
03331, 03321	DN25 - DN150



Type 28203.X.5000		Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28	

Dimensions in mm.

for Cryogenic-Globe/Check Valves

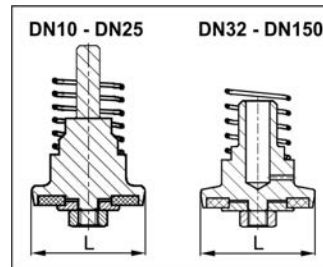
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 28205.X.5000

suitable for:

Type	Nominal size
01351	DN10 - DN150
01341, 01343	DN10 - DN200
01352, 01342	DN15 - DN50
01355, 01345	DN10 - DN50
03351	DN15 - DN150
03341, 03343	DN15 - DN200



Type 28205.X.5000		Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	217
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28	9.28

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 29240 - Disc complete



for Cryogenic-Gate Valves

brass disc CW452K

"cleaned and degreased for oxygen service"

consisting of:

1 x Disc complete (incl. disc seal PTFE/Carbon filled (25%))

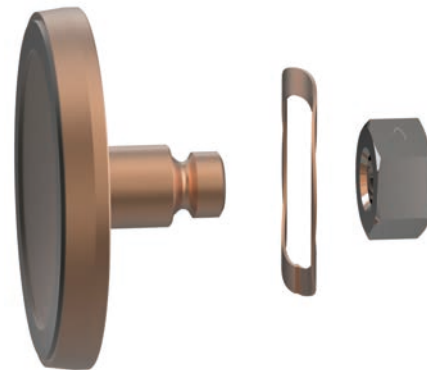
1 x Spring ring

1 x Disc nut self locking

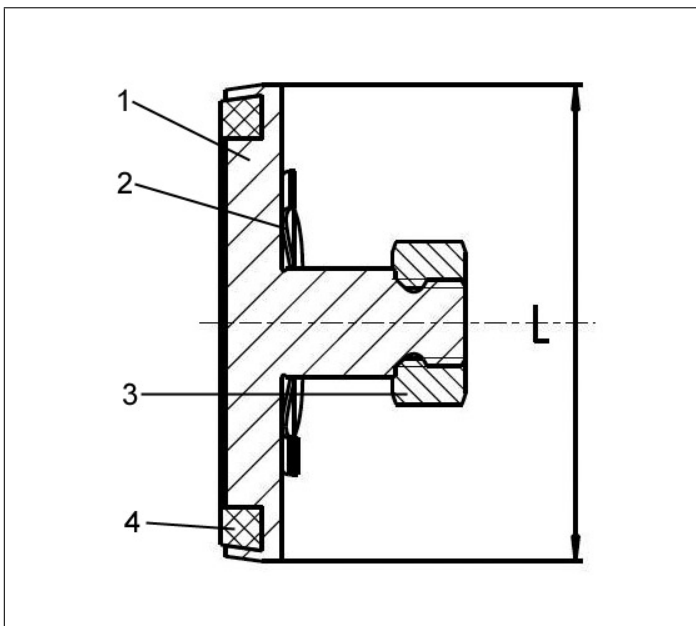
Part No. 29240.X.0000

suitable for:

Type	Nominal size
09340, 09343	DN25 - DN100
09345, 09440, 09443	DN25 - DN65



Materials	DIN EN	ASTM
1 Disc	CW614N	B 283 UNS C38500
2 Spring ring	1.4568	UNS 631
3 Nut	1.4301/A2 A 194 B8	
4 Valve seal	PTFE / Carbon filled (25%)	



Type 29240	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Disc-Ø	L	34	44	55	70	78	107
Weight	ca. kg	0.05	0.08	0.15	0.18	0.20	0.56

Dimensions in mm.

Edition 2024-01

Spare Parts for Valves and Fill Cluster

Type 29256 - Wedge complete



for Cryogenic-Gate Valves

"cleaned and degreased for oxygen service"

consisting of:

- 1 x Wedge
- 1 x Disc complete (incl. disc seal PTFE/Carbon filled (25%))
- 1 x Spring ring
- 1 x Disc nut self locking
- 1 x bearing bolt

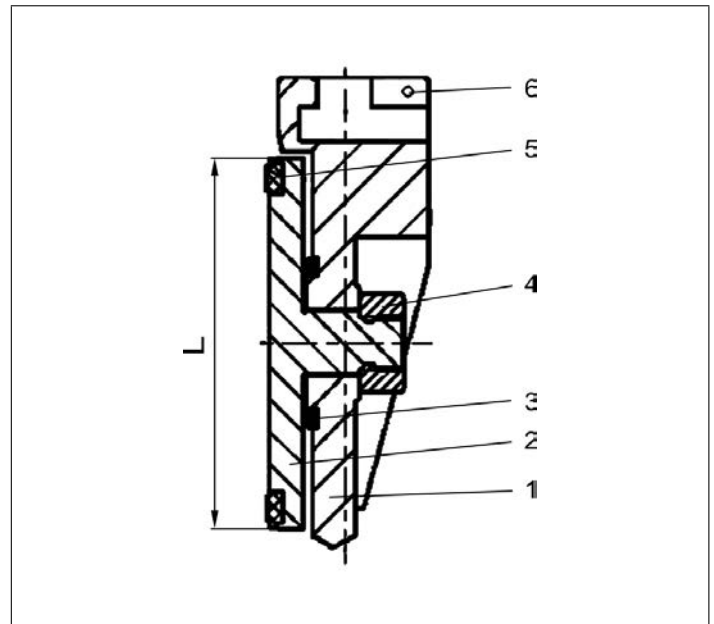
Part No. 29256.X.0000

suitable for:

Type	Nominal size
09340, 09343	DN25 - DN100
09345, 09440, 09443	DN25 - DN65



Materials	DIN EN	ASTM
1 Wedge	1.4308	A 351 CF8
2 Disc	CW452K	B 159 UNS C51900
3 Spring ring	1.4568	UNS 631
4 Nut	1.4301/A2	A 194 B8
5 Valve seal	PTFE / Carbon filled (25%)	
6 Bearing bolt	1.4301	A 276 Grade 304



Type 29256	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Disc-Ø	L	34	45	55	70	78	108
Weight	ca. kg	0.21	0.33	0.57	0.74	1.06	2.13

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28301 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Bronze topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 28301.X.0000

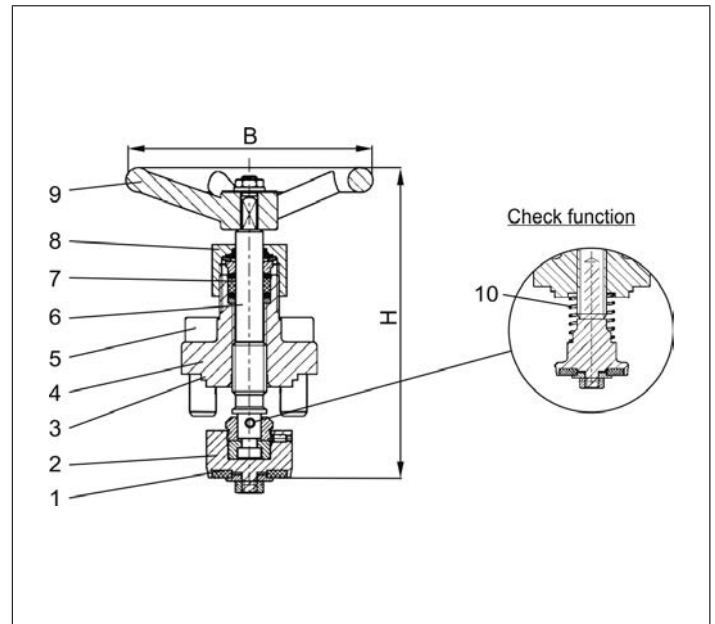
Part No. 28301.X.5000 with check function



suitable for:

Type	Nominal size
01301, 01305, 02401	DN10 - DN50
01331	DN10 - DN100
01335	DN10 - DN50
03331	DN25 - DN150

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW614N B 283 UNS C38500	
3 Bonnet gasket	PTFE	
4 Headpiece	CC493K B 505 UNS C93200	
5 Bolts	1.4301/A2 A 194 B8	
6 Stem	1.4301 A 276 Grade 304	
7 Gland packing	Graphite / PTFE	
8 Gland nut	CW614N B 283 UNS C38500	
9 Handwheel	Aluminium alloy	
10 Spring	CW452K B 159 UNS C51900	



Type 28301	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	130	130	130	130	155	160	185	240	285	320	380
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	0.6	0.7	0.95	1.0	1.5	1.9	2.7	4.8	5.9	8.4	18.0

Dimensions in mm.

Edition 2024-01

Spare Parts for Valves and Fill Cluster

Type 28351 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28351.X.0000

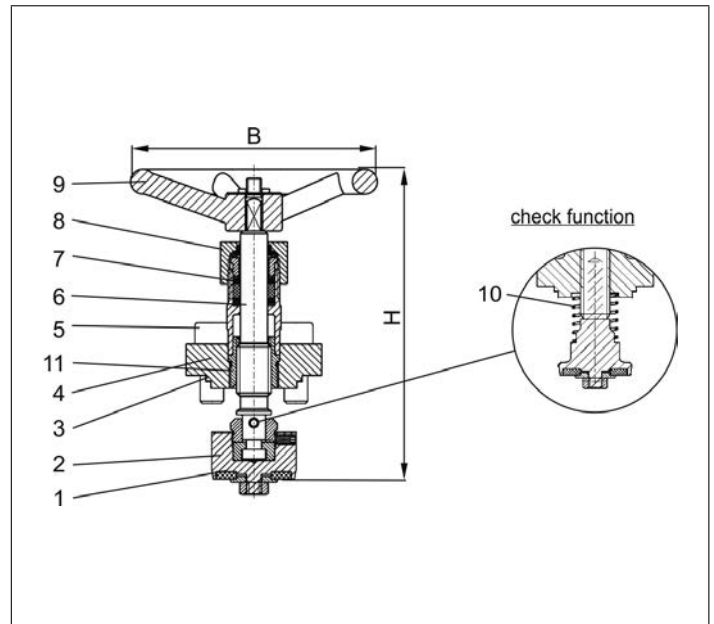
Part No. 28351.X.5000 with check function



suitable for:

Type	Nominal size
01351	DN10 - DN100
01355	DN10 - DN50
03351	DN25 - DN150

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	PTFE	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Stem	1.4301	A 276 Grade 304
7 Gland packing	Graphite / PTFE	
8 Gland nut	1.4305	A 276 Grade 303
9 Handwheel	Aluminium alloy	
10 Spring	1.4310	A 313 Grade 301
11 Bush	CW452K	B 159 UNS C51900



Type 28351	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	130	130	130	130	155	160	185	240	285	320	380
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	0.6	0.7	0.95	1.0	1.5	1.9	2.7	4.8	5.9	8.4	18.0

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28311 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Bronze topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service"

Part No. 28311.X.0010 (H=270mm)

Part No. 28311.X.0020 (H=370mm)

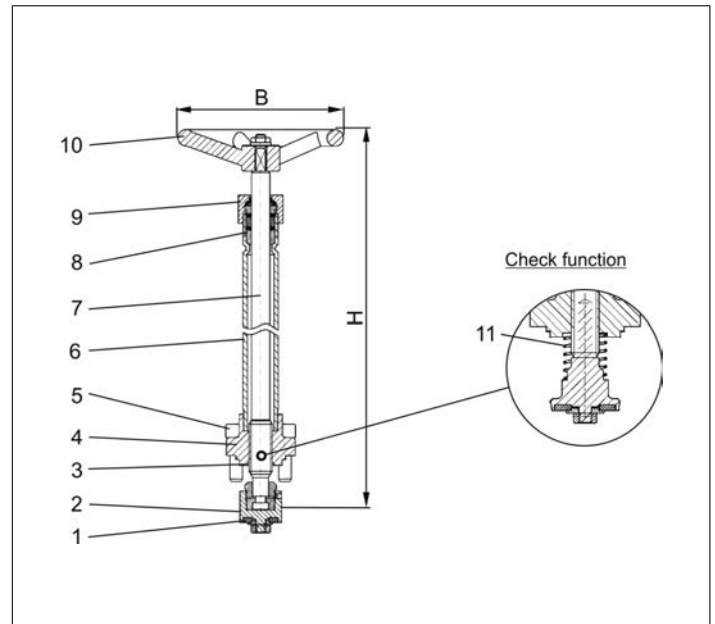
Part No. 28311.X.5010 (H=270mm) with check function

Part No. 28311.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01311, 01315, 02411	DN10 - DN50
01321	DN10 - DN150
01325	DN10 - DN50
03321	DN25 - DN150
07003 - only drain valve	DN15
07004 - only drain valve	DN15

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW614N B 283 UNS C38500	
3 Bonnet gasket	PTFE	
4 Headpiece	CC493K B 505 UNS C93200	
5 Bolts	1.4301/A2 A 194 B8	
6 Elongation tube	1.4541 A 213 TP 321	
7 Stem	1.4301 A 276 Grade 304	
8 Gland packing	Graphite / PTFE	
9 Gland nut	CW614N B 283 UNS C38500	
10 Handwheel	Aluminium alloy	
11 Spring	CW452K B 159 UNS C51900	



Type 28311	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	270 mm or 370 mm							370	370	370	420
Number of bolts		4	4	4	4	4	4	6	6	6	6	6
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	350
Weight	ca. kg	1.0	1.1	1.4	1.4	2.0	2.4	3.0	5.5	6.8	9.5	18.4

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28341 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28341.X.0010 (H=270mm)

Part No. 28341.X.0020 (H=370mm)

Part No. 28341.X.5010 (H=270mm) with check function

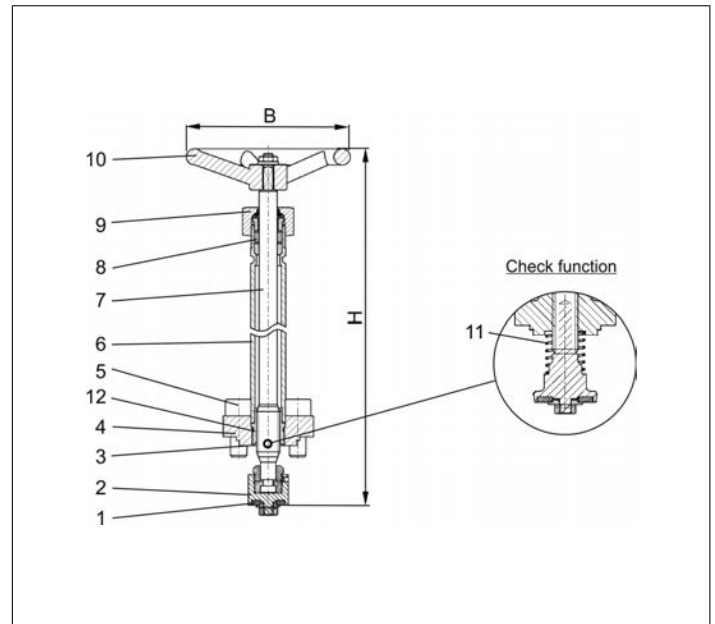
Part No. 28341.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01341	DN10 - DN200
01345	DN10 - DN50
03341	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	PTFE	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Elongation tube	1.4541	A 213 TP 321
7 Stem	1.4301	A 276 Grade 304
8 Gland packing	Graphite / PTFE	
9 Gland nut	1.4305	A 276 Grade 303
10 Handwheel	Aluminium alloy	
11 Spring	1.4310	A 313 Grade 301
12 Bush	CW452K	B 159 UNS C51900



Type 28341	Technical data													
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200	
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000	
Height	H	270 mm or 370 mm							370	370	370	420	560	
Number of bolts		4	4	4	4	4	4	6	6	6	6	6	12	
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	350	630	
Weight	ca. kg	1.0	1.1	1.4	1.4	2.0	2.4	3.0	5.5	6.8	9.5	18.4	56.8	

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 01950 - Topwork



for Liquid Cylinder Valves

"cleaned and degreased for oxygen service"

Part No. 01950.XXXX.EXXXXX

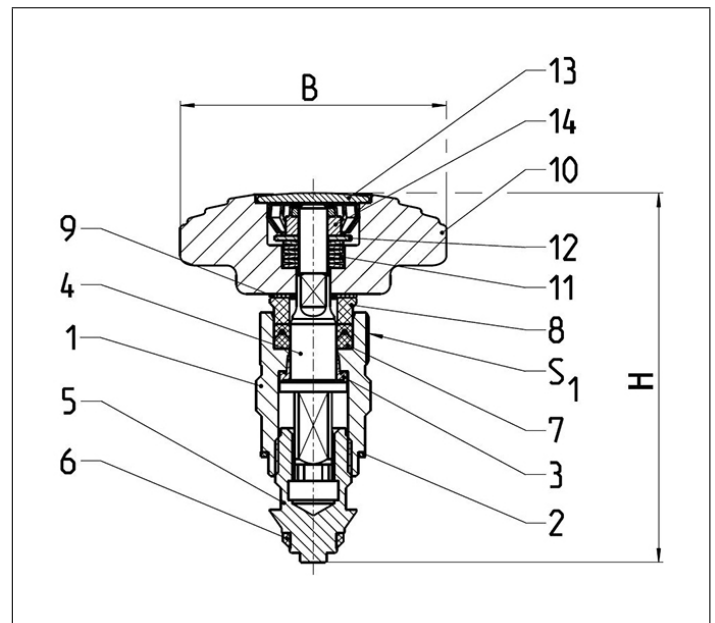
Handwheel colors: green, blue or grey

Available options - on request only:

- Printed hub cap with customised design
- Additional handwheel color



Materials	DIN EN	ASTM
1 Bonnet	CW614N	B 283 UNS C38500
2 Gasket	Copper	
3 Stem seal gasket	PTFE	
4 Upper stem	CW614N	B 283 UNS C38500
5 Lower spindle	CW614N	B 283 UNS C38500
6 Disc	PCTFE	
7 V packing	PTFE	
8 Gland packing	PTFE	
9 Top washer	PTFE	
10 Handwheel	C.Alum. + P.C.	
11 Disc washer	1.4301	A 276 Grade 304
12 Flat washer	1.4301	A 276 Grade 304
13 Hub cap	Mild steel zinc plated + powder coating	
14 Nyloc nut	1.4301	A 276 Grade 304



Type 01950	Technical data				
Nominal size	DN	6	8	10	15
Handwheel-Ø	B	67	67	67	67
Wrench size across flats	S ₁	22	22	22	22
Weight	ca. kg	0.3	0.3	0.3	0.3

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

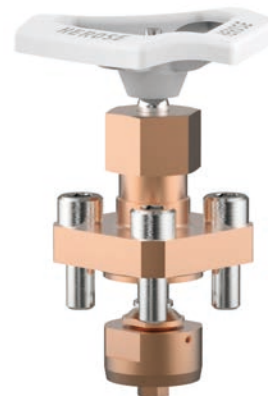
Type 28302 - Topwork Angle Type



for Cryogenic-Globe Valves Angle Type

Bronze topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

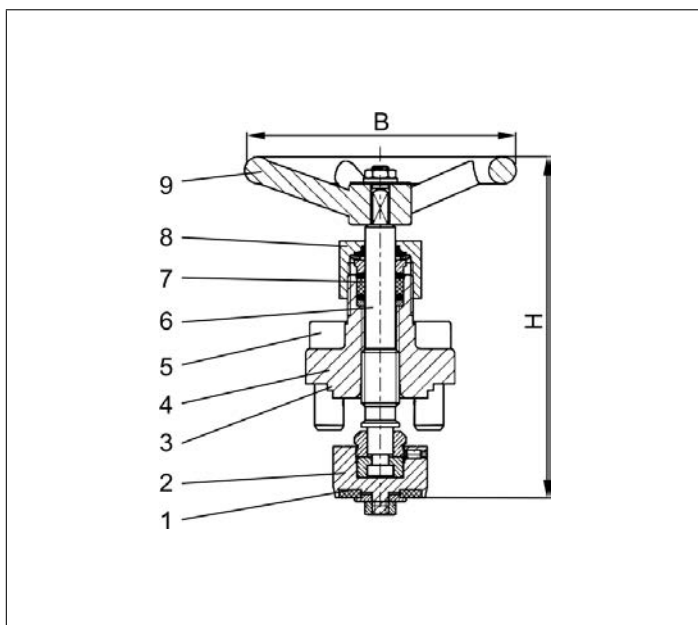
Part No. 28302.X.0000



suitable for:

Type	Nominal size
01332	DN15 - DN50

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW614N B 283 UNS C38500	
3 Bonnet gasket	PTFE	
4 Headpiece	CC493K B 505 UNS C93200	
5 Bolts	1.4301/A2 A 194 B8	
6 Stem	1.4301 A 276 Grade 304	
7 Gland packing	Graphite / PTFE	
8 Gland nut	CW614N B 283 UNS C38500	
9 Handwheel	Aluminium alloy	



Type 28302	Technical data						in preparation		
Nominal size	DN	15	20	25	32	40	50	80	100
Dimension code	.X.	0150	0200	0250	0320	0400	0500	-	-
Height	H	130	130	130	155	160	185	-	-
Number of bolts		4	4	4	4	4	6	-	-
Handwheel-Ø	B	100	100	100	125	125	125	-	-
Weight	ca. kg	0.7	0.95	1.0	1.5	1.9	2.7	-	-

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28352 - Topwork Angle Type



for Cryogenic-Globe Valves Angle Type

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

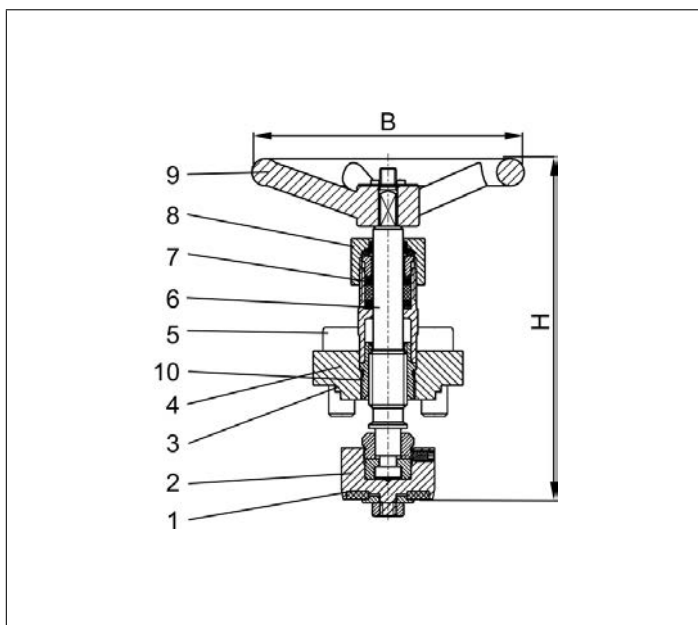
Part No. 28352.X.0000



suitable for:

Type	Nominal size
01352	DN15 - DN50

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	PTFE	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Stem	1.4301	A 276 Grade 304
7 Gland packing	Graphite / PTFE	
8 Gland nut	1.4305	A 276 Grade 303
9 Handwheel	Aluminium alloy	
10 Bush	CW452K	B 159 UNS C51900



Type 28352	Technical data							in preparation	
Nominal size	DN	15	20	25	32	40	50	80	100
Dimension code	.X.	0150	0200	0250	0320	0400	0500	-	-
Height	H	130	130	130	155	160	185	-	-
Number of bolts		4	4	4	4	4	6	-	-
Handwheel-Ø	B	100	100	100	125	125	125	-	-
Weight	ca. kg	0.7	0.95	1.0	1.5	1.9	2.7	-	-

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28312 - Topwork Angle Type



for Cryogenic-Globe Valves Angle Type

Bronze topwork
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28312.X.0010 (H=270mm)

Part No. 28312.X.0020 (H=370mm)

Part No. 28312.X.5010 (H=270mm) with check function

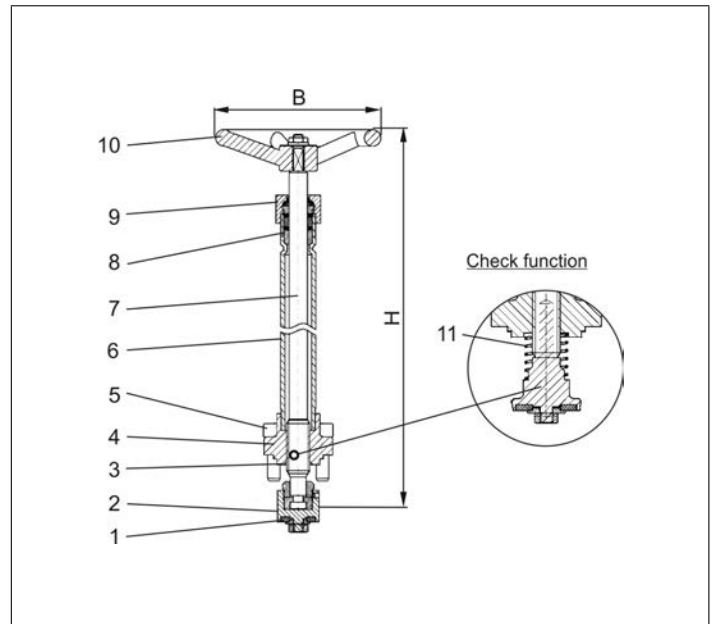
Part No. 28312.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01322	DN15 - DN50
07003 - only angled valves	DN25 & DN40
07004 - only angled valves	DN25 & DN40
07015 - only angled valves	DN25 & DN40



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW614N B 283 UNS C38500	
3 Bonnet gasket	PTFE	
4 Headpiece	CC493K B 505 UNS C93200	
5 Bolts	1.4301/A2 A 194 B8	
6 Elongation tube	1.4541 A 213 TP 321	
7 Stem	1.4301 A 276 Grade 304	
8 Gland packing	Graphite / PTFE	
9 Gland nut	CW614N B 283 UNS C38500	
10 Handwheel	Aluminium alloy	
11 Spring	CW452K B 159 UNS C51900	



Type 28312	Technical data							in preparation		
	DN	15	20	25	32	40	50	80	100	
Nominal size	.X.	0150	0200	0250	0320	0400	0500	-	-	
Dimension code										
Height	H	270 mm or 370 mm								
Number of bolts		4	4	4	4	4	6	-	-	
Handwheel-Ø	B	100	100	100	125	125	125	-	-	
Weight	ca. kg	1.1	1.4	1.4	2.0	2.4	3.0	-	-	

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 28342 - Topwork Angle Type



for Cryogenic-Globe Valves Angle Type

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28342.X.0010 (H=270mm)

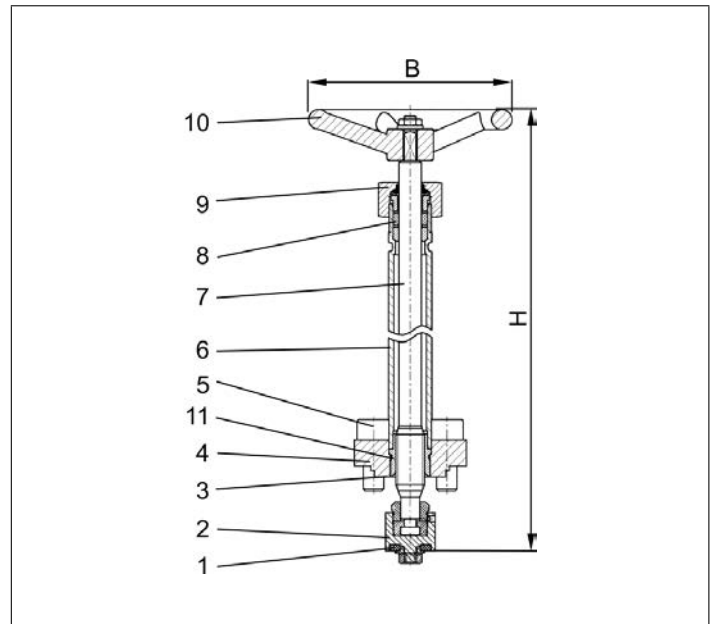
Part No. 28342.X.0020 (H=370mm)

suitable for:

Type	Nominal size
01342	DN15 - DN50
07017	DN25 & DN40



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	PTFE	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Elongation tube	1.4541	A 213 TP 321
7 Stem	1.4301	A 276 Grade 304
8 Gland packing	Graphite / PTFE	
9 Gland nut	1.4305	A 276 Grade 303
10 Handwheel	Aluminium alloy	
11 Bush	CW452K	B 159 UNS C51900



Type 28342	Technical data							in preparation		
Nominal size	DN	15	20	25	32	40	50	80	100	
Dimension code	.X.	0150	0200	0250	0320	0400	0500	-	-	
Height	H	270 mm or 370 mm							-	-
Number of bolts		4	4	4	4	4	6	-	-	
Handwheel-Ø	B	100	100	100	100	125	125	-	-	
Weight	ca. kg	1.1	1.4	1.4	2.0	2.4	3.0	-	-	

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 29340 - Topwork



for Cryogenic-Gate Valves

Stainless steel topwork,
 one way tightening (in flow direction),
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 29340.0400.0010 (DN40)

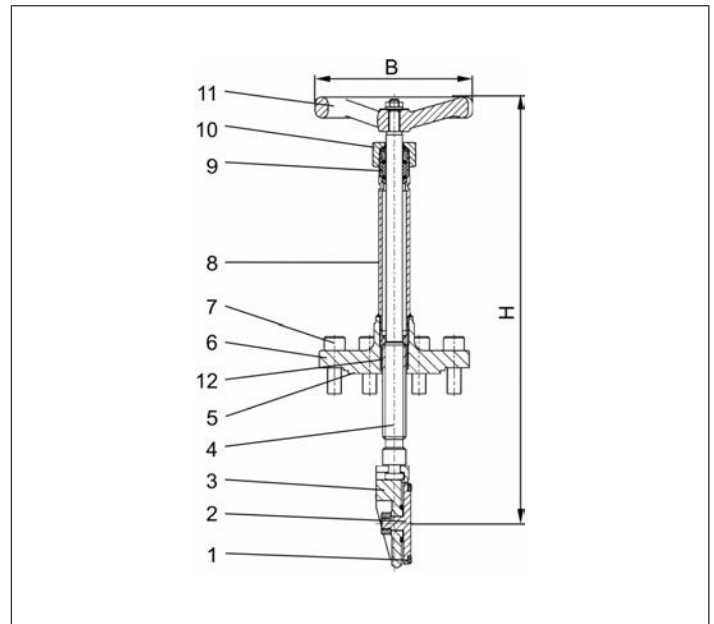
Part No. 29340.X.0020

suitable for:

Type	Nominal size
09340	DN25 - DN100



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW452K B 159 UNS C51900	
3 Wedge	1.4308	A 351 CF8
4 Stem	1.4301	A 276 Grade 304
5 Bonnet gasket	PTFE	
6 Headpiece	1.4308	A 351 CF8
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Gland packing	Graphite / PTFE	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	Aluminium alloy	
12 Bush	CW452K B 159 UNS C51900	



Type 29340	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Height	H	300/400	320/420	360	370	380	470/570
Number of bolts		4	4	6	8	6	8
Handwheel-Ø	B	125	125	150	150	150	200
Weight	ca. kg	2.0	2.3	3.6	4.2	5.5	10.4

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 30000 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

consisting of:

- 2x Bonnet gasket PTFE
- 1x Disc nut 1.4301
- 1x Stem sealing kit complete PTFE/Graphite

Part No. 30000.X.0000

with disc seal PTFE/Carbon filled (25%) up to DN50
with disc seal PTFE from DN65

Part No. 30000.X.0000PTF

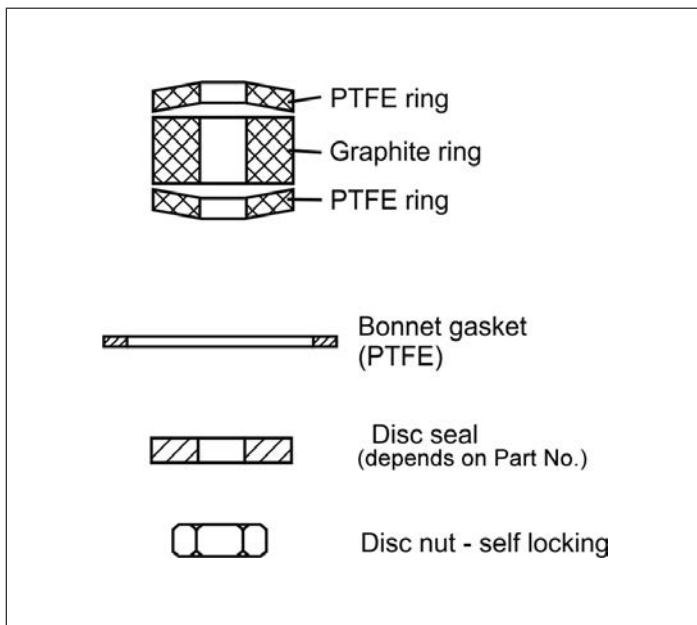
with disc seal PTFE up to DN50

Part No. 30000.X.0300

with disc seal PCTFE

suitable for:

Type	Nominal size
01301, 01311	DN10 - DN50
01305, 01315, 02401, 02411	DN10 - DN50
01321, 01331	DN10 - DN150
01332, 01322	DN10 - DN50
01335, 01325	DN10 - DN50
01353	DN15 - DN80
03331, 03321	DN25 - DN150



Type 30000	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Weight	ca. kg	0.03	0.03	0.04	0.05	0.07	0.08	0.12	0.17	0.23	0.31	0.35

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 30290 - Sealing spare part kit



for Cryogenic-Gate Valves

"cleaned and degreased for oxygen service"

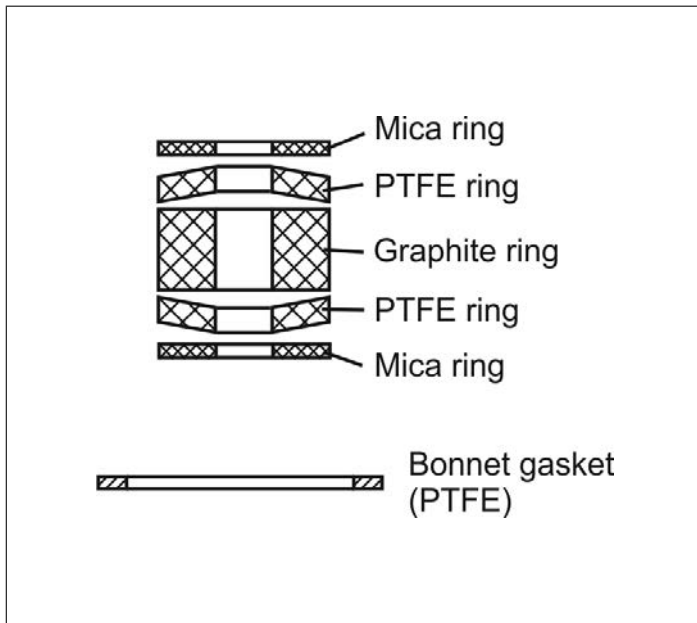
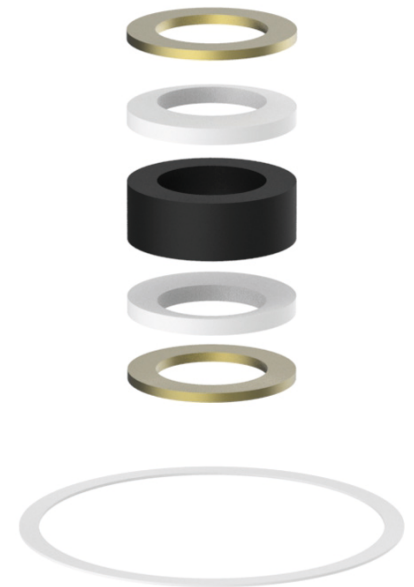
consisting of:

- 2x Bonnet gasket PTFE
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica (DN100 - 4x)

Part No. 30290.X.S000

suitable for:

Type	Nominal size
09340, 09345, 09440	DN25 - DN100



Type 30293	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Weight	ca. kg	0.03	0.06	0.11	0.16	0.22	0.30

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 30293 - Sealing spare part kit



for Cryogenic-Gate Valves with bellow actuator

"cleaned and degreased for oxygen service"

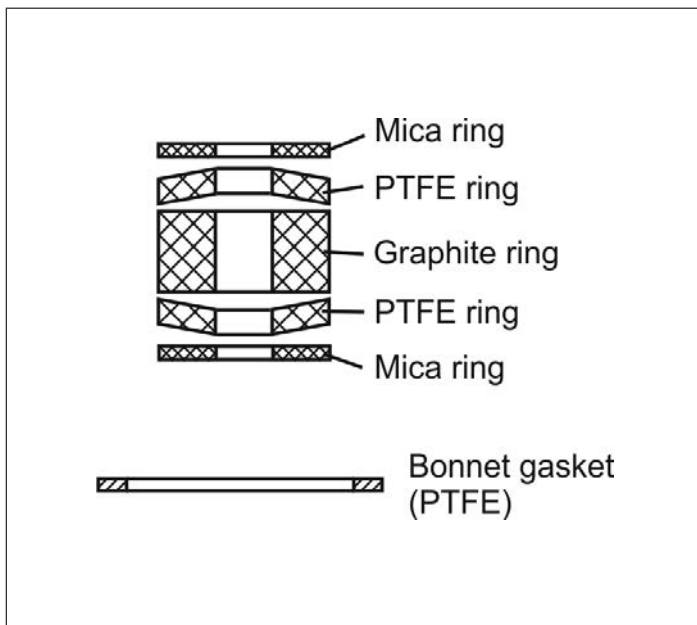
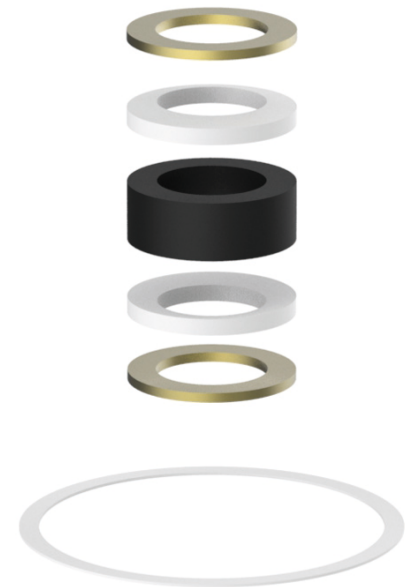
consisting of:

- 2x Bonnet gasket PTFE
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30293.X.S000

suitable for:

Type	Nominal size
09343	DN25 - DN100
09443	DN25 - DN65



Type 30293	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Weight	ca. kg	0.03	0.06	0.11	0.16	0.22	0.30

Dimensions in mm.

Edition 2024-01

Spare Parts for Valves and Fill Cluster

Type 30001, 30002, 30341, 30343 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

consisting of:

- 2x Bonnet gasket PTFE
- 1x Disc seal PTFE/Carbon filled (25%)
- 1x Disc nut 1.4301
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30001.X.0765

Part No. 30002.X.0765

Part No. 30341.X.0000

Part No. 30343.X.0000

30001.X.0765 suitable for:

Type	Nominal size
01420	DN10, DN65 - DN80
01423	DN65 - DN80

30002.X.0765 suitable for:

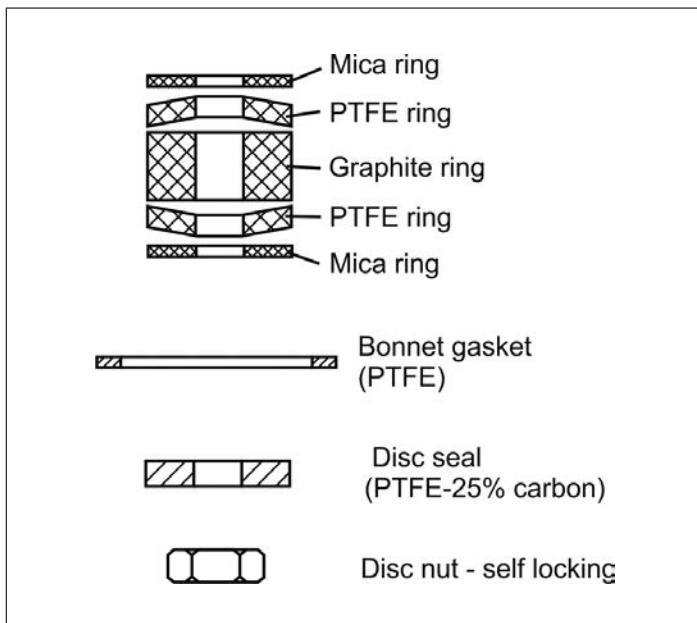
Type	Nominal size
01423	DN10 - DN20

30341.X.0000 suitable for:

Type	Nominal size
01341	DN10 - DN200
01342, 01352	DN15 - DN50
01343	DN10 - DN50, DN100, DN200
01345, 01355	DN10 - DN50
01351	DN10 - DN150
01420	DN15 - DN25, DN40 - DN50, DN100
01423	DN25, DN40 - DN50, DN100
03341, 03351	DN15 - DN150
03343	DN15 - DN50, DN100, DN200

30343.X.0000 suitable for:

Type	Nominal size
01343, 03343	DN65 - DN80, DN150



Type 30001/30002/30341/30343 Technical data													
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Weight	ca. kg	0.03	0.03	0.04	0.05	0.07	0.08	0.13	0.18	0.24	0.32	0.68	1.91

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 30353 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

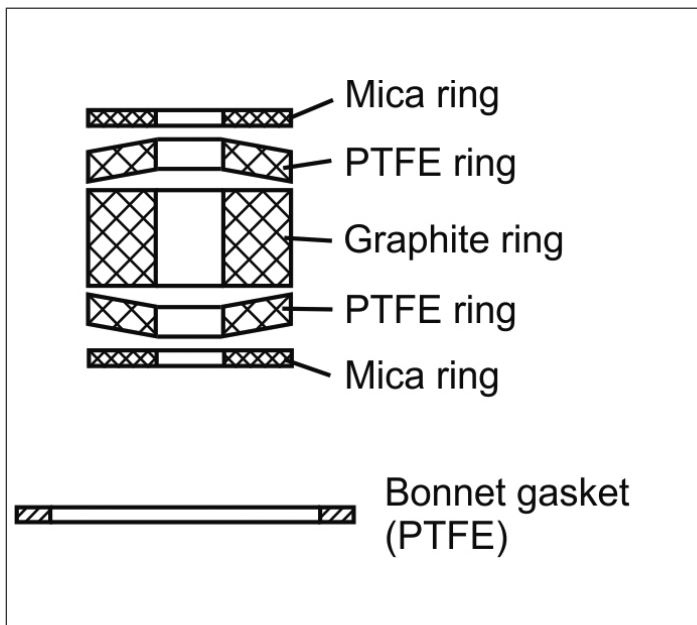
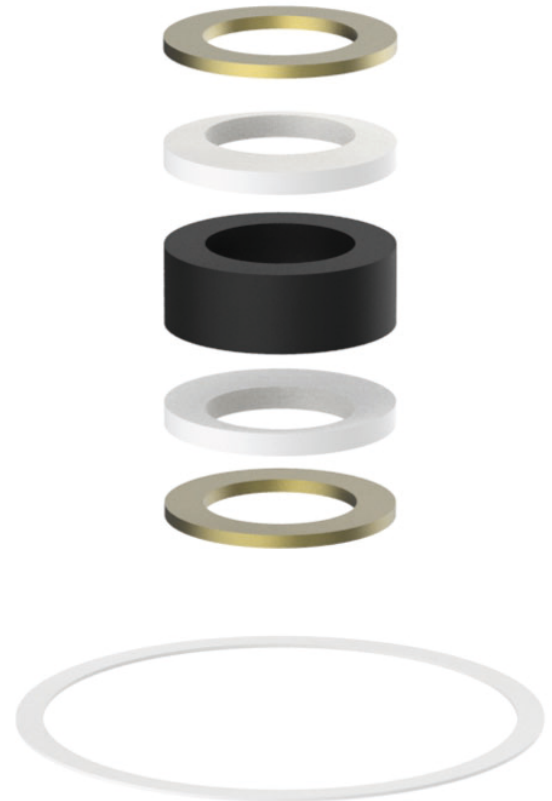
consisting of:

- 2x Bonnet gasket PTFE
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30353.X.0000

suitable for:

Type	Nominal size
01353	DN20 - DN80



Type 30353	Technical data						
Nominal size	DN	20	25	40	50	65	80
Dimension code	.X.	0200	0250	0400	0500	0650	0800
Weight	ca. kg	0.03	0.05	0.08	0.13	0.18	0.24

Dimensions in mm.

Edition 2024-01

Spare Parts for Valves and Fill Cluster

Type 31514 - KEL-F (PCTFE) Disc sealing spare part kit



for Cryogenic Globe Valves and Check Valves

"cleaned and degreased for oxygen service"

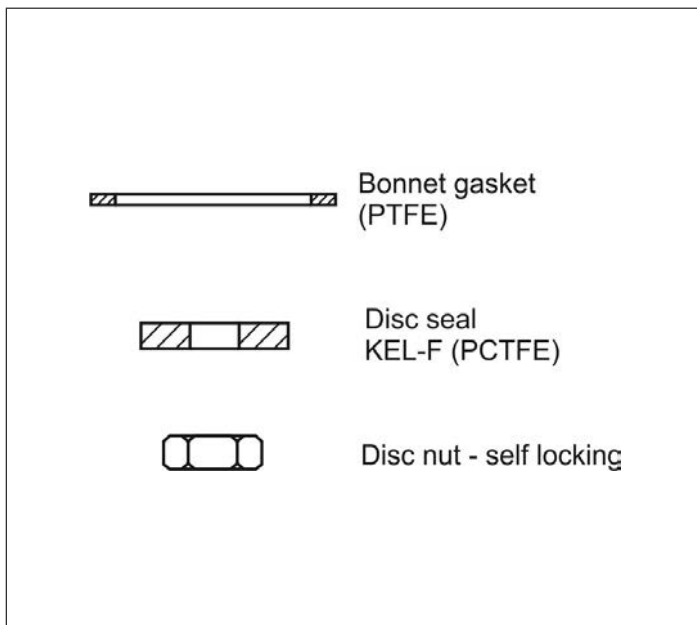
consisting of:

- 2x Bonnet gasket PTFE
- 1x Disc seal KEL-F (PCTFE)
- 1x Disc nut 1.4301

Part No. 31514.X.PCTFE

suitable for:

Type	Nominal size
01301, 01311	DN10 - DN50
01305, 01315, 02401, 02411	DN10 - DN50
01331	DN10 - DN100
01321	DN10 - DN100
01332, 01322	DN10 - DN50
01335, 01325	DN10 - DN50
03331, 03321	DN25 - DN150
01351	DN10 - DN100
01341	DN10 - DN150
01352, 01342	DN15 - DN50
01355, 01345	DN10 - DN50
03351, 03341	DN25 - DN150



Type 31514	Technical data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Weight	ca. kg	0.02	0.02	0.03	0.04	0.06	0.07	0.11	0.16	0.22	0.30	0.40

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 17800 - Spare part kit



for Cryogenic Butterfly Valves Type 17800 Butt weld Type

"cleaned and degreased for oxygen service"

consisting of:

- 1x CSI-Ring Inconel
- 1x CSE-Ring Inconel
- 2x Bearing hard chromed
- 5x Gland packing graphite
- 1x Cover seal

Part No. 17800.X.E00101

Type 17800	Technical Data								
Nominal size	DN	80	100	150	200	250	300	350	400
Dimension code	.X.	0080	0100	0150	0200	0250	0300	0350	0400

for Cryogenic Butterfly Valves Top Entry Type 17800 Butt weld Type

"cleaned and degreased for oxygen service"

Part No. 17800.X.E00102

consisting of:

- 1x CSI-Ring Inconel
- 1x CSE-Ring Inconel
- 1x O-Ring inconel top flange
- 2x Bearing hard chromed
- 5x Gland packing graphite
- 1x Cover seal

Type 17800	Technical Data								
Nominal size	DN	100	150	200	250	300	350	400	
Dimension code	.X.	0100	0150	0200	0250	0300	0350	0400	

Spare Parts for Valves and Fill Cluster

Type 55318, Type 55317 - Handwheel



for Cryogenic Globe Valves

Handwheels made out of aluminium or stainless steel

Nominal size Globe Valve	Colour	Part No. (aluminium)	Part No. (stainless steel)
DN10 - DN25	white (RAL 9010)	55318.0001.0402	55318.0016.0783
DN32 - DN50	white (RAL 9010)	55318.0002.0402	55318.0017.0783



Nominal size Globe Valve	Colour	Part No. (aluminium)	Part No. (stainless steel)
DN65	silver (natural)	55317.0021.0402	55317.0118.0783
DN80	silver (natural)	55317.0022.0402	55317.0117.0783
DN100	silver (natural)	55317.0068.0402	55317.0119.0783
DN150	silver (natural)	55317.0016.0402	55317.0120.0783
DN200	silver (natural)	55317.0106.0402	55317.0122.0767



for Cryogenic Bellow sealed Valves

Nominal size Bellow sealed Valve	Colour	Part No. (aluminium)	Part No. (stainless steel)
DN10 - DN50	silver (natural)	55317.0029.0402	55317.0123.0783



for Cryogenic Gate Valves

Nominal size Gate Valve	Colour	Part No. (aluminium)
DN25 - DN40	white (RAL 9010)	55318.0002.0402
DN50 - DN80	silver (natural)	55317.0029.0402
DN100	silver (natural)	55317.0020.0402

Handwheels (available colours) made of aluminium for Cryogenic Globe Valves DN10 - DN50

Nominal size	Colour	Part No.
DN10 - DN25	silver (natural)	55318.0016.0402
DN32 - DN50	silver (natural)	55318.0017.0402



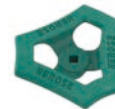
Nominal size	Colour	Part No.
DN10 - DN25	red (RAL 3000)	55318.0004.0402
DN32 - DN50	red (RAL 3000)	55318.0005.0402



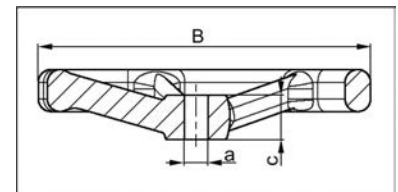
Nominal size	Colour	Part No.
DN10 - DN25	blue (RAL 5015)	55318.0007.0402
DN32 - DN50	blue (RAL 5015)	55318.0008.0402



Nominal size	Colour	Part No.
DN10 - DN25	green (RAL 6005)	55318.0010.0402
DN32 - DN50	green (RAL 6005)	55318.0011.0402



Nominal size	Colour	Part No.
DN10 - DN25	black (RAL 9011)	55318.0013.0402
DN32 - DN50	black (RAL 9011)	55318.0014.0402



Type 55318	Technical Data				Type 55317								
		.0001.0402	.0002.0402										
		.0004.0402	.0005.0402										
		.0007.0402	.0008.0402										
		.0010.0402	.0011.0402		.0016.0402	.0020.0402	.0021.0402	.0022.0402	.0029.0402	.0068.0402	.0106.0402		
		.0013.0402	.0014.0402		.0120.0783		.0118.0783	.0117.0783	.0123.0783	.0119.0783	.0122.0767		
		.0016.0402	.0017.0402										
		.0016.0783	.0017.0783										
Handwheel-Ø	B	100	125		360	200	200	250	150	315	630		
Square	a	7	10		15	12	10	10	10	12	27		
Hub height	c	15	19,5		35,0	30,0	20,5	20,0	19,0	33,0	56,0		
Weight	ca. kg	0,1	0,15		3,4	0,85	0,8	0,15	0,35	2,5	9,7		

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 55379 - Position indicator

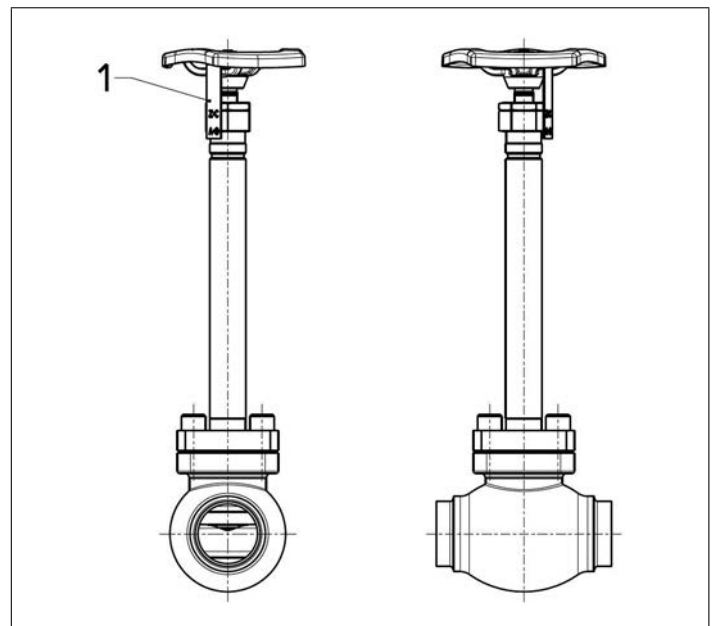


Position indicator
for Cryogenic-Globe Valves

- Part No. 55379.0037.0783**
for Globe Valves DN10 - DN25
- Part No. 55379.0038.0783**
for Globe Valves DN40 - DN50
- Part No. 55379.0033.0783**
for Globe Valves DN65 - DN80
- Part No. 55379.0024.1783**
for Globe Valves DN100
- Part No. 55379.0034.0783**
for Globe Valves DN150



Materials	DIN EN	ASTM
1 Indicator	1.4404	A 276 Grade 316L



Spare Parts for Valves and Fill Cluster

Type 55579 - Valve locking



for Cryogenic-Globe Valves

Valve locking in vinyl

for protection against damage and unauthorized access.

locking with locking wire or padlock (shackle thickness max. 7.7mm) - not included

temperature range: -30°C up to +300°C

Part No. 55579.0005.0841

for handwheel diameter 60mm - 130mm

Part No. 55579.0006.0841

for handwheel diameter 131mm - 165mm

Part No. 55579.0007.0841

for handwheel diameter 166mm - 250mm

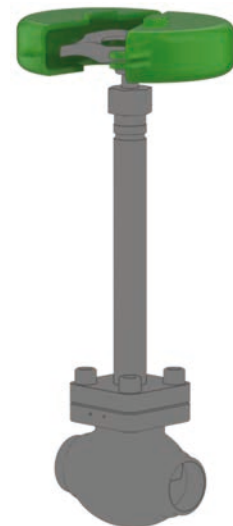
Part No. 55579.0008.0841

for handwheel diameter 251mm - 330mm

Available options - on request only:

- other colours
- additional sizes

Important: Please specify the diameter of handwheel when ordering.



Spare Parts for Valves and Fill Cluster

Type 66394 - Alcatraz-Valve locking



Alcatraz-Valve locking

for protection against unauthorized operating of valves
 valve interlock for DN10 - DN200
 stainless steel 316 electro polished (offshore suitable)
 with position indicator OPEN / CLOSED
 handwheel made of G20Mn5, coated with dacromet

Part No. 66394.0100.0000C

Type SML 1 (Single key Multi turn interLock) interlocked with valve closed (DN10-DN150)

Part No. 66394.0100.0000O

Type SML 1 (Single key Multi turn interLock) interlocked with valve opened (DN10-DN150)

Part No. 66394.0100.0000C-O

Type DML 1 (Double key Multi turn interLock) interlocked with valve closed and opened (DN10-DN150)

Part No. 66394.0300.0000C

Type SML 3 (Single key Multi turn interLock) interlocked with valve closed (DN200)

Part No. 66394.0300.0000O

Type SML 3 (Single key Multi turn interLock) interlocked with valve opened (DN200)

Part No. 66394.0300.0000C-O

Type DML 3 (Double key Multi turn interLock) interlocked with valve closed and opened (DN200)

Part No. 66322.0002.0000

Control key for locking device

Part No. 66322.0003.0000

Master key for locking device

Part No. 66322.0004.2000

Key box for two keys

Part No. 66322.0004.3000

Key box for three keys

Part No. 66322.0004.4000

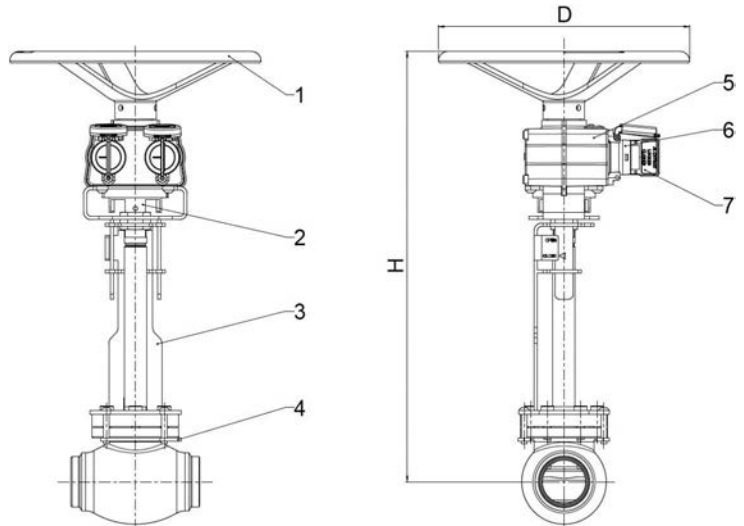
Key box for four keys

Part No. 66322.0005.1000

Loose Toolset



Materials	DIN EN	ASTM
1 Handwheel	1.6220	LCC
2 Stem adapter	1.4401	316
3 Mounting	1.4401	316
4 Fixation	1.4401	316
5 Multiturn main unit	1.4401 / 1.4408	316 / CF8M
6 Lock incl. flap	1.4401 / 1.4408	316 / CF8M
7 Key	1.4401 / 1.4408	316 / CF8M



Type 66394	Technical Data						
Part No.	66394.	.0100.X	.0100.X	.0100.X	.0100.X	.0100.X	.0300.X
Nominal size	DN	10 - 50	65	80	100	150	200
Locking device	Type	SML1/DML1	SML1/DML1	SML1/DML1	SML1/DML1	SML1/DML1	SML3/DML3
Height	H	399/499	402/502	456/506	522	578	677
Diameter	D	150	200	250	300	400	635
Weight	ca. kg	5.3	5.3	5.3	5.3	5.3	9.4

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 11C01 - Globe Valve FullX



Sealing spare part kit – without bellow & bellow top position
 "cleaned and degreased for oxygen service"

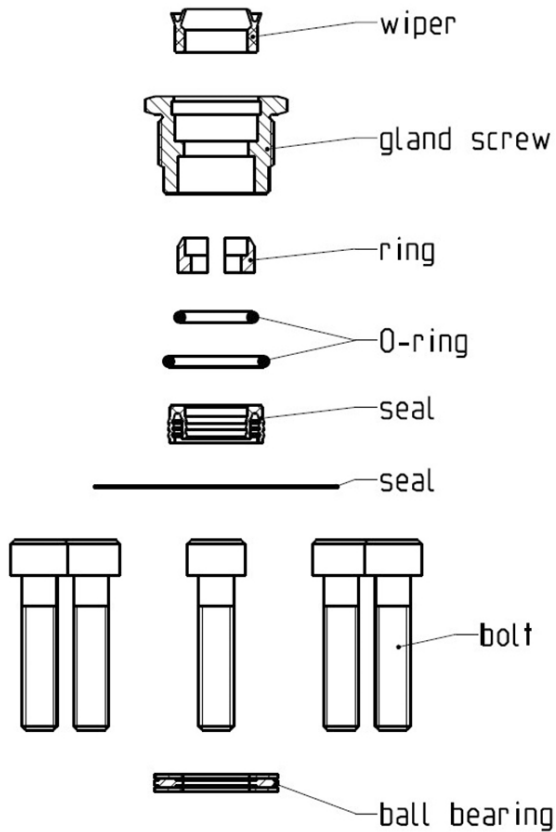
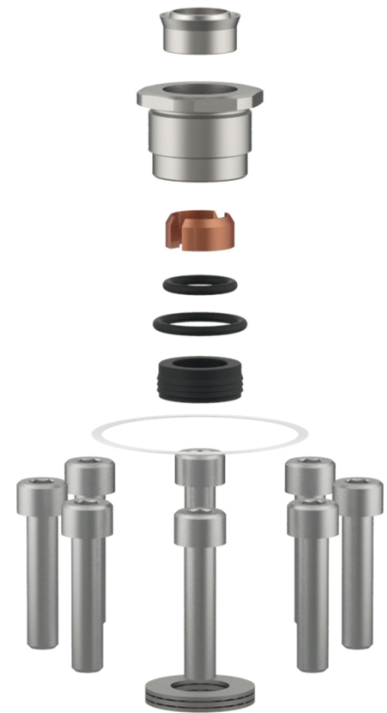
consisting of:

- 1x wiper PEEK
- 1x gland bold 1.4404
- 1x stem ring CW452K
- 2x O-ring FPM
- 1x gasket PTFE / 25% Carbon filled
- 6x bonnet gasket PTFE
- 6x or 8x bolt A4
- 1x ball bearing 1.4125

Part No. 11C01.00XX.E00101

suitable for:

Type	Nominal size
11C01.0000.E00101	DN10 - DN25
11C01.0032.E00101	DN32
11C01.0040.E00101	DN40
11C01.0050.E00101	DN50



Type 11C01	Technical data								
Nominal size	DN	10	15	20	25	32	40	50	
Dimension code	.X.	0000	0000	0000	0000	0032	0040	0050	
Weight	ca. kg	0.14	0.14	0.14	0.14	0.24	0.24	0.28	

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 11C01 - Globe Valve FullX



Sealing spare part kit – bellow bottom position
 "cleaned and degreased for oxygen service"

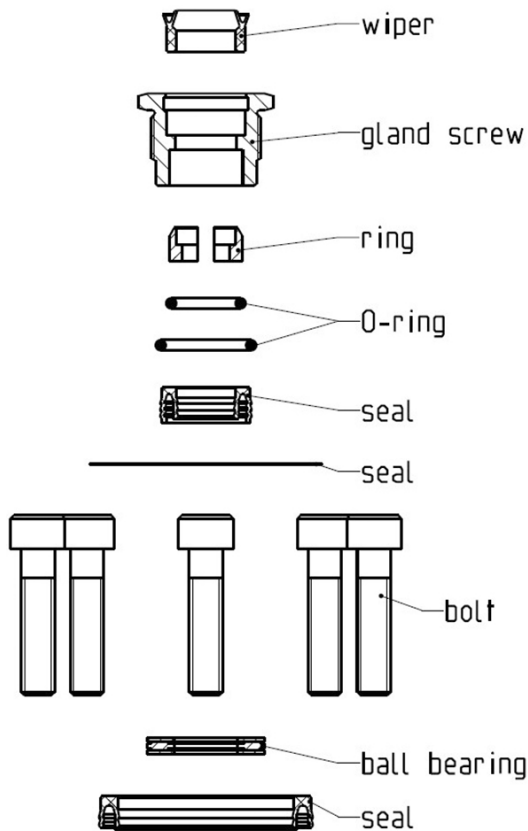
consisting of:

- 1x wiper PEEK
- 1x gland bolt 1.4404
- 1x stem ring CW452K
- 2x O-ring FPM
- 2x gasket PTFE / 25% Carbon filled
- 6x bonnet gasket PTFE
- 6x or 8x bolt A4
- 1x ball bearing 1.4125

Part No. 11C01.00XX.E00102

suitable for:

Type	Nominal size
11C01.0000.E00102	DN10 - DN25
11C01.0032.E00102	DN32
11C01.0040.E00102	DN40
11C01.0050.E00102	DN50



Type 11C01	Technical data								
Nominal size	DN	10	15	20	25	32	40	50	
Dimension code	.X.	0000	0000	0000	0000	0032	0040	0050	
Weight	ca. kg	0.14	0.14	0.14	0.14	0.25	0.25	0.29	

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 11C01 - Globe Valve FullX

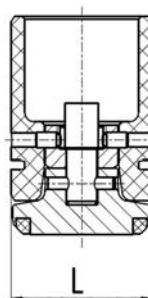


Disc
for Cryogenic-Globe Valves
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 11C01.00XX.E00501
suitable for:

Type	Nominal size
11C01.001X.E00501	DN10 - DN15
11C01.002X.E00501	DN20 - DN25
11C01.0032.E00501	DN32
11C01.0040.E00501	DN40
11C01.0050.E00501	DN50



Type 11C01.00XX.E00501	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	001X	001X	002X	002X	0032	0040	0050
Weight	ca. kg	0.17	0.17	0.23	0.23	0.46	0.46	0.59

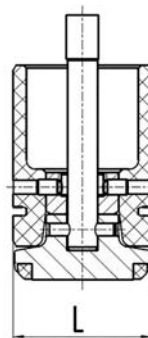
Dimensions in mm.

Check Disc
for Cryogenic-Globe Valves
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 11C01.00XX.E00502
suitable for:

Type	Nominal size
11C01.001X.E00502	DN10 - DN15
11C01.002X.E00502	DN20 - DN25
11C01.0032.E00502	DN32
11C01.0040.E00502	DN40
11C01.0050.E00502	DN50



Type 11C01.00XX.E00502	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	001X	001X	002X	002X	0032	0040	0050
Weight	ca. kg	0.20	0.20	0.25	0.25	0.50	0.50	0.62

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 50155 - Anti-icing shield



for Cryogenic-Globe Valves

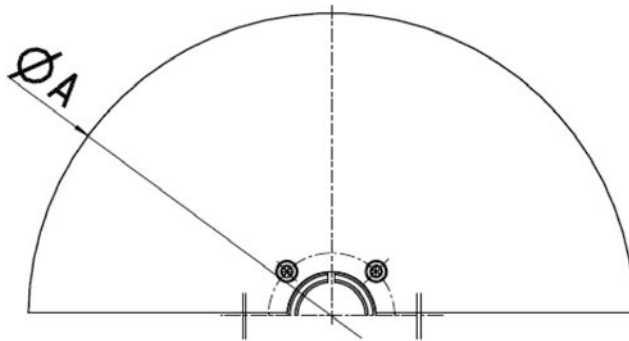
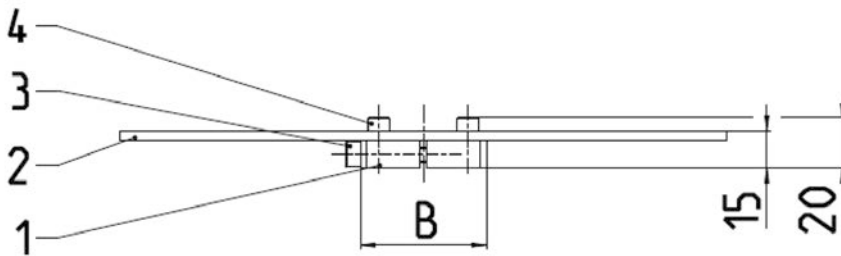
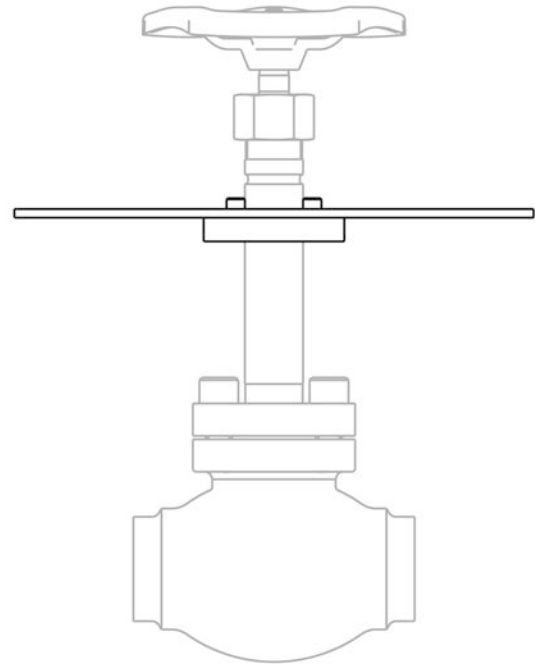
consisting of:

- 1x holder 2-piece 1.4404
- 1x Anti-icing device 2-piece AlMgSi0,5
- 4x Countersunk screw M5x12 A4-70
- 2x Cylinder head screw M6x35 A4-70

Part No. 50155.X.0441

suitable for:

Type	Nominal size
01311, 01315, 02411	DN10 - DN50
01321, 01325	DN10 - DN200
01341, 01345	DN10 - DN200
01641, 01645	DN10 - DN200
01741, 01745	DN10 - DN200
01841, 01845	DN10 - DN200
03321, 03341	DN10 - DN200



Type 50155	Technical data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0006	0006	0006	0006	0005	0005	0005	0005	0005	0008	0008	0011
Plate diameter	A	200	200	200	200	240	240	240	240	240	280	280	350
Holder length	B	50	50	50	50	50	50	50	50	50	50	50	100
Weight	ca. kg	0.59	0.59	0.59	0.59	0.72	0.72	0.72	0.72	0.72	0.90	0.90	1.48

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 50155 - Anti-icing shield



for Cryogenic-Globe Valves with 2 yoke rods

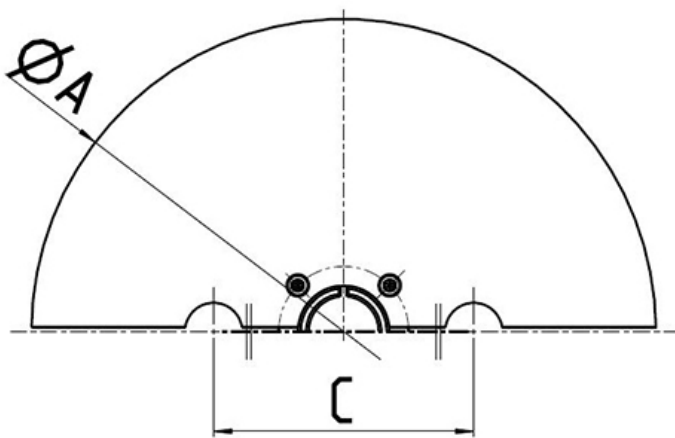
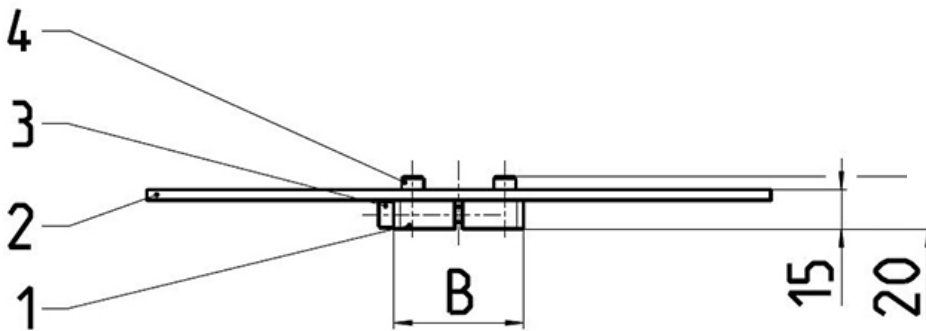
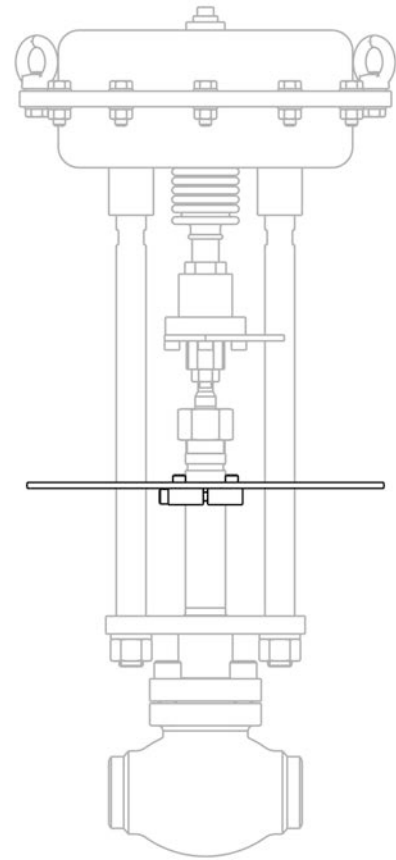
consisting of:

- 1x holder 2-piece 1.4404
- 1x Anti-icing device 2-piece AlMgSi0,5
- 4x Countersunk screw M5x12 A4-70
- 2x Cylinder head screw M6x35 A4-70

Part No. 50155.X.0441

suitable for:

Type	Nominal size
01313, 02413	DN10 - DN50
01323	DN10 - DN80
01343	DN10 - DN80
01643	DN10 - DN80
01743	DN10 - DN80
01843	DN10 - DN80
03323, 03343	DN10 - DN80



Type 50155	Technical Data									
Nominal size	DN	10	15	20	25	32	40	50	65	80
Dimension code	.X.	0006	0006	0006	0006	0007	0007	0007	0007	0007
Plate diameter	A	200	200	200	200	240	240	240	240	240
Holder length	B	50	50	50	50	50	50	50	50	50
Yoke rods distance	C	100	100	100	100	100	100	100	100	100
Weight	ca. kg	0.59	0.59	0.59	0.59	0.72	0.72	0.72	0.72	0.72

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 50155 - Anti-icing shield



for Cryogenic-Globe Valves with 2 yoke rods

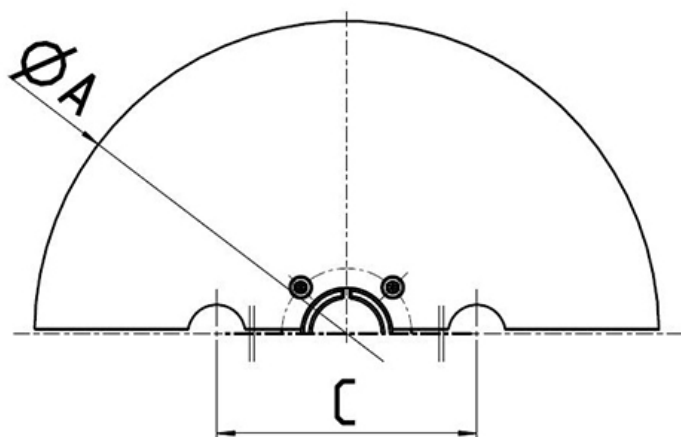
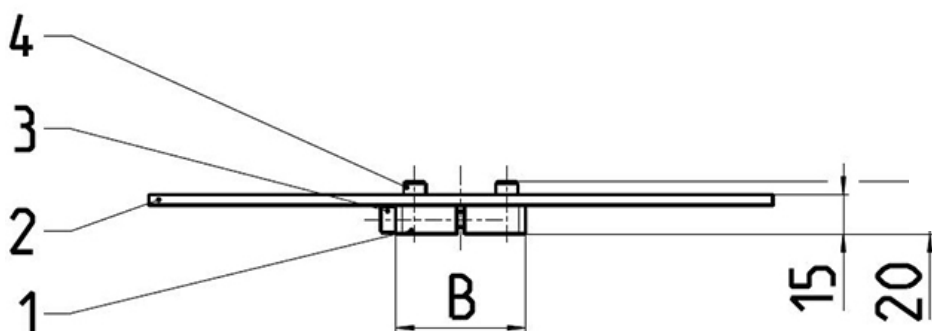
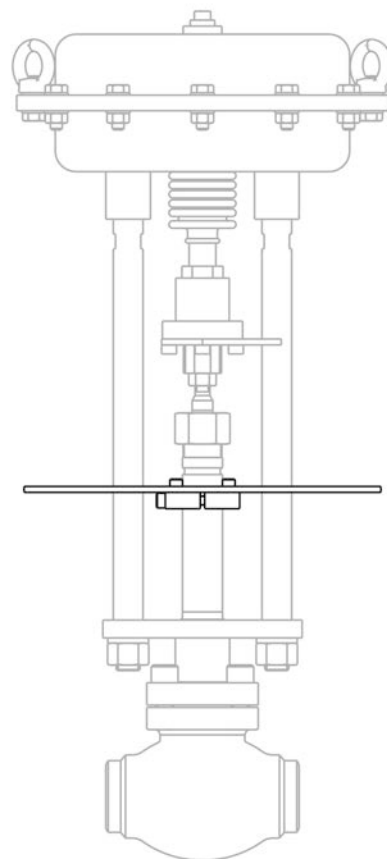
consisting of:

- 1x holder 2-piece 1.4404
- 1x Anti-icing device 2-piece AlMgSi0,5
- 4x Countersunk screw M5x12 A4-70
- 2x Cylinder head screw M6x35 A4-70

Part No. 50155.X.0441

suitable for:

Type	Nominal size
01323	DN65 - DN150
01343	DN65 - DN150
01643	DN65 - DN150
01743	DN65 - DN150
01843	DN65 - DN150
03323, 03343	DN65 - DN150



Type 50155	Technical Data				
Nominal size	DN	65	80	100	150
Dimension code	.X.	0010	0010	0010	0013
Plate diameter	A	200	200	200	280
Holder length	B	50	50	50	50
Yoke rods distance	C	150	150	150	150
Weight	ca. kg	0.57	0.57	0.57	0.89

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 50155 - Anti-icing shield



for Cryogenic-Globe Valves with 2 yoke rods

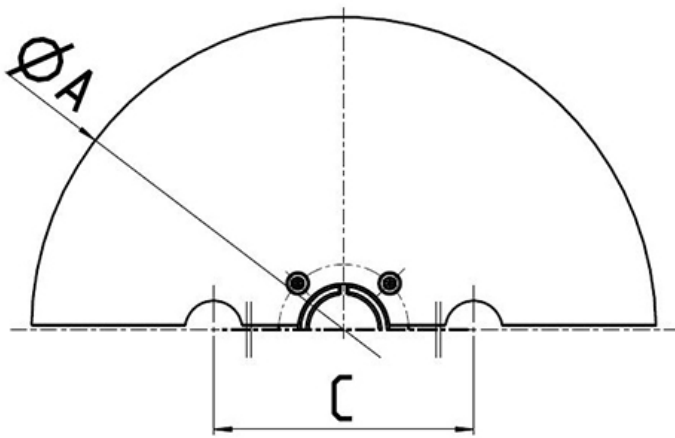
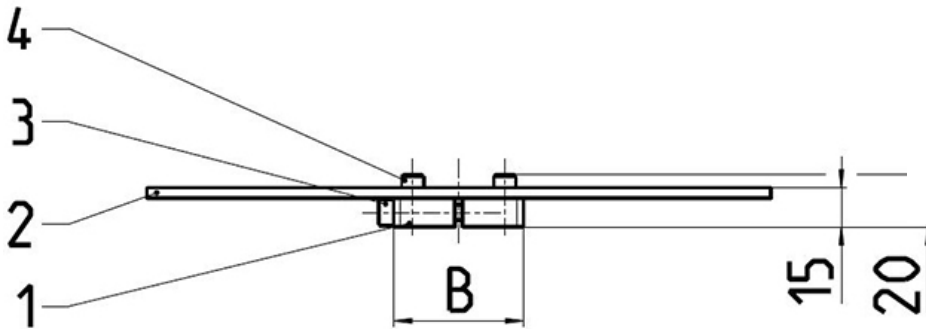
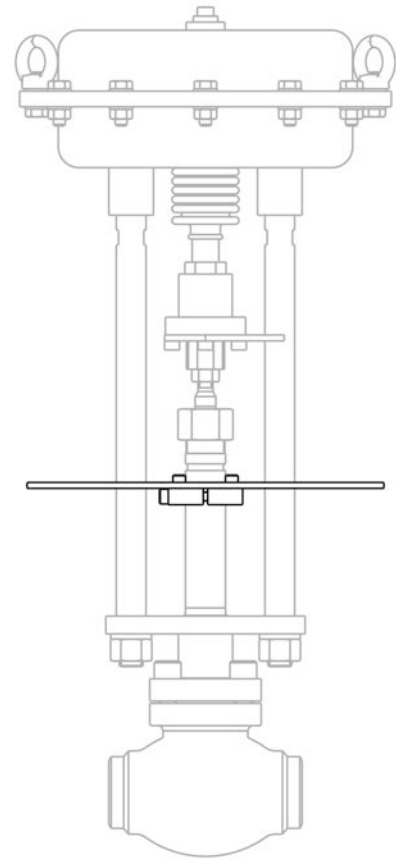
consisting of:

- 1x holder 2-piece 1.4404
- 1x Anti-icing device 2-piece AlMgSi0,5
- 4x Countersunk screw M5x12 A4-70
- 2x Cylinder head screw M6x35 A4-70

Part No. 50155.X.0441

suitable for:

Type	Nominal size
01323	DN65 - DN100
01343	DN65 - DN100
01643	DN65 - DN100
01743	DN65 - DN100
01843	DN65 - DN100
03323, 03343	DN65 - DN100



Type 50155	Technical data			
Nominal size	DN	65	80	100
Dimension code	.X.	0009	0009	0009
Plate diameter	A	280	280	280
Holder length	B	50	50	50
Yoke rods distance	C	100	100	100
Weight	ca. kg	0.90	0.90	0.90

Dimensions in mm.

Spare Parts for Valves and Fill Cluster

Type 50155 - Anti-icing shield



for Cryogenic-Globe Valves with 4 yoke rods

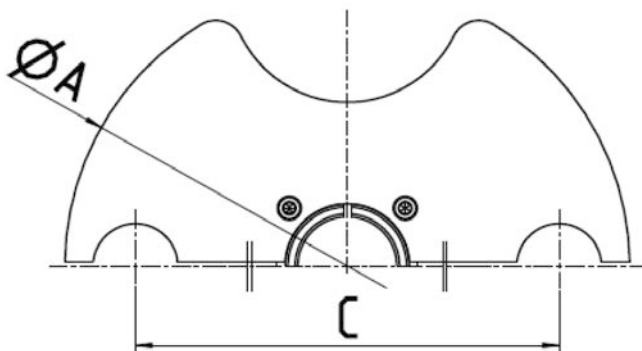
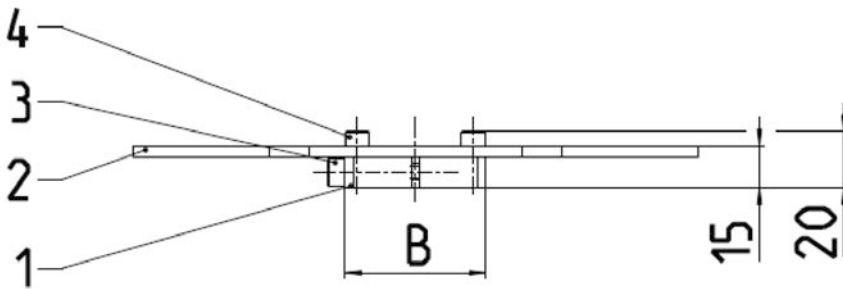
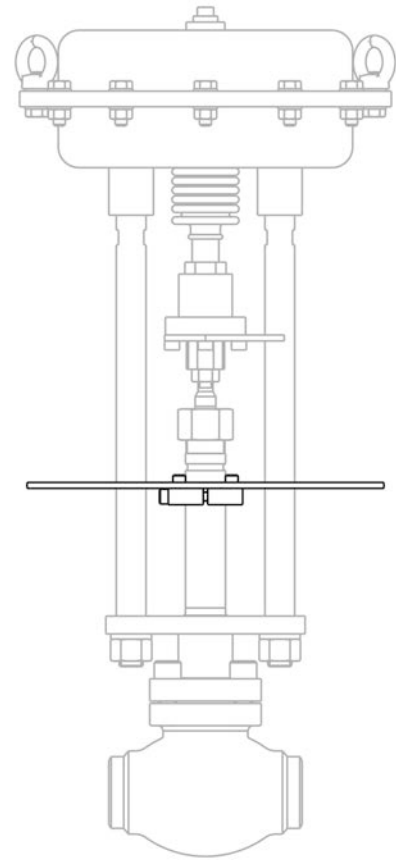
consisting of:

- 1x holder 2-piece 1.4404
- 1x Anti-icing device 2-piece AlMgSi0,5
- 4x Countersunk screw M5x12 A4-70
- 2x Cylinder head screw M6x35 A4-70

Part No. 50155.X.0441

suitable for:

Type	Nominal size
01323	DN150 - DN200
01343	DN150 - DN200
01643	DN150 - DN200
01743	DN150 - DN200
01843	DN150 - DN200
03323, 03343	DN150 - DN200



Type 50155	Technical data		
Nominal size	DN	150	200
Dimension code	.X.	0012	0012
Plate diameter	A	350	350
Holder length	B	80	80
Yoke rods distance	C	250	250
Weight	ca. kg	1.31	1.31

Dimensions in mm.

Edition 2024-01

Ball Valves and Spare Parts

Type 15C01 - Ball Valve full bore



Cryogenic Ball Valve

Unidirectional ball valve to be installed in flow direction with upstream pressure relief hole.
 Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
 Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
 Female thread type NPT acc. to ANSI 1.20.1
 Female thread type G (BSPP) acc. to ISO 228/1
 Marking acc. to EN 1626
 Top flange to EN ISO 5211
 "cleaned and degreased for oxygen service"

Available accessories:

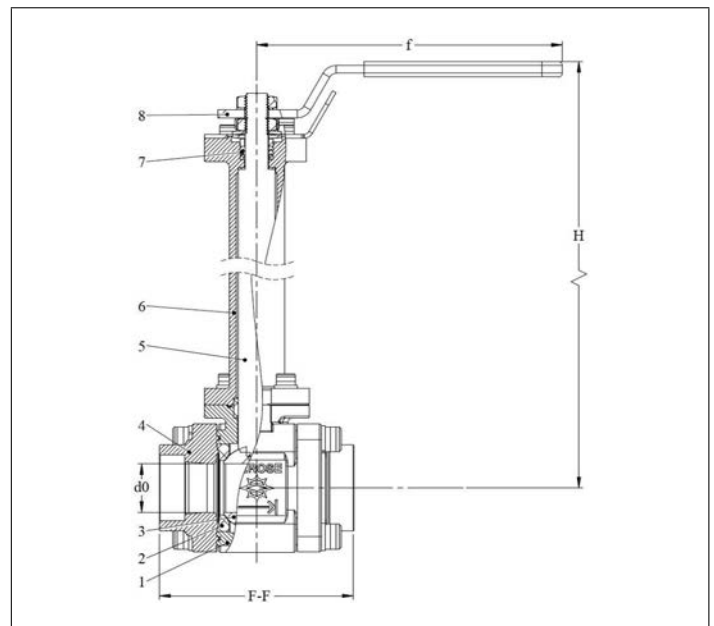
- Lock for locking device type 55394.0019.0302



Applications:

Approved for air gases, vapours and cryogenic liquefied gases.
 Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Ball seal	PCTFE	
3 Ball	1.4401	A 479 Grade 316
4 Side connection	1.4409	A 351 CF3M
5 Stem	1.4404	A 479 Grade 316
6 Bonnet extension	1.4409	A 351 CF3M
7 Gland packing	PTFE / Carbon filled (25%)	
8 Lever	1.4301	A 240 Grade 304



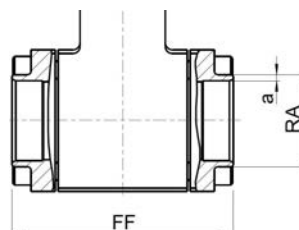
Technical data - Standard design							
Nominal size [DN]	Height (H) [mm]	Orifice (D ₀) [mm]	Weight [kg]	Kvs-value [m ³ /h]	Cv-value [gal/min]	Length (f) [mm]	ISO 5211
10	296	8.0	2.5	5.7	6.6	127	F03
15	296	14.5	2.5	10.7	12.4	127	F03
20	305	19.5	3.1	24.7	28.6	157	F04
25	310	25.0	3.8	32.1	37.1	157	F04
32	376	32.0	6.5	77.9	90.1	240	F05
40	380	38.0	7.3	122.3	141.4	240	F05
50	427	50.0	13.6	124.1	143.7	420	F07
65	496	64.5	29.8	188.6	218.4	462.5	F10
80	592	80.0	44.7	279.8	323.7	600	F10

Ball Valves and Spare Parts

Type 15C01 - Ball Valve full bore



Connection types



Butt weld connection acc. to
· ISO 1127

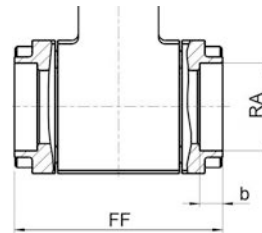
DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Part No.
10	100	65	13.5	2.0	15C01.A003.000002
15	100	70	21.3	2.0	15C01.A001.000207
20	100	85	26.3	2.0	15C01.A003.000014
25	70	100	33.7	2.6	15C01.A001.000219
32	70	115	42.4	2.6	15C01.A002.000008
40	70	125	48.3	3.2	15C01.A002.000014
50	70	160	60.3	3.2	15C01.A001.000237
65	30	182.5	76.1	2.9	15C01.A001.000243
80	20	218	88.9	3.2	15C01.A001.000247

Butt weld connection acc. to
· ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [mm]	Wall thickness pipe ASTM (a) [mm]	Part No.
10	100	65	13.72	1.65	15C01.A003.000005
10	100	65	13.72	2.24	15C01.A003.000006
15	100	70	21.35	2.11	15C01.A001.000210
15	100	70	21.35	2.78	15C01.A001.000211
20	100	85	26.70	2.10	15C01.A003.000017
20	100	85	26.70	2.85	15C01.A003.000018
25	70	100	33.40	2.77	15C01.A001.000222
25	70	100	33.40	3.38	15C01.A001.000223
32	70	115	42.20	2.77	15C01.A002.000011
32	70	115	42.20	3.56	15C01.A002.000012
40	70	125	48.30	2.77	15C01.A002.000017
40	70	125	48.30	3.70	15C01.A002.000018
50	70	160	60.33	2.77	15C01.A001.000240
50	70	160	60.33	3.91	15C01.A001.000241
65	30	182.5	73.10	3.10	15C01.A001.000244
65	30	182.5	73.10	5.20	15C01.A001.000245
80	20	218	88.90	3.10	15C01.A001.000248
80	20	218	88.90	5.45	15C01.A001.000249

Ball Valves and Spare Parts

Type 15C01 - Ball Valve full bore



Socket weld connection acc. to

- ISO 1127
- ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (RA) [mm]	Part No.
10	100	65	6.0	14.1	15C01.A003.000001
15	100	70	10.0	22.0	15C01.A001.000206
20	100	85	13.0	27.5	15C01.A003.000013
25	70	100	13.0	34.0	15C01.A001.000218
32	70	115	13.0	38.2	15C01.A002.000007
40	70	125	13.0	48.7	15C01.A002.000013
50	70	160	16.0	60.3	15C01.A001.000236
65	10	182.5	16.0	77.0	15C01.A001.000242
80	10	218	16.0	90.0	15C01.A001.000246

Female thread type

- NPT acc. to ANSI 1.20.1
- G (BSPP) acc. to ISO 228/1

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Thread size (GW) [mm]	Part No.
10	100	65	G 3/8	15C01.A003.000003
10	100	65	NPT 3/8	15C01.A003.000004
15	100	70	G 1/2	15C01.A001.000208
15	100	70	NPT 1/2	15C01.A001.000209
20	100	85	G 3/4	15C01.A003.000015
20	100	85	NPT 3/4	15C01.A003.000016
25	70	100	G 1	15C01.A001.000220
25	70	100	NPT 1	15C01.A001.000221
32	70	115	G 1 1/4	15C01.A002.000009
32	70	115	NPT 1 1/4	15C01.A002.000010
40	70	125	G 1 1/2	15C01.A002.000015
40	70	125	NPT 1 1/2	15C01.A002.000016
50	70	160	G 2	15C01.A001.000238
50	70	160	NPT 2	15C01.A001.000239

Ball Valves and Spare Parts

Type 15C01 - Spare part kit



consisting of:

- 2x Seats PCTFE
- 3x Cylinder screws stainless steel (head piece top)
- 1x Cylinder screw stainless steel (locking lever)
- 4x Cylinder screws stainless steel (head piece bottom)
- 8x Cylinder screws stainless steel (side parts)
- 2x Body gaskets PCTFE (bonnet extension) / PTFE (without bonnet extension)
- 1x Lower stem bearing PTFE/Glass fibre (25%)
- 1x Bonnet gasket PCTFE
- 2x Lock nuts stainless steel
- 1x Nut lock cover stainless steel
- 1x Thrust washer PTFE/Glass fibre (25%)
- 1x Hex nut stainless steel
- 2x Belleville washer stainless steel
- 1x Toothed lock washer stainless steel
- 1x Gland packing Graphite/PTFE
- 1x Gland stainless steel
- 12x Spring washer stainless steel

Part No. 15C01.X.E0010X

suitable for:

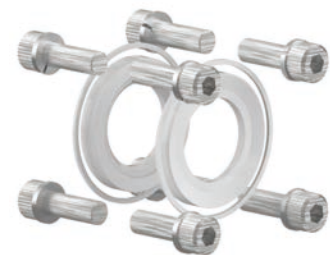
Type	Nominal size
15C01	DN10 - DN50

Version with bonnet extension

Part No.	Nominal size
15C01.0010.E00103	DN10
15C01.0015.E00103	DN15
15C01.0020.E00103	DN20
15C01.0025.E00102	DN25
15C01.0032.E00102	DN32
15C01.0040.E00102	DN40
15C01.0050.E00102	DN50

Version without bonnet extension

Part No.	Nominal size
15C01.0010.E00104	DN10
15C01.0015.E00104	DN15
15C01.0020.E00104	DN20
15C01.0025.E00104	DN25
15C01.0032.E00104	DN32
15C01.0040.E00104	DN40
15C01.0050.E00104	DN50



Ball Valves and Spare Parts

Type 15C01 - Lever



consisting of:

- 1x Locking nut stainless steel
- 1x Toothed locked washer stainless steel
- 1x Lever stainless steel with vinyl cover

Part No. 15C01.X.E00201

suitable for:

Type	Nominal size
15C01	DN10 - DN50



Type 15C01	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	0010	0015	0020	0025	0032	0040	0050

Ball Valves and Spare Parts

Type 15C01 - Topwork



consisting of:

- 1x Topwork
- 4x Cylinder screws stainless steel
- 1x Lower stem bearing PTFE/Glass fibre (25%)
- 4x Spring washer stainless steel

Part No. 15C01.X.E0030X

suitable for:

Type	Nominal size
15C01	DN10 - DN50

Part No.	Nominal size
15C01.0010.E00303	DN10
15C01.0015.E00303	DN15
15C01.0020.E00303	DN20
15C01.0025.E00302	DN25
15C01.0032.E00302	DN32
15C01.0040.E00302	DN40
15C01.0050.E00302	DN50



Ball Valves and Spare Parts

Type 15C01 - Ball set



consisting of:

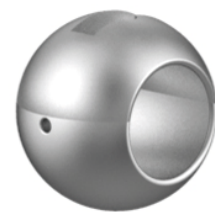
- 1x Ball stainless steel
- 2x Seats PCTFE
- 3x Cylinder screws stainless steel (head piece top)
- 1x Cylinder screw stainless steel (locking lever)
- 4x Cylinder screws stainless steel (head piece bottom)
- 8x Cylinder screws stainless steel (side parts)
- 2x Body gaskets PCTFE (bonnet extension) / PTFE (without bonnet extension)
- 1x Lower stem bearing PTFE/Glass fibre (25%)
- 1x Bonnet gasket PCTFE
- 2x Lock nuts stainless steel
- 1x Nut lock cover stainless steel
- 1x Thrust washer PTFE/Glass fibre (25%)
- 1x Hex nut stainless steel
- 2x Belleville washer stainless steel
- 1x Toothed lock washer stainless steel
- 1x Gland packing Graphite/PTFE
- 1x Gland stainless steel
- 12x Spring washer stainless steel

Part No. 15C01.X.E00401

Part No. 15C01.X.E00402 (Version without bonnet extension)

suitable for:

Type	Nominal size
15C01	DN10 - DN50



Type 15C01	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	0010	0015	0020	0025	0032	0040	0050

Ball Valves and Spare Parts

Type 15C02 - Ball Valve full bore



Cryogenic Ball Valve

Bidirectional ball valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Female thread type NPT acc. to ANSI 1.20.1

Female thread type G (BSPP) acc. to ISO 228/1

Marking acc. to EN 1626

Top flange to EN ISO 5211

"cleaned and degreased for oxygen service"

Available accessories:

- Lock for locking device type 55394.0019.0302

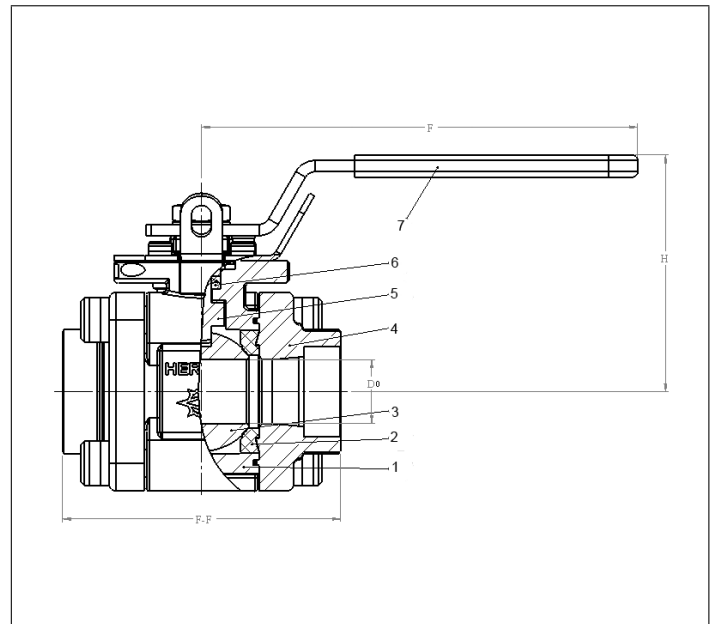


Applications:

Approved for air gases, vapours and CNG.

Working temperature: -60°C / -76°F (213K) up to +190°C / +374°F (463K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Ball seal	Carbon filled (25%)	
3 Ball	1.4401	A 479 Grade 316
4 Side connection	1.4409	A 351 CF3M
5 Stem	1.4404	A 479 Grade 316
6 Gland packing	PTFE / Carbon filled (25%)	
7 Lever	1.4301	A 240 Grade 304



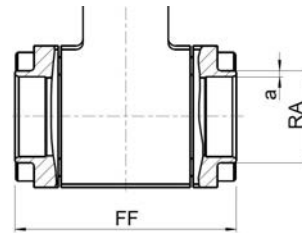
Technical data - Standard design							
Nominal size [DN]	Height (H) [mm]	Orifice (D ₀) [mm]	Weight [kg]	Kvs-value [m ³ /h]	Cv-value [gal/min]	Length (f) [mm]	ISO 5211
10	69	8.0	1.1	5.7	6.6	127	F03
15	69	14.5	1.0	10.7	12.4	127	F03
20	80	19.5	1.8	24.7	28.6	157	F04
25	85	25.0	2.5	32.1	37.1	157	F04
32	95	32.0	3.8	77.9	90.1	240	F05
40	99	38.0	5.0	122.3	141.4	240	F05
50	141	50.0	11.4	124.1	143.7	420	F07
65	197	64.5	21.8	188.6	218.4	462.5	F10
80	233	80.0	35.7	279.8	323.7	600	F10

Ball Valves and Spare Parts

Type 15C02 - Ball Valve full bore



Connection types



Butt weld connection acc. to
· ISO 1127

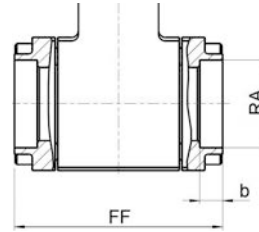
DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Part No.
10	100	65	13.5	2.0	15C02.A001.000201
15	100	70	21.3	2.0	15C02.A001.000207
20	100	85	26.9	2.0	15C02.A001.000213
25	70	100	33.7	2.6	15C02.A001.000219
32	70	115	42.4	2.6	15C02.A001.000225
40	70	125	48.3	3.2	15C02.A001.000231
50	70	160	60.3	3.2	15C02.A001.000237
65	30	182.5	76.1	2.9	15C02.A001.000243
80	20	218	88.9	3.2	15C02.A001.000247

Butt weld connection acc. to
· ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [mm]	Wall thickness pipe ASTM (a) [mm]	Part No.
10	100	65	13.72	1.65	15C02.A001.000204
10	100	65	13.72	2.24	15C02.A001.000205
15	100	70	21.34	2.11	15C02.A001.000210
15	100	70	21.34	2.77	15C02.A001.000211
20	100	85	26.70	2.10	15C02.A001.000216
20	100	85	26.70	2.90	15C02.A001.000217
25	70	100	33.40	2.77	15C02.A001.000222
25	70	100	33.40	3.38	15C02.A001.000223
32	70	115	42.20	2.77	15C02.A001.000228
32	70	115	42.20	3.56	15C02.A001.000229
40	70	125	48.30	2.77	15C02.A001.000234
40	70	125	48.30	3.70	15C02.A001.000235
50	70	160	60.33	2.77	15C02.A001.000240
50	70	160	60.33	3.91	15C02.A001.000241
65	30	182.5	73.10	3.10	15C02.A001.000244
65	30	182.5	73.10	5.20	15C02.A001.000245
80	20	218	88.90	3.10	15C02.A001.000248
80	20	218	88.90	5.45	15C02.A001.000249

Ball Valves and Spare Parts

Type 15C02 - Ball Valve full bore



Socket weld connection acc. to

· ISO 1127

· ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (RA) [mm]	Part No.
10	100	65	6.0	13.5	15C02.A001.000200
15	100	70	10.0	21.3	15C02.A001.000206
20	100	85	13.0	26.9	15C02.A001.000212
25	70	100	13.0	33.7	15C02.A001.000218
32	70	115	13.0	38.0	15C02.A001.000224
40	70	125	13.0	48.3	15C02.A001.000230
50	70	160	16.0	60.3	15C02.A001.000236
65	10	182.5	16.0	77.0	15C02.A001.000242
80	10	218	16.0	90.0	15C02.A001.000246

Female thread type

· NPT acc. to ANSI 1.20.1

· G (BSPP) acc. to ISO 228/1

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Thread size (GW) [mm]	Part No.
10	100	65	G 3/8	15C02.A001.000202
10	100	65	NPT 3/8	15C02.A001.000203
15	100	70	G 1/2	15C02.A001.000208
15	100	70	NPT 1/2	15C02.A001.000209
20	100	85	G 3/4	15C02.A001.000214
20	100	85	NPT 3/4	15C02.A001.000215
25	70	100	G 1	15C02.A001.000220
25	70	100	NPT 1	15C02.A001.000221
32	70	115	G 1 1/4	15C02.A001.000226
32	70	115	NPT 1 1/4	15C02.A001.000227
40	70	125	G 1 1/2	15C02.A001.000232
40	70	125	NPT 1 1/2	15C02.A001.000233
50	70	160	G 2	15C02.A001.000238
50	70	160	NPT 2	15C02.A001.000239

Ball Valves and Spare Parts

Type 15C01 - Ball Valve with Pneumatic Actuator



Cryogenic Ball Valve

Unidirectional ball valve to be installed in flow direction with upstream pressure relief hole.

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Female thread type NPT acc. to ANSI 1.20.1

Female thread type G (BSPP) acc. to ISO 228/1

Marking acc. to EN 1626

Top flange to EN ISO 5211

"cleaned and degreased for oxygen service"

Actuator:

Maximum air pressure for operation: 8 bar, Minimum air pressure for operation: 6 bar (max delta P)

Connection air supply: NAMUR G1/4"

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Part No. 15C01.A002.XXXXXX

Available accessories:

- Limit switch
- Solenoid valve

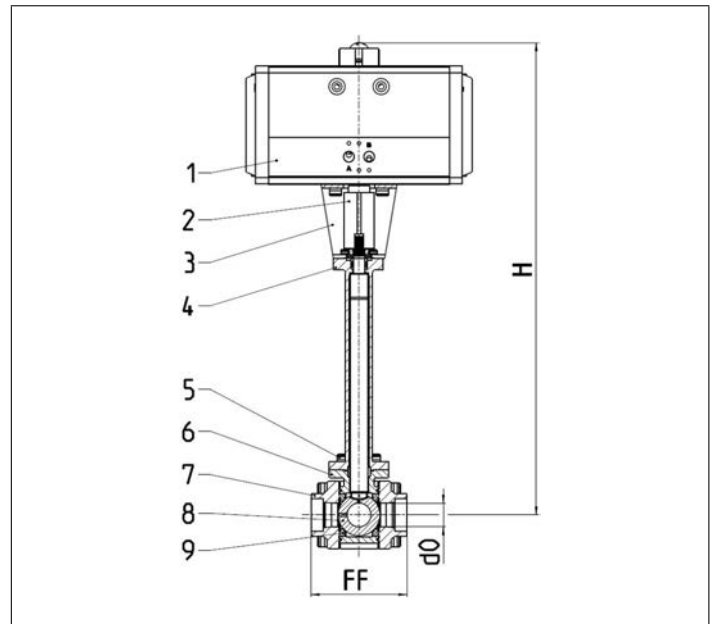
Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)



Materials	DIN EN	ASTM
1 Actuator	Aluminium	Aluminium
2 Adapter	1.4314	A276 Grade 304
3 Bracket	1.4314	A240 Grade 304
4 Headpiece	1.4409	A 351 CF3M
5 Screws	1.4571/A4	similar to A 194 BBT
6 Body	1.4409	A 351 CF3M
7 Side connection	1.4409	A 351 CF3M
8 Ball	1.4401	A 479 Grade 316
9 Ball seal	PCTFE	PCTFE



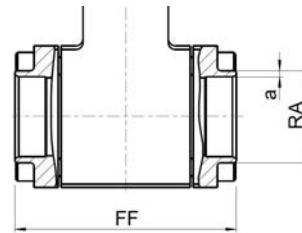
Technical data - Standard design						
Nominal size [DN]	Height (H) [mm]	Orifice (D ₀) [mm]	Weight [kg]	Kvs-value [m ³ /h]	Cv-value [gal/min]	ISO 5211
10	441	8.0	5.5	5.7	6.6	F03
15	441	14.5	5.5	10.7	12.4	F03
20	480	19.5	9.0	24.7	28.6	F04
25	485	25.0	9.9	32.1	37.1	F04
32	579	32.0	16.0	77.9	90.1	F05
40	594	38.0	20.0	122.3	141.4	F05
50	668	50.0	35.5	124.1	143.7	F07
65	726	64.5	60.5	188.6	218.4	F10
80	816	80.0	77.1	279.8	323.7	F10

Ball Valves and Spare Parts

Type 15C01 - Ball Valve with Pneumatic Actuator



Connection types



Butt weld connection acc. to
· ISO 1127

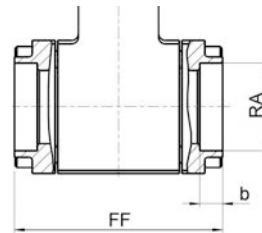
DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Part No.
10	100	65	13.5	2.0	15C01.A002.000201
15	100	70	21.3	2.0	15C01.A002.000207
20	100	85	26.3	2.0	15C01.A002.000213
25	70	100	33.7	2.6	15C01.A002.000219
32	70	115	42.4	2.6	15C01.A002.000225
40	70	125	48.3	3.2	15C01.A002.000231
50	70	150	60.3	3.2	15C01.A002.000237
65	50	182.5	76.1	2.9	15C01.A002.000243
80	50	218	88.9	3.2	15C01.A002.000247

Butt weld connection acc. to
· ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [mm]	Wall thickness pipe ASTM (a) [mm]	Part No.
10	100	65	13.72	1.65	15C01.A002.000204
10	100	65	13.72	2.24	15C01.A002.000205
15	100	70	21.34	2.11	15C01.A002.000210
15	100	70	21.34	2.77	15C01.A002.000211
20	100	85	26.70	2.10	15C01.A002.000216
20	100	85	26.70	2.85	15C01.A002.000217
25	70	100	33.40	2.77	15C01.A002.000222
25	70	100	33.40	3.38	15C01.A002.000223
32	70	115	42.20	2.77	15C01.A002.000228
32	70	115	42.20	3.56	15C01.A002.000229
40	70	125	48.30	2.77	15C01.A002.000234
40	70	125	48.30	3.70	15C01.A002.000235
50	70	150	60.33	2.77	15C01.A002.000240
50	70	150	60.33	3.91	15C01.A002.000241
65	50	182.5	73.10	3.10	15C01.A002.000244
65	50	182.5	73.10	5.20	15C01.A002.000245
80	50	218	88.90	3.10	15C01.A002.000248
80	50	218	88.90	5.45	15C01.A002.000249

Ball Valves and Spare Parts

Type 15C01 - Ball Valve with Pneumatic Actuator



Socket weld connection acc. to

- ISO 1127
- ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (RA) [mm]	Part No.
10	100	65	6.0	14.1	15C01.A002.000200
15	100	70	10.0	21.3	15C01.A002.000206
20	100	85	13.0	27.5	15C01.A002.000212
25	70	100	13.0	33.7	15C01.A002.000218
32	70	115	13.0	38.2	15C01.A002.000224
40	70	125	13.0	48.7	15C01.A002.000230
50	70	150	16.0	60.3	15C01.A002.000236
65	10	182.5	16.0	77.0	15C01.A002.000242
80	10	218	16.0	90.0	15C01.A002.000246

Female thread type

- NPT acc. to ANSI 1.20.1
- G (BSPP) acc. to ISO 228/1

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Thread size (GW) [mm]	Part No.
10	100	65	G 3/8	15C01.A002.000202
10	100	65	NPT 3/8	15C01.A002.000203
15	100	70	G 1/2	15C01.A002.000208
15	100	70	NPT 1/2	15C01.A002.000209
20	100	85	G 3/4	15C01.A002.000214
20	100	85	NPT 3/4	15C01.A002.000215
25	70	100	G 1	15C01.A002.000220
25	70	100	NPT 1	15C01.A002.000221
32	70	115	G 1 1/4	15C01.A002.000226
32	70	115	NPT 1 1/4	15C01.A002.000227
40	70	125	G 1 1/2	15C01.A002.000232
40	70	125	NPT 1 1/2	15C01.A002.000233
50	70	150	G 2	15C01.A002.000238
50	70	150	NPT 2	15C01.A002.000239

Ball Valves and Spare Parts

Type 15C02 - Ball Valve with Pneumatic Actuator



Cryogenic Ball Valve

Bidirectional ball valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Female thread type NPT acc. to ANSI 1.20.1

Female thread type G (BSPP) acc. to ISO 228/1

Marking acc. to EN 1626

Top flange to EN ISO 5211

"cleaned and degreased for oxygen service"

Actuator:

spring to close (optional spring to open)

Maximum air pressure for operation: 8 bar

Minimum air pressure for operation: 6 bar (max delta P)

Medium: Air, Nitrogen, NG (sulphide content <2ppm)

Connection air supply: NAMUR G1/4"

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Part No. 15C02.A002.XXXXXX

Available accessories:

- Limit switch
- Solenoid valve

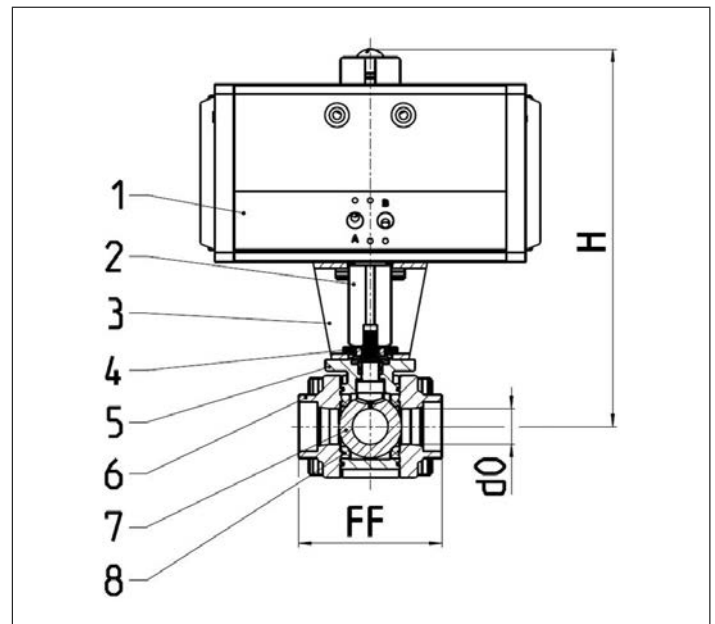
Applications:

Approved for air gases, vapours and CNG.

