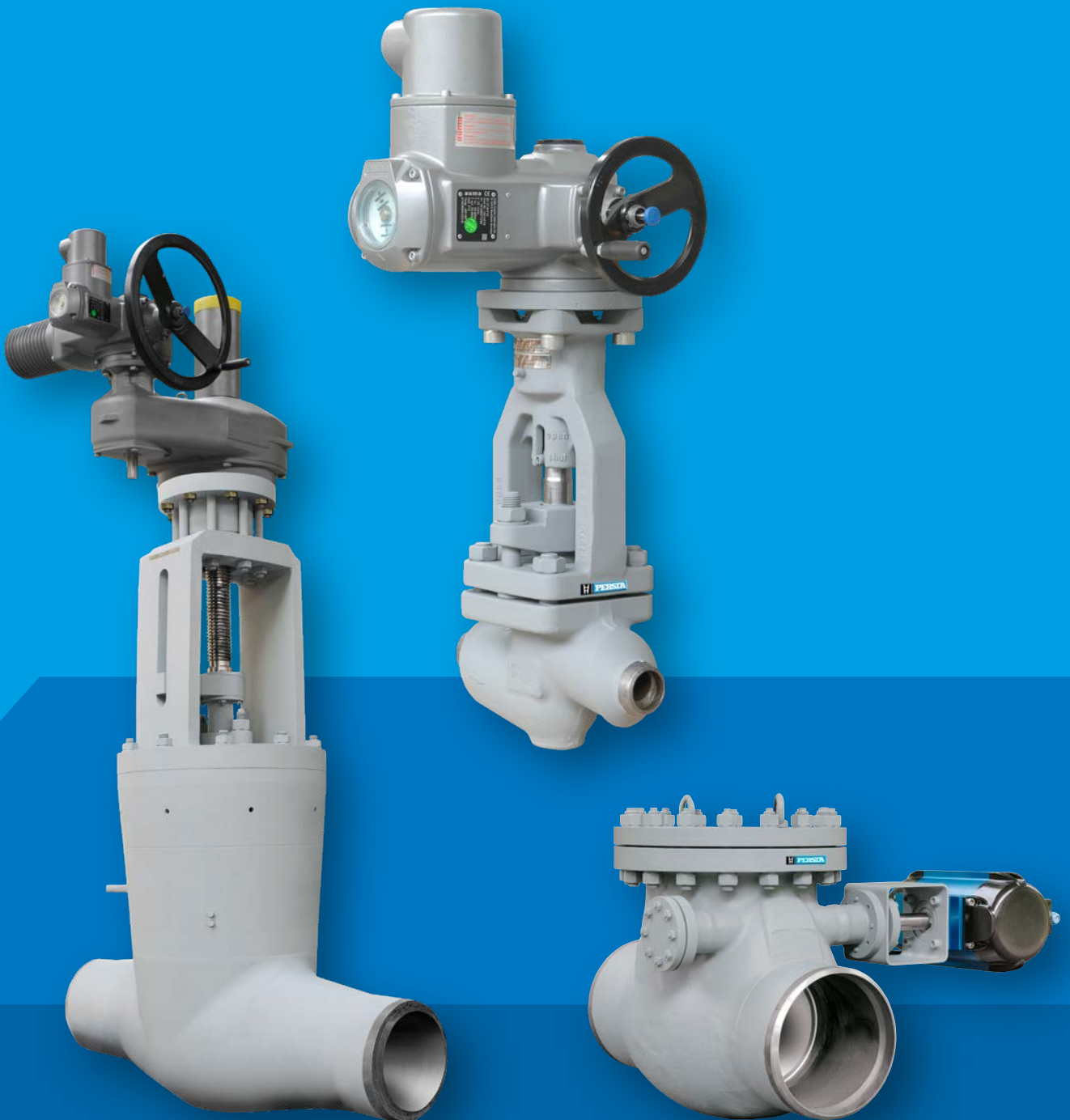


INDUSTRIAL VALVES



YOUR SHUT-OFF VALVE SPECIALIST



INTRAORGANIZATIONAL TECHNOLOGY

VALUE-ADDED CHAIN FROM THE FORGE TO THE FINISHED VALVE

At Stahl-Armaturen PERSTA GmbH we set standards for customised, innovative solutions in the low-pressure, medium-pressure and high-pressure valves segment. With nominal diameters from DN10 to DN1000 and pressure ratings of PN10 to PN630 and a whole range of possible media, we can offer specific solutions to specific situations. From nuclear power stations and solar power systems to conventional power plants: PERSTA provides safe and reliable valves to meet the demands of these dynamic industries. We're not only flexible, we are at the very forefront of the energy sector.

Our products are also used in modern waste incineration plants, gas and steam combined power stations and biomass and district heating generator units, where they play a major role in improving efficiency. Part of the secret to our success is our use of forged steel. Raw materials from our own forge guarantee durability and quality. By combining product development, machining and welding technology, we provide core expertise from a single source.



- GLOBE VALVES
- LIFT CHECK VALVES
- HIGH PRESSURE GLOBE VALVES



- SMALL GATE VALVES
- GATE VALVES
- HIGH PRESSURE GATE VALVES

Your industry – our solution

With our own history and our decades of experience in a variety of processes, we offer our customers specific customised solutions. Our valves can be manufactured according to any specifications, no matter how challenging – insuring optimum results right from the very first step of your own production process. We also offer complete packages: we deliver ready to install valve combinations up to DN800 and a total weight of up to 12 tonnes, including all testing, the full technical inspection and documentation – all delivered to your construction site. PERSTA industrial valves are certified in accordance with DIN, EN standards, technical codes such as AD2000 and the European Pressure Equipment Directive 2014/68/EU, and we are an ASME-S-STAMP Holder.

The following valves are designed for normal operation:

- Operation with liquid or gaseous medium, without particular corrosive, chemical or abrasive effects.
- Temperature fluctuation speeds of about 3–6 °K/min.
- Normal flow rates depending on the type of medium and the application for which the valve is used.
- Operation without additional external influences, such as pipe forces, vibrations, wind loads, earthquakes, corrosive environments, fires, traffic loads, decomposition pressures of unstable fluids.

Safe solutions for generations – with passion and connectedness

We develop, customised measures and solutions in accordance with our customers' requirements, their specific demands and challenges.

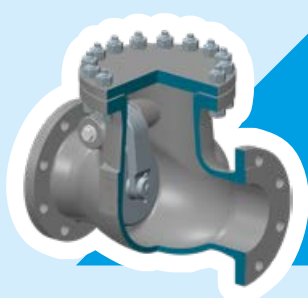
These measures could include:

- Choice of special materials
- Additional wall thickness
- Protecting areas at risk of wear
- Suitable seals and bolted connections
- Special operating instructions according to the medium and operation
- Special coatings
- Equipment to prevent excess pressure
- Special designs for regulating operation

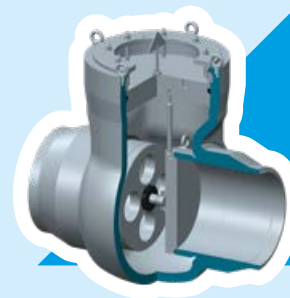
In addition, customers can take measures during planning and installation of pipelines to minimise additional strains and hazards for the valves, to the piping system and to the environment, e.g.:

- Installing vibration dampers
- Observance of safety end positions if the auxiliary power fails
- Measures for safe discharge of hazardous media in the event of external leaks

By attaching a CE mark to the product, we declare conformity with the Pressure Equipment Directive 2014/68/EU. Please refer to our operating instructions for further information and warnings that must be taken into account when operating our industrial valves.



- SWING CHECK VALVES
- HIGH PRESSURE SWING CHECK VALVES
- FREEWHEEL SWING CHECK VALVES



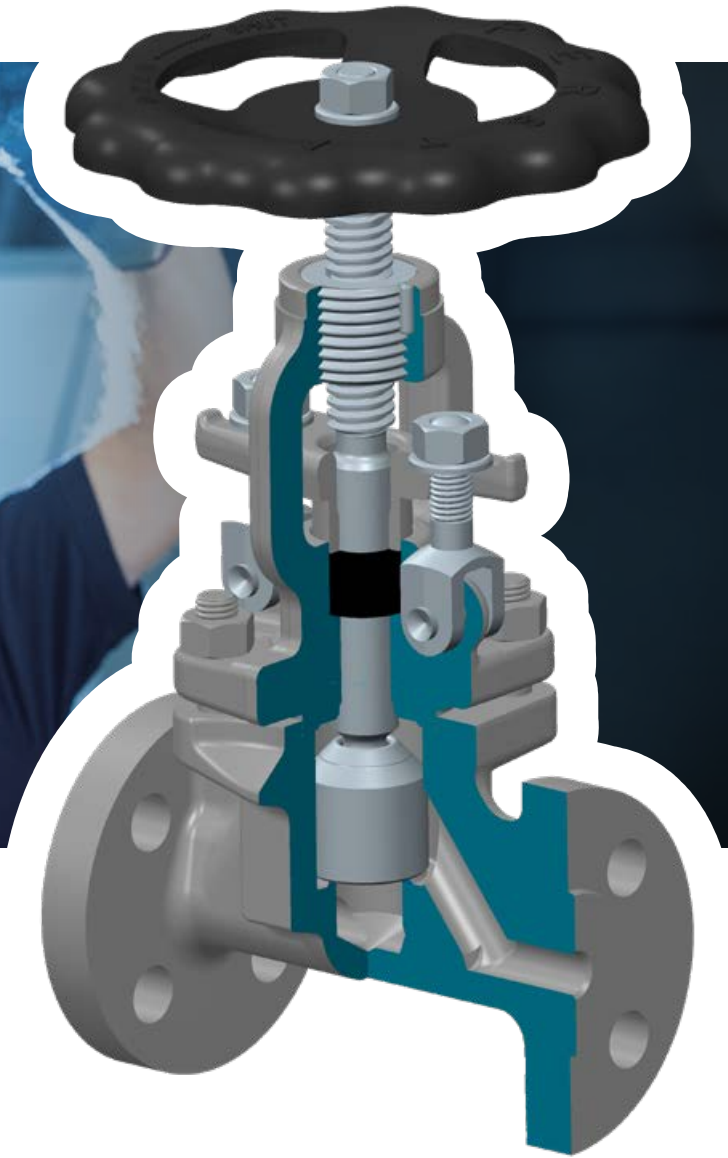
- HIGH PRESSURE LINE BLIND VALVES
- HIGH PRESSURE STRAINERS

Page	Designation	Series	Nominal diameter	Pressure rating
Valves				
8	Globe valve	200 AE/BE/AJ/BJ	DN 10-50	PN 10-40
8	Lift check valve	240 MT	DN 10-50	PN 10-40
12	Globe valve	200 AE/BE	DN 10-50	PN 63-160
12	Lift check valve	240 MT	DN 10-50	PN 63-160
16	Globe valve	200 AE/BE/AJ/BJ	DN 65-200	PN 10-160
16	Lift check valve	240 MT	DN 65-200	PN 10-160
20	High pressure globe valve HD 91.1	200 JM	DN 20-65/50	PN 320
24	High pressure globe valve HD 2000	200 LM	DN 10-65	PN 500
24	Lift check valve HD 2000	240 MT	DN 10-65	PN 500
28	High pressure globe valve DVA 25 / DVA 40	200 BZ	DN 80-250	PD 25 / PD 40
32	Blow down valve KAV	202 FJ	DN 50-65	PD 25
36	Further standards			
Gate valves				
40	Small gate valve	808 GJ	DN 10-40	PN 10-100
44	Gate valve	700 HJ/JJ	DN 50-150	(GA PN 10-40) PN 10-100
48	Gate valve	700 HJ/JJ (GA)	DN 200-250	PN 10-40
52	Gate valve	700 HJ/JJ	DN 200-300	PN 63-100
56	Gate valve	400 JJ	DN 350-700	PN 63-100
60	Gate valve	700 JJ	DN 300-1000	PN 10-25
62	Gate valve	700 JJ	DN 300-800	PN 40
64	Gate valve	700 JJ	DN 50-300/250	PN 160 / PD 18
68	High pressure gate valve DSK 10	700 JT	DN 80-150	PD 10
72	High pressure gate valve DSK 10	700 JT	DN 200-300	PD 10
76	High pressure gate valve DSK 10	700 JT	DN 350-700	PD 10
80	High pressure gate valve DSK 26	700 JT	DN 65-300	PD 25 / PD 40
84	High pressure gate valve DSK 16-63	700 JT	DN 50-600	PD 16-63
88	Over pressure safety device			
90	Variants			
Swing check valves				
92	Swing check valve	640 AA	DN 50-250	PN 10-40
97	Swing check valve	640 AA	DN 300-800	PN 10-40
100	Swing check valve	640 AA	DN 50-250	PN 63-160 (PD 18)
104	Swing check valve	640 AA	DN 350-500	PN 100
108	High pressure swing check valve DRI 26	640 AB	DN 65-300	PD 25 / PD 40
112	High pressure swing check valve DRI 16-63	640 AB	DN 65-450	PD 16-63
116	High pressure stop check valve DRA 26	640 ST	DN 80-200	PD 25 / 40
119	Freewheel swing check valve	640 DJ	DN 50-800	PN 40-250
120	Variants			

Page	Designation	Series	Nominal diameter	Pressure rating
High pressure line blind valves				
122	High pressure line blind valve DPV 10	990 VW	DN 350-700	PD 10
126	High pressure line blind valve DPV 10-63	990 VW	DN 65-600	PD 16-63
High pressure strainers				
130	High pressure strainer DSF	990 SZ	DN 80-250	PD 25 / 40
132	High pressure strainer	990 ST	DN 10-65	PN 500
Piston actuator				
136	PERCON pneumatic piston actuator			
Technical appendix				
138	Pressure rating tables			
143	Flange dimensions			
144	Design characteristics			
146	Pipe and valve connection dimensions			
147	Production and testing equipment			
148	Qualification			

Note

The values specified in the operating pressure and temperature tables represent maximum permissible operating data for our valves. When selecting products, system-specific fluctuation ranges in pressure and temperature and possible malfunction conditions must be taken into account.



GLOBE VALVE

200 AE/BE/AJ/BJ PN 10-40 DN 10-50

LIFT CHECK VALVE

240 MT PN 10-40 DN 10-50

Design highlights

- Forged body and bonnet
- Single-piece body
- Seat hard faced or stellite
- Body seal with male and female connection
- Bolted bonnet

Advantages

- Homogeneous joining
- No weld seam
- Sturdy and heavy duty
- Absolute seat impermeability
- Blow-out-proof seal to improve service options, e.g. when regrinding the seat.

Version

- Flow passage with straight top part
- Forged body and bonnet
- Shut-off disc, AE version
- Throttle disc, BE version
- Shut-off disc with yoke sleeve, AJ version
- Throttle disc with yoke sleeve, BJ version
- External stem thread
- Position indicator on request
- Rotating, rising stem (AE/BE)
- Non-rotating, rising stem (AJ/BJ)
- Available in angular form 202 AE/BE
- Operation in intermediate position only possible for short periods with the AE/BE versions (stroke 10–90%)

Materials

- 1.0460
- 1.0571
- 1.5415 only butt-weld ends
- 1.7335
- 1.4571

Other materials available on request.

Flow medium

Depending on the choice of materials, the valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure, butt-weld ends, up to 40 bar (DIN 2401)
- Operating pressure, flange ends, up to 40 bar (DIN 2401)
- Operating temperature up to 550 °C

Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-200	-60	-10	20	120	150	200	250	300	350	400	450	500	510	520	530	540	550
1.0460	40			40	40	40	37	35	32	28	24	21	10						
1.5415 ⁵⁾	40			40	40	40	40	40	40	35	31	30	28	18	14	11	9		
1.7335	40			40	40	40	40	40	40	40	38	36	34	29	24	19	15	12	9
1.4571	40 ²⁾³⁾⁴⁾	40	40	40	40	40	40	40	40	38	36	34	32	32	31	31	31	31	31
1.0571	40 ⁴⁾		40	40	40	40	37	35	32	28									

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

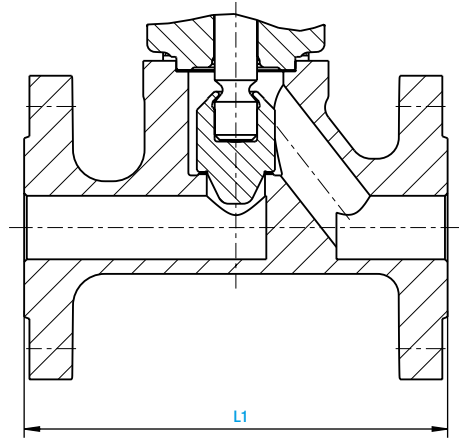
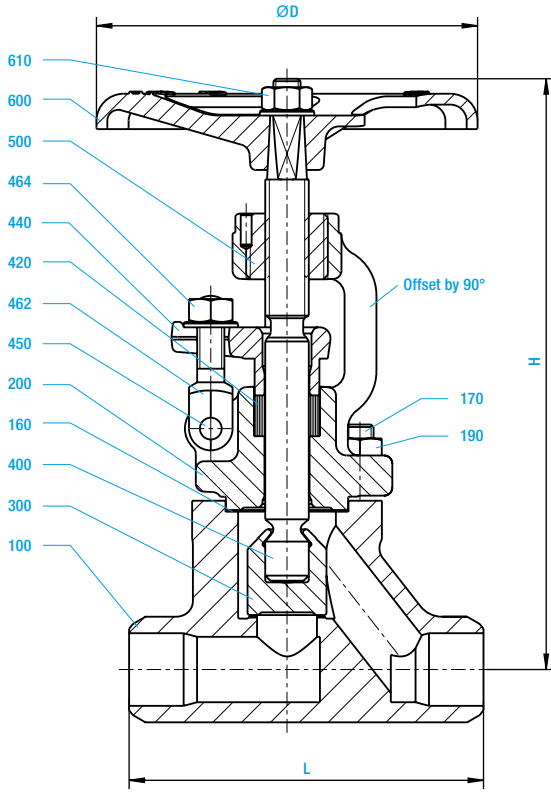
2) Operating > 400 °C operating temperature only permissible if no intergranular corrosion is expected.

3) From > 400 °C operating temperature: bolt material 1.4986.

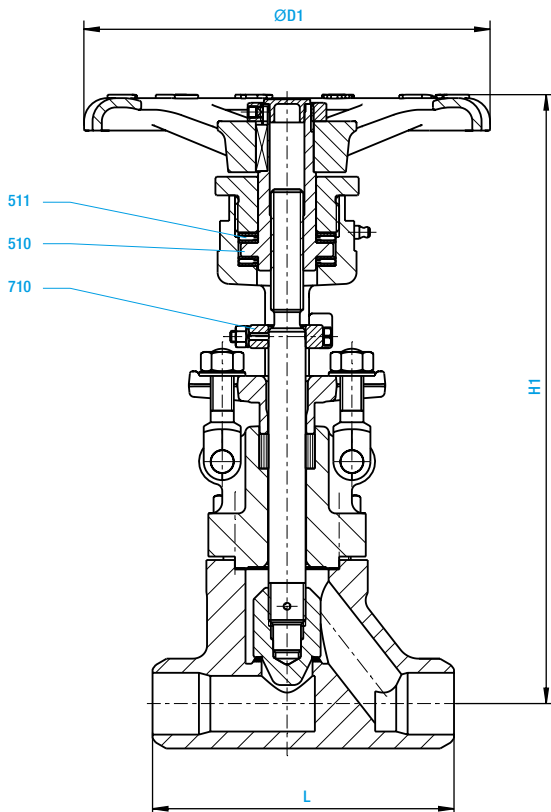
4) For A4-70 bolts with > 8 x d bolt length, the strength values as per Table 6 of DIN 267 Part 11 were taken into account.

5) Only with butt-weld ends.

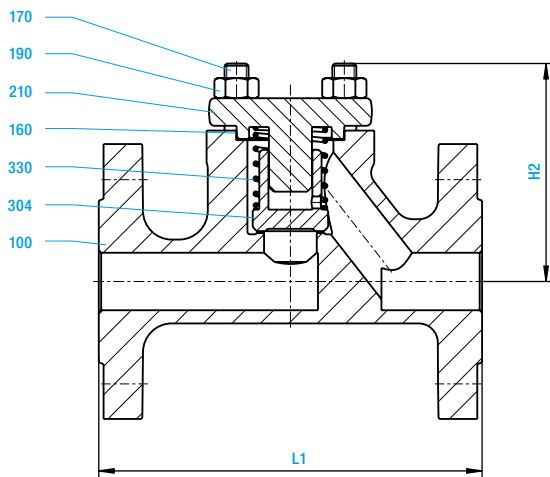
200 AE / BE



200 AJ / BJ



240 MT



Materials

Item	Designation	1.0460 (21)	1.0571(26)	1.5415 (42) ⁴⁾	1.7335 (44)	1.4571 (82)	1.4571 (87)
100	Body	1.0460 ²⁾	1.0571 ²⁾	1.5415 ³⁾	1.7335 ³⁾	1.4571	1.4571
160	Gasket	Graphite	Graphite	Graphite	Graphite	PTFE	Graphite
170	Bolt	1.1181	A4-70	1.7709	1.7709	A4-70	A4-70
190	Hexagonal nut	1.1181	A4-70	1.7218	1.7218	A4-70	A4-70
200	Bonnet	1.0460	1.0571	1.7335	1.7335	1.4571	1.4571
210	Check valve cover	1.0460	1.0571	1.7335	1.7335	1.4571	1.4571
300	Disc	1.4021 ¹⁾	1.0571 ²⁾	1.7335 ³⁾	1.7335 ³⁾	1.4571	1.4571
304	Check valve disc	1.4021 ¹⁾	1.4571	1.4571	1.4571	1.4571	1.4571
330	Spring	1.4310	1.4310	1.4310	1.4310	1.4571	1.4571
400	Stem	1.4021	1.4571	1.4021	1.4021	1.4571	1.4571
420	Packing	Graphite	Graphite	Graphite	Graphite	PTFE	Graphite
440	Gland	1.0460	1.4571	1.0460	1.0460	1.4571	1.4571
450	Rivet pin	1.1181	A4-50	1.1181	1.1181	A4-50	A4-50
462	Glant bolt	1.1181	1.4571	1.1181	1.1181	1.4571	1.4571
464	Hexagonal nut	1.1181	A4-70	1.1181	1.1181	A4-70	A4-70
500	Stem nut	1.0718	1.0718	1.0718	1.0718	1.0718	1.0718
510	Yoke sleeve	1.0718	1.0718	1.0718	1.0718	1.0718	1.0718
511	Needle bearing	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	1.1181	1.1181	1.1181	1.1181	A4-70	A4-70
710	Anti-twist device	5.3106	5.3106	5.3106	5.3106	5.3106	5.3106

Spare parts

Special materials available on request; subject to modifications.

Attention: Butt-weld end valves also available in 15Mo3

- 1) Hard faced
- 2) Seat armoured with Cr17
- 3) Seat armoured with Stellite
- 4) Only butt-weld ends

Dimensions/mm

PN	DN	Butt-weld ends			H1	H2	Stroke length	ØD	ØD1
		Flange L1	L	H					
10-40	10	130	130	220	265	90	12	140	180
	15	130	130	220	265	90	12	140	180
	20	150	130	220	265	90	12	140	180
	25	160	130	220	265	90	12	140	180
	32	180	160	245	330	130	15	180	180
	40	200	180	245	330	130	15	180	180
	50	230	210	285	338	140	18	225	210

Weights/kg

PN	DN	200 AE/BE		240 MT	
		Flange	Butt-weld ends	Flange	Butt-weld ends
10-40	10	5.0	4.1	3.4	2.5
	15	5.1	4.1	3.5	2.5
	20	5.7	4.1	4.1	2.5
	25	6.3	4.1	4.8	2.3
	32	10.0	7.6	7.9	5.3
	40	11.7	7.6	9.5	5.3
	50	15.8	11.4	12.3	8.3

The valves are available in angular form 202 AE/BE. Version similar to page 36.

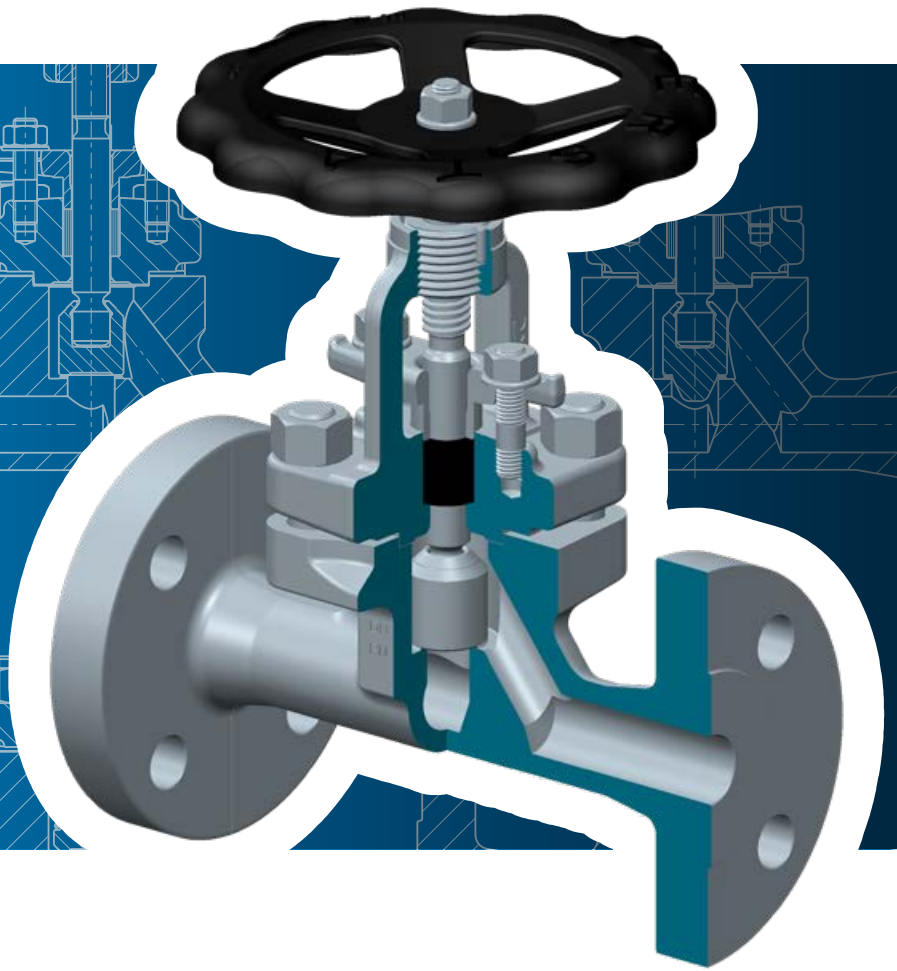
Kvs value m³/h *

Series	DN10	DN15	DN20	DN25	DN32	DN40	DN50
200 AE (BW)	3	4.5	6.2	8.6	16	21	30
200 AE (FL)	1.8	3	5.3	8.6	13	21	37.5
200 BE (BW)	2.8	4.2	5.9	7.6	14.5	19.5	26.9
200 BE (FL)	1.5	2.8	4.9	7.6	11.2	19.5	34.5
200 AJ (BW)	3	4.5	6.2	8.6	16	21	30
200 AJ (FL)	1.8	3	5.3	8.6	13	21	37.2
200 BJ (BW)	2.8	4.2	5.9	7.6	14.5	19.5	26.9
200 BJ (FL)	1.5	2.8	4.9	7.6	11.2	19.5	34.5
240 MT (BW)	2.7	4.1	5.7	7.9	14.6	19.2	34
240 MT (FL)	1.7	2.7	5.7	7.9	11.9	19.2	25.8

* Deviations are possible due to changed connection dimensions.

ASME

version
available



GLOBE VALVE

200 AE/BE PN 63-160 DN 10-50

LIFT CHECK VALVE

240 MT PN 63-160 DN 10-50

Design highlights

- Forged body and bonnet
- Seat hardened or armoured
- Body seal with male and female connection
- Bolted bonnet

Advantages

- Homogeneous joining
- Sturdy and heavy duty
- Absolute seat impermeability
- Blow-out-proof seal to improve service options, e.g. when regrinding the seat.

Version

- Flow passage with straight top part
- Forged body and bonnet
- Shut-off disc, AE version
- Throttle disc, BE version
- External stem thread
- Rotating, rising stem
- Available in angular form 202 AE/BE
- Operation in intermediate position only possible for short periods with the AE/BE versions (stroke 10–90%)

Materials

- 1.0460
- 1.0571
- 1.5415 (only butt-weld ends)
- 1.7335
- 1.4404

Other materials available on request.

Flow medium

Depending on the choice of materials, the valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding

Operating data

- Operating pressure, butt-weld ends, up to 160 bar (DIN 2401; DIN EN 1092-1 or DIN EN 12516-1)
- Operating pressure, flange ends, up to 160 bar (DIN 2401 or DIN EN 1092-1)
- Operating temperature up to 570 °C

Max. area of application for butt-weld ends ³⁾

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

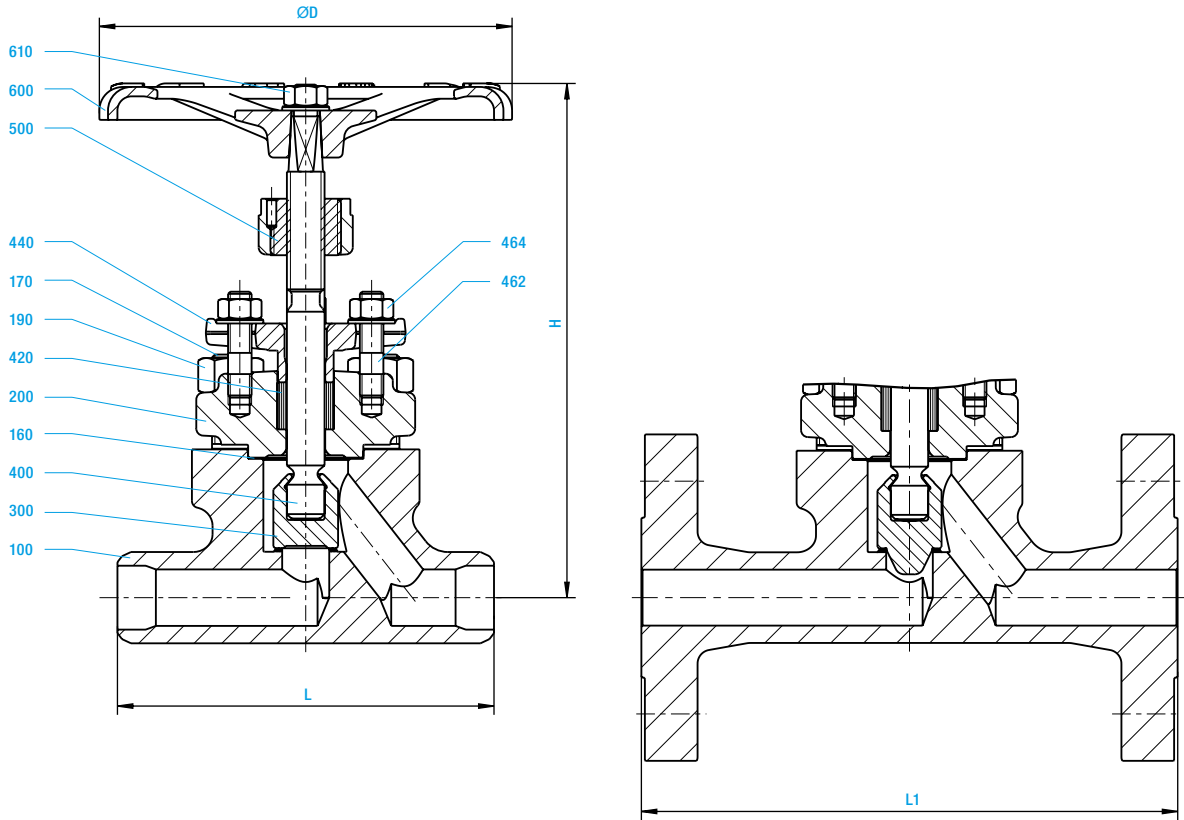
Material	PN	-196	-60	-10	20	100	120	150	200	250	300	350	375	380	400	420	425	450	470	475	480	490	500	510	520	525	530	540	550	560	570	
1.0460	160			160	160	160	160		134.5	122.9	111.4	103.7	99.9	99.1	96	87.9	83.1	58.9	42.7	39.3	35.9											
1.5415 ²⁾	160			160	160	160	160	160	160	160	139	129.5	124.6	119.6	115		112	106.1	105.3	104.9	104.5	88.6	72.6	63.2	50.4	45.2	40.1					
1.7335	160			160	160	160	160	160	160	160	160	153	149.5	146	142		139	136.2	133.4	132	129.2	123.6	118	100	79	73.4	67	54.4	41.8	30.4	25.1	
1.4404	160	160	160	160	160	156.9		143.4	130	119.6	110.4	105.9	104.4		102.8		101.5	100.1	99.1	98.8	98.5		97.5									
1.0571	160		160	160	160	160	160	160	160	160	160	150.2																				

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

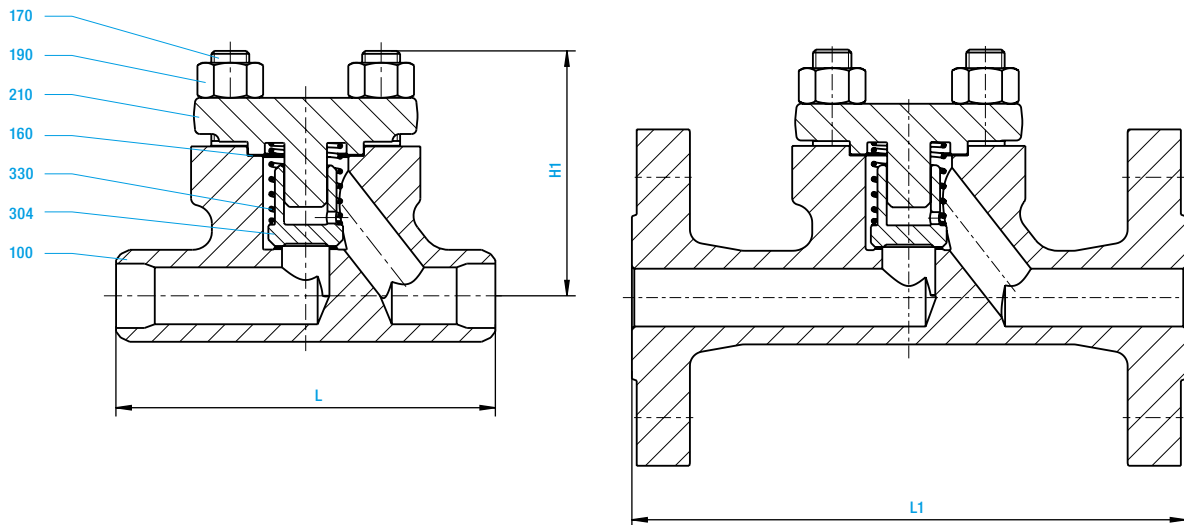
2) Only with butt-weld ends.

3) Max. area of application for flange ends or pressure rating valves; see technical appendix from page 138.

200 AE / BE



240 MT



Materials

Item	Designation	1.0460 (21) ⁴⁾	1.0571 (25)	1.5415 (42) ⁵⁾	1.7335 (44)	1.4404 (88)
100	Body	1.0460 ²⁾⁴⁾	1.0571 ²⁾³⁾	1.5415 ³⁾	1.7335 ³⁾	1.4404 ³⁾
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7225	1.7225	1.7225	1.4923	1.4980
190	Hexagonal nut	1.1181	1.1181	1.7218	1.4923	1.4980
200	Bonnet	1.0460	1.0571	1.7335	1.7335	1.4404
210	Check valve cover	1.0460	1.0571	1.7335	1.7335	1.4404
300	Disc	1.4021 ¹⁾	1.0571 ²⁾	1.7335 ³⁾	1.7335 ³⁾	1.4571 ³⁾
304	Check valve disc	1.4021 ¹⁾	1.4571 ³⁾	1.7380 ³⁾	1.7380 ³⁾	1.4571 ³⁾
330	Pressure spring	1.4310	1.4310	1.4310	1.4310	1.4571
400	Stem	1.4021	1.4980	1.4122	1.4122	1.4980
420	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
440	Gland	1.0460	1.4571	1.0460	1.0460	1.4571
462	Bolt	1.7225	1.7225	1.7225	1.7225	A4-70
464	Hexagonal nut	1.1181	1.7218	1.7218	1.7218	A4-70
500	Stem nut	1.0718	1.0718	1.0718	1.0718	1.0718
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	1.1181	1.1181	1.1181	1.1181	A4-70

Spare parts

Special materials available on request; subject to modifications.

- 1) Hard faced
- 2) Seat armoured with Cr17
- 3) Seat armoured with Stellite
- 4) DN 50 PN 63-160 material 1.0619 armoured with Cr17
- 5) Only with butt-weld ends

Dimensions/mm

PN	DN	Butt-weld ends				Stroke length	ØD
		Flange L1	L	H	H1		
160	10	210	150	218	104	12	180
	15	210	150	218	104	12	180
	20*	230	150	218	104	12	180
	25	230	160	218	104	12	180
	32*	260	180 (210**)	282	150	15	225
	40	260	210	282	150	15	225
	50	300	250	285	155	18	225

Weights/kg

PN	DN	200 AE/BE		240 MT	
		Flange	Butt-weld ends	Flange	Butt-weld ends
160	10	9	6.5	7	4.5
	15	9.1	6.5	7	4.4
	20	11.1	6.4	9	4.3
	25	11.7	6.4	9.6	4.3
	32	19.4	13.6	15.4	9
	40	22.3	15.3	18.3	9.3
	50	27.4	16.1	20.3	11

* Flangetype just up to PN100

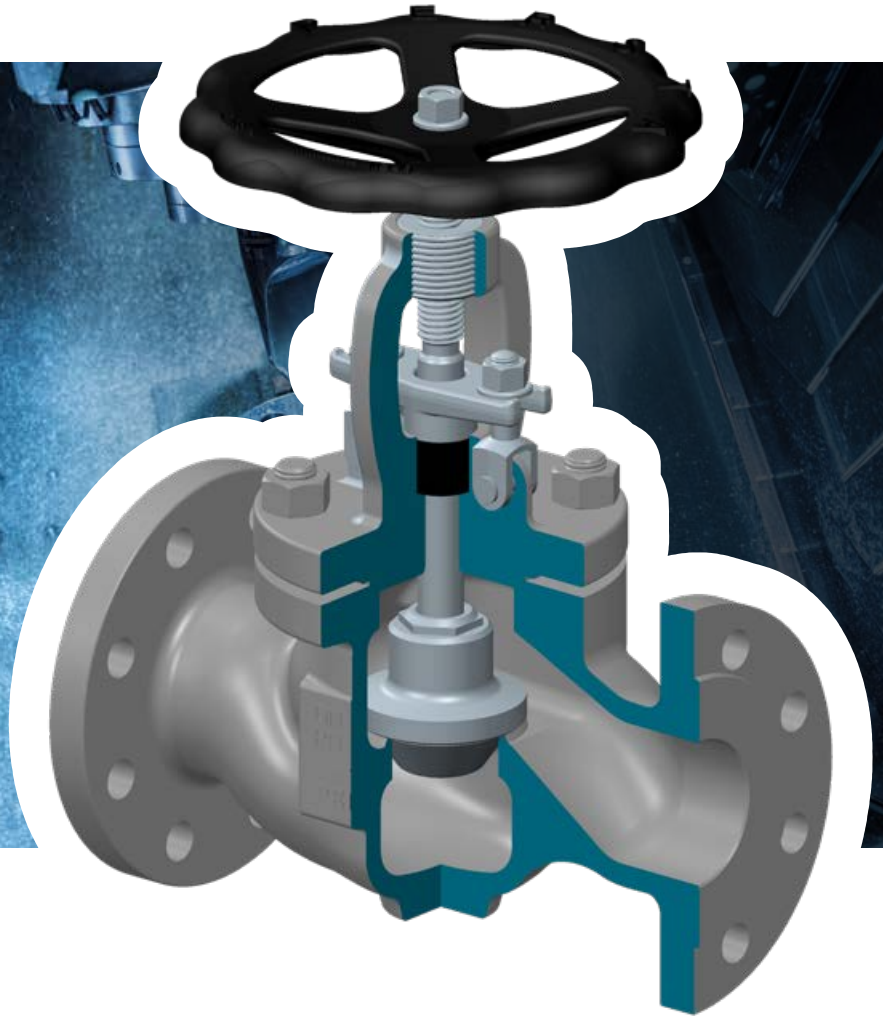
** 1.0571, 1.5415, 1.7335, 1.4404

The valves are available in angular form 202 AE/BE. Version similar to page 36.

Kvs value m³/h *

Series	DN10	DN15	DN20	DN25	DN32	DN40	DN50
200 AE (BW)	4.1	5.9	7.6	7.7	17.1	18.1	27.6
200 AE (FL)	2.5	5	6.5	7.7	17.1	18.1	34.2
200 BE (BW)	4.1	5.8	7.3	7.6	17.6	18.5	25.9
200 BE (FL)	2.4	4.9	6.5	7.6	17.6	18.5	31.2
240 MT (BW)	4	5.8	6.9	7.3	17.6	18.9	28.9
240 MT (FL)	2.4	4.9	6.2	7.3	17.6	18.9	34.2

* Deviations are possible due to changed connection dimensions.



GLOBE VALVE

200 AE/BE/AJ/BJ PN 10-160 DN 65-200

LIFT CHECK VALVE

240 MT PN 10-160 DN 65-200

Design highlights

- Seat armoured
- Body seal with male and female connection
- Bolted bonnet

Advantages

- Absolute seat impermeability
- Blow-out-proof seal to improve service options, e.g. when regrinding the body seat

Version

- Flow passage with straight top part
- Cast body and bonnet
- Shut-off disc, AE version
- Throttling valve disc, BE version
- Shut-off disc with yoke sleeve, AJ version
- Throttling valve disc with yoke sleeve, BJ version
- External stem thread
- Position indicator on request
- Rotating, rising stem (AE/BE)
- Non-rotating, rising stem (AJ/BJ)
- Available in angular form 202 AE/BE
- Operation in intermediate position only possible for short periods with the AE/BE versions (stroke 10–90%)

Operating data

- Operating pressure, butt-weld ends, up to 160 bar (DIN 2401)
- Operating pressure, flange ends, up to 160 bar (DIN 2401)
- Operating temperature up to 550 °C

Flow medium

Depending on the choice of materials, the valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Materials

- 1.0619
- 1.7221
- 1.7357
- 1.4581
- 1.4308

Other materials available on request.

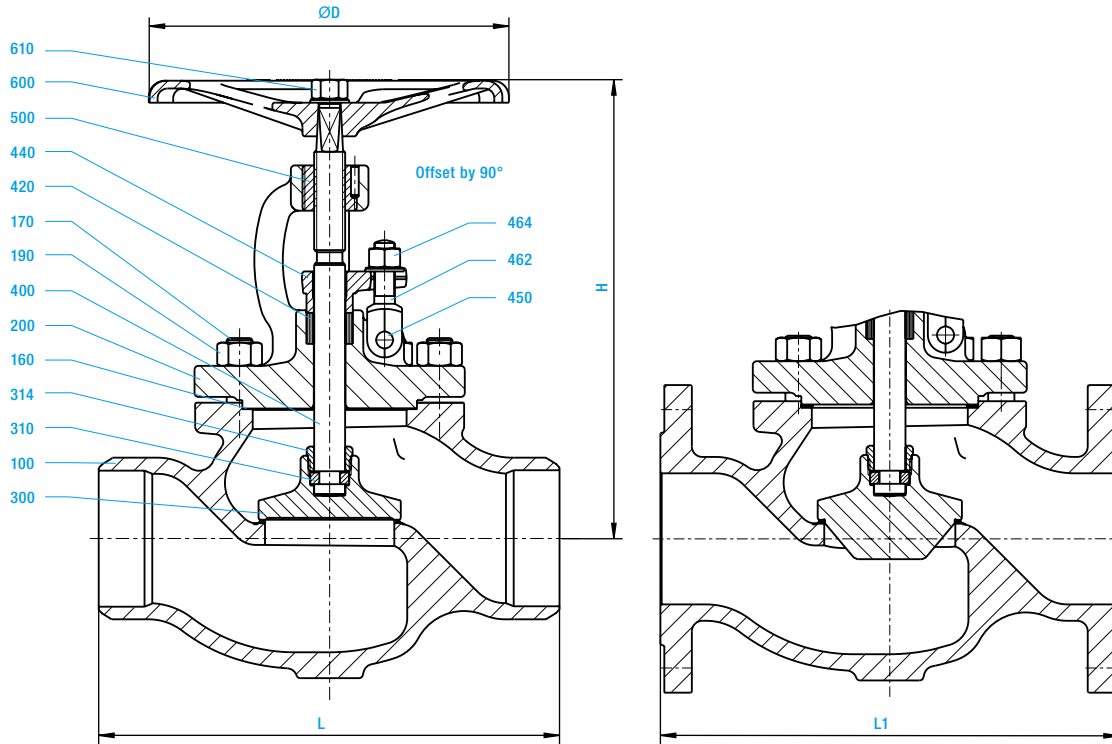
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

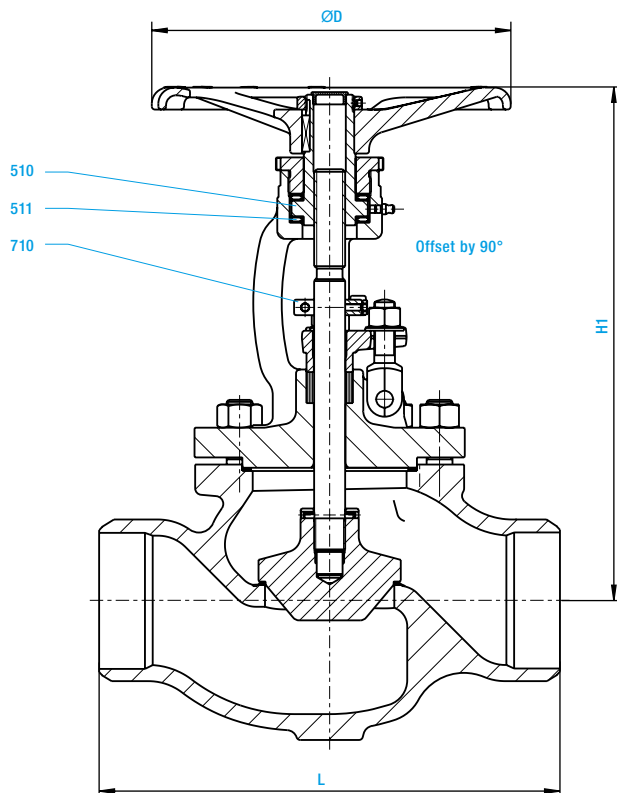
Material	PN	-200	-50	-10	20	100	120	150	200	250	300	350	400	425	450	475	500	510	520	530	540	550	
1.0619	10-16			16	16	16	16	15	14	13	11	10	8										
	25			25	25	25	25	23	22	20	17	16	13										
	40			40	40	40	40	37	35	32	28	24	21										
	63 ⁵⁾			63	63	63	63	53	50	45	40	36	32										
	100 ⁵⁾			100	100	100	100	83	80	70	60	56	50										
	160 ³⁾			160	160	160	160	135	130	112	96	90	80										
1.7221	10-16 ²⁾			16	16	16	16	15.1	14	13	11												
	25 ²⁾			25	25	25	25	23	22	20	17												
	40 ²⁾			40	40	40	40	37.7	37	35	32	28											
	63 ²⁾			63	63	63	55	54	53	50	45	40											
	100 ²⁾			100	100	100	87	84	83	80	70	60											
	160 ²⁾³⁾			160	160	160	140	136	135	130	112	96											
1.7357	10-16			16	16	16	16	15	14	13	11	10	8										
	25			25	25	25	25	25	25	25	25	24	23	22	21	20	18	15	12	9			
	40			40	40	40	40	40	40	40	40	38	36	35	34	33	29	24	19	15			
	63			63	63	63	63	63	63	63	63	61	58	57	56	51	47	40	32	25			
	100 ⁴⁾			100	100	100	100	100	100	100	100	95	91	89	87	80	74	62	49	38			
1.4308	10-16	16	16	16	16	13	12.6	12	11	8	8												
	25	25	25	25	25	21	19.8	18	17	13	12												
	40	40	40	40	40	34	32.4	30	24	21	20												
1.4581	10-16			16	16	15	14.6	14	13	13	12	12	11	10	8	7.5	7	7	7	7	7	7	6.5
	25			25	25	24	23.2	22	21	20	19	18	17	16	13	12.5	12	11	11	11	11	11	11
	40			40	40	38	36.8	35	33	32	30	28	26	24	21	20	19	19	19	18.5	18	18	18

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.
 2) AT temperatures > 50 °C; can only be used for short-time duty.
 3) PN 160 is valid DN 65-100.
 4) Only for globe valves DN 65-80; for lift check valves DN 65-125.
 5) Only for shut-off valves DN 65-150

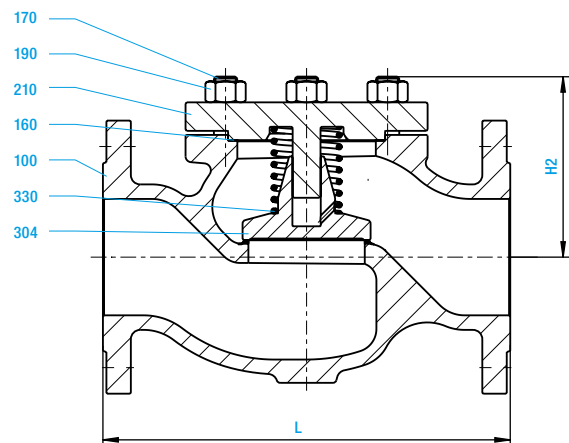
200 AE / BE



200 AJ / BJ



240 MT



Materials

Item	Designation	1.0619 (11)	1.7221 (31)	1.7357 (34)	1.4581 (72)	1.4308 (77)
100	Body	1.0619 ⁴⁾	1.7221 ⁴⁾	1.7357 ⁵⁾	1.4581 ⁷⁾	1.4308 ⁷⁾
160	Gasket	Graphite	Graphite	Graphite	PTFE	Graphite
170 ¹⁾	Bolt ¹⁾	1.1181	A4-70	1.7709	A4-70	A4-70
170 ²⁾	Bolt ²⁾	1.7709	A4-70	1.4923		
190 ¹⁾	Hexagonal nut ¹⁾	1.1181	A4-70	1.7218	A4-70	A4-70
190 ²⁾	Hexagonal nut ²⁾	1.7218	A4-70	1.7218		
200	Bonnet	1.0619	1.7221	1.7357	1.4581	1.4308
210	Check valve cover	1.0460	1.0566	1.7335	1.4571	1.4571
300	Disc	1.4021 ³⁾	1.0571 ⁴⁾	1.7335 ⁵⁾	1.4571 ⁶⁾	1.4571 ⁶⁾
304	Check valve disc	1.0460 ³⁾	1.0571 ⁴⁾	1.7335 ⁵⁾	1.4571 ⁶⁾	1.4571 ⁶⁾
310	Filling piece	1.0035	1.0035	1.0035	1.4571	1.4571
314	disc nut	1.0050	1.0050	1.0050	1.4571	1.4571
330	Pressure spring	1.4310	1.4310	1.4310	1.4571	1.4571
400	Stem	1.4021	1.4571	1.4021	1.4571	1.4571
420	Packing	Graphite	Graphite	Graphite	PTFE	Graphite
440	Gland	1.0460	1.4571	1.0460	1.4571	1.4571
450	Rivet pin	1.1181	A4-50	1.1181	A4-50	A4-50
462	Glant bolt	1.1181	1.4571	1.1181	1.4571	1.4571
464	Hexagonal nut	1.1181	A4-70	1.1181	A4-70	A4-70
500	Stem nut	1.0718	1.0718	1.0718	1.0718	1.0718
510	Yoke sleeve	1.0718	1.0718	1.0718	1.0718	1.0718
511	Anti-friction bearing	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	1.1181	1.1181	1.1181	A4-70	A4-70
710	Anti-twist device	5.3106	5.3106	5.3106	5.3106	5.3106

Special materials available on request; subject to modifications.

- 1) PN 10-40
- 2) PN 63-160
- 3) Hard faced seats ≥ DN 125;
1.0460 seat armoured with Cr17
- 4) Seat armoured with Cr17
- 5) Seat armoured with Stellite
- 6) PN 63 seats armoured with Stellite
- 7) PN 63 seats armoured with Hastelloy

Spare parts

Dimensions/mm

PN	DN	Butt-weld ends			Stroke length	Rev/stroke	H1	ØD	H2
		Flange L1	L	H					
10-40	65	290	290	295	22	7.5	325	225	129
	80	310	310	345	25	8.5	383	280	129
	100	350	350	355	30	10	400	280	155
	125	400	400	399	40	13.5	480	360	155
	150	480	480	462	50	17	524	360	181
	200	600	600	522	65	22	577	450	251
63-160	65	340	340	363	22	7.5	375	280	127
	80	380	380	407	25	8.5	405	280	150
	100	430	430	410	30	10	425	360	172
63	125	500	500	535	40	13.5	530	360	210
	150	550	550	555	50	17	568	450	245
100	125	500	500	535	40	13.5	530	360	210
	150	550	550	555	50	17	568	450	245

The valves are available in angular form 202 AE/BE. Version similar to page 36.

Weights/kg 200 AE/BE

PN \ DN	Flange					Butt-weld ends			
	10-16	25-40	63	100	160	10-40	63	100	160
65	27	26	37	41	43	20	27	27	27
80	36	36	52	47	55	29	36	36	41
100	48	49	73	72	81	40	59	59	59
125	68	68	117	120		55	97	97	
150	97	111	166	166		86	123	123	
200	159	167				143			

Weights/kg 240 MT

DN \ PN	Flange					Butt-weld ends			
	10-16	25-40	63	100	160	10-40	63	100	160
65	18.5	18.5	29	29	33	11.5	13	13	13
80	29.6	29.6	42	42	46	20.4	23	23	23
100	35.4	35.4	63	63	71	29	38	38	38
125	58	58	101	106		40	78	78	
150	80	80	145	150		65	110	110	
200	145	160				148			

Kvs value m³/h *

Series	DN 65 PN 10-160	DN 80 PN 10-160	DN 100 PN 10-160	DN 125 PN 10-160	DN 150 PN 10-160	DN 200 PN 10-40
200 AE / AJ	71	122	162	260	370	660
200 BE / BJ	61.5	78	104	171	250	422
240 MT	72.1	105.9	171.6	263	374	688

Permissible pressure difference for pressure inlet below the disc as per EN 13709.

DN	65	80	100	125	150	200
bar	110	70	44	33	21	14

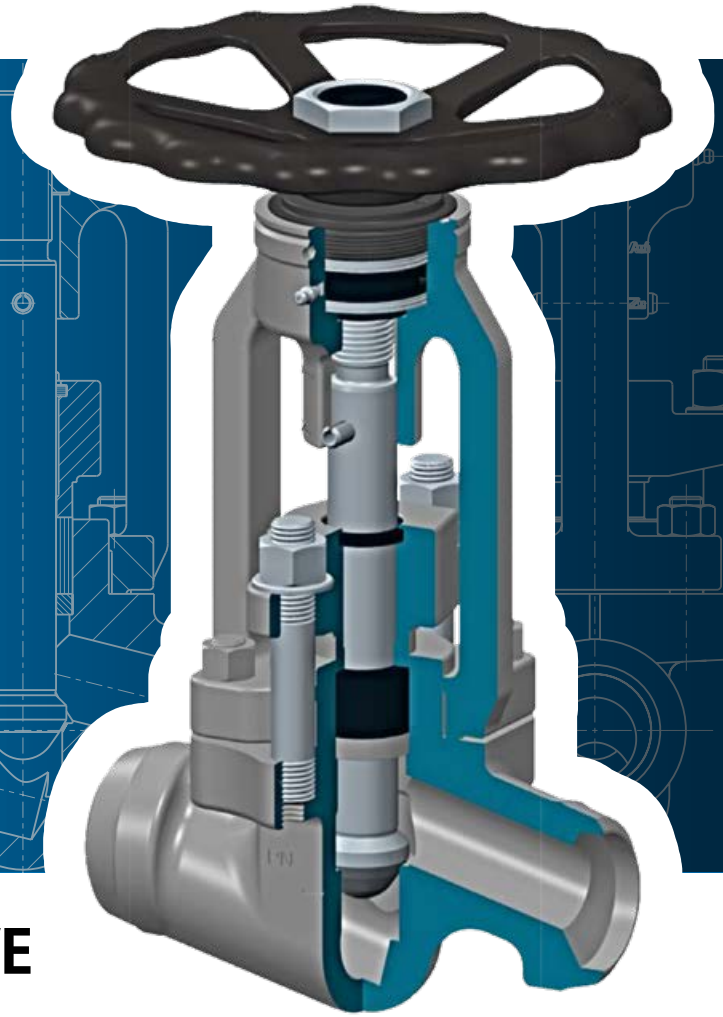
* Deviations are possible due to changed connection dimensions.

