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Product catalogue

CRANE®

ChemPharma Flow Solutions

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* The materials C.S. and S.S. are not included in GEST 89/140.
Construction according to EURO CHLOR recommendation.

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BELLOWS SEALED GLOBE VALVES WITH FULLY FLUSHED BELLOWS TYPE 11.3

Product description Type 11.3

Bellows sealed globe valve for chemical applications with safety gland packing in straight type, y-type or corner-type; with flanges or buttweld ends; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 11.3

For different kind of medium with inflammable, explosive, volatile, toxic or aggressive characteristics, whose delivery must be prevented into the atmosphere. Design in accordance with the Federal Emission Protection law.

Design features Type 11.3

- 2-part rising stem with outside roll-formed thread; stem coupling with bellows anti-torque device and position indicator
- Full size safety gland packing made of pure graphite; can also be supplied in PTFE on request
- Metal back seat operating as stroke limiter in open position and bellows anti-vibration device
- Multiple wall, fully flushed stainless steel bellows, secured against torsion, designed for 10,000 cycles; fully welded
- Stainless steel grooved bonnet gasket coated by pure graphite, mounted in tongue and grooved bonnet flanges
- Conical shaped plug made of hardened chromium steel 1.4021 or armoured with stellite 6; body seat hardfaced with stainless steel 1.4370 or stellite 21

Type 11.3

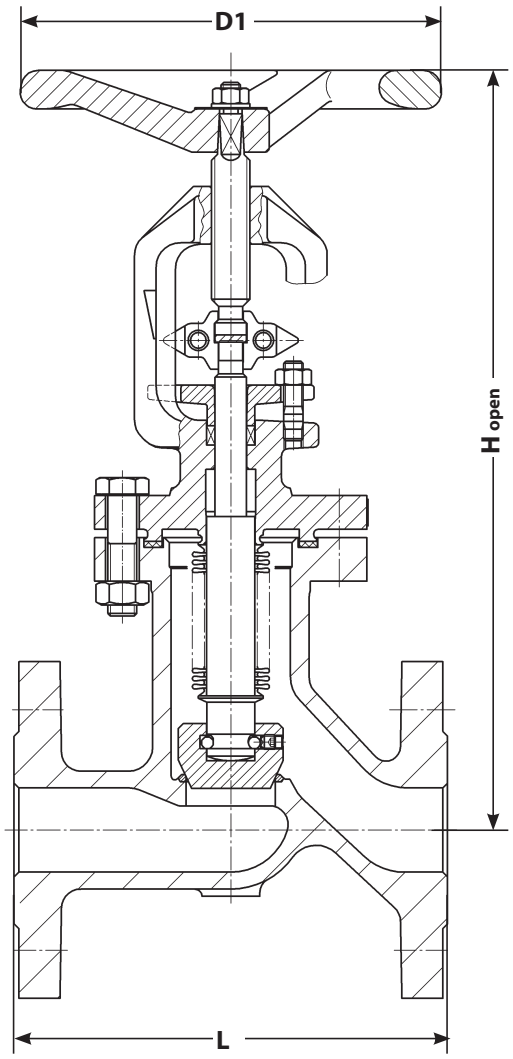
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.3-G-FL	S.S. 11.3-G-FL-A4	Low temp. 11.3-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	290	150	8
20	150	290	150	8
25	160	300	150	9
32	180	335	175	12
40	200	340	175	13
50	230	360	200	18

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

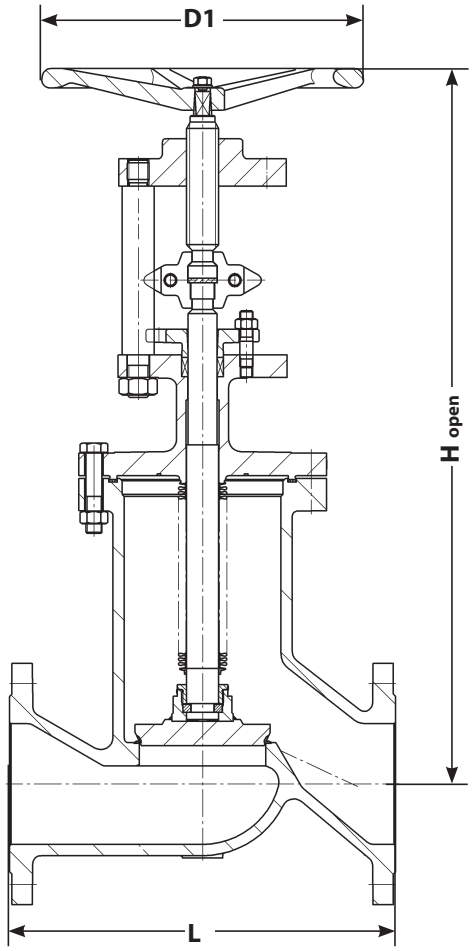
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.3-G-FL	S.S. 11.3-G-FL-A4	Low temp. 11.3-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	460	200	26
80	310	610	250	40
100	350	610	300	56
125	400	615	300	86
150	480	945	400	155
200	600	910	400	255
250	730	1280	600	393
300	850	1285	600	492
350	980	1675	600	800
400	1100	1685	600	1020

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange. Stem from DN 250 and above provided with an additional guide sleeve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

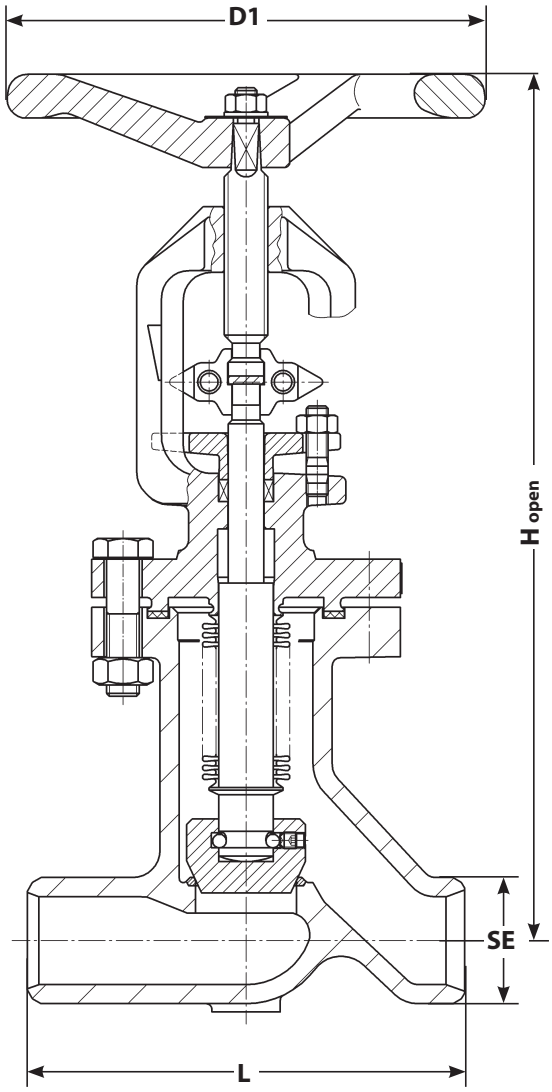
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	285	150	6
20	26,9*2,3	130	285	150	6
25	33,7*2,6	130	285	150	6
32	42,4*2,6	160	335	175	9
40	48,3*2,6	180	340	175	10
50	60,3*3,2	210	360	200	12

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

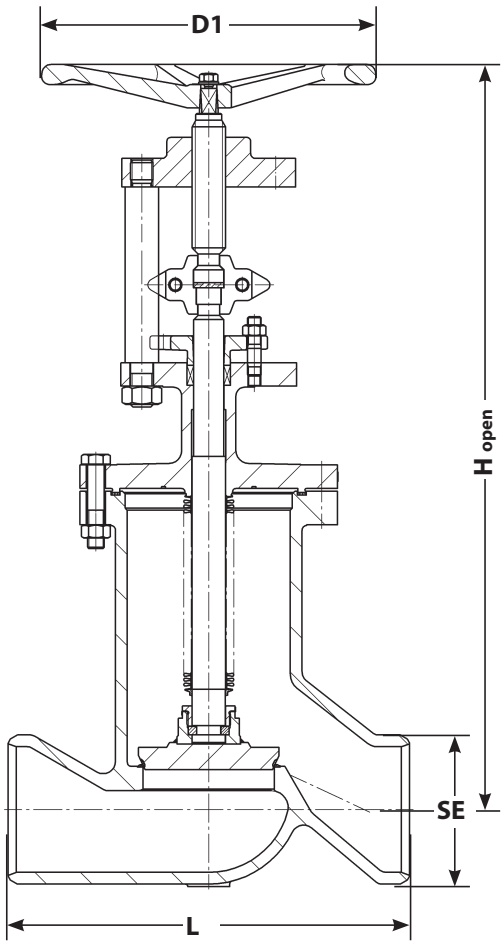
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.3-G-SE	S.S. 11.3-G-SE-A4	Low temp. 11.3-G-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	460	200	18
80	88,9* 4,0	310	610	250	30
100	114,3* 5,0	350	610	300	38
125	139,7* 4,5	400	615	300	72
150	168,3* 5,6	480	945	400	130
200	219,1* 7,1	600	910	400	215
250	273,0* 8,0	730	1280	600	325
300	323,9* 8,0	850	1285	600	444
350	355,6* 8,8	980	1675	600	720
400	406,4* 11,0	1100	1685	600	890

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange. Stem from DN 250 and above provided with an additional guide sleeve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

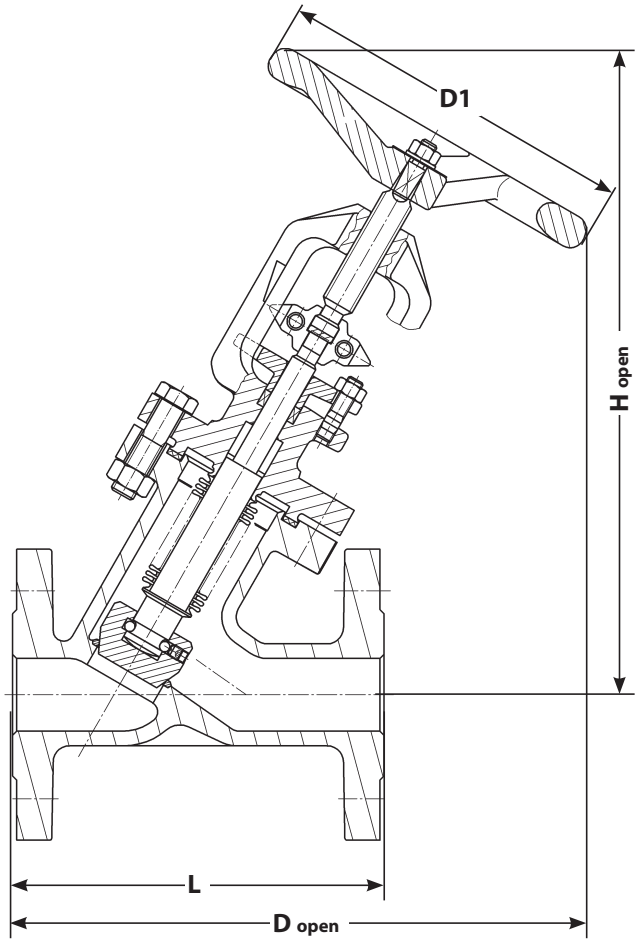
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	240	295	150	7
20	150	235	295	150	8
25	160	245	295	150	8
32	180	290	330	175	12
40	200	300	330	175	14
50	230	345	360	200	17

Bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

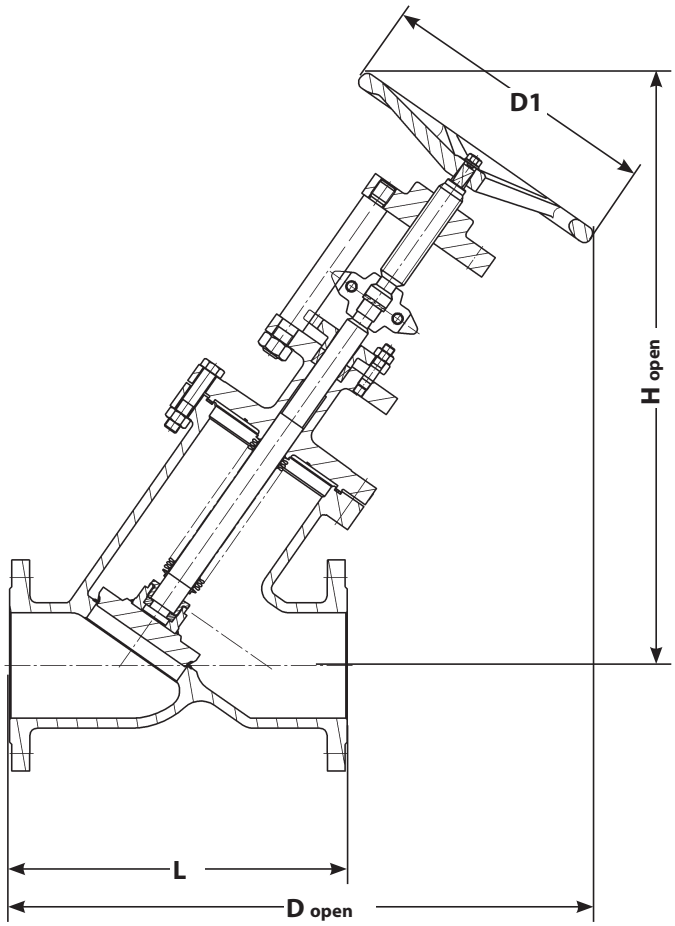
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	415	435	200	22
80	310	505	580	250	40
100	350	550	600	300	54
125	400	565	620	300	86
150	480	860	890	400	150
200	600	905	905	400	255
250	730	1285	1220	600	382
300	850	1325	1235	600	510
350	980	1740	1530	600	800
400	1100	1775	1550	600	1020

Bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange. Stem from DN 250 and above provided with an additional guide sleeve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

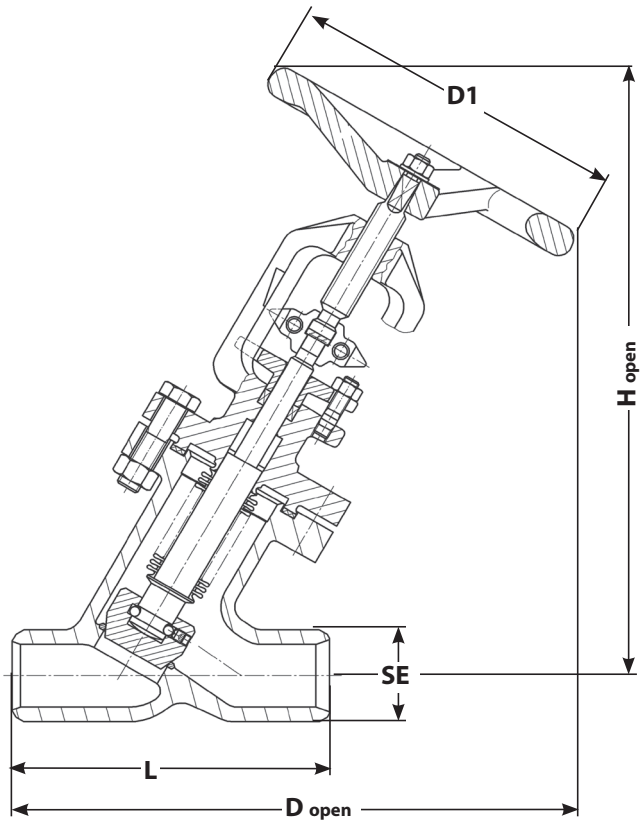
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S. *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	240	280	150	6
20	26,9*2,3	130	240	280	150	6
25	33,7*2,6	130	240	280	150	6
32	42,4*2,6	160	295	330	175	8
40	48,3*2,6	180	295	330	175	9
50	60,3*3,2	210	335	360	200	12

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

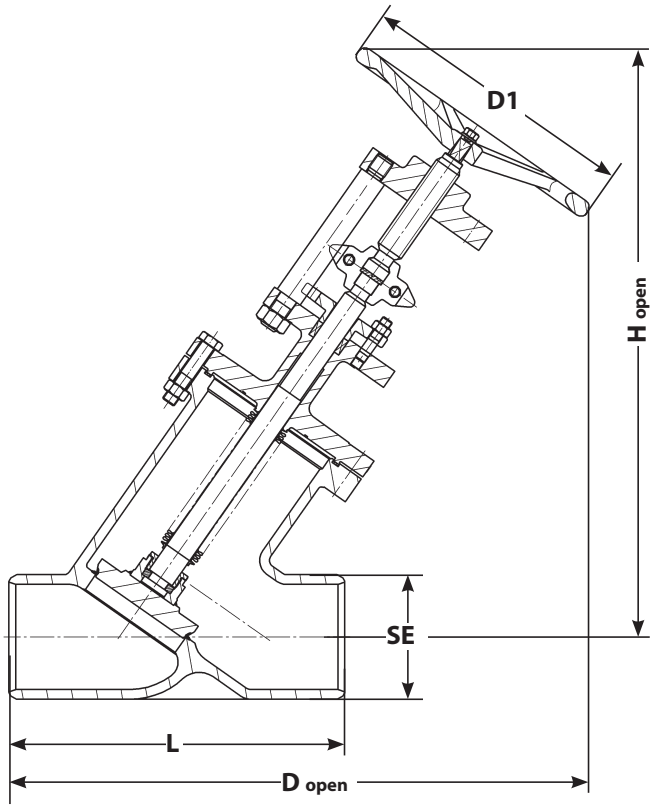
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.3-S-SE	S.S. 11.3-S-SE-A4	Low temp. 11.3-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	415	435	200	18
80	88,9* 4,0	310	505	580	250	30
100	114,3* 5,0	350	550	600	300	38
125	139,7* 4,5	400	565	620	300	72
150	168,3* 5,6	480	860	890	400	136
200	219,1* 7,1	600	905	905	400	215
250	273,0* 8,0	730	1285	1220	600	338
300	323,9* 8,0	850	1325	1235	600	444
350	355,6* 8,8	980	1740	1530	600	720
400	406,4* 11,0	1100	1775	1550	600	890

Bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange. Stem from DN 250 and above provided with an additional guide sleeve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

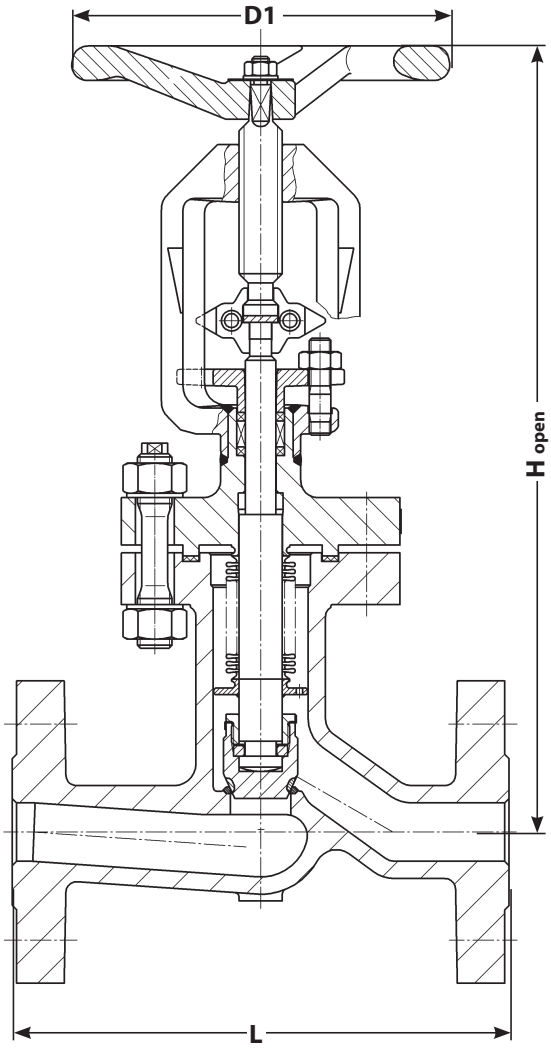
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall liquid contacted bellows. Stem from PN 100 and above with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.3-G-FL*	S.S. *11.3-G-FL-A4*	Low temp. *11.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160	PN 63			PN 100			PN 160		
	L [mm]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]
15	210	150	300	9	175	375	16	175	375	16
20	230	150	300	*	175	375	18	175	375	*
25	230	150	300	11	175	375	19	175	375	19
32	260	175	335	*	250	410	36	250	410	*
40	260	175	340	17	250	410	39	250	410	39
50	300	200	360	21	250	560	44	250	560	45

* on request

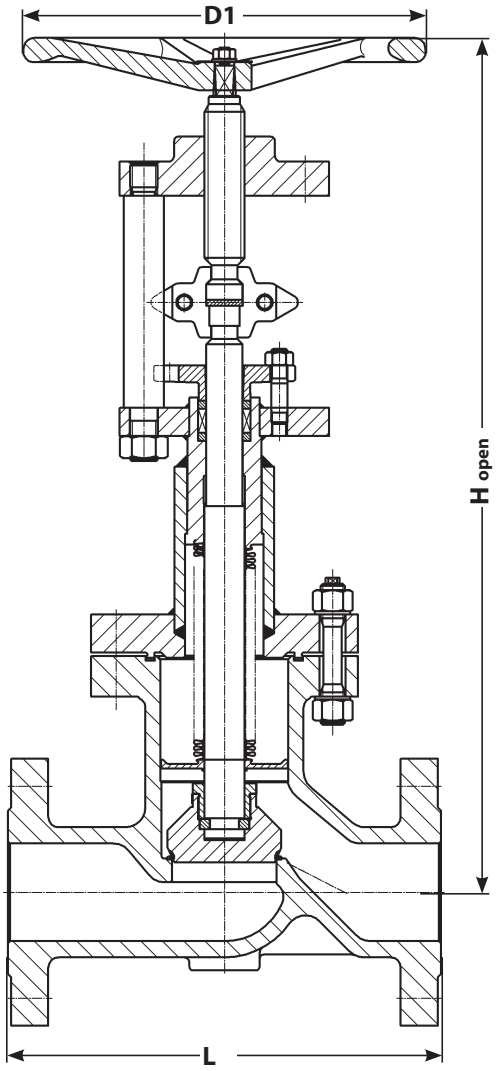
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall liquid contacted bellows. From PN 100 and above bonnet design with column and stem provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug. If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

Component	Material C.S. *11.3-G-FL*	S.S. *11.3-G-FL-A4*	Low temp. *11.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160	PN 63			PN 100			PN 160		
	L [mm]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]
65	340	200	460	*	*	*	91	*	*	*
80	380	300	610	46	400	880	100	400	880	99
100	430	300	610	57	400	880	*	400	880	*
125	500	300	615	*	400	890	*	400	890	*
150	550	400	945	*	400	1080	*	400	1140	*
200	650	400	910	*	400	1045	*	400	1110	*

* on request

BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

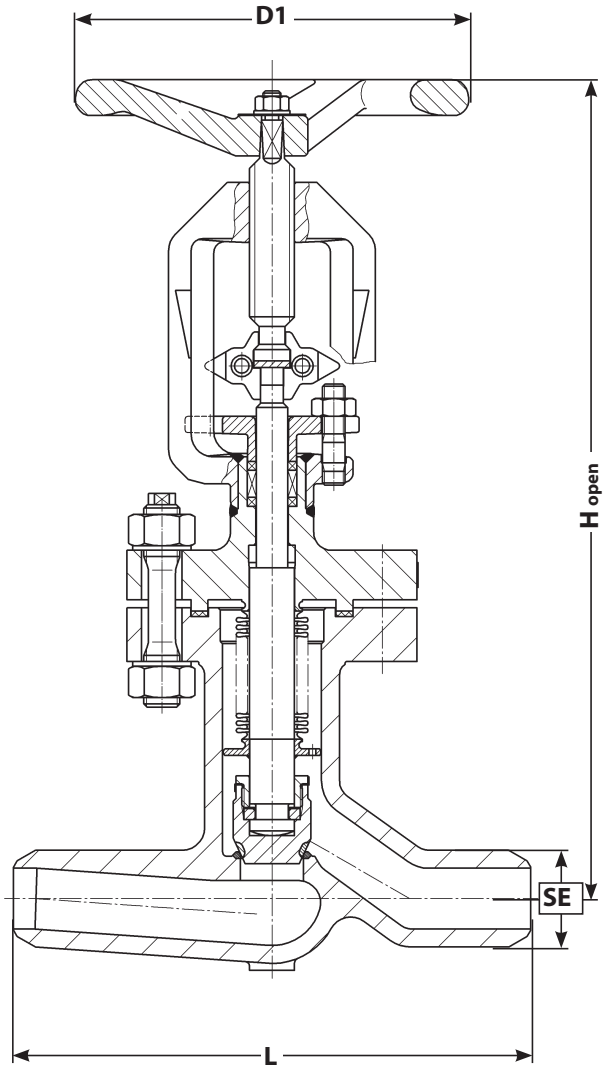
DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St. 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020



High pressure bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall liquid contacted bellows. Stem from PN 100 and above with an additional guide sleeve.
Body made of cast/forged material; seat hardfaced, disc with conical plug.

DN	PN 63-160		PN 63				PN 100				PN 160			
	L [mm]	SE [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]
15	150	21,3	150	300	2,0	6	175	375	2,0	9	175	375	2,0	11
20	150	26,9	150	300	2,3	*	175	375	2,3	*	175	375	2,3	11
25	160	33,7	150	300	2,6	6	175	375	2,6	9	175	375	3,2	11
32	180	42,4	175	340	2,6	*	250	410	2,6	*	250	410	3,6	*
40	210	48,3	175	340	2,6	9	250	410	2,6	31	250	410	3,6	31
50	250	60,3	200	360	3,2	*	250	560	3,2	32	250	560	4,0	32

* on request

BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

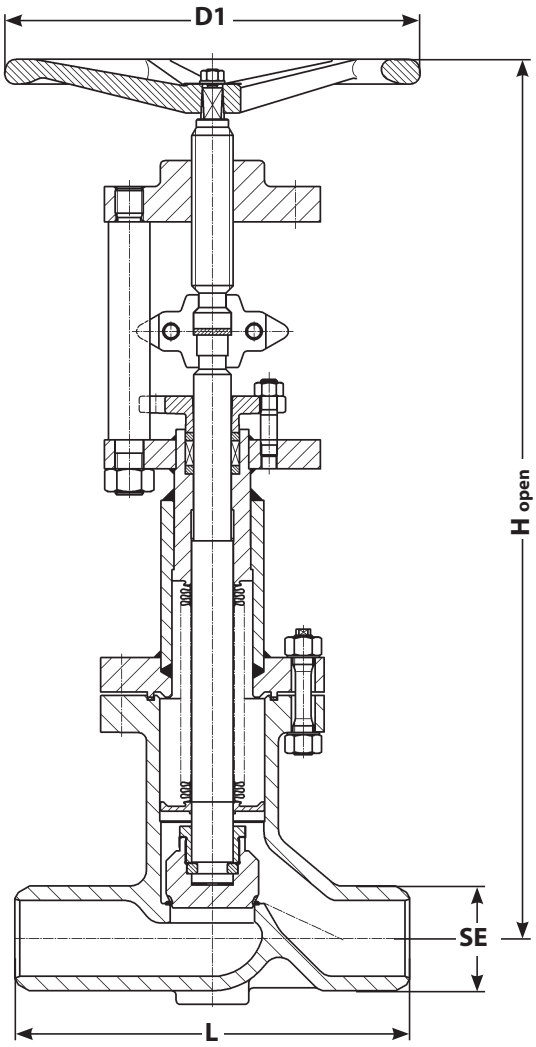
DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020



High pressure bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall liquid contacted bellows. From PN 100 and above bonnet design with column and stem provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160		PN 63				PN 100				PN 160			
	L [mm]	SE [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]
65	340	76,1	200	460	3,6	*	*	*	*	*	*	*	*	*
80	380	88,9	300	610	4,0	*	400	880	4,0	*	400	880	6,3	86
100	430	114,3	300	610	5,0	*	400	880	5,0	*	400	880	8,0	*
125	500	139,7	300	615	4,5	*	400	890	6,3	*	400	890	10,0	*
150	550	168,3	400	945	5,6	*	400	1080	7,1	*	400	1140	12,5	*
200	650	219,1	400	910	7,1	*	400	1045	10,0	*	400	1110	16,0	*

* on request

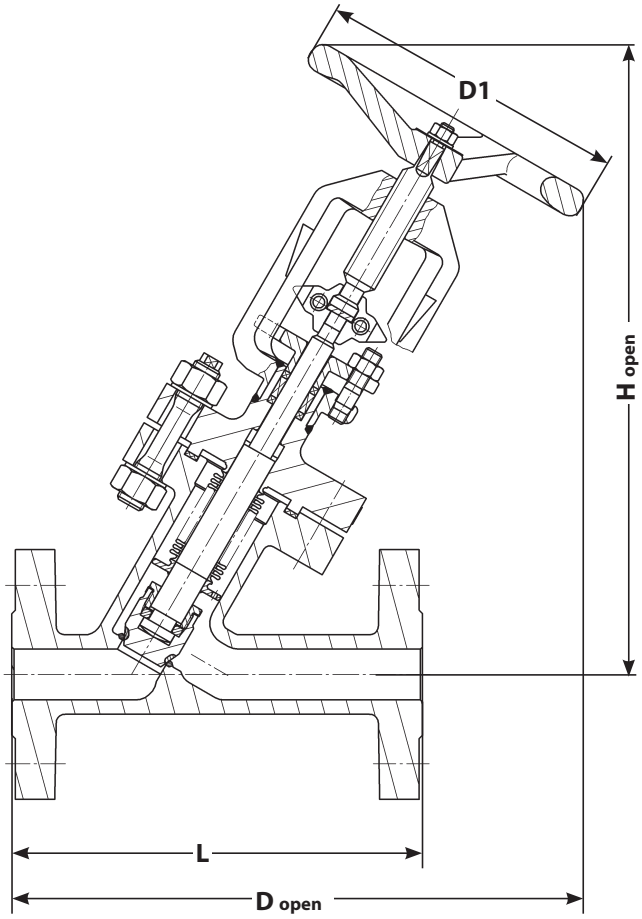
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall liquid contacted bellows. Stem from PN 100 and above with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160	PN 63				PN 100				PN 160			
	L [mm]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]
15	210	270	150	290	*	315	175	360	*	315	175	360	*
20	230	280	150	300	*	325	175	365	*	325	175	365	*
25	230	280	150	300	*	325	175	365	*	325	175	365	*
32	260	340	175	330	*	475	250	545	*	475	250	545	*
40	260	340	175	330	*	475	250	545	*	475	250	545	38
50	300	380	200	360	*	500	250	545	*	500	250	545	43

* on request

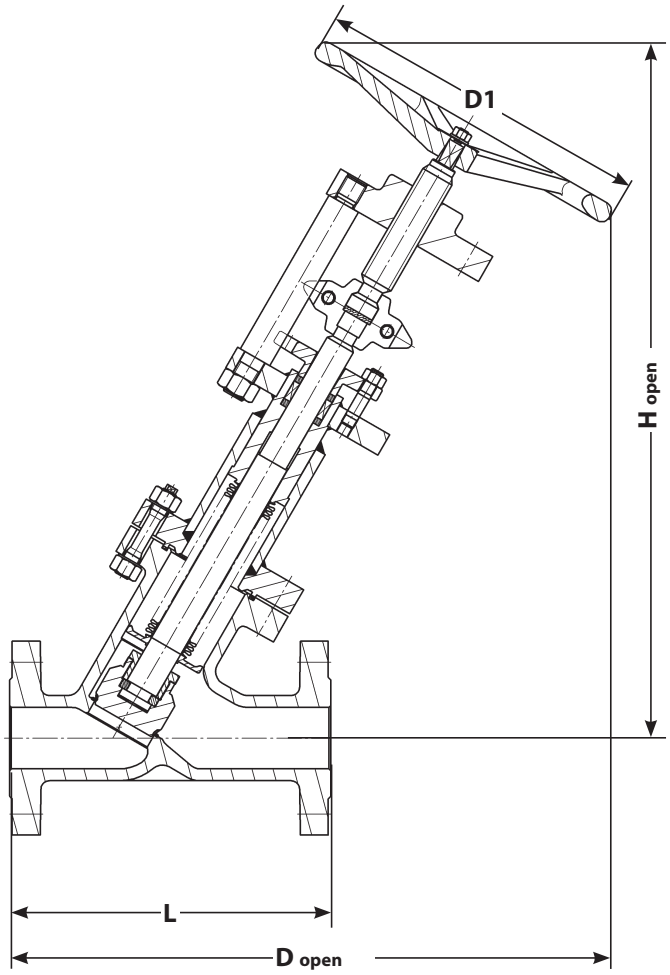
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall liquid contacted bellows. From PN 100 and above bonnet design with column and stem provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160	PN 63				PN 100				PN 160			
	L [mm]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]
65	340	440	200	435	*	*	*	*	*	*	*	*	*
80	380	565	300	595	*	730	400	855	*	730	400	855	*
100	430	590	300	600	*	740	400	855	*	740	400	855	*
125	500	615	300	620	*	790	400	880	*	790	400	880	*
150	550	900	400	890	*	975	400	1015	*	990	400	1015	*
200	650	935	400	905	*	980	400	1035	*	985	400	1035	*

* on request

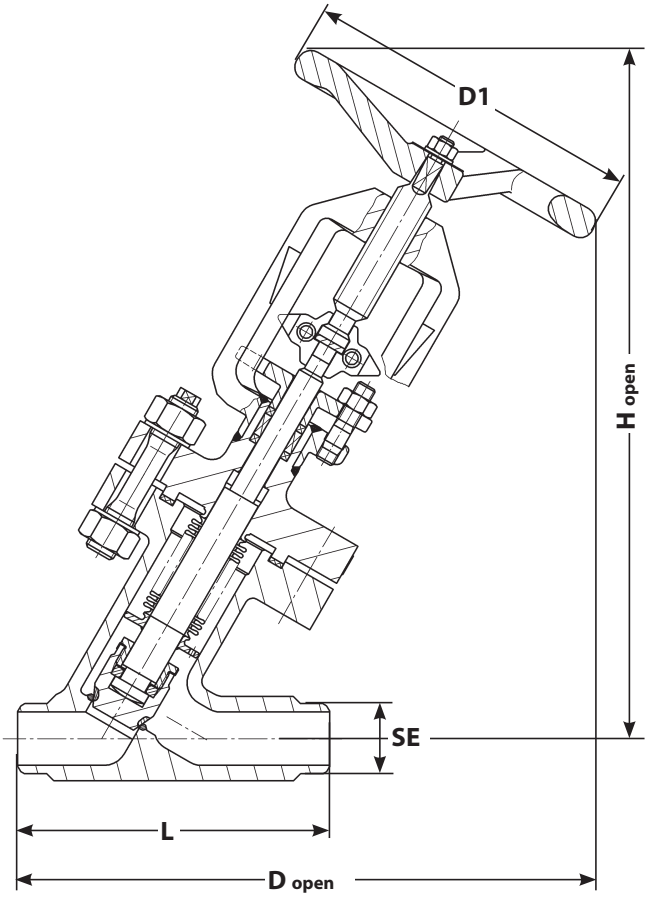
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.3-S-SE	S.S. 11.3-S-SE-A4	Low temp. 11.3-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, y- type, with butt-welding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall liquid contacted bellows. Stem from PN 100 and above with an additional guide sleeve.
Body made of cast/forged material; seat hardfaced, disc with conical plug.

DN	PN 63-160		PN 63					PN 100					PN 160				
	L [mm]	SE [mm]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]
15	150	21,3	240	150	295	2,0	*	300	175	360	2,0	*	300	175	360	2,0	*
20	150	26,9	240	150	295	2,3	*	300	175	360	2,3	*	300	175	360	2,3	*
25	160	33,7	245	150	300	2,6	*	305	175	365	2,6	*	305	175	365	3,2	*
32	180	42,4	305	175	330	2,6	*	435	250	545	2,6	*	435	250	545	3,6	*
40	210	48,3	305	175	330	2,6	14	450	250	545	2,6	*	450	250	545	3,6	28
50	250	60,3	355	200	360	3,2	*	475	250	545	3,2	*	475	250	545	4,0	30

* on request

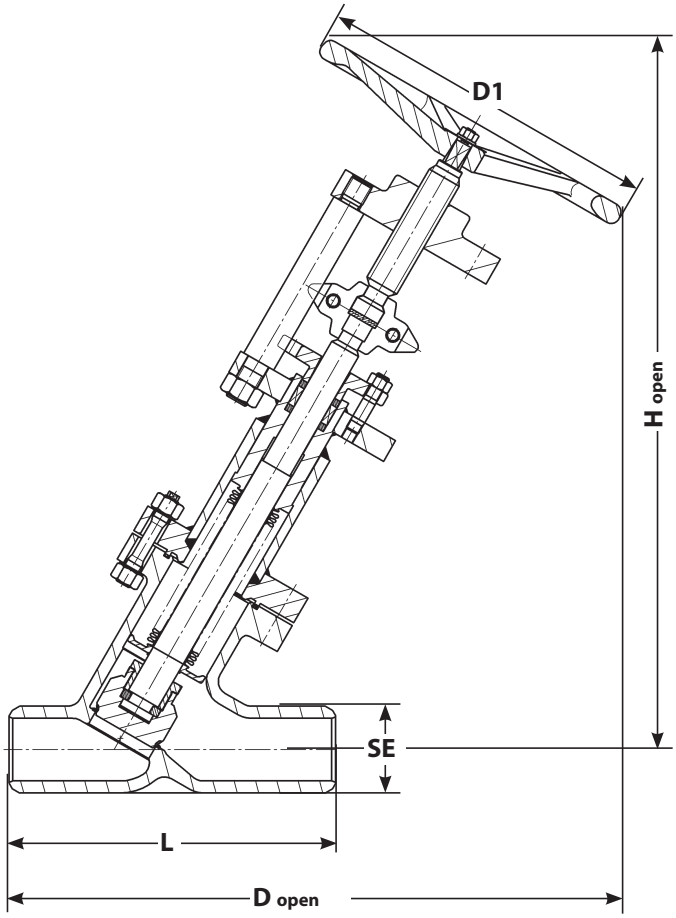
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S. *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A4/70	A4/70
Nuts	1.7218	A4/70	A4/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, y- type, with butt-welding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall liquid contacted bellows. From PN 100 and above bonnet design with column and stem provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160		PN 63					PN 100					PN 160				
	L [mm]	SE [mm]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]
65	340	76,1	440	200	435	3,6	23	*	*	*	*	*	*	*	*	*	43,5
80	380	88,9	565	300	595	4,0	37	730	400	855	4,0	*	730	400	855	6,3	95
100	430	114,3	590	300	600	5,0	*	740	400	855	5,0	*	740	400	855	8,0	*
125	500	139,7	615	300	620	4,5	*	790	400	880	6,3	*	790	400	880	10,0	*
150	550	168,3	900	400	890	5,6	*	975	400	995	7,1	*	990	400	1015	12,5	*
200	650	219,1	935	400	905	7,1	*	1010	400	1015	10,0	*	1025	400	1035	16,0	*

* on request

BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

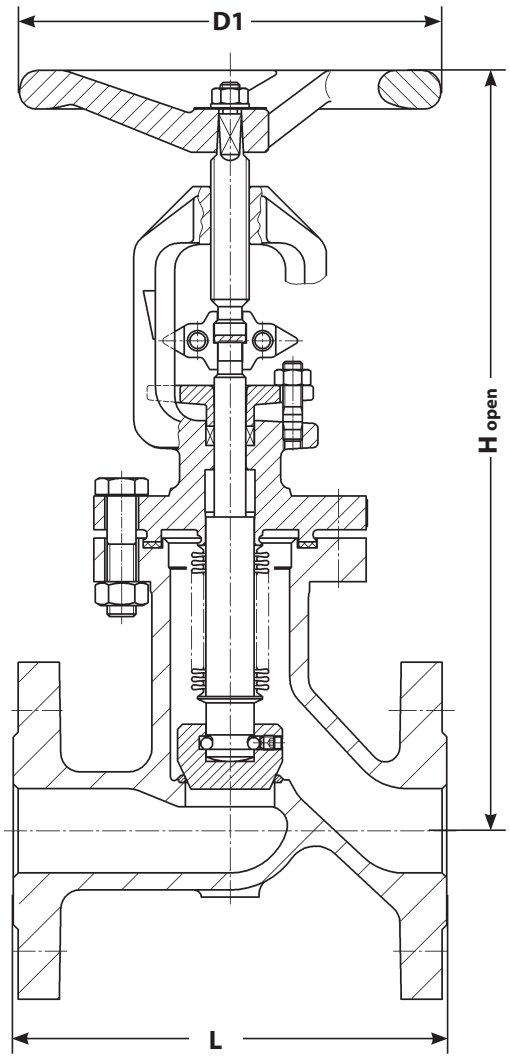
1/2" - 2" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *11.3-G-FL*	S.S. *11.3-G-FL-A4*	Low temp. *11.3-G-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B



Bellows sealed globe valve, straight type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material; seat hardfaced, disc with conical plug.

DN	ASME 150 lb				ASME 300 lb				ASME 600 lb			
	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	108	295	150	7	152	295	150	8	165	375	175	*
3/4"	117	295	150	7	178	295	150	8,5	190	375	175	*
1"	127	300	150	8	203	300	150	10	216	375	175	*
1 1/4"	140	340	175	12	216	340	175	14	229	560	250	*
1 1/2"	165	340	175	13	229	340	175	15	241	560	250	*
2"	203	360	200	17	267	360	200	22	292	560	250	42

* on request

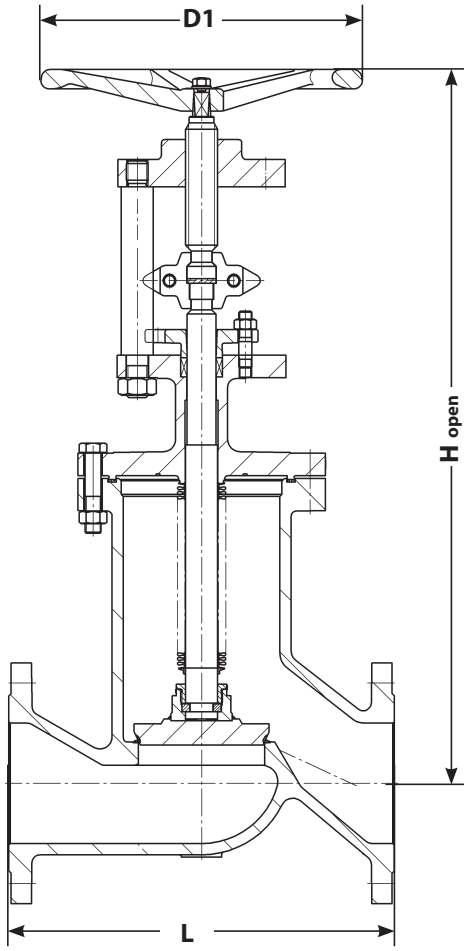
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-G-FL

2 1/2" - 16" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material; seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

Component	Material C.S. *11.3-G-FL*	S.S- *11.3-G-FL-A4*	Low temp. *11.3-G-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME150 lb				ASME 300 lb				ASME 600 lb			
	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	216	460	200	26	292	460	200	26	330	880	400	*
3"	241	585	250	41	318	580	300	54	356	870	400	99
4"	292	610	300	60	356	610	300	71	432	880	400	145
5"	356	615	300	86	400	615	300	86	508	880	400	*
6"	406	950	400	153	445	925	400	168	559	1080	400	317
8"	495	910	400	226	559	910	400	241	660	1045	400	*
10"	622	1275	600	393	622	1275	600	392	*	*	*	*
12"	698	1280	600	492	711	1280	600	492	*	*	*	*
14"	787	1675	600	800	980	1675	600	855	*	*	*	*
16"	914	1690	600	1020	1100	1685	600	1085	*	*	*	*

* on request

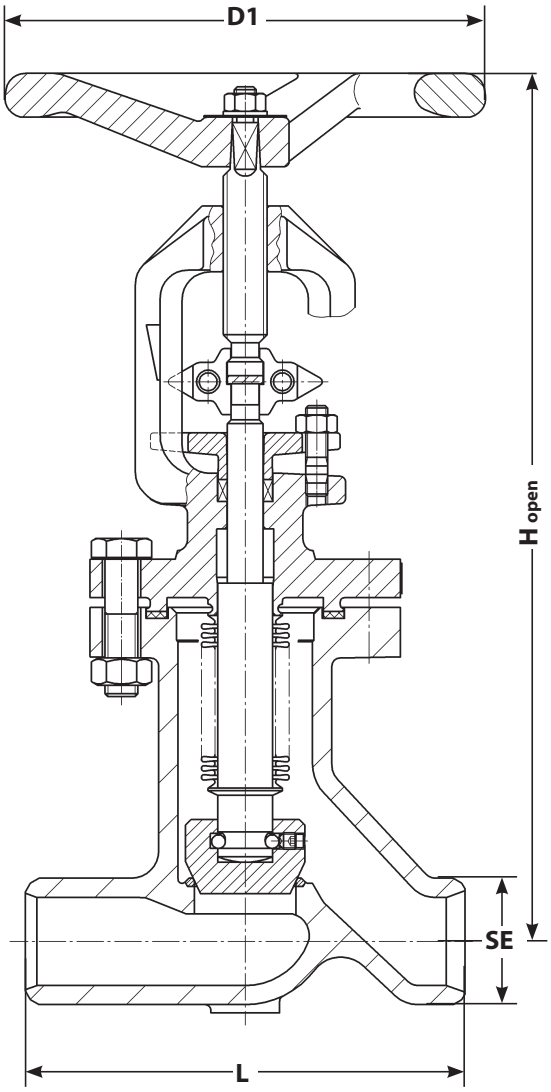
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

1/2" - 2"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with buttwelding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast/forged material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	A216 WCB/A105	A351 CF8M/316 Ti	A352 LCB/A516 (60)
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	108	21,3*2,8	295	150	7	152	21,3*2,8	295	150	*	165	21,3*3,7	375	175	*
3/4"	117	26,7*2,9	295	150	8	178	26,7*2,9	295	150	*	190	26,7*3,9	375	175	*
1"	127	33,4*3,4	300	150	8	203	33,4*3,4	300	150	*	216	33,4*4,6	375	175	*
1 1/4"	140	42,2*3,6	340	175	12	216	42,2*3,6	340	175	*	229	42,2*4,9	560	250	*
1 1/2"	165	48,3*3,7	340	175	14	229	48,3*3,7	340	175	*	241	48,3*5,1	560	250	*
2"	203	60,3*3,9	360	200	17	267	60,3*3,9	360	200	*	292	60,3*5,5	560	250	*

* on request

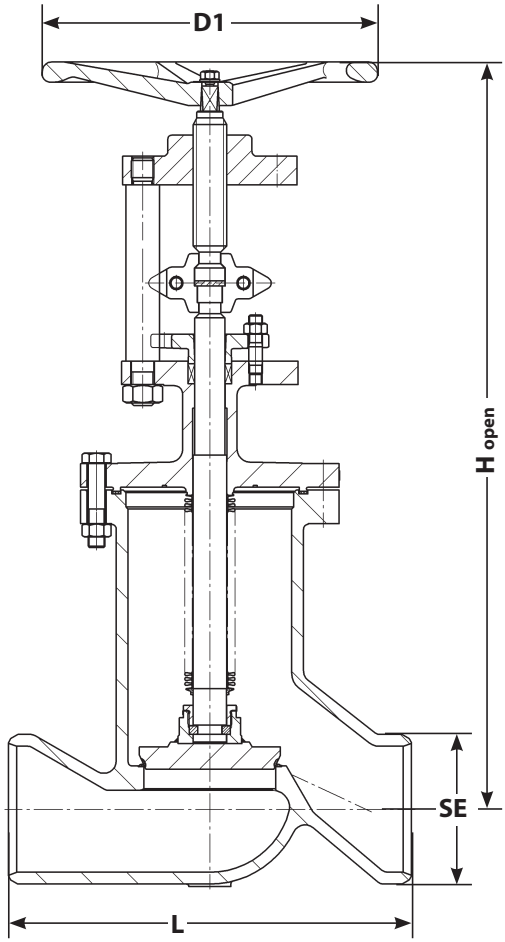
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-G-SE

2 1/2" - 16" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with butt-welding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	216	73,0*5,2	460	200	26	292	73,0*5,2	460	200	26	330	73,0*7,0	880	400	*
3"	241	88,9*5,5	585	250	40	318	88,9*5,5	610	300	40	356	88,9*7,6	870	400	85
4"	292	114,3*6,0	610	300	56	356	114,3*6,0	610	300	56	432	114,3*8,6	880	400	*
5"	356	141,3*6,6	615	300	86	400	141,3*6,6	615	300	86	508	141,3*9,5	880	400	*
6"	406	168,3*7,1	950	400	155	445	168,3*7,1	950	400	155	559	168,3*10,9	1080	400	*
8"	495	219,1*8,2	910	400	255	559	219,1*8,2	910	400	255	660	219,1*12,7	1045	400	*
10"	622	273,0*9,3	1275	600	393	622	273,0*9,3	1275	600	393	*	*	*	*	*
12"	698	323,9*10,3	1280	600	492	711	323,9*10,3	1280	600	492	*	*	*	*	*
14"	787	355,6*11,1	1675	600	800	*	*	*	*	*	*	*	*	*	*
16"	914	406,4*12,7	1690	600	1020	*	*	*	*	*	*	*	*	*	*

* on request

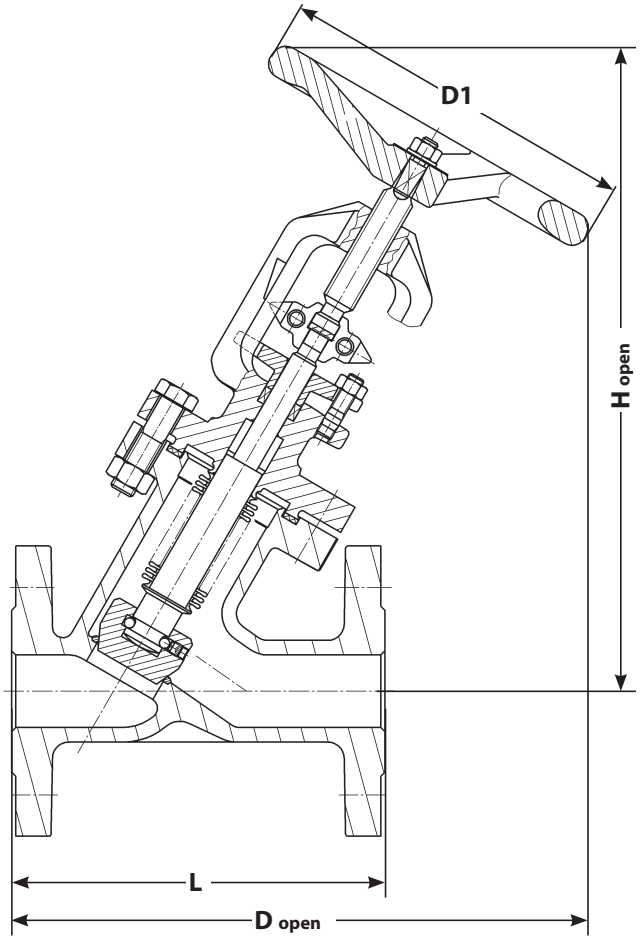
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

1/2" - 2"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, y- type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug.

Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	140	245	295	150	*	152	240	295	150	*	165	295	375	175	*
3/4"	152	240	295	150	*	178	250	295	150	*	190	295	375	175	*
1"	165	250	300	150	*	203	265	300	150	*	216	320	365	175	*
1 1/4"	184	290	330	175	*	216	325	330	175	*	229	460	545	250	*
1 1/2"	203	300	330	175	*	229	315	330	175	13	241	465	545	250	*
2"	229	345	360	200	*	267	360	360	200	*	292	495	545	250	*

* on request

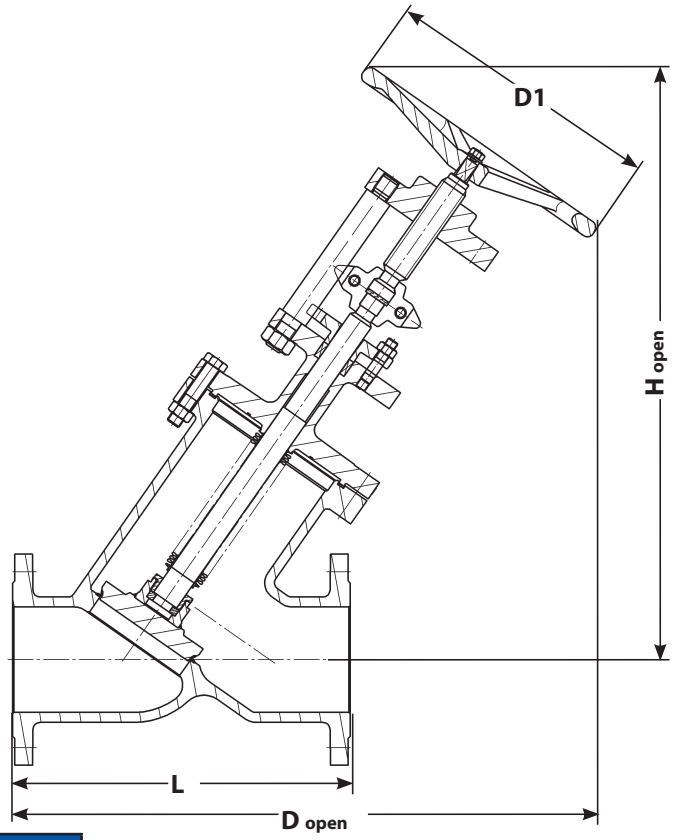
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.3-S-FL

2 1/2" - 16" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y- type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material, seat hard-faced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	279	410	435	200	26	292	420	435	200	26	*	*	*	*	*
3"	318	510	585	250	40	318	530	595	300	40	356	715	855	400	*
4"	368	560	600	300	56	356	555	600	300	56	432	745	855	400	*
5"	400	565	620	300	86	400	565	620	300	86	508	795	880	400	*
6"	470	860	890	400	155	445	845	890	400	155	559	950	995	400	*
8"	597	905	905	400	255	559	870	905	400	227	660	980	1015	400	*
10"	673	1260	1225	600	393	622	1235	1225	600	393	*	*	*	*	*
12"	775	1290	1240	600	492	711	1210	1290	600	492	*	*	*	*	*
14"	980	1740	1530	600	800	*	*	*	*	*	*	*	*	*	*
16"	1100	1780	1555	600	1020	*	*	*	*	*	*	*	*	*	*

* on request

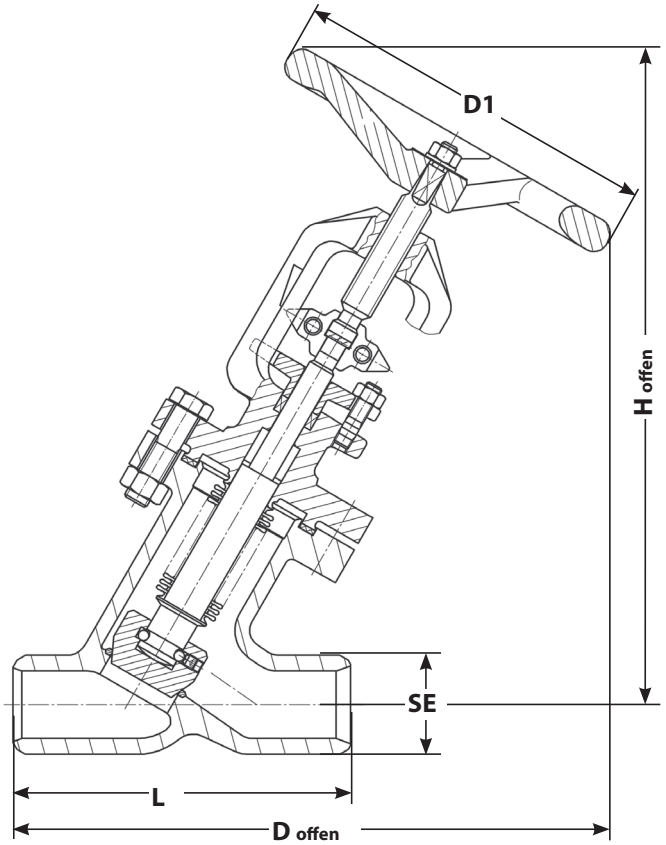
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

1/2" - 2" ASME 150 - 600 lb	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S. *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	A216 WCB/A105	A351 CF8M/316 Ti	A352 LCB/A516 (60)
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y-type, with buttwelding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast/forged material; seat hardfaced, disc with conical plug.

DN	ASME 150 lb						ASME 300 lb						ASME 600 lb					
	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	140	21,3*2,8	250	280	150	*	152	21,3*2,8	240	295	150	*	165	21,3*3,7	305	360	175	*
3/4"	152	26,7*2,9	255	280	150	*	178	26,7*2,9	250	295	150	*	190	26,7*3,9	320	360	175	*
1"	165	33,4*3,4	260	280	150	*	203	33,4*3,4	265	300	150	*	216	33,4*4,6	330	360	175	*
11/4"	184	42,2*3,6	305	330	175	*	216	42,2*3,6	325	330	175	*	229	42,2*4,9	460	545	250	*
11/2"	203	48,3*3,7	305	330	175	*	229	48,3*3,7	315	330	175	*	241	48,3*5,1	465	545	250	*
2"	229	60,3*3,9	345	360	200	*	267	60,3*3,9	360	360	200	*	292	60,3*5,5	495	545	250	*

* on request

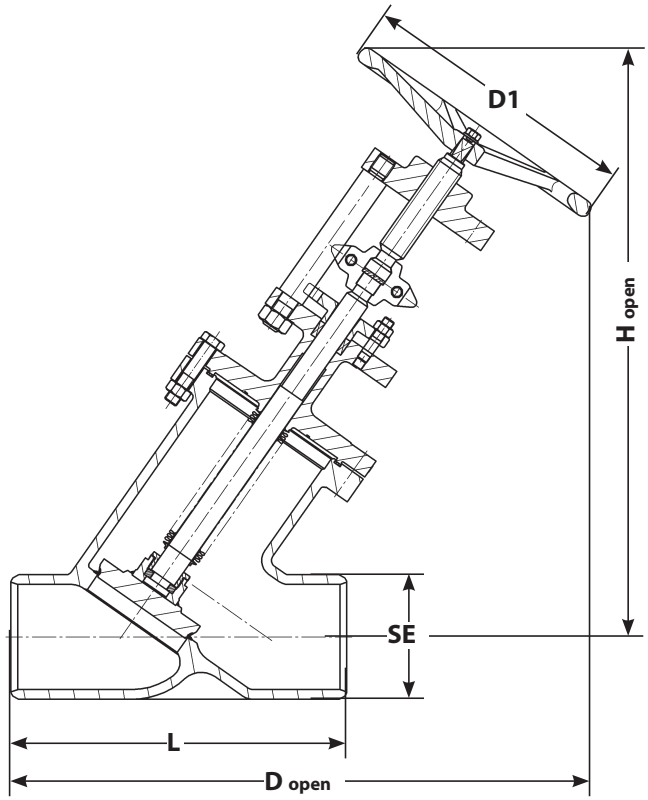
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.3-S-SE

2 1/2" - 16"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S. *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y-type, with butt-welding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiple-wall liquid contacted bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug.
Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

DN	ASME 150 lb						ASME 300 lb						ASME 600 lb					
	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
21/2"	279	73,0*5,2	410	435	200	26	292	73,0*5,2	420	435	200	26	*	*	*	*	*	*
3"	318	88,9*5,5	510	585	250	40	318	88,9*5,5	530	595	300	40	356	88,9*7,6	715	855	400	*
4"	368	114,3*6,0	560	600	300	56	356	114,3*6,0	555	600	300	56	432	114,3*8,6	745	855	400	*
5"	400	141,3*6,6	565	620	300	86	400	141,3*6,6	565	620	300	86	508	141,3*9,5	795	880	400	*
6"	470	168,3*7,1	860	890	400	155	445	168,3*7,1	845	890	400	155	559	168,3*10,9	980	995	400	*
8"	597	219,1*8,2	905	905	400	255	559	219,1*8,2	885	905	400	255	660	219,1*12,7	1015	1015	400	*
10"	673	273,0*9,3	1260	1225	600	393	622	273,0*9,3	1235	1225	600	393	*	*	*	*	*	*
12"	775	323,9*10,3	1290	1240	600	492	711	323,9*10,3	1255	1240	600	492	*	*	*	*	*	*
14"	980	355,6*11,1	1740	1530	600	800	*	*	*	*	*	*	*	*	*	*	*	*
16"	1100	406,4*12,7	1780	1555	600	1020	*	*	*	*	*	*	*	*	*	*	*	*

* on request

PNEUMATIC ACTUATED BELLOWS SEALED GLOBE VALVES WITH FULLY FLUSHED BELLOWS TYPE 11.3-A-MA

Product description Type 11.3-A-MA

Pneumatic actuated bellows sealed globe valve with safety gland packing in straight type y-type or corner-type; with flanges or buttweld ends; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M)), low temperature steel 1.1138 (LCB) and special materials.

Use Type 11.3-A-MA

For different kind of medium with inflammable, explosive, volatile, toxic or aggressive characteristics, whose delivery must be prevented into the atmosphere. Design in accordance with the Federal Emission Protection law.

Design features Type 11.3-A-MA

- Coupled stem with bellows anti-torque device and position indicator
- Full size safety gland packing made of pure graphite; can also be supplied in PTFE on request
- Metal back seat with stroke limiter in open position and bellows anti-vibration device
- Multiple wall, fully flushed stainless steel bellows, secured against torsion, designed for 10,000 cycles; fully welded
- Stainless steel grooved bonnet gasket coated by pure graphite, mounted in tongue and grooved bonnet flanges
- Conical shaped plug made of hardened chromium steel 1.4021 or armoured with stellite 6; body seat hardfaced with stainless steel 1.4370 or stellite 21
- Bonnet design DN 15 - 125 with yoke; from DN 150 and above with column and mounting flange; stem from DN 250 and above provided with an additional guide sleeve
- Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening or double acting
- Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar; higher differential pressures on request
- Seat leakage acc. EN 60534 leakage class IV; higher leakage classes can be reached by use of a soft seat valve disc

Type 11.3-A-MA

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-G-FL-A-MA

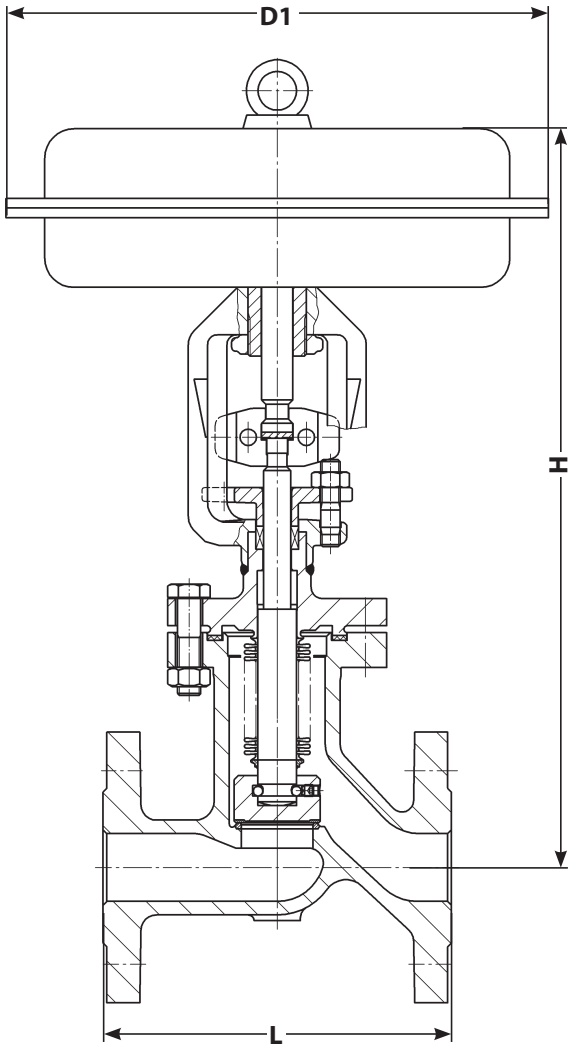
DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator-size	Diaphr.-area	Spring closing		Spring opening		Stroke vol-ume
			Spring range	Air signal	Spring range	Air signal	
		[cm²]	[bar]	[bar]	[bar]	[bar]	[dm³]
15/25	3271-240	240	0,9..3,3	5	0,4..2,0	4	0,36
32/40	3271-350	350	1,4..2,3	4	0,4..2,0	4	0,53
50	3271-350	350	2,1..3,3	4	0,4..2,0	4	0,53

Detailed information and more alternatives are given in the appendix.



Component	Material		
	C.S.	S.S	Low temp.
	11.3-G-FL	*11.3-G-FL-A4*	*11.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	L [mm]	H [mm]	D1 [mm]	G [kg]
15	130	325	240	12
20	150	325	240	13
25	160	340	240	13
32	180	385	280	20
40	200	385	280	22
50	230	400	280	25

Pneumatic actuated bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-G-FL-A-MA

DN 65 - 200			
PN 40			
	C.S.	**S.S.**	**Low temp.**
Tmin.	**-10°C**	**-200°C**	**-50°C**
Tmax.	**+400°C**	**+400°C**	**+300°C**

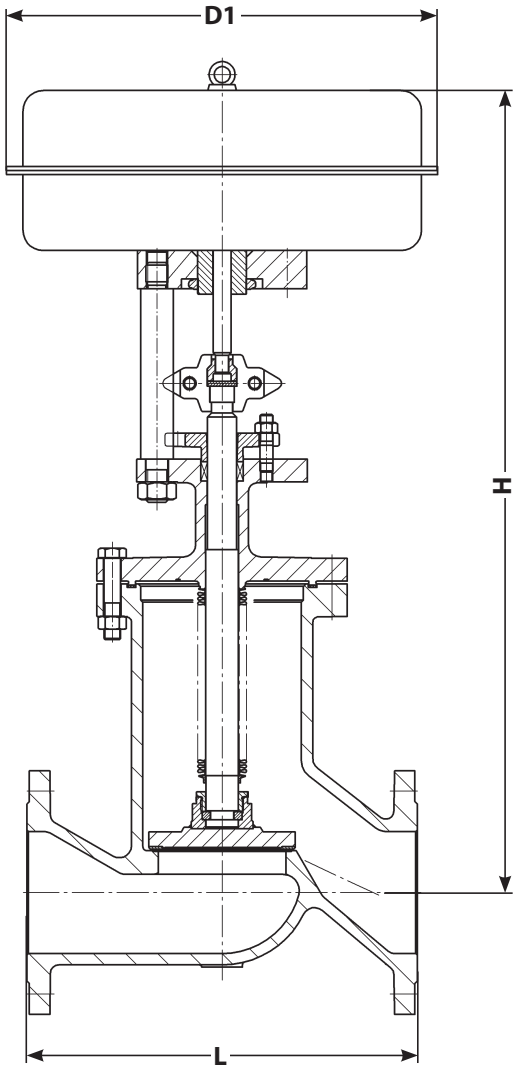
Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator size	Diaphr.-area	Spring closing Spring range	Spring closing Air signal	Spring opening Spring range	Spring opening Air signal	Stroke volume
		[cm²]	[bar]	[bar]	[bar]	[bar]	[dm³]
65	3271-700	700	0,8..2,4	4	0,4..2,0	4	2,10
80/100	3271-700	700	1,4..2,3	4	0,4..2,0	4	2,10
125	3271-700	700	2,1..3,3	4	0,4..2,0	4	2,10
150/200	3271-1400	1400	1,4..2,7	4	0,4..2,0	4	8,30

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *11.3-G-FL*	S.S. *11.3-G-FL-A4*	Low temp. *11.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571/1.0566
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel



DN	L [mm]	H [mm]	D1 [mm]	G [kg]
65	290	520	390	48
80	310	625	390	62
100	350	625	390	78
125	400	630	390	108
150	480	990	530	225
200	600	950	530	325

Pneumatic actuated bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design with column and mounting flange. Stem from DN 250 and above provided with an additional guide sleeve.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-G-SE-A-MA

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

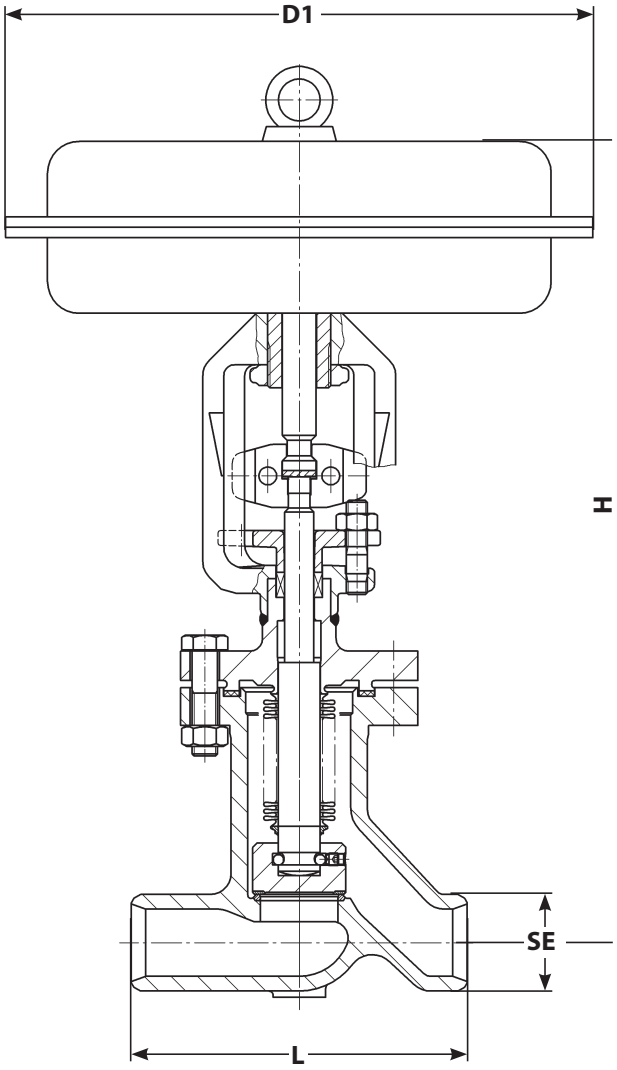
Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Diaphragm actuator - technical data:

DN	Actuator-size	Diaphr.-area [cm²]	Spring closing Spring range [bar]	Spring closing Air signal [bar]	Spring opening Spring range [bar]	Spring opening Air signal [bar]	Stroke volume [dm³]
15/25	3271-240	240	0,9..3,3	5	0,4..2,0	4	0,36
32/40	3271-350	350	1,4..2,3	4	0,4..2,0	4	0,53
50	3271-350	350	2,1..3,3	4	0,4..2,0	4	0,53

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *11.3-G-SE*	S.S *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel



DN	SE [mm]	L [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	320	240	11
20	26,9*2,3	130	320	240	12
25	33,7*2,6	130	320	240	12
32	42,4*2,6	160	385	280	18
40	48,3*2,6	180	385	280	19
50	60,3*3,2	210	400	280	21

Pneumatic actuated bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-G-SE-A-MA

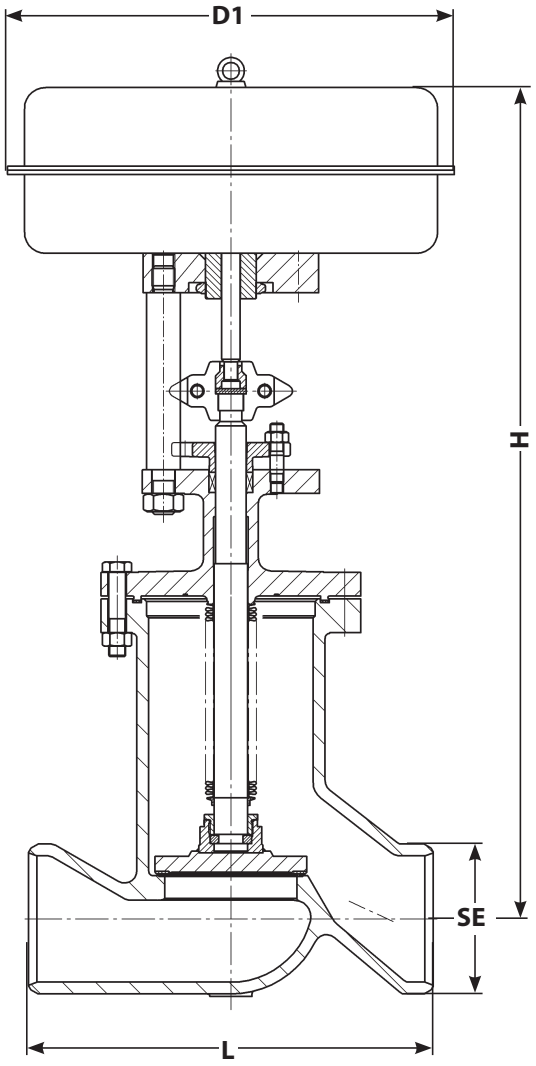
DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator size	Diaphr.-area	Spring closing Spring range	Spring closing Air signal	Spring opening Spring range	Spring opening Air signal	Stroke volume
		[cm²]	[bar]	[bar]	[bar]	[bar]	[dm³]
65	3271-700	700	0,8..2,4	4	0,4..2,0	4	2,10
80/100	3271-700	700	1,4..2,3	4	0,4..2,0	4	2,10
125	3271-700	700	2,1..3,3	4	0,4..2,0	4	2,10
150/200	3271-1400	1400	1,4..2,7	4	0,4..2,0	4	8,30

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-G-SE*	S.S. *11.3-G-SE-A4*	Low temp. *11.3-G-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571/1.0566
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	SE [mm]		L [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	520	390	40
80	88,9*	4,0	310	625	390	52
100	114,3*	5,0	350	625	390	60
125	139,7*	4,5	400	630	390	94
150	168,3*	5,6	480	990	530	200
200	219,1*	7,1	600	950	530	285

Pneumatic actuated bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design with column and mounting flange. Stem from DN 250 and above provided with an additional guide sleeve.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-S-FL-A-MA

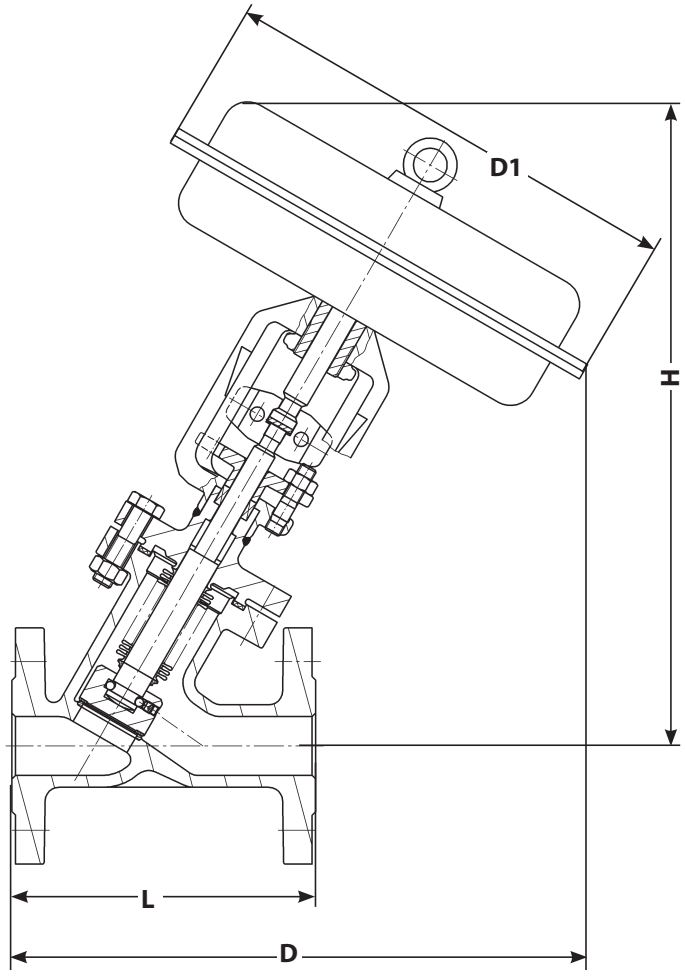
DN 15 - 50			
PN 40			
	C.S.	**S.S.**	**Low temp.**
Tmin.	**-10°C**	**-200°C**	**-50°C**
Tmax.	**+400°C**	**+400°C**	**+300°C**

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator-size	Diaphr.-area [cm²]	Spring closing Spring range [bar]	Spring closing Air signal [bar]	Spring opening Spring range [bar]	Spring opening Air signal [bar]	Stroke volume [dm³]
15/25	3271-240	240	0,9..3,3	5	0,4..2,0	4	0,36
32/40	3271-350	350	1,4..2,3	4	0,4..2,0	4	0,53
50	3271-350	350	2,1..3,3	4	0,4..2,0	4	0,53

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	130	290	340	240	12
20	150	285	340	240	13
25	160	295	345	240	14
32	180	340	380	280	20
40	200	355	380	280	22
50	230	385	405	280	25

Pneumatic actuated bellows sealed globe valve, y-type, with flanges acc. EN 1092-1; coupled stem with burnished shaft. Multi-plewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-S-FL-A-MA

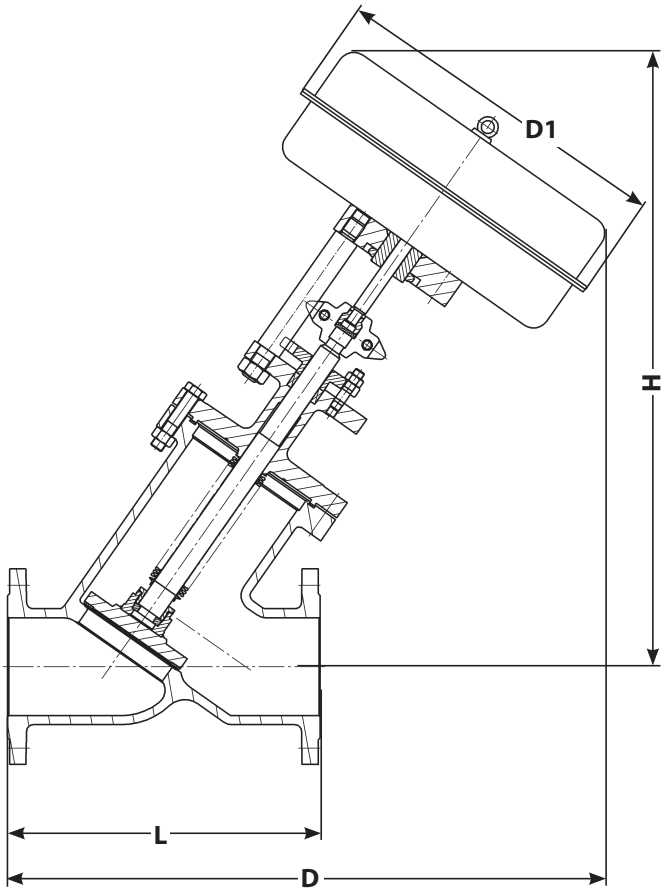
DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator size	Diaphr.-area [cm²]	Spring closing Spring range [bar]	Spring closing Air signal [bar]	Spring opening Spring range [bar]	Spring opening Air signal [bar]	Stroke volume [dm³]
65	3271-700	700	0,8..2,4	4	0,4..2,0	4	2,10
80/100	3271-700	700	1,4..2,3	4	0,4..2,0	4	2,10
125	3271-700	700	2,1..3,3	4	0,4..2,0	4	2,10
150/200	3271-1400	1400	1,4..2,7	4	0,4..2,0	4	8,30

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-FL*	S.S. *11.3-S-FL-A4*	Low temp. *11.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571/1.0566
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	290	510	525	390	44
80	310	555	620	390	62
100	350	580	625	390	76
125	400	590	645	390	108
150	480	920	945	530	220
200	600	965	960	530	325

Pneumatic actuated bellows sealed globe valve, y-type, with flanges acc. EN 1092-1; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design with column and mounting flange. Stem from DN 250 and above provided with an additional guide sleeve.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-S-SE-A-MA

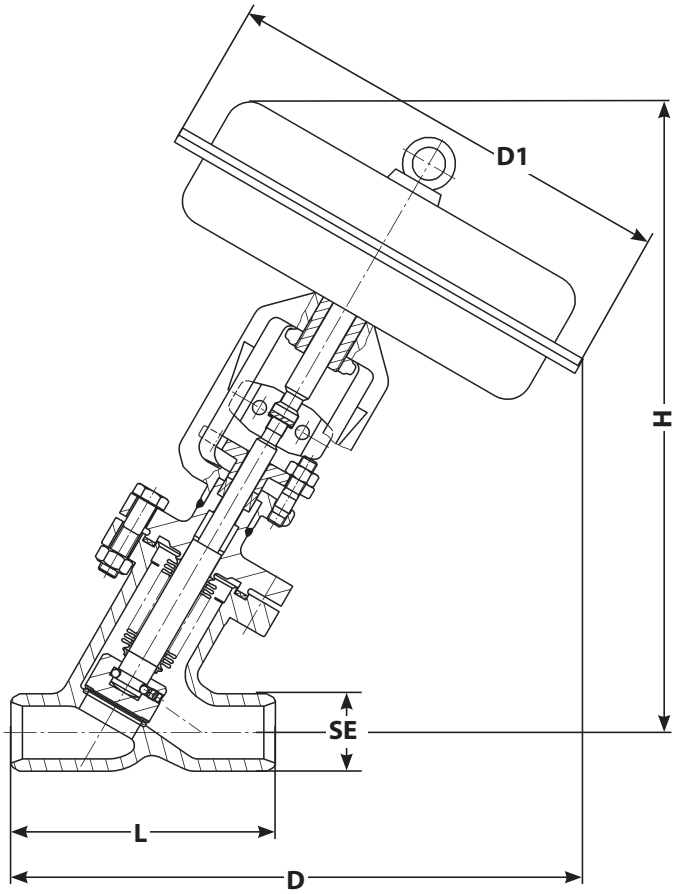
DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Diaphragm actuator - technical data:

DN	Actuator-size	Diaphr.-area [cm²]	Spring closing Spring range [bar]	Spring closing Air signal [bar]	Spring opening Spring range [bar]	Spring opening Air signal [bar]	Stroke volume [dm³]
15/25	3271-240	240	0,9..3,3	5	0,4..2,0	4	0,36
32/40	3271-350	350	1,4..2,3	4	0,4..2,0	4	0,53
50	3271-350	350	2,1..3,3	4	0,4..2,0	4	0,53

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	SE [mm]	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	290	340	240	11
20	26,9*2,3	130	290	340	240	12
25	33,7*2,6	130	290	340	240	12
32	42,4*2,6	160	345	380	280	18
40	48,3*2,6	180	345	380	280	19
50	60,3*3,2	210	375	405	280	21

Pneumatic actuated bellows sealed globe valve, y-type, with buttwelding ends acc. EN 12627; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVE
PNEUMATIC ACTUATED

11.3-S-SE-A-MA

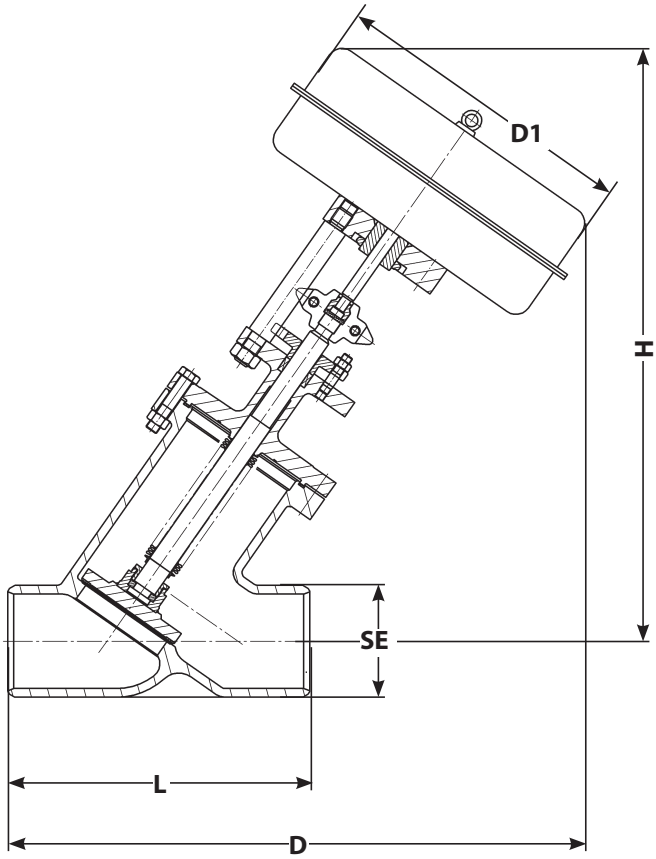
DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Leakage class IV acc. EN 60534
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Diaphragm actuator - technical data:

DN	Actuator size	Diaphr. area [cm²]	Spring closing Spring range [bar]	Spring closing Air signal [bar]	Spring opening Spring range [bar]	Spring opening Air signal [bar]	Stroke volume [dm³]
65	3271-700	700	0,8..2,4	4	0,4..2,0	4	2,10
80/100	3271-700	700	1,4..2,3	4	0,4..2,0	4	2,10
125	3271-700	700	2,1..3,3	4	0,4..2,0	4	2,10
150/200	3271-1400	1400	1,4..2,7	4	0,4..2,0	4	8,30

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.3-S-SE*	S.S. *11.3-S-SE-A4*	Low temp. *11.3-S-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571/1.0566
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-lower part	1.4301	1.4571	1.4301
Actuator	Steel	Steel	Steel

DN	SE [mm]		L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	510	525	390	40
80	88,9*	4,0	310	555	620	390	52
100	114,3*	5,0	350	580	625	390	67
125	139,7*	4,5	400	590	645	390	94
150	168,3*	5,6	480	920	945	530	206
200	219,1*	7,1	600	965	960	530	285

Pneumatic actuated bellows sealed globe valve, y-type, with buttwelding ends acc. EN 12627; coupled stem with burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design with column and mounting flange. Stem from DN 250 and above provided with an additional guide sleeve.
Fitted with pneumatic diaphragm actuator; operating spring closing or spring opening. Necessary signal pressure 4 bar, max. 6 bar; max. differential pressure 6 bar. Higher differential pressures on request. Seat leakage acc. EN 60534 leakageclass IV; higher leakage classes can be reached by use of a soft seat valve disc.
Can be customised with emergency handwheel, built-on 3/2-way solenoid valves, micro or proximity limit-switches and pneumatic or electropneumatic positioners.

BELLOWS SEALED GLOBE VALVES WITH PROTECTED BELLOWS TYPE 11.35

Product description Type 11.35

Bellows sealed globe valve for chemical applications with protected bellows in straight type, y-type or corner-type; with flanges or buttweld ends and safety gland packing; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 11.35

For different kind of medium with inflammable, explosive, volatile, toxic or aggressive characteristics, whose delivery must be prevented into the atmosphere. Design in accordance with the Federal Emission Protection law.

Operating mode Type 11.35

Abrasion and water hammer are prevented by the protected bellows.

Design features Type 11.35

- 2-part rising stem with outside roll-formed thread; stem coupling with bellows anti-torque device and position indicator
- Full size safety gland packing made of pure graphite; can also be supplied in PTFE on request
- Metal back seat with stroke limiter in open position and bellows anti-vibration device
- Multiple wall, protected stainless steel bellows, secured against torsion, designed for 10,000 cycles; fully welded
- Stainless steel grooved bonnet gasket coated by pure graphite, mounted in tongue and grooved bonnet flanges
- Conical shaped plug made of hardened chromium steel 1.4021 or armoured with stellite 6; body seat hardfaced with stainless steel 1.4370 or stellite 21

Type 11.35

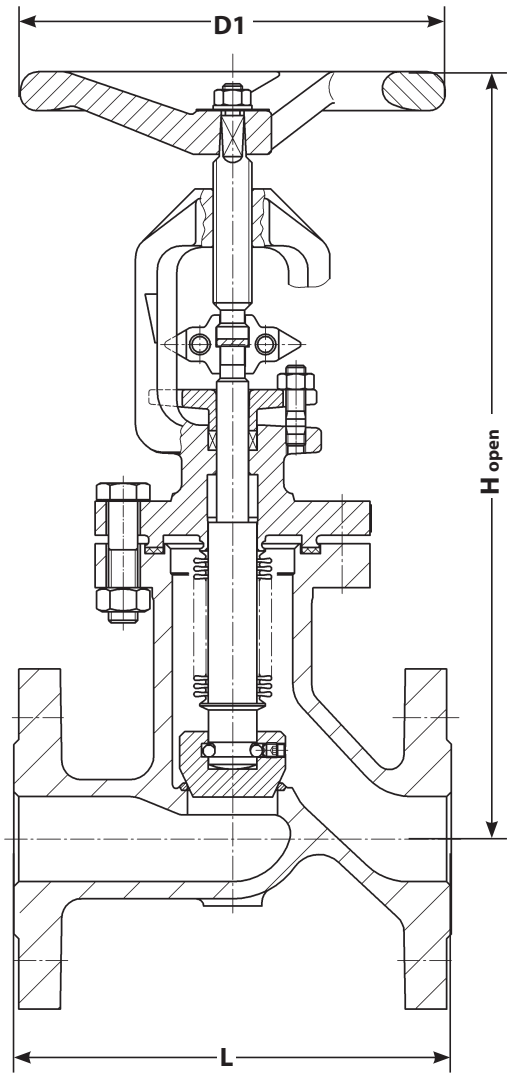
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

DN 15 - 50 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-G-FL	S.S. 11.35-G-FL-A4	Low temp. 11.35-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	290	150	7
20	150	290	150	8
25	160	300	150	8
32	180	335	175	12
40	200	340	175	14
50	230	360	200	17

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

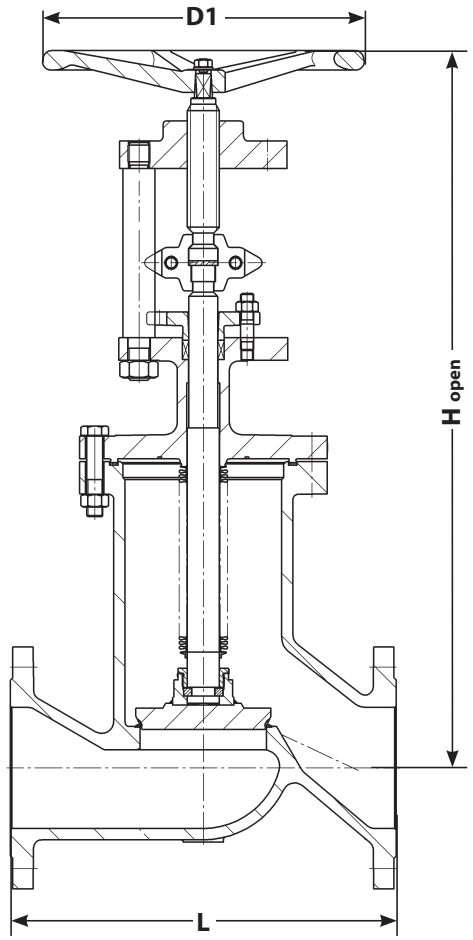
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-G-FL	S.S. 11.35-G-FL-A4	Low temp. 11.35-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	460	200	26
80	310	610	250	40
100	350	610	300	56
125	400	615	300	86
150	480	945	400	155
200	600	910	400	255
250	730	1280	600	393
300	850	1285	600	492
350	980	1675	600	800
400	1100	1685	600	1020

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

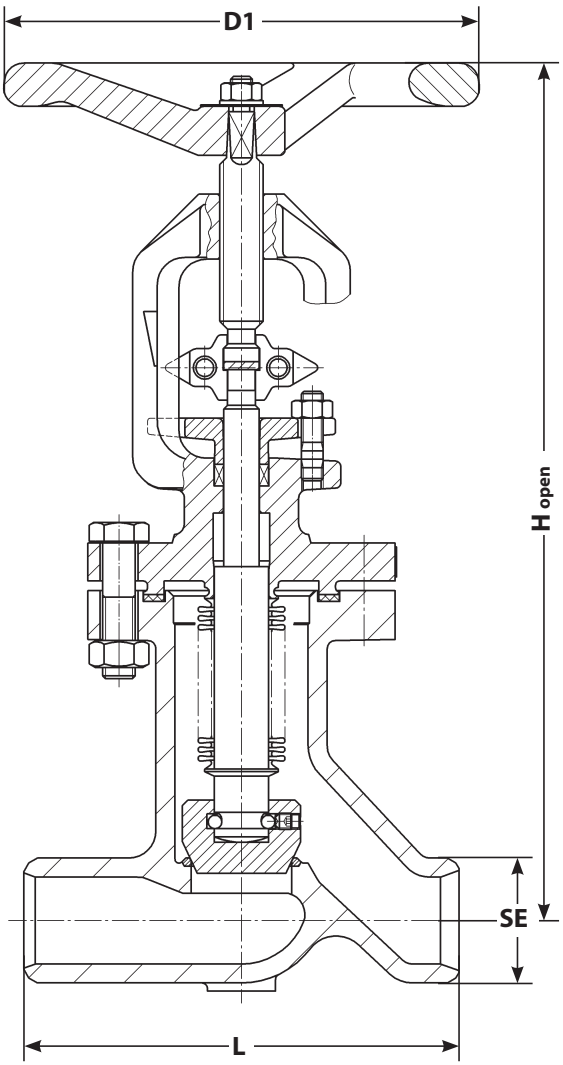
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-G-SE	S.S. 11.35-G-SE-A4	Low temp. 11.35-G-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	285	150	6
20	26,9*2,3	130	285	150	7
25	33,7*2,6	130	285	150	7
32	42,4*2,6	160	335	175	10
40	48,3*2,6	180	340	175	11
50	60,3*3,2	210	360	200	13

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

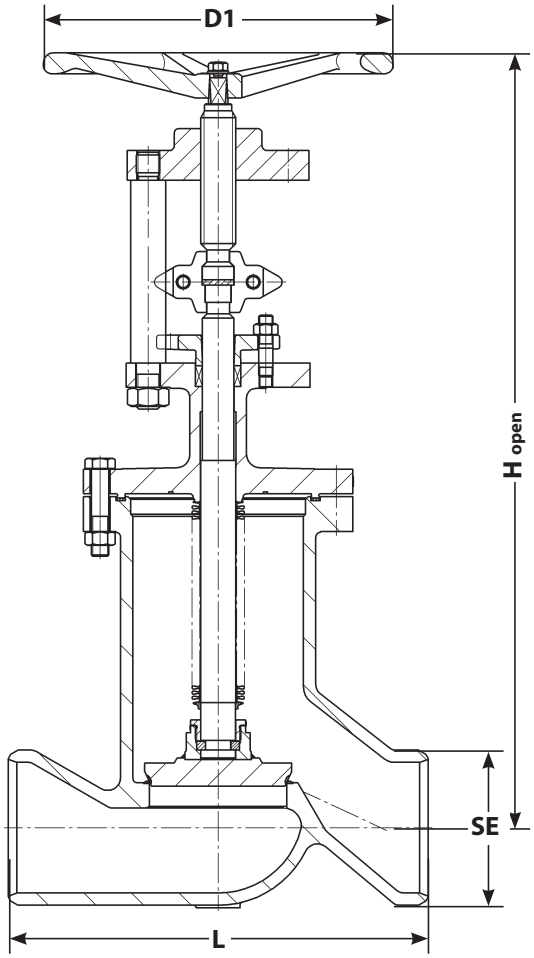
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-G-SE	S.S. 11.35-G-SE-A4	Low temp. 11.35-G-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	460	200	18
80	88,9* 4,0	310	610	250	30
100	114,3* 5,0	350	610	300	38
125	139,7* 4,5	400	615	300	72
150	168,3* 5,6	480	945	400	130
200	219,1* 7,1	600	910	400	215
250	273,0* 8,0	730	1280	600	325
300	323,9* 8,0	850	1285	600	444
350	355,6* 8,8	980	1675	600	720
400	406,4* 11,0	1100	1685	600	890

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

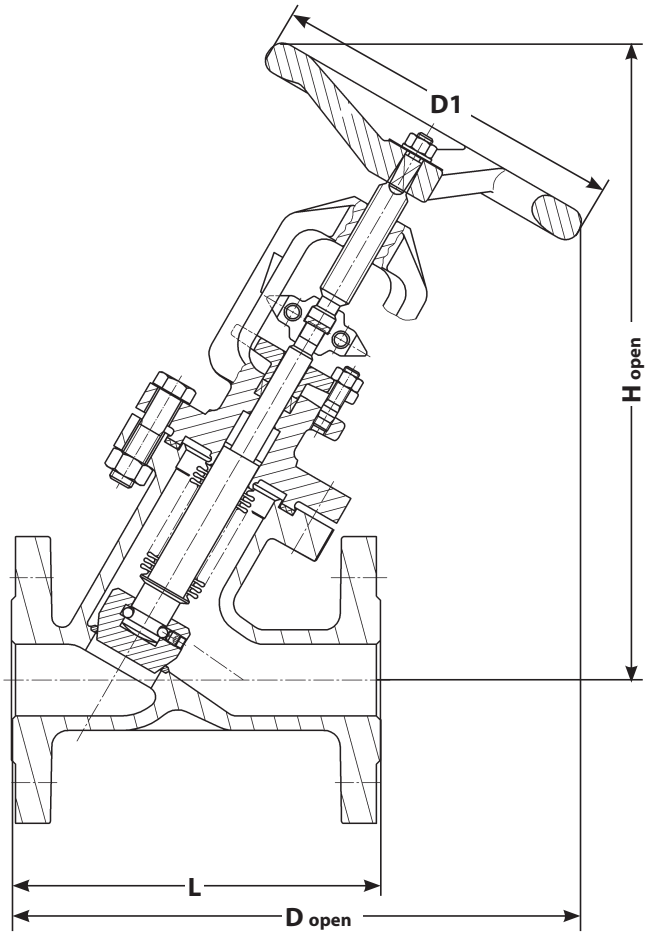
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-S-FL	S.S. 11.35-S-FL-A4	Low temp. 11.35-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	240	295	150	7
20	150	235	295	150	8
25	160	245	295	150	8
32	180	290	330	175	12
40	200	300	330	175	14
50	230	345	360	200	17

Bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

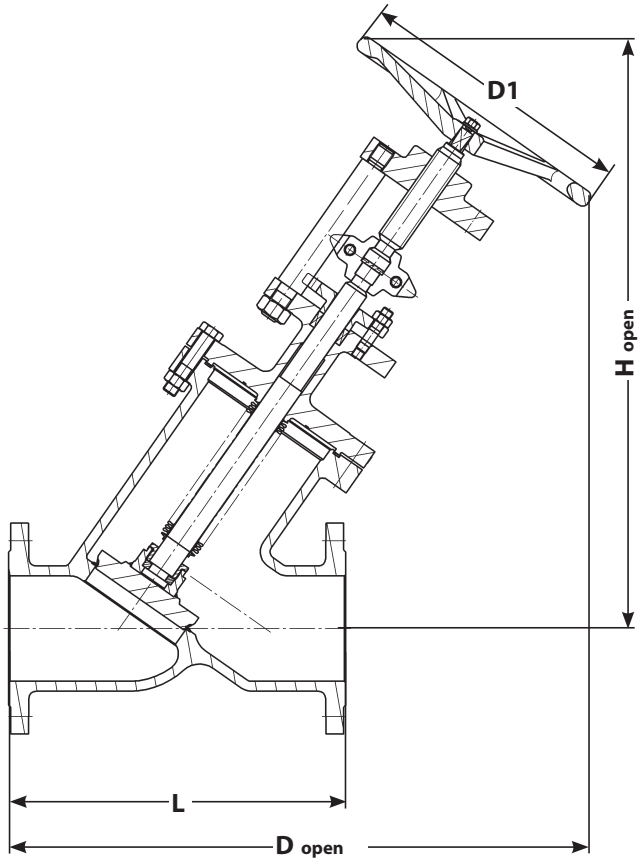
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-S-FL	S.S. 11.35-S-FL-A4	Low temp. 11.35-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	415	435	200	22
80	310	505	580	250	40
100	350	550	600	300	54
125	400	565	620	300	86
150	480	860	890	400	150
200	600	905	905	400	255
250	730	1285	1220	600	382
300	850	1325	1235	600	510
350	980	1740	1530	600	800
400	1100	1775	1550	600	1020

Bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

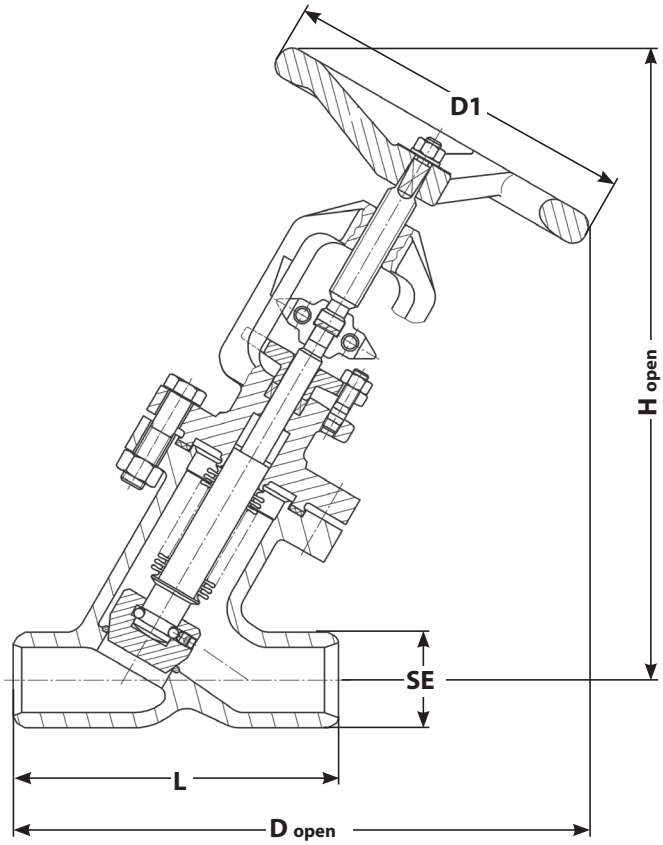
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-S-SE	S.S. 11.35-S-SE-A4	Low temp. 11.35-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	240	280	150	6
20	26,9*2,3	130	240	280	150	7
25	33,7*2,6	130	240	280	150	7
32	42,4*2,6	160	295	330	175	10
40	48,3*2,6	180	295	330	175	11
50	60,3*3,2	210	335	360	200	13

Bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

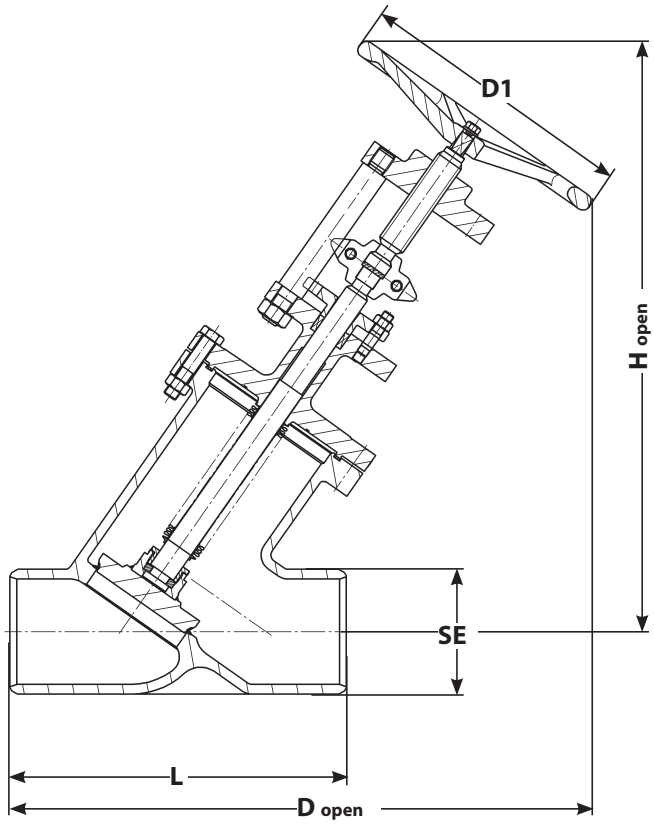
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-S-SE	S.S. 11.35-S-SE-A4	Low temp. 11.35-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.0460	1.4571	1.4571/1.0566
Disc surface	1.4021/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	415	435	200	18
80	88,9* 4,0	310	505	580	250	30
100	114,3* 5,0	350	550	600	300	38
125	139,7* 4,5	400	565	620	300	72
150	168,3* 5,6	480	860	890	400	136
200	219,1* 7,1	600	905	905	400	215
250	273,0* 8,0	730	1285	1220	600	338
300	323,9* 8,0	850	1325	1235	600	444
350	355,6* 8,8	980	1740	1530	600	720
400	406,4* 11,0	1100	1775	1550	600	890

Bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 125; above made of 1.0566/1.0488, sealing surface hardfaced with stellite 6.