Working temperature: -60°C / -76°F (213K) up to +190°C / +374°F (463K)



Materials	DIN EN	ASTM
1 Actuator	Aluminium	Aluminium
2 Adapter	1.4314	A276 Grade 304
3 Bracket	1.4314	A240 Grade 304
4 Screws	1.4571/A4	similar A 194 BBT
5 Body	1.4409	A 351 CF3M
6 Side connection	1.4409	A 351 CF3M
7 Ball	1.4401	A 479 Grade 316
8 Ball seal	Carbonfilled (25%)	



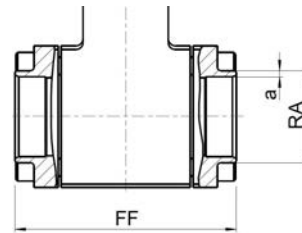
Technical data - Standard design						
Nominal size [DN]	Height (H) [mm]	Orifice (D ₀) [mm]	Weight [kg]	Kvs-value [m ³ /h]	Cv-value [gal/min]	ISO 5211
10	217	8.0	4.0	5.7	6.6	F03
15	217	14.5	4.0	10.7	12.4	F03
20	256	19.5	7.8	24.7	28.6	F04
25	261	25.0	8.5	32.1	37.1	F04
32	279	32.0	10.5	77.9	90.1	F05
40	303	38.0	14.4	122.3	141.4	F05
50	331	50.0	21.0	124.1	143.7	F07
65	435	64.5	52.5	188.6	218.4	F10
80	458	80.0	65.7	279.8	323.7	F10

Ball Valves and Spare Parts

Type 15C02 - Ball Valve with Pneumatic Actuator



Connection types



Butt weld connection acc. to · ISO 1127

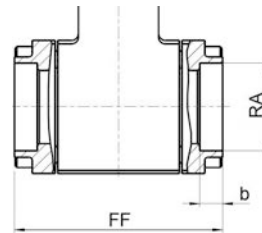
DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	Part No.
10	100	65	13.5	2.0	15C02.A002.000201
15	100	70	21.3	2.0	15C02.A002.000207
20	100	85	26.3	2.0	15C02.A002.000213
25	70	100	33.7	2.6	15C02.A002.000219
32	70	115	42.4	2.6	15C02.A002.000225
40	70	125	48.3	3.2	15C02.A002.000231
50	70	160	60.3	3.2	15C02.A002.000237
65	50	182.5	76.1	2.9	15C02.A002.000243
80	50	218	88.9	3.2	15C02.A002.000247

Butt weld connection acc. to · ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [mm]	Wall thickness pipe ASTM (a) [mm]	Part No.
10	100	65	13.72	1.65	15C02.A002.000204
10	100	65	13.72	2.24	15C02.A002.000205
15	100	70	21.34	2.11	15C02.A002.000210
15	100	70	21.34	2.77	15C02.A002.000211
20	100	85	26.70	2.10	15C02.A002.000216
20	100	85	26.70	2.85	15C02.A002.000217
25	70	100	33.40	2.77	15C02.A002.000222
25	70	100	33.40	3.38	15C02.A002.000223
32	70	115	42.20	2.77	15C02.A002.000228
32	70	115	42.20	3.56	15C02.A002.000229
40	70	125	48.30	2.77	15C02.A002.000234
40	70	125	48.30	3.70	15C02.A002.000235
50	70	160	60.33	2.77	15C02.A002.000240
50	70	160	60.33	3.91	15C02.A002.000241
65	50	182.5	73.10	3.10	15C02.A002.000244
65	50	182.5	73.10	5.20	15C02.A002.000245
80	50	218	88.90	3.10	15C02.A002.000248
80	50	218	88.90	5.45	15C02.A002.000249

Ball Valves and Spare Parts

Type 15C02 - Ball Valve with Pneumatic Actuator



Socket weld connection acc. to

- ISO 1127
- ASTM A312

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (RA) [mm]	Part No.
10	100	65	6.0	14.1	15C02.A002.000200
15	100	70	10.0	21.3	15C02.A002.000206
20	100	85	13.0	27.5	15C02.A002.000212
25	70	100	13.0	33.7	15C02.A002.000218
32	70	115	13.0	38.2	15C02.A002.000224
40	70	125	13.0	48.7	15C02.A002.000230
50	70	160	16.0	60.3	15C02.A002.000236
65	10	182.5	16.0	77.0	15C02.A002.000242
80	10	218	16.0	90.0	15C02.A002.000246

Female thread type

- NPT acc. to ANSI 1.20.1
- G (BSPP) acc. to ISO 228/1

DN	Nominal Pressure [PN]	Face-to-face dim. (FF) [mm]	Thread size (GW) [mm]	Part No.
10	100	65	G 3/8	15C02.A002.000202
10	100	65	NPT 3/8	15C02.A002.000203
15	100	70	G 1/2	15C02.A002.000208
15	100	70	NPT 1/2	15C02.A002.000209
20	100	85	G 3/4	15C02.A002.000214
20	100	85	NPT 3/4	15C02.A002.000215
25	70	100	G 1	15C02.A002.000220
25	70	100	NPT 1	15C02.A002.000221
32	70	115	G 1 1/4	15C02.A002.000226
32	70	115	NPT 1 1/4	15C02.A002.000227
40	70	125	G 1 1/2	15C02.A002.000232
40	70	125	NPT 1 1/2	15C02.A002.000233
50	70	160	G 2	15C02.A002.000238
50	70	160	NPT 2	15C02.A002.000239

Actuated Valves and Actuators

Type 01313 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Bronze body and stainless steel topwork (internal parts bronze)

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01313.X.*010

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Socket end for stainless steel pipes acc. to ISO 1127
- Actuator "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc

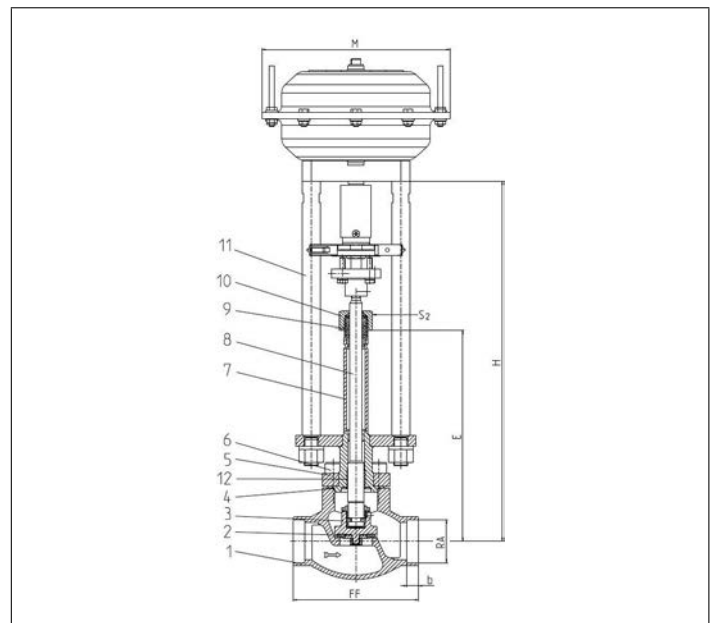


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01313 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA, Example: valve DN 15 for copper pipe RA Ø 18mm, X=1518						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	370	370	370	375	405	420	425
Length	E	195	195	200	200	230	230	235
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Actuator-Ø	M	dependent on actuator						
Wrench size across flats	S ₂	30	30	30	30	36	36	36
Weight w/o actuator	ca. kg	1.6	2.3	2.7	3.1	4.3	6.2	9.2
*Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
*Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2
Stroke	mm	10	10	7	9	9	11	15

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01313 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Bronze body and stainless steel topwork (internal parts bronze)

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01313.X.*017

Complete with stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)
- Further pipe wall thicknesses

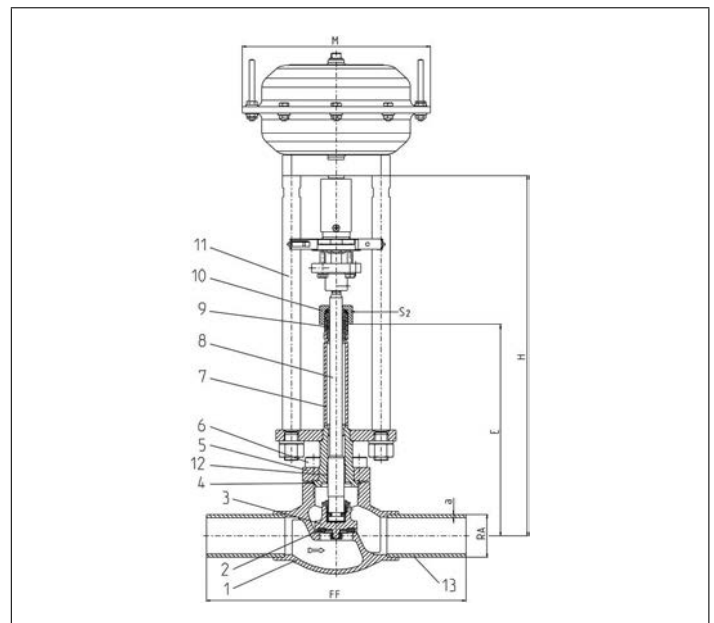
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900
13 Stainless steel stubs	1.4306	A 312 TP304L



Type 01313 - Standard design	Technical data									
	DN	10	10	15	20	25	32	40	50	
Nominal size	DN	10	10	15	20	25	32	40	50	
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060	
Face-to-face dimension	FF	210	210	235	235	265	265	290	310	
Height	H	370	370	370	370	375	405	420	425	
Length	E	195	195	195	200	200	230	230	235	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3	
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6	
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.4	42.16	48.26	60.33	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	
Weight w/o actuator	ca. kg	1.75	1.85	2.6	3.0	3.5	4.7	6.7	9.8	
*Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	12.1	22.6	37.1	
*Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	14.1	26.3	43.2	
Stroke	mm	10	10	10	7	9	9	11	15	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01314 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Bronze body and stainless steel topwork (internal parts bronze)

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01314.X.*011

Female thread connection (G) acc. to ISO 228/1

Part No. 01314.X.*016

Female thread connection NPT acc. to ANSI B 1.20.1

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator "cleaned and degreased for oxygen service"
- Electric actuator · Valve with check disc

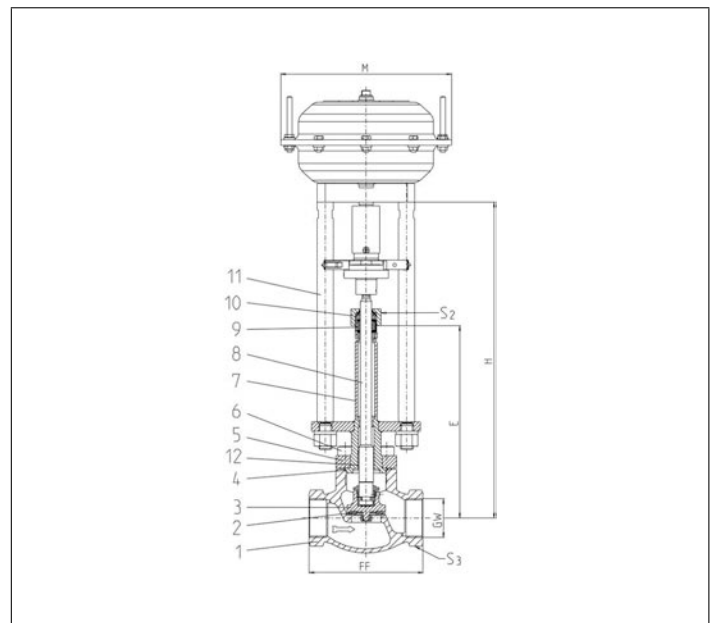
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01314 - Standard design	Technical data									
Nominal size	DN	10	10	15	20	25	32	40	50	
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000	
Face-to-face dimension	FF	60	60	85	85	115	115	140	160	
Height	H	370	370	370	370	375	405	420	425	
Length	E	195	195	195	200	200	230	230	235	
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	
Wrench size across flats	S ₃	rund	rund	30	36	41	rund	60	75	
Weight w/o actuator	ca. kg	1.6	1.6	2.3	2.7	3.1	4.3	6.2	9.2	
*Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	12.1	22.6	37.1	
*Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	14.1	26.3	43.2	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 02413 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Bronze body and stainless steel topwork, inner parts in brass

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 02413.X.*011

Male thread for union connection

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Socket end for stainless steel pipes acc. to ISO 1127
- Actuator "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc

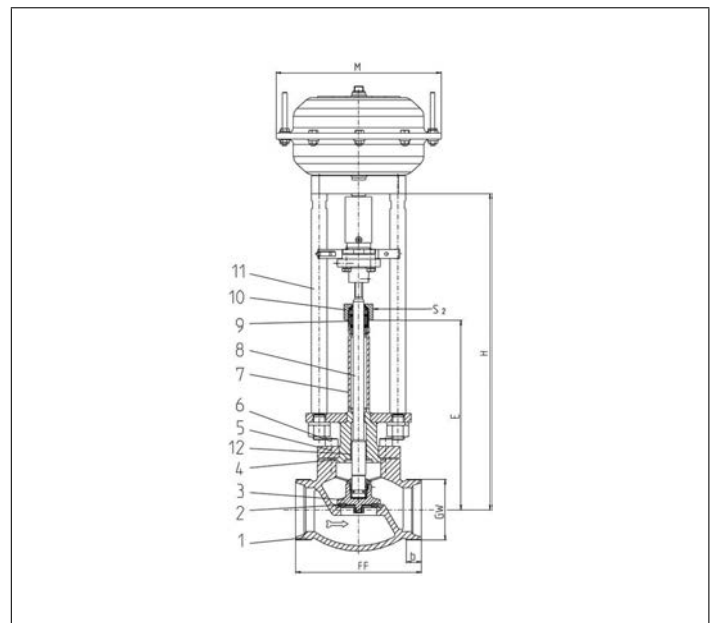
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 02413 - Standard design	Technical data					
Nominal size	DN	10	20	32	40	50
Dimension code	.X.	0100	0200	0320	0400	0500
Face-to-face dimension	FF	60	85	115	140	160
Union thread	GW	M26x1.5	M40x2.0	M55x2.0	M65x2.0	M78x2.0
Height	H	370	370	405	420	425
Length	E	195	200	230	230	235
Thread length	b	10	11	14	17	20
Actuator-Ø	M	dependent on actuator				
Wrench size across flats	S ₂	30	30	36	36	36
Weight w/o actuator	ca. kg	1.6	2.7	4.3	6.2	9.2
*Kvs-Value	m ³ /h	2.2	6.7	12.1	22.6	37.1
*Cv-Value	gal/min	2.6	7.8	14.1	26.3	43.2
Stroke	mm	10	7	9	11	15

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01343.X.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01343.X.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service"
- Electric actuator · Valve with check disc, valve with control disc (tapered design)
- Further pipe wall thicknesses

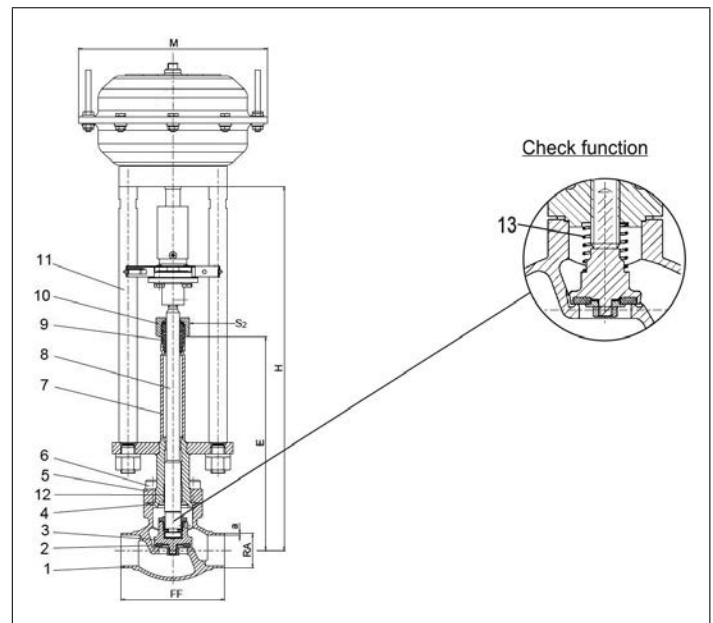
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900
13 Spring	CW452K	B 159 UNS C51900



Type 01343 - Standard design	Technical data														
	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Nominal size	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Dimension code	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Face-to-face dimension	H	370	370	370	370	375	405	420	420	425	510	575	635	685	
Height	E	195	195	195	200	200	230	230	230	235	300	300	300	350	
Length	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Outside pipe-Ø ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Wall thickness pipe ISO 1127	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Outside pipe-Ø ASTM A312	a	dimensions acc. to S10 or S40													
Wall thickness pipe ASTM A312	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Socket depth	M	dependent on actuator													
Actuator-Ø	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Wrench size across flats	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	60.9	
Weight w/o actuator	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
*Kvs-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	
*Cv-Value	mm	10	10	10	7	9	9	11	11	15	23	23	30	40	
Stroke															

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.* These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN150=PN40)

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the standard actuator is not cleaned and degreased for oxygen

Part No. 01343.X.0010

possible connections:

- Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Female thread connection (G) acc. to ISO 228/1 or NPT acc. to ANSI B 1.20.1

Please specify the required connection when ordering!

Available options - on request only:

- Solenoid valves · Electropneumatic positioner
- Inductive Proximity Switches · Position and Limit Switches · Air control sets
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service" · Electric actuator
- Valve with check disc · valve with control disc (tapered design)
- Further pipe wall thicknesses

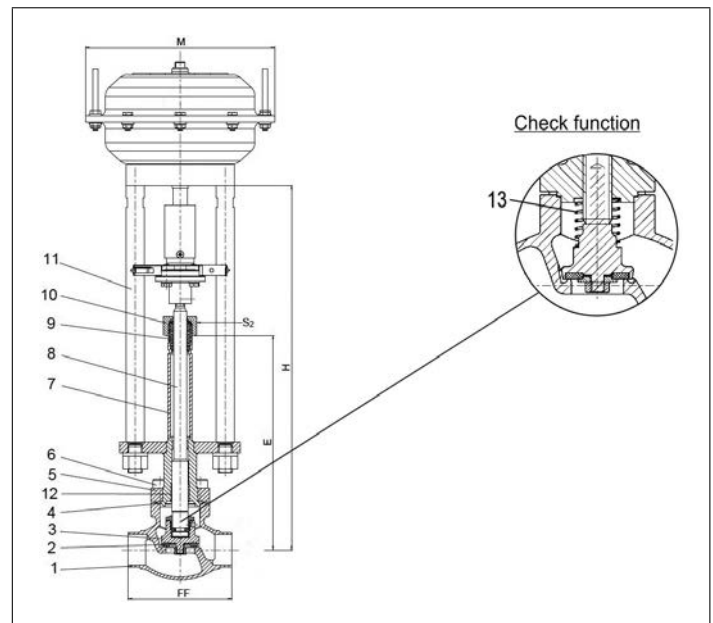
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet Gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900
13 Spring	CW452K	B 159 UNS C51900



Type 01343 - Standard design	Technical Data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Face-to-face dimension	FF	70	85	100	115	115	130	155	205	245	280	400
Height	H	370	370	370	375	405	420	425	510	575	635	685
Length	E	195	195	200	200	230	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator										
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.4	3.1	3.8	6.5	9.0	15.2	20.0	28.0	60.9
Stroke	mm	10	10	7	9	9	11	15	23	23	30	40

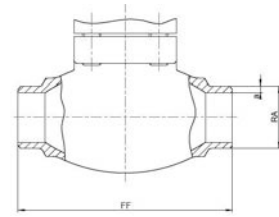
Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.* These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve



Connection types



Butt weld connection acc. to
· ISO 1127

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight w.a. [kg]	Order reference
10	70	13.5	1.0	1.6	1.9	1.9	BW 13.5x1.0
15	85	17.2	1.6	3.8	4.4	2.2	BW 17.2x1.6
15	85	21.3	2.0	4.3	5.0	2.2	BW 21.3x2.0
20	100	26.9	2.0	6.7	7.8	2.4	BW 26.9x2.0
25	115	33.7	2.0	11.5	13.4	3.1	BW 33.7x2.0
32	115	38.0	2.0	14.0	16.2	3.8	BW 38.0x2.0
40	130	42.4	2.0	20.6	23.9	6.5	BW 42.4x2.0
40	130	48.3	2.0	22.6	26.3	6.5	BW 48.3x2.0
50	155	60.3	2.0	37.1	43.2	9.0	BW 60.3x2.0
65	205	76.1	2.6	71.1	82.9	15.2	BW 76.1x2.6
80	245	88.9	3.2	104.0	121.3	20.0	BW 88.9x3.2
100	280	114.3	6.0	170.0	198.3	28.0	BW 114.3x6.0
150	400	168.3	7.1	350.0	408.4	60.9	BW 168.3x7.1

Butt weld connection acc. to
· ASTM A312

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [inch / mm]	Wall thickness pipe ASTM (a) [mm]	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight w.a. [kg]	Order reference
10	70	1/4" / 13.72	1.65	1.6	1.9	1.9	BW 13.72x1.65
15	85	1/2" / 17.15	1.65	3.8	4.4	2.2	BW 17.15x1.65
15	85	1/2" / 21.34	2.11	4.3	5.0	2.2	BW 21.34x2.11
20	100	3/4" / 26.67	2.11	6.7	7.8	2.4	BW 26.67x2.11
25	115	1" / 33.40	2.77	11.5	13.4	3.1	BW 33.40x2.77
40	130	1-1/2" / 42.16	2.77	20.6	23.9	6.5	BW 42.16x2.77
40	130	1-1/2" / 48.26	2.77	22.6	26.3	6.5	BW 48.26x2.77
50	155	2" / 60.32	2.77	37.1	43.2	9.0	BW 60.32x2.77
65	205	2-1/2" / 73.02	3.05	71.1	82.9	15.2	BW 73.02x3.05
80	245	3" / 88.90	3.05	104.0	121.3	20.0	BW 88.90x3.05
100	280	4" / 114.30	3.05	170.0	198.3	28.0	BW 114.30x3.05
150	400	6" / 168.27	3.40	350.0	408.4	60.9	BW 168.27x3.40
10	70	1/4" / 13.72	2.24	1.6	1.9	1.9	BW 13.72x2.24
15	85	1/2" / 17.15	2.31	3.8	4.4	2.2	BW 17.15x2.31
15	85	1/2" / 21.34	2.77	4.3	5.0	2.2	BW 21.34x2.77
20	100	3/4" / 26.67	2.87	6.7	7.8	2.4	BW 26.67x2.87
25	115	1" / 33.40	3.38	11.5	13.4	3.1	BW 33.40x3.38
40	130	1-1/2" / 42.16	3.56	20.6	23.9	6.5	BW 42.16x3.56
40	130	1-1/2" / 48.26	3.68	22.6	26.3	6.5	BW 48.26x3.68
50	155	2" / 60.32	3.91	37.1	43.2	9.0	BW 60.32x3.91
65	205	2-1/2" / 73.02	5.16	71.1	82.9	15.2	BW 73.02x5.16
80	245	3" / 88.90	5.49	104.0	121.3	20.0	BW 88.90x5.49
100	280	4" / 114.30	6.02	170.0	198.3	28.0	BW 114.30x6.02
150	400	6" / 168.27	7.11	350.0	408.4	60.9	BW 168.27x7.11

* These figures refer to measurements for the flow direction.

** w.a. = without actuator

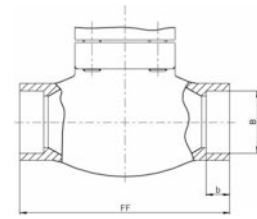
Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve

HEROSE



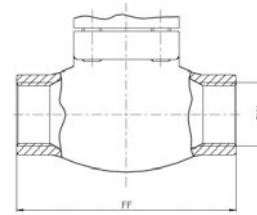
Connection types



Socket weld connection acc. to

- ISO 1127
- ASTM A312

DN	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (B) [mm]	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight, w.a. [kg]	order reference [ØISO / ØASTM]
10	70	6	14.1	1.6	1.9	1.9	SW 13.5 / 13.72
15	85	10	17.5	3.8	4.4	2.2	SW 17.2 / 17.15
15	85	10	21.5	4.3	5.0	2.2	SW 21.3 / 21.34
20	100	13	27.5	6.7	7.8	2.4	SW 26.9 / 26.67
25	115	13	34.1	11.5	13.4	3.1	SW 33.7 / 33.4
40	130	13	42.8	20.6	23.9	6.5	SW 42.4 / 42.16
40	130	13	48.6	22.6	26.3	6.5	SW 48.3 / 48.26
50	155	16	61.1	37.1	43.2	9.0	SW 60.3 / 60.32
65	205	16	74.0	71.1	82.9	15.1	SW 73.02
65	205	16	76.8	71.1	82.9	15.2	SW 76.1
80	245	16	90.0	104.0	121.3	20.0	SW 88.9
100	280	20	114.8	170.0	198.3	28.0	SW 114.3
150	400	20	168.2	350.0	408.4	60.9	SW 168.3 / 168.27



Female thread connection acc. to

- ISO 228/1 (G)
- NPT acc. to ANSI B 1.20.1 (NPT)

DN	Face-to-face dim. (FF) [mm]	Thread size (GW)	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight, w.a. [kg]	order reference G-Thread	order reference NPT-Thread
10	70	1/4"	1.6	1.9	1.9	1/4 BSPP	1/4" NPT
10	70	3/8"	2.2	2.6	1.9	3/8 BSPP	3/8" NPT
15	85	1/2"	4.3	5.0	2.2	1/2 BSPP	1/2" NPT
20	100	3/4"	6.7	7.8	2.4	3/4 BSPP	3/4" NPT
25	115	1"	11.5	13.4	3.1	1 BSPP	1" NPT
40	130	1-1/4"	20.6	23.9	6.5	1-1/4 BSPP	1-1/4" NPT
40	130	1-1/2"	22.6	26.3	6.5	1-1/2 BSPP	1-1/2" NPT
50	155	2"	37.1	43.2	9.0	2 BSPP	2" NPT

* These figures refer to measurements for the flow direction.

** w.a. = without actuator

Actuated Valves and Actuators

Type 01343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN25

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 01343.0219.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01343.0219.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories/options - on request only:

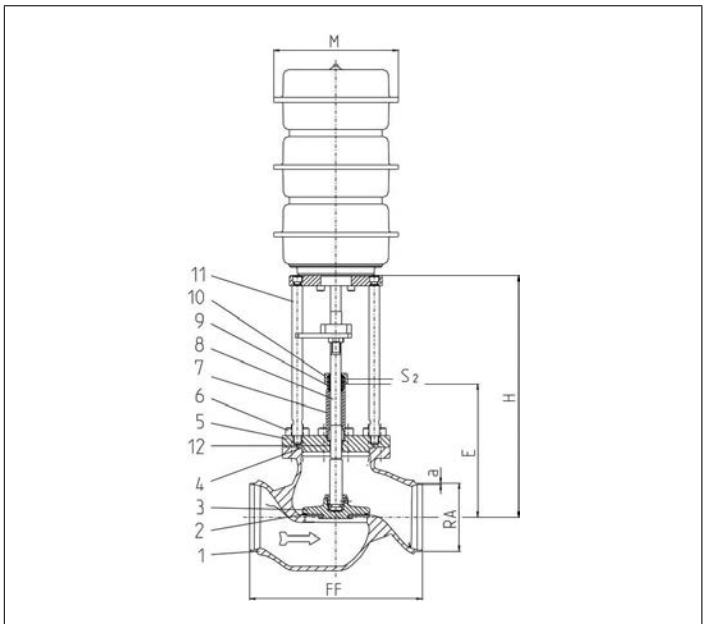
- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312
- Actuator "cleaned and degreased for oxygen service"



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01343 - Standard design	Technical data	
Nominal size	DN	200
Face-to-face dimension	FF	560
Height	H	785
Length	E	410
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Actuator-Ø	M	depend on actuator
Wrench size across flats	S ₂	65
Weight w/o actuator	ca. kg	165.0
*Kvs-Value	m ³ /h	680.0
*Cv-Value	gal/min	793.0
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03323 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN16

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03323.X.*014

Flanged connection acc. to DIN EN 1092-1 PN16

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

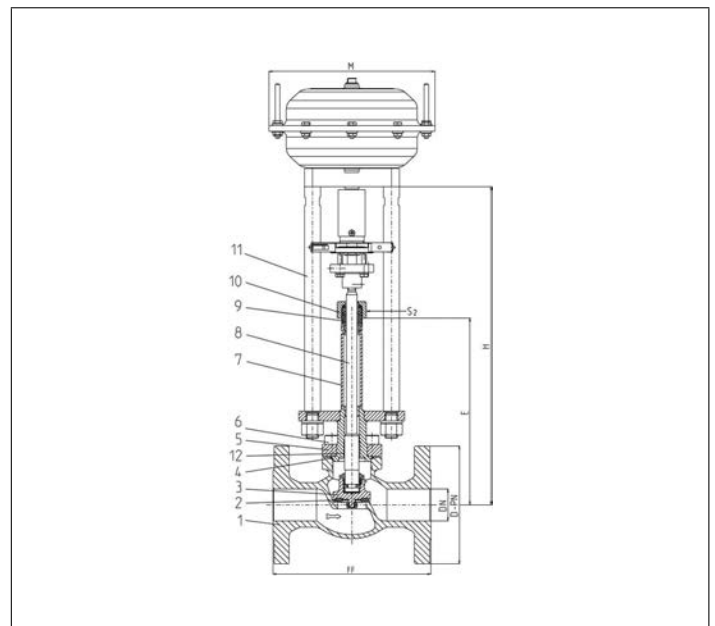
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03323 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03323 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN40

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03323.X.*012

Flanged connection acc. to DIN EN 1092-1 PN40

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

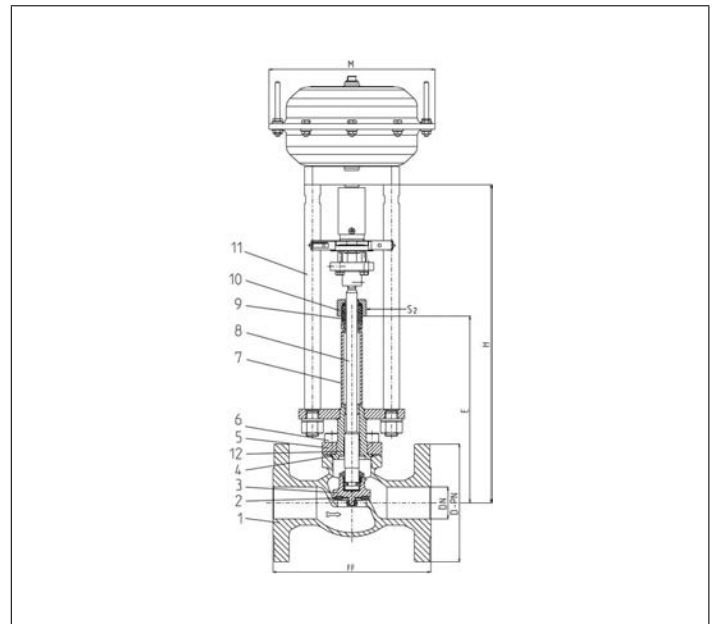
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03323 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03323 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 300

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03323.X.*013

Flanged connection acc. to ASME B16.5 class 300

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

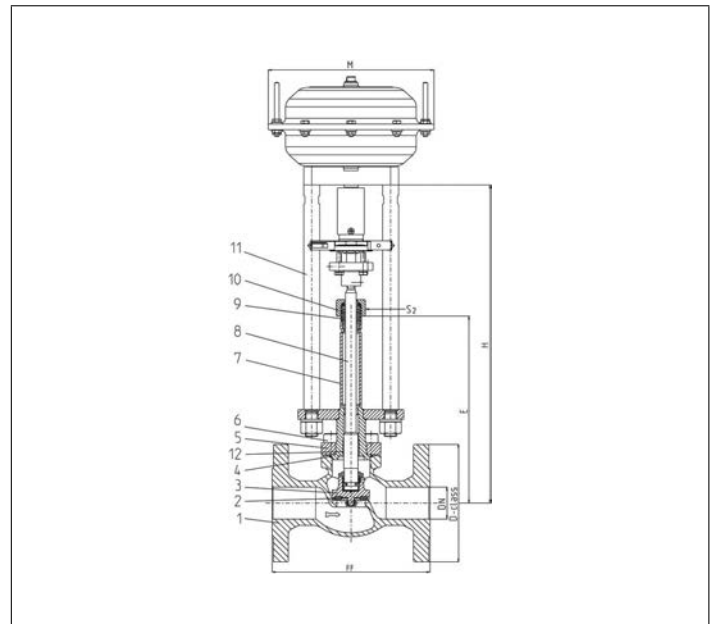
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03323 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03323 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03323.X.*011

Flanged connection acc. to ASME B16.5 class 150

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

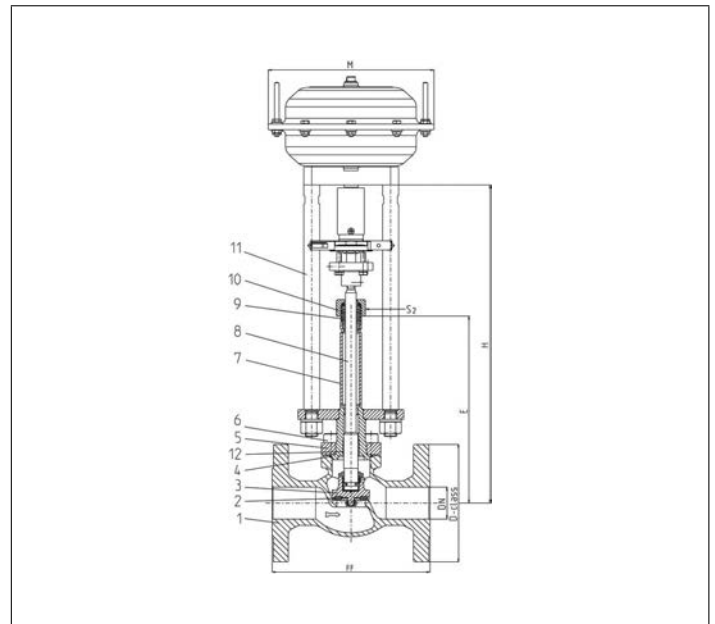


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	CW614N	B 283 UNS C38500
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03323 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN16

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03343.X.*014

Flanged connection acc. to DIN EN 1092-1 PN16

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

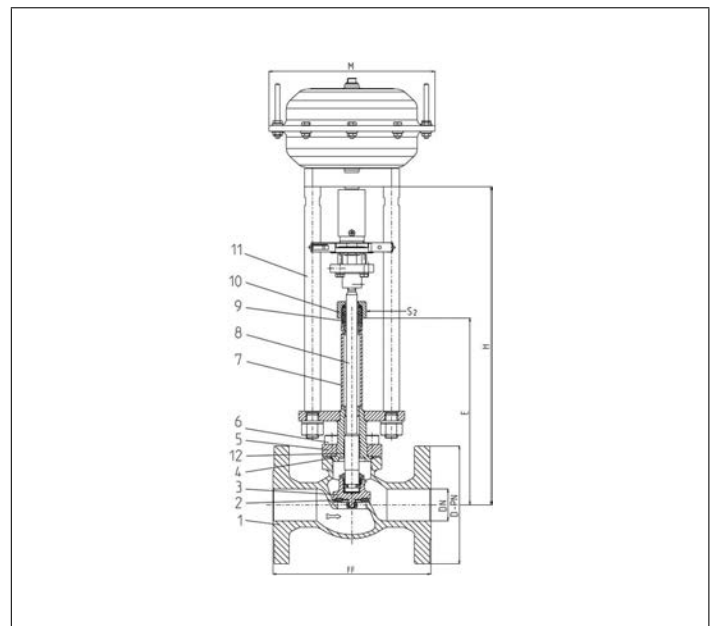


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03343 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN40

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03343.X.*012

Flanged connection acc. to DIN EN 1092-1 PN40

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

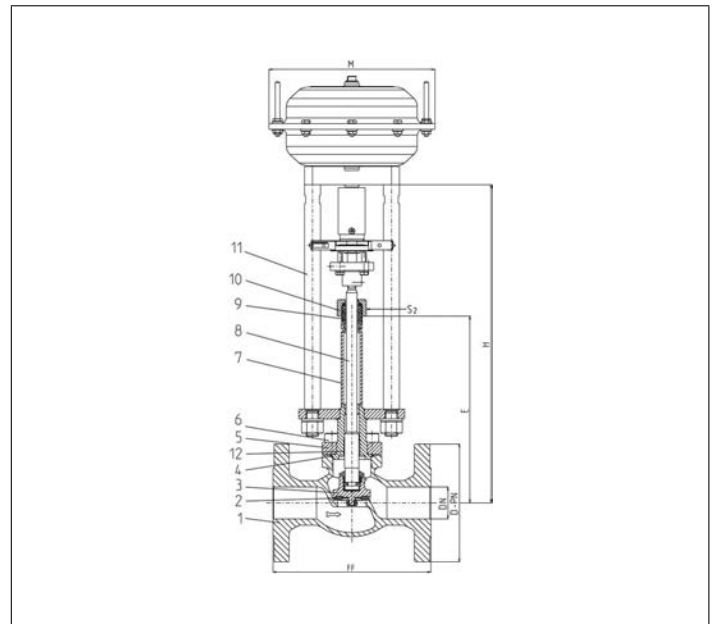
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03343 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	370	370	370	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 300

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03343.X.*013

Flanged connection acc. to ASME B16.5 class 300

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

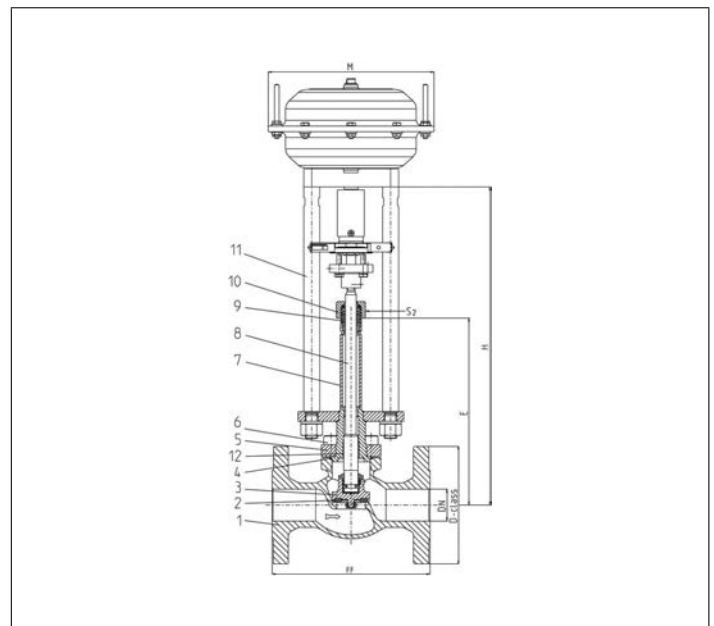
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03343 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	370	370	370	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150

- Stainless steel body and topwork
- Actuator - air opens, spring closes or contrary
- "live loaded" gland packing
- "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03343.X.*011

Flanged connection acc. to ASME B16.5 class 150

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

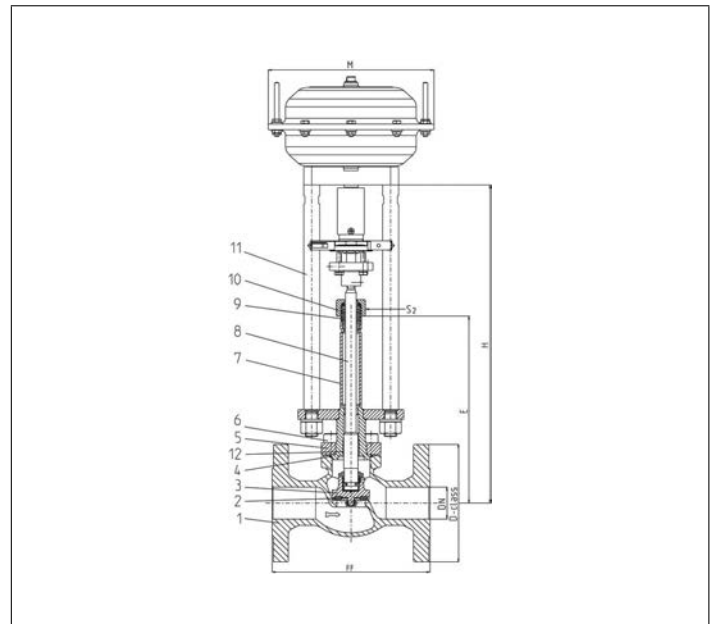
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03343 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	370	370	370	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 03343 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 03343.8000.X

Flanged connection acc. to ASME B16.5 class 300

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use.
 This standard can also be used for the tightness class of other cryogenic gases.

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

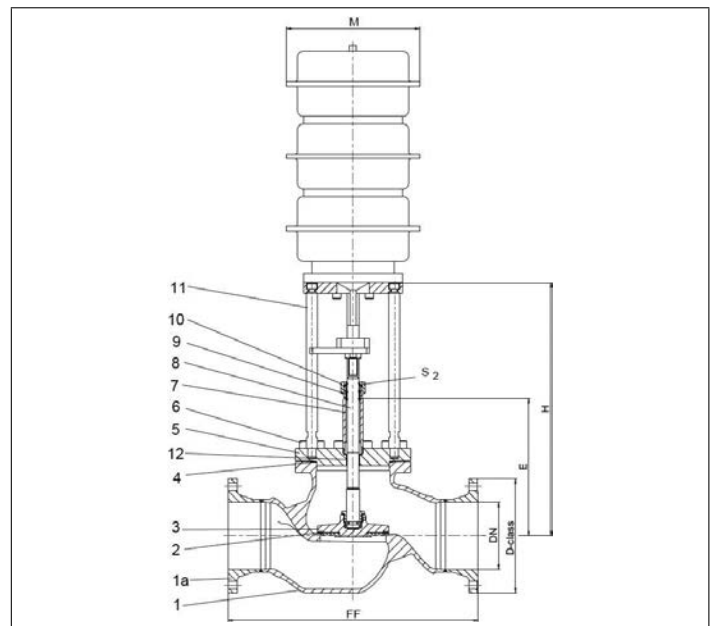
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
1a Flange	1.4301	A 276 Grade 304
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03343 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	785
Length	E	410
Actuator-Ø	M	dependent on actuator
Wrench size across flats	S ₂	30
Weight w/o actuator	ca. kg	135
*Kvs-Value	m ³ /h	680
*Cv-Value	gal/min	793
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01343 - Actuated Control Valve



Cryogenic-Control Valves with Pneumatic Actuator, PN50 (DN65=PN45)

Control characteristic: linear or equal percentage
 Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing
 "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01343.X.*61*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01343.X.*614

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service"
- Electric actuator

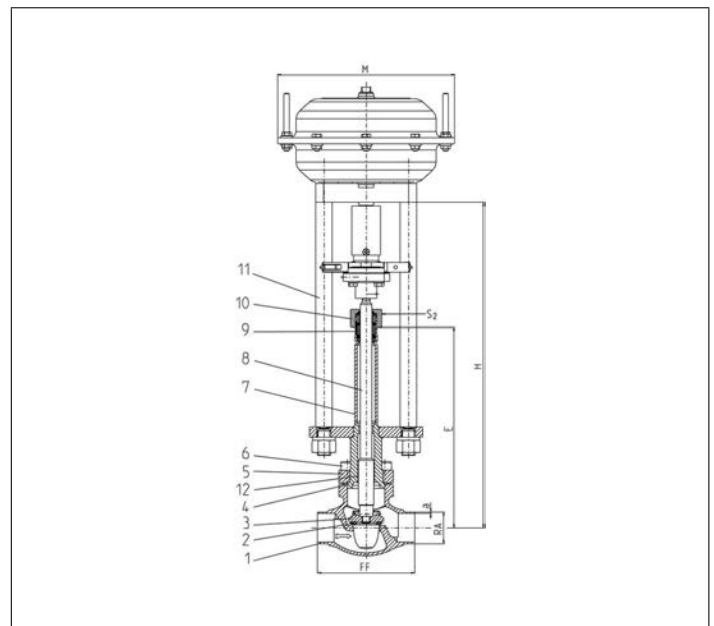
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01343 - Standard design	Technical data										
Nominal size	DN	15	20	25	32	40	50	65	80	100	
Dimension code	.X.	1521	2026	2533	3238	4048	5060	657x	8088	0114	
Face-to-face dimension	FF	85	100	115	115	130	155	205	245	280	
Height	H	370	370	375	405	420	425	510	575	635	
Length	E	195	200	200	230	230	235	300	300	300	
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	38.0	48.3	60.3	76.1	88.9	114.3	
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.4	-	48.26	60.33	73.03	88.90	114.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40									
Socket depth	b	10	13	13	-	13	16	16	16	20	
Actuator-Ø	M										
Wrench size across flats	S ₂	30	30	30	36	36	36	36	36	41	
Weight w/o actuator	ca. kg	2.2	2.4	3.1	3.8	6.5	9.0	15.2	20.0	28.0	
Stroke	mm	20	20	20	30	40	30	40	40	40	

Dimensions in mm.

Actuated Valves and Actuators

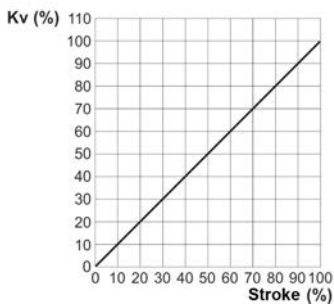
Type 01343 - Actuated Control Valve



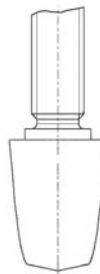
Flow coefficient for Control Valves - Control characteristic linear Kvs-Value in m³/h, Cv-Value in gal/min. These figures refer to measurements for the flow direction.

Type 01343 Control valve																		
Lift in mm	20	20	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40
Seat-Ø in mm	15	15	20	20	25	25	32	32	36	36	45	45	62	62	76	76	94	94
Nominal size	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv
DN 15	3.5	4.0																
DN 20			6.3	7.3														
DN 25					10.0	11.6												
DN 32							16.0	18.5										
DN 40									19.0	22.0								
DN 50											30.0	34.7						
DN 65													60.0	70.0				
DN 80															86.0	100.3		
DN 100																	140.0	163.3

Ideal inherent linear characteristic line acc. to DIN IEC 60534 Part 2-4



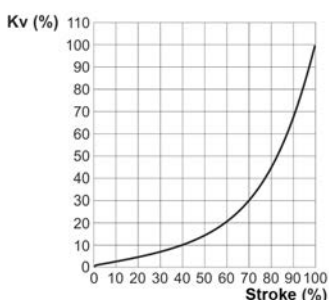
Sample drawing cone, control characteristic linear



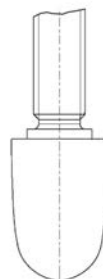
Flow coefficient for Control Valves - Control characteristic equal percentage Kvs-Value in m³/h, Cv-Value in gal/min. These figures refer to measurements for the flow direction.

Type 01343 Control valve																		
Lift in mm	20	20	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40
Seat-Ø in mm	15	15	20	20	25	25	32	32	36	36	45	45	62	62	76	76	94	94
Nominal size	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv
DN 15	3.5	4.0																
DN 20			4.0	4.6														
DN 20			6.0	6.9														
DN 25					2.5	2.9												
DN 25					4.5	5.2												
DN 25					6.3	7.3												
DN 25					10.0	11.6												
DN 32							10.0	11.6										
DN 32							14.0	16.2										
DN 40									10.0	11.6								
DN 40									19.0	22.0								
DN 50											10.0	11.6						
DN 50											16.0	18.5						
DN 50											25.0	28.9						
DN 50											30.0	34.7						
DN 65													60.0	70.0				
DN 80															80.0	93.3		
DN 100																	130.0	151.7

Ideal inherent equal percentage characteristic curve acc. to DIN IEC 60534 Part 2-4



Sample drawing cone, control characteristic equal percentage



Actuated Valves and Actuators

Type 01423 - Actuated Globe Valve



Top Entry Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN100=PN40)

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01423.X.3081

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

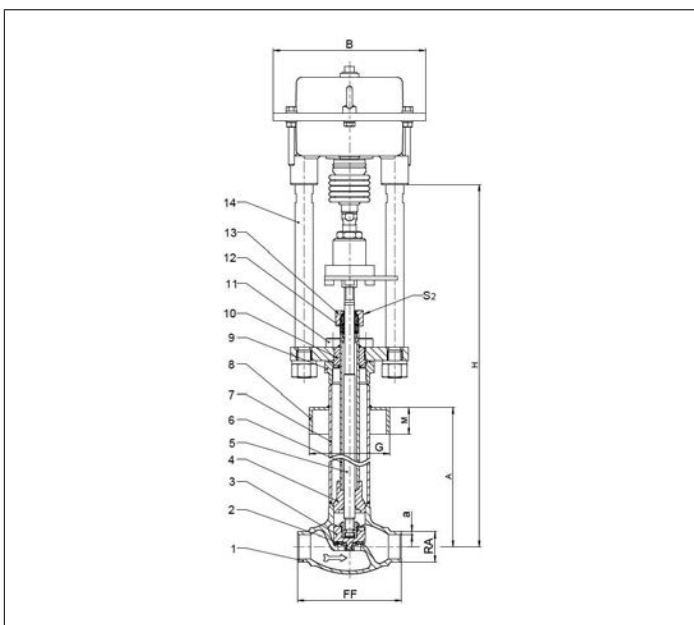


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	CW453K	B 103 UNS C52100
5 Stem	1.4301	A 276 Grade 304
6 Elongation tube	1.4541	A 213 TP 321
7 Elongation tube	1.4541	A 213 TP 321
8 Cold box feature	1.4301	A 276 Grade 304
9 Headpiece flange	1.4301	A 276 Grade 304
10 Headpiece	1.4301	A 276 Grade 304
11 Bolts	1.4301/A2	A 193 B8
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4404	A276 Grade 316L
14 Pillars	1.4404	A276 Grade 316L



Type 01423 - Standard design	Technical data									
Nominal size	DN	10	15	20	25	40	50	65	80	100
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280
Height	H	770	785	790	790	820	910	1105	1110	1290
Actuator-Ø	B	dependent on actuator								
Outside pipe-Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.00	89.00	114.30
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Length	A	540	540	540	540	540	610	610	640	750
Length	G	acc. to customer specification								
Length	M	acc. to customer specification								
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41
Stroke	mm	10	10	7	9	11	15	23	23	30
Weight without actuator	ca. kg	5.7	5.5	6.0	7.0	10.0	11.5	28.3	34.3	49.2
*Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	20.6	37.1	71.1	104.0	168.0
*Cv-Value	gal/min	1.9	5.0	7.8	13.4	23.9	43.2	82.9	121.3	196.0

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01423 - Actuated Globe Valve T-Model



Top Entry Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01423.X.C3C22 (DN15, DN25)

Part No. 01423.X.C3C32 (DN40, DN50)

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

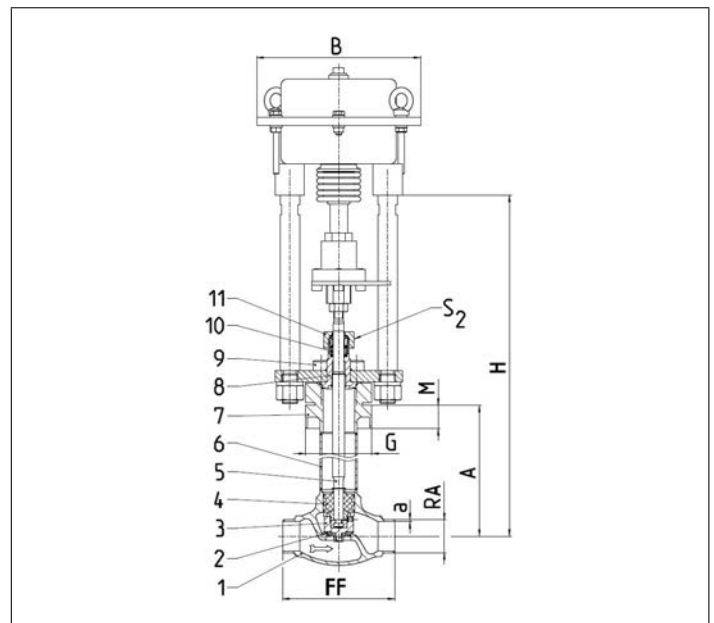
Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	PTFE	
5 Stem	1.4301	A 276 Grade 304
6 Tube	1.4301	A 276 Grade 304
7 Headpiece flange	1.4301	A 276 Grade 304
8 Cold box feature	1.4301	A 276 Grade 304
9 Bolts	A2-70	B8
10 Gland packing	Graphite / PTFE / Mica	
11 Gland nut	1.4404	A 276 Grade 316L



Type 01423 - T-Model	Technical data				
Nominal size	DN	15	25	40	50
Dimension code	.X.	1521	2533	4048	5060
Face-to-face dimension	FF	135	165	180	205
Height	H	526	506	644	649
Actuator-Ø	B	dependent on actuator			
Outside pipe-Ø ASTM A312	RA	21.34	33.40	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40			
Length	A	290	290	351	351
Length	G	68	68	109	134.5
Length	M	14	24	19	22
Wrench size across flats	S ₂	27	27	32	32
Weight without actuator	ca. kg	3.6	4.2	9.3	12.8
*Kvs-Value	m ³ /h	4.3	11.5	22.6	37.1
*Cv-Value	gal/min	5.0	13.4	26.3	43.2
Stroke	mm	10	9	11	15

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 01428 - Actuated Globe Valve T-Model



Top Entry Cryogenic-Globe Valves with Pneumatic Actuator, PN50

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01428.X.C3C22 (DN15, DN25)

Part No. 01428.X.C3C32 (DN40, DN50)

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

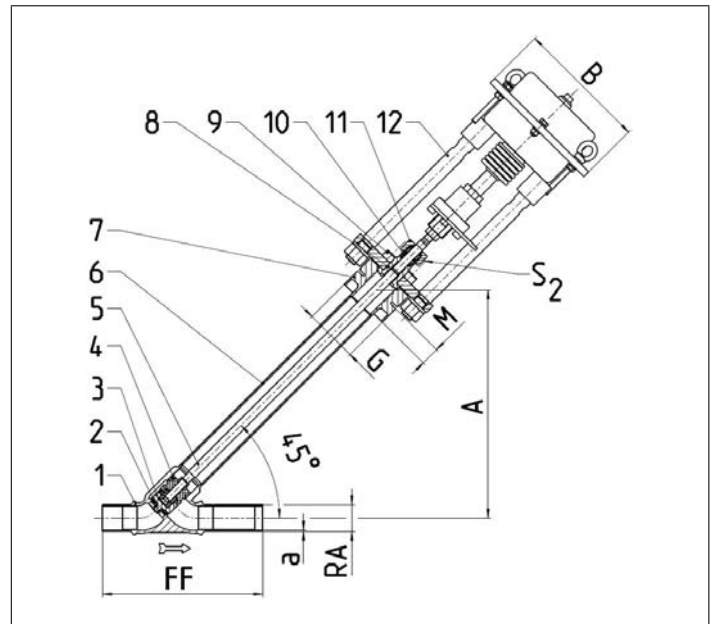


Applications:

Approved for air gases, vapours and cryogenic liquefied gases.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Guide bush	CW453K	B 103 UNS C52100
5 Stem	1.4301	A 276 Grade 304
6 Tube	1.4301	A 276 Grade 304
7 Headpiece flange	1.4301	A 276 Grade 304
8 Cold box feature	1.4301	A 276 Grade 304
9 Bolts	A2-70	B8
10 Gland packing	Graphite / PTFE / Mica	
11 Gland nut	1.4404	A 276 Grade 316L
12 Pillars	1.4404	A 276 Grade 316L



Type 01428 - T-Model	Technical data				
Nominal size	DN	15	25	40	50
Dimension code	.X.	1521	2533	4048	5060
Face-to-face dimension	FF	178	203	265	344
Height	H	497	497	612	616
Actuator-Ø	B	dependent on actuator			
Outside pipe-Ø ASTM A312	RA	21.34	33.40	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40			
Length	A	290	290	351	350
Length	G	68	68	109	134.5
Length	M	14	24	19	22
Wrench size across flats	S ₂	27	27	32	32
Weight without actuator	ca. kg	3.8	4.4	9.8	13.7
*Kvs-Value	m ³ /h	4.3	11.5	20.6	37.1
*Cv-Value	gal/min	4.9	13.3	32.0	51.0
Stroke	mm	5.7	15.6	37.4	59.7

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Top-Entry pneumatic actuated Cryogenic-Globe Valves, forged steel body, up to PN63
A001 series

- Stainless steel body and topwork,
- actuator - **spring to close**, air to open
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"
- the actuator is not cleaned and degreased für oxygen

Butt weld connection for stainless steel pipes acc. to ISO 1127 oder ASTM A312

Available accessories/options:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Actuator - cleaned and degreased for oxygen service
- Bellow, top position
- Bellow, bottom position
- Bellow monitoring
- Check function
- Control function
- Throttle function
- Purge port
- On request only:
- Further connection types

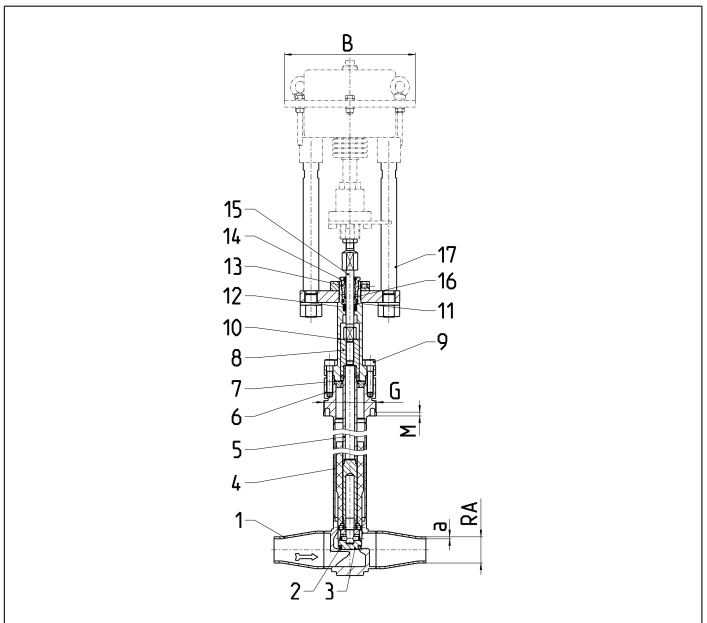


Applications:

Approved for hydrogen, air gasaes, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -269°C / -452°F (4K) bis +80°C / +176°F (353K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 313 Grade 316TI
2 Valve seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hollow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Head Peace	1.4404	A 276 Grade 316L
11 Sliding bushing	CW452K	B 159 UNS C51900
12 Gasket	PTFE / Elektrocarbon (25%)	
13 Gland bolt	1.4404	A 276 Grade 316L
14 Wiper	PEEK	B 159 UNS C51900
15 Stem	1.4404	A 276 Grade 316L
16 O-ring	FPM (VITON)	
17 Pillars	1.4404	A 276 Grade 316L



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Actuator-Ø	B	dependent on actuator						
Outside pipe-Ø ISO	Ra	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.8	2.0	2.3	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

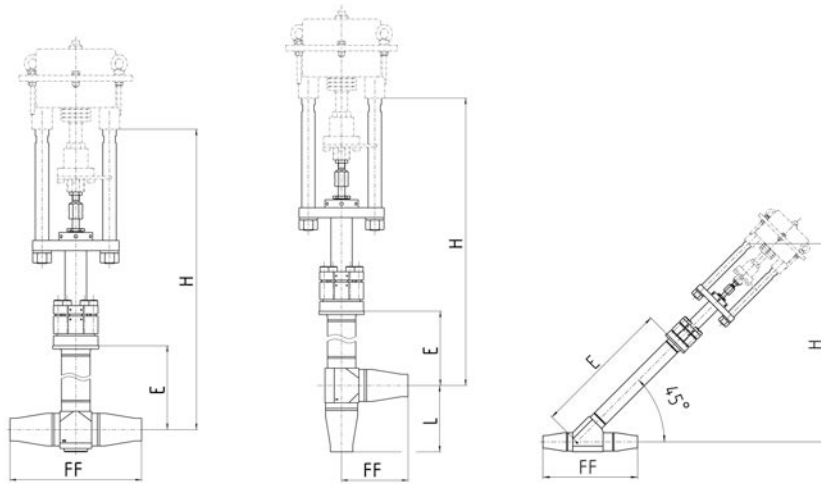
Dimensions in mm.

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	150	150	195	195	235	235	280
Height	H	647	647	647	647	dependent on actuator		
Length	E	325	325	325	325	445	445	535
Kvs-value	m ³ /h	3.4	4.4	9.8	12.3	25.8	28.3	44.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	4.0	5.1	11.4	14.3	30.0	32.9	51.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight**	ca. kg	4.45	4.47	5.07	5.11	9.53	9.56	12.62

* with bellow, ** without actuator

Body angle type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	80	80	100	100	120	120	140
Height	H	647	647	647	647	dependent on actuator		
Length	E	325	325	325	325	445	445	525
Length	L	80	80	100	100	120	120	140
Kvs-value	m ³ /h	4.7	5.7	19.8	22.3	41.1	43.6	80.0
Kvs-value*	m ³ /h	4.7	5.7	16.5	19.0	33.3	35.8	63.0
Cv-value	gal/min	5.5	6.6	23.0	25.9	47.8	50.7	93.0
Cv-value*	gal/min	5.5	6.6	19.2	22.1	38.7	41.6	73.3
Weight**	ca. kg	4.43	4.45	5.02	5.07	9.31	9.34	14.23

* with bellow, ** without actuator

Body Y type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	185	185	250	250	285	285	340
Height	H	521	521	524	524	dependent on actuator		
Length	E	365	365	370	370	505	505	600
Kvs-value	m ³ /h	4.2	5.2	11.9	14.4	34.4	36.9	69.8
Kvs-value*	m ³ /h	4.2	5.2	7.7	10.2	28.6	31.1	35.0
Cv-value	gal/min	4.9	6.0	13.8	16.7	40.0	42.9	81.2
Cv-value*	gal/min	4.9	6.0	9.0	11.9	33.3	36.2	40.7
Weight**	ca. kg	4.76	4.77	5.76	5.79	10.73	10.76	17.20

* with bellow, ** without actuator

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Top-Entry pneumatic actuated Cryogenic-Globe Valves, casted body, up to PN50
A002 series

- Stainless steel body and topwork,
- actuator - **spring to close**, air to open
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"
- the actuator is not cleaned and degreased für oxygen

Butt weld connection for stainless steel pipes acc. to ISO 1127 oder ASTM A312

Available accessories/options:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Actuator - cleaned and degreased for oxygen service
- Bellow, top position
- Bellow, bottom position
- Bellow monitoring
- Check function
- Control function
- Throttle function
- Purge port
- On request only:
- Further connection types

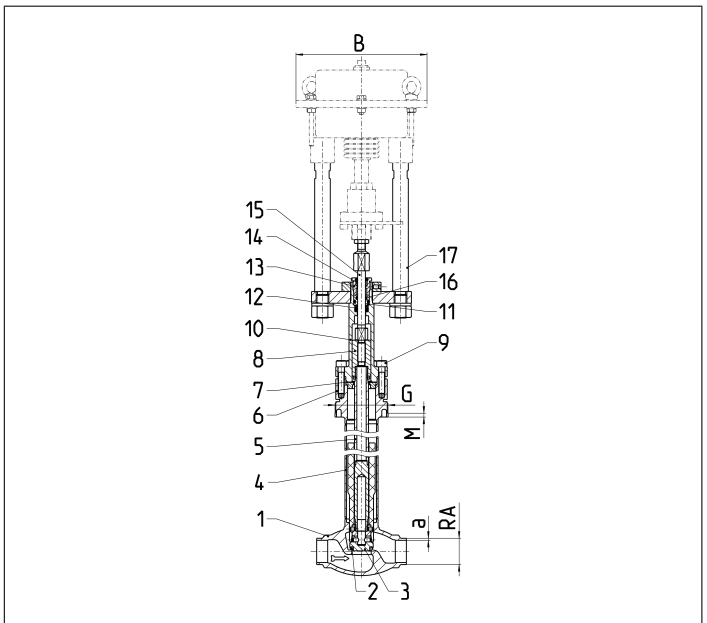
Applications:

Approved for hydrogen, air gasaes, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) bis +80°C / +176°F (353K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hollow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Head piece	1.4404	A 276 Grade 316L
11 Sliding bushing	CW452K	B 159 UNS C51900
12 Gasket	PTFE / Elektrocarbon (25%)	
13 Gland bolt	1.4404	A 276 Grade 316L
14 Wiper	PEEK	B 159 UNS C51900
15 Stem	1.4404	A 276 Grade 316L
16 O-ring	FPM (VITON)	
17 Pillars	1.4404	A 276 Grade 316L



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Actuator-Ø	B	dependent on actuator						
Outside pipe-Ø ISO	Ra	13.5	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.6	2.0	2.0	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

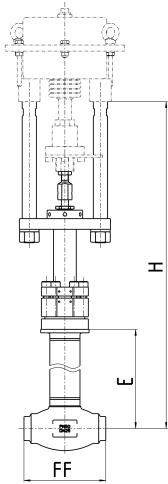
Dimensions in mm.

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	85	85	115	115	130	130	155
Height	H	647	647	647	647	dependent on actuator		
Length	E	325	325	325	325	445	445	525
Kvs-value	m ³ /h	2.8	3.8	10.0	13.3	16.0	25.0	46.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	2.8	4.4	11.6	15.4	18.5	28.9	53.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight**	ca. kg	4.45	4.47	5.07	5.11	9.53	9.56	12.62

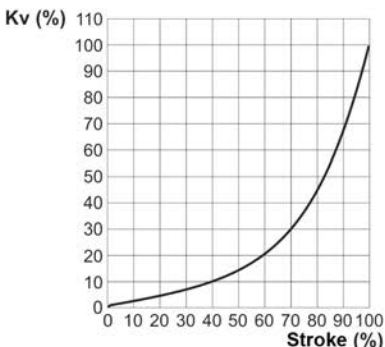
* with bellow, ** without actuator

Flow coefficient for Control Valves - Control characteristic equal percentage Kvs-Value in m³/h, Cv-Value in gal/min. These figures refer to measurements for the flow direction.

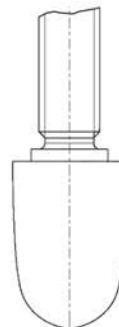
Type 11C01 with actuator and control function - A001 and A002 series

DN	Kvs [m ³ /h]	Cv [gal/min]	Stroke [mm]
10	1.0	1.2	10
15	3.5	4.1	10
20	4.0	4.7	10
25	6.3	7.3	10
32	10.0	11.6	20
40	19.0	22.1	20
50	30.0	34.9	20

Ideal inherent equal percentage characteristic curve acc. to DIN IEC 60534 Part 2-4



Sample drawing cone, control characteristic equal percentage



Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Configurable options

For configurable types, the HEROSE part number consists as follows:

Type	Series	Dimension code	Option codes
11C01.	A001.	0250.	ESR-MYJ-CBQ-QXY-KCZ-JRB-LYV-SNP-HTW-GCX
1	2	3	4 up to 13

Selection of the type					Type
1	Type	Product group	Market segment	Valve design	Product approval
	Globe Valve FullX	Cryogenic	Top Entry	PED	11C01

Selection of the series				Series
2	Series	increased external tightness	medium pressure rating	A001
		normal external tightness	medium pressure rating	A002

Selection of the nominal size			Dimension code
3	Nominal sizes		
		DN10	0100
		DN15	0150
		DN20	0200
		DN25	0250
		DN32	0320
		DN40	0400
		DN50	0500

Selection of options			Option codes
4	Pressure rating		
		PN50	JAT
		PN63	ESR

5	Approvals		MYJ
		PED DIN EN 1626	

6	Body types		
		Body angle type	CBQ
		Straight body	HJC
		Body Y type	PYU

7	Disc function		
		lockable function	KCZ
		lockable check function	JDA
		lockable control function	SWX
		lockable throttle function	WVV

8	Operation		
		manual	YFW
		actuated 'diaphragm actuator'	RQZ
		actuated 'piston actuator'	CEA

9	Handwheel options		JRB
		Material 1.4409 silver (natural)	

10	Bellow options	Bellow	Bellow position	Bellow monitoring	Dimension bellow monitoring	
		not selected	not selected	not selected	not selected	LYV
		selected	top	not selected	not selected	MUR
		selected	bottom	not selected	not selected	FYX
		selected	top	selected	DIN EN ISO 8434-1-WDS-S6	GXD
		selected	bottom	selected	DIN EN ISO 8434-1-WDS-S6	XHA

11	Collar options	Nominal size	Body type	Collar diameter Ø [mm]	Collar height (M) [mm]	Collar position (E) [mm]	
		DN10-25	Body angle type/ Straight body	68.0	5.0	325.0	YWF
		DN10/15	Body Y type	68.0	5.0	365.0	YTU
		DN20/25	Body Y type	68.0	5.0	370.0	XCX
		DN32/40	Body angle type/ Straight body	84.4	5.0	445.0	RBD
		DN32/40	Body Y type	84.4	5.0	505.0	DML
		DN50	Body angle type/ Straight body	100.0	5.0	525.0	UAC
		DN50	Body Y type	100.0	5.0	600.0	WQA

12	Purge port		
		w/o purge port	CBG
		with NPT 1/8"	EPH
with VCR 1/4"	ANK		

13	Valve height	Nominal size	Body type	Bonnet extension	Valve height (H) [mm]	
		DN10/15	Body angle type/ Straight body	with	535.0	GCX
		DN10/15	Body Y type	with	430.0	HDP
		DN20/25	Body angle type/ Straight body	with	535.0	GCX
		DN20/25	Body Y type	with	440.0	VCG
		DN32/40	Body angle type/ Straight body	with	690.0	AKQ
		DN32/40	Body Y type	with	570.0	WAM
		DN50	Body angle type/ Straight body	with	775.0	QJN
		DN50	Body Y type	with	640.0	FTP

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Top-Entry pneumatic actuated Cryogenic-Globe Valves, forged steel body, up to PN63
A001 series

- Stainless steel body and topwork,
- actuator - **spring to close**, air to open
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"
- the actuator is not cleaned and degreased für oxygen

Butt weld connection for stainless steel pipes acc. to ISO 1127 oder ASTM A312

Available accessories/options:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
 - Actuator - cleaned and degreased for oxygen service
 - Bellow, top position
 - Bellow, bottom position
 - Bellow monitoring
 - Check function
 - Control function
 - Throttle function
 - Purge port
- On request only:
- Further connection types

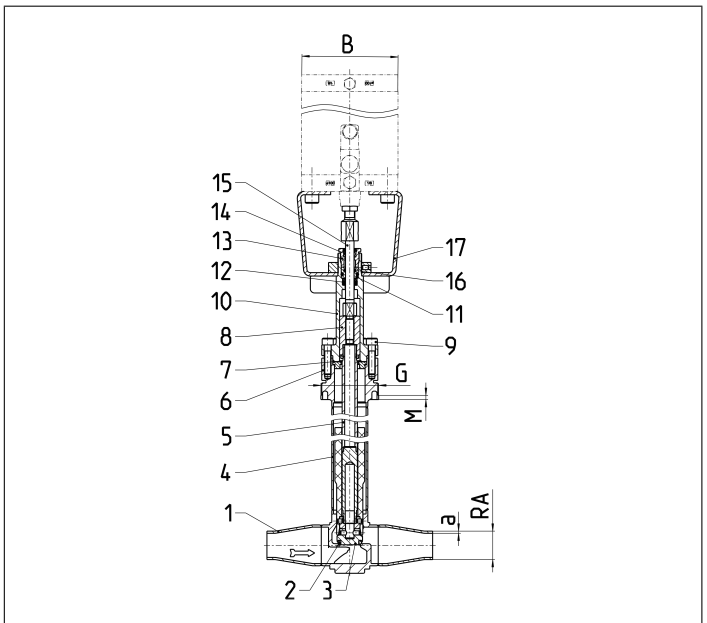


Applications:

Approved for hydrogen, air gasaes, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -269°C / -452°F (4K) bis +80°C / +176°F (353K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 313 Grade 316TI
2 Valve seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hollow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Head peace	1.4404	A 276 Grade 316L
11 Sliding bushing	CW452K	B 159 UNS C51900
12 Gasket	PTFE / Elektrocarbon (25%)	
13 Gland bolt	1.4404	A 276 Grade 316L
14 Wiper	PEEK	B 159 UNS C51900
15 Stem	1.4404	A 276 Grade 316L
16 O-ring	FPM (VITON)	
17 Bracket	1.4404	A 276 Grade 316L



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Actuator-Ø	B	dependent on actuator						
Outside pipe-Ø ISO	Ra	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.8	2.0	2.3	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

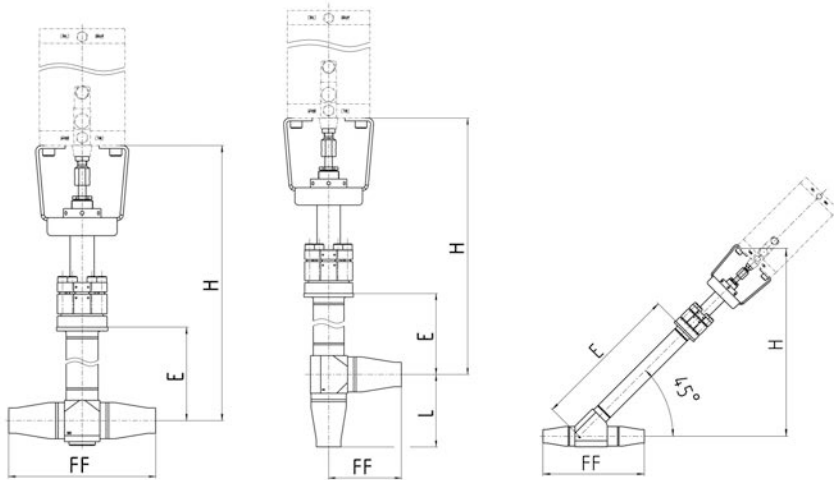
Dimensions in mm.

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	150	150	195	195	235	235	280
Height	H	567	567	567	567	dependent on actuator		
Length	E	325	325	325	325	445	445	525
Kvs-value	m ³ /h	3.4	4.4	9.8	12.3	25.8	28.3	44.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	4.0	5.1	11.4	14.3	30.0	32.9	51.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight**	ca. kg	4.11	4.13	4.76	4.80	9.84	9.87	13.01

* with bellow, ** without actuator

Body angle type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	80	80	100	100	120	120	140
Height	H	567	567	567	567	dependent on actuator		
Length	E	325	325	325	325	445	445	525
Length	L	80	80	100	100	120	120	140
Kvs-value	m ³ /h	4.7	5.7	19.8	22.3	41.1	43.6	80.0
Kvs-value*	m ³ /h	4.7	5.7	16.5	19.0	33.3	35.8	63.0
Cv-value	gal/min	5.5	6.6	23.0	25.9	47.8	50.7	93.0
Cv-value*	gal/min	5.5	6.6	19.2	22.1	38.7	41.6	73.3
Weight**	ca. kg	4.07	4.09	4.70	4.74	9.58	9.61	12.38

* with bellow, ** without actuator

Body Y type

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	185	185	250	250	285	285	340
Height	H	521	521	524	524	dependent on actuator		
Length	E	365	365	370	370	505	505	600
Kvs-value	m ³ /h	4.2	5.2	11.9	14.4	34.4	36.9	69.8
Kvs-value*	m ³ /h	4.2	5.2	7.7	10.2	28.6	31.1	35.0
Cv-value	gal/min	4.9	6.0	13.8	16.7	40.0	42.9	81.2
Cv-value*	gal/min	4.9	6.0	9.0	11.9	33.3	36.2	40.7
Weight**	ca. kg	4.76	4.77	5.76	5.79	10.73	10.76	17.20

* with bellow, ** without actuator

Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Top-Entry pneumatic actuated Cryogenic-Globe Valves, casted body, up to PN50
A002 series

- Stainless steel body and topwork,
- actuator - **spring to close**, air to open
- "live loaded" gland packing
- "cleaned and degreased for oxygen service"
- the actuator is not cleaned and degreased für oxygen

Butt weld connection for stainless steel pipes acc. to ISO 1127 oder ASTM A312

Available accessories/options:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
 - Actuator - cleaned and degreased for oxygen service
 - Bellow, top position
 - Bellow, bottom position
 - Bellow monitoring
 - Check function
 - Control function
 - Throttle function
 - Purge port
- On request only:
- Further connection types

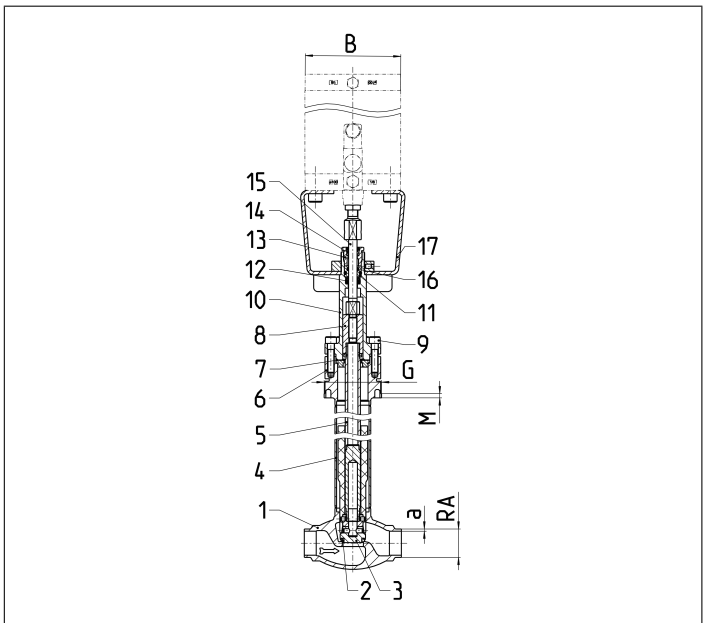


Applications:

Approved for hydrogen, air gasaes, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) bis +80°C / +176°F (353K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE	
3 Disc	1.4571	A 313 Grade 316TI
4 Tube	1.4571	A 313 Grade 316TI
5 Hollow stem	1.4571	A 313 Grade 316TI
6 Flange	1.4404	A 276 Grade 316L
7 Bonnet gasket	PTFE / Elektrocarbon (25%)	
8 Bushing	CW452K	B 159 UNS C51900
9 Bolt	A4-70	A 194 B8M
10 Head piece	1.4404	A 276 Grade 316L
11 Sliding bushing	CW452K	B 159 UNS C51900
12 Gasket	PTFE / Elektrocarbon (25%)	
13 Gland bolt	1.4404	A 276 Grade 316L
14 Wiper	PEEK	B 159 UNS C51900
15 Stem	1.4404	A 276 Grade 316L
16 O-ring	FPM (VITON)	
17 Bracket	1.4404	A 276 Grade 316L



Nominal size	DN	10	15	20	25	32	40	50
Collar-Ø	G	68.0	68.0	68.0	68.0	84.4	84.4	100
Length	M	5	5	5	5	5	5	5
Actuator-Ø	B	dependent on actuator						
Outside pipe-Ø ISO	Ra	13.5	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO	a	1.6	2.0	2.0	2.6	2.6	2.6	2.9
Pipe-Ø ASTM A312		S10						

Dimensions in mm.

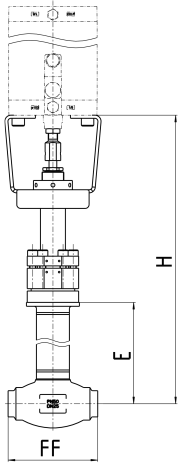


Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Body types



Straight body

Nominal size	DN	10	15	20	25	32	40	50
Face-to-face dim.	FF	85	85	115	115	130	130	155
Height	H	647	647	647	647	dependent on actuator		
Length	E	325	325	325	325	445	445	525
Kvs-value	m ³ /h	2.8	3.8	10.0	13.3	16.0	25.0	46.0
Kvs-value*	m ³ /h	3.4	4.4	9.5	12.0	25.8	28.3	44.0
Cv-value	gal/min	2.8	4.4	11.6	15.4	18.5	28.9	53.2
Cv-value*	gal/min	4.0	5.1	11.0	14.0	30.0	32.9	51.2
Weight**	ca. kg	4.45	4.47	5.07	5.11	9.53	9.56	12.62

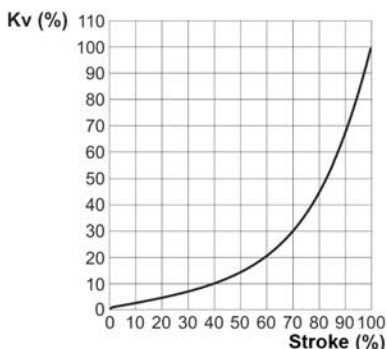
* with bellow, ** without actuator

Flow coefficient for Control Valves - Control characteristic equal percentage Kvs-Value in m³/h, Cv-Value in gal/min. These figures refer to measurements for the flow direction.

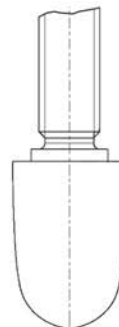
Type 11C01 with actuator and control function - A001 and A002 series

DN	Kvs [m ³ /h]	Cv [gal/min]	Stroke [mm]
10	1.0	1.2	10
15	3.5	4.1	10
20	4.0	4.7	10
25	6.3	7.3	10
32	10.0	11.6	20
40	19.0	22.1	20
50	30.0	34.9	20

Ideal inherent equal percentage characteristic curve acc. to DIN IEC 60534 Part 2-4



Sample drawing cone, control characteristic equal percentage



Actuated Valves and Actuators

Type 11C01 - Globe Valve FullX with actuator



Configurable options

For configurable types, the HEROSE part number consists as follows:

Type	Series	Dimension code	Option codes
11C01.	A001.	0250.	ESR-MYJ-CBQ-QXY-KCZ-JRB-LYV-SNP-HTW-GCX
1	2	3	4 up to 13

Selection of the type					Type	
1	Type	Product group	Market segment	Valve design	Product approval	
		Globe Valve FullX	Cryogenic	Top Entry	PED	11C01

Selection of the series				Series
2	Series			
		increased external tightness	medium pressure rating	A001
		normal external tightness	medium pressure rating	A002

Selection of the nominal size			Dimension code
3	Nominal sizes		
		DN10	0100
		DN15	0150
		DN20	0200
		DN25	0250
		DN32	0320
		DN40	0400
		DN50	0500

Selection of options			Option codes
4	Pressure rating		
		PN50	JAT
		PN63	ESR

5	Approvals		
		PED DIN EN 1626	MYJ

6	Body types		
		Body angle type	CBQ
		Straight body	HJC
		Body Y type	PYU

7	Disc function		
		lockable function	KCZ
		lockable check function	JDA
		lockable control function	SWX
		lockable throttle function	WVW

8	Operation		
		manual	YFW
		actuated 'diaphragm actuator'	RQZ
		actuated 'piston actuator'	CEA

9	Handwheel options		
		Material 1.4409 silver (natural)	JRB

10	Bellow options	Bellow	Bellow position	Bellow monitoring	Dimension bellow monitoring	
		not selected	not selected	not selected	not selected	
		selected	top	not selected	not selected	MUR
		selected	bottom	not selected	not selected	FYX
		selected	top	selected	DIN EN ISO 8434-1-WDS-S6	GXD
		selected	bottom	selected	DIN EN ISO 8434-1-WDS-S6	XHA

11	Collar options	Nominal size	Body type	Collar diameter Ø [mm]	Collar height (M) [mm]	Collar position (E) [mm]	
		DN10-25	Body angle type/ Straight body	68.0	5.0	325.0	
		DN10/15	Body Y type	68.0	5.0	365.0	YTU
		DN20/25	Body Y type	68.0	5.0	370.0	XCX
		DN32/40	Body angle type/ Straight body	84.4	5.0	445.0	RBD
		DN32/40	Body Y type	84.4	5.0	505.0	DML
		DN50	Body angle type/ Straight body	100.0	5.0	525.0	UAC
		DN50	Body Y type	100.0	5.0	600.0	WQA

12	Purge port					
		w/o purge port				
		with NPT 1/8"				EPH
		with VCR 1/4"				ANK

13	Valve height	Nominal size	Body type	Bonnet extension	Valve height (H) [mm]	
		DN10/15	Body angle type/ Straight body	with	535.0	
		DN10/15	Body Y type	with	430.0	HDP
		DN20/25	Body angle type/ Straight body	with	535.0	GCX
		DN20/25	Body Y type	with	440.0	VCG
		DN32/40	Body angle type/ Straight body	with	690.0	AKQ
		DN32/40	Body Y type	with	570.0	WAM
		DN50	Body angle type/ Straight body	with	775.0	QJN
		DN50	Body Y type	with	640.0	FTP

Actuated Valves and Actuators

Type 27100 - Electric Actuator



Electric Actuators for Globe and Control Valves

mechanical position indicator, with emergency handwheel, protection class IP 65 (DIN VDE 0470)

power supply 24 V, 115 V, 230 V, 50/60 Hz, **(please indicate on purchase order)**

Mounting position: considering the mounting position of the valve

For outdoor installation or high humidity, we recommend the use of two heatings

Part No. 27100.0030.*02800

2x force switch - directly wired, 2x limit switch - directly wired

Part No. 27100.0060.*04500

2x force switch - directly wired, 2x limit switch - directly wired

Part No. 27100.0100.*09000

2x force switch - directly wired, 2x limit switch - directly wired

*AC=alternating current, *DC=direct current

Ambient temperature limit: -20°C / -4°F (253K) up to +70°C / +158°F (343K)

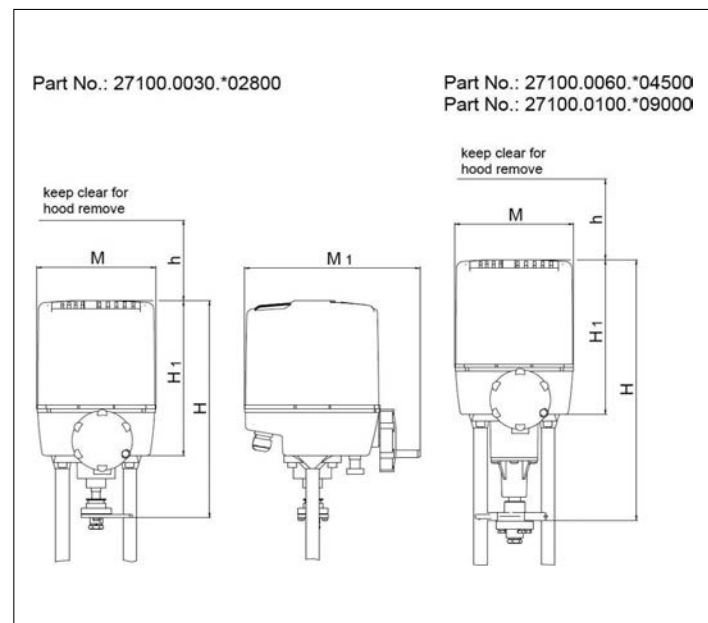
Available options - on request only:

- Potentiometer
- Heating (-35°C / -31°F / 238K)
- Digital positioner
- Offshore / Onshore
- BLDC controller
- Failsafe option
- Electrical position transmitter



DN	Differential pressure in bar									
	1.00	5.01	7.01	10.01	13.01	20.01	25.01	33.01	40.01	46.01
	5.00	7.00	10.00	13.00	20.00	25.00	33.00	40.00	46.01	50.00
10	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	B	B
32	A	A	A	A	A	A	B	B	B	B
40	A	A	A	A	A	B	B	B	C	C
50	A	A	A	A	B	B	C	C	C	-
65	A	A	A	B	C	C	-	-	-	-
80	B	B	B	C	-	-	-	-	-	-
100	B	B	C	-	-	-	-	-	-	-

Code in Table	Part No.	Actuator
A	27100.0030.*02800	
B	27100.0060.*04500	
C	27100.0100.*09000	



Type 27100		Technical Data		
Part No.	Actuator:	.0030.*02800	.0060.*04500	.0100.*09000
Diameter	M	177	177	177
Diameter	M1	262	262	262
Operational force	kN	2.8	6.0	10.0
Operational speed	mm/s	0.28	0.45	0.90
Power consumption	VA	12 (10VADC)	46 (18VADC)	81 (41VADC)
Cable glands		4x M20	4x M20	4x M20
Height	H	327	393	393
Height	H1	233	233	233
Height	h	120	120	120
Weight	ca. kg	4.5	6.7	6.7
Stroke	mm	40	40	40

Dimensions in mm.

Edition 2024-01

Actuated Valves and Actuators

Type 27511 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - air to open, **spring to close**

maximum air pressure for operation 6.0 bar g

Actuator coating outside - Epoxy resin

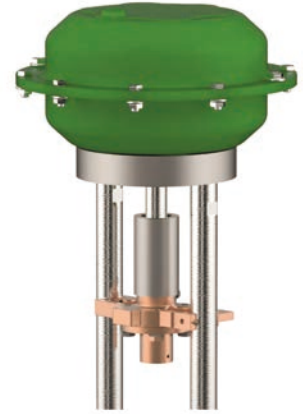
Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

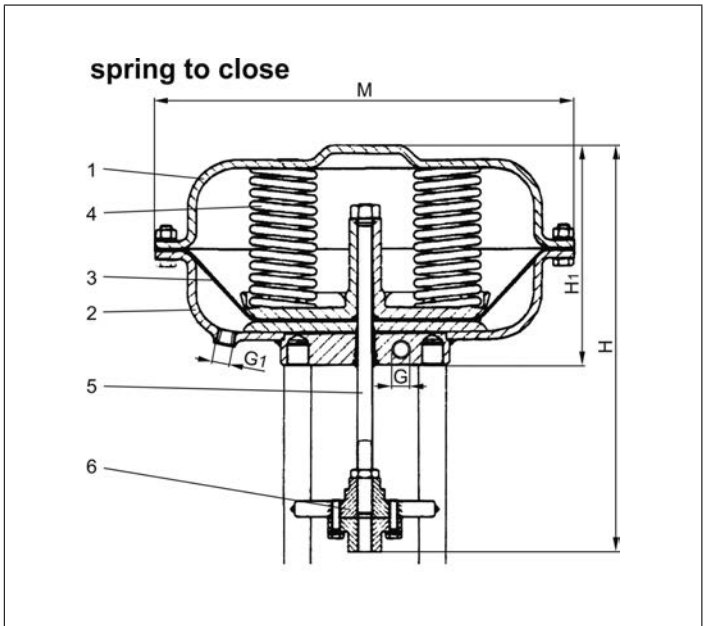
DN	Differential pressure in bar														
	1.0	3.1	4.1	7.1	10.1	11.1	15.1	18.1	20.1	22.1	30.1	33.1	35.1		
	3.0	4.0	7.0	10.0	11.0	15.0	18.0	20.0	22.0	30.0	33.0	35.0	50.0		
10	A	A	A	A	A	A	A	A	A	A	A	A	A		
15	A	A	A	A	A	A	A	A	A	A	A	A	A		
20	A	A	A	A	A	A	A	A	A	A	B	B	B		
25	A	A	A	A	A	A	A	A	B	B	B	B	B		
32	A	A	A	A	A	B	B	B	B	B	B	B	C		
40	B	B	B	B	B	B	B	B	C	C	C	C	C		
50	B	B	B	B	B	B	C	C	C	C	C	C	D		
65	B	B	B	C	C	C	C	D	E	E	E	F	F		
80	B	B	C	C	D	E	E	E	E	F	F	F	G		
100	B	C	D	E	E	F	F	F	F	G	o.r. - on request				
150	D	E	F	G	o.r. - on request										



The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
A	27511.15A6.3SPO	
B	27511.35B6.6GPO	
C	27511.60A6.6GPO	
D	27511.60C6.7GPO	
E	27511.75B6.3DPO	
F	27511.75B6.5DPO	
G	27511.75B6.7DPO	



Materials	DIN EN	ASTM
1 Body	1.0333	A 619 Grade 1008
2 Body	1.0333	A 619 Grade 1008
3 Diaphragm	NBR	
4 Springs	1.1200	A 576 Grade 1045
5 Actuator stem	1.4301	A 276 Grade 304
6 Coupling	CC333G	B 148 UNS C95800

Type 27511		Technical data						
Part No.	Actuator	27511						
		.15A6.3SPO	.35B6.6GPO	.60A6.6GPO	.60C6.7GPO	.75B6.3DPO	.75B6.5DPO	.75B6.7DPO
Diameter Actuator	M	162	210	310	310	430	430	430
Height	H	256	276	309	352	353	353	353
Height	H1	116	136	166	186	234	234	234
Thread	G	G1/8" with Ermeto-Fitting L8						
Thread	G1	-	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	120	280	530	530	1000	1000	1000
Spring range	bar	0.9 - 2.0	0.8 - 3.0	0.8 - 2.8	0.7 - 3.0	0.7 - 2.1	1.2 - 3.4	1.6 - 4.7
Minimum air pressure	bar	2.2	3.2	3.0	3.2	2.3	3.6	4.9
Regulating lift	mm	20	35	40	60	60	60	60
Weight	ca. kg	3.0	5.0	12.5	14.0	37.0	39.0	41.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27511 - Pneumatic Actuator - Control Valve



Pneumatic Actuators for Control Valves

Actuator - air to open, **spring to close**

maximum air pressure for operation 6.0 bar g

Actuator coating outside - Epoxy resin

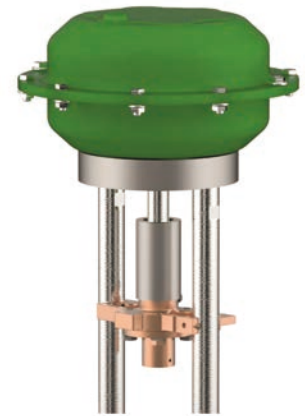
Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar															
	1.0	2.1	4.1	6.1	8.1	10.1	12.1	15.1	17.1	19.1	22.1	25.1	29.1	35.1	39.1	42.1
	2.0	4.0	6.0	8.0	10.0	12.0	15.0	17.0	19.0	22.0	25.0	29.0	35.0	39.0	42.0	50.0
10	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
25	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	C
32	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C
40	B	B	B	B	B	B	B	C	C	C	C	C	C	C	D	D
50	B	B	B	B	B	C	C	C	C	C	C	D	D	E	E	E
65	C	C	C	C	C	C	D	E	E	E	E	E	F	F	F	G
80	C	C	C	D	E	E	E	E	F	F	F	F	G	G		o.r.
100	C	C	D	E	E	F	F	F	F	G	G					o.r. - on request
150	D	E	F	F	G											o.r. - on request

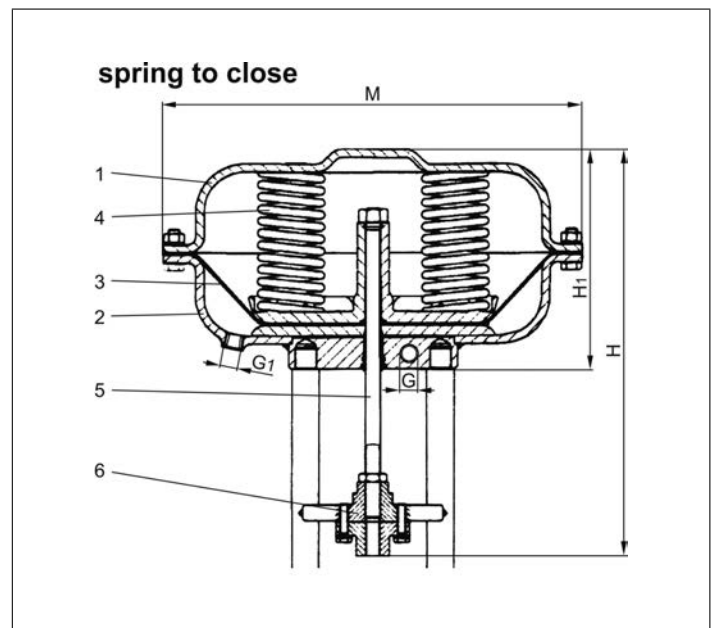


The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
A	27511.15A6.3SPO	
B	27511.35B6.6GPO	
C	27511.60A6.6GPO	
D	27511.60C6.7GPO	
E	27511.75B6.3DPO	
F	27511.75B6.5DPO	
G	27511.75B6.7DPO	

Materials	DIN EN	ASTM
1 Body	1.0333	A 619 Grade 1008
2 Body	1.0333	A 619 Grade 1008
3 Diaphragm	NBR	
4 Springs	1.1200	A 576 Grade 1045
5 Actuator stem	1.4301	A 276 Grade 304
6 Coupling	CC333G	B 148 UNS C95800



Type 27511		Technical data						
Part No.	Actuator	27511						
		.15A6.3SPO	.35B6.6GPO	.60A6.6GPO	.60C6.7GPO	.75B6.3DPO	.75B6.5DPO	.75B6.7DPO
Diameter Actuator	M	162	210	310	310	430	430	430
Height	H	256	276	309	352	353	353	353
Height	H1	116	136	166	186	234	234	234
Thread	G	G1/8" with Ermeto-Fitting L8	-	-	-	-	-	-
Thread	G1	-	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	120	280	530	530	1000	1000	1000
Spring range	bar	0.9 - 2.0	0.8 - 3.0	0.8 - 2.8	0.7 - 3.0	0.7 - 2.1	1.2 - 3.4	1.6 - 4.7
Minimum air pressure	bar	2.2	3.2	3.0	3.2	2.3	3.6	4.9
Regulating lift	mm	20	35	40	60	60	60	60
Weight	ca. kg	3.0	5.0	12.5	14.0	37.0	39.0	41.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27512 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - **spring to open**, air to close
 maximum air pressure for operation 6.0 bar g
 Actuator coating outside - Epoxy resin
 Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar											
	1.0	5.1	7.1	14.1	17.1	19.1	22.1	26.1	29.1	35.1	37.1	45.1
	5.0	7.0	14.0	17.0	19.0	22.0	26.0	29.0	35.0	37.0	45.0	50.0
10	A	A	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	A	A	A
32	A	A	A	A	A	A	A	A	A	B	C	C
40	A	A	A	A	A	A	A	B	C	C	C	C
50	A	A	A	A	B	C	C	C	C	C	C	C
65	B	B	B	C	C	C	C	C	C	C	D	E
80	B	B	C	C	C	C	D	E	E	E	E	E
100	B	C	C	D	E	E	E	E	E	E	E	E
150	D	E	E	E	E	E	o.r. - on request					

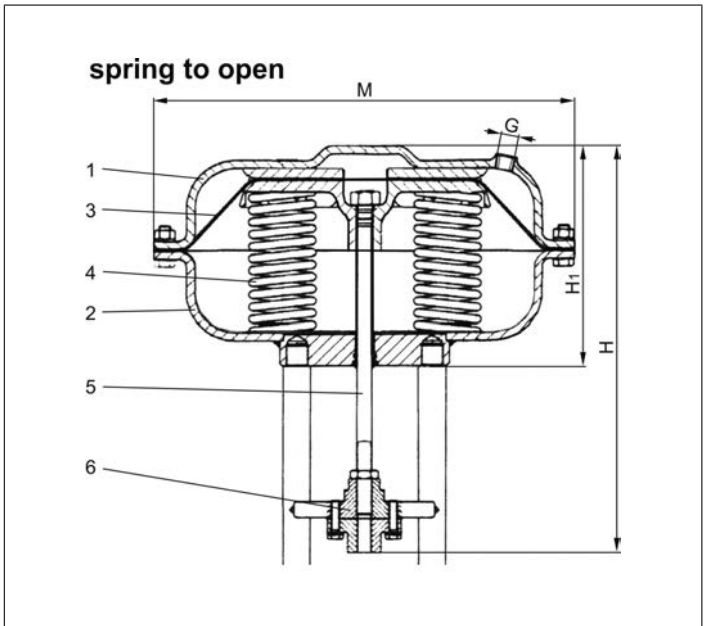


The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
A	27512.15A6.3SPS	
B	27512.35B6.6GPS	
C	27512.60A6.6GPS	
D	27512.60C6.7GPS	
E	27512.75B6.2SPS	

Materials	DIN EN	ASTM
1 Body	1.0333	A 619 Grade 1008
2 Body	1.0333	A 619 Grade 1008
3 Diaphragm	NBR	
4 Springs	1.1200	A 576 Grade 1045
5 Actuator stem	1.4301	A 276 Grade 304
6 Coupling	CC333G	B 148 UNS C95800



Type 27512		Technical data				
Part No. Actuator		27512				
		.15A6.3SPS	.35B6.6GPS	.60A6.6GPS	.60C6.7GPS	.75B6.2SPS
Diameter Actuator	M	162	210	310	310	430
Height	H	256	276	309	352	353
Height	H1	116	136	166	186	234
Thread	G	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	120	280	530	530	1000
Spring range	bar	0.9 - 2.0	0.8 - 3.0	0.8 - 2.8	0.7 - 3.0	0.3 - 0.9
Minimum air pressure	bar	6.0	6.0	6.0	6.0	6.0
Regulating lift	mm	20	35	40	60	60
Weight	ca. kg	3.0	5.0	12.5	14.0	37.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27512 - Pneumatic Actuator - Control Valve



Pneumatic Actuators for Control Valves

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar g

Actuator coating outside - Epoxy resin

Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar									
	1.0	5.1	13.1	15.1	21.1	23.1	29.1	34.1	37.1	
	5.0	13.0	15.0	21.0	23.0	29.0	34.0	37.0	50.0	
10	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	A
32	B	B	B	B	B	B	B	B	B	C
40	B	B	B	B	B	B	B	C	C	
50	B	B	B	B	C	C	C	C	C	
65	C	C	C	C	C	C	C	E	E	
80	C	C	C	C	D	E	E	E	E	
100	C	C	D	E	E	E	E	E	E	
150	D	E	E	E	E					o.r. - on request

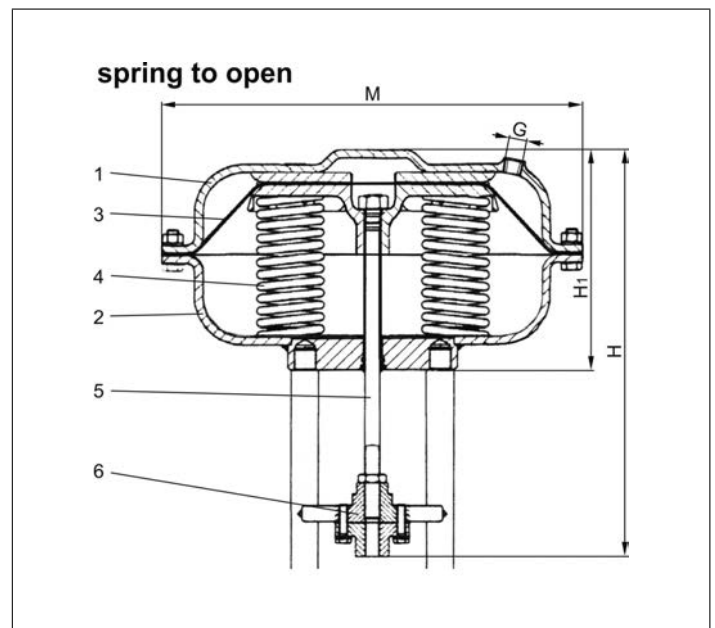


The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
A	27512.15A6.3SPS	
B	27512.35B6.6GPS	
C	27512.60A6.6GPS	
D	27512.60C6.7GPS	
E	27512.75B6.2SPS	

Materials	DIN EN	ASTM
1 Body	1.0333	A 619 Grade 1008
2 Body	1.0333	A 619 Grade 1008
3 Diaphragm	NBR	
4 Springs	1.1200	A 576 Grade 1045
5 Actuator stem	1.4301	A 276 Grade 304
6 Coupling	CC333G	B 148 UNS C95800



Type 27512		Technical data				
Part No. Actuator		27512				
		.15A6.3SPS	.35B6.6GPS	.60A6.6GPS	.60C6.7GPS	.75B6.2SPS
Diameter Actuator	M	162	210	310	310	430
Height	H	256	276	309	352	353
Height	H1	116	136	166	186	234
Thread	G	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	120	280	530	530	1000
Spring range	bar	0.9 - 2.0	0.8 - 3.0	0.8 - 2.8	0.7 - 3.0	0.3 - 0.9
Minimum air pressure*	bar	6.0	6.0	6.0	6.0	6.0
Regulating lift	mm	20	35	40	60	60
Weight	ca. kg	3.0	5.0	12.5	14.0	37.0

Dimensions in mm. * for maximum differential pressure

Actuated Valves and Actuators

Type 27514 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - **spring to close**, air to open

maximum air pressure for operation 6.0 bar (Tripel - Actuator: maximum air pressure 5 bar)

Actuator coating: Delta Seal GZ (silver-grey)

Corrosion-protection class C5-M acc. to DIN EN ISO 12944

Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -40°C / -40°F (233K),

Actuator **J** -20°C / -4°F (253K) up to +100°C / 212°F (373K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar											
	1.0	6.1	10.1	12.1	14.1	18.1	26.1	29.1	33.1	37.1	45.1	48.1
	-	-	-	-	-	-	-	-	-	-	-	-
	6.0	10.0	12.0	14.0	18.0	26.0	29.0	33.0	37.0	45.0	48.0	50.0
10	A	A	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	A	A	B	B	B
32	A	A	A	A	A	A	B	B	B	C	C	C
40	A	A	A	A	B	B	C	C	C	C	D	D
50	A	A	B	B	C	C	D	D	D	D	D	D
65	D	D	D	D	D	D	D	E	E	E	F	F
80	D	D	D	D	E	E	E	E	F	F	F	F
100	D	D	E	E	E	F	F	F	G	G	G	G
150	E	F	F	G	G	H	H	-	-	-	-	-
200	I	I	I	-	-	-	-	-	-	-	-	-

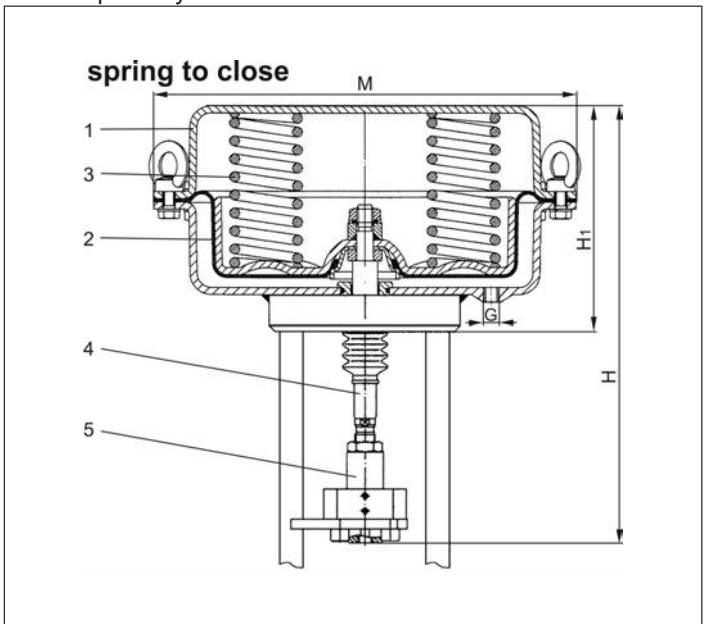


The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
A	27514.DP30.2022	
B	27514.DP32.2008	
C	27514.DP32.2020	
D	27514.DP33.3020	
E	27514.DP34.5015	
F	27514.DP34.5020	
G	27514.DP34.T0PO	(Tandem - Actuator)
H	27514.DP34.TRPO	(Triple - Actuator)
I	27514.DP34.TRP1	(DN200 Triple - Actuator)

Materials	DIN EN	ASTM
1 Body	1.0335	A 622 Grade 1008
2 Diaphragm	NBR + tissue	
3 Springs	1.4310	A 313 Grade 301
4 Actuator stem	1.4571	A 276 Grade 316Ti
5 Coupling	1.4571	A 276 Grade 316Ti



Type 27514		Technical Data								
Part No.	Actuator	27514								
		.DP30 .2022	.DP32 .2008	.DP32 .2020	.DP33 .3020	.DP34 .5015	.DP34 .5020	.DP34 .T0PO	.DP34 .TRPO	.DP34 .TRP1
Diameter Actuator	M	168	250	250	300	405	405	405	405	405
Height	H	ca. 244	ca. 240	ca. 240	ca. 300	ca. 375	ca. 375	ca. 635	ca. 884	ca. 884
Height	H1	122	124	124	166	228	228	450	672	672
Thread	G	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 3/8"	G 3/8"	G 3/8"	G 1/2"	G 1/2"
Diaphragm area	cm ²	80	250	250	400	800	800	1600 (2x800)	2400 (3x800)	2400 (3x800)
Spring range	bar	2.2 - 4.5	0.8 - 2.4	2.0 - 3.8	2.0 - 4.0	1.5 - 3.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0
Minimum air pressure	bar	4.8	2.7	3.6	4.5	3.3	4.5	4.5	4.5	4.5
Regulating lift	mm	20	20	20	30	50	50	50	65	65
Weight	ca. kg	5.0	9.0	9.0	15.0	45.0	45.0	116.0	150.0	152.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27514 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off) including emergency handwheel

Actuator - **spring to close**, air to open

maximum air pressure for operation 6.0 bar (Tripel - Actuator: maximum air pressure 5 bar)

Actuator coating: Delta Seal GZ (silver-grey)

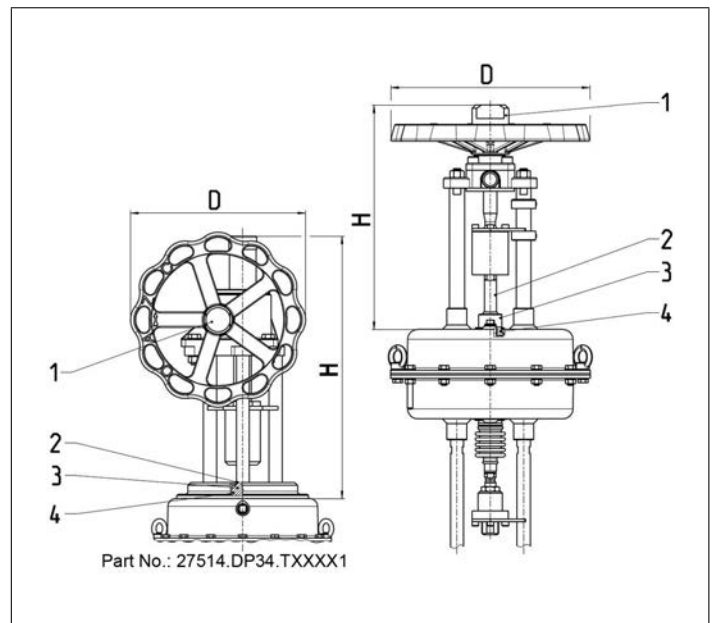
Corrosion-protection class C5-M acc. to DIN EN ISO 12944

Part No. 27514.DP3X.XXXXXX

Please find the differential pressure table and the permissible ambient temperatures listed in the standard data sheet



Materials	DIN EN	ASTM
1 Cap	1.4571	A 276 Grade 316Ti
2 Stem extension	1.4571	A 276 Grade 316Ti
3 Stem guide	1.4571	A 276 Grade 316Ti
4 O-ring	NBR	



Type 27514 Part No. Actuator	Technical Data										
	27514.DP3X.XXXXXX										
Dimension code	*X.XXX XXX	0.202 2H1	2.200 8H1	2.202 0H1	3.302 0H1	4.501 5H1	4.502 0H1	4.T0P 1H1	4.T0P 0H1	4.TRP 1H1	4.TRP 0H1
Diameter Handwheel	D	225	225	225	300	397	397	400	400	400	400
Height	H	284	284	284	297	458	458	613	613	613	613
Weight	ca. kg	10.0	14.0	14.0	20.0	62.0	62.0	157.0	157.0	191.0	191.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27514 - Pneumatic Actuator - Control Valve



Pneumatic Actuators for Control Valves

Actuator - **spring to close**, air to open

maximum air pressure for operation 6.0 bar (Tripel - Actuator: maximum air pressure 5 bar)

Actuator coating: Delta Seal GZ (silver-grey)

Corrosion-protection class C5-M acc. to DIN EN ISO 12944

Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -40°C / -40°F (233K) up to +100°C / 212°F (373K)



Overview - required actuator sizes for differential pressures

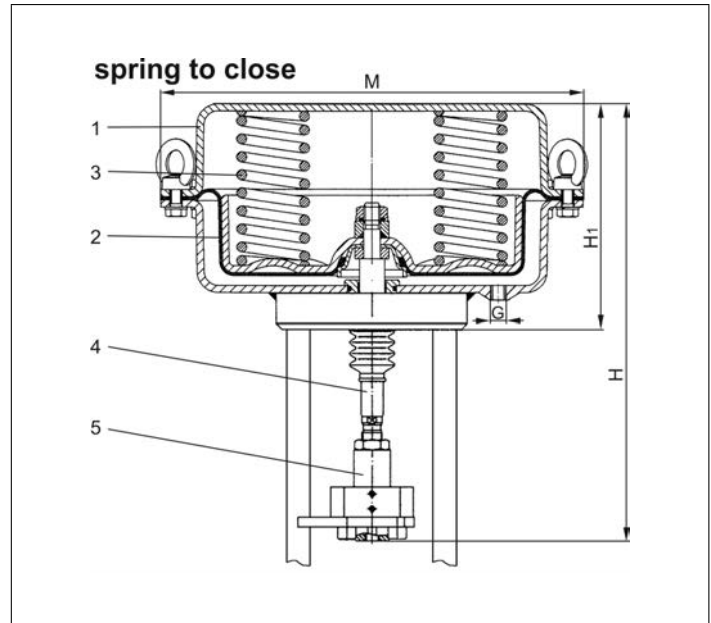
DN	Differential pressure in bar									
	1.0	6.1	10.1	14.1	17.1	25.1	28.1	35.1	40.1	46.1
	-	-	-	-	-	-	-	-	-	-
	6.0	10.0	14.0	17.0	25.0	28.0	35.0	40.0	46.0	50.0
10	A	A	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	B	B	C
25	A	A	A	A	A	B	C	C	C	C
32	D	D	D	D	D	D	D	D	D	D
40	D	D	D	D	D	D	D	D	D	D
50	D	D	D	D	D	D	D	D	D	D
65	E	E	E	E	E	E	E	E	F	F
80	E	E	E	E	E	F	F	o.r.	o.r.	o.r.
100	E	E	E	E	F	G	G	G	G	o.r.
150	E	F	G	H	H	o.r. - on request				

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No. Actuator
A	27514.DP30.2O22
B	27514.DP32.2O08
C	27514.DP32.2O20
D	27514.DP33.3O20
E	27514.DP34.5O15
F	27514.DP34.5O20
G	27514.DP34.TOPO (Tandem - Actuator)
H	27514.DP34.TRPO (Triple - Actuator)

Materials	DIN EN	ASTM
1 Body	1.0335	A 622 Grade 1008
2 Diaphragm	NBR + tissue	
3 Springs	1.4310	A 313 Grade 301
4 Actuator stem	1.4571	A 276 Grade 316Ti
5 Coupling	1.4571	A 276 Grade 316Ti



Type 27514 Part No. Actuator	Technical Data	27514								
		.DP30.2O22	.DP32.2O08	.DP32.2O20	.DP33.3O20	.DP34.5O15	.DP34.5O20	.DP34.TOPO (Tandem)	.DP34.TRPO (Triple)	
Diameter Actuator	M	168	250	250	300	405	405	405	405	
Height	H	ca. 244	ca. 240	ca. 240	ca. 300	ca. 375	ca. 375	ca. 635	ca. 884	
Height	H1	122	124	124	166	228	228	450	672	
Thread	G	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 3/8"	G 3/8"	G 3/8"	G 1/2"	
Diaphragm area	cm ²	80	250	250	400	800	800	1600 (2x800)	2400 (3x800)	
Spring range	bar	2.2 - 4.5	0.8 - 2.4	2.0 - 3.8	2.0 - 4.0	1.5 - 3.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	
Minimum air pressure	bar	4.8	2.7	3.6	4.5	3.3	4.5	4.5	4.5	
Regulating lift	mm	20	20	20	30	50	50	50	65	
Weight	ca. kg	5.0	9.0	9.0	15.0	45.0	45.0	116.0	150.0	

Dimensions in mm.

Actuated Valves and Actuators

Type 27514 - Pneumatic Actuator - Globe Valve (On/off and Control Valve)



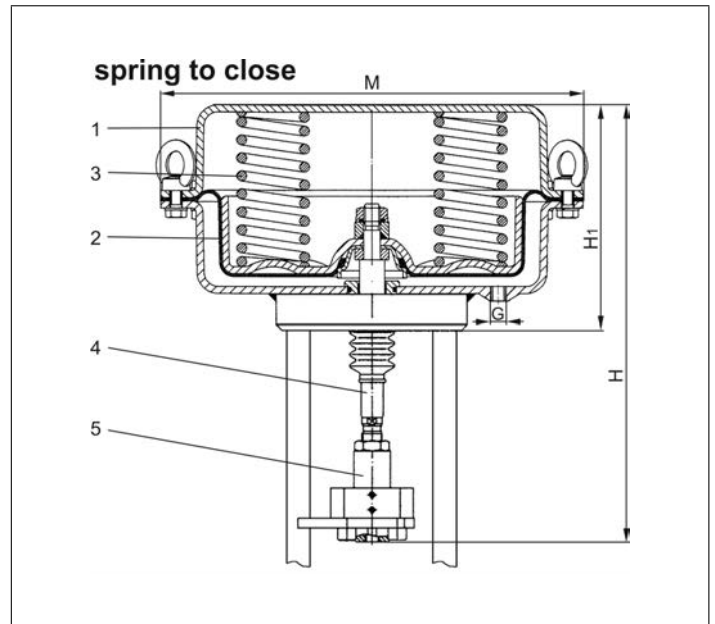
Pneumatic Actuators for Type 11C01 - Globe Valve FullX

Actuator - **spring to close**, air to open
 maximum air pressure for operation 6.0 bar
 Actuator coating: Delta Seal GZ (silver-grey)
 Corrosion-protection class C5-M acc. to DIN EN ISO 12944
 Available options - on request only:
 · Pneumatic actuator with override handwheel

Ambient temperature limit: -40°C / -40°F (233K) up to +100°C / 212°F (373K)



Materials	DIN EN	ASTM
1 Body	1.0335	A 622 Grade 1008
2 Diaphragm	NBR + tissue	
3 Springs	1.4310	A 313 Grade 301
4 Actuator stem	1.4571	A 276 Grade 316Ti
5 Coupling	1.4571	A 276 Grade 316Ti



Type 27514		Technical Data								
Part No.	Actuator	27514								
		.DP30 .2022	.DP32 .2008	.DP32 .2020	.DP33 .3020	.DP34 .5015	.DP34 .5020	.DP34 .T0PO	.DP34 .TRPO	.DP34 .TRP1
Diameter Actuator	M	168	250	250	300	405	405	405	405	405
Height	H	ca. 244	ca. 240	ca. 240	ca. 300	ca. 375	ca. 375	ca. 635	ca. 884	ca. 884
Height	H1	122	124	124	166	228	228	450	672	672
Thread	G	G 1/4"	G 1/4"	G 1/4"	G 1/4"	G 3/8"	G 3/8"	G 3/8"	G 1/2"	G 1/2"
Diaphragm area	cm ²	80	250	250	400	800	800	1600 (2x800)	2400 (3x800)	2400 (3x800)
Spring range	bar	2.2 - 4.5	0.8 - 2.4	2.0 - 3.8	2.0 - 4.0	1.5 - 3.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0	2.0 - 4.0
Minimum air pressure	bar	4.8	2.7	3.6	4.5	3.3	4.5	4.5	4.5	4.5
Regulating lift	mm	20	20	20	30	50	50	50	65	65
Weight	ca. kg	5.0	9.0	9.0	15.0	45.0	45.0	116.0	150.0	152.0

Dimensions in mm.