ASME

version
available

HIGH PRESSURE GLOBE VALVE

HD 91.1 200 JM PN 320 DN 20-65/50



Design highlights

- Body seat as integral edge seat, armoured with Stellite
- Stem with disc > 570 °C with armoured Stellite edge seat
- External seal only provided by gland packing
- Body and bolted bonnet
- Yoke sleeve in special brass
- Retrofittable actuator flange

Advantages

- No seat ring, therefore no gap corrosion and separation
- No damage between disc and stem due to high flow speeds
- No cover gasket, therefore reduction of possible leakage
- Improved service options, e.g. when regrinding the body seat
- Good emergency running characteristics
- Retrofitting the valve with an electric actuator

Version

- Flow passage with straight top part
- Forged body
- Non-rotating, rising stem
- Position indicator / anti-twist device
- Throttle disc
- needle bearing yoke sleeve on both sides
- Retrofittable actuator connection flange

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In industrial plants, power stations, process engineering plants and in shipbuilding.

Operating data

- Operating pressure up to 320 bar
- Operating temperature from -10 °C to 600 °C

Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-10	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580 ²⁾	590 ²⁾	600 ²⁾		
1.0460	320	320	320	320	320	320	320	302	264	236	198	160	153	145	138	130	123	109	91	75														
1.5415	320	320	320	320	320	320	320	320	320	283	273	264	262	260	258	256	255	253	251	249	217	170	129	102	81									
1.7335	320	320	320	320	320	320	320	320	320	320	320	311	307	304	300	296	292	290	289	287	285	258	217	172	140	113	88	72	59					
1.7383	320	320	320	320	320	320	320	320	320	320	320	320	320	320	319	315	311	307	304	300	287	255	223	194	170	147	128	109	96	83	72	63		

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4923 and high-temperature packing

Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0460	1.5415	1.7335	1.7383
	Body seat	Stellite	Stellite	Stellite	Stellite
170	Bolt	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.7379	1.7379	1.7379	1.7379
400	Stem	1.4122 ¹⁾	1.4122 ¹⁾	1.4122 ¹⁾	1.4122 ¹⁾²⁾
412	Guide sleeve	0.7660	0.7660	0.7660	0.7660
420	Packing	Pure graphite	Pure graphite	Pure graphite	Pure graphite ²⁾
440	Gland	1.7379	1.7379	1.7379	1.7379
448	Packing ring	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh
462	Bolt	1.7709	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLS _t	WLS _t	WLS _t	WLS _t
531	Threaded connection	1.0460	1.0460	1.0460	1.0460
600	Handwheel	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St

Spare parts

1) Disc armoured with Stellite on request, stem material 1.4923.

2) For temperatures > 570 °C, stem with disc material 1.4923, seat armoured with Stellite, and high-temperature packing.

Dimensions/mm

DN	L	H	Stroke length	Rev/stroke	ØD	DIN/ISO 5210
20	160	244	16	8	180	F10
25	160	244	16	8	180	F10
32	250	367	27	9	280	F10/F14
40	250	367	27	9	280	F10/F14
50	250	367	27	9	280	F10/F14
65 / 50	250	367	27	9	280	F10/F14

Weights/kg and Kvs value m³/h

DN	Butt-weld ends	Kvs * [m ³ /h]
20	8.1	6.2
25	8.1	7.9
32	27.5	20
40	27.5	24.1
50	27.5	28.3
65 / 50	27.5	28.3

Attention: In the case of machined butt-weld ends, the permissible positive operating pressures and test pressures for the relevant pipe dimension apply.

* Deviations are possible due to changed connection dimensions.

ASME

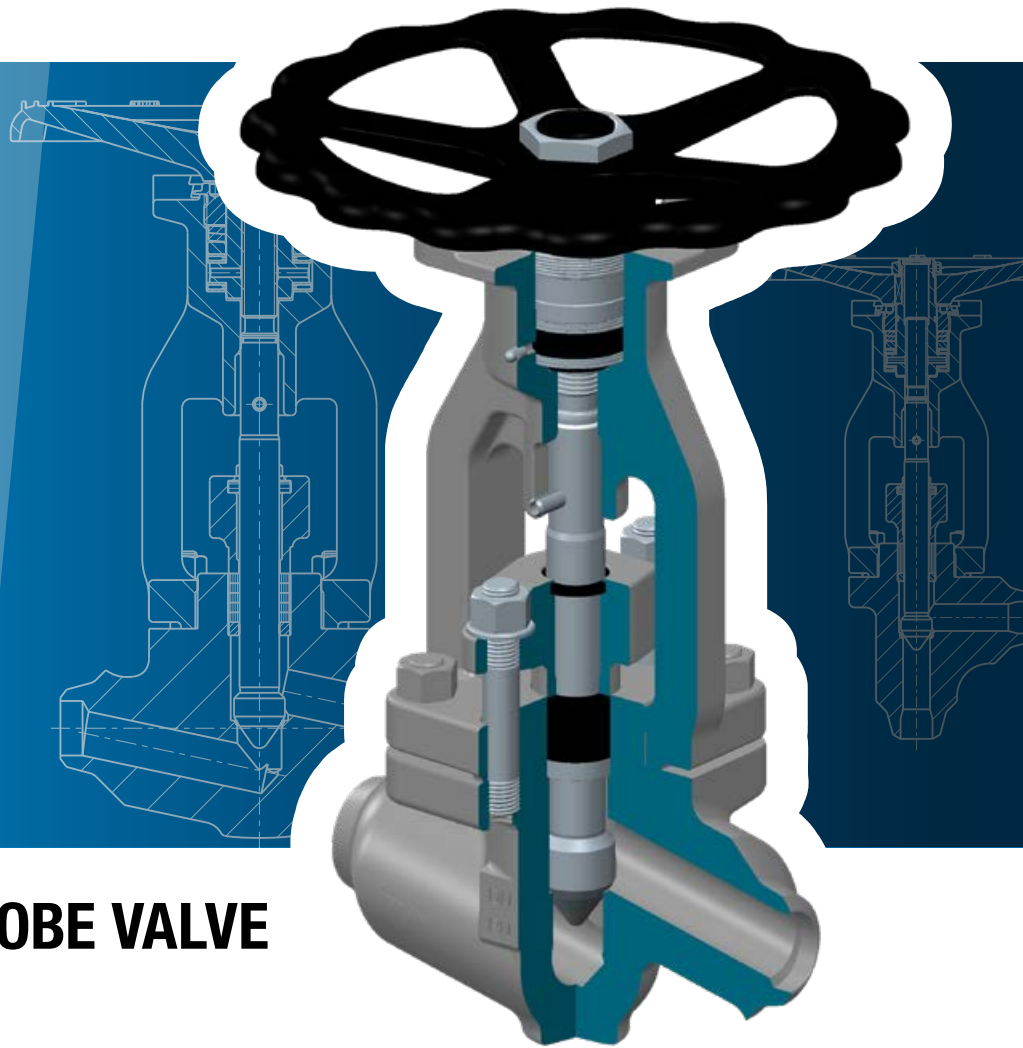
 version
available

HIGH PRESSURE GLOBE VALVE

HD 2000 200 LM PN 500 DN 10-65

HIGH PRESSURE LIFT CHECK VALVE

HD 2000 240 MT PN 500 DN 10-65



Design highlights

- Body seat as integral edge seat, armoured with Stellite
- Stem with disc > 570 °C with armoured Stellite edge seat
- External seal only provided by gland packing
- Bolted bonnet
- Yoke sleeve in special brass
- Disc spring assembly effective in closing direction

Advantages

- No seat ring, therefore no gap corrosion or separation
- No damage between disc and stem due to high flow speed
- No cover gasket, therefore reduction of possible leakage
- Blow-out-proof seal to improve service options, e.g. when regrinding the body seat.
- Good emergency running characteristics
- Required closing forces maintained regardless of changes in length between the stem and bonnet, caused by temperature fluctuations

Version

- Flow passage with straight top part
- Forged body
- Non-rotating, rising stem
- Position indicator / anti-twist device
- Throttle disc
- Needle bearing yoke sleeve
- From DN 20 with integral actuator connection flange
- Version available with back seat (200 LS)
- Version available in angular design (202 LM)

Materials

- 1.0460
- 1.4550
- 1.4901
- 1.4903
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In industrial plants, power stations, process engineering plants and in shipbuilding.

Operating data

- Operating pressure up to 550 bar
- Operating temperature from -10 °C to 650 °C (depending on material)

Area of application

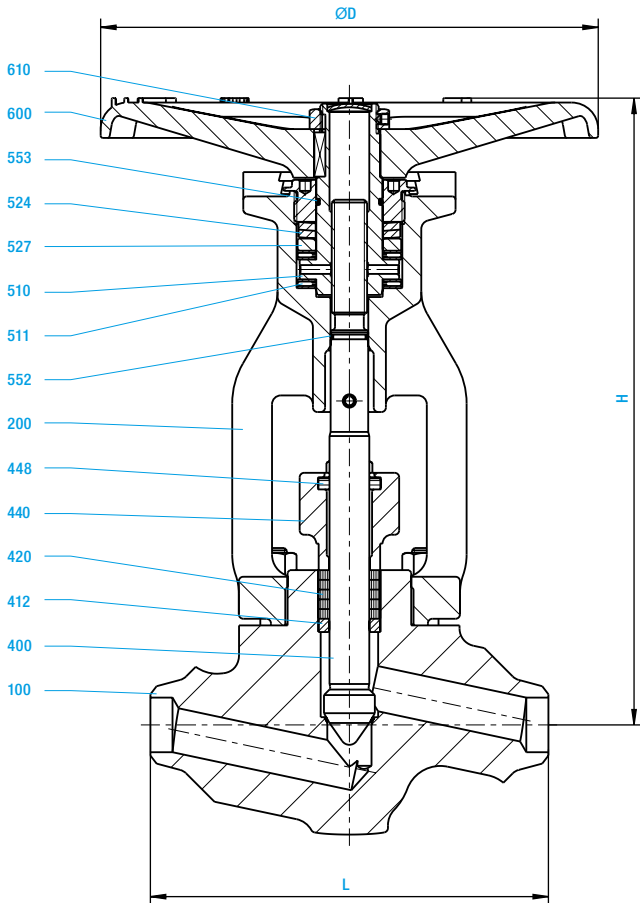
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650				
1.0460	500	550	550	550	550	550	550	518	463	389	315	300	285	270	255	240	213	177	146																					
1.5415	500	550	550	550	550	550	550	550	550	537	518	514	510	507	503	500	496	493	489	426	333	253	200	160																
1.7335	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	426	338	275	222	173	142	116												
1.7383 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	437	381	333	289	252	214	189	163	140	124									
1.4903 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	465	430	380	338	298	261	231	198	172			
1.4901 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
1.4550	500	550	550	550	550	550	550	544	504	481	463	460	456	454	451	449	447	445	443	442	441	440	439	438	437	437	436	435	434	433	396	363	320	271	240	207				

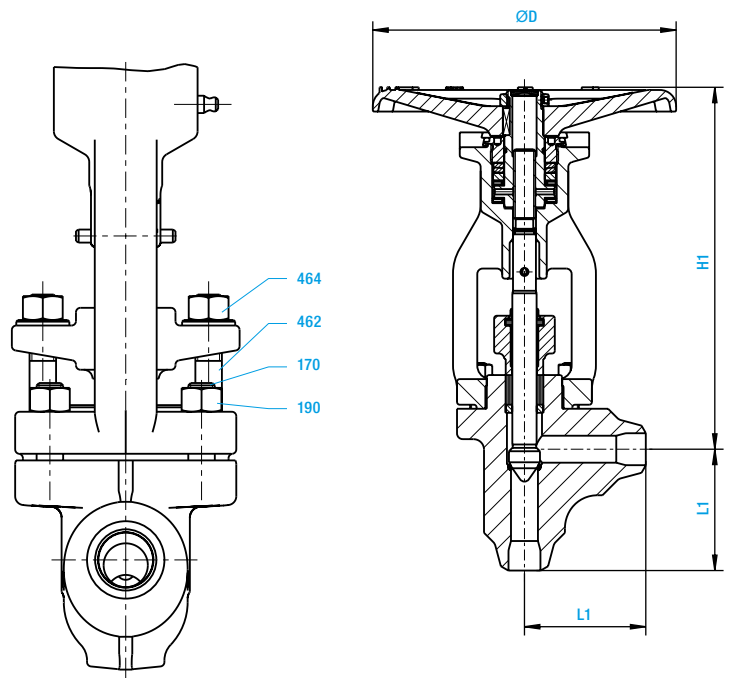
1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

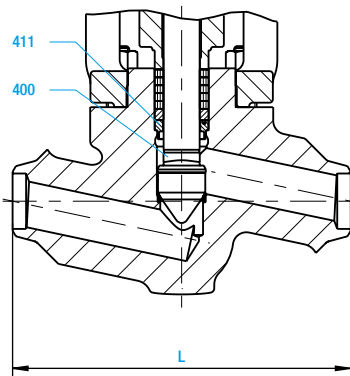
200 LM



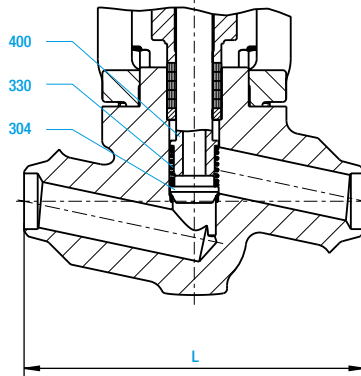
202 LM



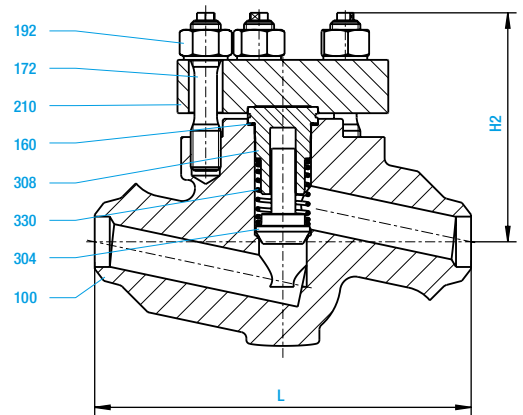
200 LS*



240 MM*



240 MT*



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45) ²⁾	1.4903 (63) ²⁾	1.4901 (66) ²⁾	1.4550 (89)
100	Body	1.0460	1.5415	1.7335	1.7383	1.4903	1.4901	1.4550
	Body seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4923	1.4980
172	Bolt	1.4923	1.4923	1.4923	1.4923	1.4986	1.4986	1.4986
190	Hexagonal nut	1.7218	1.7709	1.7218	1.4986	1.4986	1.4923	1.4986
192	Hexagonal nut	1.4923	1.4923	1.4923	1.4923	1.4923	1.4986	1.4986
200	Bonnet	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379 ³⁾
210	Cover	1.7380	1.7380	1.7380	1.7380	1.4903	1.4901	1.4550
304	Check valve disc	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923	1.4980
308	Guide	1.4923	1.4923	1.4923	1.4923	1.4980	1.4980	1.4980
330	Pressure spring	2.4667	2.4698	2.4698	2.4668	2.4699	2.4699	2.4669
400	Stem	1.4122 ¹⁾	1.4122 ¹⁾	1.4122 ¹⁾	1.4122 ^{1/2)}	1.4122 ^{1/2)}	1.4980	1.4980
411	Back seat ring	1.4980	1.4980	1.4980	1.4980	1.4980	1.4980	1.4980
412	Guide sleeve	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660
420	Packing	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite
440	Gland	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379 ³⁾
448	Packing ring	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh
462	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4980	1.4980
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.4923	1.4923	1.4986
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t
524	Disc spring	1.8159	1.8159	1.8159	1.8159	1.8159	1.8159	1.8159
527	Supporting disc	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021
552	O-ring	Viton	Viton	Viton	Viton	Viton	Viton	Viton
553	O-ring	Viton	Viton	Viton	Viton	Viton	Viton	Viton
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St	St	St	St

Spare parts

- 1) Disc seat armoured with Stellite on request.
 2) For temperatures > 570 °C, stem material 1.4980, seat surface armoured with Stellite, and high-temperature packing.
 3) Chemically nickel-plated

Dimensions/mm

DN	L	L1	H	H1	H2	Stroke length	U/ stroke	ØD	DIN/ISO 5210
10	150	75	228	215	100	10	5	140	F10
15	150	75	228	215	100	10	5	140	F10
20	180	90	285	268	122	16	8	225	F10
25	180	90	285	268	122	16	8	225	F10
32	300	150	445	415	185	27	9	360	F10/F14
40	300	150	445	415	185	27	9	360	F10/F14
50	300	150	445	415	185	27	9	360	F10/F14
65	360	200	585	557	242	36	12	450	F14/F16

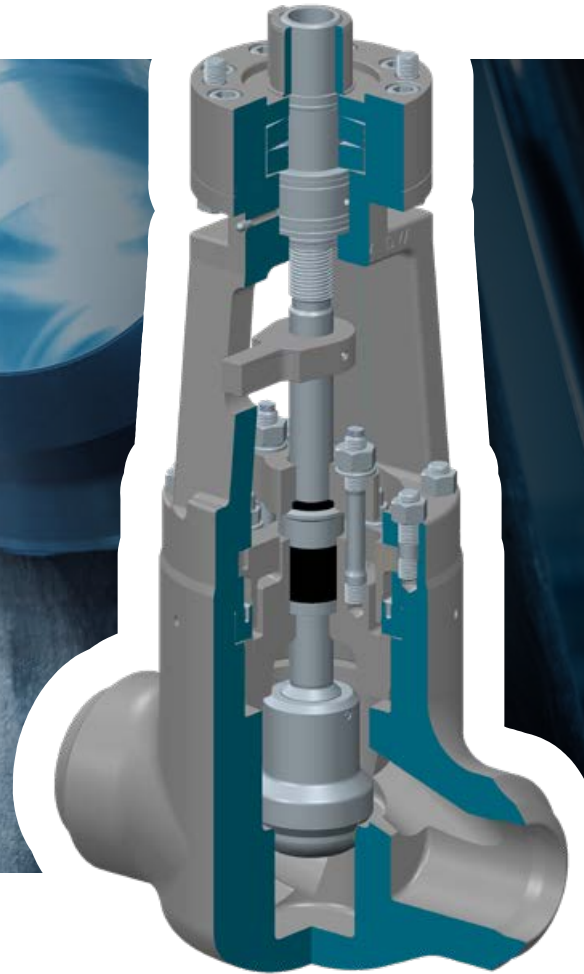
Weights/kg and Kvs value m³/h

DN	Butt-weld ends					Kvs [m ³ /h] * 200 LM / LS
	200 LM	202 LM	240 MM	200 LS	240 MT	
10	6	6	6	6	3.8	2.3
15	6	6	6	6	3.8	3.4
20	12	12	12	12	7.7	6.2
25	12	12	12	12	7.7	7.9
32	47.5	47.5	47.5	47.5	29	20
40	47	47	47	47	29	24.1
50	46.5	46.5	46.5	46.5	30	28.3
65	110	110	110	110	67	48.5

Attention: In the case of machined butt-weld ends, the permissible positive operating pressures and test pressures for the relevant pipe dimension apply.

* Deviations are possible due to changed connection dimensions.


ASME

 version
available


HIGH PRESSURE GLOBE VALVE

DVA 25 / DVA 40 200 BZ PD 25 / PD 40 DN 80-250

Design highlights

- Forged body and bonnet
- Pressure sealing bonnet
- Seat generally integral and armoured with Stellite
- High bonnet
- Stem with anti-twist device can be used as position indicator
- Non-rotating, rising stem with external stem thread and roll-polished shaft
- Gland and gland ring in two parts
- Yoke sleeve with needle bearing
- Disc spring assembly effective in closing direction

Advantages

- Homogeneous joining, sturdy and heavy duty
- Increasing external impermeability as operating pressure rises
- Absolute seat impermeability
- Avoids impermissible temperatures in the bearing area
- Anti-twist device can be used as position indicator
- Minimum packing wear
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to actuate the valve
- Required closing forces maintained regardless of changes in length between the stem and bonnet, caused by temperature fluctuations

Version

- Flow passage with straight top part
- Body forged
- Pressure sealing bonnet as per VGB guidelines
- Throttle disc
- Integral seat with Stellite
- External stem thread
- Position indicator / anti-twist device
- Yoke sleeve bearing-mounted on both sides
- Non-rotating, rising stem
- Suitable for mounting actuators
- Available in angular form 202 BZ
- Preferred direction of flow "pressure above disc"

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383
- 1.6368
- 1.4903
- 1.4901

Other materials available on request.

Flow medium

Depending on the choice of materials, the high pressure globe valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power station plants.

Operating data

- Operating pressure up to 600 bar
- Operating temperature up to 650 °C

Area of application

Permissible operating pressure [bar] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650					
1.0460	25	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																						
1.5415	25	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	80	64																	
1.7335	25	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	110	88	69	57	46													
1.7383 ²⁾	25	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49										
1.6368	25	320	320	320	320	320	320	320	320																														
1.4903 ²⁾	25	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	316	290	263	238	213	191	169	150	132	115	100	85	75	65				
1.4901 ²⁾	25	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	297	275	253	231	209	187	166	147	128	110	96	82				

Attention: Pressure rating of materials 1.6368, 1.4903 and 1.4901 was lowered in the "cold" range (320 bar). The pressure rating is only valid for the DVA 25 series.

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

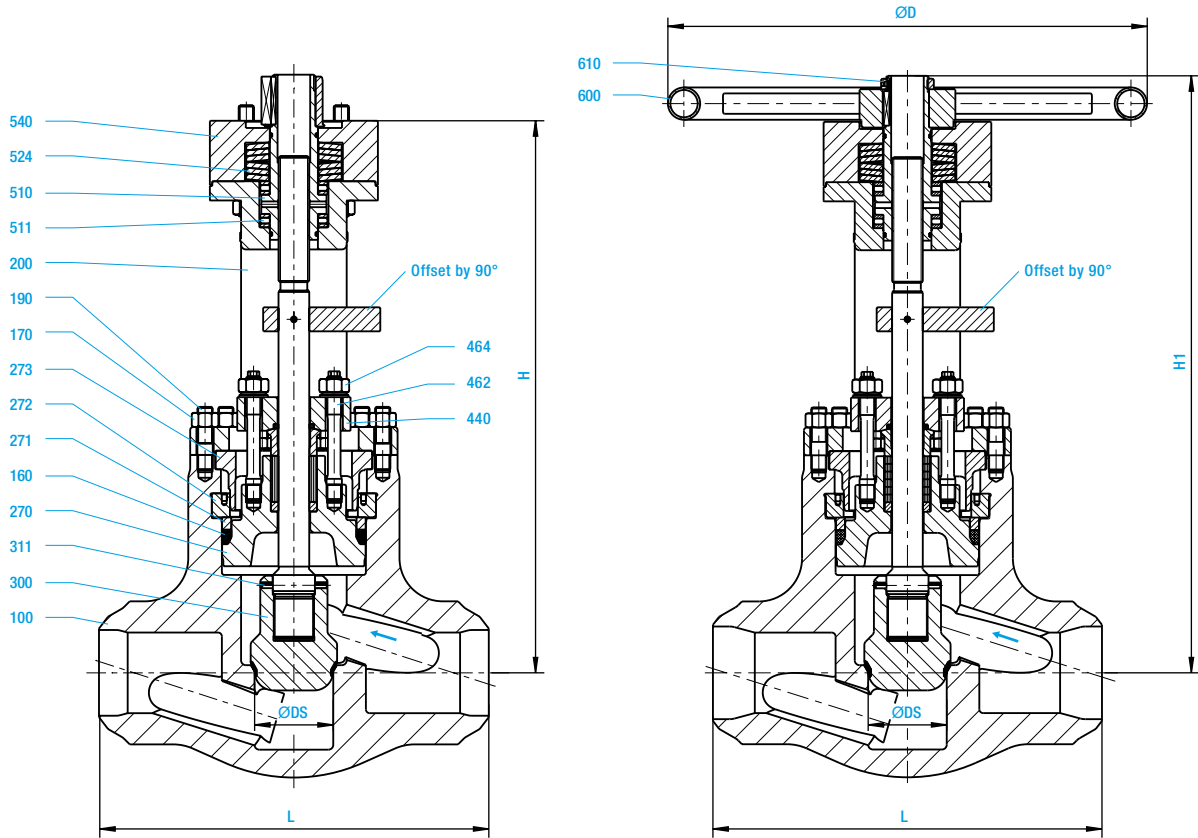
Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650										
1.0460	40	400	400	400	377	330	295	248	200	191	182	172	163	153	136	113	93																											
1.5415	40	480	480	480	448	413	354	342	330	328	325	323	321	318	316	314	311	272	212	161	127	102																						
1.7335	40	481	481	481	481	471	436	413	389	384	380	375	370	365	363	361	358	356	323	272	215	175	141	110	91	74																		
1.7383 ²⁾	40	480	480	480	480	480	471	436	413	408	403	398	394	389	384	380	375	358	318	278	243	212	184	160	137	120	104	90	79															
1.6368	40	600	600	600	600	600	600	600	600																																			
1.4903 ²⁾	40	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	
1.4901 ²⁾	40	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600

Attention: Pressure rating of materials 1.6368, 1.4903 and 1.4901 was lowered in the "cold" range (600 bar). The pressure rating is only valid for the DVA 40 series.

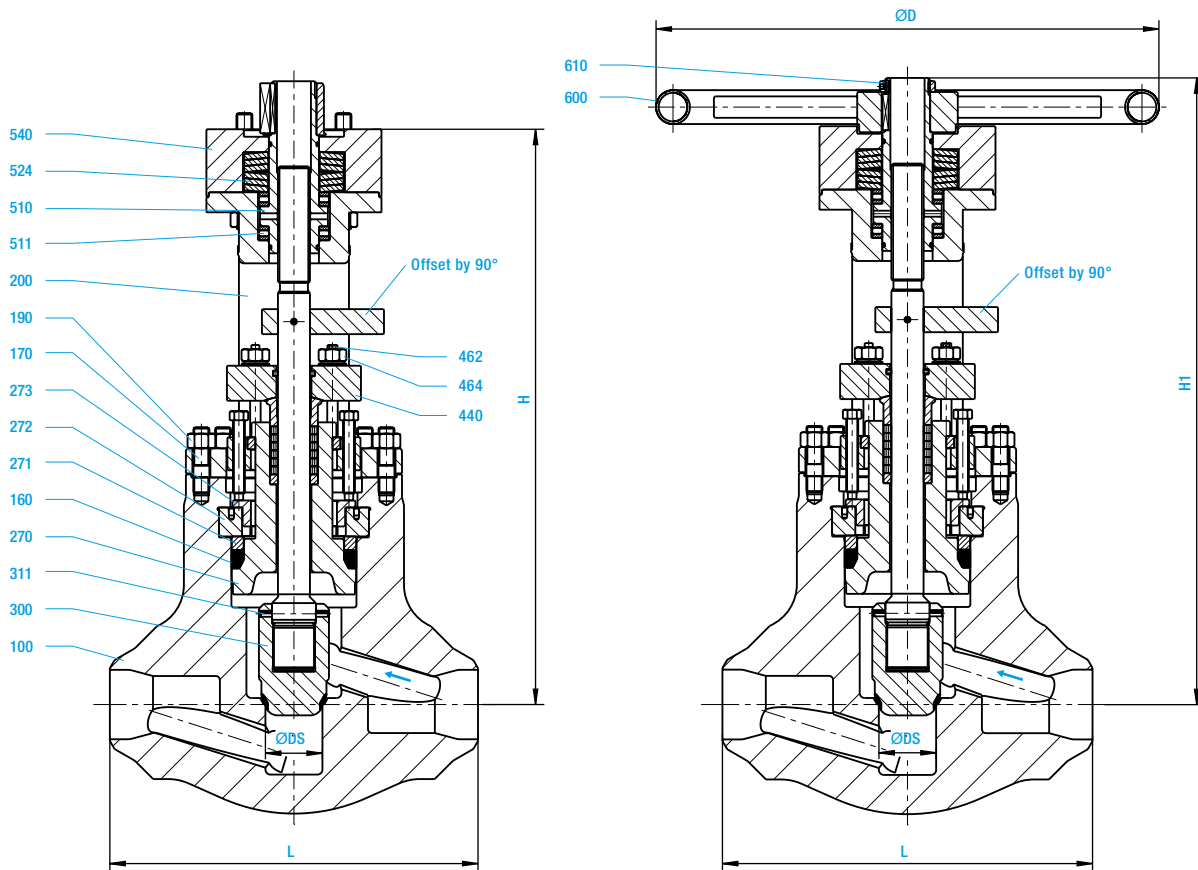
1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

DVA 25 PD 25 DN 80-250*



DVA 40 PD 40 DN 80-200*



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Body seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4923	1.4923
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379	1.7379
270	Cover	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
271	Support ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
272	Segment ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
273	Support cap	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419
300	Disc	1.4903	1.4903	1.4903	1.4903	1.4903	1.4903	1.4901
	Disc seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
311	Pin	1.4571	1.4571	1.4571	1.4571	1.4571	1.4571	1.4571
400	Stem	1.4122	1.4122	1.4122	1.4122	1.4923	1.4923	1.4980
400	Stem from 500 °C			1.4980 ¹⁾	1.4980		1.4980	
420	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
440	Gland	1.7380	1.7380	1.7380	1.7380	1.7380	1.7380	1.7380
462	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4923	1.4923
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.4923	1.4923	1.4923
510	Yoke sleeve	CW713R	CW713R	CW713R	CW713R	CW713R	CW713R	CW713R
511	Anti-friction bearing	WLSl	WLSl	WLSl	WLSl	WLSl	WLSl	WLSl
524	Disc spring	FSt	FSt	FSt	FSt	FSt	FSt	FSt
540	Flange	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460
600	Handwheel	St ²⁾	St ²⁾	St ²⁾	St ²⁾	St ²⁾	St ²⁾	St ²⁾
610	Hexagonal nut	St	St	St	St	St	St	St

Spare parts

- 1) For PD 25 from DN 150 and for PD 40 from DN 125
- 2) For PD 25 DN 80 material 5.3106

Dimensions/mm DVA 25

DN	∅ DS	L	H	H1	Stroke length	Rev/stroke	∅D	DIN/ISO 5210
80	64	305	475 (F14)	510	32	11	450	F10/F14
100	82	406	575 (F14)	625	42	14	500	F14
125	100	483	725 (F16)	730	51	17	600	F14/F16
150	122	559	800 (F16)	875	62	21	720	F16/F25
200	160	711	950 (F25)		82	27		F25/F30
250	190	864	1075 (F30)		96	24		F30/F35

Weights/kg and Kvs value m³/h DVA 25

DN	Butt-weld ends	Kvs * [m³/h]
80	77	71
100	132	95
125	200	141
150	380	210
200	615	362
250	1120	510

Dimensions/mm DVA 40

DN	∅ DS	L	H	H1	Stroke length	Rev/stroke	∅D	DIN/ISO 5210
80	57	368	575 (F14)	625	28	9	500	F14
100	72	457	675 (F14)	730	38	13	600	F14/F16
125	90	533	815 (F16)	890	45	15	720	F16/F25
150	111	610	1000 (F25)		58	19		F25/F30
200	146	762	1065 (F30)		75	19		F30/F35

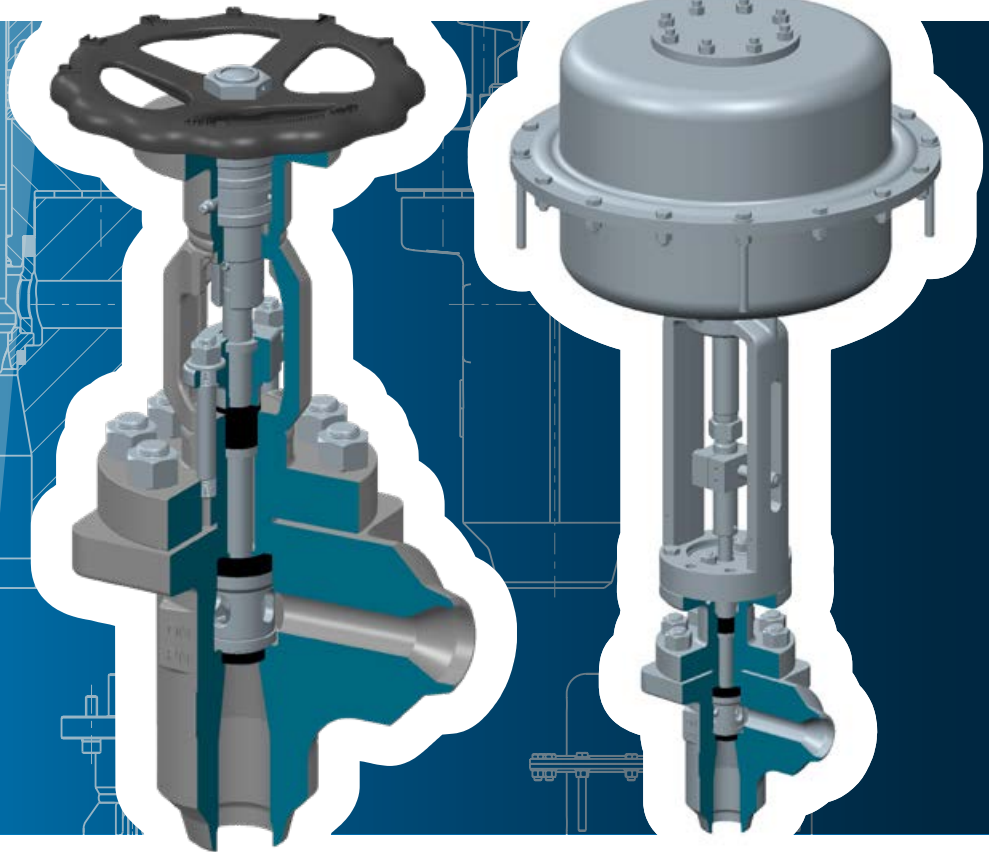
Weights/kg and Kvs value m³/h DVA 40

DN	Butt-weld ends	Kvs * [m³/h]
80	140	45
100	225	73
125	430	114
150	715	174
200	1140	300

* Deviations are possible due to changed connection dimensions.

ASME

version
available



BLOW DOWN VALVE

KAV - 202 FJ – PD25 - DN 50-65

Design highlights

- Body seat with replaceable seat ring made of Stellite for high-wearing applications
- Single-piece stem with disc and armoured regulating attachment
- Shut-off and regulating geometry structurally separated
- The regulating geometry can be adjusted, on request
- The angular form valve version improves the flow characteristics and reduces wear
- The cover gasket and the gland packing are pretensioned separately
- The seal of the seat ring is ensured by a gasket in the “force shunt”
- Yoke sleeve in special brass with good emergency running characteristics
- The disc spring assembly limits the tensioning of the stem during warming and it cushions the closing procedure

Version

- Angular form with straight top part
- Body forged
- Non-rotating, rising stem
- Position indicator / anti-twist device
- Shut-off seat separate from throttle contour
- Needle bearing yoke sleeve
- With integral actuator connection flange
- With back seat
- Flow passage form 200 FJ on request
- Dust proof version possible
- Actuated with handwheel, electric actuator, pneumatic actuator

Operating data

- Operating pressure up to 250 bar
- Operating temperature up to 650 °C

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383
- 1.4903

Other materials available on request.

Flow medium

Water/steam mixture

Applications

The drain valve is specifically designed for use as a blow down valve. If the valves are used as “continuous blow down” or “discontinuous blow down” valves, the seat ring and the disc (in particular) are subject to increased wear. For this reason, the stem with disc and the seat ring can be replaced. To ensure as long a service life as possible for the wear parts and thus to ensure internal tightness in the valve, the seat and throttle attachment are separate. The valve is only designed for operation with pressure pressure inlet above the disc.

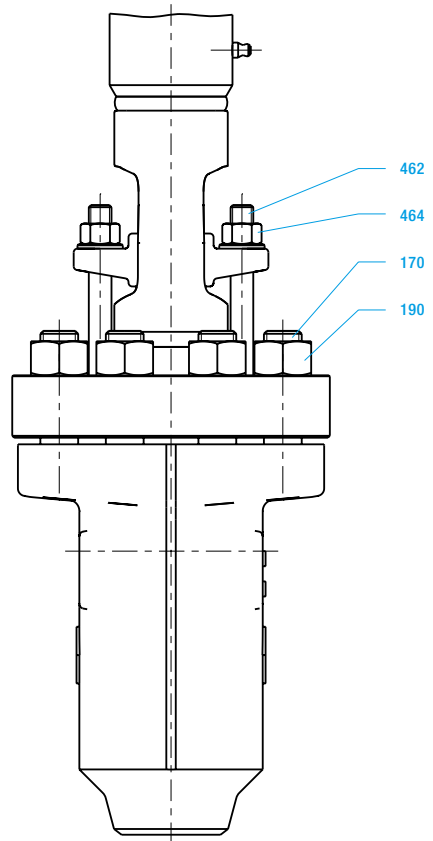
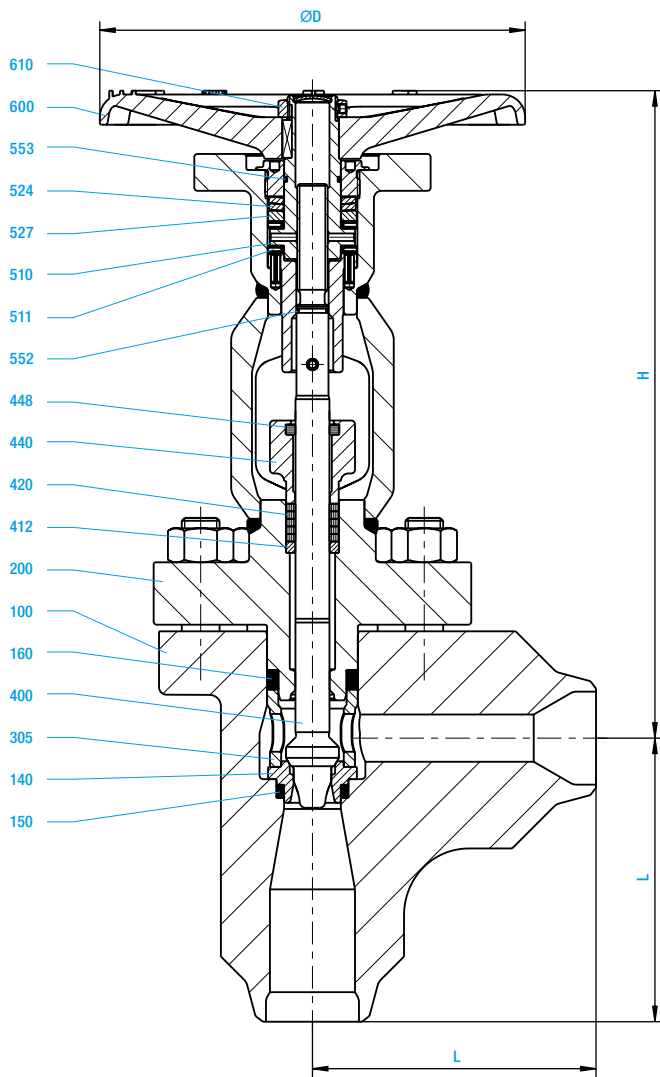
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

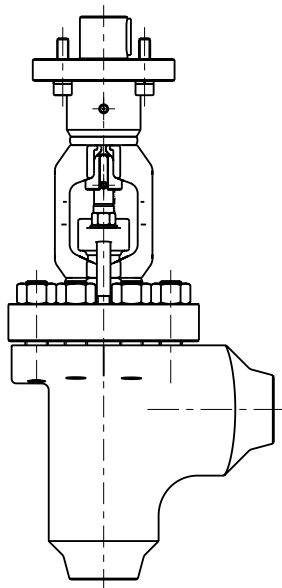
Temp.	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650			
1.0460	25	250	250	250	250	250	250	250	250	250	214	179	145	145	139	102	68	39																					
1.5415	25	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	214	139	89	52															
1.7335	25	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	211	158	108	63	34												
1.7383 ²⁾	25	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	239	209	171	136	102	77	53	32	17								
1.4903 ²⁾	25	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	240	230	210	200	164	135	110	87	65		

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

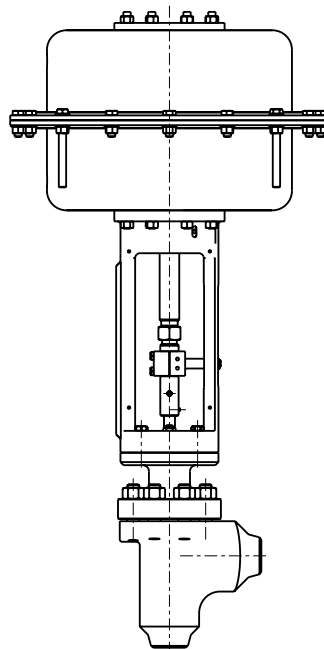
2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



With connection parts for electric actuator



With pneumatic actuator



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.4903 (63)
100	Body	1.0460	1.5415	1.7335	1.7383	1.4903
140	Seat ring	Stellite	Stellite	Stellite	Stellite	Stellite
150	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7225	1.4980	1.4980	1.4980	1.4980
190	Hexagonal nut	1.7218	1.4986	1.4986	1.4986	1.4986
200	Bonnet	1.7383	1.7383	1.7383	1.7383	1.4903
305	Body insert	1.4980	1.4980	1.4980	1.4980	1.4980
400	Stem	1.4980	1.4980	1.4980	1.4980	1.4980
412	Guide sleeve	0.7660	0.7660	0.7660	0.7660	0.7660
420	Packing	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite
440	Gland	1.7379	1.7379	1.7379	1.7379	1.7379
448	Packing ring	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh	Graphite mesh
462	Bolt	1.7225	1.7225	1.7225	1.7225	1.4980
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.4986
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLSt	WLSt	WLSt	WLSt	WLSt
524	Disc spring	1.8159	1.8159	1.8159	1.8159	1.8159
527	Supporting disc	1.4021	1.4021	1.4021	1.4021	1.4021
552	O-ring	Viton	Viton	Viton	Viton	Viton
553	O-ring	Viton	Viton	Viton	Viton	Viton
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St	St

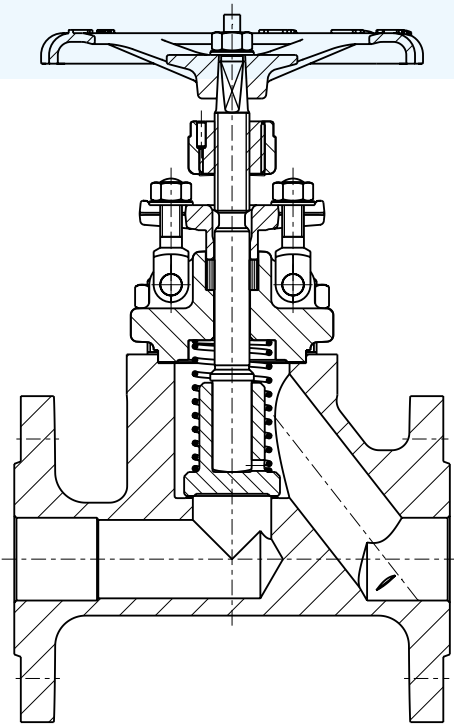
Spare parts

Dimensions/mm and weights/kg

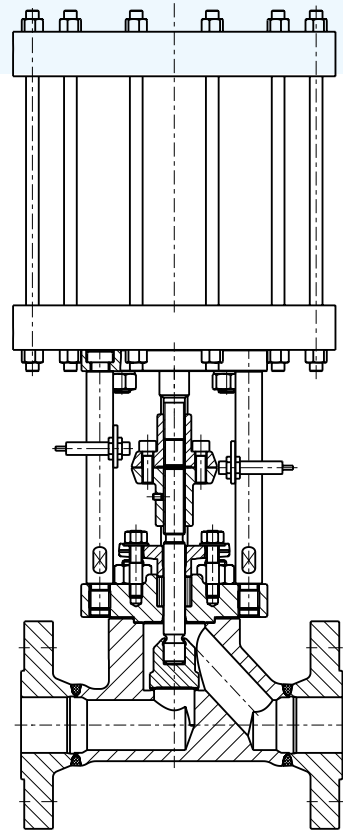
DN	L	H	Stroke length	Rev/stroke	ØD	DIN/ISO 5210	Weight (handwheel)	Kvs* [m³/h]
50	150	340	23	11.5	225	F10/F14	32 kg	13.1
65	200	495	32	10.6	360	F14/F16	79 kg	29.4

* Deviations are possible due to changed connection dimensions.

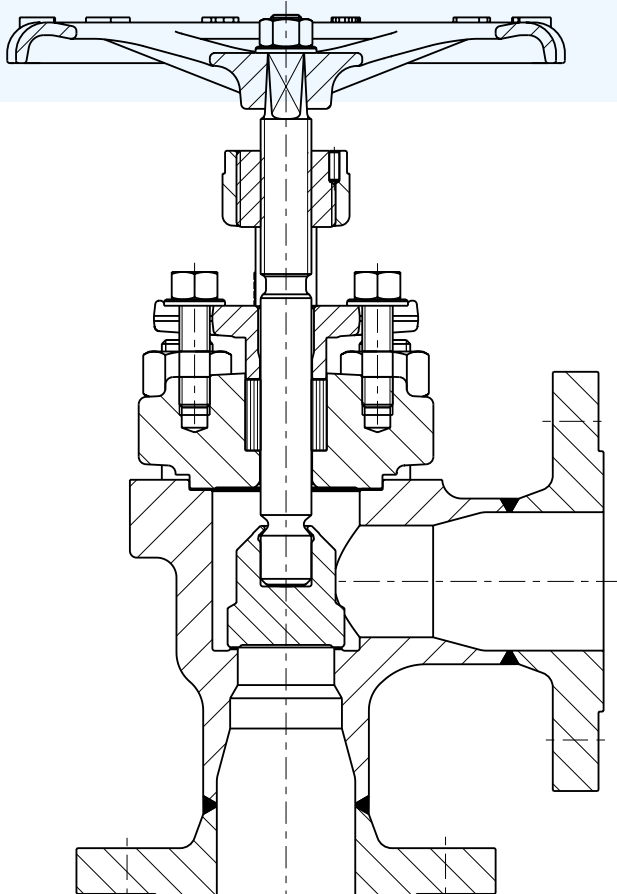
Lift check valve with shut-off option 240 ME



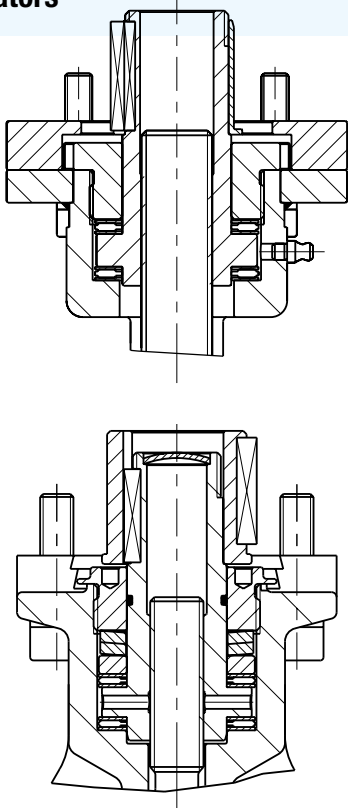
Globe valve with pneumatic actuator



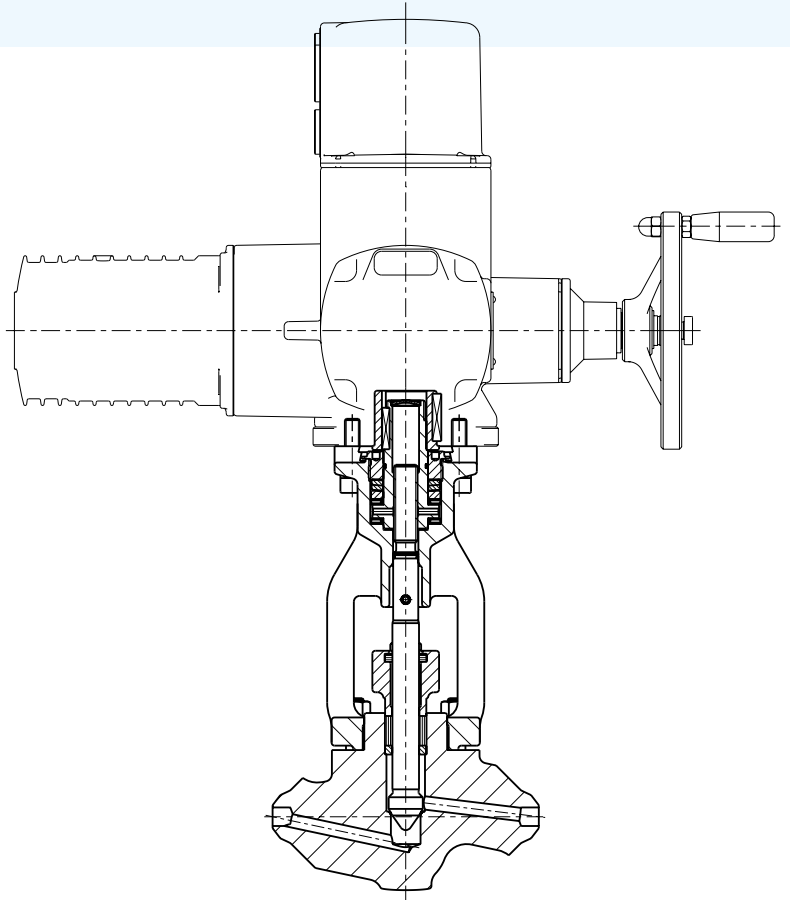
Angle pattern globe valve 202 AE



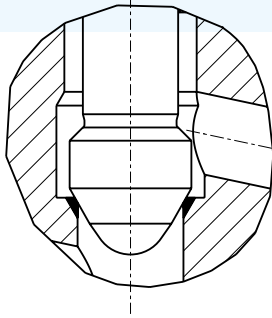
Attachment variants for electric actuators



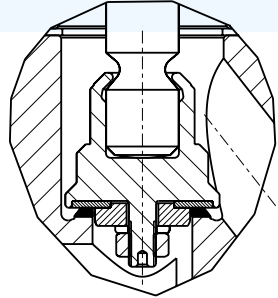
Example



Disc with edge seat

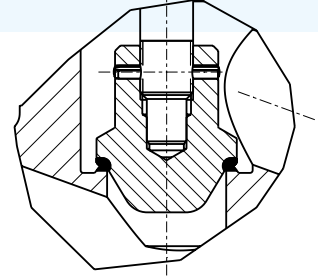


Soft-sealing disc



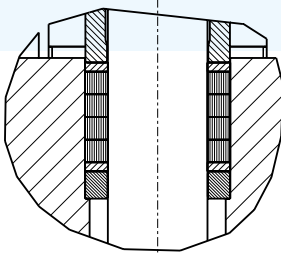
e.g. with PTFE insert ring for special media up to approx. 280 °C

Regulating disc with fixed pins



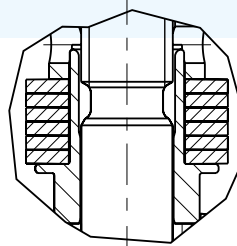
Suitable for operation in intermediate position

PTFE stuffing box



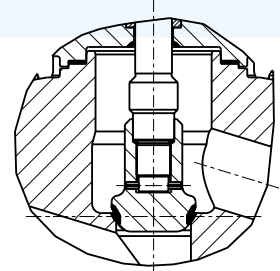
Chambered for aggressive media up to approx. 280 °C max.