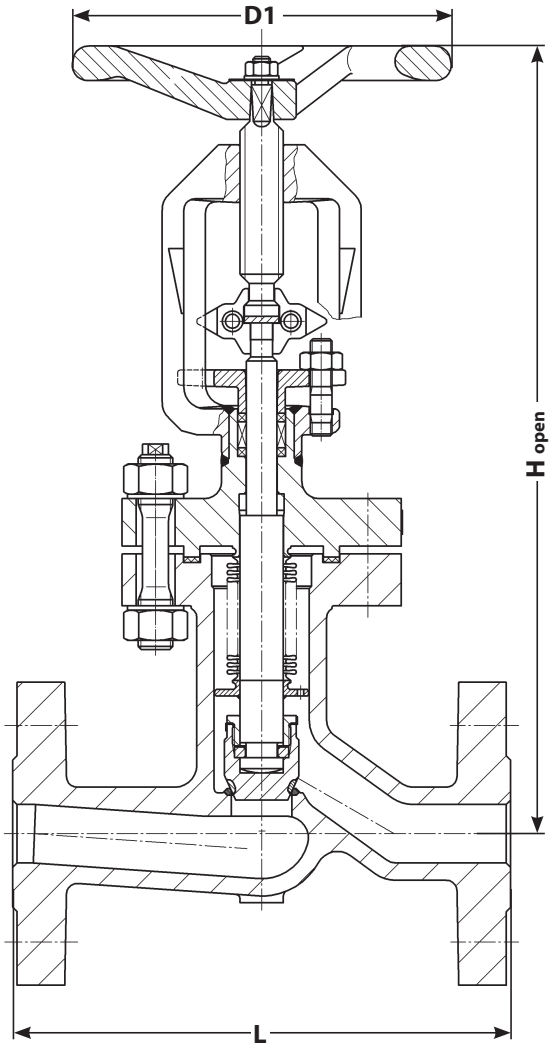
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-G-FL*	S.S. *11.35-G-FL-A4*	Low temp. *11.35-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.

DN	PN 63-160	PN 63			PN 100			PN 160		
	L [mm]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]
15	210	150	300	*	175	375	16	175	375	*
20	230	150	300	*	175	375	*	175	375	*
25	230	150	300	14	175	375	19	175	375	19
32	260	175	335	*	250	410	*	250	410	*
40	260	175	340	*	250	410	*	250	410	*
50	300	200	360	*	250	560	*	250	560	45

* on request

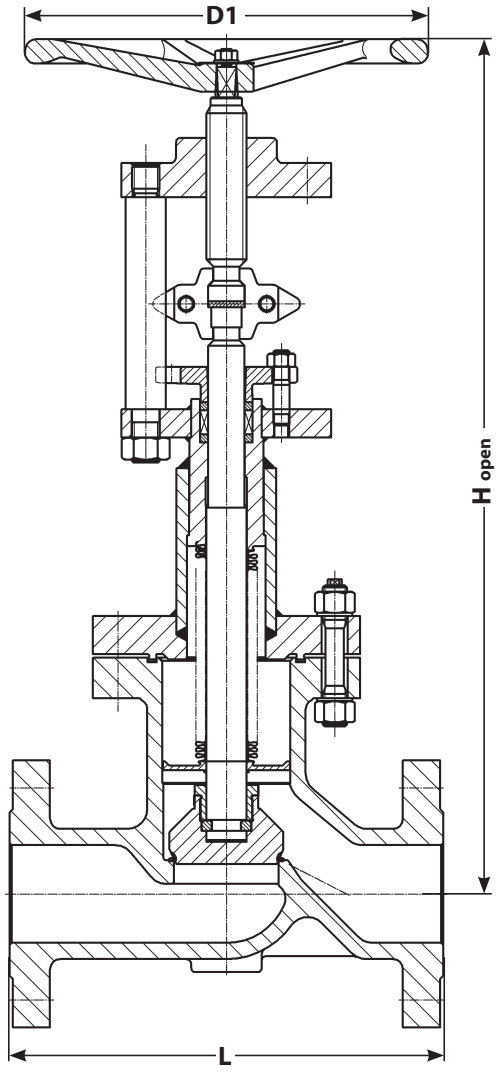
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.35-G-FL	S.S. 11.35-G-FL-A4	Low temp. 11.35-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve. Bonnet design from PN 100 and above with column.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160	PN 63			PN 100			PN 160		
	L [mm]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]	D1 [mm]	H open [mm]	G [kg]
65	340	200	460	*	*	*	*	*	*	*
80	380	300	610	*	400	880	101	400	880	*
100	430	300	610	*	400	880	*	400	880	*
125	500	300	615	*	400	890	*	400	890	*
150	550	400	945	*	400	1080	*	400	1140	*
200	650	400	910	*	400	1045	*	400	1110	*

* on request

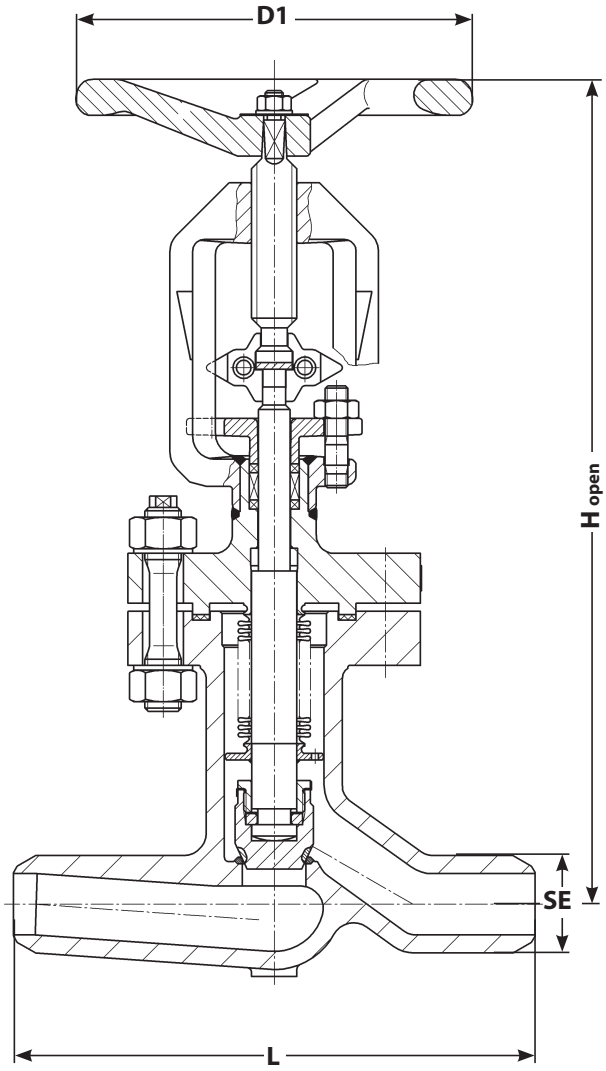
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve.
Body made of cast/forged material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-G-SE*	S.S. *11.35-G-SE-A4*	Low temp. *11.35-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160		PN 63				PN 100				PN 160			
	L [mm]	SE [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]
15	150	21,3	150	300	2,0	*	175	375	2,0	*	175	375	2,0	*
20	150	26,9	150	300	2,3	*	175	375	2,3	*	175	375	2,3	*
25	160	33,7	150	300	2,6	*	175	375	2,6	*	175	375	3,2	*
32	180	42,4	175	335	2,6	*	250	410	2,6	*	250	410	3,6	*
40	210	48,3	175	340	2,6	*	250	410	2,6	*	250	410	3,6	*
50	250	60,3	200	360	3,2	*	250	560	3,2	32	250	560	4,0	*

* on request

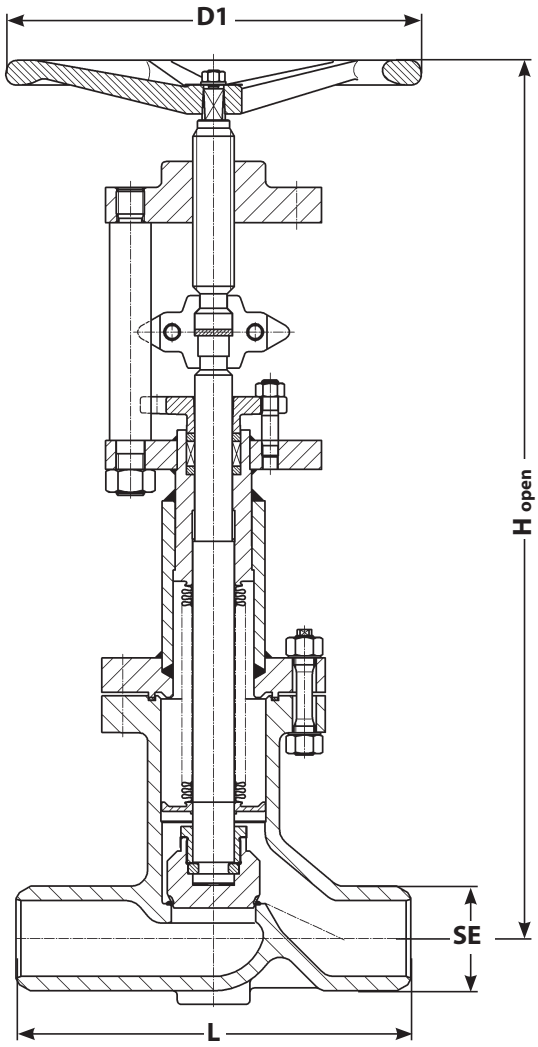
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-G-SE*	S.S. *11.35-G-SE-A4*	Low temp. *11.35-G-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve. Bonnet design from PN 100 and above with column.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160		PN 63				PN 100				PN 160			
	L [mm]	SE [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D1 [mm]	H open [mm]	s [mm]	G [kg]
65	340	76,1	200	460	3,6	*	*	*	*	*	*	*	*	*
80	380	88,9	300	610	4,0	*	400	880	4,0	*	400	880	6,3	*
100	430	114,3	300	610	5,0	*	400	880	5,0	*	400	880	8,0	*
125	500	139,7	300	615	4,5	*	400	890	6,3	*	400	890	10,0	*
150	550	168,3	400	945	5,6	*	400	1080	7,1	*	400	1140	12,5	*
200	650	219,1	400	910	7,1	*	400	1045	10,0	*	400	1110	16,0	*

* on request

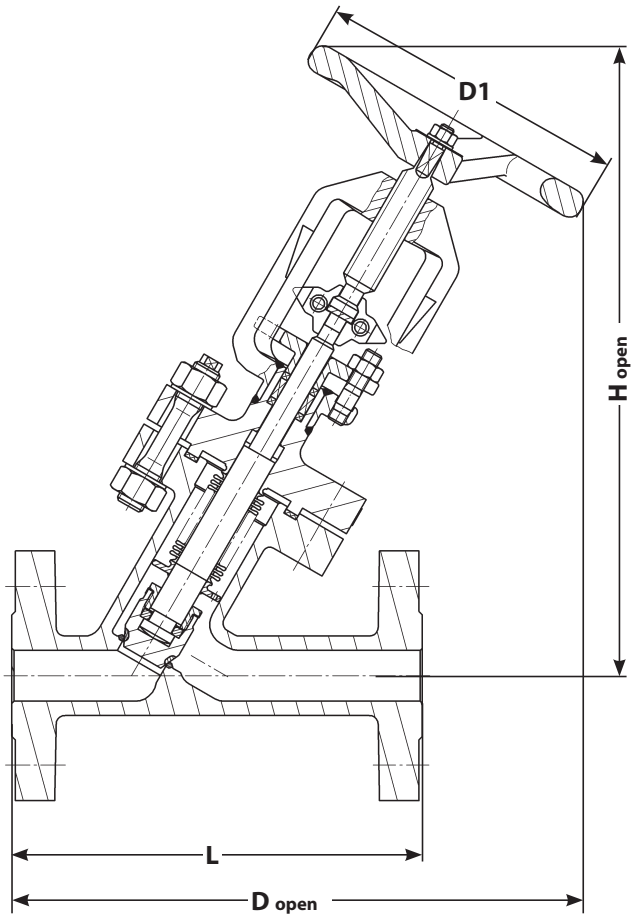
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve.
Body made of cast material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-S-FL*	S.S. *11.35-S-FL-A4*	Low temp. *11.35-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland		Pure graphite	
Gland packing	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160	PN 63				PN 100				PN 160			
	L [mm]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]
15	210	270	150	290	*	315	175	360	*	315	175	360	*
20	230	280	150	300	*	325	175	365	*	325	175	365	*
25	230	280	150	300	*	325	175	365	*	325	175	365	*
32	260	340	175	330	*	475	250	545	*	475	250	545	*
40	260	340	175	330	*	475	250	545	*	475	250	545	*
50	300	380	200	360	*	500	250	545	*	500	250	545	*

* on request

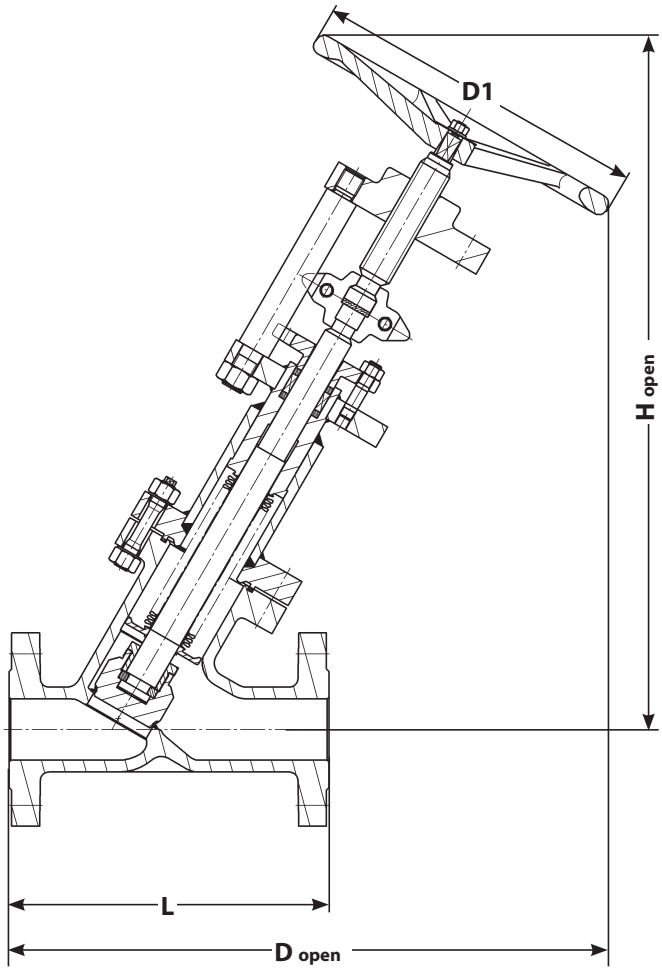
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, y-type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve. Bonnet design from PN 100 and above with column.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

Component	Material C.S. *11.35-S-FL*	S.S. *11.35-S-FL-A4*	Low temp. *11.35-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160	PN 63				PN 100				PN 160			
	L [mm]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	G [kg]
65	340	440	200	435	*	*	*	*	*	*	*	*	*
80	380	565	300	595	*	730	400	855	*	730	400	855	*
100	430	590	300	600	*	740	400	855	*	740	400	855	*
125	500	615	300	620	*	790	400	880	*	790	400	880	*
150	550	900	400	890	*	975	400	1015	*	990	400	1015	*
200	650	935	400	905	*	980	400	1035	*	985	400	1035	*

* on request

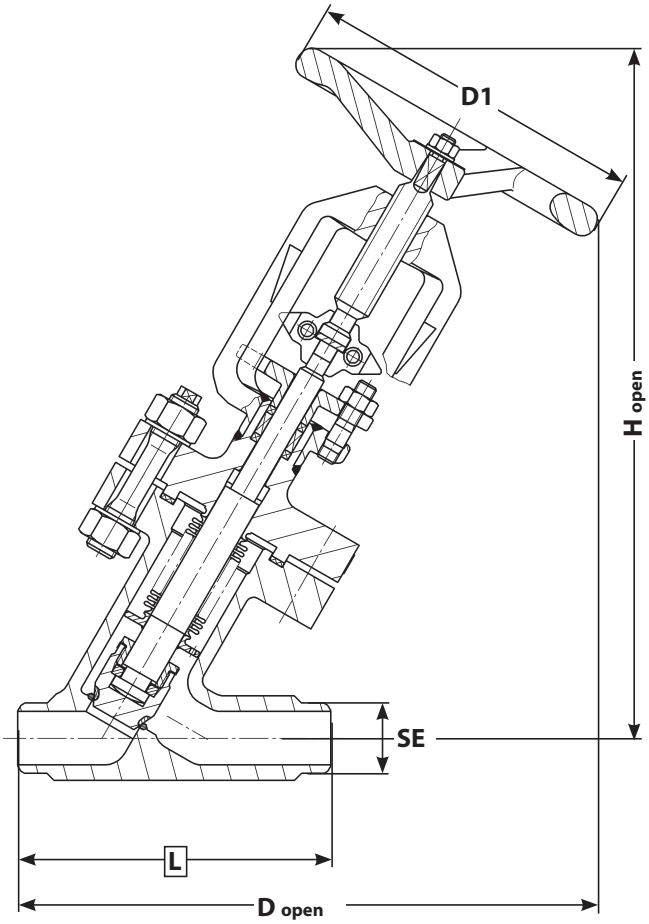
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

DN 15 - 50 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



High pressure bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve.
Body made of cast/forged material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-S-SE*	S.S. *11.35-S-SE-A4*	Low temp. *11.35-S-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021/1.4571	1.4571	1.4571
Disc surface	1.4021/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

DN	PN 63-160		PN 63					PN 100					PN 160				
	L [mm]	SE [mm]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]
15	150	21,3	240	150	295	2,0	*	300	175	360	2,0	*	300	175	360	2,0	*
20	150	26,9	240	150	295	2,3	*	300	175	360	2,3	*	300	175	360	2,3	*
25	160	33,7	245	150	300	2,6	*	305	175	365	2,6	*	305	175	365	3,2	*
32	180	42,4	305	175	330	2,6	*	435	250	545	2,6	*	435	250	545	3,6	*
40	210	48,3	305	175	330	2,6	*	450	250	545	2,6	*	450	250	545	3,6	*
50	250	60,3	355	200	360	3,2	*	475	250	545	3,2	*	475	250	545	4,0	*

* on request

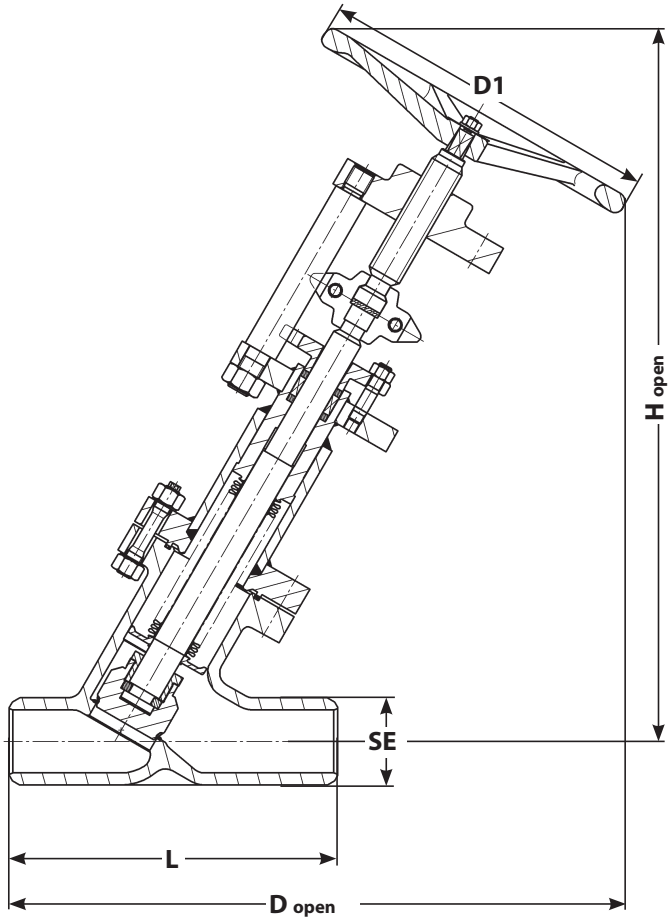
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

DN 65 - 200 PN 63 - 160			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-G-FL*	S.S. *11.35-G-FL-A4*	Low temp. *11.35-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370/St.21	Stellite 21	1.4370/St.21
Bonnet	1.0619/1.0460	1.4408/1.4571	1.1138/1.0566
Disc	1.0460/1.4571	1.4571	1.4571/1.0566
Disc surface	1.4009/St.6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	1.7709	A2/70	A2/70
Nuts	1.7258	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

High pressure bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and multiplewall protected bellows provided with an additional guide sleeve. Bonnet design from PN 100 and above with column.
Body made of cast material; seat hardfaced, disc with conical plug.
If the differential pressure exceeds the maximal value acc. EN 13709 a pressure equalizing plug has to be provided.

DN	PN 63-160		PN 63					PN 100					PN 160				
	L [mm]	SE [mm]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]	D open [mm]	D1 [mm]	H open [mm]	s [mm]	G [kg]
65	340	76,1	440	200	435	3,6	*	*	*	*	*	*	*	*	*	*	*
80	380	88,9	565	300	595	4,0	*	730	400	855	4,0	*	730	400	855	6,3	*
100	430	114,3	590	300	600	5,0	*	740	400	855	5,0	*	740	400	855	8,0	*
125	500	139,7	615	300	620	4,5	*	790	400	880	6,3	*	790	400	880	10,0	*
150	550	168,3	900	400	890	5,6	*	975	400	995	7,1	*	990	400	1015	12,5	*
200	650	219,1	935	400	905	7,1	*	1010	400	1015	10,0	*	1025	400	1035	16,0	*

* on request

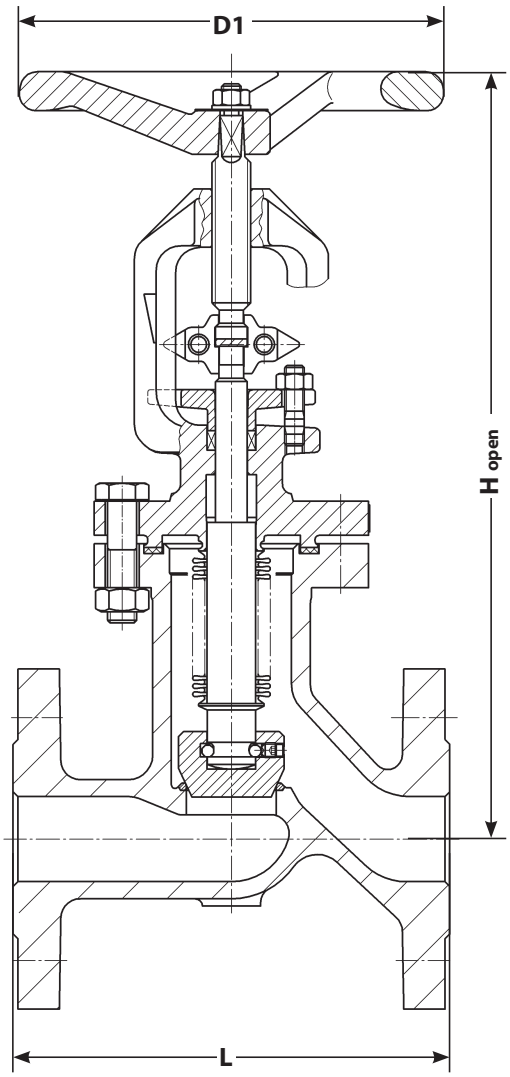
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

1/2" - 2"			
ASME 150 - 600 lb			
	C.S.	**S.S.**	**Low temp.**
Tmin.	**-29°C**	**-268°C**	**-50°C**
Tmax.	**+427°C**	**+400°C**	**+300°C**

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-G-FL*	S.S. *11.35-G-FL-A4*	Low temp. *11.35-G-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb				ASME 300 lb				ASME 600 lb			
	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	108	295	150	7	152	295	150	*	165	375	175	*
3/4"	117	295	150	7,5	178	295	150	*	190	375	175	*
1"	127	300	150	7,5	203	300	150	9	216	375	175	*
1 1/4"	140	340	175	12	216	340	175	*	229	560	250	*
1 1/2"	165	340	175	14	229	340	175	*	241	560	250	*
2"	203	360	200	18	267	360	200	20,5	292	560	250	*

* on request

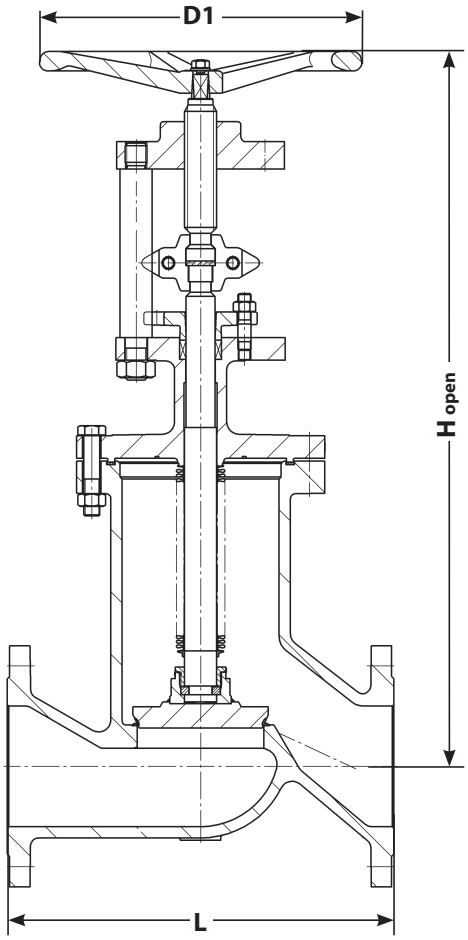
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-G-FL

2 1/2" - 16" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-G-FL*	S.S- *11.35-G-FL-A4*	Low temp. *11.35-G-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, straight type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast material; seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

DN	ASME 150 lb				ASME 300 lb				ASME 600 lb			
	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	216	460	200	26	292	460	200	26	330	880	400	*
3"	241	585	250	43,5	318	580	300	51	356	870	400	*
4"	292	610	300	58	356	610	300	74	432	880	400	*
5"	356	615	300	86	400	615	300	86	508	880	400	*
6"	406	950	400	157	445	925	400	192,5	559	1080	400	*
8"	495	910	400	226	559	910	400	273	660	1045	400	*
10"	622	1275	600	393	622	1275	600	437	*	*	*	*
12"	698	1280	600	492	711	1280	600	492	*	*	*	*
14"	787	1675	600	800	*	*	*	*	*	*	*	*
16"	914	1690	600	1020	*	*	*	*	*	*	*	*

* on request

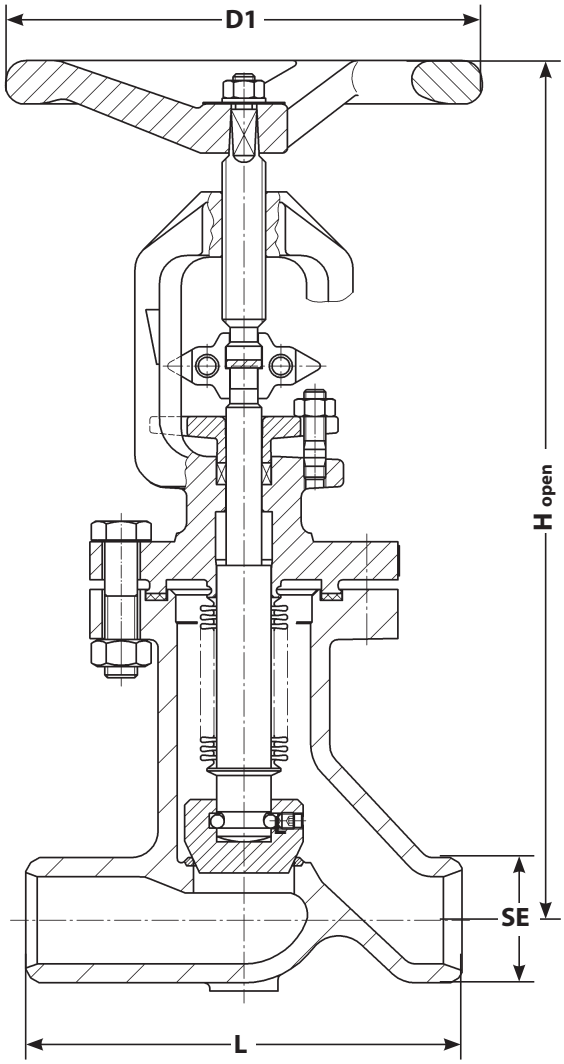
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

1/2" - 2" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with butt-welding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multi-plewall protected bellows made of stainless steel, with anti torque device.
Body made of cast/forged material; seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-G-SE*	S.S. *11.35-G-SE-A4*	Low temp. *11.35-G-SE-TT*
Body	A216 WCB/A105	A351 CF8M/316 Ti	A352 LCB/A516 (60)
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	108	21,3*2,8	295	150	7	152	21,3*2,8	295	150	*	165	21,3*3,7	375	175	*
3/4"	117	26,7*2,9	295	150	8	178	26,7*2,9	295	150	*	190	26,7*3,9	375	175	*
1"	127	33,4*3,4	300	150	8	203	33,4*3,4	300	150	*	216	33,4*4,6	375	175	*
1 1/4"	140	42,2*3,6	340	175	12	216	42,2*3,6	340	175	*	229	42,2*4,9	560	250	*
1 1/2"	165	48,3*3,7	340	175	14	229	48,3*3,7	340	175	*	241	48,3*5,1	560	250	*
2"	203	60,3*3,9	360	200	17	267	60,3*3,9	360	200	*	292	60,3*5,5	560	250	*

* on request

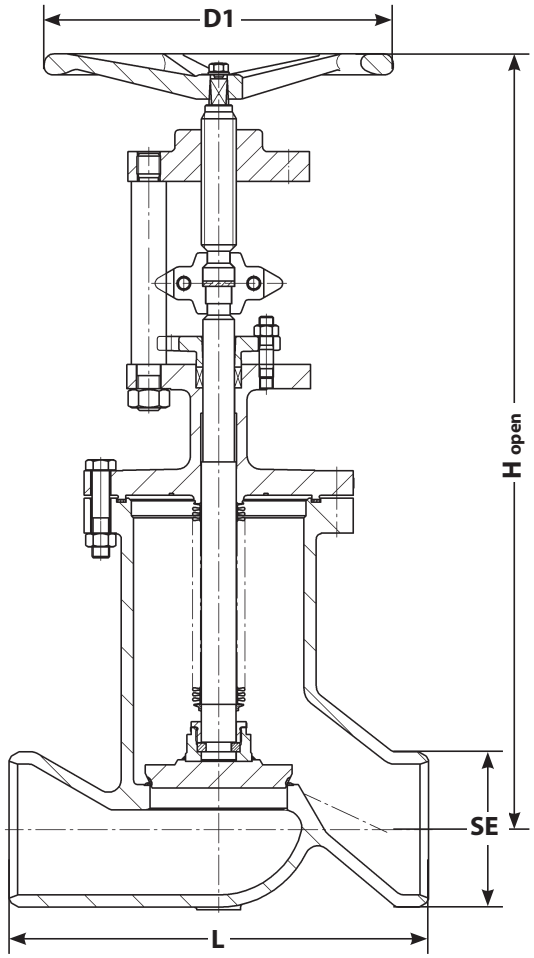
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-G-SE

2 1/2" - 16"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, straight type, with buttwelding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device.
Body made of cast material, seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

Component	Material C.S. *11.35-G-SE*	S.S. *11.35-G-SE-A4*	Low temp. *11.35-G-SE-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	216	73,0*5,2	460	200	26	292	73,0*5,2	460	200	26	330	73,0*7,0	880	400	*
3"	241	88,9*5,5	585	250	40	318	88,9*5,5	610	300	40	356	88,9*7,6	870	400	*
4"	292	114,3*6,0	610	300	56	356	114,3*6,0	610	300	56	432	114,3*8,6	880	400	*
5"	356	141,3*6,6	615	300	86	400	141,3*6,6	615	300	86	508	141,3*9,5	880	400	*
6"	406	168,3*7,1	950	400	155	445	168,3*7,1	950	400	155	559	168,3*10,9	1080	400	*
8"	495	219,1*8,2	910	400	255	559	219,1*8,2	910	400	255	660	219,1*12,7	1045	400	*
10"	622	273,0*9,3	1275	600	393	622	273,0*9,3	1275	600	393	*	*	*	*	*
12"	698	323,9*10,3	1280	600	492	711	323,9*10,3	1280	600	492	*	*	*	*	*
14"	787	355,6*11,1	1675	600	800	*	*	*	*	*	*	*	*	*	*
16"	914	406,4*12,7	1690	600	1020	*	*	*	*	*	*	*	*	*	*

* on request

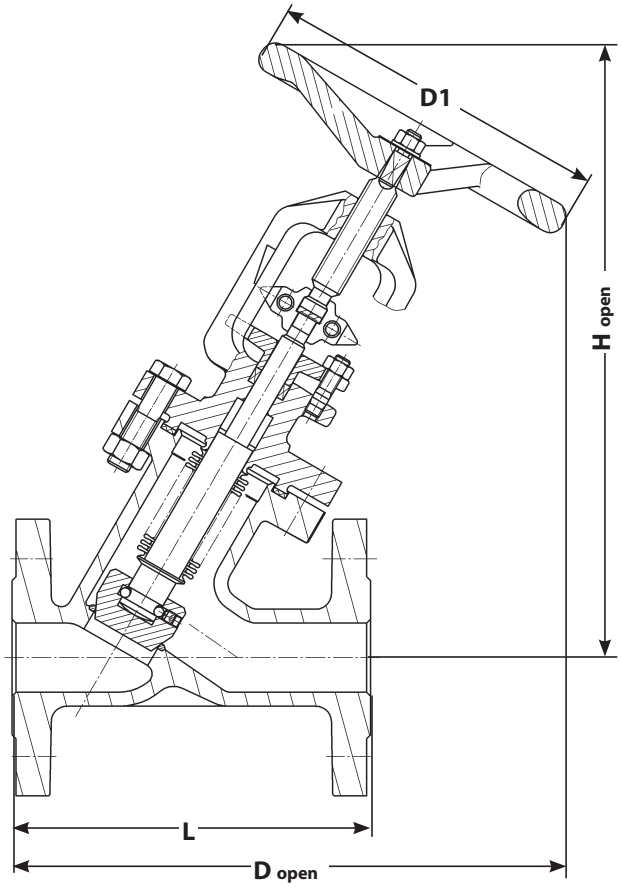
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

1/2" - 2" ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Bellows sealed globe valve, y-type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug.

Component	Material C.S. *11.35-S-FL*	S.S. *11.35-S-FL-A4*	Low temp. *11.35-S-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	140	245	295	150	7	152	240	295	150	*	165	295	375	175	*
3/4"	152	240	295	150	8	178	250	295	150	*	190	295	375	175	*
1"	165	250	300	150	8	203	265	300	150	*	216	320	365	175	*
1 1/4"	184	290	330	175	12	216	325	330	175	*	229	460	545	250	*
1 1/2"	203	300	330	175	14	229	315	330	175	*	241	465	545	250	*
2"	229	345	360	200	17	267	360	360	200	*	292	495	545	250	*

* on request

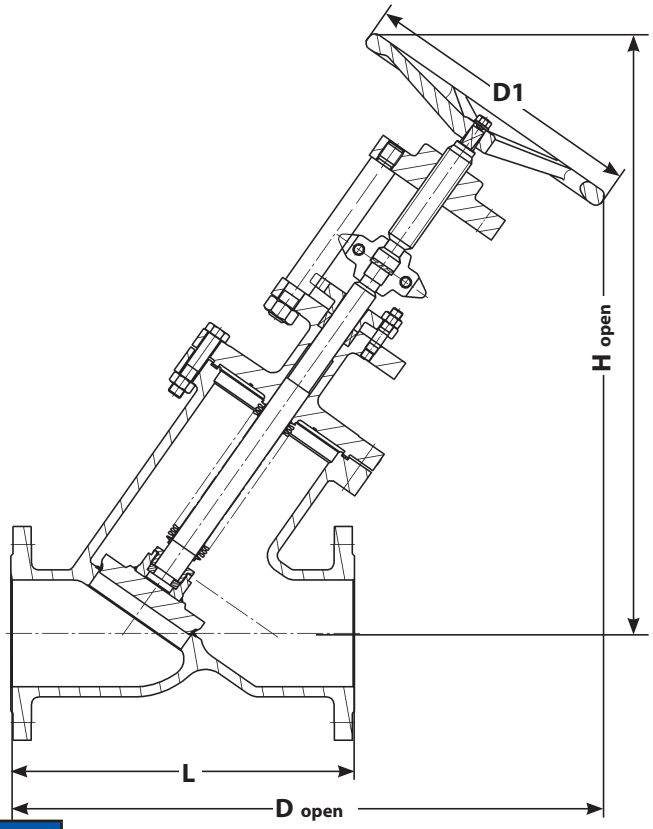
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.35-S-FL

2 1/2" - 16"			
ASME 150 - 600 lb			
	C.S.	**S.S.**	**Low temp.**
Tmin.	**-29°C**	**-268°C**	**-50°C**
Tmax.	**+427°C**	**+400°C**	**+300°C**

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-S-FL*	S.S. *11.35-S-FL-A4*	Low temp. *11.35-S-FL-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y- type, with flanges acc. ASME B 16.5; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

DN	ASME 150 lb					ASME 300 lb					ASME 600 lb				
	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	279	410	435	200	26	292	420	435	200	26	*	*	*	*	*
3"	318	510	585	250	40	318	530	595	300	40	356	715	855	400	*
4"	368	560	600	300	56	356	555	600	300	56	432	745	855	400	*
5"	400	565	620	300	86	400	565	620	300	86	508	795	880	400	*
6"	470	860	890	400	155	445	845	890	400	155	559	950	995	600	*
8"	597	905	905	400	255	559	870	905	400	255	660	980	1015	600	*
10"	673	1260	1225	600	393	622	1235	1225	600	393	*	*	*	*	*
12"	775	1290	1240	600	492	711	1210	1290	600	492	*	*	*	*	*
14"	980	1740	1530	600	800	*	*	*	*	*	*	*	*	*	*
16"	1100	1780	1555	600	1020	*	*	*	*	*	*	*	*	*	*

* on request

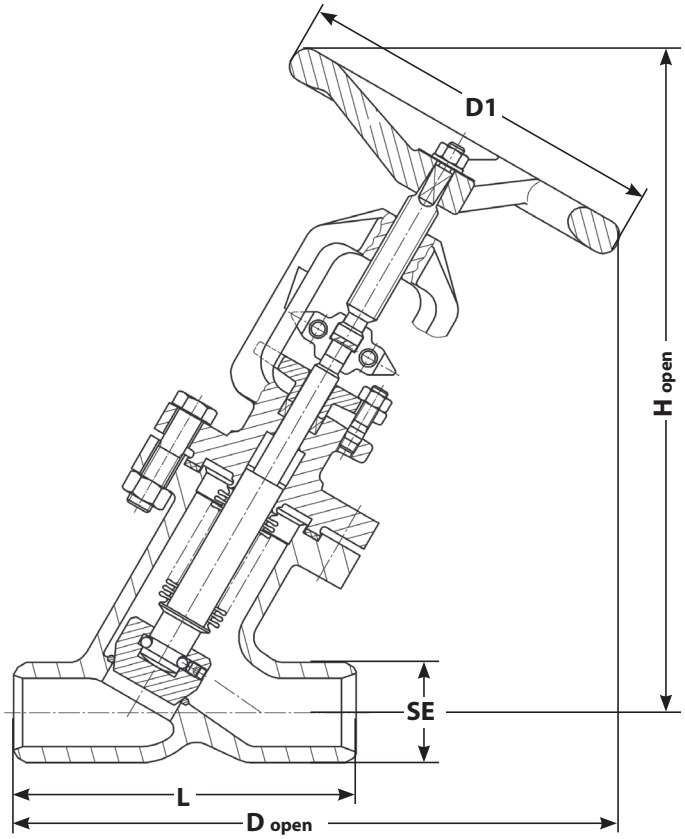
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

1/2" - 2"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-S-SE*	S.S. *11.35-S-SE-A4*	Low temp. *11.35-S-SE-TT*
Body	A216 WCB/A105	A351 CF8M/316 Ti	A352 LCB/A516 (60)
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB	A351 CF8M	A352 LCB
Disc	A276 (420)/316Ti	316 Ti	316 Ti
Disc surface	A276 (420)/St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y-type, with butt-welding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast/forged material; seat hardfaced, disc with conical plug.

DN	ASME 150 lb						ASME 300 lb						ASME 600 lb					
	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
1/2"	140	21,3*2,8	250	280	150	7	152	21,3*2,8	240	295	150	*	165	21,3*3,7	305	360	175	*
3/4"	152	26,7*2,9	255	280	150	8	178	26,7*2,9	250	295	150	*	190	26,7*3,9	320	360	175	*
1"	165	33,4*3,4	260	280	150	8	203	33,4*3,4	265	300	150	*	216	33,4*4,6	330	360	175	*
11/4"	184	42,2*3,6	305	330	175	12	216	42,2*3,6	325	330	175	*	229	42,2*4,9	460	545	250	*
11/2"	203	48,3*3,7	305	330	175	14	229	48,3*3,7	315	330	175	*	241	48,3*5,1	465	545	250	*
2"	229	60,3*3,9	345	360	200	17	267	60,3*3,9	360	360	200	*	292	60,3*5,5	495	545	250	*

* on request

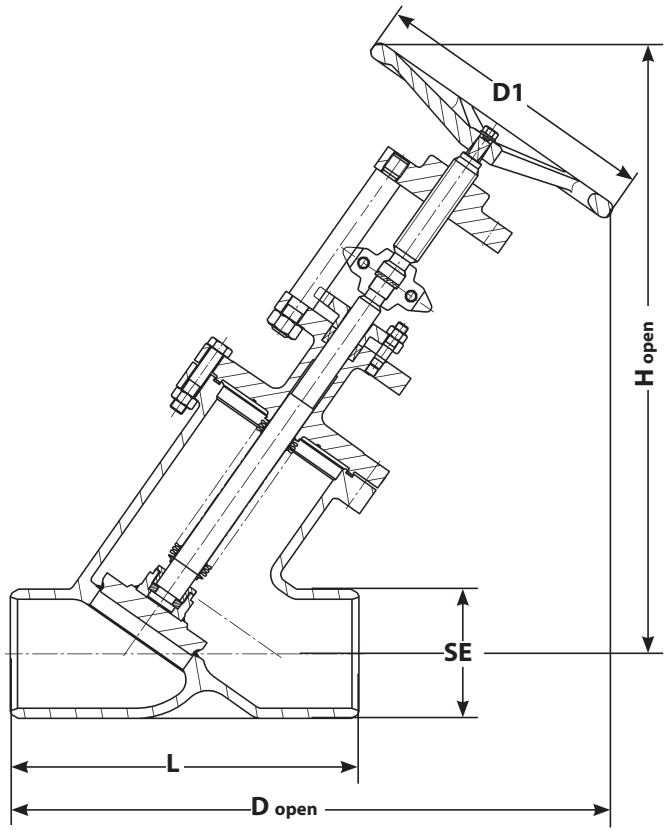
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.35-S-SE

2 1/2" - 16"			
ASME 150 - 600 lb			
	C.S.	S.S.	Low temp.
Tmin.	-29°C	-268°C	-50°C
Tmax.	+427°C	+400°C	+300°C

Permissible working pressure acc. ASME B16.34-1998
Max. differential pressure acc. EN 13709
Terms of delivery acc. API 598
Face to face dimension acc. ASME B16.10

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.35-S-SE*	S.S. *11.35-S-SE-A4*	Low temp. *11.35-S-SE-TT*
Body	A216 WCB	A351 CF8M	A352 LCB
Body seat	AISI 307/St.21	Stellite 21	AISI 307/St.21
Bonnet	A216 WCB/A414	A351 CF8M/316 Ti	A352 LCB/A516 (70)
Disc	A 105/316Ti	316 Ti	316Ti/A516 (70)
Disc surface	AWS A5.9 E410/ St.6	Stellite 6	Stellite 6
Bellows	316 Ti	316 Ti	316 Ti
Gasket		316 Ti/graphite	
Bolts	A193 (B7, B7M)	A193 (B8, B8A)	A193 (B8, B8A)
Nuts	A194 (7, 7M)	A194 (8, 8A)	A194 (8, 8A)
Gland packing		Pure graphite	
Gland	A27 (60-30)	A351 CF8M	A351 CF8M
Stem-upper part	AISI 420	AISI 420	AISI 420
Stem-lower part	AISI 304	316 Ti	AISI 304
Handwheel	A48-30B	A48-30B	A48-30B

Bellows sealed globe valve, y-type, with butt-welding ends acc. ASME B 16.25; with roll-formed stem screw thread, burnished shaft and coupled stem. Multiplewall protected bellows made of stainless steel, with anti torque device. Body made of cast material, seat hardfaced, disc with conical plug. Bonnet design 2 1/2" - 5" with yoke; from 6" and above with column and screwed flange. Stem from 10" and above provided with an additional guide sleeve.