Edition 2024-01

Actuated Valves and Actuators

Type 27514 - Pneumatic Actuator - Globe Valve (On/off and Control Valve)



Overview - required actuator sizes for differential pressures

DN Body**		Differential pressure in bar									
		1,0 - 5,9	6,0 - 9,9	10,0 - 15,9	16,0 - 29,9	30,0 - 35,9	36,0 - 37,9	38,0 - 43,9	44,0 - 49,9	50,0 - 53,9	54,0 - 63,0
10	S/A/Y	A	A	A	A	A	A	A	A	A	A
15	S/A/Y	A	A	A	A	A	A	A	A	A	A
20	S/A/Y	A	A	A	A	A	B	B	B	B	C
25	S/A/Y	A	A	A	A	A	B	B	B	B	C
32	S	B	B	C	C	D	D	D	D	D	D
32	A/Y	E	E	E	E	E	E	E	E	E	E
40	S	B	B	C	C	D	D	D	D	D	D
40	A/Y	E	E	E	E	E	E	E	E	E	E
50	S	B	C	C	D	D	D	D	D	E	E
50	A/Y	E	E	E	E	E	E	E	E	E	E
10*	S/A/Y	A	A	A	A	A	A	A	B	B	B
15*	S/A/Y	A	A	A	A	A	A	A	B	B	B
20*	S/A/Y	A	A	A	A	A	A	B	B	B	B
25*	S/A/Y	A	A	A	A	A	A	B	B	B	B
32*	S/A/Y	B	B	C	C	D	D	D	D	D	D
40*	S/A/Y	B	B	C	C	D	D	D	D	D	D
50*	S/A/Y	B	C	C	D	D	D	D	D	E	E

* with bellows or control version or throttle version, ** S = Straight body, A = Angle type, Y = Y type

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part-No. Actuator
A	27514.DP30.2O22
B	27514.DP32.2O08
C	27514.DP32.2O20
D	27514.DP33.3O20
E	27514.DP34.5O15

Actuated Valves and Actuators

Type 27515 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar

Actuator coating: Delta Seal GZ (silver-grey)

Corrosion-protection class C5-M acc. to DIN EN ISO 12944

Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -40°C / -40°F (233K) up to +100°C / 212°F (373K)



Overview - required actuator sizes for differential pressures

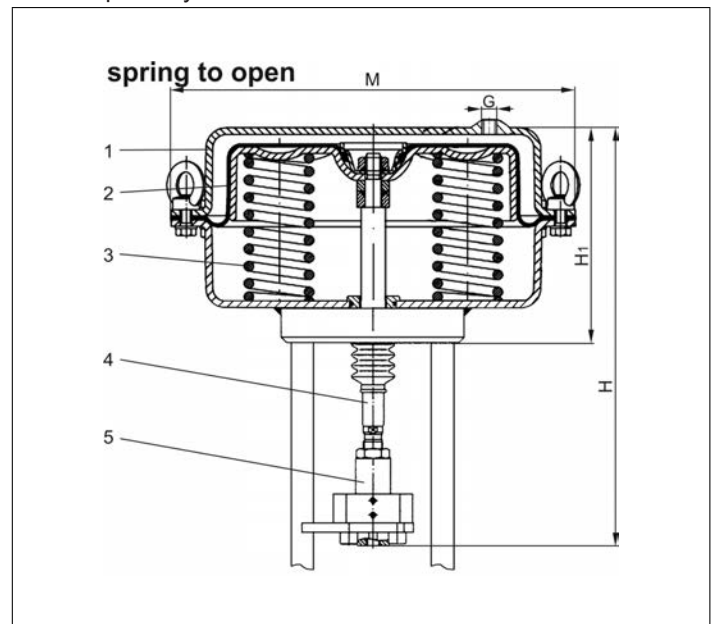
DN	Differential pressure in bar							
	1.0	13.1	18.1	20.1	25.1	35.1	45.1	
	-	-	-	-	-	-	-	-
	13.0	18.0	20.0	25.0	35.0	45.0	50.0	
10	A	A	A	A	A	A	A	A
15	A	A	A	A	A	A	A	A
20	A	A	A	A	A	A	A	A
25	A	A	A	A	A	A	A	B
32	A	A	A	A	B	B	B	B
40	A	A	A	B	B	B	B	B
50	A	B	B	B	B	B	B	B
65	B	B	B	B	B	C	C	C
80	B	B	B	C	C	D	D	D
100	B	C	C	D	D	D	D	o.r.
150	D	D	D	o.r. - on request				

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No. Actuator
A	27515.DP30.2S06
B	27515.DP32.3S02
C	27515.DP33.3S02
D	27515.DP34.5S02

Materials	DIN EN	ASTM
1 Body	1.0335	A 622 Grade 1008
2 Diaphragm	NBR + tissue	
3 Springs	1.4310	A 313 Grade 301
4 Actuator stem	1.4571	A 276 Grade 316Ti
5 Coupling	1.4571	A 276 Grade 316Ti



Type 27515		Technical data			
Part No. Actuator	27515				
	.DP30.2S06	.DP32.3S02	.DP33.3S02	.DP34.5S02	
Diameter Actuator	M	168	250	300	405
Height	H	ca. 244	ca. 240	ca. 300	ca. 375
Height	H1	122	124	166	228
Thread	G	G 1/4"	G 1/4"	G 1/4"	G 3/8"
Diaphragm area	cm ²	80	250	400	800
Spring range	bar	0.6 - 1.5	0.2 - 1.0	0.2 - 1.0	0.2 - 1.0
Minimum air pressure	bar	6.0	6.0	6.0	6.0
Regulating lift	mm	20	30	30	50
Weight	ca. kg	5.0	9.0	15.0	45.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27515 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off) including emergency handwheel

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar

Actuator coating: Delta Seal GZ (silver-grey)

Corrosion-protection class C5-M acc. to DIN EN ISO 12944

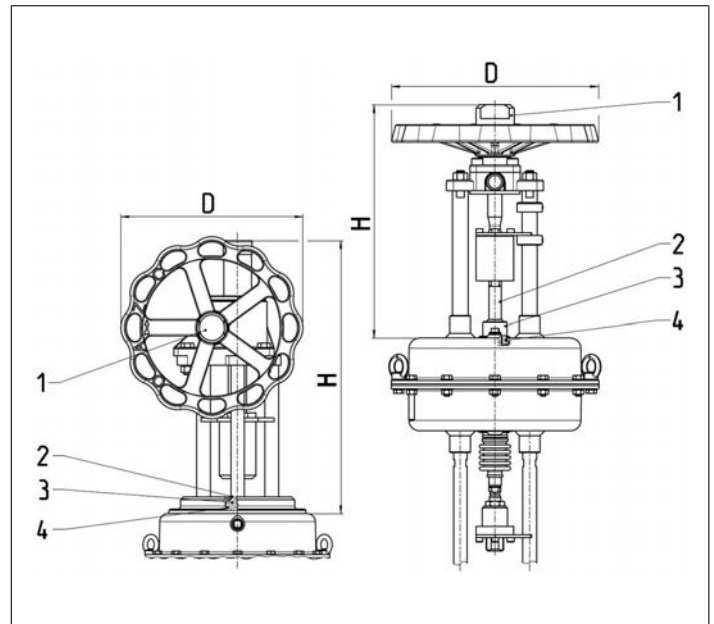
Part No. 27515.DP3X.XXXXXX

Please find the differential pressure table and the permissible ambient temperatures listed in the standard data sheet



XD

Materials	DIN EN	ASTM
1 Cap	1.4571	A 276 Grade 316Ti
2 Stem extension	1.4571	A 276 Grade 316Ti
3 Stem guide	1.4571	A 276 Grade 316Ti
4 O-ring	NBR	



Type 27515	Technical data				
Part No. Actuator	27515.DP3X.XXXXXX				
Dimension code	*X.XXX XXX	0.2S0 6H1	2.3S0 2H1	3.3S0 2H1	4.5S0 2H1
Diameter Handwheel	D	225	225	300	397
Height	H	284	284	297	458
Weight	ca. kg	10.0	14.0	20.0	62.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27515 - Pneumatic Actuator - Control Valve



Pneumatic Actuators for Control Valves

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar

Actuator coating: Delta Seal GZ (silver-grey)

Corrosion-protection class C5-M acc. to DIN EN ISO 12944

Available options - on request only:

- Pneumatic actuator with override handwheel

Ambient temperature limit: -40°C / -40°F (233K) up to +100°C / 212°F (373K)



Overview - required actuator sizes for differential pressures

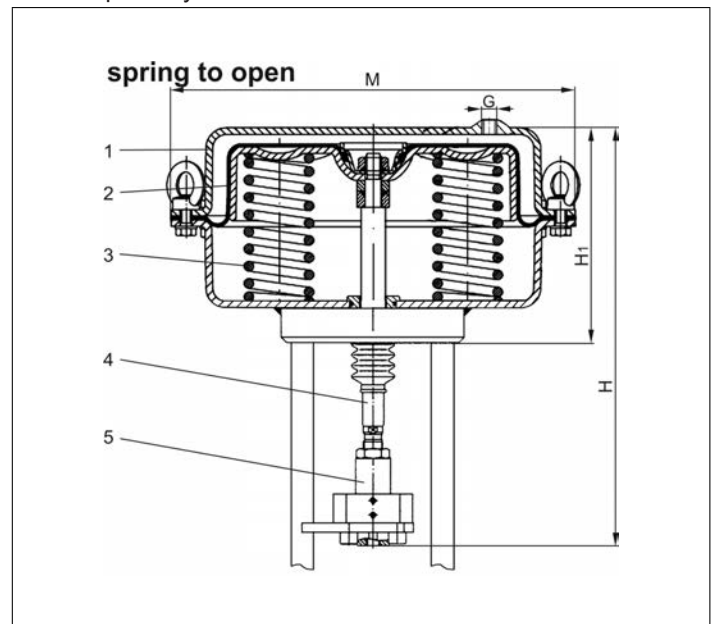
DN	Differential pressure in bar		
	1.0	21.1	45.1
	-	-	-
	21.0	45.0	50.0
10	A	A	A
15	A	A	A
20	A	A	A
25	A	A	B
32	B	B	B
40	B	B	B
50	B	B	B
65	D	D	D
80	D	D	D
100	D	D	o.r.
150	D	o.r. - on request	

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No. Actuator
A	27515.DP30.2S06
B	27515.DP32.3S02
C	27515.DP33.3S02
D	27515.DP34.5S02

Materials	DIN EN	ASTM
1 Body	1.0335	A 622 Grade 1008
2 Diaphragm	NBR + tissue	
3 Springs	1.4310	A 313 Grade 301
4 Actuator stem	1.4571	A 276 Grade 316Ti
5 Coupling	1.4571	A 276 Grade 316Ti



Type 27515	Technical data			
Part No. Actuator	27515			
	.DP30.2S06	.DP32.3S02	.DP33.3S02	.DP34.5S02
Diameter Actuator	M 168	250	300	405
Height	H ca. 244	ca. 240	ca. 300	ca. 375
Height	H1 122	124	166	228
Thread	G G 1/4"	G 1/4"	G 1/4"	G 3/8"
Diaphragm area	cm ² 80	250	400	800
Spring range	bar 0.6 - 1.5	0.2 - 1.0	0.2 - 1.0	0.2 - 1.0
Minimum air pressure	bar 6.0	6.0	6.0	6.0
Regulating lift	mm 20	30	30	50
Weight	ca. kg 5.0	9.0	15.0	45.0

Dimensions in mm.

Actuated Valves and Actuators

Type 27553 - Pneumatic Actuator - Globe Valve (On/off and Control Valve)



Pneumatic Actuators for Type 11C01 - Globe Valve FULLX

Actuator - **spring to close**, air to open

Air pressure for operation: min. 6 bar - max. 10 bar

Medium: Air

Silencer: bronze

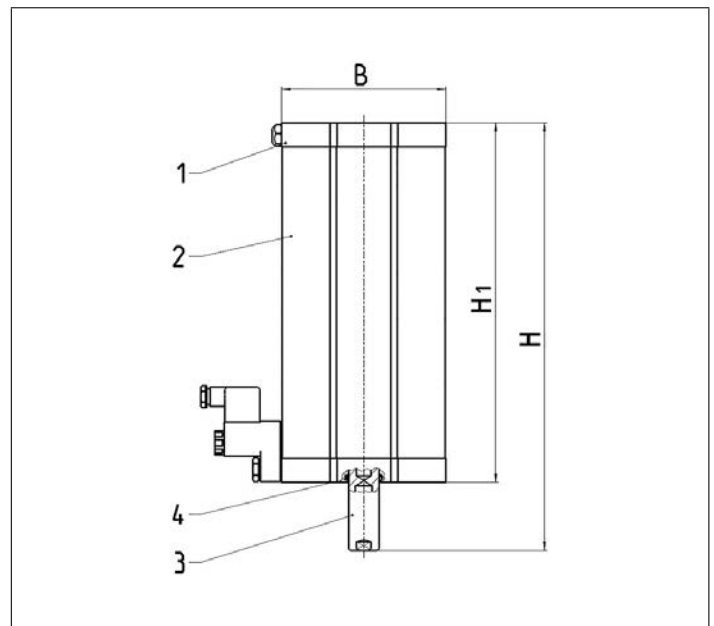
Incl. accessories:

- Inductive Proximity Switches Reed contact: 5-30V DC
3m cable
- 3/2-way solenoid valve: connection G1/8"
24V DC
Normally closed

Ambient temperature limit: -20°C / -4°F (253K) up to +80°C / 176°F (353K)



Materials	DIN EN	ASTM
1 Head/Lid	Aluminium die casting	
2 Body	Aluminium anodised	
3 Actuator stem	1.4305	AISI 303
4 Seals	Polyurethane and NBR	



Type 27553		Technical Data				
Part No.	Actuator	27553				
		.0080 .0025	.0100 .0025	.0125 .0045	.0160 .0045	.0200 .0045
Diameter Actuator	M	95.5	113.5	135	180	220
Height	H	ca. 268	ca. 272	ca. 352	ca. 279	ca. 564
Height	H1	234	237	296	222	507
Thread	G	G 1/8"	G 1/8"	G 1/8"	G 1/8"	G 1/8"
Diaphragm area	cm ²	50	78	123	201	314
Minimum air pressure	bar	6-10	6-10	6-10	6-10	6-10
Regulating lift	mm	20	20	40	40	40
Weight	ca. kg	4.5	6.3	7.5	13.3	40.3

Dimensions in mm.

Actuated Valves and Actuators

Type 27553 - Pneumatic Actuator - Globe Valve (On/off and Control Valve)



Overview - required actuator sizes for differential pressures

with bellows or control pl. or throttling cone

DN	Body	Differential pressure in bar					
		1.0 - 15.9	16.0 - 18.9	19.0 - 25.9	26.0 - 37.9	38.0 - 44.9	45.0 - 63.0
10/15	S/A/Y	A	A	B	B	B	C
20/25	S/A/Y	A	B	B	B	C	C
32/40	S/A/Y	C	C	D	D	D	E
50	S/A/Y	C	C	D	E	E	E

S = Straight body, A = Angle type, Y = Y type

without bellows and with shut-off cone

DN	Body	Differential pressure in bar					
		1.0 - 15.9	16.0 - 18.9	19.0 - 25.9	26.0 - 37.9	38.0 - 44.9	45.0 - 63.0
10/15	S/A/Y	A	A	B	B	B	B
20/25	S/A/Y	A	B	B	C	C	C
32/40	S/A/Y	C	C	C	D	D	E
50	S/A/Y	C	D	D	E	E	E

S = Straight body, A = Angle type, Y = Y type

The differential pressures are based on the flow direction of the valve.
Differential pressures against the flow direction have to be requested separately.

Code in Table	Part-No. Actuator
A	27553.0080.0025
B	27553.0100.0025
C	27553.0125.0045
D	27553.0160.0045
E	27553.0200.0045

Actuated Valves and Actuators

Type 01353 - Actuated Trailervalue



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45)

air pressure for operation 6,0 bar g (maximum 10.0 bar g), push-in connection 8mm

Stainless steel body and topwork,

Actuator - air opens, spring closes

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01353.X.TO**

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01353.X.TO*4

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Further pipe wall thicknesses
- Weather protection hood

Applications:

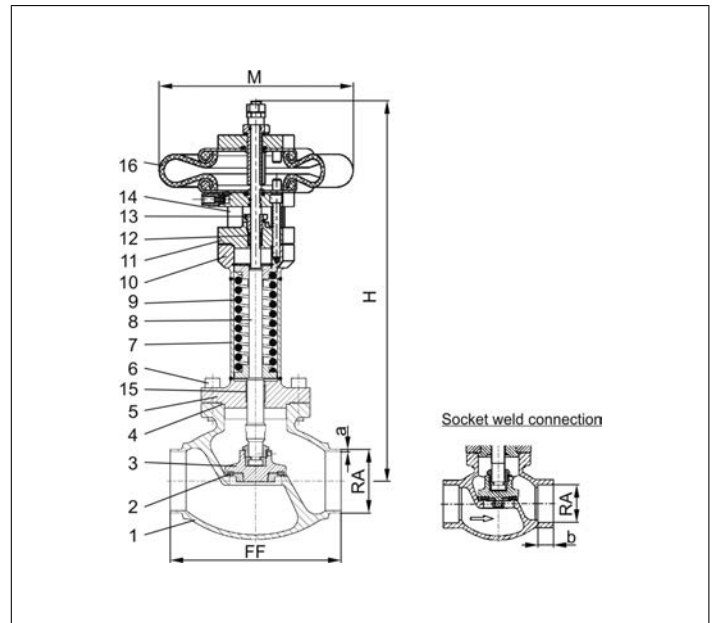
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	PTFE	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4306	A 312 TP 304L
8 Stem	1.4301	A 276 Grade 304
9 Spring	1.4571	A 313 Grade 316Ti
10 Flange	1.4301	A 276 Grade 304
11 Headpiece	1.4301	A 276 Grade 304
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4571	A 276 Grade 316Ti
14 Pillars	1.4301	A 276 Grade 304
15 Bush	CW452K	B 159 UNS C51900
16 Actuator	Rubber	



Type 01353 - Standard design	Technical data									
Nominal size	DN	20	20	25	40	40	50	65	80	
Dimension code	.X.	2021	2026	2533	4042	4048	5060	657x	8088	
Face-to-face dimension	FF	100	100	115	130	130	155	205	245	
Height	H	443	443	444	441	441	420	448	467	
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.4	48.3	60.3	76.1	88.9	
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	42.16	48.26	60.33	73.03	88.90	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	10	10	13	13	13	16	16	16	
Actuator-Ø	M	229	229	229	229	229	229	229	229	
Weight	ca. kg	7.2	7.2	9.1	10.5	10.5	14.5	17.4	22.5	
*Kvs-Value	m ³ /h	4.3	4.3	11.5	22.6	22.6	37.1	71.1	104.0	
*Cv-Value	gal/min	5.0	5.0	13.4	23.9	26.3	43.2	82.9	121.3	
Stroke	mm	10	10	14	14	14	14	22	25	
Δ P max	bar	50	50	50	16	16	10	3	4	
Δ P max with special spring	bar	-	-	-	31	31	18	10	-	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 09343 - Actuated Gate Valve



Cryogenic-Gate Valves with Pneumatic Actuator, PN50 (DN65=PN45)

air pressure for operation 4.0 bar g (maximal 10.0 bar g), push-in connection 8mm

Stainless steel body and topwork,

Actuator - air opens, spring closes

one way tightening (in flow direction),

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266

Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09343.X.T02*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 09343.X.T024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Further pipe wall thicknesses
- Weather protection hood

Applications:

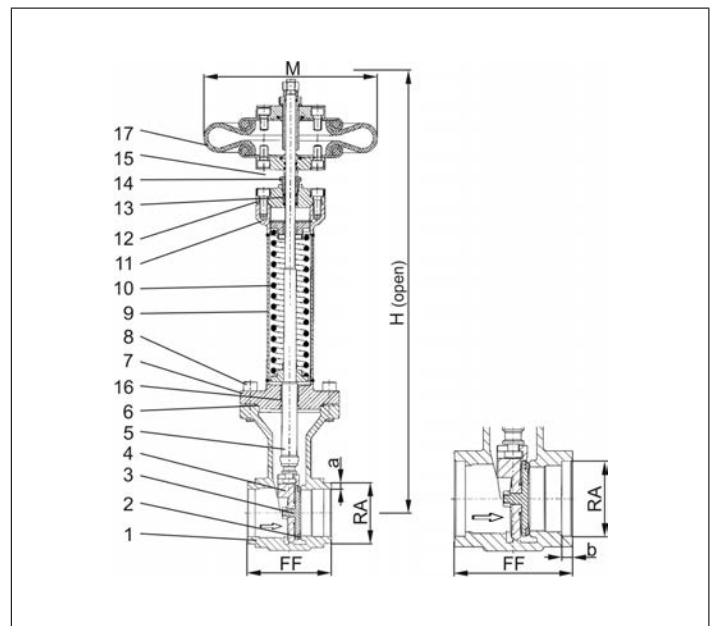
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4308	A 351 CF8
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Spring	1.4571	A 313 Grade 316Ti
11 Flange	1.4301	A 276 Grade 304
12 Headpiece	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Pillars	1.4301	A 276 Grade 304
16 Bush	CW452K	B 159 UNS C51900
17 Actuator	Rubberchuk	



Type 09343 - Standard design	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	2533	4048	5060	657x	8088	0114
Face-to-face dimension	FF	133	133	110	110	110	130
Height	H	500	560	590	630	650	880
Outside pipe-Ø ISO 1127	RA	33.7	48.3	60.3	76.1	88.9	114.3
Wall thickness pipe ISO 1127	a	2.9	2.0	2.0	2.9	3.2	3.2
Outside pipe-Ø ASTM A312	RA	33.4	48.26	60.33	73.03	88.90	114.30
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40					
Socket depth	b	8	13	16	16	16	20
Actuator-Ø	M	229	229	229	229	229	229
Weight	ca. kg	9.9	11.1	13.5	14.9	17.5	30.2
*Kvs-Value	m ³ /h	43	93	125	227	310	792
*Cv-Value	gal/min	51	111	149	264	361	924

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 09443 - Actuated Gate Valve



Cryogenic-Gate Valves with Pneumatic Actuator, PN50

air pressure for operation 4.0 bar g (maximal 10.0 bar g),

Stainless steel body and topwork,

Actuator - air opens, spring closes

one way tightening (in flow direction),

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Working pressure: 5 - 50 bar, Leakage rate A acc. to DIN EN 12266

Working pressure: 0.7 - 4.9 bar, Leakage rate B acc. to DIN EN 12266

Part No. 09443.X.T021

Male thread for union connection

Available options - on request only:

- Weather protection hood

Applications:

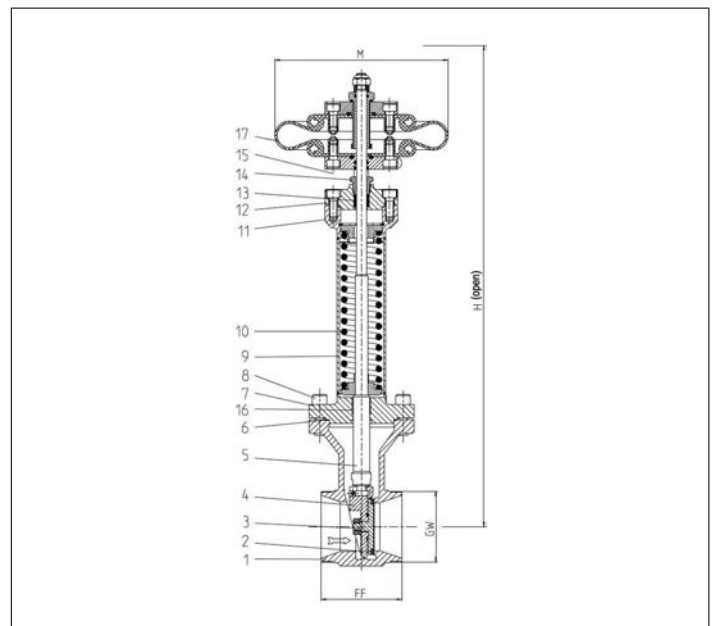
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 159 UNS C51900
4 Wedge	1.4308	A 351 CF8
5 Stem	1.4301	A 276 Grade 304
6 Bonnet gasket	PTFE	
7 Headpiece	1.4301	A 276 Grade 304
8 Bolts	1.4301/A2	A 194 B8
9 Elongation tube	1.4541	A 213 TP 321
10 Spring	1.4571	A 313 Grade 316Ti
11 Flange	1.4301	A 276 Grade 304
12 Headpiece	1.4301	A 276 Grade 304
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4305	A 276 Grade 303
15 Pillars	1.4301	A 276 Grade 304
16 Bush	CW452K	B 159 UNS C51900
17 Actuator	Rubberchuk	



Type 09443 - Standard design	Technical data				
Nominal size	DN	25	40	50	65
Dimension code	.X.	0250	0400	0500	0650
Thread (G- / M-thread)	GW	- / M40x2	G2 / M65x2	G2-1/2 / M78x2	G3 / M88x2
Face-to-face dimension	FF	133	133	110	110
Height	H	500	560	590	630
Actuator-Ø	M	229	229	229	229
Weight	ca. kg	9.9	11.1	13.5	14.9
*Kvs-Value	m ³ /h	43	93	125	227
*Cv-Value	gal/min	51	111	149	264

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 17800 - Actuated Butterfly Valve



Cryogenic Butterfly Valves Buttweld Type, PN16

With pneumatic actuator

Also available in PN10 and PN25

Type test approval acc. to DIN 12567 for LNG use

“ Fire safe ” type test approval acc. to EN ISO 10497

Available options - on request only:

- Further connection types
- Pressure range
- Accessories

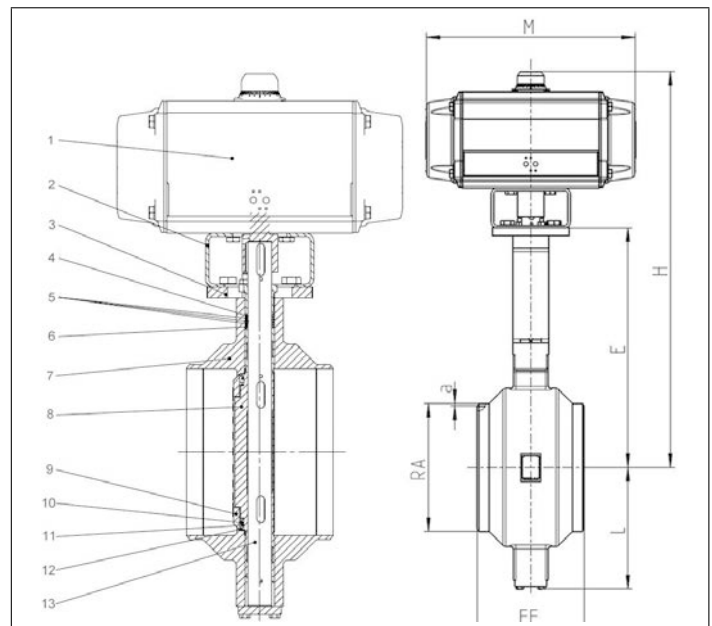


Applications:

Approved for LNG Marine applications. Other applications on request only.

Working temperature: -196°C / -321°F (77K) up to +100°C / +212°F (373K)

Materials	DIN EN	ASTM
1 Actuator	Aluminum Aludur coated	
2 Bracket	1.4404/1.4571	316L/316Ti
3 Flange	1.4404	316L
4 Gland packing	Graphite braid	
5 Gland packing	Graphite	
6 Gland packing	Graphite braid	
7 Body	1.4408	316
8 Disc	1.4408	316
9 Clamp ring	1.4404/1.4571	316L/316Ti
10 Seal	1.4571	316Ti
11 CSI ring	Inconel	
12 CSE ring	Inconel	
13 Shaft	1.4980/1.4571	-/316Ti



Type 17800 - Standard design	Technical data								
Nominal size	DN	80	100	150	200	250	300	350	400
Face-to-face dimension	FF	180	190	210	230	250	270	290	310
Max. Height (depending on PN)	H	695	768	952	1020	1139	1165	1178	1273
Outside pipe-Ø ISO 1127	RA	88.9	114.3	168.3	219.1	273.0	323.9	355.6	406.4
Wall thickness pipe ISO 1127	a	3.2	3.6	4.5	6.3	7.1	8.0	8.0	8.8
Outside pipe-Ø ASTM A312	RA	on request							
Wall thickness pipe ASTM A312	a	on request							
Length	E	428	462	503	540	579	605	625	685
Length	L	129	158	204	241	281	307	333	383
Length (depending on PN)	M	333	423	605	710	876	876	1536	1742
Max. Weight (depending on PN)	ca. kg	31.0	47.0	124.0	170.0	325.0	355.0	613.0	838.0
*Kvs-Value	m ³ /h	118	258	654	1443	2431	3720	5120	7321
*Cv-Value	gal/min	137	300	760	1680	2850	4314	5953	8513

Dimensions in mm. * These figures refer to measurements for the flow direction.

Actuated Valves and Actuators

Type 17800 - Actuated Butterfly Valve, Top Entry



Cryogenic Butterfly Valves Top Entry Butt Weld Type, PN16

With pneumatic actuator

Also available in PN10 and PN25

Type test approval acc. to DIN 12567 for LNG use

“ Fire safe ” type test approval acc. to EN ISO 10497

Available options - on request only:

- Further connection types
- Pressure range
- Accessories

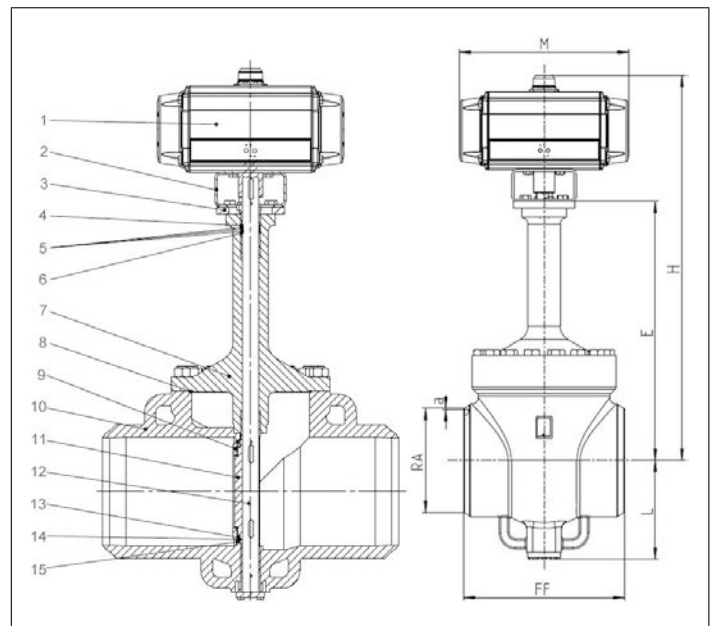


Applications:

Approved for LNG Marine applications. Other applications on request only.

Working temperature: -196°C / -321°F (77K) up to +100°C / +212°F (373K)

Materials	DIN EN	ASTM
1 Actuator	Aluminum Aludur coated	
2 Bracket	1.4404/1.4571	316L/316Ti
3 Flange	1.4404	316L
4 Gland packing	Graphite braid	
5 Gland packing	Graphite	
6 Gland packing	Graphite braid	
7 Topwork	1.4408	316
8 CSI ring	Inconel	
9 Body	1.4408	316
10 Clamp ring	1.4404/1.4571	316L/316Ti
11 Disc	1.4408	316
12 Shaft	1.4980/1.4571	-/316Ti
13 Seal	1.4571	316Ti
14 CSI ring	Inconel	
15 CSE ring	Inconel	



Type 17800 - Standard design	Technical data							
Nominal size	DN	100	150	200	250	300	350	400
Face-to-face dimension	FF	305	403	418	457	502	762	838
Max. Height (depending on PN)	H	968	1152	1220	1339	1365	1378	1473
Outside pipe-Ø ISO 1127	RA	114.3	168.3	219.1	273.0	323.9	355.6	406.4
Wall thickness pipe ISO 1127	a	3.6	4.5	6.3	7.1	8.0	8.0	8.8
Outside pipe-Ø ASTM A312	RA	on request						
Wall thickness pipe ASTM A312	a	on request						
Length	E	462	503	540	579	605	625	685
Length	L	158	204	241	281	307	333	383
Length (depending on PN)	M	423	605	710	876	876	1536	1742
Max. Weight (depending on PN)	ca. kg	67.0	149.0	230.0	420.0	475.0	803.0	1113.0
*Kvs-Value	m ³ /h	258	654	1443	2431	3720	5120	7321
*Cv-Value	gal/min	300	760	1680	2850	4314	5953	8513

Dimensions in mm. * These figures refer to measurements for the flow direction.

Accessories for Actuated Valves

Type 40060 - Solenoid Valve



3/2 way Solenoid Valve

direct acting solenoid valve DN3, fast acting, body in brass, protecting class IP65, with cable plug for cable-Ø7 mm, circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance $\pm 10\%$, with flat seal and fixing screw

Port connection 1/4" G (BSP) thread: X= 0

Port connection 1/4" NPT thread: X= 6

Version with NBR sealing

for neutral medium like air and water

Medium temperature: 0°C / 32°F up to +80°C / 176°F

Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

Part No. 40060.020X.C24A000 - Operating voltage 24V, AC (50Hz)

Part No. 40060.020X.C11A000 - Operating voltage 110V, AC (50Hz)

Part No. 40060.020X.C23A000 - Operating voltage 230V, AC (50Hz)

Part No. 40060.020X.C24D000 - Operating voltage 24V, DC

Part No. 40060.020X.C48D000 - Operating voltage 48V, DC

Version with EPDM sealing

for oil and fat-free medium

Medium temperature: -30°C / -22°F up to +90°C / 194°F

Ambient temperature: -30°C / -22°F up to max. +55°C / 131°F

Part No. 40060.020X.C24A00E - Operating voltage 24V, AC (50Hz)

Part No. 40060.020X.C11A00E - Operating voltage 110V, AC (50Hz)

Part No. 40060.020X.C23A00E - Operating voltage 230V, AC (50-60Hz)

Part No. 40060.020X.C24D00E - Operating voltage 24V, DC

Part No. 40060.020X.C48D00E - Operating voltage 48V, DC

Version with FKM sealing

for neutral medium like air and water

Medium temperature: 0°C / 32°F up to +90°C / 194°F

Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

Part No. 40060.020X.C24A0AF - Operating voltage 24V, AC (50Hz)

Part No. 40060.020X.C11A0AF - Operating voltage 110V, AC (50Hz)

Part No. 40060.020X.C23A0AF - Operating voltage 230V, AC (50Hz)

Part No. 40060.020X.C24D0AF - Operating voltage 24V, DC

Part No. 40060.020X.C48D0AF - Operating voltage 48V, DC

Version with FKM sealing, cleaned and degreased, suitable for oxygen

Part No. 40060.020X.C24AO2F - Operating voltage 24V, AC (50Hz)

Part No. 40060.020X.C11AO2F - Operating voltage 110V, AC (50Hz)

Part No. 40060.020X.C23AO2F - Operating voltage 230V, AC (50Hz)

Part No. 40060.020X.C24DO2F - Operating voltage 24V, DC

Part No. 40060.020X.C48DO2F - Operating voltage 48V, DC

Available options - on request only:

- other port connection (G1/8), body and seat material 1.4401
- circuit functions: power free - outlet pressure loaded

Standard
version



Accessories for Actuated Valves

Type 41060 - Solenoid Valve



3/2 way Solenoid Valve, including fixing accessories

direct acting solenoid valve DN3, fast acting, body in brass, protecting class IP65, with cable plug for cable-Ø7 mm, circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance ±10%, with flat seal and fixing screw

Version with NBR sealing

port connections G (BSPP) 1/4 female thread, for neutral medium like air and water
Medium temperature: 0°C / 32°F up to +80°C / 176°F
Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

for actuators type 27511 and 27521

- Part No. 41060.0200.C24A000** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0200.C11A000** - Operating voltage 110V, AC (50Hz)
- Part No. 41060.0200.C23A000** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0200.C24D000** - Operating voltage 24V, DC
- Part No. 41060.0200.C48D000** - Operating voltage 48V, DC

for actuators type 27512 and 27522

- Part No. 41060.0210.C24A000** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0210.C11A000** - Operating voltage 110V, AC (50Hz)
- Part No. 41060.0210.C23A000** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0210.C24D000** - Operating voltage 24V, DC
- Part No. 41060.0210.C48D000** - Operating voltage 48V, DC

for actuators type 27514

- Part No. 41060.0220.C24A000** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0220.C11A000** - Operating voltage 110V, AC (50Hz)
- Part No. 41060.0220.C23A000** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0220.C24D000** - Operating voltage 24V, DC
- Part No. 41060.0220.C48D000** - Operating voltage 48V, DC

for actuators type 27515

- Part No. 41060.0230.C24A000** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0230.C11A000** - Operating voltage 110V, AC (50Hz)
- Part No. 41060.0230.C23A000** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0230.C24D000** - Operating voltage 24V, DC
- Part No. 41060.0230.C48D000** - Operating voltage 48V, DC

Version with EPDM sealing

port connections G (BSPP) 1/4 female thread, for oil- / degrease-free medium
Medium temperature: -30°C / -22°F up to +90°C / 194°F
Ambient temperature: -30°C / -22°F up to max. +55°C / 131°F

for actuators type 27511 and 27521

- Part No. 41060.0200.C23A00E** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0200.C24D00E** - Operating voltage 24V, DC

for actuators type 27512 and 27522

- Part No. 41060.0210.C23A00E** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0210.C24D00E** - Operating voltage 24V, DC

for actuators type 27514

- Part No. 41060.0220.C23A00E** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0220.C24D00E** - Operating voltage 24V, DC

for actuators type 27515

- Part No. 41060.0230.C23A00E** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0230.C24D00E** - Operating voltage 24V, DC

Available options - on request only:

- other port connections (1/4"NPT, G1/8), body and seat material 1.4401
- circuit functions: power free - outlet pressure loaded

Standard version



Σ-D

Accessories for Actuated Valves

Type 41060 - Solenoid Valve, suitable for oxygen



3/2 way Solenoid Valve, including fixing accessories

direct acting solenoid valve DN3, fast acting, body in brass, protecting class IP65, with cable plug for cable-Ø7 mm, circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance $\pm 10\%$, with flat seal and fixing screw

Version with FKM sealing, cleaned and degreased, suitable for oxygen

port connections G (BSPP) 1/4 female thread, for neutral medium like air and water
Medium temperature: 0°C / 32°F up to +90°C / 194°F
Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

for actuators type 27511 and 27521

- Part No. 41060.0200.C24AO2F** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0200.C23AO2F** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0200.C24DO2F** - Operating voltage 24V, DC

for actuators type 27512 and 27522

- Part No. 41060.0210.C24AO2F** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0210.C23AO2F** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0210.C24DO2F** - Operating voltage 24V, DC

for actuators type 27514

- Part No. 41060.0220.C24AO2F** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0220.C23AO2F** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0220.C24DO2F** - Operating voltage 24V, DC

for actuators type 27515

- Part No. 41060.0230.C24AO2F** - Operating voltage 24V, AC (50Hz)
- Part No. 41060.0230.C23AO2F** - Operating voltage 230V, AC (50Hz)
- Part No. 41060.0230.C24DO2F** - Operating voltage 24V, DC

Available options - on request only:

- other port connections (1/4"NPT, G1/8)
- circuit functions: power free - outlet pressure loaded

Standard
version



Accessories for Actuated Valves

Type 40061 - Solenoid Valve EEx



3/2 way Solenoid Valve, EEx-protected

direct acting solenoid valve DN3, fast acting, body in brass, protecting class IP65, EPS 16 ATEX 1 111X; II 2 G Ex mb IIC T 4 Gb; II 2 D EX mb IIIC T130° Db with cable 3 x 0,5 mm², circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance ±10%, semi time-lag fuse acc. to nominal voltage

UC = universal current (universal control voltage)

Port connection 1/4" G (BSPP) thread: X= 0

Port connection 1/4" NPT thread: X= 6

Version with NBR sealing

port connections G (BSPP) 1/4 female thread, for neutral medium like air and water

Medium temperature: 0°C / 32°F up to +80°C / 176°F

Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

Part No. 400611020X.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 400611020X.C024100 - Operating voltage 24V, UC, with 10 meter cable

Part No. 400611020X.C230030 - Operating voltage 230V, UC, with 3 meter cable

Part No. 400611020X.C11A030 - Operating voltage 110V, AC (50 Hz), with 3 meter cable

EEx-protected version



Available options - on request only:

- other port connections (G1/8), body and seat material 1.4401
- circuit functions: power free - outlet pressure loaded

Accessories for Actuated Valves

Type 41061 - Solenoid Valve EEx



3/2 way Solenoid Valve, EEx-protected, including fixing accessories

direct acting solenoid valve DN3, fast acting, body in brass, protecting class IP65, EPS 16 ATEX 1 111X; II 2 G Ex mb IIC T 4 Gb; II 2 D EX mb IIIC T130° Db with cable 3 x 0,5 mm² - cable 3 meter long, circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance ±10%, semi time-lag fuse acc. to nominal voltage

Version with NBR sealing

port connections G (BSPP) 1/4 female thread, for neutral medium like air and water
Medium temperature: 0°C / 32°F up to +80°C / 176°F
Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

for actuators type 27511

Part No. 4106110200.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110200.C024100 - Operating voltage 24V, UC, with 10 meter cable

Part No. 4106110200.C230030 - Operating voltage 230V, UC, with 3 meter cable

for actuators type 27512

Part No. 4106110210.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110210.C024100 - Operating voltage 24V, UC, with 10 meter cable

Part No. 4106110210.C230030 - Operating voltage 230V, UC, with 3 meter cable

for actuators type 27514

Part No. 4106110220.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110220.C024100 - Operating voltage 24V, UC, with 10 meter cable

Part No. 4106110220.C230030 - Operating voltage 230V, UC, with 3 meter cable

for actuators type 27515

Part No. 4106110230.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110230.C024100 - Operating voltage 24V, UC, with 10 meter cable

Part No. 4106110230.C230030 - Operating voltage 230V, UC, with 3 meter cable

port connections 1/4" NPT female thread, for neutral medium like air and water

Medium temperature: 0°C / 32°F up to +80°C / 158°F

Ambient temperature: 0°C / 32°F up to max. +55°C / 131°F

for actuators type 27511

Part No. 4106110206.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110206.C11A030 - Operating voltage 110V, AC (50 Hz), with 3 meter cable

for actuators type 27512

Part No. 4106110216.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110216.C11A030 - Operating voltage 110V, AC (50 Hz), with 3 meter cable

for actuators type 27514

Part No. 4106110226.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110226.C11A030 - Operating voltage 110V, AC (50 Hz), with 3 meter cable

for actuators type 27515

Part No. 4106110236.C024030 - Operating voltage 24V, UC, with 3 meter cable

Part No. 4106110236.C11A030 - Operating voltage 110V, AC (50 Hz), with 3 meter cable

UC = DC and AC

Available options - on request only:

- other port connections (G1/8), body and seat material 1.4401
- circuit functions: power free - outlet pressure loaded

EEx-protected version



Accessories for Actuated Valves

Type 40070, Type 40071 - Position and Limit Switches



Position and Limit Switches

Limit switch (0/100%) with parallel roller lever and fixing device, quick-break switch,
Max. fuse rating 6A gL/gD D-fuse, Switching frequency 3600/h

Standard version

Protection class IP65 acc. to EN 60529,
Rated operating current/-voltage Ie/Ue: 6A / 400VAC,
3 cable entries M16 x 1.5,
change-over contact with double break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +80°C / 176°F

Part No. 40070.0011.0100100

Standard version



Position and Limit Switches

Limit switch (0/100%) with parallel roller lever and fixing device, quick-break switch,
Max. fuse rating 5A gG/gN-fuse, Switching frequency 1800/h

EEx-protected version

Protection class IP65 acc. to EN 60529, EEX d IIC T6,
Rated operating current/-voltage Ie/Ue: 5A / 250VAC,
with cable 4 x 0,75 mm²
change-over contact with single break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +60°C / 140°F

Part No. 40071.0012.1322000 - with 3 meter cable

Part No. 40071.0012.1325000 - with 10 meter cable

EEx-protected version



Available options - on request only:

- overrun limit switch to signal intermediate positions
- other cable length

Accessories for Actuated Valves

Type 41070, Type 41071 - Position and Limit Switches



Position and Limit Switches, including fixing device

Limit switch (0/100%) with parallel roller lever and fixing device, quick-break switch,
Max. fuse rating 6A gL/gD D-fuse, Switching frequency 3600/h

Standard version

for actuators type 27511, 27512, 27521 and 27522

Part No. 41070.0011.0100100

Protection class IP65 acc. to EN 60529,
Rated operating current/-voltage Ie/Ue: 6A / 400VAC,
3 cable entries M16 x 1.5,
change-over contact with double break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +80°C / 176°F

for actuators type 27514 and 27515

Part No. 41370.0011.0100100

Protection class IP65 acc. to EN 60529,
Rated operating current/-voltage Ie/Ue: 6A / 400VAC,
3 cable entries M16 x 1.5,
change-over contact with double break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +80°C / 176°F



Standard version

Position and Limit Switches

Limit switch (0/100%) with parallel roller lever and fixing device, quick-break switch,
Max. fuse rating 5A gG/gN-fuse, Switching frequency 1800/h

EEx-protected version

for actuators type 27511, 27512, 27521 and 27522

Part No. 41071.0012.1322000

Protection class IP65 acc. to EN 60529, EEX d IIC T6,
Rated operating current/-voltage Ie/Ue: 5A / 250VAC,
with cable 4 x 0,75 mm² - cable 3 meter long,
change-over contact with single break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +60°C / 140°F

for actuators type 27514 and 27515

Part No. 41371.0012.1322000

Protection class IP65 acc. to EN 60529, EEX d IIC T6,
Rated operating current/-voltage Ie/Ue: 5A / 250VAC,
with cable 4 x 0,75 mm² - cable 3 meter long,
change-over contact with single break (1 break contact/ 1 make contact),
Ambient temperature -20°C / -4°F up to +60°C / 140°F



EEx-protected version

Available options - on request only:

- overrun limit switch to signal intermediate positions
- other cable length

Accessories for Actuated Valves

Type 40080 - Inductive Proximity Switches



Inductive proximity switches

Functions: inductive, Switching element function NAMUR NC, Output polarity NAMUR,
Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable,
Nominal voltage 8.2V, Switch frequency 0 - 1000 Hz, Short-circuit and reverse polarity protection,
Protecting class IP66/ IP67 acc. to EN 60529, EEX ia IIC T6
Indication of the switching state all direction LED yellow, with cable 2m x 0.34 mm²
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

Part No. 4008011235.0A20100 - with 2 meter cable

Part No. 4008011235.0A20400 - with 10 meter cable



Functions: inductive, Switching element function PNP closer, Output polarity DC,
Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable,
Nominal voltage 10 - 60V, Switch frequency 0 - 3000 Hz, Short-circuit and reverse polarity protection,
Protecting class IP66/ IP67 acc. to EN 60529
Indication of the switching state all direction LED yellow, with appliance inlet M12 x 1 - 4 pole
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

Part No. 4008011240.0B10100 - with 2 meter cable

Induktive sensor: NCB2-12GM40-Z0

Functions: inductive, Switching element function DC closer, Output polarity DC,
Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable,
Nominal voltage 5 - 60V, Switch frequency 0 - 800 Hz, Short-circuit clocking,
Protecting class IP66/ IP67 acc. to EN 60529
Indication of the switching state all direction LED yellow, with cable 2m x 0.14 mm²
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

Part No. 4008011240.0C10100 - with 2 meter cable

Available options - on request only:

- Other cable length
- Adapter for manual operated valves



Accessories for Actuated Valves

Type 41080 - Inductive Proximity Switches



Inductive proximity switches, including fixing device

Functions: inductive, Switching element function NAMUR NC, Output polarity NAMUR, Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable, Nominal voltage 8.2V, Switch frequency 0 - 1000 Hz, Short-circuit and reverse polarity protection, Protecting class IP66/ IP67 acc. to EN 60529, EEX ia IIC T6
Indication of the switching state all direction LED yellow, with cable 2m x 0.34 mm²
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

for actuators type 27511, 27512, 27521 and 27522

Part No. 41080.1235.AA20100 (Valve size DN10 - DN150), with 2 meter cable

Part No. 41080.1235.AA20400 (Valve size DN10 - DN150), with 10 meter cable

for actuators type 27514 and 27515

Part No. 41080.1235.BA20100 (Valve size DN10 - DN50), with 2 meter cable

Part No. 41080.1235.BA20400 (Valve size DN10 - DN50), with 10 meter cable

Part No. 41080.1235.CA20100 (Valve size DN65), with 2 meter cable

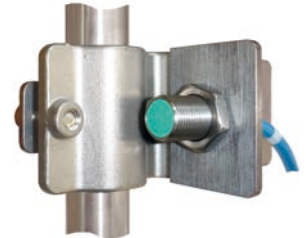
Part No. 41080.1235.CA20400 (Valve size DN65), with 10 meter cable

Part No. 41080.1235.DA20100 (Valve size DN80 - DN100), with 2 meter cable

Part No. 41080.1235.DA20400 (Valve size DN80 - DN100), with 10 meter cable

Part No. 41080.1235.EA20100 (Valve size DN150), with 2 meter cable

Part No. 41080.1235.EA20400 (Valve size DN150), with 10 meter cable



Functions: inductive, Switching element function PNP closer, Output polarity DC, Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable, Nominal voltage 10 - 60V, Switch frequency 0 - 3000 Hz, Short-circuit and reverse polarity protection, Protecting class IP66/ IP67 acc. to EN 60529
Indication of the switching state all direction LED yellow, with appliance inlet M12 x 1 - 4 pole
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

for actuators type 27511, 27512, 27521 and 27522

Part No. 4108011240.AB10100 (Valve size DN10 - DN150)

for actuators type 27514 and 27515

Part No. 4108011240.BB10100 (Valve size DN10 - DN50)

Part No. 4108011240.CB10100 (Valve size DN65)

Part No. 4108011240.DB10100 (Valve size DN80 - DN100)

Part No. 4108011240.EB10100 (Valve size DN150)

Inductive sensor: NCB2-12GM40-Z0

Functions: inductive, Switching element function DC closer, Output polarity DC, Rated operating distance 2 mm, Assured operating distance 0 - 1.62 mm, Installation embeddable, Nominal voltage 5 - 60V, Switch frequency 0 - 800 Hz, Short-circuit clocking, Protecting class IP66/ IP67 acc. to EN 60529
Indication of the switching state all direction LED yellow, with cable 2m x 0.14 mm² - 2 meter long
Ambient temperature: -25°C / -13°F up to +70°C / 158°F

for actuators type 27511, 27512, 27521 and 27522

Part No. 41080.1240.AC10100 (Valve size DN10 - DN150)

for actuators type 27514 and 27515

Part No. 41080.1240.BC10100 (Valve size DN10 - DN50)

Part No. 41080.1240.CC10100 (Valve size DN65)

Part No. 41080.1240.DC10100 (Valve size DN80 - DN100)

Part No. 41080.1240.EC10100 (Valve size DN150)

Available options - on request only:

- other cable length

Accessories for Actuated Valves

Type 08002 - Air Control Sets



Air Control sets

Diaphragm pressure regulator with secondary ventilation,
Installation position vertical - drain plug at bottom,
Inlet pressure maximal 16.0 bar,
filter element in Polyethylen (sinterted), pore diameter in filter element 5µm,
port connections G1/4, body zinc-diecasting, with NBR seal,
tank capacity maximal 0.35 cm³ condensate, condensate draining manuel,
Ambient temperature: -10°C / 14°F up to +60°C / 140°F,
including pressure gauge (0 - 10.0 bar)

Part No. 08002.021K.0000

condensate tank Polycarbonat, control range 0.5 - 10.0 bar



Part No. 08002.021M.0000

condensate tank in metal, control range 0,5 - 16.0 bar



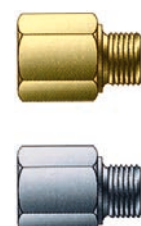
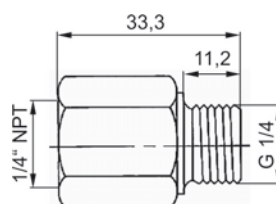
Adapter 1/4" NPT female thread - G1/4 male thread

Part No. 29001.0004.0302

material brass (CW614N / ASTM B 283 UNS C38500)

Part No. 29001.0004.0783

material stainless steel (1.4404 / ASTM 316L))



X-D

Accessories for Actuated Valves

Type 08003 - Air Control Sets



Air Control sets, including fixing accessories

Diaphragm pressure regulator with secondary ventilation,
Installation position vertical - drain plug at bottom,
Inlet pressure maximal 16.0 bar,
filter element in Polyethylen (sinterted), pore diameter in filter element 5µm,
port connections G1/4, body zinc-diecasting, with NBR seal,
tank capacity maximal 0.35 cm³ condensate, condensate draining manuel,
Ambient temperature: -10°C / 14°F up to +60°C / 140°F,
including pressure gauge (0 - 10.0 bar)

Part No. 08003.021K.0000

condensate tank Polycarbonat, control range 0.5 - 10.0 bar

Part No. 08003.021M.0000

condensate tank in metal, control range 0,5 - 16.0 bar



High Flow Filter Regulator in stainless steel, including fixing accessories

Installation position vertical - drain plug at bottom,
Inlet pressure maximal 20.0 bar, control range 0.5 - 10.0 bar
filter element in stainless steel (AISI 316), pore diameter in filter element 5µm,
body in stainless steel (AISI 316L), with FPM seal,
condensate draining manuel,
Medium temperature: -60°C / -76°F up to +90°C / 194°F,
Ambient temperature: -60°C / -76°F up to +90°C / 194°F,
including pressure gauge (0 - 10.0 bar)
Approvals: ATEX Zone 1 and 21, SIL2, CU-TR, NACE

Part No. 08003.0200.0F02

port connections G1/4 female thread

Part No. 08003.0206.0F02

port connections 1/4" NPT female thread

Part No. 30803.0200.0F02

Filter (5µm) and O-ring spare part kit for low temperature applications



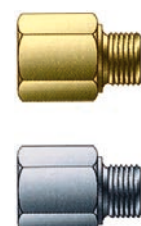
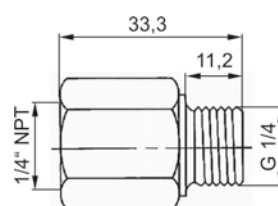
Adapter 1/4" NPT female thread - G1/4 male thread

Part No. 29001.0004.0302

material brass (CW614N / ASTM B 283 UNS C38500)

Part No. 29001.0004.0783

material stainless steel (1.4404 / ASTM 316L))



Accessories for Actuated Valves

Type 40090 - Electropneumatic Positioner



Electropneumatic positioner for pneumatic Actuator

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !

Protecting class IP66 acc. to EN 60529,

Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/4

Electrical connection: screw type terminals 2.5 mm², cable gland: M 20 x 1.5

Set point x:

4 - 20 mA with 2 conductor connections

0/4 - 20 mA with 3/4 conductor connections

Auxiliary power with 3/4 conductor connections: UH: 18-30V DC

Internal resistance:

R_i = 500 Ohm (2-wire)

R_i = 50 Ohm (3/4-wire)

Ambient temperature: -30°C / -22°F up to +80°C / 176°F



Part No. 40090.6136.00DA000

standard version (3/4-wire)

Part No. 40090.6136.00DA010

with installed limit indicator, incl. 2nd cable fitting, alarm module; electronic (6DR4004-8A), (3/4-wire)

Part No. 40090.6136.00DA020

with IY-module: 4...20 mA check-back signal (3/4-wire)

Part No. 40090.6136.00EA000

with Profibus PA connection

Part No. 40090.6136.00FA000

with foundation fieldbus and fixable friction clutch

Part No. 40090.6136.00BA100

with HART connection (2-wire)

Accessories for Actuated Valves

Type 41090 - Electropneumatic Positioner



Electropneumatic positioner for pneumatic Actuator

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !

Protecting class IP66 acc. to EN 60529,

Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/4

Electrical connection: screw type terminals 2.5 mm², cable gland: M 20 x 1.5

Set point x:

4 - 20 mA with 2 conductor connections

0/4 - 20 mA with 3/4 conductor connections

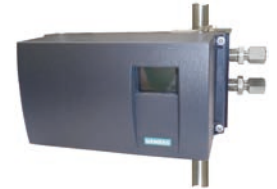
Auxiliary power with 3/4 conductor connections: UH: 18-30V DC

Internal resistance:

R_i = 500 Ohm (2-wire)

R_i = 50 Ohm (3/4-wire)

Ambient temperature: -30°C / -22°F up to +80°C / 176°F



inclusive fixing device for actuators with lift up to 35.0 mm

for actuators type 27511, 27514 and 27521 (spring to close)

Part No. 41090.6136.00DA000

standard version (3/4-wire)

Part No. 41090.6136.00DA010

with installed limit indicator, incl. 2nd cable fitting, alarm module; electronic (6DR4004-8A), (3/4-wire)

Part No. 41090.6136.00DA020

with IY-module: 4...20 mA check-back signal (3/4-wire)

Part No. 41090.6136.00EA000

with Profibus PA connection

Part No. 41090.6136.00FA000

with foundation fieldbus and fixable friction clutch

Part No. 41090.6136.00BA100

with HART connection (2-wire)

for actuators type 27512, 27515 and 27522 (spring to open)

Part No. 41090.6136.01DA000

standard version (3/4-wire)

Part No. 41090.6136.01DA010

with installed limit indicator, incl. 2nd cable fitting, alarm module; electronic (6DR4004-8A), (3/4-wire)

Part No. 41090.6136.01DA020

with IY-module: 4...20 mA check-back signal (3/4-wire)

Part No. 41090.6136.01EA000

with Profibus PA connection

Part No. 41090.6136.01FA000

with foundation fieldbus and fixable friction clutch

Part No. 41090.6136.01BA100

with HART connection (2-wire)

inclusive fixing device for actuators with lift from 35.0 mm up to 130.0 mm

for actuators type Typ 27511, 27512, 27514, 27515, 27521 and 27522

Part No. 41090.6136.12DA000

standard version (3/4-wire)

Part No. 41090.6136.12DA010

with installed limit indicator, incl. 2nd cable fitting, alarm module; electronic (6DR4004-8A), (3/4-wire)

Part No. 41090.6136.12DA020

with IY-module: 4...20 mA check-back signal (3/4-wire)

Part No. 41090.6136.12EA000

with Profibus PA connection

Part No. 41090.6136.12FA000

with foundation fieldbus and fixable friction clutch

Part No. 41090.6136.12BA100

with HART connection (2-wire)

Accessories for Actuated Valves

Type 40091 - Electropneumatic Positioner EEx



Electropneumatic positioner for pneumatic Actuator

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !

Protecting class IP66 acc. to EN 60529, with EEx-protection: II 2 G EEx ia IIC T6

Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/4

Electrical connection: screw type terminals 2.5 mm², cable gland: M 20 x 1.5

Set point x:

4 - 20 mA with 2 conductor connections

Internal resistance:

R_i = 500 Ohm (2-wire)

Ambient temperature: -30°C / -22°F up to +50°C / 122°F

Part No. 40091.6136.00AA000

standard version - 2 wire connection

Part No. 40091.6136.00AA020

with IY-module: 4...20 mA check-back signal (2-wire)

Part No. 40091.6136.00EA000

with Profibus PA connection



Accessories for Actuated Valves

Type 41091 - Electropneumatic Positioner EEx



Electropneumatic positioner for pneumatic Actuator

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !

Protecting class IP66 acc. to EN 60529, with EEx-protection: II 2 G EEx ia IIC T6

Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/4

Electrical connection: screw type terminals 2.5 mm², cable gland: M 20 x 1.5

Set point x:

4 - 20 mA with 2 conductor connections

Internal resistance:

R_i = 500 Ohm (2-wire)

Ambient temperature: -30°C / -22°F up to +50°C / 122°F

inclusive fixing device for actuators with lift up to 35.0 mm

for actuators type 27511, 27514 and 27521 (spring to close)

Part No. 41091.6136.00AA000

standard version - 2 wire connection

Part No. 41091.6136.00AA020

with IY-module: 4...20 mA check-back signal (2-wire)

Part No. 41091.6136.00EA000

with Profibus PA connection

for actuators type 27512, 27515 and 27522 (Feder öffnet)

Part No. 41091.6136.01AA000

standard version - 2 wire connection

Part No. 41091.6136.01AA020

with IY-module: 4...20 mA check-back signal (2-wire)

Part No. 41091.6136.01EA000

with Profibus PA connection

inclusive fixing device for actuators with lift from 35.0 mm up to 130.0 mm

for actuators type 27511, 27512, 27514, 27515, 27521 and 27522

Part No. 41091.6136.12AA000

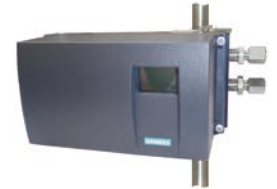
standard version - 2 wire connection

Part No. 41091.6136.12AA020

with IY-module: 4...20 mA check-back signal (2-wire)

Part No. 41091.6136.12EA000

with Profibus PA connection



Accessories for Actuated Valves

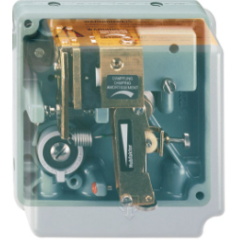
Type 40090 - Pneumatic Positioner

Pneumatic positioner for pneumatic Actuator

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !
Protecting class IP54 acc. to EN 60529,

Part No. 40090.0981.00NB200

Operation: simple, Inlet air pressure: max. 6.0 bar
Independent adjustment of stroke range and zero,
Signal range 0.2 - 1.0 bar or split range down to Δw 0.2 bar,
adjustable amplification and damping,
Ambient temperature: -40°C / -40°F up to +80°C / 176°F



X-D

Accessories for Actuated Valves

Type 41090 - Pneumatic Positioner



Pneumatic positioner for pneumatic Actuator, including fixing device

ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !

Protecting class IP54 acc. to EN 60529,

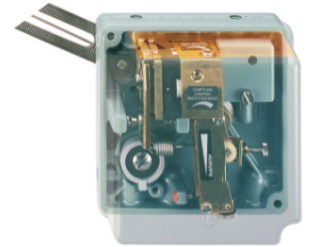
Part No. 41090.0981.22NB200

Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/8

Independent adjustment of stroke range and zero,

Signal range 0.2 - 1.0 bar or split range down to Δw 0.2 bar,
adjustable amplification and damping,

Ambient temperature: -40°C / -40°F up to +80°C / 176°F



Accessories for Actuated Valves

Type 41281 - Inductive Proximity Switches EEx-Box



Inductive Proximity Switches - EEx-protected, including fixing device

Functions: inductive
Switching element function: Opener
Nominal voltage: 8,2V
Shaft: Stainless steel

Material limit switch box: Latiohm

Part No. 41281.1114.FA300A0 (incl. mounting material)

Part No. 40281.1114.OA300A0 (without mounting material)

with cable gland M20 Eexi, made of plastic, WAGO terminal block
with universal limit switch box ATEX II 2G EEx ia IIC T6 made of plastic IP67
2 x inductive switches (NJ5-11-N-G)
Working temperature: -25°C / -13°F (248K) up to +80°C / +176°F (353K)
Rated operating distance: 5mm
Safety rated operating distance: 0-4.05mm
Frequency 0 - 3000Hz
SIL 2 acc. to IEC 61508
Output type: NAMUR



Part No. 41281.1230.FA300A0 (incl. mounting material)

Part No. 40281.1230.OA300A0 (without mounting material)

with cable gland M20 Eexi, made of plastic, WAGO terminal block
with universal limit switch box ATEX II 2G EEx ia IIC T6 made of plastic IP67
2 x inductive switches (NJ2-12GK-SN)
Working temperature: -40°C / -40°F (233K) up to +80°C / +176°F (353K)
Rated operating distance: 2mm
Safety rated operating distance: 0-1.62mm
Frequency 0 - 2000Hz
SIL 3 acc. to IEC 61510
Output type: NAMUR with safety function



Material limit switch box: Aluminium Al Si 12

Part No. 41281.1230.FA300B0 (incl. mounting material)

Part No. 40281.1230.OA300B0 (without mounting material)

with cable gland M20 Eexi, made of plastic, WAGO terminal block
with universal limit switch box ATEX II 2G EEx ia IIC T6 made of plastic IP67
2 x inductive switches (NJ2-12GK-SN)
Working temperature: -40°C / -40°F (233K) up to +80°C / +176°F (353K)
Rated operating distance: 2mm
Safety rated operating distance: 0-1.62mm
Frequency 0 - 2000Hz
SIL 3 acc. to IEC 61510
Output type: NAMUR with safety function

Accessories for Actuated Valves

Type 55177 - Weather protection hood



Weather protection hood

to protect valves against weather-related damage
suitable for valves with rubber actuators (DN15-DN80)

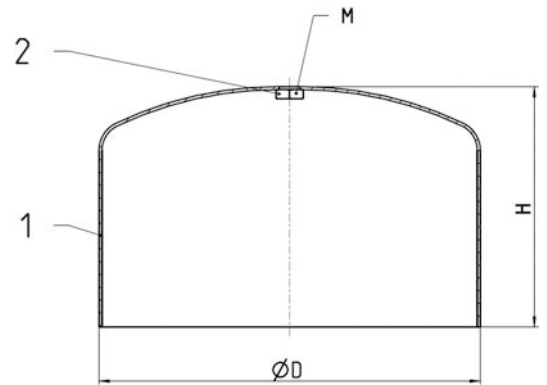
Part No. 55177.0107.0767

suitable for the following types of valves:

- 01353, 01653, 01753, 01853
- 09343, 09443



Materials	DIN EN	ASTM
1 Hood	1.4571	316Ti
2 Nut	1.4301	8



Type 55177	Technical Data	
Part No.	55177.0107.0767	
Thread	M	M12
Height	H	160
Diameter	D	254
Weight	ca. kg	2,5

Dimensions in mm.

Edition 2024-01

Accessories for Actuated Valves

Type 55287 - Pipe fittings



Pipe fitting for pneumatic actuators

Pipe fitting in 1.4571/ A 313 Grade 316Ti

Part No. 55287.0008.0767 + 55287.0025.0767

straight pipe fitting + angle pipe fitting, suitable for actuators of type:

27514.DP30.2O22 27514.DP33.3O20 27515.DP33.3S02

27514.DP32.2O20 27515.DP30.2S06

27514.DP32.2O08 27515.DP32.3S02

Dimensions in mm

G	D	A	L	S	B
R 1/4"	8	48	29	17	12

Part No. 55287.0020.0767 + 55287.0025.0767

straight pipe fitting + angle pipe fitting, suitable for actuators of type:

27514.DP34.5O15 27514.DP34.TOPO (Tandem - Actuator)

27514.DP34.5O20 27515.DP34.5S02

Dimensions in mm

G	D	A	L	S	B
R 3/8"	8	48	29	17	12

Part No. 55287.0004.0767 + 55287.0025.0767

straight pipe fitting + angle pipe fitting, suitable for actuators of type:

27511.35B6.6GPO 27511.75B6.5DPO 27512.60A6.6GPS

27511.60A6.6GPO 27511.75B6.7DPO 27512.60C6.7GPS

27511.60C6.7GPO 27512.15A6.3SPS 27512.75B6.2SPS

27511.75B6.3DPO 27512.35B6.6GPS

Dimensions in mm

G	D	A	L	S	B
NPT 1/4"	8	50	29	17	12

Part No. 55287.0021.0767 + 55287.0026.0767

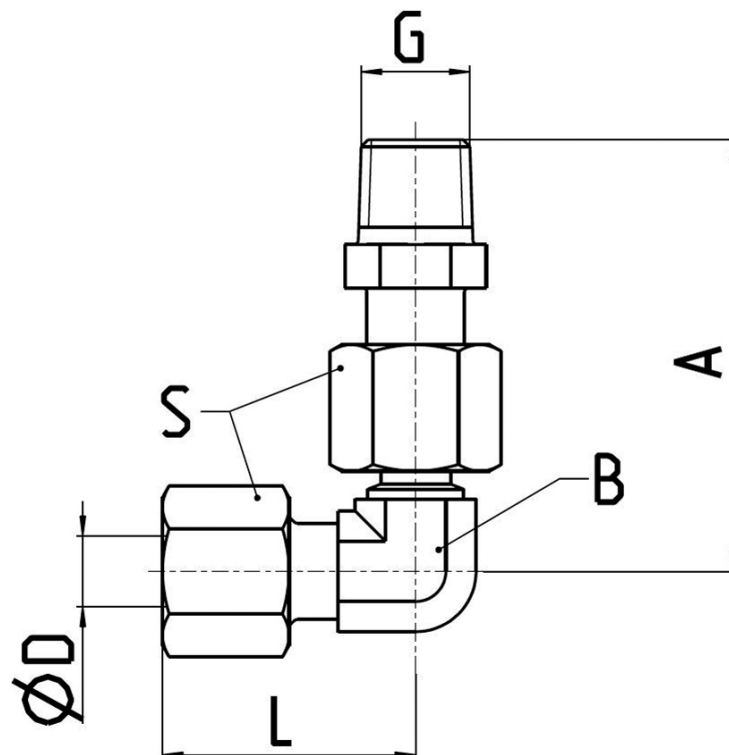
straight pipe fitting + angle pipe fitting, suitable for actuators of type:

27514.DP34.TRP1 (DN200 Triple - Actuator)

27514.DP34.TRPO (Triple - Actuator)

Dimensions in mm

G	D	A	L	S	B
G 1/2"	12	56	32	22	17



Accessories for Actuated Valves

Type 74394 - Bracket for accessories



Bracket for accessories

for Cryogenic-Gate Valves with Pneumatic Actuator

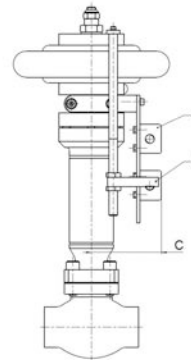
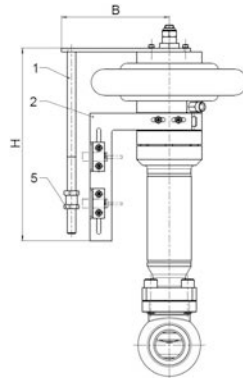
Part No. 74394.0005.0783

for Inductive Proximity Switches
and Position and Limit Switches

Stroke: 1.0 - 40.0mm

Globe valves until DN80

Gate valves until DN40



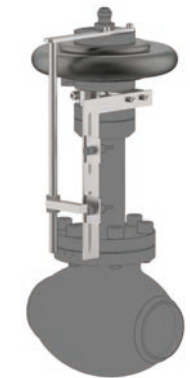
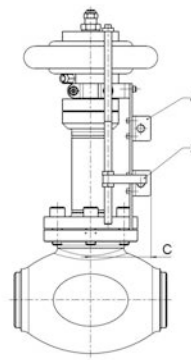
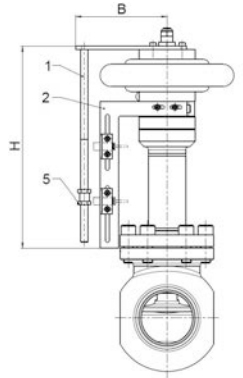
Part No. 74394.0008.0783

for Inductive Proximity Switches
and Position and Limit Switches

Stroke: 40.1 - 100.0mm

Globe valves from DN100

Gate valves from DN50



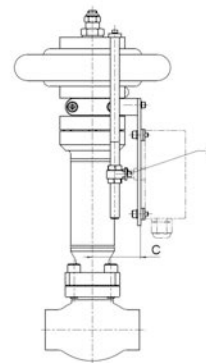
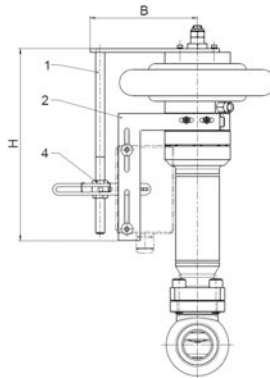
Part No. 74394.0010.0783

for Inductive Proximity Switches EEx-Box

Stroke: 1.0 - 40.0mm

Globe valves until DN80

Gate valves until DN40



Materials	DIN EN	ASTM
1 Bracket	1.4404	A 276 Grade 316L
2 Angle	1.4404	A 276 Grade 316L
3 Stopper	1.4571/ 1.4404	A 276 Grade 316Ti/ A 276 Grade 316L
4 Bracket	1.4404	A 276 Grade 316L
5 Nut	1.4571/A4	A 194 Grade 8M

For use with the following accessories:

- Type 40070, 40071 - Position and Limit Switches
- Type 40080 - Inductive Proximity Switches
- Type 40281 - Inductive Proximity Switches EEx-Box

Type 74394		Technical Data		
Part Number		74394.0005.0783	74394.0008.0783	74394.0010.0783
Length	B	147.5	147.5	150.0
Height	H	266	326	265
Length	C	96.7	96.7	66.5
Weight	ca. kg	1.2	1.3	0.7

Dimensions in mm.

Spare Parts for Actuated Valves

Type 29343 - Topwork with pneumatic actuator



for Cryogenic-Gate Valves with Pneumatic Actuator

air pressure for operation 4,0 bar g (maximal 10,0 bar g), push-in connection 8mm

Stainless steel topwork,

Actuator - air opens, spring closes

one way tightening (in flow direction),

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and

degreased for oxygen

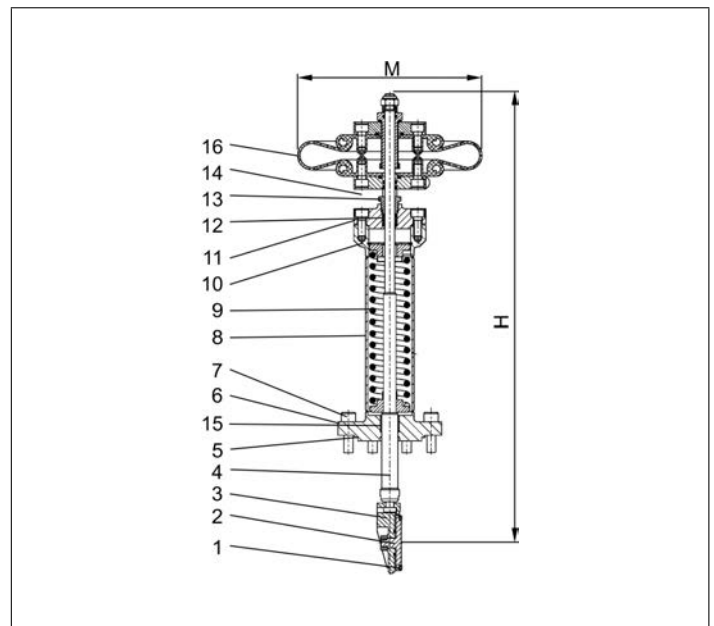
Part No. 29343.X.T020

suitable for:

Type	Nominal size
09343	DN25 - DN100
09443	DN25 - DN65



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	CW452K	B 159 UNS C51900
3 Wedge	1.4308	A 351 CF8
4 Stem	1.4301	A 276 Grade 304
5 Bonnet gasket	PTFE	
6 Headpiece	1.4308	A 351 CF8
7 Bolts	1.4301/A2	A 194 B8
8 Elongation tube	1.4541	A 213 TP 321
9 Spring	1.4571	A 313 Grade 316Ti
10 Flange	1.4301	A 276 Grade 304
11 Headpiece	1.4301	A 276 Grade 304
12 Gland packing	Graphite / PTFE	
13 Gland nut	1.4305	A 276 Grade 303
14 Pillars	1.4301	A 276 Grade 304
15 Bush	CW452K	B 159 UNS C51900
16 Actuator	Rubber	



Type 29343.X.T020	Technical data						
Nominal size	DN	25	40	50	65	80	100
Dimension code	.X.	0250	0400	0500	0650	0800	1000
Height	H	500	520	540	560	580	780
Number of bolts		4	4	6	8	6	8
Handwheel-Ø	M	229	229	229	229	229	244
Weight	ca. kg	8.5	8.6	9.6	10.5	11.6	19.0

Dimensions in mm.

Spare Parts for Actuated Valves

Type 30003 - Spare part kit



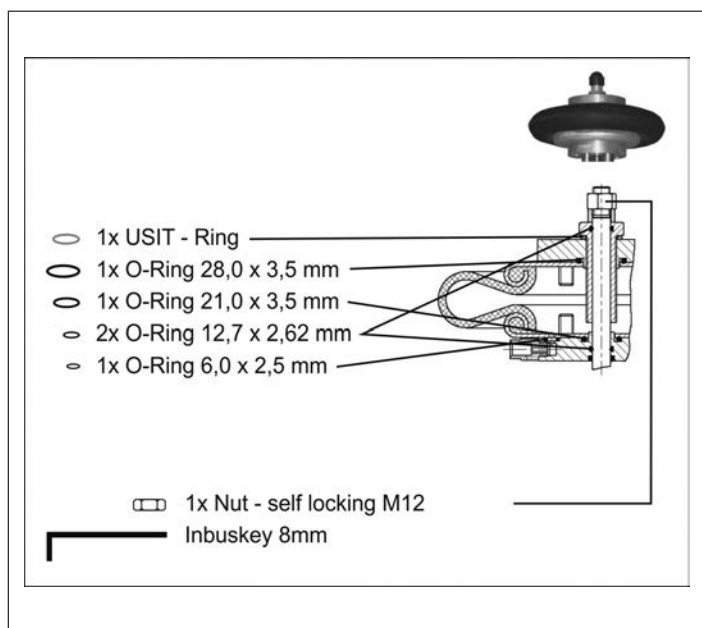
for Rubber Pneumatic Actuator

"cleaned and degreased for oxygen service"

Part No. 30003.0000.T000

suitable for:

Type	Nominal size
01353	DN20 - DN80
01653	DN20 - DN80
01753	DN20 - DN80
01853	DN20 - DN80
09343	DN25 - DN100
09443	DN25 - DN65



Type 30003.0000.T000	Technical data	
Nominal size	DN	20 - 100
Weight	ca. kg	0.25

Dimensions in mm.

Edition 2024-01

Pressure Regulator

Type 4185-1 - CombiPressure-Regulator



Cryogenic-Pressure Regulator, brass, PN50

Set point range from 1.0 up to 38.0 bar

Connections: male thread for union connection, BSPP (G) or M thread

Cleaning Standard: "cleaned and degreased for oxygen service"

complete with installed strainer screens - mesh size 0.25 mm - on connection A and B

Part No. 4185-X-1100* Set point range 1.0 up to 12.0 bar
set at 8.0 bar unless otherwise noted on purchase order

Part No. 4185-X-1200* Set point range 6.0 up to 24.0 bar
set at 12.0 bar unless otherwise noted on purchase order

Part No. 4185-X-1300* Set point range 16.0 up to 38.0 bar
set at 20.0 bar unless otherwise noted on purchase order

*connection C: 1 = M thread (cone connection 37°), 2 = BSPP (G) thread (cone connection 60°)

Available options - on request only:

- Further connections
- With check unit type 66044

Applications:

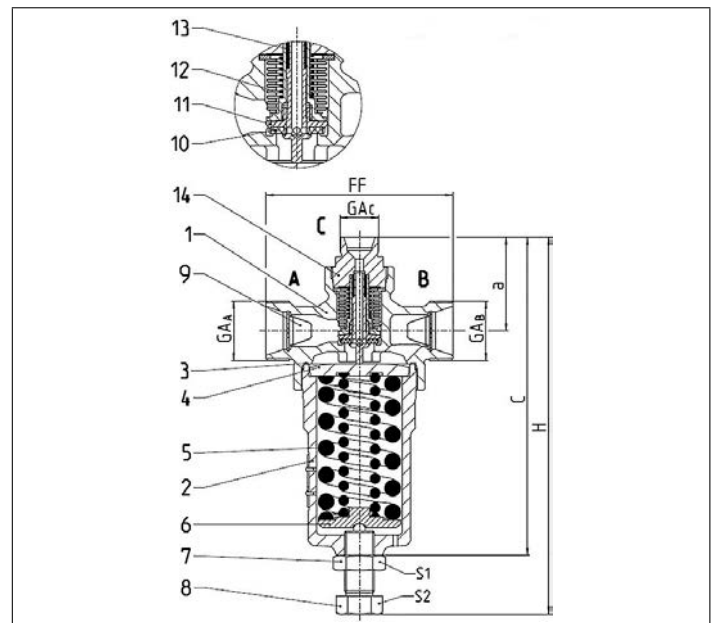
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +65°C / 149°F (338K)

Ambient temperature: -40°C / -40°F (233K) up to +65°C / 149°F (338K)



Materials	DIN EN	ASTM
1 Body	CW617N	C37700
2 Bonnet (cover)	CW617N	C37700
3 Diaphragm	1.4404	316L
4 Diaphragm ring	1.4301	304
5 Spring	1.4310	313
6 Spring plate	1.4301	304
7 Locking nut	1.4301	304
8 Set point adjuster	1.4301	304
9 Strainer (option)	CW452K	C51900
10 Valve seal	PTFE	
11 Bellow disc	CW614N	C38500
12 Bellow	1.4571	316Ti
13 Tubular overflow	CW614N	C38500
14 Connection fitting	CC493K	C93200



Type 4185	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	MM04020	MG12000
Face-to-face dimension	FF	125	125
Height	H	253	253
Thread	GA _A	M40x2.0	G 1-1/4
Thread	GA _B	M40x2.0	G 1-1/4
Thread	GA _C	M26x1.5	G 3/4
Length	a	63	63
Length	c	214	214
Wrench size across flats	S ₁	30	30
Wrench size across flats	S ₂	27	27
Weight	ca. kg	4.5	4.5
Kvs-Value	m ³ /h	1.5	1.5
Cv-Value	gal/min	1.7	1.7

Dimensions in mm.

Essential: Please confirm pressure range and valve set pressure on purchase order

Pressure Regulator

Type 4186-1 - CombiPressure-Regulator



Cryogenic-Pressure Regulator, stainless steel, PN50

Set point range from 1.0 up to 38.0 bar

Connections: male thread for union connection, BSPP (G) or M thread

Cleaning Standard: " cleaned and degreased for oxygen service "

complete with installed strainer screens - mesh size 0.25 mm - on connection A and B

Part No. 4186-X-1100* Set point range 1.0 up to 12.0 bar
set at 8.0 bar unless otherwise noted on purchase order

Part No. 4186-X-1200* Set point range 6.0 up to 24.0 bar
set at 12.0 bar unless otherwise noted on purchase order

Part No. 4186-X-1300* Set point range 16.0 up to 38.0 bar
set at 20.0 bar unless otherwise noted on purchase order

*connection C: 1 = M thread (cone connection 37°), 2 = BSPP (G) thread (cone connection 60°)

Available options - on request only:

- Further connections
- With check unit type 66044

Applications:

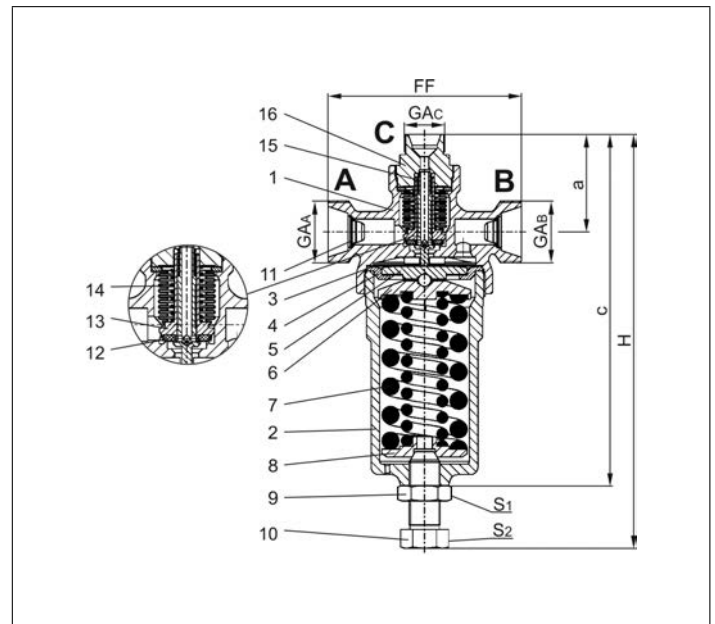
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +200°C / 392°F (473K)

Ambient temperature: -40°C / -40°F (233K) up to +65°C / 149°F (338K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Bonnet (cover)	1.4408	A 351 CF8M
3 Diaphragm	1.4404	A 240 Grade 316L
4 Supporting ring	1.4301	A 276 Grade 304
5 Diaphragm ring	1.4301	A 276 Grade 304
6 Spring plate	1.4301	A 276 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Spring clamp	1.4301	A 276 Grade 304
9 Locking nut	1.4301	A 276 Grade 304
10 Set point adjuster	1.4301	A 240 Grade 304
11 Strainer (option)	1.4301	A 240 Grade 304
12 Valve seal	PTFE	
13 Bellows disc	1.4571	A 276 Grade 316Ti
14 Bellows	1.4571	A 313 Grade 316Ti
15 Bellows spring	1.4571	A 313 Grade 316Ti
16 Connection fitting	1.4571	A 276 Grade 316Ti



Type 4186	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	MM04020	MG12000
Face-to-face dimension	FF	125	125
Height	H	268	268
Thread	GA _A	M40x2.0	G 1-1/4
Thread	GA _B	M40x2.0	G 1-1/4
Thread	GA _C	M26x1.5	G 3/4
Length	a	63	63
Length	c	227	227
Wrench size across flats	S ₁	30	30
Wrench size across flats	S ₂	27	27
Weight	ca. kg	4.3	4.3
Kvs-Value	m ³ /h	1.2	1.2
Cv-Value	gal/min	1.4	1.4

Dimensions in mm.

Essential: Please confirm pressure range and valve set pressure on purchase order

Pressure Regulator

Type 4182-3 - CombiPressure-Regulator



Cryogenic-Pressure Regulator, stainless steel, PN50

Set point range from 2.0 up to 38.0 bar

Connections: male thread for union connection, BSPP (G) or M thread

Cleaning Standard: " cleaned and degreased for oxygen service "

complete with installed strainer screens - mesh size 0.25 mm - on connection A and B

Part No. 4182.X.3100* Set point range 2.0 up to 10.0 bar
set at 8.0 bar unless otherwise noted on purchase order

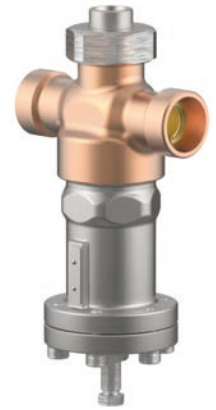
Part No. 4182.X.3200* Set point range 8.0 up to 22.0 bar
set at 12.0 bar unless otherwise noted on purchase order

Part No. 4182.X.3300* Set point range 20.0 up to 38.0 bar
set at 20.0 bar unless otherwise noted on purchase order

*connection C: 1 = M thread (cone connection 37°), 2 = BSPP (G) thread (cone connection 60°)

Available options - on request only:

- Further connections
- With check unit type 66044



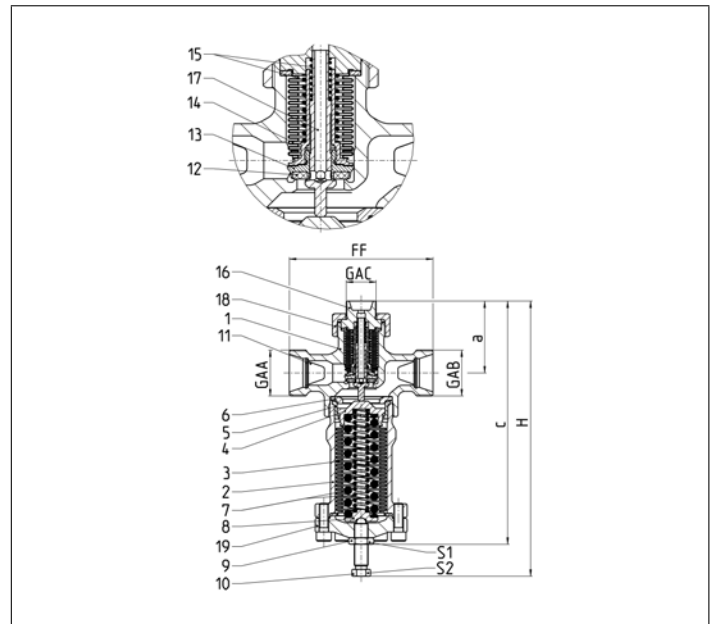
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +65°C / 149°F (338K)

Ambient temperature: -40°C / -40°F (233K) up to +65°C / 149°F (338K)

Materials	DIN EN	ASTM
1 Body	CC491K	C83600
2 Bonnet (cover)	1.4408	CF8M
3 Bellow	1.4571	316Ti
4 Spring plate	1.4571	316Ti
5 Lift stopper	1.4571	316Ti
6 Lift stopper	1.4571	316Ti
7 Spring	1.4310	313
8 Spring clamp	1.4301	304
9 Locking nut	1.4301	304
10 Set point adjuster	1.4301	304
11 Strainer (option)	CW452K	C51900
12 Valve seal	PTFE	
13 Bellow disc	CW614N	C38500
14 Bellow	1.4571	316Ti
15 Bellow spring	1.4571	316Ti
16 Connection fitting	CC493K	C93200
17 Tubular overflow	CW614N	C38500
18 Union nut	1.4301	304
19 Flange cover	1.4308	CF8



Type 4182	Technical data			
Nominal size	DN	20	20	20
Dimension code	.X.	MM04020	MG12000	
Face-to-face dimension	FF	125	125	
Height	H	239	239	
Thread	GA _A	M40x2.0	G 1-1/4	
Thread	GA _B	M40x2.0	G 1-1/4	
Thread	GA _C	M26x1.5	G 3/4	
Length	a	63	63	
Length	c	206	206	
Wrench size across flats	S ₁	19	19	
Wrench size across flats	S ₂	14	14	
Weight	ca. kg	3.5	3.5	
Kvs-Value	m ³ /h	3.2	3.2	
Cv-Value	gal/min	3.7	3.7	

Dimensions in mm.

Essential: Please confirm pressure range and valve set pressure on purchase order

Pressure Regulator

Type 4186-3 - CombiPressure-Regulator



Cryogenic-Pressure Regulator, stainless steel, PN50

Set point range from 2.0 up to 38.0 bar

Connections: male thread for union connection, BSPP (G) or M thread

Cleaning Standard: " cleaned and degreased for oxygen service "

complete with installed strainer screens - mesh size 0.25 mm - on connection A and B

Part No. 4186.X.3100* Set point range 2.0 up to 10.0 bar
set at 8.0 bar unless otherwise noted on purchase order

Part No. 4186.X.3200* Set point range 8.0 up to 22.0 bar
set at 12.0 bar unless otherwise noted on purchase order

Part No. 4186.X.3300* Set point range 20.0 up to 38.0 bar
set at 20.0 bar unless otherwise noted on purchase order

*connection C: 1 = M thread (cone connection 37°), 2 = BSPP (G) thread (cone connection 60°)

Available options - on request only:

- Further connections
- With check unit type 66044

Applications:

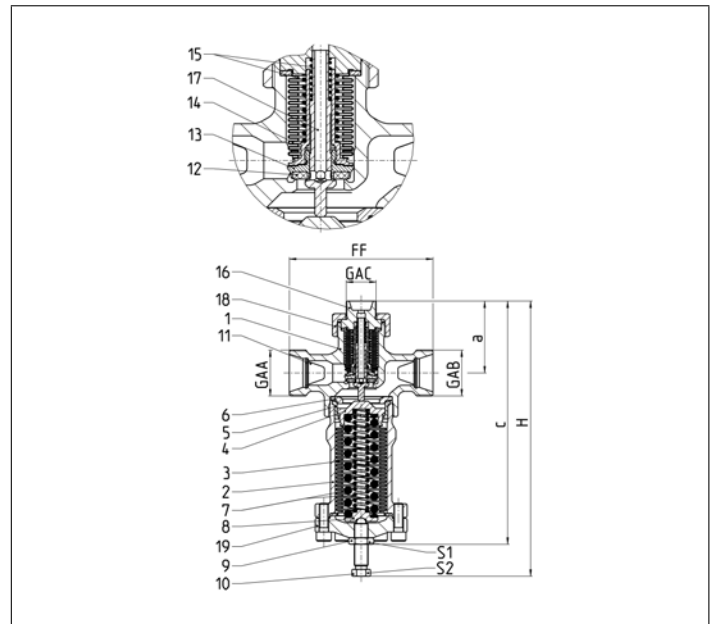
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +65°C / 149°F (338K)

Ambient temperature: -40°C / -40°F (233K) up to +65°C / 149°F (338K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Bonnet (cover)	1.4408	A 351 CF8M
3 Bellow	1.4571	A 313 Grade 316Ti
4 Spring plate	1.4571	A 276 Grade 316Ti
5 Lift stopper	1.4571	A 276 Grade 316Ti
6 Lift stopper	1.4571	A 276 Grade 316Ti
7 Spring	1.4310	A 313 Grade 301
8 Spring clamp	1.4301	A 276 Grade 304
9 Locking nut	1.4301	A 276 Grade 304
10 Set point adjuster	1.4301	A 240 Grade 304
11 Strainer (option)	1.4301	A 240 Grade 304
12 Valve seal	PTFE	
13 Bellow disc	1.4571	A 313 Grade 316Ti
14 Bellow	1.4571	A 313 Grade 316Ti
15 Bellow spring	1.4571	A 313 Grade 316Ti
16 Connection fitting	1.4571	A 313 Grade 316Ti
17 Tubular overflow	1.4571	A 276 Grade 316Ti
18 Union nut	1.4301	A 276 Grade 304
19 Flange cover	1.4308	A 351 CF8



Type 4186	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	MM04020	MG12000
Face-to-face dimension	FF	125	125
Height	H	239	239
Thread	GA _A	M40x2.0	G 1-1/4
Thread	GA _B	M40x2.0	G 1-1/4
Thread	GA _C	M26x1.5	G 3/4
Length	a	63	63
Length	c	212	212
Wrench size across flats	S ₁	19	19
Wrench size across flats	S ₂	14	14
Weight	ca. kg	3.2	3.2
Kvs-Value	m ³ /h	3.2	3.2
Cv-Value	gal/min	3.7	3.7

Dimensions in mm.

Essential: Please confirm pressure range and valve set pressure on purchase order

Pressure Regulator

Type T118 - Globe Valve



Cryogenic Globe Valves with check unit, PN50

suitable for CombiPressure-Regulator type 4182/4186

Material: Stainless steel
 Connections: Male thread for union connection
 Installation position: Vertically

"cleaned and degreased for oxygen service"

Part No. T118.X.1A0C0

Male thread for union connection

Available options - on request only:

- Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Union type butt weld fittings for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88
- Thread connection NPT acc. to ANSI B 1.20.1



Applications:

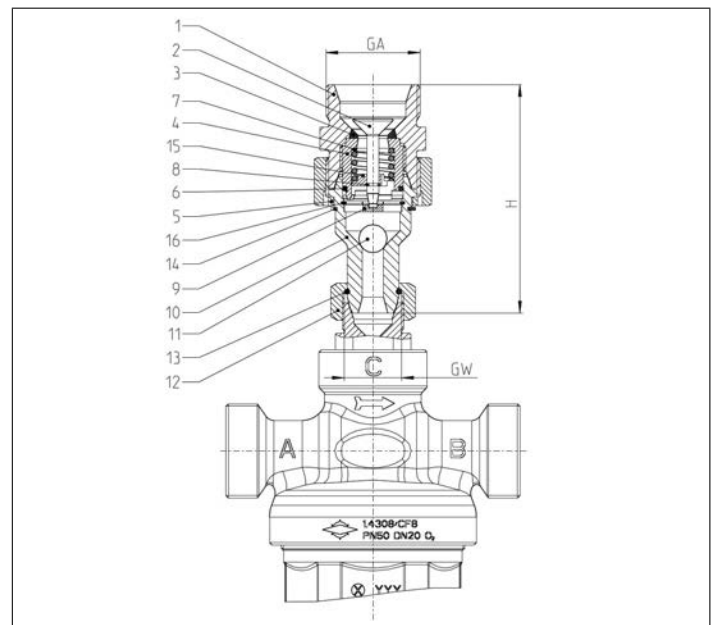
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +65°C / 149°F (338K)

Ambient temperature: -40°C / -40°F (233K) up to +65°C / 149°F (338K)

Maximum operating pressure: 50bar

Materials	DIN EN	ASTM
1 Body	1.4571	A 313 Grade 316Ti
2 Stem	1.4571	A 313 Grade 316Ti
3 Seal	PTFE	
4 Spring plate	1.4301	A 276 Grade 304
5 Gland nut	1.4301	A 276 Grade 304
6 O-ring	PTFE	
7 Spring	1.4571	A 313 Grade 316Ti
8 Snap ring	-	-
9 Guiding disc	1.4571	A 313 Grade 316Ti
10 Body	1.4571	A 313 Grade 316Ti
11 Ball	PTFE	
12 Snap ring	-	-
13 Gland nut	1.4301	A 276 Grade 304
14 Lock ring	1.4122	-
15 Spring compressor	1.4571	A 313 Grade 316Ti
16 Lock ring	1.4435	-



Type T118	Technical data	
Nominal size	DN	20
Dimension code	.X.	FM02615
Height	H	97
Thread	GA	M40x2.0
Thread	GW	M26x1.5
Weight	ca. kg	0.7
Kvs-Value	m ³ /h	2.0
Cv-Value	gal/min	2.3

Dimensions in mm.

Check Valves

Type 05412 - Check Valve



Cryogenic-Check Valves, PN50

Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05412.X.0001

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

- Socket end for stainless steel pipes acc. to ISO 1127

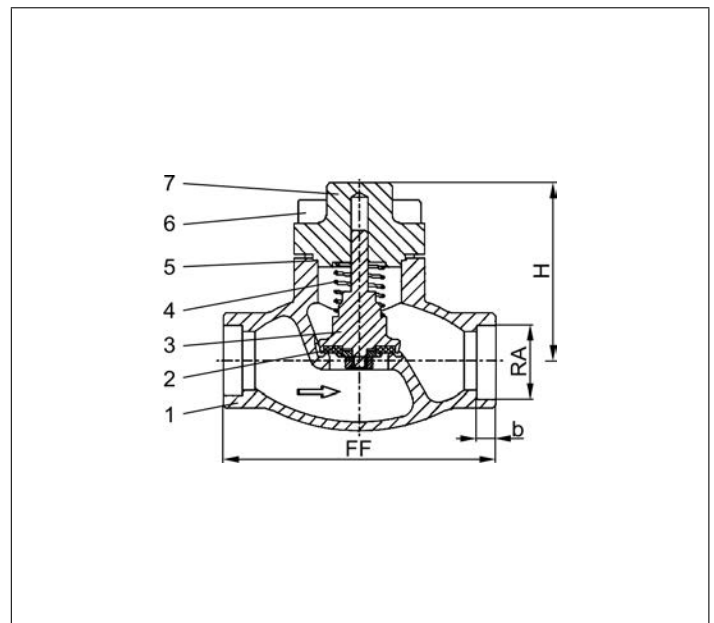


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200



Type 05412 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA, Example: valve DN10 for copper pipe RAØ12mm. X=1012						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	71	71	72	75	87	95	95
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Weight	ca. kg	0.7	1.0	1.3	1.6	2.4	3.9	5.7
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05412 - Check Valve

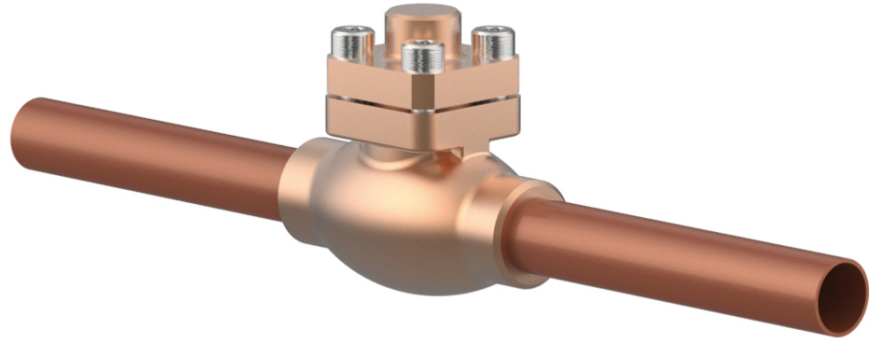


Cryogenic-Check Valves, PN50 (DN10-25), PN40 (DN32), PN35 (DN40-50)

Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05412.X.0008

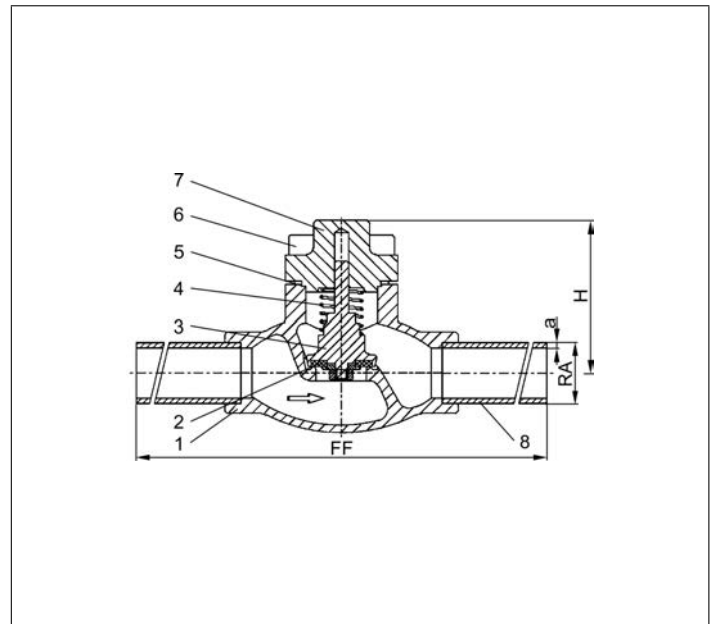
Complete with brazed copper stubs acc. to DIN EN 12449



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200
8 Copper stubs	CW024A	B 152 UNS C12200



Type 05412 - Standard design	Technical data								
Nominal size	DN	10	15	15	20	25	32	40	50
Dimension code	.X.	1012	1515	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	360	385	385	385	415	415	420	460
Height	H	71	71	71	72	75	87	95	95
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Wall thickness pipe	a	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0
Weight	ca. kg	0.8	1.1	1.1	1.4	2.0	2.8	4.5	6.5
Kvs-Value	m ³ /h	2.2	4.3	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	5.0	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05412 - Check Valve



Cryogenic-Check Valves, PN50

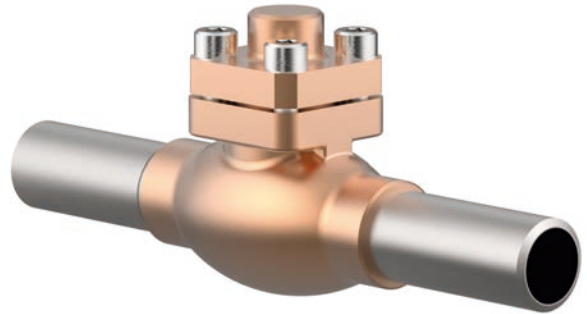
Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05412.X.0007

Complete with brazed stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available options - on request only:

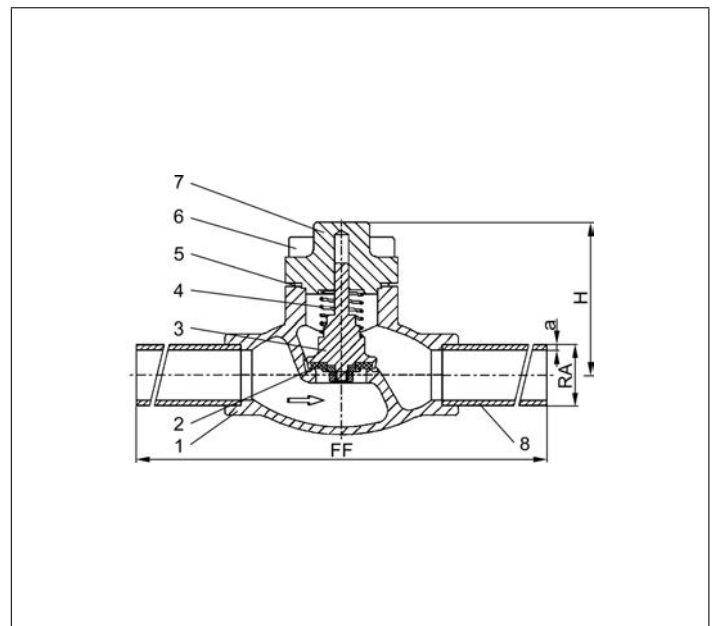
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200
8 Stainless steel stubs	1.4306	A 312 TP304L



Type 05412 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	210	210	235	235	265	265	290	310
Height	H	71	71	71	72	75	87	95	95
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.40	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Weight	ca. kg	0.8	0.8	1.1	1.4	2.0	2.8	4.5	6.5
Kvs-Value	m ³ /h	2.2	2.2	4.3	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	2.6	2.6	5.0	7.8	13.4	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05413 - Check Valve



Cryogenic-Check Valves, PN50

Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05413.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 05413.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

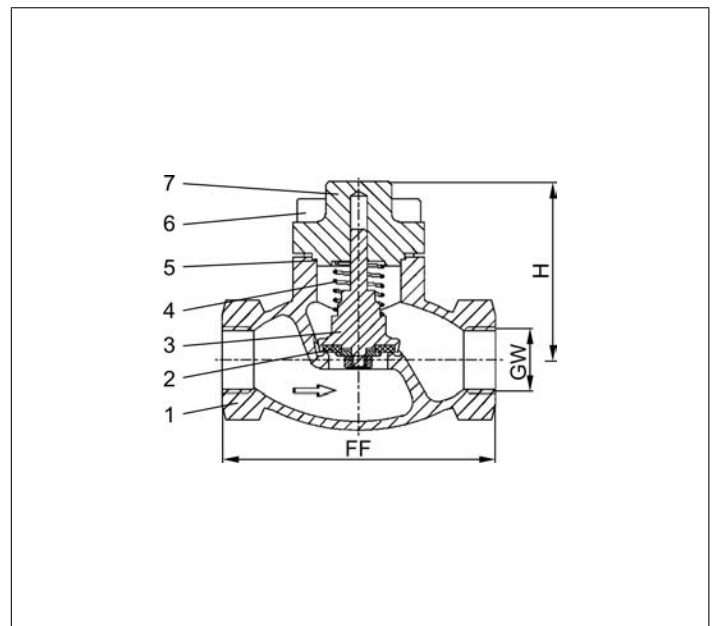
- Female thread connection (R) acc. to ISO 7-Rc



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200



Type 05413 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	71	71	71	72	75	87	95	95
Weight	ca. kg	0.7	0.7	1.0	1.3	1.6	2.4	3.9	5.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05411 - Check Valve



Cryogenic-Check Valves, PN50

Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05411.X.0001

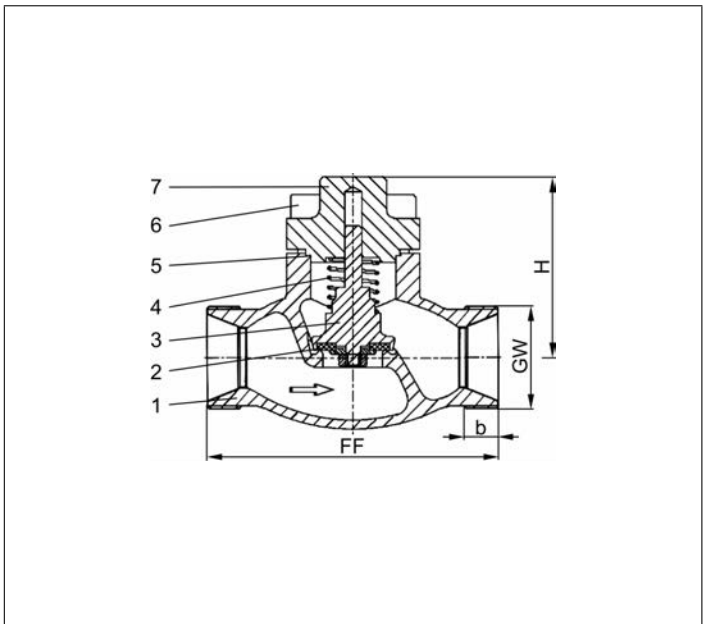
Male thread for union connection



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200



Type 05411 - Standard design	Technical data					
Nominal size	DN	10	20	32	40	50
Dimension code	.X.	0100	0200	0320	0400	0500
Face-to-face dimension	FF	60	85	115	140	160
Height	H	71	72	87	95	95
Union thread	GW	M26x1.5	M40x2.0	M55x2.0	M65x2.0	M78x2.0
Thread length	b	7	11	14	17	20
Weight	ca. kg	0.7	1.3	2.4	3.9	5.7
Kvs-Value	m ³ /h	2.2	6.7	12.1	22.6	37.1
Cv-Value	gal/min	2.6	7.8	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05411 - Check Valve

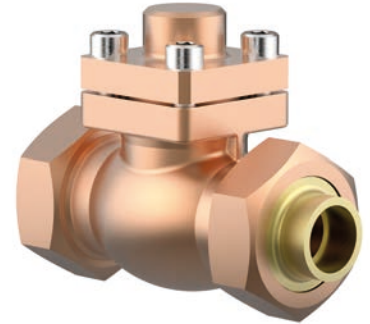


Cryogenic-Check Valves, PN50

Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05411.X.0008

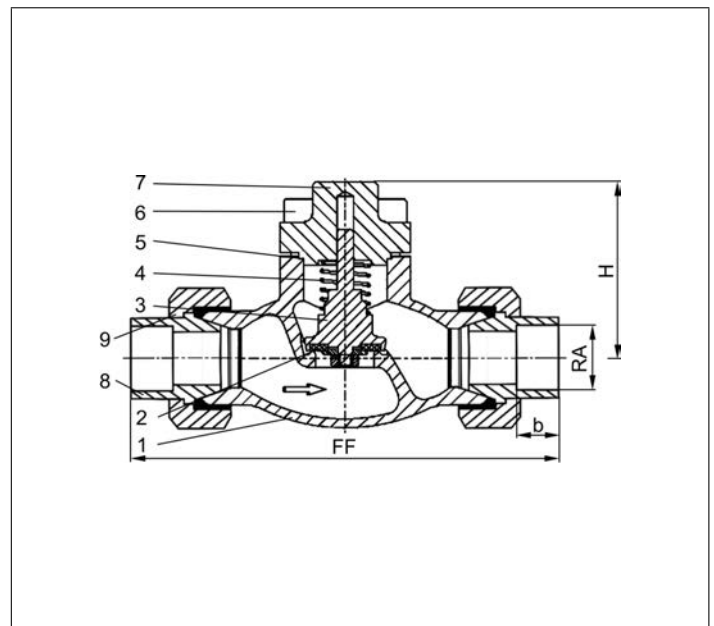
Completed with union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200
8 Braze fitting	CC493K	B 505 UNS C93200
9 Union nut	CC493K	B 505 UNS C93200



Type 05411 - Standard design	Technical data								
Nominal size	DN	10	10	20	20	32	32	40	50
Dimension code	.X.	1012	1015	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	98	98	132	132	171	171	230	230
Height	H	71	71	72	72	87	87	95	95
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Socket depth	b	11	11	14	14	17	17	17	17
Weight	ca. kg	0.9	0.9	2.0	2.0	3.6	3.6	6.0	8.5
Kvs-Value	m ³ /h	1.6	2.2	6.0	6.7	11.5	12.1	22.6	37.1
Cv-Value	gal/min	1.9	2.6	7.1	7.8	13.4	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05411 - Check Valve



Cryogenic-Check Valves, PN50

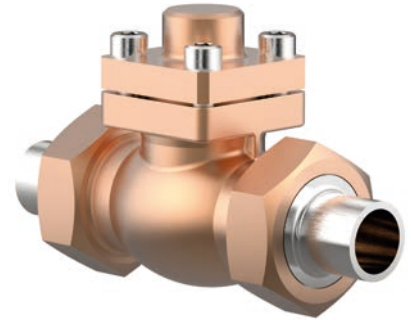
Bronze body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05411.X.0007

Completed with union type butt weld fittings for stainless steel pipes
acc. to ISO 1127 or ASTM A312

Available options - on request only:

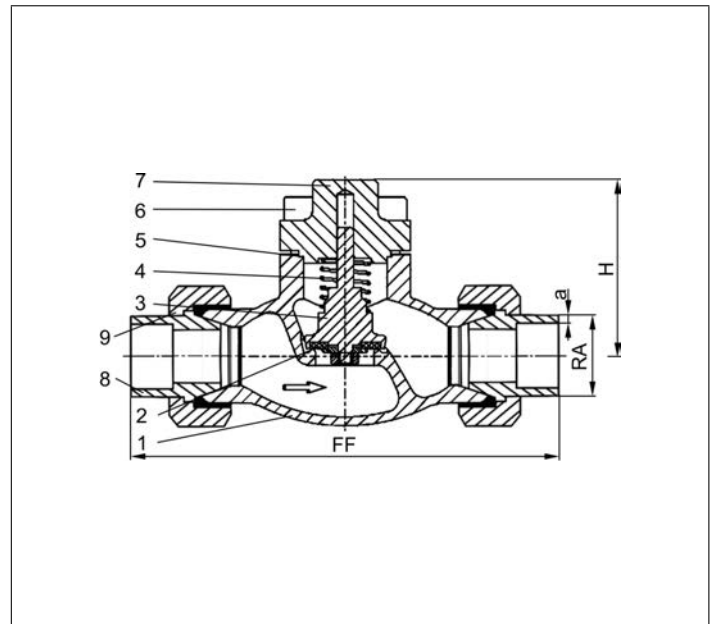
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200
8 Weld fitting	1.4301	A 276 Grade 304
9 Union nut	CC493K	B 505 UNS C93200



Type 05411 - Standard design	Technical data								
Nominal size	DN	10	10	20	20	32	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	137	141	168	168	203	203	230	263
Height	H	71	71	72	72	87	87	95	95
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.0	3.2	2.0	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.40	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Weight	ca. kg	0.9	0.9	2.0	2.0	3.6	3.6	6.0	8.5
Kvs-Value	m ³ /h	1.6	2.2	6.7	6.7	12.1	12.1	22.6	37.1
Cv-Value	gal/min	1.9	2.6	7.8	7.8	14.1	14.1	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05416 - Check Valve



Cryogenic-Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and bronze cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05416.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 05416.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

· Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm

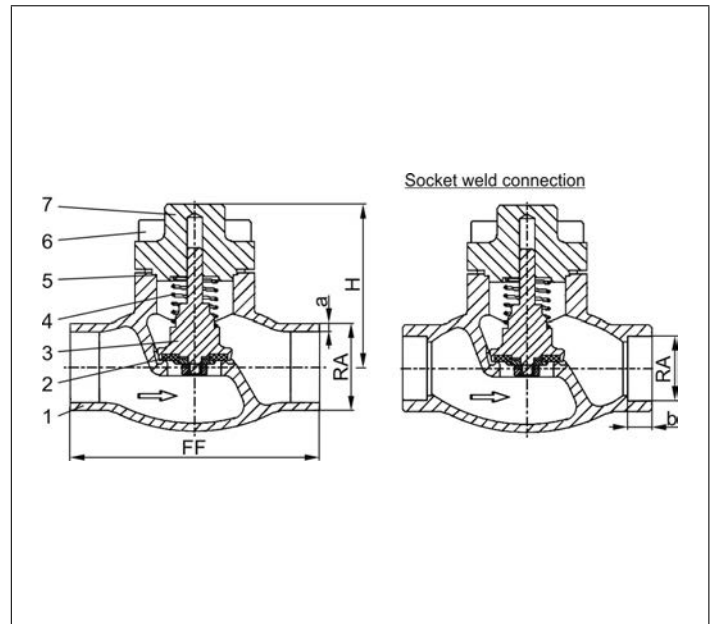


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	CC493K	B 505 UNS C93200



Type 05416 - Standard design	Technical data														
	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Nominal size	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Dimension code	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Face-to-face dimension	H	71	71	71	72	75	87	95	95	95	125	150	185	215	
Height	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Outside pipe-Ø ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Wall thickness pipe ISO 1127	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Outside pipe-Ø ASTM A312	a	dimensions acc. to S10 or S40													
Wall thickness pipe ASTM A312	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Socket depth	ca. kg	0.7	0.95	1.0	1.3	1.6	2.4	3.9	3.9	5.7	9.6	14.6	20.0	51.0	
Weight	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Kvs-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	
Cv-Value															

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05415 - Check Valve



Cryogenic-Check Valves, PN50

Stainless steel body and bronze cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05415.X.0001

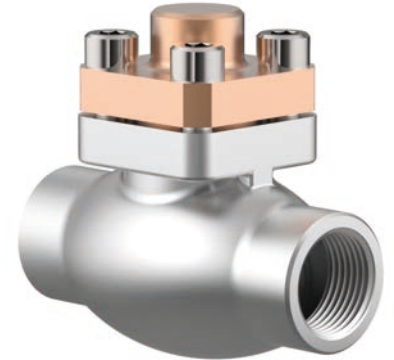
Female thread connection (G) acc. to ISO 228/1

Part No. 05415.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

· Female thread connection (R) acc. to ISO 7-Rc

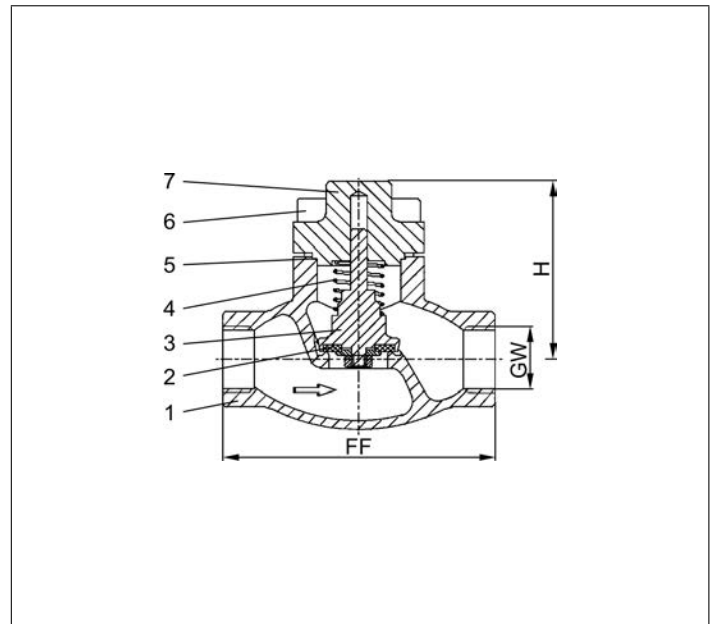


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	CC493K	B 505 UNS C93200



Type 05415 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	71	71	71	72	75	95	95	95
Weight	ca. kg	0.7	0.7	1.0	1.3	1.6	3.9	3.9	5.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05418 - Check Valve, DIN EN Flanges

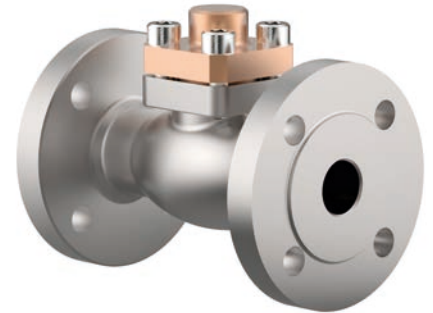


Cryogenic-Check Valves, PN40

Stainless steel body and bronze cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05418.X.0002

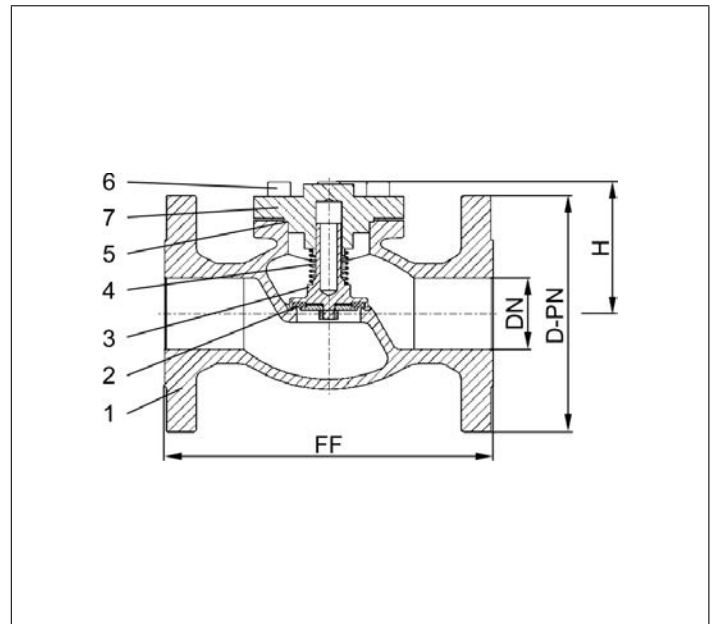
Flanged connection acc. to DIN EN 1092-1 PN40



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	CC493K	B 505 UNS C93200



Type 05418 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	72.7
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05418 - Check Valve, ASME B16.5 Flanges

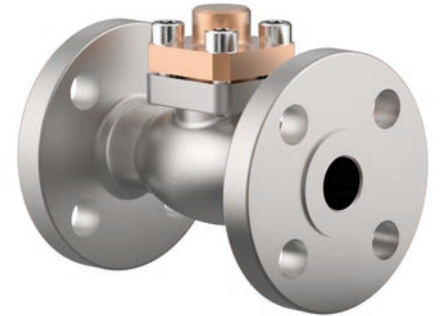


Cryogenic-Check Valves, class 300

Stainless steel body and bronze cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05418.X.0003

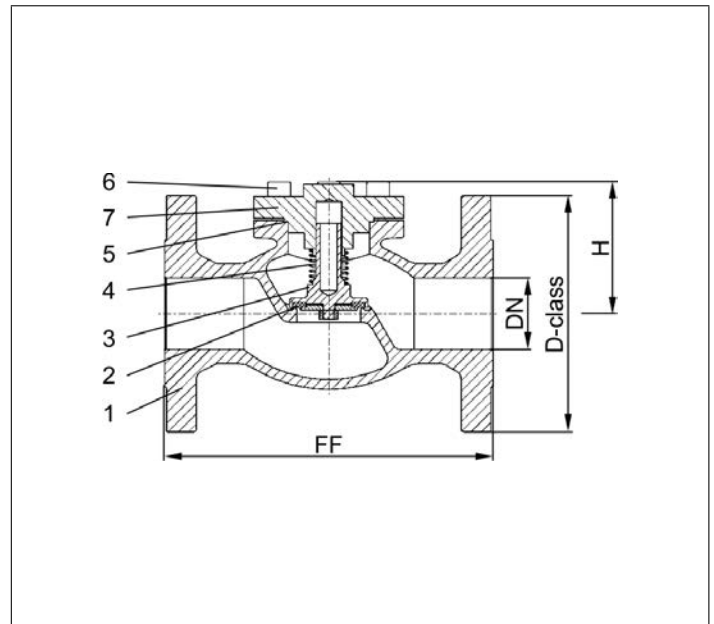
Flanged connection acc. to ASME B16.5 class 300



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	CC493K	B 505 UNS C93200



Type 05418 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	90.3
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05418 - Check Valve, ASME B16.5 Flanges

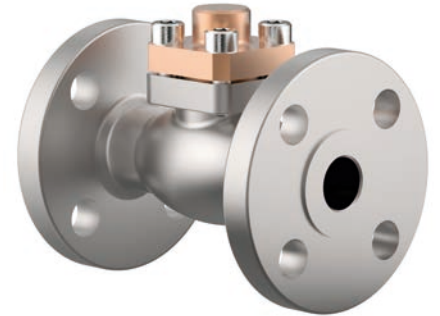


Cryogenic-Check Valves, class 150

Stainless steel body and bronze cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05418.X.0001

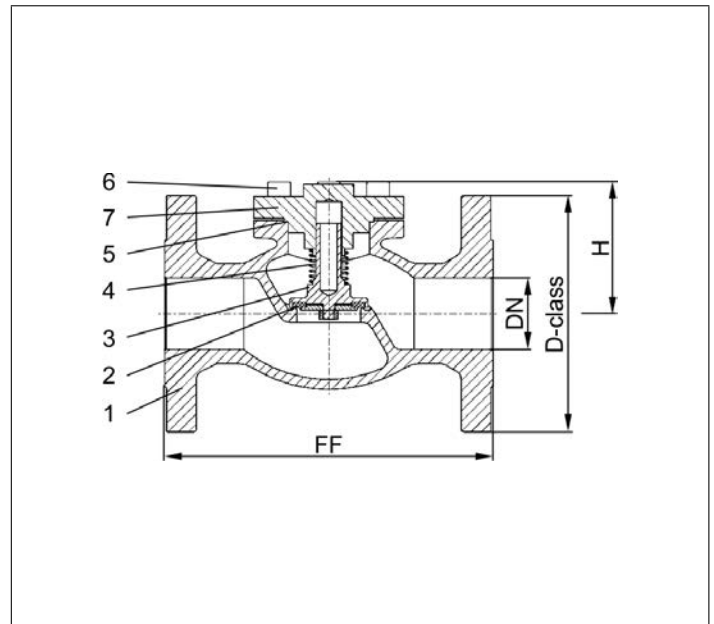
Flanged connection acc. to ASME B16.5 class 150



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Spring	CW452K	B 159 UNS C51900
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	CC493K	B 505 UNS C93200



Type 05418 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	81.5
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05414 - Check Valve



Cryogenic-Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05414.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 05414.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Further pipe wall thicknesses

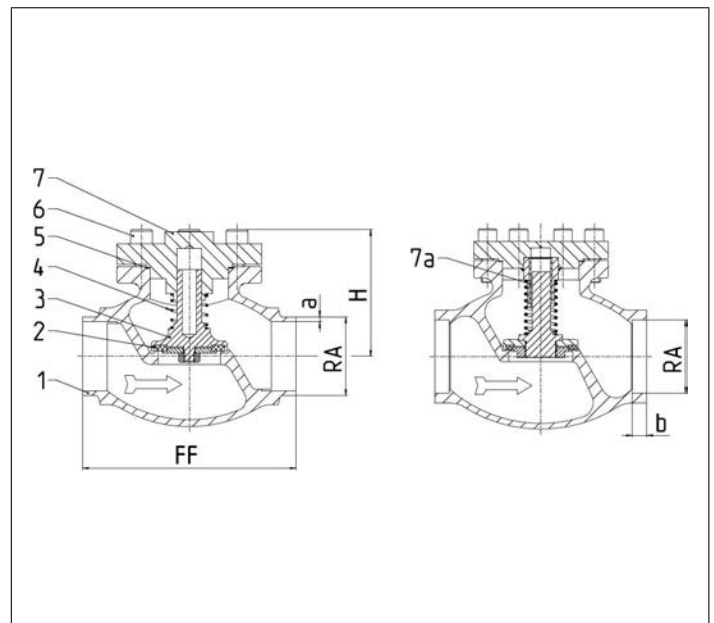


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304
7a Bush from DN65	PTFE	



Type 05414 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	71	71	71	72	75	87	95	95	95	125	150	185	215	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.7	0.95	1.0	1.3	1.6	2.4	3.9	3.9	5.7	9.6	14.6	20.0	51.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05414 - Check Valve



Cryogenic-Check Valves

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar

Part No. 05414.0219.0001, PN20

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 05414.0219.0004, PN25

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only

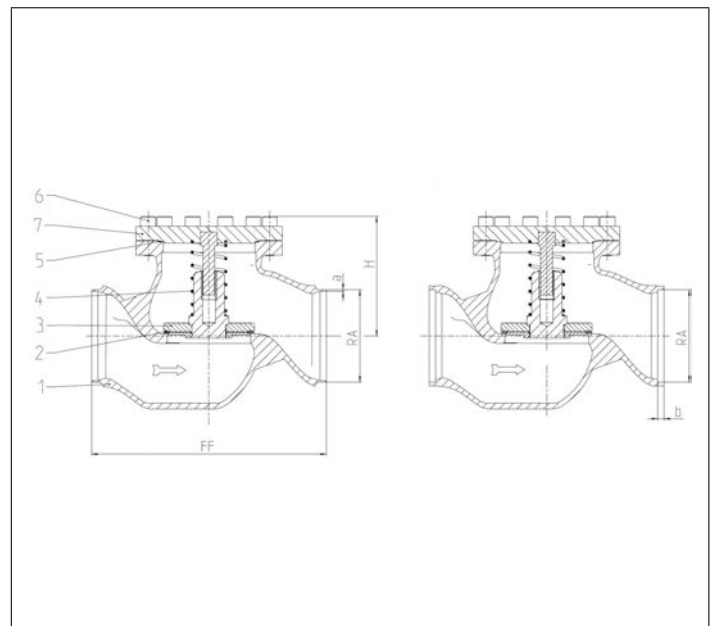


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2 A 194 B8	
7 Cap	1.4301	A 276 Grade 304



Type 05414 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	285
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Weight	ca. kg	111
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05417 - Check Valve



Cryogenic-Check Valves, PN50

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05417.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 05417.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

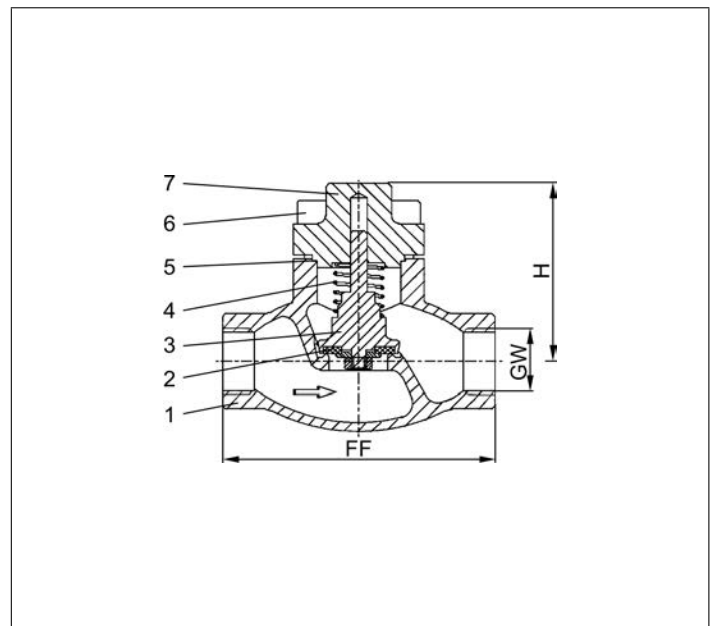
- Female thread connection (R) acc. to ISO 7-Rc



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304



Type 05417 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	71	71	71	72	75	95	95	95
Weight	ca. kg	0.7	0.7	1.0	1.3	1.6	3.9	3.9	5.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05419 - Check Valve, DIN EN Flanges



Cryogenic-Check Valves, PN40

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05419.X.0002

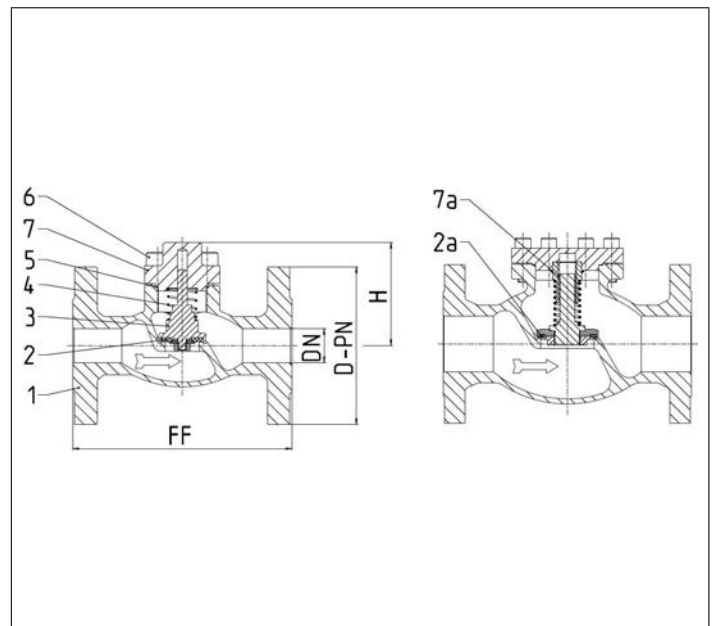
Flanged connection acc. to DIN EN 1092-1 PN40



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304
7a Bush from DN65	PTFE	



Type 05419 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	72.7
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05419 - Check Valve, ASME B16.5 Flanges



Cryogenic-Check Valves, class 300

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05419.X.0003

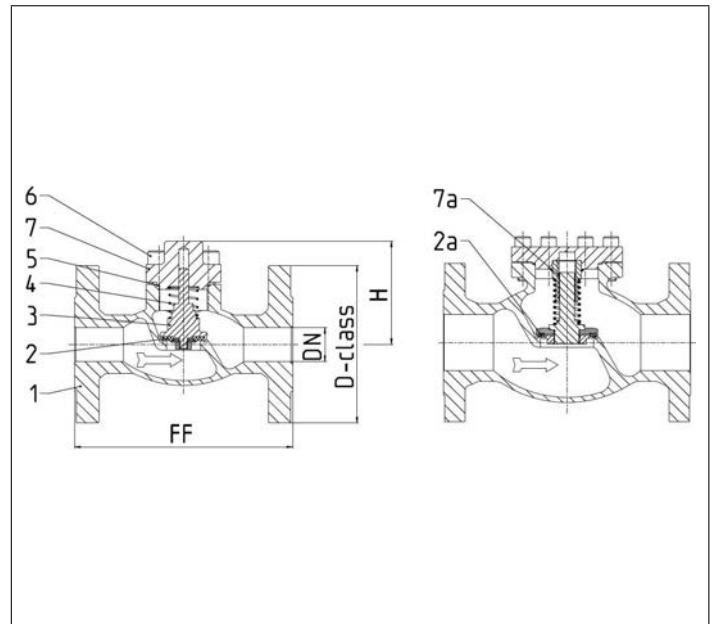
Flanged connection acc. to ASME B16.5 class 300



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304
7a Bush from DN65	PTFE	



Type 05419 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	90.3
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Check Valves

Type 05419 - Check Valve, ASME B16.5 Flanges



Cryogenic-Check Valves, class 150

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05419.X.0001

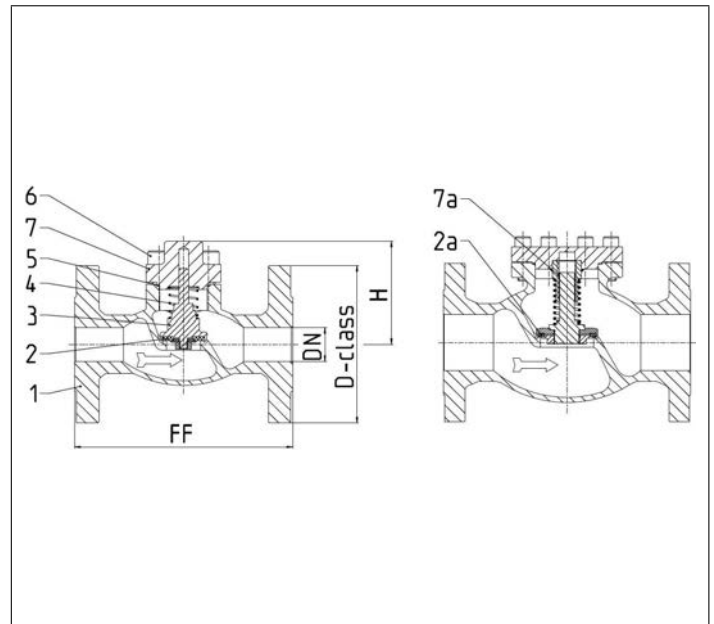
Flanged connection acc. to ASME B16.5 class 150



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	PTFE	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304
7a Bush from DN65	PTFE	



Type 05419 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	81.5
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Spare Parts for Check Valves

Type 28205, Type 28206 - Check Disc complete



for Cryogenic-Check Valves

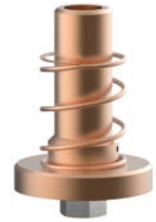
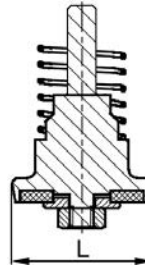
brass check disc CW614N

"cleaned and degreased for oxygen service"

Part No. 28205.X.0000

suitable for:

Type	Nominal size
05411, 05412, 05413, 05415	DN10 - DN50
05416	DN10 - DN150
05418	DN25 - DN150



Type 28205.X.0000	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28

Dimensions in mm.

for Cryogenic-Check Valves

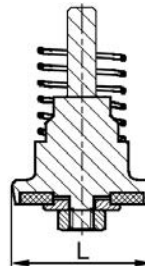
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 28206.X.0000

suitable for:

Type	Nominal size
05414	DN10 - DN150
05417	DN10 - DN50
05419	DN25 - DN150



Type 28206.X.0000	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28

Dimensions in mm.