Stuffing box with central disc spring contact pressure

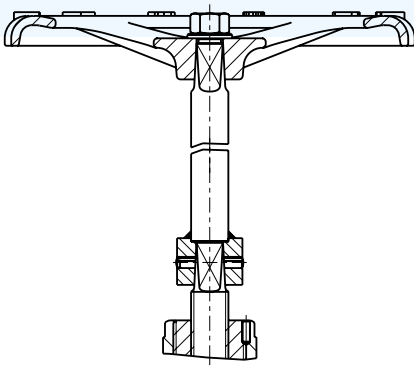


To minimise maintenance work

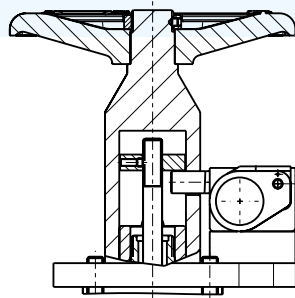
Armoured back seat



Stem extension

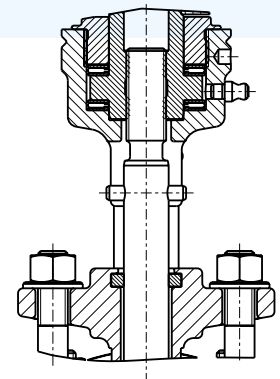


PERLOC system locking

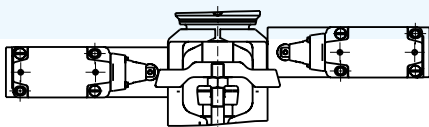


Also for dependency interlocks (safety circuits)

Non-rotating stem

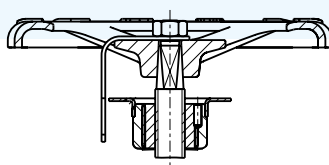


Limit switch



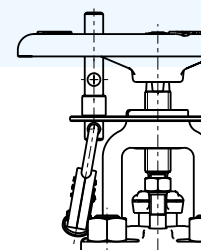
Mechanical or inductive available

Position OPEN/CLOSED display



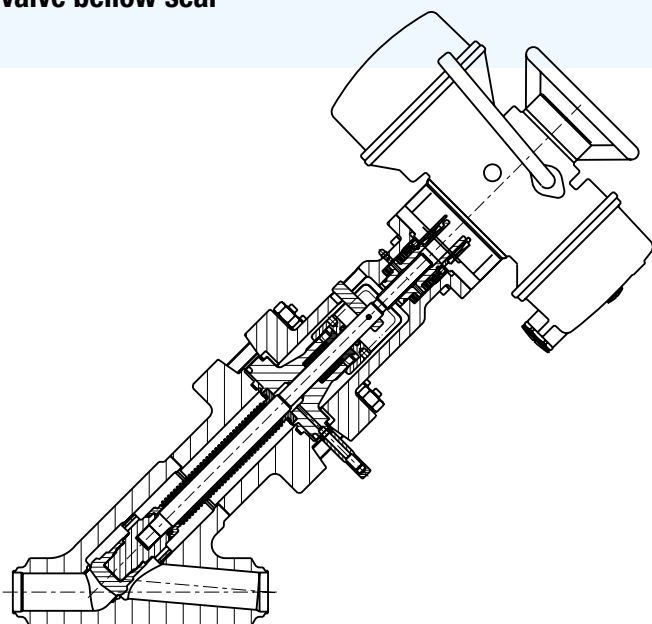
With sheet metal bracket

Locking

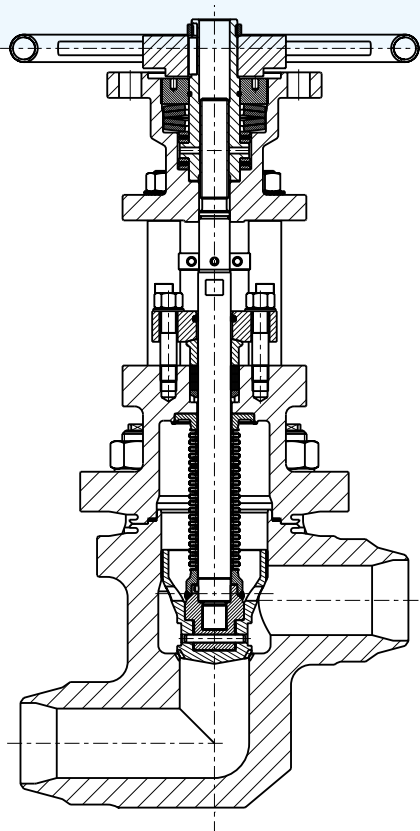


With padlock

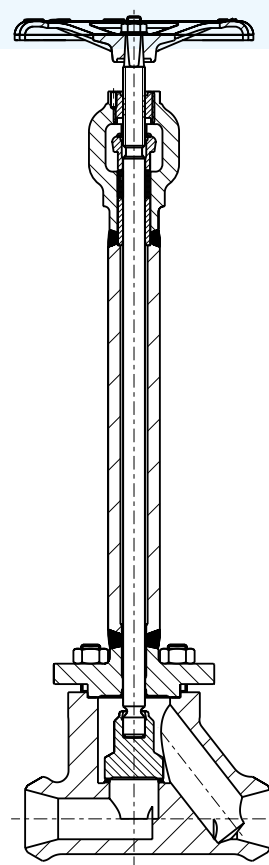
Y-valve bellow seal

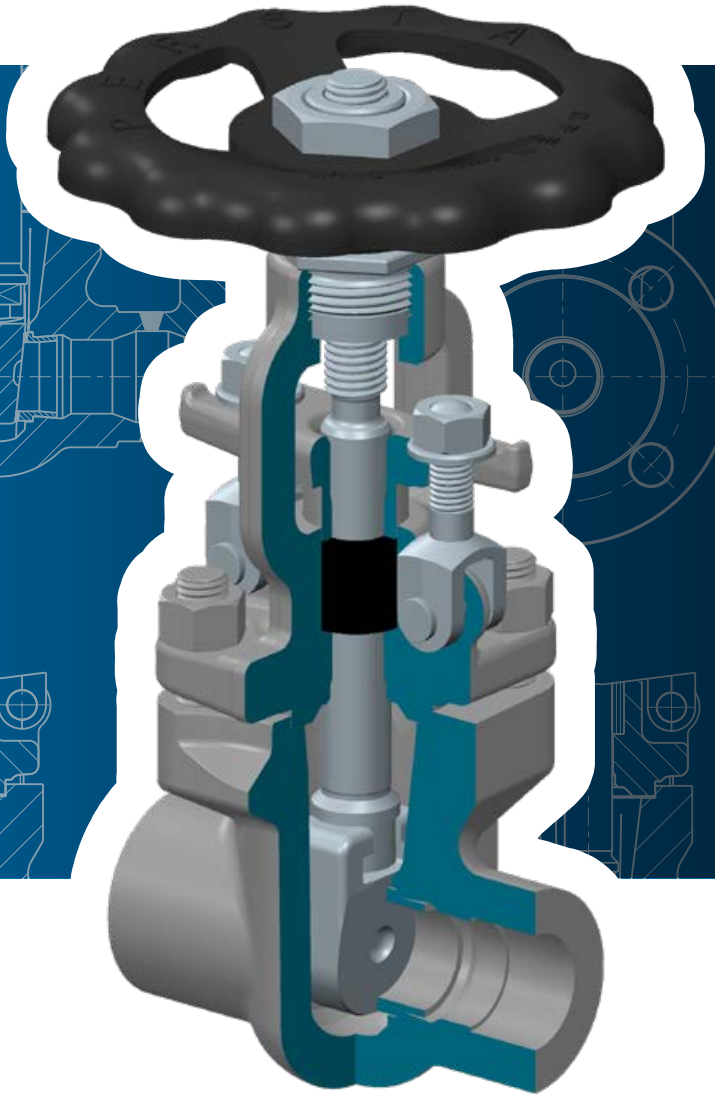


Monoblock Z-valve



Shut-off valve with insulating clearance





SMALL GATE VALVE

808 GJ PN 10-100 DN 10-40

Design highlights

- Forged body and bonnet
- Disc material 1.4021 or Stellite 6 and seat ring material 1.4571
- Body seal with male and female connection
- Full bore
- Non-rotating, rising stem

Advantages

- Homogeneous joining, sturdy and heavy duty
- Absolute seat impermeability and low wear
- No constriction in seat
- Blow-out-proof seal – improved external impermeability
- Minimum packing wear

Version

- Forged body and bonnet
- Body with full bore
- Solid wedge
- External stem thread
- Non-rotating, rising stem
- Available in flange version, butt-weld end or socket weld version.

Materials

- 1.0460
- 1.7335
- 1.0571
- 1.4571

Other materials available on request.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure, butt-weld ends, up to 100 bar (DIN 2401)
- Operating pressure, flange ends, up to 100 bar (DIN 2401)
- Operating temperature up to 550 °C

Flow medium

Depending on the choice of materials, the small gate valves can be used for water, steam, gas, oil or other non-aggressive media.

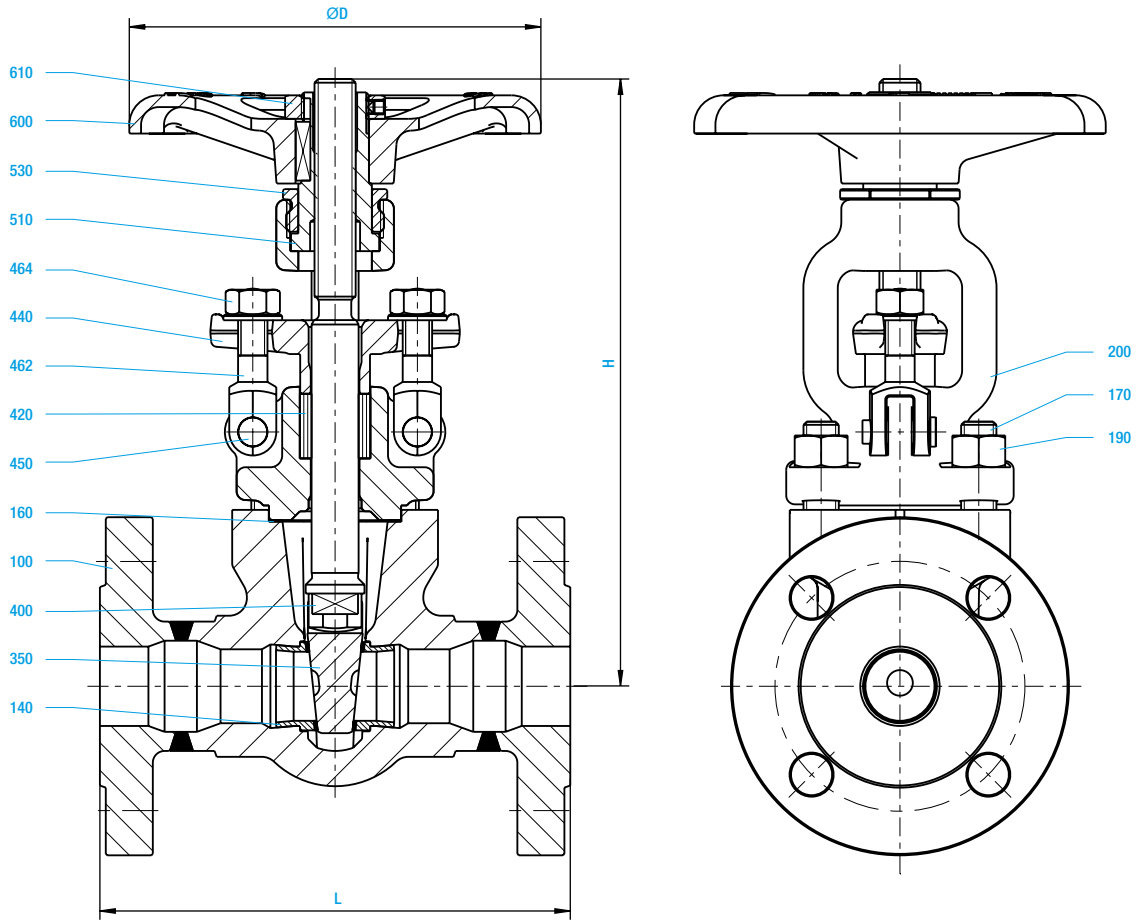
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

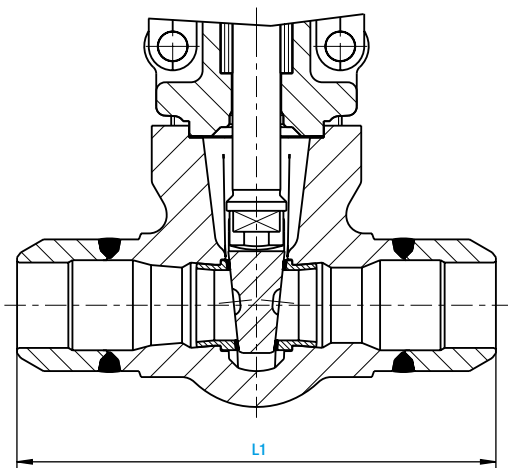
Material	PN	-200	-60	-10	20	100	200	250	300	350	400	450	475	480	500	510	520	530	540	550
1.0460	40			40	40	40	35	32	28	24	21	13	8	7						
	63			63	63	63	50	45	40	36	32	21	13	12						
	100			100	100	100	80	70	60	56	50	34	21	19						
1.7335	40			40	40	40	40	40	40	38	36	34	31.5	31	29	24	19	15	12	9
	63			63	63	63	63	63	63	61	58	56	51.5	50.6	47	40	32	25	20	15
	100			100	100	100	100	100	100	95	91	87	80.5	79.2	74	62	49	38	30	23
10571	40		40	40	40	40	35	33	31											
	63		63	63	63	63	50	47	44											
	100		100	100	100	100	80	75	65											
1.4571	40	40	40	40	40	40	35	33	31	30	29									
	63	63	63	63	63	63	50	47	44	42	40									
	100	100	100	100	100	100	80	75	70	65	60									

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

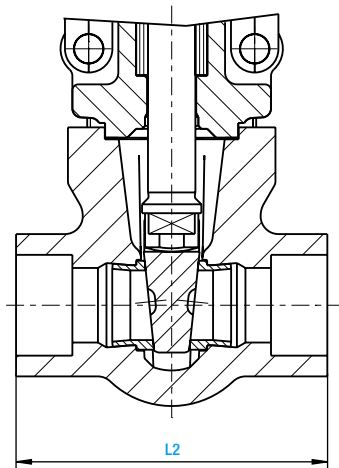
Flange version



Butt-weld end version



Socket weld version



Materials

Item	Designation	1.0460 (21)	1.7335 (44)	1.0571 (25)	1.4571 (87)
100	Body	1.0460	1.7335	10571	1.4571
140	Seat ring	1.4571	1.4571 ¹⁾	1.4571	1.4571
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.4923	A4-70	A4-70
190	Hexagonal nut	1.7218	1.4923	A4-70	A4-70
200	Bonnet	1.0460	1.7335	1.0571	1.4571
350	Disc	1.4021	2.5788	2.5788	2.5788
400	Stem	1.4021	1.4021	1.4571	1.4571
420	Packing	Graphite	Graphite	Graphite	Graphite
440	Gland flange	1.0460	1.0460	1.4571	1.4571
450	Rivet pin	1.1181	1.1181	A4-50	A4-50
462	Hinge bolt	1.1181	1.1181	1.4571	1.4571
464	Hexagonal nut	1.1181	1.1181	A4-70	A4-70
510	Yoke sleeve	1.0718	1.0718	1.0718	1.0718
530	Screw	1.0718	1.0718	1.0718	1.0718
600	Handwheel	0.7040	0.7040	0.7040	0.7040
610	Hexagonal nut	St	St	St	St

Spare parts

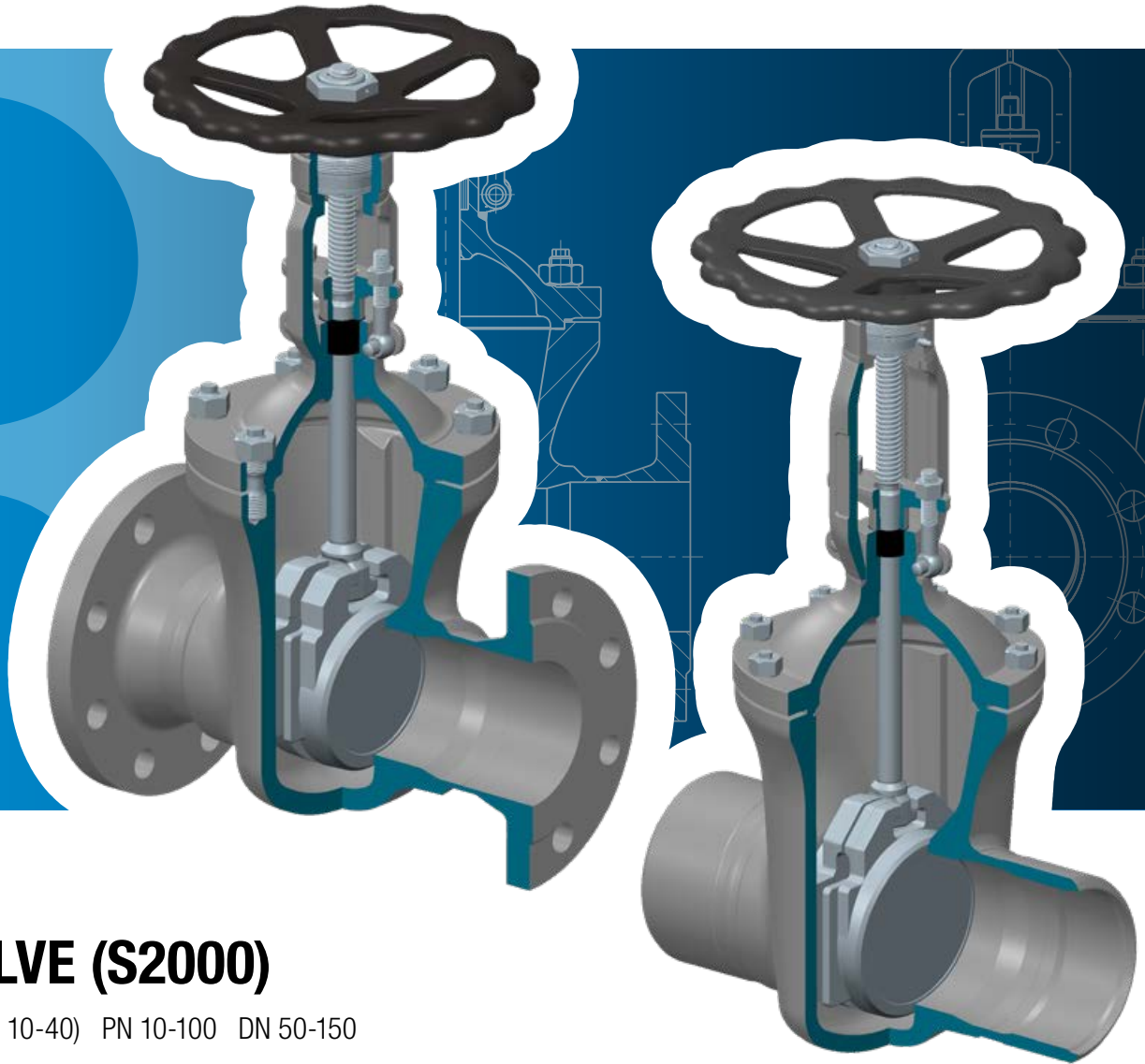
1) Armoured with Stellite

Dimensions/mm

PN	DN	Flange L	Butt-weld ends L1	Socket welds L2	H	Stroke length	Rev/stroke	ØD
10-100	10	130	130	105	207	27	13.5	140
	15	130	130	105	207	27	13.5	140
	20	150	150	105	207	27	13.5	140
	25	160	160	105	207	27	13.5	140
	32	180	180	115	228	35	17.5	180
	40	240	240	115	228	35	17.5	180

Weights/kg and Kvs value m³/h

DN	PN		Butt-weld ends 10-100	Flange/welded ends 10-100	Kvs [m ³ /h]
	10-40	63-100			
10	6	6.6	4.7	4.8	
15	6	6.8	4.8	4.8	14.2
20	6.7	8.4	4.8	4.8	29.2
25	7.2	10	5	4.7	39.5
32	12	14	9	8.1	74.7
40	13.1	16.5	10	8	95.3



ASME

version available

GATE VALVE (S2000)

700 HJ/JJ (GA PN 10-40) PN 10-100 DN 50-150

Design highlights

- Forged body centre with integral cover flange and integral guide rails
- Integral seat, body seat a hardness of approx. 35–37 HRC
- Bolted bonnet with expansion bolts
- Full bore
- Non-rotating, rising, roll-polished stem
- GA version: rotating non-rising stem

Advantages

- Homogeneous joining, free of pores and cavities compared to cast steel, sturdy and heavy duty
- High wear resistance, long-term seat impermeability
- Improved flow characteristics and low pressure drop
- No constriction in seat
- Blow-out-proof seal
- Minimum packing wear
- Advantageous in small spaces

Version

- Split wedge design = version JJ
- Flexible wedge design = version HJ
- Body and bonnet forged
- Body with full bore
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Available with flanged and butt-weld connections

GA version option

- Flexible disc design
- Internal stem thread
- Rotating, non-rising stem

Operating data

- Operating pressure, welded ends, up to 120 bar (DIN 2401; DIN EN 1092-1 or DIN EN 12516-1)
- Operating pressure, flange ends, up to 100 bar (DIN 2401 or DIN EN 1092-1)
- Operating temperature up to 600 °C

Materials

- 1.0460
- 1.0619
only flange version PN 10-40
- 1.0571
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Max. area of application for butt-weld ends³⁾

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

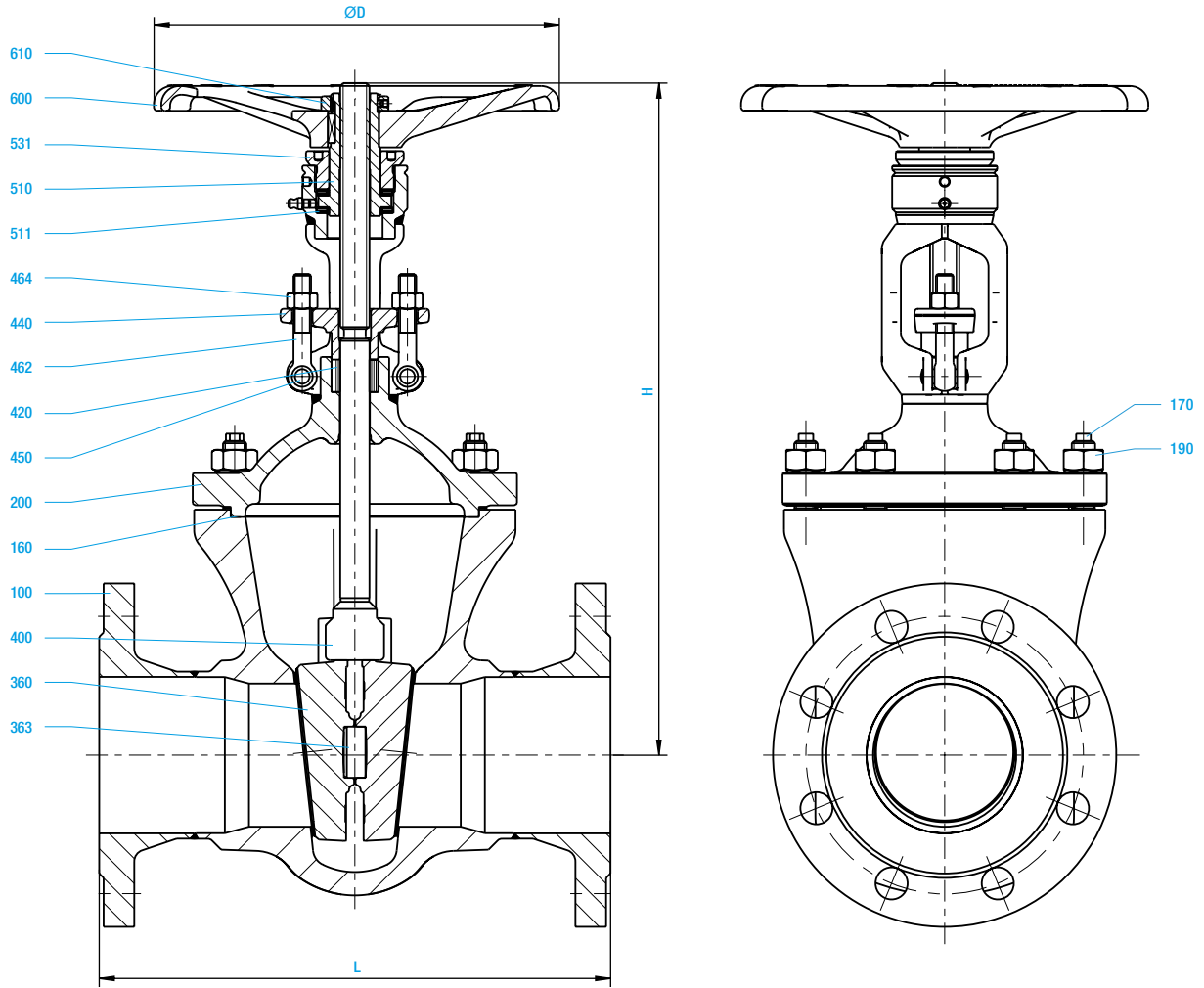
Material	PN	-60	-10	20	50	100	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600		
1.0460	40		40	40	40	40	40	39.5	34.6	30.9	27.6	24	23	22	19.9	17.2	16.1	14.2	11.9	9.8														
	100		100	100	100	100	100	94	82	74	64.8	60	57.5	54.9	48.9	42.9	38	34	28	23														
1.5415	40		48	48	48	48	48	47	43.2	37.1	35.8	34.6	34.4	34.1	33.9	33.6	33.4	33.1	32.9	32.6	28.5	22.2	16.9	13.3	10.7									
	100		120	120	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25.1									
1.7335	40		48	48	48	48	48	48	48	45.7	43.3	40.8	40.3	39.8	39.3	38.8	38.3	38.1	37.8	37.6	37.3	33.9	28.5	22.5	18.4	14.8	11.6	9.5	7.7					
	100		120	120	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18					
1.7383 ²⁾	40		48	48	48	48	48	48	48	46	43	43	42	42	41	41	40	40	39	38	33.9	29	25	22	19	17	14	13	11	9	8			
	100		120	120	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	81	69	61	53	46	40	34	30	26	22	20		
1.0571	40		40	40	40	40	40	40	40	40	37.5																							
	100		100	100	100	100	100	100	100	100	93.8																							

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

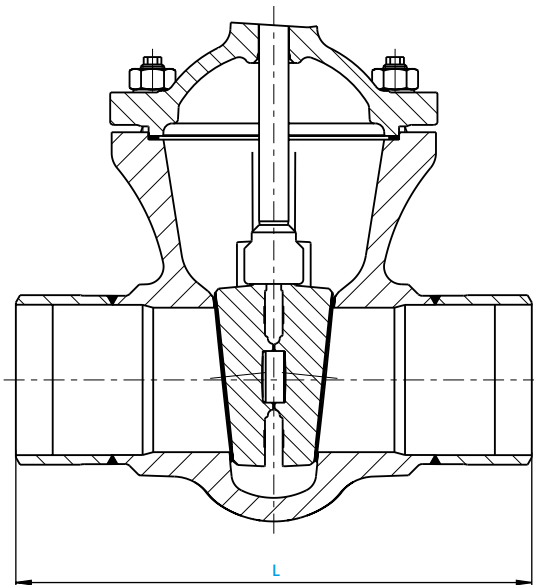
2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

3) Max. area of application for flange ends or pressure ratings; see technical appendix from page 138.

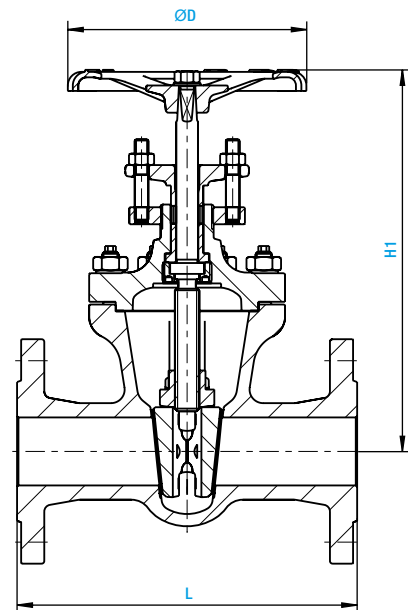
Flange version



Butt-weld end version



700 GA



Materials

Item	Designation	1.0619 (11) PN 10-40	1.0460 (21)	1.0571 (25)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0619 ¹⁾	1.0460 ¹⁾	1.0566 ¹⁾	1.5415 ²⁾	1.7335 ²⁾	1.7383 ²⁾
160	Gasket	Graphite ⁴⁾	Graphite ⁴⁾	Graphite ⁴⁾	Graphite ⁴⁾	Graphite ⁴⁾	Graphite ⁴⁾
170	Bolt	1.7225	1.7225	1.7225	1.7225	1.4923	1.4923
190	Hexagonal nut	1.7218	1.1181	1.7218	1.7218	1.4923	1.4923
200	Bonnet	1.0460	1.0460	1.0566	1.5415	1.7335	1.7383
360	Disc	1.0460 ³⁾	1.0460 ³⁾	1.0566 ³⁾	1.5415 ²⁾	1.7335 ²⁾	1.7383 ²⁾
363	Pressure piece	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021
400	Stem	1.4021	1.4021	1.4571	1.4122	1.4122	1.4122
420	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
440	Gland flange	1.0460	1.0460	1.4571	1.0460	1.0460	1.0460
450	Pin	St	St	1.4571	St	St	St
462	Bolt	1.1181	1.1181	A4-50	1.1181	1.1181	1.1181
464	Hexagonal nut	1.1181	1.1181	A4-70	1.1181	1.1181	1.1181
510	Yoke sleeve	1.0718	1.0718	1.0718	1.0718	1.0718	1.0718
511	Anti-friction bearing	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t
531	Threaded connection	1.0718	1.0718	1.0718	1.0718	1.0718	1.0718
600	Handwheel	5.3106	5.3106	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St	St	St

Spare parts

- 1) Armoured with Cr17
 - 2) Armoured with Stellite
 - 3) Armoured with 18/8
 - 4) DN 150 Grooved profile with graphite layer
- Note: Only material 1.0460/1.0619 available for KI gate valve 700 GA

Dimensions/mm

PN DN	ØDS	10-25	40-100	10-40	63-100	Stroke length	Rev/ stroke	10-40	63-100	
		L	L	H	H			H1	ØD	ØD
50	50	250	250	340	340	280	63	16	180	180
80	78	280	310	415	415	345	90	23	225	225
100	98	300	350	460	505	405	110	28	280	360
150	150	350	450	655	685	525	165	28	360	450

Weights/kg and Kvs value m³/h

PN DN	10-25	40	63	100	700 GA					Kvs [m ³ /h]
					10-40	63-100	Flange/butt-weld ends			
					Butt-weld ends		Flange/butt-weld ends			
50	19	19	23.5	26.5	21.5	15.5	19	19	15	258
80	35	35	40.5	45	28	31	35	1	28	6285
100	50	54	63	71	43	47	51	54	43	991
150	92	98	138	155	80	100	92	98	80	2323



GATE VALVE

700 HJ/JJ (GA) PN 10-40 DN 200-250

Design highlights

- Forged body and bonnet
- Integral seat, hardness of approx. 35–37 HRC
- Bolted bonnet with expansion bolts
- Full bore
- Non-rotating, rising, roll-polished stem
- GA version: rotating non-rising stem
- Suitable for retrofitting of electric actuators

Advantages

- Homogeneous joining, free of pores and cavities compared to cast steel, sturdy and heavy duty
- High wear resistance, long-term seat impermeability
- Improved flow characteristics and low pressure drop
- No constriction in seat
- Minimum packing wear
- Advantageous in small spaces
- Conversion kit can be installed without welding

Version

- Split wedge design = version JJ
- Flexible wedge design = version HJ
- Body and bonnet forged
- Body with full bore
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Available with flanged and butt-weld connections

GA version option

- Flexible wedge gate / flexible wedge design
- Internal stem thread
- Rotating, non-rising stem

Operating data

- Operating pressure, welded ends, up to 40 bar (DIN 2401)
- Operating pressure, flange ends, up to 40 bar (DIN 2401)
- Operating temperature up to 400 °C

Materials

- 1.0460
- 1.0571

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

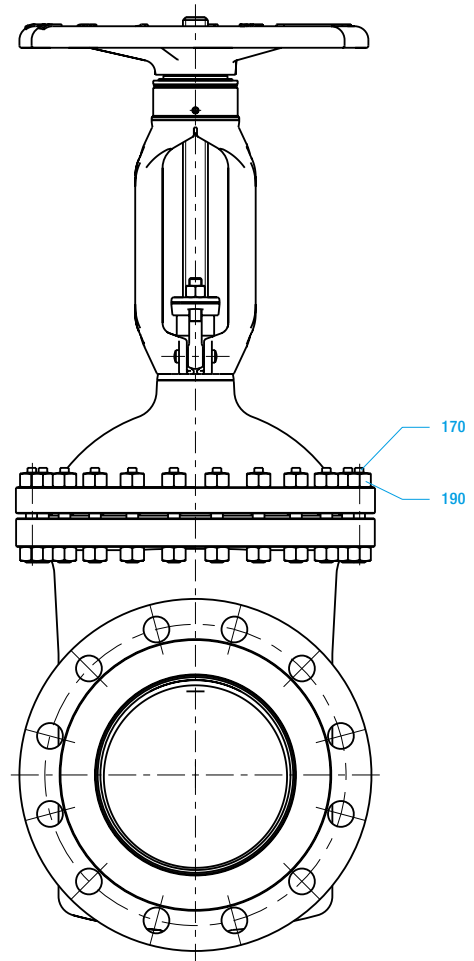
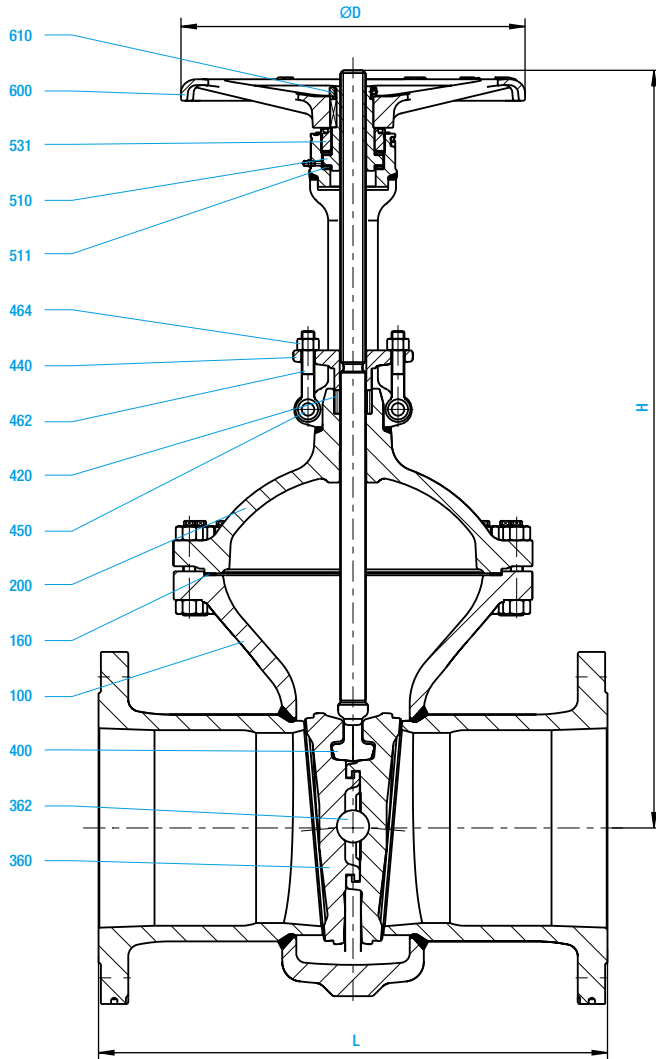
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

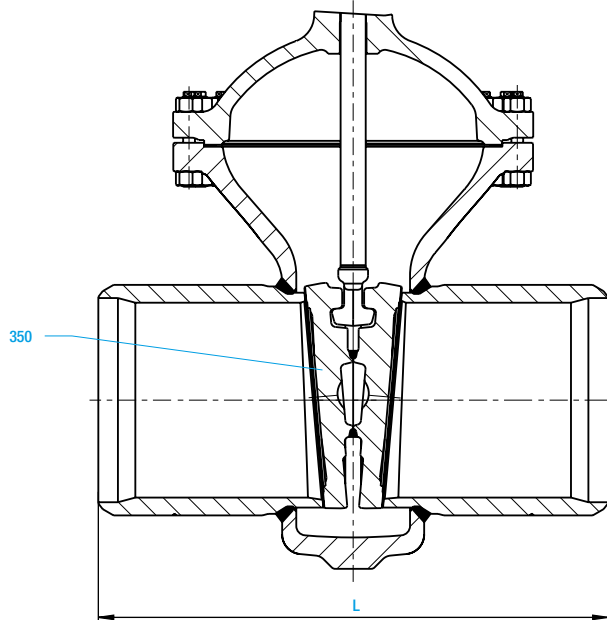
Material	PN	-60	-10	20	120	200	250	300	350	400
1.0460	16		16	16	16	14	13	11	10	8
	25		25	25	25	22	20	17	16	13
	40		40	40	40	35	32	28	24	21
1.0571	16	16	16	16	16	14	13	11		
	25	25	25	25	25	22	20	17		
	40	40	40	40	40	35	32	28		

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

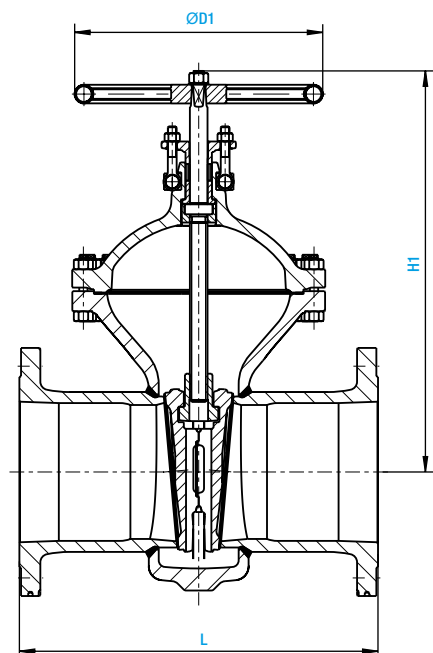
Flange version



Butt-weld end version



700 GA



Materials

Item	Designation	1.0460 (21)	1.0571 (25)
100	Body	1.0460 ¹⁾	1.0571 ¹⁾
160	Gasket	Grooved profile with graphite layer	Grooved profile with graphite layer
170	Bolt	1.1181	A4-70
190	Hexagonal nut	1.1181	A4-70
200	Bonnet	1.0460	1.0571
350	Disc	1.0460 ²⁾	1.0571 ²⁾
360	Disc	1.8507 ²⁾	1.0571 ²⁾
362	Ball	WLS _t	WLS _t
400	Stem	1.4021 ³⁾	1.4571
420	Packing	Graphite	Graphite
440	Gland flange	1.0460	1.4571
450	Pin	St	1.4571
462	Bolt	1.1181	A4-50
464	Hexagonal nut	1.1181	A4-70
510	Yoke sleeve	1.0718	1.0718
511	Needle bearing	WLS _t	WLS _t
531	Threaded connection	1.0718	1.0718
600	Handwheel	5.3106	5.3106
610	Hexagonal nut	St	St

Spare parts

- 1) Armoured with 18/8
- 2) Armoured with Cr17
- 3) PN 40 DN 250 = 1.4122

Other materials available on request.

Note: Only material 1.0460 available for KI gate valve 700 GA.

Dimensions/mm

DN	PN		10-25 L	40 L	H	Stroke length	Rev/ stroke	10-25 ØD	40 ØD
	ØDS1	ØDS2							
200	185	198	400	550	810	220	46	360	450
250	245	248	450	650	980	285	47	450	450

Weights/kg and Kvs value m³/h

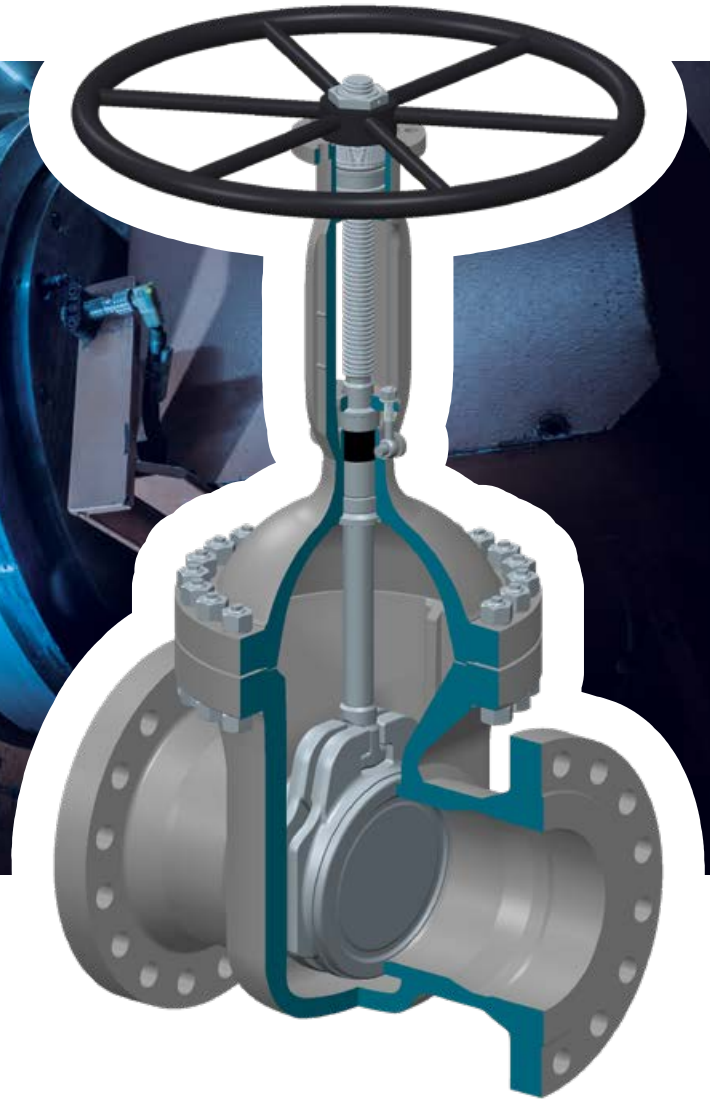
DN	PN		10-25 Flange	40	10-25 Butt-weld ends	40	Kvs [m ³ /h]
	10-25	40					
200	163	191	129	142	4000		
250	283	322	241	276	6247		

Dimensions/mm 700 GA

DN	PN		10-25 L	40 L	H1	Stroke length	Rev/ stroke	10-25 ØD1	40 ØD1
	ØDS1	ØDS2							
200	185	198	400	550	590	220	46	360	360
250	245	248	450	650	725	285	47	450	450

Weights/kg and Kvs value m³/h 700 GA

DN	PN		10-25 Flange	40	10-25 Butt-weld ends	40	Kvs [m ³ /h]
	10-25	40					
200	140	170	125	125	4000		
250	263	303	223	258	6247		



GATE VALVE

700 HJ/JJ PN 63-100 DN 200-300

Design highlights

- Forged body and bonnet
- Seat armoured
- Bolted bonnet with male and female connection
- Almost full bore
- Non-rotating, rising stem

Advantages

- Homogeneous joining, free of pores and cavities compared to cast steel, sturdy and heavy duty
- High, long-term wear resistance in seat
- Blow-out-proof seal
- No constriction in seat
- Minimum packing wear

Version

- Flexible wedge gate with shut-off option / split wedge design = version JJ
- Flexible wedge design = version HJ
- Body and bonnet forged
- Body with almost full bore
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Available with flanged and butt-weld connections

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure, welded ends, up to 100 bar (DIN 2401)
- Operating pressure, flange ends, up to 100 bar (DIN 2401)
- Operating temperature up to 600 °C

Area of application

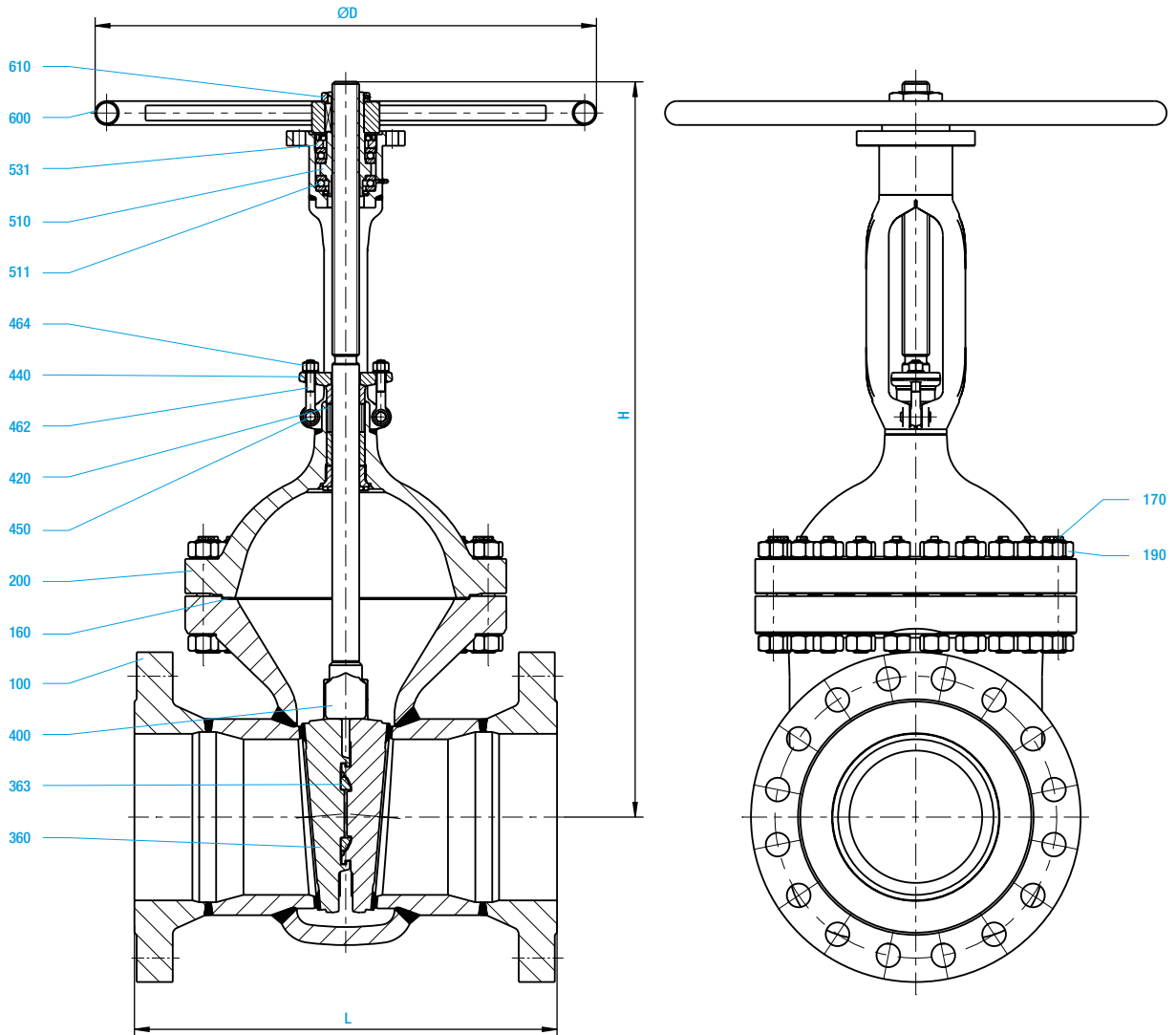
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-60	-10	20	120	150	200	250	300	350	400	450	475	480	500	510	520	530	540	550	560	570	580	590	600	
1.0460	63		63	63	63	58	50	45	40	36	32	21	14	12												
	100		100	100	100	91	80	70	60	56	50	34	21	19												
1.5415	63		63	63	63	63	63	63	56	50	47	45	37	35	29	22	16	14								
	100		100	100	100	100	100	100	87	78	74	70	57	54	45	34	27	22								
1.7335	63		63	63	63	63	63	63	63	61	58	56	53	51	47	40	32	25	20	16	13	10				
	100		100	100	100	100	100	100	100	95	91	87	82	80	74	62	49	38	31	24	19	16				
1.7383 ²⁾	63		63	63	63	63	63	63	63	62	62	60	55	53	47	40	35	28	25	22	18	15	12	11	9	
	100		100	100	100	100	100	100	100	98	96	94	85	82	74	62	53	43	39	33	27	23	19	17	15	

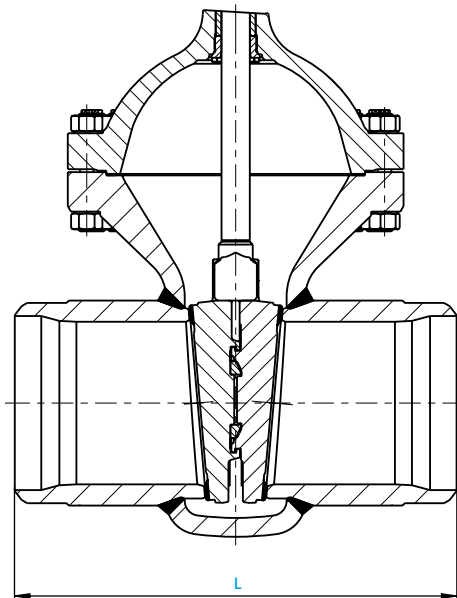
1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

Flange version



Butt-weld end version



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0460 ¹⁾	1.7383/1.5415 ²⁾	1.7383/1.7335 ²⁾	1.7383 ²⁾
160	Gasket	Grooved profile with graphite layer			
170	Bolt	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.7383	1.7383	1.7383	1.7383
360	Disc	1.7383 ²⁾	1.7383 ²⁾	1.7383 ²⁾	1.7383 ²⁾
363	Pressure piece	1.4122	1.4122	1.4122	1.4122
400	Stem	1.4021	1.4122	1.4122	1.4122
420	Packing	Graphite			
440	Gland flange	1.0460	1.0460	1.0460	1.0460
450	Pin	St	St	St	St
462	Bolt	1.1181 ³⁾	1.1181 ³⁾	1.1181 ³⁾	1.1181 ³⁾
464	Hexagonal nut	1.1181 ⁴⁾	1.1181 ⁴⁾	1.1181 ⁴⁾	1.1181 ⁴⁾
510	Yoke sleeve	1.0718 ⁵⁾	1.0718 ⁵⁾	1.0718 ⁵⁾	1.0718 ⁵⁾
511	Anti-friction bearing	WLS _t			
531	Threaded connection	1.0718	1.0718	1.0718	1.0718
600	Handwheel	St	St	St	St
610	Hexagonal nut	St	St	St	St

Spare parts

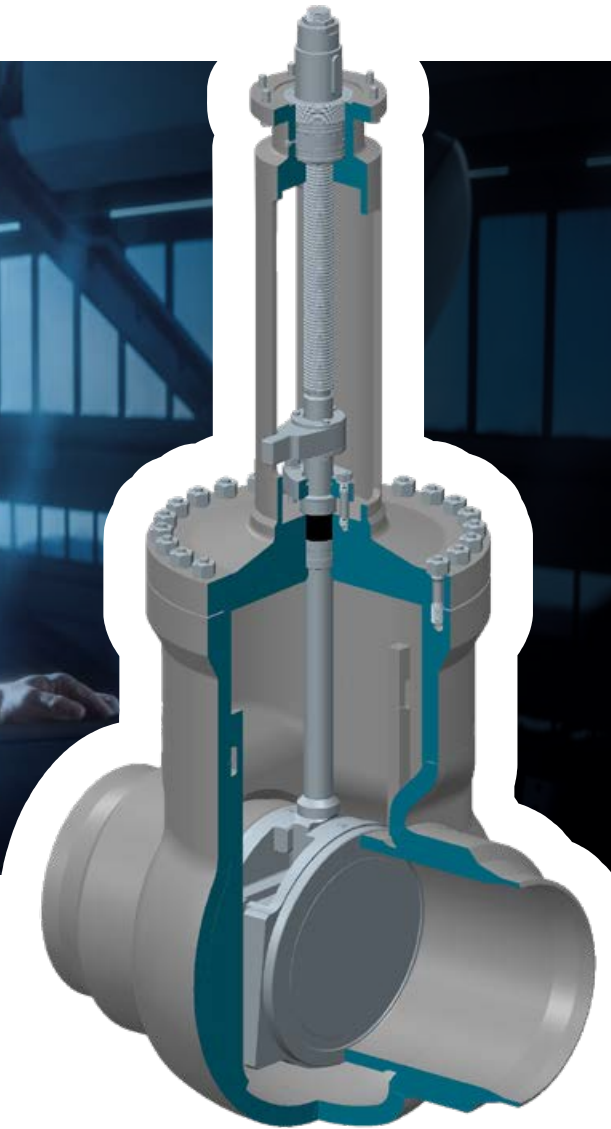
- 1) Armoured with 18/8
- 2) Armoured with Stellite
- 3) >= DN250 1.7709
- 4) >= DN250 1.7218
- 5) >= DN250 CW713R

Dimensions/mm

DN \ PN	ØDS	63-100 L	H	Stroke length	Rev/stroke	ØD
200	199	550	890	210	37.5	600
250	235	650	1110	265	37.5	720
300	276	750	1310	313	40	890

Weights/kg and Kvs value m³/h

DN \ PN	63 Flange	100	63-100 Butt-weld ends	Kvs [m ³ /h]
200	287	307	223	4000
250	491	542	436	6247
300	727	811	650	8997



GATE VALVE

400 JJ PN 63-100 DN 350-700

Design highlights

- Seat armoured with Stellite
- Non-rotating, rising stem
- Gland in two separate pieces
- Needle bearing yoke sleeve

Advantages

- Lasting effective impermeability in closed position
- Minimum packing wear
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open or close the valve

Version

- Split wedge design
- External stem thread
- Suitable for mounting electric actuators

Operating data

- Operating pressure up to 100 bar
- Operating temperature up to 600 °C

Materials

- 1.0425
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the high pressure line blind valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

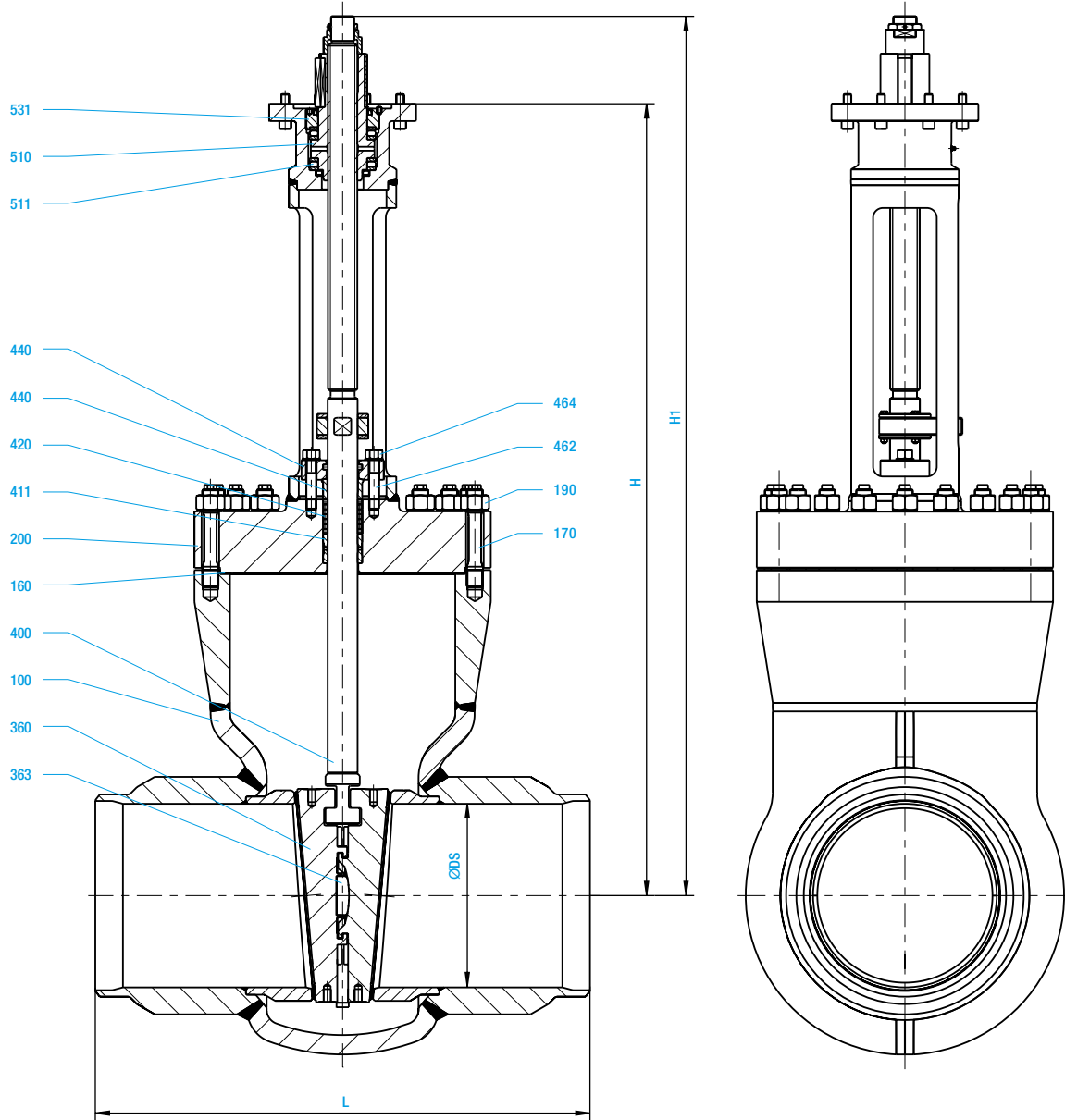
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-10	20	120	150	200	250	300	350	400	450	475	480	500	510	520	530	540	550	560	570	580	590	600	
1.0425	63	63	63	63	58	50	45	40	36	32	21	14	12												
	100	100	100	100	91	80	70	60	56	50	34	21.8	19												
1.5415	63	63	63	63	63	63	63	56	50	47	45	37	35	29	22	16	14								
	100	100	100	100	100	100	100	87	78	74	70	57	54	45	34	27	22								
1.7335	63	63	63	63	63	63	63	63	61	58	56	53	51	47	40	32	25	20	16	13	10				
	100	100	100	100	100	100	100	100	95	91	87	82	80	74	62	49	38	31	24	19	16				
1.7383 ²⁾	63	63	63	63	63	63	63	63	62	62	60	55	53	47	40	35	28	25	22	18	15	12	11	9	
	100	100	100	100	100	100	100	100	98	96	94	85	82	74	62	53	43	39	33	27	23	19	17	15	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0425 (22)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0425	1.5415	1.7335	1.7383
	Body seat	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.0460	1.5415	1.7335	1.7383
360	Disc	1.7383	1.7383	1.7383	1.7383
	Disc seat	Stellite	Stellite	Stellite	Stellite
363	Pressure piece	1.4122	1.4122	1.4122	1.4122
400	Stem	1.4021	1.4122	1.4122	1.4122
411	Guide sleeve	1.8507	1.8507	1.8507	1.8507
420	Packing	Graphite	Graphite	Graphite	Graphite
430	Gland	1.5415	1.5415	1.5415	1.5415
440	Gland flange	1.5415	1.5415	1.7383	1.7383
462	Bolt	1.7709	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLSt	WLSt	WLSt	WLSt
531	Threaded connection	1.7335	1.7335	1.7335	1.7335