DN	ASME 150 lb						ASME 300 lb						ASME 600 lb					
	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]	L [mm]	SE [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2"	279	73,0*5,2	410	435	200	26	292	73,0*5,2	420	435	200	26	*	*	*	*	300	
3"	318	88,9*5,5	510	585	250	40	318	88,9*5,5	530	595	300	40	356	88,9*7,6	715	855	400	
4"	368	114,3*6,0	560	600	300	56	356	114,3*6,0	555	600	300	56	432	114,3*8,6	745	855	400	
5"	400	141,3*6,6	565	620	300	86	400	141,3*6,6	565	620	300	86	508	141,3*9,5	795	880	400	
6"	470	168,3*7,1	860	890	400	155	445	168,3*7,1	845	890	400	155	559	168,3*10,9	980	995	400	
8"	597	219,1*8,2	905	905	400	255	559	219,1*8,2	885	905	400	255	660	219,1*12,7	1015	1015	400	
10"	673	273,0*9,3	1260	1225	600	393	622	273,0*9,3	1235	1225	600	393	*	*	*	*	*	*
12"	775	323,9*10,3	1290	1240	600	492	711	323,9*10,3	1255	1240	600	492	*	*	*	*	*	*
14"	980	355,6*11,1	1740	1530	600	800	*	*	*	*	*	*	*	*	*	*	*	*
16"	1100	406,4*12,7	1780	1555	600	1020	*	*	*	*	*	*	*	*	*	*	*	*

* on request

EURO CHLOR BELLOWS SEALED GLOBE VALVES TYPE EC11.35

Product description Type EC11.35

Bellows sealed globe valve according to EURO CHLOR recommendation with protected bellows and safety gland packing; in straight type; with flange design in accordance with EN 1092-1 and ASME B 16.5 respectively; supply in low temperature steel 1.1138 (LCB). Carbon steel 1.0619 (WCB) and stainless steel 1.4408 (CF8M) are available on request.

Use Type EC11.35

For use with liquid chlorine and dry gaseous chlorine service and similar dangerous products.

Design features Type EC11.35

- Bonnet flange in tongue and grooved design; bolts with 2 nuts; bonnet gasket made of 1.4571 (316TI) with PTFE coating
- Bellows anti-torque device with integrated position indicator for open and closed positions
- Protected multiple wall bellows made of Hastelloy C276, designed for 20.000 operations, installed beyond main flow area
- Safety gland packing made of PTFE silk; gland follower with double O-ring seal to prevent ingress of water into the packing area

Type EC11.35

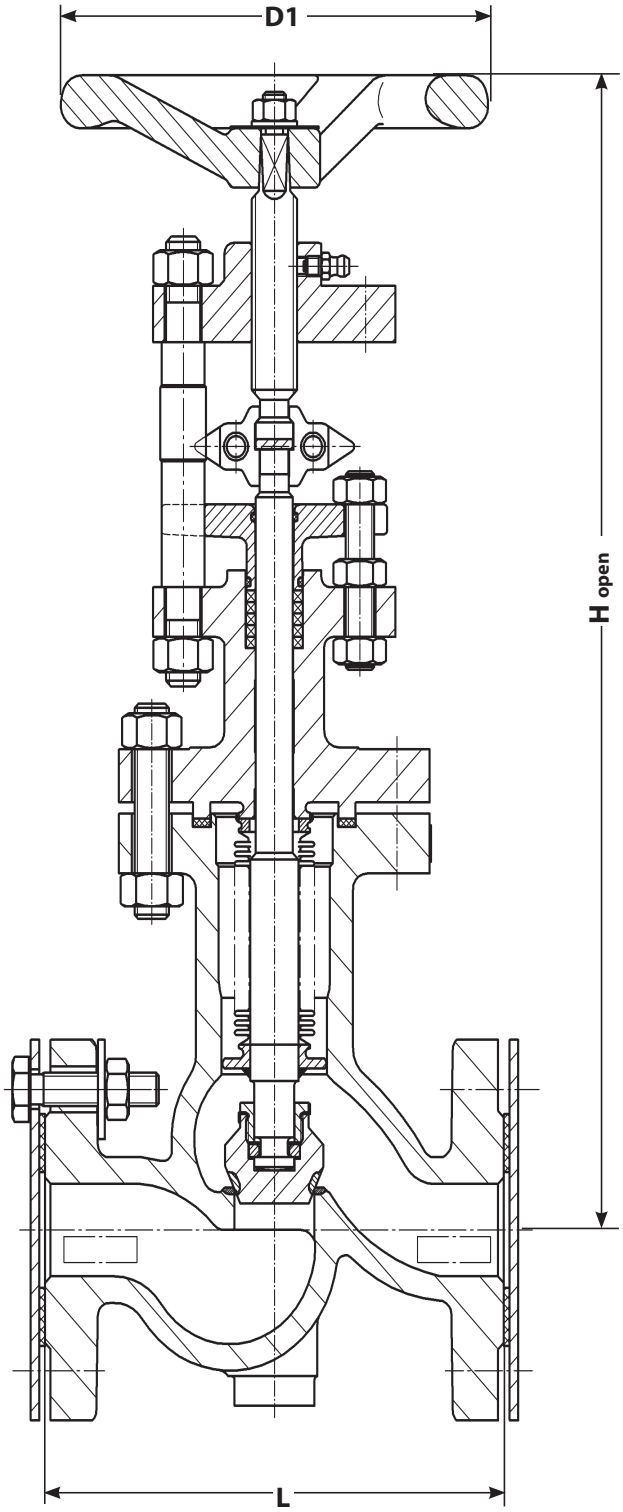
EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL-TT

DN 15 - 50	
PN 40	
	Low temperature steel
Tmin.	- 40°C
Tmax.	+120°C

Component	Material Low temp. steel *EC11.35-G-FL-TT*
Body	1.1138
Body seat	Stellite 21
Bonnet	1.1138
Disc	1.4571
Disc surface	Stellite 6
Bellows	2.4819
Bonnet gasket	1.4571/PTFE
Stud bolts	1.7225
Nuts	1.7218
Gland packing	PTFE
Gland follower	1.4408
O-Ring	Viton
Stem-upper part	1.4122
Stem-lower part	1.4571
Handwheel	0.6020

Flanges acc. DIN EN 1092-1

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15 *	130	365	150	8
20 *	150	365	150	8
25	160	365	150	8
32 *	180	480	175	14
40	200	480	175	14
50	230	480	200	17



* These sizes are not included in GEST 89/140. Construction and materials according to EURO CHLOR recommendation.

ACCORDING TO EURO CHLOR GEST 89/140 CERTIFICATE NO. 08/02

Bellows Sealed Globe Valve **according to EURO CHLOR recommendation GEST 89/140**; straight type with flanges acc. EN 1092-1 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 1.4571 with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- Body made of cast material 1.1138, seat hardfaced with stellite 21.
- Disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

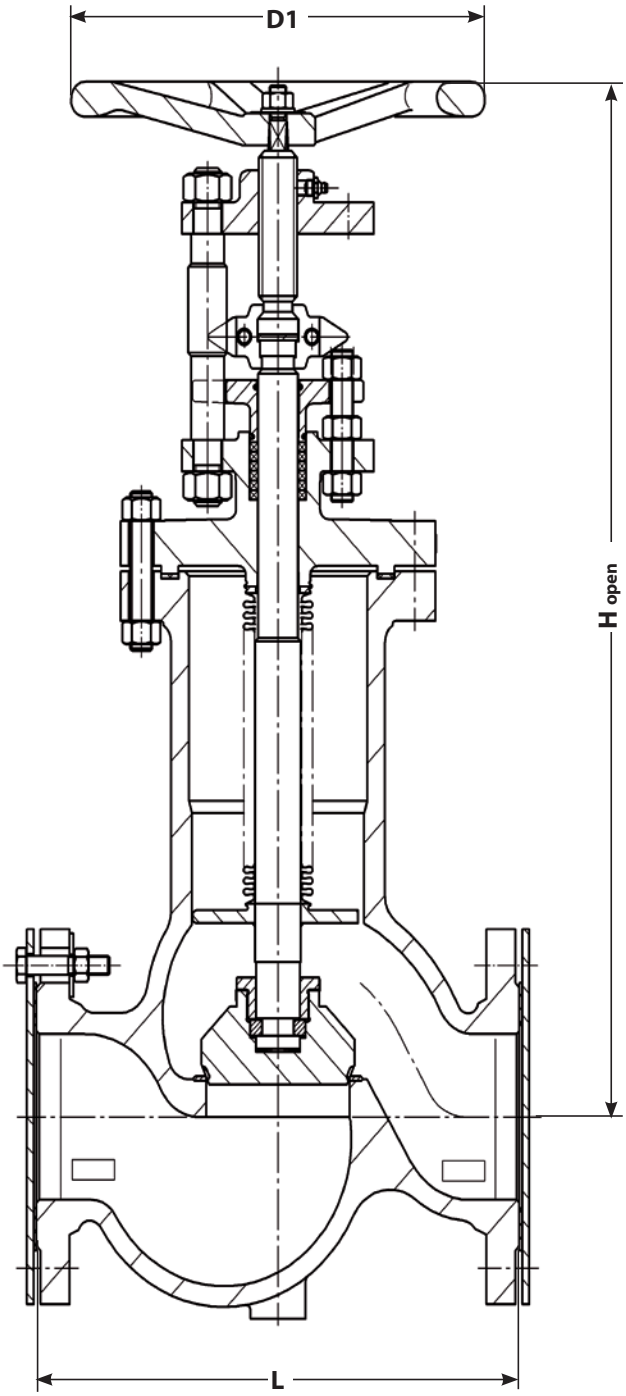
EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL-TT

DN 65 - 350	
PN 40	
	Low temperature steel
Tmin.	- 40°C
Tmax.	+120°C

Component	Material Low temp. steel *EC11.35-G-FL-TT*
Body	1.1138
Body seat	Stellite 21
Bonnet	1.1138
Disc	1.4571
Disc surface	Stellite 6
Bellows	2.4819
Bonnet gasket	1.4571/PTFE
Stud bolts	1.7225
Nuts	1.7218
Gland packing	PTFE
Gland follower	1.4408
O-Ring	Viton
Stem-upper part	1.4122
Stem-lower part	1.4571
Handwheel	0.6020

Flanges acc. DIN EN 1092-1				
DN	L [mm]	H_{open} [mm]	D1 [mm]	G [kg]
65*	290	**	200	26
80	310	690	300	40
100	350	690	300	56
125*	400	**	300	86
150	480	1055	600	155
200*	600	**	600	255
250*	730	**	600	393
300*	850	**	600	492
350*	980	**	600	800

** available on request



* These sizes are not included in GEST 89/140. Construction and materials according to EURO CHLOR recommendation.

ACCORDING TO EURO CHLOR GEST 89/140 CERTIFICATE NO. 08/02

Bellows Sealed Globe Valve **according to EURO CHLOR recommendation GEST 89/140**; straight type with flanges acc. EN 1092-1 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 1.4571 with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- Body made of cast material 1.1138, seat hardfaced with stellite 21.
- Disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

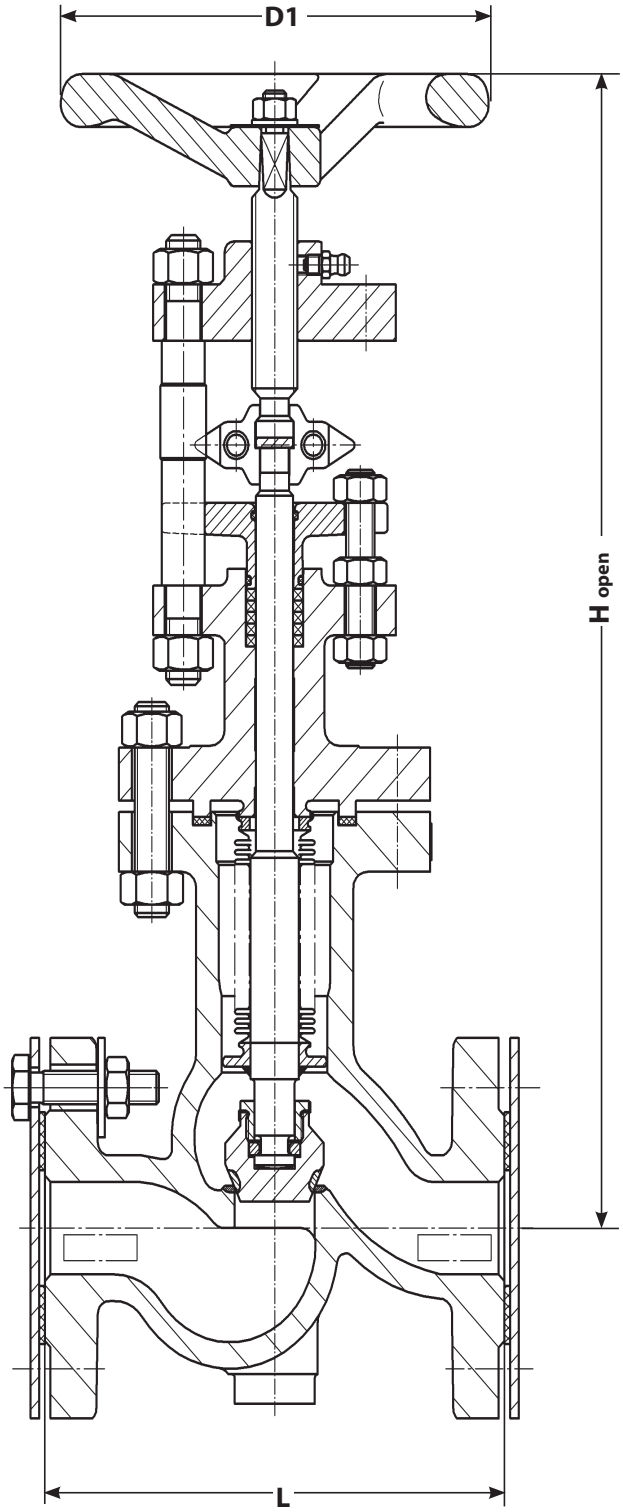
- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

EURO CHLOR
Bellows Sealed Globe Valve — EC11.35-G-FL-TT

1/2“ - 2“	
ASME 300lb	
	Low temperature steel
Tmin.	- 40°C
Tmax.	+120°C

Component	Material Low temp. steel *EC11.35-G-FL-TT*
Body	A 352 LCB
Body seat	Stellite 21
Bonnet	A 352 LCB
Disc	316 Ti
Disc surface	Stellite 6
Bellows	Hastelloy C276
Bonnet gasket	316 Ti/PTFE
Stud bolts	A 320 L7M
Nuts	A 320 7M
Gland packing	PTFE
Gland follower	A 351 CF8M
O-Ring	Viton
Stem-upper part	AISI 420
Stem-lower part	316 Ti
Handwheel	A 48-30B

Flanges acc. ASME B 16.5				
NPS	L [mm]	H open [mm]	D1 [mm]	G [kg]
1/2“ *	152	365	150	8
3/4“ *	178	365	150	8
1“	203	365	150	8
1 1/4“ *	216	480	175	14
1 1/2“	229	480	175	14
2“	267	480	200	17



* These sizes are not included in GEST 89/140. Construction and materials according to EURO CHLOR recommendation.

ACCORDING TO EURO CHLOR GEST 89/140 CERTIFICATE NO. 08/02

Bellows Sealed Globe Valve **according to EURO CHLOR recommendation GEST 89/140**; straight type with flanges acc. ASME B 16.5 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 316 Ti with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- Body made of cast material A 352 LCB, seat hardfaced with stellite 21.
- Disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- ANSI B 16.34/MSS SP 61/API 598/BS 6755.
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

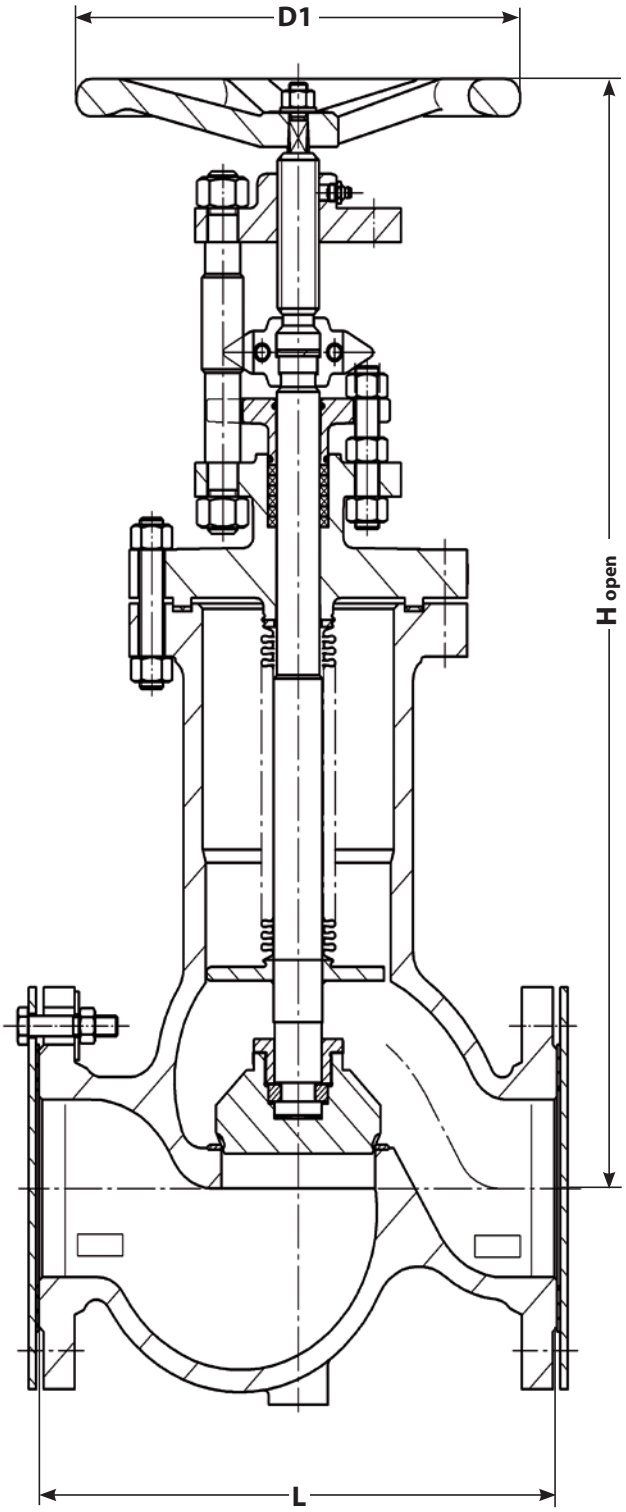
EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL-TT

2 1/2“ - 14“	
ASME 300lb	
	Low temperature steel
Tmin.	- 40°C
Tmax.	+120°C

Component	Material Low temp. steel *EC11.35-G-FL-TT*
Body	A 352 LCB
Body seat	Stellite 21
Bonnet	A 352 LCB
Disc	316 Ti
Disc surface	Stellite 6
Bellows	Hastelloy C276
Bonnet gasket	316 Ti/PTFE
Stud bolts	A 320 L7M
Nuts	A 320 7M
Gland packing	PTFE
Gland follower	A 351 CF8M
O-Ring	Viton
Stem-upper part	AISI 420
Stem-lower part	316 Ti
Handwheel	A 48-30B

Flanges acc. ASME B16.5				
NPS	L [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2“ *	292	**	200	26
3“	318	690	300	40
4“	356	690	300	56
5“ *	400	**	300	86
6“	445	1055	600	155
8“ *	559	**	600	255
10“ *	622	**	600	393
12“ *	711	**	600	492
14“ *	980	**	600	800

** available on request



* These sizes are not included in GEST 89/140. Construction and materials according to EURO CHLOR recommendation.

ACCORDING TO EURO CHLOR GEST 89/140 CERTIFICATE NO. 08/02

Bellows Sealed Globe Valve **according to EURO CHLOR recommendation GEST 89/140**; straight type with flanges acc. ASME B 16.5 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 316 Ti with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- Body made of cast material A 352 LCB, seat hardfaced with stellite 21.
- Disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- ANSI B 16.34/MSS SP 61/API 598/BS 6755.
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

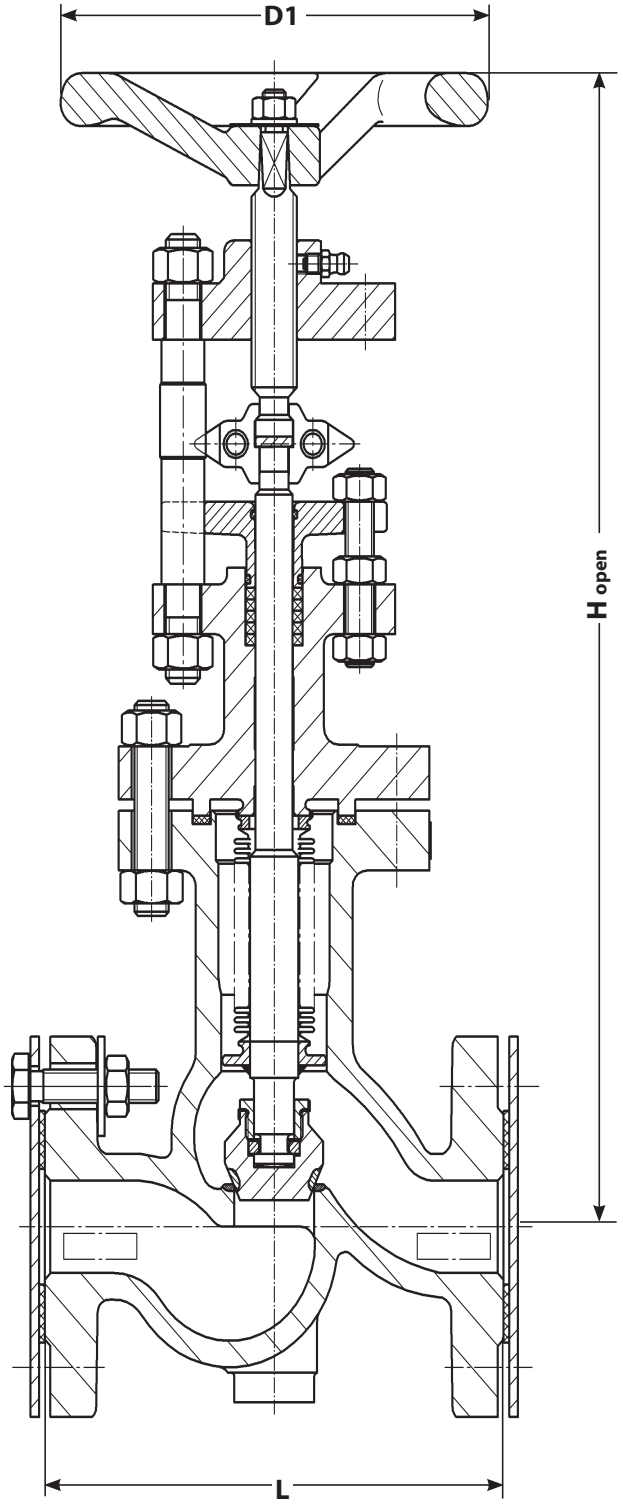
- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL *

DN 15 - 50		
PN 40		
	C.S.	S.S.
Tmin.	-10°C	-200°C
Tmax.	+200°C	+200°C

Component	Material	
	C.S. *EC11.35-G-FL*	S.S. *EC11.35-G-FL-A4*
Body	1.0619	1.4408
Body seat	Stellite 21	Stellite 21
Bonnet	1.0619	1.4408
Disc	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6
Bellows	2.4819	2.4819
Bonnet gasket	1.4571/PTFE	1.4571/PTFE
Stud bolts	1.7225	1.7225
Nuts	1.7218	1.7218
Gland packing	PTFE	PTFE
Gland follower	1.4408	1.4408
Stem-upper part	1.4122	1.4122
Stem-lower part	1.4571	1.4571
Handwheel	0.6020	0.6020

Flanges acc. DIN EN 1092-1				
DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	365	150	8
20	150	365	150	8
25	160	365	150	8
32	180	480	175	14
40	200	480	175	14
50	230	480	200	17



* The materials C.S. and S.S. are not included in GEST 89/140. Construction according to EURO CHLOR recommendation.

CERTIFICATE NO. 08/02 *

Bellows Sealed Globe Valve according to EURO CHLOR recommendation; straight type with flanges acc. EN 1092-1 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 1.4571 with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- **Carbon steel:** Body made of cast material 1.0619, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
- **Stainless steel:** Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

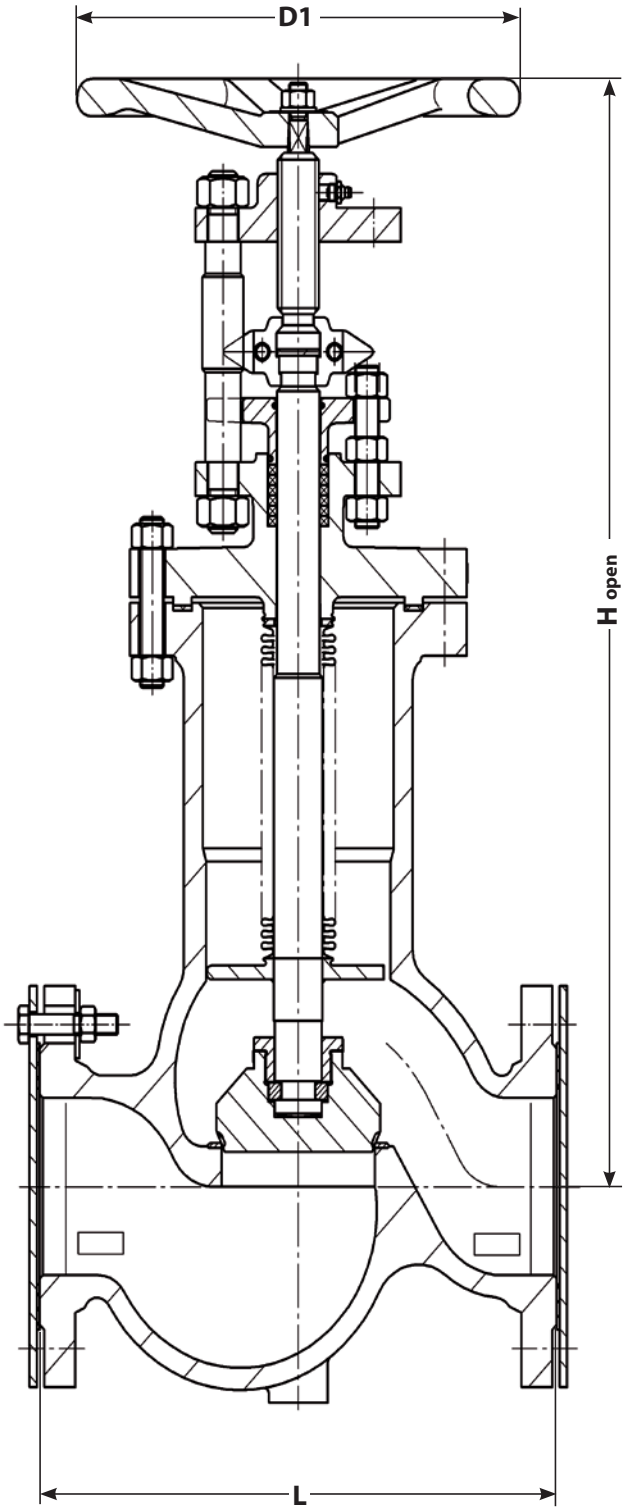
EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL *

DN 65 - 350		
PN 40		
	C.S.	S.S.
Tmin.	-10°C	-200°C
Tmax.	+200°C	+200°C

Component	Material	
	C.S. *EC11.35-G-FL*	S.S. *EC11.35-G-FL-A4*
Body	1.0619	1.4408
Body seat	Stellite 21	Stellite 21
Bonnet	1.0619	1.4408
Disc	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6
Bellows	2.4819	2.4819
Bonnet gasket	1.4571/PTFE	1.4571/PTFE
Stud bolts	1.7225	1.7225
Nuts	1.7218	1.7218
Gland packing	PTFE	PTFE
Gland follower	1.4408	1.4408
Stem-upper part	1.4122	1.4122
Stem-lower part	1.4571	1.4571
Handwheel	0.6020	0.6020

Flanges acc. DIN EN 1092-1				
DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	**	200	26
80	310	690	300	40
100	350	690	300	56
125	400	**	300	86
150	480	1055	600	155
200	600	**	600	255
250	730	**	600	393
300	850	**	600	492
350	980	**	600	800

** available on request



* The materials C.S. and S.S. are not included in GEST 89/140. Construction according to EURO CHLOR recommendation.

CERTIFICATE NO. 08/02 *

Bellows Sealed Globe Valve according to EURO CHLOR recommendation; straight type with flanges acc. EN 1092-1 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 1.4571 with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- **Carbon steel:** Body made of cast material 1.0619, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
- **Stainless steel:** Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

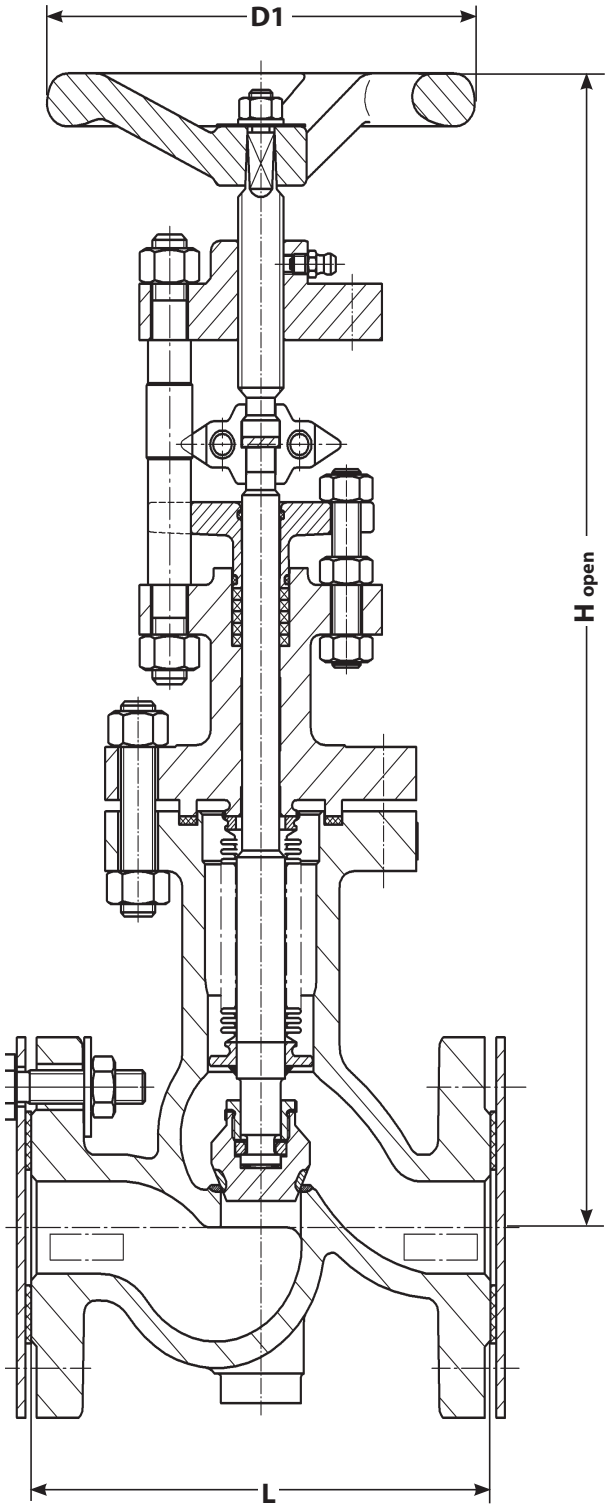
- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL *

1/2“ - 2“		
ASME 300lb		
	C.S.	**S.S.**
Tmin.	**-10°C**	**-200°C**
Tmax.	**+200°C**	**+200°C**

Component	Material	
	C.S. *EC11.35-G-FL*	S.S. *EC11.35-G-FL-A4*
Body	A 216 WCB	A 351 CF8M
Body seat	Stellite 21	Stellite 21
Bonnet	A 216 WCB	A 351 CF8M
Disc	316 Ti	316 Ti
Disc surface	Stellite 6	Stellite 6
Bellows	Hastelloy C276	Hastelloy C276
Bonnet gasket	316 Ti/PTFE	316 Ti/PTFE
Stud bolts	A 320 L7M	A 320 L7M
Nuts	A 320 7M	A 320 7M
Gland packing	PTFE	PTFE
Gland follower	A 351 CF8M	A 351 CF8M
O-Ring	Viton	Viton
Stem-upper part	AISI 420	AISI 420
Stem-lower part	316 Ti	316 Ti
Handwheel	A48-30B	A48-30B

Flanges acc. ASME B 16.5				
NPS	**L** [mm]	**H open** [mm]	**D1** [mm]	**G** [kg]
1/2“	152	365	150	8
3/4“	178	365	150	8
1“	203	365	150	8
1 1/4“	216	480	175	14
1 1/2“	229	480	175	14
2“	267	480	200	17



* The materials C.S. and S.S. are not included in GEST 89/140. Construction according to EURO CHLOR recommendation.

CERTIFICATE NO. 08/02 *

Bellows Sealed Globe Valve according to EURO CHLOR recommendation; straight type with flanges acc. ASME B 16.5 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 316 Ti with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- **Carbon steel:** Body made of cast material A 216 WCB, seat hardfaced with stellite 21, disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.
- **Stainless steel:** Body made of cast material A 351 CF8M, seat hardfaced with stellite 21, disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- ANSI B 16.34/MSS SP 61/API 598/BS 6755.
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

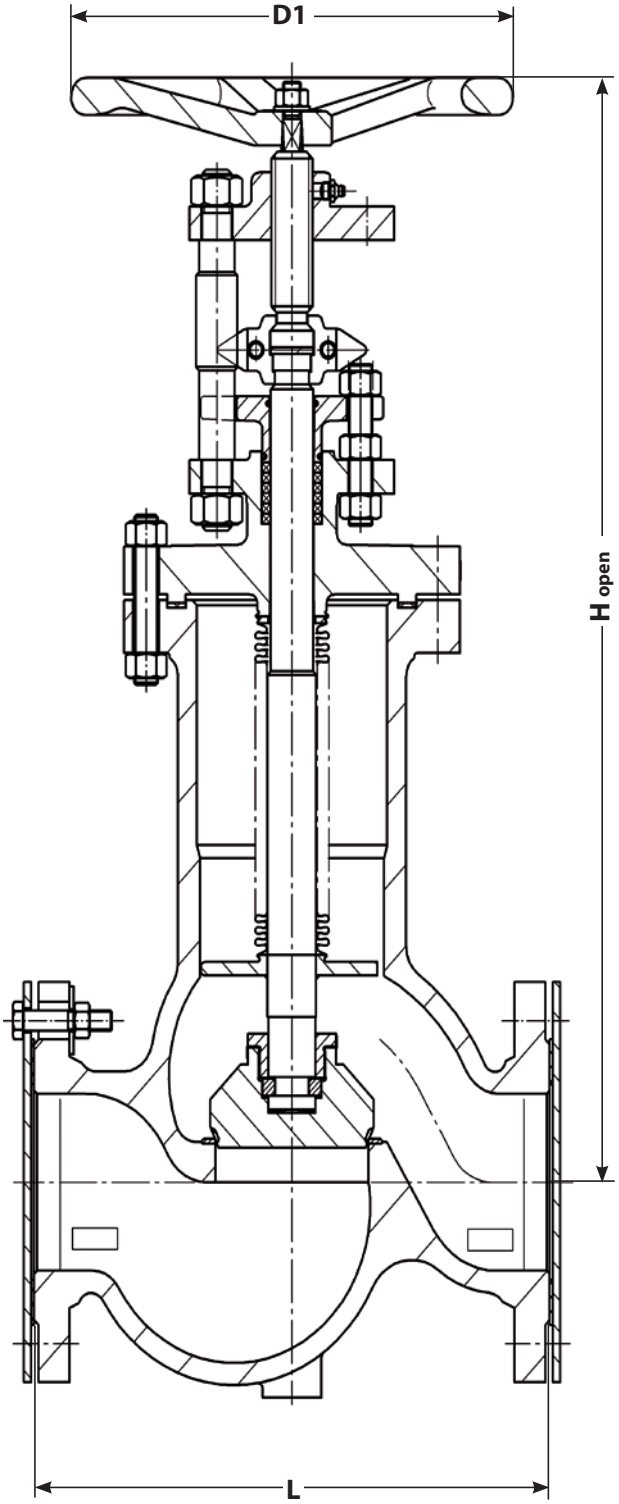
EURO CHLOR
BELLOWS SEALED GLOBE VALVE EC11.35-G-FL *

2 1/2“ - 14“		
ASME 300lb		
	C.S.	**S.S.**
Tmin.	**-10°C**	**-200°C**
Tmax.	**+200°C**	**+200°C**

Component	Material	
	C.S. *EC11.35-G-FL*	S.S. *EC11.35-G-FL-A4*
Body	A 216 WCB	A 351 CF8M
Body seat	Stellite 21	Stellite 21
Bonnet	A 216 WCB	A 351 CF8M
Disc	316 Ti	316 Ti
Disc surface	Stellite 6	Stellite 6
Bellows	Hastelloy C276	Hastelloy C276
Bonnet gasket	316 Ti/PTFE	316 Ti/PTFE
Stud bolts	A 320 L7M	A 320 L7M
Nuts	A 320 7M	A 320 7M
Gland packing	PTFE	PTFE
Gland follower	A 351 CF8M	A 351 CF8M
O-Ring	Viton	Viton
Stem-upper part	AISI 420	AISI 420
Stem-lower part	316 Ti	316 Ti
Handwheel	A48-30B	A48-30B

Flanges acc. ASME B16.5				
NPS	L [mm]	H open [mm]	D1 [mm]	G [kg]
2 1/2“	292	**	200	26
3“	318	690	300	40
4“	356	690	300	56
5“	400	**	300	86
6“	445	1055	600	155
8“	559	**	600	255
10“	622	**	600	393
12“	711	**	600	492
14“	980	**	600	800

** available on request



* The materials C.S. and S.S. are not included in GEST 89/140. Construction according to EURO CHLOR recommendation.

CERTIFICATE NO. 08/02 *

Bellows Sealed Globe Valve according to EURO CHLOR recommendation; straight type with flanges acc. ASME B 16.5 for use on liquid chlorine and dry gaseous chlorine service and similar toxic, aggressive and corrosive media.

Construction characteristics:

- Bonnet flange in tongue and grooved design; bolting by stud bolts, with a nut at each end; bonnet gasket made of 316 Ti with PTFE coating.
- In- and outlet flanges securely bolted with blank flanges and fitted with suitable gaskets.
- Bellows anti-torque device with integrated position indicator for open and closed positions.
- Safety gland packing made of PTFE-silk; gland follower with double O-ring seal to prevent ingress of water into the packing area.
- Protected multiple wall bellows made of 2.4819/Hastelloy C276, designed for 20.000 operations, installed beyond main flow area.
- **Carbon steel:** Body made of cast material A 216 WCB, seat hardfaced with stellite 21, disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.
- **Stainless steel:** Body made of cast material A 351 CF8M, seat hardfaced with stellite 21, disc with conical plug made of s.s. 316 Ti, sealing surface hardfaced with stellite 6.

Testing / Marking:

- Tests and design acc. to EURO CHLOR recommendation GEST 89/140, GEST 86/128, GEST 86/129.
- Quality level 3 of ASTM E446 or equivalent standard for body and bonnet.
- TÜV type test approval to VdTÜV 1065 available.
- Standard tests to DIN 3230 Part 3, resistance and leak test acc. to item BA/BQ.
- Leak test on closure acc. to item BO/BN (Leakage rate 1 = tight).
- ANSI B 16.34/MSS SP 61/API 598/BS 6755.
- TÜV approved strength calculations acc. to DIN 3840 available for body and bonnet.

Preservation after manufacture and final tests

- Drying at a temperature of 120°C (248°F) for at least 3 hours.
- Introducing of drying agents (Silicagel) into the valve.
- Blanking of inlet and outlet orifice with suitable gaskets and bolted flanges to avoid entry of moisture into the valve.
- Disc secured in closed position.
- Unfinished surfaces protected against rust.
- Lubrication with chlorofluorinated grease.

COMPACT GLOBE VALVES WITH FULLY FLUSHED BELLOWS TYPE 11.9

Product description Type 11.9

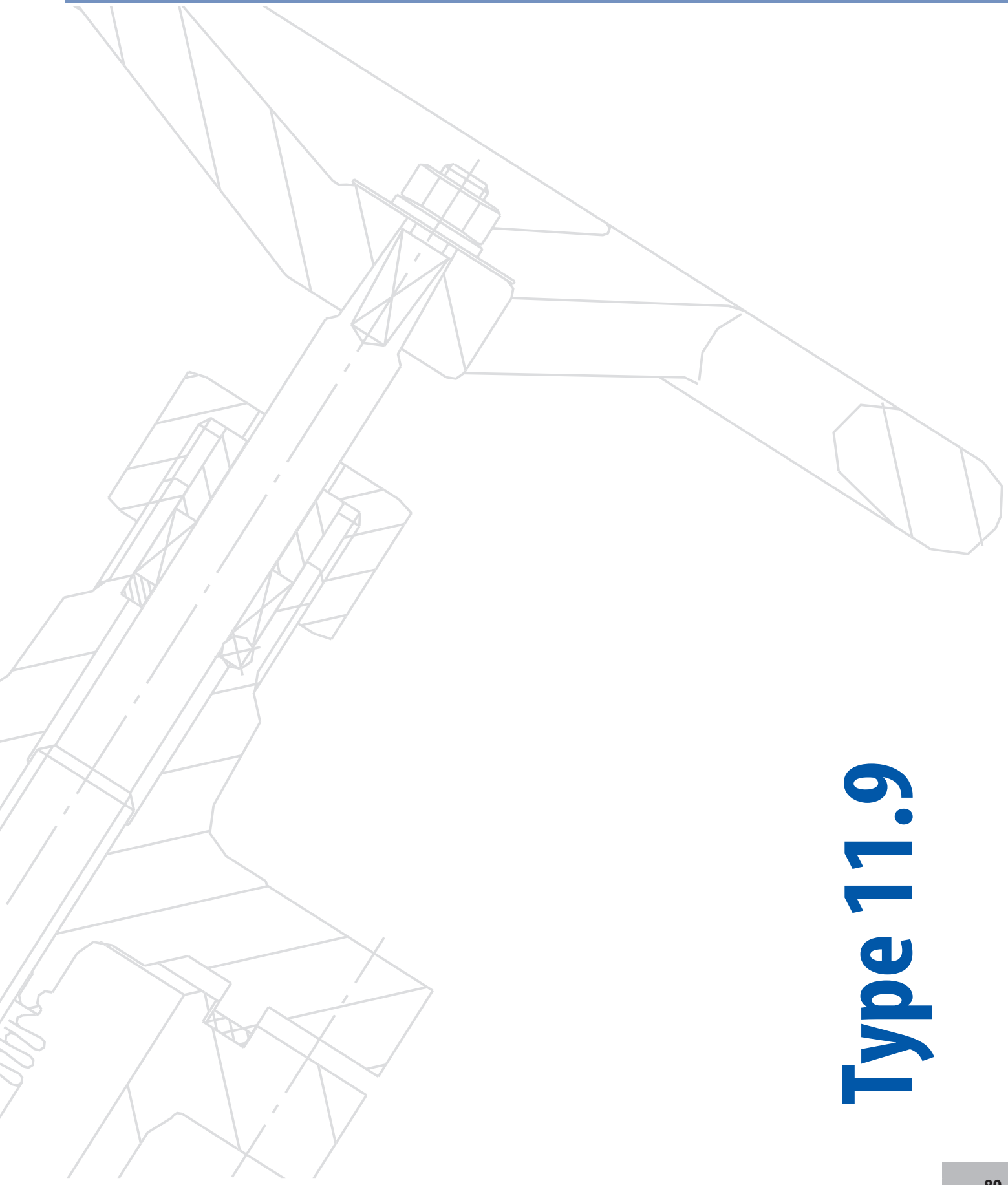
Compact globe valve with fully flushed bellows in straight type, y-type or corner-type; with flanges or buttweld ends and safety gland packing; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 11.9

For different kind of medium with inflammable, explosive, volatile, toxic or aggressive characteristics, whose delivery must be prevented into the atmosphere. Design in accordance with the Federal Emission Protection law.

Design features Type 11.9

- Stem with internal roll-formed stem thread and rising hand wheel
- Multiple wall, fully flushed stainless steel bellows, designed for 10,000 cycles
- Metal back seat
- Full size safety gland packing made of pure graphite
- Stainless steel grooved bonnet gasket coated by pure graphite, mounted in tongue and grooved bonnet flanges



Type 11.9

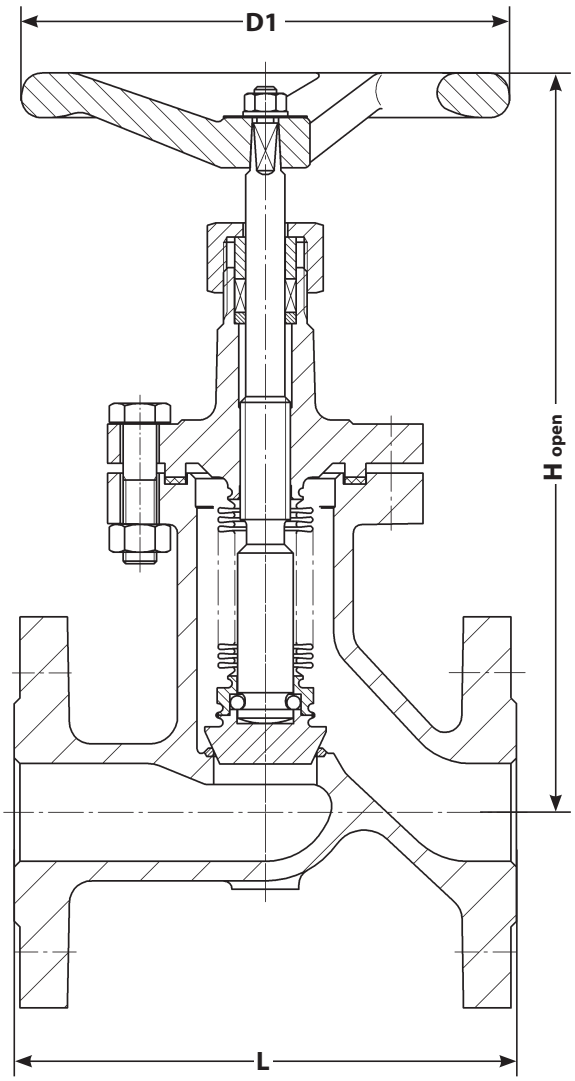
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.9-G-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-G-FL	S.S. 11.9-G-FL-A4	Low temp. 11.9-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	230	150	7
20	150	230	150	7
25	160	240	150	8
32	180	285	175	12,5
40	200	290	175	12,5
50	230	300	200	17

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

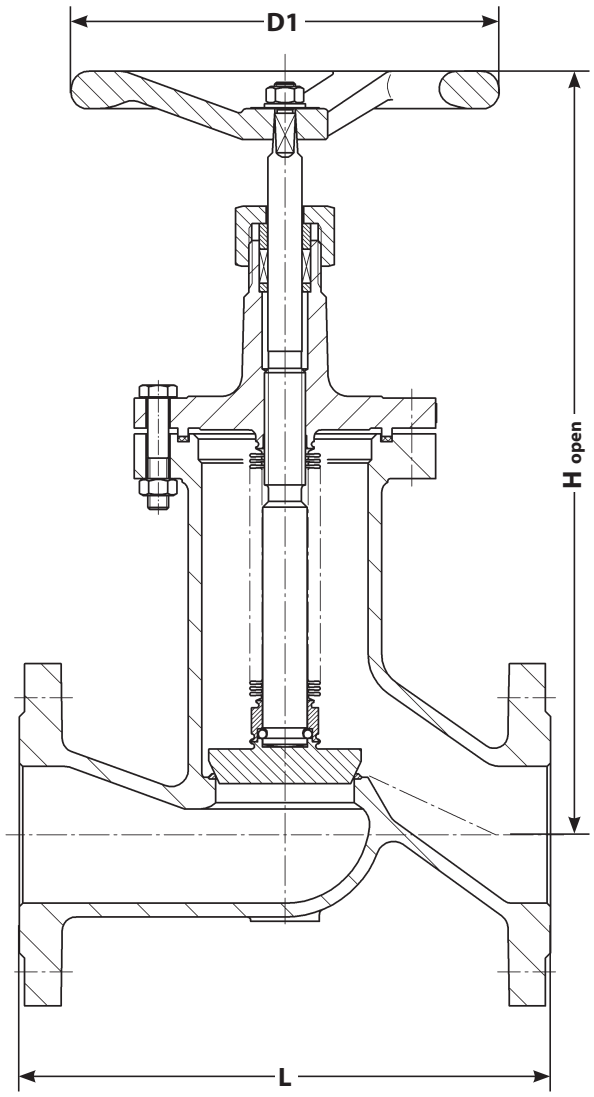
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.9-G-FL

DN 65 - 125			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-G-FL	S.S. 11.9-G-FL-A4	Low temp. 11.9-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	355	200	21
80	310	485	250	36
100	350	485	300	56
125	400	485	300	73

Bellows sealed globe valve, straight type, with flanges acc. EN 1092-1; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

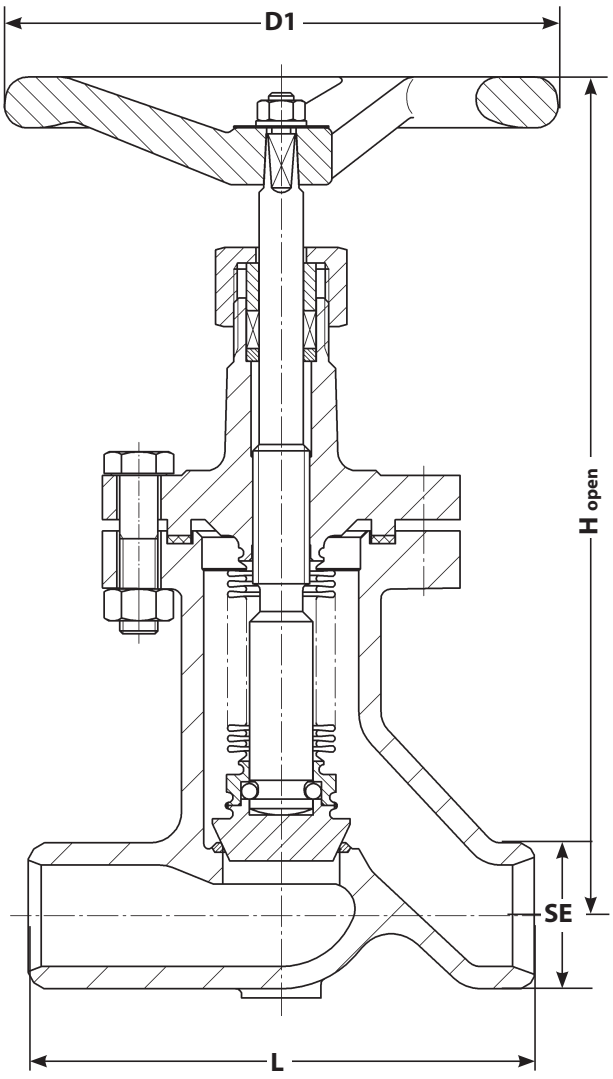
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.9-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *11.9-G-SE*	S.S. *11.9-G-SE-A4*	Low temp. *11.9-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	225	150	6
20	26,9*2,3	130	225	150	6
25	33,7*2,6	130	225	150	6
32	42,4*2,6	160	285	175	8
40	48,3*2,6	180	290	175	8
50	60,3*3,2	210	300	200	12

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.

Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

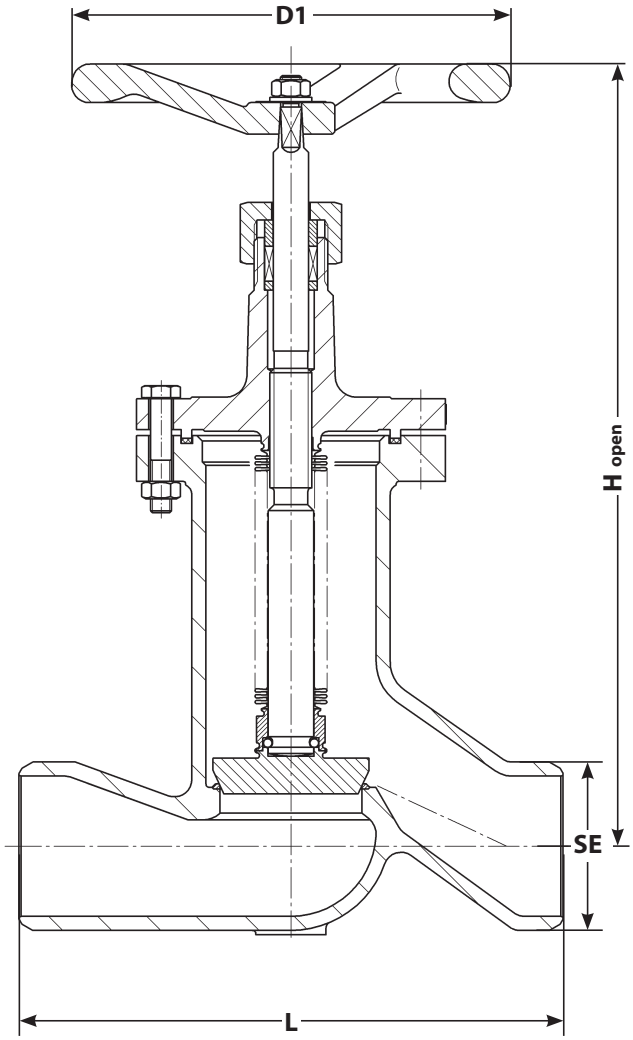
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.9-G-SE

DN 65 - 125			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-G-SE	S.S. 11.9-G-SE-A4	Low temp. 11.9-G-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]		L [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	355	200	16
80	88,9*	4,0	310	485	250	28
100	114,3*	5,0	350	485	300	36
125	139,7*	4,5	400	485	300	68

Bellows sealed globe valve, straight type, with buttwelding ends acc. EN 12627; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

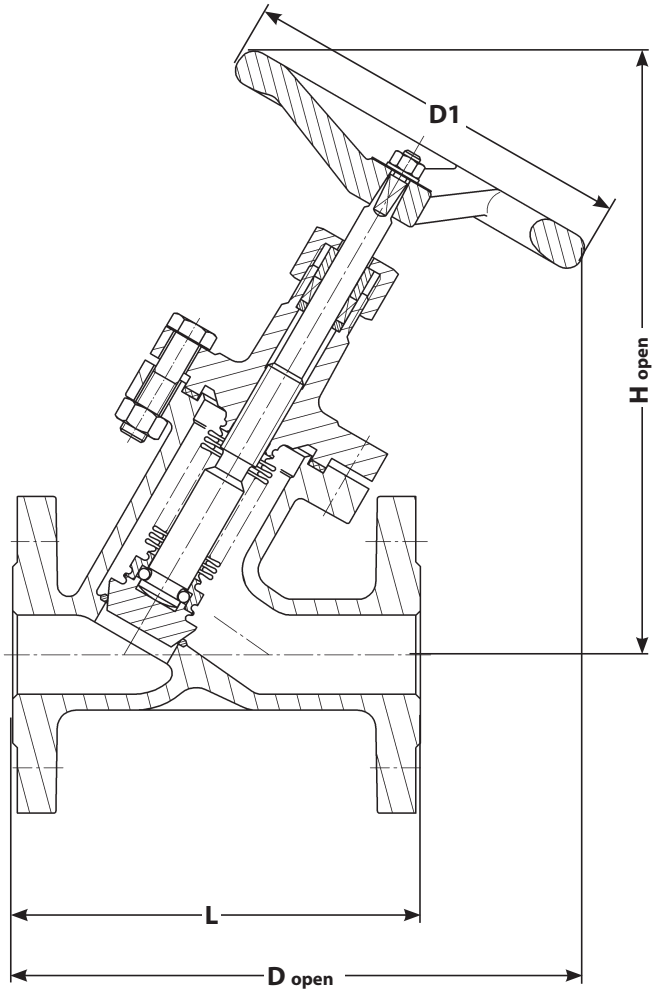
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.9-S-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-S-FL	S.S. 11.9-S-FL-A4	Low temp. 11.9-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	215	240	150	6
20	150	210	240	150	8
25	160	220	245	150	8
32	180	265	285	175	12
40	200	275	285	175	14
50	230	315	310	200	17

Faltenbalg-AbsperBellows sealed globe valve, y- type, with flanges acc. EN 1092-1; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.

Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

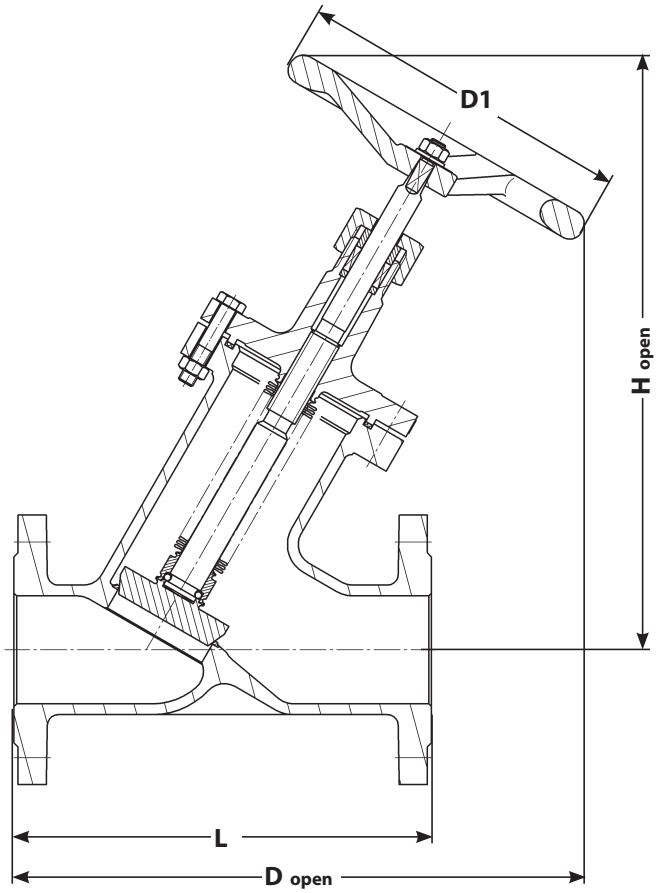
BELLOWS SEALED GLOBE VALVE, FLANGED ENDS 11.9-S-FL

DN 65 - 125			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-S-FL	S.S. 11.9-S-FL-A4	Low temp. 11.9-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	365	345	200	25
80	310	440	470	250	37
100	350	485	490	300	47
125	400	500	505	300	83

Bellows sealed globe valve, y- type, with flanges acc. EN 1092-1; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

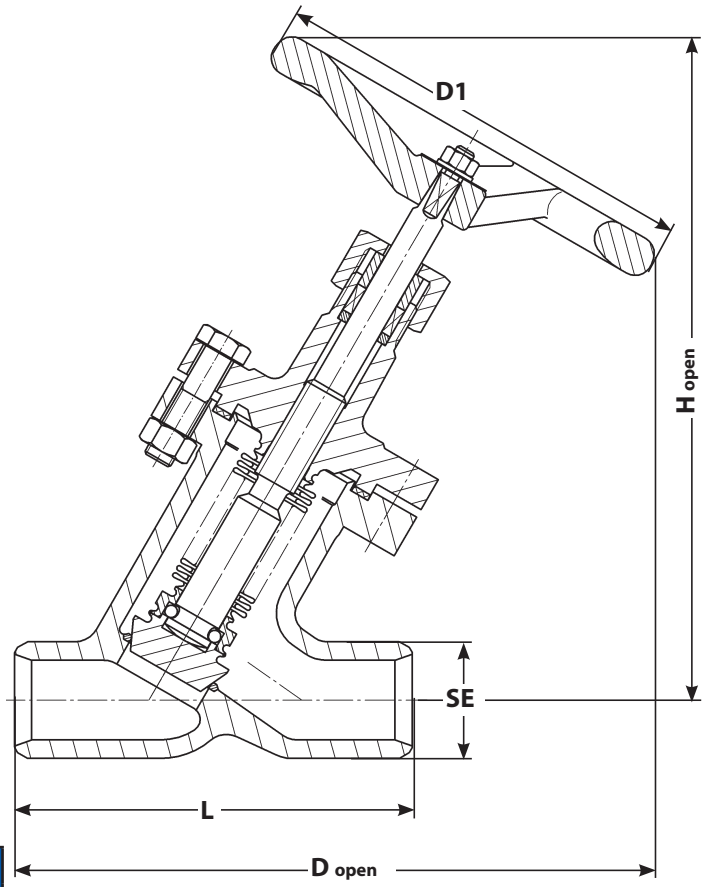
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.9-S-SE

DN 15 - 50 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-S-SE	S.S. 11.9-S-SE-A4	Low temp. 11.9-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	215	230	150	5
20	26,9*2,3	130	215	230	150	5
25	33,7*2,6	130	215	230	150	5
32	42,4*2,6	160	270	285	175	7
40	48,3*2,6	180	265	285	175	7
50	60,3*3,2	210	305	310	200	11

Bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.

Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

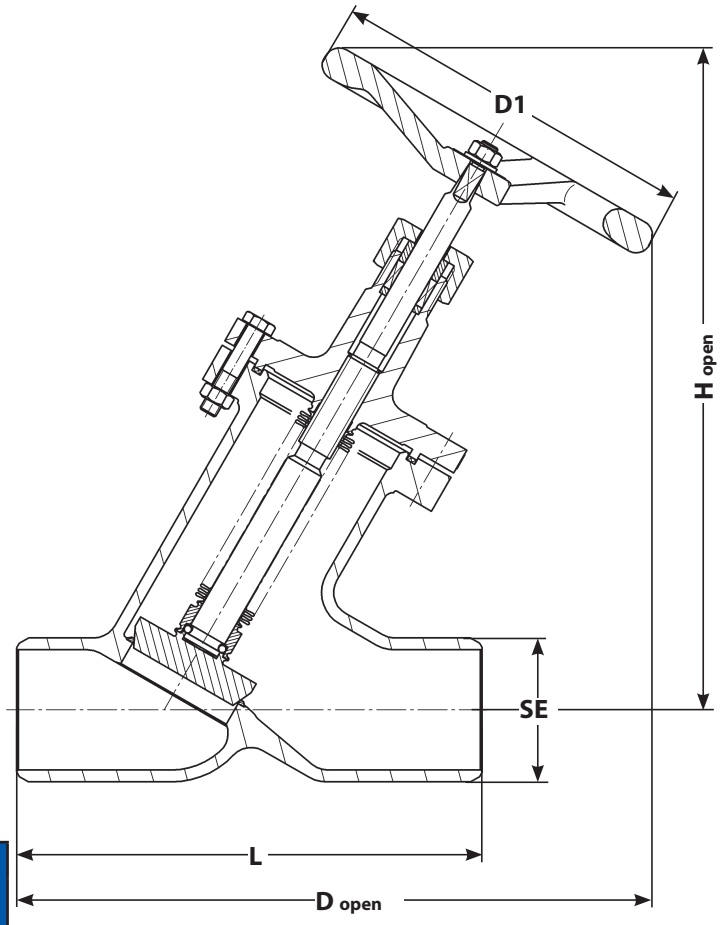
BELLOWS SEALED GLOBE VALVE, BUTTWELD ENDS 11.9-S-SE

DN 65 - 125			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Welded bonnet
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 11.9-S-SE	S.S. 11.9-S-SE-A4	Low temp. 11.9-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.4305	1.4305	1.4305
Cap nut	1.0718	1.4305	1.4305
Stem	1.4021	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]		L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	365	345	200	13
80	88,9*	4,0	310	440	470	250	25
100	114,3*	5,0	350	485	490	300	38
125	139,7*	4,5	400	500	505	300	55

Bellows sealed globe valve, y- type, with buttwelding ends acc. EN 12627; enclosed bonnet assembly with roll-formed stem screw thread and burnished shaft. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles operations, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc with conical plug made of chrome steel 1.4021.

Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Product description Type 11.7 / 11.8 / 11.75 / 11.85

Three-way change-over-valve in flange design in accordance with EN 1092-1 and ASME B 16.5 respectively; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M) and low temperature steel 1.1138 (LCB) and special materials.

Use Type 11.7 / 11.8 / 11.75 / 11.85

The use of change-over valves allows essential maintenance work to be carried out on a safety valve, without interruption of the plant operation, simply by changing over to the relevant stand by valve, thus protecting the plant against excessiv overpressure.

Plants are protected against undue excess pressure by switching over to the relevant standby safety valves. Full blow off capacity is maintained when the change-over-valve switches over from one side to the other.

When using change-over-valves in tandem, both hand wheels are linked via a chain wheel in order to assure simultaneous operation.

Design features Type 11.7 / 11.8 / 11.75 / 11.85

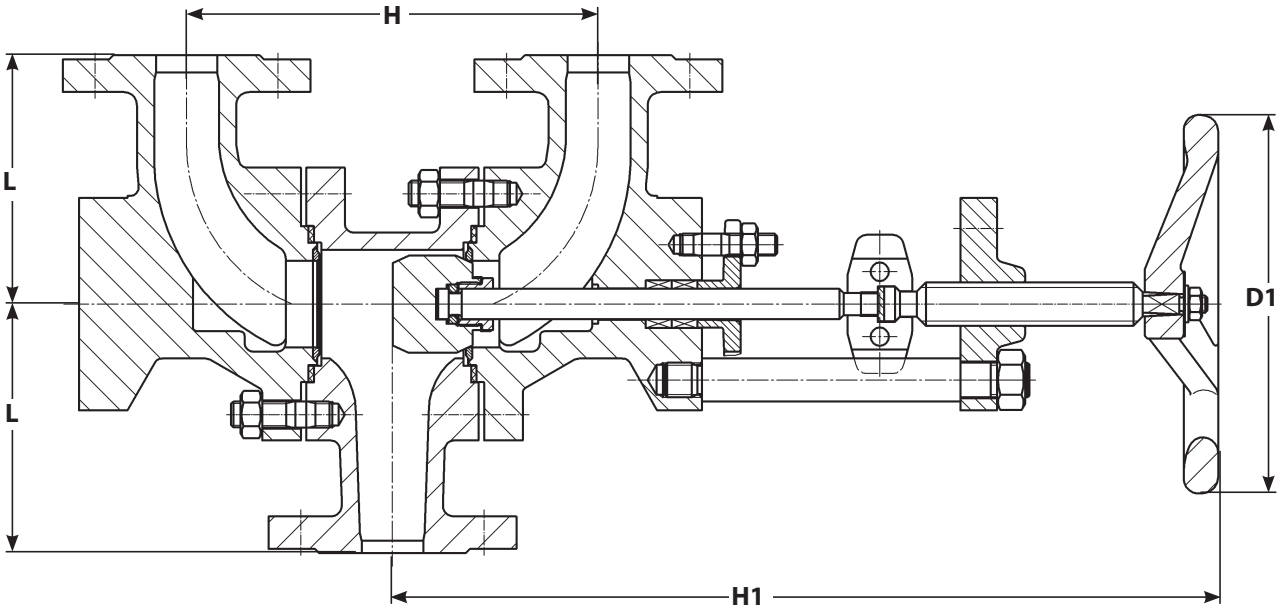
- Extremely low resistance coefficients due to optimal flow deflection. On account of this safety valves can be combined to the greatest extent with change-over-valves of the same nominal size
- Compact weight-saving construction method
- Reducing pieces (e.g. when mounting on safety valves) can be welded on directly

Type 11.7/11.8/11.75/11.85

CHANGE-OVER-VALVE, GLAND TYPE 11.7-FL

DN 25 - 50 / 1" - 2 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.7-FL	S.S. 11.7-FL-A4	Low temp. 11.7-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

Coefficients of resistant (ζ)		
DN	stem side	opposite side
25	0,6	0,6
40	0,6	0,7
50	0,7	0,9

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
25	115	190	385	175	25
40	150	265	535	200	46
50	150	265	535	200	49

Change-over-valve with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft. With safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.

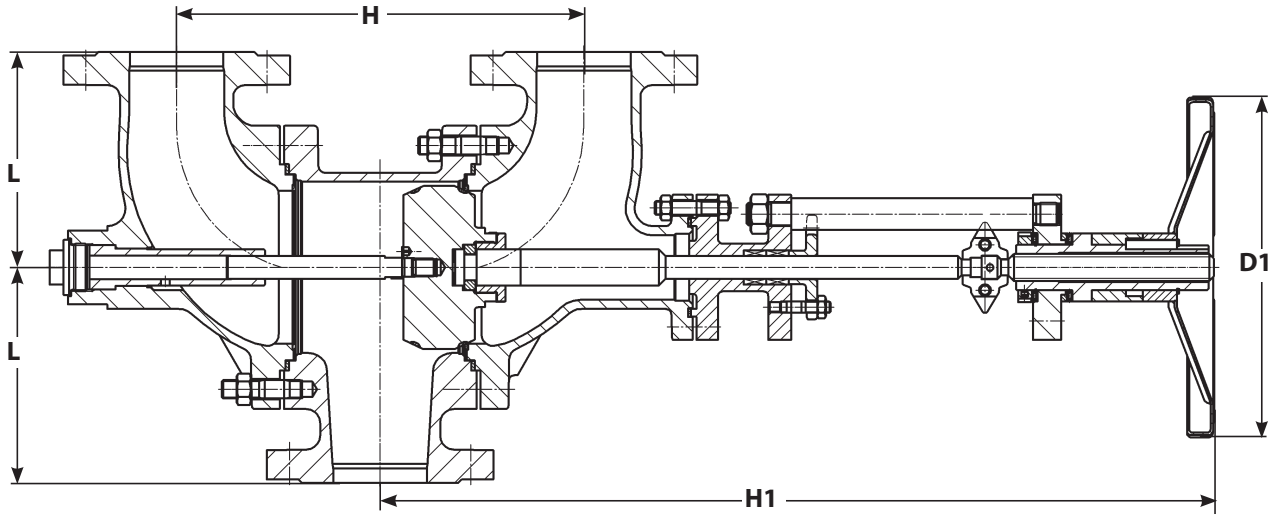
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of chrome s.s. 1.4571, sealing surface hardfaced with stellite 6.

CHANGE-OVER-VALVE, GLAND TYPE 11.7-FL

DN 65 - 400 / 2 1/2" - 16 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Components	Material C.S. 11.7-FL	S.S. 11.7-FL-A4	Low temp. 11.7-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.0460/1.0619	1.4571/1.4408	1.4571/1.0566
Disc surface	1.4009	Stellite 6	Stellite 6
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

Coefficients of resistant (ζ)		
DN	*stem side*	*opposite side*
65	0,83	0,90
80	0,83	0,90
100	0,79	0,94
125	0,84	0,98
150	0,81	0,89
200	0,84	0,92
250	0,99	0,96
300	0,84	0,91
350	0,89	0,85
400	0,83	0,79

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
65	190	360	740	300	96
80	190	360	740	300	99
100	230	460	815	300	151
125	300	460	815	300	156
150	280	600	1110	400	323
200	370	800	1445	500	667
250	430	900	1670	600	830
300	440	950	1670	600	950
350	470	1090	2170	800	1480
400	480	1140	2170	800	1790

Change-over-valve with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft. With safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of 1.0460/1.0619, sealing surface hardfaced with 1.4009.

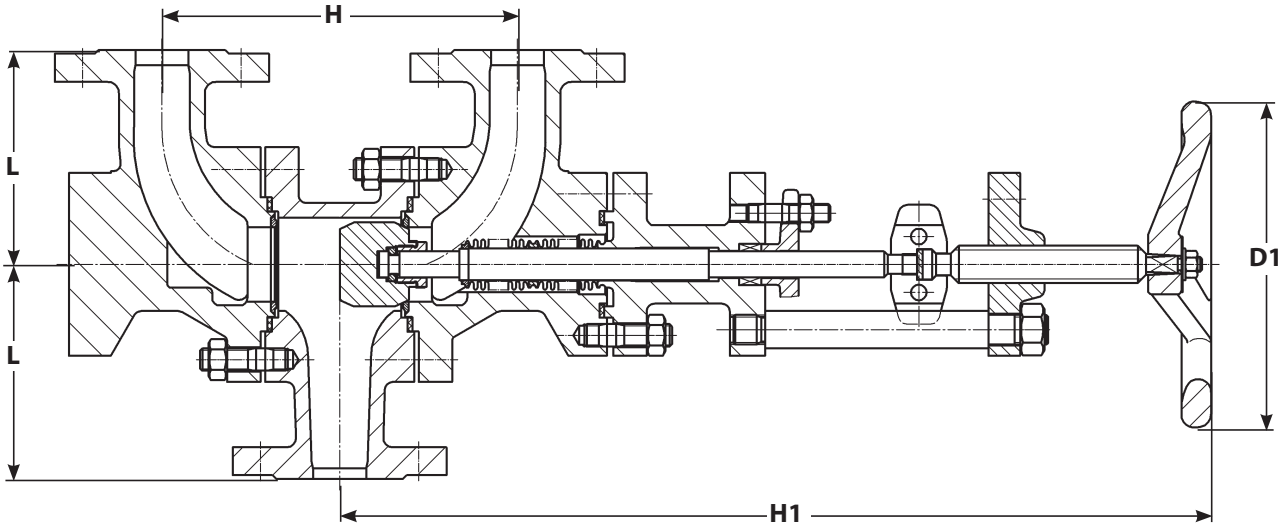
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571/1.4408, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of 1.4571/1.0566, sealing surface hardfaced with stellite 6.

CHANGE-OVER-VALVE, BELLOWS SEALED TYPE 11.8-FL

DN 25 - 50 / 1" - 2 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.8-FL	S.S. 11.8-FL-A4	Low temp. 11.8-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

Coefficients of resistant (ζ)		
DN	*stem side*	*opposite side*
25	1,0	0,6
40	0,8	0,7
50	0,8	0,9

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
25	115	190	470	175	27
40	150	265	615	200	47
50	150	265	615	200	50

Bellows sealed change-over-valve with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.

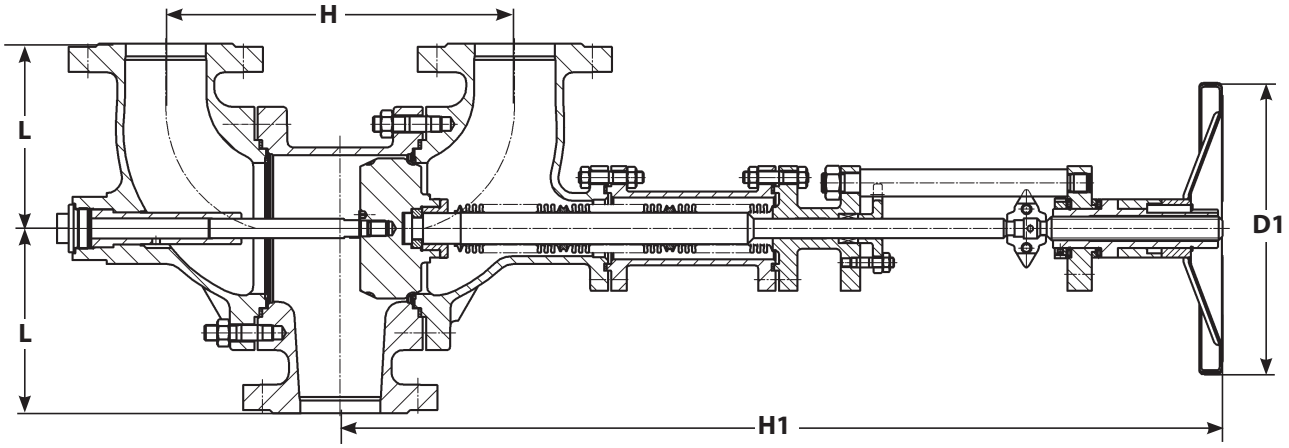
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of chrome s.s. 1.4571, sealing surface hardfaced with stellite 6.

CHANGE-OVER-VALVE, BELLOWS SEALED TYPE 11.8-FL

DN 65 - 400 / 2 1/2" - 16 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.8-FL	S.S. 11.8-FL-A4	Low temp. 11.8-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.0460/1.0619	1.4571/1.4408	1.4571/1.0566
Disc surface	1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	0.6020	0.6020	0.6020

Coefficients of resistant (z)		
DN	stem side	opposite side
65	0,93	0,90
80	0,93	0,90
100	0,89	0,94
125	0,94	0,98
150	0,91	0,89
200	0,94	0,92
250	1,05	0,96
300	0,91	0,89
350	0,94	0,85
400	0,91	0,79

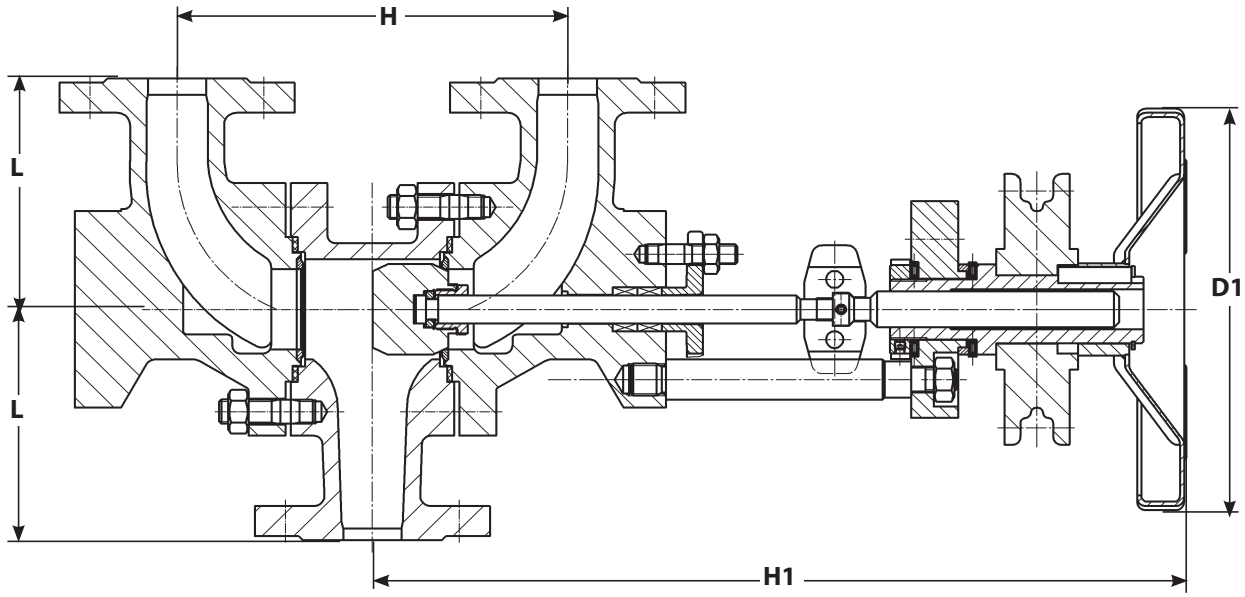
DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
65	190	360	910	300	106
80	190	360	910	300	109
100	230	460	985	300	161
125	300	460	985	300	166
150	280	600	1390	400	338
200	370	800	1720	500	682
250	430	900	1670	600	850
300	440	950	1670	600	970
350	470	1090	2465	800	1500
400	480	1140	2465	800	1810

Bellows sealed change-over-valve with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of 1.0460/1.0619, sealing surface hardfaced with 1.4009.
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571/1.4408, sealing surface hardfaced with stellite 6.
Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of 1.4571/1.0566, sealing surface hardfaced with stellite 6.

INTERLOCKING CHANGE-OVER-VALVE, GLAND TYPE 11.75-FL

DN 25 - 50 / 1" - 2 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.75-FL	S.S. 11.75-FL-A4	Low temp. 11.75-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	Steel	Steel	Steel
Chainwheel	CG 20-25	CG 20-25	CG 20-25

Coefficients of resistant (ζ)		
DN	*stem side*	*opposite side*
25	0,6	0,6
40	0,6	0,7
50	0,7	0,9

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
25	115	190	400	200	26
40	150	265	515	200	47
50	150	265	515	200	49

Inlet or outlet change-over-valve for interlocking system with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft. With safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange The inlet change-over-valve is fitted with chainwheel, chain tightener and chain; the outlet change-over valve is only fitted with chain wheel.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.

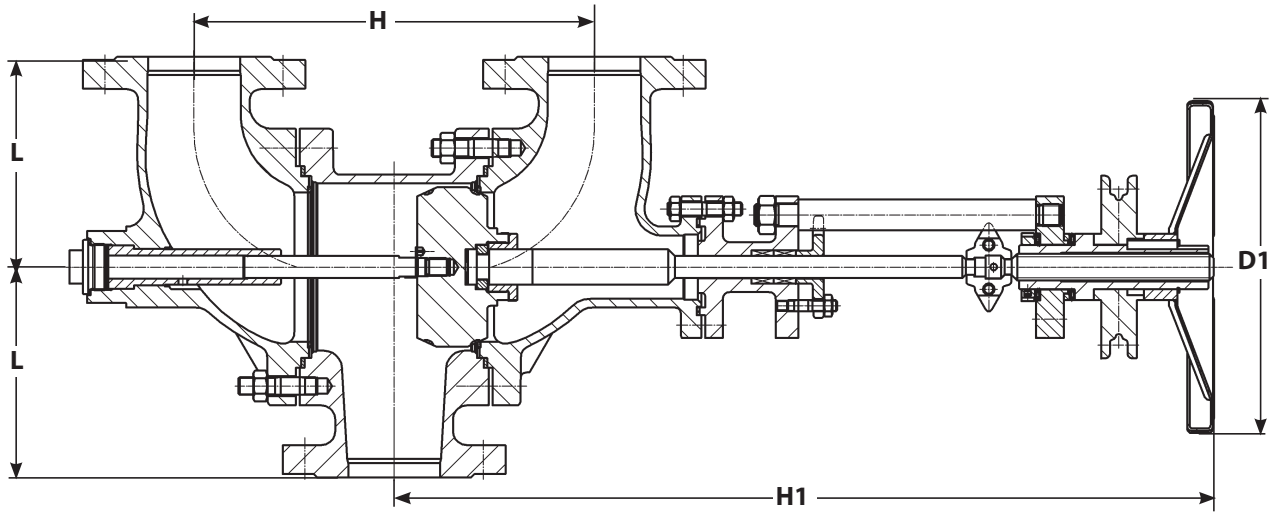
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of chrome s.s. 1.4571, sealing surface hardfaced with stellite 6.

INTERLOCKING CHANGE-OVER-VALVE, GLAND TYPE 11.75-FL

DN 65 - 400 / 2 1/2" - 16 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Components	Material C.S. 11.75-FL	S.S. 11.75-FL-A4	Low temp. 11.75-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.0460/1.0619	1.4571/1.4408	1.4571/1.0566
Disc surface	1.4009	Stellite 6	Stellite 6
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	Steel	Steel	Steel
Chainwheel	CG 20-25	CG 20-25	CG 20-25

Coefficients of resistant (ζ)		
DN	stem side	opposite side
65	0,83	0,90
80	0,83	0,90
100	0,79	0,94
125	0,84	0,98
150	0,81	0,89
200	0,84	0,92
250	0,99	0,96
300	0,84	0,91
350	0,89	0,85
400	0,83	0,79

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
65	190	360	740	300	96
80	190	360	740	300	99
100	230	460	815	300	151
125	300	460	815	300	156
150	280	600	1110	400	323
200	370	800	1445	500	667
250	430	900	1670	600	830
300	440	950	1670	600	950
350	470	1090	2170	800	1480
400	480	1140	2170	800	1790

Inlet or outlet change-over-valve for interlocking system with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft. With safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The inlet change-over-valve is fitted with chainwheel, chain tightener and chain; the outlet change-over valve is only fitted with chain wheel.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of 1.0460/1.0619, sealing surface hardfaced with 1.4009.

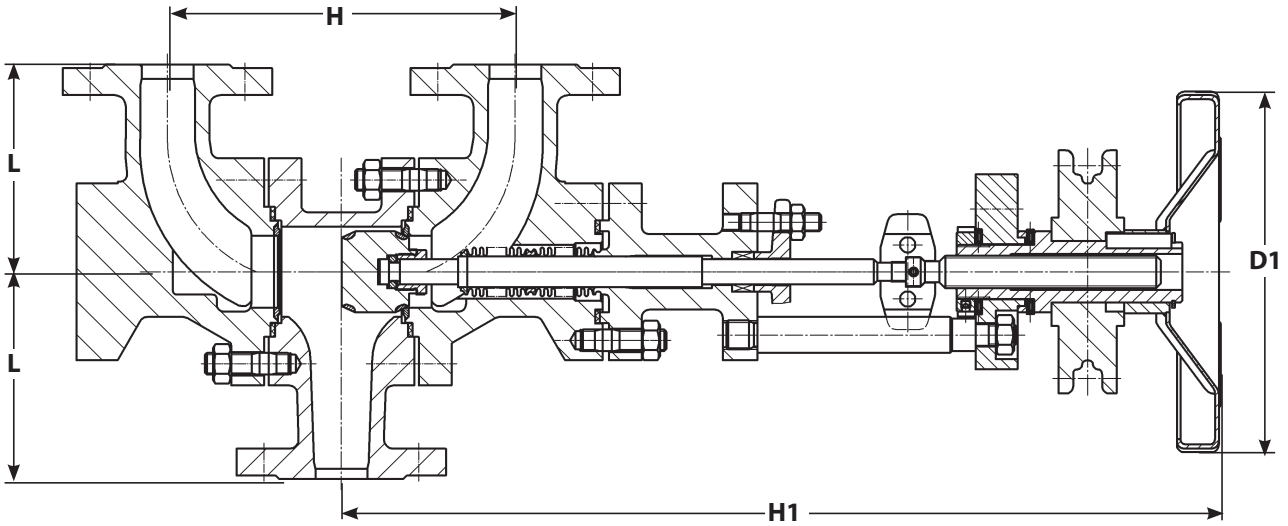
Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571/1.4408, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of chrome 1.4571/1.0566, sealing surface hardfaced with stellite 6.

INTERLOCKING CHANGE-OVER-VALVE
BELLOWS SEALED TYPE 11.85-FL

DN 25 - 50 / 1" - 2 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery acc. DIN 3230/EN 12266-1
Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.85-FL	S.S. 11.85-FL-A4	Low temp. 11.85-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4021	1.4571	1.4571
Disc surface	1.4021	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	Steel	Steel	Steel
Chainwheel	CG 20-25	CG 20-25	CG 20-25

Coefficients of resistant (ζ)		
DN	stem side	opposite side
25	1,0	0,6
40	0,8	0,7
50	0,8	0,9

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
25	115	190	485	200	28
40	150	265	600	200	48
50	150	265	600	200	52

Inlet or outlet bellows sealed change-over-valve for interlocking system with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. The inlet change-over-valve is fitted with chainwheel, chain tightener and chain; the outlet change-over valve is only fitted with chain wheel.

Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of chrome steel 1.4021, vacuum hardened.

Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

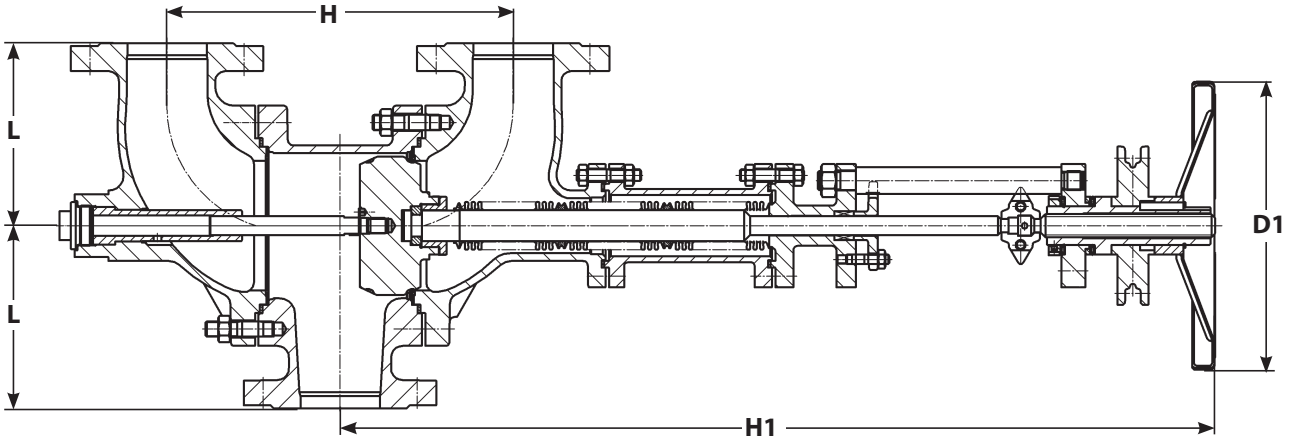
INTERLOCKING CHANGE-OVER-VALVE
BELLOWS SEALED TYPE 11.85-FL

DN 65 - 400 / 2 1/2" - 16 " PN 40 / ASME 150 - 300			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1

Terms of delivery acc. DIN 3230/EN 12266-1

Detailed information and more alternatives are given in the appendix



Component	Material C.S. 11.85-FL	S.S. 11.85-FL-A4	Low temp. 11.85-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.0460/1.0619	1.4571/1.4408	1.4571/1.0566
Disc surface	1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gaskets		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4301	1.4571	1.4301
Handwheel	Steel	Steel	Steel
Chainwheel	CG 20-25	CG 20-25	CG 20-25

Coefficients of resistant (ζ)		
DN	*stem side*	*opposite side*
65	0,93	0,90
80	0,93	0,90
100	0,89	0,94
125	0,94	0,98
150	0,91	0,89
200	0,94	0,92
250	1,05	0,96
300	0,91	0,89
350	0,94	0,85
400	0,91	0,79

DN	L [mm]	H [mm]	H1 [mm]	D1 [mm]	G [kg]
65	190	360	910	300	106
80	190	360	910	300	109
100	230	460	985	300	161
125	300	460	985	300	166
150	280	600	1390	400	338
200	370	800	1720	500	682
250	430	900	1670	600	850
300	440	950	1670	600	970
350	470	1090	2465	800	1500
400	480	1140	2465	800	1810

Inlet or outlet bellows sealed change-over-valve for interlocking system with flanges acc. EN 1092-1 or ASME B 16.5; with outside roll-formed stem screw thread and burnished shaft, coupled stem. With safety stuffing box packing made of pure graphite and grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The inlet change-over-valve is fitted with chainwheel, chain tightener and chain; the outlet change-over valve is only fitted with chain wheel.

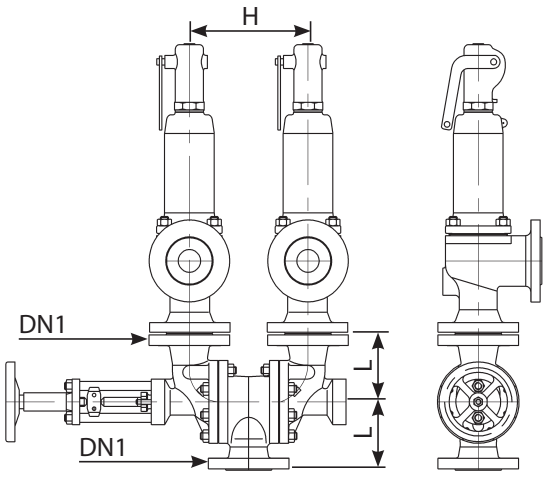
Carbon steel: Body made of carbon steel 1.0619, seats hardfaced with 1.4370, disc with conical plug made of 1.0460/1.0619, sealing surface hardfaced with 1.4009.

Stainless steel: Body made of stainless steel 1.4408, seats hardfaced with stellite 21, disc with conical plug made of s.s. 1.4571/1.4408, sealing surface hardfaced with stellite 6.

Low temperature: Body made of low temperature steel 1.1138, seats hardfaced with 1.4370, disc with conical plug made of chrome 1.4571/1.0566, sealing surface hardfaced with stellite 6.

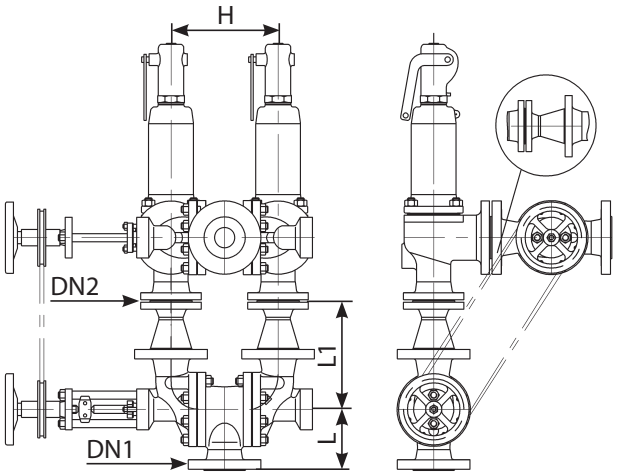
CHANGE-OVER-VALVES AND SAFETY VALVES IN COMBINATION 11.75/11.85

Change-over valve only on the inlet side of the safety valves



This arrangement presupposes unrestricted discharge, either direct into atmosphere or into discharge piping catering for this safety valve only.

Combination of change-over valves type on the inlet and outlet sides of safety valves



The two change-over valves are coupled with sprocket wheels and chains to provide a positive interlock between them. As a result of the changeover valve on the outlet side and the pipe system immediately downstream of it, back pressure is built up on the outlet side of the safety valve when it discharges.

The connecting dimensions refer to the standard pressure ratings. Higher pressure ratings will increase the dimensions. The height over-all of a combination depends on the safety valve design.

General:
The use of change-over valves allows essential maintenance work to be carried out on a safety valve, without interruption of the plant operation, simply by changing over to the relevant standby valve, thus protecting the plant against excessiv overpressure.
When operating the change-over valve it is necessary to ensure that the valve does not remain in any intermediate position.
The respective part of the valve shall be fully open.

Sizing:
The change-over valve at the inlet side of a combination of change-over valves and safety valves causes during discharging a pressure drop. To guarantee the function of a safety valve the following rules for the sizing of change-over valves should be taken into account.

Combination of change-over valves on the inlet and outlet side of safety valves:
Standard safety valve: Usually the standard safety valve has the same nominal diameter at the inlet and outlet. The nominal diameter of the connected change-over valves are adequate to them.
Full lift safety valve: The full lift safety valve has different nominal diameters at the inlet and outlet. The nominal diameter on the outlet determines the size of the change-over valves. Therefore the change-over valve at the inlet of the combination has also the same diameter as the change-over valve at the outlet. But both outlet flanges of the change-over valve are reduced to the nominal inlet diameter of the safety valve.

Change-over valve only at the inlet of the safety valves:
Standard safety valve: The nominal inlet diameter of the standard safety valve refers to the nominal diameter of the change-over valve.
Full lift safety valve: The nominal outlet diameter of the full lift safety valve determines the size of the change-over valve. To connect the safety valves both outlet flanges of the change-over valve are reduced to the inlet diameter of the safety valves. In the following cases it is possible to choose the size of the change-over valve one nominal diameter smaller than the outlet diameter or even in the same nominal diameter as the inlet of the safety valves: The service conditions don't require the maximum discharge capacity of the safety valve. A change-over valve type is chosen, which creates only a small pressure drop.

STRAINERS TYPE 18.1-W AND TYPE 18.3

Product description Type 18.1-W
Strainer, basket type screen with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Screen made of stainless steel 1.4571, mesh size 2 mm. Available with fine screen of different mesh sizes on request.

Use Type 18.1-W
Strainer for optimised flow to protect pumps and valves from erosion by particles and dirt.

Design features Type 18.1-W
Extremely low pressure drop
Low pressure drop increasing on polluted screen
Fullsized screen area
Long time maintenance intervall
Easy screen cleaning
Clean filter mud

Product description Type 18.3
Strainer with flanges or buttweld ends; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 18.3
Strainer for optimised flow to protect pumps and valves from erosion by particles and dirt.

Design features Type 18.3
Circular screen made of stainless steel 1.4571 (316TI), mesh size 2 mm, from DN 150 (6”) with

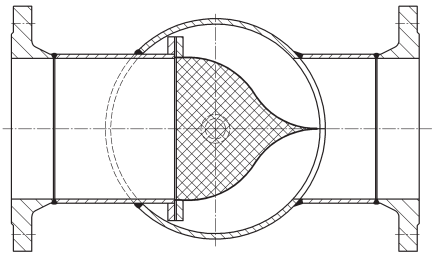
Type 18.1-W/18.3

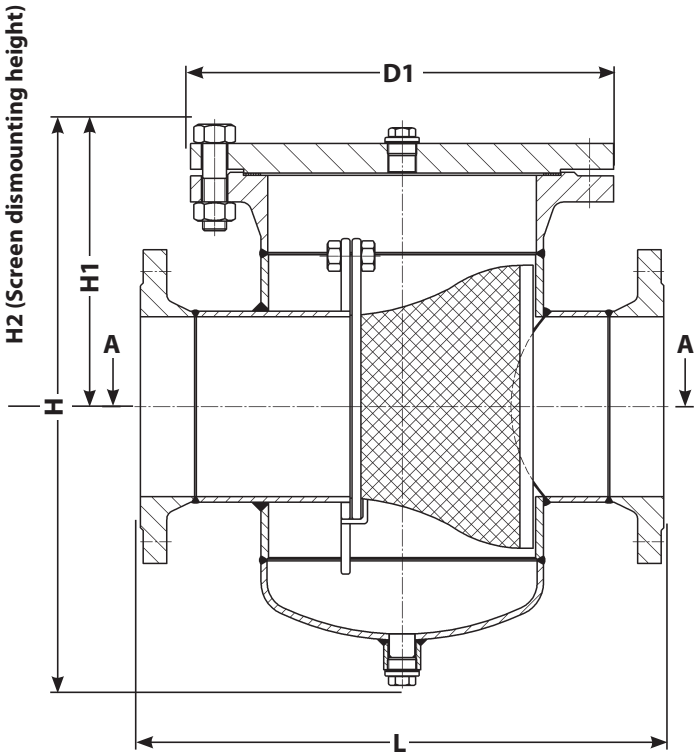
STRAINER, BASKET TYPE SCREEN, FLANGED ENDS 18.1-W-FL

DN 65 - 400			
PN 25			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Detail Screen Section A-A





Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *18.1-W-FL*	S.S. *18.1-W-FL-A4*	Low temp. *18.1-W-FL-TT*
Body	1.0305	1.4571	1.0356
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

DN	L [mm]	H [mm]	H1 [mm]	H2 [mm]	D1 [mm]	G [kg]
65	290	325	185	240	235	18
80	310	360	205	280	270	27
100	350	400	230	340	300	35
125	400	475	265	410	360	64
150	480	560	305	495	425	77
200	600	630	340	600	485	120
250	730	680	370	710	555	169
300	850	760	405	825	620	232
350	980	830	445	920	670	310
400	1100	900	470	1020	730	417

Strainer, basket type screen with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Screen made of stainless steel 1.4571, mesh size 2 mm. Available with fine screen of different mesh sizes on request.