Spare Parts for Check Valves

Type 30514 - Sealing spare part kit



for Cryogenic Globe Valves and Check Valves

"cleaned and degreased for oxygen service"

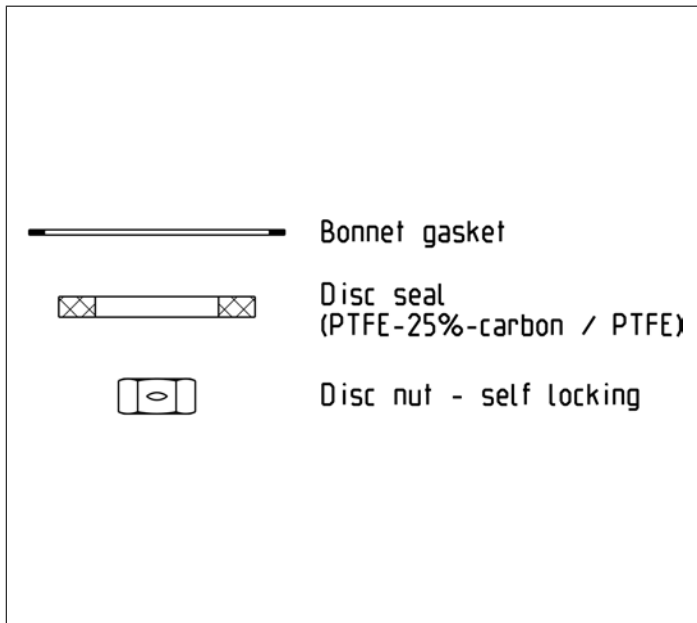
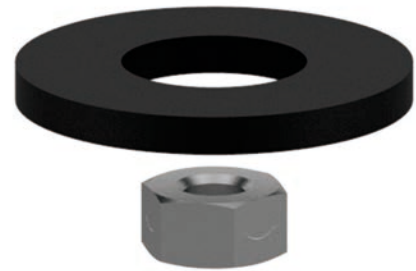
consisting of:

- 2x Bonnet gasket PTFE
- 1x Disc seal (PTFE 25% carbon / \geq DN65 PTFE)
- 1x Disc nut 1.4301

Part No. 30514.X.0000

suitable for:

Type	Nominal size
05411, 05412, 05413, 05415, 05417	DN10 - DN50
05416	DN10 - DN150
05418, 05419	DN15 - DN150
05414	DN10 - DN200



Type 30514	Technical data												
	DN	10	15	20	25	32	40	50	65	80	100	150	200
Nominal size	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Weight	ca. kg	0.02	0.02	0.03	0.04	0.06	0.07	0.11	0.16	0.22	0.30	0.65	1.79

Dimensions in mm.

Spare Parts for Check Valves

Type 31514 - KEL-F (PCTFE) Disc Sealing spare part kit



for Cryogenic Globe Valves and Check Valves

"cleaned and degreased for oxygen service"

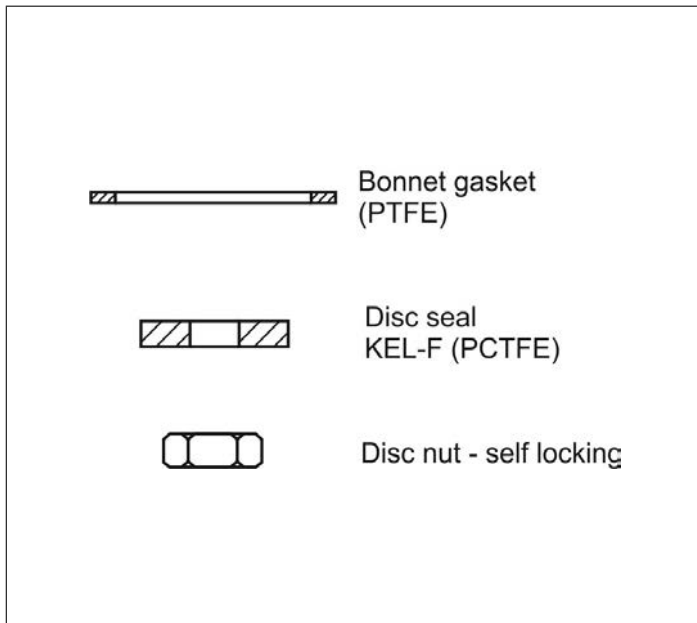
consisting of:

- 2x Bonnet gasket PTFE
- 1x Disc seal KEL-F (PCTFE)
- 1x Disc nut 1.4301

Part No. 31514.X.PCTFE

suitable for disc's for the following types:

Type	Nominal size
05412, 05411, 05413	DN10 - DN50
05416, 05414	DN10 - DN100
05415, 05417	DN10 - DN50
05418, 05419	DN10 - DN150



Type 31514	Technical data										
Nominal size	DN	10	15	20	25	32	40	50	65	80	100
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000
Weight	ca. kg	0.02	0.02	0.03	0.04	0.06	0.07	0.11	0.16	0.22	0.30

Dimensions in mm.

Edition 2024-01

Strainers

Type 08411 - Strainer



Cryogenic-Strainer, PN50

Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08411.X.0001

Male thread for union connection

Available options - on request only:

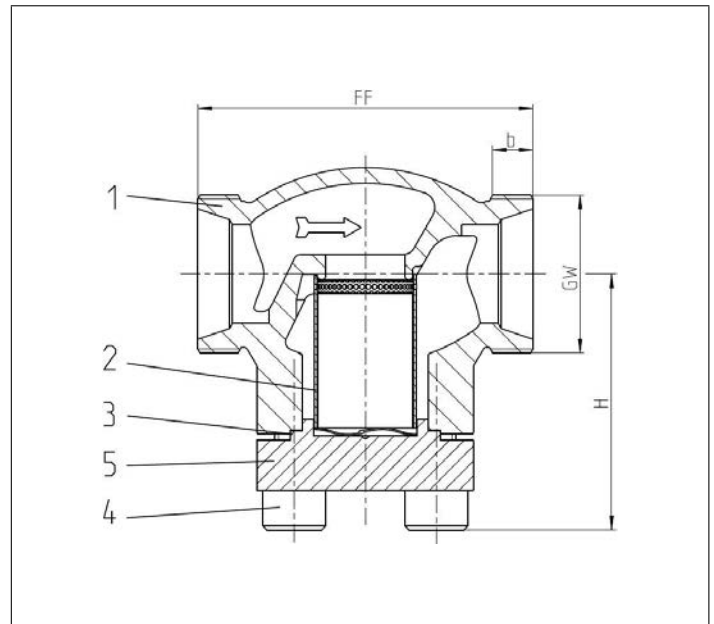
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08411 - Standard design	Technical data					
Nominal size	DN	10	20	32	40	50
Dimension code	.X.	0100	0200	0320	0400	0500
Face-to-face dimension	FF	60	85	115	140	160
Height	H	62	65	76	89	89
Union thread	GW	M26x1.5	M40x2.0	M55x2.0	M65x2.0	M78x2.0
Thread length	b	10	11	14	17	20
Weight	ca. kg	0.6	0.9	1.8	3.1	4.7
Kvs - Value	m ³ /h	1.5	6.5	14.0	21.0	28.0
Cv - Value	gal/min	1.7	7.5	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08411 - Strainer



Cryogenic-Strainer, PN50

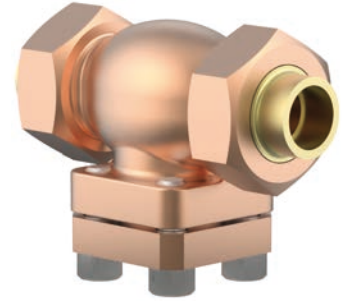
Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08411.X.0008

Completed with union type braze fittings for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

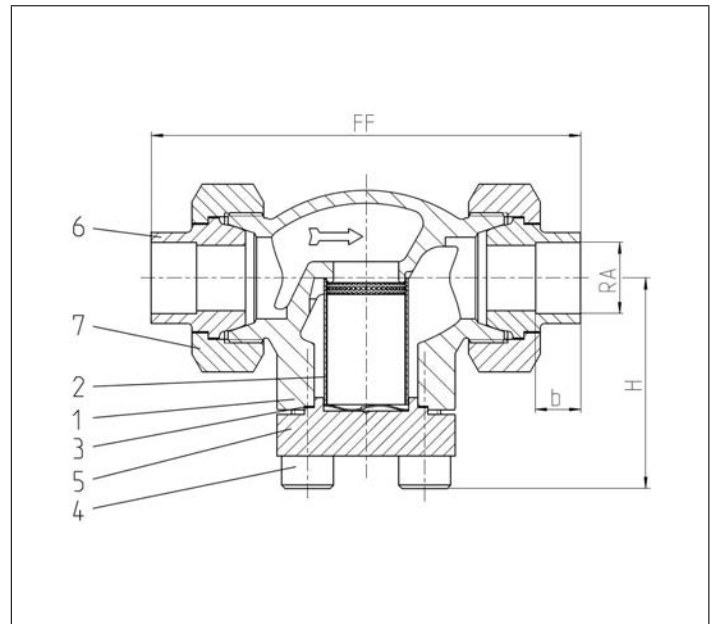
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200
6 Braze fitting	CC493K	B 505 UNS C93200
7 Union nut	CC493K	B 505 UNS C93200



Type 08411 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Dimension code	.X.	1012	1015	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	98	98	132	132	171	171	230	230
Height	H	62	62	62	65	69	76	89	89
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Socket depth	b	11	11	14	14	17	17	17	17
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	1.8	3.1	4.7
Kvs - Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	14.0	21.0	28.0
Cv - Value	gal/min	1.7	1.7	3.9	7.5	11.0	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08411 - Strainer



Cryogenic-Strainer, PN50

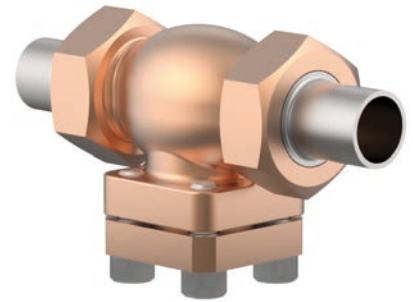
Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08411.X.0007

Completed with union type butt weld fittings for stainless steel pipes
acc. to ISO 1127 or ASTM A312

Available options - on request only:

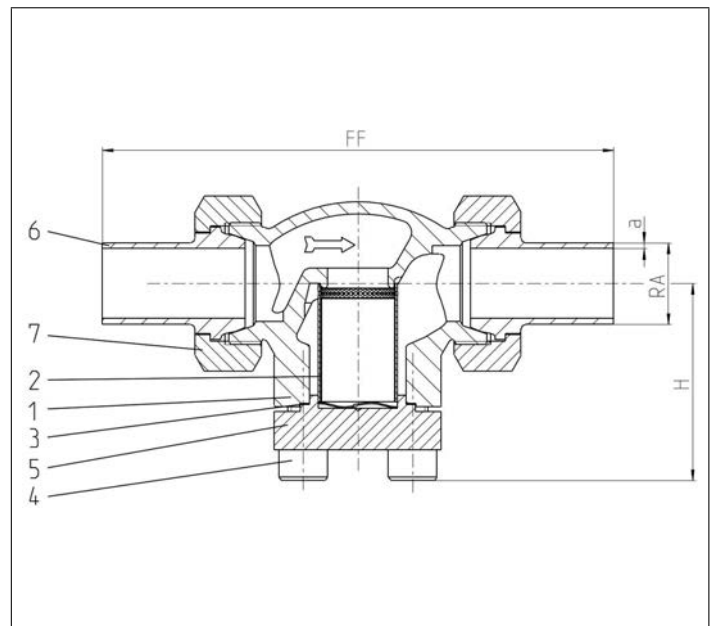
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200
6 Weld fitting	1.4301	A 276 Grade 304
7 Union nut	CC493K	B 505 UNS C93200



Type 08411 - Standard design	Technical data								
Nominal size	DN	10	10	20	20	32	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	137	141	168	168	203	203	230	263
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.0	3.2	2.0	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.40	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Height	H	62	62	62	65	69	76	89	89
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	1.8	3.1	4.7
Kvs - Value	m ³ /h	1.6	2.2	6.7	6.7	12.1	12.1	22.6	37.1
Cv - Value	gal/min	1.9	2.6	7.8	7.8	14.1	14.1	26.3	43.2

Dimensions in mm.

Strainers

Type 08412 - Strainer



Cryogenic-Strainer, PN50

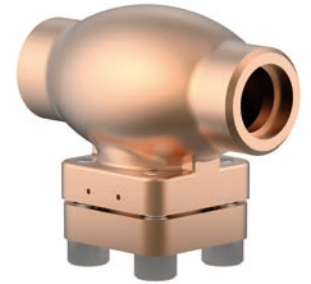
Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08412.X.0001

Socket end for copper pipes acc. to DIN EN 12449 or ASTM B88

Available options - on request only:

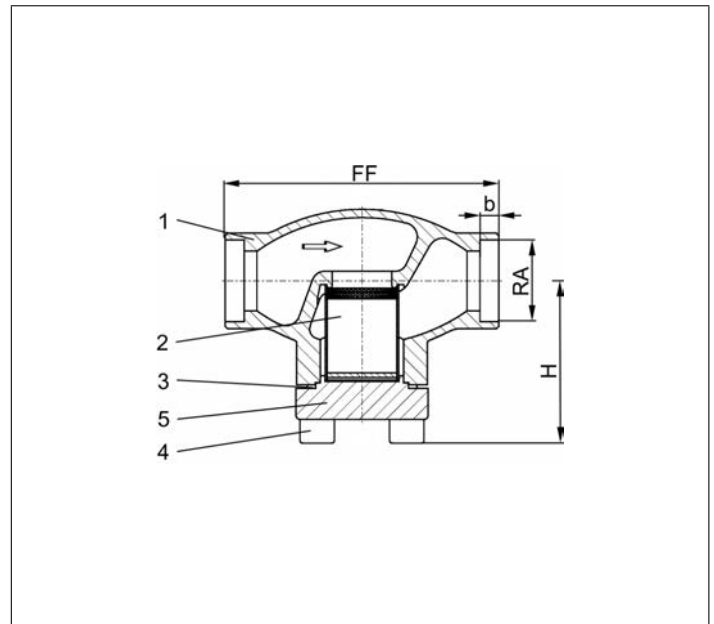
- Socket end for stainless steel pipes acc. to ISO 1127
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08412 - Standard design	Technical data							
Nominal size	DN	10	15	20	25	32	40	50
Dimension code	.X.	X=DNRA, Example: valve DN10 for copper pipe RAø12mm, X=1012						
Face-to-face dimension	FF	60	85	85	115	115	140	160
Height	H	62	62	65	69	76	89	89
Outside pipe-Ø	RA	dependent on order						
Socket depth	b	6	6	8	8	10	13	20
Weight	ca. kg	0.6	0.8	0.9	1.2	1.8	3.1	4.7
Kvs-Value	m ³ /h	1.5	3.4	6.5	9.5	14.0	21.0	28.0
Cv-Value	gal/min	1.7	3.9	7.5	11.0	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08412 - Strainer



Cryogenic-Strainer, PN50 (DN10-25), PN40 (DN32), PN35 (DN40-50)

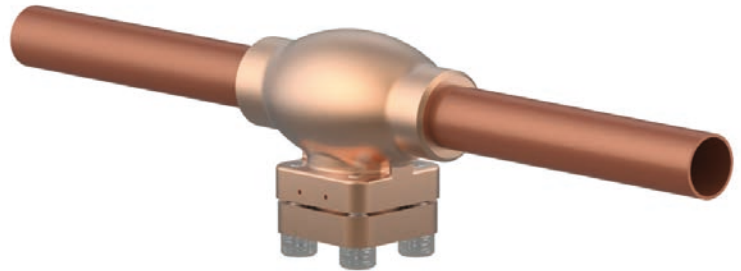
Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08412.X.0008

Complete with brazed copper stubs acc. to DIN EN 12449

Available options - on request only:

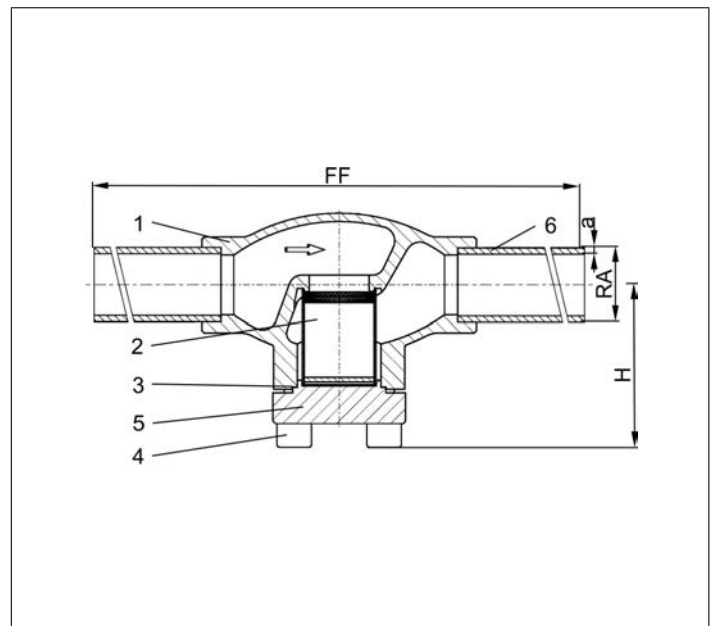
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200
6 Copper stubs	CW024A	B 152 UNS C12200



Type 08412 - Standard design	Technical data								
Nominal size	DN	10	15	15	20	25	32	40	50
Dimension code	.X.	1012	1515	1518	2022	2528	3235	4042	5054
Face-to-face dimension	FF	360	385	385	385	415	415	440	460
Height	H	62	62	62	65	69	76	89	89
Outside pipe-Ø	RA	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
Wall thickness pipe	a	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.0
Weight	ca. kg	0.75	1.0	1.0	1.2	1.8	2.5	4.1	6.0
Kvs-Value	m ³ /h	1.5	3.4	3.4	6.5	9.5	14.0	21.0	28.0
Cv-Value	gal/min	1.7	3.9	3.9	7.5	11.0	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08412 - Strainer



Cryogenic-Strainer, PN50

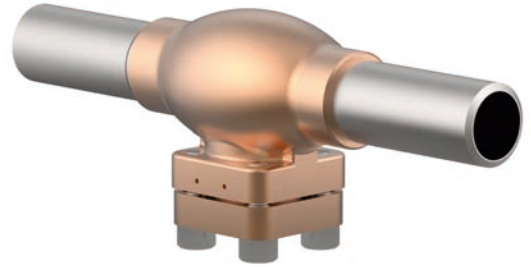
Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08412.X.0007

Complete with brazed stainless steel stubs acc. to DIN EN 10216-5 or ASTM A312

Available options - on request only:

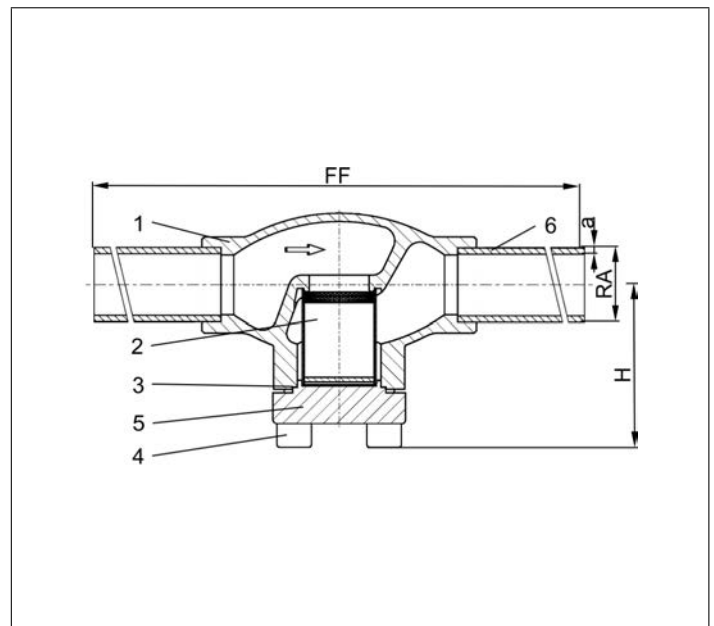
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities
- Further pipe wall thicknesses



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200
6 Stainless steel stubs	1.4306	A 312 TP304L



Type 08412 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Dimension code	.X.	1012	1017	1521	2027	2533	3242	4048	5060
Face-to-face dimension	FF	210	210	235	235	265	265	290	310
Height	H	62	62	62	65	69	76	89	89
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	2.3	2.6	2.9	3.2	3.2	3.6	3.6
Outside pipe-Ø ASTM A312	RA	-	17.15	21.34	26.67	33.4	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40							
Weight	ca. kg	0.75	0.75	1.0	1.2	1.8	2.5	4.1	6.0
Kvs-Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	14.0	21.0	28.0
Cv-Value	gal/min	1.7	1.7	3.9	7.5	11.0	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08413 - Strainer



Cryogenic-Strainer, PN50

Bronze body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08413.X.0001

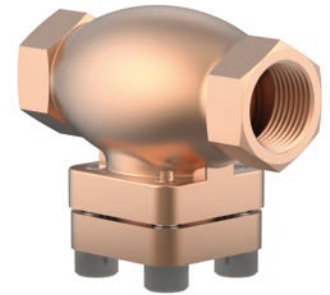
Female thread connection (G) acc. to ISO 228/1

Part No. 08413.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

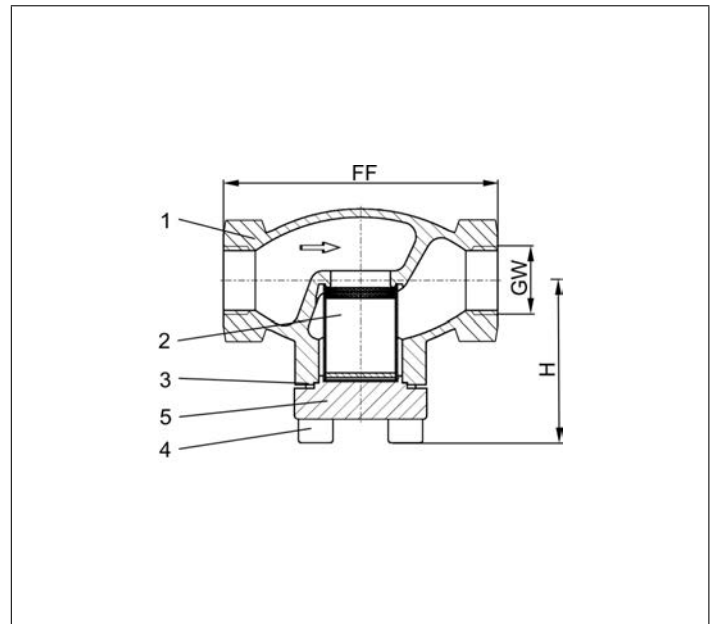
- Female thread connection (R) acc. to ISO 7-Rc
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08413 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	32	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	60	60	85	85	115	115	140	160
Height	H	62	62	62	65	69	76	89	89
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	1.8	3.1	4.7
Kvs-Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	14.0	21.0	28.0
Cv-Value	gal/min	1.7	1.7	3.9	7.5	11.0	16.2	24.3	32.4

Dimensions in mm.

Strainers

Type 08414 - Strainer



Cryogenic-Strainer, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and bronze cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08414.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 08414.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

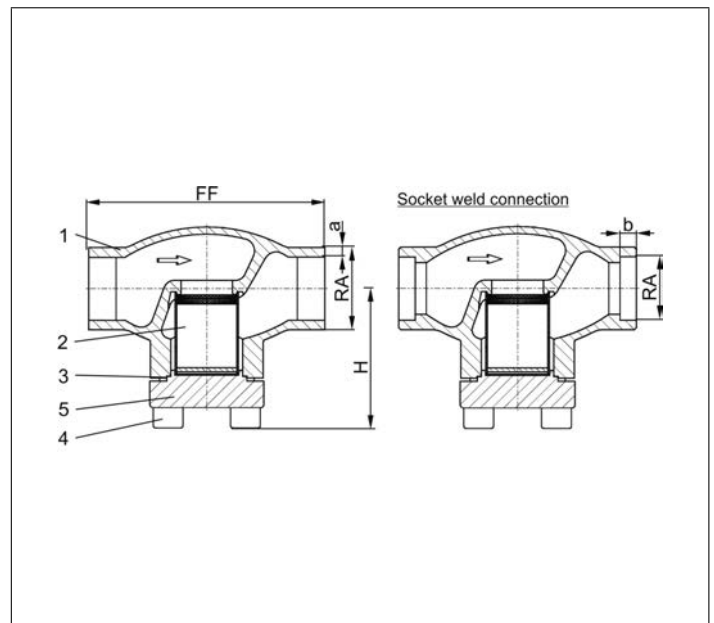


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08414 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	62	62	62	65	69	76	89	89	89	125	150	166	215	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.6	0.75	0.8	0.9	1.2	1.8	3.1	3.1	4.7	8.9	13.6	18.0	48.0	
Kvs-Value	m ³ /h	1.5	3.4	3.4	6.5	9.5	14.0	19.0	21.0	28.0	62.0	90.0	118.0	300.0	
Cv-Value	gal/mii	1.7	3.9	3.9	7.5	11.0	16.2	22.0	24.3	32.4	72.3	105.0	137.7	350.1	

Dimensions in mm.

Strainers

Type 08415 - Strainer



Cryogenic-Strainer, PN50

Stainless steel body and bronze cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08415.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 08415.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

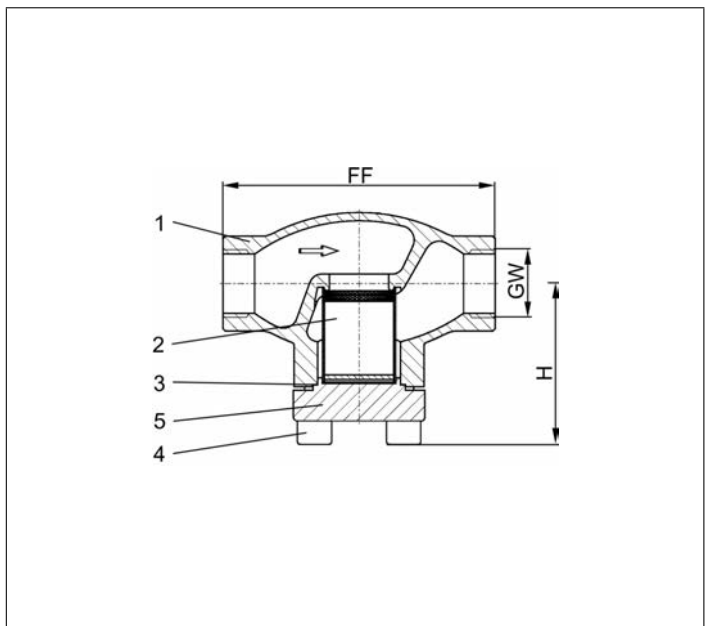
- Female thread connection (R) acc. to ISO 7-Rc
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Sieb	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Capschrauben	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08415 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	62	62	62	65	69	89	89	89
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	3.1	3.1	4.7
Kvs-Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	19.0	21.0	28.0
Cv-Value	gal/min	1.7	1.7	3.9	7.5	11.0	22.0	24.3	32.4

Dimensions in mm.

Strainers

Type 08431 - Strainer, DIN EN Flanges



Cryogenic-Strainer, PN40

Stainless steel body and bronze cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08431.X.0002

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

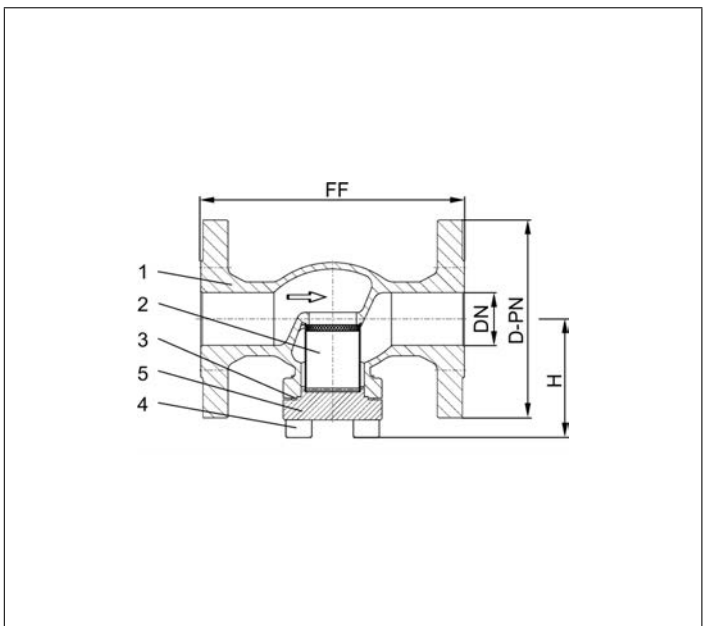


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08431 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	8.1	10.6	17.7	23.2	36.8	68.1
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Strainers

Type 08431 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 300

Stainless steel body and bronze cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08431.X.0003

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

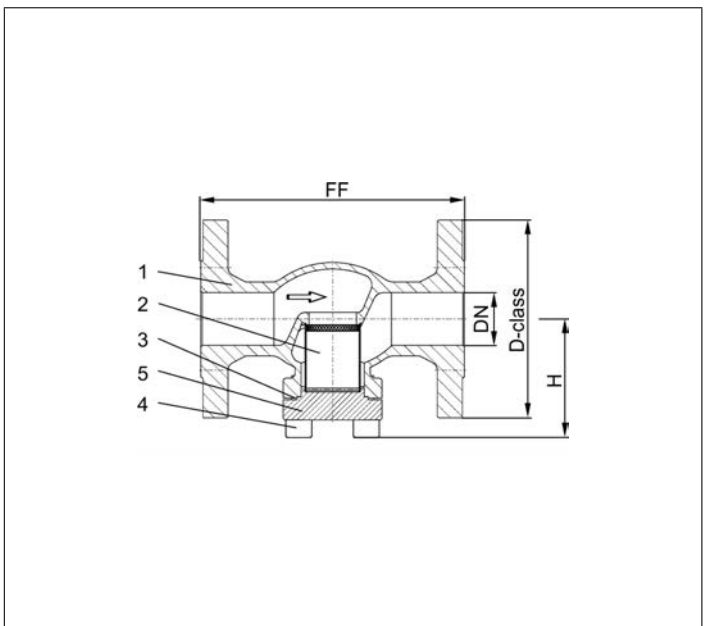


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08431 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	8.1	10.6	17.7	23.2	36.8	85.7
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Strainers

Type 08431 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 150

Stainless steel body and bronze cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08431.X.0001 Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

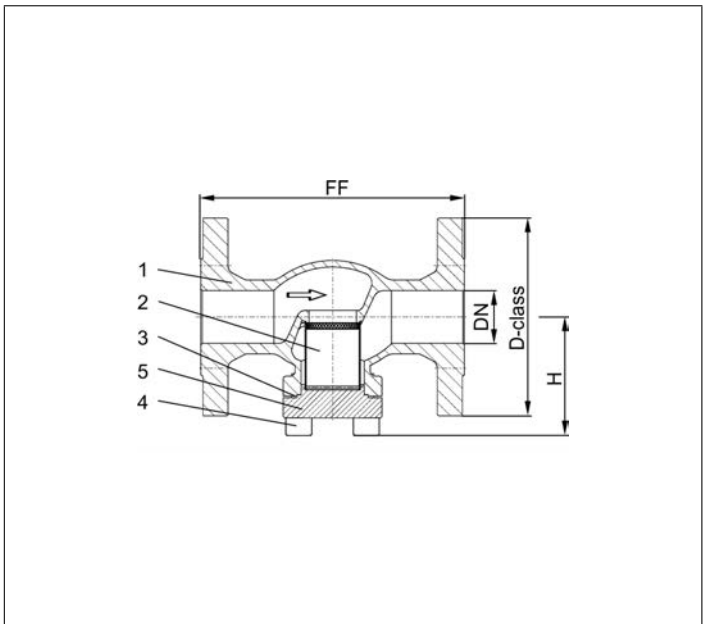
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	CC493K	B 505 UNS C93200



Type 08431 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	8.1	10.6	17.7	23.2	36.8	76.9
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	71.7	104.0	136.4	on request

Dimensions in mm.

Strainers

Type 08417 - Strainer



Cryogenic-Strainer, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08417.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 08417.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

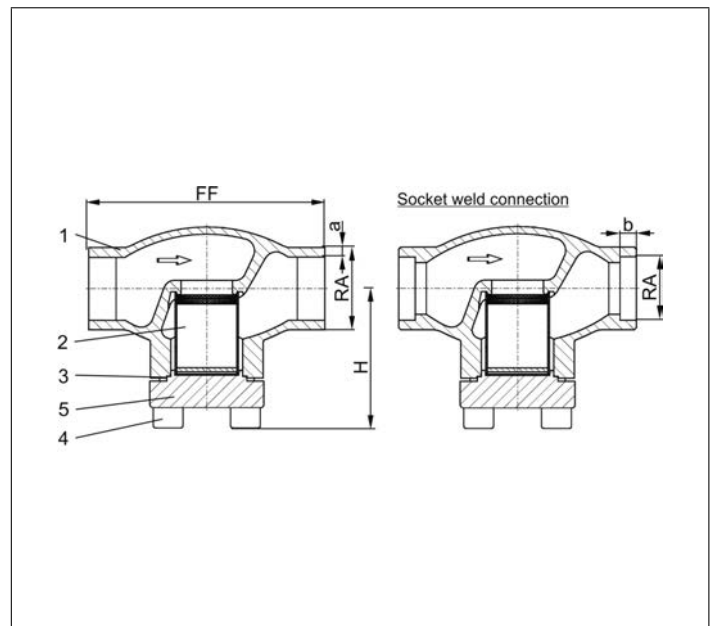


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08417 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	62	62	62	65	69	76	89	89	89	125	150	166	215	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.6	0.75	0.8	0.9	1.2	1.8	3.1	3.1	4.7	8.9	13.6	18.0	48.0	
Kvs-Value	m ³ /h	1.5	3.4	3.4	6.5	9.5	14.0	19.0	21.0	28.0	62.0	90.0	126.0	289.0	
Cv-Value	gal/mii	1.7	3.9	3.9	7.5	11.0	16.2	22.0	24.3	32.4	72.3	105.0	145.7	334.1	

Dimensions in mm.

Strainers

Type 08417 - Strainer



Cryogenic-Strainer, PN25

Stainless steel body and cap
with strainer screen mesh size 0.25 mm

Part No. 08417.0219.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only

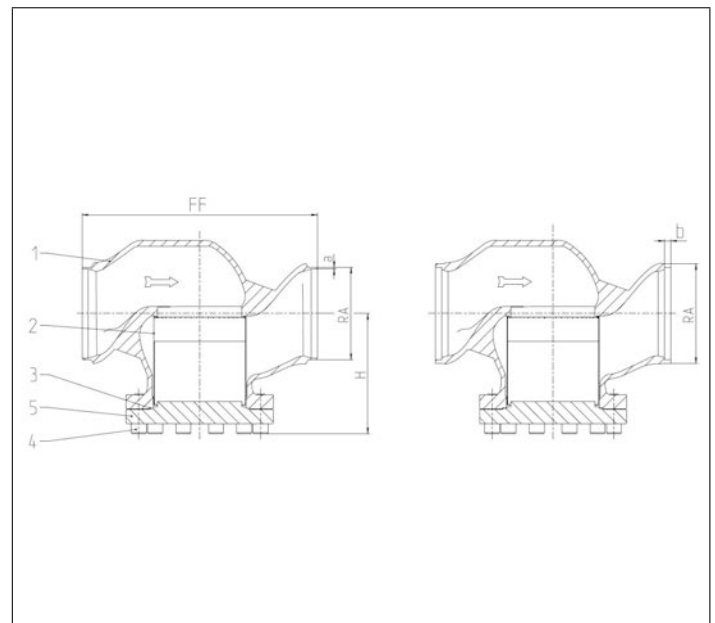


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08417 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	285
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Weight	ca. kg	100
Kvs-Value	m ³ /h	468
Cv-Value	gal/min	541.1

Dimensions in mm.

Strainers

Type 08416 - Strainer



Cryogenic-Strainer, PN50

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08416.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 08416.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

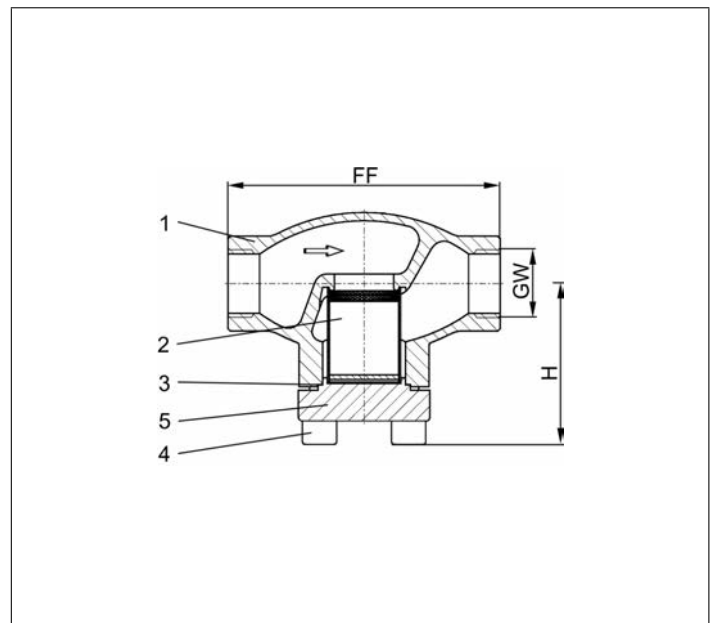
- Female thread connection (R) acc. to ISO 7-Rc
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08416 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	62	62	62	65	69	89	89	89
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	3.1	3.1	4.7
Kvs-Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	19.0	21.0	28.0
Cv-Value	gal/min	1.7	1.7	3.9	7.5	11.0	22.0	24.3	32.4

Dimensions in mm.

Strainers

Type 08432 - Strainer, DIN EN Flanges



Cryogenic-Strainer, PN40

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08432.X.0002

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

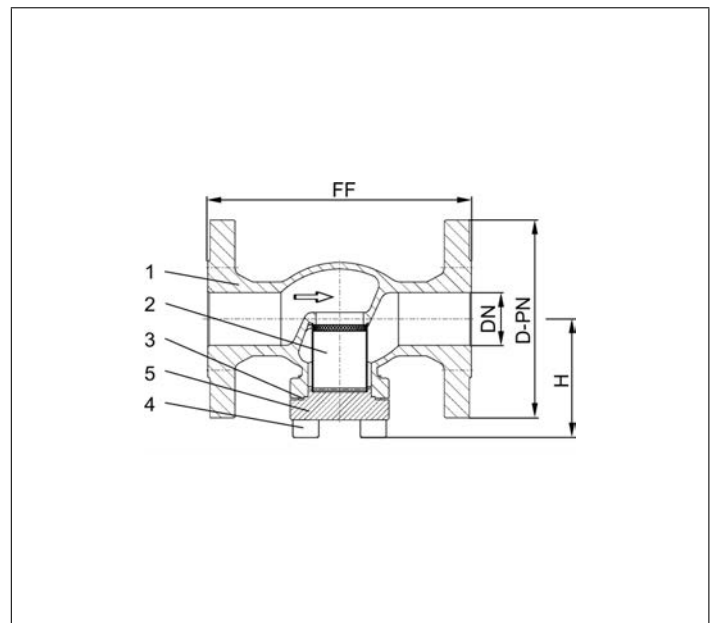


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08432 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	68.1
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Strainers

Type 08432 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 300

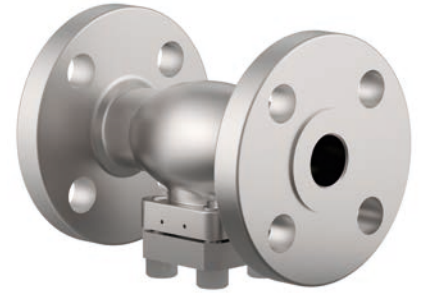
Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08432.X.0003

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

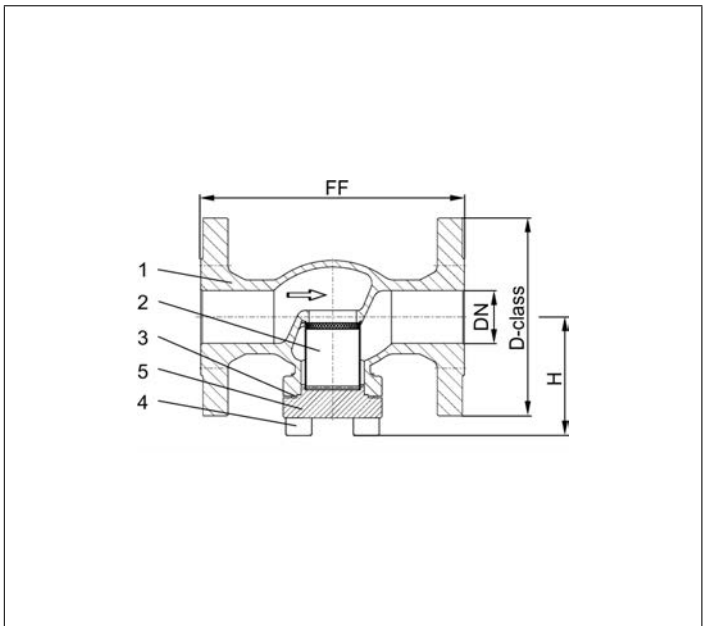
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08432 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	85.7
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Strainers

Type 08432 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 150

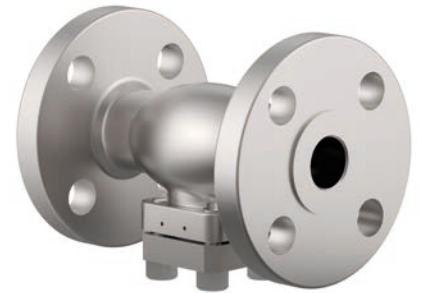
Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08432.X.0001

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

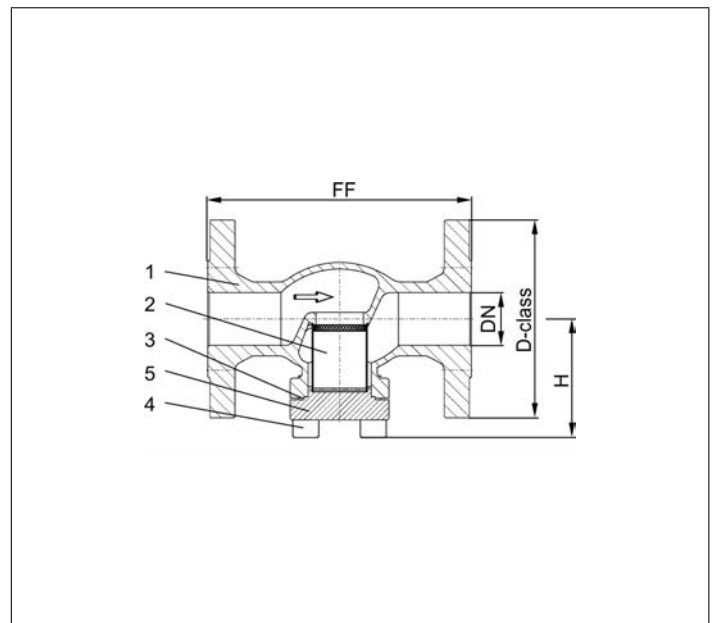


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Strainer screen	1.4301	A 240 Grade 304
3 Bonnet gasket	PTFE	
4 Bolts	1.4301/A2	A 194 B8
5 Cap	1.4301	A 276 Grade 304



Type 08432 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	76.9
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Spare Parts for Strainers

Type 30800, Type 30801 - Strainer screen, Filter



for Cryogenic-Strainer

"cleaned and degreased for oxygen service"

consisting of:

- 1x Strainer screen or Filter (materials see above)
- 1x Spring ring (1.4568)
- 1x Bonnet gasket (PTFE)

Available options - on request only:

- Further mesh sizes / porosities

Part No. 30800.X.0250A2

Stainless steel strainer screen (1.4301 / A 240 Grade 304) with a mesh size of 0.25 mm or rather 56 mesh

Part No. 30800.X.0100A2

Stainless steel strainer screen (1.4301 / A 240 Grade 304) with a mesh size of 0.10 mm or rather 140 mesh

Part No. 30800.X.0250A4

Stainless steel strainer screen (1.4404 / A 276 Grade 316L) with a mesh size of 0.25 mm or rather 56 mesh

Part No. 30800.X.0250M

Monel strainer screen (2.4360 / SB 164 - N04400) with a mesh size of 0.25 mm or rather 56 mesh

Part No. 30800.X.0150M

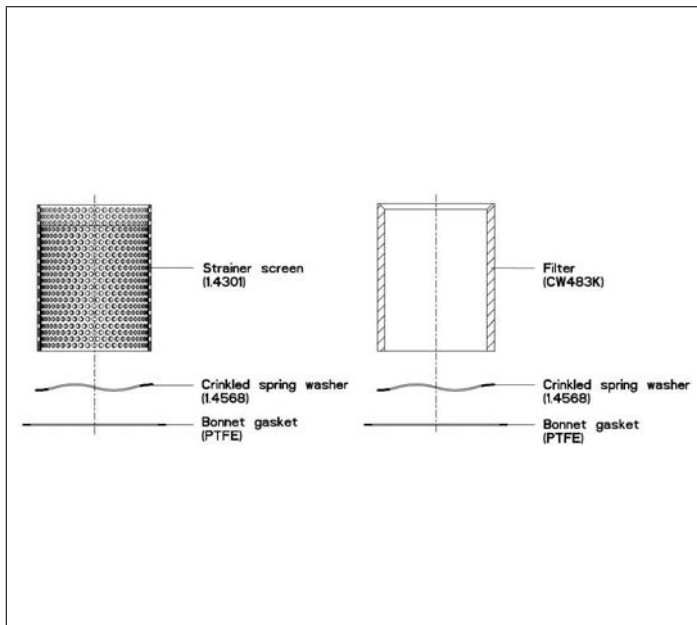
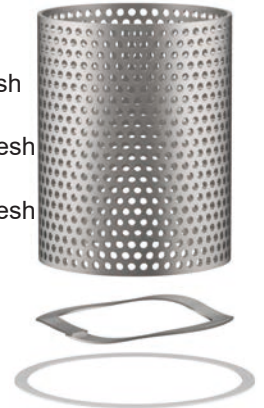
Monel strainer screen (2.4360 / SB 164 - N04400) with a mesh size of 0.15 mm or rather 100 mesh

Part No. 30801.X.0100B

Sintered bronze Filter (CW483K / B 427 C 90800) with a porosity of 100 μ

Part No. 30801.X.0030B

Sintered bronze Filter (CW483K / B 427 C 90800) with a porosity of 30 μ



suitable for:

Type	Nominal size
08412, 08413, 08415, 08416, 08716	DN10 - DN50
08414, 08417	DN10 - DN200
08431, 08432	DN25 - DN100
08717	DN10 - DN150



Type 30800, 30801	Technical Data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Weight	ca. kg	0.03	0.03	0.04	0.05	0.07	0.08	0.13	0.18	0.24	0.32	0.68	0.92
Kvs - Value MS 0.25	m ³ /h	2.8	3.6	6.4	9.0	14.5	21.0	30.0	56.0	85.0	115.0	o.r.	o.r.
Cv - Value MS 0.25	gal/min	3.2	4.1	7.4	10.4	16.8	24.3	34.8	64.9	98.6	133.4	o.r.	o.r.
Kvs - Value MS 0.15	m ³ /h	2.8	3.6	6.4	9.0	o.r.	21.0	29.5	o.r.	o.r.	o.r.	o.r.	o.r.
Cv - Value MS 0.15	gal/min	3.2	4.1	7.4	10.4	o.r.	24.3	34.2	o.r.	o.r.	o.r.	o.r.	o.r.
Kvs - Value MS 0.10	m ³ /h	o.r.*	o.r.	o.r.	9.0	14.0	19.0	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.
Cv - Value MS 0.10	gal/min	o.r.	o.r.	o.r.	10.4	16.2	22.0	o.r.	o.r.	o.r.	o.r.	o.r.	o.r.
Kvs - Value 100 μ	m ³ /h	2.8	3.3	6.0	7.0	o.r.	13.5	18.5	o.r.	o.r.	o.r.	o.r.	o.r.
Cv - Value 100 μ	gal/min	3.2	3.8	6.9	8.1	o.r.	15.6	21.4	o.r.	o.r.	o.r.	o.r.	o.r.
Kvs - Value 30 μ	m ³ /h	o.r.	1.7	3.5	4.0	o.r.	6.5	11.0	o.r.	o.r.	o.r.	o.r.	o.r.
Cv - Value 30 μ	gal/min	o.r.	1.9	4.0	4.6	o.r.	7.5	12.7	o.r.	o.r.	o.r.	o.r.	o.r.

*o.r. = on request. Dimensions in mm.

Safety Valves

Type 06001



Cryogenic Safety Valves, angle type, brass, PN63, type tested TÜV-SV.1048. S/G/L

Standard Safety Valve,
complete with carbon filled PTFE valve seal, closed bonnet
Outlet: female thread Rc 3/8 acc. to ISO 7/1
"cleaned and degreased for oxygen service"

Part No. 06001.X.0000

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06001.X.2000

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06001.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



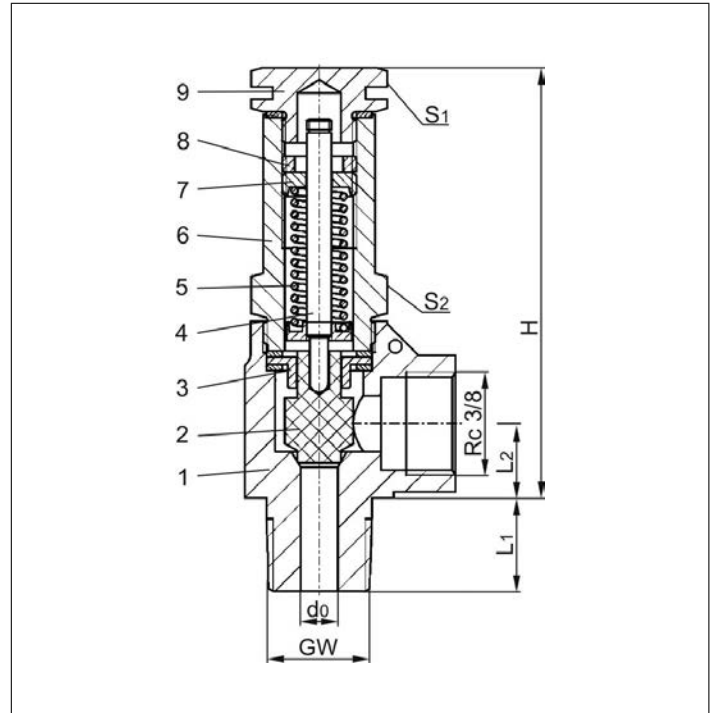
Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	CW617N	EN12165 CW617N Code Case 1750
2 Disc	PTFE / Carbon filled (25%)	
3 Guide plate	CW614N	EN12164 CW614N Code Case 1750
4 Stem	CW614N	EN12164 CW614N Code Case 1750
5 Spring	1.4571	A 313 Grade 316Ti
6 Bonnet	CW614N	EN12164 CW614N Code Case 1750
7 Spring clamp	CW614N	EN12164 CW614N Code Case 1750
8 Thread ring	CW614N	EN12164 CW614N Code Case 1750
9 Cap	CW614N	EN12164 CW614N Code Case 1750



Type 06001	Technical data			
Nominal size	GW	1/4	3/8	1/2
Orifice	d ₀	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	5.0-55.0	5.0-55.0	5.0-55.0
Height	H	70	70	70
Length	L ₁	13	15	17
Length	L ₂	13	13	13
Wrench size across flats	S ₁	19	19	19
Wrench size across flats	S ₂	19	19	19
Weight	ca. kg	0.18	0.195	0.21
Coefficient of discharge	α _w	0.09	0.09	0.09

Dimensions in mm.

Safety Valves

Type 06001



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2	1/4, 3/8 & 1/2
	d_0 (mm)	6.0	6.0
	A_0 (mm ²)	28.3	28.3
	Medium	Air	Water
5.0		11	304
6.0		13	333
7.0		15	360
8.0		17	384
9.0		19	408
10.0		21	430
12.0		25	471
14.0		29	508
16.0		33	544
18.0		36	577
20.0		41	608
22.0		45	637
24.0		48	666
26.0		52	693
28.0		56	719
30.0		61	744
32.0		65	769
34.0		68	792
36.0		72	815
38.0		76	838
40.0		81	859
42.0		85	881
44.0		89	901
46.0		93	922
48.0		97	941
50.0		102	961
52.0		106	980
54.0		110	999
55.0		112	1008



Safety Valves

Type 06002, Type 06006



Cryogenic Safety Valves, angle type, brass, PN63, type tested TÜV-SV.1048. S/G

Standard safety valve, with carbon filled PTFE valve seal

Outlet: female thread Rc 3/8 acc. to ISO 7/1, "cleaned and degreased for oxygen service"

Type 06002: drainage hole in the locking screw

Type 06006: drainage hole in bonnet

Part No. 06002.X.0000

Part No. 06006.X.0000 (with lifting device)

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06002.X.2000

Part No. 06006.X.2000 (with lifting device)

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06002.X.5000

Part No. 06006.X.5000 (with lifting device)

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



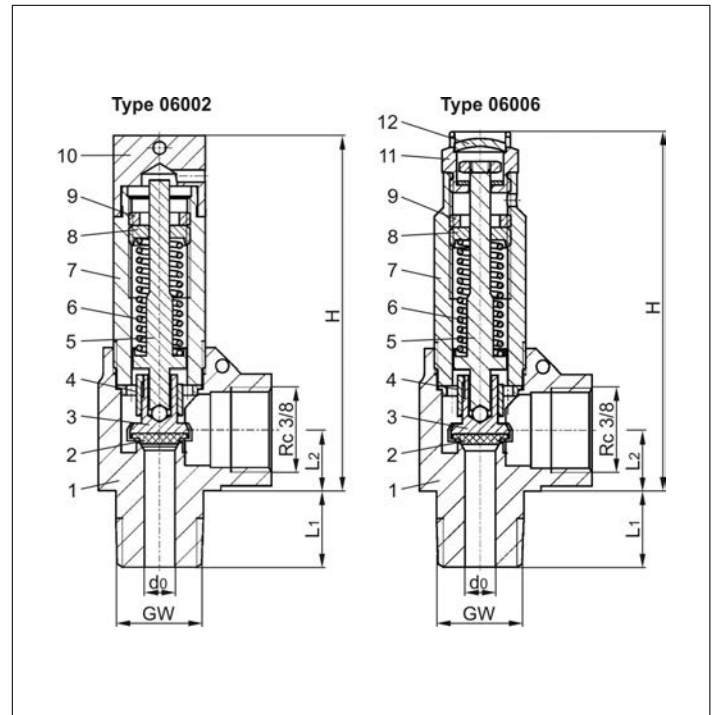
Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	CW617N	EN12165 CW617N Code Case 1750
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 103 UNS C51900
4 Guide plate	CC493K	SB 505 C93200
5 Stem	CW614N	EN12164 CW614N Code Case 1750
6 Spring	1.4571	A 313 Grade 316Ti
7 Bonnet	CW614N	EN12164 CW614N Code Case 1750
8 Spring clamp	CW614N	EN12164 CW614N Code Case 1750
9 Thread ring	CW614N	EN12164 CW614N Code Case 1750
10 Cap	CW614N	EN12164 CW614N Code Case 1750
11 Lifting device	CW614N	EN12164 CW614N Code Case 1750
12 Closing cap	CW507L	B 30 UNS C27000



Technical data	Type 06002			Type 06006			
	GW	1/4	3/8	1/2	1/4	3/8	1/2
Nominal size							
Orifice	d ₀	6.0	6.0	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0200	0300	0400
Set pressure range	bar	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0
Height	H	70	70	70	72	72	72
Length	L ₁	13	15	17	13	15	17
Length	L ₂	13	13	13	13	13	13
Weight	ca. kg	0.185	0.20	0.22	0.18	0.195	0.21
Coeff. of discharge from 3.0 bar	α _w	0.42	0.42	0.42	0.42	0.42	0.42

Dimensions in mm.

Safety Valves

Type 06002, Type 06006



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	d ₀ (mm)	6.0
	A ₀ (mm ²)	28.3
	Medium	Air in m ³ /h
1.0		15
2.0		26
3.0		35
4.0		44
5.0		53
6.0		62
7.0		71
8.0		80
9.0		89
10.0		98
12.0		116
14.0		134
16.0		152
18.0		170
20.0		190
22.0		208
24.0		226
26.0		244
28.0		262
30.0		283
32.0		301
34.0		320
36.0		338
38.0		356
40.0		378
42.0		396
44.0		415
46.0		433
48.0		452
50.0		474
52.0		493
54.0		511
55.0		521

Set pressure in psig	GW	1/4, 3/8 & 1/2
	d ₀ (inch)	0.236
	A ₀ (in ²)	0.044
	Medium	Air in SCFM
72		32
80		35
90		38
100		42
110		46
120		49
130		53
140		57
150		61
160		64
170		68
180		72
190		75
200		79
225		88
250		98
275		107
300		116
325		125
350		135
375		144
400		153
425		163
450		172
475		181
500		190
525		200
550		209
575		218
600		227
625		237
650		246
675		255
700		264
725		274
750		283
775		292
798		301



Safety Valves

Type 06002 - gastight



Cryogenic Safety Valves, angle type, brass, PN63, type tested TÜV-SV.1048. S/G

Standard Safety Valve,
gastight, closed bonnet
with carbon filled PTFE valve seal

Outlet: female thread Rc 3/8 acc. to ISO 7/1
"cleaned and degreased for oxygen service"

Part No. 06002.X.0020

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06002.X.2020

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06002.X.5020

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



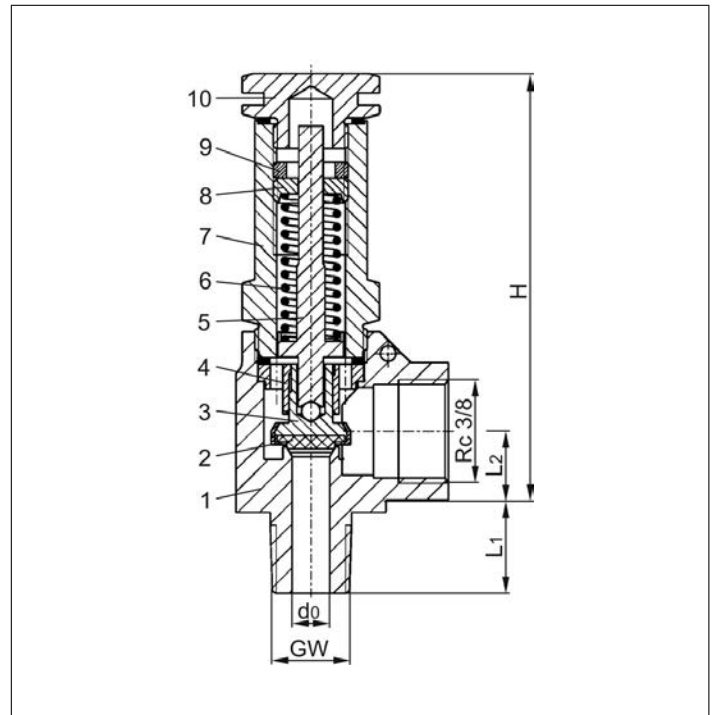
Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	CW617N	EN12165 CW617N Code Case 1750
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 103 UNS C51900
4 Guide plate	CC493K	SB 505 C93200
5 Stem	CW614N	EN12164 CW614N Code Case 1750
6 Spring	1.4571	A 313 Grade 316Ti
7 Bonnet	CW614N	EN12164 CW614N Code Case 1750
8 Spring clamp	CW614N	EN12164 CW614N Code Case 1750
9 Thread ring	CW614N	EN12164 CW614N Code Case 1750
10 Cap	CW614N	EN12164 CW614N Code Case 1750



Type 06002	Technical data			
Nominal size	GW	1/4	3/8	1/2
Orifice	d ₀	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	1.0-55.0	1.0-55.0	1.0-55.0
Height	H	70	70	70
Length	L ₁	13	15	17
Length	L ₂	13	13	13
Weight	ca. kg	0.18	0.20	0.22
Coefficient of discharge	α _w	0.34	0.34	0.34

Dimensions in mm.

Safety Valves

Type 06002 - gastight



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	d ₀ (mm)	6.0
	A ₀ (mm ²)	28.3
	Medium	Air in m ³ /h
1.0		13
2.0		20
3.0		28
4.0		36
5.0		43
6.0		50
7.0		57
8.0		65
9.0		72
10.0		79
12.0		94
14.0		108
16.0		123
18.0		138
20.0		154
22.0		168
24.0		183
26.0		198
28.0		212
30.0		229
32.0		244
34.0		259
36.0		274
38.0		288
40.0		306
42.0		321
44.0		336
46.0		351
48.0		366
50.0		384
52.0		399
54.0		414
55.0		421

Set pressure in psig	GW	1/4, 3/8 & 1/2
	d ₀ (inch)	0.236
	A ₀ (in ²)	0.044
	Medium	Air in SCFM
74		29
80		31
90		34
100		38
110		41
120		44
130		48
140		51
150		54
160		58
170		61
180		64
190		68
200		71
225		79
250		87
275		96
300		104
325		112
350		121
375		129
400		137
425		146
450		154
475		162
500		171
525		179
550		187
575		195
600		204
625		212
650		220
675		229
700		237
725		245
750		254
775		262
798		270

Safety Valves

Type 06011 - gastight



Cryogenic Safety Valves, angle type, stainless steel, PN63, type tested TÜV-SV.1048. S/G/L

Standard safety valve,
complete with carbon filled PTFE valve seal, closed bonnet, gastight
Outlet: female thread Rc 3/8 acc. to ISO 7/1
"cleaned and degreased for oxygen service"

Part No. 06011.X.0000

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06011.X.2000

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06011.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

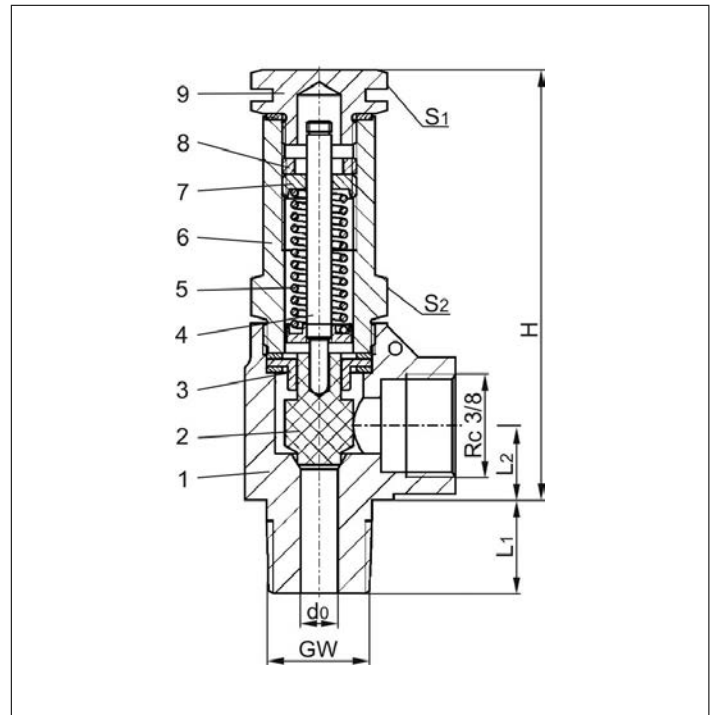
- with installed elbow at the outlet



Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG and Hydrogen.
Working temperature: -255°C / -427°F (18K) up to +65°C / +149°F (338K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	1.4408	A 351 CF8M
2 Disc	PTFE / Carbon filled (25%)	
3 Guide plate	1.4301	A 276 Grade 304
4 Stem	1.4301	A 276 Grade 304
5 Spring	1.4571	A 313 Grade 316Ti
6 Bonnet	1.4301	A 276 Grade 304
7 Spring clamp	1.4305	A 276 Grade 303
8 Thread ring	1.4305	A 276 Grade 303
9 Cap	1.4301	A 276 Grade 304



Type 06011	Technical data			
Nominal size	GW	1/4	3/8	1/2
Orifice	d ₀	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	5.0-55.0	5.0-55.0	5.0-55.0
Height	H	70	70	70
Length	L ₁	13	15	17
Length	L ₂	13	13	13
Wrench size across flats	S ₁	19	19	19
Wrench size across flats	S ₂	19	19	19
Weight	ca. kg	0.18	0.195	0.21
Coefficient of discharge	α _w	0.09	0.09	0.09

Dimensions in mm.

Safety Valves

Type 06011 - gastight



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2	1/4, 3/8 & 1/2
	d_0 (mm)	6.0	6.0
	A_0 (mm ²)	28.3	28.3
	Medium	Air	Water
5.0		11	304
6.0		13	333
7.0		15	360
8.0		17	384
9.0		19	408
10.0		21	430
12.0		25	471
14.0		29	508
16.0		33	544
18.0		36	577
20.0		41	608
22.0		45	637
24.0		48	666
26.0		52	693
28.0		56	719
30.0		61	744
32.0		65	769
34.0		68	792
36.0		72	815
38.0		76	838
40.0		81	859
42.0		85	881
44.0		89	901
46.0		93	922
48.0		97	941
50.0		102	961
52.0		106	980
54.0		110	999
55.0		112	1008



Safety Valves

Type 06012, Type 06016



Cryogenic Safety Valves, angle type, stainless steel, PN63, type tested TÜV-SV.1048. S/G

Standard safety valve, with carbon filled PTFE valve seal, open bonnet

Outlet: female thread Rc 3/8 acc. to ISO 7/1, "cleaned and degreased for oxygen service"

Type 06012: drainage hole in the locking screw

Type 06016: drainage hole in the bonnet

Part No. 06012.X.0000:

Part No. 06016.X.0000 (with lifting device)

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06012.X.2000

Part No. 06016.X.2000 (with lifting device)

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06012.X.5000

Part No. 06016.X.5000 (with lifting device)

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



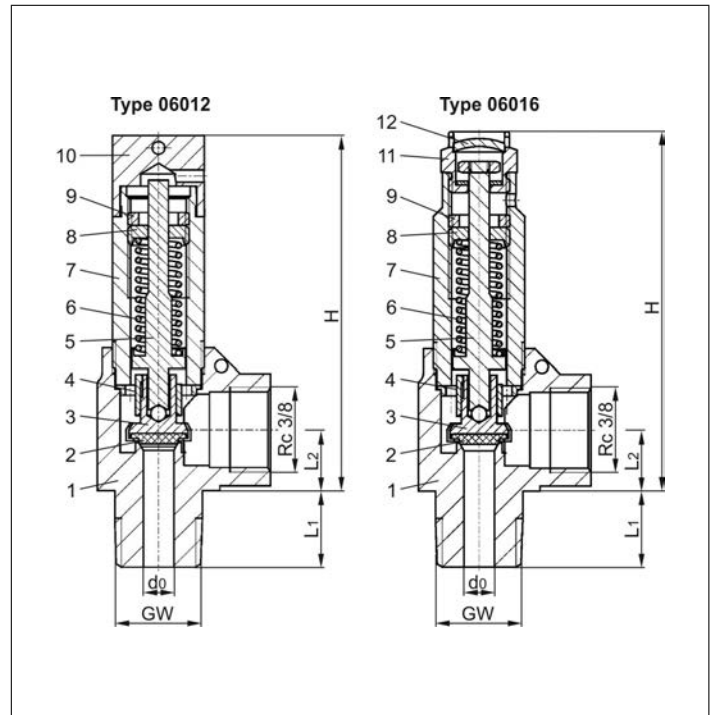
Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	1.4408	SA 351 CF8M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	SA 479 Grade 304
4 Guide plate	1.4301	SA 479 Grade 304
5 Stem	1.4301	SA 479 Grade 304
6 Spring	1.4571	SA 313 Grade 316Ti
7 Bonnet	1.4301	SA 479 Grade 304
8 Spring clamp	1.4305	SA 314 Grade 303
9 Thread ring	1.4305	SA 314 Grade 303
10 Cap	1.4301	SA 479 Grade 304
11 Lifting device	1.4305	SA 479 Grade 303
12 Closing cap	1.4305	SA 479 Grade 303



Technical data	Type 06012			Type 06016			
	GW	1/4	3/8	1/2	1/4	3/8	1/2
Nominal size	d ₀	6.0	6.0	6.0	6.0	6.0	6.0
Orifice	.X.	0200	0300	0400	0200	0300	0400
Dimension code	bar	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0
Set pressure range	H	70	70	70	72	72	72
Height	L ₁	13	15	17	13	15	17
Length	L ₂	13	13	13	13	13	13
Length	ca. kg	0.185	0.20	0.22	0.18	0.195	0.21
Weight	α _w	0.42	0.42	0.42	0.42	0.42	0.42
Coeff. of discharge from 3.0 bar							

Dimensions in mm.

Safety Valves

Type 06012, Type 06016



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	d ₀ (mm)	6.0
	A ₀ (mm ²)	28.3
	Medium	Air in m ³ /h
1.0		15
2.0		26
3.0		35
4.0		44
5.0		53
6.0		62
7.0		71
8.0		80
9.0		89
10.0		98
12.0		116
14.0		134
16.0		152
18.0		170
20.0		190
22.0		208
24.0		226
26.0		244
28.0		262
30.0		283
32.0		301
34.0		320
36.0		338
38.0		356
40.0		378
42.0		396
44.0		415
46.0		433
48.0		452
50.0		474
52.0		493
54.0		511
55.0		521

Set pressure in psig	GW	1/4, 3/8 & 1/2
	d ₀ (inch)	0.236
	A ₀ (in ²)	0.044
	Medium	Air in SCFM
72		32
80		35
90		38
100		42
110		46
120		49
130		53
140		57
150		61
160		64
170		68
180		72
190		75
200		79
225		88
250		98
275		107
300		116
325		125
350		135
375		144
400		153
425		163
450		172
475		181
500		190
525		200
550		209
575		218
600		227
625		237
650		246
675		255
700		264
725		274
750		283
775		292
798		301

Safety Valves

Type 06012 - gastight



Cryogenic Safety Valves, angle type, stainless steel, PN63, type tested TÜV-SV.1048. S/G

Standard Safety Valve,
gastight, closed bonnet
with carbon filled PTFE valve seal

Outlet: female thread Rc 3/8 acc. to ISO 7/1
"cleaned and degreased for oxygen service"

Part No. 06012.X.0020

Inlet: male thread type R (BSPT) acc. to ISO 7/1

Part No. 06012.X.2020

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06012.X.5020

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



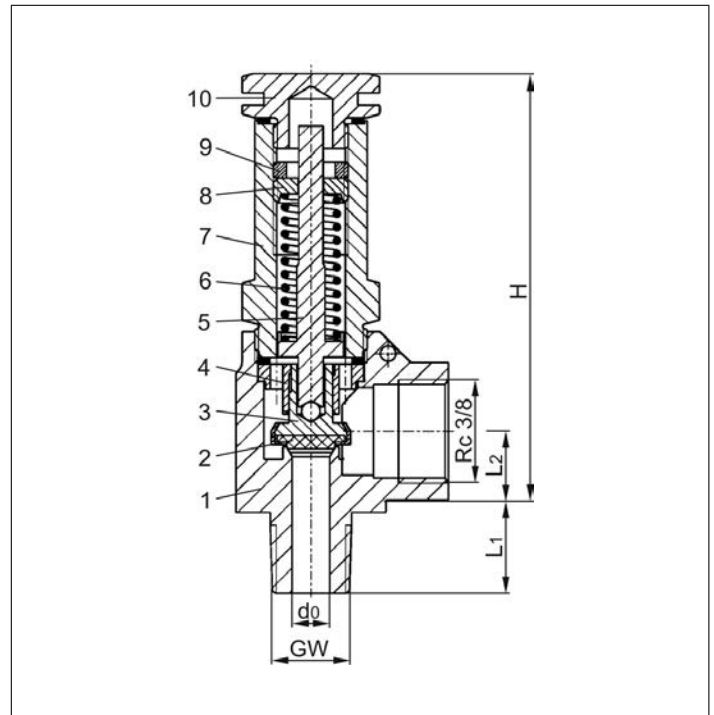
Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG and Hydrogen.

Working temperature: -255°C / -427°F (18K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	1.4408	SA 351 CF8M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	SA 479 Grade 304
4 Guide plate	1.4301	SA 479 Grade 304
5 Stem	1.4301	SA 479 Grade 304
6 Spring	1.4571	SA 313 Grade 316Ti
7 Bonnet	1.4301	SA 479 Grade 304
8 Spring clamp	1.4305	SA 314 Grade 303
9 Thread ring	1.4305	SA 314 Grade 303
10 Cap	1.4301	SA 479 Grade 304



Type 06012	Technical data			
Nominal size	GW	1/4	3/8	1/2
Orifice	d ₀	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	1.0-55.0	1.0-55.0	1.0-55.0
Height	H	70	70	70
Length	L ₁	13	15	17
Length	L ₂	13	13	13
Weight	ca. kg	0.18	0.20	0.22
Coefficient of discharge	α _w	0.34	0.34	0.34

Dimensions in mm.

Safety Valves

Type 06012 - gastight



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	d ₀ (mm)	6.0
	A ₀ (mm ²)	28.3
	Medium	Air in m³/h
1.0		13
2.0		20
3.0		28
4.0		36
5.0		43
6.0		50
7.0		57
8.0		65
9.0		72
10.0		79
12.0		94
14.0		108
16.0		123
18.0		138
20.0		154
22.0		168
24.0		183
26.0		198
28.0		212
30.0		229
32.0		244
34.0		259
36.0		274
38.0		288
40.0		306
42.0		321
44.0		336
46.0		351
48.0		366
50.0		384
52.0		399
54.0		414
55.0		421

Set pressure in psig	GW	1/4, 3/8 & 1/2
	d ₀ (inch)	0.236
	A ₀ (in ²)	0.044
	Medium	Air in SCFM
74		29
80		31
90		34
100		38
110		41
120		44
130		48
140		51
150		54
160		58
170		61
180		64
190		68
200		71
225		79
250		87
275		96
300		104
325		112
350		121
375		129
400		137
425		146
450		154
475		162
500		171
525		179
550		187
575		195
600		204
625		212
650		220
675		229
700		237
725		245
750		254
775		262
798		270

Safety Valves

Type 06474



Cryogenic Safety Valves, angle type, bronze, PN63, type tested TÜV-SV.836. S/G

Standard safety valve,
with carbon filled PTFE valve seal, closed bonnet
Outlet: female thread G 1/2 acc. to ISO 228/1
"cleaned and degreased for oxygen service"

Part No. 06474.X.0000

Part No. 06474.0600.9000

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06474.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

Part No. 06474.0600.0000

Inlet: union type weld/braze fitting for pipe outside diameter 12mm

Available options - on request only:

- external parts nickel plated
- with installed elbow at the outlet

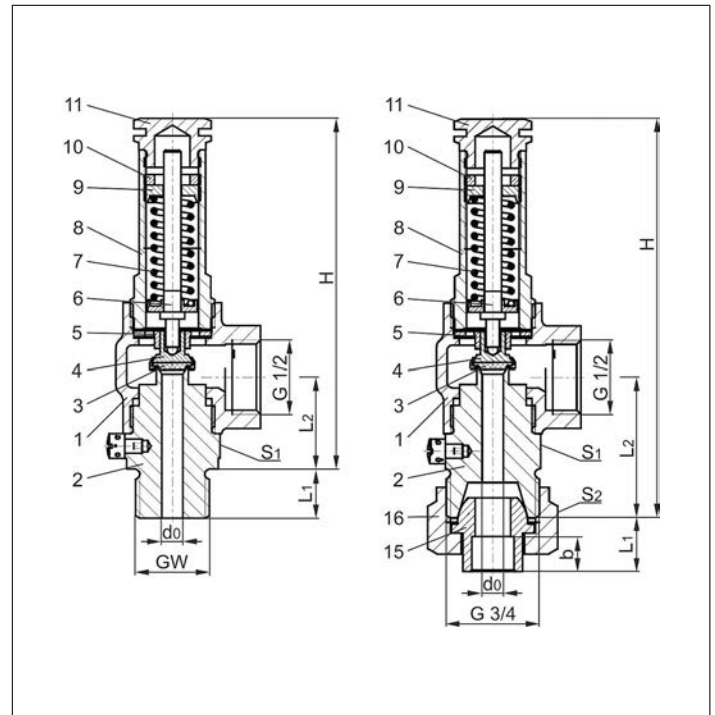


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW452K	B 159 UNS C51900
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500
15 Weld/Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500



Type 06474	Technical data				
Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d ₀	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600
Set pressure range	bar	0.4-55.0	0.4-55.0	0.4-55.0	0.4-55.0
Height	H	100	100	100	114
Length	L ₁	12	13	14	15.5
Length	L ₂	26	26	26	40
Socket depth	b	-	-	-	10
Wrench size across flats	S ₁	27	27	27	27
Wrench size across flats	S ₂	-	-	-	32
Weight	ca. kg	0.34	0.36	0.38	0.48
Coefficient of discharge	α _w	0.66	0.66	0.66	0.66

Dimensions in mm.

Safety Valves

Type 06474



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/4, 3/8, 1/2 & 3/4
	d ₀ (mm)	6.0
	A ₀ (mm ²)	28.3
	Medium	Air
0.4		14.7
0.5		16.5
0.6		18.1
0.7		19.6
0.8		21
0.9		22.3
1.0		23.6
1.5		31.3
2.0		39
2.5		47.1
3.0		54.9
4.0		69
5.0		83.1
6.0		97.2
7.0		111
8.0		126
9.0		140
10.0		154
12.0		182
14.0		211
16.0		239
18.0		267
20.0		298
22.0		327
24.0		355
26.0		384
28.0		412
30.0		445
32.0		474
34.0		502
36.0		531
38.0		560
40.0		594
42.0		623
44.0		652
46.0		681
48.0		710
50.0		745
55.0		818

Safety Valves

Type 06478



Cryogenic Safety Valves, angle type, bronze, PN63, type tested TÜV-SV.836. S/G

Standard safety valve,
with carbon filled PTFE valve seal, closed bonnet, with lifting device

Outlet: female thread G 1/2 acc. to ISO 228/1

"cleaned and degreased for oxygen service"

Part No. 06478.X.0000

Part No. 06478.0600.9000

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06478.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

Part No. 06478.0600.0000

Inlet: union type weld/braze fitting for pipe outside diameter 12mm

Available options - on request only:

- external parts nickel plated
- with installed elbow at the outlet

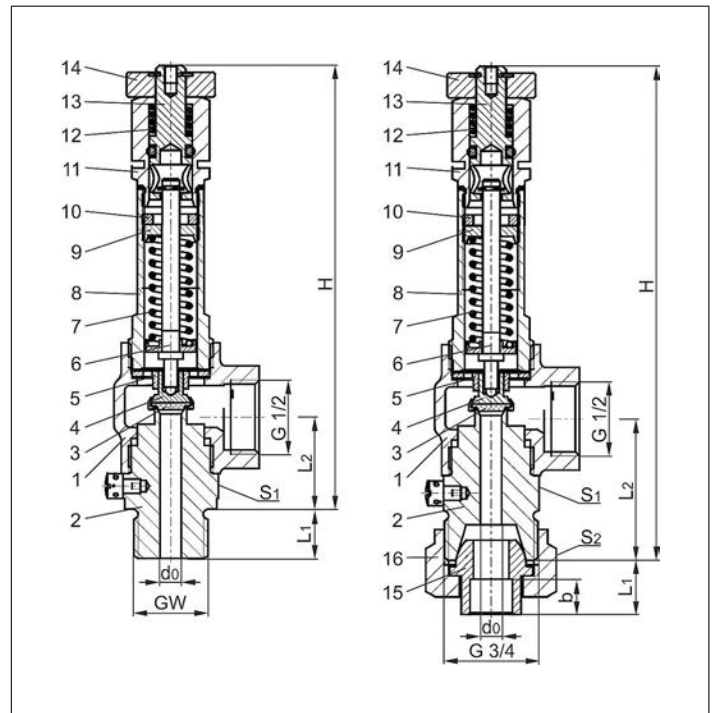


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW452K	B 159 UNS C51900
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
14 Lifting device	CW614N	B 283 UNS C38500
15 Weld/Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500



Type 06478	Technical data					
	Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d ₀	6.0	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600	
Set pressure range	bar	0.4-55.0	0.4-55.0	0.4-55.0	0.4-55.0	
Height	H	126	126	126	140	
Length	L ₁	12	13	14	15.5	
Length	L ₂	26	26	26	40	
Socket depth	b	-	-	-	10	
Wrench size across flats	S ₁	27	27	27	27	
Wrench size across flats	S ₂	-	-	-	32	
Weight	ca. kg	0.40	0.42	0.44	0.47	
Coefficient of discharge	α _w	0.66	0.66	0.66	0.66	

Dimensions in mm.

Safety Valves

Type 06478



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW 1/4, 3/8, 1/2 & 3/4	
	d_0 (mm)	6.0
	A_0 (mm ²)	28.3
	Medium	Air
0.4		14.7
0.5		16.5
0.6		18.1
0.7		19.6
0.8		21
0.9		22.3
1.0		23.6
1.5		31.3
2.0		39
2.5		47.1
3.0		54.9
4.0		69
5.0		83.1
6.0		97.2
7.0		111
8.0		126
9.0		140
10.0		154
12.0		182
14.0		211
16.0		239
18.0		267
20.0		298
22.0		327
24.0		355
26.0		384
28.0		412
30.0		445
32.0		474
34.0		502
36.0		531
38.0		560
40.0		594
42.0		623
44.0		652
46.0		681
48.0		710
50.0		745
55.0		818



Safety Valves

Type 06386



Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0/40.0 bar). **ASME certification only for d₀ 10.5**

Metal to metal seated, closed bonnet

"cleaned and degreased for oxygen service"

Part No. 06386.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06386.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06386.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06386.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- external parts nickel plated
- with installed elbow at the outlet

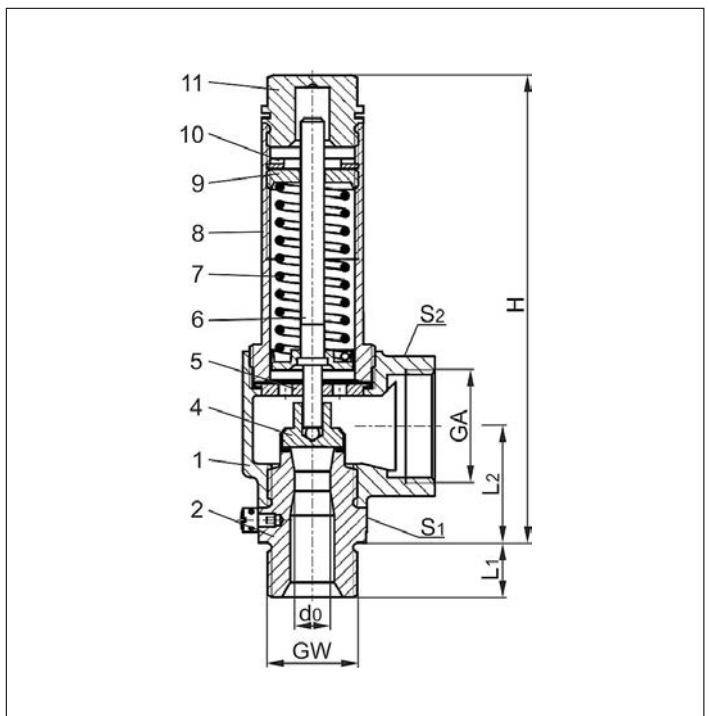


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500



Type 06386	Technical data			
Nominal size	GW	1/2	3/4	1
Orifice	d ₀	10.5	10.5	14.0
Dimension code	.X.	1004	1006	1410
Set pressure range	bar	0.2-25.0	0.2-25.0	0.2-40.0
Outlet	GA	1	1	1-1/4
Height	H	140	140	157
Length	L ₁	14	16	18
Length	L ₂	36	36	42
Wrench size across flats	S ₁	30	30	41
Wrench size across flats	S ₂	41	41	50
Weight	ca. kg	0.75	0.78	1.24
Coeff. of discharge from 3.0 bar	α _w	0.67	0.67	0.67

Dimensions in mm.

Safety Valves

Type 06386



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1
	d ₀ (mm)	10.5	14
	A ₀ (mm ²)	86.6	153.9
	Medium	Air in m ³ /h	
0.2		25	49
0.5		48	87
1.0		75	135
1.5		100	176
2.0		124	217
3.0		171	304
4.0		214	381
5.0		259	460
6.0		302	537
7.0		346	615
8.0		391	695
9.0		434	772
10.0		479	852
12.0		567	1008
14.0		655	1164
16.0		742	1320
18.0		830	1476
20.0		927	1648
22.0		1015	1805
24.0		1104	1963
25.0		1148	2041
26.0		-	2120
28.0		-	2278
30.0		-	2458
32.0		-	2617
34.0		-	2776
36.0		-	2935
38.0		-	3094
40.0		-	3281

Set pressure in psig	GW	1/2 & 3/4
	d ₀ (inch)	0.413
	A ₀ (in ²)	0.134
	Medium	Air in SCFM
30		81
40		100
50		118
60		137
70		156
80		175
90		193
100		212
120		249
140		287
160		324
180		362
200		399
220		436
240		474
260		511
280		549
300		586
320		623
340		661
363		704

Safety Valves

Type 06416



Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0/40.0 bar). **ASME certification only for d₀10.5**

Metal to metal seated, closed bonnet, with lifting device

"cleaned and degreased for oxygen service"

Part No. 06416.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06416.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06416.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06416.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- external parts nickel plated
- with installed elbow at the outlet

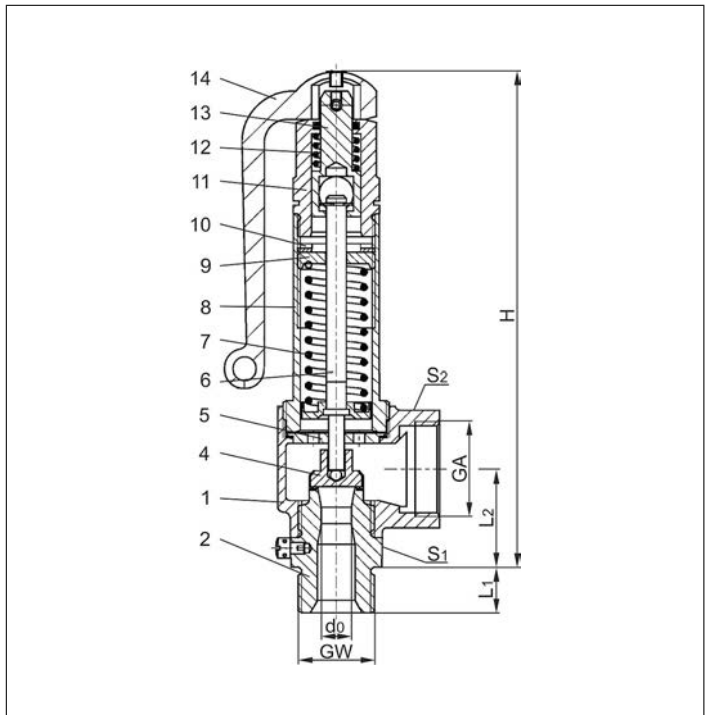


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
14 Lever	1.4408	A 351 CF8M



Type 06416	Technical data			
Nominal size	GW	1/2	3/4	1
Orifice	d ₀	10.5	10.5	14.0
Dimension code	.X.	1004	1006	1410
Set pressure range	bar	0.2-25.0	0.2-25.0	0.2-40.0
Outlet	GA	1	1	1-1/4
Height	H	175	175	194
Length	L ₁	14	16	18
Length	L ₂	36	36	42
Wrench size across flats	S ₁	30	30	41
Wrench size across flats	S ₂	41	41	50
Weight	ca. kg	0.96	1.00	1.50
Coeff. of discharge from 3.0 bar	α _w	0.67	0.67	0.67

Dimensions in mm.

Safety Valves

Type 06416



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1
	d ₀ (mm)	10.5	14
	A ₀ (mm ²)	86.6	153.9
	Medium	Air in m ³ /h	
0.2		25	49
0.5		48	87
1.0		75	135
1.5		100	176
2.0		124	217
3.0		171	304
4.0		214	381
5.0		259	460
6.0		302	537
7.0		346	615
8.0		391	695
9.0		434	772
10.0		479	852
12.0		567	1008
14.0		655	1164
16.0		742	1320
18.0		830	1476
20.0		927	1648
22.0		1015	1805
24.0		1104	1963
25.0		1148	2041
26.0		-	2120
28.0		-	2278
30.0		-	2458
32.0		-	2617
34.0		-	2776
36.0		-	2935
38.0		-	3094
40.0		-	3281

Set pressure in psig	GW	1/2 & 3/4
	d ₀ (inch)	0.413
	A ₀ (in ²)	0.134
	Medium	Air in SCFM
30		81
40		100
50		118
60		137
70		156
80		175
90		193
100		212
120		249
140		287
160		324
180		362
200		399
220		436
240		474
260		511
280		549
300		586
320		623
340		661
363		704

Safety Valves

Type 06387



Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0 bar)

Metal to metal seated, closed bonnet

"cleaned and degreased for oxygen service"

Part No. 06387.X.0000

Inlet: female thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

Available options - on request only:

- external parts nickel plated · with installed elbow at the outlet

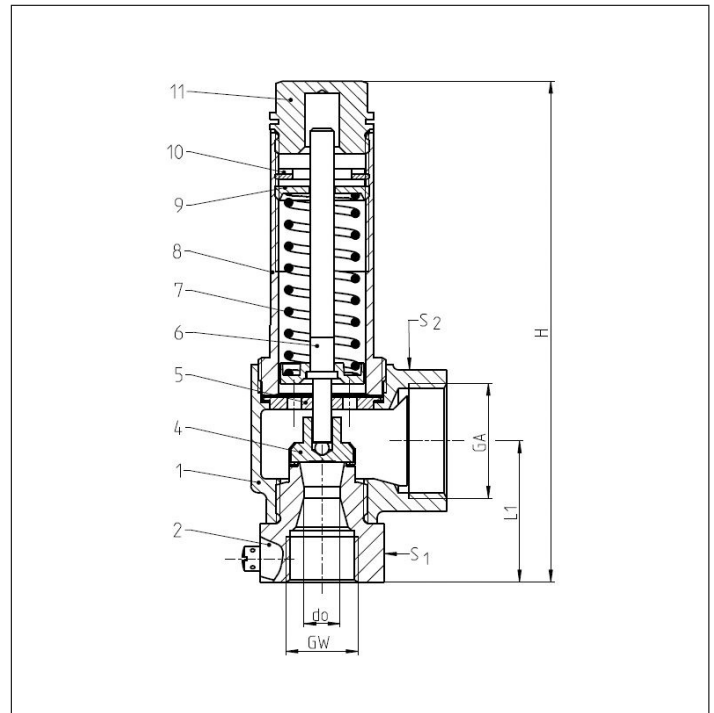


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500



Type 06387	Technical data	
Nominal size	GW	1/2
Orifice	d ₀	10.5
Dimension code	.X.	1004
Set pressure range	bar	0.2-25.0
Outlet	GA	1
Height	H	144
Length	L ₁	41
Wrench size across flats	S ₁	36
Wrench size across flats	S ₂	41
Weight	ca. kg	0.78
Coeff. of discharge from 3.0 bar	α _w	0.67

Dimensions in mm.

Safety Valves

Type 06387



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2
	d_0 (mm)	10.5
	A_0 (mm ²)	86.6
	Medium	Air
0.2		25
0.5		48
1.0		75
1.5		100
2.0		124
3.0		171
4.0		214
5.0		259
6.0		302
7.0		346
8.0		391
9.0		434
10.0		479
12.0		567
14.0		655
16.0		742
18.0		830
20.0		927
22.0		1015
24.0		1104
25.0		1148
26.0		-
28.0		-
30.0		-
32.0		-
34.0		-
36.0		-
38.0		-
40.0		-



Safety Valves

Type 06417



Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0 bar)

Metal to metal seated, closed bonnet, with lifting device

"cleaned and degreased for oxygen service"

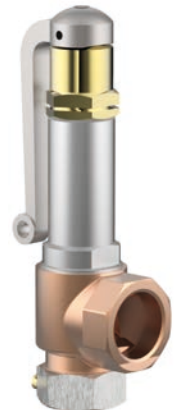
Part No. 06417.X.0000

Inlet: female thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

Available options - on request only:

- external parts nickel plated · with installed elbow at the outlet

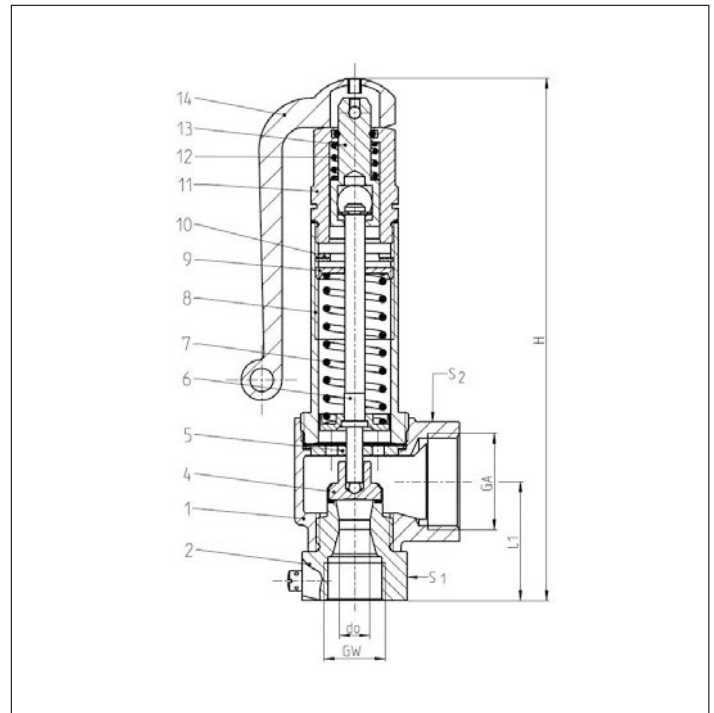


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
14 Lever	1.4408	A 351 CF8M



Type 06417	Technical data	
Nominal size	GW	1/2
Orifice	d_0	10.5
Dimension code	.X.	1004
Set pressure range	bar	0.2-25.0
Outlet	GA	1
Height	H	180
Length	L_1	41
Wrench size across flats	S_1	30
Wrench size across flats	S_2	41
Weight	ca. kg	0.99
Coeff. of discharge from 3.0 bar	α_w	0.67

Dimensions in mm.

Safety Valves

Type 06417



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2
	d ₀ (mm)	10.5
	A ₀ (mm ²)	86.6
	Medium	Air
0.2		25
0.5		48
1.0		75
1.5		100
2.0		124
3.0		171
4.0		214
5.0		259
6.0		302
7.0		346
8.0		391
9.0		434
10.0		479
12.0		567
14.0		655
16.0		742
18.0		830
20.0		927
22.0		1015
24.0		1104
25.0		1148
26.0		-
28.0		-
30.0		-
32.0		-
34.0		-
36.0		-
38.0		-
40.0		-



Safety Valves

Type 06388



Cryogenic Safety Valve, angle type, bronze, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve, with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet "cleaned and degreased for oxygen service"

Part No. 06388.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

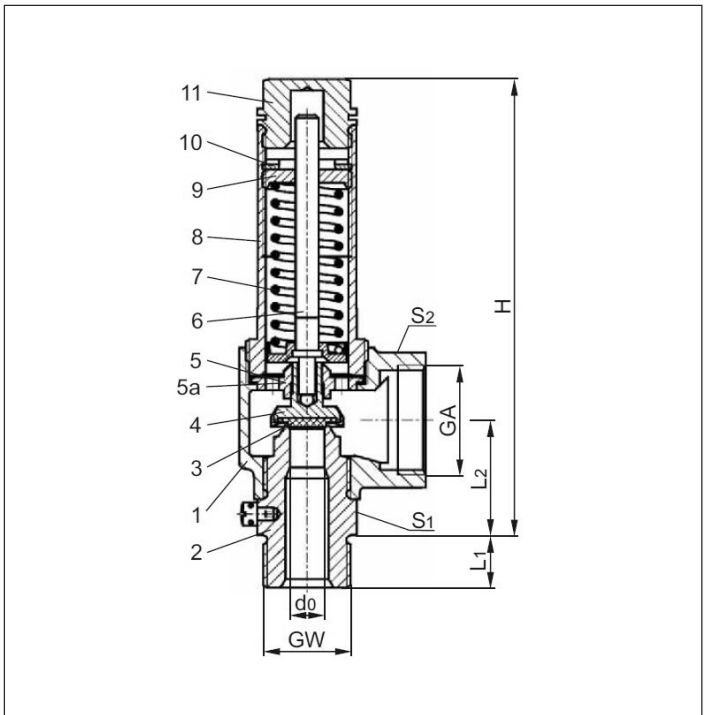
- external parts nickel plated · with installed elbow at the outlet
- with additional drain hole at the outlet (1)



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG. Working temperature: $-196^\circ\text{C} / -321^\circ\text{F} (77\text{K})$ up to $+185^\circ\text{C} / +365^\circ\text{F} (458\text{K})$, suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CC453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06388	Technical data									
	Nominal size	GW	1/2	3/4	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	2320
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2	2
Height	H	140	140	140	140	157	218	218	218	216
Length	L_1	14	16	14	16	18	20	20	20	25
Length	L_2	36	36	36	36	42	56	56	56	54
Wrench size across flats	S_1	30	30	30	30	41	55	55	55	65
Wrench size across flats	S_2	41	41	41	41	50	70	70	70	70
Weight	ca. kg	0.78	0.80	0.76	0.79	1.27	3.05	3.10	3.10	3.30
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	0.62
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	7.55

Dimensions in mm.

Safety Valves

Type 06388



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0		d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (mm ²)	38.48	86.59	176.71	415.48		A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in m ³ /h					Medium	Air in SCFM			
2.0	-	-	-	-	564	30	-	-	-	-	360
2.9	-	139	244	738	40	-	-	-	-	443	
3.0	-	143	251	758	50	60	106	193	526		
3.3	96	154	270	817	60	70	122	223	609		
4.0	112	179	314	952	70	79	139	254	692		
5.0	135	215	379	1148	80	89	156	284	775		
6.0	158	251	442	1342	90	98	172	315	858		
7.0	181	287	506	1535	100	107	189	345	941		
8.0	204	324	571	1735	110	117	206	376	1025		
9.0	227	361	634	1929	120	126	223	406	1108		
10.0	250	398	699	2128	130	136	239	437	1191		
12.0	295	470	827	2517	140	145	256	467	1274		
14.0	341	543	955	2907	150	155	273	498	1357		
16.0	387	615	1082	3297	175	179	314	574	1564		
18.0	432	688	1210	3686	200	202	356	650	1772		
20.0	482	767	1350	4115	225	226	398	726	1980		
22.0	528	841	1479	4508	250	250	439	802	2187		
24.0	574	914	1608	4902	275	273	481	878	2395		
26.0	620	987	1737	5295	300	297	523	954	2602		
28.0	666	1060	1865	5688	325	321	565	1031	2810		
30.0	719	1144	2013	6139	350	345	606	1107	3018		
32.0	765	1218	2143	6536	375	368	648	1183	3225		
34.0	812	1292	2273	6933	400	392	690	1259	3433		
36.0	858	1366	2403	7330	425	416	731	1335	3641		
38.0	905	1440	2533	7727	450	439	773	1411	3848		
40.0	959	1527	2686	8194	475	463	815	1488	4056		
42.0	1006	1601	2817	8595	500	487	857	1564	4263		
44.0	1053	1676	2948	8995	525	510	898	1640	4471		
46.0	1100	1750	3079	9396	550	534	940	1716	4679		
48.0	1147	1825	3210	9796	575	558	982	1792	4886		
50.0	1204	1915	3370	10283	600	582	1024	1868	5094		
					625	605	1065	1944	5302		
					650	629	1107	2021	5509		
					675	653	1149	2097	5717		
					700	676	1190	2173	5924		
					725	700	1232	2249	6132		

Safety Valves

Type 06388



Cryogenic Safety Valve, angle type, bronze, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve, with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet "cleaned and degreased for oxygen service"

Part No. 06388.X.0040

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.2040

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.5040

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06388.X.6040

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

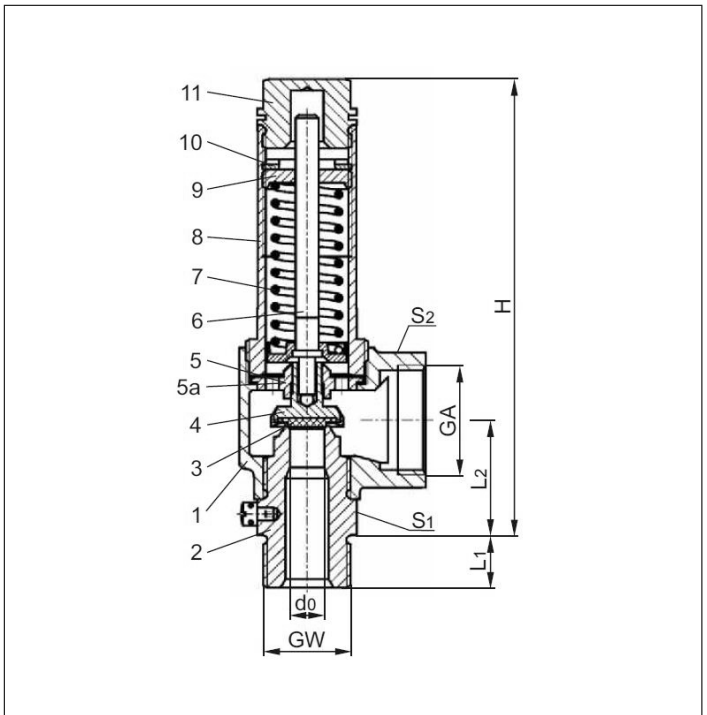
- external parts nickel plated · with installed elbow at the outlet
- with additional drain hole at the outlet (1)



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG. Working temperature: $-196^\circ\text{C} / -321^\circ\text{F} (77\text{K})$ up to $+185^\circ\text{C} / +365^\circ\text{F} (458\text{K})$, suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	CW614N	B 455 UNS C38500
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CC453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06388	Technical data									
	Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2		
Orifice	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0	
Outlet	GA	1	1	1	1	1-1/4	2	2	2	
Height	H	140	140	140	140	157	218	218	216	
Length	L_1	14	16	14	16	18	20	20	25	
Length	L_2	36	36	36	36	42	56	56	54	
Wrench size across flats	S_1	30	30	30	30	41	55	55	65	
Wrench size across flats	S_2	41	41	41	41	50	70	70	70	
Weight	ca. kg	0.78	0.80	0.76	0.79	1.27	3.05	3.10	3.30	
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	

Dimensions in mm.