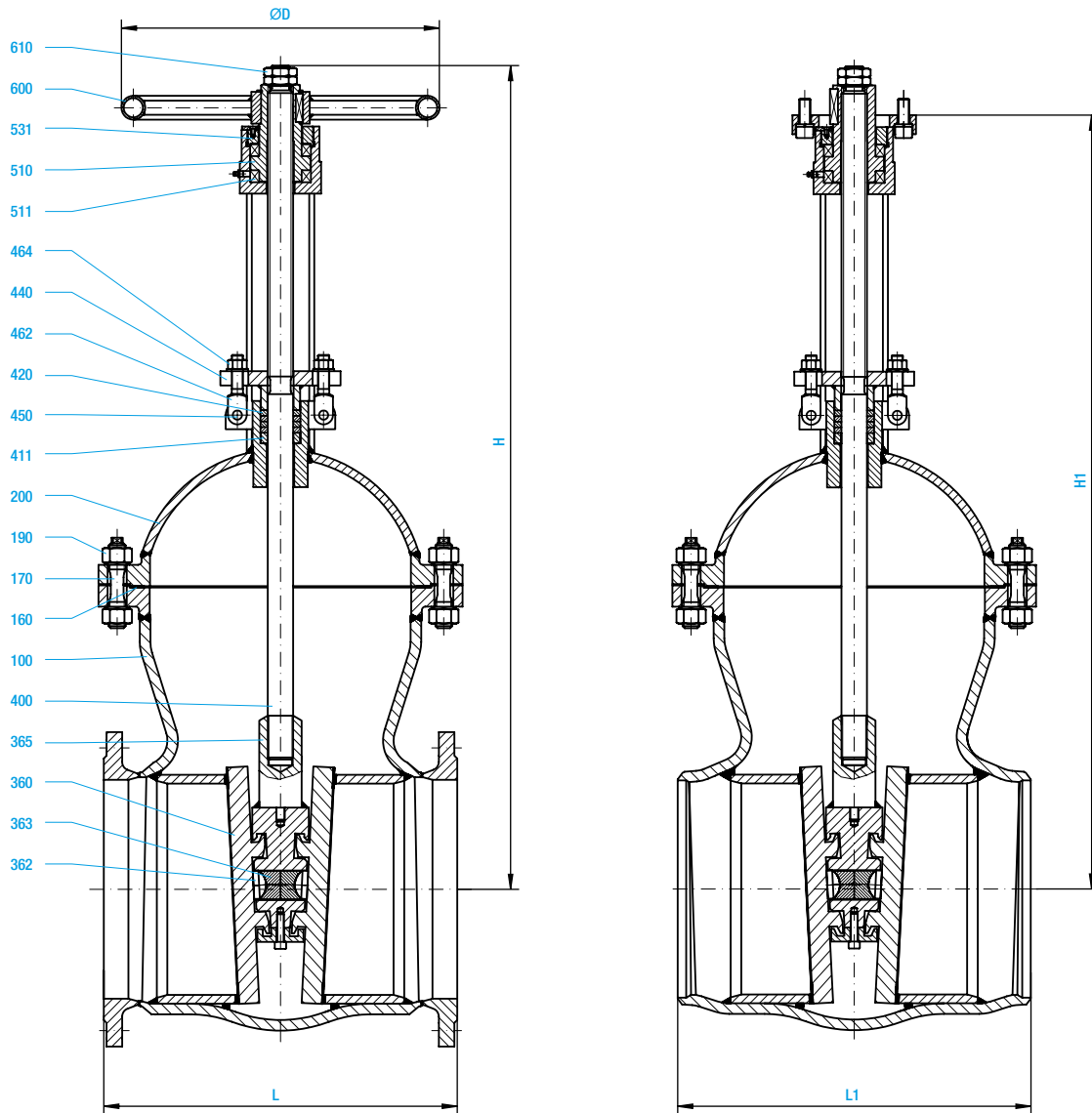
Spare parts

Dimensions/mm

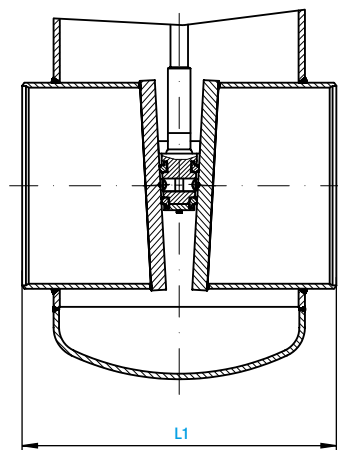
DN	ØDS	L	H	H1	Stroke length	Rev/stroke	DIN/ISO 5210
350	330	850	1485	1625	365	46	F16
400	375	950	1595	1796	415	46	F16
450	419	1050	1748	1930	455	47	F25
500	464	1150	2010	2203	515	52	F25
600	559	1350	2300	2524	625	52	F30
700	640	1550	2550	2756	690	58	F30

Weights/kg and Kvs value m³/h

DN	Butt-weld ends	Kvs [m ³ /h]
350	932	11243
400	1293	14521
450	1657	18105
500	2427	22353
600	3700	32188
700	5057	41773



**Butt-weld end version
PN25 DN800**



Materials

Item	Designation	1.0425 (22)
100	Body	1.0425
	Body seat	Cr17 ¹⁾
160	Gasket	Grooved profile with graphite layer
170	Bolt	1.7218
190	Hexagonal nut	1.7218
200	Bonnet	1.0425
360	Disc	1.0425
	Disc seat	Cr17 ¹⁾
362	Ball	1.4021
363	Pressure piece	1.4021
365	Disc holder	1.0425
400	Stem	1.4021
411	Guide sleeve	0.6025
420	Packing	Graphite
440	Gland flange	1.0425
450	Pin	1.1181
462	Hinge bolt	1.1181
464	Hexagonal nut	1.1181
510	Yoke sleeve	5.3106
511	Ball bearing	WLS
513	Threaded ring	1.0570
600	Handwheel	St
610	Hexagonal nut	17 H

Materials 1.0571, 1.5415, 1.7335 available on request

1) Available with Stellite on request

Spare parts

Dimensions/mm

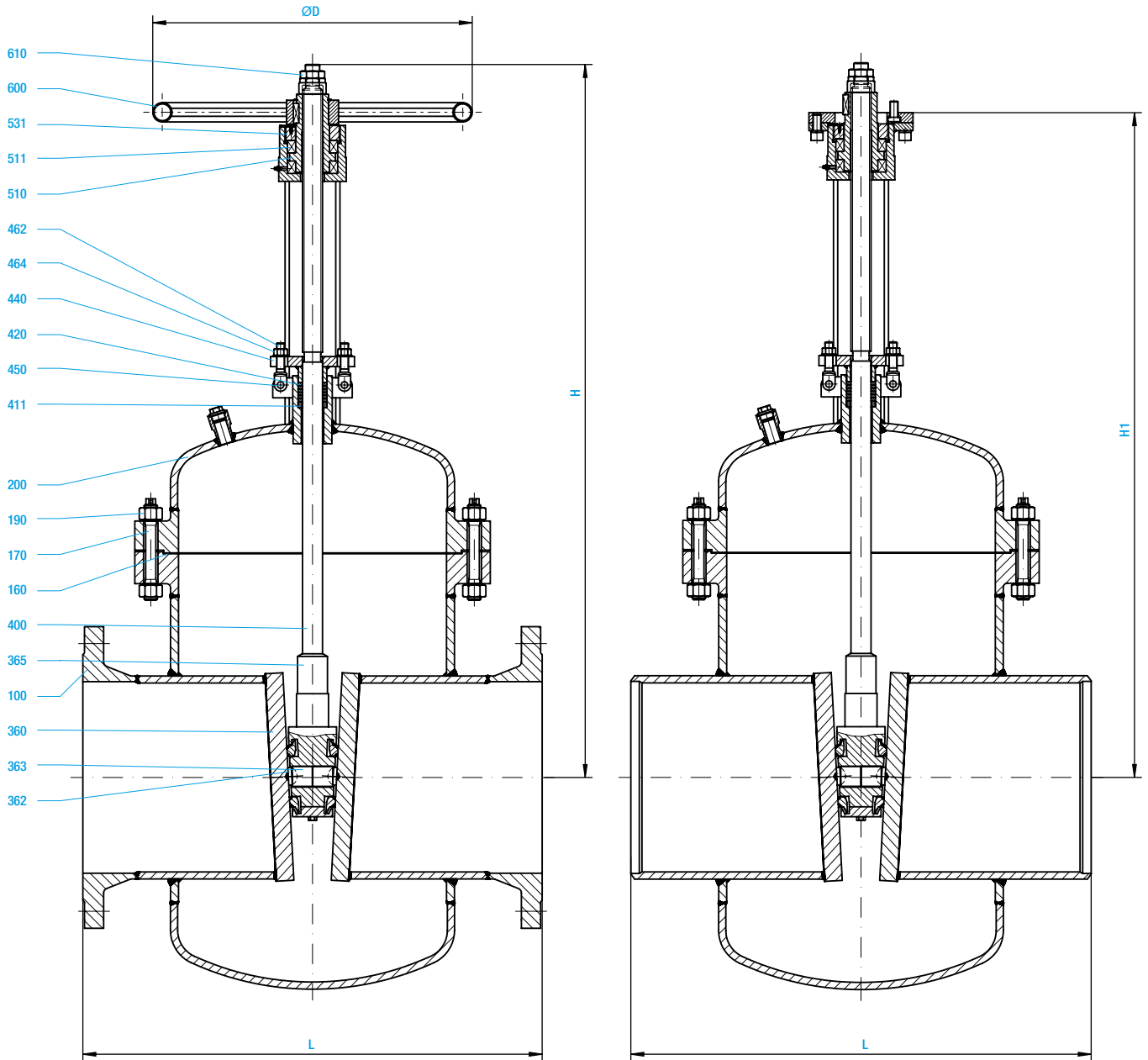
DN	PN	Butt-weld ends 10-25 L1	Flange		H	H1	ØD	Stroke length
			10-16 L	25 L				
300		500	500	500	1165	1097 (F14)	450	325
350		550	550	550	1260	1190 (F14)	600	372
400		600	600	600	1406	1337 (F14)	600	415
500		700	700	700	1735	1635 (F16)	800	545
600		800	800	800	2055	1938 (F16)	800	635
700		900	900	900	2282	2170 (F16)	800	730
800		1000*	1000	1500	2688	2550 (F25)	800	845
900		1800			(-)	2910 (F30)	(-)	980
1000		2000			(-)	3165 (F35)	(-)	1080

*Attention: BW overall length DN 800, PN 25: 1250 mm.

Flange overall length DN 800, PN 25: 1500 mm.

Weights/kg and Kvs value m³/h

DN	PN	10	16	25	10	16	25	Kvs [m ³ /h]
		Flange			Butt-weld ends			
300		320	330	360	295	295	315	9230
350		390	405	445	360	360	380	11237
400		540	560	610	500	500	525	14677
500		815	860	945	765	765	850	23561
600		1210	1270	1370	1170	1170	1285	33929
700		1690	1715	1980	1630	1630	1775	46181
800		2410	2440	3480	2330	2330	2500	60318
900								
1000								



Materials

Item	Designation	1.0425 (22)
100	Body	1.0425
	Body seat	Cr17 ¹⁾
160	Gasket	Grooved profile with graphite layer
170	Expansion screw	1.7218
190	Hexagonal nut	1.7218
200	Bonnet	1.0425
360	Disc	1.0425
	Disc seat	Cr17 ¹⁾
362	Ball	1.4021
363	Pressure piece	1.4021
365	Disc holder	1.0425
400	Stem	1.4021
411	Guide sleeve	0.6025
420	Packing	Graphite
440	Gland flange	1.0425
450	Pin	1.1181
462	Hinge bolt	1.1181
464	Hexagonal nut	1.1181
510	Yoke sleeve	5.3106
511	Anti-friction bearing	WLS
531	Threaded ring	1.0570
600	Handwheel	St
610	Hexagonal nut	17 H

Materials 1.0571, 1.5415, 1.7335 available on request

1) Available with Stellite on request

Spare parts

Dimensions/mm

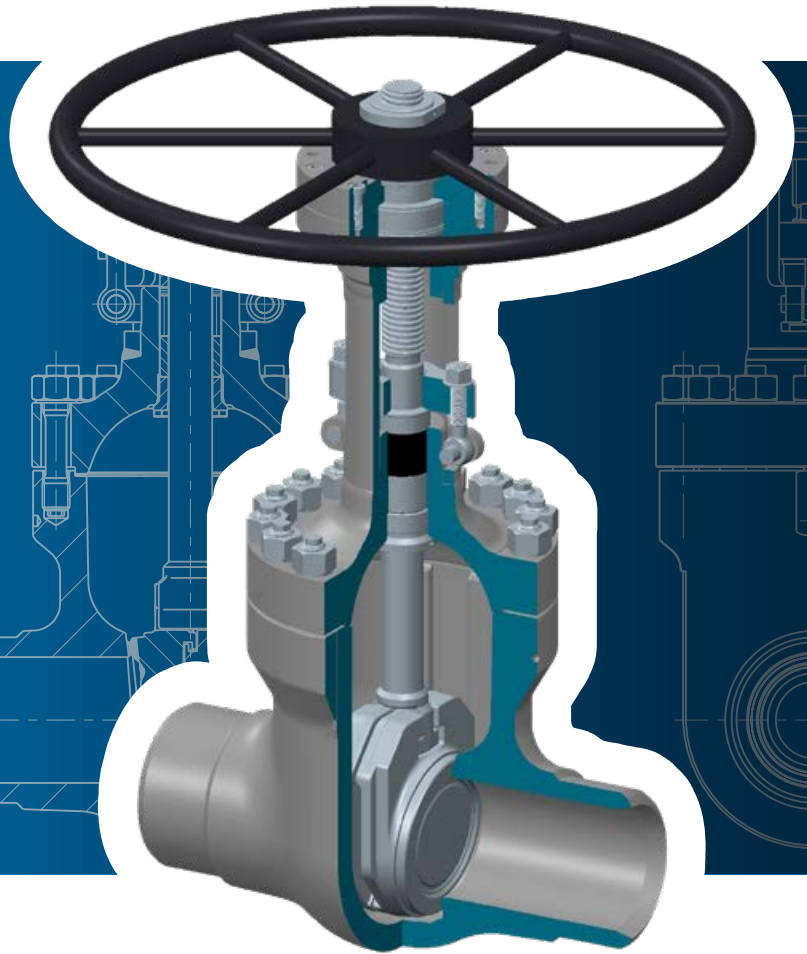
DN	L	H	H1	Stroke length	ØD
300	750	1260	1191	345	500
350	850	1295	1215	375	600
400	950	1575	1480	445	800
500	1150	1795	1660	525	800
600	1350	2155	2155	640	800
700	1550	2595	2427	778	800
800	1750	2790		840	800

Weights/kg and Kvs value m³/h

DN	Flange	Butt-weld ends	Kvs [m ³ /h]
300	440	370	9230
350	610	460	11237
400	890	710	14677
500	1270	1050	23561
600	2310	1980	33929
700	3210	2960	46181
800			

ASME

version
available



GATE VALVE

700 JJ PN 160 / PD 18 DN 50-300/250

Design highlights

- Integral seat
- Disc and body seat generally armoured in Stellite
- Non-rising handwheel
- Non-rotating stem with external stem thread and roll-polished shaft
- Discs and stem connected by hammer head
- Two piece gland
- Yoke sleeve in axial needle bearing
- Axial needle bearing protected by dirt scrapers

Advantages

- No gap corrosion
- Optimum guide pairing with minimum wear
- Advantageous in small spaces
- Minimum packing wear on polished surfaces
- Flexible connection between disc and stem allows discs to move freely within the guide rails of the body, which prevents bending strain on the stem
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open and close the valve
- Prevents dirt entering or lubricant escaping

Version

- Body forged
- Flexible wedge version
- Integral seat
- External stem thread
- Cover gasket chambered inside and outside
- Yoke sleeve mounted on anti-friction bearings
- Suitable for mounting actuators

Operating data

- Operating pressure, welded ends, up to 254 bar (DIN 2401; DIN EN 1092-1 or DIN EN 12516-1)
- Operating pressure, flange ends, up to 160 bar (DIN 2401 or DIN EN 1092-1)
- Operating temperature up to 600 °C

Materials

- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Max. area of application for welded ends ³⁾

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

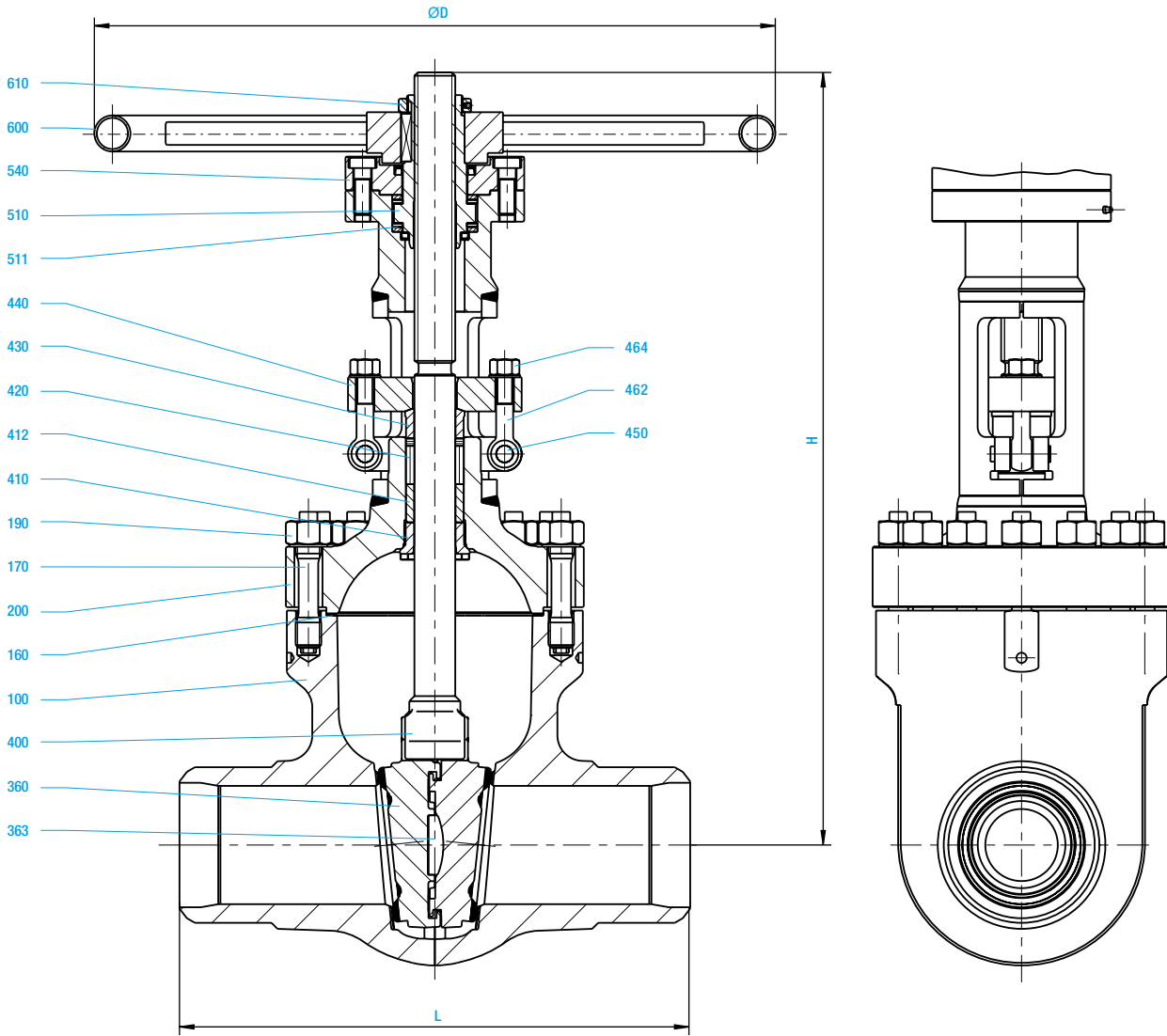
Material	PD	-10	20	50	100	120	150	200	250	300	350	400	420	430	440	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	
1.5415	18	258	258	246	229	219	204	185	170	146	141	136	134	133	132	130	129	128	112	88	67	53	42								
1.7335	18	258	258	249	234	228	219	205	194	180	170	161	156	155	153	150	149	148	147	133	112	89	72	58	46	37	30				
1.7383 ²⁾	18	258	258	250	239	233	224	210	205	194	180	170	166	164	162	159	156	155	153	131	115	100	88	76	66	56	50	43	37	33	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

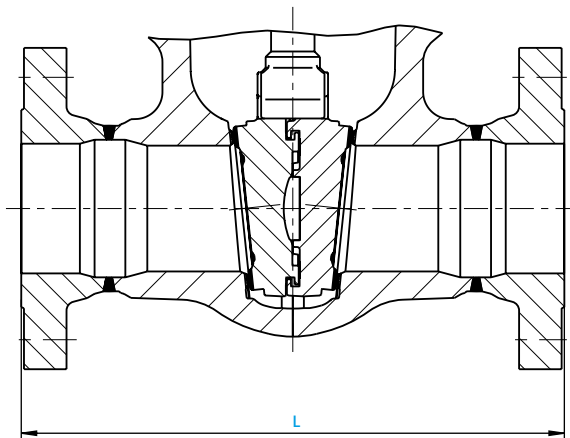
2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

3) Max. area of application for flange ends or pressure ratings valves; see technical appendix from page 138.

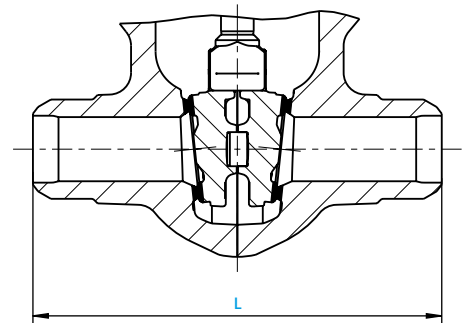
Butt-weld end version



Flange version



**Version
DN 50-80**



Materials

Item	Designation	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.5415 ¹⁾	1.7383/1.7335 ¹⁾	1.7383 ¹⁾
160	Gasket	Grooved profile with graphite layer	Grooved profile with graphite layer	Grooved profile with graphite layer
170	Bolt	1.7709 ²⁾	1.7709 ²⁾	1.7709 ²⁾
190	Hexagonal nut	1.7218	1.7218	1.7218
200	Bonnet	1.7383	1.7383	1.7383
360	Disc	1.7383 ¹⁾	1.7383 ¹⁾	1.7383 ¹⁾
363	Pressure piece	1.4122	1.4122	1.4122
400	Stem	1.4923	1.4923	1.4923
410	Back seat screw	1.4006	1.4006	1.4006
412	Guide sleeve	1.0718	1.0718	1.0718
420	Packing	Graphite	Graphite	Graphite
430	Gland	1.5415	1.5415	1.5415
440	Gland flange	1.5415	1.5415	1.5415
462	Bolt	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLSt	WLSt	WLSt
540	Flange	1.0038	1.0038	1.0038
600	Handwheel	St	St	St
610	Hexagonal nut	St	St	St

Spare parts

1) Armoured with Stellite

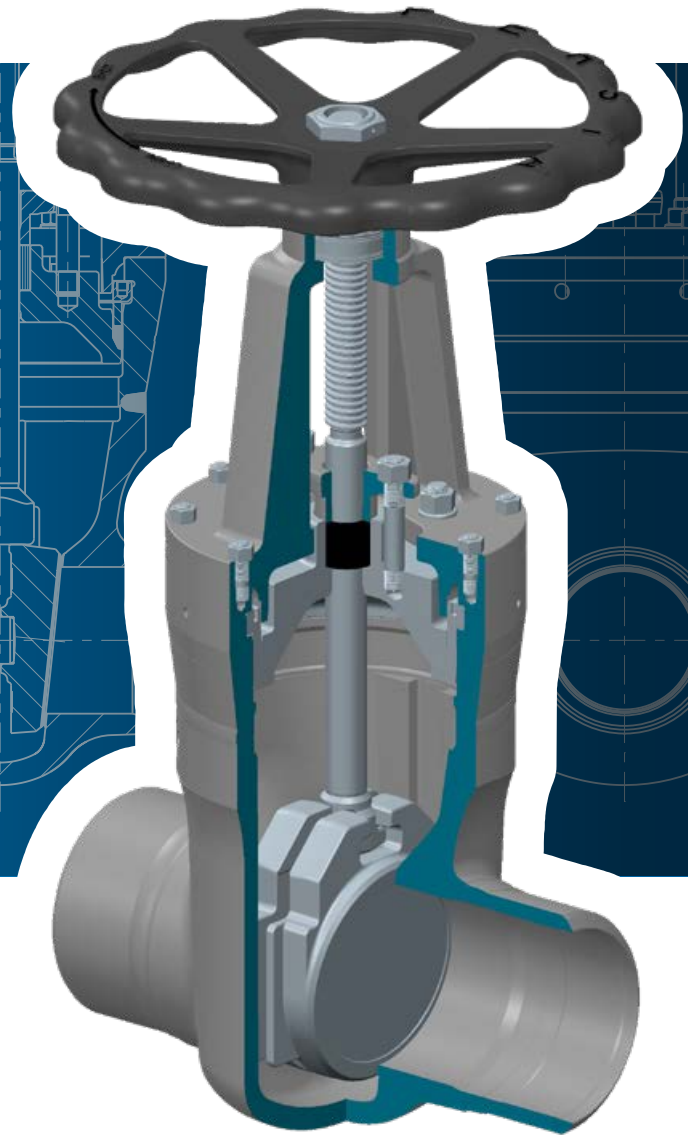
2) Operating temperature > 550 °C = material 1.4923

Dimensions/mm

DN	ØDS	L	H	Stroke length	Rev/stroke	ØD
50	47	300	490	80	16	350
80	74	390	610	105	17.5	400
100	95	450	690	130	22	500
150	139	600	910	185	23.5	800
200	183	750	1120	235	26.5	1000
250	228	900	1240	270	30	1000

Weights/kg and Kvs value m³/h

DN	Flange	Butt-weld ends	Kvs [m ³ /h]
50	56	47	228
80	105	93	565
100	149	130	930
150	339	301	1995
200	651	576	3458
250	1077	969	5367



HIGH PRESSURE GATE VALVE

DSK 10 700 JT PD 10 DN 80-150

Design highlights

- Single-piece forged body with integral guide rails
- Integral seat, hardness of approx. 35–37 HRC
- Full bore
- Non-rotating, rising, roll-polished stem with a max. surface roughness of 2 µm
- Stem movement thread rolled
- Pressure sealing bonnet
- Suitable for retrofitting of electric actuators

Advantages

- Homogeneous joining, free of pores and cavities compared to cast steel, sturdy and heavy duty
- High wear-resistance and lasting effective impermeability at closure
- No constriction in seat
- Minimum packing wear
- Optimum thread surface with greater surface hardness and thus greater wear resistance compared to cut threads
- Increasing external impermeability as operating pressure rises
- Conversion kit can be installed without welding

Version

- Flexible wedge gate
- Body and bonnet forged
- Body with full bore
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Pressure sealing bonnet as per VGB guidelines

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure up to 120 bar
- Operating temperature up to 600 °C

Area of application

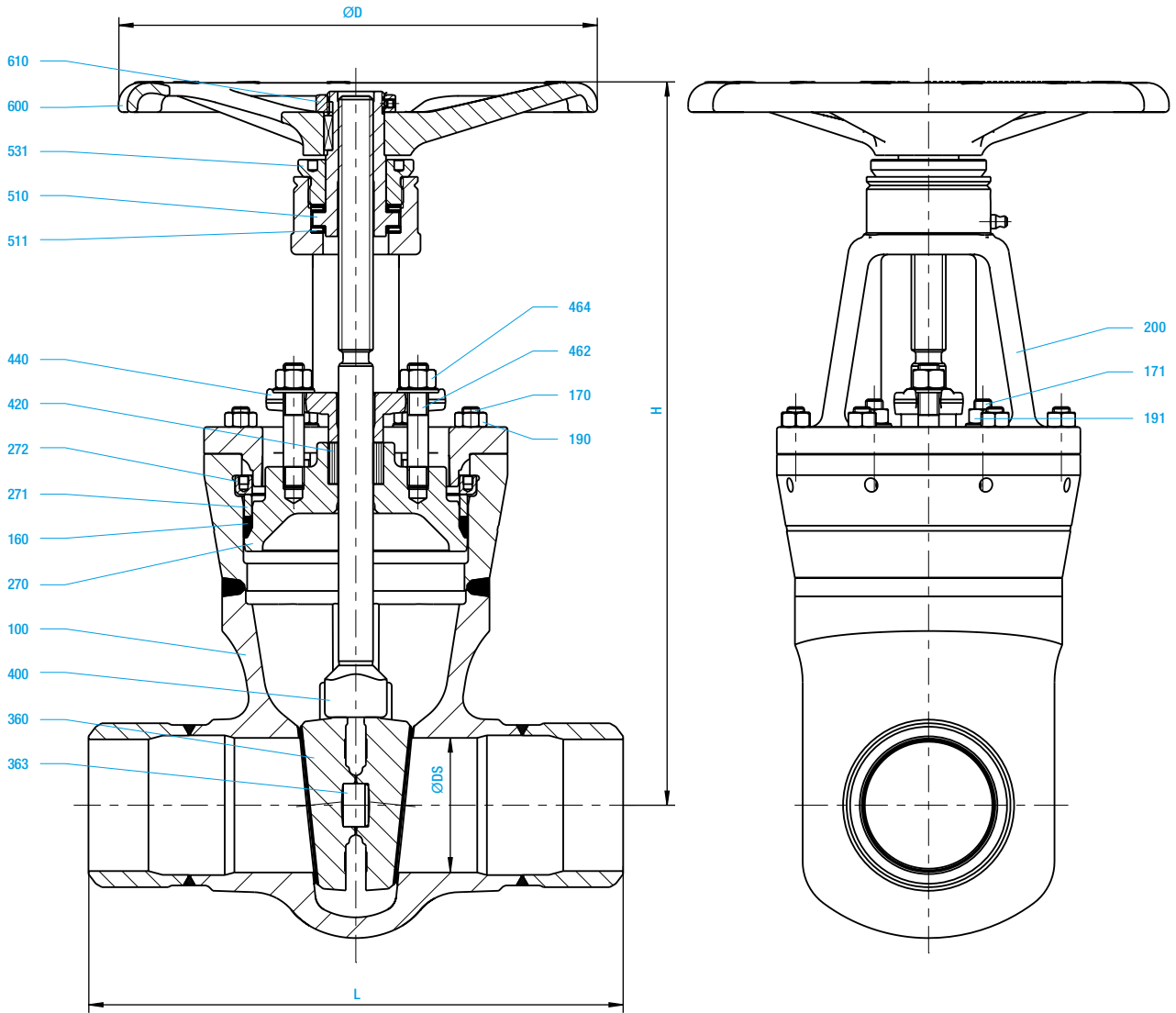
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	
1.0460	10	100	100	100	100	94	82	74	64.8	60	57.5	54.9	48.9	42.9	38	34	28	23													
1.5415	10	120	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25.1								
1.7335	10	120	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18				
1.7383 ²⁾	10	120	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	81	69	61	53	46	40	34	30	26	22	20	

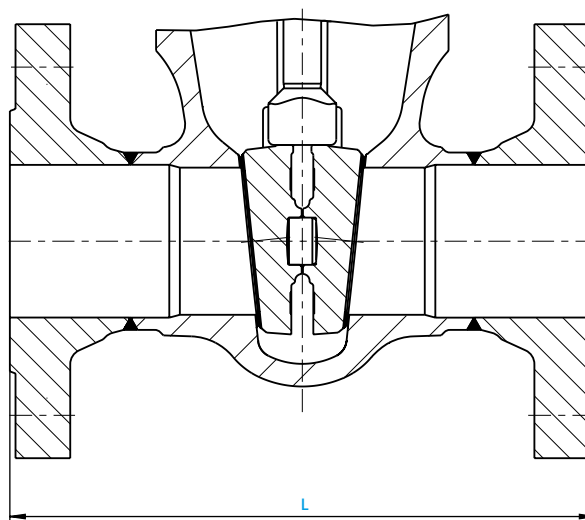
1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

Butt-weld end version



Flange version



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0460	1.5415	1.7335	1.7383
	Body seat	Cr17	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709
171	Clamping screw	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
191	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.5419	1.5419	1.5419	1.5419
270	Cover	1.7383	1.7383	1.7383	1.7383
271	Support ring	1.7383	1.7383	1.7383	1.7383
272	Segment ring	1.7383	1.7383	1.7383	1.7383
360	Disc	1.0460	1.7383	1.7383	1.7383
	Disc seat	18/8 (40)	Stellite	Stellite	Stellite
363	Pressure piece	1.4021	1.4021	1.4021	1.4021
400	Stem	1.4021	1.4122	1.4122	1.4122
420	Packing	Graphite	Graphite	Graphite	Graphite
440	Gland flange	1.0460	1.0460	1.0460	1.0460
462	Bolt	1.7709	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
510	Yoke sleeve	1.0718	1.0718	1.0718	1.0718
511	Anti-friction bearing	WLS	WLS	WLS	WLS
531	Threaded connection	1.0718	1.0718	1.0718	1.0718
600	Handwheel	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St

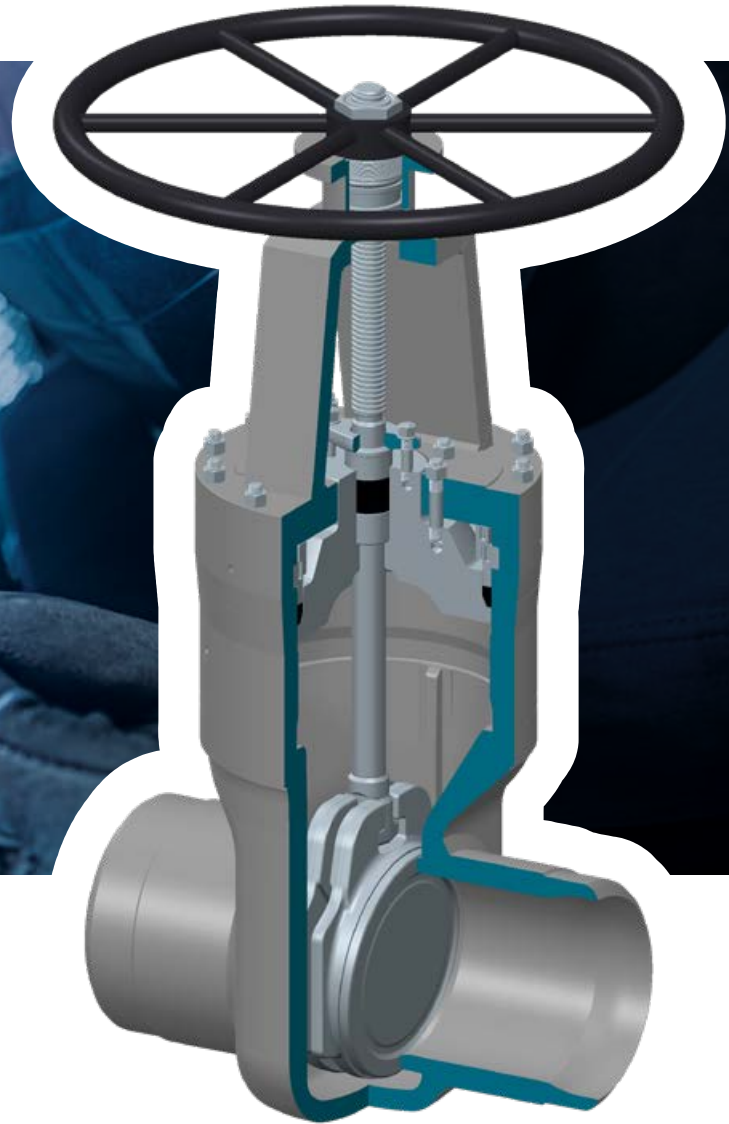
Spare parts

Dimensions/mm

DN	ØDS	L	H	Stroke length	Rev/stroke	ØD	DIN/ISO 5210
80	78	310	420	90	22.5	280	F10
100	98	350	515	110	22	360	F10
150	150	450	700	165	27.5	450	F10/F14

Weights/kg and Kvs value m³/h

DN	Flange	Butt-weld ends	Kvs [m ³ /h]
80	48	34	628
100	80	60	991
150	185	139	2323



HIGH PRESSURE GATE VALVE

DSK 10 700 JT PD 10 DN 200-300

Design highlights

- Forged body
- Seat armoured
- Full bore
- Two piece gland
- Needle bearing yoke sleeve
- Pressure sealing bonnet

Advantages

- Homogeneous joining, free of pores and cavities compared to cast steel, sturdy and heavy duty
- Lasting effective impermeability at closure
- Minor constriction in seat
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open and close the valve
- Increasing external impermeability as operating pressure rises

Version

- Flexible wedge gate
- Forged body
- Body with full bore
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Pressure sealing bonnet as per VGB guidelines

Materials

- 1.0460
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure up to 120 bar
- Operating temperature up to 600 °C

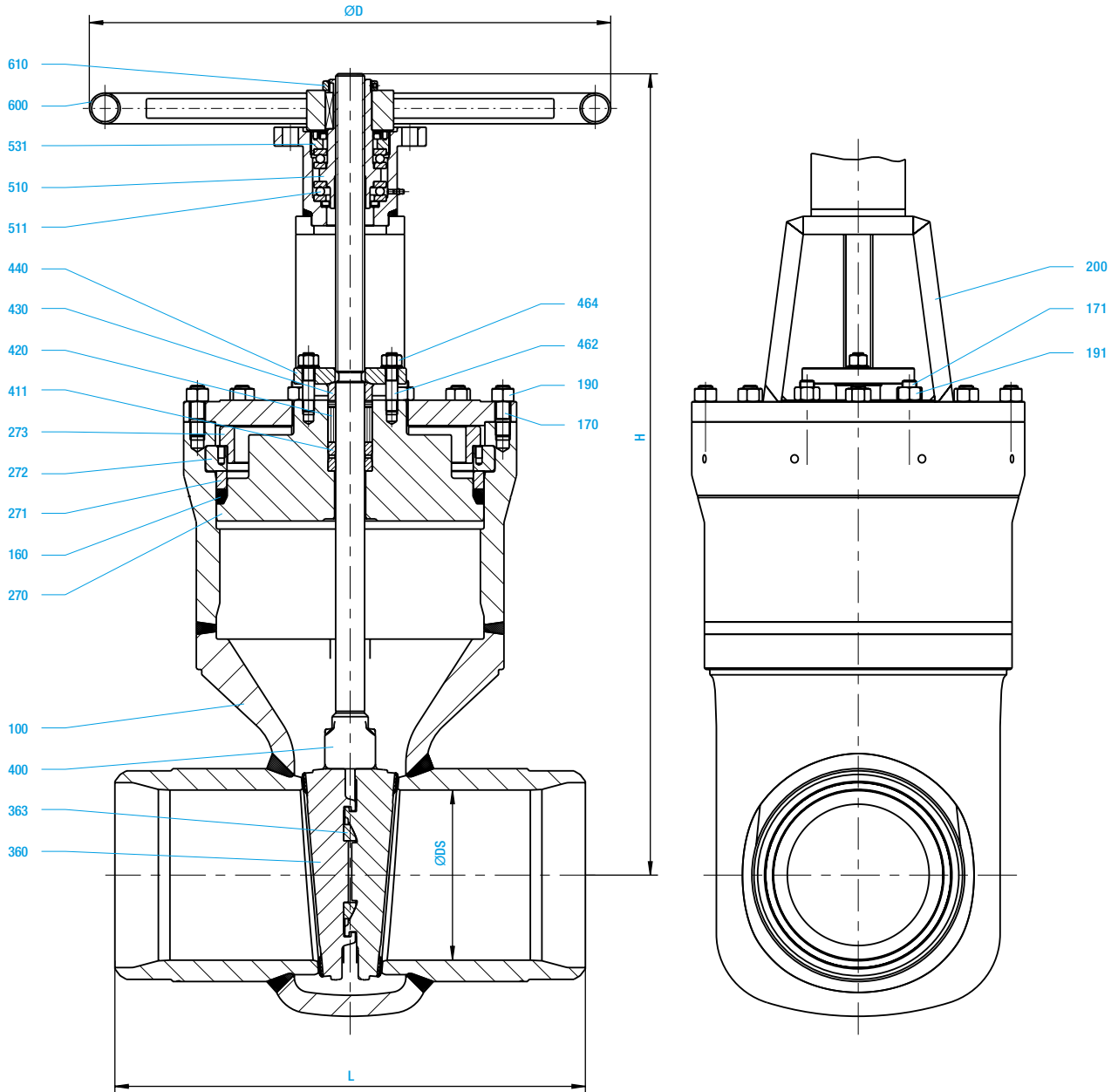
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	
1.0460	10	100	100	100	94	82	74	62	50	48	45	43	41	38	34	28	23													
1.5415	10	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25								
1.7335	10	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18				
1.7383 ²⁾	10	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	79	69	61	53	46	40	34	30	26	22	20	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0460	1.7383/1.5415	1.7383/1.7335	1.7383
	Body seat	18/8	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709
171	Clamping screw	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
191	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.5415	1.5415	1.5415	1.5415
270	Cover	1.0460	1.5415	1.7335	1.7383
271	Support ring	1.0460	1.5415	1.7335	1.7383
272	Segment ring	1.0460	1.5415	1.7335	1.7383
273	Support cap	1.7383	1.5415	1.7335	1.7383
360	Disc	1.7383	1.7383	1.7383	1.7383
	Disc seat	Cr17	Stellite	Stellite	Stellite
363	Pressure piece	1.4122	1.4122	1.4122	1.4122
400	Stem	1.4021	1.4122	1.4122	1.4122
411	Guide sleeve	1.8507	1.8507	1.8507	1.8507
420	Packing	Graphite	Graphite	Graphite	Graphite
430	Gland	1.0718	1.0718	1.0718	1.0718
440	Gland flange	1.0460	1.0460	1.0460	1.0460
462	Bolt	1.7709	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLSt	WLSt	WLSt	WLSt
531	Threaded connection	1.0718	1.0718	1.0718	1.0718
600	Handwheel	5.3106	5.3106	5.3106	5.3106
610	Hexagonal nut	St	St	St	St

Spare parts

Dimensions/mm

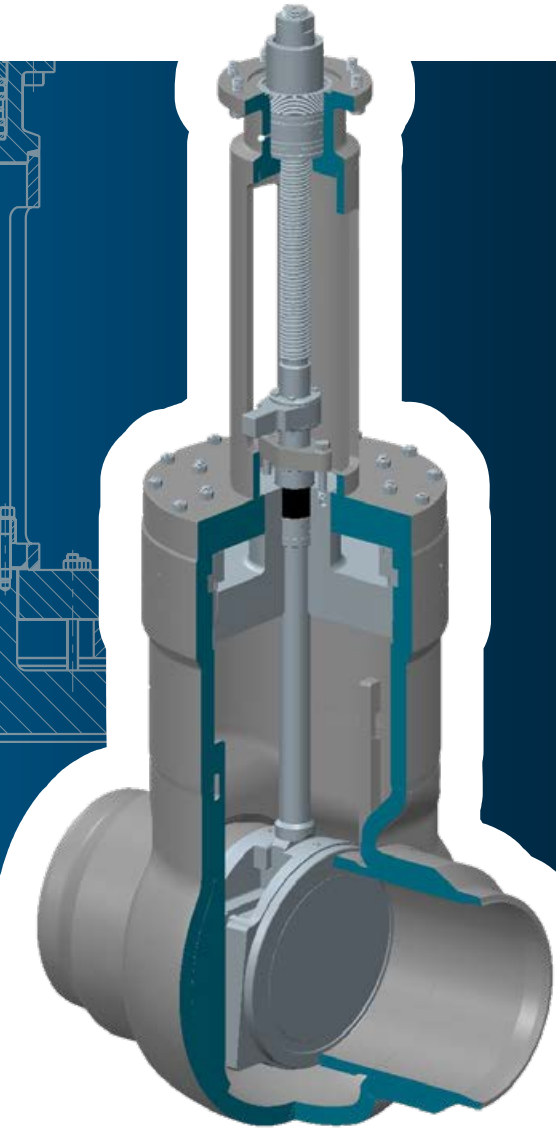
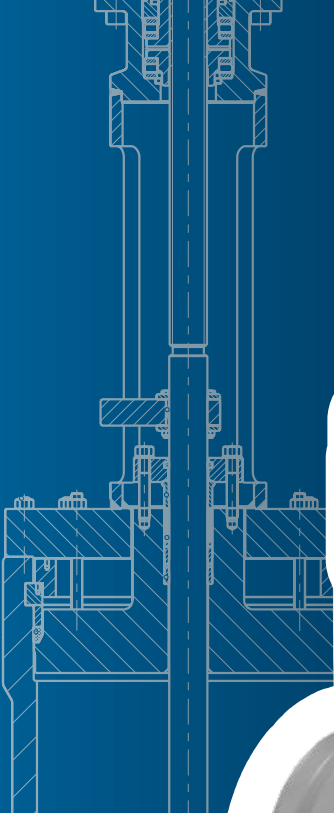
DN	ØDS	L	H	Stroke length	Rev/stroke	ØD	DIN/ISO 5210
200	199	550	910	210	33	600	F14
250	235	650	1110	265	38	720	F14/F16
300	276	750	1300	313	39.5	890	F16

Weights/kg and Kvs value m³/h

DN	Butt-weld ends	Kvs [m ³ /h]
200	247	4000
250	550	6247
300	820	8997

ASME

version
available



HIGH PRESSURE GATE VALVE

DSK 10 700 JT PD 10 DN 350-700

Design highlights

- Seat armoured with Stellite
- Non-rotating, rising stem
- Gland in two separate pieces
- Needle bearing yoke sleeve
- Pressure sealing bonnet

Advantages

- Lasting effective impermeability at closure
- Minimum packing wear
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open and close the valve
- Increasing external impermeability as operating pressure rises

Version

- Flexible wedge gate
- Welded steel plate body
- External stem thread
- Non-rotating, rising stem
- Needle bearing yoke sleeve
- Pressure sealing bonnet as per VGB guidelines
- Suitable for mounting electric actuators

Materials

- 1.0425
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure up to 120 bar
- Operating temperature up to 600 °C

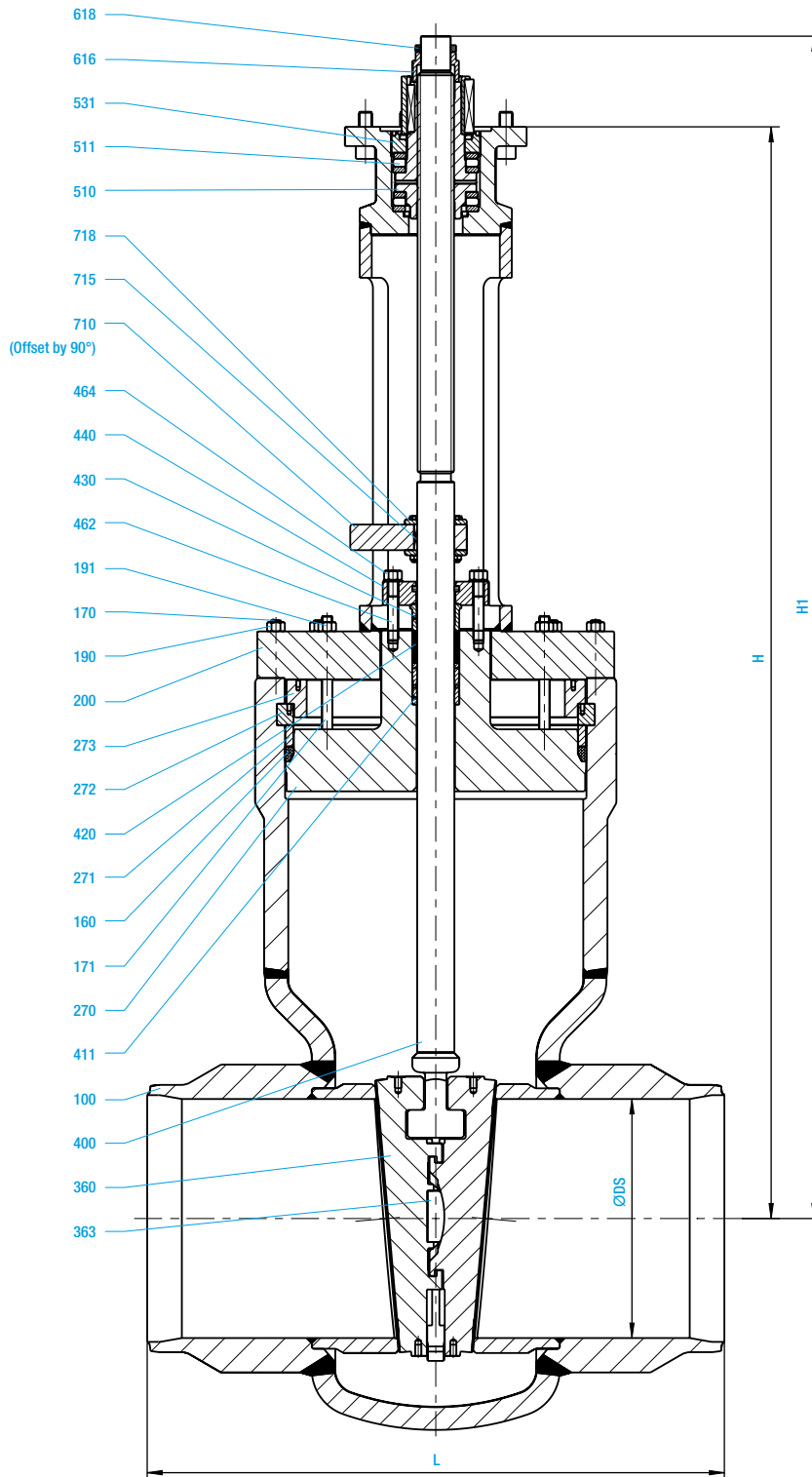
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	
1.0425	10	100	100	100	94	82	74	62	50	48	45	43	41	38	34	28	23													
1.5415	10	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25								
1.7335	10	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18				
1.7383 ²⁾	10	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	79	69	61	53	46	40	34	30	26	22	20	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0425 (22)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0425	1.5415	1.7335	1.7383
	Body seat	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709
171	Clamping screw	1.7709	1.7709	1.7709	1.7709
191	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
194	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.5415	1.5415	1.5415	1.5415
270	Cover	1.0460	1.5415	1.7335	1.7383
271	Support ring	1.0460	1.5415	1.7335	1.7383
272	Segment ring	1.0460	1.5415	1.7335	1.7383
273	Support cap	1.0460	1.0460	1.0460	1.0460
360	Disc	1.0460	1.5415	1.7335	1.7383
	Disc seat	Stellite	Stellite	Stellite	Stellite
363	Pressure piece	1.4122	1.4122	1.4122	1.4122
400	Stem	1.4021	1.4923	1.4923	1.4923
411	Guide sleeve	1.8507	1.8507	1.8507	1.8507
420	Packing	Graphite	Graphite	Graphite	Graphite
430	Gland	1.5415	1.5415	1.5415	1.5415
440	Gland flange	1.0460	1.5415	1.7335	1.7383
462	Bolt	1.7709	1.7709	1.7709	1.7709
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLS	WLS	WLS	WLS
531	Threaded connection	1.7335	1.7335	1.7335	1.7335
616	Lift stop	1.0460	1.0460	1.0460	1.0460
618	Hexagonal nut	St	St	St	St
710	Anti-rotation device	1.0425	1.0425	1.0425	1.0425
715	Key	1.4021	1.4021	1.4021	1.4021
718	Washer	1.0038	1.0038	1.0038	1.0038

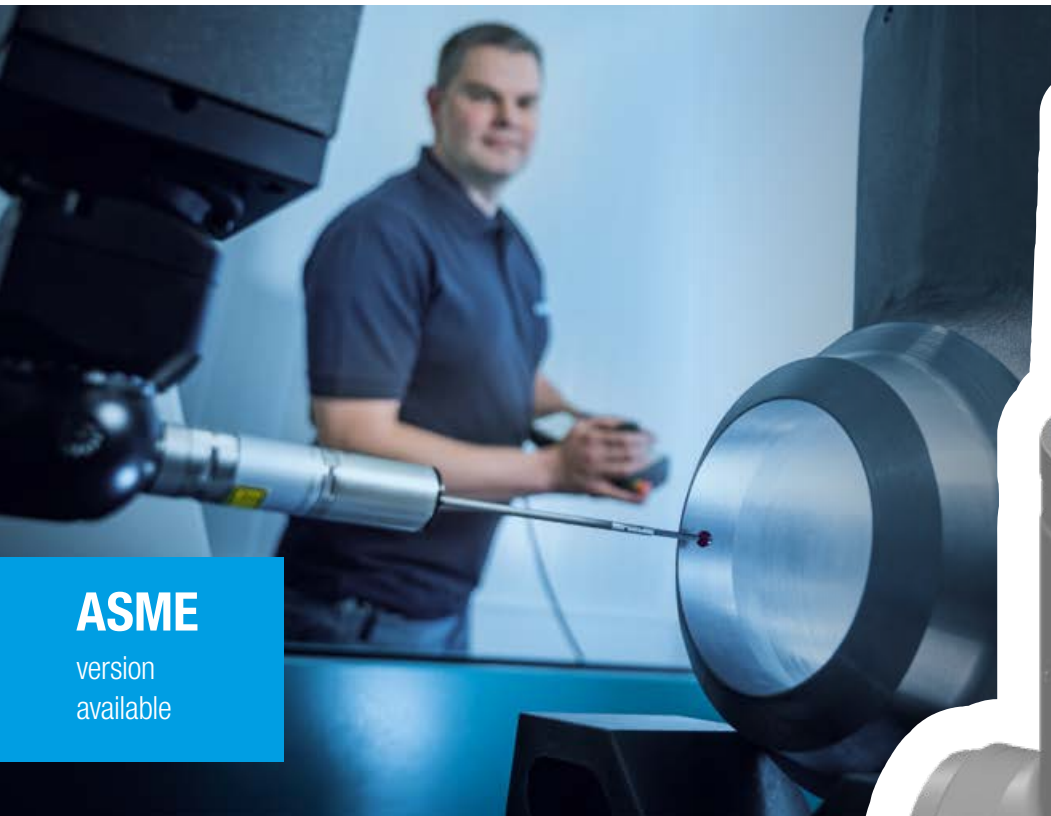
Spare parts

Dimensions/mm

DN	ØDS	L	H	H1	Stroke length	Rev/stroke	DIN/ISO 5210
350	330	850	1590	1700	365	46	F16
400	375	950	1700	1875	415	46	F25/F30
450	419	1050	1890	2075	465	47	F25/F30
500	464	1150	2110	2300	515	52	F25/F30
600	559	1350	2555	2765	625	52	F30/F35
700	640	1550	2710	2910	690	58	F30/F35