Design features: ◆ Extremely low pressure drop ◆ Low pressure drop increasing on polluted screen ◆ Fullsized screen area ◆ Long time maintenance intervall ◆ Easy screen cleaning ◆ Clean filter mud.

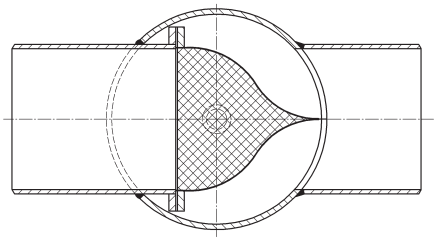
Carbon steel: Body made of c.s. 1.0305; Screen made of s.s. 1.4571, screen plate made of 1.0425.
Stainless steel: Body made of s.s. 1.4571; screen and screen plate made of 1.4571.
Low temperature steel: Body made of low temperature steel 1.0356, Screen made of 1.4571, screen plate made of 1.0566.

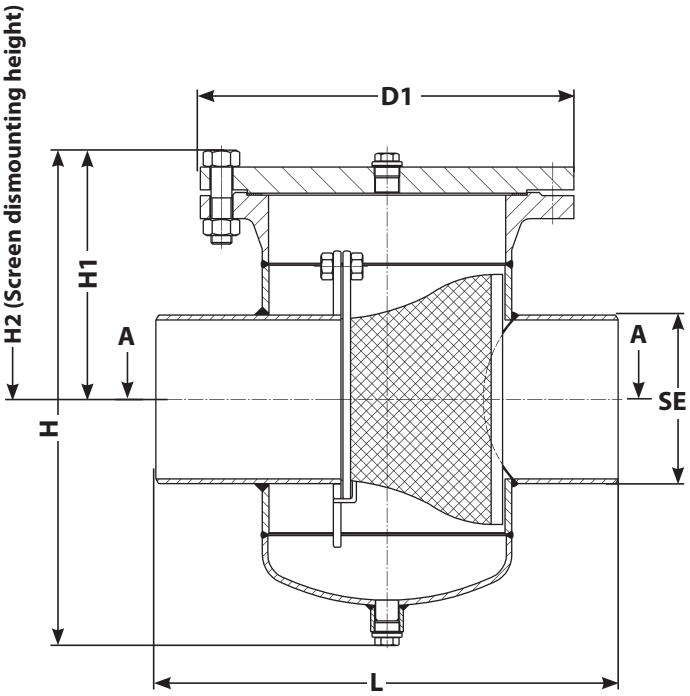
STRAINER, BASKET TYPE SCREEN, BUTTWELD ENDS 18.1-W-SE

DN 65 - 400			
PN 25			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Detail Screen Section A-A





Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh size
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. 18.1-W-SE	S.S. 18.1-W-SE-A4	Low temp. 18.1-W-SE-TT
Body	1.0305	1.4571	1.0356
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/Graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

DN	SE [mm]	L [mm]	H [mm]	H1 [mm]	H2 [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	325	185	240	235	11
80	88,9* 4,0	310	360	205	280	270	17
100	114,3* 5,0	350	400	230	340	300	22
125	139,7* 4,5	400	475	265	410	360	46
150	168,3* 5,6	480	560	305	495	425	55
200	219,1* 7,1	600	630	340	600	485	86
250	273,0* 8,0	730	680	370	710	555	120
300	323,9* 8,0	850	760	405	825	620	170
350	355,6* 8,8	980	830	445	920	670	220
400	406,4* 11,0	1100	900	470	1020	730	300

Strainer, basket type screen with buttweld ends acc. EN 12627. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Screen made of stainless steel 1.4571, mesh size 2 mm. Available with fine screen of different mesh sizes on request.

Design features: ◆ Extremely low pressure drop ◆ Low pressure drop increasing on polluted screen ◆ Fullsized screen area ◆ Long time maintenance intervall ◆ Easy screen cleaning ◆ Clean filter mud.

Carbon steel: Body made of c.s. 1.0305; Screen made of s.s. 1.4571, screen plate made of 1.0425.
Stainless steel: Body made of s.s. 1.4571; screen and screen plate made of 1.4571.
Low temperature steel: Body made of low temperature steel 1.0356, Screen made of 1.4571, screen plate made of 1.0566.

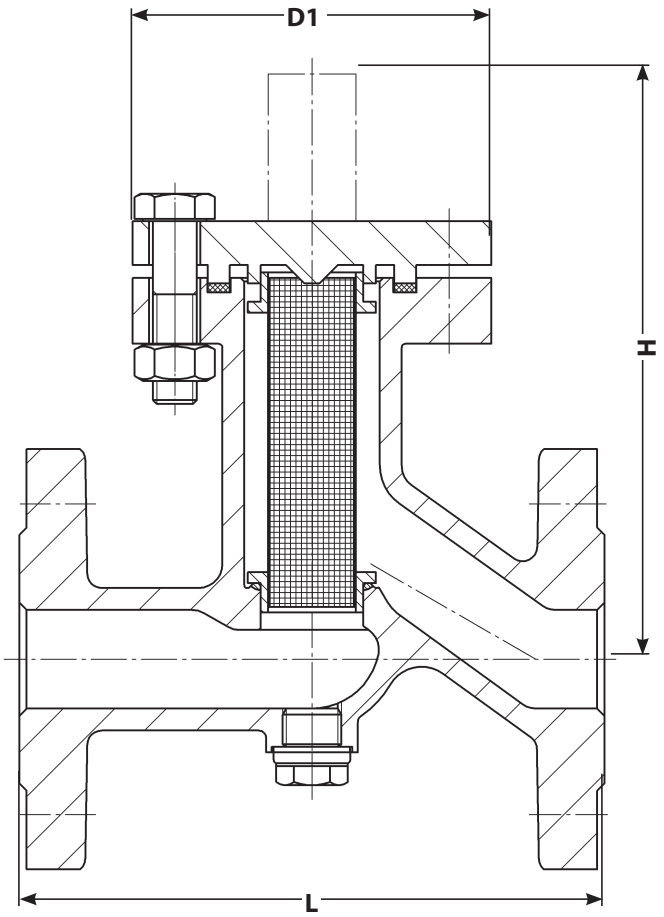
STRAINER, CYLINDER TYPE SCREEN, FLANGED ENDS 18.3-G-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 18.3-G-FL	S.S. 18.3-G-FL-A4	Low temp. 18.3-G-FL-TT
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0460	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571
Drain plug	A4/70	A4/70	A4/70

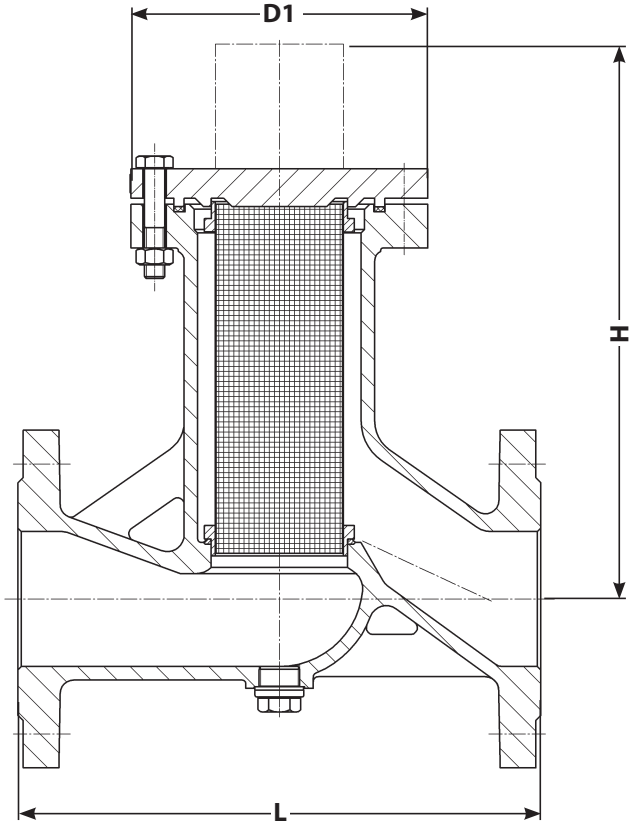
DN	L [mm]	H [mm]	D1 [mm]	G [kg]
15	130	190	98	4
20	150	190	98	6
25	160	200	98	6
32	180	230	113	10
40	200	235	113	12
50	230	275	128	15

Strainer, cylinder type screen, straight type with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Body with drain plug M16 x 1,5. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

STRAINER, CYLINDER TYPE SCREEN, FLANGED ENDS 18.3-G-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *18.3-G-FL*	S.S. *18.3-G-FL-A4*	Low temp. *18.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571
Drain plug	A4/70	A4/70	A4/70

DN	L [mm]	H [mm]	D1 [mm]	G [kg]
65	290	315	143	22
80	310	445	176	35
100	350	445	210	52
125	400	455	250	64
150	480	720	308	113
200	600	685	365	160
250	730	585	435	210
300	850	640	515	320
350	980	790	584	446
400	1100	895	648	614

Strainer, cylinder type screen, straight type with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Body with drain plug up to DN 65 M16 x 1,5; from DN 80 and above M24 x 1,5. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

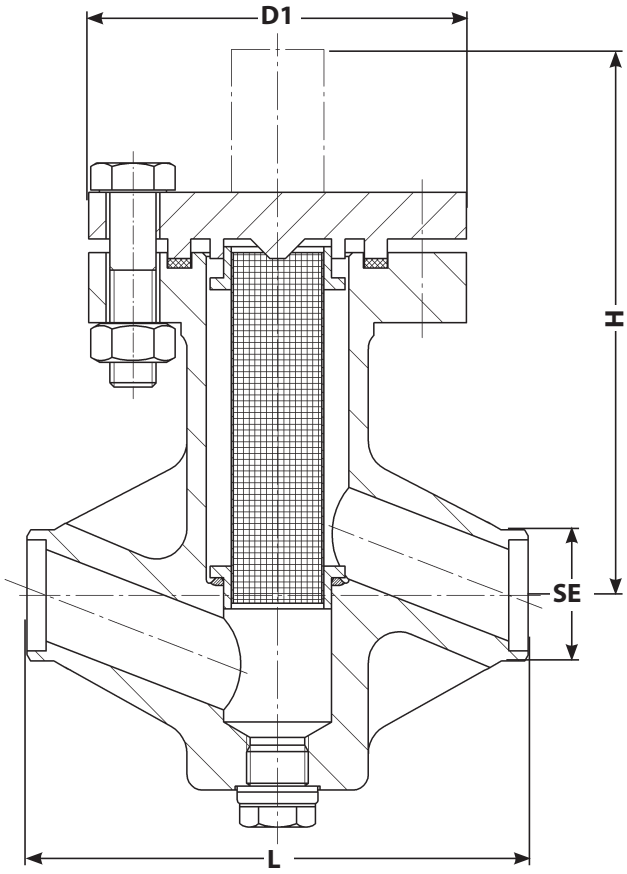
STRAINER, CYLINDER TYPE SCREEN, BUTTWELD ENDS 18.3-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *18.3-G-SE*	S.S. *18.3-G-SE-A4*	Low temp. *18.3-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Bonnet flange	1.0460	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571
Drain plug	A4/70	A4/70	A4/70

DN	SE [mm]	L [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3* 2,0	130	185	98	4
20	26,9* 2,3	130	185	98	4
25	33,7* 2,6	130	185	98	4
32	42,4* 2,6	160	230	113	6
40	48,3* 2,6	180	235	113	8
50	60,3* 3,2	210	275	128	10

Strainer, cylinder type screen, straight type with buttwelding ends acc. EN 12627. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Body with drain plug M16 x 1,5. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast/forged material 1.0619/1.0460; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast/forged material 1.4408/1.4571; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, screen, screen ring and pinehole sheet made of 1.4571.

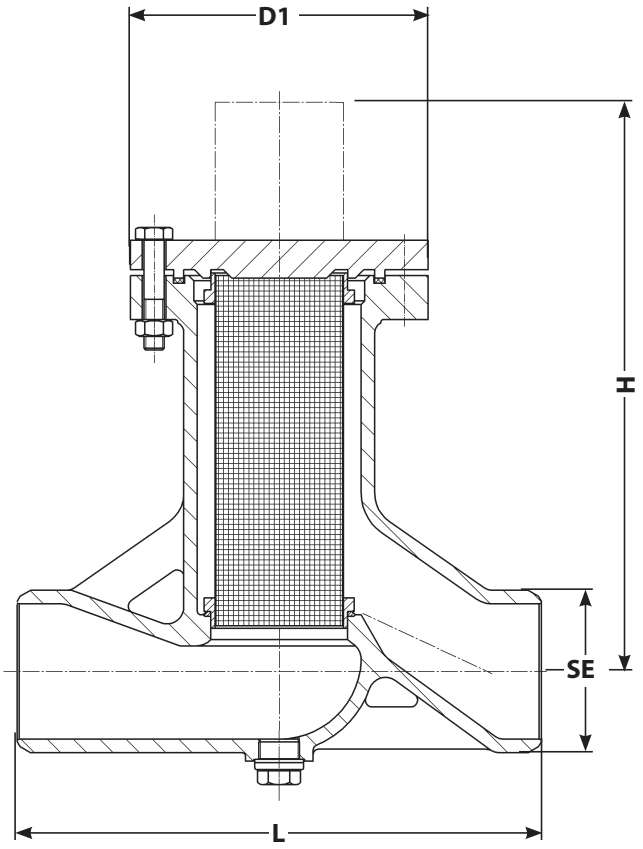
STRAINER, CYLINDER TYPE SCREEN, BUTTWELD ENDS 18.3-G-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 18.3-G-SE	S.S. 18.3-G-SE-A4	Low temp. 18.3-G-SE-TT
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571
Drain plug	A4/70	A4/70	A4/70

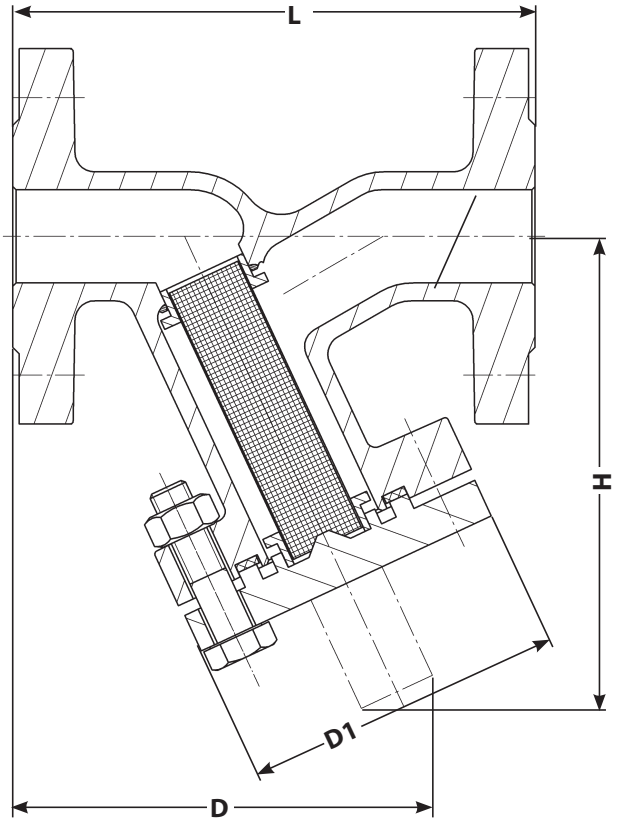
DN	SE [mm]		L [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	315	143	13
80	88,9*	4,0	310	445	176	26
100	114,3*	5,0	350	445	210	34
125	139,7*	4,5	400	455	250	49
150	168,3*	5,6	480	720	308	88
200	219,1*	7,1	600	685	365	120
250	273,0*	8,0	730	585	435	142
300	323,9*	8,0	850	640	515	272
350	355,6*	8,8	980	790	584	366
400	406,4*	11,0	1100	885	648	484

Strainer, cylinder type screen, straight type with buttwelding ends acc. EN 12627. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Body with drain plug up to DN 65 M16 x 1,5; from DN 80 and above M24 x 1,5. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

STRAINER, CYLINDER TYPE SCREEN, FLANGED ENDS 18.3-S-FL

DN 15 - 50 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *18.3-S-FL*	S.S. *18.3-S-FL-A4*	Low temp. *18.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0460	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

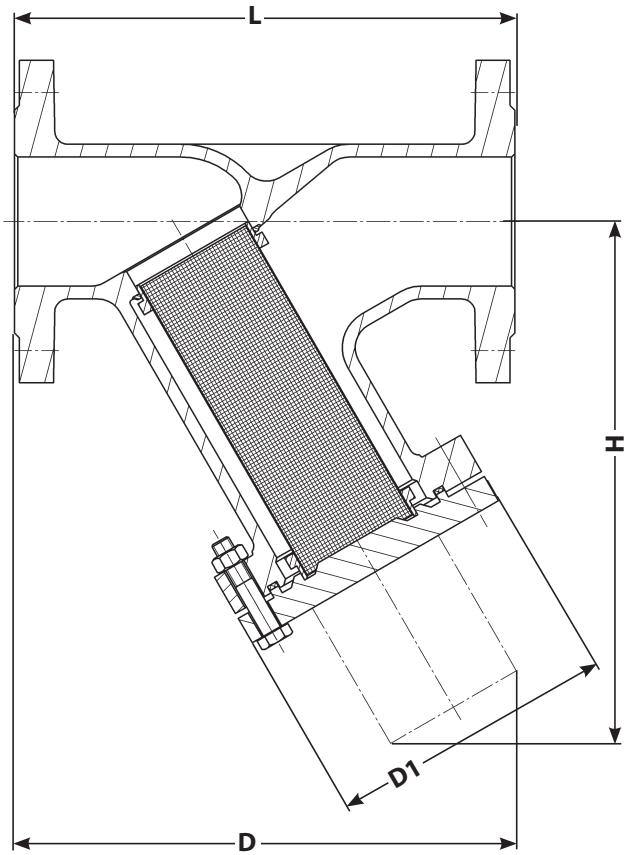
DN	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	130	145	180	98	4
20	150	140	180	98	6
25	160	150	185	98	6
32	180	180	205	113	10
40	200	190	205	113	12
50	230	240	250	128	15

Strainer, cylinder type screen, y-type with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

STRAINER, CYLINDER TYPE SCREEN, FLANGED ENDS 18.3-S-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *18.3-S-FL*	S.S. *18.3-S-FL-A4*	Low temp. *18.3-S-FL-TT*
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

NPS	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	290	290	280	143	22
80	310	355	405	176	35
100	350	390	415	210	52
125	400	415	445	250	64
150	480	640	640	308	113
200	600	705	670	365	160
250	730	1065	910	435	210
300	850	1115	940	494	320
350	980	1175	965	550	446
400	1100	1220	1000	595	614

Strainer, cylinder type screen, y-type with flanges acc. EN 1092-1. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

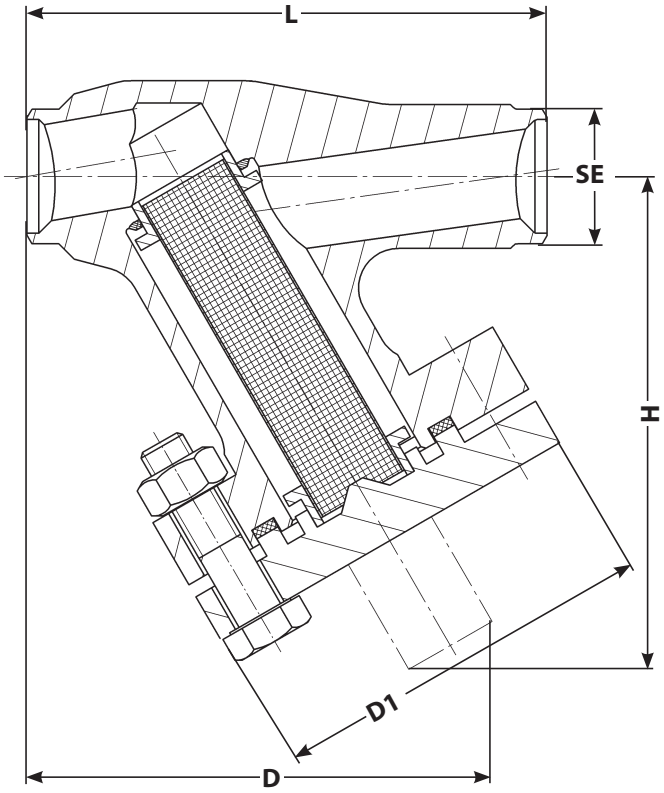
STRAINER, CYLINDER TYPE SCREEN, BUTTWELD ENDS 18.3-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 18.3-S-SE	S.S. 18.3-S-SE-A4	Low temp. 18.3-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Bonnet flange	1.0460	1.4571/1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

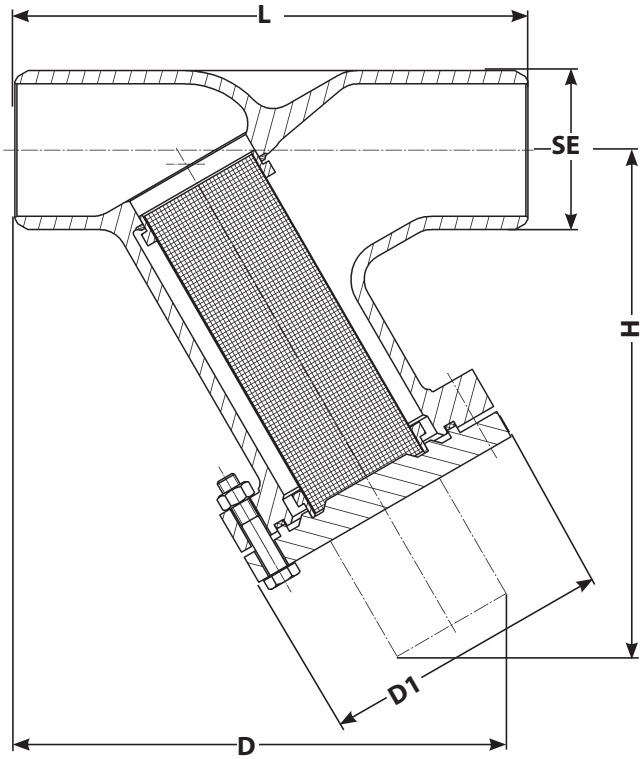
DN	SE [mm]	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3* 2,0	130	145	170	98	4
20	26,9* 2,3	130	145	170	98	4
25	33,7* 2,6	130	145	170	98	4
32	42,4* 2,6	160	185	205	113	6
40	48,3* 2,6	180	180	205	113	8
50	60,3* 3,2	210	230	250	128	10

Strainer, cylinder type screen, y-type with buttwelding ends acc. EN 12627. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast/forged material 1.0619/1.0460; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast/forged material 1.4408/1.4571; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, screen, screen ring and pinehole sheet made of 1.4571.

STRAINER, CYLINDER TYPE SCREEN, BUTTWELD ENDS 18.3-S-SE

DN 65 - 400 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982



Available on request :
Special corrosion resistant materials for:
Complete strainer - Screen
Fine screen of different mesh sizes
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *18.3-S-SE*	S.S. *18.3-S-SE-A4*	Low temp. *18.3-S-SE-TT*
Body	1.0619	1.4408	1.1138
Bonnet flange	1.0425	1.4571	1.0566
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Screen	1.4571	1.4571	1.4571

DN	SE [mm]		L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	290	280	143	13
80	88,9*	4,0	310	355	405	176	26
100	114,3*	5,0	350	390	415	210	34
125	139,7*	4,5	400	415	445	250	49
150	168,3*	5,6	480	640	640	308	88
200	219,1*	7,1	600	705	670	365	120
250	273,0*	8,0	730	1065	910	435	142
300	323,9*	8,0	850	1115	940	494	272
350	355,6*	8,8	980	1175	965	550	366
400	406,4*	11,0	1100	1220	1000	595	484

Strainer, cylinder type screen, y-type with buttwelding ends acc. EN 12627. With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Screen made of stainless steel 1.4571, mesh size 2 mm, from DN 150 and above with pinehole sheet for reforced screen. Available with fine screen of different mesh sizes.
Carbon steel: Body made of cast material 1.0619; screen made of stainless steel 1.4571, screen ring and pinehole sheet made of St 35.8.
Stainless steel: Body made of cast material 1.4408; screen, screen ring and pinehole sheet made of 1.4571.
Low temperature steel: Body made of cast material 1.1138, screen, screen ring and pinehole sheet made of 1.4571.

NON-RETURN VALVES TYPE 14.1 AND STOP-CHECK VALVES TYPE 19.1

Product description Type 14.1

Spring loaded non-return-valve in straight type, y-type or corner-type; with flanges or buttweld ends; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 14.1

Spring loaded non-return-valve to protect system from medium reflow.

Design features Type 14.1

- Metal seat with spring loaded plug; opening pressure approx. 0.2 bar.

Product description Type 19.1

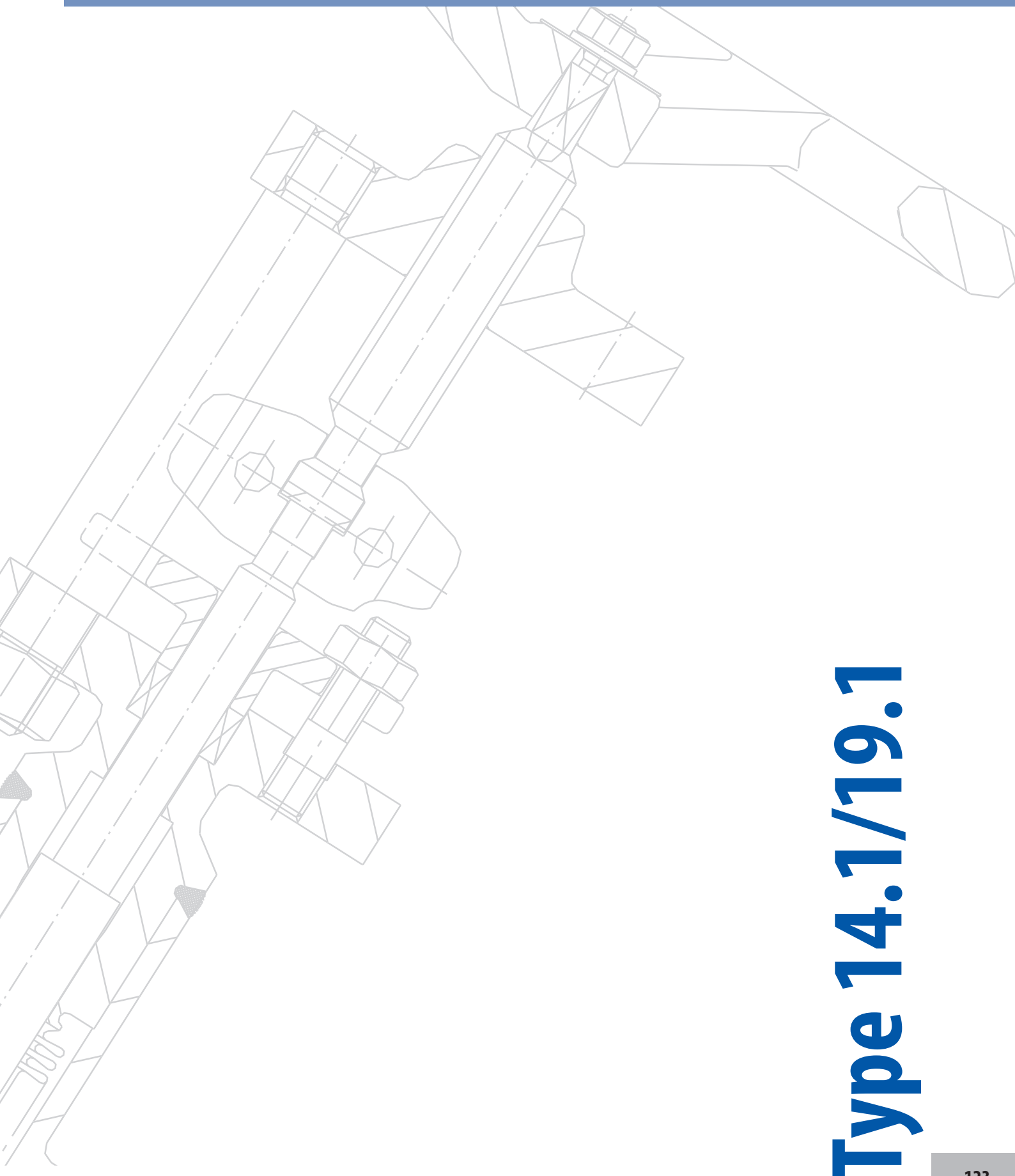
Stop-check-valve with spring in straight type, y-type or corner-type; with flanges or buttweld ends and safety gland packing; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M) and special materials.

Use Type 19.1

Best for installation after pumps.

Operating mode Type 19.1

The stop-check valve combines the functional characteristics of a check valve with those of a bellows sealed globe valve. Only one valve is needed in a section where previously two valves had to be used. If the valve stem is in the open position (hand wheel in upper position), the valve works like a conventional check valve; the medium can move in the flow direction; the plug closes in the event of backflow. Spring loaded plug holds the valve in closed position so that the valve can be mounted in any position. If the valve stem is in the closed position (hand wheel in lower position), the valve works like a conventional stop valve; the plug remains closed with flow from any direction.



Type 14.1/19.1

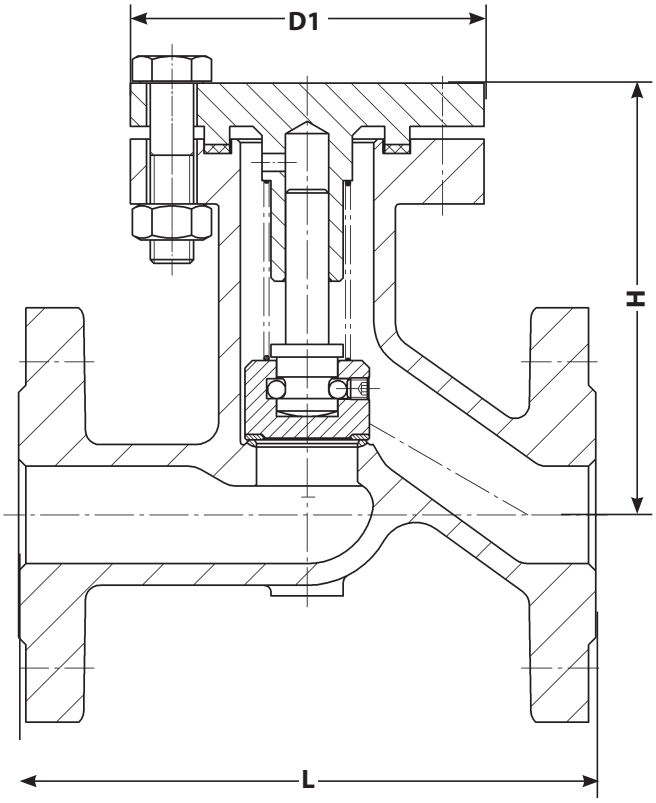
NON RETURN VALVE, FLANGED ENDS 14.1-G-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. *14.1-G-FL*	S.S. *14.1-G-FL-A4*	Low temp. *14.1-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4571	1.4571	1.4571
Stem	1.4571	1.4571	1.4571

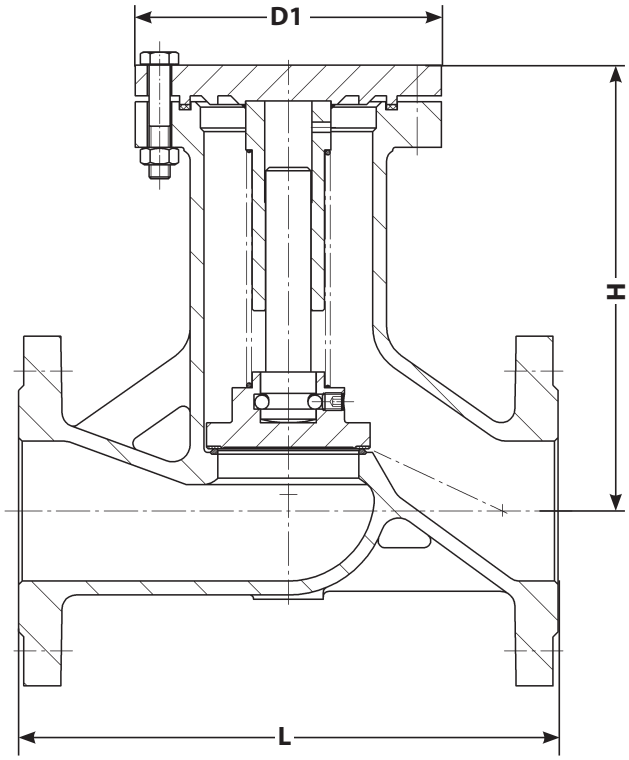
DN	L [mm]	H [mm]	D1 [mm]	G [kg]
15	130	110	98	4
20	150	110	98	6
25	160	120	98	6
32	180	140	113	10
40	200	145	113	12
50	230	165	128	15

Non return valve, straight type with flanges acc. EN 1092-1; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, FLANGED ENDS 14.1-G-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-G-FL*	S.S. *14.1-G-FL-A4*	Low temp. *14.1-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0425	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Stem	1.4571	1.4571	1.4571

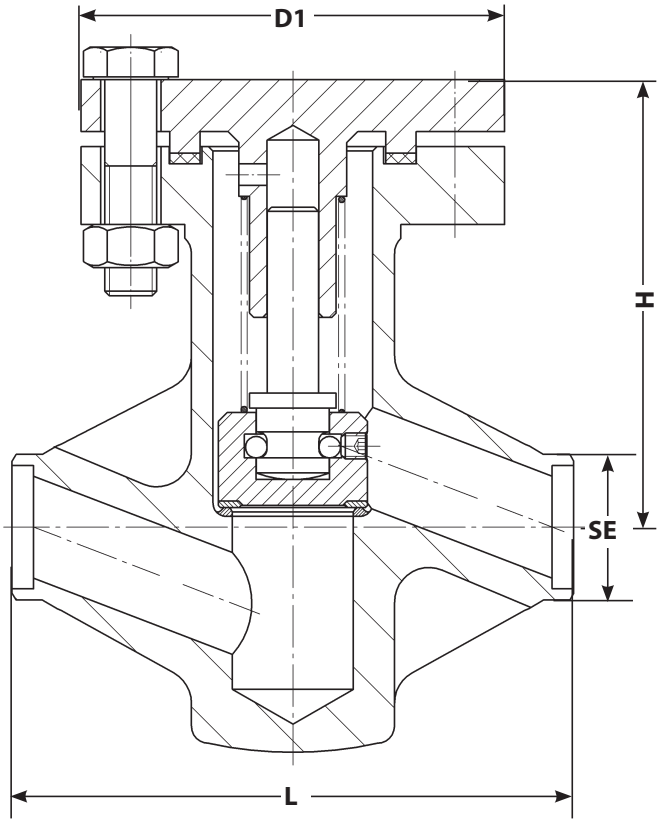
DN	L [mm]	H [mm]	D1 [mm]	G [kg]
65	290	190	143	22
80	310	255	176	35
100	350	260	210	52
125	400	270	250	64
150	480	415	308	113
200	600	380	365	160
250	730	530	435	210
300	850	530	515	320
350	980	530	584	446
400	1100	545	648	614

Non return valve, straight type with flanges acc. EN 1092-1; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, BUTTWELD ENDS 14.1-G-SE

DN 15 - 50 PN 40	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-G-SE*	S.S. *14.1-G-SE-A4*	Low temp. *14.1-G-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4571	1.4571	1.4571
Stem	1.4571	1.4571	1.4571

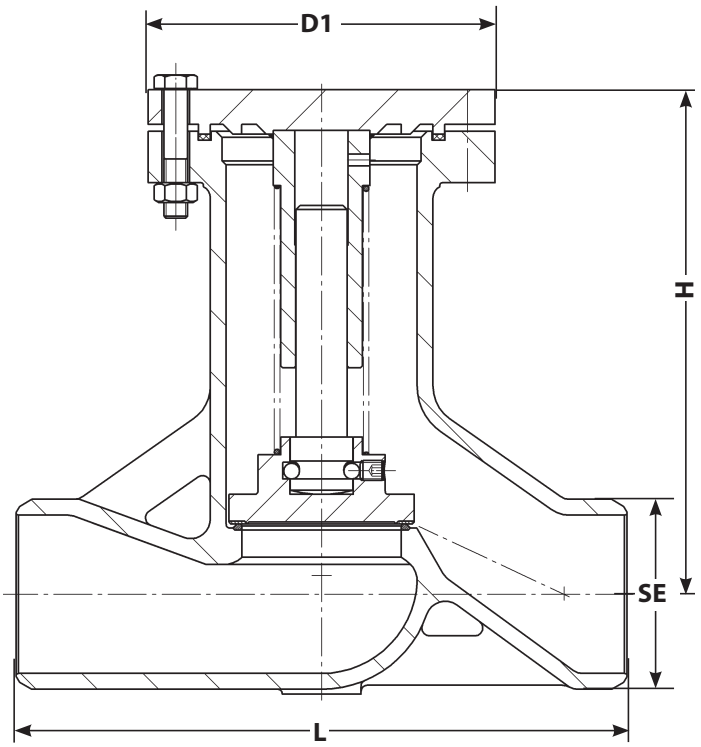
DN	SE [mm]	L [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3* 2,0	130	105	98	4
20	26,9* 2,3	130	105	98	4
25	33,7* 2,6	130	105	98	4
32	42,4* 2,6	160	140	113	6
40	48,3* 2,6	180	145	113	8
50	60,3* 3,2	210	165	128	10

Non return valve, straight type with buttwelding ends acc. EN 12627; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, BUTTWELD ENDS 14.1-G-SE

DN 65 - 400 PN 40	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-G-SE*	S.S. *14.1-G-SE-A4*	Low temp. *14.1-G-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0425	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Stem	1.4571	1.4571	1.4571

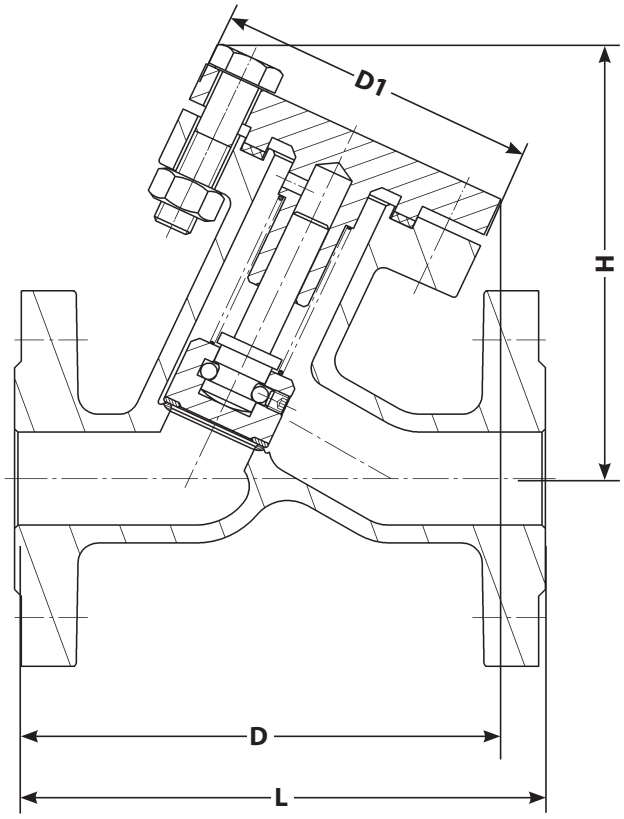
DN	SE [mm]	L [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1* 3,6	290	190	143	13
80	88,9* 4,0	310	255	176	26
100	114,3* 5,0	350	260	210	34
125	139,7* 4,5	400	270	250	49
150	168,3* 5,6	480	415	308	88
200	219,1* 7,1	600	380	365	120
250	273,0* 8,0	730	530	435	142
300	323,9* 8,0	850	530	515	272
350	355,6* 8,8	980	530	584	366
400	406,4* 11,0	1100	545	648	484

Non return valve, straight type with buttwelding ends acc. EN 12627; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, FLANGED ENDS 14.1-S-FL

DN 15 - 50 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-S-FL*	S.S. *14.1-S-FL-A4*	Low temp. *14.1-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4571	1.4571	1.4571
Stem	1.4571	1.4571	1.4571

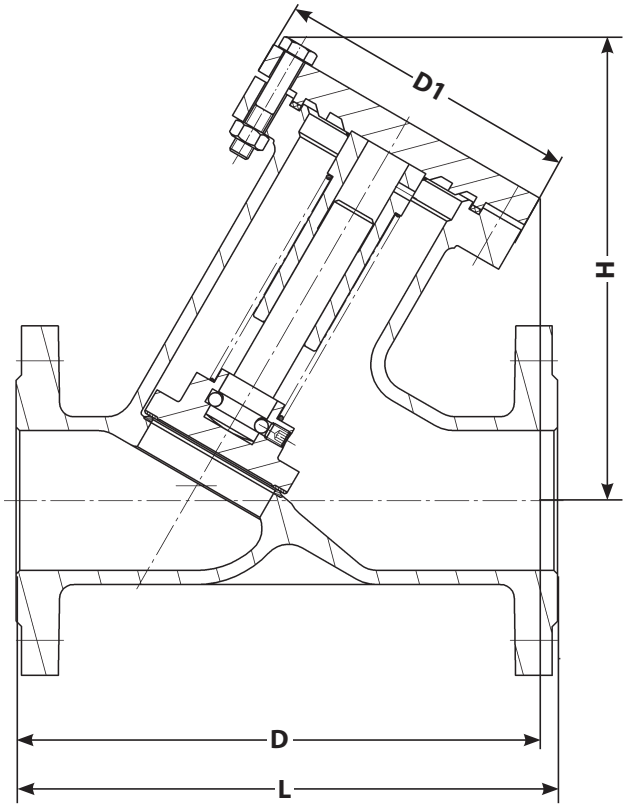
DN	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	130	145	130	98	4
20	150	140	130	98	6
25	160	150	135	98	6
32	180	170	155	113	10
40	200	180	155	113	12
50	230	215	180	128	15

Non return valve, y- type with flanges acc. EN 1092-1; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, FLANGED ENDS 14.1-S-FL

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-S-FL*	S.S. *14.1-S-FL-A4*	Low temp. *14.1-S-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0425	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Stem	1.4571	1.4571	1.4571

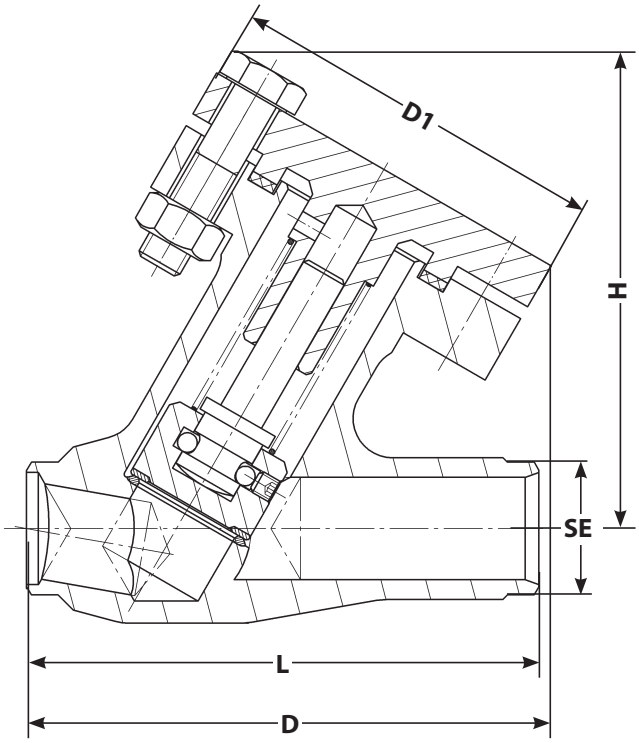
DN	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	290	260	195	143	22
80	310	300	265	176	35
100	350	340	285	210	52
125	400	375	320	250	64
150	480	525	440	308	113
200	600	595	475	365	160
250	730	805	665	435	210
300	850	870	700	515	320
350	980	945	750	584	446
400	1100	990	780	648	614

Non return valve, y- type with flanges acc. EN 1092-1; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, BUTTWELD ENDS 14.1-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. *14.1-S-SE*	S.S. *14.1-S-SE-A4*	Low temp. *14.1-S-SE-TT*
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4571	1.4571	1.4571
Stem	1.4571	1.4571	1.4571

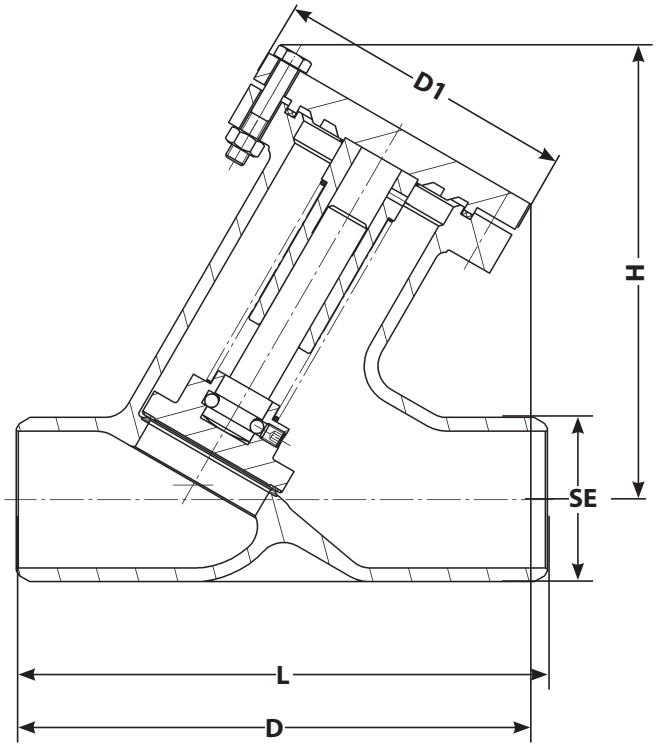
DN	SE [mm]	L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
15	21,3* 2,0	130	135	125	98	4
20	26,9* 2,3	130	135	125	98	4
25	33,7* 2,6	130	135	125	98	4
32	42,4* 2,6	160	175	155	113	6
40	48,3* 2,6	180	170	150	113	8
50	60,3* 3,2	210	205	180	128	10

Non return valve, y- type with buttwelding ends acc. EN 12627; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 .
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

NON RETURN VALVE, BUTTWELD ENDS 14.1-S-SE

DN 65 - 400			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982



Available on request:
Special corrosion resistant materials for:
Complete valve - Trim
Soft sealing disc
Heating jacket

Detailed information and more alternatives are given in the appendix.