Safety Valves

Type 06388



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0		d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (mm ²)	38.48	86.59	176.71	415.48		A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in m³/h					Medium	Air in SCFM			
2.0	-	-	-	-	564	30	-	-	-	-	360
2.9	-	139	244	738	443	40	-	-	-	-	443
3.0	-	143	251	758	526	50	60	106	193	526	
3.3	96	154	270	817	609	60	70	122	223	609	
4.0	112	179	314	952	692	70	79	139	254	692	
5.0	135	215	379	1148	775	80	89	156	284	775	
6.0	158	251	442	1342	858	90	98	172	315	858	
7.0	181	287	506	1535	941	100	107	189	345	941	
8.0	204	324	571	1735	1025	110	117	206	376	1025	
9.0	227	361	634	1929	1108	120	126	223	406	1108	
10.0	250	398	699	2128	1191	130	136	239	437	1191	
12.0	295	470	827	2517	1274	140	145	256	467	1274	
14.0	341	543	955	2907	1357	150	155	273	498	1357	
16.0	387	615	1082	3297	1564	175	179	314	574	1564	
18.0	432	688	1210	3686	1772	200	202	356	650	1772	
20.0	482	767	1350	4115	1980	225	226	398	726	1980	
22.0	528	841	1479	4508	2187	250	250	439	802	2187	
24.0	574	914	1608	4902	2395	275	273	481	878	2395	
26.0	620	987	1737	5295	2602	300	297	523	954	2602	
28.0	666	1060	1865	5688	2810	325	321	565	1031	2810	
30.0	719	1144	2013	6139	3018	350	345	606	1107	3018	
32.0	765	1218	2143	6536	3225	375	368	648	1183	3225	
34.0	812	1292	2273	6933	3433	400	392	690	1259	3433	
36.0	858	1366	2403	7330	3641	425	416	731	1335	3641	
38.0	905	1440	2533	7727	3848	450	439	773	1411	3848	
40.0	959	1527	2686	8194	4056	475	463	815	1488	4056	
42.0	1006	1601	2817	8595	4263	500	487	857	1564	4263	
44.0	1053	1676	2948	8995	4471	525	510	898	1640	4471	
46.0	1100	1750	3079	9396	4679	550	534	940	1716	4679	
48.0	1147	1825	3210	9796	4886	575	558	982	1792	4886	
50.0	1204	1915	3370	10283	5094	600	582	1024	1868	5094	
					5302	625	605	1065	1944	5302	
					5509	650	629	1107	2021	5509	
					5717	675	653	1149	2097	5717	
					5924	700	676	1190	2173	5924	
					6132	725	700	1232	2249	6132	

Safety Valves

Type 06389



Cryogenic Safety Valve, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve with carbon filled PTFE valve seal,
orifice $d_0=10\text{mm}$ with PTFE seal, closed bonnet
"cleaned and degreased for oxygen service"

Part No. 06389.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06389.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: male thread type G (BSPP) acc. to ISO 228/1

Part No. 06389.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: male thread type G (BSPP) acc. to ISO 228/1

Available options - on request only:

· external parts nickel plated

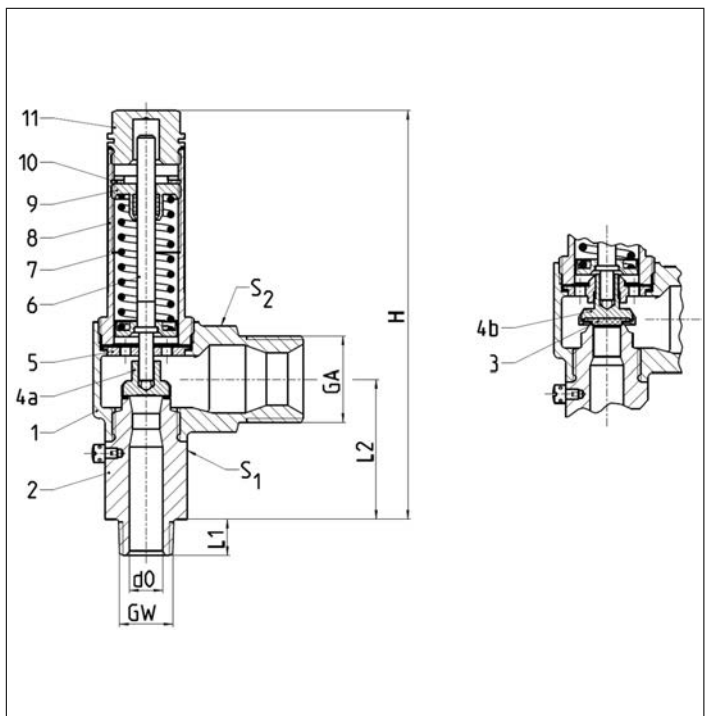
Connection size	D_0	Setting range	Seal	Alpha value
1/2"-3/4"	7	20.00 - 25.00 bar	PTFE - Carbon	0.64
1/2"-3/4"	10.5	1.80 - 5.99 bar	Sintimid	0.64
1/2"-3/4"	10.5	6.00 - 40.00 bar	PTFE - Carbon	0.54



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: $-196^\circ\text{C} / -321^\circ\text{F} (77\text{K})$ up to $+185^\circ\text{C} / +365^\circ\text{F} (458\text{K})$, suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	CW614N	B 455 UNS C38500
3 Valve seal	PTFE / Carbon filled (25%)	
4a Disc set pressure range 1.8-5.99 bar	Tecasint 1021	
4b Disc set pressure range 6.0-40.0 bar	CC493K	B 505 UNS C93200
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06389	Technical data					
	Nominal size	GW	1/2	3/4	1/2	3/4
Orifice	d_0	7.0	7.0	10.5	10.5	
Dimension code	.X.	0704	0706	1004	1006	
Set pressure range	bar	1.8-40.0	1.8-40.0	1.8-40.0	1.8-40.0	
Outlet	GA	1	1	1	1	
Height	H	158	158	158	158	
Length	L_1	14	16	14	16	
Length	L_2	54	54	54	54	
Wrench size across flats	S_1	32	32	32	32	
Wrench size across flats	S_2	41	41	41	41	
Weight	ca. kg	1.00	1.00	1.00	1.00	
Coefficient of discharge	α_w	0.64	0.64	0.54	0.54	
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	

Dimensions in mm.

Safety Valves

Type 06389



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4
	d ₀ (mm)	7.0	10.5
	A ₀ (mm ²)	38.48	86.59
	Medium	Air in m ³ /h	
2.0		-	-
2.9		-	139
3.0		-	143
3.3		96	154
4.0		112	179
5.0		135	215
6.0		158	251
7.0		181	287
8.0		204	324
9.0		227	361
10.0		250	398
12.0		295	470
14.0		341	543
16.0		387	615
18.0		432	688
20.0		482	767
22.0		528	841
24.0		574	914
26.0		620	987
28.0		666	1060
30.0		719	1144
32.0		765	1218
34.0		812	1292
36.0		858	1366
38.0		905	1440
40.0		959	1527



Safety Valves

Type 06418



Cryogenic Safety Valve, angle type, bronze, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve, with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet, with lifting device "cleaned and degreased for oxygen service"

Part No. 06418.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.5000

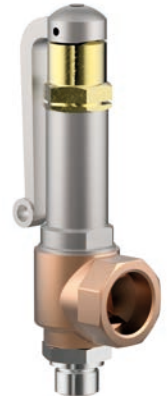
Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- external parts nickel plated · with installed elbow at the outlet

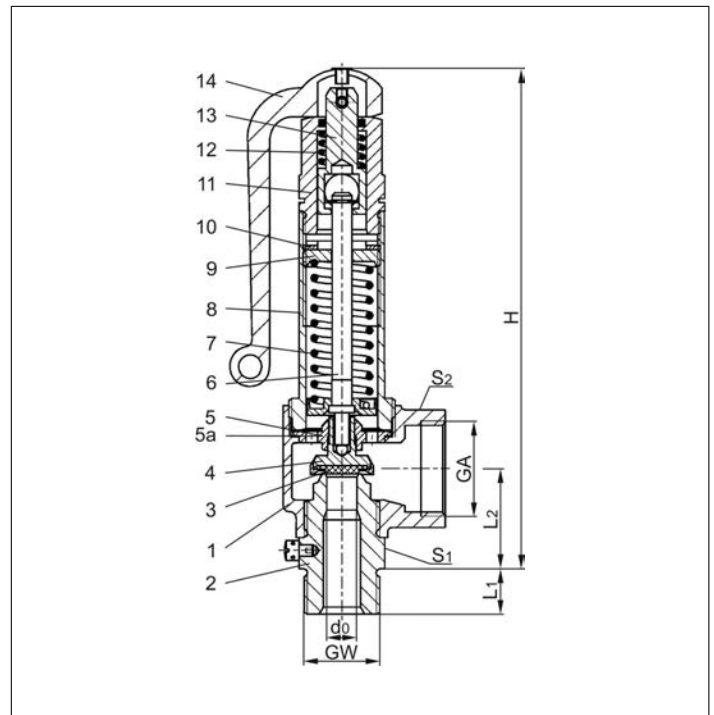


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to $+185^\circ\text{C}$ / $+365^\circ\text{F}$ (458K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CW453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Lifting cap	CW614N	B 455 UNS C38500
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	CW614N	B 455 UNS C38500
14 Lever	1.4408	A 351 CF8M



Type 06418	Technical data									
	GW	1/2	3/4	1	1-1/4	1-1/2	2	2	2	2
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2	2	2	2
Orifice	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	2320
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2	2
Height	H	175	175	175	175	194	270	270	270	268
Length	L_1	14	16	14	16	18	20	20	20	25
Length	L_2	36	36	36	36	42	56	56	56	54
Wrench size across flats	S_1	30	30	30	30	41	55	55	55	65
Wrench size across flats	S_2	41	41	41	41	50	70	70	70	70
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	3.85	4.28
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	0.62
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	7.55

Dimensions in mm.

Safety Valves

Type 06418



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0		d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (mm ²)	38.48	86.59	176.71	415.48		A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in m³/h					Medium	Air in SCFM			
2.0	-	-	-	-	564	30	-	-	-	-	360
2.9	-	139	244	738	40	-	-	-	-	-	443
3.0	-	143	251	758	50	60	106	193	526	609	
3.3	96	154	270	817	60	70	122	223	609	692	
4.0	112	179	314	952	70	79	139	254	692	775	
5.0	135	215	379	1148	80	89	156	284	775	858	
6.0	158	251	442	1342	90	98	172	315	858	941	
7.0	181	287	506	1535	100	107	189	345	941	1025	
8.0	204	324	571	1735	110	117	206	376	1025	1108	
9.0	227	361	634	1929	120	126	223	406	1108	1274	
10.0	250	398	699	2128	130	136	239	437	1191	1357	
12.0	295	470	827	2517	140	145	256	467	1274	1564	
14.0	341	543	955	2907	150	155	273	498	1357	1772	
16.0	387	615	1082	3297	175	179	314	574	1564	1980	
18.0	432	688	1210	3686	200	202	356	650	1772	2187	
20.0	482	767	1350	4115	225	226	398	726	1980	2395	
22.0	528	841	1479	4508	250	250	439	802	2187	2602	
24.0	574	914	1608	4902	275	273	481	878	2395	2810	
26.0	620	987	1737	5295	300	297	523	954	2602	3018	
28.0	666	1060	1865	5688	325	321	565	1031	2810	3225	
30.0	719	1144	2013	6139	350	345	606	1107	3018	3433	
32.0	765	1218	2143	6536	375	368	648	1183	3225	3641	
34.0	812	1292	2273	6933	400	392	690	1259	3433	3848	
36.0	858	1366	2403	7330	425	416	731	1335	3641	4056	
38.0	905	1440	2533	7727	450	439	773	1411	3848	4263	
40.0	959	1527	2686	8194	475	463	815	1488	4056	4471	
42.0	1006	1601	2817	8595	500	487	857	1564	4263	4679	
44.0	1053	1676	2948	8995	525	510	898	1640	4471	4886	
46.0	1100	1750	3079	9396	550	534	940	1716	4679	5094	
48.0	1147	1825	3210	9796	575	558	982	1792	4886	5302	
50.0	1204	1915	3370	10283	600	582	1024	1868	5094	5509	
					625	605	1065	1944	5302	5717	
					650	629	1107	2021	5509	5924	
					675	653	1149	2097	5717	6132	
					700	676	1190	2173	5924		
					725	700	1232	2249	6132		

Safety Valves

Type 06418



Cryogenic Safety Valve, angle type, bronze, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve, with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet, with lifting device "cleaned and degreased for oxygen service"

Part No. 06418.X.0040

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.2040

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.5040

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.6040

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

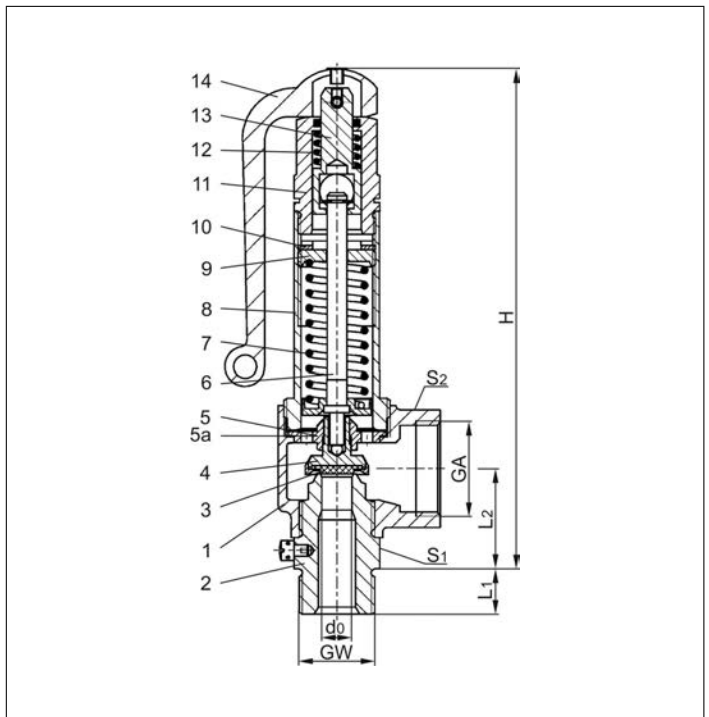
- external parts nickel plated
- with installed elbow at the outlet



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG. Working temperature: $-196^\circ\text{C} / -321^\circ\text{F}$ (77K) up to $+185^\circ\text{C} / +365^\circ\text{F}$ (458K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	CW614N	B 455 UNS C38500
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CW453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Lifting cap	CW614N	B 455 UNS C38500
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	CW614N	B 455 UNS C38500
14 Lever	1.4408	A 351 CF8M



Type 06418	Technical data								
		GW	1/2	3/4	1	1-1/4	1-1/2	2	
Nominal size	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2
Height	H	175	175	175	175	194	270	270	268
Length	L_1	14	16	14	16	18	20	20	25
Length	L_2	36	36	36	36	42	56	56	54
Wrench size across flats	S_1	30	30	30	30	41	55	55	65
Wrench size across flats	S_2	41	41	41	41	50	70	70	70
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	4.28
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55

Dimensions in mm.

Safety Valves

Type 06418



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0
	A ₀ (mm ²)	38.48	86.59	176.71	415.48
	Medium	Air in m ³ /h			
2.0	-	-	-	-	564
2.9	-	139	244	738	
3.0	-	143	251	758	
3.3	96	154	270	817	
4.0	112	179	314	952	
5.0	135	215	379	1148	
6.0	158	251	442	1342	
7.0	181	287	506	1535	
8.0	204	324	571	1735	
9.0	227	361	634	1929	
10.0	250	398	699	2128	
12.0	295	470	827	2517	
14.0	341	543	955	2907	
16.0	387	615	1082	3297	
18.0	432	688	1210	3686	
20.0	482	767	1350	4115	
22.0	528	841	1479	4508	
24.0	574	914	1608	4902	
26.0	620	987	1737	5295	
28.0	666	1060	1865	5688	
30.0	719	1144	2013	6139	
32.0	765	1218	2143	6536	
34.0	812	1292	2273	6933	
36.0	858	1366	2403	7330	
38.0	905	1440	2533	7727	
40.0	959	1527	2686	8194	
42.0	1006	1601	2817	8595	
44.0	1053	1676	2948	8995	
46.0	1100	1750	3079	9396	
48.0	1147	1825	3210	9796	
50.0	1204	1915	3370	10283	

Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in SCFM			
30	-	-	-	-	360
40	-	-	-	-	443
50	60	106	193	526	
60	70	122	223	609	
70	79	139	254	692	
80	89	156	284	775	
90	98	172	315	858	
100	107	189	345	941	
110	117	206	376	1025	
120	126	223	406	1108	
130	136	239	437	1191	
140	145	256	467	1274	
150	155	273	498	1357	
175	179	314	574	1564	
200	202	356	650	1772	
225	226	398	726	1980	
250	250	439	802	2187	
275	273	481	878	2395	
300	297	523	954	2602	
325	321	565	1031	2810	
350	345	606	1107	3018	
375	368	648	1183	3225	
400	392	690	1259	3433	
425	416	731	1335	3641	
450	439	773	1411	3848	
475	463	815	1488	4056	
500	487	857	1564	4263	
525	510	898	1640	4471	
550	534	940	1716	4679	
575	558	982	1792	4886	
600	582	1024	1868	5094	
625	605	1065	1944	5302	
650	629	1107	2021	5509	
675	653	1149	2097	5717	
700	676	1190	2173	5924	
725	700	1232	2249	6132	

Safety Valves

Type 06381



Cryogenic Safety Valves, angle type, stainless steel, PN40, type tested TÜV-SV.780. S/G

Standard safety valve

Metal to metal seated, closed bonnet

"cleaned and degreased for oxygen service"

Part No. 06381.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06381.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06381.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06381.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

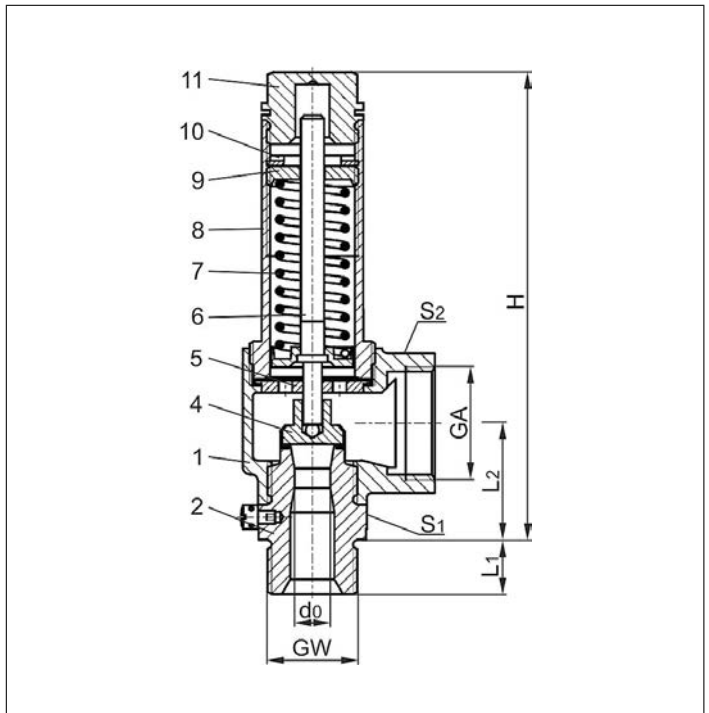


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	A 351 CF8
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	1.4301	A 276 Grade 304
6 Stem	1.4301	A 276 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF8
9 Spring clamp	1.4301	A 276 Grade 304
10 Thread ring	1.4301	A 276 Grade 304
11 Cap	1.4301	A 276 Grade 304



Type 06381	Technical data		
Nominal size	GW	1/2	3/4
Orifice	d ₀	10.5	10.5
Dimension code	.X.	1004	1006
Set pressure range	bar	0.2-25.0	0.2-25.0
Outlet	GA	1	1
Height	H	140	140
Length	L ₁	14	16
Length	L ₂	36	36
Wrench size across flats	S ₁	30	30
Wrench size across flats	S ₂	41	41
Weight	ca. kg	0.75	0.78
Coeff. of discharge from 3.0 bar	α _w	0.67	0.67

Dimensions in mm.

Safety Valves

Type 06381



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW		1/2 & 3/4
	d ₀ (mm)		10.5
	A ₀ (mm ²)		86.6
	Medium	Air in m ³ /h	
0.2			25
0.5			48
1.0			75
1.5			100
2.0			124
3.0			171
4.0			214
5.0			259
6.0			302
7.0			346
8.0			391
9.0			434
10.0			479
12.0			567
14.0			655
16.0			742
18.0			830
20.0			927
22.0			1015
24.0			1104
25.0			1148

Set pressure in psig	GW		1/2 & 3/4
	d ₀ (inch)		0.413
	A ₀ (in ²)		0.134
	Medium	Air in SCFM	
30			81
40			100
50			118
60			137
70			156
80			175
90			193
100			212
120			249
140			287
160			324
180			362
200			399
220			436
240			474
260			511
280			549
300			586
320			623
340			661
363			704

Safety Valves

Type 06382



Safety Valves, stainless steel, PN40, type tested TÜV-SV.780. S/G

Standard safety valve

with carbon filled PTFE valve seal, orifice $d_0 = 10,5$ mm,
closed bonnet, "cleaned and degreased for oxygen service"

Part No. 06382.1015.0000

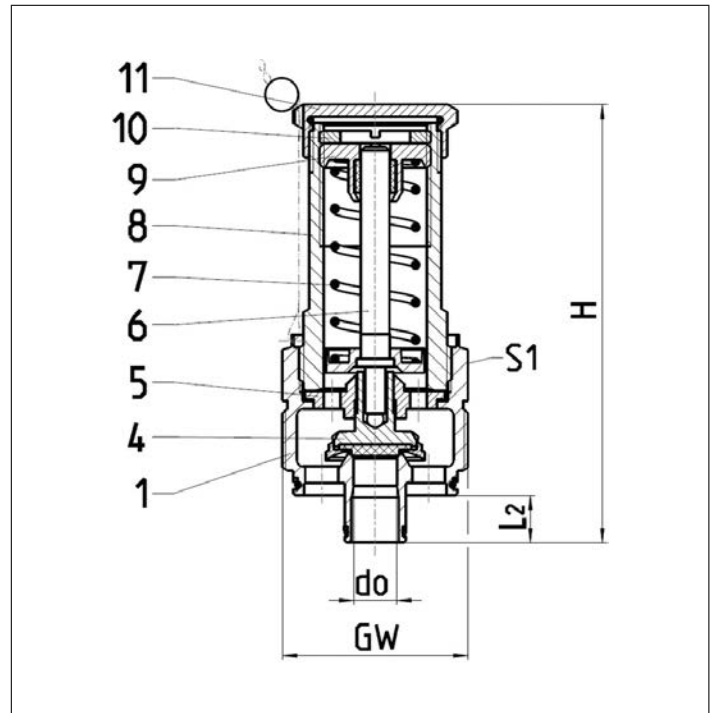


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: $-196^{\circ}\text{C} / -321^{\circ}\text{F} (77\text{K})$ up to $+185^{\circ}\text{C} / +365^{\circ}\text{F} (458\text{K})$

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4404	316L
1 Inlet body	1.4404	A 276 Grade 304
4 Disc	1.4404/PTFE	316/PTFE
5 Guide plate	1.4404	316L
6 Stem	1.4301	A 479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4404	316L
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Cap	1.4404	316L



Type 06381	Technical data	
Nominal size	GW	M45x1,5
Orifice	d_0	10.5
Set pressure range	bar	6-40.0
Height	H	107
Length	L_2	11.5
Weight	ca. kg	0.51
Coeff. of discharge from 3.0 bar	α_w	0.58

Dimensions in mm.

Safety Valves

Type 06382



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1.

Set pressure in bar (g)	GW	M45x1.5
	d ₀ (mm)	10.5
	A ₀ (mm ²)	86.6
	Medium	Air in m ³ /h
6.0		251
7.0		287
8.0		324
9.0		361
10.0		398
12.0		470
14.0		543
16.0		615
18.0		688
20.0		767
22.0		841
24.0		914
26.0		987
28.0		1060
30.0		1144
32.0		1218
34.0		1292
36.0		1366
38.0		1440
40.0		1527



Safety Valves

Type 06383



Cryogenic Safety Valves, angle type, stainless steel, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve,
with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet
"cleaned and degreased for oxygen service"

Part No. 06383.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06383.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06383.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06383.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

Part No. 06383.X.X070

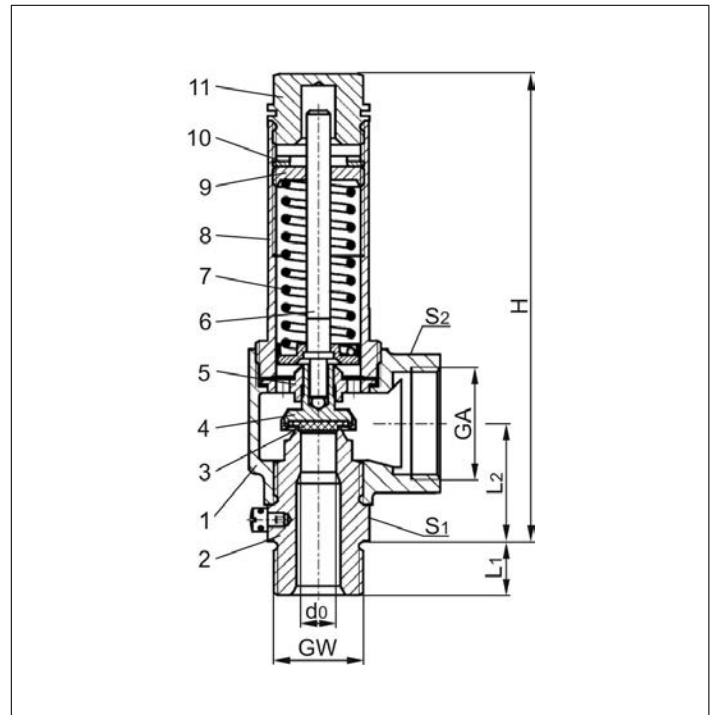
H2 - version with inlet body made of 1.4404/316L



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG and H2.
Working temperature: $-255^{\circ}\text{C} / -427^{\circ}\text{F}$ (18K) up to $+185^{\circ}\text{C} / +365^{\circ}\text{F}$ (458K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	A 351 CF8
2 Inlet body	1.4301	A 479 Grade 304
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	1.4301	A 479 Grade 304
5 Guide plate	1.4301	A 479 Grade 304
6 Stem	1.4301	A 479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF8
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Cap	1.4301	A 479 Grade 304



Type 06383	Technical data									
	Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2		
Orifice	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0	
Outlet	GA	1	1	1	1	1-1/4	2	2	2	
Height	H	140	140	140	140	157	218	218	216	
Length	L_1	14	16	14	16	18	20	20	25	
Length	L_2	36	36	36	36	42	56	56	54	
Wrench size across flats	S_1	30	30	30	30	41	55	55	65	
Wrench size across flats	S_2	41	41	41	41	50	70	70	70	
Weight	ca. kg	0.78	0.80	0.76	0.79	1.27	3.05	3.10	3.30	
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	

Dimensions in mm.

Safety Valves

Type 06383

HEROSE



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0
	A ₀ (mm ²)	38.48	86.59	176.71	415.48
	Medium	Air in m ³ /h			
2.0	-	-	-	-	564
2.9	-	139	244	738	
3.0	-	143	251	758	
3.3	96	154	270	817	
4.0	112	179	314	952	
5.0	135	215	379	1148	
6.0	158	251	442	1342	
7.0	181	287	506	1535	
8.0	204	324	571	1735	
9.0	227	361	634	1929	
10.0	250	398	699	2128	
12.0	295	470	827	2517	
14.0	341	543	955	2907	
16.0	387	615	1082	3297	
18.0	432	688	1210	3686	
20.0	482	767	1350	4115	
22.0	528	841	1479	4508	
24.0	574	914	1608	4902	
26.0	620	987	1737	5295	
28.0	666	1060	1865	5688	
30.0	719	1144	2013	6139	
32.0	765	1218	2143	6536	
34.0	812	1292	2273	6933	
36.0	858	1366	2403	7330	
38.0	905	1440	2533	7727	
40.0	959	1527	2686	8194	
42.0	1006	1601	2817	8595	
44.0	1053	1676	2948	8995	
46.0	1100	1750	3079	9396	
48.0	1147	1825	3210	9796	
50.0	1204	1915	3370	10283	

Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in SCFM			
30	-	-	-	-	360
40	-	-	-	-	443
50	60	106	193	526	
60	70	122	223	609	
70	79	139	254	692	
80	89	156	284	775	
90	98	172	315	858	
100	107	189	345	941	
110	117	206	376	1025	
120	126	223	406	1108	
130	136	239	437	1191	
140	145	256	467	1274	
150	155	273	498	1357	
175	179	314	574	1564	
200	202	356	650	1772	
225	226	398	726	1980	
250	250	439	802	2187	
275	273	481	878	2395	
300	297	523	954	2602	
325	321	565	1031	2810	
350	345	606	1107	3018	
375	368	648	1183	3225	
400	392	690	1259	3433	
425	416	731	1335	3641	
450	439	773	1411	3848	
475	463	815	1488	4056	
500	487	857	1564	4263	
525	510	898	1640	4471	
550	534	940	1716	4679	
575	558	982	1792	4886	
600	582	1024	1868	5094	
625	605	1065	1944	5302	
650	629	1107	2021	5509	
675	653	1149	2097	5717	
700	676	1190	2173	5924	
725	700	1232	2249	6132	

Safety Valves

Type 06413

HEROSE



Cryogenic Safety Valves, angle type, stainless steel, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve, with carbon filled PTFE valve seal, orifice $d_0=23\text{mm}$ with PCTFE seal, closed bonnet, with lifting device "cleaned and degreased for oxygen service"

Part No. 06413.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06413.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06413.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06413.X.6000

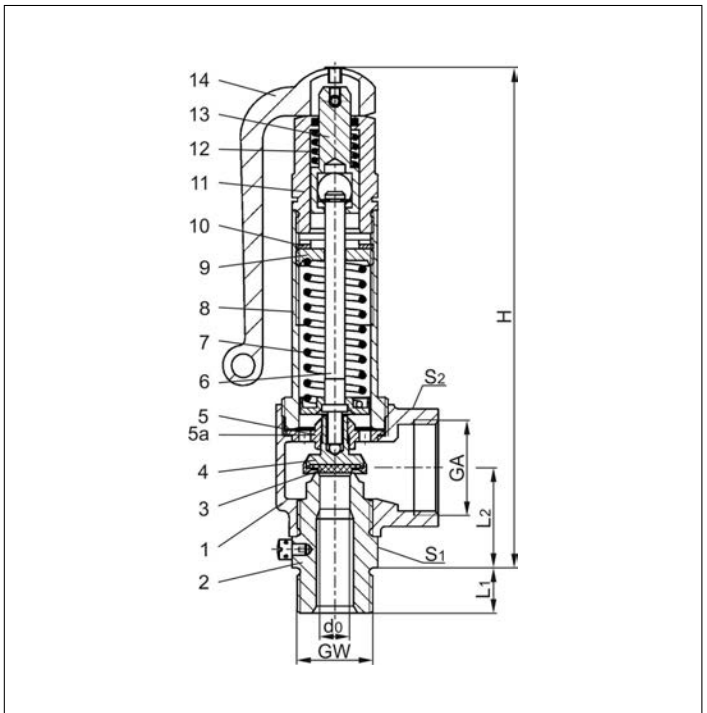
Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG. Working temperature: $-196^\circ\text{C} / -321^\circ\text{F}$ (77K) up to $+185^\circ\text{C} / +365^\circ\text{F}$ (458K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	A 351 CF8
2 Inlet body	1.4301	A 479 Grade 304
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ($d_0=23$)	
4 Disc	1.4301	A 479 Grade 304
5 Guide plate	1.4301	A 479 Grade 304
5a Guide plate from GW 1	1.4301	A 479 Grade 304
6 Stem	1.4571	A 479 Grade 316Ti
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF8
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Lifting cap	1.4301	A 479 Grade 304
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	1.4301	A 479 Grade 304
14 Lever	1.4408	A 351 CF8M



Type 06413	Technical data									
	Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2		
Orifice	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	2320
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2	2
Height	H	175	175	175	175	194	270	270	270	268
Length	L_1	14	16	14	16	18	20	20	20	25
Length	L_2	36	36	36	36	42	56	56	56	54
Wrench size across flats	S_1	30	30	30	30	41	55	55	55	65
Wrench size across flats	S_2	41	41	41	41	50	70	70	70	70
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	3.85	4.28
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	0.62
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	7.55

Dimensions in mm.

Safety Valves

Type 06413



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0		d ₀ (inch)	0.276	0.413	0.591	0.906
	A ₀ (mm ²)	38.48	86.59	176.71	415.48		A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in m ³ /h					Medium	Air in SCFM			
2.0	-	-	-	-	564	30	-	-	-	-	360
2.9	-	139	244	738		40	-	-	-	-	443
3.0	-	143	251	758		50	60	106	193	526	
3.3	96	154	270	817		60	70	122	223	609	
4.0	112	179	314	952		70	79	139	254	692	
5.0	135	215	379	1148		80	89	156	284	775	
6.0	158	251	442	1342		90	98	172	315	858	
7.0	181	287	506	1535		100	107	189	345	941	
8.0	204	324	571	1735		110	117	206	376	1025	
9.0	227	361	634	1929		120	126	223	406	1108	
10.0	250	398	699	2128		130	136	239	437	1191	
12.0	295	470	827	2517		140	145	256	467	1274	
14.0	341	543	955	2907		150	155	273	498	1357	
16.0	387	615	1082	3297		175	179	314	574	1564	
18.0	432	688	1210	3686		200	202	356	650	1772	
20.0	482	767	1350	4115		225	226	398	726	1980	
22.0	528	841	1479	4508		250	250	439	802	2187	
24.0	574	914	1608	4902		275	273	481	878	2395	
26.0	620	987	1737	5295		300	297	523	954	2602	
28.0	666	1060	1865	5688		325	321	565	1031	2810	
30.0	719	1144	2013	6139		350	345	606	1107	3018	
32.0	765	1218	2143	6536		375	368	648	1183	3225	
34.0	812	1292	2273	6933		400	392	690	1259	3433	
36.0	858	1366	2403	7330		425	416	731	1335	3641	
38.0	905	1440	2533	7727		450	439	773	1411	3848	
40.0	959	1527	2686	8194		475	463	815	1488	4056	
42.0	1006	1601	2817	8595		500	487	857	1564	4263	
44.0	1053	1676	2948	8995		525	510	898	1640	4471	
46.0	1100	1750	3079	9396		550	534	940	1716	4679	
48.0	1147	1825	3210	9796		575	558	982	1792	4886	
50.0	1204	1915	3370	10283		600	582	1024	1868	5094	
						625	605	1065	1944	5302	
						650	629	1107	2021	5509	
						675	653	1149	2097	5717	
						700	676	1190	2173	5924	
						725	700	1232	2249	6132	



Safety Valves

Type 06420



Cryogenic Safety Valves, angle type, bronze, PN40

d₀=7.0 & 10.5mm up to PN50

type tested TÜV-SV.1111. S/G

Standard safety valve,

with PCTFE valve seal, (except d₀7, which is metal to metal seated only: in this case

the **Part No.** changes from **06420.X.X000** to **06420.070X.X100**), closed bonnet

"cleaned and degreased for oxygen service"

Part No. 06420.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06420.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06420.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06420.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1



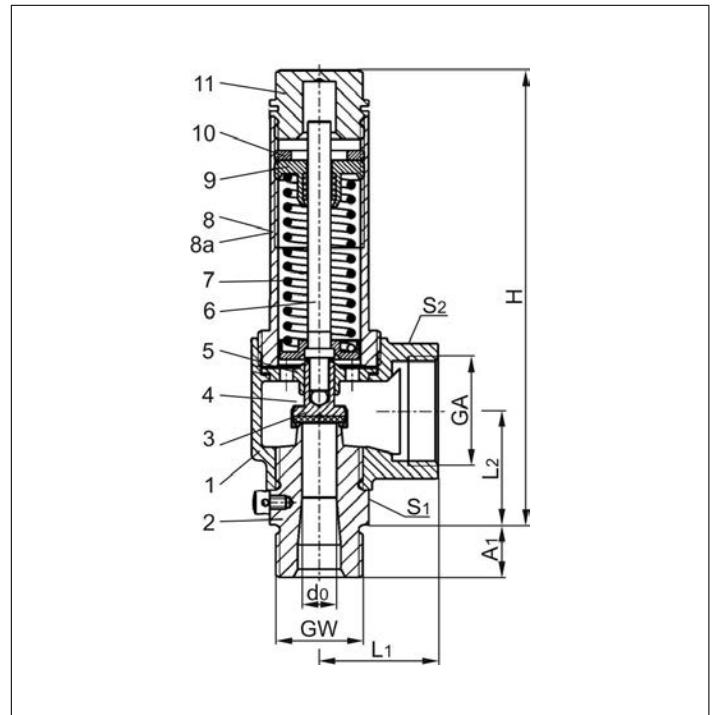
Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K), with PCTFE-seal

up to +150°C / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	SB62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d ₀ 7)
	1.4541	A 276 Grade 321 (d ₀ 10.5)
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06420	Technical data									
Nominal size	GW	1/2	3/4	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	d ₀	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	140	140	140	140	159	159	186	187	187
Length	A ₁	14	16	14	16	16	18	18	20	20
Length	L ₁	36	36	36	36	50	50	48	48	48
Length	L ₂	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	S ₁	30	30	30	30	41	41	50	50	50
Wrench size across flats	S ₂	41	41	41	41	50	50	58	58	58
Weight	ca. kg	0.78	0.80	0.76	0.79	1.25	1.31	1.87	1.99	1.90
Coeff. of disch. from 3.0 bar	α _w	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06420



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48	A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644	
	Medium	Air in m ³ /h					Medium	Air in SCFM					
0.4		24	43	77	123	157	15		-	-	92	-	-
0.5		27	49	87	141	179	28		-	-	129	-	298
1.0		41	77	131	216	287	29		42	-	-	-	304
1.5		54	101	179	291	376	35		47	90	154	-	346
2.0		66	126	219	362	473	40		52	100	169	280	382
3.0		88	176	299	495	661	50		62	118	201	333	454
4.0		111	221	375	621	829	60		72	137	233	385	525
5.0		134	266	453	748	1000	70		82	156	265	438	597
6.0		156	311	529	875	1169	80		92	174	296	490	669
7.0		179	356	606	1001	1337	90		101	193	328	543	740
8.0		202	402	684	1131	1511	100		111	212	360	595	812
9.0		225	447	761	1258	1680	120		131	249	424	700	955
10.0		248	494	839	1387	1853	145		155	296	503	831	1134
12.0		293	584	993	1641	-	160		170	324	551	910	-
14.0		339	674	1147	1895	-	180		190	361	614	1015	-
16.0		384	765	1300	2149	-	220		229	436	741	1225	-
18.0		430	855	1454	2403	-	240		249	473	805	1330	-
20.0		480	954	1623	2683	-	250		258	492	836	1383	-
22.0		525	1046	1778	2939	-	260		268	511	868	1435	-
24.0		571	1137	1933	3196	-	280		288	548	932	1540	-
26.0		617	1228	2088	3452	-	300		307	585	995	1645	-
28.0		663	1319	2244	3709	-	325		332	632	1075	1777	-
30.0		715	1424	2421	4003	-	350		357	679	1154	1908	-
32.0		762	1516	2578	4262	-	375		381	725	1233	2039	-
34.0		808	1608	2735	4520	-	400		406	772	1313	2170	-
36.0		854	1700	2891	4779	-	425		430	819	1392	2302	-
38.0		900	1792	3048	5038	-	450		455	865	1472	2433	-
40.0		955	1901	3232	5343	-	475		479	912	1551	2564	-
42.0		1002	1994	-	-	-	500		504	959	1630	2695	-
44.0		1048	2086	-	-	-	525		528	1006	1710	2827	-
46.0		1095	2179	-	-	-	550		553	1052	1789	2958	-
48.0		1142	2272	-	-	-	575		577	1099	1868	3089	-
50.0		1198	2385	-	-	-	600		602	1146	-	-	-
							625		626	1192	-	-	-
							650		651	1239	-	-	-
							675		675	1286	-	-	-
							700		700	1332	-	-	-
							725		724	1379	-	-	-

Safety Valves

Type 06425



Cryogenic Safety Valves, angle type, bronze, PN40
d₀=7.0 & 10.5mm up to PN50, type tested TÜV-SV.1111. S/G

Standard safety valve,

with PCTFE valve seal (except d₀7, which is metal to metal seated only: in this case

the **Part No.** changes from **06425.X.X000** to **06425.070X.X100**), closed bonnet, with lifting device
 "cleaned and degreased for oxygen service"

Part No. 06425.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06425.X.2000

Inlet: male thread type R (BSPT) acc. to 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06425.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06425.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

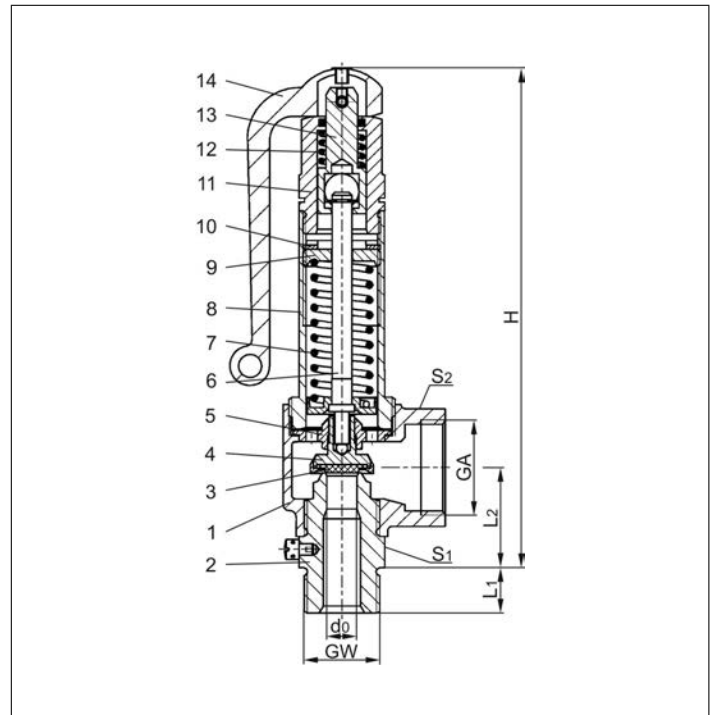


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K), with PCTFE-seal up to +150°C / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d ₀ 7)
	1.4541	A 276 Grade 321 (d ₀ 10.5)
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Lifting cap	CW614N	B 455 UNS C38500
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	CW614N	B 455 UNS C38500
14 Lever	1.4408	SA351 CF8M



Type 06425	Technical data									
	GW	1/2	3/4	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Nominal size	d ₀	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	176	176	176	176	196	196	239	240	239
Length	A ₁	14	16	14	16	16	18	18	20	20
Length	L ₁	36	36	36	36	50	50	48	48	48
Length	L ₂	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	S ₁	30	30	30	30	41	41	50	50	50
Wrench size across flats	S ₂	41	41	41	41	50	50	58	58	58
Weight	ca. kg	1.00	1.02	0.98	1.01	1.50	1.56	2.51	2.63	2.52
Coeff. of disch. from 3.0 bar	α _w	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06425



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48		A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
Medium	Air in m ³ /h					Medium	Air in SCFM						
0.4		24	43	77	123	157	15	-	-	92	-	-	
0.5		27	49	87	141	179	28	-	-	129	-	298	
1.0		41	77	131	216	287	29	42	-	-	-	304	
1.5		54	101	179	291	376	35	47	90	154	-	346	
2.0		66	126	219	362	473	40	52	100	169	280	382	
3.0		88	176	299	495	661	50	62	118	201	333	454	
4.0		111	221	375	621	829	60	72	137	233	385	525	
5.0		134	266	453	748	1000	70	82	156	265	438	597	
6.0		156	311	529	875	1169	80	92	174	296	490	669	
7.0		179	356	606	1001	1337	90	101	193	328	543	740	
8.0		202	402	684	1131	1511	100	111	212	360	595	812	
9.0		225	447	761	1258	1680	120	131	249	424	700	955	
10.0		248	494	839	1387	1853	145	155	296	503	831	1134	
12.0		293	584	993	1641	-	160	170	324	551	910	-	
14.0		339	674	1147	1895	-	180	190	361	614	1015	-	
16.0		384	765	1300	2149	-	220	229	436	741	1225	-	
18.0		430	855	1454	2403	-	240	249	473	805	1330	-	
20.0		480	954	1623	2683	-	250	258	492	836	1383	-	
22.0		525	1046	1778	2939	-	260	268	511	868	1435	-	
24.0		571	1137	1933	3196	-	280	288	548	932	1540	-	
26.0		617	1228	2088	3452	-	300	307	585	995	1645	-	
28.0		663	1319	2244	3709	-	325	332	632	1075	1777	-	
30.0		715	1424	2421	4003	-	350	357	679	1154	1908	-	
32.0		762	1516	2578	4262	-	375	381	725	1233	2039	-	
34.0		808	1608	2735	4520	-	400	406	772	1313	2170	-	
36.0		854	1700	2891	4779	-	425	430	819	1392	2302	-	
38.0		900	1792	3048	5038	-	450	455	865	1472	2433	-	
40.0		955	1901	3232	5343	-	475	479	912	1551	2564	-	
42.0		1002	1994	-	-	-	500	504	959	1630	2695	-	
44.0		1048	2086	-	-	-	525	528	1006	1710	2827	-	
46.0		1095	2179	-	-	-	550	553	1052	1789	2958	-	
48.0		1142	2272	-	-	-	575	577	1099	1868	3089	-	
50.0		1198	2385	-	-	-	600	602	1146	-	-	-	
							625	626	1192	-	-	-	
							650	651	1239	-	-	-	
							675	675	1286	-	-	-	
							700	700	1332	-	-	-	
							725	724	1379	-	-	-	

Safety Valves

Type 06421



Cryogenic Safety Valves, angle type, bronze, PN40
 $d_0=7,0$ & $10,5$ mm up to PN50,
 type tested TÜV-SV.1111. S/G

Standard safety valve,
 with PCTFE valve seal (except d_07 , which is metal to metal seated only: in this case
 the **Part No.** changes from **06421.X.X000** to **06421.070X.X100**), closed bonnet
 "cleaned and degreased for oxygen service"

Part No. 06421.X.0000

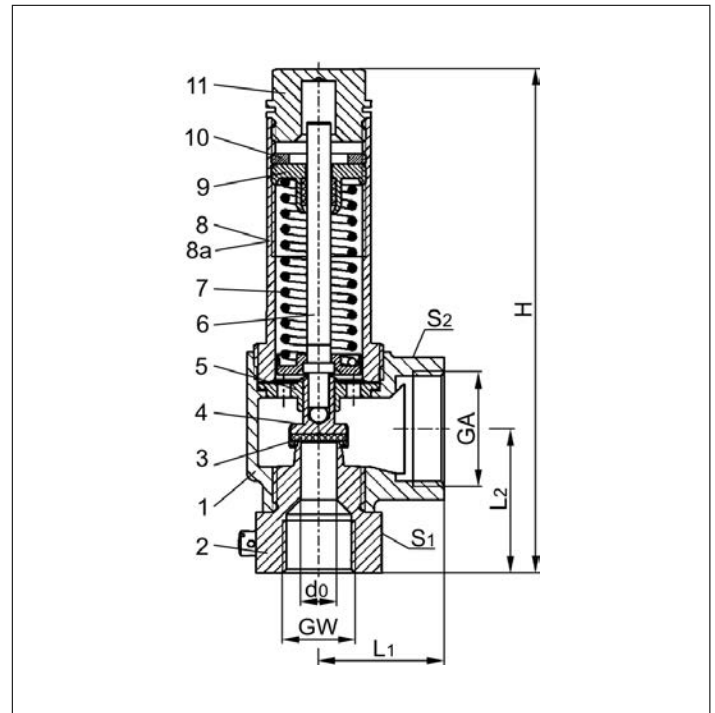
Inlet: female thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to $+185^{\circ}\text{C}$ / $+365^{\circ}\text{F}$ (458K), with PCTFE-seal up to $+150^{\circ}\text{C}$ / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d_07)
	1.4541	A 276 Grade 321 ($d_010.5$)
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CW493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06421	Technical data					
Nominal size	GW	1/2	1/2	3/4	1	1-1/4
Orifice	d_0	7.0	10.5	14.0	18.0	23.0
Dimension Code	.X.	0704	1004	1406	1810	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1-1/4	1-1/2	1-1/2
Height	H	145	145	164	195	200
Length	L_1	36	36	50	48	48
Length	L_2	41.5	41.5	49	59.5	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	58	58
Weight	ca. kg	0.80	0.795	1.25	1.87	1.79
Coeff. of discharge from 3.0 bar	α_w	0.78	0.69	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06421



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1-1/4	Set pressure in psig	GW	1/2	1/2	3/4	1	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48		A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
	Medium	Air in m ³ /h						Medium	Air in SCFM				
0.4		24	43	77	123	157	15	-	-	92	-	-	
0.5		27	49	87	141	179	28	-	-	129	-	298	
1.0		41	77	131	216	287	29	42	-	-	-	304	
1.5		54	101	179	291	376	35	47	90	154	-	346	
2.0		66	126	219	362	473	40	52	100	169	280	382	
3.0		88	176	299	495	661	50	62	118	201	333	454	
4.0		111	221	375	621	829	60	72	137	233	385	525	
5.0		134	266	453	748	1000	70	82	156	265	438	597	
6.0		156	311	529	875	1169	80	92	174	296	490	669	
7.0		179	356	606	1001	1337	90	101	193	328	543	740	
8.0		202	402	684	1131	1511	100	111	212	360	595	812	
9.0		225	447	761	1258	1680	120	131	249	424	700	955	
10.0		248	494	839	1387	1853	145	155	296	503	831	1134	
12.0		293	584	993	1641	-	160	170	324	551	910	-	
14.0		339	674	1147	1895	-	180	190	361	614	1015	-	
16.0		384	765	1300	2149	-	220	229	436	741	1225	-	
18.0		430	855	1454	2403	-	240	249	473	805	1330	-	
20.0		480	954	1623	2683	-	250	258	492	836	1383	-	
22.0		525	1046	1778	2939	-	260	268	511	868	1435	-	
24.0		571	1137	1933	3196	-	280	288	548	932	1540	-	
26.0		617	1228	2088	3452	-	300	307	585	995	1645	-	
28.0		663	1319	2244	3709	-	325	332	632	1075	1777	-	
30.0		715	1424	2421	4003	-	350	357	679	1154	1908	-	
32.0		762	1516	2578	4262	-	375	381	725	1233	2039	-	
34.0		808	1608	2735	4520	-	400	406	772	1313	2170	-	
36.0		854	1700	2891	4779	-	425	430	819	1392	2302	-	
38.0		900	1792	3048	5038	-	450	455	865	1472	2433	-	
40.0		955	1901	3232	5343	-	475	479	912	1551	2564	-	
42.0		1002	1994	-	-	-	500	504	959	1630	2695	-	
44.0		1048	2086	-	-	-	525	528	1006	1710	2827	-	
46.0		1095	2179	-	-	-	550	553	1052	1789	2958	-	
48.0		1142	2272	-	-	-	575	577	1099	1868	3089	-	
50.0		1198	2385	-	-	-	600	602	1146	-	-	-	
							625	626	1192	-	-	-	
							650	651	1239	-	-	-	
							675	675	1286	-	-	-	
							700	700	1332	-	-	-	
							725	724	1379	-	-	-	

Safety Valves

Type 06426



Cryogenic Safety Valves, angle type, bronze, PN40
 $d_0=7,0$ & $10,5$ mm up to PN50,
 type tested TÜV-SV.1111. S/G

Standard safety valve,
 with PCTFE valve seal (except d_07 , which is metal to metal seated only: in this case
 the **Part No.** changes from **06426.X.X000** to **06426.070X.X100**), closed bonnet, with lifting device
 "cleaned and degreased for oxygen service"

Part No. 06426.X.0000

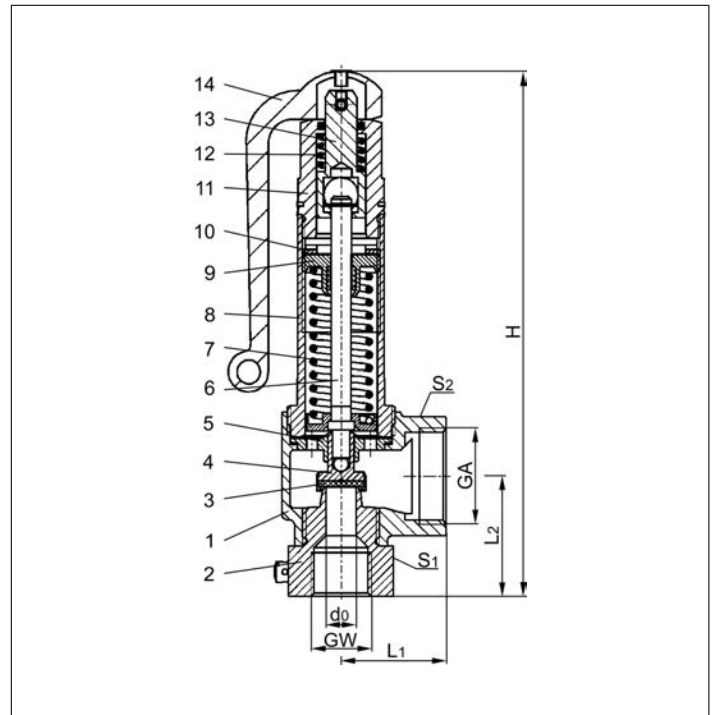
Inlet: female thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to $+185^{\circ}\text{C}$ / $+365^{\circ}\text{F}$ (458K), with PCTFE-seal up to $+150^{\circ}\text{C}$ / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d_07)
	1.4541	A 276 Grade 321 ($d_010.5$)
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Lifting cap	CW614N	B 455 UNS C38500
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	CW614N	B 455 UNS C38500
14 Lever	1.4408	SA351 CF8M



Type 06426	Technical Data					
Nominal size	GW	1/2	1/2	3/4	1	1-1/4
Orifice	d_0	7.0	10.5	14.0	18.0	23.0
Dimension code	.X.	0704	1004	1406	1810	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1-1/4	1-1/2	1-1/2
Height	H	181	181	201	247	252
Length	L_1	36	36	50	48	48
Length	L_2	41.5	41.5	49	59.5	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	58	58
Weight	ca. kg	1.02	1.01	1.50	2.45	2.40
Coeff. of discharge from 3.0 bar	α_w	0.78	0.69	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06426



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48
Medium		Air in m ³ /h				
0.4		24	43	77	123	157
0.5		27	49	87	141	179
1.0		41	77	131	216	287
1.5		54	101	179	291	376
2.0		66	126	219	362	473
3.0		88	176	299	495	661
4.0		111	221	375	621	829
5.0		134	266	453	748	1000
6.0		156	311	529	875	1169
7.0		179	356	606	1001	1337
8.0		202	402	684	1131	1511
9.0		225	447	761	1258	1680
10.0		248	494	839	1387	1853
12.0		293	584	993	1641	-
14.0		339	674	1147	1895	-
16.0		384	765	1300	2149	-
18.0		430	855	1454	2403	-
20.0		480	954	1623	2683	-
22.0		525	1046	1778	2939	-
24.0		571	1137	1933	3196	-
26.0		617	1228	2088	3452	-
28.0		663	1319	2244	3709	-
30.0		715	1424	2421	4003	-
32.0		762	1516	2578	4262	-
34.0		808	1608	2735	4520	-
36.0		854	1700	2891	4779	-
38.0		900	1792	3048	5038	-
40.0		955	1901	3232	5343	-
42.0		1002	1994	-	-	-
44.0		1048	2086	-	-	-
46.0		1095	2179	-	-	-
48.0		1142	2272	-	-	-
50.0		1198	2385	-	-	-

Set pressure in psig	GW	1/2	1/2	3/4	1	1-1/4
	d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
Medium		Air in SCFM				
15		-	-	92	-	-
28		-	-	129	-	298
29		42	-	-	-	304
35		47	90	154	-	346
40		52	100	169	280	382
50		62	118	201	333	454
60		72	137	233	385	525
70		82	156	265	438	597
80		92	174	296	490	669
90		101	193	328	543	740
100		111	212	360	595	812
120		131	249	424	700	955
145		155	296	503	831	1134
160		170	324	551	910	-
180		190	361	614	1015	-
220		229	436	741	1225	-
240		249	473	805	1330	-
250		258	492	836	1383	-
260		268	511	868	1435	-
280		288	548	932	1540	-
300		307	585	995	1645	-
325		332	632	1075	1777	-
350		357	679	1154	1908	-
375		381	725	1233	2039	-
400		406	772	1313	2170	-
425		430	819	1392	2302	-
450		455	865	1472	2433	-
475		479	912	1551	2564	-
500		504	959	1630	2695	-
525		528	1006	1710	2827	-
550		553	1052	1789	2958	-
575		577	1099	1868	3089	-
600		602	1146	-	-	-
625		626	1192	-	-	-
650		651	1239	-	-	-
675		675	1286	-	-	-
700		700	1332	-	-	-
725		724	1379	-	-	-

Safety Valves

Type 06440



Cryogenic Safety Valves, angle type, stainless steel, PN40

d₀=7.0 & 10.5mm up to PN50

type tested TÜV-SV.1111. S/G

Standard safety valve,

with PCTFE valve seal, (except d₀7, which is metal to metal seated only: in this case

the **Part No.** changes from **06440.X.X000** to **06440.070X.X100**), closed bonnet

"cleaned and degreased for oxygen service"

Part No. 06440.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06440.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06440.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06440.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

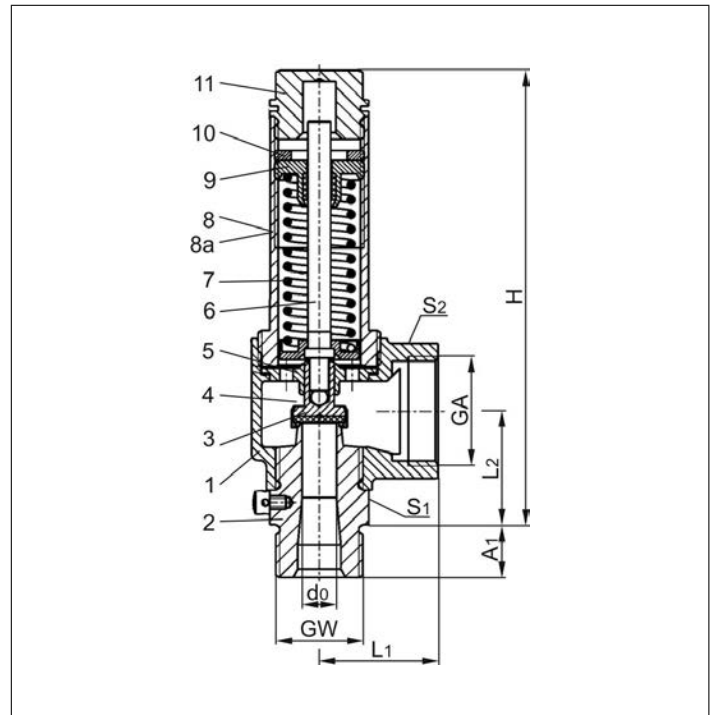


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K), with PCTFE-seal up to +150°C / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	SA351 CF8
2 Inlet body	1.4301	SA479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d ₀ 7)
	1.4541	A 276 Grade 321 (d ₀ 10.5)
4 Disc	1.4541	A276 Grade 321
5 Guide plate	1.4301	SA479 Grade 304
6 Stem	1.4301	SA479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	1.4301	SA479 Grade 304
10 Thread ring	1.4301	SA479 Grade 304
11 Cap	1.4301	SA479 Grade 304



Type 06440	Technical data									
Nominal size	GW	1/2	3/4	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	d ₀	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	140	140	140	140	159	159	186	187	187
Length	A ₁	14	16	14	16	16	18	18	20	20
Length	L ₁	36	36	36	36	50	50	48	48	48
Length	L ₂	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	S ₁	30	30	30	30	41	41	50	50	50
Wrench size across flats	S ₂	41	41	41	41	50	50	58	58	58
Weight	ca. kg	0.78	0.80	0.76	0.79	1.25	1.31	1.87	1.99	1.90
Coeff. of disch. from 3.0 bar	α _w	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06440



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4	
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0	
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48	
Medium							Air in m ³ /h
0.4		24	43	77	123	157	
0.5		27	49	87	141	179	
1.0		41	77	131	216	287	
1.5		54	101	179	291	376	
2.0		66	126	219	362	473	
3.0		88	176	299	495	661	
4.0		111	221	375	621	829	
5.0		134	266	453	748	1000	
6.0		156	311	529	875	1169	
7.0		179	356	606	1001	1337	
8.0		202	402	684	1131	1511	
9.0		225	447	761	1258	1680	
10.0		248	494	839	1387	1853	
12.0		293	584	993	1641	-	
14.0		339	674	1147	1895	-	
16.0		384	765	1300	2149	-	
18.0		430	855	1454	2403	-	
20.0		480	954	1623	2683	-	
22.0		525	1046	1778	2939	-	
24.0		571	1137	1933	3196	-	
26.0		617	1228	2088	3452	-	
28.0		663	1319	2244	3709	-	
30.0		715	1424	2421	4003	-	
32.0		762	1516	2578	4262	-	
34.0		808	1608	2735	4520	-	
36.0		854	1700	2891	4779	-	
38.0		900	1792	3048	5038	-	
40.0		955	1901	3232	5343	-	
42.0		1002	1994	-	-	-	
44.0		1048	2086	-	-	-	
46.0		1095	2179	-	-	-	
48.0		1142	2272	-	-	-	
50.0		1198	2385	-	-	-	

Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4	
	d ₀ (inch)	0.276	0.413	0.551	0.709	0.906	
	A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644	
Medium							Air in SCFM
15		-	-	92	-	-	
28		-	-	129	-	298	
29		42	-	-	-	304	
35		47	90	154	-	346	
40		52	100	169	280	382	
50		62	118	201	333	454	
60		72	137	233	385	525	
70		82	156	265	438	597	
80		92	174	296	490	669	
90		101	193	328	543	740	
100		111	212	360	595	812	
120		131	249	424	700	955	
145		155	296	503	831	1134	
160		170	324	551	910	-	
180		190	361	614	1015	-	
220		229	436	741	1225	-	
240		249	473	805	1330	-	
250		258	492	836	1383	-	
260		268	511	868	1435	-	
280		288	548	932	1540	-	
300		307	585	995	1645	-	
325		332	632	1075	1777	-	
350		357	679	1154	1908	-	
375		381	725	1233	2039	-	
400		406	772	1313	2170	-	
425		430	819	1392	2302	-	
450		455	865	1472	2433	-	
475		479	912	1551	2564	-	
500		504	959	1630	2695	-	
525		528	1006	1710	2827	-	
550		553	1052	1789	2958	-	
575		577	1099	1868	3089	-	
600		602	1146	-	-	-	
625		626	1192	-	-	-	
650		651	1239	-	-	-	
675		675	1286	-	-	-	
700		700	1332	-	-	-	
725		724	1379	-	-	-	

Safety Valves

Type 06445



Cryogenic Safety Valves, angle type, stainless steel, PN40
 $d_0=7.0$ & 10.5 mm up to **PN50, type tested TÜV-SV.1111. S/G**

Standard safety valve,

with PCTFE valve seal (except d_07 , which is metal to metal seated only: in this case

the **Part No.** changes from **06445.X.X000** to **06445.070X.X100**), closed bonnet, with lifting device
 "cleaned and degreased for oxygen service"

Part No. 06445.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06445.X.2000

Inlet: male thread type R (BSPT) acc. to 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06445.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06445.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1

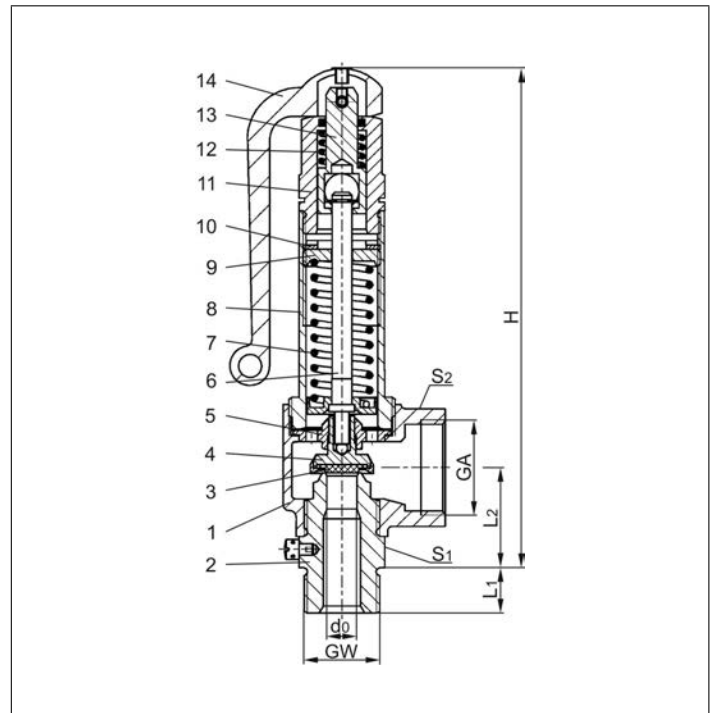


Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: $-196^{\circ}\text{C} / -321^{\circ}\text{F}$ (77K) up to $+185^{\circ}\text{C} / +365^{\circ}\text{F}$ (458K), with PCTFE-seal up to $+150^{\circ}\text{C} / 302^{\circ}\text{F}$ (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	SA351 CF8
2 Inlet body	1.4301	A 479 Grade 304
3 Valve seal	PCTFE 1.4571 1.4541	A 313 Grade 316Ti (d_07) A 276 Grade 321 ($d_010.5$)
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	1.4301	A 479 Grade 304
6 Stem	1.4301	A 479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Lifting cap	1.4301	A 479 Grade 304
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	1.4301	A 479 Grade 304
14 Lever	1.4408	SA351 CF8M



Type 06425	Technical data									
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
Orifice	d_0	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	176	176	176	176	196	196	239	240	239
Length	A_1	14	16	14	16	16	18	18	20	20
Length	L_1	36	36	36	36	50	50	48	48	48
Length	L_2	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	S_1	30	30	30	30	41	41	50	50	50
Wrench size across flats	S_2	41	41	41	41	50	50	58	58	58
Weight	ca. kg	1.00	1.02	0.98	1.01	1.50	1.56	2.51	2.63	2.52
Coeff. of disch. from 3.0 bar	α_w	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06445



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48
	Medium	Air in m ³ /h				
0.4		24	43	77	123	157
0.5		27	49	87	141	179
1.0		41	77	131	216	287
1.5		54	101	179	291	376
2.0		66	126	219	362	473
3.0		88	176	299	495	661
4.0		111	221	375	621	829
5.0		134	266	453	748	1000
6.0		156	311	529	875	1169
7.0		179	356	606	1001	1337
8.0		202	402	684	1131	1511
9.0		225	447	761	1258	1680
10.0		248	494	839	1387	1853
12.0		293	584	993	1641	-
14.0		339	674	1147	1895	-
16.0		384	765	1300	2149	-
18.0		430	855	1454	2403	-
20.0		480	954	1623	2683	-
22.0		525	1046	1778	2939	-
24.0		571	1137	1933	3196	-
26.0		617	1228	2088	3452	-
28.0		663	1319	2244	3709	-
30.0		715	1424	2421	4003	-
32.0		762	1516	2578	4262	-
34.0		808	1608	2735	4520	-
36.0		854	1700	2891	4779	-
38.0		900	1792	3048	5038	-
40.0		955	1901	3232	5343	-
42.0		1002	1994	-	-	-
44.0		1048	2086	-	-	-
46.0		1095	2179	-	-	-
48.0		1142	2272	-	-	-
50.0		1198	2385	-	-	-

Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
	Medium	Air in SCFM				
15		-	-	92	-	-
28		-	-	129	-	298
29		42	-	-	-	304
35		47	90	154	-	346
40		52	100	169	280	382
50		62	118	201	333	454
60		72	137	233	385	525
70		82	156	265	438	597
80		92	174	296	490	669
90		101	193	328	543	740
100		111	212	360	595	812
120		131	249	424	700	955
145		155	296	503	831	1134
160		170	324	551	910	-
180		190	361	614	1015	-
220		229	436	741	1225	-
240		249	473	805	1330	-
250		258	492	836	1383	-
260		268	511	868	1435	-
280		288	548	932	1540	-
300		307	585	995	1645	-
325		332	632	1075	1777	-
350		357	679	1154	1908	-
375		381	725	1233	2039	-
400		406	772	1313	2170	-
425		430	819	1392	2302	-
450		455	865	1472	2433	-
475		479	912	1551	2564	-
500		504	959	1630	2695	-
525		528	1006	1710	2827	-
550		553	1052	1789	2958	-
575		577	1099	1868	3089	-
600		602	1146	-	-	-
625		626	1192	-	-	-
650		651	1239	-	-	-
675		675	1286	-	-	-
700		700	1332	-	-	-
725		724	1379	-	-	-

Safety Valves

Type 06441



Cryogenic Safety Valves, angle type, stainless steel, PN40
 $d_0=7,0$ & $10,5$ mm up to PN50,
 type tested TÜV-SV.1111. S/G

Standard safety valve,
 with PCTFE valve seal (except d_07 , which is metal to metal seated only: in this case
 the **Part No.** changes from **06441.X.X000** to **06441.070X.X100**), closed bonnet
 "cleaned and degreased for oxygen service"

Part No. 06441.X.0000

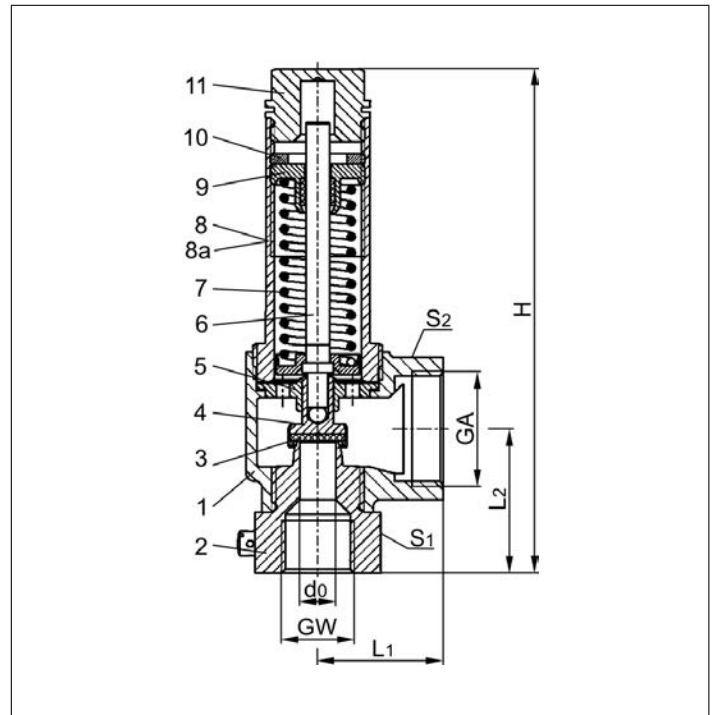
Inlet: female thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to $+185^{\circ}\text{C}$ / $+365^{\circ}\text{F}$ (458K), with PCTFE-seal
 up to $+150^{\circ}\text{C}$ / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	SA351 CF8
2 Inlet body	1.4301	A 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d_07)
	1.4541	A 276 Grade 321 ($d_010.5$)
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	1.4301	A 479 Grade 304
6 Stem	1.4301	A 479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Cap	1.4301	A 479 Grade 304



Type 06441	Technical data					
Nominal size	GW	1/2	1/2	3/4	1	1-1/4
Orifice	d_0	7.0	10.5	14.0	18.0	23.0
Dimension Code	.X.	0704	1004	1406	1810	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1-1/4	1-1/2	1-1/2
Height	H	145	145	164	195	200
Length	L_1	36	36	50	48	48
Length	L_2	41.5	41.5	49	59.5	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	58	58
Weight	ca. kg	0.80	0.795	1.25	1.87	1.79
Coeff. of discharge from 3.0 bar	α_w	0.78	0.69	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06441



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1-1/4	Set pressure in psig	GW	1/2	1/2	3/4	1	1-1/4		
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906		
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48		A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644		
Medium		Air in m ³ /h						Medium		Air in SCFM					
0.4		24	43	77	123	157	15		-	-	92	-	-		
0.5		27	49	87	141	179	28		-	-	129	-	298		
1.0		41	77	131	216	287	29		42	-	-	-	304		
1.5		54	101	179	291	376	35		47	90	154	-	346		
2.0		66	126	219	362	473	40		52	100	169	280	382		
3.0		88	176	299	495	661	50		62	118	201	333	454		
4.0		111	221	375	621	829	60		72	137	233	385	525		
5.0		134	266	453	748	1000	70		82	156	265	438	597		
6.0		156	311	529	875	1169	80		92	174	296	490	669		
7.0		179	356	606	1001	1337	90		101	193	328	543	740		
8.0		202	402	684	1131	1511	100		111	212	360	595	812		
9.0		225	447	761	1258	1680	120		131	249	424	700	955		
10.0		248	494	839	1387	1853	145		155	296	503	831	1134		
12.0		293	584	993	1641	-	160		170	324	551	910	-		
14.0		339	674	1147	1895	-	180		190	361	614	1015	-		
16.0		384	765	1300	2149	-	220		229	436	741	1225	-		
18.0		430	855	1454	2403	-	240		249	473	805	1330	-		
20.0		480	954	1623	2683	-	250		258	492	836	1383	-		
22.0		525	1046	1778	2939	-	260		268	511	868	1435	-		
24.0		571	1137	1933	3196	-	280		288	548	932	1540	-		
26.0		617	1228	2088	3452	-	300		307	585	995	1645	-		
28.0		663	1319	2244	3709	-	325		332	632	1075	1777	-		
30.0		715	1424	2421	4003	-	350		357	679	1154	1908	-		
32.0		762	1516	2578	4262	-	375		381	725	1233	2039	-		
34.0		808	1608	2735	4520	-	400		406	772	1313	2170	-		
36.0		854	1700	2891	4779	-	425		430	819	1392	2302	-		
38.0		900	1792	3048	5038	-	450		455	865	1472	2433	-		
40.0		955	1901	3232	5343	-	475		479	912	1551	2564	-		
42.0		1002	1994	-	-	-	500		504	959	1630	2695	-		
44.0		1048	2086	-	-	-	525		528	1006	1710	2827	-		
46.0		1095	2179	-	-	-	550		553	1052	1789	2958	-		
48.0		1142	2272	-	-	-	575		577	1099	1868	3089	-		
50.0		1198	2385	-	-	-	600		602	1146	-	-	-		
							625		626	1192	-	-	-		
							650		651	1239	-	-	-		
							675		675	1286	-	-	-		
							700		700	1332	-	-	-		
							725		724	1379	-	-	-		

Safety Valves

Type 06446



Cryogenic Safety Valves, angle type, stainless steel, PN40
 $d_0=7,0$ & $10,5$ mm up to PN50,
 type tested TÜV-SV.1111. S/G

Standard safety valve,
 with PCTFE valve seal (except d_07 , which is metal to metal seated only: in this case
 the **Part No.** changes from **06446.X.X000** to **06446.070X.X100**), closed bonnet, with lifting device
 "cleaned and degreased for oxygen service"

Part No. 06446.X.0000

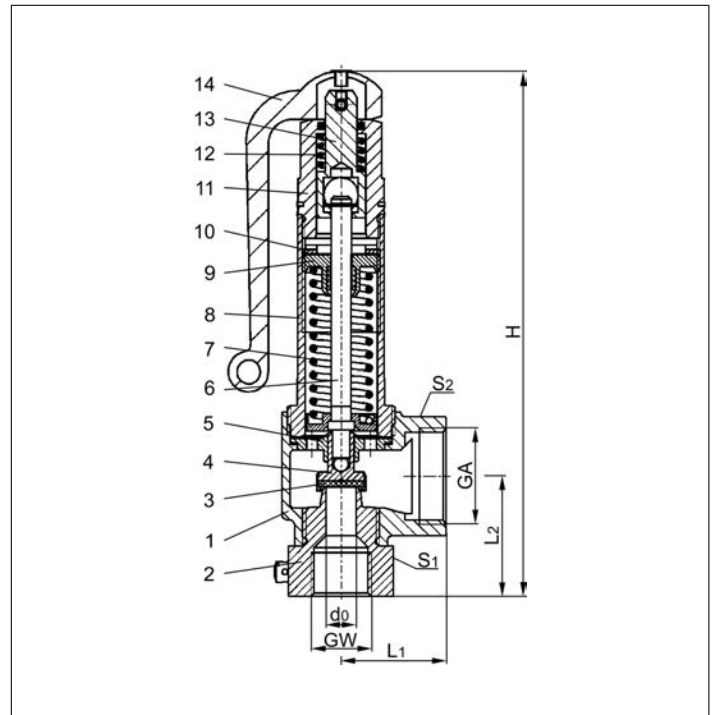
Inlet: female thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to $+185^{\circ}\text{C}$ / $+365^{\circ}\text{F}$ (458K), with PCTFE-seal
 up to $+150^{\circ}\text{C}$ / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4308	SA351 CF8
2 Inlet body	1.4301	A 479 Grade 304
3 Valve seal	PCTFE	
	1.4571	A 313 Grade 316Ti (d_07)
	1.4541	A 276 Grade 321 ($d_010.5$)
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	1.4301	A 479 Grade 304
6 Stem	1.4301	A 479 Grade 304
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	1.4301	A 479 Grade 304
10 Thread ring	1.4301	A 479 Grade 304
11 Lifting cap	1.4301	A 479 Grade 304
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	1.4301	A 479 Grade 304
14 Lever	1.4408	SA351 CF8M



Type 06426	Technical Data					
Nominal size	GW	1/2	1/2	3/4	1	1-1/4
Orifice	d_0	7.0	10.5	14.0	18.0	23.0
Dimension code	.X.	0704	1004	1406	1810	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1-1/4	1-1/2	1-1/2
Height	H	181	181	201	247	252
Length	L_1	36	36	50	48	48
Length	L_2	41.5	41.5	49	59.5	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	58	58
Weight	ca. kg	1.02	1.01	1.50	2.45	2.40
Coeff. of discharge from 3.0 bar	α_w	0.78	0.69	0.66	0.66	0.54

Dimensions in mm.

Safety Valves

Type 06446



Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1-1/4	Set pressure in psig	GW	1/2	1/2	3/4	1	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48		A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
Medium	Air in m ³ /h						Medium	Air in SCFM					
0.4		24	43	77	123	157	15		-	-	92	-	-
0.5		27	49	87	141	179	28		-	-	129	-	298
1.0		41	77	131	216	287	29		42	-	-	-	304
1.5		54	101	179	291	376	35		47	90	154	-	346
2.0		66	126	219	362	473	40		52	100	169	280	382
3.0		88	176	299	495	661	50		62	118	201	333	454
4.0		111	221	375	621	829	60		72	137	233	385	525
5.0		134	266	453	748	1000	70		82	156	265	438	597
6.0		156	311	529	875	1169	80		92	174	296	490	669
7.0		179	356	606	1001	1337	90		101	193	328	543	740
8.0		202	402	684	1131	1511	100		111	212	360	595	812
9.0		225	447	761	1258	1680	120		131	249	424	700	955
10.0		248	494	839	1387	1853	145		155	296	503	831	1134
12.0		293	584	993	1641	-	160		170	324	551	910	-
14.0		339	674	1147	1895	-	180		190	361	614	1015	-
16.0		384	765	1300	2149	-	220		229	436	741	1225	-
18.0		430	855	1454	2403	-	240		249	473	805	1330	-
20.0		480	954	1623	2683	-	250		258	492	836	1383	-
22.0		525	1046	1778	2939	-	260		268	511	868	1435	-
24.0		571	1137	1933	3196	-	280		288	548	932	1540	-
26.0		617	1228	2088	3452	-	300		307	585	995	1645	-
28.0		663	1319	2244	3709	-	325		332	632	1075	1777	-
30.0		715	1424	2421	4003	-	350		357	679	1154	1908	-
32.0		762	1516	2578	4262	-	375		381	725	1233	2039	-
34.0		808	1608	2735	4520	-	400		406	772	1313	2170	-
36.0		854	1700	2891	4779	-	425		430	819	1392	2302	-
38.0		900	1792	3048	5038	-	450		455	865	1472	2433	-
40.0		955	1901	3232	5343	-	475		479	912	1551	2564	-
42.0		1002	1994	-	-	-	500		504	959	1630	2695	-
44.0		1048	2086	-	-	-	525		528	1006	1710	2827	-
46.0		1095	2179	-	-	-	550		553	1052	1789	2958	-
48.0		1142	2272	-	-	-	575		577	1099	1868	3089	-
50.0		1198	2385	-	-	-	600		602	1146	-	-	-
							625		626	1192	-	-	-
							650		651	1239	-	-	-
							675		675	1286	-	-	-
							700		700	1332	-	-	-
							725		724	1379	-	-	-

Safety Valves

Type 06801 with bellow seal



Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice $d_0 = 12.5$ mm TÜV-SV.1105. only S/G

Standard safety valve,
metal to metal seated, closed bonnet
"cleaned and degreased for oxygen service"

Part No. 06801.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1



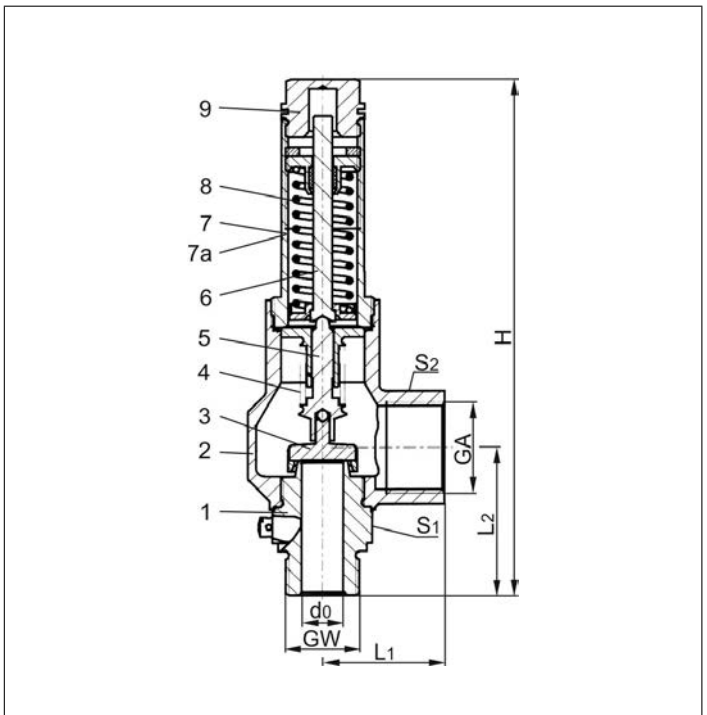
Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature: $-270^{\circ}\text{C} / -454^{\circ}\text{F}$ (3K) up to $+225^{\circ}\text{C} / +437^{\circ}\text{F}$ (498K)

Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed

Materials	DIN EN	ASME/ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4301	A 276 Grade 304
8 Spring	1.4571	A 276 Grade 316Ti
9 Cap	1.4301	A 276 Grade 304



Important:

For nominal size GW 3/4, $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).



Type 06801	Technical data				
Nominal size	GW	1/2	3/4	1	1
Orifice	d_0	12.5	15	20	23
Dimension code	.X.	1204	1506	2010	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	186	190	205	255
Length	L_1	44	44	51	56
Length	L_2	52	54	63	65
Wrench size across flats	S_1	36	36	41	50
Wrench size across flats	S_2	41	41	50	55
Weight	ca. kg	1.03	1.05	1.70	2.45
Coeff. of discharge vapours, gases	α_w	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	α_w	-	0.39	0.45	0.48

Dimensions in mm.

Safety Valves

Type 06801 with bellow seal



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

Saturated steam in kg/h

The capacity indicated below is for a fully opened valve.

Maximum allowed back pressure: 15% of set pressure.

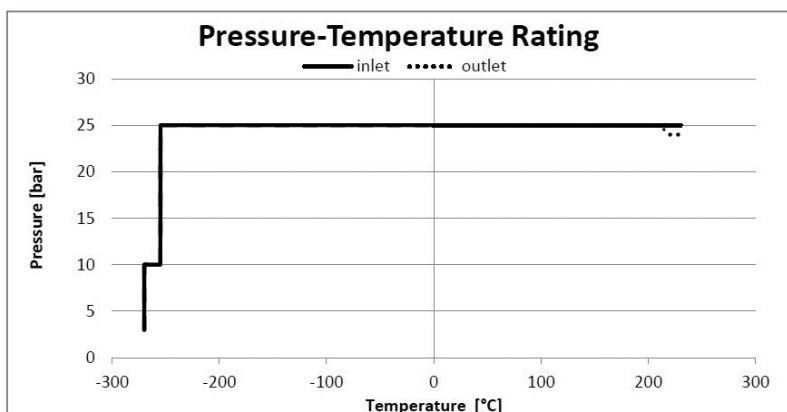
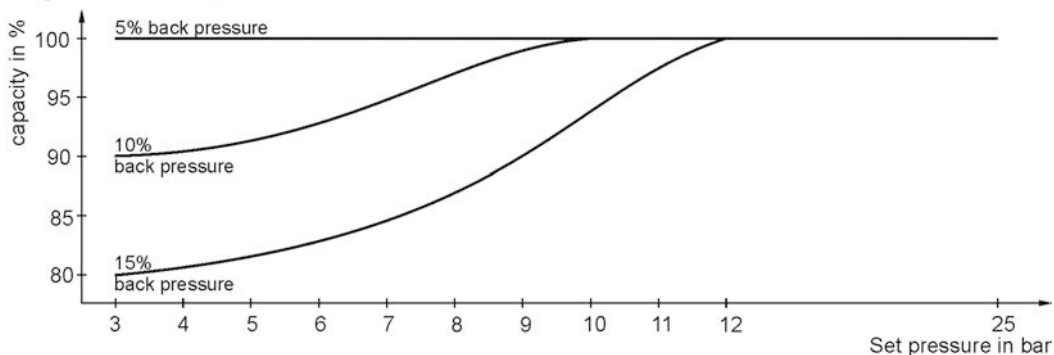
For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2	3/4	1	1	1/2	3/4	1	1	3/4	1	1	
	d_0 (mm)	12.5	15.0	20.0	23.0	12.5	15.0	20.0	23.0	15.0	20.0	23.0	
	A_0 (mm ²)	122.7	176.7	314.2	415.5	122.7	176.7	314.2	415.5	176.7	314.2	415.5	
	Medium	Air				Saturated steam				Water			
3.0		217	260	555	807	169	203	433	630	6374	13075	18445	
4.0		272	327	697	1013	211	254	541	787	7360	15098	21299	
5.0		328	394	840	1222	253	304	648	943	8229	16880	23813	
6.0		383	460	982	1428	295	354	754	1097	9015	18492	26085	
7.0		439	527	1124	1635	336	403	860	1251	9737	19973	28175	
8.0		496	595	1269	1847	377	452	965	1404	10409	21352	30121	
9.0		551	662	1412	2054	418	502	1070	1557	11041	22647	31948	
10.0		608	730	1557	2265	459	551	1174	1709	11638	23872	33676	
12.0		720	864	1842	2680	540	648	1383	2011	12749	26151	36890	
14.0		831	997	2127	3095	621	745	1590	2313	13770	28246	39846	
16.0		942	1131	2412	3509	702	842	1797	2615	14721	30197	42597	
18.0		1054	1265	2698	3924	783	940	2005	2916	15614	32028	45181	
20.0		1176	1412	3011	4381	864	1037	2212	3218	16458	33761	47625	
22.0		1289	1546	3299	4799	945	1134	2420	3520	17262	35409	49950	
25.0		1457	1749	3731	5427	1067	1281	2732	3975	18401	37746	53247	

Diagram 06801-3/4



Safety Valves

Type 06806 with bellow seal



Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice $d_0 = 12.5$ mm TÜV-SV.1105. only S/G

Standard safety valve,
metal to metal seated, closed bonnet, with lifting device
"cleaned and degreased for oxygen service"

Part No. 06806.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06806.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06806.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06806.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.

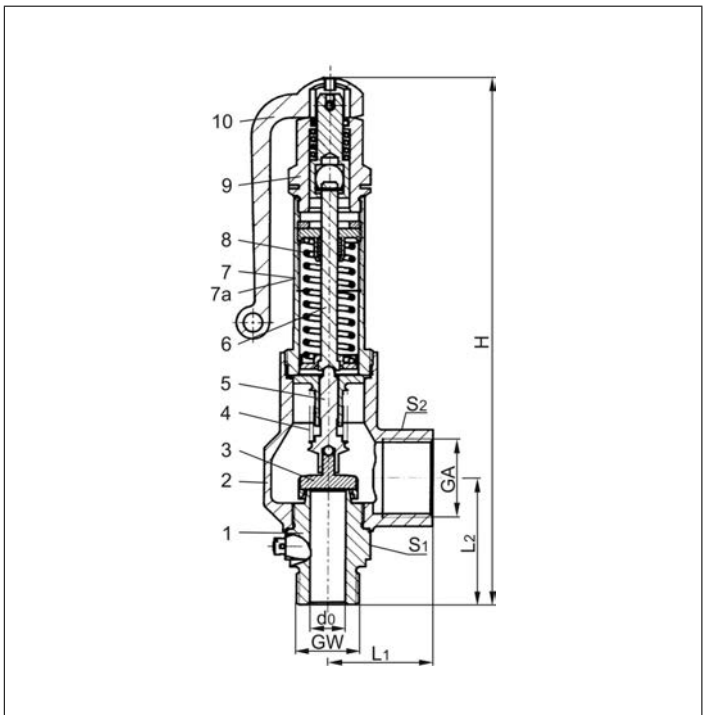
Working temperature: $-270^{\circ}\text{C} / -454^{\circ}\text{F}$ (3K) up to $+225^{\circ}\text{C} / +437^{\circ}\text{F}$ (498K)

Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed

Materials	DIN EN	ASME/ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4301	A 276 Grade 304
8 Spring	1.4571	A 276 Grade 316Ti
9 Lifting cap	1.4301	A 276 Grade 304
10 Lever	1.4408	A 351 CF8M

Important:

For nominal size GW 3/4, $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06806-3/4).



Type 06806	Technical data					
	Nominal size	GW	1/2	3/4	1	1
Orifice	d_0	12.5	15	20	23	23
Dimension code	.X.	1204	1506	2010	2310	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2	G 1-1/2
Height	H	221	225	250	305	305
Length	L_1	44	44	51	56	56
Length	L_2	52	54	63	65	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	55	55
Weight	ca. kg	1.23	1.25	1.95	3.10	3.10
Coeff. of discharge vapours, gases	α_w	0.60	0.50	0.60	0.66	0.66
Coeff. of discharge fluids	α_w	-	0.39	0.45	0.48	0.48

Dimensions in mm.

Safety Valves

Type 06806 with bellow seal



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

Saturated steam in kg/h

The capacity indicated below is for a fully opened valve.

Maximum allowed back pressure: 15% of set pressure.

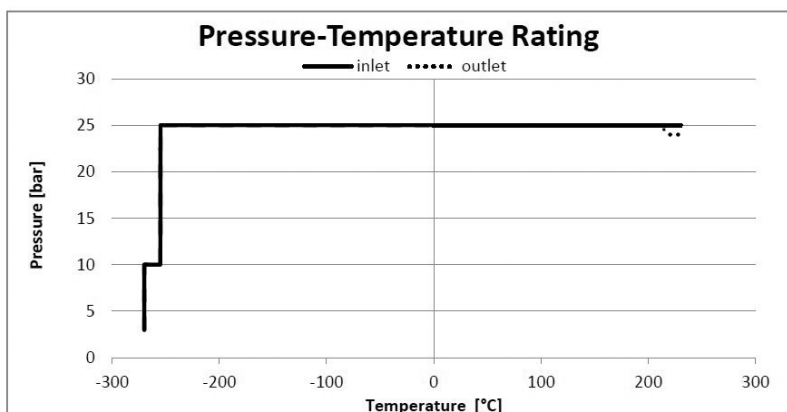
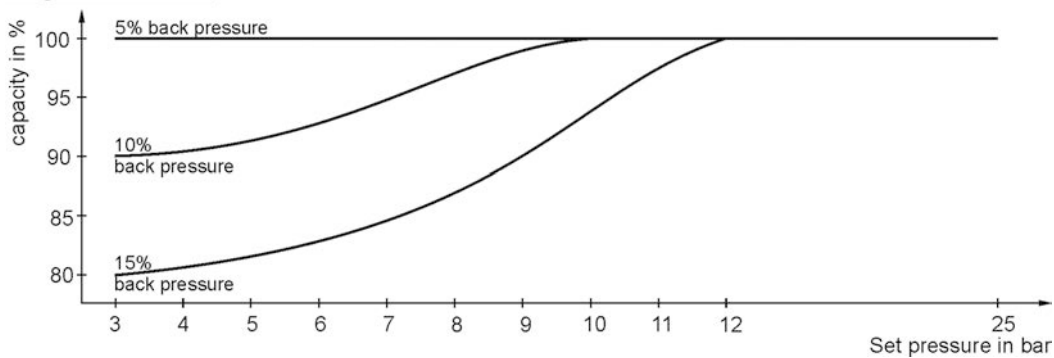
For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06806-3/4).

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2	3/4	1	1	1/2	3/4	1	1	3/4	1	1
	d_0 (mm)	12.5	15.0	20.0	23.0	12.5	15.0	20.0	23.0	15.0	20.0	23.0
	A_0 (mm ²)	122.7	176.7	314.2	415.5	122.7	176.7	314.2	415.5	176.7	314.2	415.5
Medium	Air				Saturated steam				Water			
3.0		217	260	555	807	169	203	433	630	6374	13075	18445
4.0		272	327	697	1013	211	254	541	787	7360	15098	21299
5.0		328	394	840	1222	253	304	648	943	8229	16880	23813
6.0		383	460	982	1428	295	354	754	1097	9015	18492	26085
7.0		439	527	1124	1635	336	403	860	1251	9737	19973	28175
8.0		496	595	1269	1847	377	452	965	1404	10409	21352	30121
9.0		551	662	1412	2054	418	502	1070	1557	11041	22647	31948
10.0		608	730	1557	2265	459	551	1174	1709	11638	23872	33676
12.0		720	864	1842	2680	540	648	1383	2011	12749	26151	36890
14.0		831	997	2127	3095	621	745	1590	2313	13770	28246	39846
16.0		942	1131	2412	3509	702	842	1797	2615	14721	30197	42597
18.0		1054	1265	2698	3924	783	940	2005	2916	15614	32028	45181
20.0		1176	1412	3011	4381	864	1037	2212	3218	16458	33761	47625
22.0		1289	1546	3299	4799	945	1134	2420	3520	17262	35409	49950
25.0		1457	1749	3731	5427	1067	1281	2732	3975	18401	37746	53247

Diagram 06806-3/4



Safety Valves

Type 06800 with bellow seal



Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice $d_0 = 12.5$ mm TÜV-SV.1105. only S/G

Standard safety valve,
metal to metal seated, closed bonnet
"cleaned and degreased for oxygen service"

Part No. 06800.X.0000

Inlet: female thread type G (BSPP) acc. to ISO 228/1,
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06800.X.5000

Inlet: female NPT acc. to ANSI B 1.20.1,
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06800.X.6000

Inlet: female thread NPT acc. to ANSI B 1.20.1,
Outlet: female thread NPT acc. to ANSI B 1.20.1



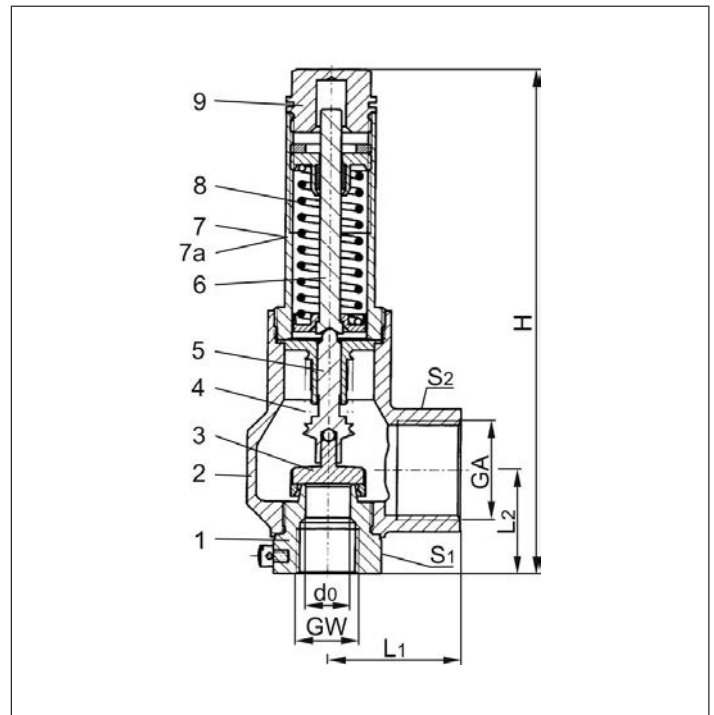
Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.
Working temperature: $-270^{\circ}\text{C} / -454^{\circ}\text{F}$ (3K) up to $+225^{\circ}\text{C} / +437^{\circ}\text{F}$ (498K)
Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed

Materials	DIN EN	ASME/ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4301	A 276 Grade 304
8 Spring	1.4571	A 276 Grade 316Ti
9 Cap	1.4301	A 276 Grade 304

Important:

For nominal size GW 1/2, $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2, $d_0 = 15.0$).



Type 06800	Technical data				
Nominal size	GW	1/2	1/2	3/4	1
Orifice	d_0	12.5	15	20	23
Dimension code	.X.	1204	1504	2006	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	170	170	198	245
Length	L_1	44	44	51	56
Length	L_2	35	35	48	58
Wrench size across flats	S_1	36	36	41	50
Wrench size across flats	S_2	41	41	50	55
Weight	ca. kg	1.0	0.97	1.65	2.50
Coeff. of discharge vapours, gases	α_w	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	α_w	-	0.39	0.45	0.48

Dimensions in mm.

Safety Valves

Type 06800 with bellow seal



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

Saturated steam in kg/h

The capacity indicated below is for a fully opened valve.

Maximum allowed back pressure: 15% of set pressure.

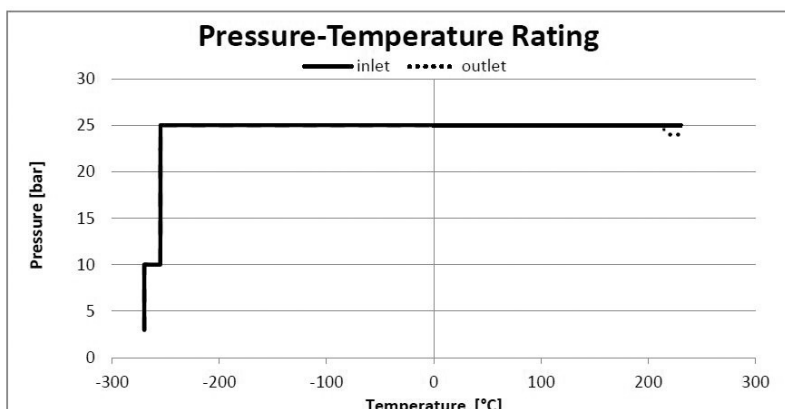
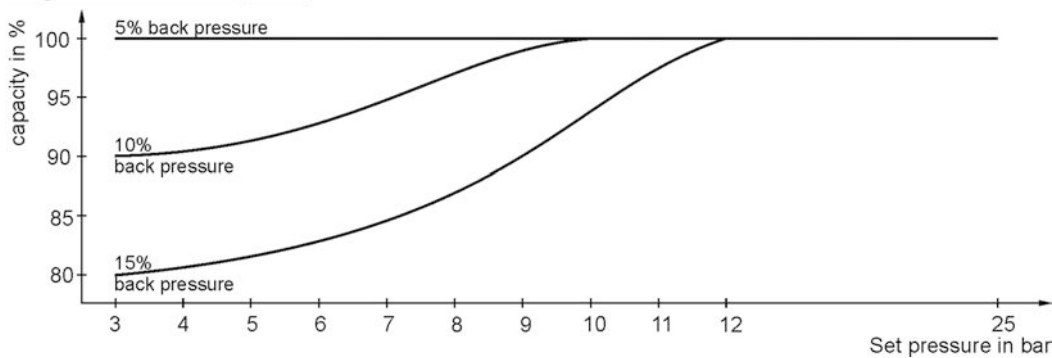
For nominal size GW 1/2, d₀ = 15.0 mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2, d₀ = 15.0)

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1/2	1/2	3/4	1	1/2	3/4	1
	d ₀ (mm)	12.5	15.0	20.0	23.0	12.5	15.0	20.0	23.0	15.0	20.0	23.0
	A ₀ (mm ²)	122.7	176.7	314.2	415.5	122.7	176.7	314.2	415.5	176.7	314.2	415.5
Medium	Air					Saturated steam					Water	
3.0		217	260	555	807	169	203	433	630	6374	13075	18445
4.0		272	327	697	1013	211	254	541	787	7360	15098	21299
5.0		328	394	840	1222	253	304	648	943	8229	16880	23813
6.0		383	460	982	1428	295	354	754	1097	9015	18492	26085
7.0		439	527	1124	1635	336	403	860	1251	9737	19973	28175
8.0		496	595	1269	1847	377	452	965	1404	10409	21352	30121
9.0		551	662	1412	2054	418	502	1070	1557	11041	22647	31948
10.0		608	730	1557	2265	459	551	1174	1709	11638	23872	33676
12.0		720	864	1842	2680	540	648	1383	2011	12749	26151	36890
14.0		831	997	2127	3095	621	745	1590	2313	13770	28246	39846
16.0		942	1131	2412	3509	702	842	1797	2615	14721	30197	42597
18.0		1054	1265	2698	3924	783	940	2005	2916	15614	32028	45181
20.0		1176	1412	3011	4381	864	1037	2212	3218	16458	33761	47625
22.0		1289	1546	3299	4799	945	1134	2420	3520	17262	35409	49950
25.0		1457	1749	3731	5427	1067	1281	2732	3975	18401	37746	53247

Diagram 06800-1/2, d₀=15.0



Safety Valves

Type 06805 with bellow seal



Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice $d_0 = 12.5$ mm TÜV-SV.1105. only S/G

Standard safety valve,
metal to metal seated, closed bonnet, with lifting device
"cleaned and degreased for oxygen service"

Part No. 06805.X.0000

Inlet: female thread type G (BSPP) acc. to ISO 228/1,
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06805.X.5000

Inlet: female thread NPT acc. to ANSI B 1.20.1,
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06805.X.6000

Inlet: female thread NPT acc. to ANSI B 1.20.1,
Outlet: female thread NPT acc. to ANSI B 1.20.1

Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature: $-270^{\circ}\text{C} / -454^{\circ}\text{F}$ (3K) up to $+225^{\circ}\text{C} / +437^{\circ}\text{F}$ (498K)

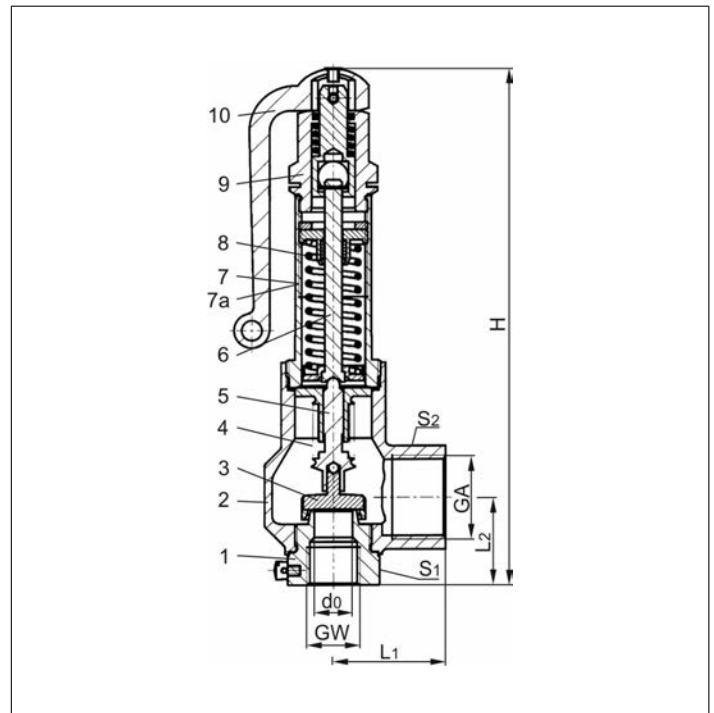
Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed



Materials	DIN EN	ASME/ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4301	A 276 Grade 304
8 Spring	1.4571	A 276 Grade 316Ti
9 Lifting cap	1.4301	A 276 Grade 304
10 Lever	1.4408	A 351 CF8M

Important:

For nominal size GW 1/2, $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06805-1/2, $d_0 = 15.0$).



Type 6805	Technical data					
Nominal size	GW	1/2	1/2	3/4	3/4	1
Orifice	d_0	12.5	15	15	20	23
Dimension code	.X.	1204	1504	1506	2006	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	205	210	215	243	295
Length	L_1	44	44	44	51	56
Length	L_2	35	35	40	48	58
Wrench size across flats	S_1	36	36	41	41	50
Wrench size across flats	S_2	41	41	41	50	55
Weight	ca. kg	1.24	1.21	1.31	1.88	3.15
Coeff. of discharge vapours, gases	α_w	0.60	0.50	0.50	0.60	0.66
Coeff. of discharge fluids	α_w	-	0.39	0.39	0.45	0.48

Dimensions in mm.

Safety Valves

Type 06805 with bellow seal



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

Saturated steam in kg/h

The capacity indicated below is for a fully opened valve.

Maximum allowed back pressure: 15% of set pressure.

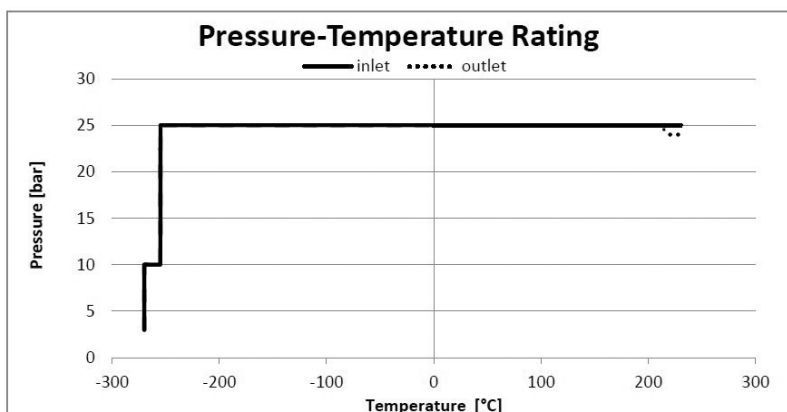
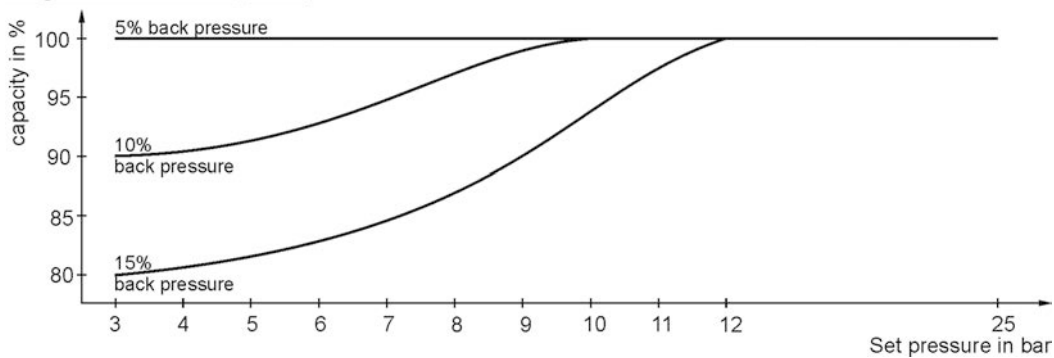
For nominal size GW 1/2, d₀ = 15.0 mm the back pressure reduces the blow off performance of the safety valve (see diagram 06805-1/2, d₀ = 15.0).

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2	1/2 & 3/4	3/4	1	1/2	1/2 & 3/4	3/4	1	1/2 & 3/4	3/4	1
	d ₀ (mm)	12.5	15.0	20.0	23.0	12.5	15.0	20.0	23.0	15.0	20.0	23.0
	A ₀ (mm ²)	122.7	176.7	314.2	415.5	122.7	176.7	314.2	415.5	176.7	314.2	415.5
Medium	Air				Saturated steam				Water			
3.0		217	260	555	807	169	203	433	630	6374	13075	18445
4.0		272	327	697	1013	211	254	541	787	7360	15098	21299
5.0		328	394	840	1222	253	304	648	943	8229	16880	23813
6.0		383	460	982	1428	295	354	754	1097	9015	18492	26085
7.0		439	527	1124	1635	336	403	860	1251	9737	19973	28175
8.0		496	595	1269	1847	377	452	965	1404	10409	21352	30121
9.0		551	662	1412	2054	418	502	1070	1557	11041	22647	31948
10.0		608	730	1557	2265	459	551	1174	1709	11638	23872	33676
12.0		720	864	1842	2680	540	648	1383	2011	12749	26151	36890
14.0		831	997	2127	3095	621	745	1590	2313	13770	28246	39846
16.0		942	1131	2412	3509	702	842	1797	2615	14721	30197	42597
18.0		1054	1265	2698	3924	783	940	2005	2916	15614	32028	45181
20.0		1176	1412	3011	4381	864	1037	2212	3218	16458	33761	47625
22.0		1289	1546	3299	4799	945	1134	2420	3520	17262	35409	49950
25.0		1457	1749	3731	5427	1067	1281	2732	3975	18401	37746	53247

Diagram 06805-1/2, d₀=15.0



Safety Valves

Type 06810, Type 06815



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Standard safety valve
metal to metal seated, "cleaned and degreased for oxygen service"
closed bonnet, gastight cap or lifting device

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06810.X.000000M (Pmax 550.0 bar)

Part No. 06810.X.000000H (Pmax 550.0 bar) stellited version
with gastight cap

Part No. 06815.X.000000M (Pmax 300.0 bar)

Part No. 06815.X.000000H (Pmax 300.0 bar) stellited version
with lifting device

Available options - on request only:

- Flange-, NPT- or Tri-Clamp connection for in- and outlet
- Inlet: Cone & thread connection for d0 6mm - 9M 13/16"-16 UN or 12M 3/4" - 14NPS



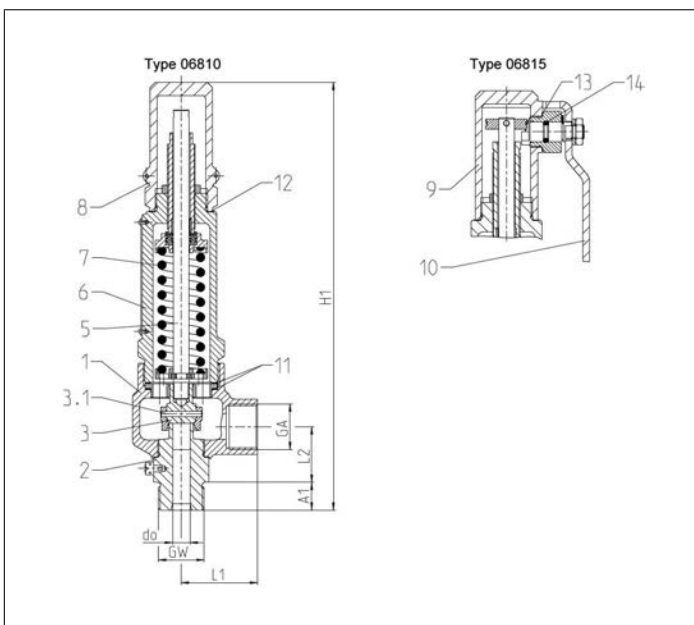
Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels.

Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)

Pressure-temperature must be observed, suitable for horizontal installation from 20 bar up to 300 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF 8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
2 Inlet body	1.4571	316Ti
3 Disc	1.4571	316Ti
3.1 Split pin	1.4310	301
11 Gasket	Graphite	
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	



Type 06810, 06815	Technical data							
Nominal size	GW	1/2	1/2	3/4	3/4	1/2	1/2	3/4
Orifice	d ₀	6.0	6.0	6.0	6.0	10.0	10.0	10.0
Dimension code	.X.	0622	0623	0632	0633	1022	1023	1033
Set pressure range	bar	30-400	30-400	30-550	30-550	0.5-180	0.5-180	0.5-180
Outlet	GA	1/2	3/4	1/2	3/4	1/2	3/4	3/4
Height	H ₁	245	245	247	247	245	245	245
Length	L ₁	44	44	44	44	44	44	44
Length	L ₂	32	32	32	32	32	32	32
Length	A ₁	14	14	16	16	14	14	16
Weight 06810	ca. kg	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Weight 06815	ca. kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Coeff. of discharge gases, vapours	α _w	0.52	0.52	0.52	0.52	0.5	0.5	0.5
Coeff. of discharge fluids	α _w	0.42	0.42	0.42	0.42	0.5	0.5	0.5

Dimensions in mm.