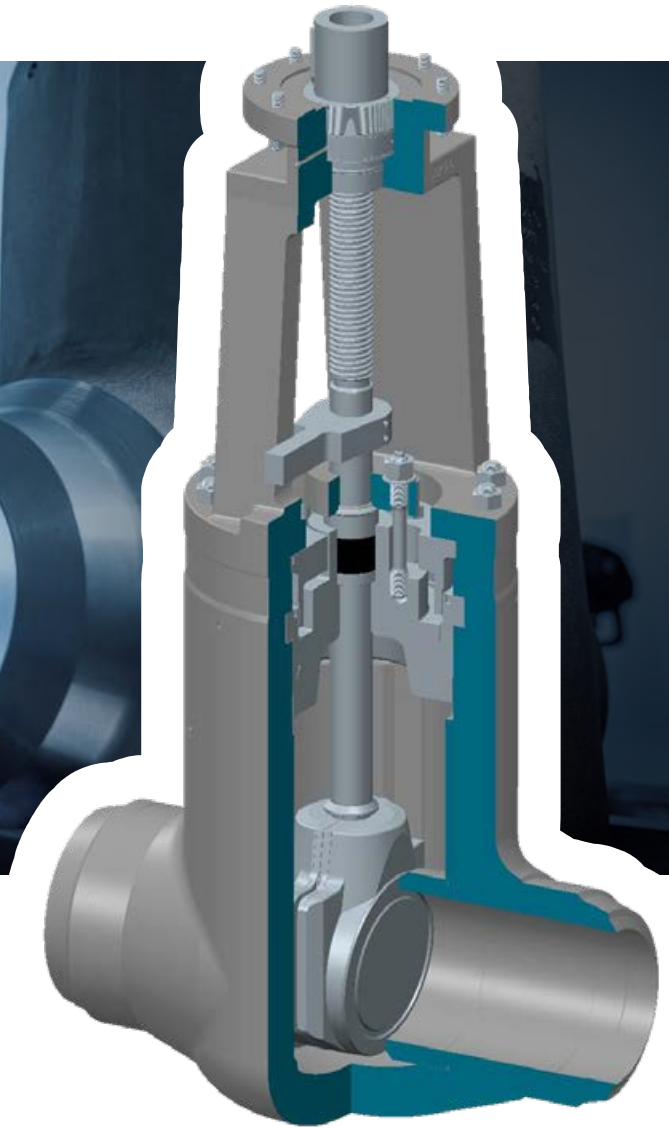
Weights/kg and Kvs value m³/h

DN	Butt-weld ends	Kvs [m³/h]
350	1054	11243
400	1371	14521
450	2000	18105
500	2740	22353
600	4614	32188
700	5835	41773



ASME

version
available



HIGH PRESSURE GATE VALVE

DSK 26 700 JT PD 25 / PD 40 DN 65-300

Design highlights

- High bonnet
- Disc and body seat generally integral and armoured in Stellite
- Full bore
- Non-rising handwheel
- Non-rotating stem with external stem thread and roll-polished shaft
- Stem with external anti-twist device
- Discs and stem connected by hammer head
- Two piece gland
- Yoke sleeve supported below and above with axial needle bearing

Advantages

- Avoids impermissible temperatures in the bearing area (lubricity of grease)
- Optimum glide pairing with minimum wear
- Advantageous in small spaces
- Minimum packing wear on polished surfaces
- Avoids deflection of torsion into the disc fittings
- Flexible connection between disc and stem allows discs to move freely within the guide rails of the body, which prevents bending strain on the stem
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open and close the valve

Version

- Forged body
- Flexible wedge guided in groove
- Welded seat rings
- External stem thread
- Position indicator / anti-twist device
- Pressure sealing bonnet as per VGB guidelines
- Needle bearing yoke sleeve
- Suitable for mounting actuators

Materials

- 1.0460
- 1.4901
- 1.4903
- 1.5415
- 1.6368
- 1.7335
- 1.7383

Other materials available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Operating data

- Operating pressure up to 680 bar
- Operating temperature up to 650 °C

Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650				
1.0460	25	250	250	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																					
1.5415	25	300	300	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																
1.7335	25	300	300	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46												
1.7383 ²⁾	25	300	300	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49									
1.6368	25	410	410	410	410	410	410	410	410	410	410																													
1.4903 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64				
1.4901 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	423	397	370	345	320	297	275	252	230	208	186	166	147	127	110	95	82				

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.
 2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

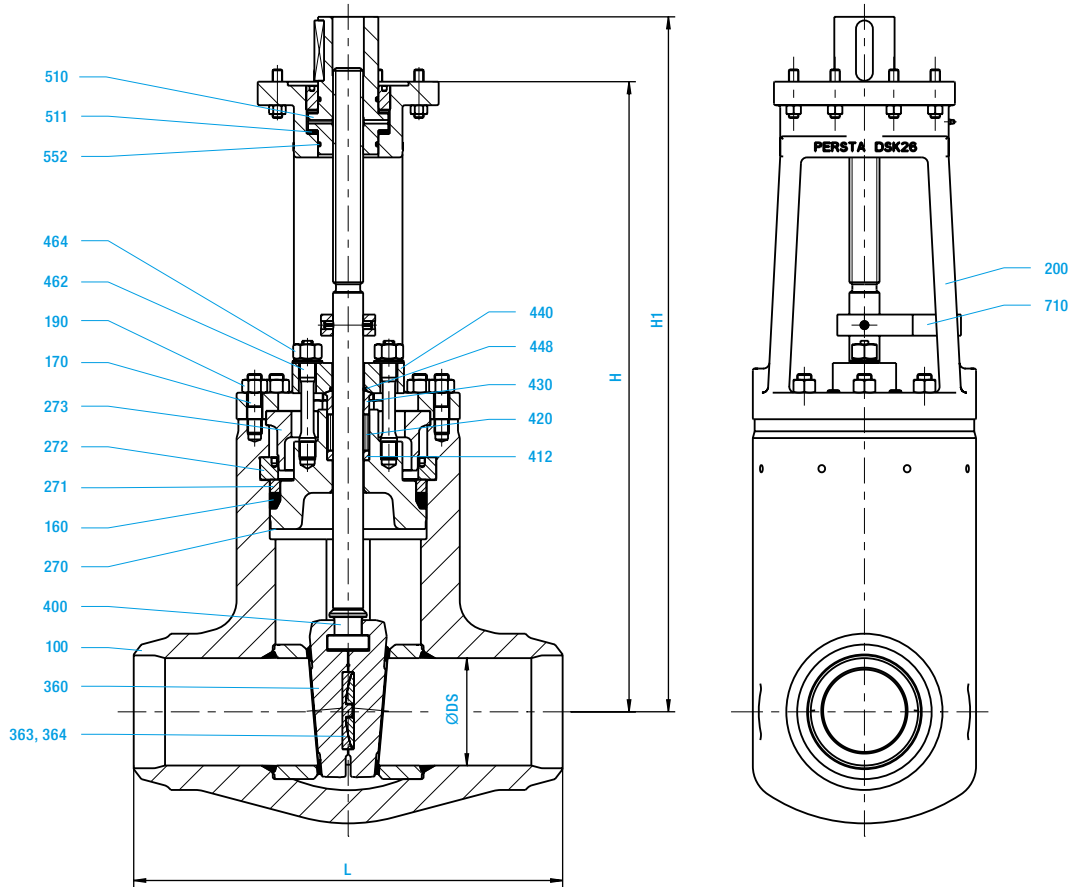
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

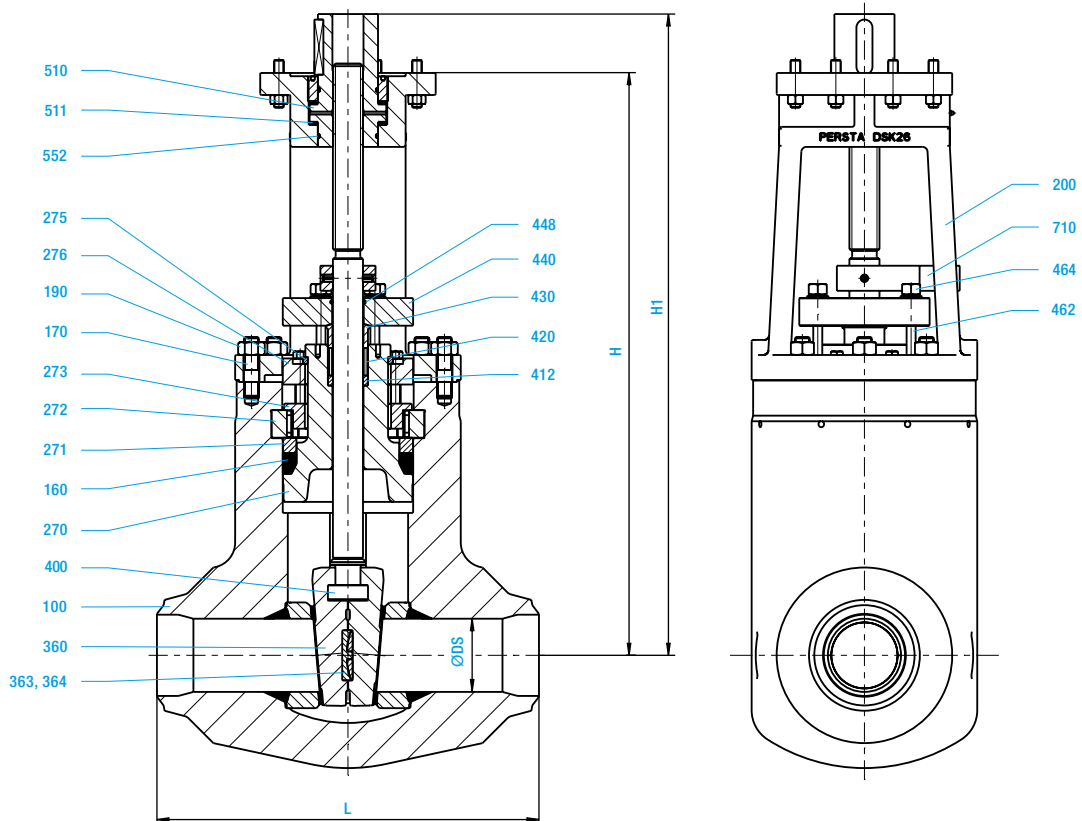
Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650						
1.0460	40	400	400	400	400	400	377	330	295	248	200	190	181	172	162	153	135	113	93																							
1.5415	40	480	480	480	480	480	447	412	353	341	330	327	325	322	320	318	315	313	311	271	212	161	127	101																		
1.7335	40	481	481	481	481	481	481	471	436	412	388	384	379	374	370	365	363	360	358	355	322	271	215	175	141	110	90	73														
1.7383 ²⁾	40	480	480	480	480	480	480	480	471	436	412	407	403	398	393	388	384	379	374	358	318	278	242	212	183	160	136	120	103	89	79											
1.6368	40	657	657	657	657	657	657	657	657	657	657																															
1.4903 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	612	596	551	506	464	421	381	341	306	271	240	212	183	160	136	120	103						
1.4901 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131						

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.
 2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

DSK 26 PD 25 DN 80-300



DSK 26 PD 40 DN 65-250



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Body seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.7218	1.7218	1.7218
200	Bonnet	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419
270	Cover	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
271	Support ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
272	Segment ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
273	Support cap	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419	1.5419
275	Retaining ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4903
276	Clamping flange	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4903
360	Disc	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
	Disc seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
363/364	Pressure piece	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021
400	Stem	1.4122	1.4122	1.4122	1.4122	1.4923	1.4923	1.4980
400	Stem from 570 °C				1.4980		1.4980	
412	Guide sleeve	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660
420	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
430	Gland	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415
440	Gland flange	1.7380	1.7380	1.7380	1.7380	1.7380	1.7380	1.7380
448	Packing ring	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
462	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4923	1.4923
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.4923	1.4923	1.4923
510	Yoke sleeve	CW713R	CW713R	CW713R	CW713R	CW713R	CW713R	CW713R
511	Anti-friction bearing	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t	WLS _t
552	O-ring	Viton	Viton	Viton	Viton	Viton	Viton	Viton
710	Anti-twist device	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425

Spare parts

Dimensions/mm DSK 26.25

DN	ØDS	L	H	H1	Stroke length	Rev/stroke	Hand-wheel	DIN/ISO 5210
80	70	305	511	556	80	16	360	F10 (F14)
100	90	406	606	658	105	18	450	F14
125	111	483	720	781	130	21	500	F14
150	136	559	872	952	152	22		F16 (F14)
200	178	711	1045	1078	192	24		F25 (F16)
250	222	864	1240	1267	248	28		F30 (F25)
300	263	991	1497	1528	287	29		F30

Weights/kg and Kvs value m³/h DSK 26.25

DN	Weight [kg]	Kvs [m³/h]
80	73	505
100	128	875
125	208	1270
150	395	1910
200	608	3270
250	1120	5080
300	1814	7140

Dimensions/mm DSK 26.40

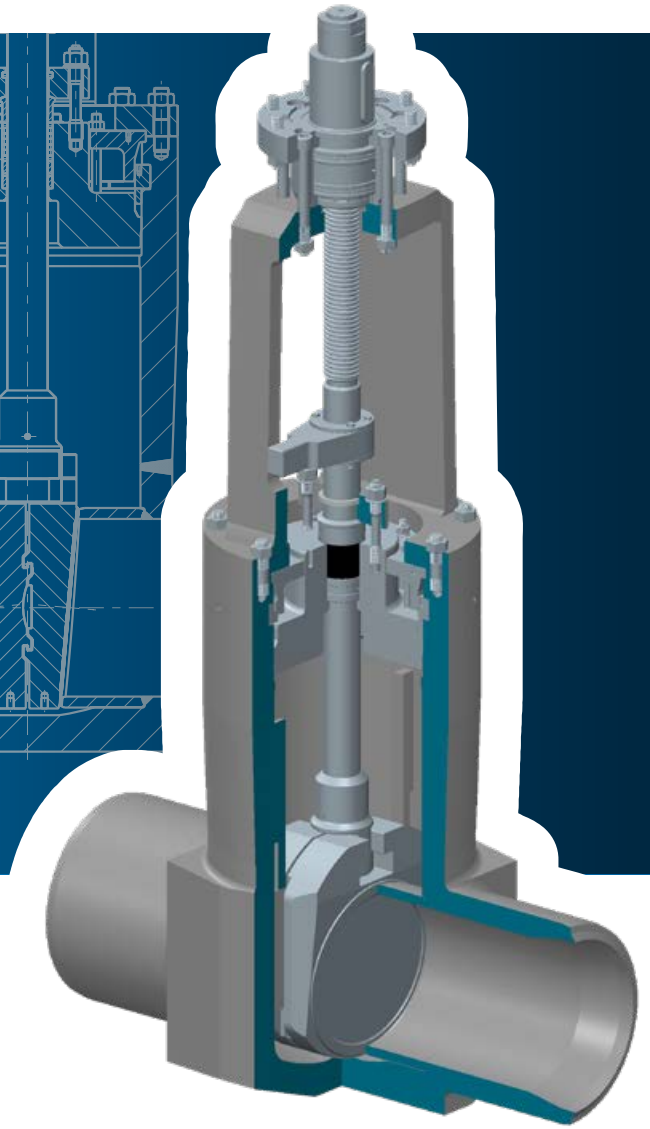
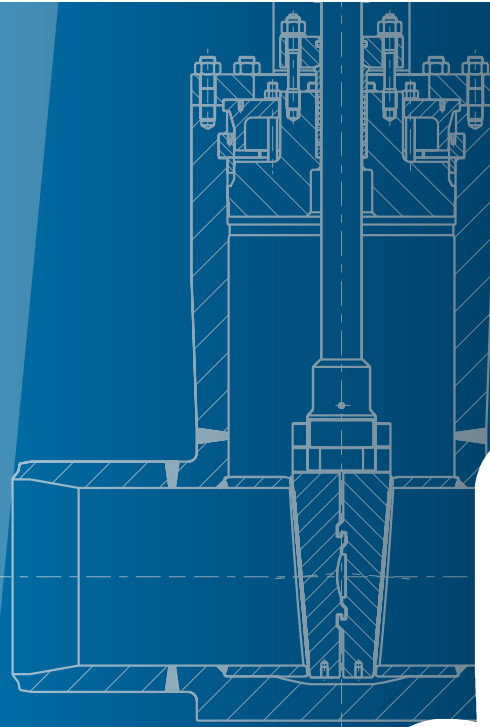
DN	ØDS	L	H1	H	Stroke length	Rev/stroke	Hand-wheel	DIN/ISO 5210
65	50	330	518	466	56	19	400	F10 (F14)
80	57	368	638	485	63	21	450	F14
100	72	457	713	656	87	15	500	F14
125	90	580	795	725	106	15		F16
150	111	925	1090	1040	133	15		F25 (F16)
200	146	762	1195	1165	174	18		F30 (F25)
250	185	1270	1475	1440	212	21		F35

Weights/kg and Kvs value m³/h DSK 26.40

DN	Weight [kg]	Kvs [m³/h]
65	83	210
80	135.7	310
100	218.8	505
125	426.6	835
150	748.8	1485
200	1185.9	2200
250	2211.5	3530

ASME

version
available



HIGH PRESSURE GATE VALVE

DSK 16-63 700 JT PD 16-63 DN 50-600

Design highlights

- High bonnet
- Disc and body seat generally integral and armoured in Stellite
- Non-rotating stem with external stem thread and roll-polished shaft
- Stem with external anti-twist device
- Discs and stem connected by hammer head
- Two piece gland
- Yoke sleeve supported below and above with axial needle bearing

Advantages

- Avoids impermissible temperatures in the bearing area (lubricity of grease)
- Optimum guide pairing with minimum wear
- Minimum packing wear on polished surfaces
- Avoids deflection of torsion into the disc fittings
- Discs are able to move within the guide play, preventing bending strain on the stem
- Avoids stem damage due to uneven tightening of packing bolts
- Reduced force needed to open and close the valve

Version

- Forged body
- Flexible wedge version
- Welded seat rings and guide rails
- External stem thread
- Position indicator / anti-twist device
- Pressure sealing bonnet as per VGB guidelines
- Needle bearing yoke sleeve
- Suitable for mounting actuators

Materials

- 1.0460
 - 1.4901
 - 1.4903
 - 1.5415
 - 1.6368
 - 1.7335
 - 1.7383
- Other materials available on request.

Operating data

- Operating pressure up to 680 bar
 - Operating temperature up to 650 °C
- Versions with higher specifications available on request.

Flow medium

Depending on the choice of materials, the gate valves can be used for water, steam, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

Area of application

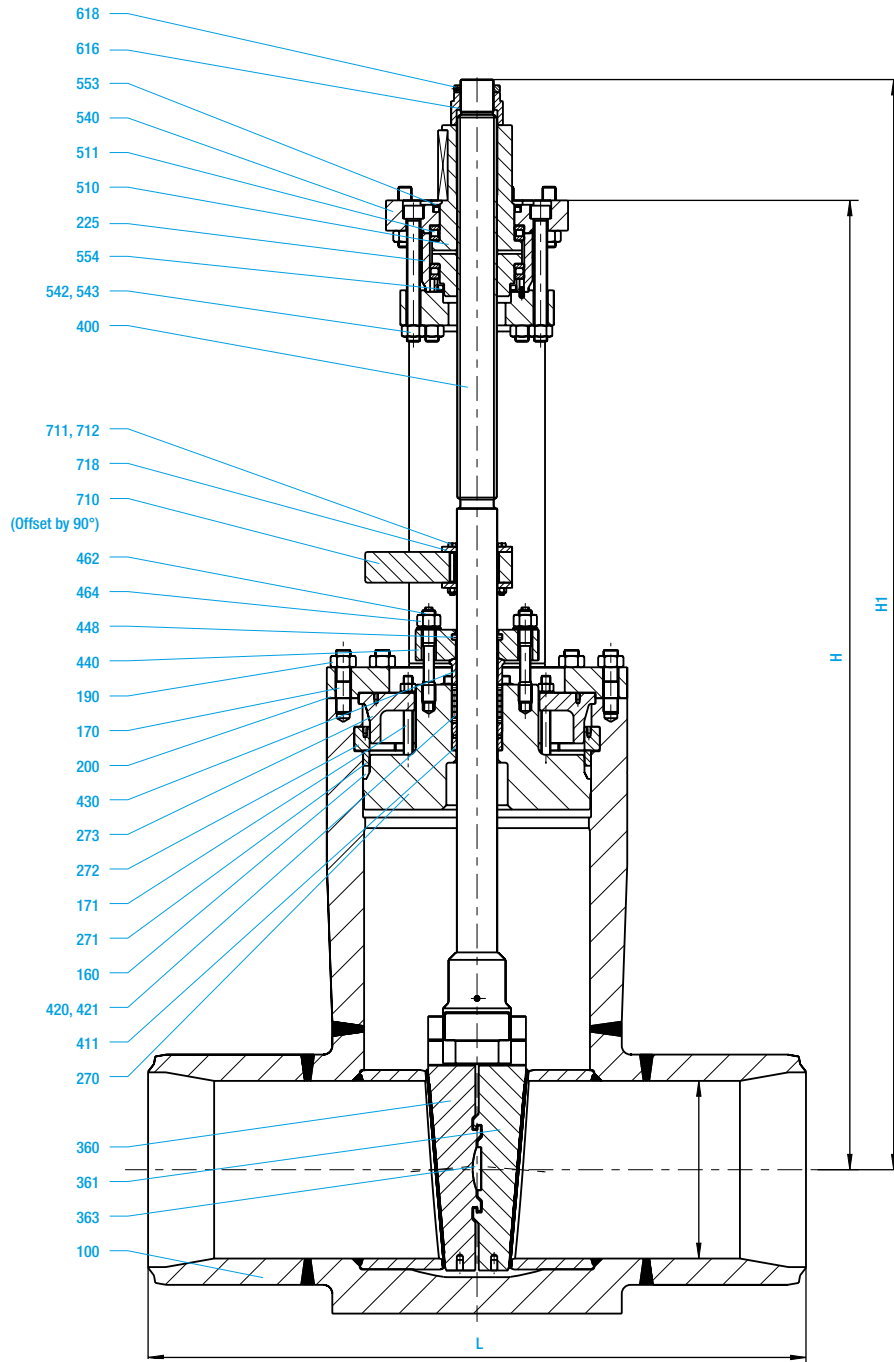
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650						
1.0460	16	160	160	160	151	132	118	99	80	76	73	69	65	61	54	45	37																							
	25	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																							
	32	320	320	320	302	264	236	198	160	153	145	138	130	123	109	91	75																							
	40	400	400	400	377	330	295	248	200	191	182	172	163	153	136	113	93																							
1.5415	16	192	192	192	179	165	141	137	132	131	130	129	128	127	126	125	124	109	85	64	51	41																		
	25	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																		
	32	385	385	385	358	330	283	273	264	262	260	258	256	255	253	251	249	217	170	129	102	81																		
	40	480	480	480	448	413	354	342	330	328	325	323	321	318	316	314	311	272	212	161	127	102																		
1.7335	16	192	192	192	192	189	174	165	156	154	152	150	148	146	145	144	143	142	129	109	86	70	57	44	36	29														
	25	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46														
	32	385	385	385	385	377	349	330	311	307	304	300	296	292	290	289	287	285	258	217	172	140	113	88	72	59														
	40	481	481	481	481	471	436	413	389	384	380	375	370	365	363	364	358	356	323	272	215	175	141	110	91	74														
1.7383 ²⁾	16	192	192	192	192	192	189	174	165	163	161	159	157	156	154	152	150	143	127	111	97	85	74	64	55	48	41	36	32											
	25	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49											
	32	384	384	384	384	384	377	349	330	326	322	319	315	311	307	304	300	287	255	223	194	170	147	128	109	96	83	72	63											
	40	480	480	480	480	480	471	436	413	408	403	398	384	389	384	379	375	358	318	278	243	212	184	160	137	120	104	90	79											
1.6368	16	263	263	263	263	263	263	263																																
	25	410	410	410	410	410	410	410	410																															
	32	525	525	525	525	525	525	525	525																															
	40	657	657	657	657	627	657	657	657																															
1.4903 ²⁾	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	268	245	239	221	203	186	169	153	137	123	108	96	85	74	64	55	48	41					
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	65					
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	536	490	477	441	405	371	338	305	273	245	217	192	170	147	128	109	96	83					
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	613	596	552	507	464	422	382	342	306	271	240	212	184	160	137	120	104					
1.4901 ²⁾	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	271	254	237	221	205	190	176	161	147	133	119	106	94	81	70	61	52						
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	423	397	370	345	320	297	275	252	230	208	186	166	147	127	110	95	82						
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	542	508	474	442	410	380	352	323	295	267	239	212	188	163	141	122	105						
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131						

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

Design acc. to design conditions, PD 63 available on request.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Body seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709	1.7709	1.4923	1.4980
171	Clamping screw	1.7709	1.7709	1.7709	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.7218	1.4923	1.4980
200	Bonnet	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415
225	Yoke head	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460
270	Cover	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
271	Support ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
272	Segment ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
273	Support cap	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
360	Disc	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Disc seat	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
363	Pressure piece	1.4122	1.4122	1.4122	1.4122	1.4122	1.4122	1.4122
400	Stem	1.4921	1.4021	1.4923	1.4923	1.4923	1.4923	1.4980
411	Guide sleeve	1.8507	1.8507	1.8507	1.8507	1.8507	1.8507	1.8507
420	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
421	Chamber ring	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
430	Gland	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415	1.5415
440	Gland flange	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4903
448	Packing ring	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
462	Bolt	1.7709	1.7709	1.7709	1.7709	1.4923	1.4923	1.4980
464	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.4923	1.4923	1.4980
510	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R
511	Anti-friction bearing	WLSt	WLSt	WLSt	WLSt	WLSt	WLSt	WLSt
540	Flange	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425
542	Cylinder head bolt	8.8	8.8	8.8	8.8	8.8	8.8	8.8
543	Hexagonal nut	8	8	8	8	8	8	8
553 / 554	Shaft seal	NBR	NBR	NBR	NBR	NBR	NBR	NBR
616	Lift stop	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460
618	Hexagonal pipe nut	St	St	St	St	St	St	St
710	Anti-rotation device	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425	1.0425
711	Hexagonal bolt	8.8	8.8	8.8	8.8	8.8	8.8	8.8
712	Hexagonal nut	8	8	8	8	8	8	8
718	Washer	1.0038	1.0038	1.0038	1.0038	1.0038	1.0038	1.0038

Spare parts

Dimensions/mm, weights/kg and Kvs value m³/h

DN	DSK 16						DSK 25						DSK 32						DSK 40			DSK 63				Kvs [m³/h]
	L	H	H1	Stroke length	Rev/stroke	kg	L	H	H1	Stroke length	Rev/stroke	kg	L	H	H1	Stroke length	Rev/stroke	kg	H	Stroke length	p	Rev/stroke	kg			
65 - 200	Version DSK26.25						Version DSK26.25						Version DSK26.40													
225													1050	1720	1925	240	23	1980						4221		
250													1150	1980	2225	270	26	2300						5211		
300													1350	2195	2450	305	26	3600						7504		
350	1200	2140	2400	360	36	2230	1550	2280	2550	350	30	3700	1550	2400	2700	350	32	5840						10214		
400	1350	2320	2600	400	40	3000	1750	2565	2875	410	37	5500	1950	2700	3025	410	37	8200						13340		
450	1500	2485	2850	456	38	3935	1950	2850	3200	460	41	7600												16884		
500	1650	2850	3200	495	42	5400																		20844		
600	1650	2900	3250	588	49	6120																		30015		

Over pressure safety device

If a gate valve that is closed and is filled with a medium (e.g. water) is heated up (Fig. 1), an impermissibly high pressure may form in the body. The possible pressure increase depends on the volume of the liquid and vaporous phases and the temperature increase of the medium. The trapped over pressure in the body can make it significantly harder for the gate valve to actuate. In addition, the over pressure can cause the pressure-bearing components to fail.

Fig. 2 shows the pressure increase in the body when water is trapped, depending on the volume share and temperature change.

Note: If the valve's installation method or mode of operation make these impermissible pressures possible, the system planner or operating company must provide a suitable over pressure safety device.

A simple and effective over pressure safety device involves providing a bore in the disc or in the seat

on the pressurised side (Fig. 4). The bore prevents the pressure in the body from exceeding the operating pressure; however, this means that the gate valve can only be used one-directional. In this case, the flow direction is indicated by an arrow on the body. Another option is an equalizing pipe from the 3rd chamber (Fig. 5) to the inlet.

If an external over pressure safety device is used, the body must be ordered with the corresponding closed stud (see Figs. 1 + 3).

Fig. 1:

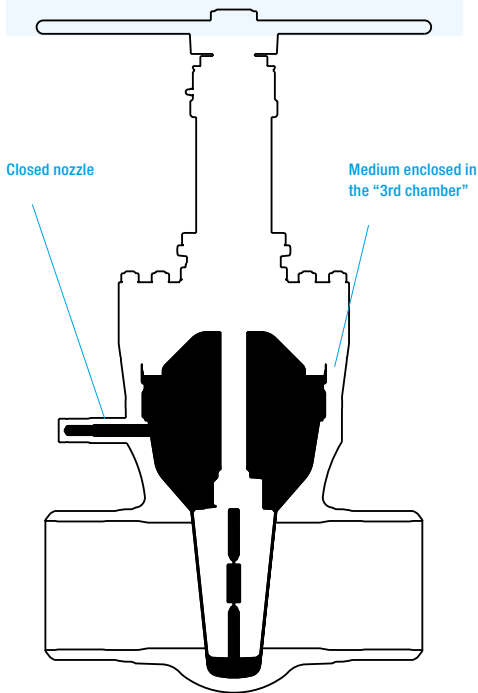


Fig. 2:

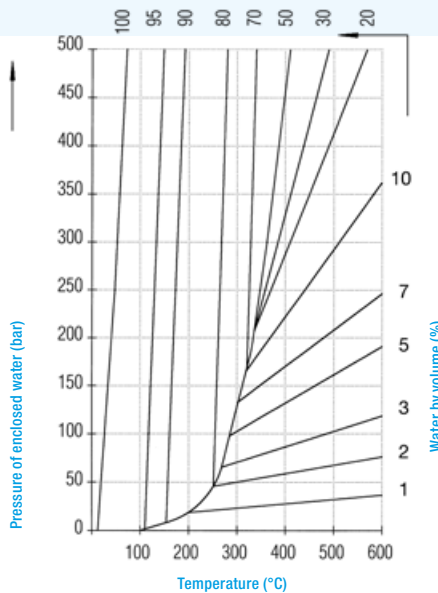


Fig. 3: Version with safety valve

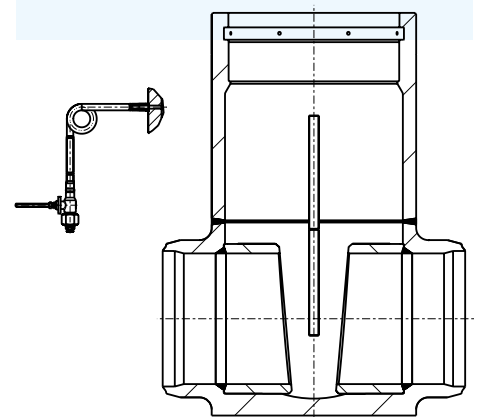


Fig. 4: Version with bore in disc or seat ring

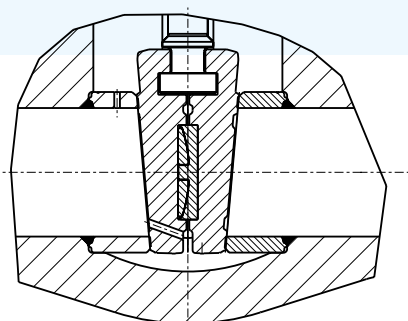


Fig. 5: Equalizing pipe from 3rd chamber to pressurised side

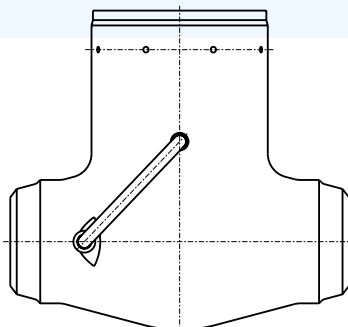
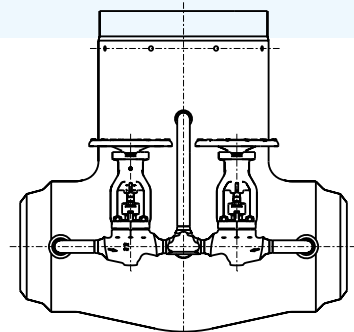
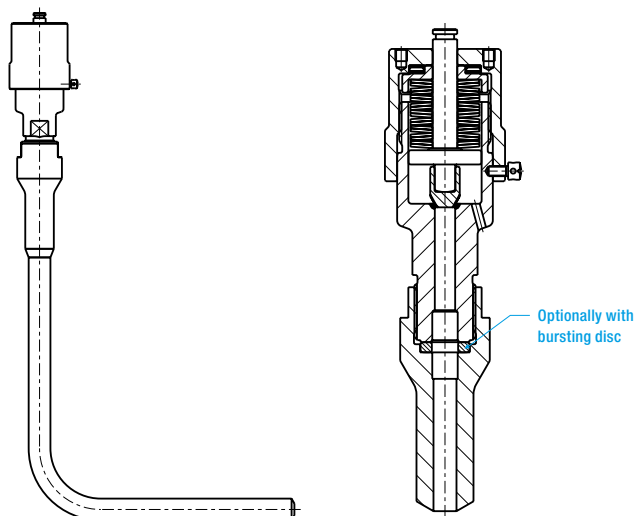


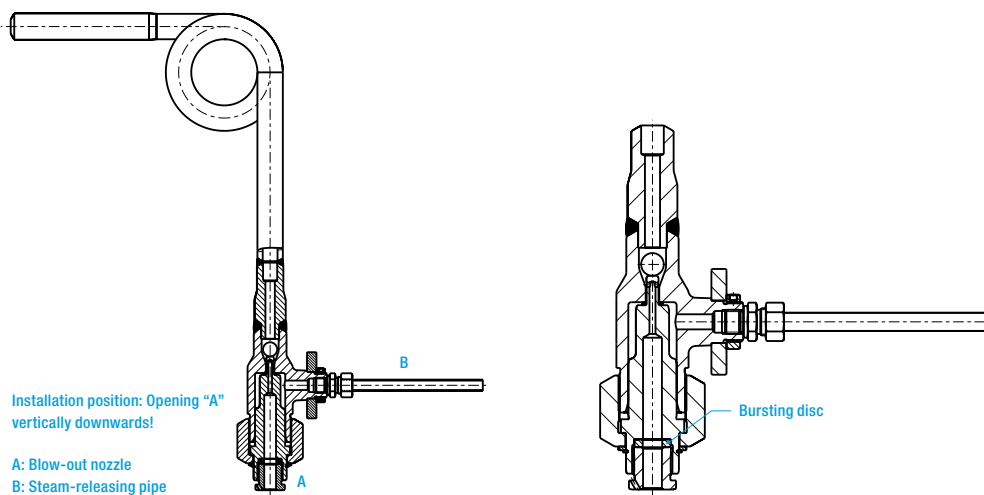
Fig. 6: Equalizing bypass with globe valves from 3rd chamber



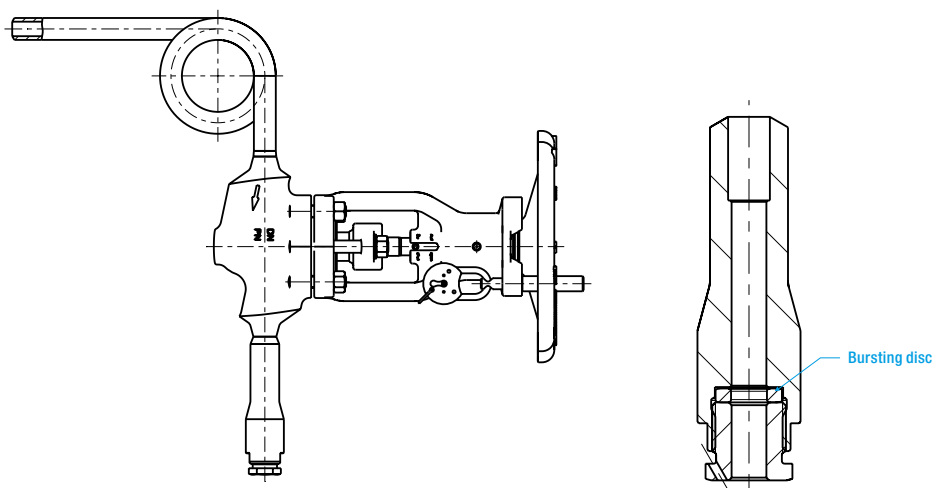
Assembly diagram SV 97



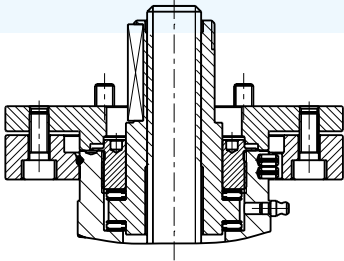
Assembly diagram SV 98



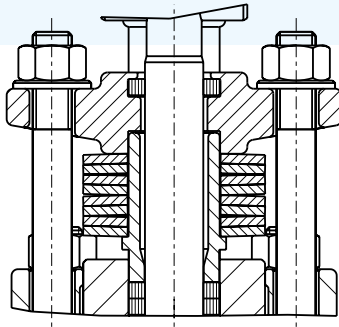
Assembly diagram SV 99 with lockable high pressure globe valve



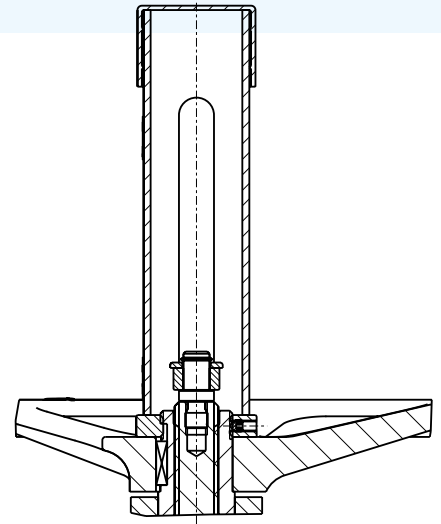
Universal valve head for mounting actuators/gear boxes



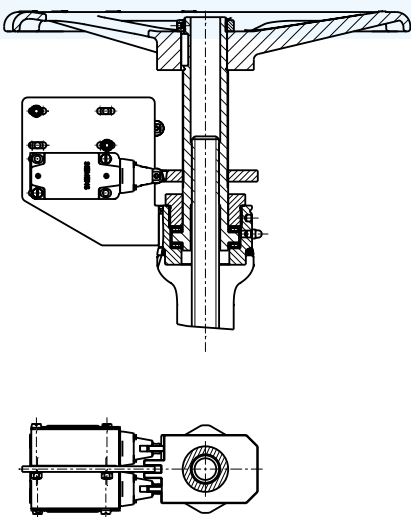
Stuffing box with central disc spring contact pressure



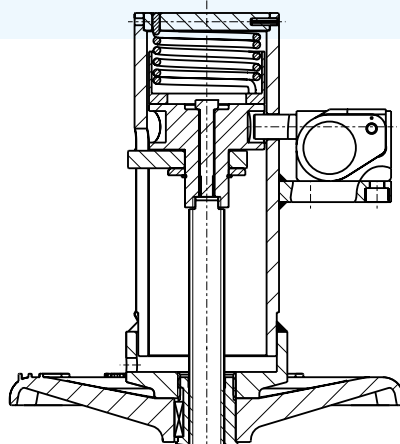
Position indicator/stem protection tube



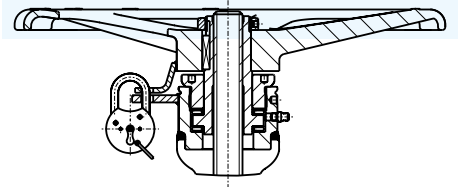
Limit switches



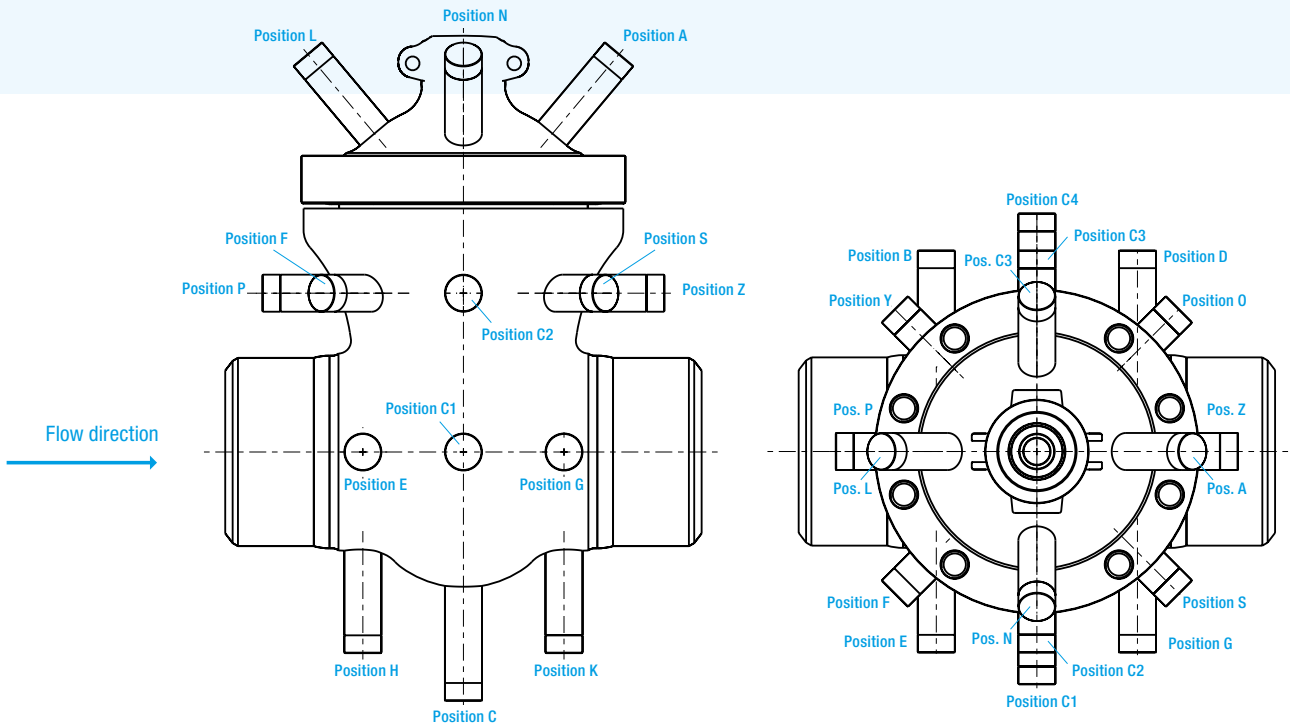
PERLOC locking system



Ped lock



Nozzle / variable position





SWING CHECK VALVES

640 AA PN 10-40 DN 50-250

Design highlights

- Integral armoured body seat, swing check disc made of 13% Cr-steel or armoured with 17% Cr-steel
- Swing check disc with spherical pin in the valve lever
- Valve lever mounted on the valve shaft by a separate bearing

Advantages

- Long-lasting effective impermeability at closure
- Better mobility and adjustment of the disc on the body seat
- Improved material combination and wear characteristics

Version

- Cast body
- Available with flanged and butt-weld connections

Operating data

- Operating pressure up to 40 bar
- Operating temperature up to 400 °C

Materials

- 1.0619

Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Note: The opening angle of the swing check disc should be greater than 10° to ensure stable flow conditions.

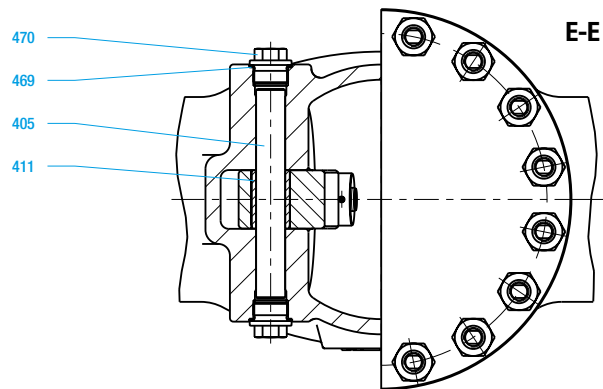
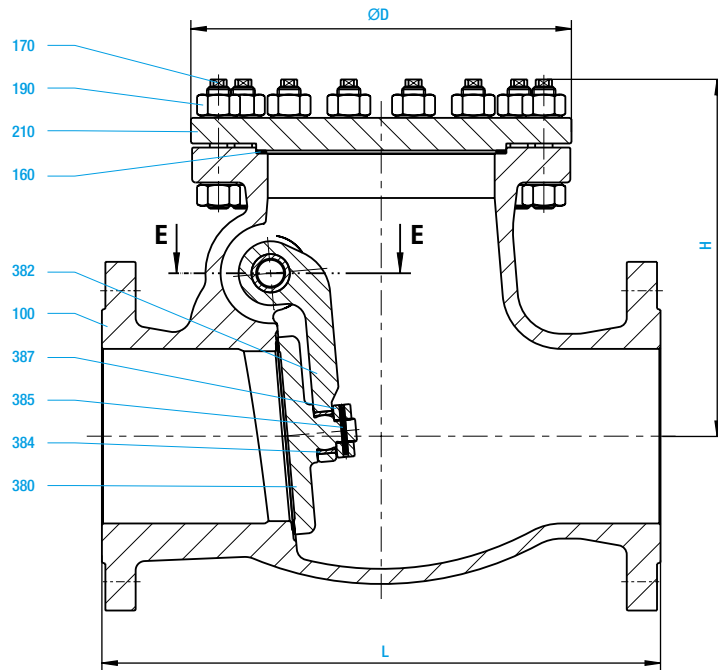
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

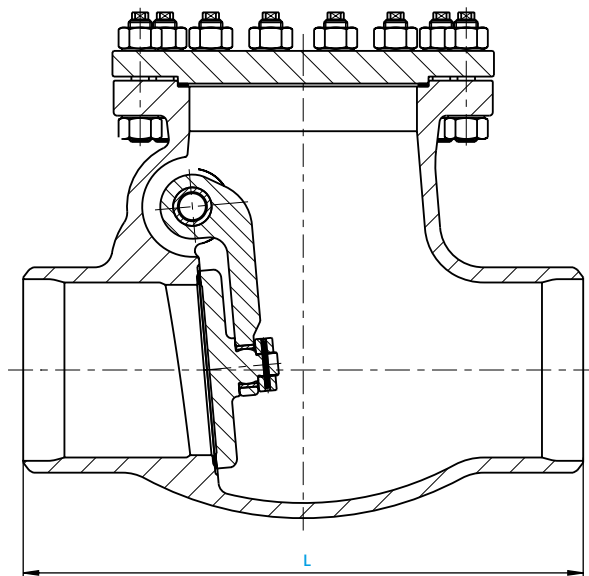
Material	PN	-10	20	120	200	250	300	350	400
1.0619	10-16	16	16	16	14	13	11	10	8
	25	25	25	25	22	20	17	16	13
	40	40	40	40	35	32	28	24	21

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

Flange version



Butt-weld end version



Materials

Item	Designation	1.0619 (11)
100	Body	1.0619
	Body seat	Cr17
160	Gasket	Graphite ²⁾
170	Bolt	1.1181
190	Hexagonal nut	1.1181
210	Cover	1.0460
380	Swing check disc	1.4021
	Armoured with	Cr17 ¹⁾
382	Disc lever	1.0425
384	Bearing	1.4006
385	Tension pin	1.4370
387	Round nut	1.4021
405	Valve shaft	1.4021
411	Guide sleeve	1.4006
469	Gasket	2.4066
470	Locking bolt	1.7709

Spare parts

Other materials available on request.

1) DN 125 1.0460 armoured with Cr17

2) DN 150 grooved profile with graphite layer

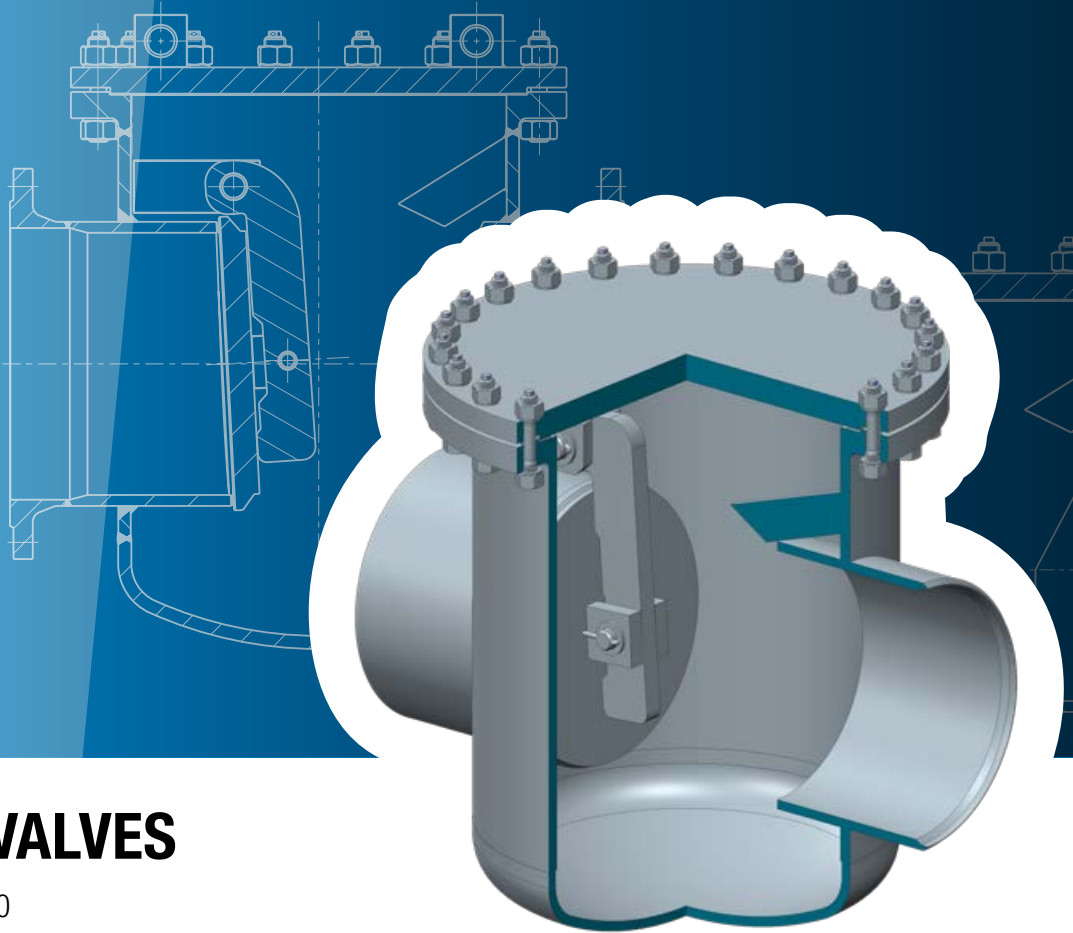
Dimensions/mm

DN	ØDS	L	H	ØB
50	50	230	165	172
65	65	290	180	212
80	80	310	210	227
100	100	350	220	257
125	123	400	250	292
150	146	480	310	327
200	198	600	365	412
250	246	730	455	462

Weights/kg and Kvs value m³/h

DN	Flange	Butt-weld ends	Kvs [m ³ /h]
50	19	14	100
65	31	23	170
80	36	27	256
100	52	40	400
125	70	56	625
150	104	84	900
200	188	151	1600
250	295	231	2500





SWING CHECK VALVES

640 AA PN 10-40 DN 300-800

Design highlights

- Armoured body and disc seat
- Swing check disc with moving shaft on the valve lever
- Valve lever mounted on the valve shaft by a separate bearing
- Internal valve shaft

Advantages

- Long-lasting effective impermeability at closure
- Better mobility and adjustment of the disc on the body seat
- Improved material combination and wear characteristics
- Fewer seals and thus fewer possible leaks external leaks

Version

- Swing check valve with internal shaft
- Welded body design
- Available with flanged and butt-weld connections

Materials

- 1.0425

Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

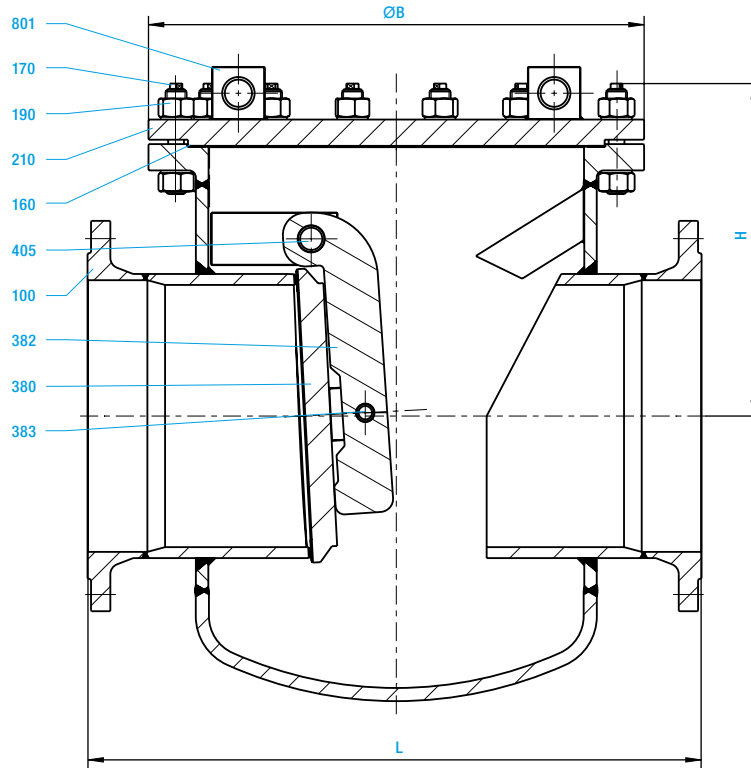
Operating data

- Operating pressure up to 40 bar
- Operating temperature up to 400 °C

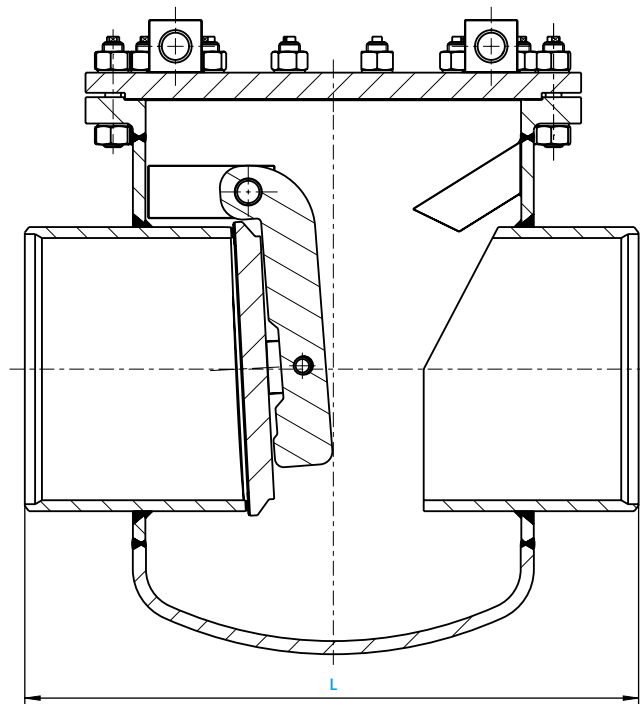
Applications

In chemical, industrial and power plants.