Component	Material C.S. 14.1-S-SE	S.S. 14.1-S-SE-A4	Low temp. 14.1-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0425	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Stem	1.4571	1.4571	1.4571

DN	SE [mm]		L [mm]	D [mm]	H [mm]	D1 [mm]	G [kg]
65	76,1*	3,6	290	260	195	143	13
80	88,9*	4,0	310	300	265	176	26
100	114,3*	5,0	350	340	285	210	34
125	139,7*	4,5	400	375	320	250	49
150	168,3*	5,6	480	525	440	308	88
200	219,1*	7,1	600	595	475	365	120
250	273,0*	8,0	730	805	665	435	142
300	323,9*	8,0	850	870	700	515	272
350	355,6*	8,8	980	945	750	584	366
400	406,4*	11,0	1100	990	780	648	484

Non return valve, y- type with buttwelding ends acc. EN 12627; spring loaded, opening pressure around 0,2 bar.
With grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature: Body made of cast material 1.1138, seat hardfaced with 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

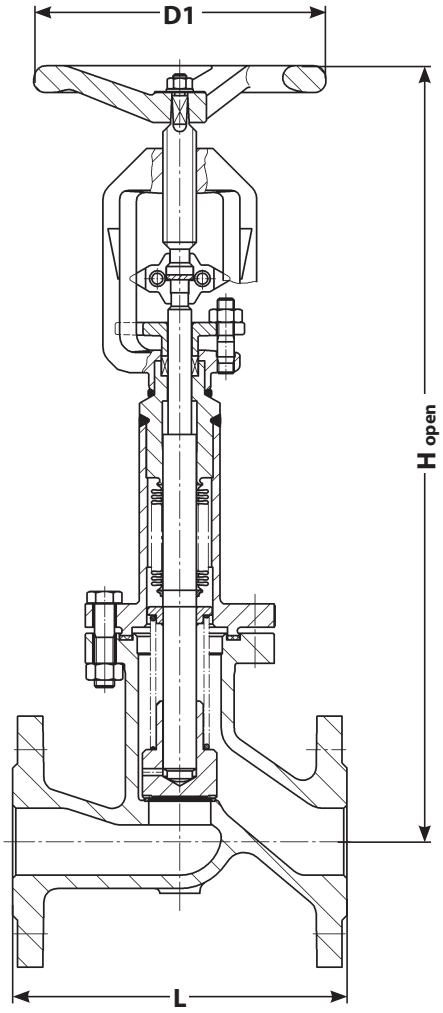
STOP-CHECK-VALVE, FLANGED ENDS 19.1-G-FL

DN 15 - 50 PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-G-FL	S.S. 19.1-G-FL-A4	Low temp. 19.1-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellit 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4571	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	375	150	11
20	150	375	150	12
25	160	385	150	12
32	180	485	175	16
40	200	485	175	18
50	230	520	200	21

Stop-check-valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6..
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

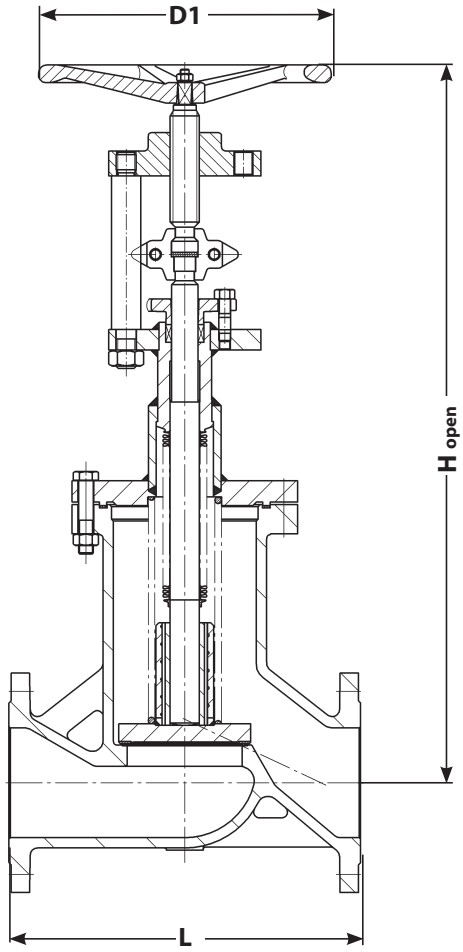
STOP-CHECK-VALVE, FLANGED ENDS 19.1-G-FL

DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-G-FL	S.S. 19.1-G-FL-A4	Low temp. 19.1-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	Stellite 6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	480	200	34
80	310	645	250	48
100	350	640	300	64
125	400	645	300	84
150	480	1040	400	163
200	600	1000	400	263

Stop-check-valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

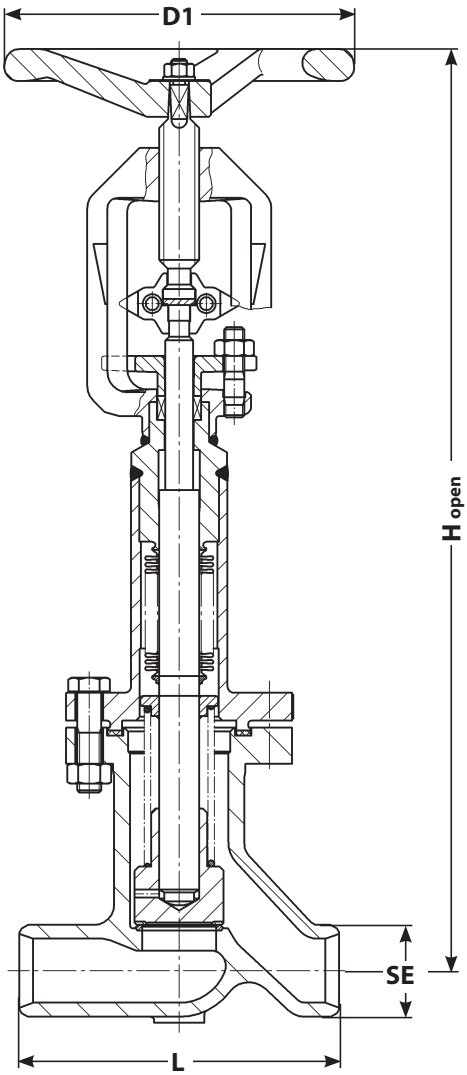
STOP-CHECK-VALVE, BUTTWELD ENDS 19.1-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-G-SE	S.S. 19.1-G-SE-A4	Low temp. 19.1-G-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4571	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	370	150	10
20	26,9*2,3	130	370	150	11
25	33,7*2,6	130	370	150	11
32	42,4*2,6	160	485	175	14
40	48,3*2,6	180	485	175	15
50	60,3*3,2	210	520	200	17

Stop-check-valve, straight type, with buttweld ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

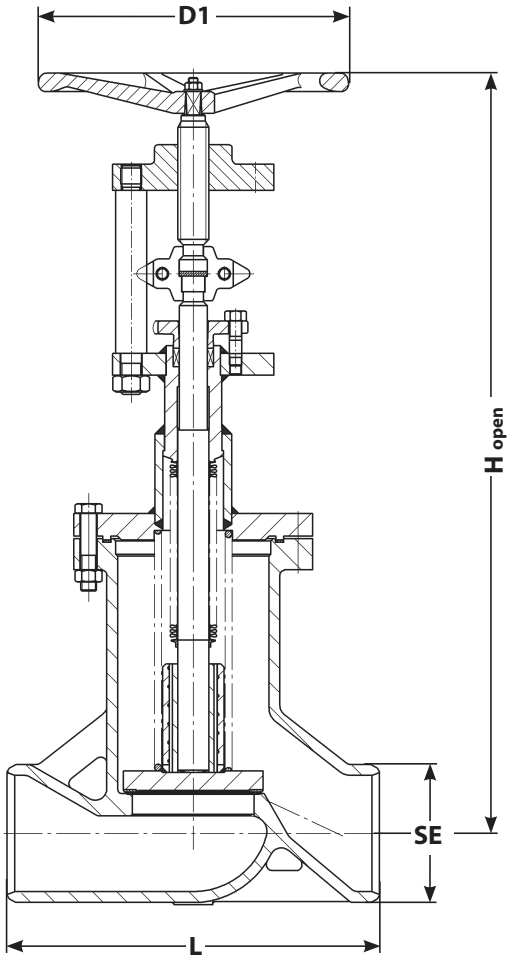
STOP-CHECK-VALVE, BUTTWELD ENDS 19.1-G-SE

DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-G-SE	S.S. 19.1-G-SE-A4	Low temp. 19.1-G-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	Stellite 6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1*3,6	290	480	200	26
80	88,9*4,0	310	645	250	38
100	114,3*5,0	350	640	300	46
125	139,7*4,5	400	645	300	80
150	168,3*5,6	480	1040	400	138
200	219,1*7,1	600	1000	600	223

Stop-check-valve, straight type, with buttweld ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

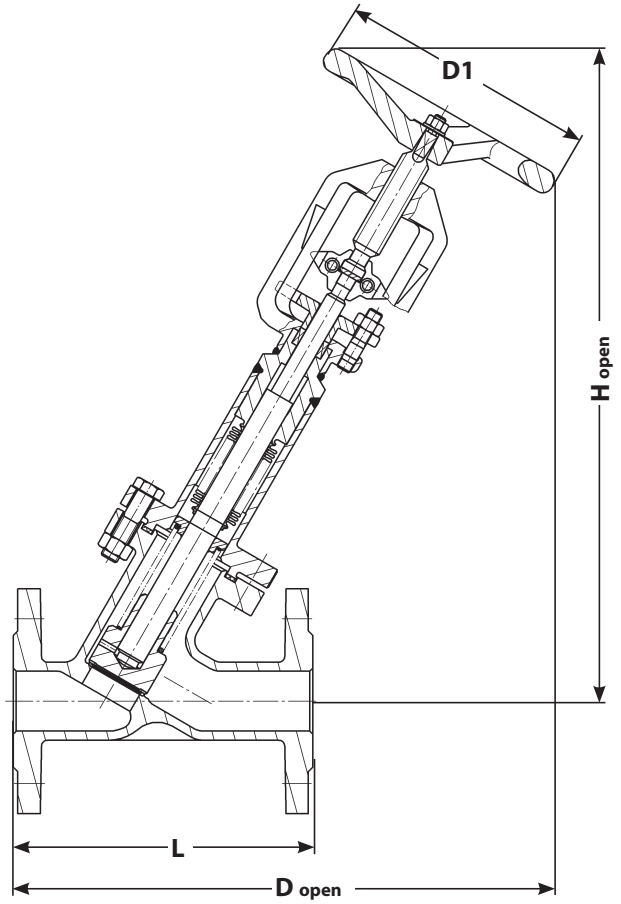
STOP-CHECK-VALVE, FLANGED ENDS 19.1-S-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-S-FL	S.S. 19.1-S-FL-A4	Low temp. 19.1-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4571	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	130	275	370	150	11
20	150	270	370	150	12
25	160	280	375	150	12
32	180	350	455	175	16
40	200	375	455	175	18
50	230	425	500	200	21

Stop-check-valve, y-type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6 .
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

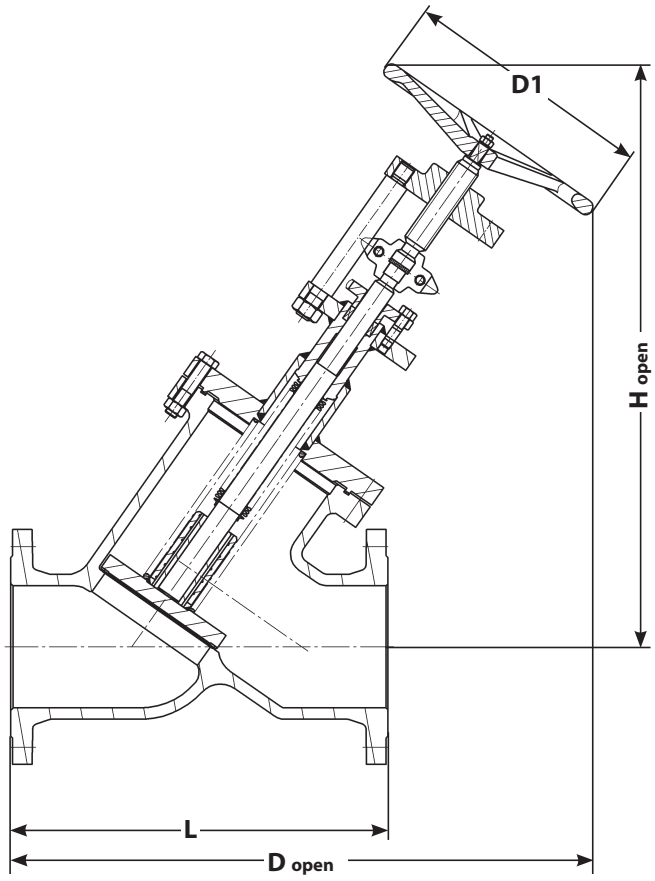
STOP-CHECK-VALVE, FLANGED ENDS 19.1-S-FL

DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 558-1

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-S-FL	S.S. 19.1-S-FL-A4	Low temp. 19.1-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	Stellite 6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Handwheel	0.6020	0.6020	0.6020

DN	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	290	430	455	200	30
80	310	520	610	250	48
100	350	565	625	300	62
125	400	580	645	300	94
150	480	915	965	400	158
200	600	960	980	400	263

Stop-check-valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

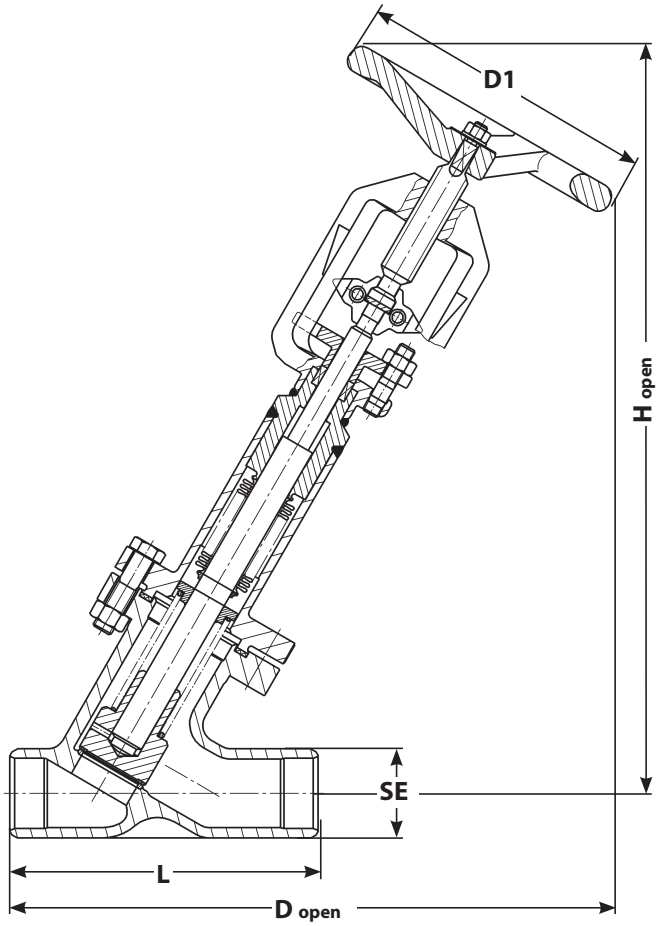
STOP-CHECK-VALVE, BUTTWELD ENDS 19.1-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-S-SE	S.S. 19.1-S-SE-A4	Low temp. 19.1-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4571	1.4571	1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
15	21,3*2,0	130	285	355	150	10
20	26,9*2,3	130	285	355	150	11
25	33,7*2,6	130	285	355	150	11
32	42,4*2,6	160	355	455	175	14
40	48,3*2,6	180	360	455	175	15
50	60,3*3,2	210	415	500	200	17

Stop-check-valve, y-type, with buttweld ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with Stellite 6.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

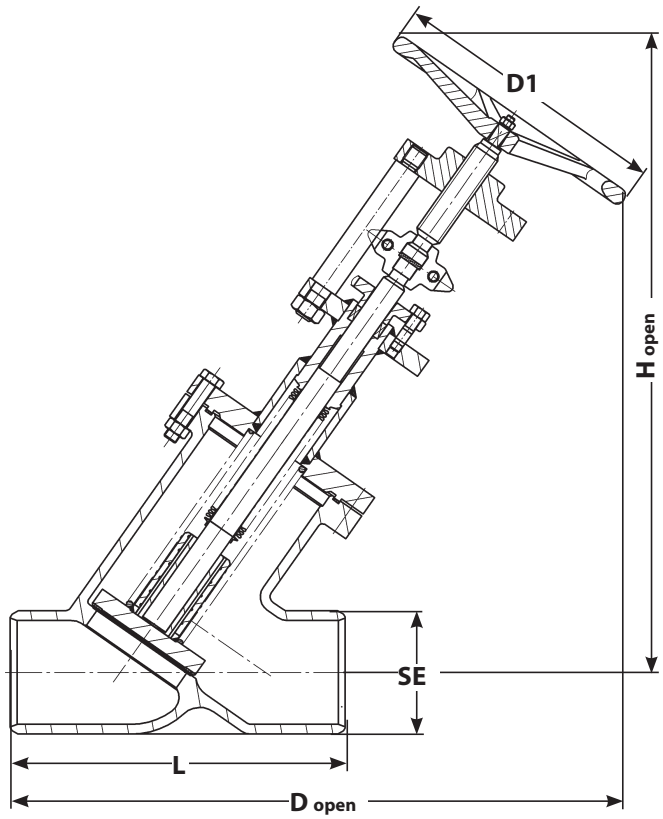
STOP-CHECK-VALVE, BUTTWELD ENDS 19.1-S-SE

DN 65 - 200			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Max. differential pressure acc. EN 13709
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Available on request :
Special corrosion resistant materials for:
Complete valve - Bellows - Trim
Soft sealing and regulating disc
Heating jacket

Detailed information and more alternatives are given in the appendix.



Component	Material C.S. 19.1-S-SE	S.S. 19.1-S-SE-A4	Low temp. 19.1-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0460	1.4571	1.0566
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	Stellite 6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4571
Spring	1.4310/1.4571	1.4571	1.4310/1.4571
Handwheel	0.6020	0.6020	0.6020

DN	SE [mm]	L [mm]	D open [mm]	H open [mm]	D1 [mm]	G [kg]
65	76,1*3,6	290	430	455	200	26
80	88,9*4,0	310	520	610	250	38
100	114,3*5,0	350	565	625	300	46
125	139,7*4,5	400	580	645	300	80
150	168,3*5,6	480	920	970	400	144
200	219,1*7,1	600	960	980	400	223

Stop-check-valve, y-type, with buttweld ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange. Bonnet design DN 65 - 125 with yoke; from DN 150 and above with column and screwed flange.
The valve works as a spring check valve when it is fully open; when it is closed it works as a standard bellows sealed globe valve.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of s.s. 1.4571, sealing surface hardfaced with stellite 6.

RELIEF VALVES TYPE 14.3

Product description Type 14.3
Spring loaded relief valve in straight type, y-type or corner-type; with flanges or buttweld ends; can be supplied in carbon steel 1.0619 (WCB), stainless steel 1.4408 (CF8M), low temperature steel 1.1138 (LCB) and special materials.

Use Type 14.3
Mainly used as bypass valve in small circuits.

Operating mode Type 14.3
With lockable hand wheel cover and stem lock nut to prevent alteration of the set opening pressure. Changing the opening pressure takes place after removal of the hand wheel cover by turning the hand wheel; by so doing the outer pressure spring is tensioned and adjusted to a defined pressure. The valve is not compensated against backpressure!

Type 14.3

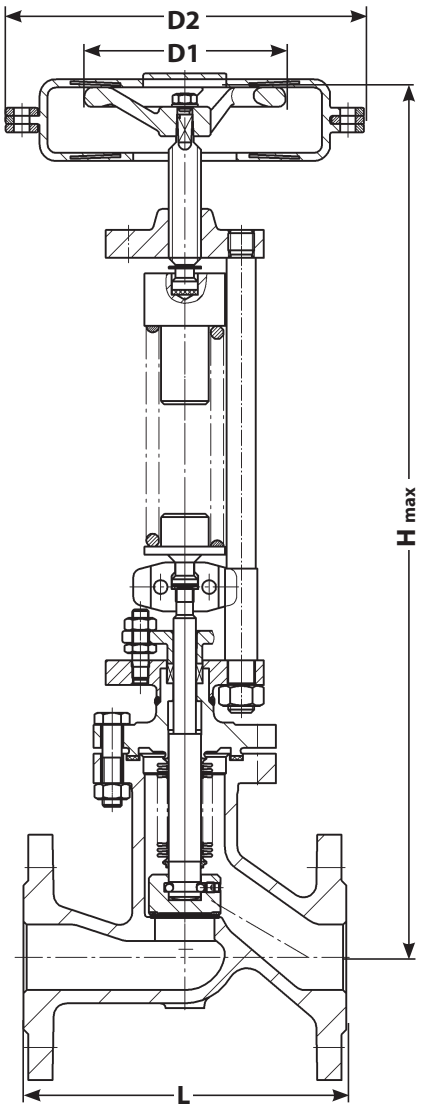
RELIEF VALVE, FLANGED ENDS 14.3-G-FL

DN 15 - 50 PN 40	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 15 - 25 :	0,5 - 6 bar	5 - 10 bar	10 - 16 bar	16 - 25 bar
DN 32 - 40 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 25 bar
DN 50 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 20 bar

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-G-FL	S.S. 14.3-G-FL-A4	Low temp. 14.3-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN	L [mm]	H max [mm]	D1 [mm]	D2 [mm]	G [kg]
15	130	465	125	185	9
20	150	465	125	185	10
25	160	520	125	185	10
32	180	540	125	185	14
40	200	540	125	185	16
50	230	560	125	185	19

Bellows sealed relief valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

RELIEF VALVE, FLANGED ENDS 14.3-G-FL

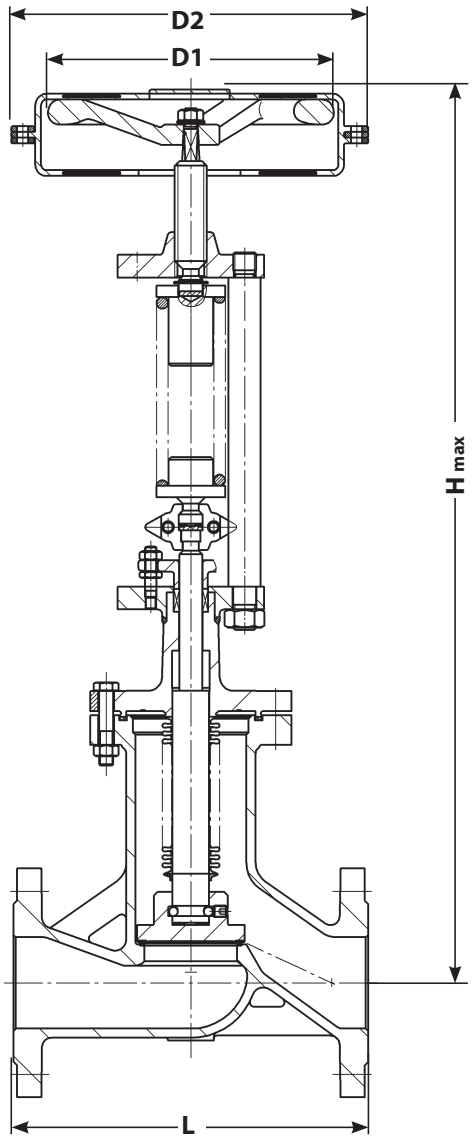
DN 65 - 150 PN 40	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 65 - 150:	0,5 - 3 bar	3 - 6 bar	5 - 10 bar	10 - 16 bar

Detailed informationen and more alternatives are given in the appendix.

Component	Material C.S. *14.3-G-FL*	S.S. *14.3-G-FL-A4*	Low temp. *14.3-G-FL-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	



DN	L [mm]	H max [mm]	D1 [mm]	D2 [mm]	G [kg]
65	290	625	125	185	28
80	310	795	250	315	42
100	350	795	250	315	58
125	400	780	250	315	88
150	480	1215	300	400	157

Bellows sealed relief valve, straight type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

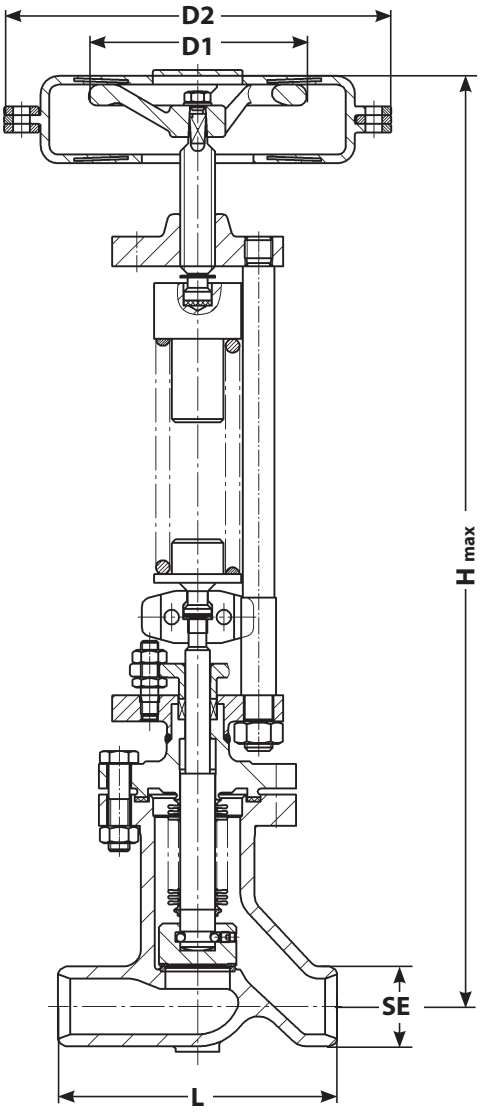
RELIEF VALVE, BUTTWELD ENDS 14.3-G-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 15 - 25 :	0,5 - 6 bar	5 - 10 bar	10 - 16 bar	16 - 25 bar
DN 32 - 40 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 25 bar
DN 50 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 20 bar

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-G-SE	S.S. 14.3-G-SE-A4	Low temp. 14.3-G-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN	SE [mm]	L [mm]	H max [mm]	D1 [mm]	D2 [mm]	G [kg]
15	21,3*2,0	130	500	125	185	8
20	26,9*2,3	130	500	125	185	9
25	33,7*2,6	130	500	125	185	9
32	42,4*2,6	160	540	125	185	12
40	48,3*2,6	180	540	125	185	13
50	60,3*3,2	210	560	125	185	15

Bellows sealed relief valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

RELIEF VALVE, BUTTWELD ENDS 14.3-G-SE

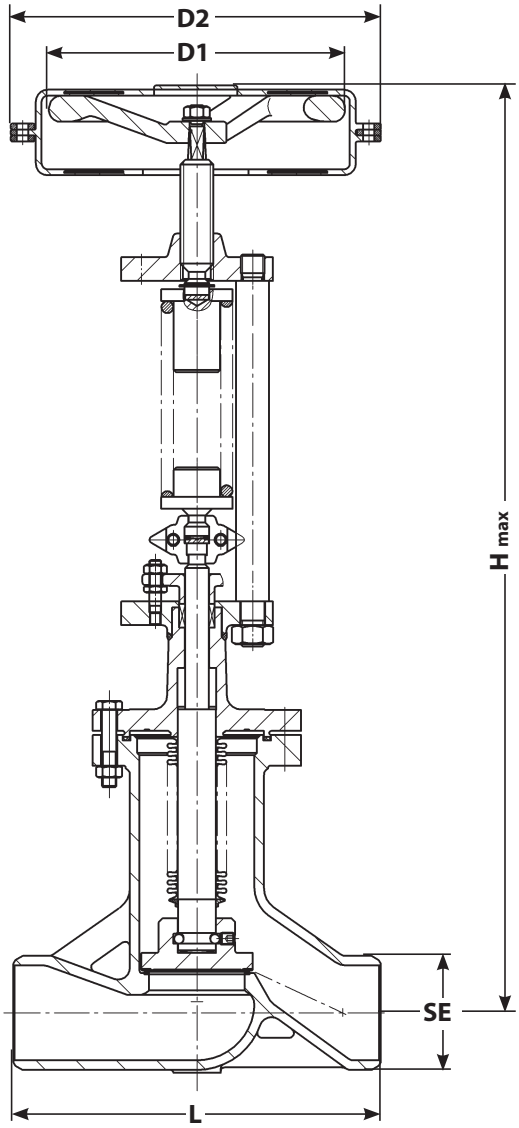
DN 65 - 150 PN 40	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 65 - 150:	0,5 - 3 bar	3 - 6 bar	5 - 10 bar	10 - 16 bar

Detailed informationen and more alternatives are given in the appendix.

Component	Material C.S. *14.3-G-SE*	S.S. *14.3-G-SE-A4*	Low temp. *14.3-G-SE-TT*
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	



DN	SE [mm]		L [mm]	Hmax [mm]	D1 [mm]	D2 [mm]	G [kg]
65	76,1*	3,6	290	625	125	185	20
80	88,9*	4,0	310	795	250	315	32
100	114,3*	5,0	350	795	250	315	40
125	139,7*	4,5	400	780	250	315	74
150	168,3*	5,6	480	1215	300	400	132

Bellows sealed relief valve, straight type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

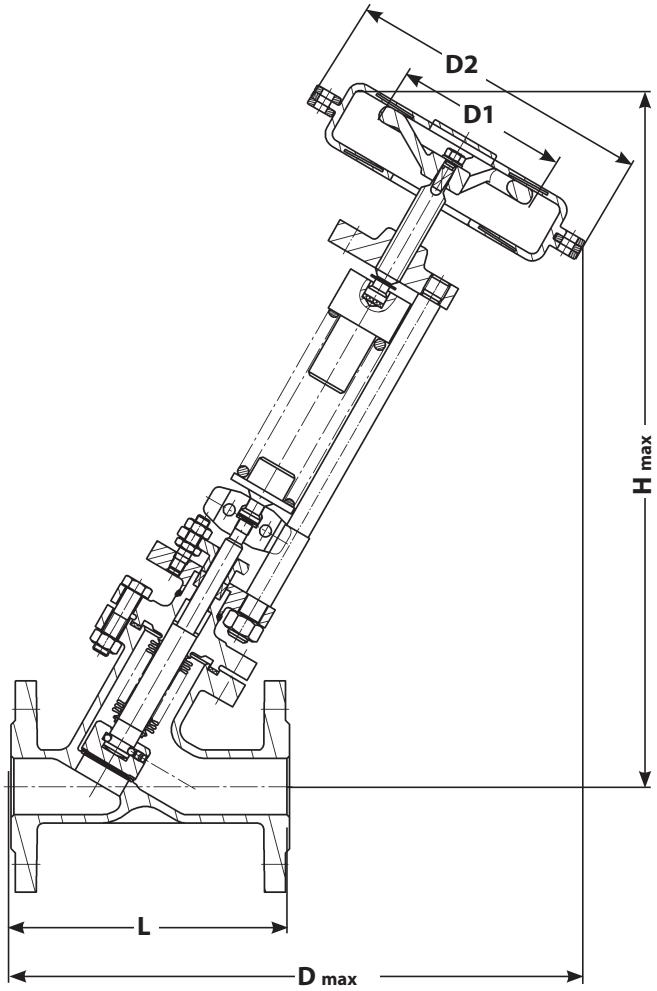
RELIEF VALVE, FLANGED ENDS 14.3-S-FL

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 15 - 25 :	0,5 - 6 bar	5 - 10 bar	10 - 16 bar	16 - 25 bar
DN 32 - 40 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 25 bar
DN 50 :	0,5 - 3 bar	3 - 6 bar	6 - 10 bar	10 - 20 bar

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-S-FL	S.S. 14.3-S-FL-A4	Low temp. 14.3-S-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN	L [mm]	D max [mm]	H max [mm]	D1 [mm]	D2 [mm]	G [kg]
15	130	360	495	125	185	9
20	150	355	495	125	185	10
25	160	365	500	125	185	10
32	180	405	505	125	185	14
40	200	415	500	125	185	16
50	230	445	525	125	185	19

Bellows sealed relief valve, y-type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

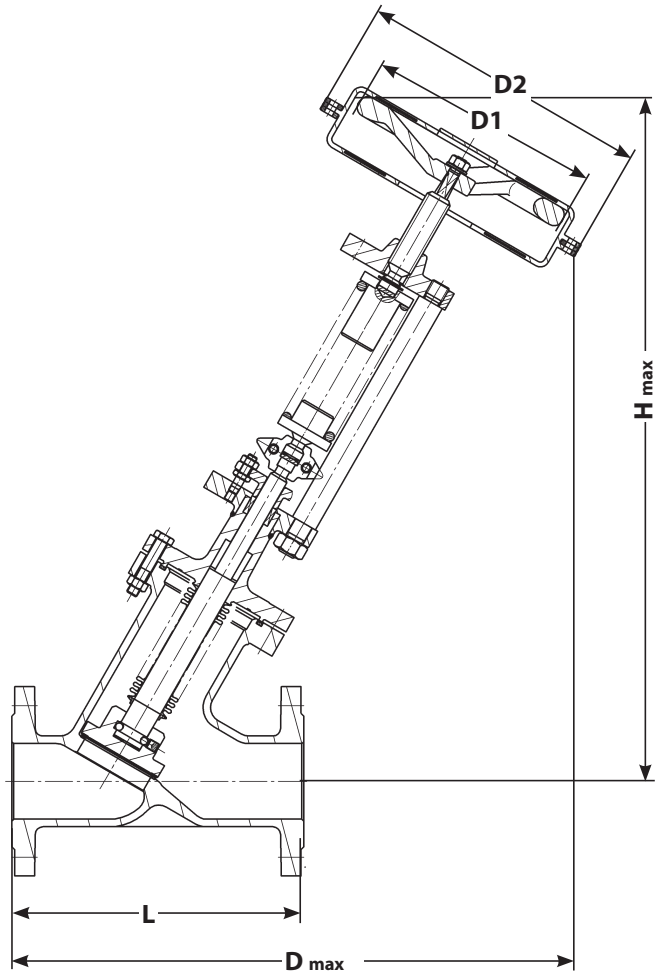
RELIEF VALVE, FLANGED ENDS 14.3-S-FL

DN 65 - 150			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension EN 558-1

Spring-Range-Table: Opening pressure in bar when using different springs				
DN 65 - 150:	0,5 - 3 bar	3 - 6 bar	5 - 10 bar	10 - 16 bar

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-G-FL	S.S. 14.3-G-FL-A4	Low temp. 14.3-G-FL-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN	L [mm]	D max [mm]	H max [mm]	D1 [mm]	D2 [mm]	G [kg]
65	290	505	570	125	185	28
80	310	605	735	250	315	42
100	350	630	740	250	315	58
125	400	635	750	250	315	88
150	480	965	1070	300	400	157

Bellows sealed relief valve, y-type, with flanges acc. EN 1092-1; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

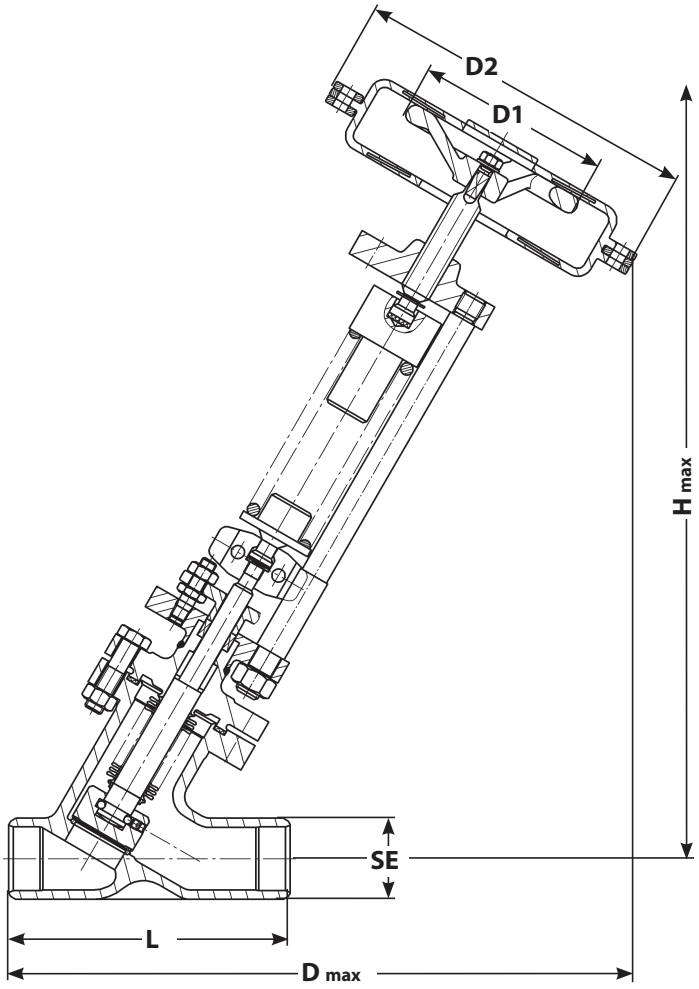
RELIEF VALVE, BUTTWELD ENDS 14.3-S-SE

DN 15 - 50			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Spring-Range-Table:

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-S-SE	S.S. 14.3-S-SE-A4	Low temp. 14.3-S-SE-TT
Body	1.0619/1.0460	1.4408/1.4571	1.1138/1.0488
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.0566
Disc	1.4571	1.4571	1.4571
Disc surface	Stellite 6	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN	SE [mm]	L [mm]	D_{max} [mm]	H_{max} [mm]	D1 [mm]	D2 [mm]	G [kg]
15	21,3*2,0	130	375	475	125	185	8
20	26,9*2,3	130	375	475	125	185	9
25	33,7*2,6	130	375	475	125	185	9
32	42,4*2,6	160	410	505	125	185	12
40	48,3*2,6	180	405	500	125	185	13
50	60,3*3,2	210	435	525	125	185	15

Bellows sealed relief valve, y-type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast/forged material 1.0619/1.0460, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Stainless steel: Body made of cast/forged material 1.4408/1.4571, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast/forged material 1.1138/1.0488, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

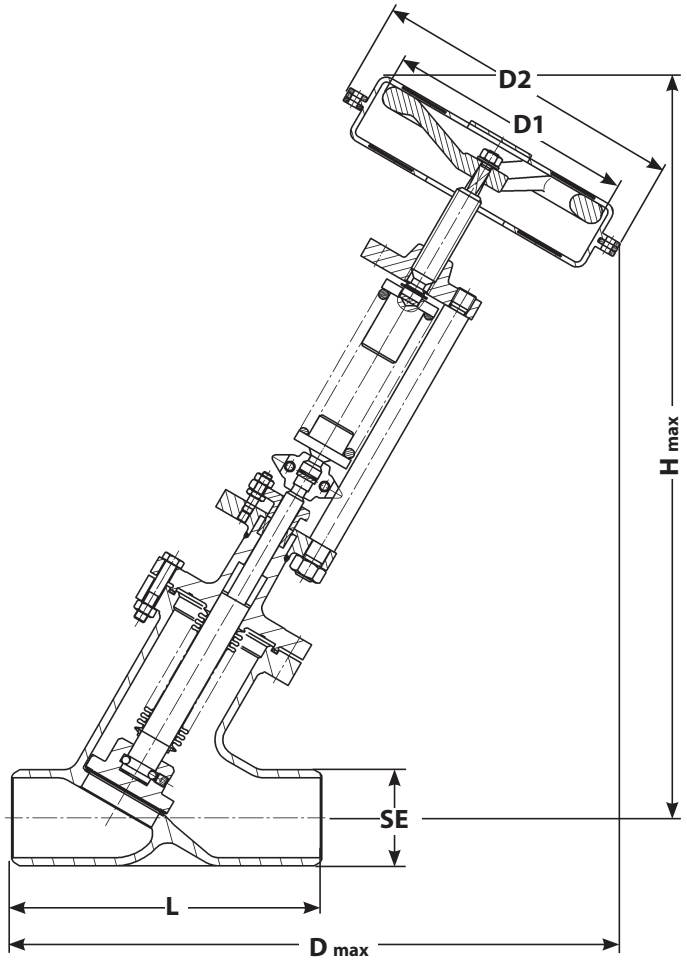
RELIEF VALVE, BUTTWELD ENDS 14.3-S-SE

DN 65 - 150			
PN 40			
	C.S.	S.S.	Low temp.
Tmin.	-10°C	-200°C	-50°C
Tmax.	+400°C	+400°C	+300°C

Permissible working pressure acc. EN 1092 - Part 1
Terms of delivery DIN 3230/EN 12266-1
Face to face dimension acc. EN 12982

Spring-range-table: Opening pressure when using different springs				
DN 65 - 150:	0,5 - 3 bar	3 - 6 bar	5 - 10 bar	10 - 16 bar

Detailed informationen and more alternatives are given in the appendix.



Component	Material C.S. 14.3-S-SE	S.S. 14.3-S-SE-A4	Low temp. 14.3-S-SE-TT
Body	1.0619	1.4408	1.1138
Body seat	1.4370	Stellite 21	1.4370
Bonnet	1.0619	1.4408	1.1138
Disc	1.4571/1.0460	1.4571	1.4571
Disc surface	St.6/1.4009	Stellite 6	Stellite 6
Bellows	1.4571	1.4571	1.4571
Bonnet gasket		1.4571/graphite	
Bolts	A2/70	A2/70	A2/70
Nuts	A2/70	A2/70	A2/70
Gland packing		Pure graphite	
Gland	1.0420	1.4408	1.4408
Stem-upper part	1.4122	1.4122	1.4122
Stem-lower part	1.4571	1.4571	1.4301
Bush	1.4301	1.4301	1.4301
Spring	1.4310	1.4310	1.4310
Handwheel	0.6020	0.0620	0.0620
Valve cover		Polypropylene	

DN1	SE [mm]	L [mm]	D_{max} [mm]	H_{max} [mm]	D1 [mm]	D2 [mm]	G [kg]
65	76,1*3,6	290	505	570	125	185	20
80	88,9*4,0	310	610	740	250	315	32
100	114,3*5,0	350	635	745	250	315	40
125	139,7*4,5	400	640	755	250	315	74
150	168,3*5,6	480	965	1070	300	400	132

Bellows sealed relief valve, y-type, with buttwelding ends acc. EN 12627; with roll-formed stem screw thread and burnished shaft, coupled stem. Multiplewall liquid contacted bellows made of stainless steel, with anti torque device, tested for 10.000 cycles, metal back seat, safety stuffing box packing made of pure graphite, grooved bonnet gasket made of stainless steel 1.4571 with a coating of pure graphite on both sides, housed in a tongue and grooved flange.
The opening pressure can be re-adjusted by removing the valve cover and turning the handwheel clockwise.
Carbon steel: Body made of cast material 1.0619, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6 up to DN 100; above made of 1.0460, hardfaced with 1.4009.
Stainless steel: Body made of cast material 1.4408, seat hardfaced with stellite 21, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.
Low temperature steel: Body made of cast material 1.1138, seat hardfaced with stainless steel 1.4370, disc made of stainless steel 1.4571, sealing surface hardfaced with stellite 6.

STEAM DISTRIBUTERS TYPE V21.9 AND CONDENSATE COLLECTORS TYPE V21.9/K

Product description Type V21.9
Compact steam distributor with integrated bellows sealed globe valves made of 1.0619 (WCB) or 1.0460 (A105) respectively with flanges or buttweld ends.

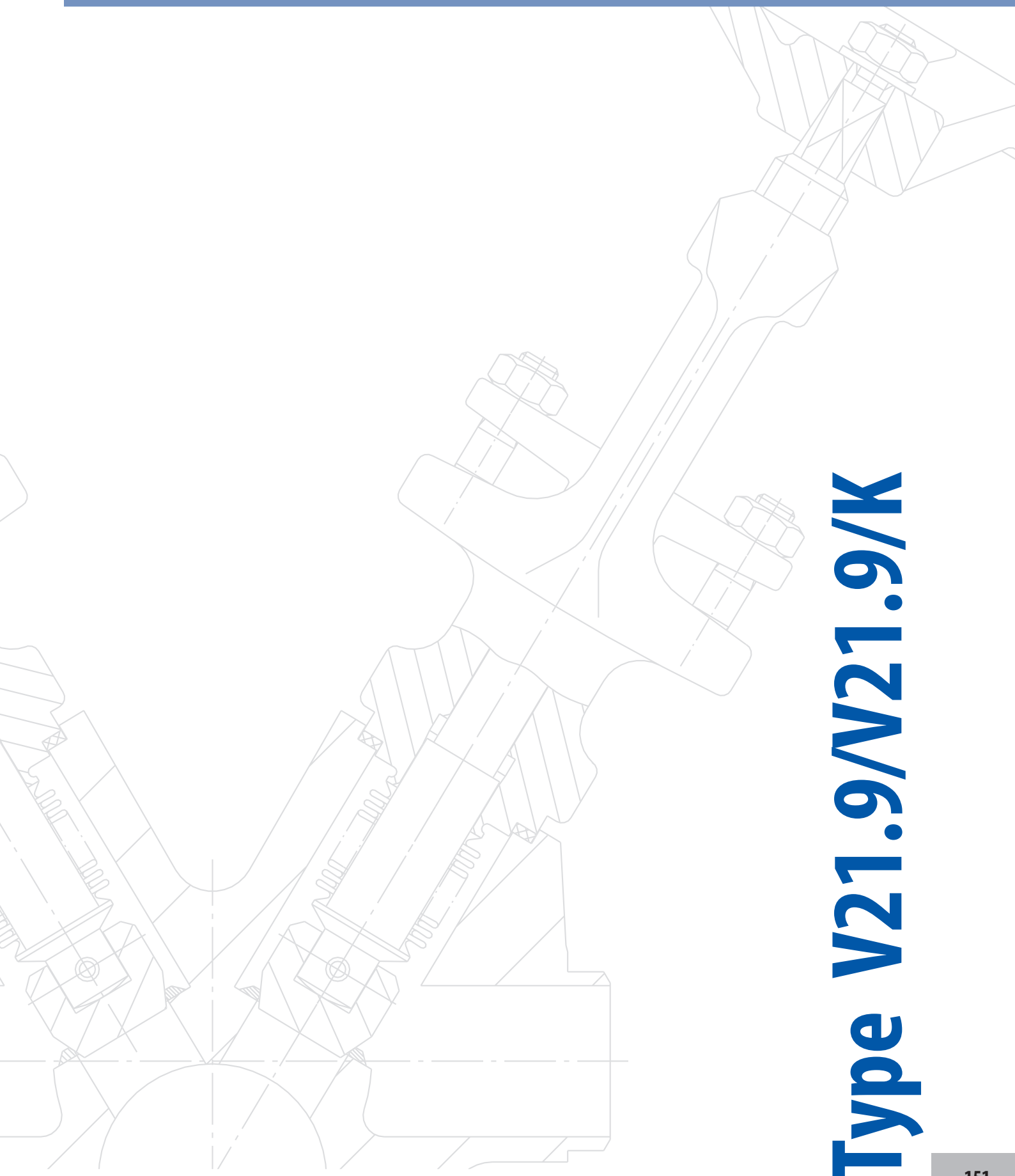
Use Type V21.9
Steam heating systems as well as consolidation of condensate pipework. Replacement of conventional manifolds which previously had to be fabricated at great expense of individual components.

Operating mode Type V21.9
One-piece compact body with 4, 8 or 12 connections positioned sideways of the manifold in order to make it even more compact. The manifolds are produced in modules of 4 connections and can be extended to multiples of 4, by welding the modules next to each other. This whole modular construction can be bolted on site by means of threaded holes situated under the manifolds.

Product description Type V21.9/K
Compact condensate collector with integrated bellows sealed globe valves made of 1.0619 (WCB) or 1.0460 (A105) respectively with flanges or buttweld ends; the condensate collector is also equipped with an immersion tube to avoid water hammer.

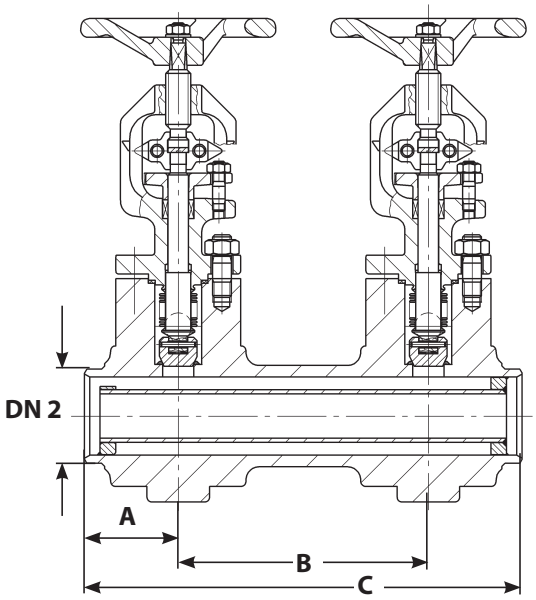
Use Type V21.9/K
Steam heating systems as well as consolidation of condensate pipework. Replacement of conventional manifolds which previously had to be fabricated at great expense of individual components.

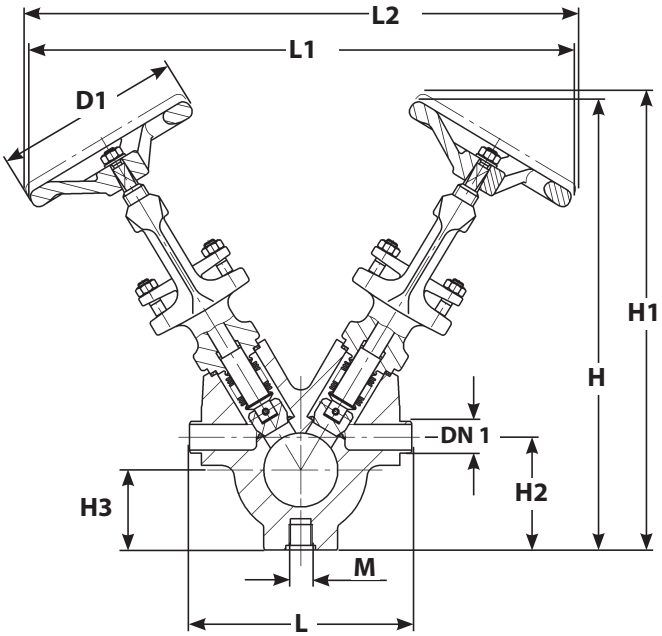
Operating mode Type V21.9/K
In the condensate collector, the discharged condensate flows down through a condensate drain (pipe), welded inside the manifold and forms a water bed in which the internal pipe is immersed. Water hammer is prevented as a result. The accumulated condensate is discharged upwards via the immersion tube.



Type V21.9/V21.9/K

BELLOWS SEALED MANIFOLD FOR STEAM DISTRIBUTION V21.9





Component	Material C.S. *V21.9*	Material S.S. *V21.9-A4*
Body	1.0460/1.0619	1.4571/1.4408
Body seat	1.4370	Stellite 21
Bonnet	1.0619	1.4408
Disc	1.4021	1.4571
Disc surface	1.4021	Stellite 6
Bellows	1.4571	1.4571
Bonnet gasket	1.4571/graphite	
Bolts	A2/70	A2/70
Nuts	A2/70	A2/70
Gland packing	Pure graphite	
Gland	1.0420	1.4408
Stem-upper part	1.4122	1.4122
Stem-lower part	1.4301	1.4571
Handwheel	0.6020	0.6020

DN 50 / 2”
PN 40 / ASME 300lb

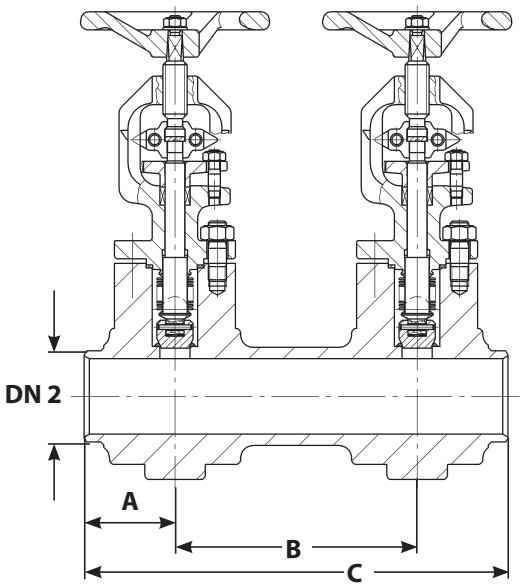
Type	Number of outlets	Buttweld ends A	B	C	L	Flanges A	B	C	L
V21.9-4	4	60	160	280	150	107	160	374	230
V21.9-8	8	60	160	600	150	107	160	694	230
V21.9-12	12	60	160	920	150	107	160	1014	230

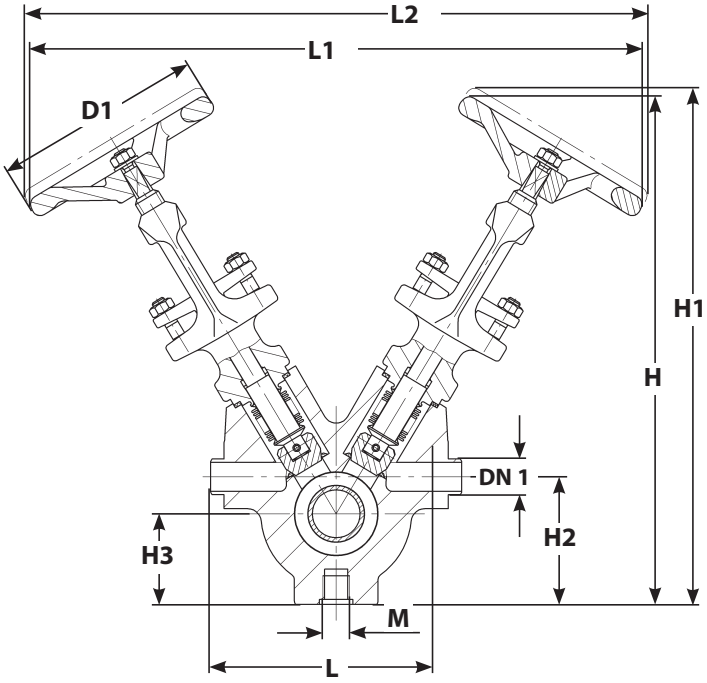
Type	Number of outlets	Buttweld ends/ Flanges DN1	DN2	D1	H	H1	H2	H3	L1	L2	M
V21.9-4	4	25	50	125	305	310	76	54	365	375	16
V21.9-8	8	25	50	125	305	310	76	54	365	375	16
V21.9-12	12	25	50	125	305	310	76	54	365	375	16

Standard design:
Bellows sealed manifold for steam distribution with 4, 8 or 12 outlets DN 25 with buttweld ends or flanges; main in- and outlet DN 50 with buttweld ends or flanges.