Safety Valves

Type 06810, Type 06815



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

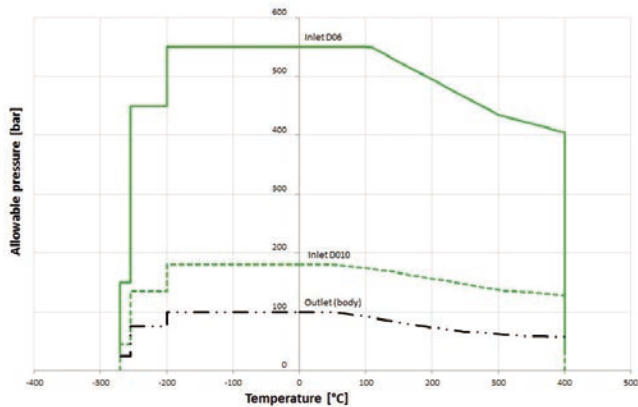
d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2			3/4		
	d_0 (mm)	6.0			6.0		
	A_0 (mm ²)	28.27			28.27		
Medium	A	B	C	A	B	C	
30.0	254	350	3473	254	350	3473	
40.0	336	468	4011	336	468	4011	
60.0	503	708	4912	503	708	4912	
80.0	670	953	5672	670	953	5672	
100.0	845	1203	6341	845	1203	6341	
120.0	1032	1451	6947	1032	1451	6947	
140.0	1230	1703	7503	1230	1703	7503	
160.0	1437	1952	8021	1437	1952	8021	
180.0	1688	2194	8508	1688	2194	8508	
200.0	2215	2429	8968	2215	2429	8968	
220.0	-	2659	9406	-	2659	9406	
240.0	-	2893	9824	-	2893	9824	
260.0	-	3133	10225	-	3133	10225	
280.0	-	3374	10611	-	3374	10611	
300.0	-	3614	10983	-	3614	10983	
320.0	-	-	-	-	3854	11344	
340.0	-	-	-	-	4094	11693	
360.0	-	-	-	-	4334	12032	
380.0	-	-	-	-	4575	12361	
400.0	-	-	-	-	4815	12683	
420.0	-	-	-	-	5055	12996	
440.0	-	-	-	-	5295	13302	
460.0	-	-	-	-	5535	13601	
480.0	-	-	-	-	5776	13893	
500.0	-	-	-	-	6016	14180	
520.0	-	-	-	-	6256	14460	
550.0	-	-	-	-	6616	14872	

Pressure-Temperature Rating

Maximum allowable set pressure safety valve type 0681X



Safety Valves

Type 06810, Type 06815



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2 & 3/4		
	d_0 (mm)	10.0		
	A_0 (mm ²)	78.5		
	Medium	A	B	C
0.5		33	40	1549
1.0		44	55	2097
2.0		68	86	2966
3.0		90	116	3632
4.0		113	145	4194
5.0		135	175	4689
6.0		157	205	5137
7.0		179	234	5548
8.0		201	264	5931
9.0		223	294	6291
10.0		245	324	6631
12.0		288	384	7264
14.0		331	443	7846
16.0		374	503	8388
18.0		418	562	8897
20.0		461	627	9378
25.0		569	777	10485
30.0		678	936	11486
35.0		788	1087	12406
40.0		899	1249	13262
45.0		1009	1402	14067
50.0		1120	1568	14828
60.0		1343	1890	16243
70.0		1566	2216	17545
80.0		1791	2546	18756
90.0		2020	2878	19894
100.0		2256	3212	20970
120.0		2756	3877	22971
130.0		3018	4197	23909
140.0		-	4549	24812
160.0		-	5213	26525
180.0		-	5861	28134

Safety Valves

Type 06810, Type 06815 - Sealing plate



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Standard safety valve
with soft valve seal, "cleaned and degreased"
closed bonnet, gastight cap or lifting device
Inlet: male thread type G (BSPP) acc. to ISO 228/1
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06810.X.000001L (Pmax 150.0 bar)
with gastight cap

Part No. 06815.X.000001L (Pmax 150.0 bar)
with lifting device

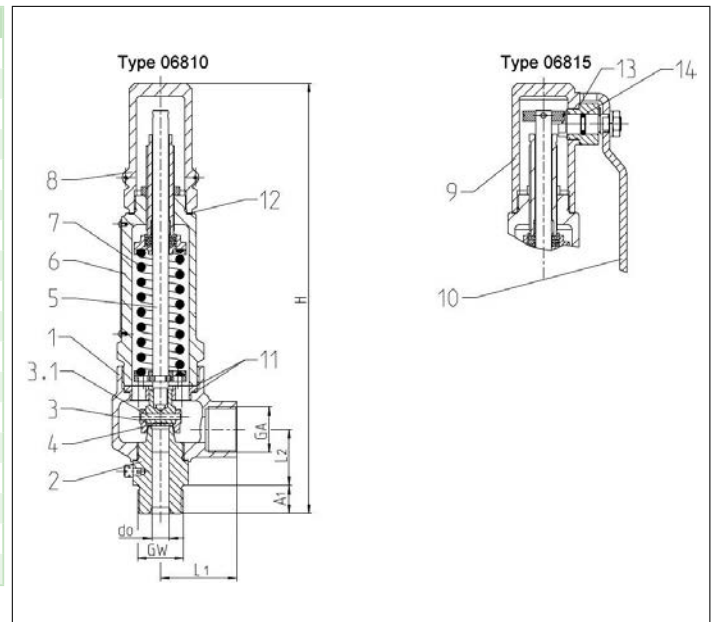
Available options - on request only:
· Flange-, NPT- or Tri-Clamp connection for in- and outlet



Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +300°C / +572°F (573K)
Pressure-temperature must be observed, suitable for horizontal installation from 20 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Sealing plate	VESPEL	
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
2 Inlet body	1.4571	316Ti
3.1 Split pin	1.4571	316Ti
4 Sealing plate	VESPEL	
11 Gasket	1.4404 Graphite	316L Graphite
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	

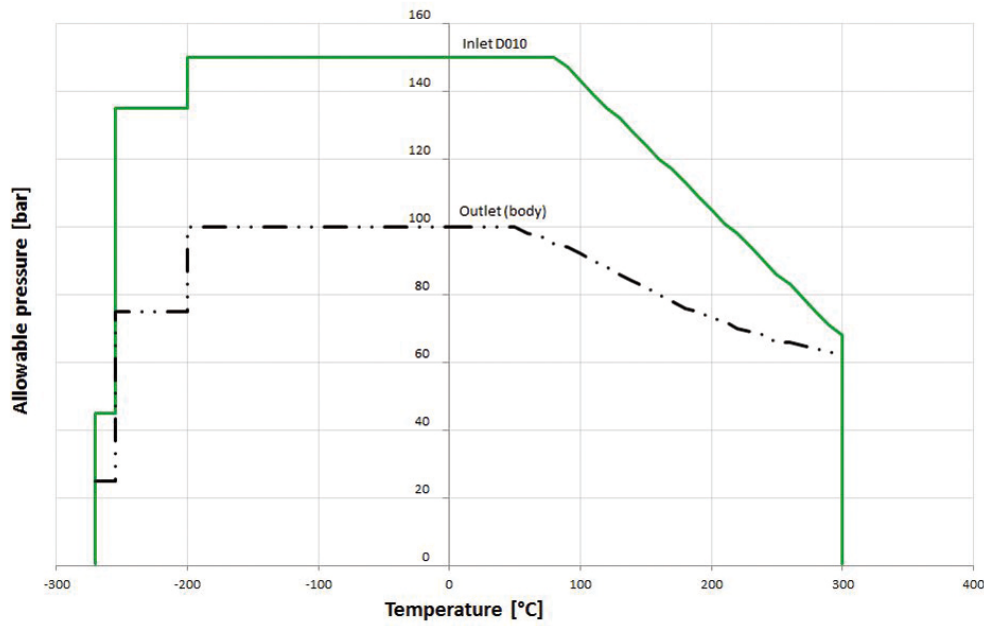


Type 06810, 06815	Technical Data			
D ₀	[mm]	10		
Inlet	GW	1/2	1/2	3/4
Outlet	GW	1/2	3/4	3/4
Dimension code	.X.	1022	1023	1033
Height	H	245.0	245.0	245.0
Length	L1	44.0	44.0	44.0
Length	L2	32.0	32.0	32.0
Length	A1	14.0	14.0	16.0
Weight 06810	ca. kg	1.8	1.8	1.8
Weight 06815	ca. kg	2.0	2.0	2.0
Coeff. of discharge	α _w S/G/L	0.50	0.50	0.50
Min. set pressure	bar-g	1.5	1.5	1.5
Max. set pressure	bar-g	150.0	150.0	150.0
Min. temperature	°C	-270	-270	-270
Max. temperature	°C	+300	+300	+300

Dimensions in mm.

Pressure-Temperature Rating

Maximum allowable set pressure safety valve type 0681X



Safety Valves

Type 06810, Type 06815 - Sealing plate



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1		
	d_0 (mm)	10.0		
	A_0 (mm ²)	78.5		
	Medium	A	B	C
0.2	-	-	-	-
0.5	-	40	1549	
1.0	-	55	2097	
2.0	-	86	2966	
3.0	-	116	3632	
4.0	-	145	4194	
5.0	-	175	4689	
6.0	-	205	5137	
7.0	-	234	5548	
8.0	-	264	5931	
9.0	-	294	6291	
10.0	-	324	6631	
15.0	-	472	6947	
20.0	-	627	9378	
30.0	-	936	11485	
40.0	-	1249	13262	
50.0	-	1568	14828	
60.0	-	1890	16243	
65.0	-	2045	16906	
70.0	-	2216	-	
80.0	-	2546	-	
90.0	-	2878	-	
100.0	-	3212	-	
110.0	-	3544	-	
120.0	-	3877	-	
140.0	-	4549	-	
150.0	-	4872	-	

Safety Valves

Type 06810, Type 06815 - O-ring



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Standard safety valve
with O-ring valve seal, "cleaned and degreased"
closed bonnet, gastight cap or lifting device
Inlet: male thread type G (BSPP) acc. to ISO 228/1
Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06810.X.000002N (Pmax 15.99 bar)

Part No. 06815.X.000002N (Pmax 15.99 bar)

with NBR O-ring valve seal

Part No. 06810.X.000002F (Pmin 16.00 bar, Pmax 180.0 bar)

Part No. 06815.X.000002F (Pmin 16.00 bar, Pmax 180.0 bar)

with FKM O-ring valve seal

Available options - on request only:

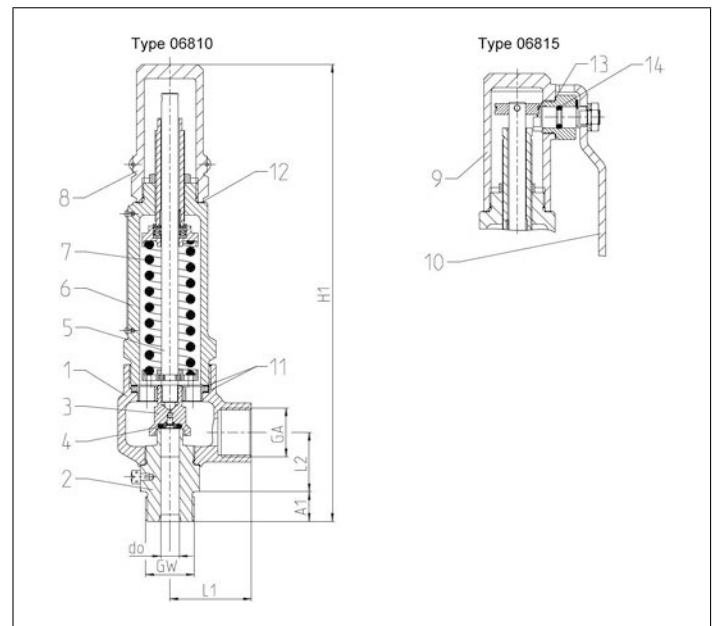
· Flange-, NPT- or Tri-Clamp connection for in- and outlet



Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases and liquids. Working temperature: 0°C / 32°F (273K) up to 70°C / 158°F (343K), suitable for horizontal installation from 20 bar.

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 O-ring	NBR or FKM	
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
3 Complete disc	1.4571+NBR or FKM	316Ti + NBR or FKM
4 O-ring + screw	NBR or FKM	
11 Gasket	1.4404 Graphite	316L Graphite
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	



Type 06810, 06815	Technical Data			
D ₀	[mm]	10		
Inlet	GW	1/2	1/2	3/4
Outlet	GW	1/2	3/4	3/4
Dimension code	.X.	1022	1023	1033
Height	H1	245.0	245.0	245.0
Length	L1	44.0	44.0	44.0
Length	L2	32.0	32.0	32.0
Length	A1	14.0	14.0	16.0
Weight 06810	ca. kg	1.8	1.8	1.8
Weight 06815	ca. kg	2.0	2.0	2.0
Coeff. of discharge	α_w S/G/L	0.50	0.50	0.50
Min. set pressure	bar-g	3.0	3.0	3.0
Max. set pressure	bar-g	180.0	180.0	180.0

Dimensions in mm.

Safety Valves

Type 06810, Type 06815 - O-ring



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1		
	d_0 (mm)	10.0		
	A_0 (mm ²)	78.5		
	Medium	A	B	C
3.0	-	116	3632	
4.0	-	145	4194	
5.0	-	175	4689	
6.0	-	205	5137	
7.0	-	234	5548	
8.0	-	264	5931	
9.0	-	294	6291	
10.0	-	324	6631	
12.0	-	384	7264	
14.0	-	443	7846	
16.0	-	503	8388	
18.0	-	562	8897	
20.0	-	627	9378	
25.0	-	777	10485	
30.0	-	936	11486	
35.0	-	1087	12406	
40.0	-	1249	13262	
45.0	-	1402	14067	
50.0	-	1568	14828	
60.0	-	1890	16243	
70.0	-	2216	17545	
80.0	-	2546	18756	
90.0	-	2878	19894	
100.0	-	3212	20970	
110.0	-	3531	21993	
120.0	-	3877	22971	
130.0	-	4197	23909	
140.0	-	4549	24812	
150.0	-	4872	25683	
160.0	-	5213	26525	
170.0	-	5537	27341	
180.0	-	5861	28134	

Safety Valves

Type 06820



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Standard safety valve
 metal to metal seated, "cleaned and degreased for oxygen service"
 closed bonnet, gastight cap
 Inlet: male thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06820.X.000000M (Pmax 550.0 bar)

Part No. 06820.X.000000H (Pmax 550.0 bar) stellited version
 with gastight cap

Available options - on request only:

- Flange- or NPT- connection for in- and outlet
- Inlet: Cone & thread connection for d0 6mm - 9M 13/16"-16 UN or 12M 3/4" - 14NPS
- Special materials such as Monel, Hastelloy or Duplex for medium wetted parts

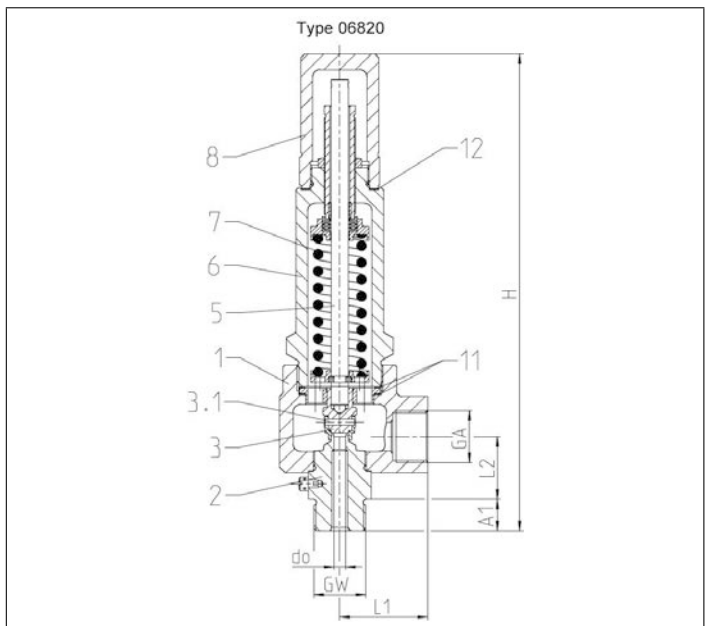


Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)

Pressure-temperature must be observed, suitable for horizontal installation up to 300 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4404	A 276 Grade 316L
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4404	A 276 Grade 316L
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4404	A 276 Grade 316L
Spare Parts		
2 Inlet body	1.4571	316Ti
3 Disc	1.4571	316Ti
3.1 Split pin	1.4310	301
11 Gasket	Graphite	
12 Gasket	Graphite	



Type 06820	Technical data	
Nominal size	GW	3/4
Orifice	d ₀	6.0
Dimension code	.X.	0633
Set pressure range	bar	30-550
Outlet	GA	3/4
Height	H ₁	247
Length	L ₁	45
Length	L ₂	29
Length	A ₁	16
Weight 06820	ca. kg	2.9
Coeff. of discharge gases, vapours	α _w	0.52
Coeff. of discharge fluids	α _w	0.42

Dimensions in mm.

Safety Valves

Type 06820



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

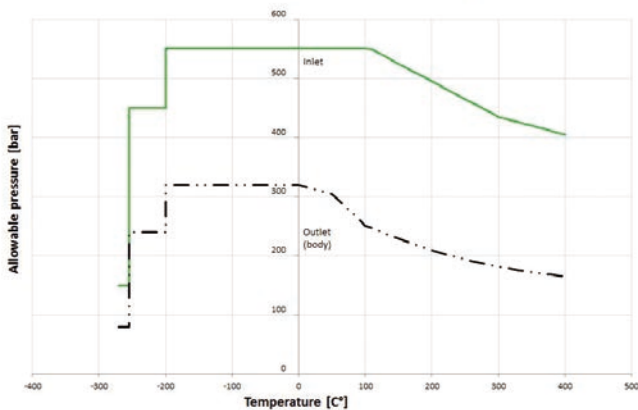
d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	3/4		
	d_0 (mm)	6.0		
	A_0 (mm ²)	28.27		
Medium	A	B	C	
30.0	254	350	3473	
40.0	336	468	4011	
60.0	503	708	4912	
80.0	670	953	5672	
100.0	845	1203	6341	
120.0	1032	1451	6947	
140.0	1230	1703	7503	
160.0	1437	1952	8021	
180.0	1688	2194	8508	
200.0	2215	2429	8968	
220.0	-	2659	9406	
240.0	-	2893	9824	
260.0	-	3133	10225	
280.0	-	3374	10611	
300.0	-	3614	10983	
320.0	-	3854	11344	
340.0	-	4094	11693	
360.0	-	4334	12032	
380.0	-	4575	12361	
400.0	-	4815	12683	
420.0	-	5055	12996	
440.0	-	5295	13302	
460.0	-	5535	13601	
480.0	-	5776	13893	
500.0	-	6016	14180	
520.0	-	6256	14460	
550.0	-	6616	14872	

Pressure-Temperature Rating

Maximum allowable set pressure safety valve type 06820



Safety Valves

Type 06850, Type 06855



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Standard safety valve
 metal to metal seated, "cleaned and degreased for oxygen service"
 closed bonnet, gastight cap or lifting device
 Inlet: male thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1

- Part No. 06850.X.000000M (Pmax 250.0 bar)**
- Part No. 06850.X.000000H (Pmax 250.0 bar) stellited version**
with gastight cap
- Part No. 06855.X.000000M (Pmax 250.0 bar)**
- Part No. 06855.X.000000H (Pmax 250.0 bar) stellited version**
with lifting device

Available options - on request only:

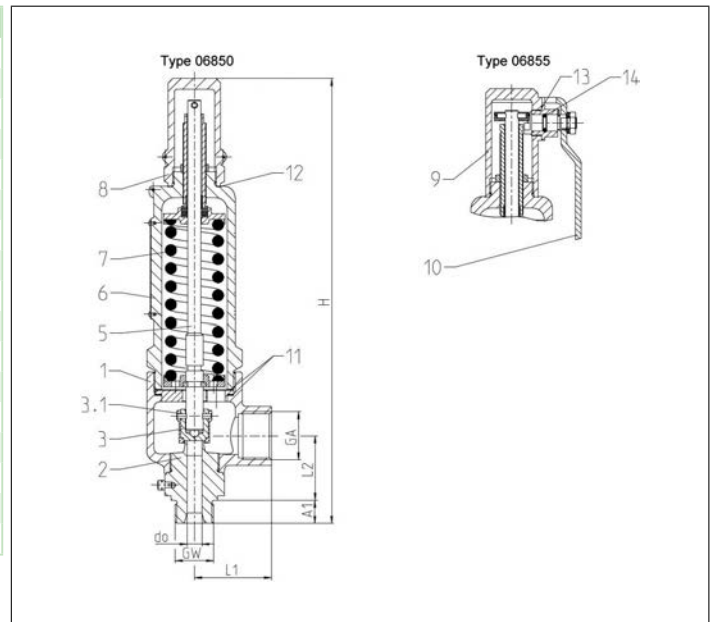
- Flange-, NPT- or Tri-Clamp connection for in- and outlet



Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels.
 Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)
 Pressure-temperature must be observed, suitable for horizontal installation from 20 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
2 Inlet body	1.4571	316Ti
3 Disc	1.4571	316Ti
3.1 Split pin	1.4310	301
11 Gasket	1.4404 Graphite	316L Graphite
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	



Type 06850, 06855	Technical data	Orifice								
		[mm]	10			14				
Inlet	GW	1/2	3/4	1	3/4	3/4	3/4	1	1	1
Outlet	GW	1	1	1	1	1-1/4	1-1/2	1	1-1/4	1-1/2
Dimension code	.X.	1024	1034	1044	1434	1435	1436	1444	1445	1446
Height	H	305.0	307.0	309.0	310.5	310.5	310.5	312.5	312.5	312.5
Length	L1	53.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0	55.0
Length	L2	44.5	44.5	44.5	48.2	48.2	48.2	48.2	48.2	48.2
Length	A1	14.0	16.0	18.0	16.0	16.0	16.0	18.0	18.0	18.0
Weight 06850	ca. kg	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.4	3.4
Weight 06855	ca. kg	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6
coefficient of discharge	α_w S/G	0.84	0.84	0.84	0.70	0.70	0.70	0.70	0.70	0.70
coefficient of discharge	α_w L	0.68	0.68	0.68	*	*	*	*	*	*
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	250.0	250.0	250.0	200.0	200.0	200.0	200.0	200.0	200.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+400	+400	+400	+400	+400	+400	+400	+400	+400

Dimensions in mm. * 0.20-11.50 bar=0.50 / 11.51-74.99 bar=0.49 / 75.00-200.00 bar=0.46

Safety Valves

Type 06850, Type 06855

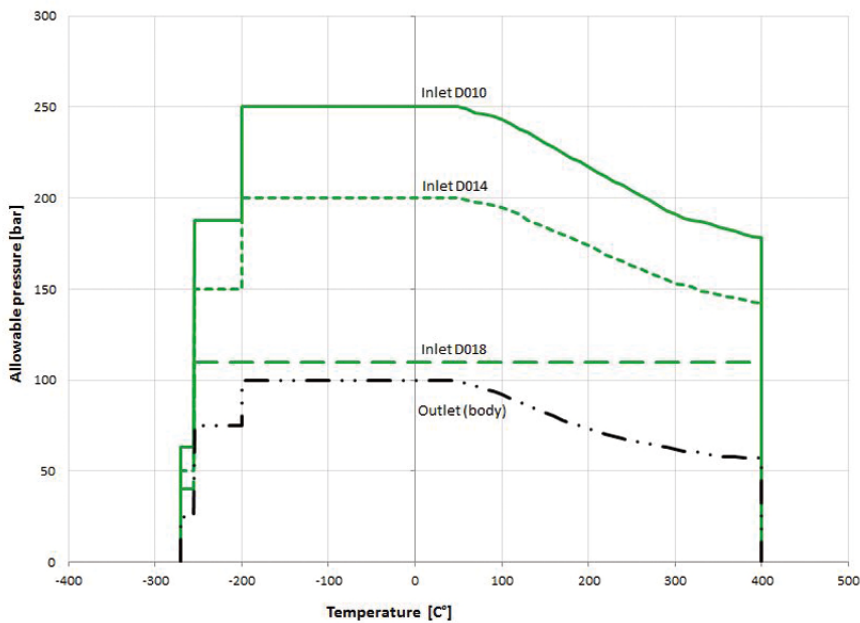


Type 06850, 06855		Technical data					
Orifice	[mm]	18					
Inlet	GW	1	1	1-1/4	1-1/4	1-1/2	1-1/2
Outlet	GW	1-1/2	2	1-1/2	2	1-1/2	2
Dimension code	.X.	1846	1847	1856	1857	1866	1867
Height	H	304.0	304.0	304.0	304.0	306.0	306.0
Length	L1	60.0	63.0	60.0	63.0	60.0	63.0
Length	L2	49.0	53.0	49.0	53.0	49.0	53.0
Length	A1	18.0	18.0	20.0	20.0	22.0	22.0
Weight 06850	ca. kg	3.9	4.1	3.9	4.1	4.0	4.2
Weight 06855	ca. kg	4.1	4.3	4.1	4.3	4.2	4.4
coefficient of discharge	$\alpha_{wS/G}$	0.76	0.76	0.76	0.76	0.76	0.76
coefficient of discharge	α_{wL}	0.50	0.50	0.50	0.50	0.50	0.50
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	110.0	110.0	110.0	110.0	110.0	110.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+400	+400	+400	+400	+400	+400

Dimensions in mm.

Pressure-Temperature Rating

Maximum allowable set pressure safety valve Type 0685X



Safety Valves

Type 06850, Type 06855



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1			3/4 & 1			1, 1-1/4 & 1-1/2		
	d_0 (mm)	10.0			14.0			18.0		
	A_0 (mm ²)	78.5			153.9			254.0		
	Medium	A	B	C	A	B	C	A	B	C
0.5		47	56	2075	81	96	3035	127	152	5018
1.0		70	88	2852	116	146	4110	191	242	6794
2.0		112	143	4033	185	236	5813	320	407	9608
3.0		152	194	4940	248	317	7119	444	570	11768
4.0		189	244	5704	309	398	8220	555	715	13588
5.0		227	294	6377	370	480	9190	665	862	15192
6.0		264	344	6986	431	561	10068	774	1007	16642
7.0		301	393	7545	492	642	10874	882	1153	17976
8.0		338	444	8066	552	726	11625	990	1302	19217
9.0		375	494	8556	612	807	12330	1098	1448	20383
10.0		411	545	9018	671	890	12997	1205	1598	21485
15.0		593	794	11045	968	1298	15600	1738	2329	26314
20.0		774	1054	12754	1264	1721	18013	2269	3089	30385
30.0		1140	1572	15620	1861	2568	22062	3341	4609	37213
40.0		1510	2099	18037	2466	3428	25475	4425	6152	42970
50.0		1882	2634	20166	3075	4302	28481	5518	7720	48042
60.0		2256	3175	22091	3685	5186	31200	6614	9308	52628
70.0		2631	3723	23861	4297	6081	33700	7712	10914	56845
80.0		3009	4277	25508	4914	6985	33821	8819	12537	60769
90.0		3394	4835	27055	5543	7898	35872	9949	14174	64456
100.0		3791	5397	28519	6191	8814	37813	11112	15820	67942
110.0		4202	5931	29911	6864	9688	39658	12319	17387	71258
120.0		4629	6513	31241	7561	10637	41422	-	-	-
140.0		5520	7642	33744	9016	12482	44741	-	-	-
160.0		6448	8758	36074	-	14305	47830	-	-	-
180.0		7575	9847	38262	-	16083	50731	-	-	-
200.0		-	10898	40332	-	17801	53475	-	-	-
220.0		-	11931	42300	-	-	-	-	-	-
240.0		-	12983	44181	-	-	-	-	-	-
250.0		-	13522	45092	-	-	-	-	-	-

Safety Valves

Type 06850, Type 06855 - Sealing plate



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. G/L

standard safety valve

with soft valve seal, "cleaned and degreased"

closed bonnet, gastight cap or lifting device

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06850.X.000001L (Pmax 150.0 bar)

with gastight cap

Part No. 06855.X.000001L (Pmax 150.0 bar)

with lifting device

Available options - on request only:

· Flange-, NPT- or Tri-Clamp connection for in- and outlet



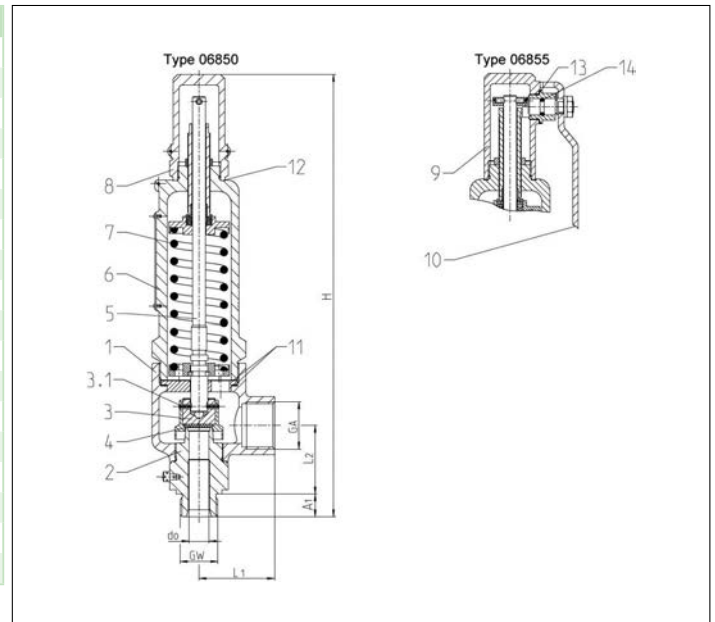
Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels.

Approved for gases and liquids. Working temperature: -270°C / -454°F (3K) up to +300°C / +572°F (573K)

Pressure-temperature must be observed, suitable for horizontal installation from 20 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Sealing plate	VESPEL	
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
2 Inlet body	1.4571	316Ti
3.1 Split pin	1.4571	316Ti
4 Sealing plate	VESPEL	
11 Gasket	1.4404 Graphite	316L Graphite
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	



Typ 06850, 06855	Technical data									
	Orifice	[mm]	10			14				
Inlet	GW	1/2	3/4	1	3/4	3/4	3/4	1	1	1
Outlet	GW	1	1	1	1	1-1/4	1-1/2	1	1-1/4	1-1/2
Dimension code	.X.	1024	1034	1044	1434	1435	1436	1444	1445	1446
Height	H	305.0	307.0	309.0	310.5	310.5	310.5	312.5	312.5	312.5
Length	L1	53.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0	55.0
Length	L2	44.5	44.5	44.5	48.2	48.2	48.2	48.2	48.2	48.2
Length	A1	14.0	16.0	18.0	16.0	16.0	16.0	18.0	18.0	18.0
Weight 06850	ca. kg	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.4	3.4
Weight 06855	ca. kg	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6
Coefficient of discharge	$\alpha_w S/G$	0.84	0.84	0.84	0.70	0.70	0.70	0.70	0.70	0.70
Coefficient of discharge	$\alpha_w L$	0.68	0.68	0.68	*	*	*	*	*	*
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	150.0	150.0	150.0	120.0	120.0	120.0	120.0	120.0	120.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+300	+300	+300	+300	+300	+300	+300	+300	+300

Dimensions in mm. * 0.20-11.50 bar=0.50 / 11.51-74.99 bar=0.49 / 75.00-120.00 bar=0.46

Edition 2024-01

Safety Valves

Type 06850, Type 06855 - Sealing plate

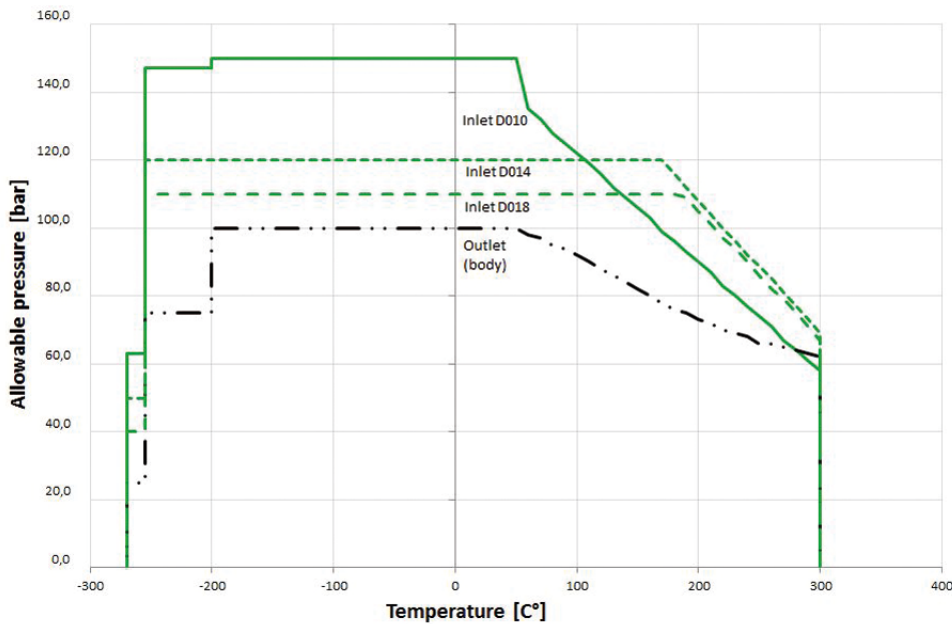


Type 06850, 06855		Technical data					
Orifice	[mm]	18					
Inlet	GW	1	1	1-1/4	1-1/4	1-1/2	1-1/2
Outlet	GW	1-1/2	2	1-1/2	2	1-1/2	2
Dimension code	.X.	1846	1847	1856	1857	1866	1867
Height	H	304.0	304.0	304.0	304.0	306.0	306.0
Length	L1	60.0	63.0	60.0	63.0	60.0	63.0
Length	L2	49.0	53.0	49.0	53.0	49.0	53.0
Length	A1	18.0	18.0	20.0	20.0	22.0	22.0
Weight 06850	ca. kg	3.9	4.1	3.9	4.1	4.0	4.2
Weight 06855	ca. kg	4.1	4.3	4.1	4.3	4.2	4.4
Coefficient of discharge	$\alpha_{wS/G}$	0.76	0.76	0.76	0.76	0.76	0.76
Coefficient of discharge	α_{wL}	0.50	0.50	0.50	0.50	0.50	0.50
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	110.0	110.0	110.0	110.0	110.0	110.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+300	+300	+300	+300	+300	+300

Dimensions in mm.

Pressure-Temperature Rating

Maximum allowable set pressure safety valve Type 0685X



Safety Valves

Type 06850, Type 06855 - Sealing plate



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h*

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1			3/4 & 1			1, 1-1/4 & 1-1/2		
	d ₀ (mm)	10.0			14.0			18.0		
	A ₀ (mm ²)	78.5			153.94			254.0		
	Medium	A	B	C	A	B	C	A	B	C
0.5	-	56	2075	-	96	3035	-	152	5018	
1.0	-	88	2852	-	146	4110	-	242	6794	
2.0	-	143	4033	-	236	5813	-	407	9608	
3.0	-	194	4940	-	317	7119	-	570	11768	
4.0	-	244	5704	-	398	8220	-	715	13588	
5.0	-	294	6377	-	480	9190	-	862	15192	
6.0	-	344	6986	-	561	10068	-	1007	16642	
7.0	-	393	7545	-	642	10874	-	1153	17976	
8.0	-	444	8066	-	726	11625	-	1302	19217	
9.0	-	494	8556	-	807	12330	-	1448	20383	
10.0	-	545	9018	-	890	12997	-	1598	21485	
15.0	-	794	11045	-	1297	15590	-	2328	26298	
20.0	-	1054	12754	-	1721	18013	-	3089	30385	
30.0	-	1572	15620	-	2568	22062	-	4609	37213	
40.0	-	2099	18037	-	3428	25475	-	6152	42970	
45.0	-	2355	19131	-	3847	27020	-	6904	45577	
50.0	-	2634	20166	-	4302	28481	-	7720	-	
60.0	-	3175	22091	-	5186	-	-	9308	-	
65.0	-	3436	22993	-	5612	-	-	10072	-	
70.0	-	3723	-	-	6081	-	-	10914	-	
80.0	-	4277	-	-	6985	-	-	12537	-	
90.0	-	4835	-	-	7898	-	-	14174	-	
100.0	-	5397	-	-	8814	-	-	15820	-	
110.0	-	5931	-	-	9688	-	-	17387	-	
120.0	-	6513	-	-	10637	-	-	-	-	
140.0	-	7642	-	-	-	-	-	-	-	
150.0	-	8184	-	-	-	-	-	-	-	

*not suitable for water steam!

Safety Valves

Type 06850, Type 06855 - O-ring



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

standard safety valve
 with O-ring valve seal, "cleaned and degreased"
 closed bonnet, gastight cap or lifting device
 Inlet: male thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06850.X.000002N	Orifice	10	14	18
Part No. 06855.X.000002N	Pmin	3.0 bar	3.0 bar	3.0 bar
with NBR O-ring valve seal	Pmax	15.9 bar	14.9 bar	19.9 bar
Part No. 06850.X.000002F	Orifice	10	14	18
Part No. 06855.X.000002F	Pmin	16.0 bar	15.0 bar	20.0 bar
with FKM O-ring valve seal	Pmax	250.0 bar	200.0 bar	110.0 bar

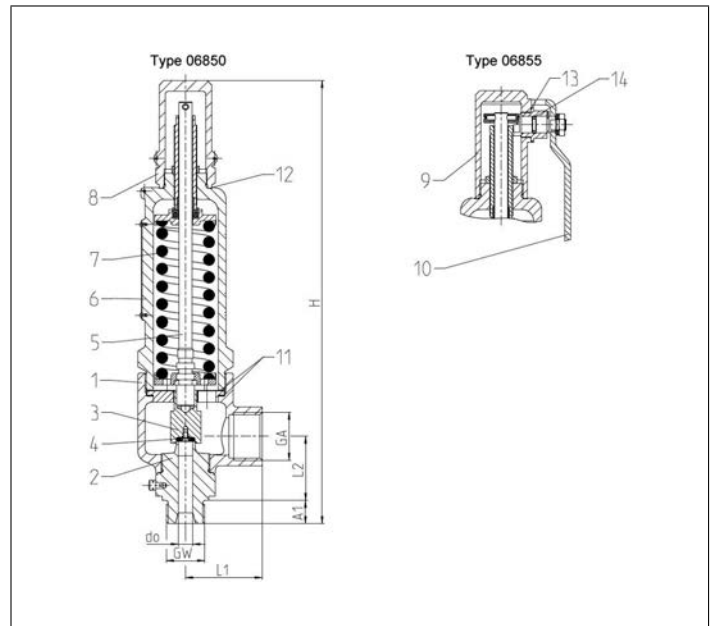


Available options - on request only:
 - Flange-, NPT- or Tri-Clamp connection for in- and outlet

Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases and liquids. Working temperature: 0°C / 32°F (273K) up to 70°C / 158°F (343K), suitable for horizontal installation from 20 bar.

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 O-ring	NBR or FKM	
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304
Spare Parts		
3 Complete disc	1.4571+NBR or FKM	316Ti + NBR or FKM
4 O-ring + screw	NBR or FKM	
11 Gasket	1.4404 Graphite	316L Graphite
12 Gasket	PTFE	
13 Gasket	PTFE	
14 O-ring	FPM (VITON)	



Typ 06850, 06855	Technical data	Orifice									
		[mm]	10			14					
Inlet	GW	1/2	3/4	1	3/4	3/4	3/4	1	1	1	
Outlet	GW	1	1	1	1	1-1/4	1-1/2	1	1-1/4	1-1/2	
Dimension code	.X.	1024	1034	1044	1434	1435	1436	1444	1445	1446	
Height	H	305.0	307.0	309.0	310.5	310.5	310.5	312.5	312.5	312.5	
Length	L1	53.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0	55.0	
Length	L2	44.5	44.5	44.5	48.2	48.2	48.2	48.2	48.2	48.2	
Length	A1	14.0	16.0	18.0	16.0	16.0	16.0	18.0	18.0	18.0	
Weight 06850	ca. kg	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.4	3.4	
Weight 06855	ca. kg	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6	
Coefficient of discharge	α_w S/G	0.84	0.84	0.84	0.70	0.70	0.70	0.70	0.70	0.70	
Coefficient of discharge	α_w L	0.61	0.61	0.61	0.54	0.54	0.54	0.54	0.54	0.54	
Min. set pressure	bar-g	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Max. set pressure	bar-g	250.0	250.0	250.0	200.0	200.0	200.0	200.0	200.0	200.0	

Dimensions in mm.

Safety Valves

Type 06850, Type 06855 - O-ring



Type 06850, 06855	Technical data						
Orifice	[mm]	18					
Inlet	GW	1	1	1-1/4	1-1/4	1-1/2	1-1/2
Outlet	GW	1-1/2	2	1-1/2	2	1-1/2	2
Dimension code	.X.	1846	1847	1856	1857	1866	1867
Height	H	304.0	304.0	304.0	304.0	306.0	306.0
Length	L1	60.0	63.0	60.0	63.0	60.0	63.0
Length	L2	49.0	53.0	49.0	53.0	49.0	53.0
Length	A1	18.0	18.0	20.0	20.0	22.0	22.0
Weight 06850	ca. kg	3.9	4.1	3.9	4.1	4.0	4.2
Weight 06855	ca. kg	4.1	4.3	4.1	4.3	4.2	4.4
Coefficient of discharge	$\alpha_w S/G$	0.76	0.76	0.76	0.76	0.76	0.76
Coefficient of discharge	$\alpha_w L$	0.51	0.51	0.51	0.51	0.51	0.51
Min. set pressure	bar-g	3.0	3.0	3.0	3.0	3.0	3.0
Max. set pressure	bar-g	110.0	110.0	110.0	110.0	110.0	110.0

Dimensions in mm.



Safety Valves

Type 06850, Type 06855 - O-ring



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

A = Saturated steam in kg/h

B = Air in m³/h at 0°C and 1013,25 mbar

C = Water in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d_0 - orifice

A_0 - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1			3/4 & 1			1, 1-1/4 & 1-1/2		
	d_0 (mm)	10.0			14.0			18.0		
	A_0 (mm ²)	78.5			153.94			254.0		
	Medium	A	B	C	A	B	C	A	B	C
3.0	-	194	4431	-	317	7688	-	570	12003	
4.0	-	244	5117	-	398	8878	-	715	13860	
5.0	-	294	5721	-	480	9926	-	862	15496	
6.0	-	344	6267	-	561	10873	-	1007	16975	
7.0	-	393	6769	-	642	11744	-	1153	18335	
8.0	-	444	7236	-	726	12555	-	1302	19601	
9.0	-	494	7675	-	807	13317	-	1448	20790	
10.0	-	545	8090	-	890	14037	-	1598	21915	
15.0	-	794	9908	-	1298	17192	-	2329	26840	
20.0	-	1054	11441	-	1721	19851	-	3089	30992	
30.0	-	1572	14012	-	2568	24313	-	4609	37958	
40.0	-	2099	16180	-	3428	28074	-	6152	43830	
50.0	-	2634	18090	-	4302	31388	-	7720	49003	
60.0	-	3175	19817	-	5186	34384	-	9308	53680	
70.0	-	3723	21404	-	6081	37138	-	10914	57981	
80.0	-	4277	22882	-	6985	39703	-	12537	61985	
90.0	-	4835	24270	-	7898	42111	-	14174	65745	
100.0	-	5397	25583	-	8814	44389	-	15820	69301	
110.0	-	5931	26832	-	9688	46555	-	17387	72684	
120.0	-	6513	28025	-	10637	48626	-	-	-	
140.0	-	7642	30270	-	12482	52522	-	-	-	
150.0	-	8184	31333	-	13368	54365	-	-	-	
160.0	-	8758	32360	-	14305	56148	-	-	-	
180.0	-	9847	34323	-	16083	59554	-	-	-	
200.0	-	10898	36180	-	17801	62775	-	-	-	
220.0	-	11931	37946	-	-	-	-	-	-	
240.0	-	12983	39633	-	-	-	-	-	-	
250.0	-	13522	40451	-	-	-	-	-	-	

Safety Valves

Type 55335 - Insect protection screen



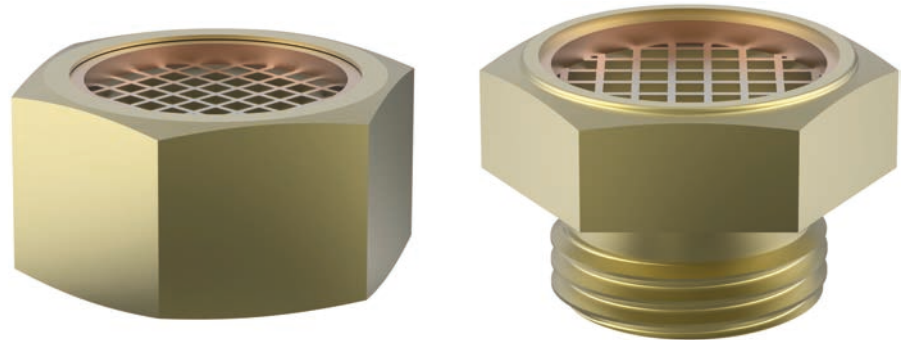
Insect protection screen for safety valves

to protect the outlet from insects etc.

wire gauge 0.56mm, mesh size 2.0mm,

"cleaned and degreased for oxygen service"

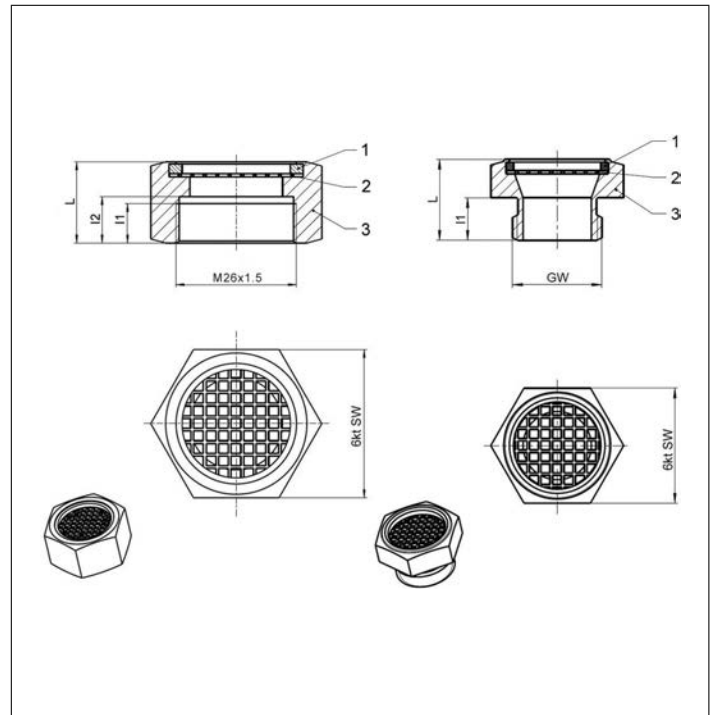
Part No. 55335.X.0765



Applications:

Provided as safety device in the outlet of the safety valve against unauthorized ingress by insects, small animals or equivalent, which run a potential threat to the proper response characteristics of the valve.

Materials	DIN EN	ASME/ASTM
1 Copper ring	CW024A	C 106 C12200
2 Screen	1.4301	A 276 Grade 304
3 Union type	CW614N	B 283 UNS C38500



Type 55335	Technical Data						
Nominal size	GW	3/8	3/8	1/2	1/2	1	26x1.5
Thread type		BSPP (G)	NPT	BSPT (R)	BSPP (G)	BSPP (G)	M
Thread type		male	male	male	male	male	female
Dimension code	.X.	0140	0149	0150	0141	0102	0148
Height	L	19.0	27.0	27.0	19.0	21.5	17.5
Length	l ₁	10.0	17.0	17.0	10.0	12.0	8.5
Length	l ₂	-	-	-	-	-	10.0
Wrench size across flats	SW	27	27	27	27	41	32

Abmessungen in mm.

Safety Valves

Type 50288 - Locking sleeve connection

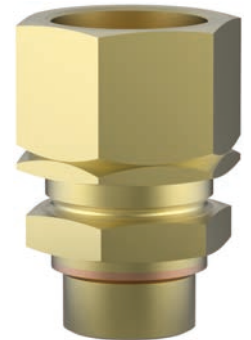


Clamping sleeve screw connection for safety valves, PN50

for positioning the outlet of safety valves
soft seated (flat), metal to metal seated (conical) or ball-shaped
"cleaned and degreased for oxygen service"

Part No. 50288.X.X

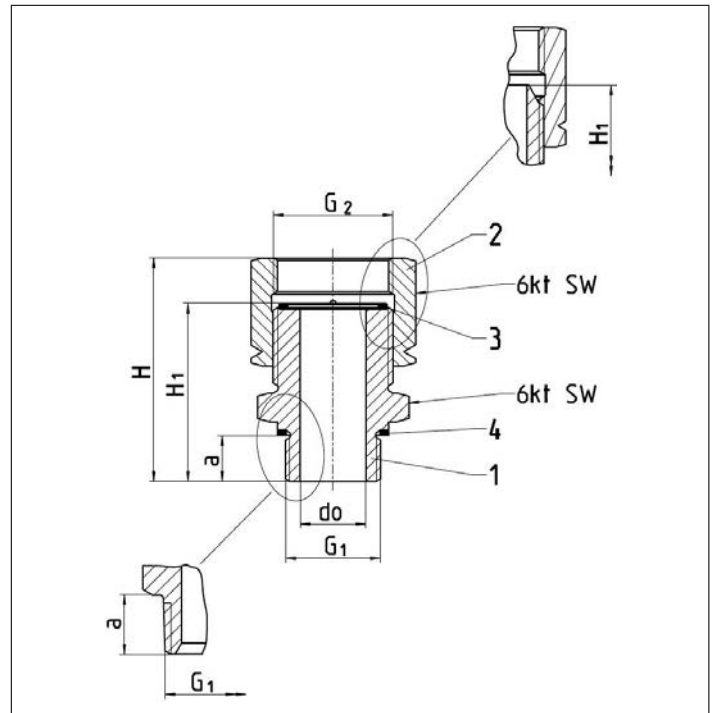
for part no. details please see next page



Applications:

Provided as additional device for changeover valves to position the outlet of a safety valve in a favoured direction.

Materials	DIN EN	ASME/ASTM
see next page		



Available types of the locking sleeve connection (flat)

Size inlet (G1)	Size outlet (G2)	Orifice (d ₀)	Height (a)	Height (H)	Height (H1)	Wrench size across flats (SW)	Material connection (1)	Material sleeve (2)	Material Seal (3)	Material Seal (4)	Part No.
G 1/2	G 1/2	12	11.5	60	46.5	27	CW614N	CW614N	CW024A	CW024A/SF-Cu	50288.0030.0305
G 1/2	G 1/2	12	11.5	60	46.5	27	1.4301	CW614N	CW024A	CW024A/SF-Cu	50288.0030.0765
G 1/2	G 1/2	12	12	59.5	46	27	1.4301	1.4571	PCTFE	PTFE	50288.0145.0765
1/2 NPT	G 1/2	12	14	60	46.5	27	CW614N	CW614N	CW024A	N/A	50288.0054.0302
1/2 NPT	G 1/2	12	14	60	46.5	27	1.4301	CW614N	CW024A	N/A	50288.0054.0765
1/2 NPT	G 1/2	12	14	60	46.5	27	1.4301	1.4301	CW024A	N/A	50288.0060.0765
G 3/4	G 1/2	12	13.5	62	48.5	36	CW614N	CW614N	CW024A	CW024A	50288.0056.0302
R 3/4	G 1/2	12	20	65.5	52	30	1.4301	CW614N	CW024A	N/A	50288.0141.0765
R 3/4	G 1/2	16	20	65.5	52	30	1.4301	CW614N	CW024A	N/A	50288.0141.0302
G 3/4	G 3/4	16	13.5	78	59	36	CW614N	CW614N	CW024A	CW024A/SW-Cu	50288.0035.0305
G 3/4	G 3/4	16	13.5	76.5	58.5	36	CW614N/ nickel plated	CW614N	CW024A	CW024A	50288.0040.0700
G 3/4	G 3/4	16	13.5	76.5	58.5	36	1.4301	1.4571	PTFE	PTFE	50288.0038.0765
3/4 NPT	G 3/4	16	17	76.5	58.5	36	CW614N	CW614N	CW024A	N/A	50288.0005.0302
3/4 NPT	G 1	16	17	78.5	62.5	41	CW614N	CW614N	CW024A	N/A	50288.0006.0302
G 1	G 1/2	12	18	66.5	52.5	27/41	CW614N	CW614N	CW024A	CW024A	50288.0062.0302
G 1	G 3/4	16	16	80.5	62.5	41	CW614N	CW614N	CW024A	CW024A	50288.0061.0302
G 1	G 1	16	16	78.5	62.5	41	CW614N	CW614N	CW024A	CW024A	50288.0050.0302
1 NPT	G 1	16	21	78.5	62.5	41	CW614N	CW614N	CW024A	N/A	50288.0003.0305
G 1	G 1 1/4	23	16	78.5	62.5	46	CW614N	CW614N	CW024A	CW024A	50288.0047.0302
G 1 1/4	G 1 1/4	23	18	78.5	62.5	50	CW614N	CW614N	CW024A	CW024A	50288.0055.0302
G 1 1/2	G 1 1/2	23	20	82.5	66.5	55	CW614N	CW614N	CW024A	CW024A	50288.0146.0302
1 1/2 NPT	G 1 1/2	23	21	82.5	66.5	55	CW614N	CW614N	CW024A	N/A	50288.0004.0305

Available types of the locking sleeve connection (cone)

Size inlet (G1)	Size outlet (G2)	Orifice (d ₀)	Height (a)	Height (H)	Height (H1)	Wrench size across flats (SW)	Material connection (1)	Material sleeve (2)	Material Seal (3)	Material Seal (4)	Part No.
G 1/2	G 1/2	13	11.5	61.5	48	27	CW614N	CW614N	N/A	CW024A/SF-Cu	50288.0001.0000
G 1/2	G 1/2	13	12	61.5	48	27	1.4571	1.4301	N/A	PTFE	50288.0049.0765
G 1/2	G 1/2	13	11.5	61.5	48	27	1.4571	CW614N	N/A	PTFE	50288.0043.0765
1/2 NPT	G 1/2	13	14	61.5	48	27	CW614N	CW614N	N/A	N/A	50288.0002.0000
1/2 NPT	G 1/2	13	14	61.5	48	27	1.4571	CW614N	N/A	N/A	50288.0002.0767
G 1/2	G 3/4	12	13	75	57	36	CW614N	CW614N	N/A	CW024A	50288.0007.0302
G 3/4	G 1/2	13	11.5	61.5	48	27/32	1.4571	CW614N	N/A	CW024A	50288.0045.0767
G 1	G 1/2	12	16	67	54	27/41	CW614N	CW614N	N/A	CW024A	50288.0072.0302

Available types of the locking sleeve connection (ball)

Size inlet (G1)	Size outlet (G2)	Orifice (d ₀)	Height (a)	Height (H)	Height (H1)	Wrench size across flats (SW)	Material connection (1)	Material sleeve (2)	Material Seal (3)	Material Seal (4)	Part No.
G 1/2	G 1	12	17	82	66	41	CW614N	CW614N	N/A	CW024A	50288.0008.0302
G 1	G 1	18	16	82	66	41	CW614N	CW614N	N/A	CW024A	50288.0036.0302

Overflow Valves

Type 06386



Cryogenic Overflow Valves, angle type, bronze, PN40, not type tested

with adjusting device, metal to metal seated, closed bonnet

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

"cleaned and degreased for oxygen service"

Part No. 06386.X.9005 (0.5 up to 1.5 bar)

Part No. 06386.X.9003 (1.0 up to 4.0 bar)

Part No. 06386.X.9001 (3.0 up to 8.0 bar)

Part No. 06386.X.9002 (7.0 up to 17.0 bar)

Part No. 06386.X.9004 (16.0 up to 20.0 bar)

Part No. 06386.X.9007 (21.0 up to 28.0 bar)

Part No. 06386.X.9006 (28.0 up to 36.0 bar)

Available options - on request only:

- other spring ranges acc. to customer specification



Applications:

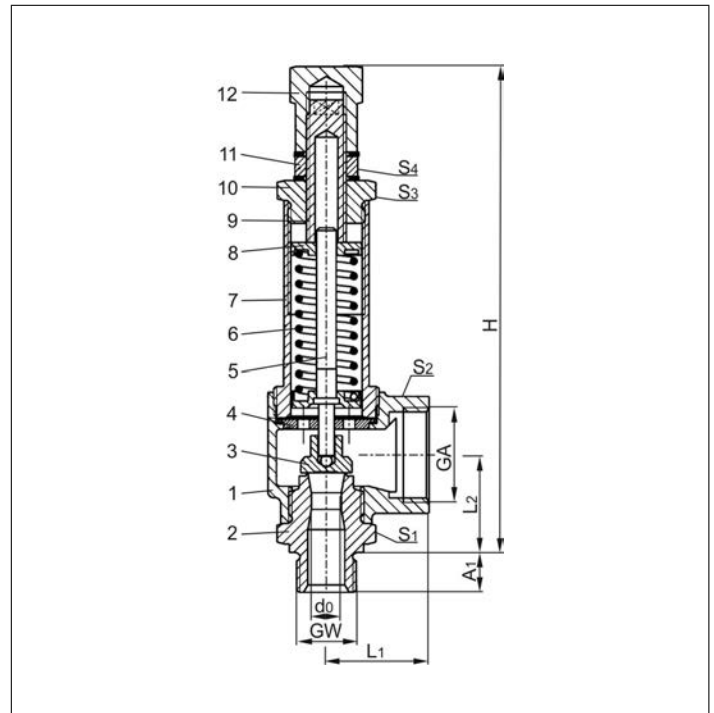
Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Disc	1.4541	A 276 Grade 321
4 Guide plate	CW453K	B 103 UNS C52100
5 Stem	CW453K	B 103 UNS C52100
6 Spring	1.4571	A 313 Grade 316Ti
7 Bonnet	1.4305	A 314 Grade 303
8 Spring clamp	CW614N	B 283 UNS C38500
9 Adjusting screw	CW614N	B 283 UNS C38500
10 Plug	CW614N	B 283 UNS C38500
11 Nut	CW614N	B 283 UNS C38500
12 Closing cap	CW614N	B 283 UNS C38500

Important: Adjusting ranges of springs are marked with a label on the bonnet.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 2014/68/EU (PED) (No CE marking).



Type 06386	Technical data		
Nominal size	GW	1/2	3/4
Orifice	d ₀	10.5	10.5
Dimension code	.X.	1004	1006
Outlet	GA	1	1
Height	H	171	171
Length	L ₁	36	36
Length	L ₂	34	34
Length	A ₁	14	16
Wrench size across flats	S ₁	30	32
Wrench size across flats	S ₂	41	41
Wrench size across flats	S ₃	30	30
Wrench size across flats	S ₄	22	22
Weight	ca. kg	0.78	0.81

Dimensions in mm.

Overflow Valves

Type 06386



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for 10% pressure increase.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2 & 3/4						
	d ₀ (mm)	10.5						
	A ₀ (mm ²)	86.6						
	Medium	Air						
Pressure range in bar	0.5 - 1.5	1.0 - 4.0	3.0 - 8.0	7.0 - 17.0	16.0 - 20.0	21.0 - 28.0	28.0 - 36.0	
0.5	8	-	-	-	-	-	-	
1.0	11	6	-	-	-	-	-	
1.5	14	9	-	-	-	-	-	
2.0	-	12	-	-	-	-	-	
3.0	-	21	10	-	-	-	-	
4.0	-	32	25	-	-	-	-	
5.0	-	-	48	-	-	-	-	
6.0	-	-	76	-	-	-	-	
7.0	-	-	107	82	-	-	-	
8.0	-	-	144	104	-	-	-	
9.0	-	-	-	128	-	-	-	
10.0	-	-	-	155	-	-	-	
11.0	-	-	-	177	-	-	-	
12.0	-	-	-	217	-	-	-	
13.0	-	-	-	248	-	-	-	
14.0	-	-	-	280	-	-	-	
15.0	-	-	-	319	-	-	-	
16.0	-	-	-	361	186	-	-	
17.0	-	-	-	409	220	-	-	
18.0	-	-	-	-	263	-	-	
19.0	-	-	-	-	304	-	-	
20.0	-	-	-	-	339	-	-	
21.0	-	-	-	-	-	227	-	
22.0	-	-	-	-	-	244	-	
24.0	-	-	-	-	-	278	-	
25.0	-	-	-	-	-	296	-	
26.0	-	-	-	-	-	314	-	
28.0	-	-	-	-	-	353	431	
30.0	-	-	-	-	-	-	461	
32.0	-	-	-	-	-	-	491	
34.0	-	-	-	-	-	-	521	
35.0	-	-	-	-	-	-	536	
36.0	-	-	-	-	-	-	583	

GW	1/2 & 3/4
Part No. spring	Pressure range of springs in bar
55345.0114.1767	0.5 - 1.5
55345.0263.0767	1.0 - 4.0
55345.0118.1767	3.0 - 8.0
55345.0119.1767	7.0 - 17.0
55345.0120.1767	16.0 - 20.0
55345.0233.0767	21.0 - 28.0
55345.0237.0767	28.0 - 36.0

Overflow Valves

Type 06381



Cryogenic Safety Valves, angle type, stainless steel, PN40, not type tested

metal to metal seated, closed bonnet,

Inlet: male thread type G (BSPP) acc. to ISO 228/1

Outlet: female thread type G (BSPP) acc. to ISO 228/1

"cleaned and degreased for oxygen service"

Part No. 06381.X.9005 (0.5 up to 1.5 bar)

Part No. 06381.X.9003 (1.0 up to 4.0 bar)

Part No. 06381.X.9001 (3.0 up to 8.0 bar)

Part No. 06381.X.9002 (7.0 up to 17.0 bar)

Part No. 06381.X.9004 (16.0 up to 21.0 bar)

Part No. 06381.X.9007 (21.0 up to 28.0 bar)

Part No. 06381.X.9006 (28.0 up to 36.0 bar)

Available options - on request only:

· other spring ranges acc. to customer specification



Applications:

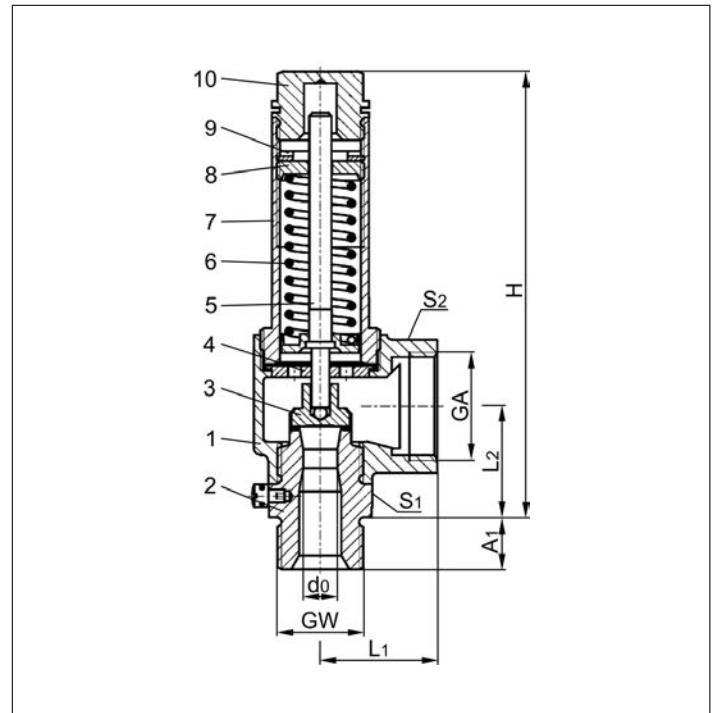
Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Outlet body	1.4308	A 351 CF8
2 Inlet body	1.4301	A 276 Grade 304
3 Disc	1.4541	A 276 Grade 321
4 Guide plate	1.4301	A 276 Grade 304
5 Stem	1.4571	A 276 Grade 316Ti
6 Spring	1.4571	A 313 Grade 316Ti
7 Bonnet	1.4308	A 351 CF 8
8 Spring Clamp	1.4301	A 276 Grade 304
9 Adjusting screw	1.4571	A 276 Grade 316Ti
10 Cap	1.4301	A 276 Grade 304

Important: Adjusting ranges of springs are marked with a label on the bonnet.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 2014/68/EU (PED) (No CE marking).



Type 06381	Technical data		
Nominal size	GW	1/2	3/4
Orifice	d ₀	10.5	10.5
Dimension code	.X.	1004	1006
Outlet	GA	1	1
Height	H	139	139
Length	L ₁	36	36
Length	L ₂	34	34
Length	A ₁	14	16
Wrench size across flats	S ₁	30	32
Wrench size across flats	S ₂	41	41
Weight	ca. kg	0.77	0.79

Overflow Valves

Type 06381



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for 10% pressure increase.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2 & 3/4						
	d ₀ (mm)	10.5						
	A ₀ (mm ²)	86.6						
	Medium	Air						
Pressure range in bar	0.5 - 1.5	1.0 - 4.0	3.0 - 8.0	7.0 - 17.0	16.0 - 21.0	21.0 - 28.0	28.0 - 36.0	
0.5	8	-	-	-	-	-	-	
1.0	11	6	-	-	-	-	-	
1.5	14	9	-	-	-	-	-	
2.0	-	12	-	-	-	-	-	
3.0	-	21	10	-	-	-	-	
4.0	-	32	25	-	-	-	-	
5.0	-	-	48	-	-	-	-	
6.0	-	-	76	-	-	-	-	
7.0	-	-	107	82	-	-	-	
8.0	-	-	144	104	-	-	-	
9.0	-	-	-	128	-	-	-	
10.0	-	-	-	155	-	-	-	
11.0	-	-	-	177	-	-	-	
12.0	-	-	-	217	-	-	-	
13.0	-	-	-	248	-	-	-	
14.0	-	-	-	280	-	-	-	
15.0	-	-	-	319	-	-	-	
16.0	-	-	-	361	186	-	-	
17.0	-	-	-	409	220	-	-	
18.0	-	-	-	-	263	-	-	
19.0	-	-	-	-	304	-	-	
20.0	-	-	-	-	339	-	-	
21.0	-	-	-	-	383	227	-	
22.0	-	-	-	-	-	244	-	
24.0	-	-	-	-	-	278	-	
25.0	-	-	-	-	-	296	-	
26.0	-	-	-	-	-	314	-	
28.0	-	-	-	-	-	353	431	
30.0	-	-	-	-	-	-	461	
32.0	-	-	-	-	-	-	491	
34.0	-	-	-	-	-	-	521	
35.0	-	-	-	-	-	-	536	
36.0	-	-	-	-	-	-	583	

GW	1/2 & 3/4
Part No. spring	Pressure range of springs in bar
55345.0114.1767	0.5 - 1.5
55345.0263.0767	1.0 - 4.0
55345.0118.1767	3.0 - 8.0
55345.0119.1767	7.0 - 17.0
55345.0120.1767	16.0 - 21.0
55345.0233.0767	21.0 - 28.0
55345.0237.0767	28.0 - 36.0

Overflow Valves

Type 06001



Cryogenic Overflow Valves, angle type, bronze with elbow and silencer for noise reduction, PN40, not type tested

with adjusting device,
with carbon filled PTFE valve seal
Inlet: male thread type G (BSPP) acc. to ISO 228/1
"cleaned and degreased for oxygen service"

- Part No. 06001.0400.9001 (11.0 up to 16.0 bar)**
- Part No. 06001.0400.9002 (16.0 up to 21.0 bar)**
- Part No. 06001.0400.9003 (22.0 up to 28.0 bar)**
- Part No. 06001.0400.9004 (28.0 up to 36.0 bar)**

Available options - on request only:
· other spring ranges acc. to customer specification



Applications:

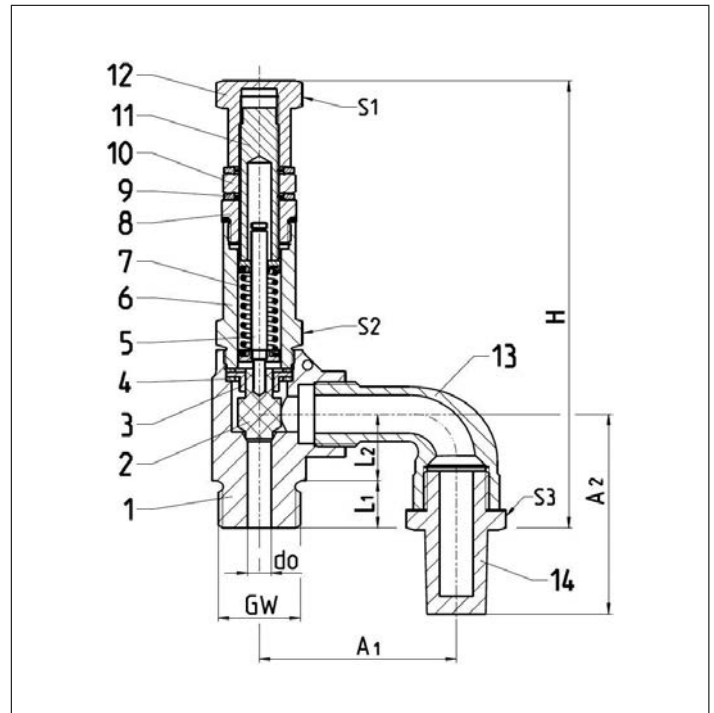
Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)

Materials	DIN EN	ASTM
1 Body	CW610N	B 283 UNS C36500
2 Disc	PTFE / Carbon filled (25%)	
3 Guide plate	CW614N	B 283 UNS C38500
4 Copper ring	Copper	Copper
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	CW614N	B 283 UNS C38500
9 Ring	FKM/V4A	
10 Nut	CW614N	B 283 UNS C38500
11 Adjusting screw	CW614N	B 283 UNS C38500
12 Closing cap	CW614N	B 283 UNS C38500
13 Elbow	CW614N	B 283 UNS C38500
14 Silencer	CC483K	B 30 UNS C90800

Important: Adjusting ranges of springs are marked with a label on the bonnet.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 2014/68/EU (PED) (No CE marking).



Type 06001	Technical data	
Nominal size	GW	1/2
Orifice	d ₀	6.0
Dimension code	.X.	0400
Height	H	103
Length	L ₁	12
Length	L ₂	17
Length	A ₁	51
Wrench size across flats	S ₁	19
Wrench size across flats	S ₂	19
Wrench size across flats	S ₃	22
Weight	ca. kg	0.39

Dimensions in mm.

Overflow Valves

Type 06001



Discharge capacities

Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

The capacity indicated below is for 10% pressure increase.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2			
	d ₀ (mm)	6.0			
	A ₀ (mm ²)	28.3			
	Medium	Air			
Pressure range in bar	11.0 - 16.0	16.0 - 21.0	21.0 - 28.0	28.0 - 36.0	
11.0	23	-	-	-	
12.0	25	-	-	-	
13.0	27	-	-	-	
14.0	32	-	-	-	
15.0	30	-	-	-	
16.0	26	20	-	-	
17.0	-	34	-	-	
18.0	-	29	-	-	
19.0	-	24	-	-	
20.0	-	32	-	-	
21.0	-	30	30	-	
22.0	-	-	47	-	
23.0	-	-	40	-	
24.0	-	-	41	-	
25.0	-	-	50	-	
26.0	-	-	45	-	
27.0	-	-	66	-	
28.0	-	-	44	52	
29.0	-	-	-	46	
30.0	-	-	-	43	
31.0	-	-	-	49	
32.0	-	-	-	60	
33.0	-	-	-	57	
34.0	-	-	-	54	
35.0	-	-	-	74	
36.0	-	-	-	62	

Changeover Valves

Type 06510 - Diverter Valve



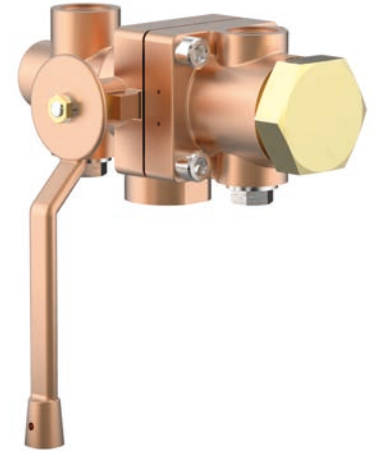
Cryogenic Diverter Valves, bronze, PN50
for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06510.X.0000

Female thread connection (G) acc. to ISO 228/1

Part No. 06510.X.6***

Female thread connection NPT acc. to ANSI B 1.20.1



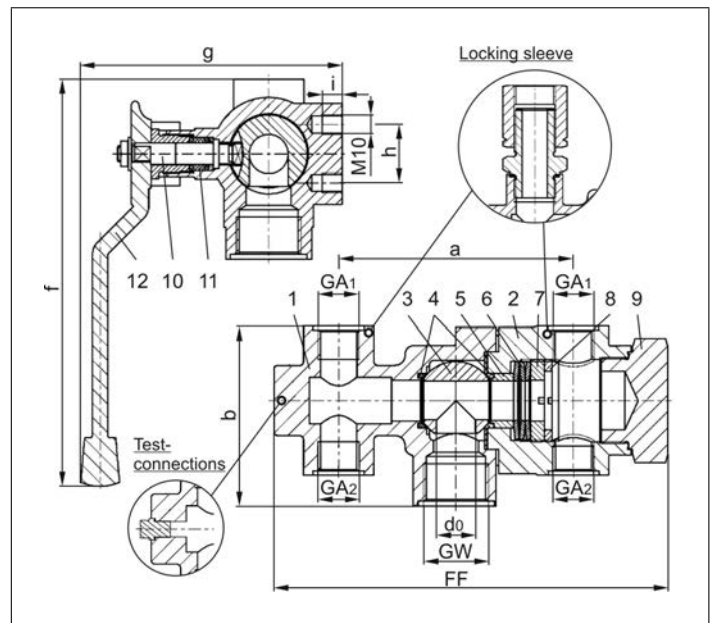
Available Options - on request only:

- Two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0162.0765)**

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Type 06510 - Standard design	Technical Data		
Nominal Size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d ₀	20	20
Inlet	GW	1	1
Outlet	GA ₁	1/2	3/4
Outlet	GA ₂	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m ³ /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Dimensions in mm.

Important:

The valves must be fixed at the provided threads M10.

Changeover Valves

Type 06510 - Diverter Valve



Cryogenic Diverter Valves, bronze, PN50

for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06510.X.0008

Inlet: union type braze fitting for pipe outside diameter 26.9mm

Outlet: female thread connection (G) acc. to ISO 228/1

Part No. 06510.X.000*

Inlet: union type butt weld fitting, when order please indicate pipe diameter

Outlet: female thread connection (G) acc. to ISO 228/1

Part No. 06510.X.6026

Inlet: union type butt weld fitting for pipe 33.4mm S10

Outlet: female thread connection NPT acc. to ANSI B 1.20.1

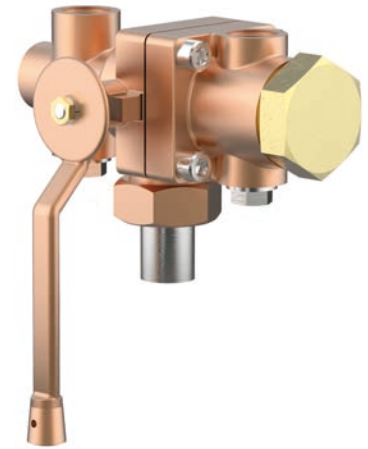
Available options - on request only:

- Two extra test connections 1/4" edgeways
- Inlet: union type braze or butt weld fitting for other pipe diameter
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0162.0765)**

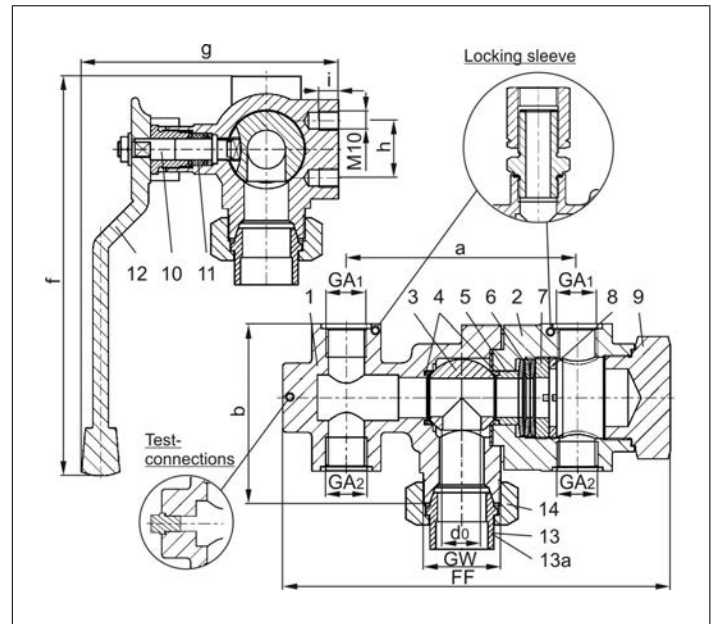
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600
13 Braze fitting	CC493K	B 505 UNS C93200
13a Weld fitting	1.4301	A 276 Grade 304
14 Union nut	CC493K	B 505 UNS C93200



Type 06510 - Standard design	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	2040	2060
Flow diameter	d ₀	20	20
Inlet	GW	M40x2	M40x2
Outlet	GA ₁	1/2	3/4
Outlet	GA ₂	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Wrench size across flats	S ₁	50	50
Weight	ca. kg	5.1	5.0
Kvs - Value, one side open	m ³ /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Important:

The valves must be fixed at the provided threads M10.

Dimensions in mm.

Edition 2024-01

Changeover Valves

Type 06510 - Diverter Valve



Cryogenic Diverter Valves, bronze, PN50
for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06510.X.0120

Female thread connection (G) acc. to ISO 228/1

Part No. 06510.X.6000

Female thread connection NPT acc. to ANSI B 1.20.1

Available Options - on request only:

- Inlet with union type braze or butt weld fitting
- Two extra test connections 1/4" edgeways
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0049.0765)**

Applications:

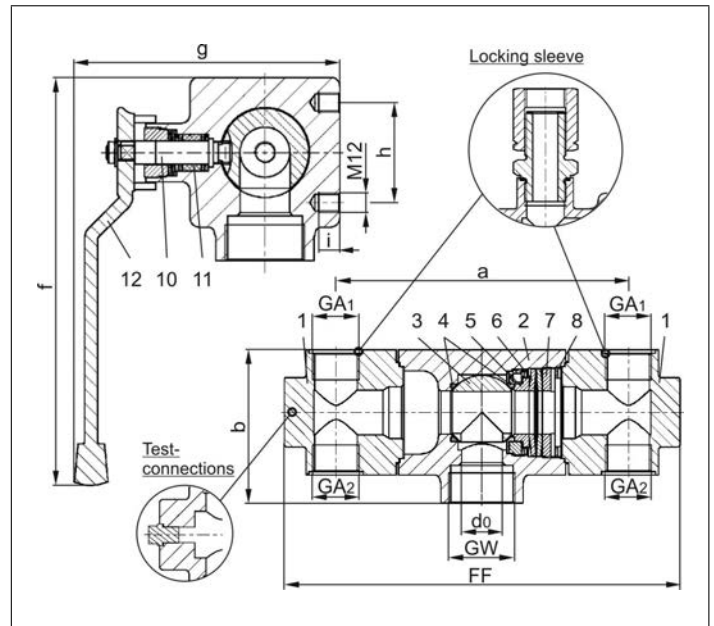
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

3212/3214

3210



Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Type 06510 - Standard design	Technical data			
Nominal size	DN	32	32	32
Dimension code	.X.	3210	3212	3214
Flow diameter	d ₀	30	30	30
Inlet	GW	1-1/2	1-1/2	1-1/2
Outlet	GA ₁	1	1-1/4	1-1/2
Outlet	GA ₂	1	1-1/4	1-1/2
Face-to-face dimension	FF	300	284	284
Length	a	210	210	210
Height	b	110	145	145
Length	f	245	245	245
Length	g	160	160	160
Length	h	60	60	60
Thread depth	i	12.5	12.5	12.5
Weight	ca. kg	12.2	13.5	13.5
Kvs - Value, one side open	m ³ /h	13.5	13.5	13.5
Cv - Value, one side open	gal /min	15.7	15.7	15.7
Kvs - Value, both sides open	m ³ /h	25.0	25.0	25.0
Cv - Value, both sides open	gal /min	29.0	29.0	29.0

Important:

The valves must be fixed at the provided threads M12.

Dimensions in mm.

Edition 2024-01

Changeover Valves

Type 06512 - Diverter Valve



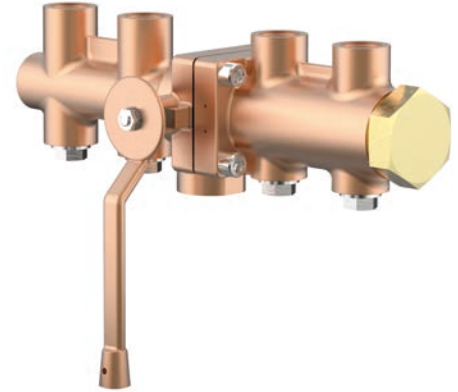
Cryogenic Diverter Valves, bronze, PN50
for the installation of four safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06512.X.0000

Female thread connection (G) acc. to ISO 228/1

Part No. 06512.X.6000

Female thread connection NPT acc. to ANSI B 1.20.1



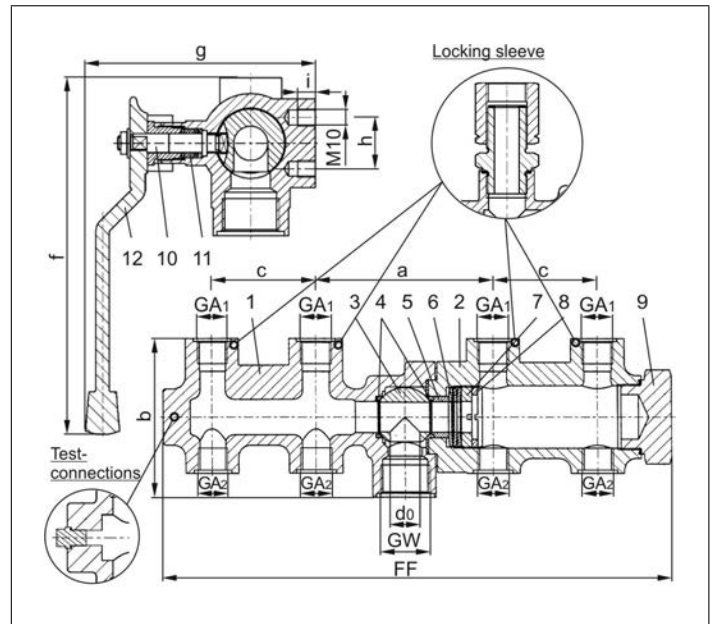
Available Options - on request only:

- Inlet with union type braze or butt weld fitting
- Two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 1/2" or 3/4"
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0043.0765)**

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Type 06512 - Standard design	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d ₀	20	20
Inlet	GW	1	1
Outlet	GA ₁	1/2	3/4
Outlet	GA ₂	1/2	1/2
Face-to-face dimension	FF	345	345
Length	a	120	120
Height	b	107	107
Length	c	70	70
Length	f	223	223
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	7.2	7.1
Kvs - Value, one side open	m ³ /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Important:

The valves must be fixed at the provided threads M10.

Dimensions in mm.

Edition 2024-01



Changeover Valves

Type 06520 - Diverter Valve



Cryogenic Diverter Valves, stainless steel, inner parts made of brass, PN50

for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06520.X.0000

Female thread connection (G) acc. to ISO 228/1

Part No. 06520.X.6***

Female thread connection NPT acc. to ANSI B 1.20.1



Available Options - on request only:

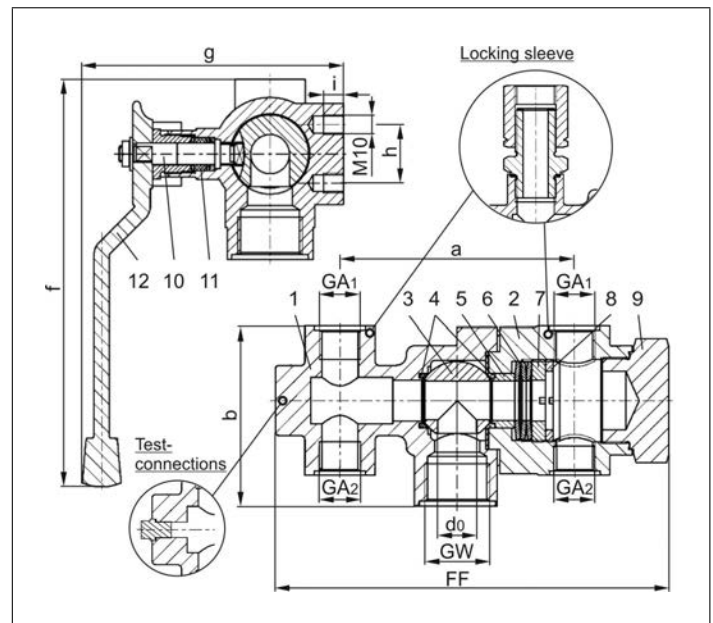
- Two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0043.0765)**

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	1.4308	A 351 CF8
2 Body II	1.4308	A 351 CF8
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	1.4408	A 351 CF8M
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	1.4308	A 351 CF8



Type 06520 - Standard design	Technical Data		
Nominal Size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d ₀	20	20
Inlet	GW	1	1
Outlet	GA ₁	1/2	3/4
Outlet	GA ₂	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m ³ /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Dimensions in mm.

Important:

The valves must be fixed at the provided threads M10.

Changeover Valves

Type 06530 - Diverter Valve



Cryogenic Diverter Valves, stainless steel, PN50

for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 06530.X.0000

Female thread connection (G) acc. to ISO 228/1

Part No. 06530.X.6***

Female thread connection NPT acc. to ANSI B 1.20.1



Available Options - on request only:

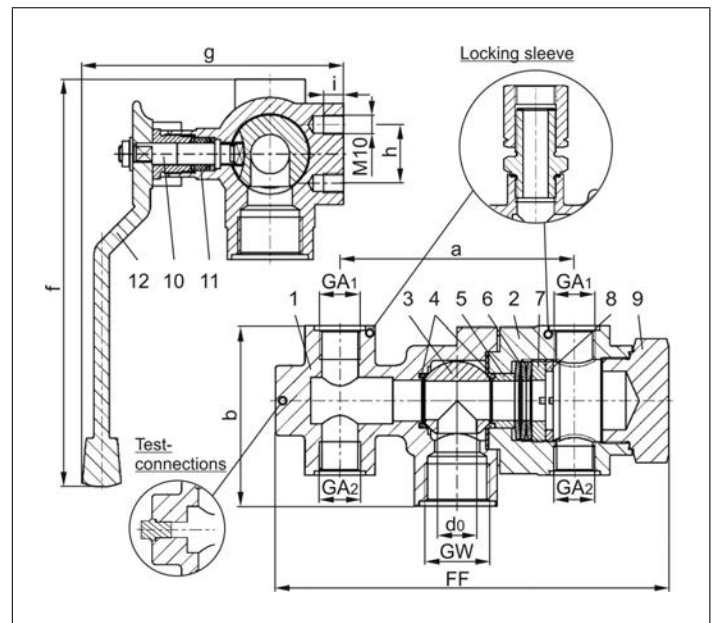
- Two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA₁ with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA₁ - GA₂
- **Safety lock (Part No. 55394.0043.0765)**

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	1.4308	A 351 CF8
2 Body II	1.4308	A 351 CF8
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	1.4301	A 276 Grade 304
6 Spring plates	1.4571	A 313 Grade 316Ti
7 Spring clamp	1.4571	A 276 Grade 316Ti
8 Thread ring	1.4571	A 276 Grade 316Ti
9 Plug	1.4408	A 351 CF8M
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	1.4308	A 351 CF8



Type 06530 - Standard design	Technical Data		
Nominal Size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d ₀	20	20
Inlet	GW	1	1
Outlet	GA ₁	1/2	3/4
Outlet	GA ₂	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m ³ /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Dimensions in mm.

Edition 2024-01

Important:

The valves must be fixed at the provided threads M10.

Changeover Valves

Type 7111 - Diverter-Plug-Valve



Cryogenic Diverter Plug Valves, bronze, PN50

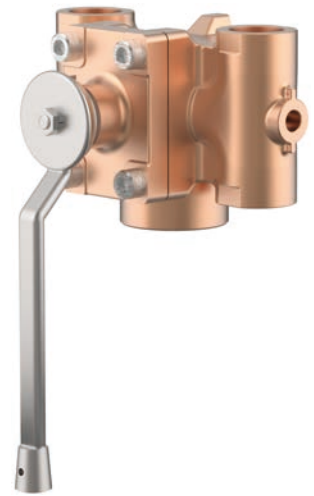
for the installation of two safety valves,
provided for bursting disc connections,
"cleaned and degreased for oxygen service"

Part No. 7111.X

Female thread connection (G) acc. to ISO 228/1 or
Female thread connection NPT acc. to ANSI B 1.20.1

Available Options - on request only:

- Inlet with union type braze or butt weld fitting
- Combination of different outlet threads GA₁ - GA₂ - GA₃



Applications:

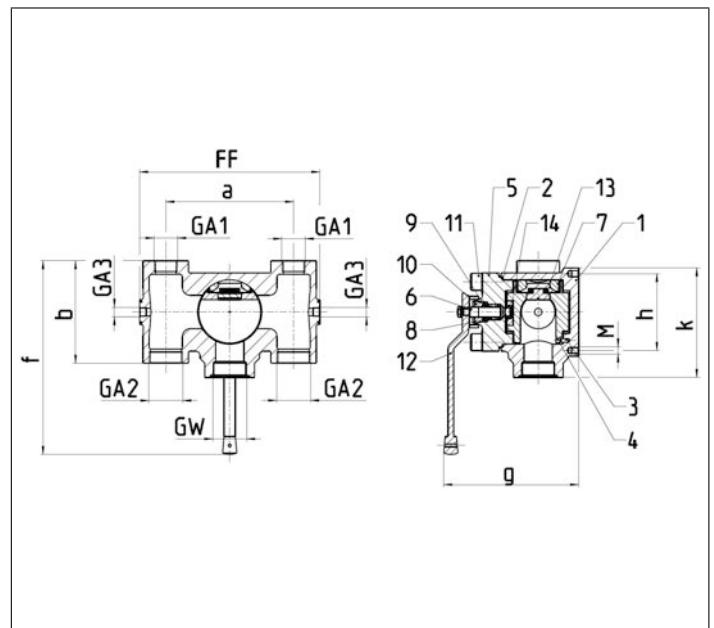
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

For O₂-applications: Up to 60°C / 140°F (333K): maximum oxygen pressure up to 40 bar

From 60°C / 140°F (333K): maximum oxygen pressure up to 25 bar

Materials	DIN EN	ASTM
1 Body	CC491K	C83600
2 Seal	PTFE	
3 Pin	1.4301	304
4 Cock plug	CW614N	C38500
5 Upper part	CC491K	C83600
6 Stem	1.4301	304
7 Seal	PTFE	
8 Gland packing	Graphite / PTFE	
9 Disc spring	1.4310	301
10 STB screw	CW614N	C38500
11 Screw	1.4301	304
12 Lever	1.4308	CF8
13 Disc spring	1.4568	631
14 Spring	Cu	C11000



Type 7111 - Standard design	Technical Data						
Nominal Size	DN	32	32	32	32	32	32
Dimension code	.X.	FN14000. D3001	FN12000. D3002	FN10000. D3003	FG14000. D3005	FG12000. D3006	FG10000. D3007
Inlet	GW	1-1/2 NPT	1-1/4 NPT	1 NPT	1-1/2 G	1-1/4 G	1 G
Outlet	GA ₁	1	3/4	1/2	1	3/4	1/2
Outlet	GA ₂	1	3/4	1/2	1	3/4	1/2
Test connection	GA ₃	1/4	1/4	1/4	1/4	1/4	1/4
Face-to-face dimension	FF	180	180	180	180	180	180
Length	a	125	125	125	125	125	125
Height	b	94	94	94	94	94	94
Length	f	247	247	247	247	247	247
Length	g	154	154	154	154	154	154
Length	h	82	82	82	82	82	82
Length	k	113	113	113	113	113	113
Weight	ca. kg	5.6	5.6	5.6	5.6	5.6	5.6
Kvs - Value, one side open	m ³ /h	22.8	16.0	10.0	22.8	16.0	10.0
Cv - Value, one side open	gal /min	26.5	18.6	11.6	26.5	18.6	11.6
Kvs - Value, both sides open	m ³ /h	43.7	33.0	20.0	43.7	33.0	20.0
Cv - Value, both sides open	gal /min	50.8	38.4	23.3	50.8	38.4	23.3

Dimensions in mm.

Edition 2024-01

Changeover Valves

Type 7111 - Diverter-Plug-Valve



Type 7111 - Standard design		Technical Data			
Nominal Size	DN	50	50	50	50
Dimension code	.X.	FN14000. D5001	FN20000. D5004	FG14000. D5005	FG20000. D5008
Inlet	GW	1-1/2 NPT	2 NPT	1-1/2 G	2 G
Outlet	GA ₁	1	1-1/2	1	1-1/2
Outlet	GA ₂	1	1-1/2	1	1-1/2
Test connection	GA ₃	1/4	1/4	1/4	1/4
Face-to-face dimension	FF	254	254	254	254
Length	a	180	180	180	180
Height	b	144	144	144	144
Length	f	272	272	272	272
Length	g	190	190	190	190
Length	h	108	108	108	108
Length	k	124	124	124	124
Weight	ca. kg	16.9	16.9	16.9	16.9
Kvs - Value, one side open	m ³ /h	25.3	49.5	25.3	49.5
Cv - Value, one side open	gal /min	29.3	57.4	29.3	57.4
Kvs - Value, both sides open	m ³ /h	47.0	114.0	47.0	114.0
Cv - Value, both sides open	gal /min	54.5	132.2	54.5	132.2

Dimensions in mm.

Spare Parts Diverter-Plug-Valve:

Spare Part Kit Cock Plug Seal DN32

Part No. 30003.0002.0000

Spare Part Kit Cock Plug Seal DN50

Part No. 30003.0002.0001

Spare Part Kit Gland Packing DN32/DN50

Part No. 30003.0001.0000



Changeover Valves

Type 06405 - Changeover Valve



Cryogenic Changeover Valves, brass

for the installation of two safety valves,
with indicator and two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06405.0150.0000, DN15, PN40, metal to metal seated

Female thread connection (G) acc. to ISO 228/1

Part No. 06405.0150.6000, DN15, PN40, metal to metal seated

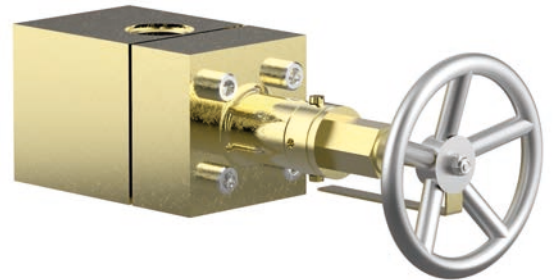
Female thread connection NPT acc. to ANSI B 1.20.1

Part No. 06405.0250.0000, DN25, PN45, PTFE valve seal

Female thread connection (G) acc. to ISO 228/1

Part No. 06405.0250.6000, DN25, PN45, PTFE valve seal

Female thread connection NPT acc. to ANSI B 1.20.1



Available options - on request only:

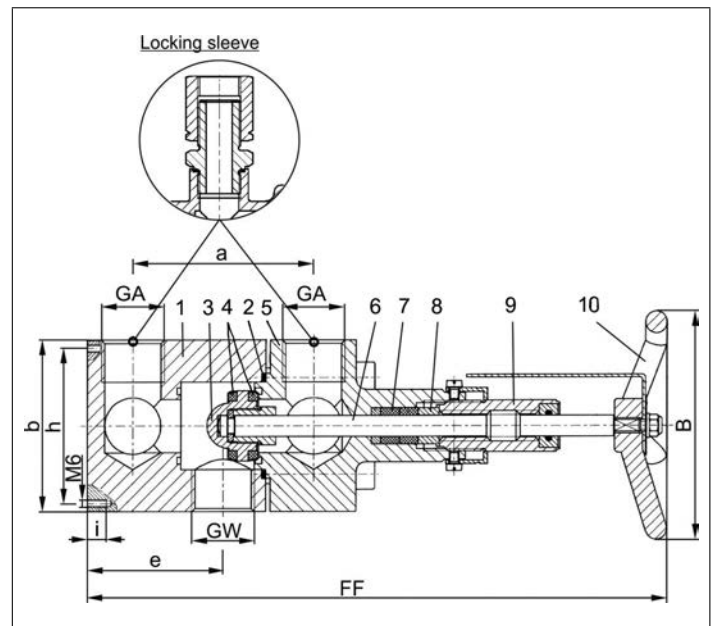
- Valve with bursting disc connections
- Outlet: GA with installed locking sleeve for easy positioning of safety valves
- Outlet: GA with thread 3/4"

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body I	CW614N	B 283 UNS C38500
2 Gasket	CW024A	C12200
3 Disc	1.4301	A 276 Grade 304
4 Valve seal DN25	PTFE	
5 Body II	CW614N	B 283 UNS C38500
6 Stem	1.4301	A 276 Grade 304
7 Gland packing	Graphite / PTFE	
8 Top ring	CW614N	B 283 UNS C38500
9 Gland nut DN15	CW710R	no reference
9 Gland nut DN25	CW614N	B 283 UNS C38500
10 Handwheel	Aluminium alloy	



Type 06405 - Standard design	Technical data		
Nominal size	DN	15	25
Dimension code	.X.	0150	0250
Inlet	GW	3/4	1
Outlet	GA	1/2	1
Face-to-face dimension	FF	240	310
Length	a	80	96
Length	b	65	90
Length	e	50	72
Length	h	55	80
Thread depth	i	12	12
Handwheel-Ø	B	100	120
Weight	ca. kg	4.1	9.5
Kvs - Value, one side open	m ³ /h	6.0	14.0
Cv - Value, one side open	gal /min	6.9	16.1
Kvs - Value, central position	m ³ /h	13.0	25.0
Cv - Value, central position	gal /min	15.0	28.9

Dimensions in mm.

Important:

The valves must be fixed at the provided threads M6.

Changeover Valves

Type 06401 - Changeover Valve DN15



Cryogenic Changeover Valves, stainless steel, PN125

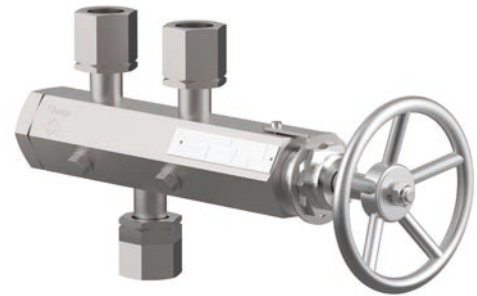
for the installation of two safety valves,
with two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06401.0150.0000

In- and Outlet: locking sleeve G 3/4

Part No. 06401.0150.9***

*** Changeover valves with other threads for
vessel or safety valve connection on request



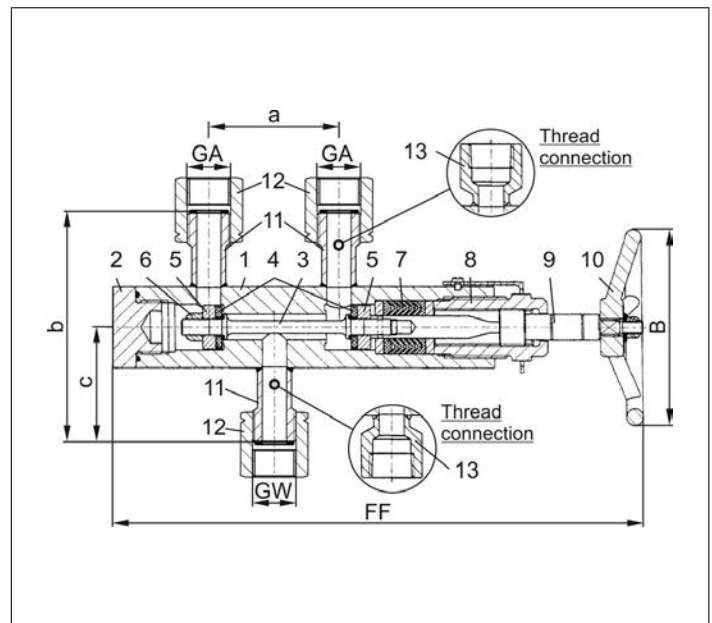
Available options - on request only:

- Changeover valves with pneumatic or electric actuator
- Inlet GW and/or outlet GA with female thread (G) acc. to ISO 228/1
- Inlet GW and/or outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Combination of different thread connections GW - GA

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PTFE / Carbon filled (25%)	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc nut	1.4301/A2	A 194 B8
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 159 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design	Technical data	
Nominal size	DN	15
Inlet	GW	G 3/4
Outlet	GA	G 3/4
Face-to-face dimension	FF	325
Handwheel-Ø	B	120
Length	a	80
Height	b	140
Length	c	70
Weight	ca. kg	5.0
Kvs - Value, one side open	m ³ /h	4.0
Cv - Value, one side open	gal /min	4.6
Kvs - Value, central position	m ³ /h	5.8
Cv - Value, central position	gal /min	6.7

Dimensions in mm.



Changeover Valves

Type 06401 - Changeover Valve DN15



Cryogenic Changeover Valves, stainless steel, PN160

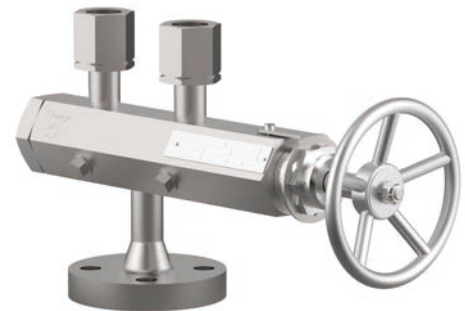
for the installation of two safety valves,
with two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06401.0150.9029

Inlet: Flange, DN15, PN 160
Outlet: locking sleeve G 3/4

Part No. 06401.0150.9***

*** Changeover valves with other flanges for vessel connection
and threaded connection for safety valves on request



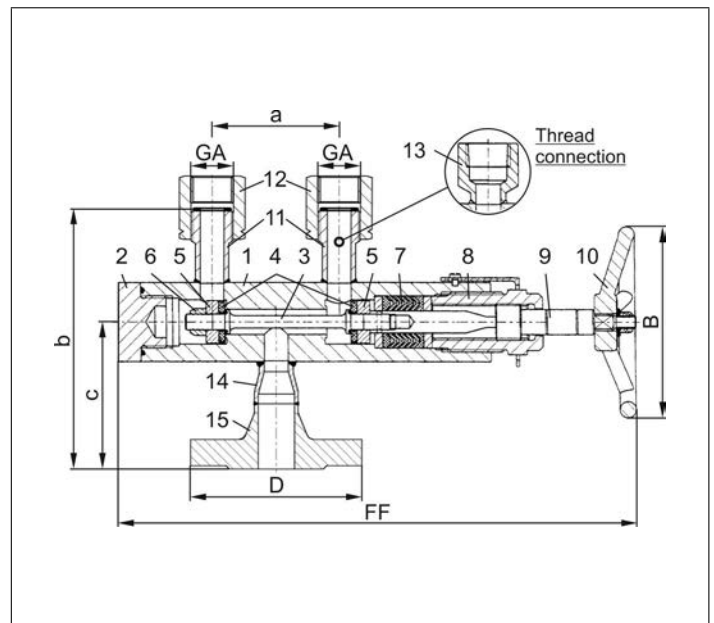
Available options - on request only:

- Changeover valves with pneumatic or electric actuator
- Outlet GA with female thread (G) acc. to ISO 228/1
- Outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Outlet GA with flanged connections

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PTFE / Carbon filled (25%)	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc nut	1.4301/A2	A 194 B8
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 159 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti
14 Adapter	1.4571	A 276 Grade 316Ti
15 Flange	1.4571	A 276 Grade 316Ti



Type 06401 - Standard design	Technical data	
Nominal size	DN	15
Flange diameter	D	105
Outlet	GA	G 3/4
Face-to-face dimension	FF	325
Handwheel-Ø	B	120
Length	a	80
Height	b	170
Length	c	100
Weight	ca. kg	6.0
Kvs - Value, one side open	m ³ /h	4.0
Cv - Value, one side open	gal /min	4.6
Kvs - Valve, central position	m ³ /h	5.8
Cv - Valve, central position	gal /min	6.7

Dimensions in mm.

Changeover Valves

Type 06401 - Changeover Valve DN25



Cryogenic Changeover Valves, stainless steel, PN125

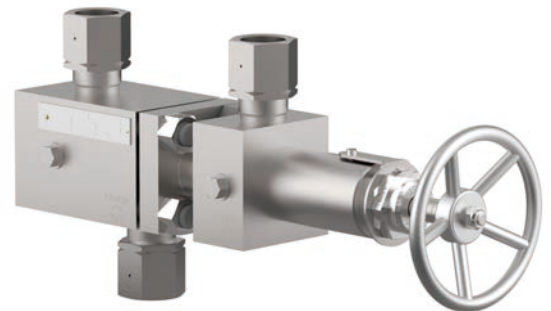
for the installation of two safety valves,
with two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06401.0250.9045

In- and Outlet: locking sleeve G 1

Part No. 06401.0250.9***

*** Changeover valves with other threads for
vessel or safety valve connection on request



Available options - on request only:

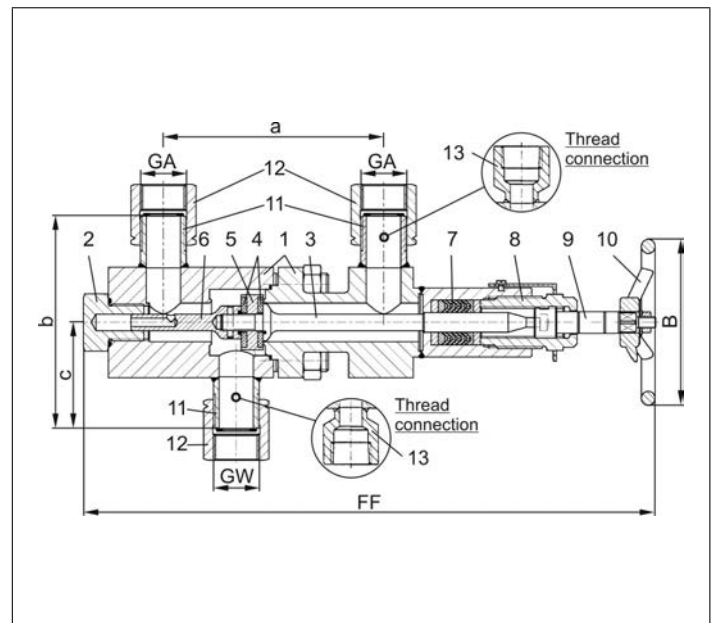
- Changeover valves with pneumatic or electric actuator
- Inlet GW and/or outlet GA with female thread (G) acc. to ISO 228/1
- Inlet GW and/or outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Combination of different thread connections GW - GA

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTFE	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc stem	1.4571	A 276 Grade 316Ti
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 159 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design	Technical data	
Nominal size	DN	25
Inlet	GW	G 1
Outlet	GA	G 1
Face-to-face dimension	FF	415
Handwheel-Ø	B	120
Length	a	160
Height	b	160
Length	c	80
Weight	ca. kg	11.7
Kvs - Value, one side open	m ³ /h	13.0
Cv - Value, one side open	gal /min	15.0
Kvs - Value, central position	m ³ /h	15.5
Cv - Value, central position	gal /min	17.9

Dimensions in mm.

Changeover Valves

Type 06401 - Changeover Valve DN25



Cryogenic Changeover Valves, stainless steel, PN160

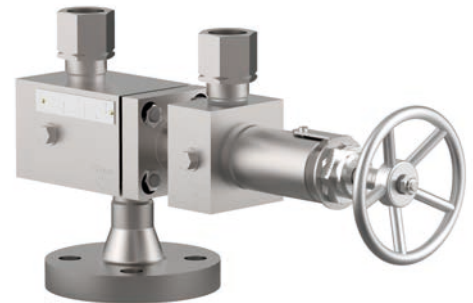
for the installation of two safety valves,
with two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06401.0250.9018

Inlet Flange, DN 25, PN 160
Outlet: locking sleeve G1

Part No. 06401.0250.9***

*** Changeover valves with other flanges for vessel connection
and connection for safety valves on request



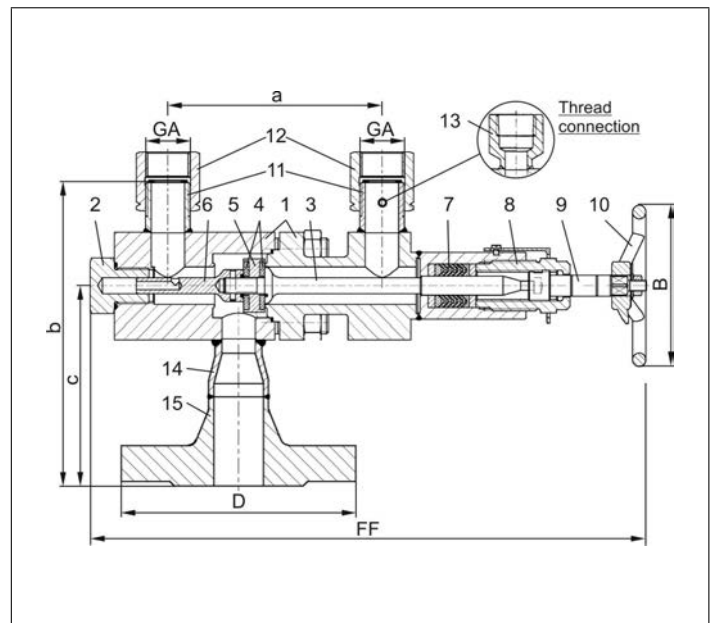
Available options - on request only:

- Changeover valves with pneumatic or electric actuator
- Outlet GA with female thread (G) acc. to ISO 228/1
- Outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Outlet GA with flanged connections

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTFE	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc stem	1.4571	A 276 Grade 316Ti
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 159 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti
14 Adapter	1.4571	A 276 Grade 316Ti
15 Flange	1.4571	A 276 Grade 316Ti



Type 06401 - Standard design	Technical data	
Nominal size	DN	25
Flange diameter	D	140
Outlet	GA	G 1
Face-to-face dimension	FF	415
Handwheel-Ø	B	120
Length	a	160
Height	b	200
Length	c	125
Weight	ca. kg	14.1
Kvs - Value, one side open	m ³ /h	13.0
Cv - Value, one side open	gal /min	15.0
Kvs - Valve, central position	m ³ /h	15.5
Cv - Valve, central position	gal /min	17.9

Dimensions in mm.

Changeover Valves

Type 06401 - Bellow Sealed Changeover Valve



Cryogenic Bellow Sealed Changeover Valves, stainless steel, PN63

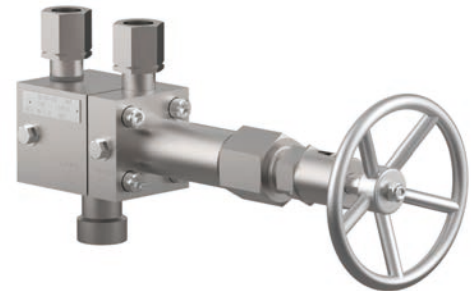
for the installation of two safety valves,
with indicator and two test connections G 1/4,
"cleaned and degreased for oxygen service"

Part No. 06401.0150.9***

*** In- and outlet connections with locking sleeve, female thread or flanges on request, working pressure up to PN100

Part No. 06401.0250.9***

*** In- and outlet connections with locking sleeve, female thread or flanges on request, working pressure up to PN63



Available options - on request only:

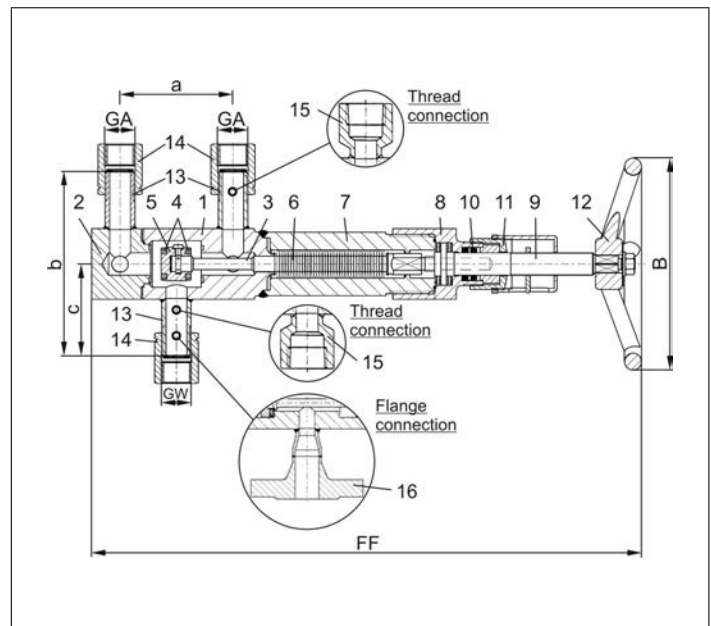
- Changeover valves with pneumatic or electric actuator

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body I	1.4571	A 276 Grade 316Ti
2 Body II	1.4571	A 276 Grade 316Ti
3 Bellow stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTEF	
5 Disc	1.4571	A 276 Grade 316Ti
6 Bellow	1.4571	A 276 Grade 316Ti
7 Head piece I	1.4571	A 276 Grade 316Ti
8 Head piece II	1.4571	A 276 Grade 316Ti
9 Stem	CW452K	B 159 UNS C51900
10 O-Rings	FPM (VITON)	
11 Top ring	1.4571	A 276 Grade 316Ti
12 Handwheel	Aluminium alloy	
13 Welding piece	1.4571	A 276 Grade 316Ti
14 Locking sleeve	1.4571	A 276 Grade 316Ti
15 Thread connection	1.4571	A 276 Grade 316Ti
16 Flange	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design	Technical data		
Nominal size	DN	15	25
Dimension code	.X.	0150	0250
Inlet	GW	G 3/4	G 1
Outlet	GA	G 3/4	G 1
Face-to-face dimension	FF	390	390
Handwheel-Ø	B	150	150
Length	a	80	80
Height	b	130	160
Length	c	65	80
Weight	ca. kg	8.0	9.9
Kvs - Value, one side open	m ³ /h	4.0	13.0
Cv - Value, one side open	gal /min	4.6	15.0
Kvs - Value, central position	m ³ /h	5.8	15.5
Cv - Value, central position	gal /min	6.7	17.9

Dimensions in mm.



Changeover Valves

Type 06900 - Bursting disc brass



for Cryogenic Diverter Valves

burst pressure range: 4,0 bar (58.0 psi) - 52,0 bar (754.0 psi)
 indicated burst pressure at burst temperature +20°C (68°F)
 burst pressure tolerance: ± 5 %
 "cleaned and degreased for oxygen service"

Part No. 06900.0400.00XX.XX

male thread G1/2 acc. to ISO 228/1

Part No. 06900.0400.50XX.XX

male thread 1/2" NPT acc. to ANSI B 1.20.1

XX.XX = Code for burst pressure

Example:

burst pressure **5,20** bar - 06900.0400.0005.20

burst pressure **24,00** bar - 06900.0400.0024.00

Calculation bar in psi: 1,0 bar = 14,503 psi (7,20 bar = 104,4 psi)

Available options - on request only:

- other thread sizes
- other burst pressures

Working temperature: -196°C (77K) up to +120°C (393K)



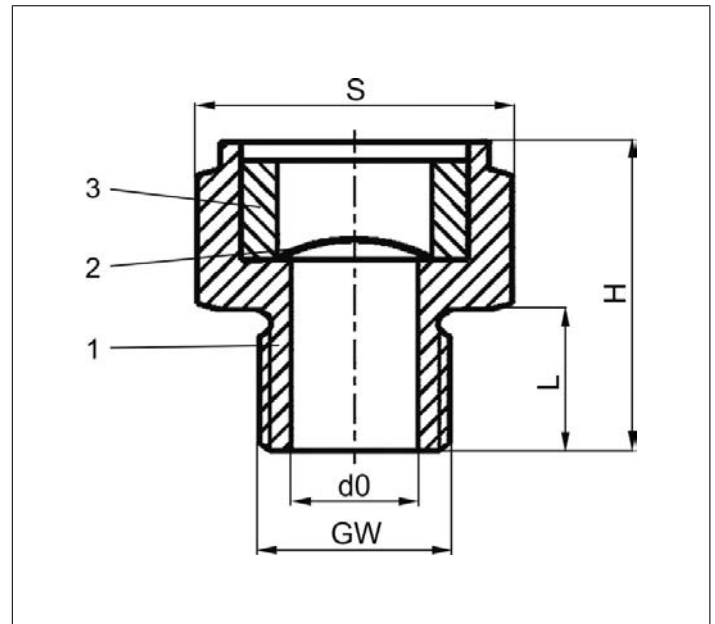
Materials	DIN EN	ASTM
1 Body	CW614N	B 283 UNS C38500
2 Burst disc	1.4401	AISI 316
3 Ring	CW614N	B 283 UNS C38500

Part No. (G-thread)	Standard-burst pressures
06900.0400.0005.20	5.2 bar / 75.4 psi
06900.0400.0007.20	7.2 bar / 104.4 psi
06900.0400.0014.00	14.0 bar / 203.0 psi
06900.0400.0016.50	16.5 bar / 239.3 psi
06900.0400.0020.20	20.2 bar / 292.9 psi
06900.0400.0024.00	24.0 bar / 348.0 psi
06900.0400.0025.08	25.08 bar / 363.7 psi
06900.0400.0027.00	27.0 bar / 391.5 psi
06900.0400.0046.00	46.0 bar / 667.0 psi

Part No. (NPT-thread)	Standard-burst pressures
06900.0400.5005.20	5.2 bar / 75.4 psi
06900.0400.5007.20	7.2 bar / 104.4 psi
06900.0400.5014.00	14.0 bar / 203.0 psi
06900.0400.5017.00	17.0 bar / 246.5 psi
06900.0400.5020.20	20.2 bar / 292.2 psi
06900.0400.5024.00	24.0 bar / 348.0 psi
06900.0400.5027.00	27.0 bar / 391.5 psi
06900.0400.5032.00	32.0 bar / 464.1 psi
06900.0400.5046.00	46.0 bar / 667.0 psi

Type 06900	Technical data	
Nominal size	GW	1/2
Height G-Thread	H	33,0
Height NPT-Thread	H	37,5
Length G-Thread	L	15,5
Length NPT-Thread	L	20,0
Orifice	d ₀	13,0
Wrench size across flats	S	30
Weight	ca. kg	0,1
Kvs-Value	m ³ /h	11,0
Cv-Value	gal/min	13,1

Dimensions in mm.