Flange version



Butt-weld end version



Materials

Item	Designation	1.0425 (22)
100	Body	1.0425
	Body seat	Cr17 ¹⁾
160	Gasket	Grooved profile with graphite layer
170	Stud bolt	1.7218
190	Hexagonal nut	1.7218
210	Cover	1.0425
380	Swing check disc	1.0425
	Armoured with	Cr17 ¹⁾
382	Disc lever	1.0038
383	Bolt	1.4021
405	Valve shaft	1.4021
801	Disc	1.0570

Spare parts

Materials 1.0571, 1.5415, 1.7335 available on request

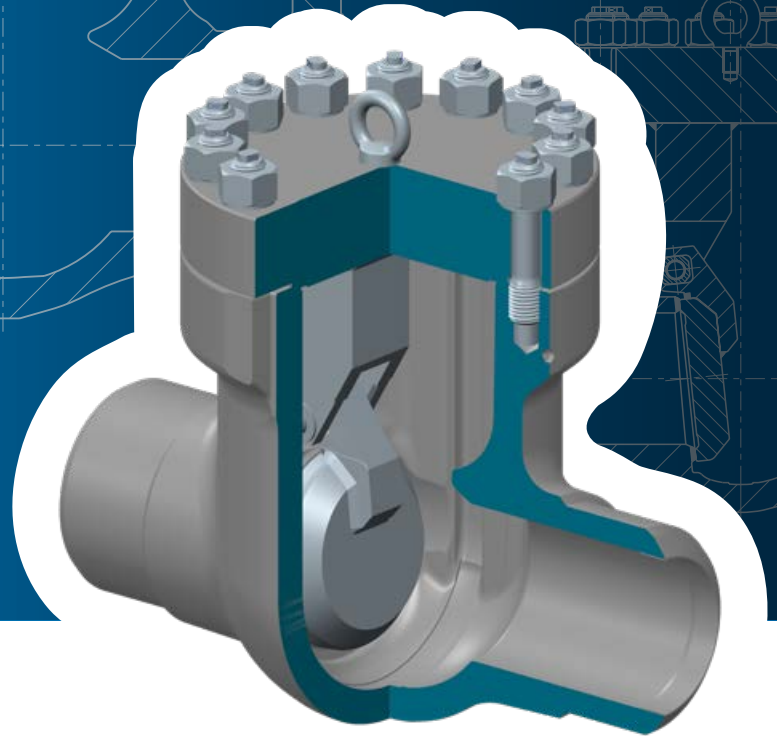
1) Available with Stellite on request

Dimensions/mm

DN	PN	10-16		25-40		10-16		25		40	
		L	L	H	H	H	ØB	ØB	ØB	ØB	ØB
300		700	850	375	405	425	565	575	575		
350		800	980	427	448	483	630	640	640		
400		900	1100	463	498	577	750	770	770		
450		1000	1200	525	564	617	750	750	780		
500		1100	1250	591	610	633	870	870	890		
600		1300	1450	824	841	811	1040	1040	1040		
700		1500	1650	896	918		1175	1175			
800		1700	1850	973	1018		1275	1275			

Weights/kg and Kvs value m³/h

DN	PN	Flange				Butt-weld ends				Kvs [m ³ /h]
		10	16	25	40	10	16	25	40	
300		275	285	350	430	255	255	305	355	3600
350		380	395	475	550	335	345	395	445	4900
400		560	575	735	895	525	525	365	745	6400
500		910	945	1180	1300	860	860	1040	1125	9996
600										14395
700										19593
800										25591

ASMEversion
available

SWING CHECK VALVES

640 AA PN 63-160 (PD 18) DN 50-250

Design highlights

- Forged body
- Integral seat
- Valve lever mounted on the valve shaft by a sliding block
- Bolted cover
- Swing check disc attached to cover

Advantages

- Free of pores and cavities compared to cast steel
- No gap corrosion
- Optimum adjustment of the disc on the body seat thanks to movement of the sliding block
- Easy to service, cover and disc can be removed and reinstalled together

Version

- Body forged
- Swing check valve with internal shaft
- Swing check disc attached to the cover
- Available with flanged and butt-weld connections

Operating data

- Operating pressure, butt-weld ends, up to 254 bar (DIN 2401; DIN EN 1092-1 or DIN EN 12516-1)
- Operating pressure, flange ends, up to 160 bar (DIN 2401 or DIN EN 1092-1)
- Operating temperature up to 600 °C

Materials

- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Max. area of application for butt-weld ends ³⁾

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

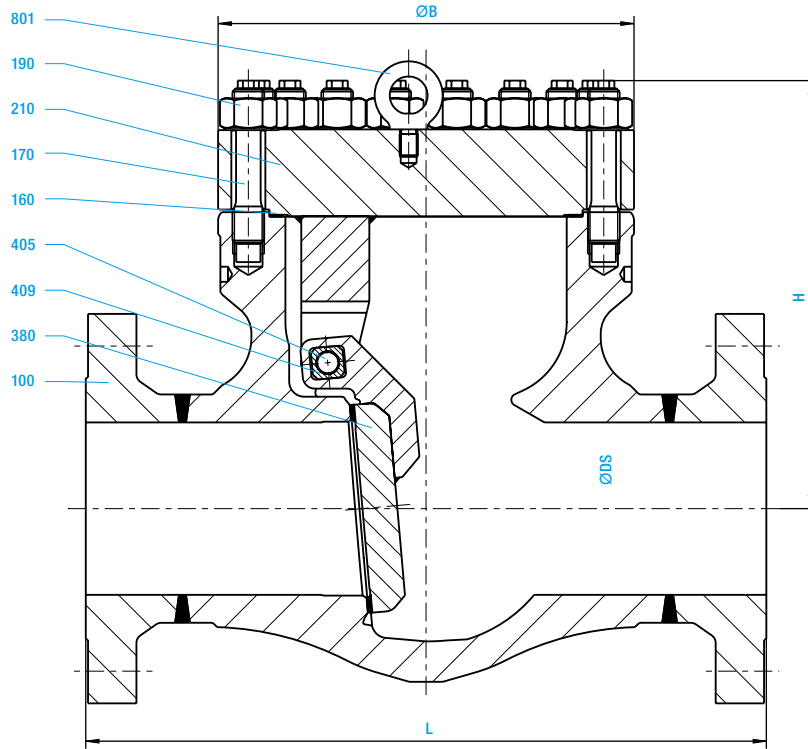
Material	PD	20	50	100	120	150	200	250	300	350	400	420	430	440	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	
1.5415	18	258	246	229	219	204	185	170	146	141	136	134	133	132	130	129	128	112	88	67	53	42								
1.7335	18	258	249	234	228	219	205	194	180	170	161	156	155	153	150	149	148	147	133	112	89	72	58	46	37	30				
1.7383 ²⁾	18	258	250	239	233	224	210	205	194	180	170	166	164	162	159	156	155	153	131	115	100	88	76	66	56	50	43	37	33	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

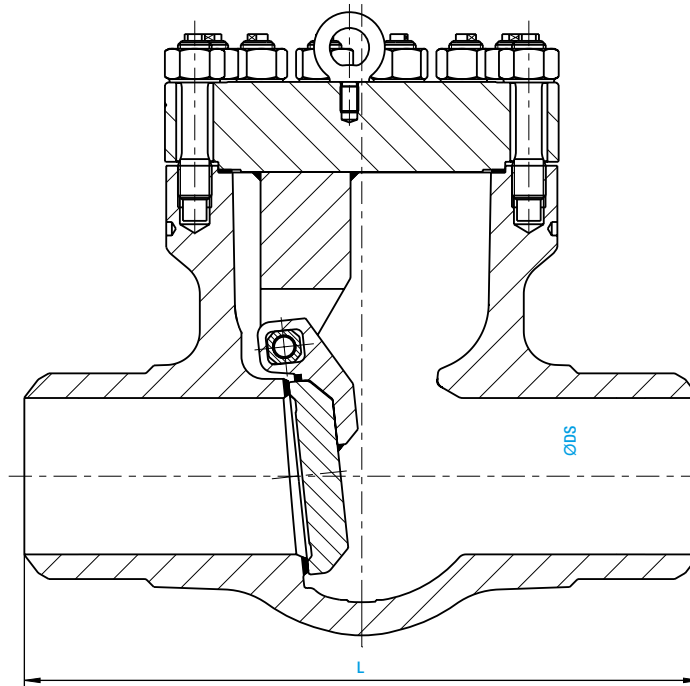
2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

3) Max. area of application for flange ends or pressure ratings valves; see technical appendix from page 138.

Flange version



Butt-weld end version



Materials

Item	Designation	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.5415	1.7335	1.7383
	Body seat	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218
210	Cover	1.5415	1.7335	1.7383
380	Swing check disc	1.5415	1.7335	1.7383
	Armoured with	Stellite	Stellite	Stellite
405	Valve shaft	1.4021	1.4021	1.4021
409	Sliding block	5.3106	5.3106	5.3106
801	Ring bolt	1.0401	1.0401	1.0401

Spare parts

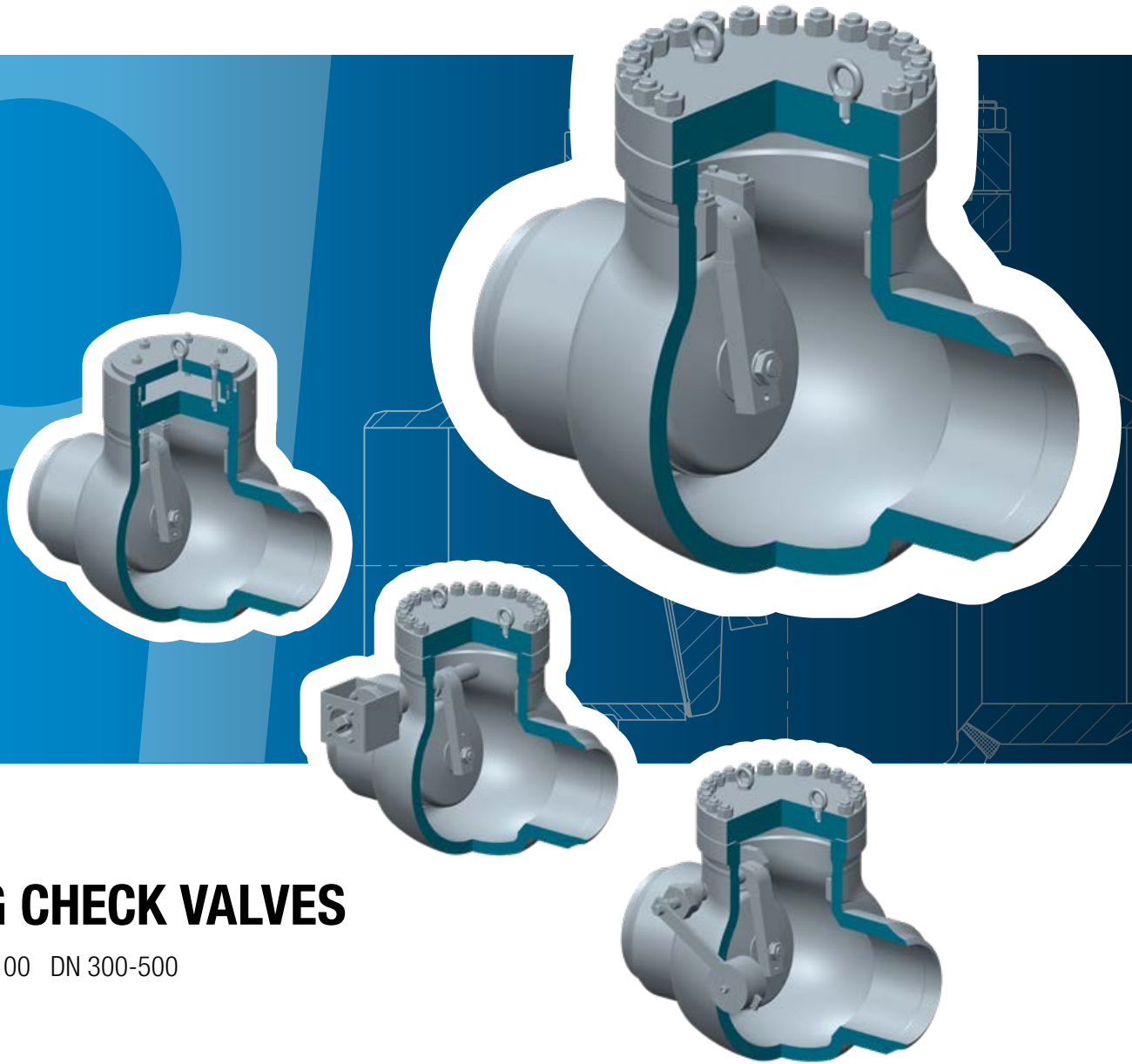
Other materials available on request.

Dimensions/mm

DN \ PN	ØDS	63-100 L	160 L	H	ØB
50	47	250	300	220	192
80	74	380	390	275	236
100	95	430	450	320	265
150	139	550	600	415	350
200	183	650	750	510	440
250	228	775	900	595	550

Weights/kg

DN	Flange		Butt-weld ends	
	PN63-100	PN160	PN63-100	PN160
50	31	32	42	43
80	58	59	73	74
100	86	88	106	110
150	202	209	244	256
200	389	407	458	490
250	729	765	826	897



SWING CHECK VALVES

640 AA PN 100 DN 300-500

Design highlights

- Seat armoured with Stellite
- Spherical pin on the swing check disc

Advantages

- Effective impermeability in seat
- Better mobility and adjustment of the disc to the body seat

Version

- Welded steel plate body
- Swing check valve with internal shaft
- Swing check disc attached in the body
- Available with flanged and butt-weld connections

Optional:

- Available with external valve shaft (640 AE)
- With pressure-sealing cover as per VGB guidelines (640 AB)
- Available as freewheel swing check valve with part-turn actuator (640 DJ)

Operating data

- Operating pressure, butt-weld ends PN100 (DIN 2401; DIN EN 1092-1 or DIN EN 12516-1)
- Operating pressure, flange ends PN100 (DIN 2401 or DIN EN 1092-1)
- Operating temperature up to 530 °C

Materials

- 1.0425
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants, and in shipbuilding.

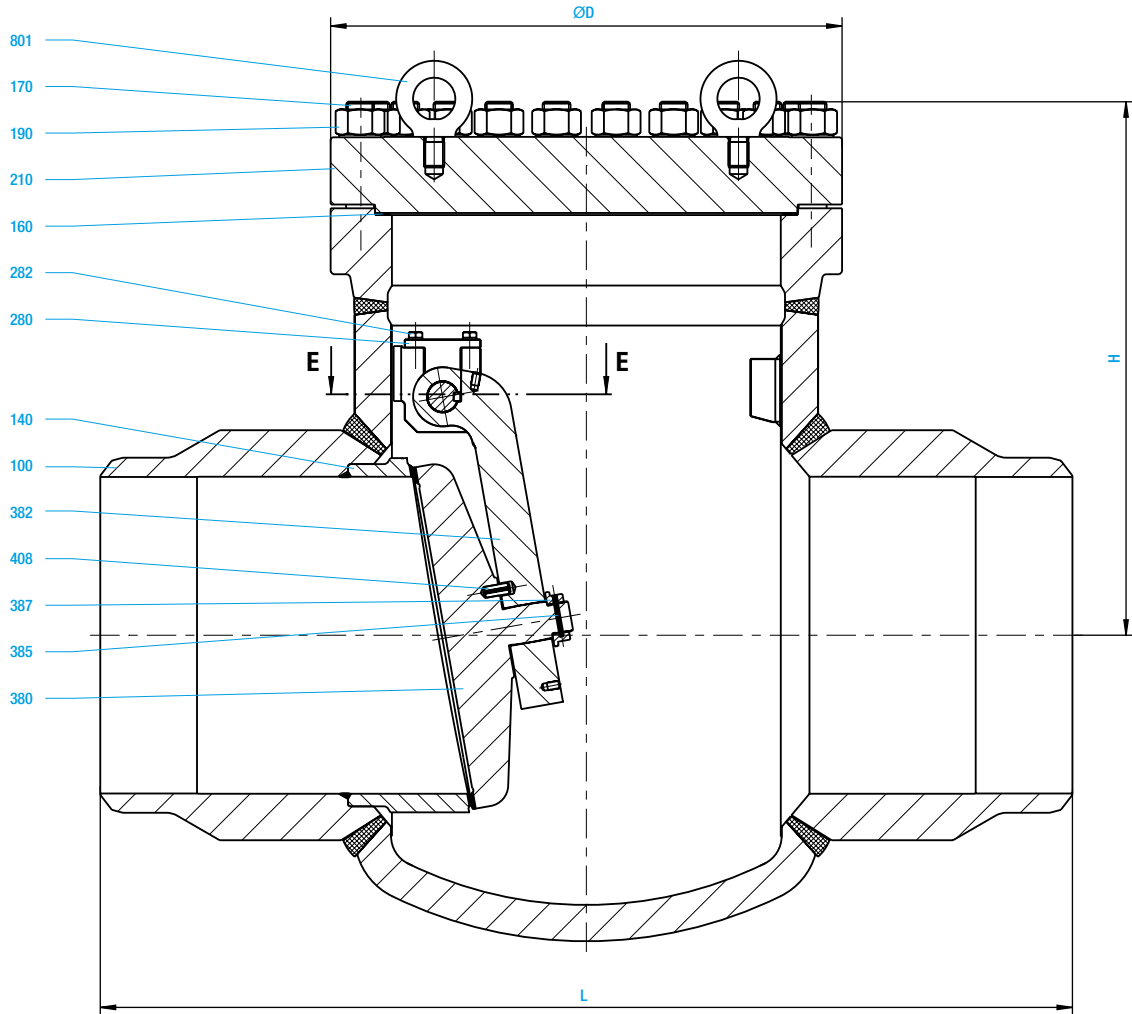
Max. area of application for butt-weld ends ²⁾

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

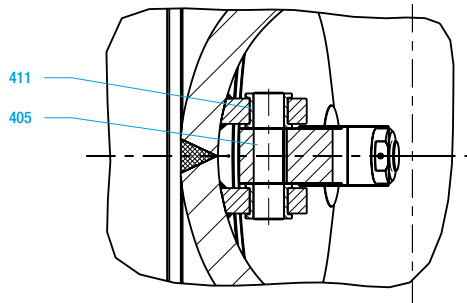
Material	20	120	150	200	250	300	325	350	375	380	400	420	425	450	460	470	475	480	490	500	510	515	520	525	530	
1.0425	100	100	92.5	84	76.8	69.6	67.2	64.8	62.4	61.9	60	54.9	51.9	36.8	31.8	26.7	24.5	22.4								
1.5415	100	100	100	100	100	87	83.3	80.9	77.8	77.2	74.7	72.4	72	70	66.3	65.8	65.5	65.3	55.3	45.3						
1.7335	100	100	100	100	100	100	97.6	95.2	93	92.6	91	89.4	89	87	85	83	82	80.4	77.2	74	62	55.5	49.2	45.9	42.6	
1.7383	100	100	100	100	100	100	98.8	97.6	95.2	94.7	92.8	90.9	90.4	88	84.9	83	82	80.4	77.1	73.8	63.5	60.3	57.1	53.9	50.2	

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) Max. area of application for flange ends or pressure ratings valves; see technical appendix from page 138.



E-E



Materials

Item	Designation	1.0460 (22)	1.5415 (42)	1.7335 (44)	1.7380 (45)
100	Body	1.0460	1.5415	1.7335	1.7380
140	Seat ring	Body	Body	Body	Body
	Armoured with	Stellite	Stellite	Stellite	Stellite
160	Gasket	Grooved profile with graphite layer	Grooved profile with graphite layer	Grooved profile with graphite layer	Grooved profile with graphite layer
170	Stud bolt	1.7711	1.7711	1.7711	1.7711
190	Hexagonal nut	1.7225	1.7225	1.7225	1.7225
210	Cover	1.0460	1.5415	1.7335	1.7383
280	Bracket	1.0425	1.5415	1.7335	1.7380
282	Hexagonal bolt	A4-70	A4-70	A4-70	A4-70
380	Swing check disc	1.0460	1.5415	1.7335	1.7383
	Armoured with	Stellite	Stellite	Stellite	Stellite
382	Disc lever	1.7383	1.7383	1.7383	1.7383
385	Tension pin	1.4310	1.4310	1.4310	1.4310
387	Round nut	1.4923	1.4923	1.4923	1.4923
405	Valve shaft	1.4122	1.4122	1.4122	1.4122
408	Tension pin	1.4310	1.4310	1.4310	1.4310
411	Bearing	5.3103	5.3103	5.3103	5.3103
801	Ring bolt	1.0401	1.0401	1.0401	1.0401

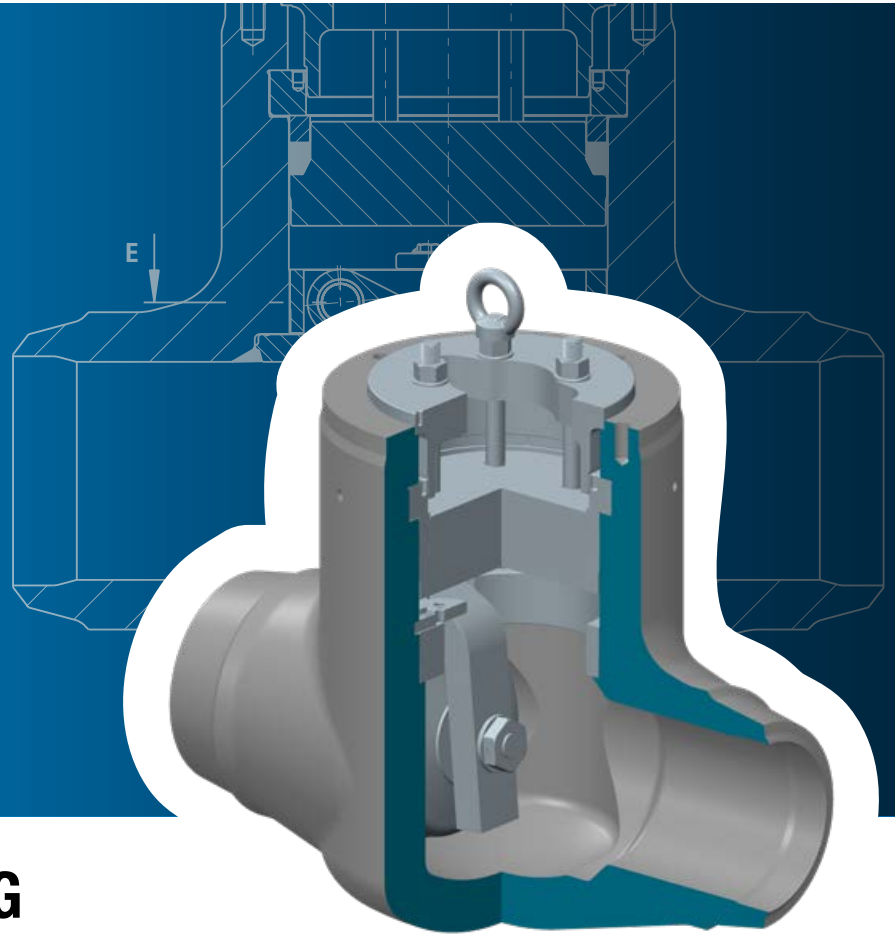
Spare parts

Other materials available on request.

Dimensions/mm and weights/kg

DN	ØDS	L	H	ØB	kg
300	276	900	540	480	585
350	330	1025	570	530	850
400	375	1150	632	605	1100
450	419	1220	683	670	1530
500	464	1400	738	770	2077

ASME

 version
available


HIGH PRESSURE SWING CHECK VALVES

DRI 26 640 AB PD 25 / PD 40 DN 65-300

Design highlights

- Body and pressure sealing cover forged steel
- Hollow forged body
- Seat generally armoured with Stellite
- Valve lever mounted in separate retaining ring
- Spherical pin on the swing check disc
- Pressure sealing cover
- Cover can be used to dismantle the pressure sealing bonnet

Advantages

- Free of pores and cavities compared to cast steel
- No pressure-bearing weld seams
- Long-lasting effective impermeability at closure
- The disc's contact pattern can be checked before the pressure sealing bonnet is inserted
- Better mobility and adjustment of the disc to the body seat
- Increasing external impermeability as operating pressure rises
- No special tools needed to dismantle the cover

Version

- Forged body
- Swing check valve with internal shaft
- Swing check disc attached to the body insert
- Pressure sealing cover as per VGB guidelines

Operating data

- Operating pressure up to 680 bar
- Operating temperature up to 650 °C

Materials

- 1.0460
- 1.4901
- 1.4903
- 1.5415
- 1.6368
- 1.7335
- 1.7383

Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650		
1.0460	25	250	250	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																			
1.5415	25	300	300	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64														
1.7335	25	300	300	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46										
1.7383 ²⁾	25	300	300	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49							
1.6368	25	410	410	410	410	410	410	410	410	410	410																											
1.4903 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64		
1.4901 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	423	397	370	345	320	297	275	252	230	208	186	166	147	127	110	95	82		

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

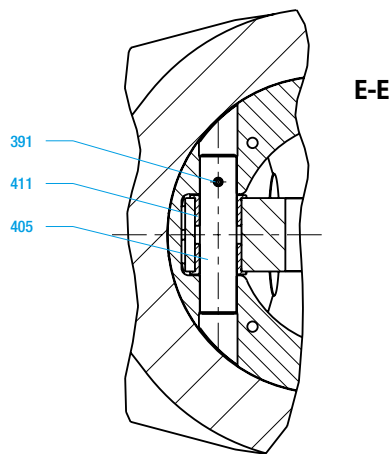
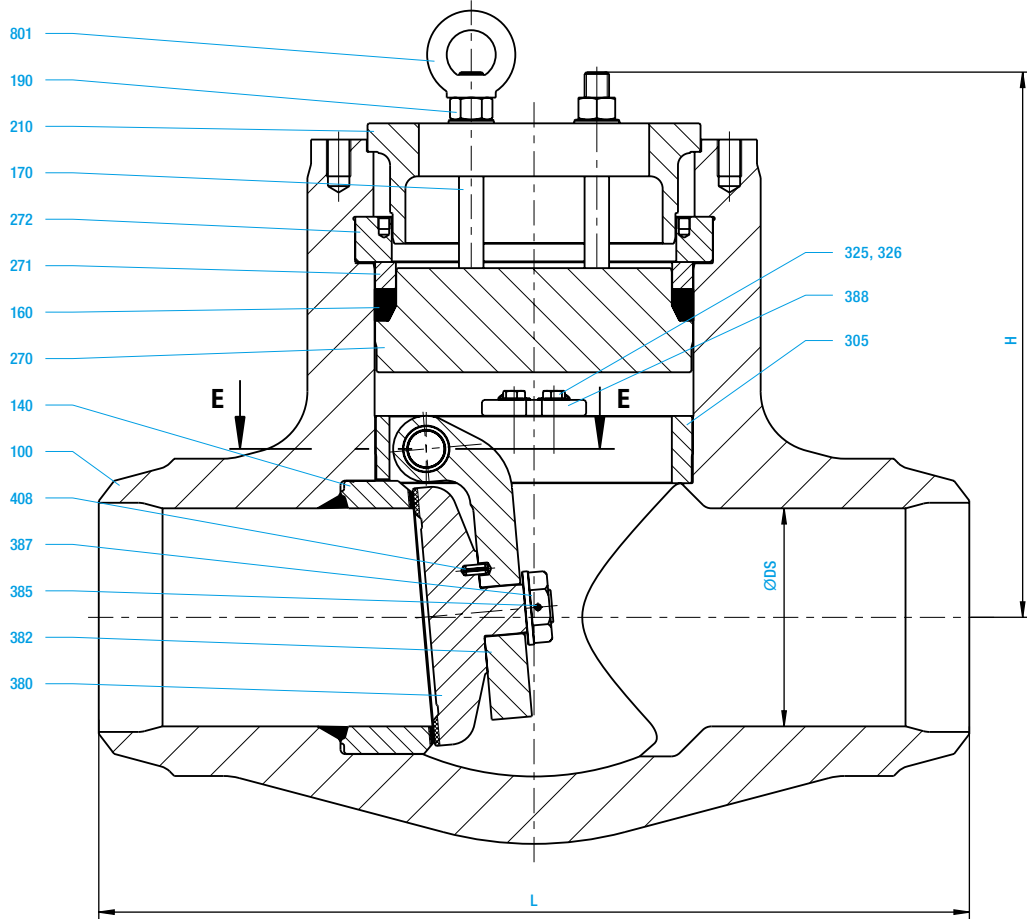
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650		
1.0460	40	400	400	400	400	400	377	330	295	248	200	190	181	172	162	153	135	113	93																			
1.5415	40	480	480	480	480	480	447	412	353	341	330	327	325	322	320	318	315	313	311	271	212	161	127	101														
1.7335	40	481	481	481	481	481	481	471	436	412	388	384	379	374	370	365	363	360	358	355	322	271	215	175	141	110	90	73										
1.7383 ²⁾	40	480	480	480	480	480	480	480	471	436	412	407	403	398	393	388	384	379	374	358	318	278	242	212	183	160	136	120	103	89	79							
1.6368	40	657	657	657	657	657	657	657	657	657	657																											
1.4903 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	612	596	551	506	464	421	381	341	306	271	240	212	183	160	136	120	103		
1.4901 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131		

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
140	Seat ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Armoured with	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Clamping screw	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7
190	Hexagonal nut	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H
270	Cover	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
271	Support ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
272	Segment ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
273	Support cap	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460
305	Retaining ring	1.7383	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903
325	Hexagonal bolt	A4	A4	A4	A4	A4	A4	A4
326	Securing ring	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301	1.4301
380	Swing check disc	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
	Armoured with	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
382	Disc lever	1.7383	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903
385	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
387	Round nut	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923
388	Clamping plate	1.4903	1.4903	1.4903	1.4903	1.4903	1.4903	1.4903
391	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
405	Valve shaft	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923
411	Guide sleeve	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660	0.7660

Spare parts

Dimensions/mm and weights/kg DRI 26.25

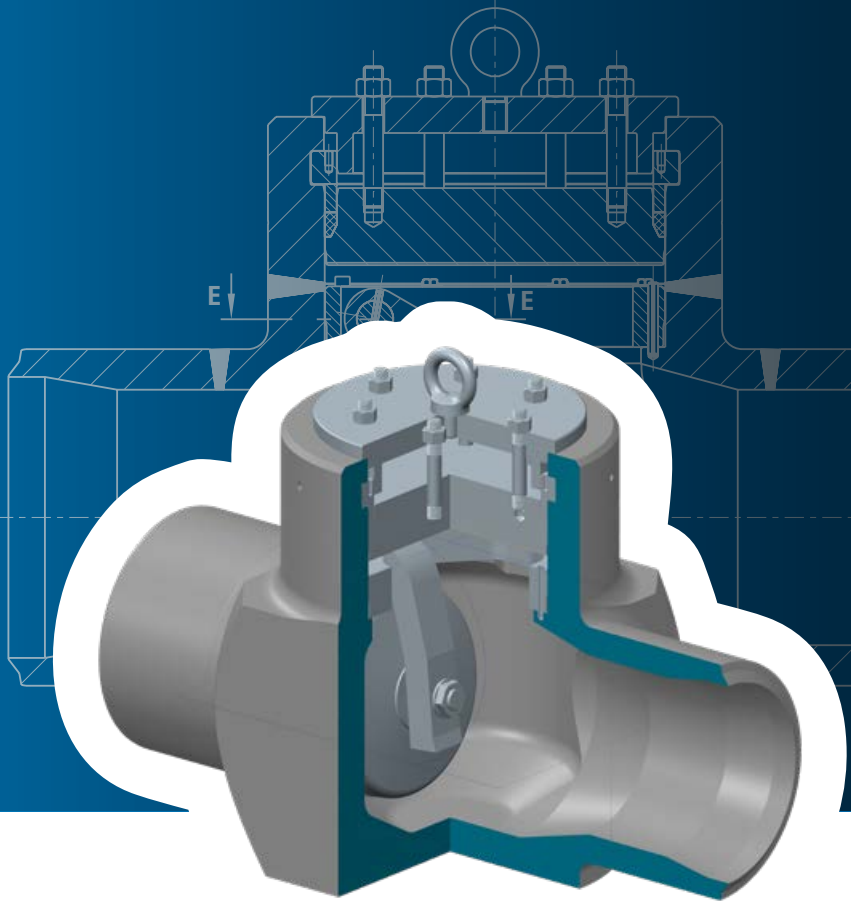
DN	ØDS	L	H	kg
80	70	305	230	49
100	90	406	257	83
125	111	483	317	131
150	136	559	357	265
200	178	711	445	400
250	222	864	530	744
300	263	991	603	1178

Dimensions/mm and weights/kg DRI 26.40

DN	ØDS	L	H	kg
65	50	330	231	59
80	57	368	246	91
100	72	457	278	151
125	90	533	337	289
150	111	610	431	447
200	146	762	479	799
250	185	1270	587	1543

ASME

version
available



HIGH PRESSURE SWING CHECK VALVES

DRI 16-63 640 AB PD 16-63 DN 50-600

Design highlights

- Body and pressure sealing cover forged steel
- Seat generally armoured with Stellite
- Valve lever mounted in separate retaining ring
- Spherical pin on the swing check disc
- Pressure sealing cover

Advantages

- Free of pores and cavities compared to cast steel
- Long-lasting effective impermeability at closure
- The disc's contact pattern can be checked before the pressure sealing bonnet is inserted
- Better mobility and adjustment of the disc to the body seat
- Increasing external impermeability as operating pressure rises

Version

- Forged body
- Swing check valve with internal shaft
- Swing check disc attached to the body insert
- Butt-weld seat ring
- Pressure sealing cover as per VGB guidelines

Operating data

- Operating pressure up to 680 bar
 - Operating temperature up to 650 °C
- Versions with higher specifications available on request.

Materials

- 1.0460
 - 1.4901
 - 1.4903
 - 1.5415
 - 1.6368
 - 1.7335
 - 1.7383
- Other materials available on request.

Flow media

Depending on the choice of materials, the swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Area of application

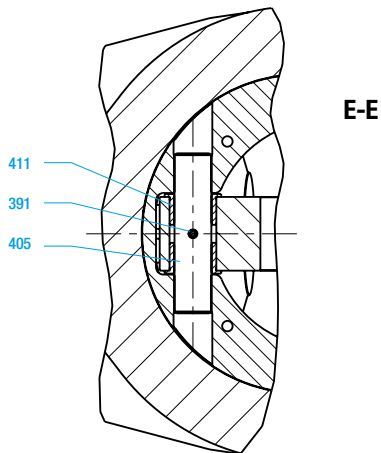
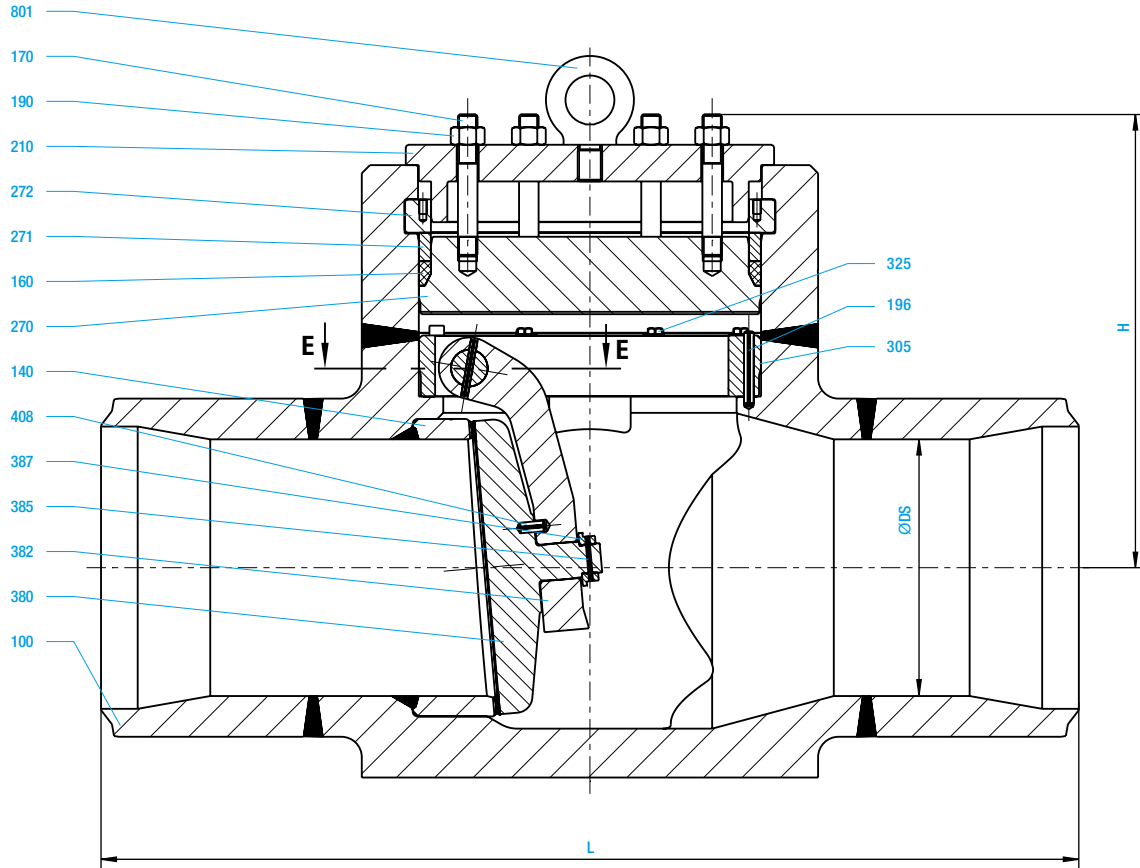
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650				
1.0460	16	160	160	160	151	132	118	99	80	76	73	69	65	61	54	45	37																					
	25	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																					
	32	320	320	320	302	264	236	198	160	153	145	138	130	123	109	91	75																					
	40	400	400	400	377	330	295	248	200	191	182	172	163	153	136	113	93																					
1.5415	16	192	192	192	179	165	141	137	132	131	130	129	128	127	126	125	124	109	85	64	51	41																
	25	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																
	32	385	385	385	358	330	283	273	264	262	260	258	256	255	253	251	249	217	170	129	102	81																
	40	480	480	480	448	413	354	342	330	328	325	323	321	318	316	314	311	272	212	161	127	102																
1.7335	16	192	192	192	192	189	174	165	156	154	152	150	148	146	145	144	143	142	129	109	86	70	57	44	36	29												
	25	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46												
	32	385	385	385	385	377	349	330	311	307	304	300	296	292	290	289	287	285	258	217	172	140	113	88	72	59												
	40	481	481	481	481	471	436	413	389	384	380	375	370	365	363	364	358	356	323	272	215	175	141	110	91	74												
1.7383 ²⁾	16	192	192	192	192	189	174	165	163	161	159	157	156	154	152	150	143	127	111	97	85	74	64	55	48	41	36	32										
	25	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49										
	32	384	384	384	384	377	349	330	326	322	319	315	311	307	304	300	287	255	223	194	170	147	128	109	96	83	72	63										
	40	480	480	480	480	480	471	436	413	408	403	398	384	389	384	379	375	358	318	278	243	212	184	160	137	120	104	90	79									
1.6368	16	263	263	263	263	263	263	263																														
	25	410	410	410	410	410	410	410																														
	32	525	525	525	525	525	525	525																														
	40	657	657	657	657	627	657	657																														
1.4903 ²⁾	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	268	245	239	221	203	186	169	153	137	123	108	96	85	74	64	55	48	41				
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	65			
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	536	490	477	441	405	371	338	305	273	245	217	192	170	147	128	109	96	83				
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	613	596	552	507	464	422	382	342	306	271	240	212	184	160	137	120	104				
1.4901 ²⁾	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	271	254	237	221	205	190	176	161	147	133	119	106	94	81	70	61	52				
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	423	397	370	345	320	297	275	252	230	208	186	166	147	127	110	95	82				
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	542	508	474	442	410	380	352	323	295	267	239	212	188	163	141	122	105				
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131				

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

Design acc. to design conditions, PD 63 available on request.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
140	Seat ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Armoured with	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Clamping screw	1.7709	1.7709	1.7709	1.7709	1.7709	1.7709	1.4923
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218	1.7218	1.7218	1.4923
196	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
210	Cover	1.7383	1.7383	1.7383	1.7383	1.7383	1.7383	1.4903
270	Cover	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
271	Support ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
272	Segment ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
305	Retaining ring	1.0460	1.5415	1.7335	1.7383	1.7383	1.4903	1.4903
325	Cylinder head bolt	A4	A4	A4	A4	A4	A4	A4
380	Swing check disc	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Armoured with	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
382	Disc lever	1.0460	1.5415	1.7335	1.7383	1.7383	1.4903	1.4903
385	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
387	Round nut	1.0460	1.0460	1.7335	1.7383	1.6368	1.4923	1.4923
391	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
405	Valve shaft	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923	1.4923
408	Tension pin	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310	1.4310
411	Guide sleeve	5.3106	5.3106	5.3106	5.3106	5.3106	0.7660	0.7660
801	Ring bolt	1.0401	1.0401	1.0401	1.0401	1.0401	1.0401	1.0401

Spare parts

Dimensions/mm and weights/kg

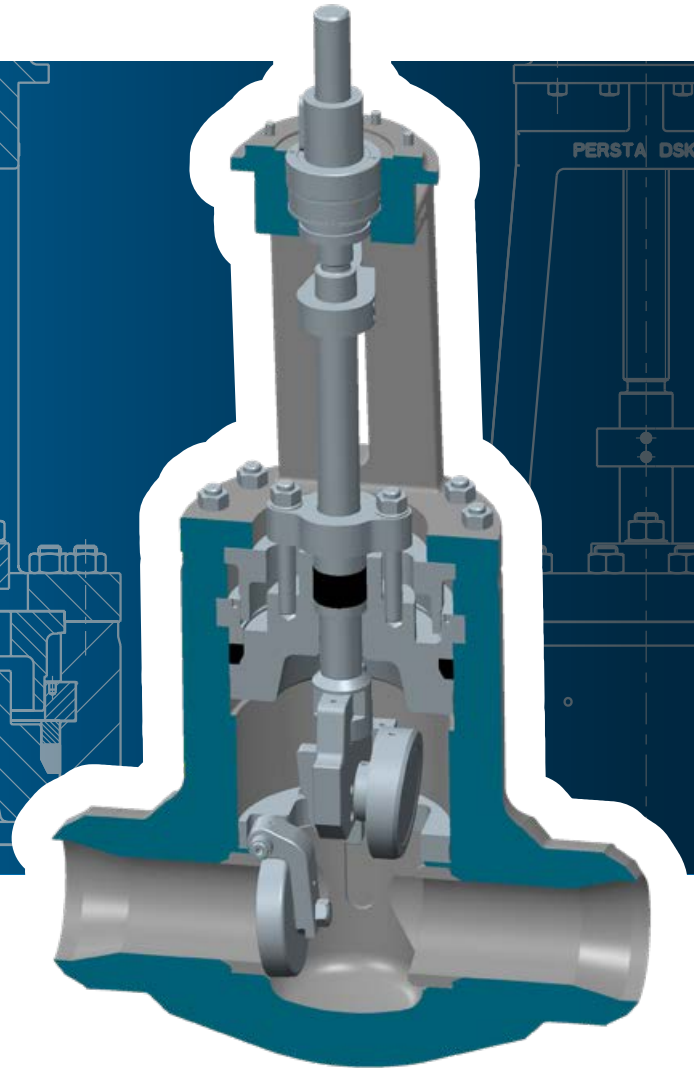
DN	ØDS	DRI 16			DRI 25			DRI 32			DRI 40		
		L	H	kg	L	H	kg	L	H	kg	L	H	kg
65-200		Version DRI 26.25						Version DRI 26.40					
250	225							1150	515	1300			
300	270							1350	605	2300			
350	315	1200	540	1400	1550	580	2300	1550	785	4000			
400	360	1350	600	1950	1750	660	3600						
450	405	1500	690	2600	1950	750	5400						

ASME

 version
available

HIGH PRESSURE STOP CHECK VALVE

DRA 26 640 ST PD 25 / 40 DN 80-200



Design highlights

- Operates as swing check valve and as gate valve
- Seals in both directions
- Full straight flow passage
- Full opening angle of swing check disc
- Flexibly attached swing check disc and shut-off device
- Shut-off system guided in groove
- Shut-off system with anti-twist protection

Advantages

- Potential savings:
 - One valve
 - Only two weld seams in the pipeline
 - Installation space and weight
 - Less need for insulation
 - Less maintenance and inspection work
- Secure protection of relevant and complex system parts
- Better flow characteristics than check valves
- Minimised pressure drop
- Better mobility and adjustment of the shut-off elements to the body seat
- Prevents position deviations in the shut-off unit and protects against damage
- More effective adjustment to the body seat with the same contact points at all times

Version

- Body hollow forged
- Double-sided high pressure shut-off system
 - Functions as a swing check valve
 - Functions as a shut-off gate valve
- Internal valve shaft mounted in a separate retaining ring
- Moving shut-off system guided in groove
- Defined limit stop for the swing check disc
- Pressure sealing bonnet as per VGB guidelines
- Seats generally armoured with Stellite

Operating data

- Operating pressure up to 680 bar
- Operating temperature up to 650 °C

Materials

- 1.4901
- 1.4903
- 1.0460
- 1.5415
- 1.6368
- 1.7335
- 1.7383

Other materials and nominal diameters available on request.

Flow media

Depending on the choice of materials, the high pressure stop check valve can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650					
1.0460	25	250	250	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																						
1.5415	25	300	300	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																	
1.7335	25	300	300	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46													
1.7383 ²⁾	25	300	300	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49										
1.6368	25	410	410	410	410	410	410	410	410	410	410	410																													
1.4903 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64					
1.4901 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64				

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

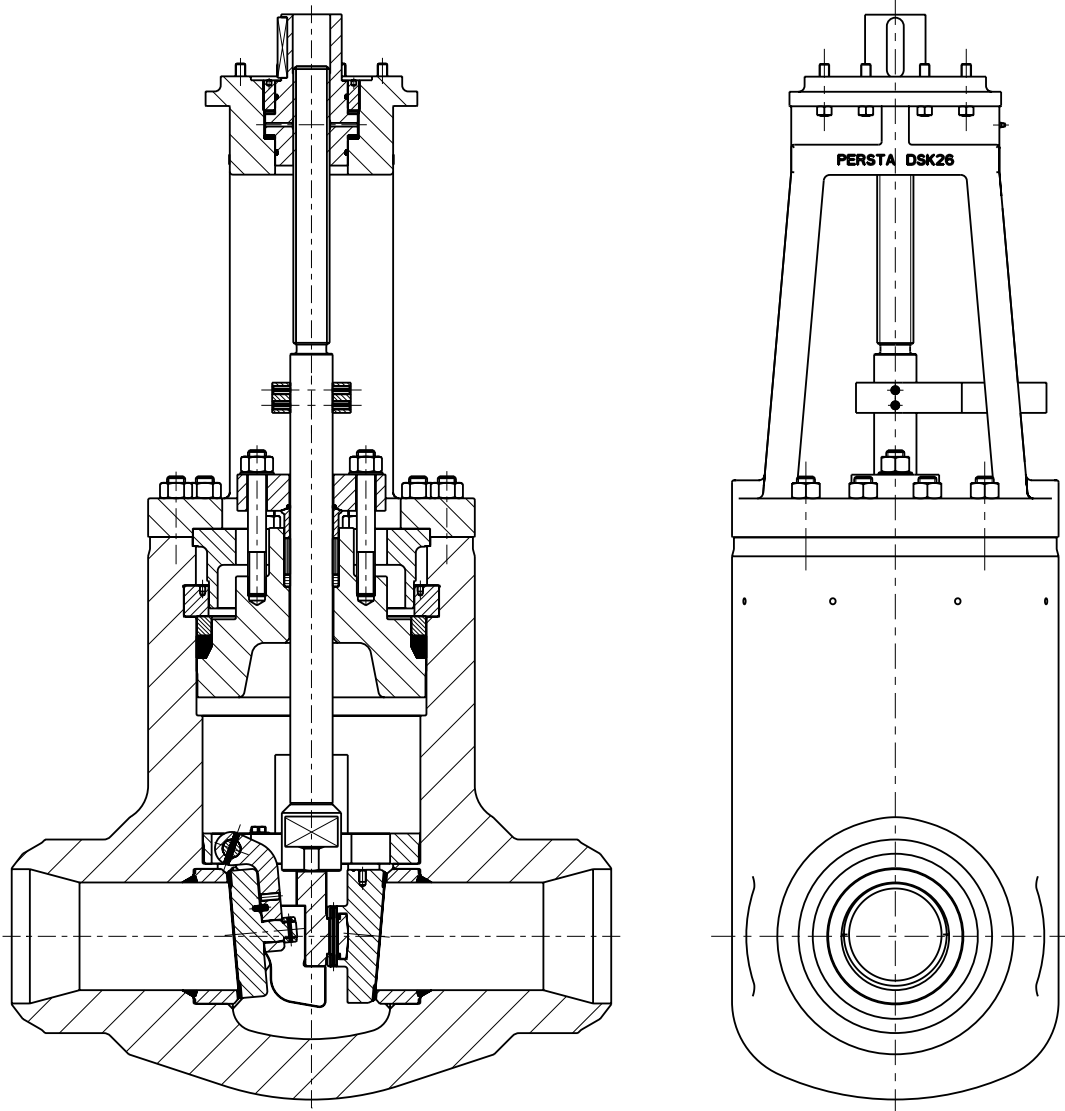
Area of application

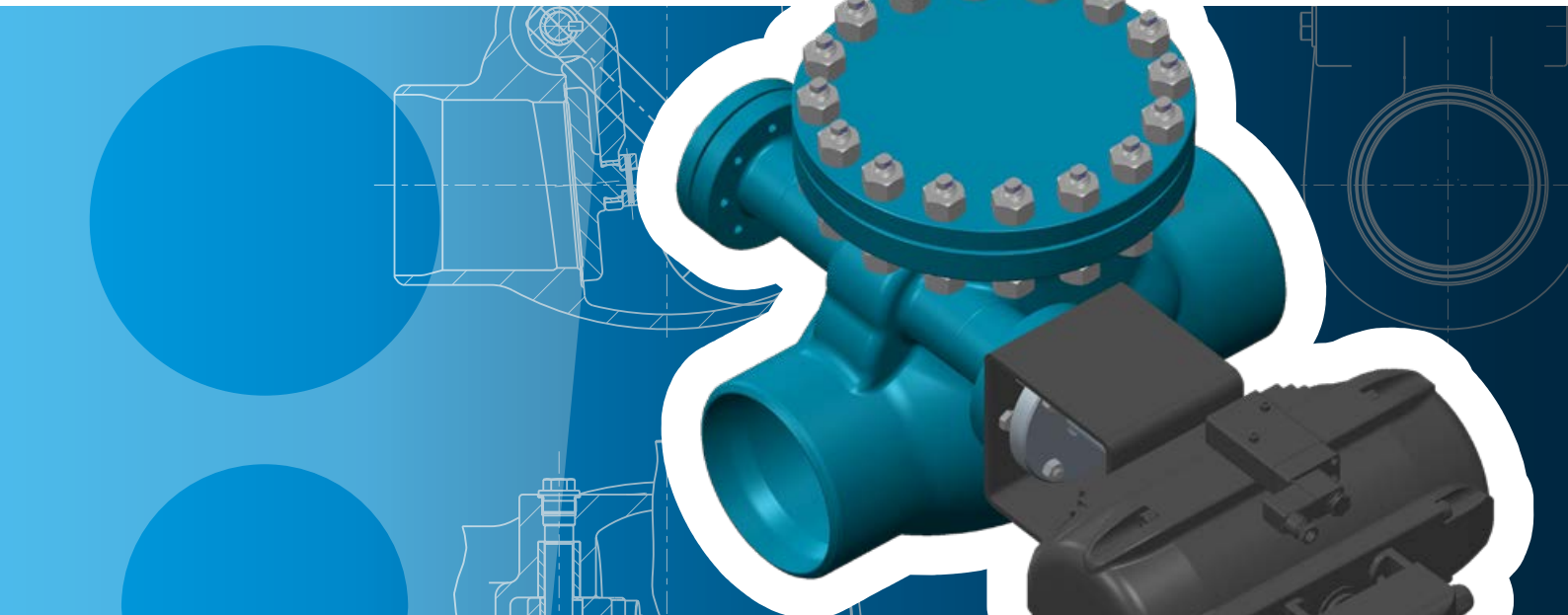
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650							
1.0460	40	400	400	400	400	400	377	330	295	248	200	190	181	172	162	153	135	113	93																								
1.5415	40	480	480	480	480	480	447	412	353	341	330	327	325	322	320	318	315	313	311	271	212	161	127	101																			
1.7335	40	481	481	481	481	481	481	471	436	412	388	384	379	374	370	365	363	360	358	355	322	271	215	175	141	110	90	73															
1.7383 ²⁾	40	480	480	480	480	480	480	480	471	436	412	407	403	398	393	388	384	379	374	358	318	278	242	212	183	160	136	120	103	89	79												
1.6368	40	657	657	657	657	657	657	657	657	657	657	657																															
1.4903 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	612	596	551	506	464	421	381	341	306	271	240	212	183	160	136	120	103							
1.4901 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	612	596	551	506	464	421	381	341	306	271	240	212	183	160	136	120	103						

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.





FREEWHEEL SWING CHECK VALVE

640 DJ PN 40-250 DN 50-800

Design highlights

- Armoured seat
- Swing check disc with spherical pin in the valve lever
- Freewheeling disc lever
- Part-turn actuator that provides closing support
- Standard connection as per ISO 5211
- Symmetrical body attachment

Advantages

- Long-lasting effective impermeability at closure
- Better mobility and adjustment of the disc to the body seat
- Low friction losses and packing wear
- Rapid and secure closing
- Easy assembly of pneumatic or hydraulic part-turn actuators
- Part-turn actuator can be installed on left or right, as desired
The position can be changed subsequently.

Version

- Body forged, cast or welded steel design
- Available with flanges or butt-weld ends
- Bolted or pressure-sealing cover
- Pneumatic or hydraulic actuator

Operating data

- Operating pressure up to 250 bar
- Operating temperature up to 600 °C

Materials

- 1.0425
- 1.0619
- 1.4903
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

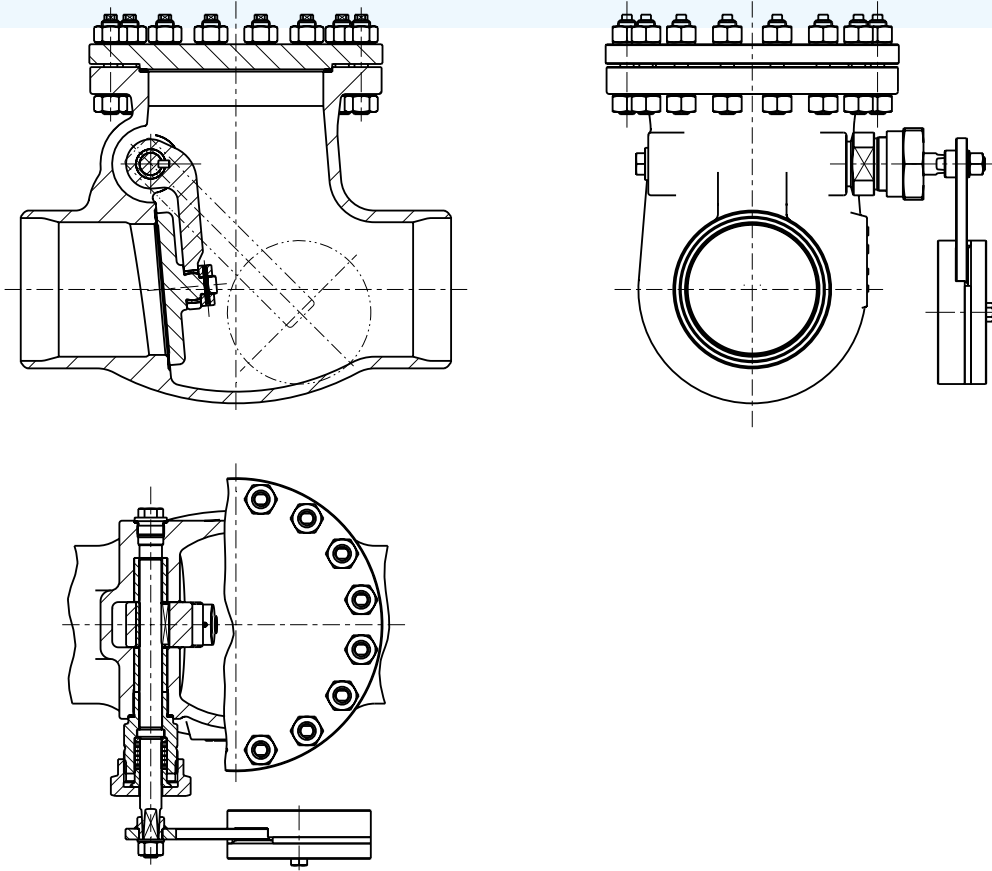
Flow media

Depending on the choice of materials, the freewheel swing check valves can be used for water, steam, gas, oil or other non-aggressive media.