Connections: ● Buttweld ends ● Flanges ● Flange/Buttweld end combination
Special design: In- and Outlet with bellows sealed globe valves with buttweld ends, flanges or flange / buttweld end combination.

BELLOWS SEALED MANIFOLD FOR CONDENSATE COLLECTION V21.9/K





Component	Material C.S. V21.9/K	Material S.S. V21.9/K-A4
Body	1.0460/1.0619	1.4571/1.4408
Body seat	1.4370	Stellite 21
Bonnet	1.0619	1.4408
Disc	1.4021	1.4571
Disc surface	1.4021	Stellite 6
Bellows	1.4571	1.4571
Bonnet gasket	1.4571/graphite	
Bolts	A2/70	A2/70
Nuts	A2/70	A2/70
Gland packing	Pure graphite	
Gland	1.0420	1.4408
Stem-upper part	1.4122	1.4122
Stem-lower part	1.4301	1.4571
Handwheel	0.6020	0.6020
Immersion tube	1.0305	1.4571

DN 50 / 2”
PN 40 / ASME 300lb

Type	Number of outlets	Buttweld ends A	B	C	L	Flanges A	B	C	L
V21.9-K4	4	60	160	280	150	107	160	374	230
V21.9-K8	8	60	160	600	150	107	160	694	230
V21.9-K12	12	60	160	920	150	107	160	1014	230

Type	Number of outlets	Buttweld ends/ Flanges DN1	DN2	D1	H	H1	H2	H3	L1	L2	M
V21.9-K4	4	25	50	125	305	310	76	54	365	375	16
V21.9-K8	8	25	50	125	305	310	76	54	365	375	16
V21.9-K12	12	25	50	125	305	310	76	54	365	375	16

Standard design:
Bellows sealed manifold for condensate collection with 4, 8 or 12 outlets with immersion tube DN 25 with buttweld ends or flanges, main in- and outlet DN 50 with buttweld ends or flanges.

Connections: ● Buttweld ends ● Flanges ● Flange/Buttweld end combination
Special design: In- and Outlet with bellows sealed globe valves with buttweld ends, flanges or flange/buttweld end combination.

TECHNICAL INFORMATION

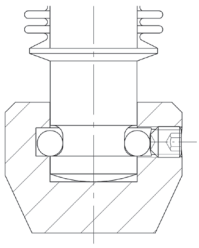
In addition to the manufacture of various special valves, customer-specific modification of standard valves and the supply of the valve ranges in different variants is one of W.T.A.'s strengths.

In spite of very expensive fabrication in some instances, special designs can be supplied at competitive prices with short delivery times!

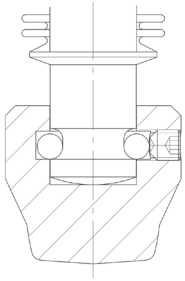
On the following pages you will find some special designs and detailed technical information.

Technical Information

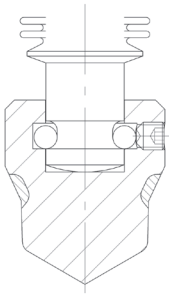
Valve type 11.3 / 11.35: DN 15 - 125



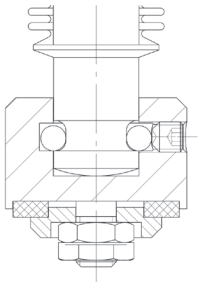
Conical plug



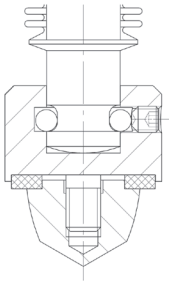
Throttling plug



Control plug equal percentage

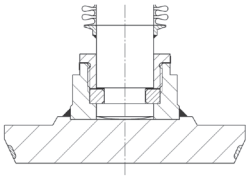


Plug with soft sealing

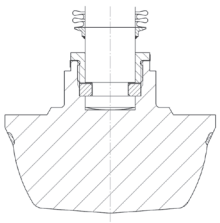


Throttling plug with soft sealing

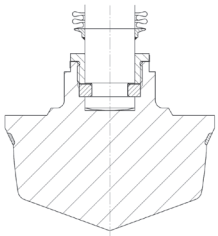
Valve type 11.3 / 11.35: DN 150 - 400



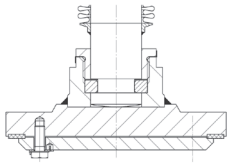
Conical plug



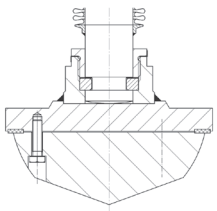
Throttling plug



Control plug equal percentage

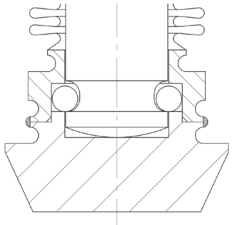


Plug with soft sealing

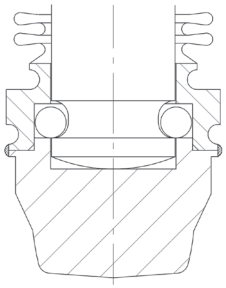


Throttling plug with soft sealing

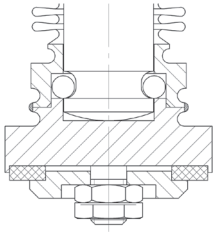
Valve type 11.9: DN 15 - 125



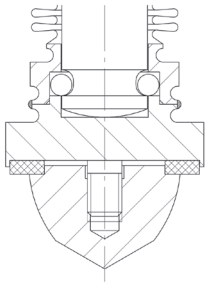
Conical plug



Throttling plug



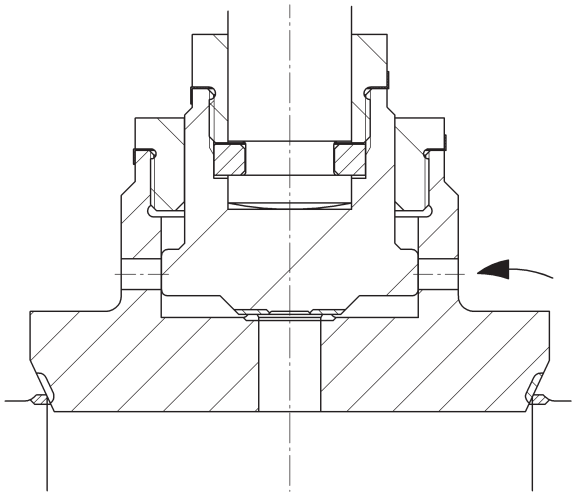
Plug with soft sealing



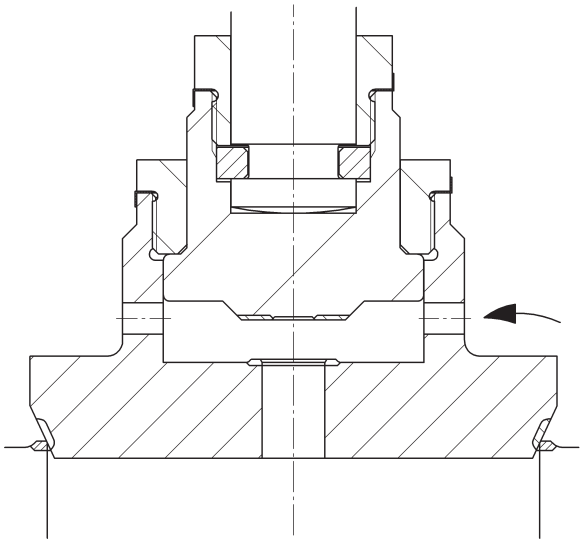
Throttling plug with soft sealing

OPERATING MODE: BALANCED PLUG KD

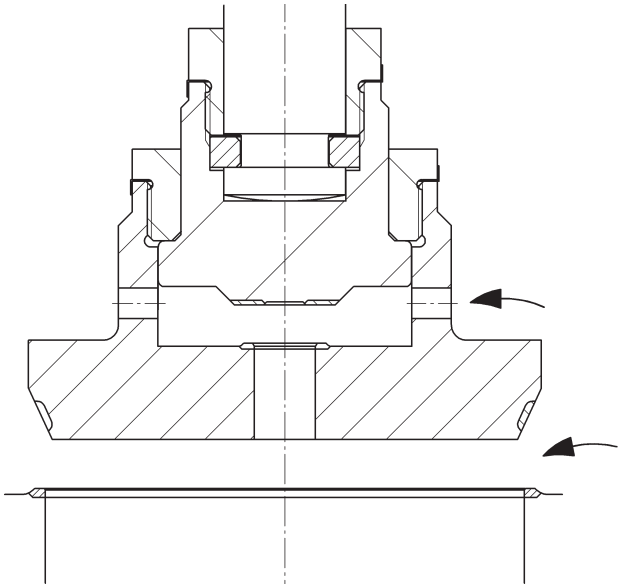
Flow direction above the plug, valve in closed position.



While opening the valve, the stem is lifting, equilibration of the pressure in the inner volume of the valve. The plug is still pressed directly on the seat.

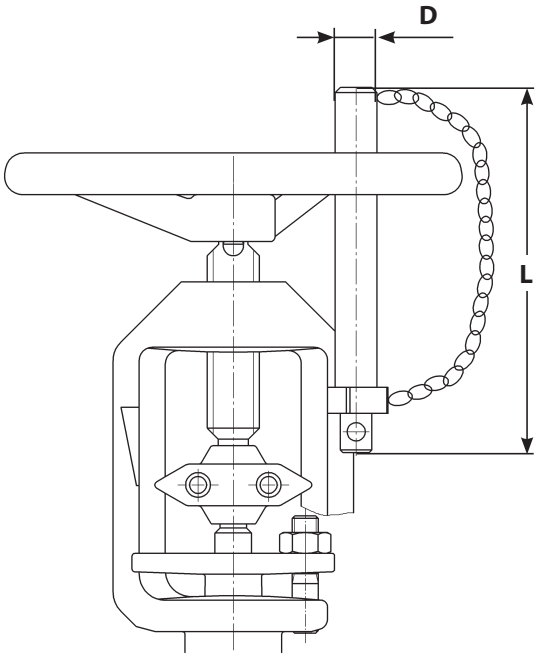


Through the equilibration of the pressure in the inner volume, the user can open the valve with very low hand wheel forces. The full seat-diameter is opened.



Version FS1:

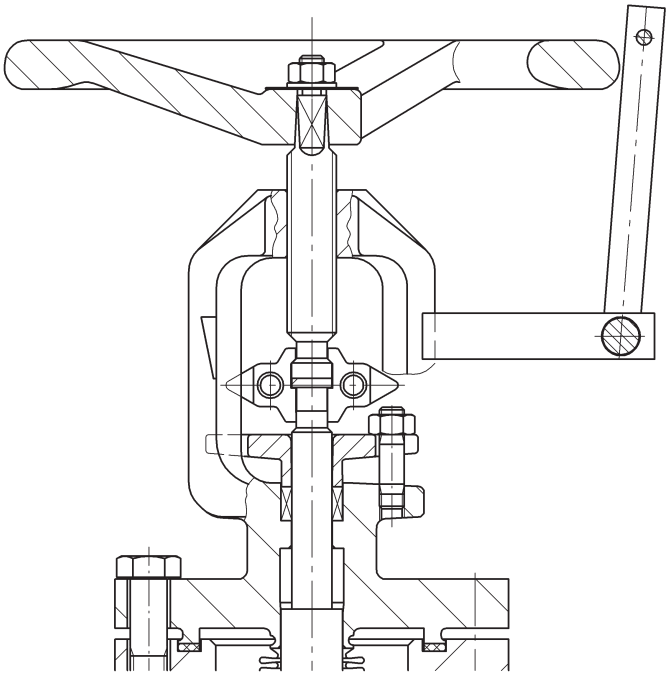
Padlock facility chain

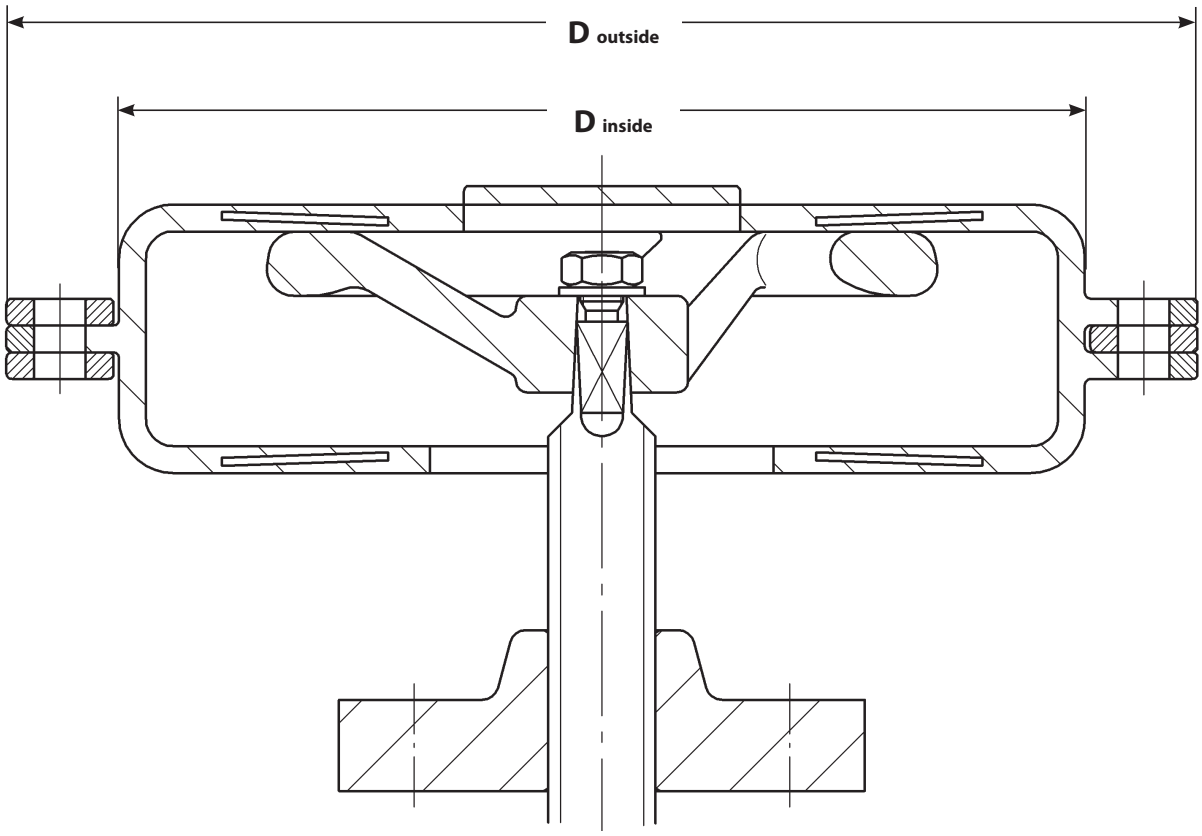


Bolt made of Stainless steel		
DN	L [mm]	D [mm]
15/65	100	16
80/125	135	16
150/200	220	20

Version FS2:

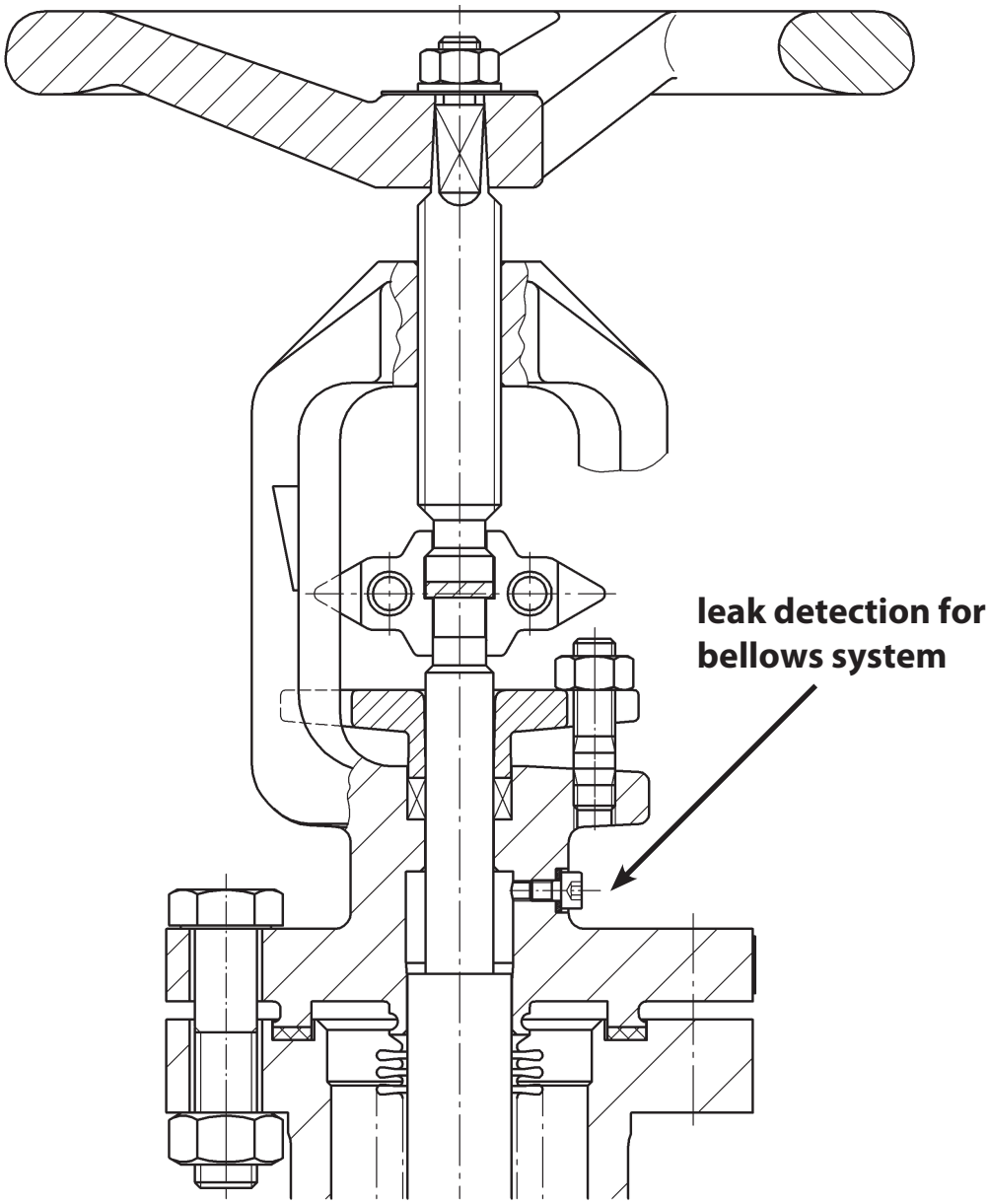
Padlock facility key



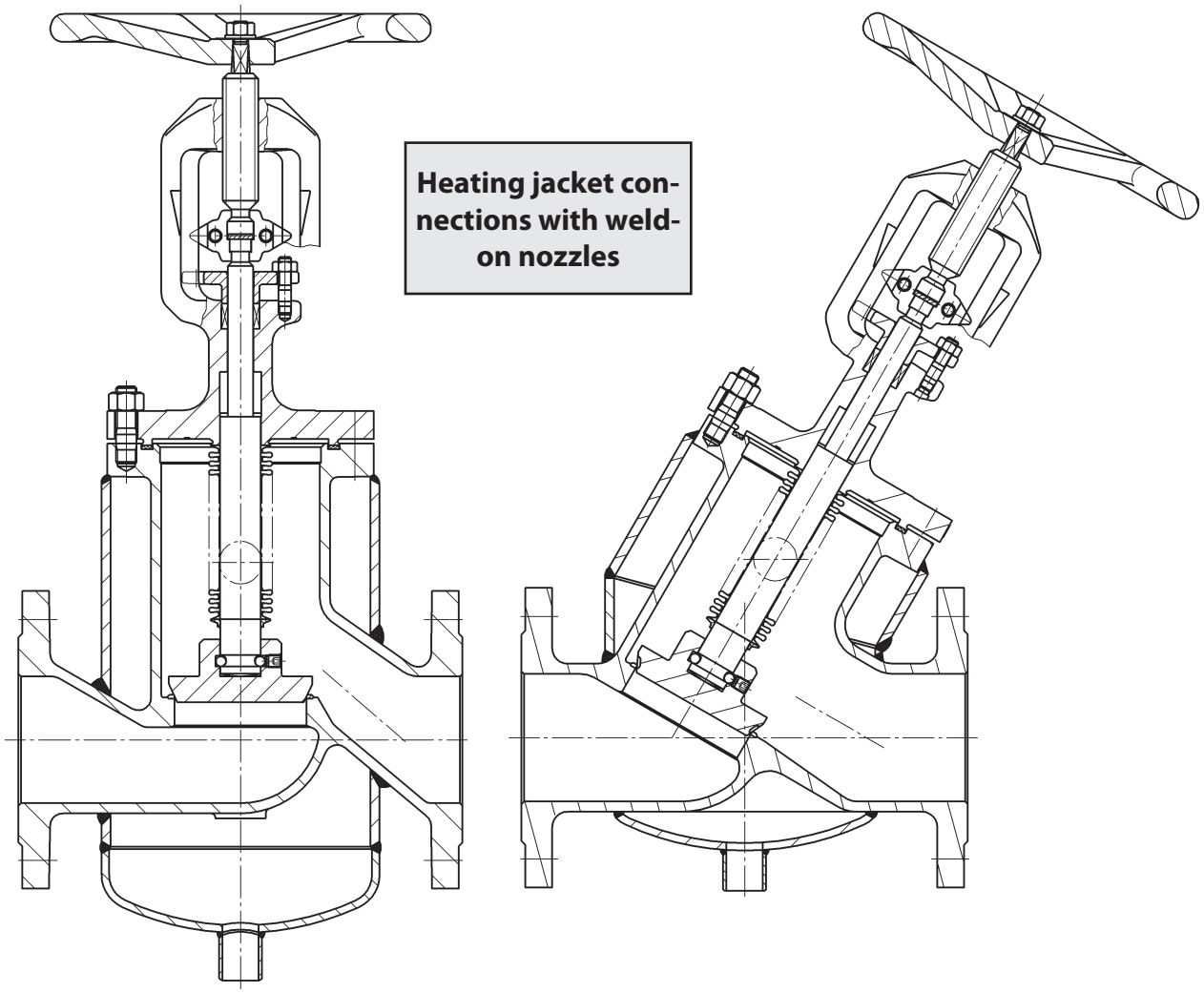


Handwheel protection, made of 2 semicircle connected with articulations, material Polypropylene, colour red; without lock

Type	D inside [mm]	D outside [mm]	Handwheel [mm]
AK-02	70	76	40 - 68
AK-04	130	140	68 - 127
AK-06	170	177	127 - 165
AK-09	257	267	165 - 254
AK-13	355	368	254 - 353



Plug screw M 4 x 6 acc. DIN 912, material A4/70



Heating jacket connections with weld-on nozzles

- Bellows sealed globe valve with heating jacket
- Available as straight type or y-type with flanges or buttweld ends
- Heating jacket in carbon steel made of 1.0305, in stainless steel made of 1.4571 and in low temperature steel made of 1.0356 / 1.0451
- Heating jacket connections in standard version with weld-on nozzles, also available with flanges on request
- Positions and dimensions of the inlet and outlet nozzles as well as special design available on request

Delivery is possible from DN 25 / 1“ and above. Smaller nominal sizes can be delivered with special face-to-face dimensions.

W.T.A. - PERMISSIBLE WORKING PRESSURE TABLE ACC. DIN EN 1092-1 (09/2008)

The indicated working pressures are related to the material.

Material	PN	Temperature [°C] / Working pressure [bar]											
		-196°C	-60°C	20°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	500°C	530°C
1.0619/ GS-C 25 vR ≤ 50 mm	16	---	12,0	16,0	14,0	13,3	12,1	11,0	10,2	9,5	5,2	---	---
	25	---	18,7	25,0	22,0	20,8	19,0	17,2	16,0	14,8	8,2	---	---
	40	---	30,0	40,0	35,2	33,3	30,4	27,6	25,7	23,8	13,1	---	---
	63	---	47,2	63,0	55,5	52,5	48,0	43,5	40,5	37,5	20,7	---	---
	100	---	75,0	100,0	88,0	83,3	76,1	69,0	64,2	59,5	32,8	---	---
	160	---	120,0	160,0	140,9	133,3	121,9	110,4	102,8	95,2	52,5	---	---
1.0460/ C 22.8 vR ≤ 50 mm	16	---	12,0	16,0	14,0	13,3	12,1	11,0	10,2	9,5	5,2	---	---
	25	---	18,7	25,0	22,0	20,8	19,0	17,2	16,0	14,8	8,2	---	---
	40	---	30,0	40,0	35,2	33,3	30,4	27,6	25,7	23,8	13,1	---	---
	63	---	47,2	63,0	55,5	52,5	48,0	43,5	40,5	37,5	20,7	---	---
	100	---	75,0	100,0	88,0	83,3	76,1	69,0	64,2	59,5	32,8	---	---
	160	---	120,0	160,0	140,9	133,3	121,9	110,4	102,8	95,2	52,5	---	---
1.1138/ GS-21Mn5	16	---	16(-50°)	16,0	14,0	13,3	12,1	11,0	---	---	---	---	---
	25	---	25(-50°)	25,0	22,0	20,8	19,0	17,2	---	---	---	---	---
	40	---	40(-50°)	40,0	35,2	33,3	30,4	27,6	---	---	---	---	---
	63	---	63(-50°)	63,0	55,5	52,5	48,0	43,5	---	---	---	---	---
	100	---	100(-50°)	100,0	88,0	83,3	76,1	69,0	---	---	---	---	---
	160	---	160(-50°)	160,0	140,9	133,3	121,9	110,4	---	---	---	---	---
1.7357/ GS-17CrMo55 vR ≤ 60 mm	16	---	12,0	16,0	16,0	16,0	16,0	16,0	15,2	14,4	13,4	10,4	5,9
	25	---	18,7	25,0	25,0	25,0	25,0	25,0	23,8	22,5	21,0	16,3	9,2
	40	---	30,0	40,0	40,0	40,0	40,0	40,0	38,0	36,0	33,7	26,0	14,8
	63	---	47,2	63,0	63,0	63,0	63,0	63,0	60,0	56,7	53,1	41,1	23,4
	100	---	75,0	100,0	100,0	100,0	100,0	100,0	95,2	90,0	84,2	65,2	37,1
	160	---	120,0	160,0	160,0	160,0	160,0	160,0	152,3	144,0	134,8	104,3	59,4
1.4408/ G-X5CrNiMo19-11-2	16	16,0	16,0	16,0	14,5	13,4	12,7	11,8	11,4	10,9	10,7	10,5	---
	25	25,0	25,0	25,0	22,7	21,0	19,8	18,5	17,8	17,1	16,8	16,5	---
	40	40,0	40,0	40,0	36,3	33,7	31,8	29,7	28,5	27,4	26,9	26,4	---
	63	63,0	63,0	63,0	57,3	53,1	50,1	46,8	45,0	43,2	42,4	41,7	---
	100	100,0	100,0	100,0	90,9	84,2	79,5	74,2	71,4	68,5	67,3	66,1	---
	160	160,0	160,0	160,0	145,5	134,8	127,2	118,8	114,2	109,7	107,8	105,9	---
1.4536/ GX2NiCrMoCuN 25-20 1.4539/ X1NiCrMoCu 25-20-5	16	---	12,0	16,0	13,7	12,7	11,9	11	10,5	10,2	10,0	9,7	---
	25	---	18,7	25,0	21,5	19,8	18,6	17,2	16,5	16,0	15,6	---	---
	40	---	30,0	40,0	34,4	31,8	29,9	27,6	26,4	25,7	25,0	24,3	---
	63	---	47,2	63,0	54,3	50,1	47,1	43,5	41,7	40,5	39,4	38,4	---
	100	---	75,0	100,0	86,1	79,5	74,7	69,0	66,1	64,2	62,6	60,9	---
	160	---	120,0	160,0	137,9	127,2	119,6	110,4	105,9	102,8	100,1	97,5	---
1.4571/ X6CrNiMoTi17122	16	16,0	16,0	16,0	15,6	14,9	14,1	13,3	12,8	12,4	12,2	12,0	---
	25	25,0	25,0	25,0	24,5	23,3	22,1	20,8	20,1	19,5	19,1	18,8	---
	40	40,0	40,0	40,0	39,2	37,3	35,4	33,3	32,1	31,2	30,6	30,0	---
	63	63,0	63,0	63,0	61,8	58,8	55,8	52,5	50,7	49,2	48,3	47,4	---
	100	100,0	100,0	100,0	98,0	93,3	88,5	83,3	80,4	78,0	76,6	75,2	---
	160	160,0	160,0	160,0	156,9	149,3	141,7	133,3	128,7	124,9	122,6	120,3	---

W.T.A. - PERMISSIBLE WORKING PRESSURE TABLE ACC. ASME B 16.34 (2009)

Material	ASME-class	Unit	Temperature [°C] / Working pressure [bar]													
			- 29°C to + 37°C	93°C	149°C	204°C	260°C	316°C	343°C	371°C	399°C	427°C	454°C	482°C	510°C	538°C
			- 20°F to +100°F	200°F	300°F	400°F	500°F	600°F	650°F	700°F	750°F	800°F	850°F	900°F	950°F	1000°F
1.0619/ GS-C 25/ A 216 WCB + 1.0460/ C 22,8/ A 105 + 1.0488	150	psig	285	260	230	200	170	140	125	110	95	80	**65**	**50**	**35**	**20**
		bar	19,6	17,7	15,8	13,8	12,1	9,3	8,4	7,4	6,5	5,5	**4,6**	**3,7**	**2,8**	**1,4**
	300	psig	740	680	655	635	605	570	550	530	505	410	**320**	**230**	**135**	**85**
		bar	51,1	46,6	45,1	43,8	41,9	38,7	37,6	36,4	34,7	28,8	**23,0**	**17,4**	**11,8**	**5,9**
	600	psig	1480	1360	1310	1265	1205	1135	1100	1060	1015	825	**640**	**460**	**275**	**170**
		bar	102,1	93,2	90,2	87,6	83,9	77,4	75,1	72,7	69,4	57,5	**46,0**	**34,9**	**23,5**	**11,8**
	900	psig	2220	2035	1965	1900	1810	1705	1650	1590	1520	1235	**955**	**690**	**410**	**255**
		bar	153,2	139,8	135,2	131,4	125,8	116,1	112,7	109,1	104,2	86,3	**69,0**	**52,3**	**35,3**	**17,7**
	1500	psig	3705	3395	3270	3170	3015	2840	2745	2665	2535	2055	**1595**	**1150**	**685**	**430**
		bar	255,3	233,0	225,4	219,0	209,7	193,6	187,8	181,8	173,6	143,8	**115,0**	**87,2**	**58,8**	**29,5**
1.1138/ GS-21Mn5/ A 352 LCB	150	psig	265	255	230	200	170	140	125	-	-	-	-	-	-	-
		bar	18,4	17,4	15,8	13,8	12,1	9,3	8,4	-	-	-	-	-	-	-
	300	psig	695	660	640	615	585	550	535	-	-	-	-	-	-	-
		bar	48,0	45,3	43,9	42,5	40,8	37,6	36,4	-	-	-	-	-	-	-
	600	psig	1395	1320	1275	1230	1175	1105	1065	-	-	-	-	-	-	-
		bar	96,0	90,7	87,9	85,1	81,6	75,2	72,8	-	-	-	-	-	-	-
	900	psig	2090	1980	1915	1845	1760	1655	1600	-	-	-	-	-	-	-
		bar	144,1	136,0	131,8	127,6	122,3	112,7	109,2	-	-	-	-	-	-	-
	1500	psig	3480	3300	3190	3075	2930	2755	2665	-	-	-	-	-	-	-
		bar	240,1	226,7	219,7	212,7	203,9	187,9	182,0	-	-	-	-	-	-	-
1.7357/ GS-17CrMo55/ A 217 WC6	150	psig	290	260	230	200	170	140	125	110	95	80	65	50	35	20
		bar	19,8	17,7	15,8	13,8	12,1	9,3	8,4	7,4	6,5	5,5	4,6	3,7	2,8	1,4
	300	psig	750	750	720	695	665	605	590	570	530	510	485	450	320	215
		bar	51,7	51,5	49,7	48,0	46,3	41,4	40,3	38,9	36,5	35,2	33,7	31,7	25,7	14,9
	600	psig	1500	1500	1445	1385	1330	1210	1175	1135	1065	1015	975	900	640	430
		bar	103,4	103,0	99,5	95,9	92,7	82,6	80,4	77,6	73,3	70,0	67,7	63,4	51,5	29,8
	900	psig	2250	2250	2165	2080	1995	1815	1765	1705	1595	1525	1460	1350	955	650
		bar	155,1	154,4	149,2	143,9	139,0	124,0	120,7	116,5	109,8	105,1	101,4	95,1	77,2	44,7
	1500	psig	3750	3750	3610	3465	3325	3025	2940	2840	2660	2540	2435	2245	1595	1080
		bar	258,6	257,4	248,7	239,8	231,8	206,6	201,1	194,1	183,1	175,1	169,0	158,2	128,6	74,5
1.4408/ G-X5CrNiMo/ 19-11-2/ A 351 CF8M + 1.4571/ X6CrNiMoTi 17-12-2/ A 182 F316 Ti	150	psig	275	235	215	195	170	140	125	110	95	80	65	50	35	20
		bar	19,0	16,2	14,8	13,7	12,1	9,3	8,4	7,4	6,5	5,5	4,6	3,7	2,8	1,4
	300	psig	720	620	560	515	480	450	440	435	425	420	420	415	385	365
		bar	49,6	42,2	38,5	35,7	33,4	30,9	30,3	29,9	29,4	29,1	28,8	28,7	28,2	25,2
	600	psig	1440	1240	1120	1025	955	900	885	870	855	845	835	830	775	725
		bar	99,3	84,4	77,0	71,3	66,8	61,8	60,7	59,8	58,9	58,3	57,7	57,3	56,5	50,0
	900	psig	2160	1860	1680	1540	1435	1355	1325	1305	1280	1265	1255	1245	1160	1090
		bar	148,9	126,6	115,5	107,0	100,1	92,7	91,0	89,6	88,3	87,4	86,5	86,0	84,7	75,2
	1500	psig	3600	3095	2795	2570	2390	2255	2210	2170	2135	2110	2090	2075	1930	1820
		bar	248,2	211,0	192,5	178,3	166,9	154,4	151,6	149,4	147,2	145,7	144,2	143,4	140,9	125,5

not recommended for permanent use

	Bellows sealed globe valves, **y-type** Type 11.3-S/11.9-S			Bellows sealed globe valves, **straight type** Type 11.3-G/11.9-G			Strainer, **y-type,** mesh size 2 mm Type 18.3		Non return valves **y-type** Type 14.1			Valve-Strainer-combination Type 18.75			Stop-check-valves Type 19.1			
DN	**CV**	**Zeta**	**Stroke**	**CV**	**Zeta**	**Stroke**	**CV**	**Zeta**	**CV**	**Zeta**	**Stroke**	**CV**	**Zeta**	**Stroke**	**CV**	**Zeta**	**Stroke**	**DN**
15	6,3	2,8	12	5,6	3,5	12	6	3,5	7	2,6	12	5	5,7	12	7	2,6	12	**15**
20	9,5	3,8	12	8,4	4,8	12	10	3,4	12	2,7	12	8	5,5	12	12	2,7	12	**20**
25	13,8	4,4	12	11,1	6,8	12	15	3,6	17	2,9	12	12	5,9	12	17	2,9	12	**25**
32	21,7	4,8	16	20,6	5,3	16	25	3,5	30	2,4	16	20	5,9	16	30	2,4	16	**32**
40	34,6	4,6	16	31,7	5,5	16	38	3,8	46	2,6	16	29	6,4	16	46	2,6	16	**40**
50	55,3	4,4	20	46,5	6,2	20	63	3,4	75	2,4	20	50	5,5	20	75	2,4	20	**50**
65	89,4	4,8	30	81,3	5,8	30	101	3,8	119	2,7	30	82	5,6	30	119	2,7	30	**65**
80	157	3,6	35	129	5,3	35	148	4,0	159	3,5	35	118	6,3	35	159	3,5	35	**80**
100	202	5,3	35	199	5,4	35	228	4,1	255	3,3	35	177	6,8	35	255	3,3	35	**100**
125	321	5,1	35	306	5,6	35	372	3,8	387	3,5	35	291	6,2	35	387	3,5	35	**125**
150	583	3,2	56	434	5,8	56	550	3,6	550	3,6	56	429	5,9	56	550	3,6	56	**150**
200	905	4,2	56	813	5,2	56	992	3,5	1006	3,4	56	777	5,7	56	1006	3,4	56	**200**
250	1398	4,3	100	1225	5,6	100	1487	3,8	1467	3,9	100	1155	6,3	100	1467	3,9	100	**250**
300	2114	3,9	100	1676	6,2	100	2170	3,7	2170	3,7	100	1690	6,1	100	2170	3,7	100	**300**
350	2740	4,3	150	2264	6,3	150	2877	3,9	2915	3,8	150	2212	6,6	150	2915	3,8	150	**350**
400	3666	4,1	150	3055	5,9	150	3967	3,5	3911	3,6	150	3055	5,9	150	3911	3,6	150	**400**

PN/Class	DN															
	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
PN 10									10				9	6	4,5	3,5
PN 16									16			14	9	6	4,5	3,5
PN 25								25			21	14	9	6	4,5	3,5
PN 40							40			33	21	14	9	6	4,5	3,5
PN 63						63			44	33	21	14	9	6	4,5	3,5
PN 100					100			70	44	33	21	14	9	6	4,5	3,5
PN 160					160		110	70	44	33	21	14	9	6	4,5	3,5
Class 150 *									20			14	9	6	4,5	3,5
Class 300 *						52			44	33	21	14	9	6	4,5	3,5
Class 600 *					102			70	44	33	21	14	9	6	4,5	3,5
Class 900 *	WTA-internal (not available in EN 13709)				153	110		70	44	33	21	14	9	6	4,5	3,5
Class 1500*				256		177	110	70	44	33	21	14	9	6	4,5	3,5
Class 2500*			426		295	177	110	70	44	33	21	14	9	6	4,5	3,5
Class 4500*		766		530	295	117	110	70	44	33	21	14	9	6	4,5	3,5

* Pressure rating based on the value acc. ASME B 16.34 for material 1.0619 / A 216 WCB (1 bar = 14,5 psi).

OPERATING AND MAINTENANCE INSTRUCTIONS
MODEL-NO.: 11.3/11.35/EC11.35/11.7/11.8/11.9/V21.9/V21.9K/14.1/14.3/14.35/18.1/18.3/19.1

1. General Instructions
1.1 Important Hints
Contact surfaces of the seat are carefully honed which is how the necessary seat tightness is achieved when the valve is closed. The sealing system can however be damaged by impurities despite the high degree of hardness. Intrusion of foreign materials into the valve during transportation, mounting and operation must be avoided. The valves are transported and installed in the closed position for this reason.
Attention: Danger of squeezing in seat and stem area!

1.2 Design
Y-type, corner-type and straight-type bellows sealed valves with external or internal stem screw thread 11.3/11.35/11.9.
EURO CHLOR bellows sealed globe valves EC11.35
3-way change over valves 11.7/11.8
Compact-manifold V 21.9/V21.9 K
Non return valves 14.1/19.1
Overflow valves 14.3/14.35
Strainer 18.1/18.3

1.3 Sizes
Face to face dimensions according EN 558 / EN 12982 or ASME B16.10-2000.

1.4 Application
Depending on material, working pressure, working temperature and medium the valves have to comply with technical standards.

2. Transportation and Storage
Inlets and outlets of the valves are sealed with plastic caps or blank flanges. These have to be removed before installation. Valves must be stored in a clean, tempered and dry room. Condensation inside the valve must be prevented. When storing for a longer period of time, additional corrosion protection of the interior and exterior parts must be applied.

3. Installation
3.1. General Instruction
In principal bellows sealed valves can be installed in any position, but it is however recommended, not to install bellows sealed valves with the stem upside down in order to prevent the accumulation of pollution in the bellows area. Before installation please ensure that all pipes and valves are free from impurities which could impair usability. Connecting pipes are to be positioned in such a way, that no undue tensions act onto the valve body .

3.2 Flange Fittings
The sealing surfaces of flange valves must be clean and not be damaged. Bolts are to be tightened cross-wise, gradually and equally along the whole circumference.

3.3 Welded Fittings
Before welding, the welding surfaces of valves and pipes must be cleaned carefully and any corrosion must be removed. When welding, cleanliness is an absolute must to ensure that no impurities enter the interior of the valve, which could lead to damaging of the sealing surfaces or bellows. Check if dimensions of welding surfaces of pipes and valves are compatible. Position and tack correctly. Select the appropriate filler materials and welding processes in accordance with the materials of the bodies.
The valves must be closed before welding into the line.

3.4 Informations to 14.1 / 14.3 / 14.35 / 18.1 / 18.3 / 19.1
14.1: In horizontal pipelines, mounting upright, flow direction against the disk. In vertical pipelines, valve should be mounted with the spring pointing upwards, flow direction from bottom to top.
14.3: Flow direction against the plug! To adjust the spring range, the handwheel cap has to be removed. After correcting the set pressure, the caps have to be mounted.
14.35: Similar method of adjustment after loosening the fixing nuts.
18.1/18.3: Depending of the grade of pollution the screen must be cleaned. Screen has to be checked continuously.

4. Start up operation
After the whole system has been pressurised, bellows sealed valves should be opened fully. This activates the metal back seat which seals the stuffing box and ensures that the valve operate free of vibrations. ON/OFF-valves and change-over-valves should not be used in intermediate position.

Standard grooved gasket with graphite layer:
The bonnet flange connection does not have to be re-tightened after reaching the operating temperature, as the gaskets used to have a high compressive resistance and are shrink resitant. How it is recommended to control bolts and nuts force after some operating time.

Grooved gasket with PTFE-layer or gasket complete PTFE:
PTFE material might shrink after a certain period of time. We recommend to check the bolts and nuts of the bonnet flange system max. 1 month after installation. In addition we recommend to check min. 2 - 3 times per year.

5. Maintenance
All valve parts are designed to be maintenance-free, as the materials used for the mating surfaces have been selected in such a way, that wear is only minimal. To ensure operational reliability, all valves should be operated and checked regularly semi-annual.
Should it become necessary to dismount the bonnet, a new gasket has to be fitted for re-mounting.
If the valve needs to be operated for the first time after several months, the stem thread must be lubricated first. If the working temperature exceeds 200°C, enough lubricant on the stem thread is an absolute necessity.

6. Repair of Failures
6.1. Repacking of the safety stuffing box in case of defective bellows
If the bellows become damaged, the medium penetrates through the loosely tightened stuffing box. In this case the valve has to be fully opened to activate the back seat. The stuffing box is then tightened slowly until the leak is repaired. In order to make the valve completely operational again, it is, however, necessary to replace the defective bellows as fast as possible. When the stuffing box needs to be replaced, the pipe system must be depressurised for safety reasons, as the metal back seat might not be absolute leak tight.

6.2. Defective Seats
W. T. A. bellows sealed valves consist of a conical seat which is capable of absorbing minor damages. It is possible to polish off minor disc defects by operation the valve with some force by hand. If the damage is too extensive and no tightness can be achieved even after opening and closing the valve several times under pressure, the valve insert has to be removed. Damage to the valve disc can be removed by machining or by grinding. If the body seat is damaged, it can be re-finished or, if the damage to the seat is too extensive and re-finishing is impossible, the seat has to be renewed by build-up welding. For reasons of expediency this ought to be carried out at the manufacturer.

6.3 Damage of the Bellows
As a matter of principle, the complete valve insert should be exchanged whenever the bellows is defective.

7.0 Valves with pneumatic actuators
Attention! Pretensioned springs! Check special instruction before opening.

8.0 Primer
Primer acc. WTA Standard QV0008. For long term use, all valves made of ferritic material have to be protected by additional applicable anti-corrosion top coating.

OPERATING AND MAINTENANCE INSTRUCTIONS - BELLOWS SEALED GLOBE VALVES WITH PNEUMATIC DIAPHRAGM ACTUATORS

1. Installation

The valves can be operated as automatic valves with pneumatic actuators which can be supplied with emergency operations, air fail spring close or spring open.

Normally, valves are opened by the air control pressure and are closed by a spring as soon as the air flow is interrupted. Valves are to be installed in such a way, that the flow direction of the medium acts against the underside of the disc.

Pneumatic diaphragm actuators are designed for an air pressure upto 6 bar maximum, whereby the built-in pressure spring seals the valve effectively against the differential pressure. The initial pressure is necessary to open the valve completely and the maximum differential pressure vary according to drive capacity and depend upon customer specifications.

2. Regulating Valve Options

Valves are furnished with a long life bellows, which is designed for a service life of 100 000 operations (fully open/close operations at maximum pressure/ temperature ratings). The valve is also fitted with a conical parabolic disc, with either linear or equal percentage flow characteristics.

If specified by the customer, it is possible to install equipment such as pressure reducing valves, filters, solenoid valves, limit switches and positioners. For technical descriptions and operating instructions, please refer to the relevant operating instructions.

3. Manual Adjustment Option

Upon request, diaphragm actuators can be fitted with additional manual operation, which acts as an emergency device. This manual adjustment is installed on the outer diaphragm housing and always acts against the spring load. This ensures that, in an emergency, the operation of air regulation pressure can be taken over by the emergency hand wheel.

CHAIN-INSTALLATION FOR CHANGE-OVER-INTERLOCKING SYSTEM MODEL-NO.: 11.75 AND 11.85

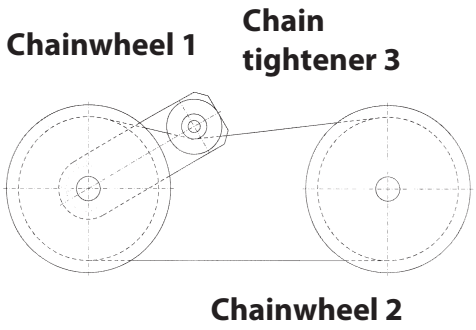
1)
On both valves, handwheels to be turned **counterwise**, so that the seats are closed to the stem-side of the valves.

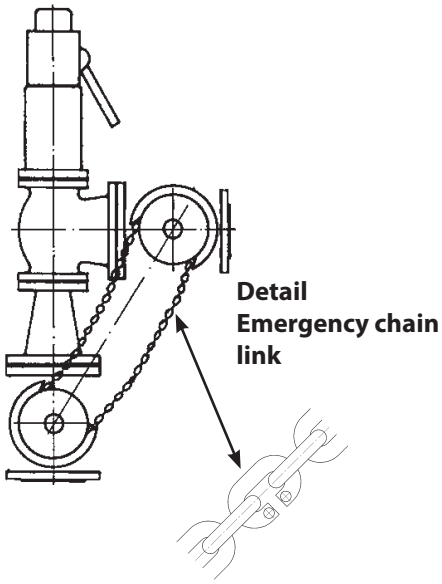
2)
Both handwheels are designed as free-wheelers for 270 degree of freedom to cover stroke differences from valve 1 to valve 2. Both **chainwheels (1,2)** have to be moved **clockwise** to the end of this degree of freedom.

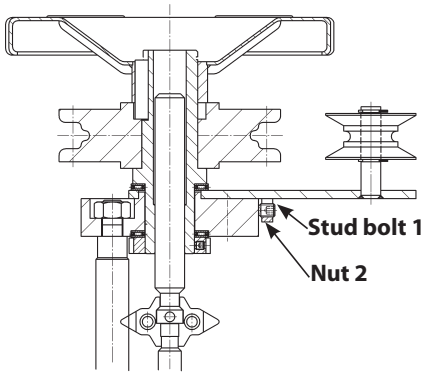
3)
Chain to be cut to the requested dimension first, then to be mounted. **Emergency chain link** is attached to connect the chain. The **emergency chain link** consists of 2 pcs. which have to be mounted together by stalking. The **emergency chain link** is **not** designed for permanent usage and loading.

4)
To tension the chain, **stud bolt 1** in **nut 2** below the chainwheel has to be loosened. Then loosen **nut 2** to move **chain tightener 3** towards the chain. Afterwards **nut 2** has to be tightened and **stud bolt 1** has to be placed correctly to secure **nut 2** in position.

5)
While turning the handwheels to change the position from the valve piston, both hand-wheels have to be positioned correctly. Please don´t work only by turning 1 handwheel. Please check closed and opened position of both valves.







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