Changeover Valves

Type 06901 - Bursting disc stainless steel



for Cryogenic Diverter Valves

burst pressure range: 4,0 bar (58.0 psi) - 52,0 bar (754.0 psi)

indicated burst pressure at burst temperature +20°C (68°F)

burst pressure tolerance: ± 10 %

"cleaned and degreased for oxygen service"

Part No. 06901.0400.00XX.XX

male thread G1/2 acc. to ISO 228/1

Part No. 06901.0400.50XX.XX

male thread 1/2" NPT acc. to ANSI B 1.20.1

XX.XX = Code for burst pressure

Example:

burst pressure **5,20** bar - 06901.0400.0005.20

burst pressure **46,00** bar - 06901.0400.0046.00

Calculation bar in psi: 1,0 bar = 14,503 psi (40,00 bar = 580,1 psi)

Available options - on request only:

- other thread sizes
- other burst pressures

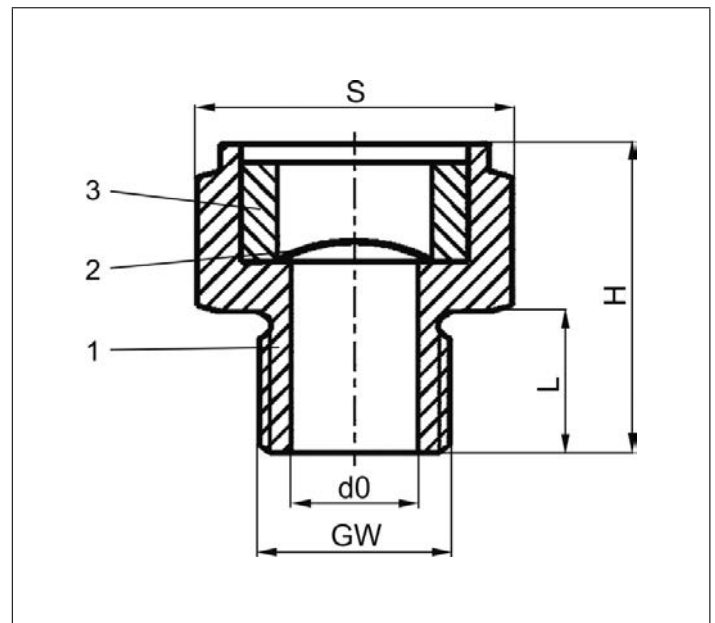
Working temperature: -196°C (77K) up to +65°C (338K)



Materials	DIN EN	ASTM
1 Body	1.4404	A 276 Grade 316L
2 Burst disc	2.4068	NI 201
3 Ring	1.4404	A 276 Grade 316L

Part No. (G-thread)	Standard-burst pressures
06901.0400.0005.20	5.2 bar / 75.4 psi
06901.0400.0007.00	7.0 bar / 101.5 psi
06901.0400.0008.10	8.1 bar / 117.4 psi
06901.0400.0010.00	10.0 bar / 145.0 psi
06901.0400.0015.00	15.0 bar / 217.5 psi
06901.0400.0018.00	18.0 bar / 261.0 psi
06901.0400.0020.20	20.2 bar / 292.9 psi
06901.0400.0020.57	20.57 bar / 298.34 psi
06901.0400.0022.00	22.0 bar / 319.0 psi
06901.0400.0024.00	24.0 bar / 348.0 psi
06901.0400.0027.00	27.0 bar / 391.5 psi
06901.0400.0043.56	43.56 bar / 631.78 psi

Part No. (NPT-thread)	Standard-burst pressures
06901.0400.5027.00	27.0 bar / 391.5 psi



Type 06901	Technical data	
Nominal size	GW	1/2
Height G-Thread	H	34,0
Height NPT-Thread	H	38,5
Length G-Thread	L	15,5
Length NPT-Thread	L	20,0
Orifice	d ₀	13,0
Wrench size a/f up to 8,0 bar	S	46
Wrench size a/f from 8,01 bar	S	30
Weight	ca. kg	0,1
Kvs-Value	m ³ /h	11,0
Cv-Value	gal/min	13,1

Dimensions in mm.



Fire Safe and Offshore Applications



Offshore and LNG: The MS Stavangerfjord of the shipping company Fjord Line ferry runs between Norway and Denmark fuelled 100% with the environmentally friendly LNG. Equipped with HEROSE valves specifically for LNG use.

Fire Safe Valves

Type 01651 - Globe Valve

HEROSE



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45)

“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork, “live loaded” gland packing
“cleaned and degreased for oxygen service”

Part No. 01651.X.000*

Part No. 01651.X.500* Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01651.X.0004

Part No. 01651.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)



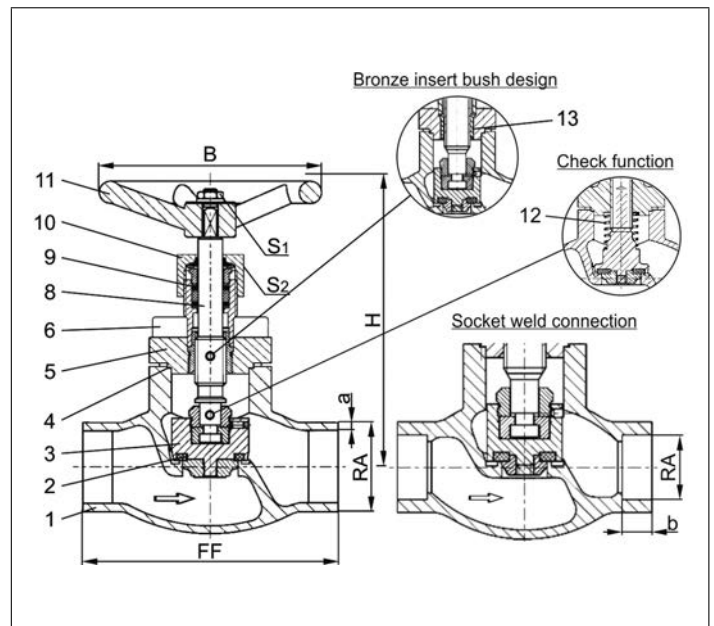
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01651 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	23.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	

Dimensions in mm.



Fire Safe Valves

Type 01655 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01655.X.0001

Part No. 01655.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01655.X.0006

Part No. 01655.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



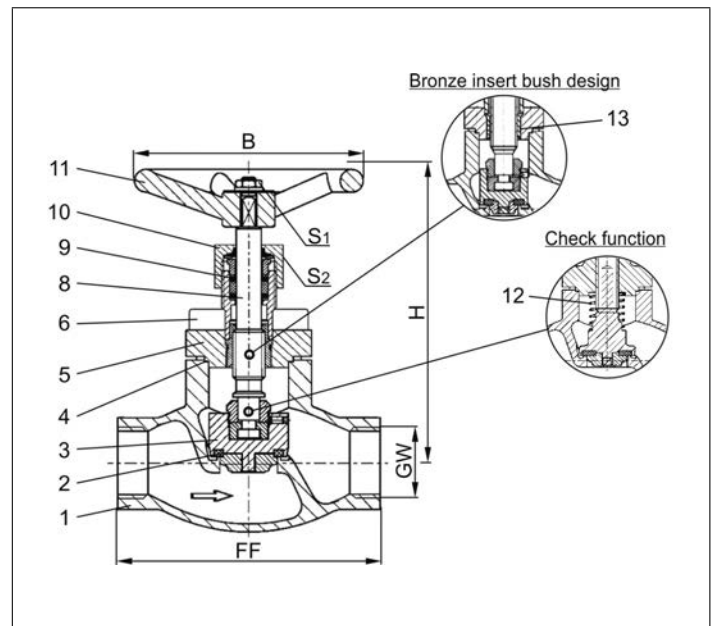
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01655 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Fire Safe Valves

Type 03651 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN40
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03651.X.0002

Part No. 03651.X.5002 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- Valve with control disc (tapered design)



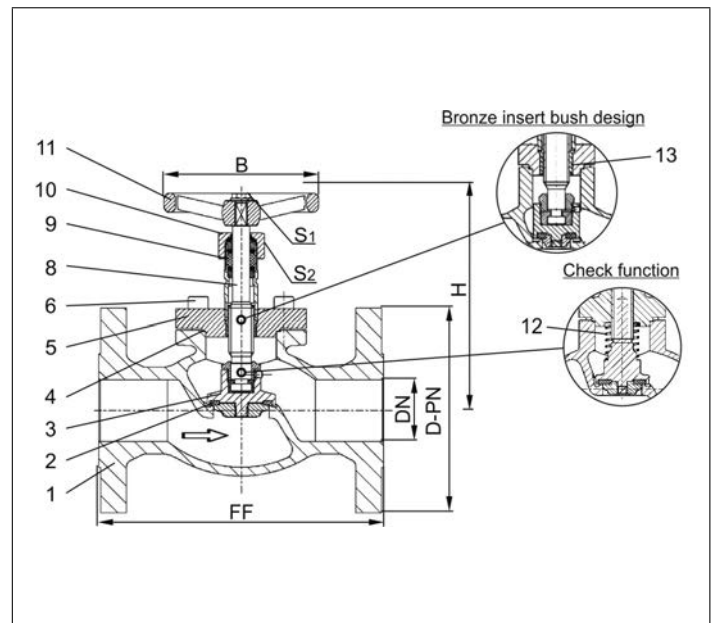
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03651 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe Valves

Type 03651 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03651.X.0003

Part No. 03651.X.5003 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- Valve with control disc (tapered design)



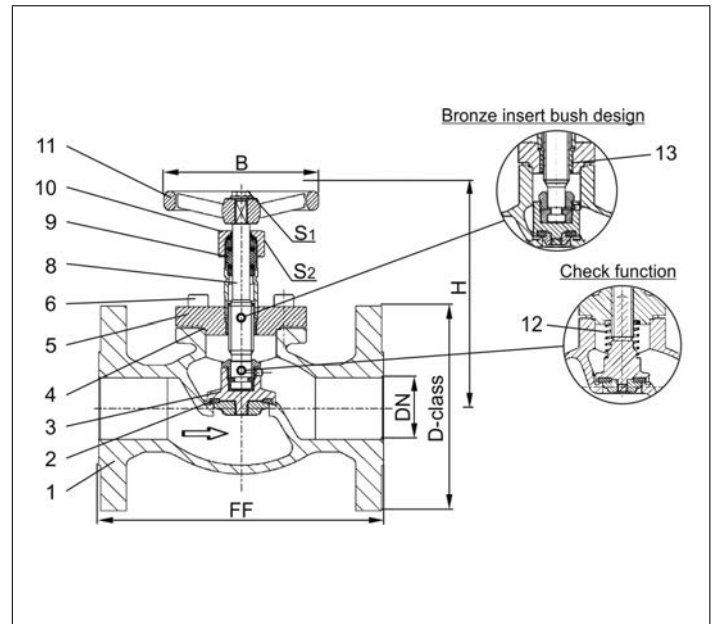
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03651 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe Valves

Type 03651 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03651.X.0001

Part No. 03651.X.5001 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- Valve with control disc (tapered design)



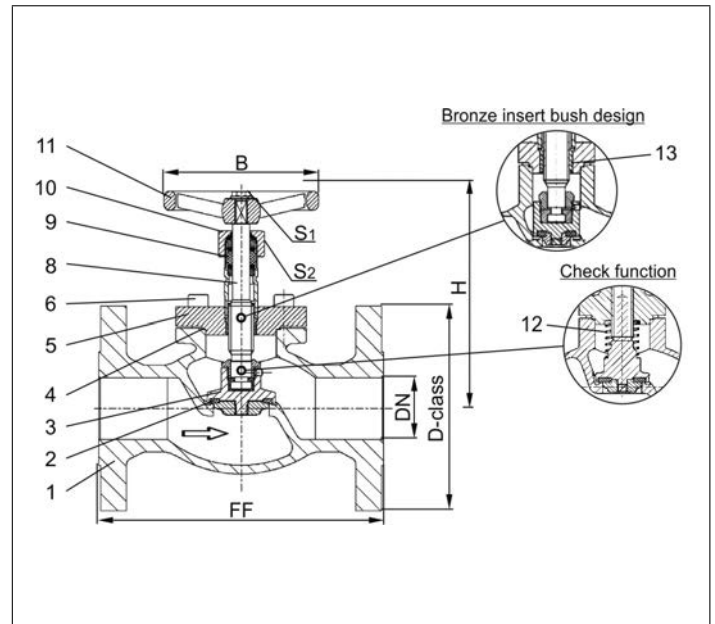
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03651 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe Valves

Type 01641 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork, "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01641.X.001* (H = 270mm)

Part No. 01641.X.002* (H = 370mm)

Part No. 01641.X.501* (H = 270mm) Globe/Check Valve

Part No. 01641.X.502* (H = 370mm) Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01641.X.0014 (H = 270mm)

Part No. 01641.X.0024 (H = 370mm)

Part No. 01641.X.5014 (H = 270mm) Globe/Check Valve

Part No. 01641.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)

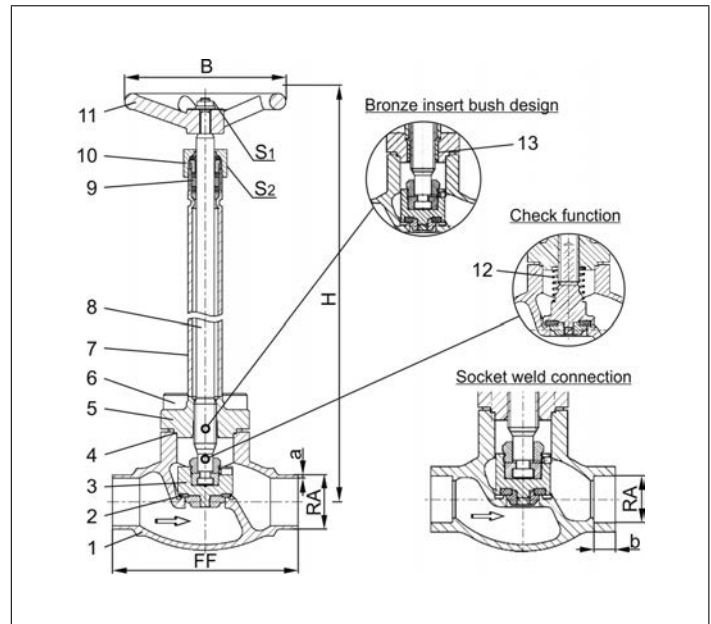
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01641 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	270 mm or 370 mm												370	420
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	-	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	-	2.0	2.0	2.0	2.9	3.2	6.0	7.11	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	-	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	-	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	-	36	36	36	36	36	41	41	
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	-	4.7	4.7	7.2	12.7	17.0	24.5	54.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe Valves

Type 01641 - Globe Valve



Cryogenic Globe Valves, DN200
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 "live loaded" gland packing

Part No. 01641.0219.001* (H=560), PN20/PN25
Part No. 01641.0219.006* (H=1000), PN20/PN25
 *Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01641.0219.00*4, PN25
 Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 9 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

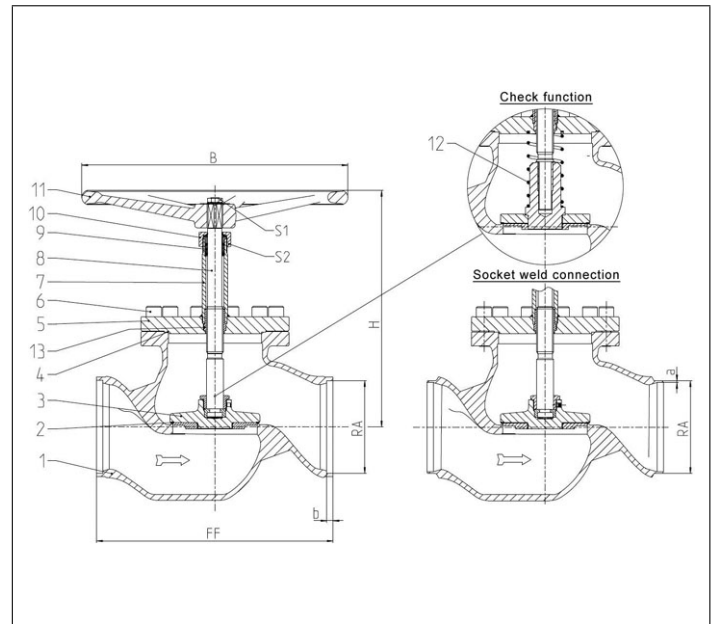
Available options - on request only

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01641 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	560
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.



Fire Safe Valves

Type 01645 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork, "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01645.X.0011 (H = 270mm)
Part No. 01645.X.0021 (H = 370mm)
Part No. 01645.X.5011 (H = 270mm) Globe/Check Valve
Part No. 01645.X.5021 (H = 370mm) Globe/Check Valve
 Female thread connection (G) acc. to ISO 228/1

Part No. 01645.X.0016 (H = 270mm)
Part No. 01645.X.0026 (H = 370mm)
Part No. 01645.X.5016 (H = 270mm) Globe/Check Valve
Part No. 01645.X.5026 (H = 370mm) Globe/Check Valve
 Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

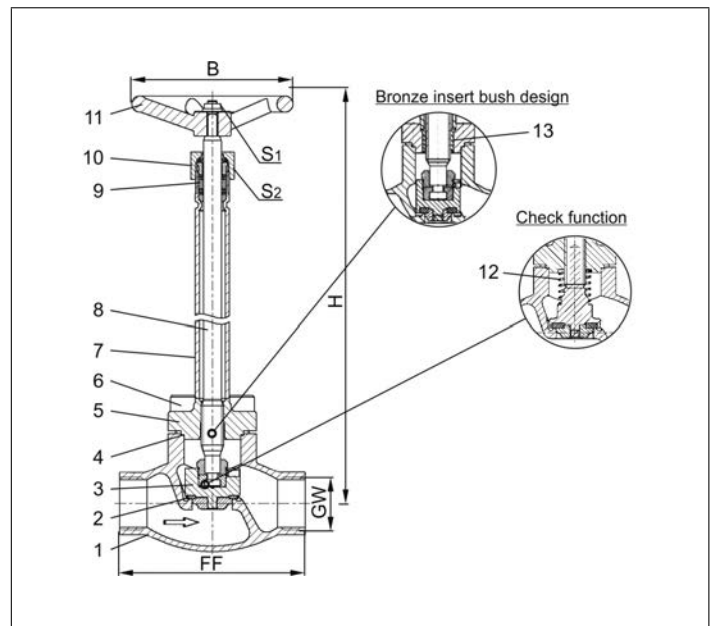
- Female thread connection (R) acc. to ISO 7-Rc
- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 01645 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270 mm or 370 mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Fire Safe Valves

Type 03641 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN40
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03641.X.0012 (H = 270mm)
Part No. 03641.X.0022 (H = 370mm)
Part No. 03641.X.5012 (H = 270mm) Globe/Check Valve
Part No. 03641.X.5022 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to DIN EN 1092-1 PN40

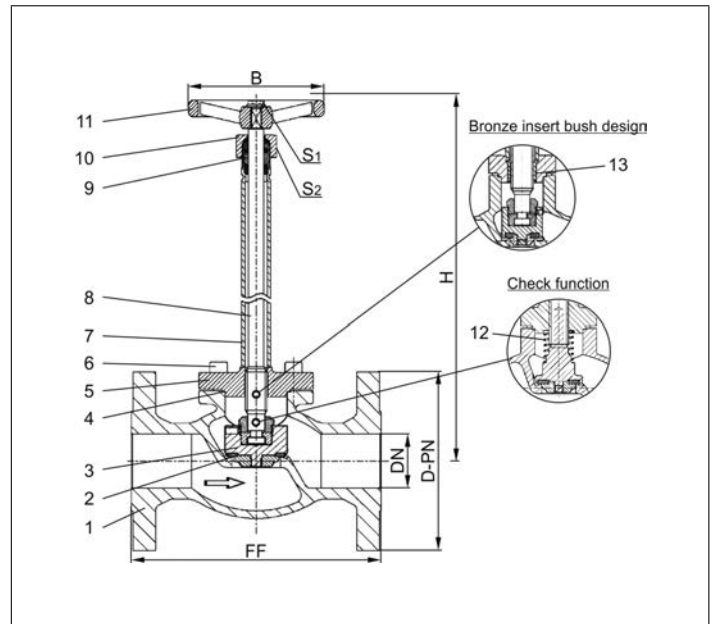
Available options - on request only:
 · Extension H up to 900mm
 · Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03641 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	270 mm or 370 mm							370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe Valves

Type 03641 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03641.X.0013 (H = 270mm)
Part No. 03641.X.0023 (H = 370mm)
Part No. 03641.X.5013 (H = 270mm) Globe/Check Valve
Part No. 03641.X.5023 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

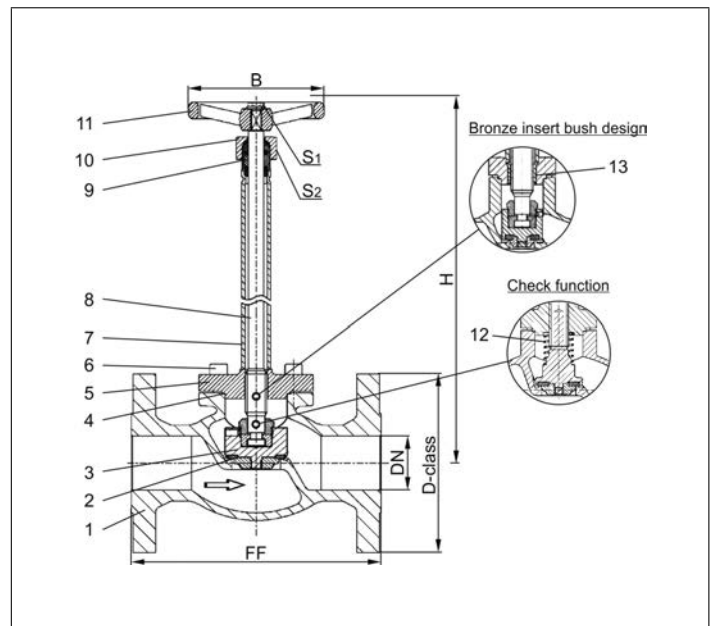
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03641 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe Valves

Type 03641 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03641.X.0011 (H = 270mm)
Part No. 03641.X.0021 (H = 370mm)
Part No. 03641.X.5011 (H = 270mm) Globe/Check Valve
Part No. 03641.X.5021 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

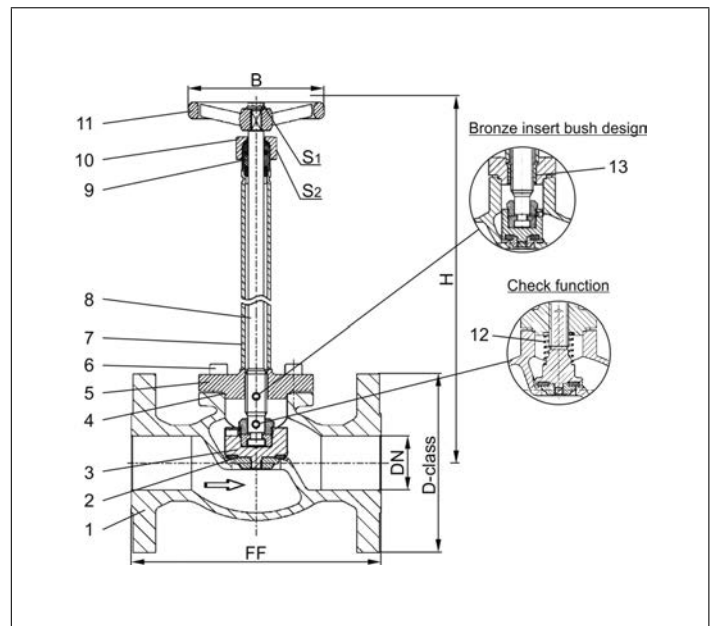
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03641 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe Valves

Type 03641 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 “live loaded” gland packing

Part No. 03641.8000.0011 (H=560)

Flanged connection acc. to ASME B16.5 class 150

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

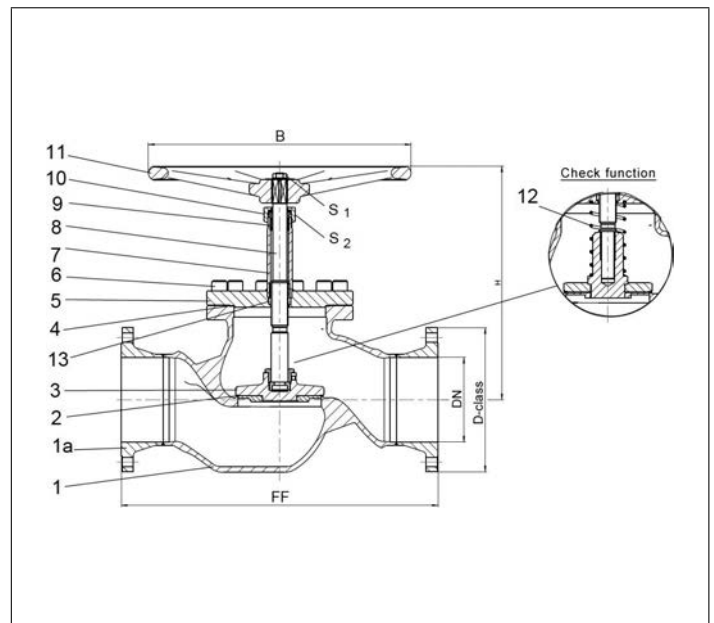
Available options - on request only



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
1a Flange	1.4301	A 276 Grade 304
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Handwheel	1.4571	A 313 Grade 316Ti
12 Spring	1.4310	A 313 Grade 301
13 Bush	CW452K	B 159 UNS C51900



Type 03641 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	560
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.

Fire Safe Valves

Type 01643 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45, DN150=PN40)
“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes
 “live loaded” gland packing
 “cleaned and degreased for oxygen service” - the actuator is not cleaned and degreased for oxygen

Part No. 01643.X.*01*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01643.X.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

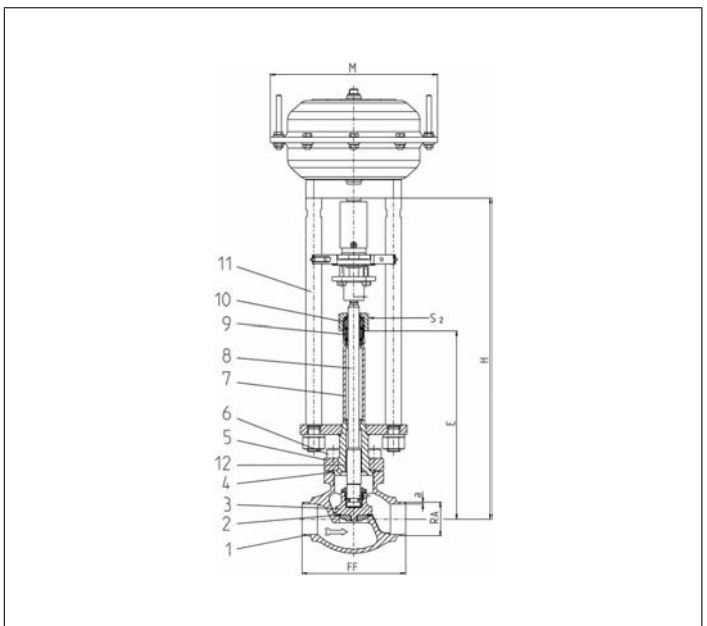
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator “cleaned and degreased for oxygen service”



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01643 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	370	370	370	370	375	405	420	420	425	510	575	635	685	
Length	E	195	195	195	200	200	230	230	230	235	300	300	300	300	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Actuator-Ø	M	dependent on actuator													
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight w/o actuator	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	60.9	
*Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
*Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	
Stroke	mm	10	10	10	7	9	9	11	11	15	23	23	30	40	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.



Fire Safe Valves

Type 01643 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN150=PN40)

"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the standard actuator is not cleaned and degreased for oxygen

Part No. 01643.X.0010

possible connections:

- Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
- Female thread connection (G) acc. to ISO 228/1 or NPT acc. to ANSI B 1.20.1

Please specify the required connection when ordering!

Available options - on request only:

- Solenoid valves · Electropneumatic positioner · Inductive Proximity Switches
- Position and Limit Switches · Air control sets · Electric actuator
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service" · Further pipe wall thicknesses
- Valve with check disc · valve with control disc (tapered design)

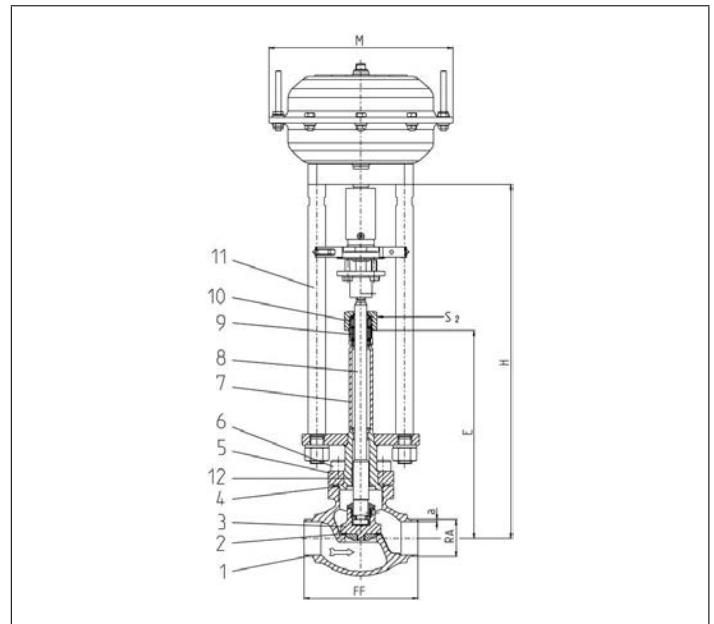
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet Gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01643 - Standard design	Technical Data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	
Face-to-face dimension	FF	70	85	100	115	115	130	155	205	245	280	400	
Height	H	370	370	370	375	405	420	425	510	575	635	685	
Length	E	195	195	200	200	230	230	235	300	300	300	350	
Actuator-Ø	M	dependent on actuator											
Wrench size across flats	S ₂	30	30	30	30	36	36	36	36	36	41	41	
Weight w/o actuator	ca. kg	1.9	2.15	2.4	3.1	3.8	6.5	9.0	15.2	20.0	28.0	60.9	
Stroke	mm	10	10	7	9	9	11	15	23	23	30	40	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

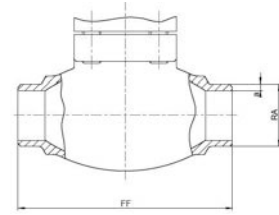
Fire Safe Valves

Type 01643 - Actuated Globe Valve

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Connection types



Butt weld connection acc. to · ISO 1127

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ISO (RA) [mm]	Wall thickness pipe ISO (a) [mm]	*Kvs-value [m³/h]	*Cv-value [gal/min]	**Weight w.a. [kg]	Order reference
10	70	13.5	1.0	1.6	1.9	1.9	BW 13.5x1.0
15	85	17.2	1.6	3.8	4.4	2.2	BW 17.2x1.6
15	85	21.3	2.0	4.3	5.0	2.2	BW 21.3x2.0
20	100	26.9	2.0	6.7	7.8	2.4	BW 26.9x2.0
25	115	33.7	2.0	11.5	13.4	3.1	BW 33.7x2.0
32	115	38.0	2.0	14.0	16.2	3.8	BW 38.0x2.0
40	130	42.4	2.0	20.6	23.9	6.5	BW 42.4x2.0
40	130	48.3	2.0	22.6	26.3	6.5	BW 48.3x2.0
50	155	60.3	2.0	37.1	43.2	9.0	BW 60.3x2.0
65	205	76.1	2.6	71.1	82.9	15.2	BW 76.1x2.6
80	245	88.9	3.2	104.0	121.3	20.0	BW 88.9x3.2
100	280	114.3	6.0	170.0	198.3	28.0	BW 114.3x6.0
150	400	168.3	7.1	350.0	408.4	60.9	BW 168.3x7.1

Butt weld connection acc. to · ASTM A312

DN	Face-to-face dim. (FF) [mm]	Outside pipe-Ø ASTM (RA) [inch / mm]	Wall thickness pipe ASTM (a) [mm]	*Kvs-value [m³/h]	*Cv-value [gal/min]	**Weight w.a. [kg]	Order reference
10	70	1/4" / 13.72	1.65	1.6	1.9	1.9	BW 13.72x1.65
15	85	1/2" / 17.15	1.65	3.8	4.4	2.2	BW 17.15x1.65
15	85	1/2" / 21.34	2.11	4.3	5.0	2.2	BW 21.34x2.11
20	100	3/4" / 26.67	2.11	6.7	7.8	2.4	BW 26.67x2.11
25	115	1" / 33.40	2.77	11.5	13.4	3.1	BW 33.40x2.77
40	130	1-1/2" / 42.16	2.77	20.6	23.9	6.5	BW 42.16x2.77
40	130	1-1/2" / 48.26	2.77	22.6	26.3	6.5	BW 48.26x2.77
50	155	2" / 60.32	2.77	37.1	43.2	9.0	BW 60.32x2.77
65	205	2-1/2" / 73.02	3.05	71.1	82.9	15.2	BW 73.02x3.05
80	245	3" / 88.90	3.05	104.0	121.3	20.0	BW 88.90x3.05
100	280	4" / 114.30	3.05	170.0	198.3	28.0	BW 114.30x3.05
150	400	6" / 168.27	3.40	350.0	408.4	60.9	BW 168.27x3.40
10	70	1/4" / 13.72	2.24	1.6	1.9	1.9	BW 13.72x2.24
15	85	1/2" / 17.15	2.31	3.8	4.4	2.2	BW 17.15x2.31
15	85	1/2" / 21.34	2.77	4.3	5.0	2.2	BW 21.34x2.77
20	100	3/4" / 26.67	2.87	6.7	7.8	2.4	BW 26.67x2.87
25	115	1" / 33.40	3.38	11.5	13.4	3.1	BW 33.40x3.38
40	130	1-1/2" / 42.16	3.56	20.6	23.9	6.5	BW 42.16x3.56
40	130	1-1/2" / 48.26	3.68	22.6	26.3	6.5	BW 48.26x3.68
50	155	2" / 60.32	3.91	37.1	43.2	9.0	BW 60.32x3.91
65	205	2-1/2" / 73.02	5.16	71.1	82.9	15.2	BW 73.02x5.16
80	245	3" / 88.90	5.49	104.0	121.3	20.0	BW 88.90x5.49
100	280	4" / 114.30	6.02	170.0	198.3	28.0	BW 114.30x6.02
150	400	6" / 168.27	7.11	350.0	408.4	60.9	BW 168.27x7.11

* These figures refer to measurements for the flow direction.

** w.a. = without actuator

Edition 2024-01

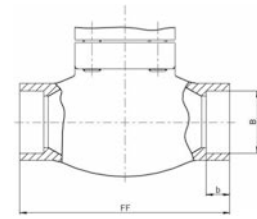
Fire Safe Valves

Type 01643 - Actuated Globe Valve

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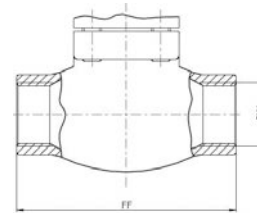
Connection types



Socket weld connection acc. to

- ISO 1127
- ASTM A312

DN	Face-to-face dim. (FF) [mm]	Socket depth (b) [mm]	Socket diameter (B) [mm]	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight, w.a. [kg]	order reference [ØISO / ØASTM]
10	70	6	14.1	1.6	1.9	1.9	SW 13.5 / 13.72
15	85	10	17.5	3.8	4.4	2.2	SW 17.2 / 17.15
15	85	10	21.5	4.3	5.0	2.2	SW 21.3 / 21.34
20	100	13	27.5	6.7	7.8	2.4	SW 26.9 / 26.67
25	115	13	34.1	11.5	13.4	3.1	SW 33.7 / 33.4
40	130	13	42.8	20.6	23.9	6.5	SW 42.4 / 42.16
40	130	13	48.6	22.6	26.3	6.5	SW 48.3 / 48.26
50	155	16	61.1	37.1	43.2	9.0	SW 60.3 / 60.32
65	205	16	74.0	71.1	82.9	15.1	SW 73.02
65	205	16	76.8	71.1	82.9	15.2	SW 76.1
80	245	16	90.0	104.0	121.3	20.0	SW 88.9
100	280	20	114.8	170.0	198.3	28.0	SW 114.3
150	400	20	168.2	350.0	408.4	60.9	SW 168.3 / 168.27



Female thread connection acc. to

- ISO 228/1 (G)
- NPT acc. to ANSI B 1.20.1 (NPT)

DN	Face-to-face dim. (FF) [mm]	Thread size (GW)	*Kvs-value [m ³ /h]	*Cv-value [gal/min]	**Weight, w.a. [kg]	order reference G-Thread	order reference NPT-Thread
10	70	1/4"	1.6	1.9	1.9	1/4 BSPP	1/4" NPT
10	70	3/8"	2.2	2.6	1.9	3/8 BSPP	3/8" NPT
15	85	1/2"	4.3	5.0	2.2	1/2 BSPP	1/2" NPT
20	100	3/4"	6.7	7.8	2.4	3/4 BSPP	3/4" NPT
25	115	1"	11.5	13.4	3.1	1 BSPP	1" NPT
40	130	1-1/4"	20.6	23.9	6.5	1-1/4 BSPP	1-1/4" NPT
40	130	1-1/2"	22.6	26.3	6.5	1-1/2 BSPP	1-1/2" NPT
50	155	2"	37.1	43.2	9.0	2 BSPP	2" NPT

* These figures refer to measurements for the flow direction.

** w.a. = without actuator

Fire Safe Valves

Type 01643 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN20/25
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 01643.0219.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01643.0219.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories/options - on request only:

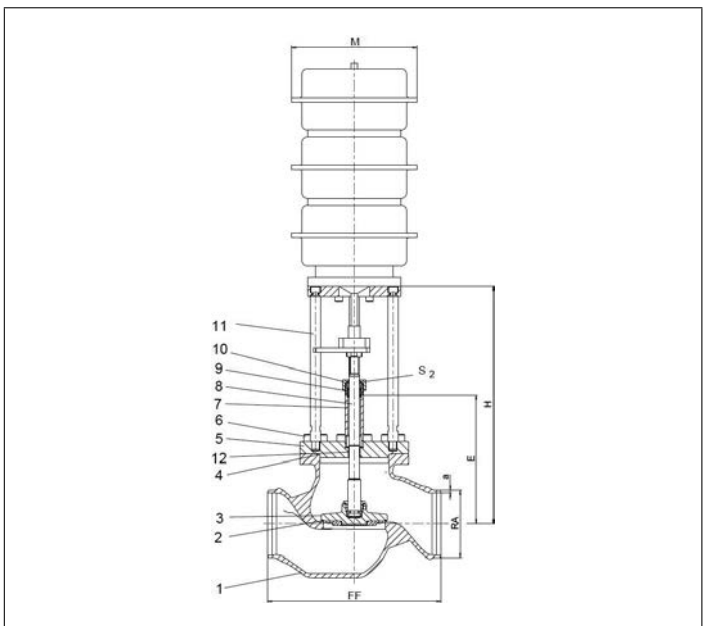
- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312
- Actuator "cleaned and degreased for oxygen service"

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4541	A 213 TP 321
8 Stem	1.4301	A 276 Grade 304
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4305	A 276 Grade 303
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01643 - Standard design	Technical data	
Nominal size	DN	200
Face-to-face dimension	FF	560
Height	H	785
Length	E	410
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Actuator-Ø	M	depend on actuator
Wrench size across flats	S ₂	65
Weight w/o actuator	ca. kg	165.0
*Kvs-Value	m ³ /h	680.0
*Cv-Value	gal/min	793.0
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.



Fire Safe Valves

Type 01653 - Actuated Trailervalue



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45)

“Fire safe” type test approval acc. to EN ISO 10497

air pressure for operation 6.0 bar g (maximum 10.0 bar g), push-in connection 8mm

Stainless steel body and topwork,

Actuator - air opens, spring closes

“live loaded” gland packing

“cleaned and degreased for oxygen service” - the actuator is not cleaned and degreased for oxygen

maximum working pressure of the valve depending on nominal size

Part No. 01653.X.T0**

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01653.X.T0*4

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

· Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm

· Weather protection hood



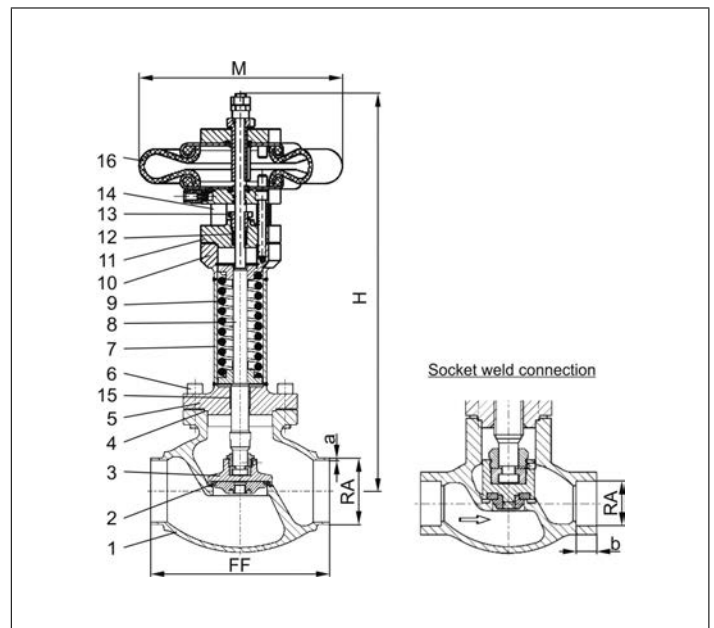
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Bonnet gasket	Graphite	
5 Headpiece	1.4301	A 276 Grade 304
6 Bolts	1.4301/A2	A 194 B8
7 Elongation tube	1.4306	A 213 TP 304L
8 Stem	1.4301	A 276 Grade 304
9 Spring	1.4571	A 313 Grade 316Ti
10 Flansch	1.4301	A 276 Grade 304
11 Headpiece	1.4301	A 276 Grade 304
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4571	A 313 Grade 316Ti
14 Pillars	1.4301	A 276 Grade 304
15 Bush	CW452K	B 159 UNS C51900
16 Actuator	Rubber	



Type 01653 - Standard design	Technical data									
	Nominal size	DN	20	20	25	40	40	50	65	80
Dimension code	.X.	2021	2026	2533	4042	4048	5060	657x	8088	
Face-to-face dimension	FF	100	100	115	130	130	155	205	245	
Height	H	443	443	444	441	441	420	448	467	
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.4	48.3	60.3	76.1	88.9	
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	42.16	48.26	60.33	73.03	88.90	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	10	10	13	13	13	16	16	16	
Actuator-Ø	M	229	229	229	229	229	229	229	229	
Weight	ca. kg	7.2	7.2	9.1	10.5	10.5	14.5	17.4	22.5	
*Kvs-Value	m ³ /h	4.3	4.3	11.5	22.6	22.6	37.1	71.1	104.0	
*Cv-Value	gal/min	5.0	5.0	13.4	23.9	26.3	43.2	82.9	121.3	
Stroke	mm	10	10	14	14	14	14	22	25	
Δ P max	bar	50	50	50	16	16	10	3	4	
Δ P max with special spring	bar	-	-	-	31	31	18	10	-	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Fire Safe Valves

Type 05614 - Check Valve



"Fire Safe"-design without fire type-testing according to EN ISO 10497

Cryogenic-Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05614.X.000*

Butt or Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
Disc seal: PTFE / Carbon filled (25%)

Available options - on request only:

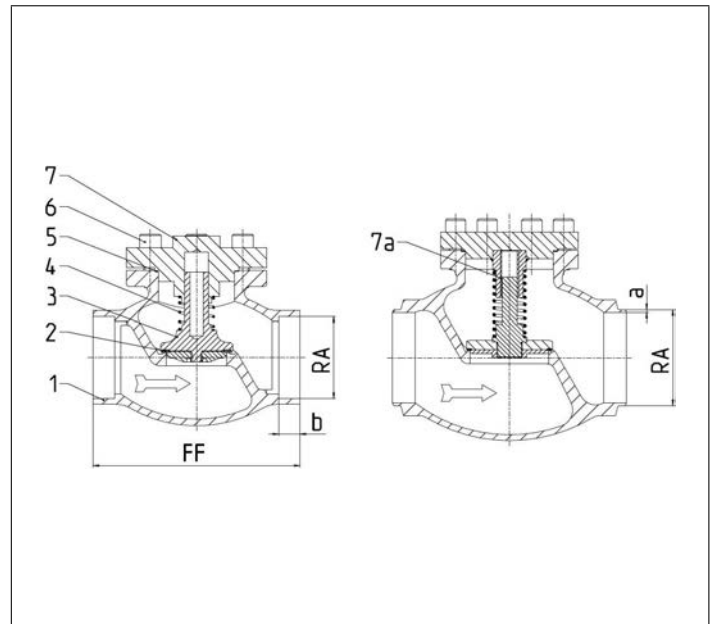
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4308	A 351 CF8
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4301/A2	A 194 B8
7 Cap	1.4301	A 276 Grade 304
7a Bush from DN65	PTFE	



Type 05614 - Standard design	Technical data														
	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	71	71	71	72	75	87	95	95	95	125	150	185	214	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.30	168.30	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.7	0.95	1.0	1.3	1.6	2.4	3.9	3.9	5.7	9.6	14.6	20.0	50.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/mir	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Leakage rates will be provided on request



Offshore Valves

Type 01751 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45)

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01751.X.000*

Part No. 01751.X.500* Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01751.X.0004

Part No. 01751.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)



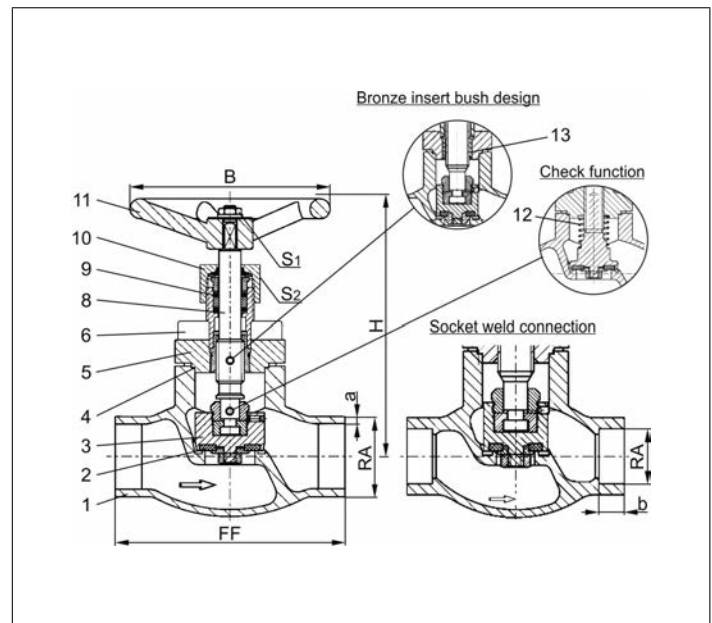
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01751 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	23.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	

Dimensions in mm.

Offshore Valves

Type 01755 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01755.X.0001

Part No. 01755.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01755.X.0006

Part No. 01755.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



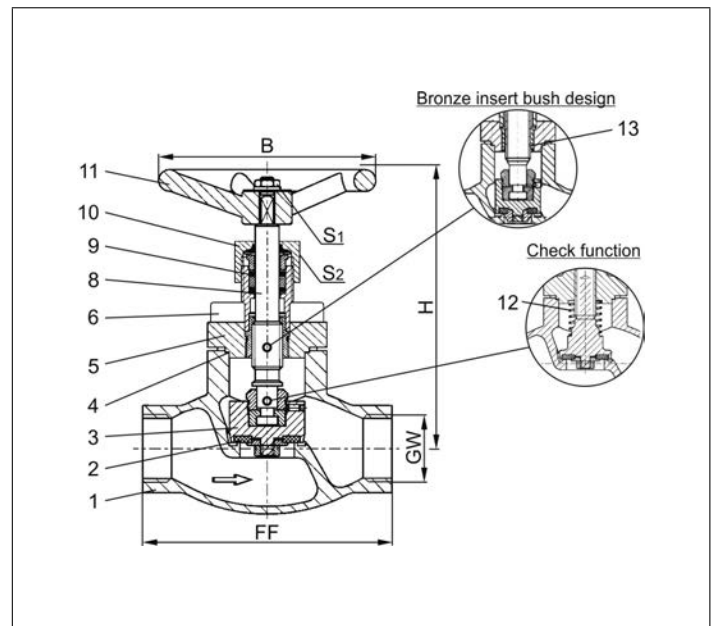
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01755 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.



Offshore Valves

Type 03751 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN16

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03751.X.0004

Part No. 03751.X.5004 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN16

Available options - on request only:

- Valve with control disc (tapered design)



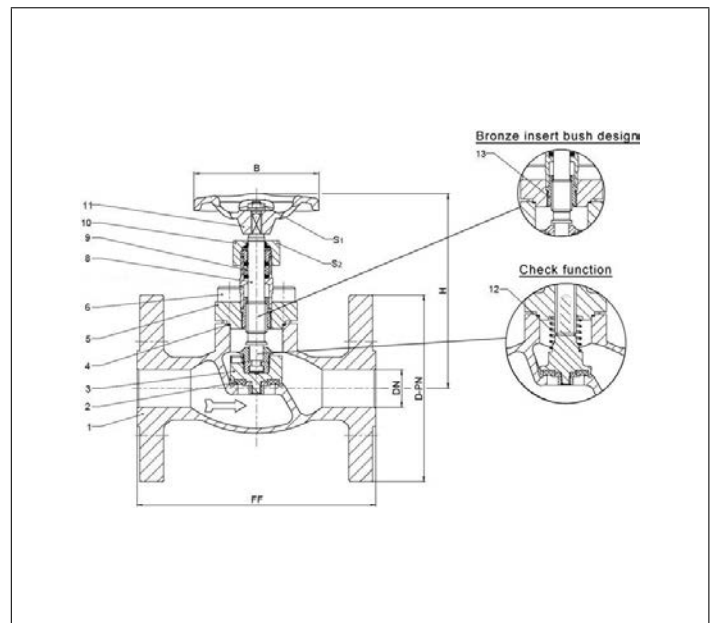
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03751 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510
Height	H	130	130	130	160	190	240	280	330	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	68.5
Kvs-Value	m ³ /h	4.3	11.5	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	13.4	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	12	12	12	15	19	23	25	30	45

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Offshore Valves

Type 03751 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03751.X.0002

Part No. 03751.X.5002 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- Valve with control disc (tapered design)



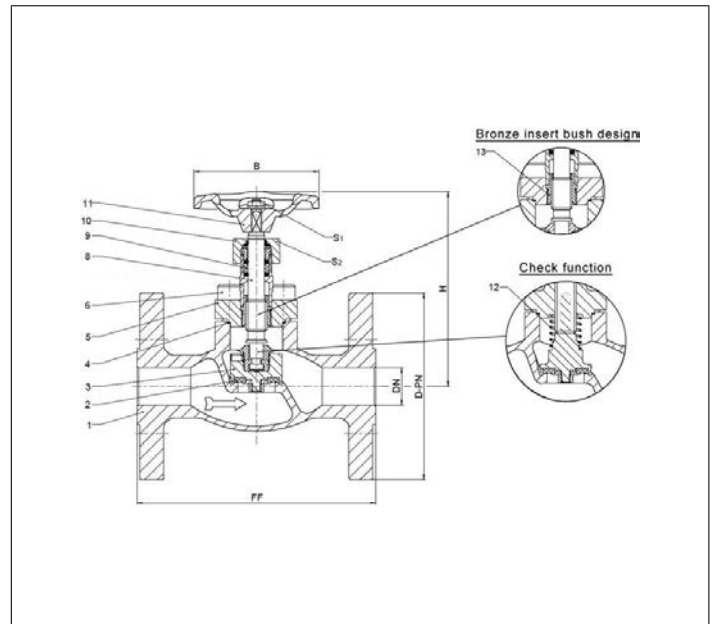
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03751 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	130	130	130	160	190	240	280	330	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	68.5
Kvs-Value	m ³ /h	4.3	11.5	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	13.4	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	12	12	12	15	19	23	25	30	45

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Offshore Valves

Type 03751 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03751.X.0003

Part No. 03751.X.5003 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- Valve with control disc (tapered design)



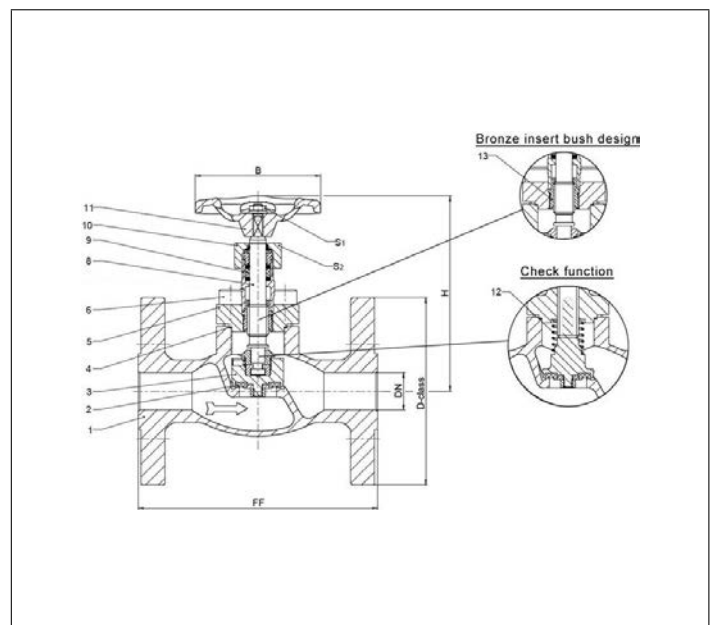
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03751 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	130	130	130	160	190	240	280	330	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	68.5
Kvs-Value	m ³ /h	4.3	11.5	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	13.4	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	12	12	12	15	19	23	25	30	45

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Offshore Valves

Type 03751 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03751.X.0001

Part No. 03751.X.5001 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- Valve with control disc (tapered design)



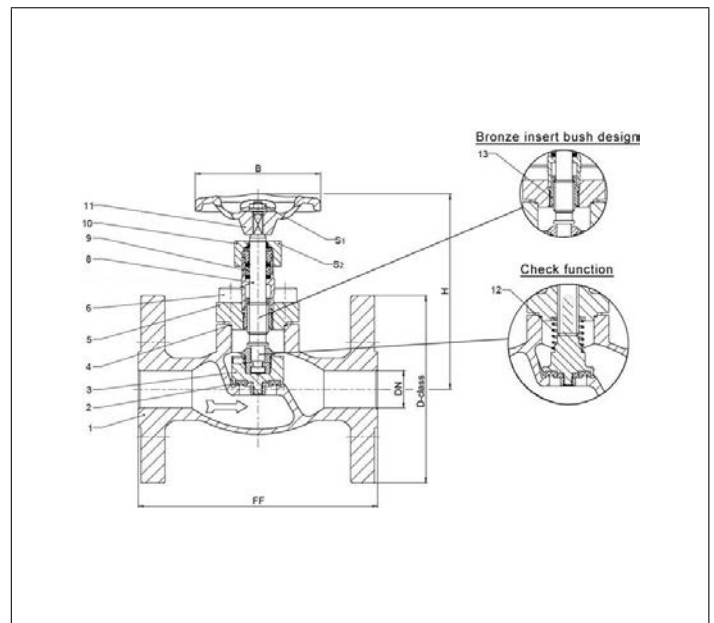
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03751 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	130	130	130	160	190	240	280	330	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	68.5
Kvs-Value	m ³ /h	4.3	11.5	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	13.4	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	12	12	12	15	19	23	25	30	45

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Offshore Valves

Type 01741 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 01741.X.001* (H = 270mm)
- Part No. 01741.X.002* (H = 370mm)
- Part No. 01741.X.501* (H = 270mm) Globe/Check Valve
- Part No. 01741.X.502* (H = 370mm) Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

- Part No. 01741.X.0014 (H = 270mm)
- Part No. 01741.X.0024 (H = 370mm)
- Part No. 01741.X.5014 (H = 270mm) Globe/Check Valve
- Part No. 01741.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

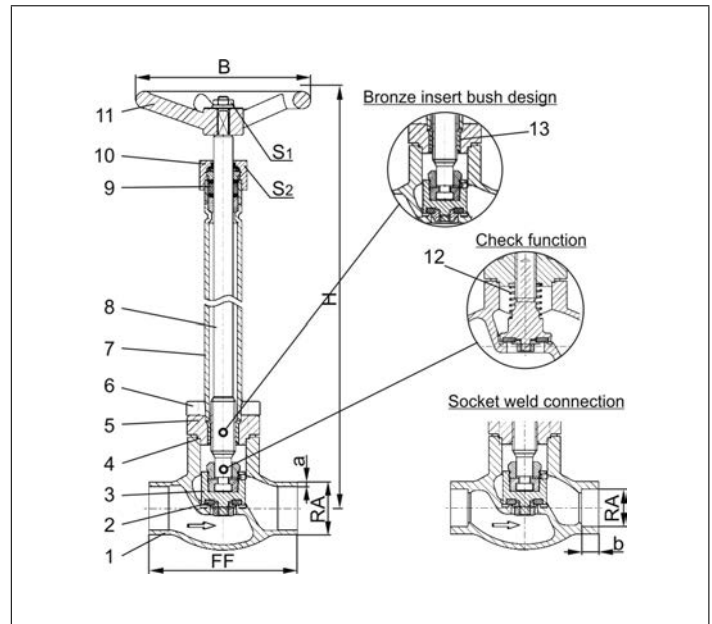
- Extension H up to 900mm
- Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01741 - Standard design		Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	270 mm or 370 mm										320/370	370	420	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	7.2	12.7	17.0	24.5	54.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Offshore Valves

Type 01741 - Globe Valve



Cryogenic Globe Valves, DN200

Stainless steel body and topwork
"live loaded" gland packing

Part No. 01741.0219.001* (H=560), PN20

Part No. 01741.0219.006* (H=1000), PN20/PN25

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01741.0219.00*4, PN25

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 9 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available options - on request only

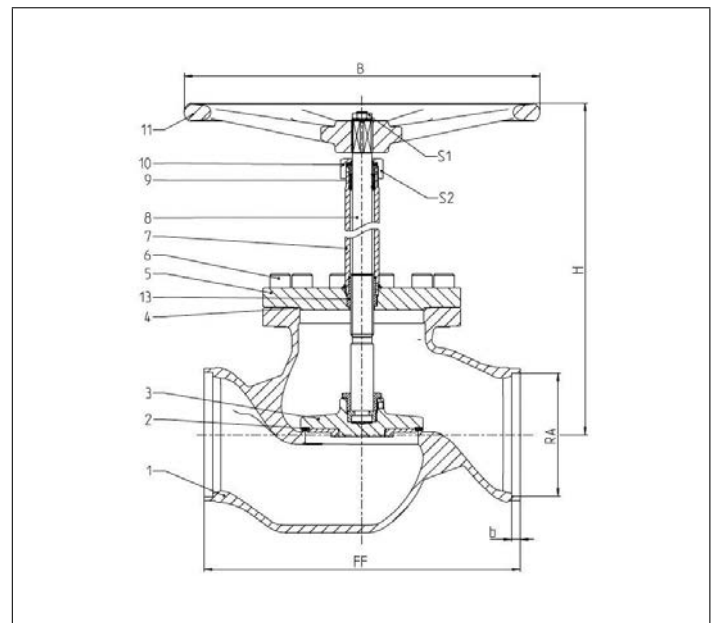
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4571	A 213 TP 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01741 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	560
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.



Offshore Valves

Type 01745 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01745.X.0011 (H = 270mm)
Part No. 01745.X.0021 (H = 370mm)
Part No. 01745.X.5011 (H = 270mm) Globe/Check Valve
Part No. 01745.X.5021 (H = 370mm) Globe/Check Valve
 Female thread connection (G) acc. to ISO 228/1

Part No. 01745.X.0016 (H = 270mm)
Part No. 01745.X.0026 (H = 370mm)
Part No. 01745.X.5016 (H = 270mm) Globe/Check Valve
Part No. 01745.X.5026 (H = 370mm) Globe/Check Valve
 Female thread connection NPT acc. to ANSI B 1.20.1

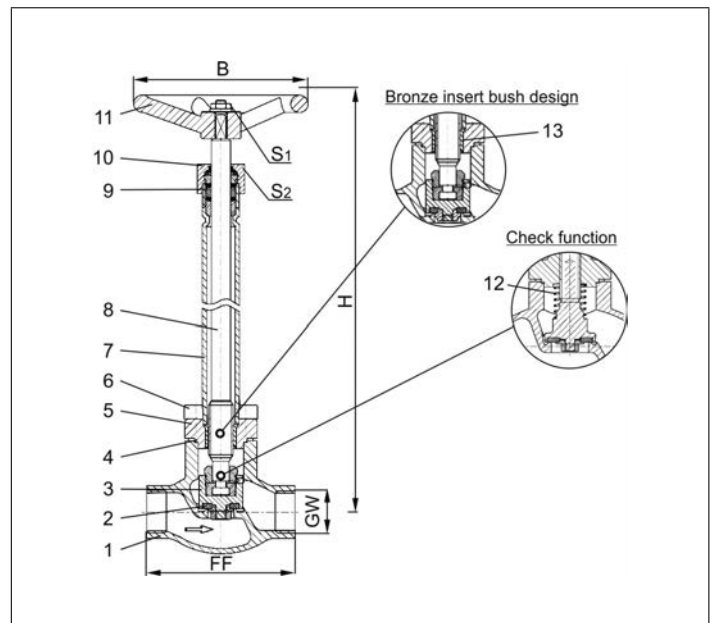
Available options - on request only:
 · Female thread connection (R) acc. to ISO 7-Rc
 · Extension H up to 900mm
 · Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01745 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270 mm or 370 mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Offshore Valves

Type 03741 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN16

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03741.X.0014 (H = 270mm)
Part No. 03741.X.0024 (H = 370mm)
Part No. 03741.X.5014 (H = 270mm) Globe/Check Valve
Part No. 03741.X.5024 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to DIN EN 1092-1 PN16

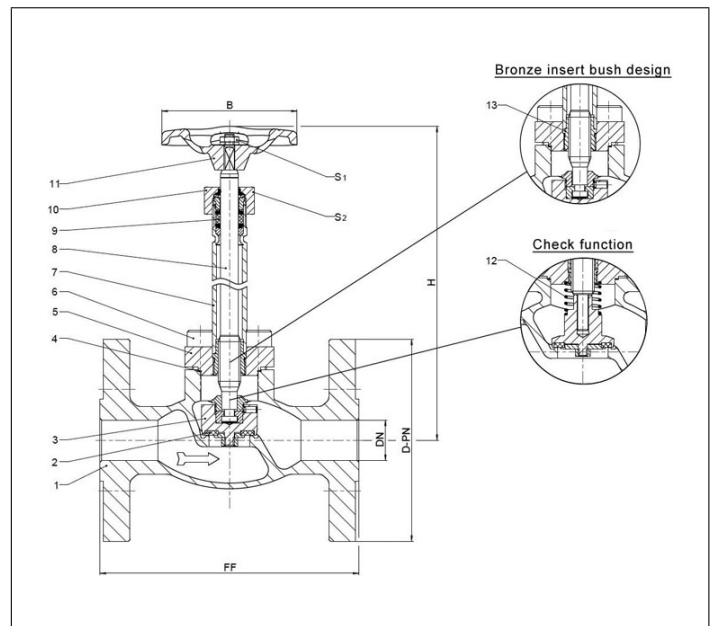
Available options - on request only:
 · Extension H up to 900mm
 · Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03741 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500	
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285	
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510	
Height	H	270 mm or 370 mm									
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	
Stroke	mm	12	12	12	15	19	23	25	30	45	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Offshore Valves

Type 03741 - Globe Valve, DIN EN Flanges



Cryogenic-Globe and Globe/Check Valves, PN40

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03741.X.0012 (H = 270mm)
 - Part No. 03741.X.0022 (H = 370mm)
 - Part No. 03741.X.5012 (H = 270mm) Globe/Check Valve
 - Part No. 03741.X.5022 (H = 370mm) Globe/Check Valve
- Flanged connection acc. to DIN EN 1092-1 PN40

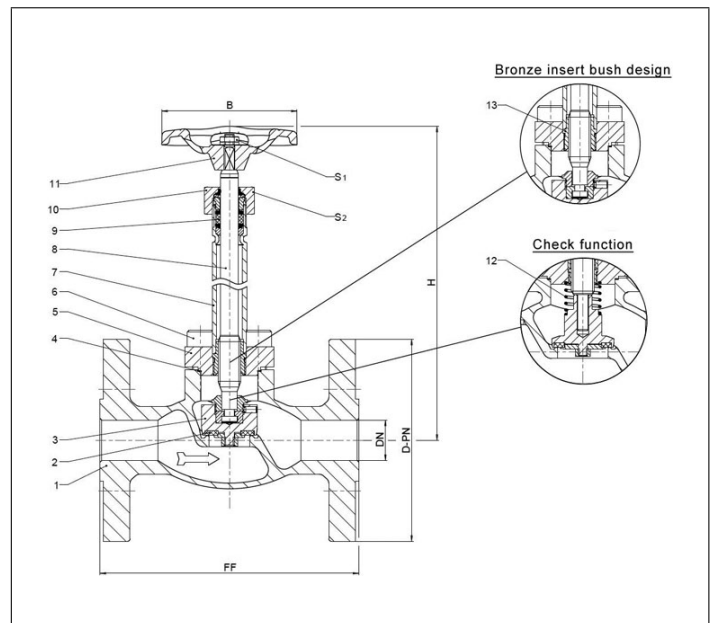
- Available options - on request only:
- Extension H up to 900mm
 - Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03741 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	270 mm or 370 mm								
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	12	12	12	15	19	23	25	30	45

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Offshore Valves

Type 03741 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03741.X.0013 (H = 270mm)
 - Part No. 03741.X.0023 (H = 370mm)
 - Part No. 03741.X.5013 (H = 270mm) mit Rückschlagfunktion
 - Part No. 03741.X.5023 (H = 370mm) mit Rückschlagfunktion
- Flanged connection acc. to ASME B16.5 class 300

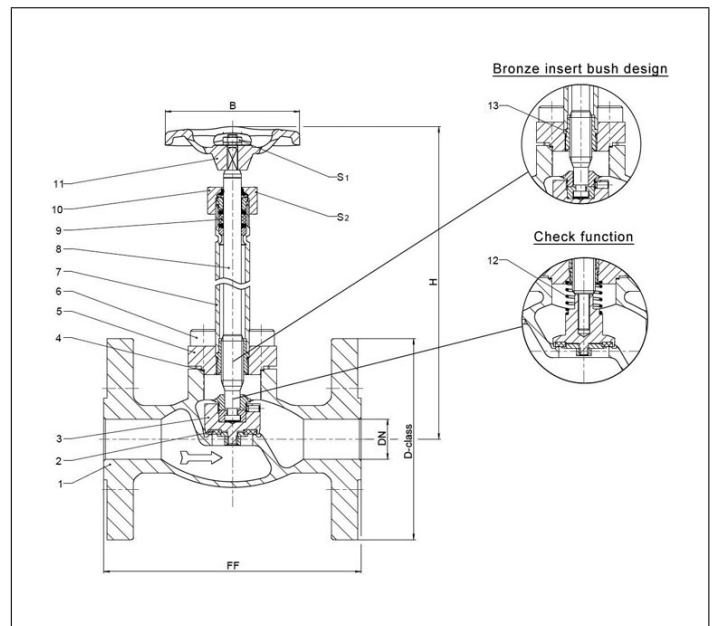
- Available options - on request only:
- Extension H up to 900mm
 - Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03741 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597	
Height	H	270 mm or 370 mm									
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	
Stroke	mm	12	12	12	15	19	23	25	30	45	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Offshore Valves

Type 03741 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 03741.X.0011 (H = 270mm)
 - Part No. 03741.X.0021 (H = 370mm)
 - Part No. 03741.X.5011 (H = 270mm) mit Rückschlagfunktion
 - Part No. 03741.X.5021 (H = 370mm) mit Rückschlagfunktion
- Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

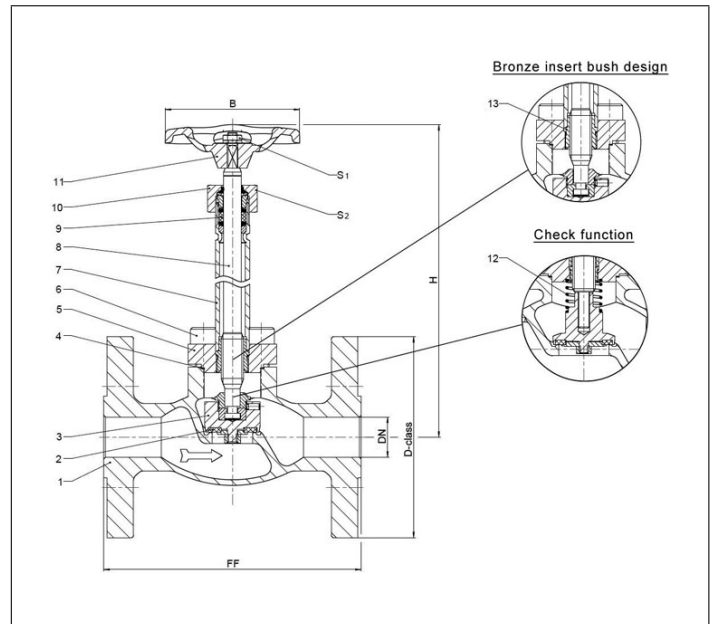
- Extension H up to 900mm
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03741 - Standard design	Technical data										
Nominal size	DN	15	20	25	40	50	65	80	100	150	
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000	
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280	
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577	
Height	H	270 mm or 370 mm								370	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360	
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15	
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41	
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0	
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4	
Stroke	mm	12	12	12	15	19	23	25	30	45	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Offshore Valves

Type 03741 - Globe Valve, ASME B16.5 Flanges



Cryogenic Globe Valves, class 150

Stainless steel body and topwork,
"live loaded" gland packing

Part No. 03741.8000.0011 (H=560)

Flanged connection acc. to ASME B16.5 class 150

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available options - on request only

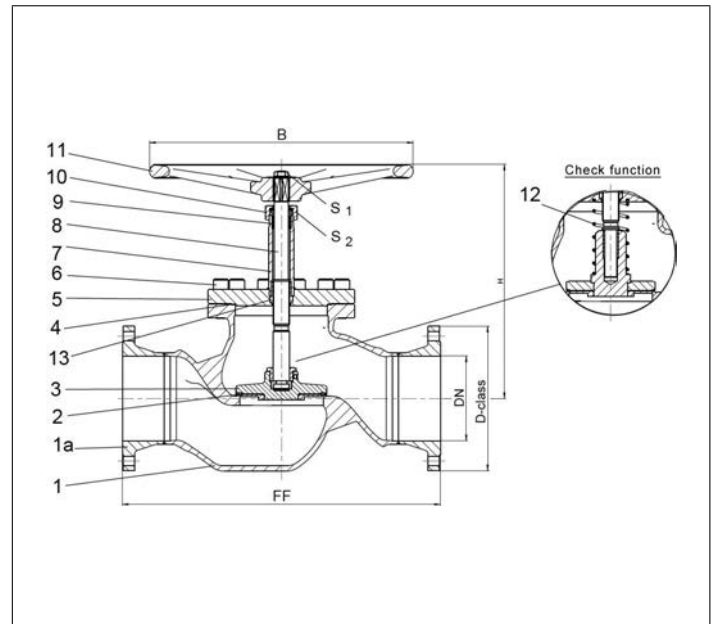


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
1a Flange	1.4404	A 276 Grade 316L
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4571	A 213 TP 316Ti
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03741 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	560
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.



Type 01272 - Bellow Sealed Globe Valve



Cryogenic-Bellow Sealed Globe Valve, PN50

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01272.X.002*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01272.X.0024

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Extension H up to 900mm
- Valve with control disc (tapered design)



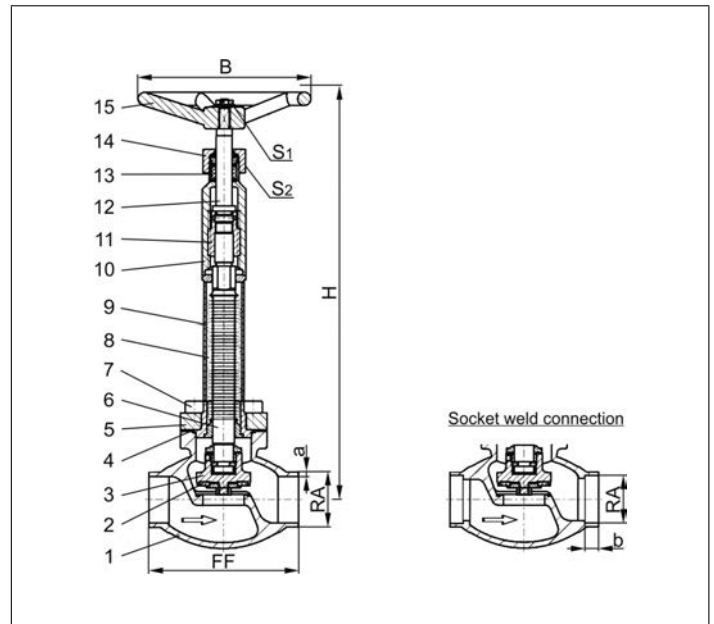
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Leak rate: 10-6 mbar ltr / sec outside, 10-4 mbar ltr / sec seat

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bellow stem	1.4571	A 313 Grade 316Ti
7 Bolts	1.4401/A4	A 194 B8M
8 Bellow	1.4571	A 313 Grade 316Ti
9 Elongation tube	1.4571	A 313 Grade 316Ti
10 Headpiece	1.4404	A 276 Grade 316L
11 Bush	CW452K	B 159 UNS C51900
12 Stem	1.4404	A 276 Grade 316L
13 Gland packing	Graphite / PTFE / MICA	
14 Gland nut	1.4404	A 276 Grade 316L
15 Handwheel	1.4409	A 351 CF3M



Type 01272 - Standard design	Technical data									
Nominal size	DN	10	15	15	20	25	32	40	40	50
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155
Height	H	380	380	380	380	380	380	380	380	380
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	6	10	10	13	13	-	13	13	16
Handwheel-Ø	B	150	150	150	150	150	150	150	150	150
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36
Weight	ca. kg	1.6	1.85	1.9	2.3	2.7	3.6	5.1	5.1	7.7
Kvs-Value	m ³ /h	1.6	2.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1
Cv-Value	gal/min	1.9	3.3	5.0	7.8	13.4	16.2	23.9	26.3	43.2

Dimensions in mm.

Offshore Valves

Type 01470 - Globe Valve



Top Entry Cryogenic-Globe Valves, PN50 (DN100=PN40)

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01470.X.0*8*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

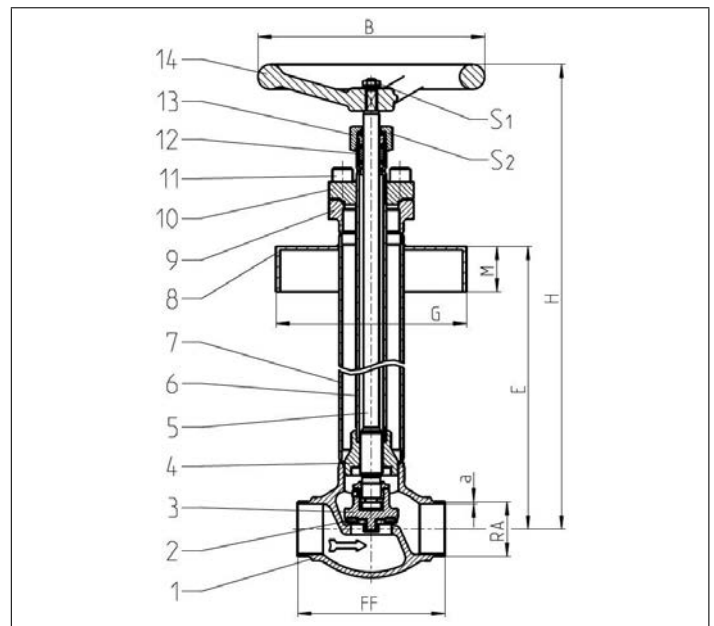
- Extension H and E acc. to customer specification
- Valve with check disc



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Guide bush	CW453K	B 103 UNS C52100
5 Stem	1.4404	A 276 Grade 316L
6 Elongation tube	1.4571	A 213TP 316Ti
7 Elongation tube	1.4571	A 213TP 316Ti
8 Cold box feature	1.4571	A 213TP 316Ti
9 Headpiece flange	1.4404	A 276 Grade 316L
10 Headpiece	1.4404	A 276 Grade 316L
11 Bolts	1.4571/A4	similar A 193 B8T
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4404	A 276 Grade 316L
14 Handwheel	1.4409	A 351 CF3M



Type 01470 - Standard design	Technical data										
Nominal size	DN	10	15	20	25	40	50	65	80	100	
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114	
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280	
Height	H	690	690	690	690	710	780	790	840	960	
Handwheel-Ø	B	100	100	100	100	200	200	250	315	315	
Outside pipe -Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.02	88.90	114.30	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40									
Length	A	540	540	540	540	540	610	610	640	750	
Length	G	acc. to customer specification									
Length	M	acc. to customer specification									
Wrench size across flats	S ₁	10	10	10	10	13	13	13	13	13	
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41	
Weight	ca. kg	4.0	4.0	4.8	5.1	9.1	11.5	19.6	26.9	37.4	
Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	22.6	37.1	71.1	104.0	168.0	
Cv-Value	gal/min	1.9	5.0	7.8	13.4	26.3	43.2	82.9	121.3	196.0	
Stroke	mm	11	12	12	12	15	19	23	25	30	

Dimensions in mm.



Offshore Valves

Type 01743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01743.X.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01743.X.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator "cleaned and degreased for oxygen service"
- Electric actuator · Valve with check disc, valve with control disc (tapered design)

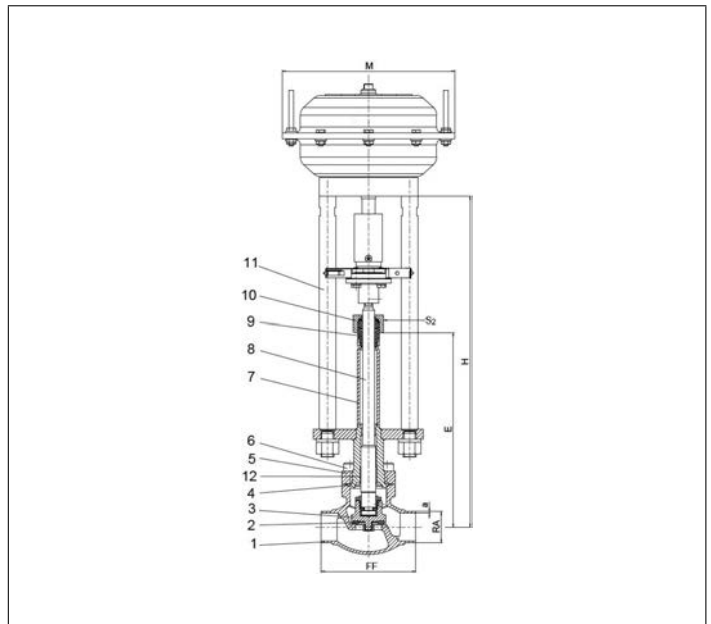
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01743 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	370	370	370	370	375	405	420	420	425	510	575	635	685	
Length	E	195	195	195	200	200	230	230	230	235	300	300	300	300	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Actuator-Ø	M	dependent on actuator													
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41	
Weight w/o actuator	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	60.9	
*Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
*Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	
Stroke	mm	10	10	10	7	9	9	11	11	15	23	23	30	40	

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 01743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN25

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 01743.0219.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01743.0219.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories/options - on request only:

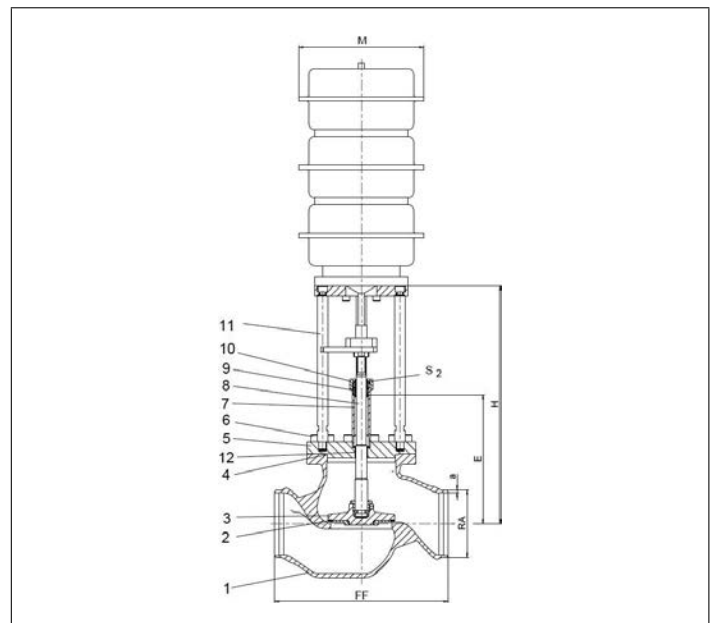
- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312
- Actuator "cleaned and degreased for oxygen service"
- Valve with check or control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01743 - Standard design	Technical data	
Nominal size	DN	200
Face-to-face dimension	FF	560
Height	H	785
Length	E	410
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Actuator-Ø	M	depent on actuator
Wrench size across flats	S ₂	65
Weight w/o actuator	ca. kg	165.0
*Kvs-Value	m ³ /h	680.0
*Cv-Value	gal/min	793.0
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.



Offshore Valves

Type 03743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN16

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03743.X.*014

Flanged connection acc. to DIN EN 1092-1 PN16

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

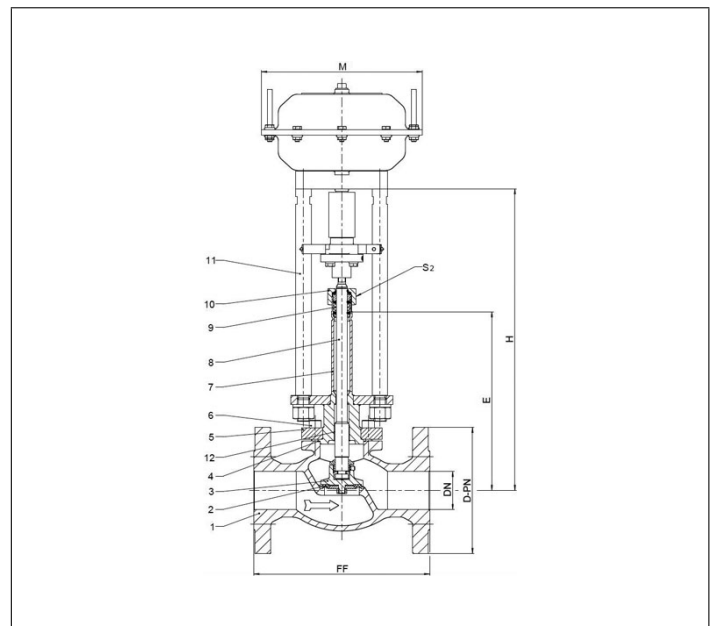


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03743 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	30

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 03743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN40

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned

and degreased for oxygen

Part No. 03743.X.*012

Flanged connection acc. to DIN EN 1092-1 PN40

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

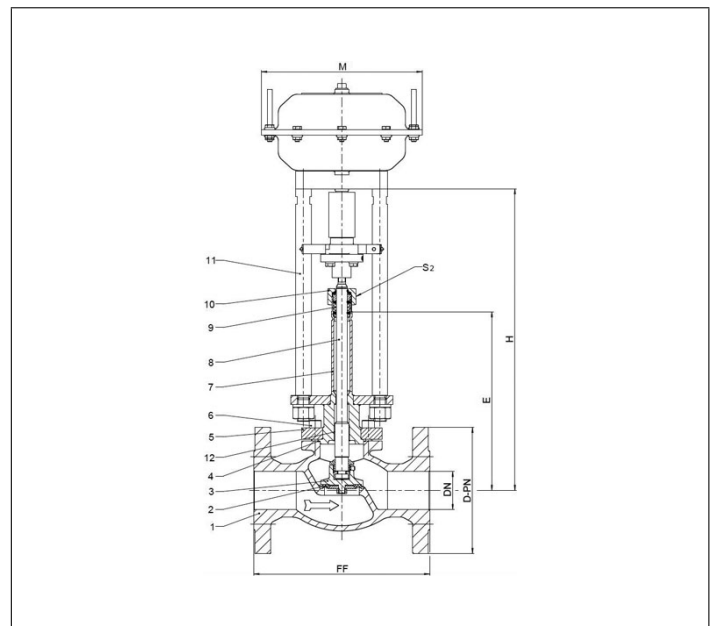


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03743 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.



Offshore Valves

Type 03743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 300

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03743.X.*013

Flanged connection acc. to ASME B16.5 class 300

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

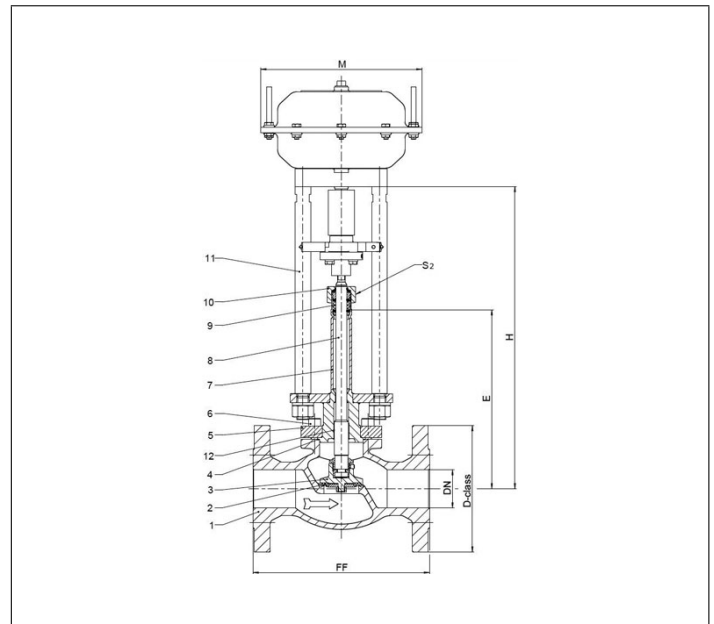


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03743 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 03743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150

Stainless steel body and topwork

Actuator - air opens, spring closes or contrary

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned

and degreased for oxygen

Part No. 03743.X.*011

Flanged connection acc. to ASME B16.5 class 150

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)

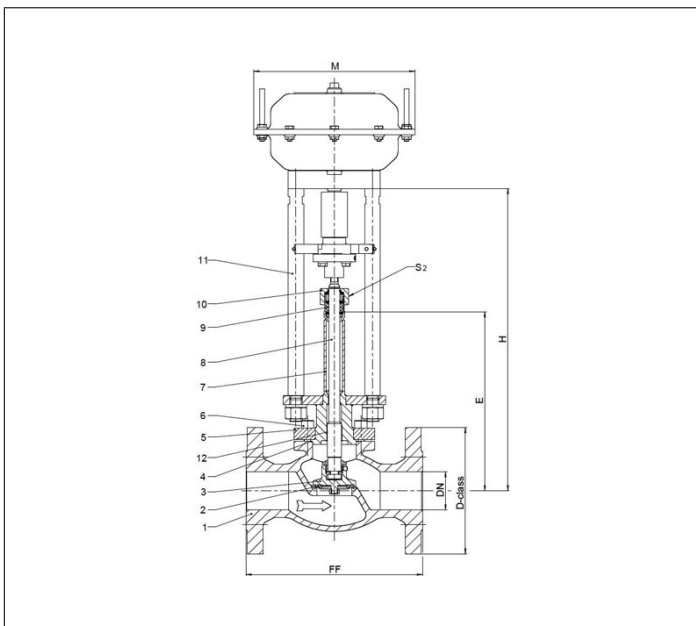


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03743 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 03743 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 03743.8000.X

Flanged connection acc. to ASME B16.5 class 300

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories:

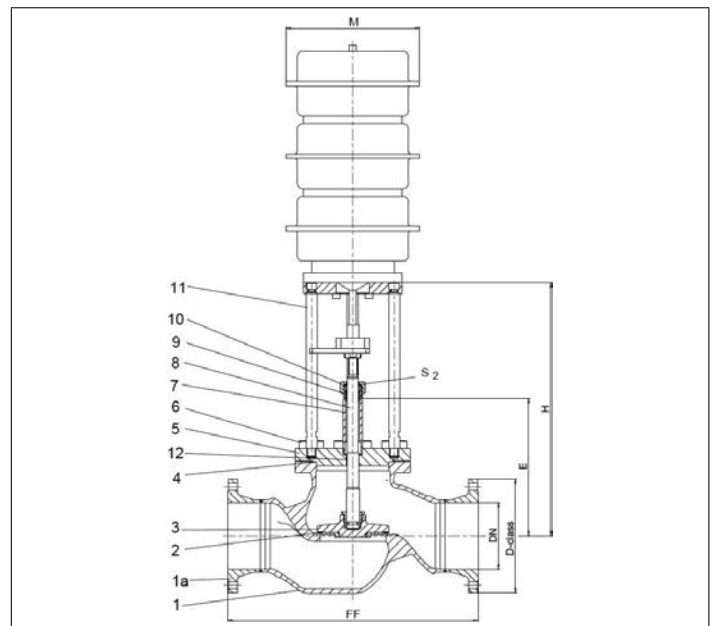
- Solenoid valve
 - Limit switch
 - Electropneumatic positioner etc.
- Available options - on request only:
- Actuator - "cleaned and degreased for oxygen service"
 - Electric actuator



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
1a Flange	1.4404	A 276 Grade 316L
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03743 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	785
Length	E	410
Actuator-Ø	M	dependent on actuator
Wrench size across flats	S ₂	30
Weight w/o actuator	ca. kg	135
*Kvs-Value	m ³ /h	680
*Cv-Value	gal/min	793
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 01473 - Actuated Globe Valve



Top Entry Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN100=PN40)

Stainless steel body and topwork

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 01473.X.3081

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories/options - on request only:

- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Extension H and A acc. to customer specification
- Actuator "cleaned and degreased for oxygen service"
- Valve with check disc, valve with control disc (tapered design)

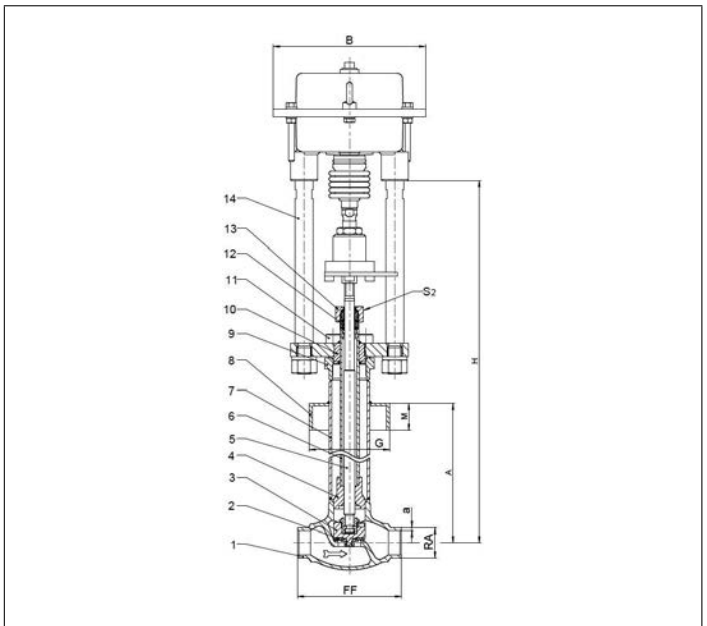


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Guide bush	CW453K	B 103 UNS C52100
5 Stem	1.4404	A 276 Grade 316L
6 Elongation tube	1.4571	A 213TP 316Ti
7 Elongation tube	1.4571	A 213TP 316Ti
8 Cold box feature	1.4571	A 213TP 316Ti
9 Headpiece flange	1.4404	A 276 Grade 316L
10 Headpiece	1.4404	A 276 Grade 316L
11 Bolts	1.4571/A4	similar A 193 B8T
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4404	A 276 Grade 316L
14 Pillars	1.4404	A 276 Grade 316L



Type 01473 - Standard design	Technical data									
Nominal size	DN	10	15	20	25	40	50	65	80	100
Dimension code	.X.	1013	1521	2026	2533	4048	5060	6573	8088	0114
Face-to-face dimension	FF	70	85	100	115	130	155	205	245	280
Height	H	770	785	790	790	820	910	1105	1110	1290
Actuator-Ø	B	dependent on actuator								
Outside pipe-Ø ASTM A312	RA	13.50	21.34	26.67	33.40	48.26	60.33	73.00	89.00	114.30
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Length	A	540	540	540	540	540	610	610	640	750
Length	G	acc. to customer specification								
Length	M	acc. to customer specification								
Wrench size across flats	S ₂	27	27	27	27	32	32	41	41	41
Stroke	mm	10	10	7	9	11	15	23	23	30
Weight without actuator	ca. kg	5.7	5.5	6.0	7.0	10.0	11.5	28.3	34.3	49.2
*Kvs-Value	m ³ /h	1.6	4.3	6.7	11.5	20.6	37.1	71.1	104.0	168.0
*Cv-Value	gal/min	1.9	5.0	7.8	13.4	23.9	43.2	82.9	121.3	196.0

Dimensions in mm. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 01753 - Actuated Trailervalue



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45)

air pressure for operation 6.0 bar g (maximum 10.0 bar g), push-in connection 8mm

Stainless steel body and topwork,

Actuator - air opens, spring closes

"live loaded" gland packing

"cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

maximum working pressure of the valve depending on nominal size

Part No. 01753.X.T0**

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01753.X.T0*4

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

· Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm

· Weather protection hood



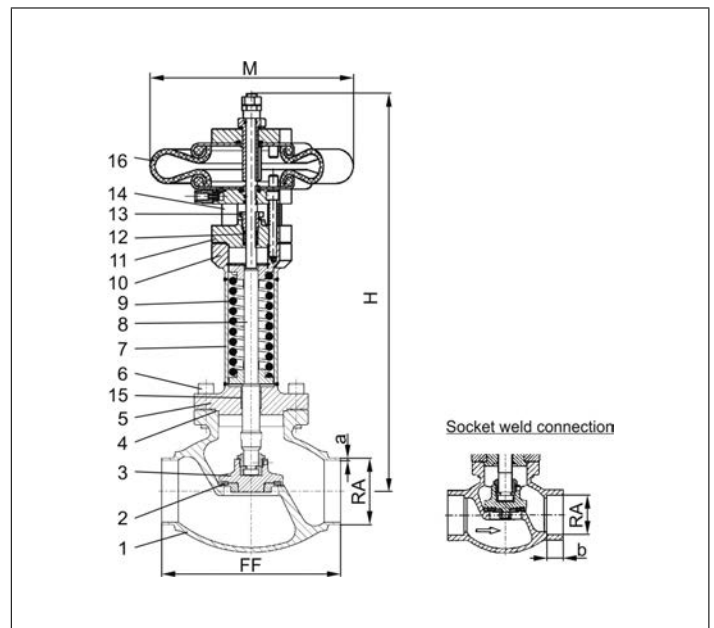
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H2 and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PCTFE (Kel-F)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Spring	1.4571	A 313 Grade 316Ti
10 Flange	1.4404	A 276 Grade 316L
11 Headpiece	1.4404	A 276 Grade 316L
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4571	A 313 Grade 316Ti
14 Pillars	1.4404	A 276 Grade 316L
15 Bush	CW452K	B 159 UNS C51900
16 Actuator	Rubber	



Type 01753 - Standard design	Technical data									
Nominal size	DN	20	20	25	40	40	50	65	80	
Dimension code	.X.	2021	2026	2533	4042	4048	5060	657x	8088	
Face-to-face dimension	FF	100	100	115	130	130	155	205	245	
Height	H	443	443	444	441	441	420	448	467	
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.4	48.3	60.3	76.1	88.9	
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	42.16	48.26	60.33	73.03	88.90	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	10	10	13	13	13	16	16	16	
Actuator-Ø	M	229	229	229	229	229	229	229	229	
Weight	ca. kg	7.2	7.2	9.1	10.5	10.5	14.5	17.4	22.5	
*Kvs-Value	m ³ /h	4.3	4.3	11.5	22.6	22.6	37.1	71.1	104.0	
*Cv-Value	gal/min	5.0	5.0	13.4	23.9	26.3	43.2	82.9	121.3	
Stroke	mm	10	10	14	14	14	14	22	25	
Δ P max	bar	50	50	50	16	16	10	3	4	
Δ P max with special spring	bar	-	-	-	31	31	18	10	-	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Offshore Valves

Type 27521 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - air to open, **spring to close**

maximum air pressure for operation 6.0 bar g

"cleaned and degreased for oxygen service"

Ambient temperature limit: -40°C / -40°F (233K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar													
	1.0	3.1	4.1	7.1	10.1	11.1	15.1	18.1	20.1	22.1	30.1	33.1	35.1	
	3.0	4.0	7.0	10.0	11.0	15.0	18.0	20.0	22.0	30.0	33.0	35.0	50.0	
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B	B	B
32	B	B	B	B	B	B	B	B	B	B	B	B	B	C
40	B	B	B	B	B	B	B	B	B	C	C	C	C	
50	B	B	B	B	B	B	C	C	C	C	C	C		
65	B	B	B	C	C	C	C	-	-	-	-	-	-	
80	B	B	C	C	-	-	-	-	-	-	-	-	-	
100	B	-	-	-	-	-	-	-	-	-	-	-	-	
150	-	-	-	-	-	-	-	-	-	-	-	-	-	

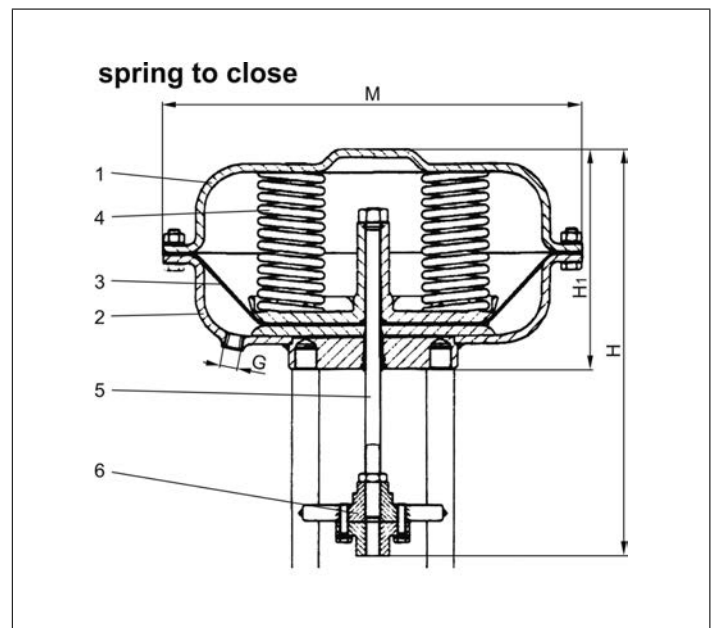


The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
B	27521.35B6.6GPO	
C	27521.60A6.6GPO	

Materials	DIN EN	ASTM
1 Body	1.4571	A 240 Grade 316Ti
2 Body	1.4571	A 240 Grade 316Ti
3 Diaphragm	EPDM	
4 Springs	1.7102	AISI 9254
5 Actuator stem	1.4404	A 276 Grade 316L
6 Coupling	1.4571	A 240 Grade 316Ti



Type 27521	Technical data		
Part No. Actuator	27521		
	.35B6.6GPO	.60A6.6GPO	
Diameter Actuator	M	210	310
Height	H	276	309
Height	H1	136	166
Thread	G	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	280	530
Spring rage	bar	0.8 - 3.0	0.8 - 2.8
Minimum air pressure	bar	3.2	3.0
Regulating lift	mm	35	40
Weight	ca. kg	5.0	12.5

Dimensions in mm.



Pneumatic Actuators for Control Valves

Actuator - air to open, **spring to close**

maximum air pressure for operation 6.0 bar g

"cleaned and degreased for oxygen service"

Ambient temperature limit: -40°C / -40°F (233K) up to +80°C / 176°F (353K)



Overview - required actuator sizes for differential pressures

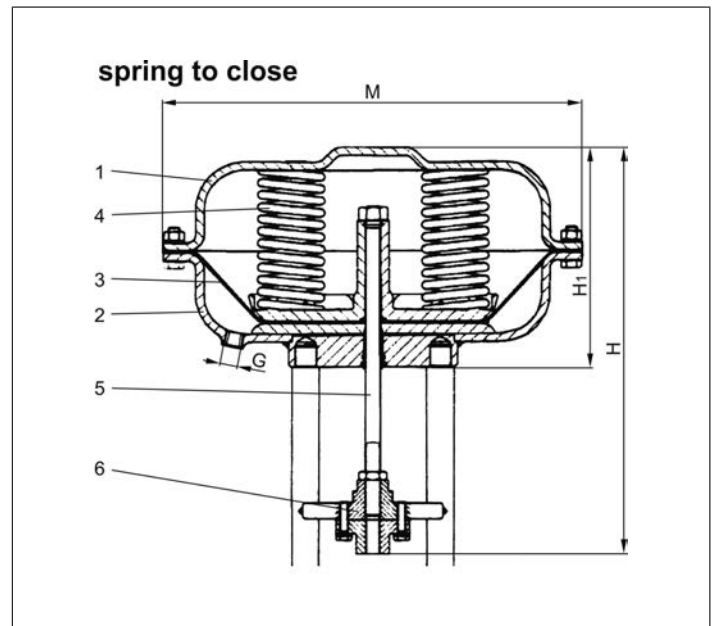
DN	Differential pressure in bar															
	1.0	2.1	4.1	6.1	8.1	10.1	12.1	15.1	17.1	19.1	22.1	25.1	29.1	35.1	39.1	42.1
	2.0	4.0	6.0	8.0	10.0	12.0	15.0	17.0	19.0	22.0	25.0	29.0	35.0	39.0	42.0	50.0
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
32	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C
40	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	-
50	B	B	B	B	B	C	C	C	C	C	C	C	C	-	-	-
65	C	C	C	C	C	C	-	-	-	-	-	-	-	-	-	-
80	C	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-
100	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
B	27521.35B6.6GPO	
C	27521.60A6.6GPO	

Materials	DIN EN	ASTM
1 Body	1.4571	A 240 Grade 316Ti
2 Body	1.4571	A 240 Grade 316Ti
3 Diaphragm	EPDM	
4 Springs	1.7102	AISI 9254
5 Actuator stem	1.4404	A 276 Grade 316L
6 Coupling	1.4571	A 240 Grade 316Ti



Type 27521	Technical data		
Part No. Actuator	27521		
	.35B6.6GPO	.60A6.6GPO	
Diameter Actuator	M	210	310
Height	H	276	309
Height	H1	136	166
Thread	G	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	280	530
Spring rage	bar	0.8 - 3.0	0.8 - 2.8
Minimum air pressure	bar	3.2	3.0
Regulating lift	mm	35	40
Weight	ca. kg	5.0	12.5

Dimensions in mm.

Offshore Valves

Type 27522 - Pneumatic Actuator - Globe Valve (on/off)



Pneumatic Actuators for Globe Valves (on/off)

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar g

"cleaned and degreased for oxygen service"

Ambient temperature limit: -40°C / -40°F (233K) up to +80°C / 176°F (353K)



Overview - required actuator sizes for differential pressures

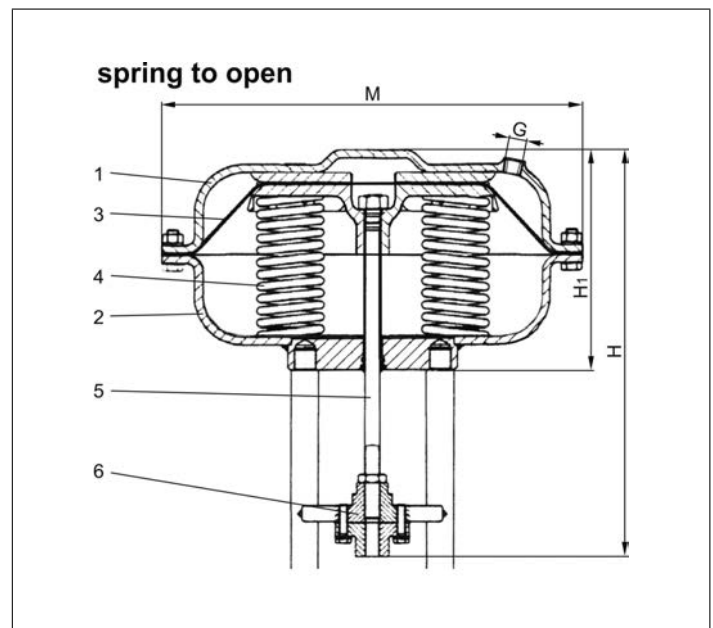
DN	Differential pressure in bar											
	1.0	5.1	7.1	14.1	17.1	19.1	22.1	26.1	29.1	35.1	37.1	45.1
	-	-	-	-	-	-	-	-	-	-	-	-
	5.0	7.0	14.0	17.0	19.0	22.0	26.0	29.0	35.0	37.0	45.0	50.0
10	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B
32	B	B	B	B	B	B	B	B	B	B	C	C
40	B	B	B	B	B	B	B	B	C	C	C	C
50	B	B	B	B	B	C	C	C	C	C	C	C
65	B	B	B	C	C	C	C	C	C	C	-	-
80	B	B	C	C	C	C	-	-	-	-	-	-
100	B	C	C	-	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-	-	-	-	-

The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
B	27522.35B6.6GPS	
C	27522.60A6.6GPS	

Materials	DIN EN	ASTM
1 Body	1.4571	A 240 Grade 316Ti
2 Body	1.4571	A 240 Grade 316Ti
3 Diaphragm	EPDM	
4 Springs	1.7102	AISI 9254
5 Actuator stem	1.4404	A 276 Grade 316L
6 Coupling	1.4571	A 240 Grade 316Ti



Type 27522	Technical data		
Part No. Actuator	27522		
	.35B6.6GPS	.60A6.6GPS	
Diameter Actuator	M	210	310
Height	H	276	309
Height	H1	136	166
Thread	G	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	280	530
Spring rage	bar	0.8 - 3.0	0.8 - 2.8
Minimum air pressure	bar	6.0	6.0
Regulating lift	mm	35	40
Weight	ca. kg	5.0	12.5

Dimensions in mm.



Offshore Valves

Type 27522 - Pneumatic Actuator - Control Valve



Pneumatic Actuators for Control Valves

Actuator - **spring to open**, air to close

maximum air pressure for operation 6.0 bar g

"cleaned and degreased for oxygen service"

Ambient temperature limit: -40°C / -40°F (233K) up to +80°C / 176°F (353K)

Overview - required actuator sizes for differential pressures

DN	Differential pressure in bar								
	1.0	5.1	13.1	15.1	21.1	23.1	29.1	34.1	37.1
	-	-	-	-	-	-	-	-	-
	5.0	13.0	15.0	21.0	23.0	29.0	34.0	37.0	50.0
10	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B
32	B	B	B	B	B	B	B	B	C
40	B	B	B	B	B	B	B	C	C
50	C	C	C	C	C	C	C	C	C
65	C	C	C	C	C	C	-	-	-
80	C	C	C	C	-	-	-	-	-
100	C	C	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-	-



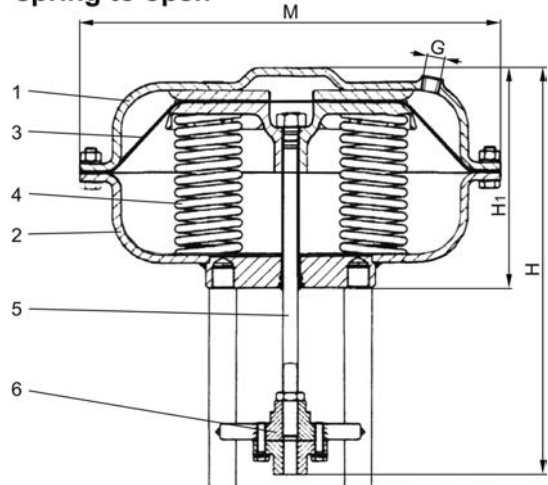
The differential pressures are based on the flow direction of the valve.

Differential pressures against the flow direction have to be requested separately.

Code in Table	Part No.	Actuator
B	27522.35B6.6GPS	
C	27522.60A6.6GPS	

Materials	DIN EN	ASTM
1 Body	1.4571	A 240 Grade 316Ti
2 Body	1.4571	A 240 Grade 316Ti
3 Diaphragm	EPDM	
4 Springs	1.7102	AISI 9254
5 Actuator stem	1.4404	A 276 Grade 316L
6 Coupling	1.4571	A 240 Grade 316Ti

spring to open



Type 27522	Technical data		
Part No. Actuator	27522		
	.35B6.6GPS	.60A6.6GPS	
Diameter Actuator	M	210	310
Height	H	276	309
Height	H1	136	166
Thread	G	1/4" NPT	1/4" NPT
Diaphragm area	cm ²	280	530
Spring rage	bar	0.8 - 3.0	0.8 - 2.8
Minimum air pressure	bar	6.0	6.0
Regulating lift	mm	35	40
Weight	ca. kg	5.0	12.5

Dimensions in mm.

Offshore Valves

Type 05714 - Check Valve



Cryogenic-Check Valves, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05714.X.004*

Butt or Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
Disc seal: PTFE / Carbon filled (25%)

Part No. 05714.X.005*

Butt or Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312
Disc seal: PTFE

Available options - on request only:

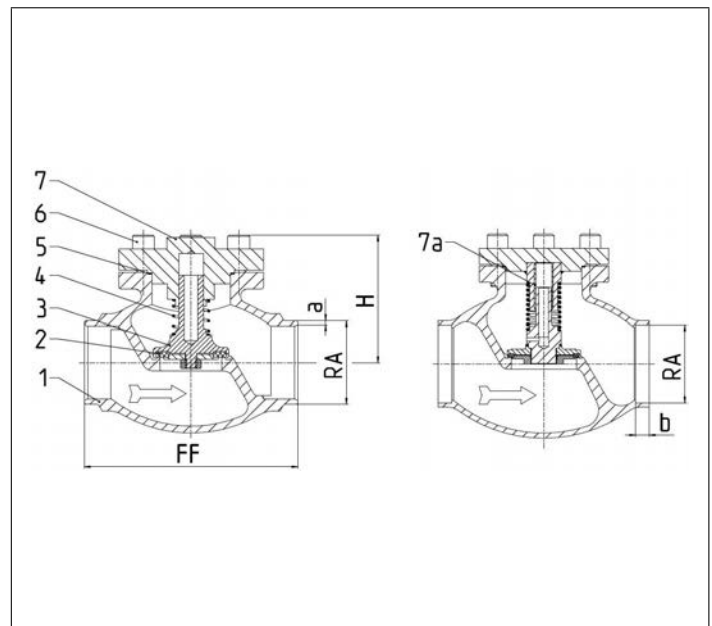
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2 Valve seal from DN65	PTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4571/A4	similar A 194 B8T
7 Cap	1.4404	A 276 Grade 316L
7a Bush from DN65	PTFE	



Type 05714 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	71	71	71	72	75	87	95	95	95	125	150	185	214	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.30	168.30	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.7	0.95	1.0	1.3	1.6	2.4	3.9	3.9	5.7	9.6	14.6	20.0	50.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0	
Cv-Value	gal/mir	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4	

Dimensions in mm. Leakage rates will be provided on request

Offshore Valves

Type 05717 - Check Valve



Cryogenic-Check Valves, PN50

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05717.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 05717.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc

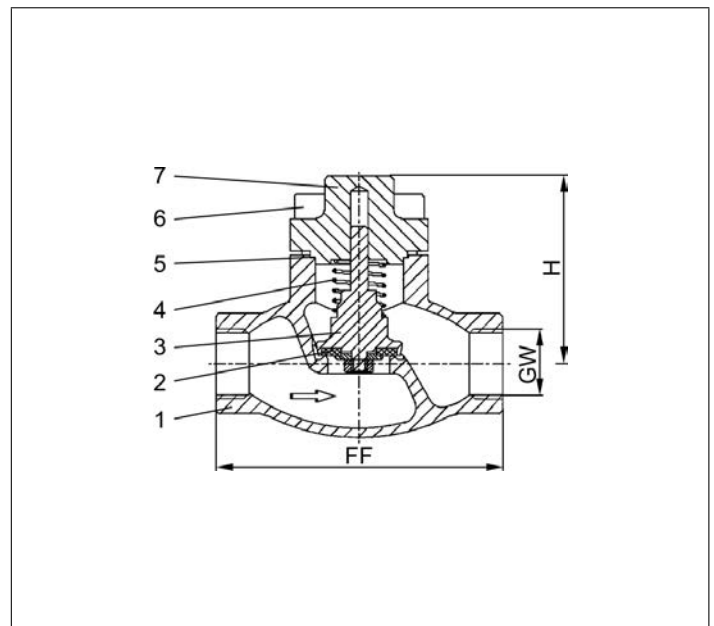


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. H₂ and LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2 Valve seal from DN65	PTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4571/A4	similar A 194 B8T
7 Cap	1.4404	A 276 Grade 316L



Type 05717 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	71	71	71	72	75	95	95	95
Weight	ca. kg	0.7	0.7	1.0	1.3	1.6	3.9	3.9	5.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm. Leakage rates will be provided on request

Offshore Valves

Type 05719 - Check Valve, DIN EN Flanges



Cryogenic-Check Valves, PN40

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05719.X.0042

Flanged connection acc. to DIN EN 1092-1 PN40
Disc seal: PTFE / Carbon filled (25%)

Part No. 05719.X.0052

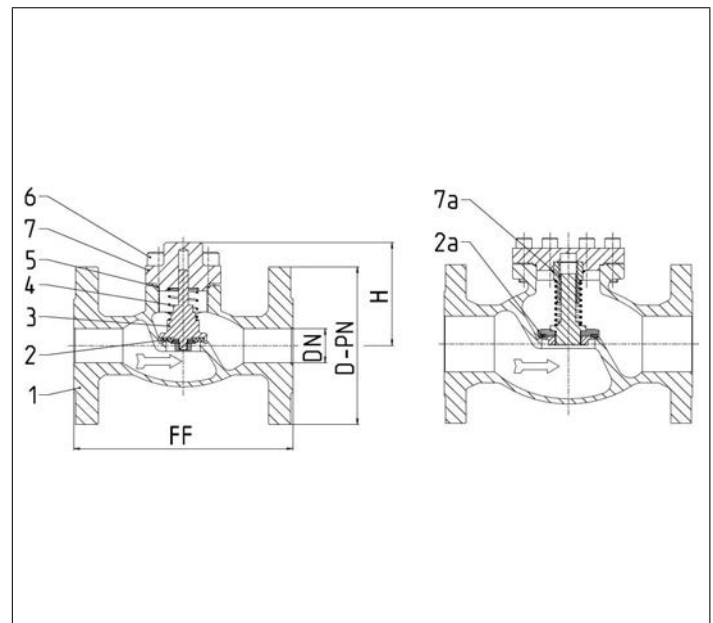
Flanged connection acc. to DIN EN 1092-1 PN40
Disc seal: PTFE



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4571/A4	similar A 194 B8T
7 Cap	1.4404	A 276 Grade 316L
7a Bush from DN65	PTFE	



Type 05719 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	72.7
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Offshore Valves

Type 05719 - Check Valve, ASME B16.5 Flanges



Cryogenic-Check Valves, class 300

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05719.X.0043

Flanged connection acc. to ASME B16.5 class 300
Disc seal: PTFE / Carbon filled (25%)

Part No. 05719.X.0053

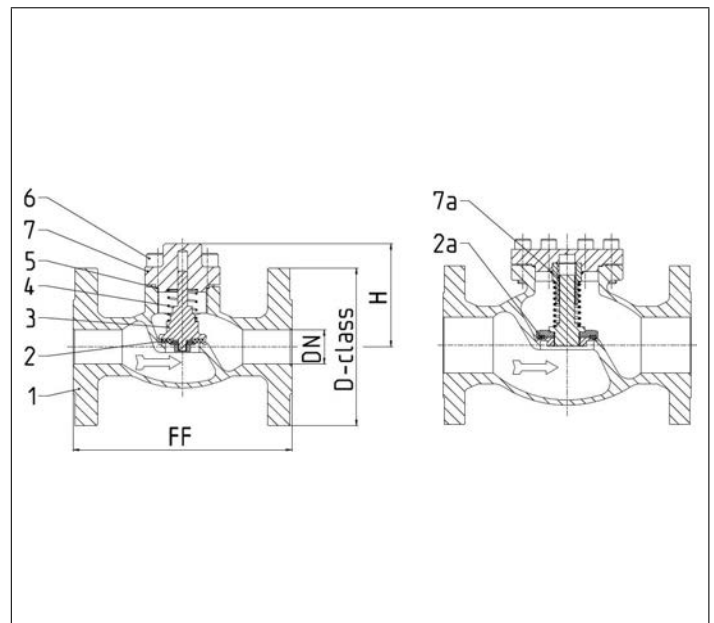
Flanged connection acc. to ASME B16.5 class 300
Disc seal: PTFE



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4571/A4	similar A 194 B8T
7 Cap	1.4404	A 276 Grade 316L
7a Bush from DN65	PTFE	



Type 05719 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	90.3
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request

Offshore Valves

Type 05719 - Check Valve, ASME B16.5 Flanges



Cryogenic-Check Valves, class 150

Stainless steel body and cap
with spring, opening pressure ca. 0.1 bar
"cleaned and degreased for oxygen service"

Part No. 05719.X.0041

Flanged connection acc. to ASME B16.5 class 150
Disc seal: PTFE / Carbon filled (25%)

Part No. 05719.X.0051

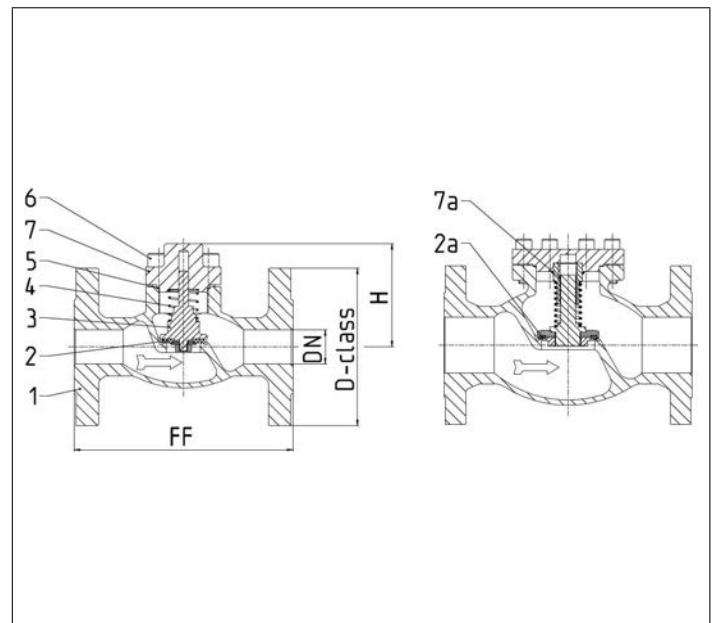
Flanged connection acc. to ASME B16.5 class 150
Disc seal: PTFE



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal up to DN50	PTFE / Carbon filled (25%)	
2a Valve seal from DN65	PTFE	
3 Disc	1.4404	A 276 Grade 316L
4 Spring	1.4571	A 313 Grade 316Ti
5 Bonnet gasket	Graphite	
6 Bolts	1.4571/A4	similar A 194 B8T
7 Cap	1.4404	A 276 Grade 316L
7a Bush from DN65	PTFE	



Type 05719 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	70	75	75	95	90	125	150	165	215
Weight	ca. kg	2.9	3.4	4.4	6.4	11.6	19.2	25.2	39.8	81.5
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Leakage rates will be provided on request



Offshore Valves

Type 08717 - Strainer



Cryogenic-Strainer, PN50 (DN65=PN45, DN150=PN40)

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08717.X.000*

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 08717.X.0004

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities

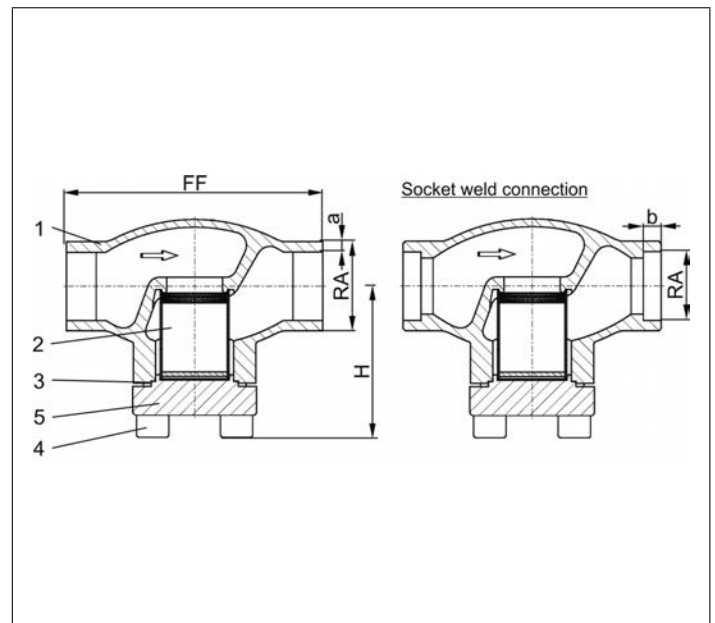


Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Strainer screen	1.4404	A 276 Grade 316L
3 Bonnet gasket	Graphite	
4 Bolts	1.4571/A4 similar A 194 B8T	
5 Cap	1.4404	A 276 Grade 316L



Type 08717 - Standard design	Technical data														
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150	
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400	
Height	H	62	62	62	65	69	76	89	89	89	125	150	166	215	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40													
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20	
Weight	ca. kg	0.6	0.75	0.8	0.9	1.2	1.8	3.1	3.1	4.7	8.9	13.6	18.0	48.0	
Kvs-Value	m ³ /h	1.5	3.4	3.4	6.5	9.5	14.0	19.0	21.0	28.0	62.0	90.0	118.0	300.0	
Cv-Value	gal/mir	1.7	3.9	3.9	7.5	11.0	16.2	22.0	24.3	32.4	72.3	105.0	137.7	350.1	

Dimensions in mm.