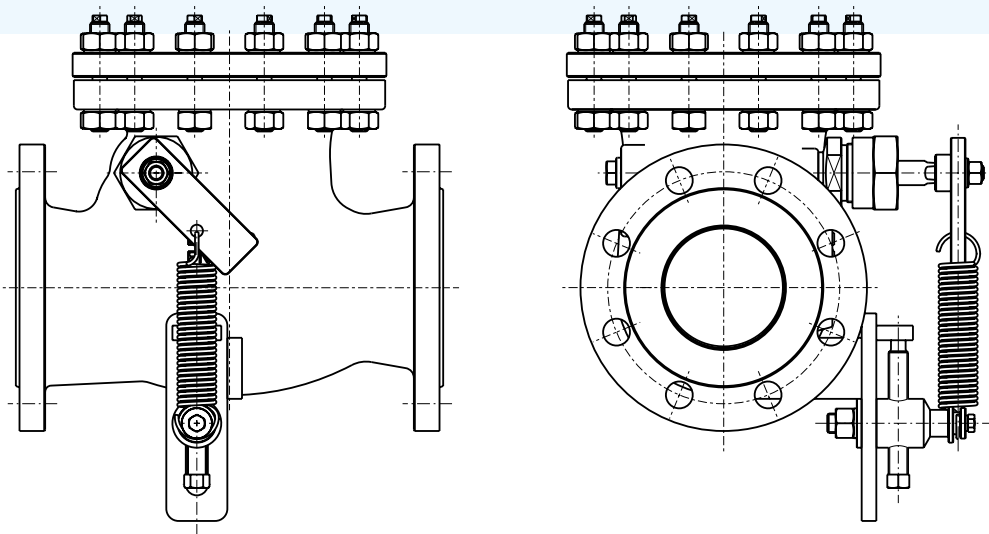
Applications

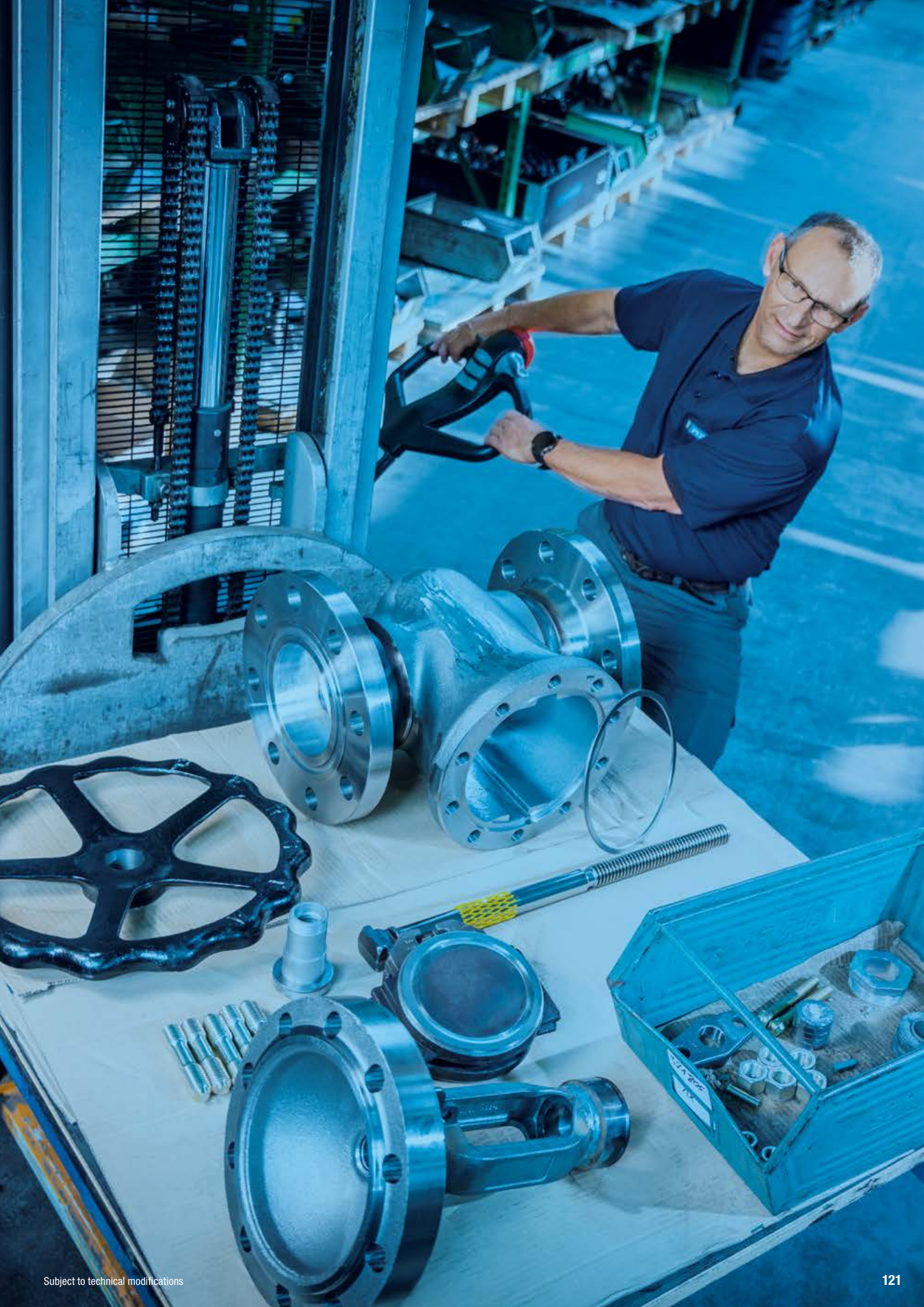
Primarily in steam circuits for rapid closing/protection applications.

Swing check valve with lever and weight



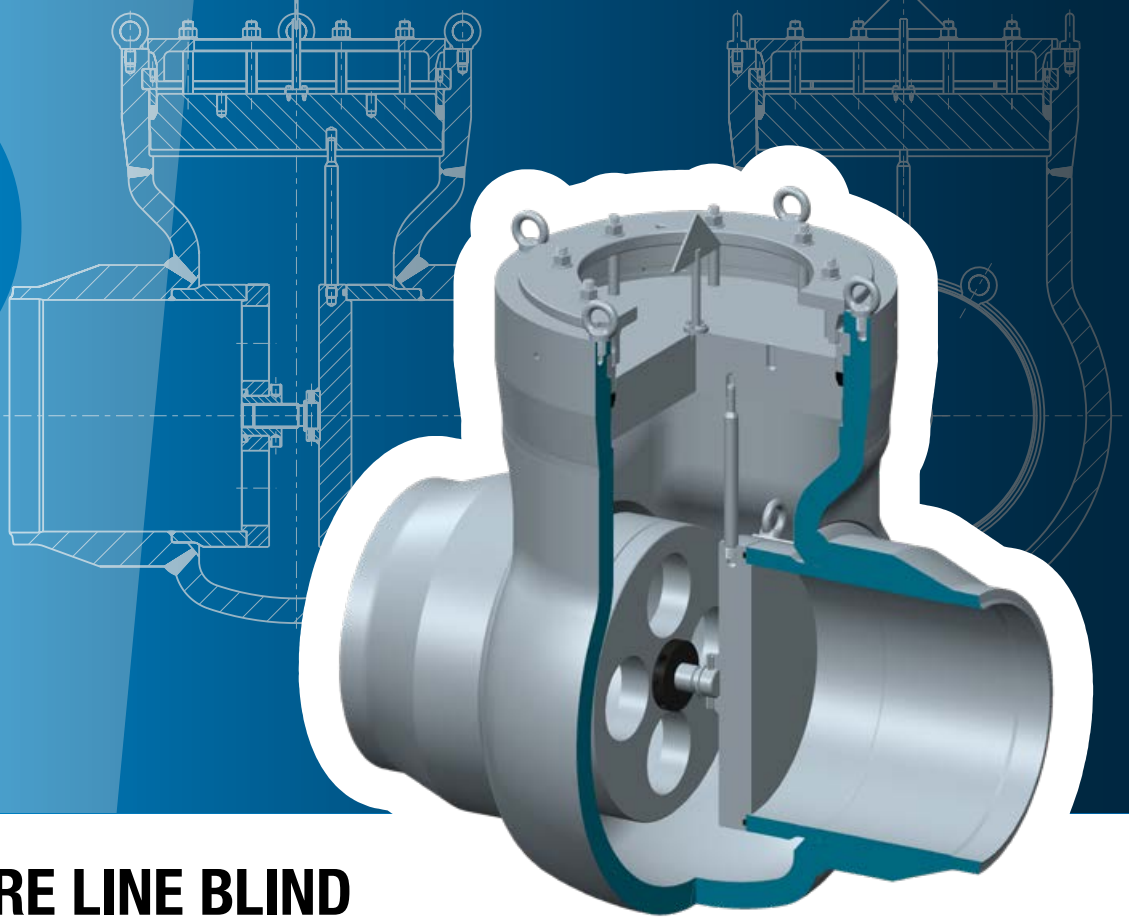
Swing check valve with return spring





ASME

version
available



HIGH PRESSURE LINE BLIND VALVES

DPV 10 990 VW PD 10 DN 350-700

Design highlights

- Thin wall thickness
- Position indicator
- Pressure sealing cover as per VGB regulations

Advantages

- Enables high temperature gradients and cyclical loading
- Indicates whether the DPV is open or closed
- Increasing external impermeability as operating pressure rises

Version

- Body made of boiler plate welded steel design
- Welded seat rings
- Position indicator
- Pressure-sealing cover as per VGB guidelines

Operating data

- Operating pressure up to 120 bar
- Operating temperature up to 650 °C

Materials

- 1.0425
- 1.5415
- 1.7335
- 1.7383

Other materials available on request.

Flow media

Depending on the choice of materials, the high pressure line blind valves can be used for water, steam, gas, oil or other non-aggressive media.

Applications

In chemical, industrial and power plants.

Area of application

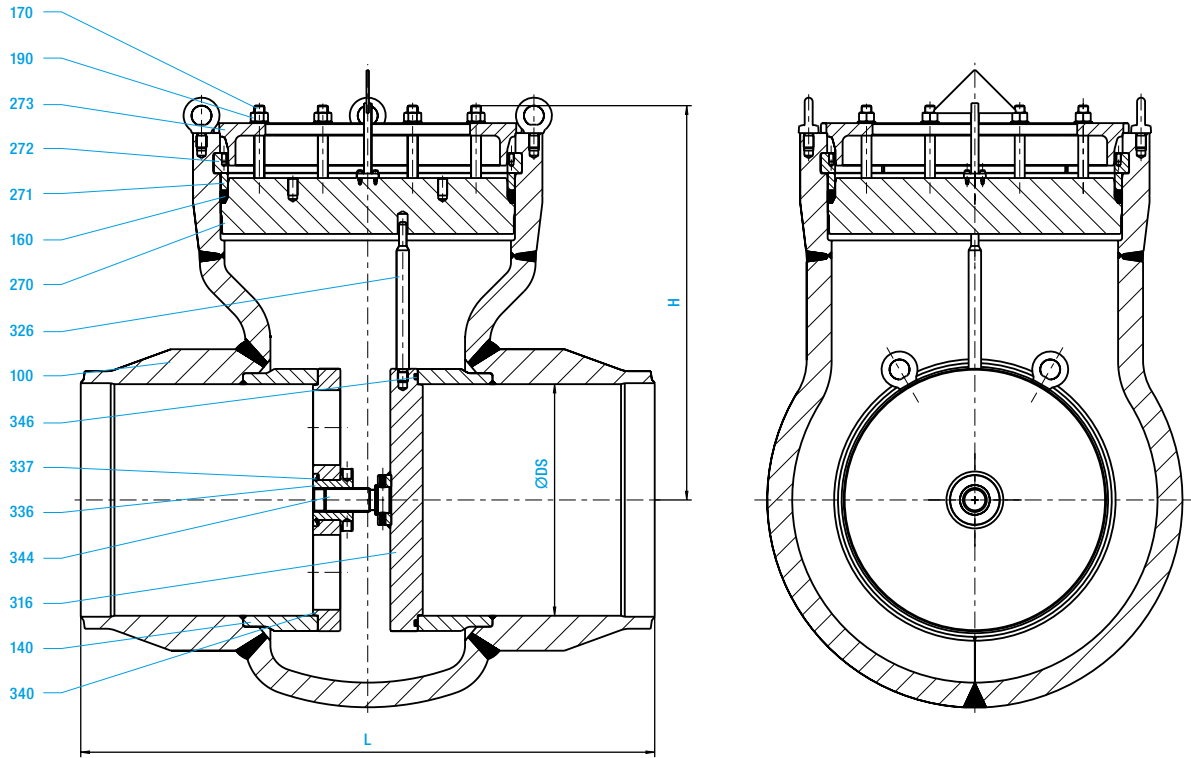
Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650			
1.0425	10	100	100	100	94	82	74	62	50	48	45	43	41	38	34	28	23																				
1.5415	10	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25															
1.7335	10	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18											
1.7383 ²⁾	10	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	79	69	61	53	46	40	34	30	26	22	20								

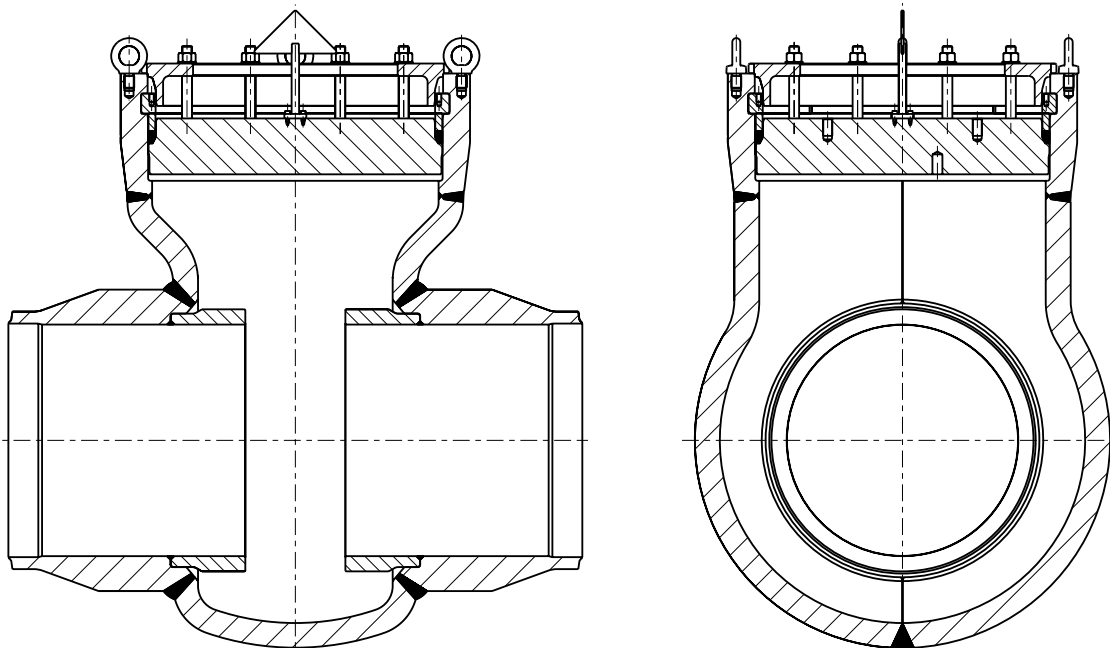
1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

High pressure line blind valve with insert



High pressure line blind valve without insert



Special design with blow-out insert or guide tube available on request

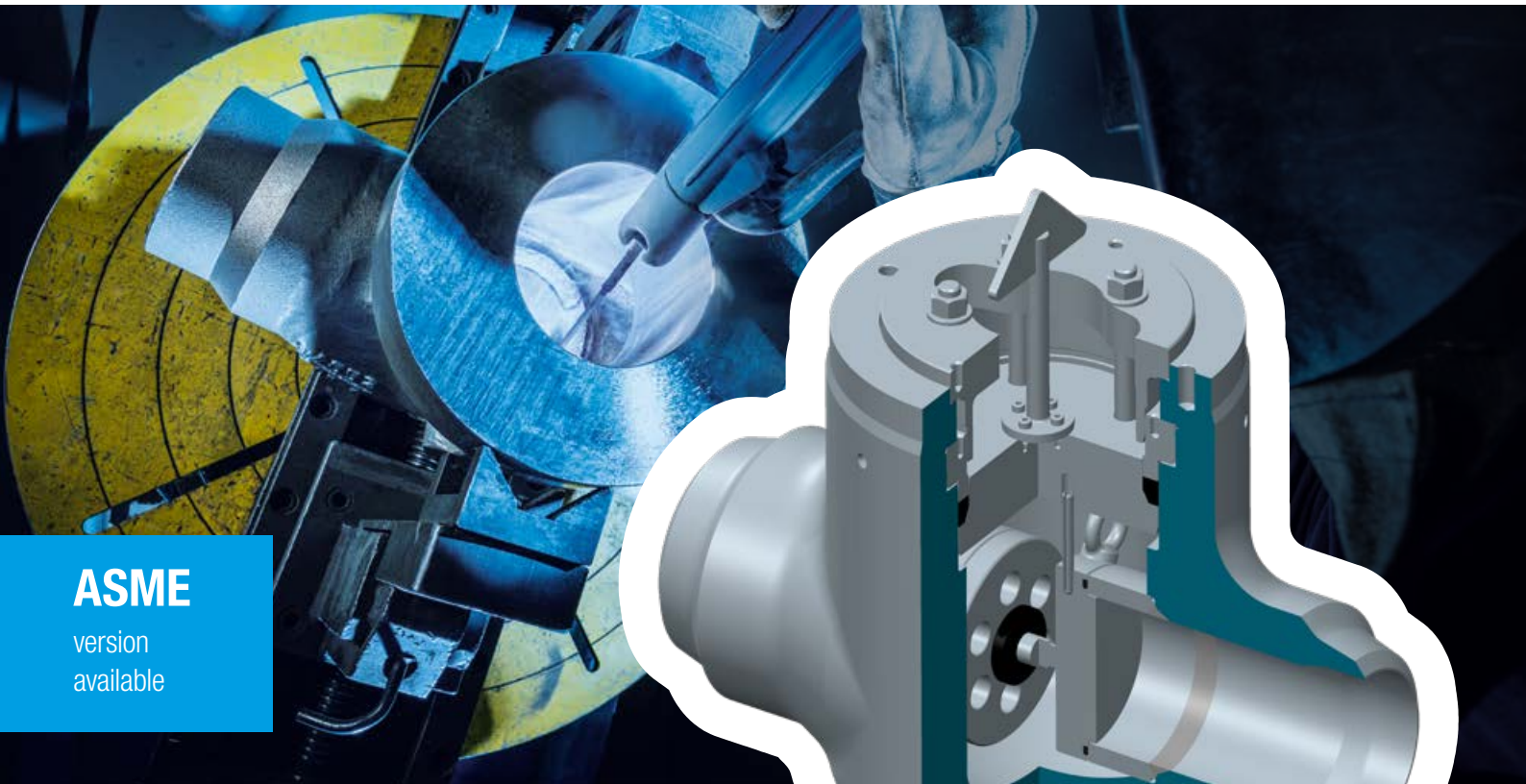
Materials

Item	Designation	1.0425 (22)	1.5415 (42)	1.7335 (44)	1.7383 (45)
100	Body	1.0425	1.5415	1.7335	1.7383
140	Seat ring	1.0460	1.5415	1.7335	1.7383
	Armoured with	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.7709	1.7709	1.7709	1.7709
190	Hexagonal nut	1.7218	1.7218	1.7218	1.7218
270	Cover	1.7383	1.7383	1.7383	1.7383
271	Support ring	1.7383	1.7383	1.7383	1.7383
272	Segment ring	1.7383	1.7383	1.7383	1.7383
273	Support cap	1.0460	1.0460	1.0460	1.0460
316	Shut-off device	1.7383	1.7383	1.7383	1.7383
326	Pin	1.4021	1.4021	1.4021	1.4021
336	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R
337	Securing ring	Spring steel	Spring steel	Spring steel	Spring steel
340	Goggle disc	1.7383	1.7383	1.7383	1.7383
344	Bolt	1.4021	1.4021	1.4021	1.4021
346	O-ring	Viton	Viton	Viton	Viton

Spare parts

Dimensions/mm and weights/kg

DN	ØDS	L	H	kg
350	330	850	645	710
400	375	950	690	1150
450	419	1050	710	1400
500	464	1150	861	1800
600	559	1350	945	2540
700	640	1550	1150	3750



ASME

version
available

HIGH PRESSURE LINE BLIND VALVES

DPV 16-63 990 VW PD 16-63 DN 65-600

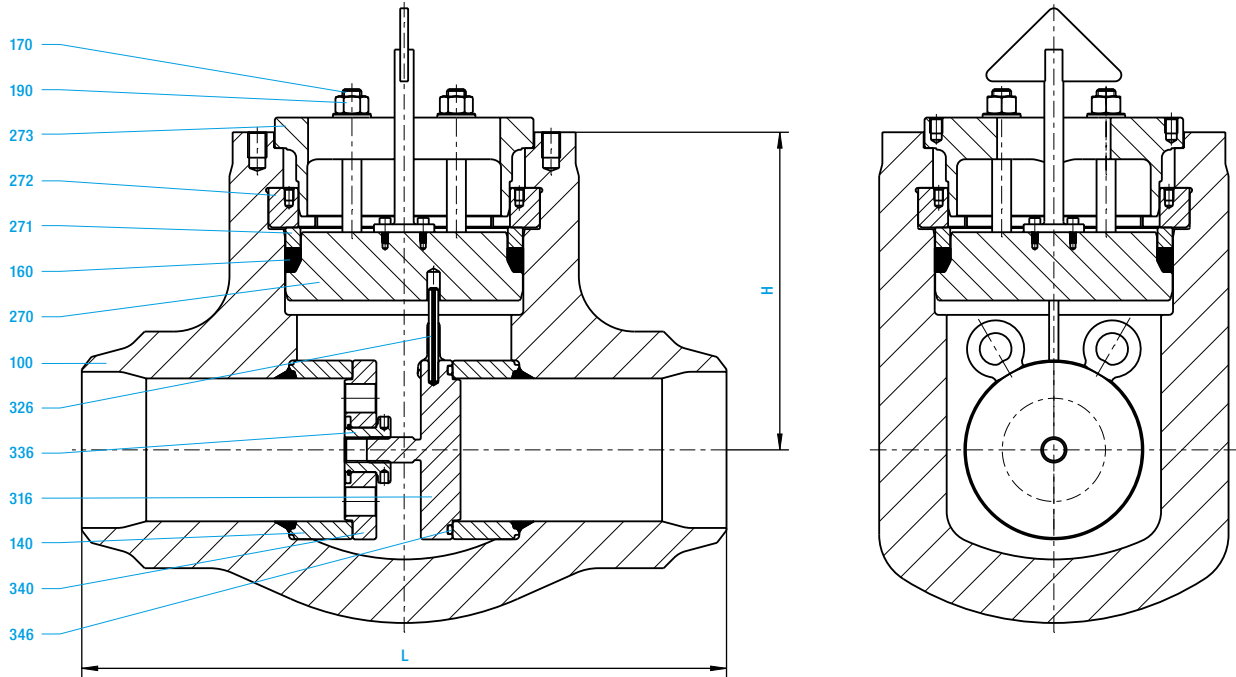
Design highlights

- Body and pressure sealing cover made of forged steel
- Position indicator
- Pressure sealing cover
- Cover can be used to dismantle the pressure sealing cover

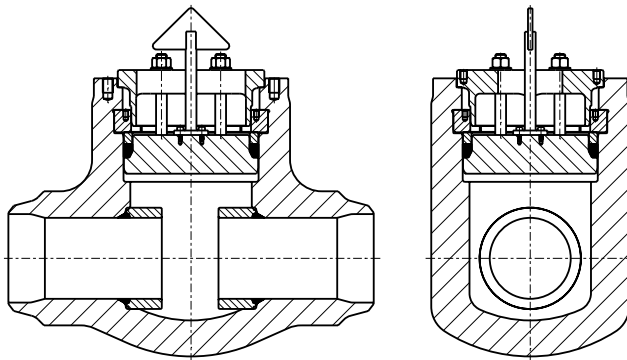
Advantages

- Free of pores and cavities compared to cast steel
- Indicates whether the DPV is open or closed
- Increasing external impermeability as operating pressure rises
- No special tools needed to dismantle the cover

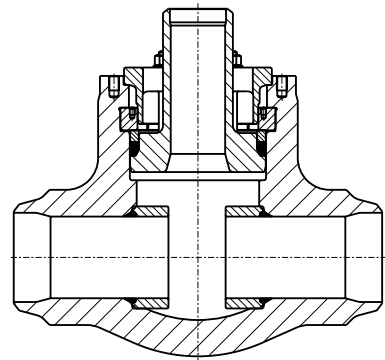
High pressure line blind valve with insert



High pressure line blind valve without insert



High pressure line blind valve with blow-out insert



Special design with blow-out insert or guide tube available on request

Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.6368 (46)	1.4903 (63)	1.4901 (66)
100	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
140	Seat ring	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4901
	Armoured with	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite
160	Gasket	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Clamping screw	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B7
190	Hexagonal nut	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H	A 194 2H
270	Cover	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
271	Support ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
272	Segment ring	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
273	Support cap	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460	1.0460
316	Shut-off device	1.7383	1.7383	1.7383	1.7383	1.4903	1.4903	1.4901
326	Tension pin	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021	1.4021
336	Yoke sleeve	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R	CW 713 R
340	Goggle disc	1.7383	1.7383	1.7383	1.7383	1.7383	1.7383	1.7383
346	O-ring	Viton	Viton	Viton	Viton	Viton	Viton	Viton

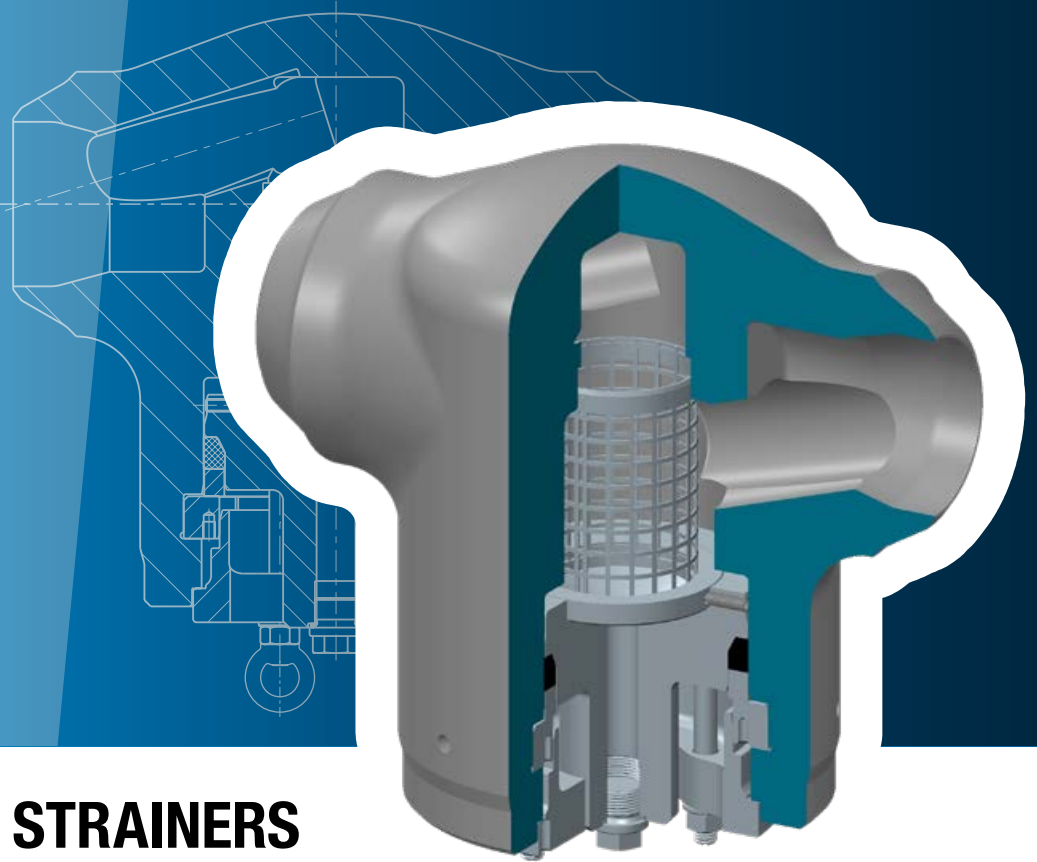
Spare parts

Dimensions/mm and weights/kg

DN	DPV 16			DPV 25			DPV 32			DPV 40			DPV 63		
	L	H	kg	L	H	kg	L	H	kg	L	H	kg	L	H	kg
65							330	208	59	330	231	59			
80	305	207	49	305	207	49	368	221	91	368	246	91			
100	406	231	83	406	231	83	457	250	150	457	278	150			
125	483	285	137	483	285	137	533	303	288	533	337	288			
150	559	321	265	559	321	265	609	388	445	609	431	445			
200	711	401	401	711	401	401	762	431	796	762	479	796			
250	864	477	744	864	477	744	1270	528	1542	1270	587	1542			
300	991	543	1182	991	543	1182									on request
350	on request			on request			on request			on request					
400															
450															
500															
600															

ASME

version
available



HIGH PRESSURE STRAINERS

DSF 990 SZ PD 25 / 40 DN 80-250

Design highlights

- Body and pressure sealing cover made of forged steel
- Different mesh sizes
- Pressure-sealing cover
- Drainage opening in cover

Advantages

- Free of pores and cavities compared to cast steel
- Individually selectable according to degree of soiling and medium
- Increasing external impermeability as operating pressure rises
- Easy to remove filter residue

Version

- Body made of forged steel
- Pressure-sealing cover as per VGB guidelines

Operating data

- Operating pressure up to 680 bar
- Operating temperature up to 650 °C
- Maximum differential pressure between the inlet side and outlet side: 2 bar

Materials

- 1.0460
- 1.4901
- 1.4903
- 1.5415
- 1.6368
- 1.7335
- 1.7383

Screen mesh sizes

- 0.25 mm
- 0.50 mm
- 1.00 mm
- 3.00 mm

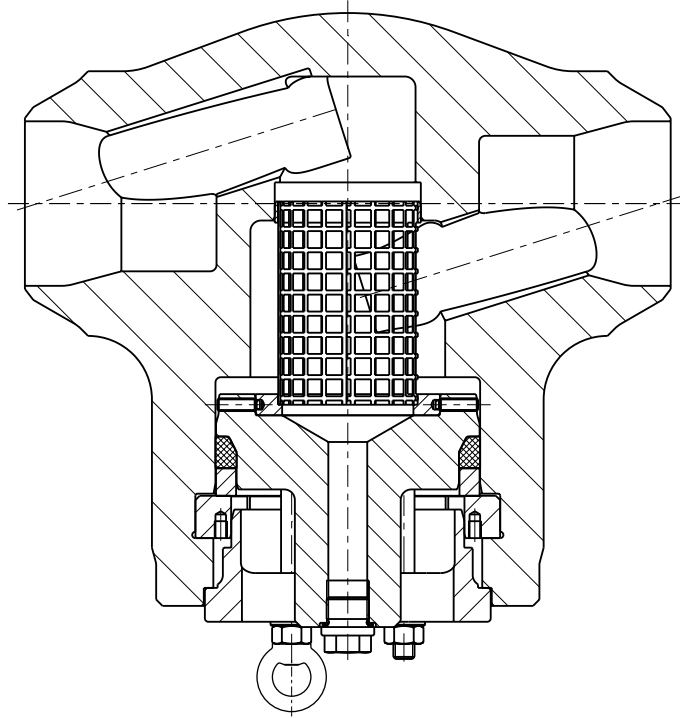
Other materials and screen mesh sizes available on request.

Flow media

Depending on the choice of materials, the high pressure strainers can be used for water, steam, gas or other non-aggressive low viscosity liquids.

Applications

In chemical, industrial, process engineering and power plants.



Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650						
1.0460	25	250	250	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																							
1.5415	25	300	300	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																		
1.7335	25	300	300	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46														
1.7383 ²⁾	25	300	300	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49											
1.6368	25	410	410	410	410	410	410	410	410	410	410	410	410	410	402	360	309	257	205	153	102																					
1.4903 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64						
1.4901 ²⁾	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	64					

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

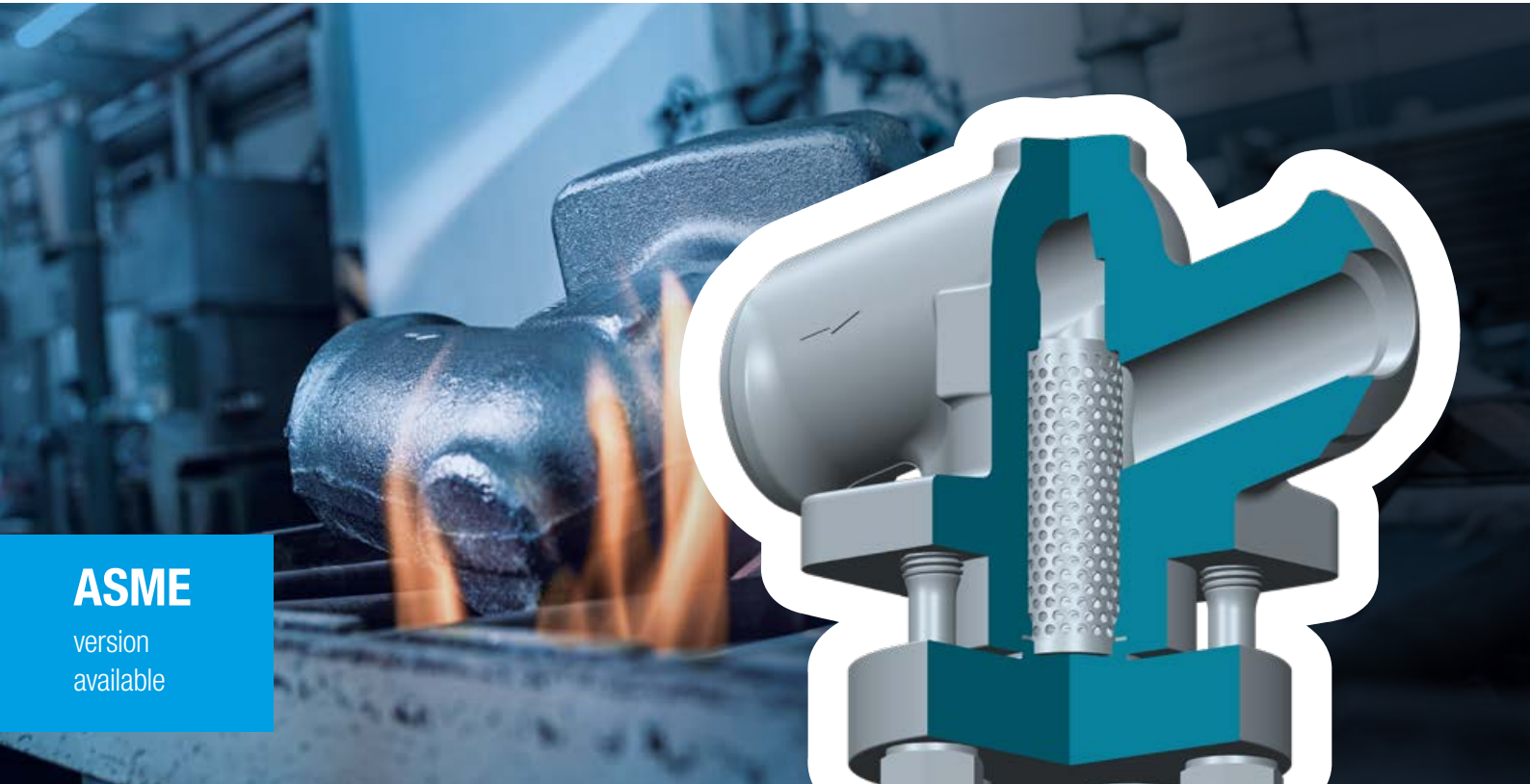
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650								
1.0460	40	400	400	400	400	400	377	330	295	248	200	190	181	172	162	153	135	113	93																									
1.5415	40	480	480	480	480	480	447	412	353	341	330	327	325	322	320	318	315	313	311	271	212	161	127	101																				
1.7335	40	481	481	481	481	481	481	471	436	412	388	384	379	374	370	365	363	360	358	355	322	271	215	175	141	110	90	73																
1.7383 ²⁾	40	480	480	480	480	480	480	480	471	436	412	407	403	398	393	388	384	379	374	358	318	278	242	212	183	160	136	120	103	89	79													
1.6368	40	657	657	657	657	657	657	657	657	657	657	657	657	657	643	577	495	412	328	245	163																							
1.4903 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	612	596	551	506	464	421	381	341	306	271	240	212	183	160	136	120	103							
1.4901 ²⁾	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131								

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



ASME

version
available

HIGH PRESSURE STRAINERS

990 ST PN 500 DN 10-65

Design highlights

- Body and pressure sealing cover made of forged steel
- Body bolted on in two pieces
- Body seal with male and female connection
- Different mesh sizes

Advantages

- Free of pores and cavities compared to cast steel
- Improved service options, e.g. replacing the screen cylinders
- Blow-out-proof seal
- Individually selectable according to degree of soiling and medium

Version

- Body forged in flow passage form
- Bolted cover
- Compact design
- Also available in angular design (992 ST)

Operating data

- Operating pressure up to 680 bar
- Operating temperature up to 650 °C
- Maximum differential pressure between the inlet side and outlet side: 2 bar

Materials

- 1.0460
- 1.4550
- 1.4901
- 1.4903
- 1.5415
- 1.7335
- 1.7383

Other materials and screen mesh sizes available on request.

Screen mesh sizes

- 0.25 mm
- 0.50 mm
- 1.00 mm

Flow media

Depending on the choice of materials, the high pressure strainers can be used for water, steam, gas or other non-aggressive low viscosity liquids.

Applications

In chemical, industrial, process engineering and power plants.

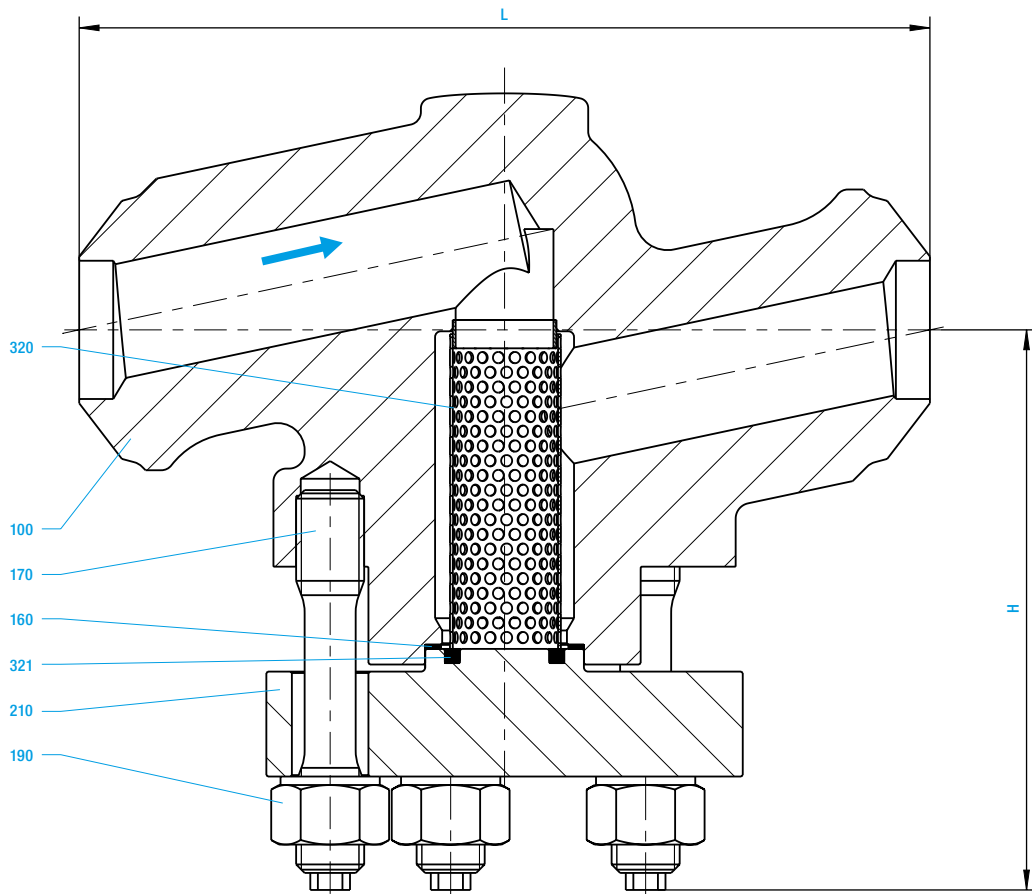
Area of application

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	20	50	100	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650				
1.0460	500	550	550	550	550	550	550	518	463	389	315	300	285	270	255	240	213	177	146																					
1.5415	500	550	550	550	550	550	550	550	550	537	518	514	510	507	503	500	496	493	489	426	333	253	200	160																
1.7335	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	426	338	275	222	173	142	116												
1.7383 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	437	381	333	289	252	214	189	163	140	124									
1.4903 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	500	465	430	380	338	298	261	231	198	172			
1.4901 ²⁾	500	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550
1.4550 ²⁾	500	550	550	550	550	550	550	544	504	481	463	460	456	454	451	449	447	445	443	442	441	440	439	438	437	437	436	435	434	433	396	363	320	271	240	207				

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.



Materials

Item	Designation	1.0460 (21)	1.5415 (42)	1.7335 (44)	1.7383 (45)	1.4903 (63)	1.4901 (66)	1.4550 (89)
100	Body	1.0460	1.5415	1.7335	1.7383	1.4903	1.4901	1.4550
160	Seal	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
170	Bolt	1.4923	1.4923	1.4923	1.4923	1.4986	1.4986	1.4986
190	Hexagonal nut	1.4923	1.4923	1.4923	1.4923	1.4986	1.4986	1.4986
210	Cover	1.7383	1.7383	1.7383	1.7383	1.4903	1.4901	1.4550
320	Screen cylinder	1.4571	1.4571	1.4571	1.4571	1.4571	1.4571	1.4571
321	Packing ring	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite

Spare parts

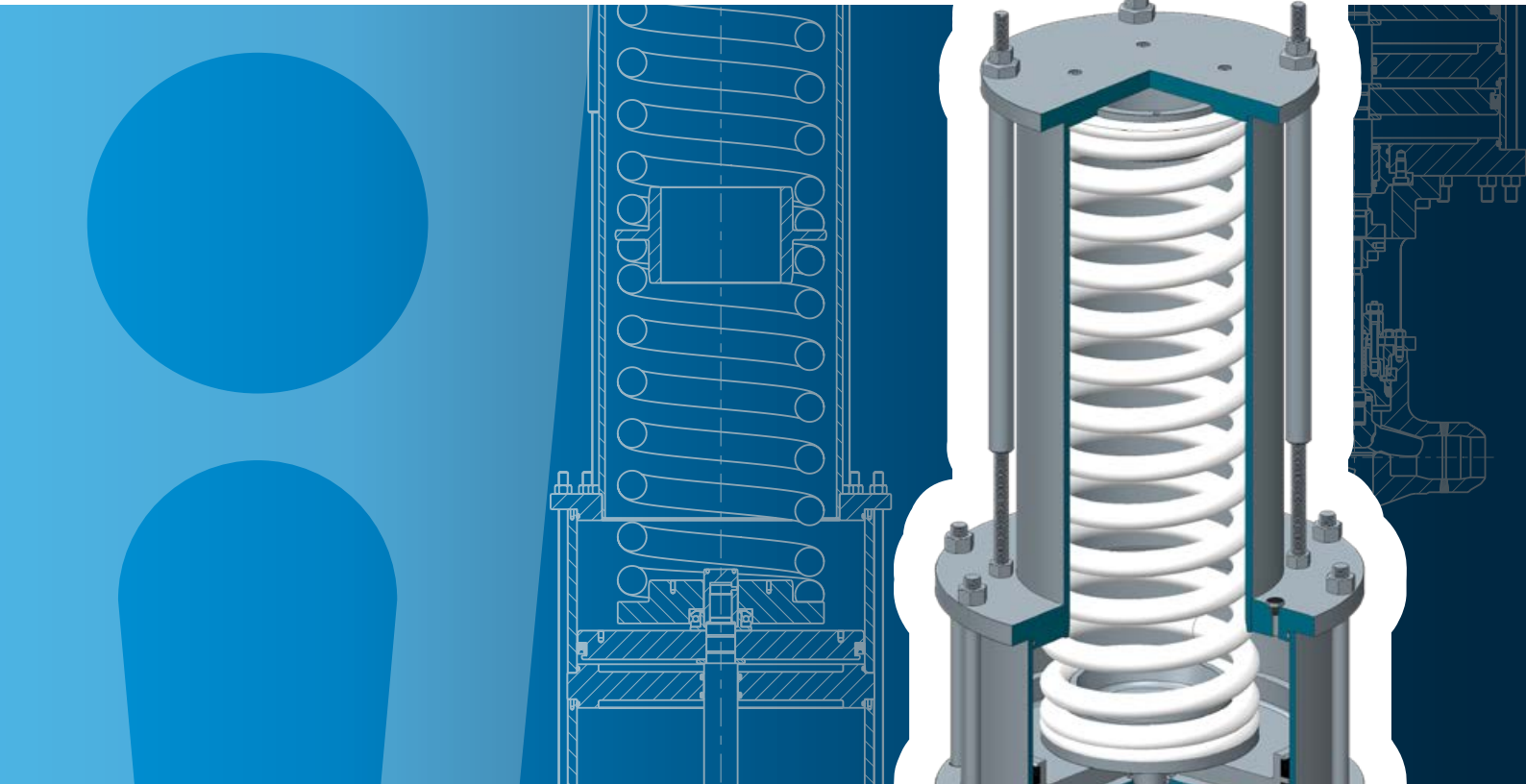
Dimensions/mm

DN	L	H
10	150	100
15	150	100
20	180	127
25	180	127
32	300	198
40	300	198
50	300	198
65	350	251

Weight/kg

DN	Welded ends
10	3.7
15	3.7
20	7.6
25	7.4
32	29.8
40	29.3
50	28.8
65	65

Note: for turned weld connections the permissible operating pressures for the appropriate pipe dimensions apply.



PERCON PNEUMATIC PISTON ACTUATOR

Design highlights

- Modular system
- Integral grease chambers
- Position indicator
- Mechanical stroke limit stops
- Low friction losses
- Individual version of each valve

Advantages

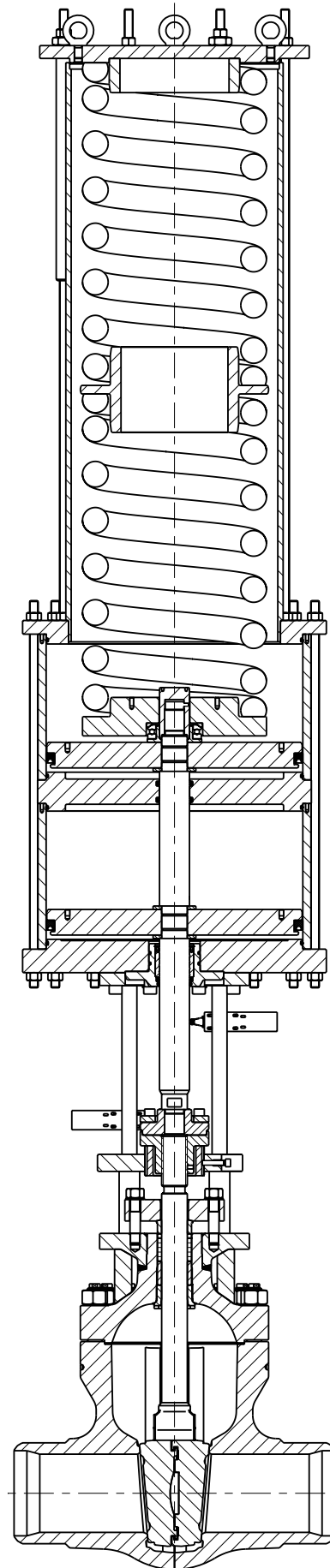
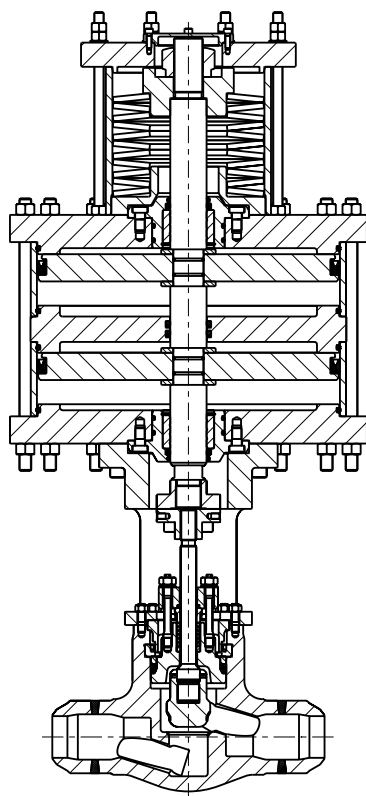
- Easy to adjust the version in terms of stroke, safety end position or manual emergency actuation
- Low maintenance
- With mechanical or inductive switching elements
- Wedging not possible
- Surface coating of cylinder tube, non-metallic guides and roll-polished piston rods guarantee low friction and breakaway forces even with oil-free instrument air and even after longer downtime.
- Individually adjusted piston actuators specially adapted to requirements / interface to PERSTA valve

Version

- Piston diameter 350–710 mm, also in tandem version
- Max. 10 bar supply air pressure
- Double-acting, spring to close or air to close
- Optional manual emergency actuation
- Optional position feedback or positioner
- Optional rapid venting
- Optionally with filter regulator
- Optionally completely piped incl. solenoid valve etc.

Applications

In chemical, industrial, process engineering and power plants.



PRESSURE RATING TABLES

The PERSTA pressure ratings (PD) are developed on the basis of the standardised pressure ratings PN 100 - 630 and apply exclusively to valves with correspondingly designed butt-weld ends. Valves with standard flanges are generally indicated with the corresponding standardised pressure rating and must only be used in the context of this pressure rating. The specified figures refer to all pressure bearing components, including the shut-off element.

Attention: Valve butt-weld ends for different pipeline materials must be checked for sufficient wall thickness for each specific case. The valves are indicated as design pressure valves.

Differential pressure and actuation

PERSTA gate valves can be actuated up to differential pressures that do not exceed 50% of the calculated positive pressure. If actuation takes place at higher pressure differentials, this must be clarified with PERSTA for each individual case. The operating conditions (specified by customer) determine the design of actuation elements like the handwheel and transmission gears. The maximum differential pressures up to which shut-off valves with bodies made of 1.4901, 1.4903 and 1.6368 can be actuated differ from the rule specified here. For this reason, if these materials are used, clarification with PERSTA is always necessary.

PERSTA pressure rating table PD 10-63

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PD	20	120	150	200	250	300	350	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650					
1.0460 P250GH [3E0]	10	100	100	100	94	82	74	64.8	60	57.5	54.9	48.9	42.9	38	34	28	23																						
	16	160	160	160	151	132	118	99	80	76	73	69	65	61	54	45	37																						
	25	250	250	250	235	206	184	155	125	119	113	107	102	96	85	71	58																						
	32	320	320	320	302	264	236	198	160	153	145	138	130	123	109	91	75																						
	40	400	400	400	377	330	295	248	200	191	182	172	163	153	136	113	93																						
1.5415 16Mo3 [4E0]	10	120	120	120	112	103	88	85	82	82	81	81	80	79	79	78	78	68	53	40	32	25.1																	
	16	192	192	192	179	165	141	137	132	131	130	129	128	127	126	125	124	109	85	64	51	41																	
	25	300	300	300	280	258	221	213	206	205	203	202	200	199	197	196	194	170	132	101	79	64																	
	32	385	385	385	358	330	283	273	264	262	260	258	256	255	253	251	249	217	170	129	102	81																	
	40	480	480	480	448	413	354	342	330	328	325	323	321	318	316	314	311	272	212	161	127	102																	
1.7335 13CrMo4-5 [5E0]	10	120	120	120	120	118	109	103	97	96	95	94	92	91	91	90	89	89	81	68	54	44	35	28	23	18													
	16	192	192	192	192	189	174	165	156	154	152	150	148	146	145	144	143	142	129	109	86	70	57	44	36	29													
	25	300	300	300	300	294	272	258	243	240	237	234	231	228	227	225	224	222	202	170	134	109	88	69	57	46													
	32	385	385	385	385	377	349	330	311	307	304	300	296	292	290	289	287	285	258	217	172	140	113	88	72	59													
	40	481	481	481	481	471	436	413	389	384	380	375	370	365	363	364	358	356	323	272	215	175	141	110	91	74													
1.7383 ²⁾ 11CrMo9-10 [6E0]	10	120	120	120	120	120	118	109	103	102	101	99	98	97	96	95	94	89	81	69	61	53	46	40	34	30	26	22	20										
	16	192	192	192	192	192	189	174	165	163	161	159	157	156	154	152	150	143	127	111	97	85	74	64	55	48	41	36	32										
	25	300	300	300	300	300	294	272	258	255	252	249	246	243	240	237	234	224	199	174	152	132	115	100	85	75	65	56	49										
	32	384	384	384	384	384	377	349	330	326	322	319	315	311	307	304	300	287	255	223	194	170	147	128	109	96	83	72	63										
	40	480	480	480	480	480	471	436	413	408	403	398	384	389	384	379	375	358	318	278	243	212	184	160	137	120	104	90	79										
1.6368	16	263	263	263	263	263	263	263	263																														
	25	410	410	410	410	410	410	410	410																														
	32	525	525	525	525	525	525	525	525																														
	40	657	657	657	657	627	657	657	657																														
1.4903 ²⁾ X10CrMoVNb9-1 [9E0]	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	268	245	239	221	203	186	169	153	137	123	108	96	85	74	64	55	48	41					
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	418	383	372	344	316	290	263	238	213	191	169	150	132	115	100	85	75	65					
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	536	490	477	441	405	371	338	305	273	245	217	192	170	147	128	109	96	83					
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	669	613	596	552	507	464	422	382	342	306	271	240	212	184	160	137	120	104					
1.4901 ²⁾	16	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	271	254	237	221	205	190	176	161	147	133	119	106	94	81	70	61	52					
	25	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	425	423	397	370	345	320	297	275	252	230	208	186	166	147	127	110	95	82					
	32	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	542	508	474	442	410	380	352	323	295	267	239	212	188	163	141	122	105				
	40	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	677	635	592	552	512	475	440	404	369	334	298	265	235	204	176	152	131					

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

2) For temperatures > 570 °C, stem material 1.4980, seat armoured with Stellite, and high-temperature packing.