Offshore Valves

Type 08716 - Strainer



Cryogenic-Strainer, PN50

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08716.X.0001

Female thread connection (G) acc. to ISO 228/1

Part No. 08716.X.0006

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

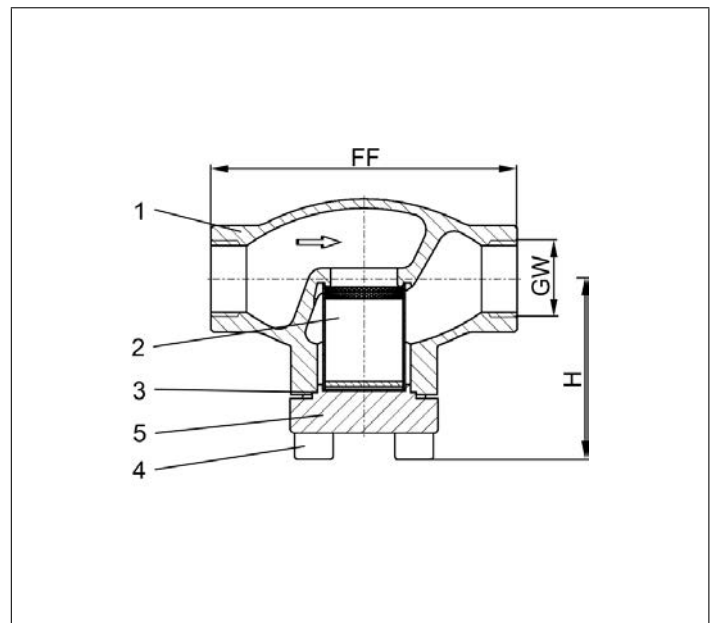
- Female thread connection (R) acc. to ISO 7-Rc
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Strainer screen	1.4404	A 276 Grade 316L
3 Bonnet gasket	Graphite	
4 Bolts	1.4571/A4 similar A 194 B8T	
5 Cap	1.4404	A 276 Grade 316L



Type 08716 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	62	62	62	65	69	89	89	89
Weight	ca. kg	0.6	0.6	0.8	0.9	1.2	3.1	3.1	4.7
Kvs-Value	m ³ /h	1.5	1.5	3.4	6.5	9.5	19.0	21.0	28.0
Cv-Value	gal/min	1.7	1.7	3.9	7.5	11.0	22.0	24.3	32.4

Dimensions in mm.

Offshore Valves

Type 08732 - Strainer, DIN EN Flanges



Cryogenic-Strainer, PN40

Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08732.X.0002

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

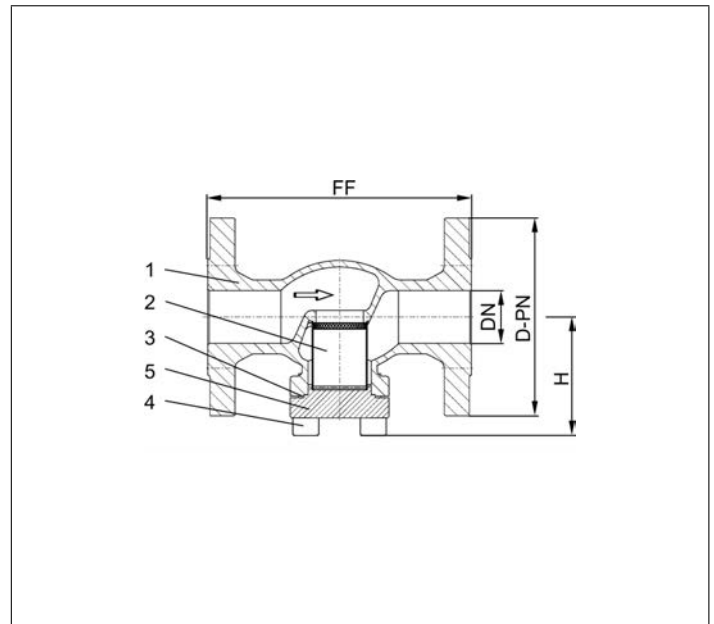
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Strainer screen	1.4404	A 276 Grade 316L
3 Bonnet gasket	Graphite	
4 Bolts	1.4571/A4 similar A 194 B8T	
5 Cap	1.4404	A 276 Grade 316L



Type 08732 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	68.1
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Offshore Valves

Type 08732 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 300

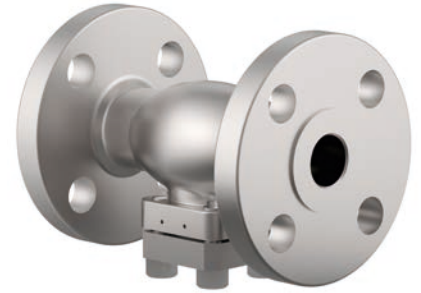
Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08732.X.0003

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

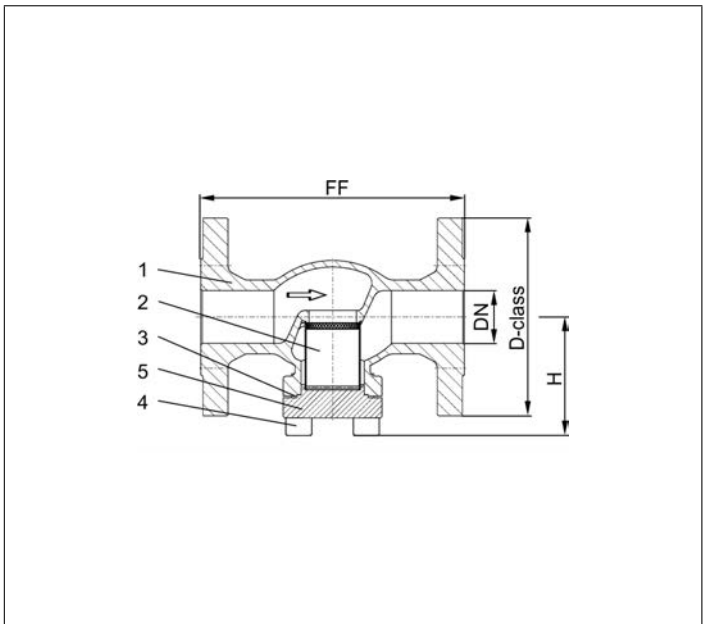
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Strainer screen	1.4404	A 276 Grade 316L
3 Bonnet gasket	Graphite	
4 Bolts	1.4571/A4 similar A 194 B8T	
5 Cap	1.4404	A 276 Grade 316L



Type 08732 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	85.7
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Offshore Valves

Type 08732 - Strainer, ASME B16.5 Flanges



Cryogenic-Strainer, class 150

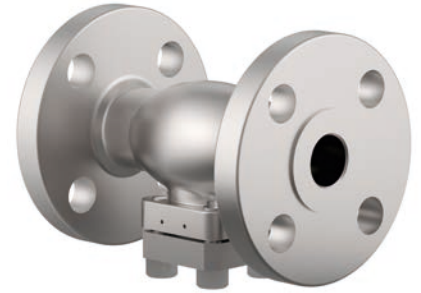
Stainless steel body and cap
with strainer screen mesh size 0.25 mm
"cleaned and degreased for oxygen service"

Part No. 08732.X.0001

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

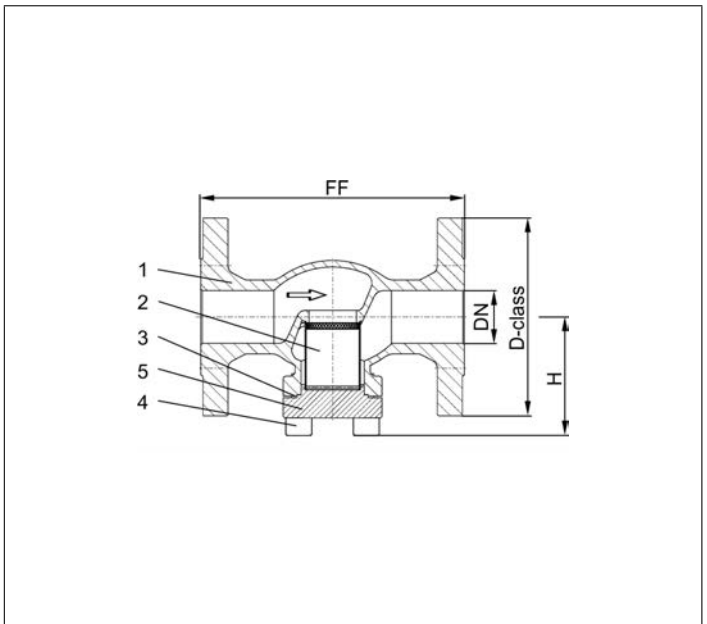
- other mesh sizes for strainer screen (changed flow coefficient)
- strainer screen in bronze or monel
- sintered filter in bronze or stainless steel in various porosities



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Strainer screen	1.4404	A 276 Grade 316L
3 Bonnet gasket	Graphite	
4 Bolts	1.4571/A4 similar A 194 B8T	
5 Cap	1.4404	A 276 Grade 316L



Type 08732 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	62	69	69	89	89	125	150	166	212
Weight	ca. kg	2.5	3.0	4.0	5.6	10.6	17.7	23.2	36.8	76.9
Kvs-Value	m ³ /h	4.3	6.7	9.5	21.0	28.0	62.0	90.0	118.0	on request
Cv-Value	gal/min	5.0	7.8	11.0	24.3	32.4	72.3	105.0	137.7	on request

Dimensions in mm.

Fire Safe and Offshore Valves

Type 01851 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45)
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01851.X.000*

Part No. 01851.X.500* Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01851.X.0004

Part No. 01851.X.5004 Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Valve with control disc (tapered design)



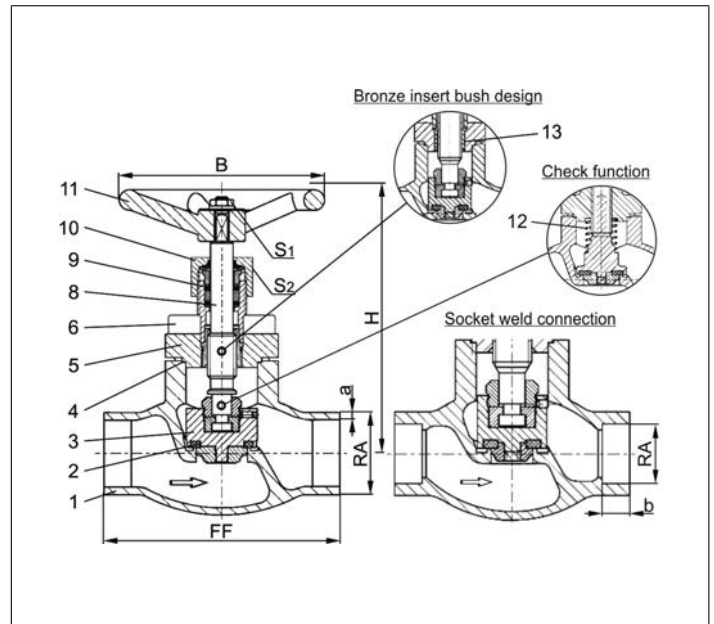
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01851 - Standard design	Technical data	Nominal size												
		DN	10	15	15	20	25	32	40	40	50	65	80	100
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	
Height	H	140	140	140	140	140	170	175	175	200	260	310	350	
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	
Weight	ca. kg	1.0	1.25	1.3	1.7	2.0	2.8	4.2	4.2	6.7	10.7	16.0	23.0	
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	

Dimensions in mm.



Fire Safe and Offshore Valves

Type 01855 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 01855.X.0001

Part No. 01855.X.5001 Globe/Check Valve

Female thread connection (G) acc. to ISO 228/1

Part No. 01855.X.0006

Part No. 01855.X.5006 Globe/Check Valve

Female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

- Female thread connection (R) acc. to ISO 7-Rc
- Valve with control disc (tapered design)



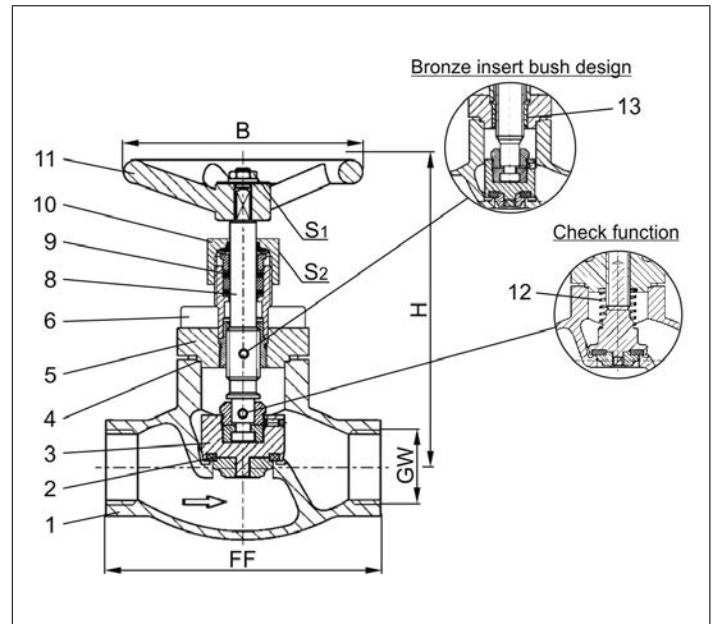
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01855 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	140	140	140	140	140	175	175	200
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.0	1.0	1.3	1.7	2.0	4.2	4.2	6.7
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Fire Safe and Offshore Valves

Type 03851 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN40
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03851.X.0002

Part No. 03851.X.5002 Globe/Check Valve

Flanged connection acc. to DIN EN 1092-1 PN40

Available options - on request only:

- Valve with control disc (tapered design)



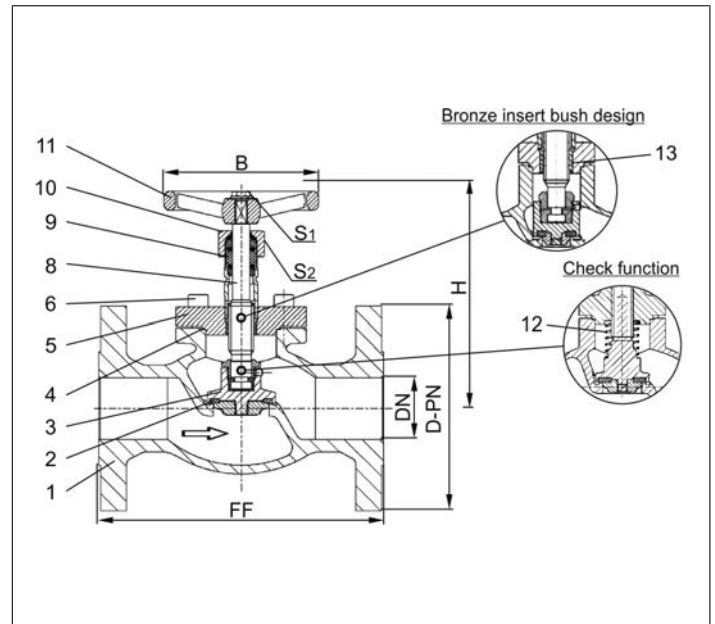
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03851 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe and Offshore Valves

Type 03851 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03851.X.0003

Part No. 03851.X.5003 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 300

Available options - on request only:

- Valve with control disc (tapered design)



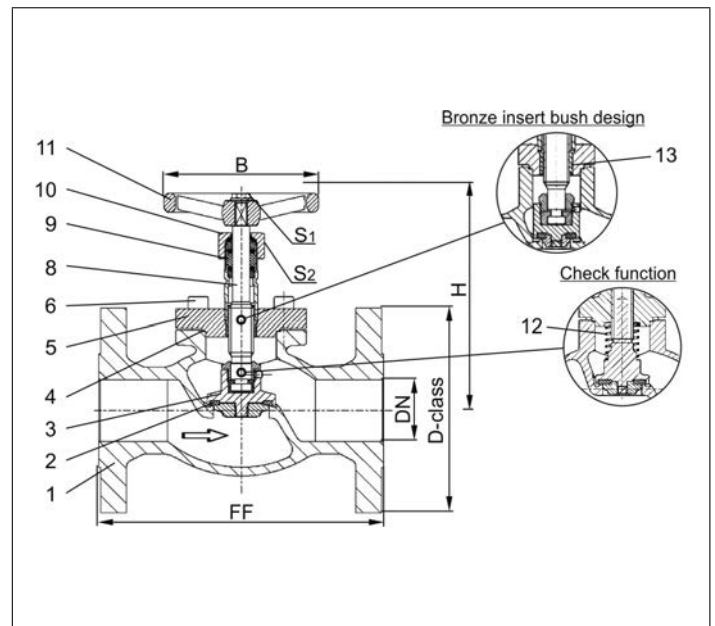
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03851 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe and Offshore Valves

Type 03851 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 03851.X.0001

Part No. 03851.X.5001 Globe/Check Valve

Flanged connection acc. to ASME B16.5 class 150

Available options - on request only:

- Valve with control disc (tapered design)



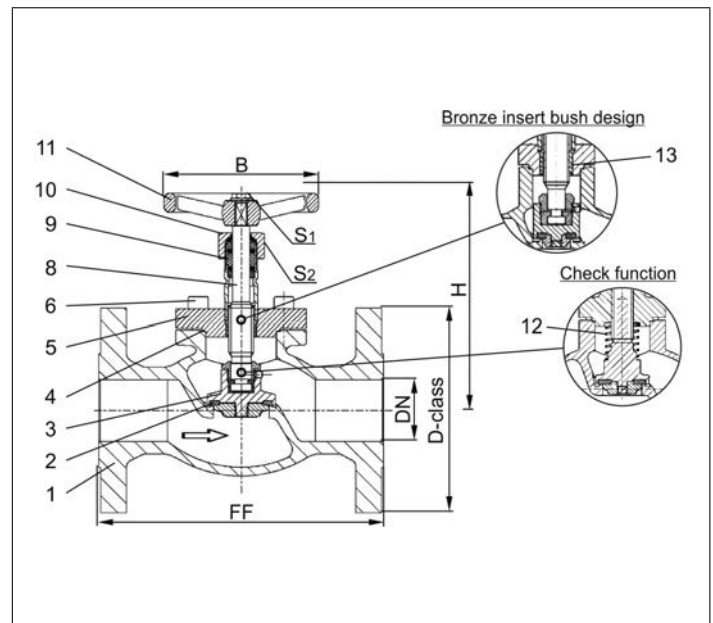
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Recommended working temperature: -60°C / -76°F (213K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03851 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	130	130	140	170	200	260	310	350	380
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	4.5	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe and Offshore Valves

Type 01841 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50 (DN65=PN45, DN150=PN40)

“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
“live loaded” gland packing
“cleaned and degreased for oxygen service”

- Part No. 01841.X.001* (H = 270mm)
- Part No. 01841.X.002* (H = 370mm)
- Part No. 01841.X.501* (H = 270mm) Globe/Check Valve
- Part No. 01841.X.502* (H = 370mm) Globe/Check Valve

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

- Part No. 01841.X.0014 (H = 270mm)
- Part No. 01841.X.0024 (H = 370mm)
- Part No. 01841.X.5014 (H = 270mm) Globe/Check Valve
- Part No. 01841.X.5024 (H = 370mm) Globe/Check Valve

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Extension H up to 900mm
- Valve with control disc (tapered design)

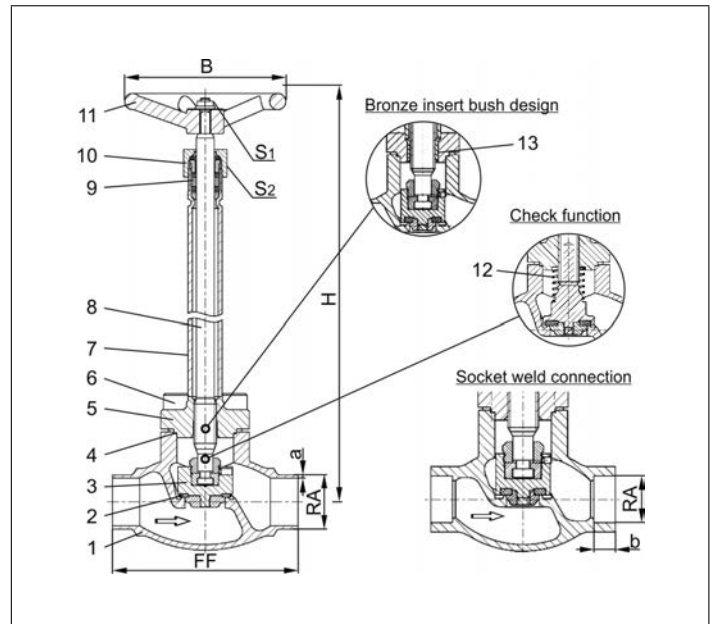
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01841 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	270 mm or 370 mm												
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20
Handwheel-Ø	B	100	100	100	100	100	125	125	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight	ca. kg	1.4	1.65	1.7	2.1	2.4	3.3	4.7	4.7	7.2	12.7	17.0	24.5	54.0
Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe and Offshore Valves

Type 01841 - Globe Valve



Cryogenic Globe Valves, DN200

“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork
"live loaded" gland packing

Part No. 01841.0219.001* (H=560), PN20/PN25

Part No. 01841.0219.006* (H=1000), PN20/PN25

*Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01841.0219.00*4, PN25

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 9 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available options - on request only

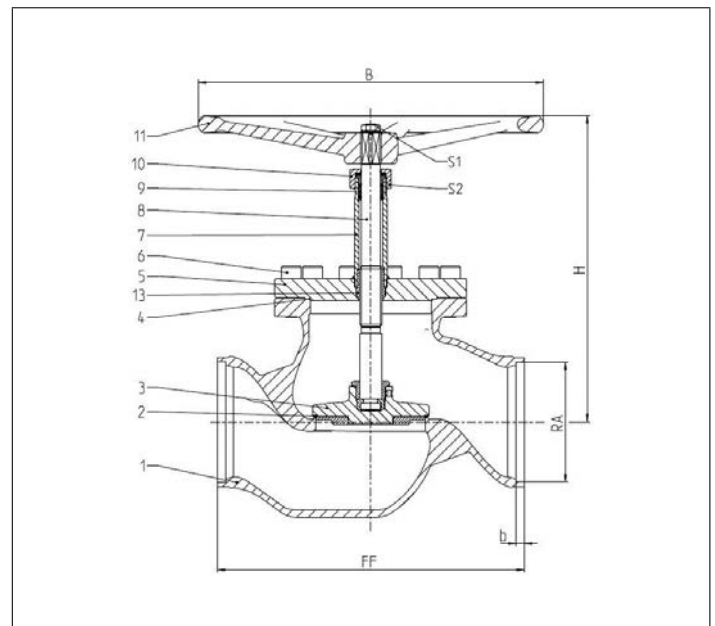
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4571	A 213 TP 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01841 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	0219
Face-to-face dimension	FF	560
Height	H	560
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.



Fire Safe and Offshore Valves

Type 01845 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN50
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

- Part No. 01845.X.0011 (H = 270mm)**
- Part No. 01845.X.0021 (H = 370mm)**
- Part No. 01845.X.5011 (H = 270mm) Globe/Check Valve**
- Part No. 01845.X.5021 (H = 370mm) Globe/Check Valve**
- Female thread connection (G) acc. to ISO 228/1
- Part No. 01845.X.0016 (H = 270mm)**
- Part No. 01845.X.0026 (H = 370mm)**
- Part No. 01845.X.5016 (H = 270mm) Globe/Check Valve**
- Part No. 01845.X.5026 (H = 370mm) Globe/Check Valve**
- Female thread connection NPT acc. to ANSI B 1.20.1

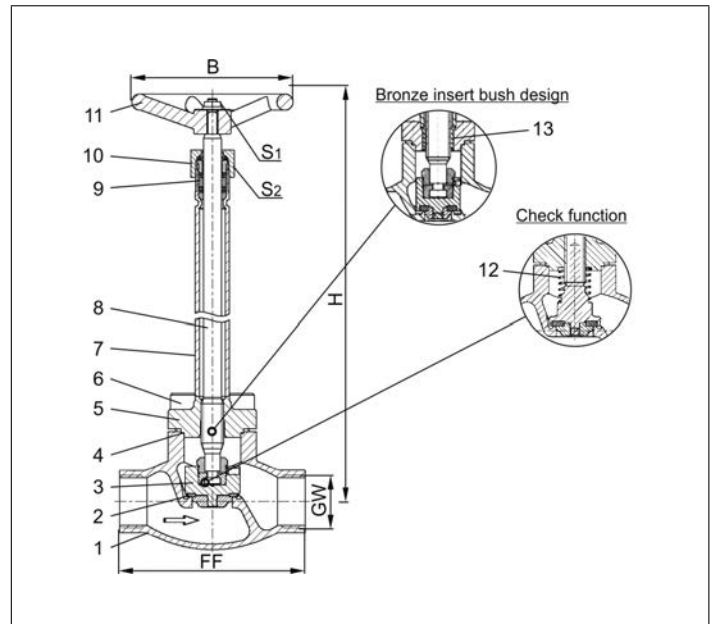
- Available options - on request only:
- Female thread connection (R) acc. to ISO 7-Rc
 - Extension H up to 900mm · Valve with control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316 Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 01845 - Standard design	Technical data								
Nominal size	DN	10	10	15	20	25	40	40	50
Thread size	GW	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	100	115	130	130	155
Height	H	270 mm or 370 mm							
Handwheel-Ø	B	100	100	100	100	100	125	125	125
Wrench size across flats	S ₁	7	7	7	7	7	10	10	10
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36
Weight	ca. kg	1.4	1.4	1.7	2.1	2.4	4.7	4.7	7.2
Kvs-Value	m ³ /h	1.6	2.2	4.3	6.7	11.5	20.6	22.6	37.1
Cv-Value	gal/min	1.9	2.6	5.0	7.8	13.4	23.9	26.3	43.2

Dimensions in mm.

Fire Safe and Offshore Valves

Type 03841 - Globe Valve



Cryogenic-Globe and Globe/Check Valves, PN40
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

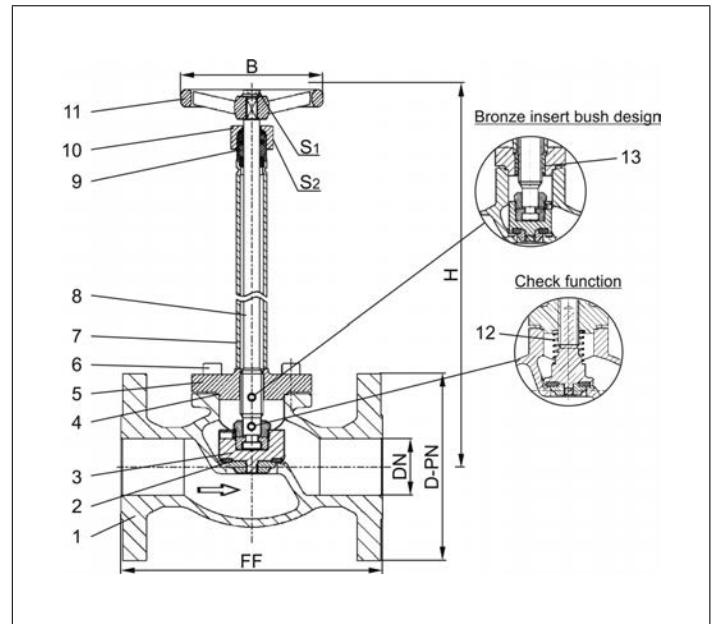
Part No. 03841.X.0012 (H = 270mm)
Part No. 03841.X.0022 (H = 370mm)
Part No. 03841.X.5012 (H = 270mm) Globe/Check Valve
Part No. 03841.X.5022 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to DIN EN 1092-1 PN40



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03841 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	270 mm or 370 mm							400	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe and Offshore Valves

Type 03841 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 300
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

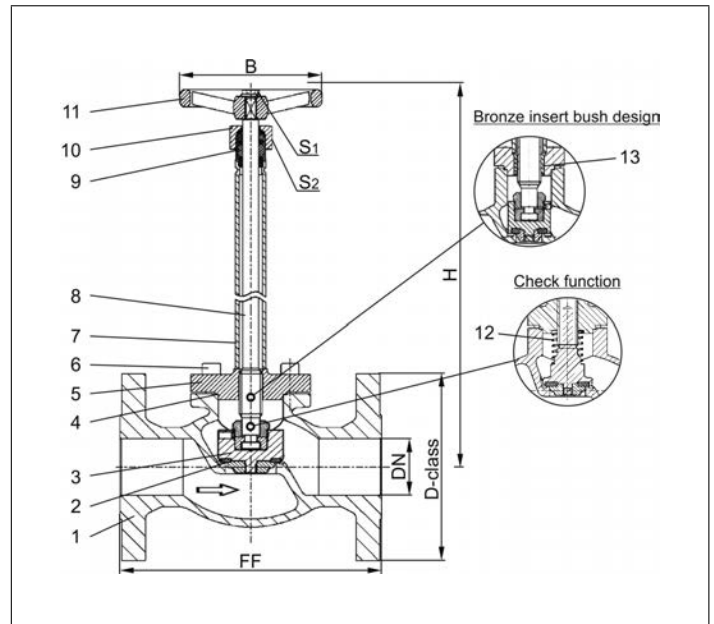
Part No. 03841.X.0013 (H = 270mm)
Part No. 03841.X.0023 (H = 370mm)
Part No. 03841.X.5013 (H = 270mm) Globe/Check Valve
Part No. 03841.X.5023 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to ASME B16.5 class 300



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03841 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	270 mm or 370 mm							400	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.

Fire Safe and Offshore Valves

Type 03841 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

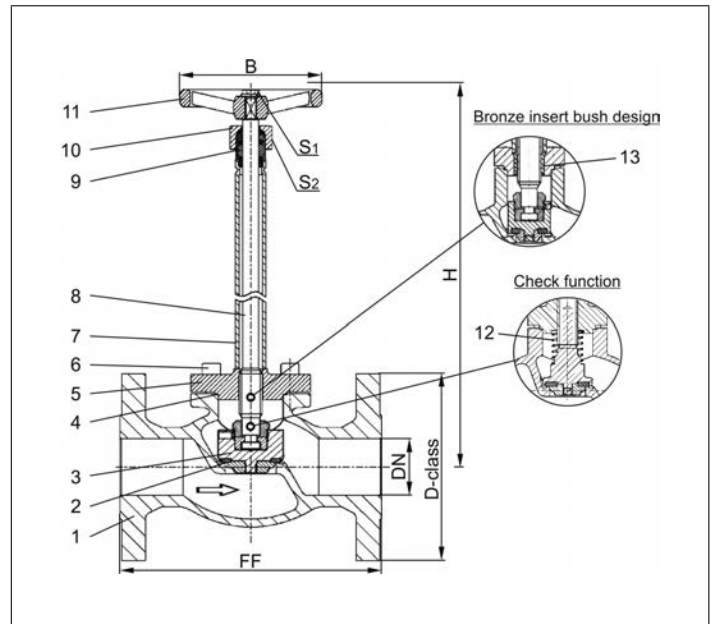
Part No. 03841.X.0011 (H = 270mm)
Part No. 03841.X.0021 (H = 370mm)
Part No. 03841.X.5011 (H = 270mm) Globe/Check Valve
Part No. 03841.X.5021 (H = 370mm) Globe/Check Valve
 Flanged connection acc. to ASME B16.5 class 150



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03841 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	270 mm or 370 mm							400	420
Handwheel-Ø	B	100	100	100	125	125	200	250	315	360
Wrench size across flats	S ₁	7	7	7	10	10	10	10	12	15
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight	ca. kg	3.0	3.5	5.0	9.0	13.0	21.0	28.0	42.0	83.0
Kvs-Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
Cv-Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached.



Fire Safe and Offshore Valves

Type 03841 - Globe Valve, ASME B16.5 Flanges



Cryogenic-Globe and Globe/Check Valves, class 150
“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork,
 “live loaded” gland packing

Part No. 03841.8000.0011 (H=560)
 Flanged connection acc. to ASME B16.5 class 150

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 12 bar maximum differential pressure acc. to DIN 12567 for LNG use.
 This standard can also be used for the tightness class of other cryogenic gases.

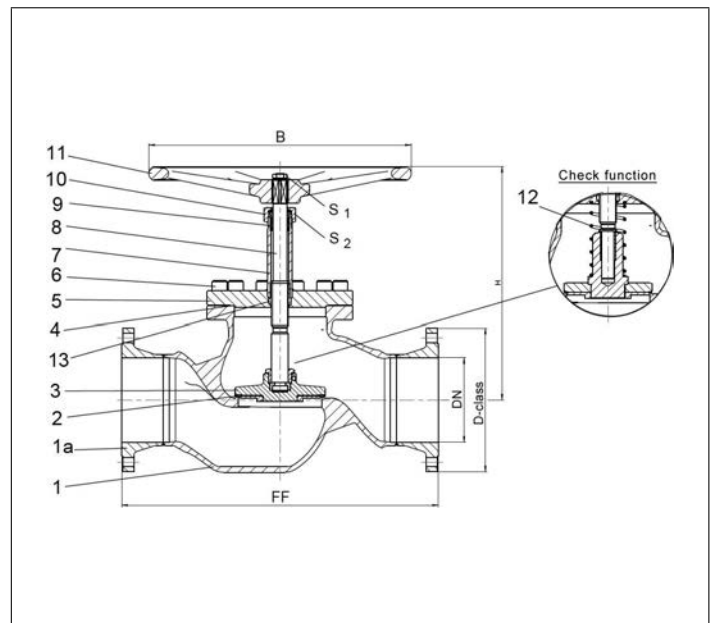
Available options - on request only



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
1a Flange	1.4404	A 276 Grade 316L
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Handwheel	1.4409	A 351 CF3M
12 Spring	1.4571	A 313 Grade 316Ti
13 Bush	CW452K	B 159 UNS C51900



Type 03841 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	560
Handwheel-Ø	B	630
Wrench size across flats	S ₁	30
Wrench size across flats	S ₂	65
Weight	ca. kg	135
Kvs-Value	m ³ /h	680
Cv-Value	gal/min	793

Dimensions in mm.

Fire Safe and Offshore Valves

Type 01843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45, DN150=PN40)
“Fire safe” type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes
 “live loaded” gland packing
 “cleaned and degreased for oxygen service” - the actuator is not cleaned and degreased for oxygen

Part No. 01843.X.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01843.X.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available accessories:

- Solenoid valve · Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

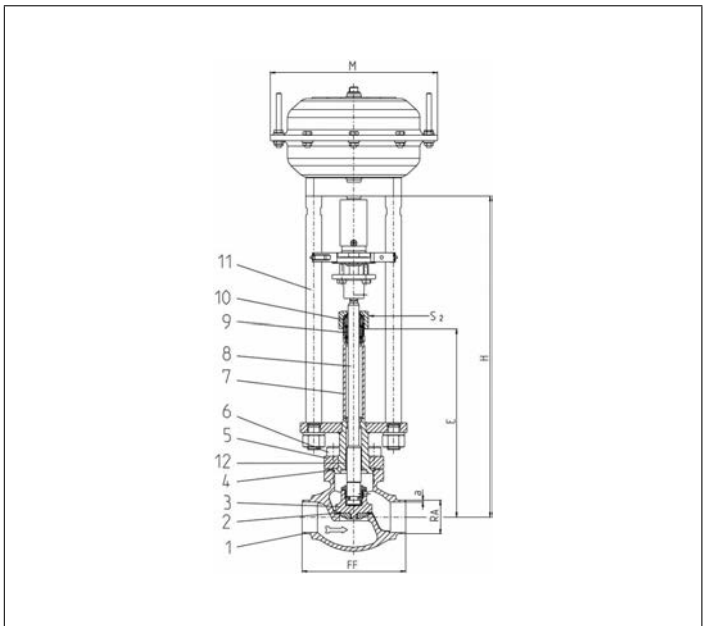
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Actuator “cleaned and degreased for oxygen service”



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01843 - Standard design	Technical data													
Nominal size	DN	10	15	15	20	25	32	40	40	50	65	80	100	150
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	657x	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	370	370	370	370	375	405	420	420	425	510	575	635	685
Length	E	195	195	195	200	200	230	230	230	235	300	300	300	300
Outside pipe-Ø ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickness pipe ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40												
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	20
Actuator-Ø	M	dependent on actuator												
Wrench size across flats	S ₂	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	60.9
*Kvs-Value	m ³ /h	1.6	3.8	4.3	6.7	11.5	14.0	20.6	22.6	37.1	71.1	104.0	170.0	350.0
*Cv-Value	gal/min	1.9	4.4	5.0	7.8	13.4	16.2	23.9	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	10	10	7	9	9	11	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Fire Safe and Offshore Valves

Type 01843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN20/25
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Part No. 01843.0219.*01*

Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01843.0219.*014

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories/options - on request only:

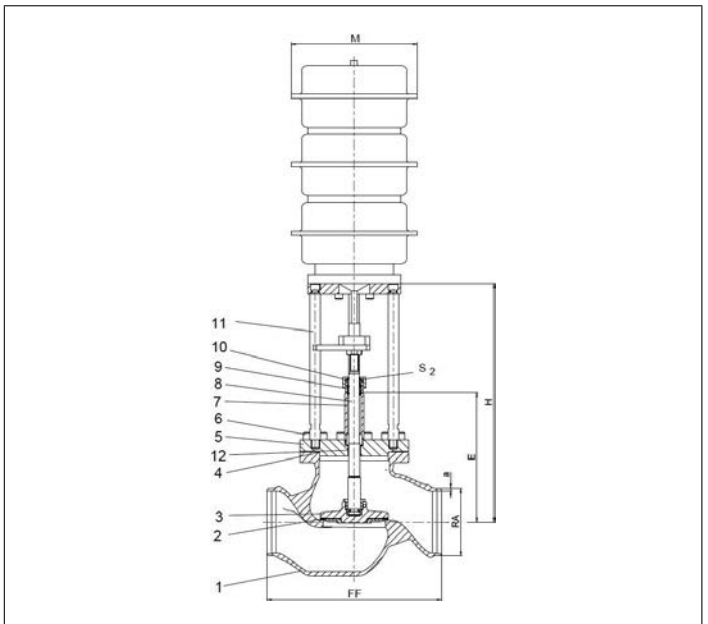
- Solenoid valve · Limit switch · Electropneumatic positioner etc.
- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312
- Actuator "cleaned and degreased for oxygen service"
- Valve with check or control disc (tapered design)

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 01843 - Standard design	Technical data	
Nominal size	DN	200
Face-to-face dimension	FF	560
Height	H	785
Length	E	410
Outside pipe-Ø ISO 1127	RA	219.1
Wall thickness pipe ISO 1127	a	6.3
Outside pipe-Ø ASTM A312	RA	219.1
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40
Socket depth	b	15
Actuator-Ø	M	depend on actuator
Wrench size across flats	S ₂	65
Weight w/o actuator	ca. kg	165.0
*Kvs-Value	m ³ /h	680.0
*Cv-Value	gal/min	793.0
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.

Fire Safe and Offshore Valves

Type 03843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN16
" Fire safe " type test approval acc. to EN ISO 10497

- Stainless steel body and topwork
- Actuator - air opens, spring closes or vice versa
- " live loaded " gland packing
- " cleaned and degreased for oxygen service " - the actuator is not cleaned and degreased for oxygen

Part No. 03843.X.*014

Flanged connection acc. to DIN EN 1092-1 PN16

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

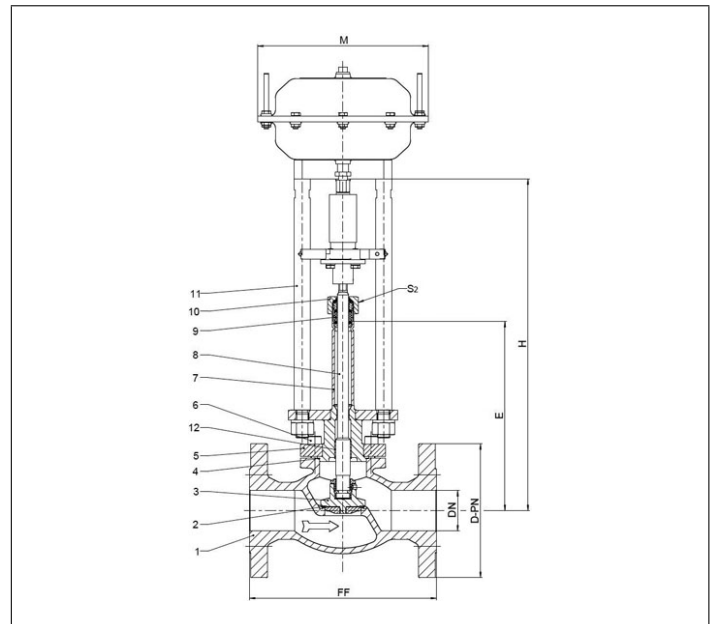
- Actuator - " cleaned and degreased for oxygen service "
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03843 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN16	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	220	285
Face-to-face dimension	FF	140	150	160	200	230	295	310	350	510
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.



Fire Safe and Offshore Valves

Type 03843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, PN40
" Fire safe " type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes or vice versa
 "live loaded" gland packing
 "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03843.X.*012

Flanged connection acc. to DIN EN 1092-1 PN40

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

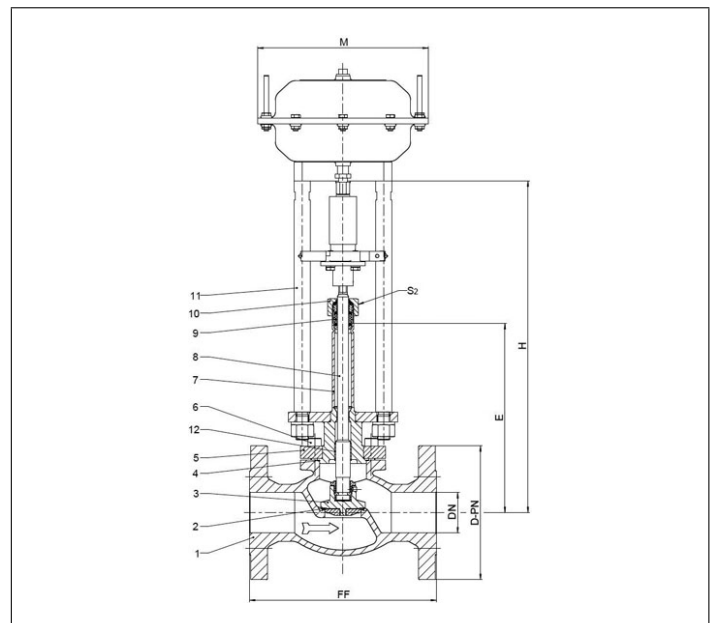
- Actuator - " cleaned and degreased for oxygen service "
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03843 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange EN 1092-1 PN40	.X.	0150	0200	0250	0400	0500	0650	0800	1000	1500
Flange-Ø	D-PN	95	105	115	150	165	185	200	235	300
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	550
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	350
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Fire Safe and Offshore Valves

Type 03843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 300
" Fire safe " type test approval acc. to EN ISO 10497

- Stainless steel body and topwork
- Actuator - air opens, spring closes or vice versa
- " live loaded " gland packing
- " cleaned and degreased for oxygen service " - the actuator is not cleaned and degreased for oxygen

Part No. 03843.X.*013

Flanged connection acc. to ASME B16.5 class 300

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

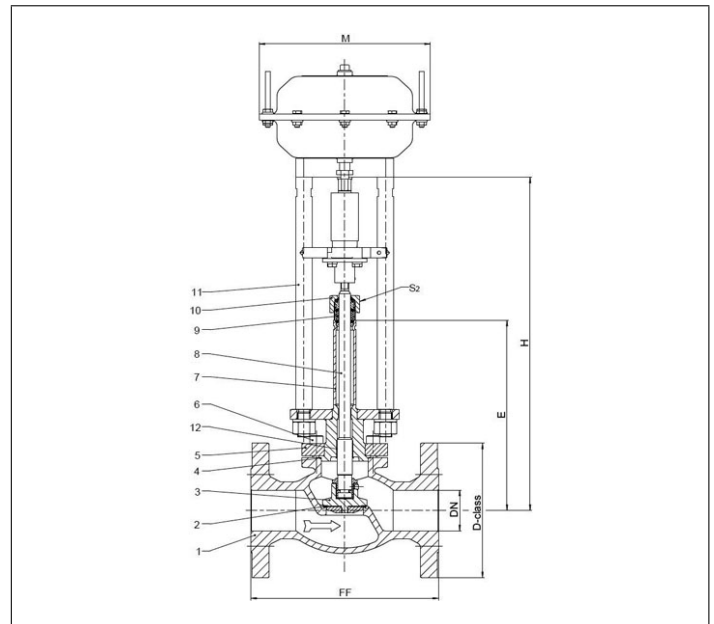
- Actuator - " cleaned and degreased for oxygen service "
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03843 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 300	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	95	115	125	155	165	190	210	255	320
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	597
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	100.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Fire Safe and Offshore Valves

Type 03843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150
" Fire safe " type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes or vice versa
 "live loaded" gland packing
 "cleaned and degreased for oxygen service" - the actuator is not cleaned and degreased for oxygen

Part No. 03843.X.*011

Flanged connection acc. to ASME B16.5 class 150

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

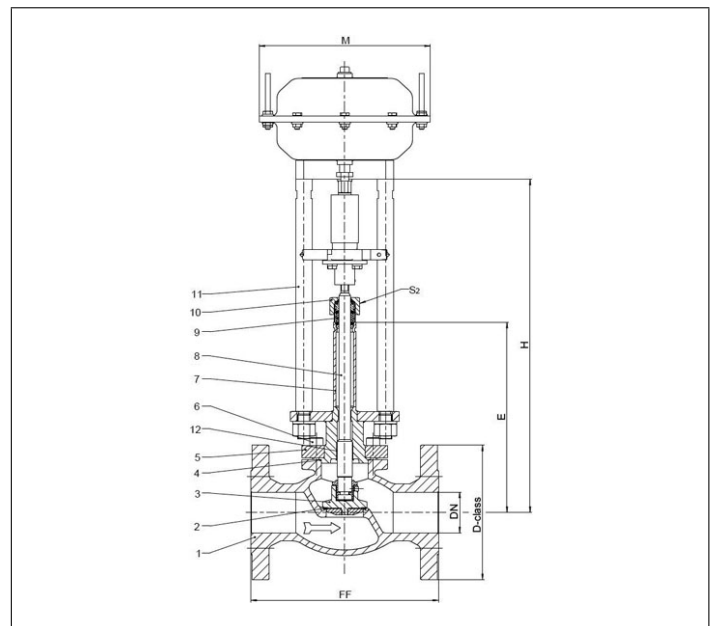
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator
- Valve with check disc
- Valve with control disc (tapered design)



Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03843 - Standard design	Technical data									
Nominal size	DN	15	20	25	40	50	65	80	100	150
Dimension code - Flange ASME B16.5 class 150	.X.	0400	0600	1000	1400	2000	2400	3000	4000	6000
Flange-Ø	D-class	90	100	110	125	150	180	190	230	280
Face-to-face dimension	FF	140	150	160	200	230	290	310	350	577
Height	H	370	370	375	420	425	510	575	635	685
Length	E	195	200	200	230	235	300	300	300	300
Actuator-Ø	M	dependent on actuator								
Wrench size across flats	S ₂	30	30	30	36	36	36	36	41	41
Weight w/o actuator	ca. kg	4.6	6.5	8.5	12.0	16.0	30.0	36.0	53.0	87.0
*Kvs - Value	m ³ /h	4.3	6.7	11.5	22.6	37.1	71.1	104.0	170.0	350.0
*Cv - Value	gal/min	5.0	7.8	13.4	26.3	43.2	82.9	121.3	198.3	408.4
Stroke	mm	10	7	9	11	15	23	23	30	40

Dimensions in mm. Compliance of tightness requirements acc. to EN 1626 for DN150 up to 20 bar differential pressure. In the range of >20-40 bar, 350-700ml per second (1 bar, 20°C [68°F]) are reached. * These figures refer to measurements for the flow direction.

Fire Safe and Offshore Valves

Type 03843 - Actuated Globe Valve



Cryogenic-Globe Valves with Pneumatic Actuator, class 150
"Fire safe" type test approval acc. to EN ISO 10497

Stainless steel body and topwork
 Actuator - air opens, spring closes or contrary
 "live loaded" gland packing

Artikel-Nr. 03843.8000.X

Flanged connection acc. to ASME B16.5 class 150

In flow direction, the valve with the nominal size DN200 is conform to tightness class L1 up to 18 bar maximum differential pressure acc. to DIN 12567 for LNG use. This standard can also be used for the tightness class of other cryogenic gases.

Available accessories:

- Solenoid valve
- Limit switch
- Electropneumatic positioner etc.

Available options - on request only:

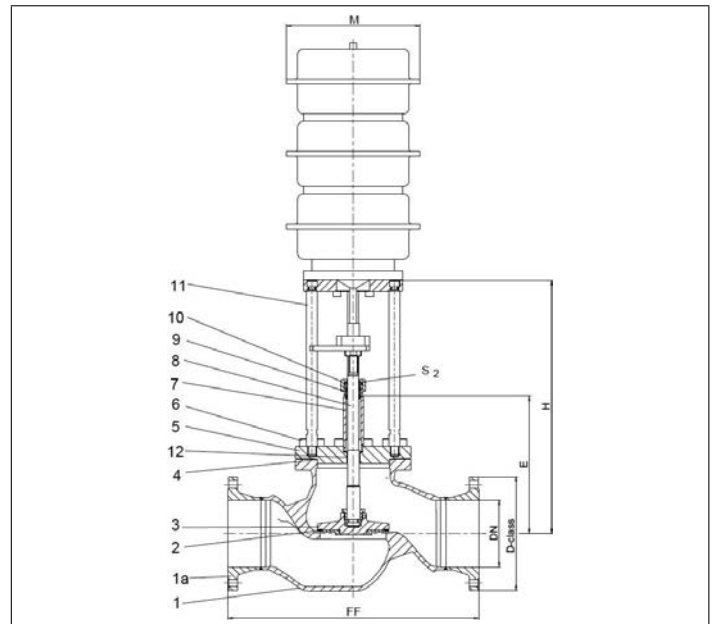
- Actuator - "cleaned and degreased for oxygen service"
- Electric actuator

Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.
 Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)



Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
1a Flange	1.4404	A 276 Grade 316L
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194 B8T
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Gland packing	Graphite / PTFE / MICA	
10 Gland nut	1.4404	A 276 Grade 316L
11 Pillars	1.4404	A 276 Grade 316L
12 Bush	CW452K	B 159 UNS C51900



Type 03843 - Standard design	Technical data	
Nominal size	DN	200
Dimension code	.X.	8000
Flange-Ø	D-class	345
Face-to-face dimension	FF	760
Height	H	785
Length	E	410
Actuator-Ø	M	dependent on actuator
Wrench size across flats	S ₂	30
Weight w/o actuator	ca. kg	135
*Kvs-Value	m ³ /h	680
*Cv-Value	gal/min	793
Stroke	mm	60

Dimensions in mm. * These figures refer to measurements for the flow direction.



Fire Safe and Offshore Valves

Type 01853 - Actuated Trailervalue



Cryogenic-Globe Valves with Pneumatic Actuator, PN50 (DN65=PN45)
“Fire safe” type test approval acc. to EN ISO 10497

air pressure for operation 6.0 bar g (maximum 10.0 bar g), push-in connection 8mm

Stainless steel body and topwork,

Actuator - air opens, spring closes

“live loaded” gland packing

“cleaned and degreased for oxygen service” - the actuator is not cleaned and degreased for oxygen

maximum working pressure of the valve depending on nominal size

Part No. 01853.X.T0**

* Butt weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Part No. 01853.X.T0*4

Socket weld connection for stainless steel pipes acc. to ISO 1127 or ASTM A312

Available options - on request only:

- Welded stainless steel stubs acc. to ISO 1127 or ASTM A312 - length FF + 200mm
- Weather protection hood



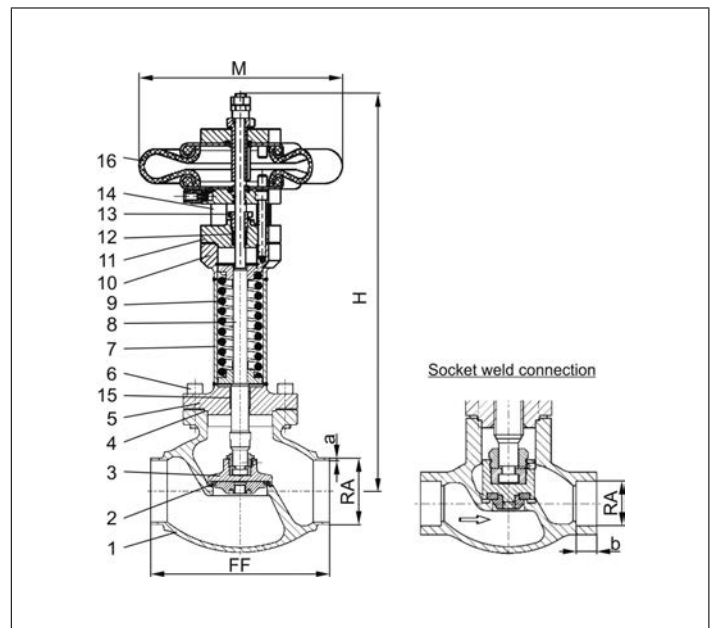
Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -255°C / -427°F (18K) up to +120°C / +248°F (393K)

Ambient temperature actuator: -50°C / -58°F (223K) up to +70°C / +158°F (343K)

Materials	DIN EN	ASTM
1 Body	1.4409	A 351 CF3M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4404	A 276 Grade 316L
4 Bonnet gasket	Graphite	
5 Headpiece	1.4404	A 276 Grade 316L
6 Bolts	1.4571/A4	similar A 194
7 Elongation tube	1.4571	A 213 TP 316Ti
8 Stem	1.4404	A 276 Grade 316L
9 Spring	1.4571	A 313 Grade 316Ti
10 Flange	1.4404	A 276 Grade 316L
11 Headpiece	1.4404	A 276 Grade 316L
12 Gland packing	Graphite / PTFE / MICA	
13 Gland nut	1.4571	A 313 Grade 316Ti
14 Pillars	1.4404	A 276 Grade 316L
15 Bush	CW452K	B 159 UNS C51900
16 Actuator	Rubber	



Type 01853 - Standard design	Technical data									
	Nominal size	DN	20	20	25	40	40	50	65	80
Dimension code	.X.	2021	2026	2533	4042	4048	5060	657x	8088	
Face-to-face dimension	FF	100	100	115	130	130	155	205	245	
Height	H	443	443	444	441	441	420	448	467	
Outside pipe-Ø ISO 1127	RA	21.3	26.9	33.7	42.4	48.3	60.3	76.1	88.9	
Wall thickness pipe ISO 1127	a	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.2	
Outside pipe-Ø ASTM A312	RA	21.34	26.67	33.40	42.16	48.26	60.33	73.03	88.90	
Wall thickness pipe ASTM A312	a	dimensions acc. to S10 or S40								
Socket depth	b	10	10	13	13	13	16	16	16	
Actuator-Ø	M	229	229	229	229	229	229	229	229	
Weight	ca. kg	7.2	7.2	9.1	10.5	10.5	14.5	17.4	22.5	
*Kvs-Value	m ³ /h	4.3	4.3	11.5	22.6	22.6	37.1	71.1	104.0	
*Cv-Value	gal/min	5.0	5.0	13.4	23.9	26.3	43.2	82.9	121.3	
Stroke	mm	10	10	14	14	14	14	22	25	
Δ P max	bar	50	50	50	16	16	10	3	4	
Δ P max with special spring	bar	-	-	-	31	31	18	10	-	

Dimensions in mm. * These figures refer to measurements for the flow direction.

Spare Parts for Fire Safe and Offshore Applications

Type 28651 - Topwork



for Cryogenic-Globe and Globe/Check Valves
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28651.X.0000

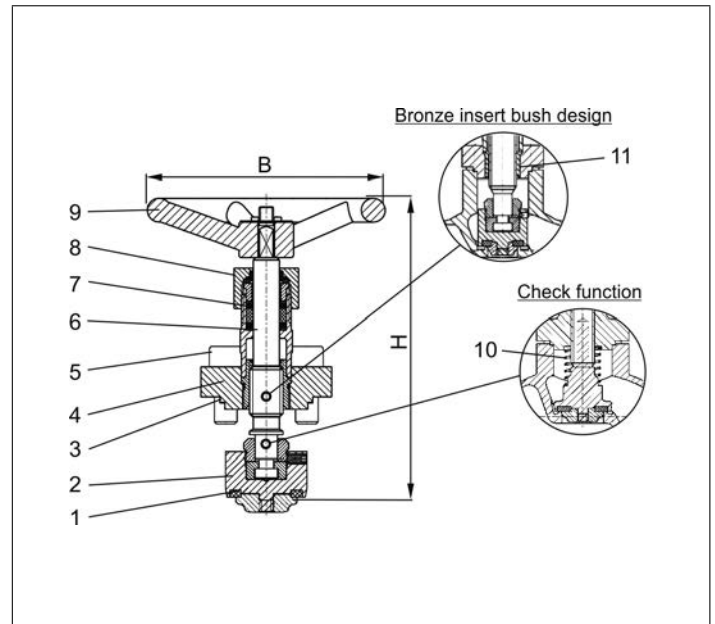
Part No. 28651.X.5000 with check function

suitable for:

Type	Nominal size
01651	DN10 - DN100
01655	DN10 - DN50
03651	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	Graphite	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Stem	1.4301	A 276 Grade 304
7 Gland packing	Graphite / PTFE / MICA	
8 Gland nut	1.4305	A 276 Grade 303
9 Handwheel	1.4409	A 351 CF3M
10 Spring	1.4310	A 313 Grade 301
11 Bush	CW452K	B 159 UNS C51900



Type 28651	Technical data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Dimension code	H	130	130	130	130	155	160	185	240	285	320	380
Height		4	4	4	4	4	4	6	6	6	6	12
Nimber of bolts	B	100	100	100	100	125	125	125	200	250	315	360
Handwheel-Ø	ca. kg	0.6	0.7	0.95	1.0	1.5	1.9	2.7	4.8	5.9	8.4	18.0
Weight												

Dimensions in mm.

Edition 2024-01



Spare Parts for Fire Safe and Offshore Applications

Type 28641 - Topwork



for Cryogenic-Globe and Globe/Check Valves
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28641.X.0010 (H=270mm)

Part No. 28641.X.0020 (H=370mm)

Part No. 28641.X.5010 (H=270mm) with check function

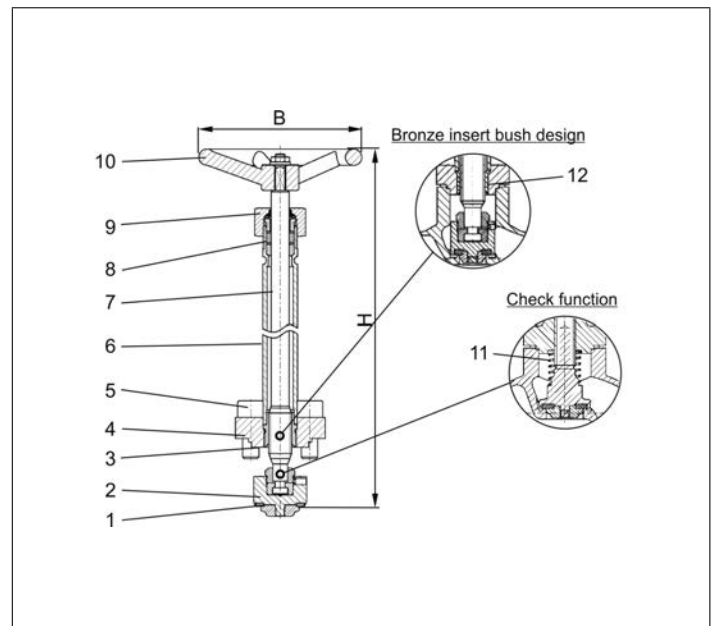
Part No. 28641.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01641	DN10 - DN150
01645	DN10 - DN50
03641	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4301	A 276 Grade 304
3 Bonnet gasket	Graphite	
4 Headpiece	1.4301 / 1.4308	A 276 Grade 304 / A 351 CF8
5 Bolts	1.4301/A2	A 194 B8
6 Elongation tube	1.4541	A 213 TP 321
7 Stem	1.4301	A 276 Grade 304
8 Gland packing	Graphite / PTFE / MICA	
9 Gland nut	1.4305	A 276 Grade 303
10 Handwheel	1.4409	A 351 CF3M
11 Spring	1.4310	A 313 Grade 301
12 Bush	CW452K	B 159 UNS C51900



Type 28641	Technical data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	270 mm or 370mm							370	370	370	420
Number of bolts		4	4	4	4	4	4	6	6	6	6	6
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	350
Weight	ca. kg	1.0	1.1	1.4	1.4	2.0	2.4	3.0	5.5	6.8	9.5	18.4

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 28751 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28751.X.0000

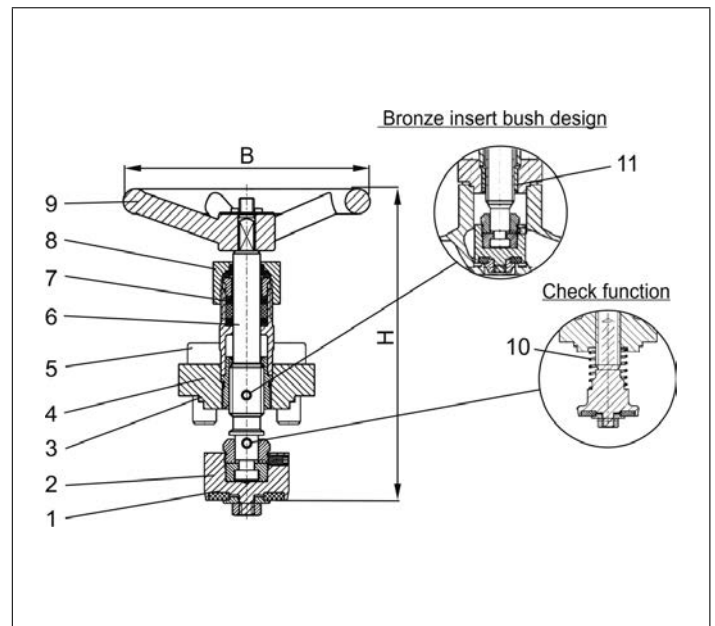
Part No. 28751.X.5000 with check function

suitable for:

Type	Nominal size
01751	DN10 - DN100
01755	DN10 - DN50
03751	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PCTFE (Kel-F)	
2 Disc	1.4401	A 276 Grade 316
3 Bonnet gasket	Graphite	
4 Headpiece	1.4404	A 276 Grade 316L
5 Bolts	1.4571/A4	similar A 194 B8T
6 Stem	1.4401	A 276 Grade 316
7 Gland packing	Graphite / PTFE / MICA	
8 Gland nut	1.4404	A 276 Grade 316L
9 Handwheel	1.4409	A 351 CF3M
10 Spring	1.4571	A 313 Grade 316Ti
11 Bush	CW452K	B 159 UNS C51900



Type 28751	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	130	130	130	130	155	160	185	240	285	320	380
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	0.6	0.7	0.95	1.0	1.5	1.9	2.7	4.8	5.9	8.4	18.0

Dimensions in mm.

Edition 2024-01

Spare Parts for Fire Safe and Offshore Applications

Type 28741 - Topwork



for Cryogenic-Globe and Globe/Check Valves

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28741.X.0010 (H=270mm)

Part No. 28741.X.0020 (H=370mm)

Part No. 28741.X.5010 (H=270mm) with check function

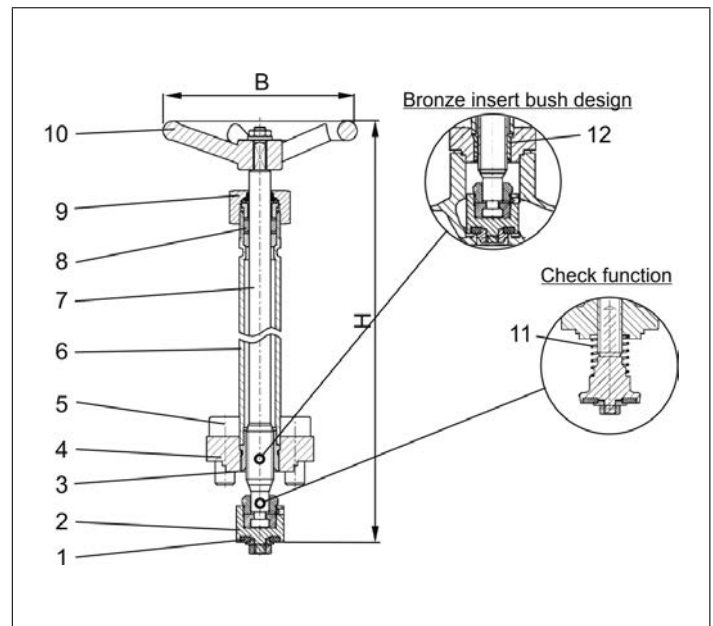
Part No. 28741.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01741	DN10 - DN150
01745	DN10 - DN50
03741	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PCTFE (Kel-F)	
2 Disc	1.4401	A 276 Grade 316
3 Bonnet gasket	Graphite	
4 Headpiece	1.4404	A 276 Grade 316L
5 Bolts	1.4571/A4	similar A 194 B8T
6 Elongation tube	1.4571	A 213 TP 316Ti
7 Stem	1.4401	A 276 Grade 316
8 Gland packing	Graphite / PTFE / MICA	
9 Gland nut	1.4404	A 276 Grade 316L
10 Handwheel	1.4409	A 351 CF3M
11 Spring	1.4571	A 313 Grade 316Ti
12 Bush	CW452K	B 159 UNS C51900



Type 28741	Technical data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	270mm or 370mm							370	370	370	420
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	1.0	1.1	1.4	1.4	2.0	2.4	3.0	5.5	6.8	9.5	19.0

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 28851 - Topwork



for Cryogenic-Globe and Globe/Check Valves
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28851.X.0000

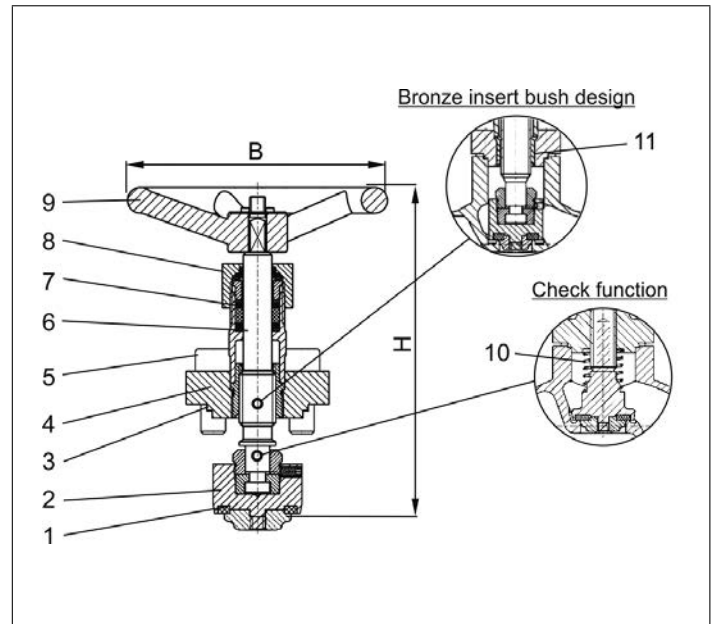
Part No. 28851.X.5000 with check function



suitable for:

Type	Nominal size
01851	DN10 - DN100
01855	DN10 - DN50
03851	DN25 - DN150

Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4401	A 276 Grade 316
3 Bonnet gasket	Graphite	
4 Headpiece	1.4404	A 276 Grade 316L
5 Bolts	1.4571/A4	similar A 194 B8T
6 Stem	1.4401	A 276 Grade 316
7 Gland packing	Graphite / PTFE / MICA	
8 Gland nut	1.4404	A 276 Grade 316L
9 Handwheel	1.4409	A 351 CF3M
10 Spring	1.4571	A 313 Grade 316Ti
11 Bush	CW452K	B 159 UNS C51900



Type 28851	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	130	130	130	130	155	160	185	240	285	320	380
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	0.6	0.7	0.95	1.0	1.5	1.9	2.7	4.8	5.9	8.4	18.0

Dimensions in mm.



Spare Parts for Fire Safe and Offshore Applications

Type 28841 - Topwork



for Cryogenic-Globe and Globe/Check Valves
 "Fire safe" type test approval acc. to EN ISO 10497

Stainless steel topwork,
 "live loaded" gland packing
 "cleaned and degreased for oxygen service"

Part No. 28841.X.0010 (H=270mm)

Part No. 28841.X.0020 (H=370mm)

Part No. 28841.X.5010 (H=270mm) with check function

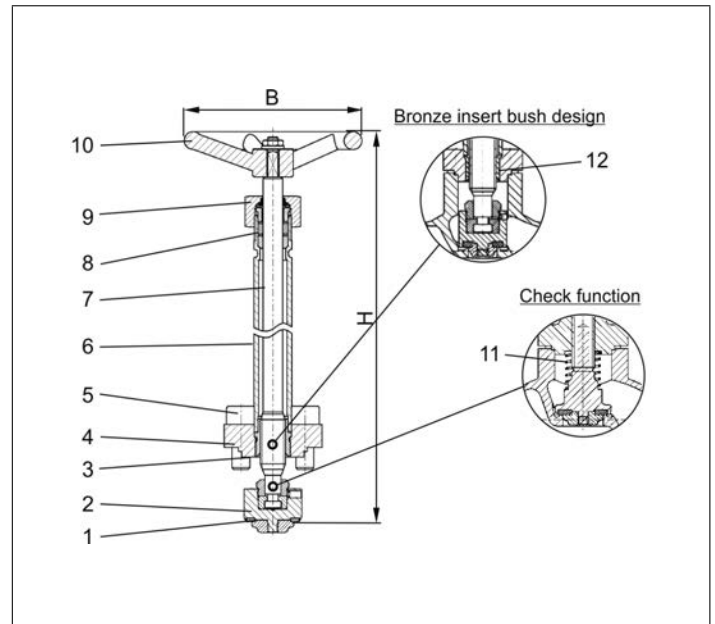
Part No. 28841.X.5020 (H=370mm) with check function

suitable for:

Type	Nominal size
01841	DN10 - DN100
01845	DN10 - DN50
03841	DN25 - DN150



Materials	DIN EN	ASTM
1 Valve seal	PTFE / Carbon filled (25%)	
2 Disc	1.4401	A 276 Grade 316
3 Bonnet gasket	Graphite	
4 Headpiece	1.4404	A 276 Grade 316L
5 Bolts	1.4571/A4	similar A 194 B8T
6 Elongation tube	1.4571	A 213 TP 316Ti
7 Stem	1.4401	A 276 Grade 316
8 Gland packing	Graphite / PTFE / MICA	
9 Gland nut	1.4404	A 276 Grade 316L
10 Handwheel	1.4409	A 351 CF3M
11 Spring	1.4571	A 313 Grade 316Ti
12 Bush	CW452K	B 159 UNS C51900



Type 28841	Technical data											
	DN	10	15	20	25	32	40	50	65	80	100	150
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Height	H	270mm or 370mm							370	370	370	420
Number of bolts		4	4	4	4	4	4	6	6	6	6	12
Handwheel-Ø	B	100	100	100	100	125	125	125	200	250	315	360
Weight	ca. kg	1.0	1.1	1.4	1.4	2.0	2.4	3.0	5.5	6.8	9.5	19.0

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 28203, Type 29203 - Disc complete



for Cryogenic-Globe Valves

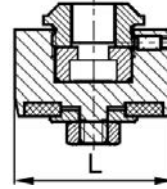
stainless steel disc 1.4404

"cleaned and degreased for oxygen service"

Part No. 28203.X.0783

suitable for:

Type	Nominal size
01751	DN10 - DN100
01741, 01743	DN10 - DN200
01755, 01745	DN10 - DN50
03751	DN15 - DN150
03741, 03743	DN15 - DN200



Type 28203.X.0783	Technical data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	217
Weight	ca. kg	0.05	0.06	0.09	0.12	0.18	0.22	0.30	0.55	0.75	1.05	3.10	9.28

Dimensions in mm.

for Cryogenic-Globe Valves

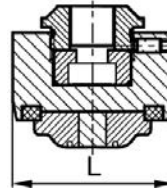
stainless steel disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 29203.X.0765

suitable for:

Type	Nominal size
01651	DN10 - DN100
01641, 01643	DN10 - DN200
01655, 01645	DN10 - DN50
03651	DN15 - DN150
03641	DN15 - DN200



Type 29203.X.0765	Technical data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	217
Weight	ca. kg	0.05	0.06	0.09	0.12	0.18	0.22	0.30	0.55	0.75	1.05	3.10	9.28

Dimensions in mm.

for Cryogenic-Globe Valves

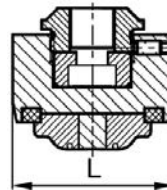
stainless steel disc 1.4404

"cleaned and degreased for oxygen service"

Part No. 29203.X.0783

suitable for:

Type	Nominal size
01851	DN10 - DN100
01841, 01843	DN10 - DN200
01855, 01845	DN10 - DN50
03851	DN15 - DN150
03841, 03843	DN15 - DN200



Type 29203.X.0783	Technical data												
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155	217
Weight	ca. kg	0.05	0.06	0.09	0.12	0.18	0.22	0.30	0.55	0.75	1.05	3.10	9.28

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 28205, Type 29205 - Check Disc complete



for Cryogenic-Globe/Check Valves

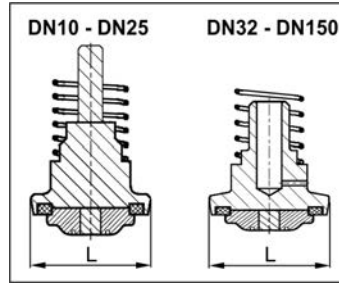
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 29205.X.5765

suitable for:

Type	Nominal size
01651	DN10 - DN100
01641, 01643	DN10 - DN150
01655, 01645	DN10 - DN50
03651, 03641	DN15 - DN150



Type	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28

Dimensions in mm.

for Cryogenic-Globe/Check Valves

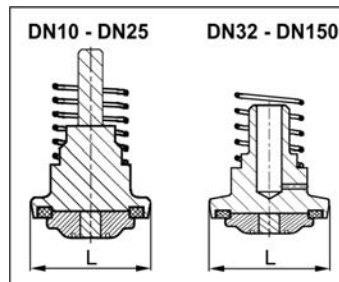
stainless steel check disc 1.4404

"cleaned and degreased for oxygen service"

Part No. 29205.X.5783

suitable for:

Type	Nominal size
01851	DN10 - DN100
01841, 01843	DN10 - DN150
01855, 01845	DN10 - DN50
03851, 03841, 03843	DN15 - DN150



Type	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28

Dimensions in mm.

for Cryogenic-Globe/Check Valves

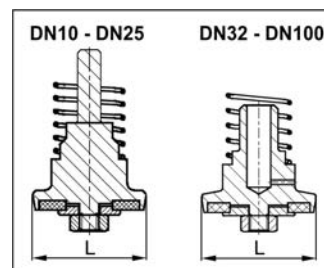
stainless steel check disc 1.4404

"cleaned and degreased for oxygen service"

Part No. 28205.X.5783

suitable for:

Type	Nominal size
01751	DN10 - DN100
01741, 01743	DN10 - DN150
01755, 01745	DN10 - DN50
03751, 03741, 03743	DN15 - DN150



Type	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.28

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 28206, Type 29206 - Check Disc complete



for Cryogenic-Check Valves

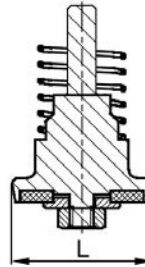
stainless steel check disc 1.4404

"cleaned and degreased for oxygen service"

Part No. 28206.X.0783

suitable for:

Type	Nominal size
05714	DN10 - DN150
05717	DN10 - DN50
05719	DN15 - DN150



Type 28206.X.0783	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.25

Dimensions in mm.

for Cryogenic-Check Valves

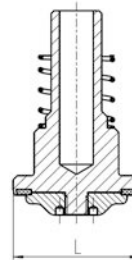
stainless steel check disc 1.4301

"cleaned and degreased for oxygen service"

Part No. 29206.X.0765

suitable for:

Type	Nominal size
05614	DN10 - DN150



Type 29206.X.0765	Technical data											
Nominal size	DN	10	15	20	25	32	40	50	65	80	100	150
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Disc Ø	L	23	25	30	34.5	42	47	55	73	86	104	155
Weight	ca. kg	0.05	0.07	0.09	0.10	0.15	0.20	0.34	0.48	0.66	1.05	3.25

Dimensions in mm.



Spare Parts for Fire Safe and Offshore Applications

Type 30641, 30643 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

consisting of:

- 1x Bonnet gasket Graphite
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30641.X.0000

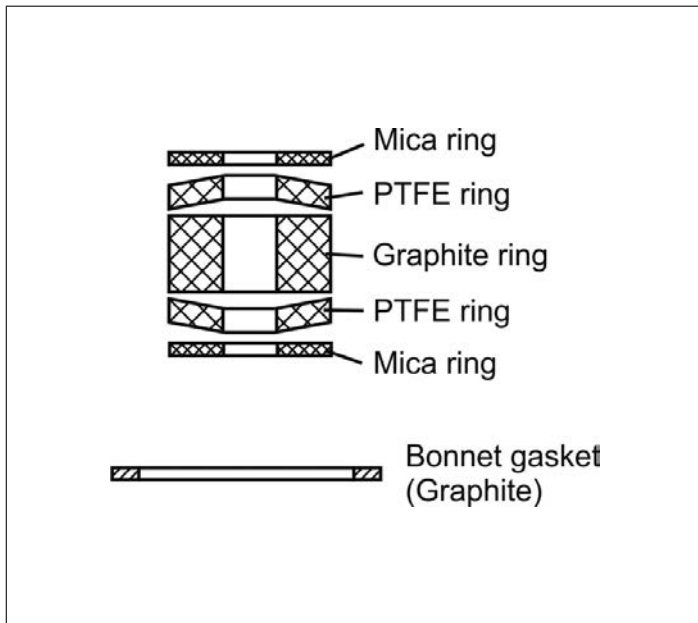
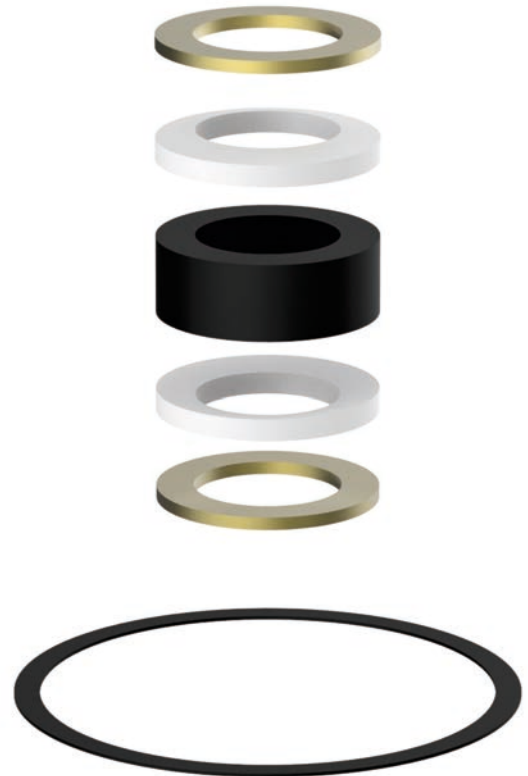
Part No. 30643.X.0000

30641.X.0000 suitable for:

Type	Nominal size
01651, 01851	DN10 - DN150
01641, 01841	DN10 - DN200
01655, 01645, 01855, 01845	DN10 - DN50
03651, 03641, 03851, 03841	DN15 - DN150
01643, 01843	DN10 - DN50, DN100, DN200
03843	DN15 - DN50, DN100, DN200

30643.X.0000 suitable for:

Type	Nominal size
01643, 01843, 03843	DN65 - DN80, DN150



Type 30641/30643	Technical data												
	DN	10	15	20	25	32	40	50	65	80	100	150	200
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Weight	ca. kg	0.04	0.04	0.05	0.06	0.08	0.09	0.14	0.19	0.25	0.34	0.39	1.81

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 30653 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

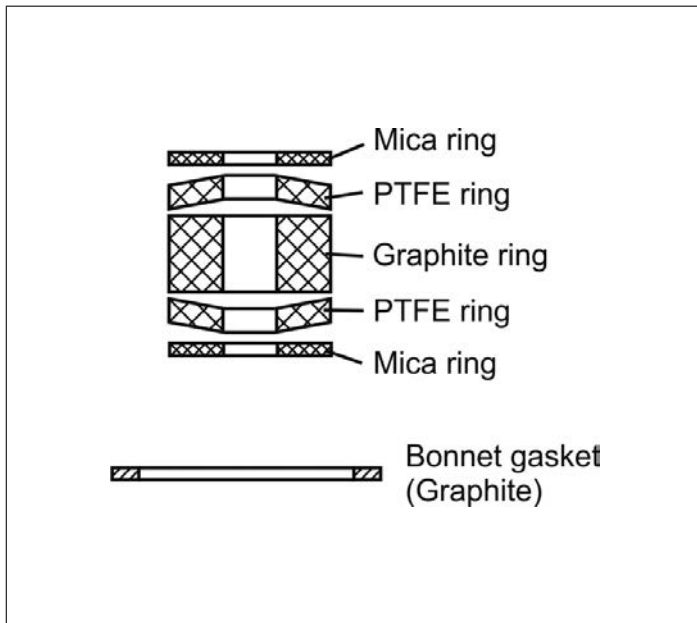
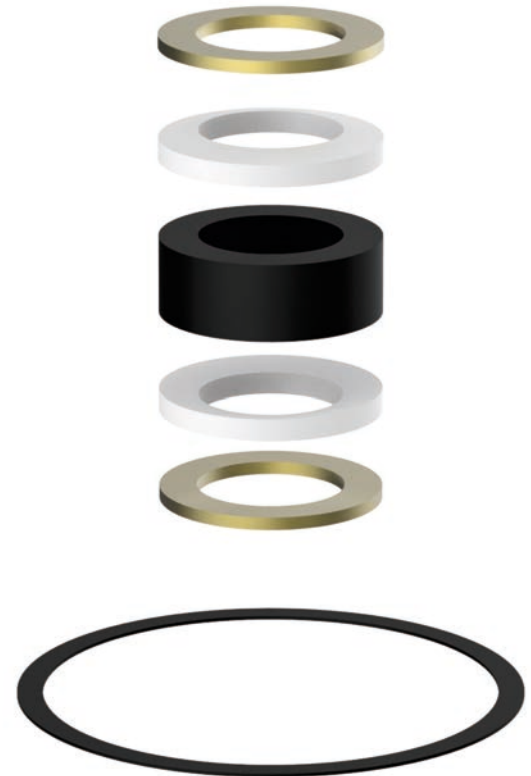
consisting of:

- 1x Bonnet gasket Graphite
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30653.X.0000

suitable for:

Type	Nominal size
01653, 01753, 01853, 03653, 03753, 03853	DN15 - DN80



Type 30653	Technical data									
	DN	15	20	25	32	40	50	65	80	
Nominal size	.X.	0150	0200	0250	0320	0400	0500	0650	0800	
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	
Weight	ca. kg	0.04	0.05	0.06	0.08	0.09	0.14	0.19	0.25	

Dimensions in mm.

Edition 2024-01



Spare Parts for Fire Safe and Offshore Applications

Type 30741, 30743 - Sealing spare part kit



for Cryogenic-Globe Valves

"cleaned and degreased for oxygen service"

consisting of:

- 1x Bonnet gasket Graphite
- 1x Disc seal PCTFE
- 1x Disc nut 1.4571
- 1x Gland packing kit complete PTFE/Graphite
- 2x Stem gasket Mica

Part No. 30741.X.0000

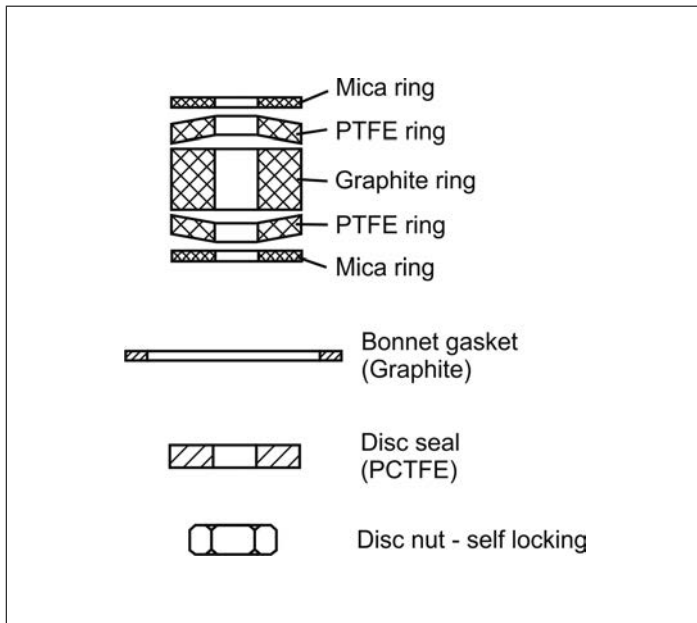
Part No. 30743.X.0000

30741.X.0000 suitable for:

Type	Nominal size
01751	DN10 - DN150
01741	DN10 - DN200
01755, 01745	DN10 - DN50
03751, 03741	DN15 - DN150
01743, 03743	DN10 - DN50, DN100, DN200

30743.X.0000 suitable for:

Type	Nominal size
01743, 03743	DN65 - DN80, DN150



Type 30741/30743	Technical data												
	DN	10	15	20	25	32	40	50	65	80	100	150	200
Nominal size	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500	2000
Weight	ca. kg	0.03	0.03	0.04	0.05	0.07	0.08	0.13	0.18	0.24	0.32	0.44	1.81

Dimensions in mm.

Spare Parts for Fire Safe and Offshore Applications

Type 30714 - Sealing spare part kit



for Cryogenic-Check Valves

"cleaned and degreased for oxygen service"

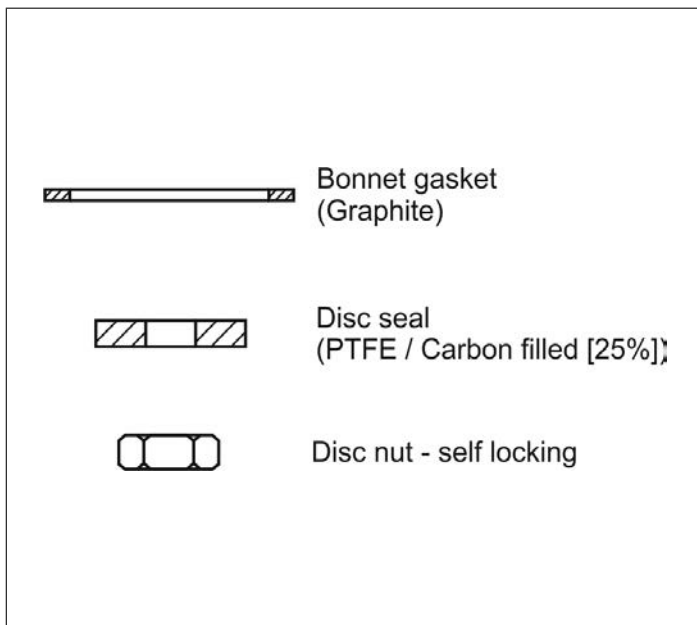
consisting of:

- 1x Bonnet gasket Graphite
- 1x Disc seal PTFE / Carbon filled (25%)
- 1x Disc nut 1.4571

Part No. 30714.X.0000

suitable for:

Type	Nominal size
05714	DN10 - DN150
05717	DN10 - DN50
05719	DN15 - DN150



Type 30714	Technical data										
Nominal size	DN	10	15	20	25	32	40	50	65	80	100
Dimension code	.X.	0100	0150	0200	0250	0320	0400	0500	0650	0800	1000
Weight	ca. kg	0.02	0.02	0.03	0.04	0.06	0.07	0.11	0.16	0.22	0.30

Dimensions in mm.

Edition 2024-01



Nonferrous materials

DIN EN new		DIN old		ASTM
CC490K	CuSn3Zn8Pb5-C	RG2	2.1098	-
CC491K	CuSn5Zn5Pb5-C	RG5	2.1096.01	B 62 UNS C83600
CC493K	CuSn7Zn4Pb7-C	RG7	2.1090	B 505 UNS C93200
CW450K	CuSn4	CUSN4	2.1016	B 103 UNS C51100
CW452K	CuSn6	CUSN6	2.1020	B 159 UNS C51900
CW453K	CuSn8	CUSN8	2.1030	B 103 UNS C52100
CW507L	CuZn36	CUZN36	2.0335	B 111 UNS C27000
CW508L	CuZn37	CUZN37	2.0321	B 111 UNS C27200
CW509L	CuZn40	CUZN40	2.0360	B 111 UNS C28000
CW610N	CuZn39Pb0,5	CUZN39PB	2.0372	B 111 UNS C36500
CW612N	CuZn39Pb2	MS58	2.0380.10	B 283 UNS C37770
CW614N	CuZn39Pb3	MS58	2.0401.08	B 283 UNS C38500
CW617N	CuZn40Pb2	MS58	2.0402.20	B 283 UNS C38000
CW710R	CuZn35Ni3Mn2AlPb	CUZN35NI	2.0540	-
CW713R	CuZn37Mn3Al2PbSi	CUZN40AL	2.0552	-
CW718R	CuZn39Mn1AlPbSi	CUZN40AL	2.0561	-
CW720R	CuZn40Mn1Pb1	CUZN40MN	2.0580	-
CW723R	CuZn40Mn2Fe1	CUZN40MN	2.0572	-

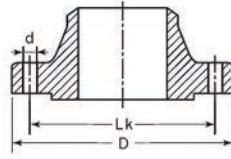
Ferrous materials

DIN EN new		DIN old	ASTM
1.1200	Spring steel	Carbon steel	A 227
1.4021	C20Cr13	1.4021	A 276 Grade 420
1.4034	X45Cr13	1.4034	A 276 Grade 420
1.4057	X17CrNi16-2	1.4057	A 276 Grade 431
1.4104	X14CrMoS17	1.4104	A 276 Grade 430F
1.4112	X90CrMoV18	1.4112	A 276 Grade 440B
1.4122	X39CrMo17-1	1.4122	-
1.4300	X12CrNi18-8	1.4300	A 276 Grade 302
1.4301	X5CrNi18-10	1.4301	A 276 Grade 304
1.4305	X8CrNiS18-9	1.4305	A 276 Grade 303
1.4306	X2CrNi19-11	1.4306	A 312 TP 304L
1.4308	G-X6CrNi18-9	1.4308	A 351 CF8
1.4310	X10CrNi18-8	1.4310	A 313 Grade 301
1.4401	X5CrNiMo17-12-2	1.4401	A 276 Grade 316
1.4404	X2CrNiMo17-12-2	1.4404	A 276 Grade 316L
1.4408	GX5CrNiMo19-11-2	1.4408	A 351 CF 8M
1.4409	G-X2NiCrMo28-20-2	1.4409	A 351 CF 3M
1.4541	X6CrNiTi18-10	1.4541	A 276 Grade 321
1.4568	X7CrNiAl17-7	1.4568	A 313 Grade 631
1.4571	X6CrNiMoTi17-12-2	1.4571	A 313 Grade 316Ti
1.4552	G-X7CrNiNb18-9	1.4552	A 351 CF 8C
1.4923	X22CrMoV12-1	1.4923	A 193 Grade B6
1.4980	X5CrNiTi26-15	1.4980	A 286 Grade 660
1.5415	16Mo3	-	A 182 Grade F1
1.7225	42CrMo4	1.7225	A 194 Grade 7
1.7258	24CrMo5	1.7258	A 194 Grade B7
1.7335	13CrMo4-5	1.7335	A 182 Grade F12
1.7380	10CrMo9-10	1.7380	A 182 Grade F22
1.7709	21CrMoV5-7	1.7709	-

Dimensions of DIN flanges



DN = Nominal diameter
D = Diameter of flange
Lk = Diameter of bolt circle
n = Number of holes
d = Diameter of holes



DN		PN 6				PN 10				PN 16				PN 25				PN 40			
		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8"	75	50	4	11	90	60	4	14	90	60	4	14	90	60	4	14	90	60	4	14
15	1/2"	80	55	4	11	95	65	4	14	95	65	4	14	95	65	4	14	95	65	4	14
20	3/4"	90	65	4	11	105	75	4	14	105	75	4	14	105	75	4	14	105	75	4	14
25	1"	100	75	4	11	115	85	4	14	115	85	4	14	115	85	4	14	115	85	4	14
32	1-1/4"	120	90	4	14	140	100	4	18	140	100	4	18	140	100	4	18	140	100	4	18
40	1-1/2"	130	100	4	14	150	110	4	18	150	110	4	18	150	110	4	18	150	110	4	18
50	2"	140	110	4	14	165	125	4	18	165	125	4	18	165	125	4	18	165	125	4	18
65	2-1/2"	160	130	4	14	185	145	4	18	185	145	4	18	185	145	8	18	185	145	8	18
80	3"	190	150	4	18	200	160	8	18	200	160	8	18	200	160	8	18	200	160	8	18
100	4"	210	170	4	18	220	180	8	18	220	180	8	18	235	190	8	22	235	190	8	22
125	5"	240	200	8	18	250	210	8	18	250	210	8	18	270	220	8	26	270	220	8	26
150	6"	265	225	8	18	285	240	8	22	285	240	8	22	300	250	8	26	300	250	8	26
200	8"	320	280	8	18	340	295	8	22	340	295	8	22	360	310	12	26	375	320	12	30

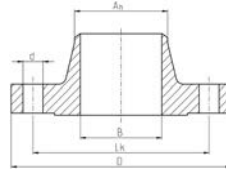
DN		PN 63				PN 100				PN 160				PN 250				PN 320			
		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8"	100	70	4	14	100	70	4	14	100	70	4	14	125	85	4	18	125	85	4	18
15	1/2"	105	75	4	14	105	75	4	14	105	75	4	14	130	90	4	18	130	90	4	18
20	3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1"	140	100	4	18	140	100	4	18	140	100	4	18	150	105	4	22	160	115	4	22
32	1-1/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	1-1/2"	170	125	4	22	170	125	4	22	170	125	4	22	185	125	4	26	195	145	4	26
50	2"	180	135	4	22	195	145	4	26	195	145	4	26	200	150	8	26	210	160	8	26
65	2-1/2"	205	160	4	22	220	170	8	26	220	170	8	26	230	180	8	26	255	200	8	30
80	3"	215	170	4	22	230	180	8	26	230	180	8	26	255	200	8	30	275	220	8	30
100	4"	250	200	4	22	265	210	8	30	265	210	8	30	300	235	8	30	300	265	8	36



Dimensions of ANSI flanges



- DN** = Nominal diameter
- D** = Diameter of flange
- Lk** = Diameter of bolt circle
- n** = Number of holes
- d** = Diameter of holes
- B** = Flange bore
- A_n** = Outside diameter butt weld



				Class 150				Class 300			
DN		B	A _n	D	Lk	n	d	D	Lk	n	d
15	1/2"	15.8	21.3	90	60.3	4	15.9	95	66.7	4	15.9
20	3/4"	20.9	26.7	100	69.9	4	15.9	115	82.6	4	19.0
25	1"	26.6	33.4	110	79.4	4	15.9	125	88.9	4	19.0
32	1-1/4"	35.1	42.2	115	88.9	4	15.9	135	98.4	4	19.0
40	1-1/2"	40.9	48.3	125	98.4	4	15.9	155	114.3	4	22.2
50	2"	52.5	60.3	150	120.7	4	19.1	165	127.0	8	19.0
65	2-1/2"	62.7	73.0	180	139.7	4	19.1	190	149.2	8	22.2
80	3"	77.9	88.9	190	152.4	4	19.1	210	168.3	8	22.2
100	4"	102.3	114.3	230	190.5	8	19.1	255	200.0	8	22.2
125	5"	128.2	141.3	255	215.9	8	22.2	280	235.0	8	22.2
150	6"	154.1	168.3	280	241.3	8	22.2	320	269.9	12	22.2
200	8"	202.7	219.1	345	298.5	8	22.2	380	330.2	12	25.4



Standard pipe dimensions, available pipe dimensions



- x = Standard pipe dimensions**
- o = available on request**
- = not available resp. project specified option**

Stainless steel and copper pipes

DIN EN ISO 1127 - Stainless steel pipe dimensions									
Wall thickn. in mm	outside pipe diameter in mm								
	10.0	12.0	17.2	21.3	26.9	33.7	42.4	48.3	60.3
1.0	x	x	-	-	-	-	-	-	-
1.6	-	-	-	o	-	-	-	-	-
2.0	-	o	-	o	-	o	x	o	o
2.3	-	-	x	-	-	-	-	-	-
2.6	-	-	-	x	-	o	-	o	-
2.9	-	-	-	-	x	-	-	-	-
3.2	-	-	-	o	-	x	o	-	-
3.6	-	-	-	-	-	-	-	x	x
4.5	-	-	-	-	-	o	-	-	-

ASTM A312 - Stainless steel pipe dimensions									
Wall thickness	outside pipe diameter in mm								
	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	
	13.72	17.15	21.34	26.67	33.40	42.16	48.26	60.33	
Sch. 5	1.20	1.20	1.72	1.72	1.72	1.72	1.72	1.72	
Sch. 10	1.72	1.72	2.11	2.11	2.77	2.77	2.77	2.77	
Sch. 40	2.24	2.31	2.77	2.87	3.38	3.56	3.68	3.91	

DIN EN 12449 - Copper pipe dimensions									
Wall thickn. in mm	outside pipe diameter in mm								
	10.0	12.0	15.0	18.0	22.0	28.0	35.0	42.0	54.0
1.0	x	x	o	-	-	-	-	-	-
1.5	-	-	x	x	x	x	x	x	-
2.0	-	-	-	-	-	-	-	-	x



Standard pipe dimensions, available pipe dimensions



- x = Standard pipe dimensions
- o = available on request
- = not available resp. project specified option

Stainless steel body - welding connections

DIN EN ISO 1127 - Butt weld connection											
Wall thickn. in mm	outside pipe diameter in mm										
	12.0	13.5	15.0	16.0	17.2	18.0	21.3	22.0	26.9	28.0	30.0
1.0	x	-	-	-	-	-	-	-	-	-	-
1.5	-	-	x	x	-	-	-	-	-	o	-
1.6	-	x	-	-	x	o	o	-	o	o	-
2.0	o	-	-	-	o	o	x	o	x	o	x
2.3	-	o	-	-	o	-	-	-	o	-	-
2.6	-	-	-	-	-	-	o	-	o	-	-
2.9	-	-	-	-	-	-	-	-	o	-	-
3.2	-	-	-	-	-	-	o	-	-	-	-
3.6	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-
5.6	-	-	-	-	-	-	-	-	-	-	-
6.3	-	-	-	-	-	-	-	-	-	-	-
7.1	-	-	-	-	-	-	-	-	-	-	-

DIN EN ISO 1127 - Butt weld connection											
Wall thickn. in mm	outside pipe diameter in mm										
	33.7	38.0	42.4	48.3	60.3	70.0	76.1	88.9	114.3	168.3	219,1
1.0	-	-	-	-	-	-	-	-	-	-	-
1.5	-	-	-	-	-	-	-	-	-	-	-
1.6	o	-	-	o	o	-	-	-	-	-	-
2.0	x	x	-	x	o	o	-	-	-	-	-
2.3	-	-	-	-	-	-	-	o	-	-	-
2.6	o	-	x	o	x	-	x	-	-	-	-
2.9	-	-	-	-	o	x	o	-	x	-	-
3.2	o	-	-	o	-	-	-	x	-	o	-
3.6	-	-	-	o	-	-	o	-	-	-	-
4.0	-	-	-	-	o	-	-	o	-	-	x
5.6	-	-	-	-	-	-	-	o	-	-	-
6.3	-	-	-	-	-	-	-	-	o	-	-
7.1	-	-	-	-	-	-	-	-	-	x	-

ASTM A312 - Butt weld connection													
Wall thickn.	outside pipe diameter in mm												
	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
	13.72	17.15	21.34	26.67	33.40	42.16	48.26	60.33	73.03	88.90	114.3	168.3	219.1
Sch. 5	1.20	1.20	1.72	1.72	1.72	1.72	1.72	1.72	2.11	2.11	2.11	2.77	2.77
Sch. 10	1.72	1.72	2.11	2.11	2.77	2.77	2.77	2.77	3.04	3.04	3.04	3.38	3.76
Sch. 40	2.24	2.31	2.77	2.87	3.38	3.56	3.68	3.91	5.16	5.49	6.02	7.11	8.18



Approvals and Classifications



Nowadays, product approvals are essential for many customer applications. Below is an excerpt of our most important certifications. A detailed list can be found at herose.com.

Type approvals

Approval company	Approval	Mark
TÜV	CE LNG (DIN EN 12567) Fire Safe (DIN EN ISO 10497)	
National Board	ASME / UV	
AQSIQ	Manufacture License of Special Equipment	
VNIINMASH	EAC	
TSSA	CRN	
AAR		
TECKO	GOST-Ukraine	

Classification societies



Bureau Veritas



China Classification Society



Det Norske Veritas/
Germanischer Lloyd



Lloyd's Register



American Bureau of Shipping



Registro Italiano Navale



Russian Maritime Register of Shipping

Overview ASME Approvals

Safety Valves



HEROSE Type	Inlet	D ₀	Certificate No.	Media
06002/ 06006/ 06012/ 06016	1/4" up to 1/2"	6 mm	91213	Vapours and Gases
06002/ 06012 „gastight“	1/4" up to 1/2"	6 mm	91246	Vapours and Gases
06381/ 06386/ 06416	1/2" up to 3/4"	10,5 mm	91224	Vapours and Gases
06383/ 06388/ 06413/ 06418	1/2" up to 3/4"	7 mm	91011	Vapours and Gases
06383/ 06388/ 06413/ 06418	1/2" up to 3/4"	10,5 mm	91088	Vapours and Gases
06383/ 06388/ 06413/ 06418	1"	15 mm	91077	Vapours and Gases
06383/ 06388/ 06413/ 06418	1-1/4" up to 1-1/2"	23 mm	91101	Vapours and Gases
06420/ 06421/ 06425/ 06426/ 06440/ 06441/ 06445/ 06446	1/2" up to 3/4"	7 mm	91189	Vapours and Gases
06420/ 06421/ 06425/ 06426/ 06440/ 06441/ 06445/ 06446	1/2" up to 3/4"	10,5 mm	91190	Vapours and Gases
06420/ 06421/ 06425/ 06426/ 06440/ 06441/ 06445/ 06446	3/4" up to 1"	14 mm	91279	Vapours and Gases
06420/ 06421/ 06425/ 06426/ 06440/ 06441/ 06445/ 06446	1" up to 1-1/4"	18 mm	91280	Vapours and Gases
06420/ 06421/ 06425/ 06426/ 06440/ 06441/ 06445/ 06446	1"-1/4"	23 mm	91202	Vapours and Gases



The following terms apply to all purchase agreements and contracts for work and materials concluded between us and our contractual counterparts that are businesses (hereinafter referred to as "Purchaser"), as well as to our offers, even if we do not expressly refer to them in an individual case. Derogations from this general rule are only binding upon us where we expressly confirm them in writing. The Purchaser's terms of purchase shall not be binding upon us, even where we do not expressly object to them.

1. Offer and contract formation

Our offer is subject to change with respect to the price, amount, delivery period and our ability to make delivery until the order is confirmed in writing. Side agreements are only effective if they have been confirmed by us in writing.

2. Scope of delivery

The scope of delivery is specified in the order confirmation with binding effect. With respect to goods that are customised we are allowed to make excess or short deliveries differing from the quantity ordered by up to 10 %.

3. Deliveries and delivery periods

The delivery period shall start on the date when all details of the order have been clarified, but not until the contractual duties to be fulfilled by the Purchaser by that time have been fulfilled. The delivery deadline shall be deemed complied with if the goods have left the warehouse when the deadline is reached or, where shipping is delayed due to reasons for which the Purchaser is responsible, if the notification that the goods are ready to ship is made within the delivery period agreed. Compliance with the delivery period is subject to the condition precedent that we receive correct and timely deliveries from our suppliers.

Timely and appropriately sized partial deliveries are permissible and may be billed separately. If force majeure events, industrial actions or other events that are beyond our control, regardless of whether they are experienced by us or our suppliers, keep us from complying with our duty to deliver the goods, the delivery shall be extended by the duration of the disruption. If it becomes impossible to deliver the goods because of such an event or if the subsequent delivery creates an undue burden for either of the parties, both parties are entitled to rescind the agreement. If performance is delayed or if it is no longer possible to deliver the goods ordered due to reasons for which we are responsible, the Purchaser is entitled to rescind the agreement in accordance with the statutory provisions. Claims for damages are subject to the provisions in Section 12 of these Terms of Sale. If the Purchaser is in default of acceptance, we are entitled to charge the Purchaser a fee for storing the goods for each week of default at a flat rate of 1% of the invoice value per week, with a total of 5 %.

4. Prices

Our prices are quoted ex warehouse, exclusive of the statutory value-added tax.. Packaging costs, loading costs, customs fees, etc. shall be borne by the Purchaser.

5. Shipping/ passing of the risk

Goods are dispatched and shipped at the expense and risk of the Purchaser. The risk shall pass to the Purchaser when the goods leave our premises. Where the dispatch is delayed due to the Purchaser's conduct, the risk shall pass, and the purchase price shall become due, when the Purchaser is notified that the goods are ready to ship.

6. Payment terms

Invoice amounts must be paid within 30 days of the date of invoice without any deduction. If we grant any discounts, they may not be deducted from any new invoices as long as older invoices for which payment is due have not been paid yet. For periods during which the Purchaser is in default of payment or during which payments due are deferred we will charge the default interest at the statutory rate without prejudice to any further claims for damages. Where it becomes apparent after the conclusion of the agreement that our claim for payment is at risk due to the customer's inability to perform and where we have fulfilled the obligations owed by us in return, all of our outstanding claims become due immediately. In this event we are entitled to only make outstanding deliveries against payment of cash or the provision of a security. This does not affect any further statutory claims. The Purchaser has the right to withhold payments, or to offset counterclaims against them, only in so far as the Purchaser's counterclaims are not in dispute or have become final and absolute. This does not apply to counterclaims of the Purchaser which directly seek rectification or to reverse a transaction – owing to a defect we have not corrected, or are unable to correct, by means of remedial performance – and which are based on the same contractual relationship as our claim to payment.

7. Retention of title

We will retain the title to the goods delivered until all outstanding payments due to us under the business relationship, including incidental costs and interest, are settled in full. This also applies until the checks for such payments have cleared. For current accounts, the goods subject to retention of title shall secure our claim to the outstanding balance. Goods subject to retention of title shall be processed and treated on our behalf without creating any obligations for us. If our goods are processed, combined or mixed with other goods that do not belong to us, we are entitled to a co-ownership interest in the new items based on the ratio of the invoice value of the goods subject to retention of title compared to the value of the other goods processed at the time when they are processed, combined or mixed. Where the Purchaser becomes the sole owner of the new item, it already now assigns the co-ownership interest in the new item to us based on the ratio of the invoice value of our goods subject to retention of title compared to the value of the other goods processed at the time when they are processed, combined or mixed and it shall hold the new item in custody for us with the due diligence of a prudent businessman.

The goods delivered, irrespective of whether they are unprocessed or have been processed or combined or mixed, may only be resold by resellers in the ordinary course of business subject to retention of title, and only if the receivables resulting from the resale pass to us. The Purchaser must not pledge or assign goods subject to retention of title as collateral or agree to a prohibition of assignment or an assignment without our consent in the context of factoring. Where execution is levied in respect of the goods subject to retention of title or where our rights are prejudiced by third parties in any other way, the Purchaser must notify us without undue delay. The Purchaser hereby assigns to us in advance all receivables to which it is entitled now or will be entitled later from the resale or on any other legal ground with respect to the goods delivered by us as of the time when they accrue. We accept the assignment. The value of the goods shall be deemed our invoice amount plus a surety surcharge of 10% which is not applied, though, where the rights of third parties conflict with it. If our goods are resold after they have been processed, combined or mixed or if the new item resulting from the processing, combination or mixing is resold, the claim against the Purchaser's customer in the amount of the invoice value of our processed, combined or mixed goods shall be assigned. This also applies if our goods are sold after they have become an essential component of another item by combining or processing them with other items not belonging to us. If the value of the

collateral provided to us exceeds our claims by more than 10 % in total, we have a duty to release collateral (to be selected at our discretion) at the Purchaser's request. Once all outstanding payments due to us under the business relationship have been settled, title to the goods subject to retention of title and the receivables assigned shall pass to the Purchaser. The Purchaser is authorised to collect the purchase price on our behalf until we revoke this authorisation. The Purchaser has a duty to notify its customers of the assignment at our request and to provide the information and documents that are required for exercising our rights vis-à-vis the respective purchaser.

8. Liability for defects

The Purchaser's warranty rights are predicated on the assumption that the Purchaser, where the Purchaser is a businessman ("Kaufmann"), has duly satisfied its obligations to inspect the goods and to give notice of defects pursuant to Section 377 of the German Commercial Code (HGB).

The Purchaser is not entitled to base complaints on excess or short weight due to foundry technology reasons. If there is a defect, we can remedy the defect or provide a replacement, at our option. If the Purchaser asserts claims for defects, it must give us the opportunity and the time required to review the complaint. If the item is defective and if the Purchaser has incorporated said item into another item or attached it to another item in accordance with its nature and type of use, then we – should a claim for subsequent performance be asserted against us – are entitled to choose within a reasonable period of time whether to compensate the Purchaser for the work required to remove the defective product and to install or attach the rectified product or the defect-free replacement product (work), or to carry out this work ourselves or have this work carried out at our expense (self-performance). If we fail to exercise this right within a reasonable period of time, it shall be deemed forfeited. If we opt for self-performance, the Purchaser shall be entitled to specify a reasonable period of time for such performance. Where said time period expires without results, the Purchaser is entitled to carry out the work itself or have it carried out. In this case, our right to self-performance shall be deemed forfeited and the Purchaser may carry out this work at our expense. Our right to object to the kind of subsequent performance due to its disproportionate expense pursuant to Section 439 (4) of the German Civil Code (BGB) remains unaffected. Where this does not apply, we must reimburse the Purchaser for the required costs incurred for the work. Claims for defects pursuant to Section 437 BGB shall become time barred twelve (12) months after the date of delivery. This limitation does not apply to claims for damages, including claims for damages based on the fact that we are in default of performance with respect to the rectification of a defect requested by the Purchaser and owed by us, or with respect to an item that was used for a building in accordance with its customary use. We do not provide any warranty for used products. The provisions in the two foregoing sentences shall not affect the limitation period for recovering from the supplier pursuant to Sections 445b, 478 BGB. Claims for damages based on an injury to the life, body or health of a person caused by defects or claims for damages under the German Product Liability Act (Produkthaftungsgesetz) shall not be limited either by the foregoing provisions. Further claims that are not limited by this provision are other claims for damages under warranty law in the event of gross negligence, intent, or the breach of material contractual duties. Section 12 of these Terms of Sale shall apply in this respect.

9. Returns

Returns that are not based on a statutory claim may only be made free of carriage charges with our express consent. We reserve the right to deduct an amount of at least 30 % of the net value of the goods when we credit the purchase price to compensate for the costs incurred with every return. The Purchaser is free to prove to us that the loss incurred by us due to the return is smaller.

10. Catalogues

The images in our catalogues and brochures are not binding for the actual execution. We reserve the right to change the construction style where this is advisable for technical reasons and does not impair the contractual purpose. Derogations from the measures and weights specified are permissible where they do not jeopardise the contractual purpose or the quality.

11. Copyright

We reserve the proprietary rights and copyrights with respect to catalogues, images, drawings, samples, and other documents. They must not be made available to third parties without our consent and must be returned without undue delay upon request. If an order placed with us infringes upon third party patent, design or trademark rights due to drawings or models submitted to us, all responsibility shall lie with the Purchaser which shall be liable for any resulting damage and loss of profits incurred by us, as the supplier, and shall indemnify us against any claims brought against us by third parties unless it is not responsible for the infringement.

12. General liability

We are only liable for damage that is caused intentionally or through gross negligence. With respect to breaches of material contractual duties we are also liable if they are caused by ordinary negligence. "Material contractual duties" are duties whose fulfilment is essential to the proper performance of the contract and upon whose fulfilment the Purchaser regularly relies and may regularly rely. Our liability is limited to the reasonably foreseeable damage typically incurred with this type of contract unless it is due to an intentional act. The foregoing limitations of liability do not apply to injuries to the life, body or health of a person or in cases of liability pursuant to the German Product Liability Act. The Purchaser's claims for the reimbursement of expenses pursuant to Section 284 BGB are waived to the extent that a claim for damages in lieu of performance is excluded pursuant to the foregoing provisions. The foregoing limitations on liability shall also apply to our employees, management bodies and other vicarious agents.

13. Place of performance, venue, applicable law, miscellaneous

The place of performance for all claims arising under this agreement is our registered office. The legal venue for all disputes with businessmen, legal entities under public law, special funds under public law or persons who do not have a place of general jurisdiction in Germany is the city in which our registered office is located. We are entitled to also, at our option, bring a suit against the Purchaser in the court having jurisdiction over the area in which its registered office is located. If the registered office of the Buyer is located outside of the European Economic Area (EEA) and the European Free Trade Area (EFTA), the two foregoing sentences do not apply. In this event, all disputes arising in connection with the agreement or its validity shall be finally settled in accordance with the rules of arbitration of Deutsche Institution für Schiedsgerichtsbarkeit e.V. (DIS) without recourse to the ordinary courts. The place of arbitration is Hamburg; the language of the proceedings is German. German law applies to the exclusion of the UN Convention on Contracts for the International Sale of Goods (CISG). We store the data generated in the context of the business relationship in accordance with the legal regulations.

HEROSE GMBH
ARMATUREN UND METALLE

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