Pressure rating table acc. to DIN EN 1092-1 (2018) – materials 1.0571, 1.0619, 1.0460, 1.4404, 1.4571, 1.4903

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	V _R [mm]	-60	20	100	150	200	250	300	350	400	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600					
1.0571 P355QH1 [8E3]	10	<100	10	10	10	10	10	10	9.8	9	7.9																					
		100<V _R <150	10	10	10	10	10	10	10	9.3	8.4	7																				
	16	<100	16	16	16	16	16	16	16	15.6	14.4	12.7																				
		100<V _R <150	16	16	16	16	16	16	16	14.9	13.4	11.2																				
	25	<100	25	25	25	25	25	25	25	24.5	22.6	19.8																				
		100<V _R <150	25	25	25	25	25	25	25	23.3	21	17.5																				
	40	<100	40	40	40	40	40	40	40	39.2	36.1	31.8																				
		100<V _R <150	40	40	40	40	40	40	40	37.3	33.7	28																				
	63	<100	63	63	63	63	63	63	63	61.8	57	50.1																				
		100<V _R <150	63	63	63	63	63	63	63	58.8	53.1	44.1																				
	100	<100	100	100	100	100	100	100	100	98	90.4	79.5																				
		100<V _R <150	100	100	100	100	100	100	100	93.3	84.2	70																				
	160	<100	160	160	160	160	160	160	160	156.9	144.7	127.2																				
		100<V _R <150	160	160	160	160	160	160	160	149.3	134.8	112																				
	250	<100	250	250	250	250	250	250	250	245.2	226.1	198.8																				
		100<V _R <150	250	250	250	250	250	250	250	233.3	210.7	175																				
320	<100	320	320	320	320	320	320	320	313.9	289.5	254.4																					
	100<V _R <150	320	320	320	320	320	320	320	298.6	269.7	224																					
400	<100	400	400	400	400	400	400	400	392.3	361.9	318																					
	100<V _R <150	400	400	400	400	400	400	400	373.3	337.1	280																					
1.0619, 1.0460 P250GH [3E0]	10	<50		10	9.2	8.8	8.3	7.6	6.9	6.4	5.9	3.2																				
		50<V _R <150		10	8.5	8.3	7.7	7	6.4	6	5.7	3.2																				
	16	<50		16	14.8	14	13.3	12.1	11	10.2	9.5	5.2																				
		50<V _R <150		16	13.7	13.3	12.4	11.3	10.2	9.6	9.1	5.2																				
	25	<50		25	23.2	22	20.8	19	17.2	16	14.8	8.2																				
		50<V _R <150		25	21.4	20.8	19.4	17.7	16	15.1	14.2	8.2																				
	40	<50		40	37.1	35.2	33.3	30.4	27.6	25.7	23.8	13.1																				
		50<V _R <150		40	34.2	33.3	31	28.3	25.7	24.1	22.8	13.1																				
	63	<50		63	58.5	55.5	52.5	48	43.5	40.5	37.5	20.7																				
		50<V _R <150		63	54	52.5	48.9	44.7	40.5	38.1	36	20.7																				
	100	<50		100	92.8	88	83.3	76.1	69	64.2	59.5	32.8																				
		50<V _R <150		100	85.7	83.3	77.6	70.9	64.2	60.4	57.1	32.8																				
	160	<50		160	148.5	140.9	133.3	121.9	110.4	102.8	95.2	52.5																				
		50<V _R <150		160	137.1	133.3	124.1	113.5	102.8	96.7	91.4	52.5																				
	250	<50		250	232.1	220.2	208.3	190.4	172.6	160.7	148.8	82.1																				
		50<V _R <150		250	214.2	208.3	194	177.3	160.7	151.1	142.8	82.1																				
320	<50		320	297.1	281.9	266.6	243.8	220.9	205.7	190.4	105.1																					
	50<V _R <150		320	274.2	266.6	248.3	227	205.7	193.5	182.8	105.1																					
400	<50		400	371.4	352.3	333.3	304.7	267.1	257.1	238	131.4																					
	50<V _R <150		400	342.8	333.3	310.4	283.8	257.1	241.9	228.5	131.4																					
1.4404 X2CrNiMo17-12-2 [13E0]	10			10	9.4	8.6	7.9	7.4	6.9	6.6	6.4	6.2																				
	16			16	15.1	13.7	12.7	11.9	11	10.5	10.2	10																				
	25			25	23.6	21.5	19.8	18.6	17.2	16.5	16	15.6																				
	40			40	37.9	34.4	31.8	29.9	27.6	26.4	25.7	25																				
	63			63	59.7	54.3	50.1	47.1	43.5	41.7	40.5	39.4																				
	100			100	94.7	86.1	79.5	74.7	69	66.1	64.2	62.6																				
	160			160	151.6	137.9	127.2	119.6	110.4	105.9	102.8	100.1																				
	250			250	236.9	215.4	198.8	186.9	172.6	165.4	160.7	156.5																				
320			320	303.2	275.8	254.4	239.2	220.9	211.8	205.7	200.3																					
400			400	379	344.7	318	299	276.1	264.7	257.1	250.4																					
1.4571 ²⁾ XCrNiMoTi17-12-2 [15E0]	10			10	10	9.8	9.3	8.8	8.3	8	7.8	7.6										7.4	7.4	7.3	6.7	6	5.5					
	16			16	16	15.6	14.9	14.1	13.3	12.8	12.4	12.2											11.9	11.8	11.7	10.7	9.7	8.8				
	25			25	25	24.5	23.3	22.1	20.8	20.1	19.5	19.1												18.6	18.5	18.3	16.7	15.2	13.8			
	40			40	40	39.2	37.3	35.4	33.3	32.1	31.2	30.6													29.9	29.6	29.3	26.8	24.3	22		
	63			63	63	61.8	58.8	55.8	52.5	50.7	49.2	48.3														47.1	46.6	46.2	42.3	38.4	34.8	
	100			100	100	98	93.3	88.5	83.3	80.4	78	76.6															74.7	74	73.3	67.1	60.9	55.2
																																

Pressure rating table acc. to DIN EN 1092-1 (2018) – materials 1.5415, 1.7357, 1.7335, 1.7383, 1.7380

 Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	V _R [mm]	Temperature [°C]																											
			-60	20	100	150	200	250	300	350	400	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600			
1.5415 16Mo3 [4E0]	10	<60	10	10	10	10	9.7	8.5	8	7.4	6.9	6.4	5.9	5.4	4.9	4.4	3.5	2.8	2.2											
		60<v _R <90	10	10	10	10	9.2	8	7.6	6.9	6.4	6	5.6	5.2	4.8	4.4	3.5	2.8	2.2											
		90<v _R <150	10	10	10	9.2	8.5	7.6	7	6.3	5.9	5.6	5.3	5	4.7	4.4	3.5	2.8	2.2											
	16	<60	16	16	16	16	15.6	13.7	12.9	11.9	11	10.2	9.4	8.6	7.8	7	5.6	4.4	3.5											
		60<v _R <90	16	16	16	16	14.8	12.9	12.1	11.2	10.1	9.4	8.9	8.5	8	7.5	7	5.6	4.4	3.5										
		90<v _R <150	16	16	16	14.8	13.7	12.1	11.2	10.1	9.4	8.9	8.5	8	7.5	7	5.6	4.4	3.5											
	25	<60	25	25	25	25	24.4	21.4	20.2	18.6	17.2	16	14.7	13.5	12.3	11	8.8	7	5.5											
		60<v _R <90	25	25	25	25	23.2	20.2	19	17.3	16	15	14	13	12	11	8.8	7	5.5											
		90<v _R <150	25	25	25	23.2	21.4	19	17.5	15.8	14.7	14	13.2	12.5	11.8	11	8.8	7	5.5											
	40	<60	40	40	40	40	39	34.2	32.3	29.9	27.6	25.6	23.6	21.6	19.7	17.7	14	11.2	8.9											
		60<v _R <90	40	40	40	40	37.1	32.3	30.4	27.8	25.7	24.1	22.5	20.9	19.3	17.7	14	11.2	8.9											
		90<v _R <150	40	40	40	37.1	34.2	30.4	28	25.3	23.6	22.4	21.2	20	18.9	17.7	14	11.2	8.9											
	63	<60	63	63	63	63	61.5	54	51	47.1	43.5	40.3	37.2	34.1	31	27.9	22.2	17.7	14.1											
		60<v _R <90	63	63	63	63	58.5	51	48	43.8	40.5	37.9	35.4	32.9	30.4	27.9	22.2	17.7	14.1											
		90<v _R <150	63	63	63	58.5	54	48	44.1	39.9	37.2	35.3	33.4	31.6	29.7	27.9	22.2	17.7	14.1											
	100	<60	100	100	100	100	97.6	85.7	80.9	74.7	69	64	59.1	54.2	49.2	44.2	35.2	28	22.3											
		60<v _R <90	100	100	100	100	92.8	80.9	76.1	69.5	64.2	60.2	56.2	52.2	48.2	44.2	35.2	28	22.3											
		90<v _R <150	100	100	100	92.8	85.7	76.1	70	63.3	59	56	53.1	50.2	47.2	44.2	35.2	28	22.3											
	160	<60	160	160	160	160	156.1	137.1	129.5	119.6	110.4	102.5	94.6	86.7	78.8	70.8	56.3	44.9	35.8											
		60<v _R <90	160	160	160	160	148.5	129.5	121.9	111.2	102.8	96.4	90	83.6	77.2	70.8	56.3	44.9	35.8											
		90<v _R <150	160	160	160	148.5	137.1	121.9	112	101.3	94.4	89.7	85	80.3	75.6	70.8	56.3	44.9	35.8											
	250	<60	250	250	250	250	244	214.2	202.3	186.9	172.6	160.1	147.8	135.5	123.2	110.7	88	70.2	55.9											
		60<v _R <90	250	250	250	250	232.1	202.3	190.4	173.8	160.7	150.7	140.7	130.7	120.7	110.7	88	70.2	55.9											
		90<v _R <150	250	250	250	232.1	214.2	190.4	175	158.3	147.6	140.1	132.8	125.5	118.2	110.7	88	70.2	55.9											
320	<60	320	320	320	320	312.3	274.2	259	239.2	220.9	205	189.2	173.4	157.7	141.7	112.7	89.9	71.6												
	60<v _R <90	320	320	320	320	297.1	259	243.8	222.4	205.7	192.9	180.1	167.3	154.5	141.7	112.7	89.9	71.6												
	90<v _R <150	320	320	320	297.1	274.2	243.8	224	202.6	188.9	179.4	170	160.6	151.3	141.7	112.7	89.9	71.6												
400	<60	400	400	400	400	390.4	342.8	323.8	299	276.1	256.2	236.5	216.8	197.1	177.1	140.9	112.3	89.5												
	60<v _R <90	400	400	400	400	371.4	323.8	304.7	278	257.1	241.1	225.1	209.1	193.1	177.1	140.9	112.3	89.5												
	90<v _R <150	400	400	400	371.4	342.8	304.7	280	253.3	236.1	224.2	212.5	200.8	189.1	177.1	140.9	112.3	89.5												
1.7357, 1.7335 13CrMo4-5 [5E0]	10	<60	10	10	10	10	10	10	9.5	9	8.4	8	7.6	7.2	6.8	6.5	5.5	4.4	3.7	2.9	2.3	1.9	1.5							
		60<v _R <90	10	10	10	10	10	9.7	9	8.3	7.8	7.5	7.2	6.9	6.6	6.5	5.5	4.4	3.7	2.9	2.3	1.9	1.5							
		90<v _R <150	10	10	10	10	10	9.1	8.4	7.9	7.3	7.1	6.9	6.7	6.5	6.5	5.5	4.4	3.7	2.9	2.3	1.9	1.5							
	16	<60	16	16	16	16	16	15.2	14.4	13.4	12.8	12.1	11.5	10.8	10.4	8.8	7.1	5.9	4.6	3.7	3	2.5								
		60<v _R <90	16	16	16	16	16	15.6	14.4	13.4	12.5	12	11.5	11	10.5	10.4	8.8	7.1	5.9	4.6	3.7	3	2.5							
		90<v _R <150	16	16	16	16	16	14.7	13.5	12.7	11.8	11.4	11.1	10.7	10.4	10.4	8.8	7.1	5.9	4.6	3.7	3	2.5							
	25	<60	25	25	25	25	25	23.8	22.5	21	20	19	18	17	16.3	13.8	11.1	9.2	7.2	5.8	4.7	3.9								
		60<v _R <90	25	25	25	25	25	24.4	22.5	20.9	19.6	18.8	18	17.2	16.5	16.3	13.8	11.1	9.2	7.2	5.8	4.7	3.9							
		90<v _R <150	25	25	25	25	25	22.9	21.1	19.8	18.4	17.9	17.3	16.8	16.3	16.3	13.8	11.1	9.2	7.2	5.8	4.7	3.9							
	40	<60	40	40	40	40	40	38	36	33.7	32	30.4	28.8	27.2	26	22	17.9	14.8	11.6	9.3	7.6	6.2								
		60<v _R <90	40	40	40	40	40	39	36	33.5	31.4	30.1	28.9	27.6	26.4	26	22	17.9	14.8	11.6	9.3	7.6	6.2							
		90<v _R <150	40	40	40	40	40	36.7	33.9	31.8	29.5	28.6	27.7	26.8	26	26	22	17.9	14.8	11.6	9.3	7.6	6.2							
	63	<60	63	63	63	63	63	60	56.7	53.1	50.5	47.9	45.4	42.8	41.1	34.8	28.2	23.4	18.3	14.7	12	9.9								
		60<v _R <90	63	63	63	63	63	61.5	56.7	52.8	49.5	47.5	45.5	43.5	41.5	41.1	34.8	28.2	23.4	18.3	14.7	12	9.9							
		90<v _R <150	63	63	63	63	63	57.9	53.4	50.1	46.5	45.1	43.7	42.3	41.1	41.1	34.8	28.2	23.4	18.3	14.7	12	9.9							
	100	<60	100	100	100	100	100	95.2	90	84.2	80.2	76.1	72	68	65.2	55.2	44.7	37.1	29	23.3	19	15.7								
		60<v _R <90	100	100	100	100	100	97.6	90	83.8	78.5	75.4	72.2	69.1	66	65.2	55.2	44.7	37.1	29	23.3	19	15.7							
		90<v _R <150	100	100	100	100	100	91.9	84.7	79.5	73.8	71.6	69.4	67.2	65.2	65.2	55.2	44.7	37.1	29	23.3	19	15.7							
	160	<60	160	160	160	160	160	152.3	144	134.8	128.3	121.8	115.3	108.8	104.3	88.3	71.6	59.4	46.4	37.3	30.4	25.1								
		60<v _R <90	160	160	160	160	160	156.1	144	134	125.7	120.6	115.6	110.6	105.6	104.3	88.3	71.6	59.4	46.4	37.3	30.4	25.1							
		90<v _R <150	160	160	160	160	160	147	135.6	127.2	118	114.6	111	107.5	104.3	104.3	88.3	71.6	59.4	46.4	37.3	30.4	25.1							
	250	<60	250	250	250	250	250	238	225	210.7	200.5	190.3	180.1	170	163	138	111.9	92.8	72.6	58.3	47.6	39.2								
		60<v _R <90	250	250	250	250	250	244	225	209.5	196.4	188.5	180.7	172.8	165	163	13													

Pressure rating table acc. to DIN2401 (1966)

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	20	120	200	250	300	350	400	425	450	475	500	510	520	530	540	550
1.0619, 1.0460 P250GH [3E0]	16	16	16	14	13	11	10	8									
	25	25	25	22	20	17	16	13									
	40	40	40	35	32	28	24	21									
	63	63	63	50	45	40	36	32									
	100	100	100	80	70	60	56	50									
	160	160	160	130	112	96	90	80									
	250	250	250	200	175	150	140	125									
	320	320	320	250	225	192	180	160									
1.5415 16Mo3 [4E0]	25	25	25	25	25	22	20	19	18	17							
	40	40	40	40	40	35	31	30	29	28							
	63	63	63	63	63	56	50	47	46	45							
	100	100	100	100	100	87	78	74	72	70							
	160	160	160	160	160	139	125	118	115	112							
	250	250	250	250	250	217	195	185	179	174							
	320	320	320	320	320	278	250	236	230	222							
	400	400	400	400	400	348	312	296	286	278							
1.7357, 1.7335 13CrMo4-5 [5E0]	25	25	25	25	25	25	24	23	22	21	20	18	15	12	9		
	40	40	40	40	40	40	38	36	35	34	33	29	24	19	15		
	63	63	63	63	63	63	61	58	57	56	53	47	40	32	25		
	100	100	100	100	100	100	95	91	89	87	82	74	62	49	38		
	160	160	160	160	160	160	153	146	142	139	132	118	100	79	62	46	35
	250	250	250	250	250	250	238	227	223	217	206	184	154	124	97	73	54
	320	320	320	320	320	320	304	292	285	278	264	237	200	158	124	93	69
	400	400	400	400	400	400	380	364	356	348	330	295	250	198	155	116	87
1.7383 11CrMo9-10 [6E0]	160	160	160	160	160	160	153	146	142	139	132	118	100	79	70	61	52
	250	250	250	250	250	250	238	227	223	217	206	184	154	124	108	95	81
	320	320	320	320	320	320	304	292	285	278	264	237	200	158	139	121	104
	400	400	400	400	400	400	380	364	356	348	330	295	250	198	174	151	130

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

Pressure rating table acc. to DIN EN 12516-1 (2018) – materials 1.0571, 1.0565, 1.0619, 1.0460, 1.4404

Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-60	-10	20	50	100	150	200	250	300	350	375	380	400	420	425	450	470	475	480	500	510	520	525	530	550	575	600	
1.0571, 1.0565 P355QH1 [8E3]	10	10	10	10	10	10	10	10	10	10	9.4	8.7	8.6	8															
	16	16	16	16	16	16	16	16	16	16	15	13.9	13.7	12.8															
	25	25	25	25	25	25	25	25	25	25	23.5	21.8	21.4	20															
	40	40	40	40	40	40	40	40	40	40	37.5	34.9	34.3	32.1															
	63	63	63	63	63	63	63	63	63	63	59.1	54.9	54	50.5															
	100	100	100	100	100	100	100	100	100	100	93.8	87.1	85.7	80.2															
	160	160	160	160	160	160	160	160	160	160	150.2	139.5	137.2	128.3															
	250	250	250	250	250	250	250	250	250	250	234.7	217.9	214.4	200.5															
	320	320	320	320	320	320	320	320	320	320	300.4	278.9	274.5	256.6															
	400	400	400	400	400	400	400	400	400	400	375.5	348.6	343	320.8															
1.0619, 1.0460 P250GH [3E0]	10	10	10	10	9.4	8.9	8.4	7.7	7	6.5	6.2	6.2	6	5.5	5.2	3.7	2.7	2.5	2.2										
	16	16	16	16	15	14.2	13.4	12.3	11.1	10.4	10	9.9	9.6	8.8	8.3	5.9	4.3	3.9	3.6										
	25	25	25	25	23.4	22.2	21	19.2	17.4	16.2	15.6	15.5	15	13.7	13	9.2	6.7	6.1	5.6										
	40	40	40	40	37.4	35.5	33.6	30.7	27.8	25.9	25	24.8	24	22	20.8	14.7	10.7	9.8	9										
	63	63	63	63	59	55.9	52.9	48.4	43.8	40.8	39.3	39	37.8	34.6	32.7	23.2	16.8	15.5	14.1										
	100	100	100	100	93.6	88.8	84	76.8	69.6	64.8	62.4	61.9	60	54.9	51.9	36.8	26.7	24.5	22.4										
	160	160	160	160	149.8	142.1	134.5	122.9	111.4	103.7	99.9	99.1	96	87.9	83.1	58.9	42.7	39.3	35.9										
	250	250	250	250	234.1	222.1	210.1	192.1	174.1	162	156	154.8	150	137.4	129.8	92	66.7	61.4	56										
	320	320	320	320	299.7	284.3	268.9	245.9	222.8	207.5	199.8	198.2	192.1	175.9	166.2	117.8	85.4	78.5	71.7										
	400	400	400	400	374.5	355.3	336.1	307.3	278.5	259.3	249.7	247.8	240.1	219.8	207.7	147.3	106.7	98.2	89.6										
1.4404 X2CrNiMo17-12-2 [13E0]	10	10	10	10	9.8	9	8.1	7.3	6.4	6.2	6	5.9	5.7	5.6	5.6	5.5	5.5	5.5	5.5	5.2	5.2								
	16	16	16	16	15.7	14.3	13	11.7	10.3	9.9	9.6	9.4	9.2	9	8.9	8.9	8.9	8.8	8.8	8.3	8.3								
	25	25	25	25	24.5	22.4	20.3	18.2	16.1	15.4	15.1	14.7	14.4	14	13.9	13.8	13.7	13.7	13	13	13.7	13.7							
	40	40	40	40	39.2	35.8	32.5	29.1	25.8	24.6	24.1	23.5	23	22.4	22.2	22.2	22.1	22	21.9	20.8	20.7								
	63	63	63	63	61.7	56.4	51.2	45.9	40.6	38.8	37.9	37	36.2	35.3	35	34.9	34.9	34.6	34.5	32.8	32.6								
	100	100	100	100	98	89.6	81.2	72.8	64.4	61.6	60.2	58.8	57.4	56	55.5	55.4	55.3	54.9	54.8	52	51.7								
	160	160	160	160	156.9	143.4	130	116.5	103.1	98.6	96.4	94.1	91.9	89.6	88.9	88.7	88.6	87.8	87.7	83.2	82.8								
	250	250	250	250	245.1	224.1	203.1	182.1	161	154	150.5	147	143.5	140	138.9	138.6	138.4	137.2	137	130	129.4								
	320	320	320	320	313.7	286.8	260	233.1	206.2	197.2	192.7	188.2	183.8	179.3	177.8	177.5	177.1	175.7	175.3	166.5	165.6								
	400	400	400	400	392.1	358.5	324.9	291.3	257.7	246.5	240.9	235.3	229.7	224.1	222.3	221.8	221.4	219.6	219.2	208.1	207								

1) Operating temperature = calculation temperature minus temperature surcharge according to the standard codes.

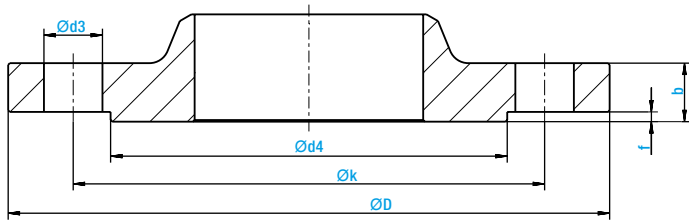
Further materials on page 142 →

Pressure rating table acc. to DIN EN 12516-1 (2018) – materials 1.4571, 1.4903, 1.5415, 1.7357, 1.7335, 1.7383, 1.7380

 Permissible operating pressure [bar(g)] at calculation temperature [°C] ¹⁾

Material	PN	-60	-10	20	50	100	150	200	250	300	350	375	380	400	420	425	450	470	475	480	500	510	520	525	530	550	575	600
1.4571 ²⁾ XCrNiMoTi17-12-2 (15E0)	10	10	10	10	10	10	9.7	9	8.5	8.1	7.7	7.5	7.3	7.3	7.1	7	6.9	6.9	6.8	6.6	6.4	6	6	5.8	5.4	3.9		
	16	16	16	16	16	16	15.5	14.3	13.7	13	12.3	12	11.7	11.7	11.4	11.2	11	11	10.9	10.5	10.2	9.6	9.6	9.3	8.6	6.2		
	25	25	25	25	25	25	24.2	22.4	21.4	20.3	19.3	18.7	18.2	18.2	17.9	17.5	17.2	17.2	17.1	16.5	15.9	15	15	14.6	13.5	9.7		
	40	40	40	40	40	40	38.6	35.8	34.2	32.5	30.8	30	29.1	29.1	28.6	28	27.6	27.4	27.3	26.3	25.4	24.1	24.1	23.3	21.5	15.6		
	63	63	63	63	63	63	60.9	56.4	53.8	51.2	48.5	47.2	45.9	45.9	45	44.1	43.4	43.2	43	41.5	40	37.9	37.9	36.7	33.9	24.5		
	100	100	100	100	100	100	96.6	89.6	85.4	81.2	77	74.9	72.8	72.8	71.4	70	68.9	68.6	68.3	65.8	63.5	60.2	60.2	58.2	53.9	38.9		
	160	160	160	160	160	160	154.6	143.4	136.7	130	123.3	119.9	116.5	116.5	114.3	112.1	110.3	109.8	109.4	105.3	101.7	96.3	96.3	93.2	86.2	62.3		
	250	250	250	250	250	250	241.6	224.1	213.6	203.1	192.6	187.3	182.1	182.1	178.6	175.1	172.3	171.6	170.9	164.5	158.9	150.4	150.4	145.6	134.7	97.4		
	320	320	320	320	320	320	309.3	286.8	273.4	260	246.5	239.8	233.1	233.1	228.6	224.1	220.5	219.6	218.7	210.7	203.4	192.6	192.6	186.4	172.5	124.6		
	400	400	400	400	400	400	386.5	358.5	341.7	324.9	308.1	299.7	291.3	291.3	285.7	280.1	275.6	274.5	273.4	263.3	254.3	240.7	240.7	232.9	215.5	155.8		
1.4903 ²⁾ X10Cr1MoVNb9-1 (9E0)	10	10	10	10	10	10	10	10	10	10	9.4	9	8.9	8.5	8.2	8.2	7.9	7.5	7.4	7.2	6.6	6.4	6	6	5.8	5.6	5	
	16	16	16	16	16	16	16	16	16	16	15	14.5	14.3	13.7	13.2	13.1	12.6	12	11.8	11.6	10.5	10.2	9.6	9.6	9.3	8.9	8	
	25	25	25	25	25	25	25	25	25	25	23.5	22.6	22.4	21.3	20.6	20.4	19.7	18.7	18.5	18.1	16.5	15.9	15	15	14.6	14	12.5	
	40	40	40	40	40	40	40	40	40	40	37.5	36.2	35.8	34.1	32.9	32.6	31.5	29.9	29.5	28.9	26.3	25.4	24.1	24.1	23.3	22.3	20	
	63	63	63	63	63	63	63	63	63	63	59.1	57	56.4	53.8	51.9	51.4	49.7	47.2	46.5	45.5	41.5	40	37.9	37.9	36.7	35.2	31.5	
	100	100	100	100	100	100	100	100	100	100	93.8	90.5	89.5	85.3	82.4	81.6	78.9	74.9	73.9	72.2	65.8	63.5	60.2	60.2	58.2	55.9	50	
	160	160	160	160	160	160	160	160	160	160	150.2	144.9	143.2	136.6	131.8	130.7	126.2	119.8	118.2	115.6	105.3	101.7	96.3	96.3	93.2	89.4	80	
	250	250	250	250	250	250	250	250	250	250	234.7	226.3	223.7	213.4	206	204.1	197.2	187.2	184.7	180.7	164.5	158.9	150.4	150.4	145.6	139.7	125	
	320	320	320	320	320	320	320	320	320	320	300.4	289.7	286.4	273.2	263.7	261.3	252.5	239.7	236.5	231.3	210.7	203.4	192.6	192.6	186.4	178.8	160.1	
	400	400	400	400	400	400	400	400	400	400	375.5	362.1	358	341.4	329.6	326.6	315.6	299.5	295.5	289.1	263.3	254.3	240.7	240.7	232.9	223.5	200.1	
1.5415 16Mo3 (4E0)	10	10	10	10	10	10	9.8	9.1	8.5	7.9	7.4	7.3	7.2	7.2	6.9	6.7	6.6	6.6	6.5	6.5	6.4	3.1	2.8	2.5				
	16	16	16	16	16	16	15.7	14.6	13.6	12.7	11.9	11.7	11.5	11.5	11.1	10.7	10.5	10.5	10.4	7.3	6.3	5	4.5	4				
	25	25	25	25	25	25	24.5	22.8	21.3	19.8	18.6	18.3	18	18	17.3	16.7	16.4	16.4	16.3	11.3	9.9	7.9	7.1	6.3				
	40	40	40	40	40	40	39.1	36.5	34.1	31.7	29.8	29.3	28.8	28.8	27.7	26.7	26.3	26.2	26.1	18.1	15.8	12.6	11.3	10				
	63	63	63	63	63	63	61.6	57.5	53.7	49.9	46.9	46.1	45.4	45.4	43.7	42	41.4	41.3	41.1	28.6	24.9	19.8	17.8	15.8				
	100	100	100	100	100	100	97.8	91.2	85.2	79.2	74.4	73.2	72	72	69.4	66.7	65.8	65.5	65.3	45.3	39.5	31.5	28.3	25.1				
	160	160	160	160	160	160	156.6	146	136.4	126.8	119.1	117.2	115.3	115.3	111	106.8	105.3	104.9	104.5	72.6	63.2	50.4	45.2	40.1				
	250	250	250	250	250	250	244.6	228.1	213.1	198.1	186.1	183.1	180.1	180.1	173.5	166.8	164.4	163.8	163.2	113.4	98.7	78.7	70.7	62.7				
	320	320	320	320	320	320	313.1	292	272.8	253.6	238.2	234.3	230.5	230.5	222.1	213.6	210.5	209.8	209	145.1	126.4	100.7	90.5	80.2				
	400	400	400	400	400	400	391.3	364.9	340.9	316.9	297.7	292.9	288.1	288.1	277.5	267	263.1	262.2	261.2	181.4	157.9	125.9	113.1	100.3				
1.7357, 1.7335 13CrMo4-5 (5E0)	10	10	10	10	10	10	10	10	10	10	9.3	9	8.5	8.5	8.2	7.9	7.5	7.4	7.2	6.2	5.6	4.6	4.6	4.6	4.2	2.6		
	16	16	16	16	16	16	16	16	16	16	14.9	14.4	13.7	13.7	13.1	12.6	12	11.8	11.6	10	8.9	7.3	7.3	7.3	4.2			
	25	25	25	25	25	25	25	25	25	25	23.3	22.4	21.3	21.3	20.4	19.7	18.7	18.5	18.1	15.6	13.9	11.5	11.5	11.5	6.5			
	40	40	40	40	40	40	40	40	40	40	37.3	35.9	34.1	34.1	32.7	31.5	29.9	29.5	28.9	25	22.3	18.3	18.3	18.3	10.5			
	63	63	63	63	63	63	63	63	63	63	58.7	56.5	53.8	53.8	51.4	49.7	47.2	46.5	45.5	39.3	35.1	28.9	28.9	28.9	16.5			
	100	100	100	100	100	100	100	100	100	100	93.1	89.8	85.3	85.3	81.6	78.9	74.9	73.9	72.2	62.4	55.8	45.9	45.9	45.9	26.1			
	160	160	160	160	160	160	160	160	160	160	149.1	143.7	136.6	136.6	130.7	126.2	119.8	118.2	115.6	99.9	89.3	73.4	73.4	73.4	41.8			
	250	250	250	250	250	250	250	250	250	250	232.9	224.5	213.4	213.4	204.1	197.2	187.2	184.7	180.7	156	139.5	114.7	114.7	114.7	65.4			
	320	320	320	320	320	320	320	320	320	320	298.1	287.4	273.2	273.2	261.3	252.5	239.7	236.5	231.3	199.8	178.6	146.8	146.8	146.8	83.7			
	400	400	400	400	400	400	400	400	400	400	372.6	359.2	341.4	341.4	326.6	315.6	299.5	295.5	289.1	249.7	223.2	183.5	183.5	183.5	104.6			
1.7383 ²⁾ , 1.7380 ²⁾ 11CrMo9-10 (6E0)	10	10	10	10	10	10	10	10	10	10	9.4	9	8.5	8.5	8.2	7.9	7.5	7.4	7.2	6.6	6.4	5.4	5.4	5.4	3.5	2.7	1.5	
	16	16	16	16	16	16	16	16	16	16	15	14.5	13.7	13.7	13.1	12.6	12	11.8	11.6	10.5	10.2	8.6	8.6	8.6	5.6	4.4	2.4	
	25	25	25	25	25	25	25	25	25	25	23.5	22.6	21.3	21.3	20.4	19.7	18.7	18.5	18.1	16.5	15.9	13.5	13.5	13.5	8.8	6.8	3.7	
	40	40	40	40	40	40	40	40	40	40	37.5	36.2	34.1	34.1	32.7	31.5	29.9	29.5	28.9	26.3	25.4	21.5	21.5	21.5	14.1	10.9	6	
	63	63	63	63	63	63	63	63	63	63	59.1	57	53.8	53.8	51.4	49.7	47.2	46.5	45.5	41.5	40	33.9	33.9	33.9	22.2	17.1	9.4	
	100	100	100	100	100	100	100	100	100	100	93.8	90.5	85.3	85.3	81.6	78.9	74.9	73.9	72.2	65.8	63.5	53.9	53.9	53.9	35.2	27.2	14.9	
	160	160	160	160	160	160	160	160	160	160	150.2	144.9	136.6	136.6	130.7	126.2	119.8	118.2	115.6	105.3	101.7	86.2	86.2	86.2	56.3	43.5	23.9	
	250	250	250	250	250	250	250	250	250	250	234.7	226.3	213.4	213.4	204.1	197.2	187.2	184.7	180.7	164.5	158.9	134.7	134.7	134.7	88	68	37.3	
	320	320	320	320	320	320	320	320	320	320	300.4	289.7	273.2	273.2	261.3	252.5	239.7	236.5	231.3	210.7	203.4	172.5	172.5	172.5	112.7	87.1	47.8	
	400	400	400	400	400	400	400	400	400	400	375.5	362.1	341.4	341.4	326.6	315.6	299.5	295.5	289.1	263.3	254.3	215.5						

FLANGE DIMENSIONS



Raised face as per DIN 2526 or EN 1092 (other flange forms possible).

Nominal pressure	DN dimensions	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600	700	800	
10	Flange ØD	95	105	115	140	150	165	185	200	220	250	285	340	395	445	505	565	670	780	895	1015	
	b	16	18	18	18	18	18	22	24	24	26	22	24	26	26	26	26	28	28	30	32	
	k	65	75	85	100	110	125	145	160	180	210	240	295	350	400	460	515	620	725	840	950	
	Seal. d4	45	58	68	78	88	102	122	138	158	188	212	268	320	370	430	482	585	685	800	905	
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	
	Qty of screws	4	4	4	4	4	4	8(4)*	8	8	8	8	8	8	12	12	16	16	20	20	24	24
	Thread d2	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M27	M27	M30
16	Flange ØD	95	105	115	140	150	165	185	200	220	250	285	340	405	460	520	580	715	840	910	1025	
	b	16	18	18	18	18	18	22	24	24	26	22	24	26	28	30	32	34	36	36	38	
	k	65	75	85	100	110	125	145	160	180	210	240	295	355	410	470	525	650	770	840	950	
	Seal. d4	45	58	68	78	88	102	122	138	158	188	212	268	320	378	438	490	610	725	795	900	
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	
	Qty of screws	4	4	4	4	4	4	8(4)*	8	8	8	8	8	12	12	12	16	16	20	20	24	24
	Thread d2	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M27	M30	M33	M33	M36
25	Flange ØD	95	105	115	140	150	165	185	200	235	270	300	360	425	485	555	620	730	845	960	1085	
	b	16	18	18	18	18	20	22	24	24	26	28	30	32	34	38	40	44	46	46	50	
	k	65	75	85	100	110	125	145	160	190	220	250	310	370	430	490	550	660	770	875	990	
	Seal. d4	45	58	68	78	88	102	122	138	162	188	218	278	335	395	450	505	615	720	820	930	
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	
	Qty of screws	4	4	4	4	4	4	8(4)*	8	8	8	8	8	12	12	16	16	20	20	24	24	24
	Thread d2	M12	M12	M12	M16	M16	M16	M16	M16	M20	M24	M24	M24	M27	M27	M30	M33	M33	M36	M39	M45	M45
40	Flange ØD	95	105	115	140	150	165	185	200	235	270	300	375	450	515	580	660	755	890	995	1140	
	b	16	18	18	18	18	20	22	24	24	26	28	34	38	42	46	50	52	60	64	72	
	k	65	75	85	100	110	125	145	160	190	220	250	320	385	450	510	585	670	795	900	1030	
	Seal. d4	45	58	68	78	88	102	122	138	162	188	218	285	345	410	465	535	615	735	840	960	
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	5	5	5	
	Qty of screws	4	4	4	4	4	4	8	8	8	8	8	12	12	16	16	20	20	24	24	24	
	Thread d2	M12	M12	M12	M16	M16	M16	M16	M16	M20	M24	M24	M27	M30	M30	M33	M33	M36	M39	M45	M52	M52
63	Flange ØD	105	130	140	155	170	180	205	215	250	295	345	415	470	530							
	b	20	24	24	24	26	26	26	28	30	34	36	42	46	52							
	k	75	90	100	110	125	135	160	170	200	240	280	345	400	460							
	Seal. d4	45	60	68	78	88	102	122	138	162	188	218	285	345	410							
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4							
	Qty of screws	4	4	4	4	4	4	8	8	8	8	8	12	12	16							
	Thread d2	M12	M16	M16	M20	M20	M20	M20	M20	M24	M27	M30	M33	M33	M33							
100	Flange ØD	105	130	140	155	170	195	220	230	265	315	355	430	505	585							
	b	20	24	24	24	26	28	30	32	36	40	44	52	60	68							
	k	75	90	100	110	125	145	170	180	210	250	290	360	430	500							
	Seal. d4	45	60	68	78	88	102	122	138	162	188	218	285	345	410							
	f	2	2	2	2	3	3	3	3	3	3	3	3	3	4							
	Qty of screws	4	4	4	4	4	4	8	8	8	8	12	12	12	16							
	Thread d2	M12	M16	M16	M20	M20	M24	M24	M24	M27	M30	M30	M33	M36	M39							
160	Flange ØD	105		140		170	195	220	230	265	315	355	430	515	585							
	b	20		24		28	30	34	36	40	44	50	60	68	78							
	k	75		100		125	145	170	180	210	250	290	360	430	500							
	Seal. d4	45		68		88	102	122	138	162	188	218	285	345	410							
	f	2		2		3	3	3	3	3	3	3	3	3	4							
	Qty of screws	4		4		4	4	8	8	8	8	12	12	12	16							
	Thread d2	M12		M16		M20	M24	M24	M24	M27	M30	M30	M33	M39	M39							

* Values in brackets available on request for pipeline flange as per old DIN 2632 or DIN 2633.

DESIGN CHARACTERISTICS

Body

The body and cover or bonnet form the pressure bearing assembly and determine the application area of the valve. The demand for valves for ever higher pressures and temperatures requires special materials and production processes. Pressure ratings, nominal diameters and quantities in the high-pressure range require different manufacturing methods appropriate to the specific conditions. The designs therefore vary according to the specific conditions. Forged PERSTA valve bodies, particularly for power station, are closed or open die forgings, with a machined finish. Systematic rolling and forming processes give the formed parts an impermeable, homogeneous, fine-grained structure without cavities or pores and a fibre orientation that is ideally suited to the intended use.

The modern production methods result in an increased use of forged steel in the high-pressure range. However, there are limits to the development of die-forged bodies, due to the large forming forces involved and thus the size and cost of the dies needed. For this reason, open-die forging is used for large bodies, which are then machined afterwards.

For PERSTA high pressure valves, the following production methods have proven effective:

1. Hollow forging from a single piece is primarily used for the DSK 10, DN 50-350 and DSK 26, DN 65-300/250 series. In the DSK 10 design, the valve flange or butt-weld end connections are welded on with a circumferential weld.
2. Two half shells forged in a die for the gate valve body or swing check valves in the PD 18 / PN 160, DN 50-300 series are joined by means of electron beam welding. Before welding, the seat surfaces are armoured with Stellite, rotated and finished.

3. Body for gate valves and swing check valves in the DSK 16-63, DN 50-600 series are forged solid as open-die parts with machined finish.

Valves are strained through:

- Mechanically by
 - Operating pressure
 - Operating temperature
 - Temperature gradients during start up and shutdown
 - Erosion and cavitation caused by the medium
 - By forces that are applied by the connected pipelines, by fastening equipment and the dead weight of the actuators
- Chemically by
 - Corrosion

Smooth transitions in the wall thickness limit thermal expansion in PERSTA valve bodies. In the case of gate valves, sealing takes place on the pressure-bearing side of the body. The sealing force required is applied by the medium due to the differential pressure. Rails or grooves guide the disc or the disc fittings in the body after around 10% opening stroke. The forces to be absorbed by the guides are relatively small because the pressures have largely equalised by the time this position is reached. The weld seams are designed to be process-compliant in terms of radiographic or ultrasonic testing. All PERSTA gate valves and swing check valves can be designed with shoed butt-weld ends to adjust to the respective pipeline materials and diameters.

Stem packing

The gland packing seals the stem guide externally. Strains on the seal are caused by movements of the stem, pressure and friction on the packing, thermal fluctuation, and by the medium. The design of the gland and gland flange ensures even pressing of the packing rings, even if the packing bolts are tightened slightly unevenly, thereby preventing jamming of the stem.

Operating principle

A force applied by the stud bolts **(462)** to the gland **(440)** is transferred by the gland flange **(430)** and the chamber ring **(421)** to the packing rings **(420)**. This presses the packing rings together. The resultant surface pressure against the gland chamber and against the stem surface seals against the medium.

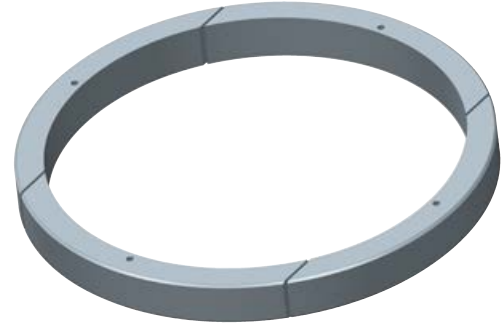
Operating principle

An axial force that increases as the internal pressure increases is applied to the elastic gasket ring (160). This force presses the elastic gasket ring together and deforms it in the radial and axial directions. In the radial direction, it is pressed against the body wall and the cover (270), thus providing the necessary surface pressure and sealing force.

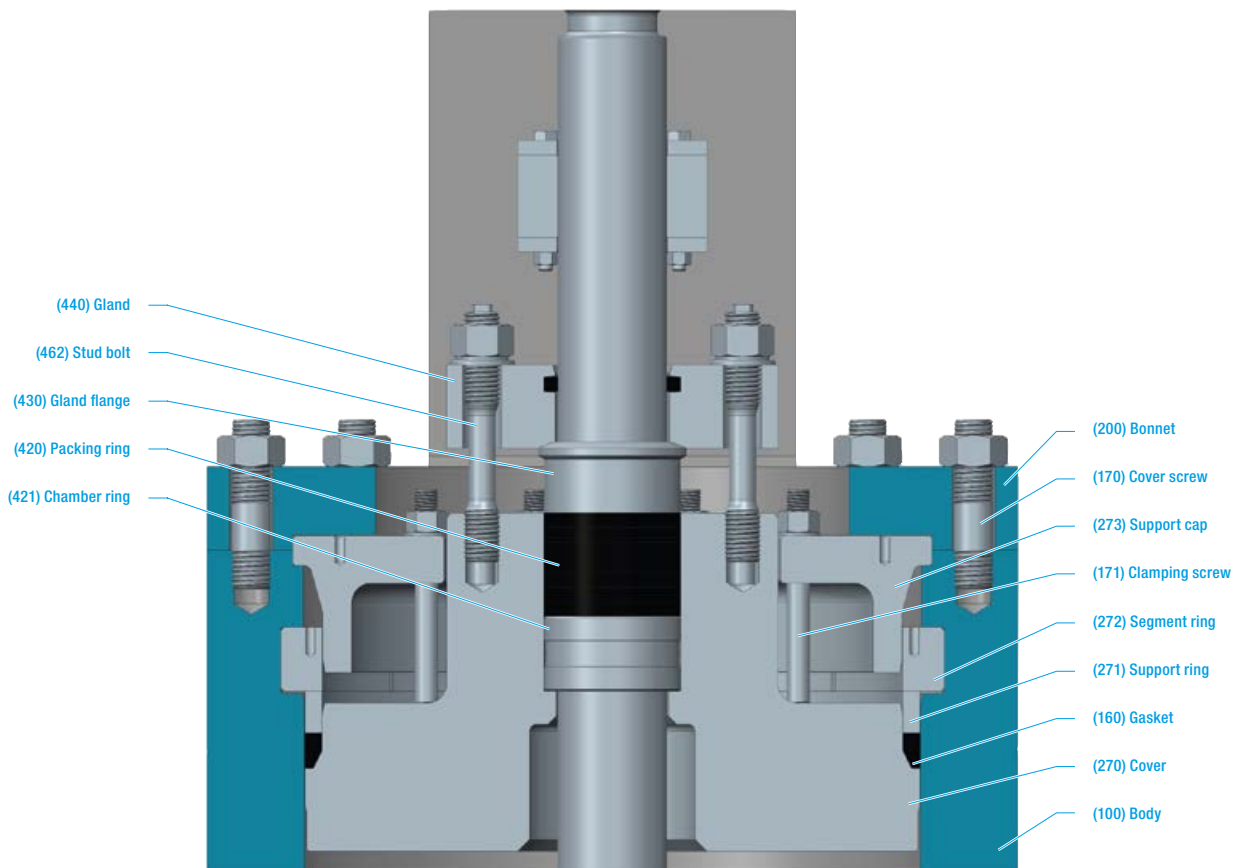
The support ring (271) on the gasket ring absorbs the axial force and transmits it to the segment ring (272). The segment ring is located in a groove in the body (100) and thus transmits the axial force positively locking to the body. The segment ring is made up of multiple parts and it is held in the body groove by the support cap (273). The cover (270) is pretensioned by the clamping screws (171) in order to retain the deformation of the gasket ring (and thus the sealing effect) even when the internal pressure is low.

Unlike valves with a bolted bonnet or cover, in which the internal pressure is absorbed by the cover screws, the gasket ring of the pressure sealing bonnet is subjected to a force proportional to the internal pressure, which increases the sealing effect of the pressure sealing cover.

Segment ring



Attention: Over pressure safety devices may be needed to safeguard against impermissible pressures. See the section on over pressure safety devices



PIPE AND VALVE CONNECTION DIMENSIONS

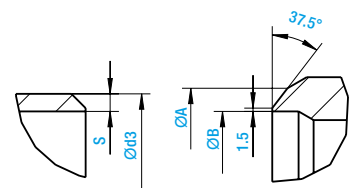
Pipe dimensions (DIN 2448) and valve connection dimensions as per DIN EN 12627

DN		Butt-weld ends							
		Series 1 up to PN 40	Series 2 PN 63	Series 3 PN 100	Series 4 PN 160	Series 5 PN 250	Series 6 PN 320	Series 7 PN 400	Series 8 PN 630
10	A	18	18	18	18	18	18	18	22
	B	13.2	13.2	13.2	13.2	12	12	10	11.3
	d3	17.2	17.2	17.2	17.2	17.2	17.2	17.2	21.3
	s	2	2	2	2	2.6	2.6	3.6	5
15	A	22	22	22	22	22	22	28	35
	B	17.3	17.3	17.3	17.3	16.1	14.9	16.9	17.7
	d3	21.3	21.3	21.3	21.3	21.3	21.3	26.9	33.7
	s	2	2	2	2	2.6	3.2	5	8
20	A	28							
	B	22.3							
	d3	26.9							
	s	2.3							
25	A	35	35	35	35	35	44	50	
	B	28.5	28.5	28.5	27.3	26.5	23.7	28.2	23.3
	d3	33.7	33.7	33.7	33.7	33.7	33.7	42.4	48.3
	s	2.6	2.6	2.6	3.2	3.6	5	7.1	12.5
40	A	50	50	50	50	50	62	77	
	B	43.1	43.1	43.1	41.1	38.3	35.7	38.3	41.1
	d3	48.3	48.3	48.3	48.3	48.3	48.3	60.3	76.1
	s	2.6	2.6	2.6	3.6	5	6.3	11	17.5
50	A	62	62	62	62	62	77	91	
	B	53.9	53.9	53.9	52.3	44.3	58.5	47.7	48.9
	d3	60.3	60.3	60.3	60.3	60.3	76.1	76.1	88.9
	s	3.2	3.2	3.2	4	8	8.8	14.2	20
65	A	77	77	77	77	77	91	117	
	B	68.9	68.9	68.9	64.9	58.5	66.9	79.3	
	d3	76.1	76.1	76.1	76.1	76.1	88.9	114.3	
	s	3.6	3.6	3.6	5.6	8.8	11	17.5	
80	A	91	91	91	91	117	117	117	
	B	80.9	80.9	80.9	76.3	92.3	85.9	79.3	
	d3	88.9	88.9	88.9	88.9	114.3	114.3	114.3	
	s	4	4	4	6.3	11	14.2	17.5	
100	A	117	117	117	117				
	B	104.3	104.3	104.3	98.3				
	d3	114.3	114.3	114.3	114.3				
	s	5	5	5	8				
125	A	144	144	144	144				
	B	130.7	130.7	127.1	119.7				
	d3	139.7	139.7	139.7	139.7				
	s	4.5	4.5	6.3	10				
150	A	172	172	172	172				
	B	157.1	157.1	154.1	143.3				
	d3	168.3	168.3	168.3	168.3				
	s	5.6	5.6	7.1	12.5				
200	A	223	223	223	223				
	B	204.9	204.9	199.1	187.1				
	d3	219.1	219.1	219.1	219.1				
	s	7.1	7.1	10	16				
250	A	278	278	278					
	B	257	255.4	248					
	d3	273	273	273					
	s	8	8.8	12.5					
300	A	329	329	329					
	B	307.9	301.9	295.5					
	d3	323.9	323.9	323.9					
	s	8	11	14.2					
350	A	362	362	362					
	B	338	330.6	323.6					
	d3	355.6	355.6	355.6					
	s	8.8	12.5	16					
400	A	413	413						
	B	384.4	378						
	d3	406.4	406.4						
	s	11	14.2						
500	A	516							
	B	479.6							
	d3	508							
	s	14.2							

Note

For the outer diameters indicated, larger outer diameters may be necessary, depending on the material and the heat treatment diameter.

The assignment of pipe diameter to pressure rating is taken from DIN 3239. Pressure ratings and materials as per DIN 2401. (materials 1.0460; 1.0425; 1.5415; 1.7335; 1.7383) Cast materials were not taken into account.



Ød3 is the outer diameter of the corresponding series 1 steel pipe as per ISO 4200-1985

PRODUCTION AND TESTING EQUIPMENT

Mechanical workshop

2 flexible machining centres for turning, drilling, milling and welding by welding robots
9 machining centres for drilling, turning and milling

CNC-controlled and conventional horizontal and vertical lathes for max. workpiece weights of approx. 20 kN

Drilling machines, milling machines, CNC-controlled saw, lapping and deburring machines, or grinding machines, lathes

Welding technology

2 welding robots for build-up welding
1 welding robot for joint welding
1 welding robot for build-up and joint welding

manual welding stations for build-up and joint welding:
- For electrode welding: 2.0–6.0 mm electrode diameter
- For TIG welding: 1.6–4.0 mm electrode diameter
- For MAG welding: 1.0–1.6 mm electrode diameter

welding stations for build-up welding
- For plasma arc welding: 50–150 µm powder

mechanical welding stations for joint welding:
- For submerged arc welding: 2.5–4.0 mm electrode diameter
- For electron beam welding: without filler metal

manipulators for welding processing of unit weights up to max. 120 kN

electric annealing furnaces, annealing facilities, induction heating systems, flame cutting systems

Fitting

7 assembly and testing facilities for pressure testing (strength testing) of valves up to max. DN 800, with a max. test pressure of 1,000 bar.
1 helium leak detector, suitable for detecting leaks to max. 10 to the minus 13 torr by 1/sec.

Transport equipment

gantry cranes with max. carrying capacity of 160 kN
slewing cranes with max. carrying capacity of 20 kN
pallet trucks with max. carrying capacity of 75 kN

Non-destructive and destructive material tests

- Tensile tests (DIN EN 10002-1)
- Beam impact test (DIN EN ISO 148-1)
- Hardness tests
- Metallographic testing
- Etched slice tests

Surface inspections:

- Magnetic particle inspection
- Dye penetrant examination

Tests for mixed-up components:

- Intergranular corrosion test (DIN EN ISO 3651-2)
- Particle-size measurement
- Chemical analysis
- Delta ferrite determination
- Surface roughness measurement

Ultrasonic testing:

- Device type: USM35X, GE, from Krautkrämer

X-ray tests:

- Device types and outputs (all from GE, Seiffert)
- 2 ISO Volt 320, ISO Volt 150

Tightness testing options:

- With foaming liquids
- With vacuum frame
- With air or gases under water
- Helium leak test

Pressure testing options:

- Hydrostatic test
- With air or gases

QUALIFICATION

On the basis of these approvals and the user's expectation of maximum possible functional reliability in line with the latest technology, fulfilling the expectations set for the valves depends largely on the design, production and accompanying tests, as well as seamless documentation by the PERSTA quality department. The tests we carry out include:

- Auditing of our suppliers
- Continuous incoming goods inspections of primary materials
- Checking drawing-compliant execution of the components and purchased parts manufactured in the production department
- Destructive and non-destructive material tests
- Strength and leak tests
- Functional tests

Approvals

Name of testing body or organisation	Specification
TÜV Nord Cert GmbH	DIN EN ISO 9001:2008
TÜV Nord Systems	AD 2000 HP 0 / TRD 201 / ASME B16.34
TÜV Nord Systems	DIN EN ISO 3834-2 (EN 729-2) / DGRL 97 / 23/EG Module H/H1
TÜV Nord Systems	KTA 3201.3 / KTA 3211.3
VGB suitability testing	KTA 1401 and AVS D 100/50
Global Standard Moscow	GOST TR No. C-DE.MM06.B.00156 (Dirt scraper)
Global Standard Moscow	GOST TR No. C-DE-MM06.B.00157 (Div. industrial valves)
Rostehnadzor Russia	RTN
Promatomnadzor Minsk	GOSPROMNADZOR (Belarus)
Bharat Heavy Electricals LTD	24 NRV
Paks Nuclear Power Plant	KM51 / 2011
EDF	EDF
Shell Nederland Raffin. BV	Service group 77DAAB / Service group 77DPBA
Shell Nederland Chemie BV	Service group 77DAAB / Service group 77DPBA
Kuwait Oil Company	VEC / VA / GT / 015 / 16 / 97
Canada	Canadian Registration; CSA B51
ENERGO-ATOM	QA system
Slovenské Elektrárne	QA system
Forsmark Kraftgrupe AB	QA system
GE Energy	QA system
Fire Safe	ISO 10497 / API 607

Procedure tests for joint welding

Norms and standards: AD; TRD; EN 288-1; EN ISO 15614-1+11; ASME IX

Materials acc. to AD-HP 0	Materials acc. to ISO/TR 15608	Base material designation	111 (E)	121 (UP)	135 (MAG)	141 (WIG)	511 (EB)
1	1	1.0460	X	X	X	X	X
1	1	1.5415	X	X	X	X	X
5.1	1	1.0566	X	X	X	X	–
3	4.2	1.6368	X	X	X	X	–
4.1	5.1	1.7335	X	X	X	X	X
4.1	5.2	1.7383	X	X	X	X	X
4.2	6.4	1.4903	X	X	–	X	X
4.2	6.4	1.4901	X	X	–	X	–
6	8.1	1.4571	X	X	X	X	X
Ni	45	2.4858	–	–	–	X	X

Series

Valve type	PERSTA code
Globe valve	200 AE
Globe valve with throttling valve disc	200 BE
Globe valve with non-rotating stem	200 AJ
Globe valve with throttling valve disc and non-rotating stem	200 BJ
High pressure globe valve DVA	200 BZ
High pressure globe valve HD91.1	200 JM
High pressure globe valve HD 2000	200 LM / 202 LM
High pressure globe valve HD 2000 with back seal	200 LS
Blow down valve	202 FJ
Lift check valve with shut-off option	240 ME
Lift check valve HD 2000 with shut-off option	240 MM
Lift check valve	240 MT
Gate valve	400 JJ
Swing check valve	640 AA
High pressure swing check valve DRI	640 AB
Swing check valve with lever and weight	640 AE
Freewheel swing check valve	640 DJ
High pressure stop check valve DRA	640 ST
Gate valve with internal stem thread	700 GA
Gate valve flexible wedge type	700 HJ
Gate valve split wedge type	700 JJ
High pressure gate valve DSK	700 JT
Small gate valve with full flow passage	808 GJ
High pressure strainer	990 ST
High pressure line blind valve	990 VW

Materials

EN des.	Short designation (new)	Short designation (old)	PERSTA code
1.0425	P265 GH	H II	22
1.0460	P250 GH	C22.8	21
1.0571	P355QH1	TS1E 355	26
1.0619	GP240 GH+N	GS-C25N	11
1.4308	GX5CrNi19-10	G-X6CrNi 18 9	77
1.4404	X2CrNiMo17-12-2	X2CrNiMo17-12-2	88
1.4550	X6CrNiNb18-10	X6CrNiNb18-10	89
1.4571	X6CrNiMoTi17-12-2	X 6 CrNiMoTi 17 12 2	82 (up to max. 280 °C)
1.4571	X6CrNiMoTi17-12-2	X 6 CrNiMoTi 17 12 2	85
1.4581	GX5CrNiMoNb19-11-2	G-X5CrNiMoNb18 10	72
1.4901	X10CrWMoVNB 9-2		66
1.4903	X10CrMoVNB 9-1	X 10 CrMoVNB 9-1	63
1.5415	16Mo3	15 Mo 3	42
1.5419	GS-22 M04	G 20 Mo5	32
1.6368	15NiCuMoNb5	15 NiCuMoNb 5	46
1.7221	G26CrMo4	GS-26 CrMo 4	31
1.7335	13CrMo4-5	13 CrMo 44	44
1.7357	G17CrMo5-5	GS-17 CrMo 5 5	34
1.7383	11CrMo9-10	10 CrMo 9 10	45

Connection type

Designation	PERSTA code
Flange	1
Butt-weld ends	2
Threaded sleeve	3
Threaded pin	4
Weld nipple	5
Pressure gauge connection	6
Cutting ring connection	7
Socket weld	8
Special connection	9

Series code

Example

XXX XX,XX.X

Series

Materials

Connection type

Series code result

700 HJ 21. 1

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