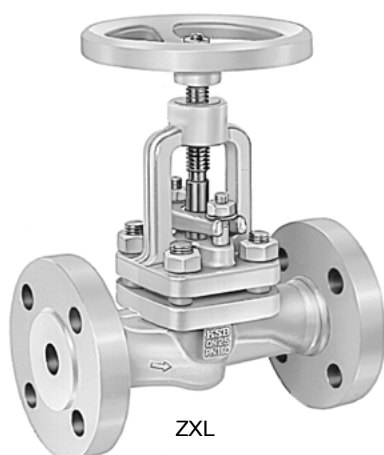


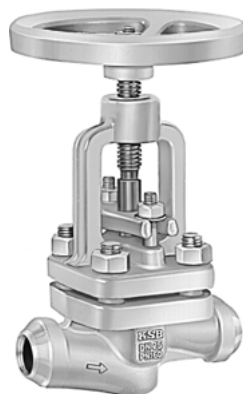
Globe valves

with gland packing
with turning stem

flanged
or with butt or socket
weld ends



ZXL



ZXS

PN 63-160
DN 10-200

Application

- In industrial plants, power stations, process and marine engineering.
- For water, steam, gas, oil and other non-aggressive media.
- Other applications on request.

Operating data

- Maximum allowable pressure 160 bar
- Maximum allowable temperature 550 °C
- Pressure-temperature ratings see next side

Materials

- Flanged variant

DN 10-25	P 250 GH ¹⁾	1.0460	up to 450 °C
	13 CrMo 4-5	1.7335	up to 550 °C
DN 32-200	GP 240 GH ²⁾	1.0619	up to 450 °C
	G-17 CrMo 5-5	1.7357	up to 550 °C
- Variant with weld ends

DN 10-50	16 Mo 3	1.5415	up to 530 °C
	13 CrMo 4-5	1.7335	up to 550 °C
DN 65-200	GP 240 GH ²⁾	1.0619	up to 450 °C
	G-17 CrMo 5-5	1.7357	up to 550 °C

Design

- Straight-way pattern with vertical bonnet
- Shut-off cone DN 10-100, pressure relief cone DN 125-200
- Rotating stem
- Seats made of wear-resistant and corrosion-proof Cr-steel or stellite
- Stem sealed by a gland
- Inside and outside confined bonnet gasket
- Studs and nuts olive-chromated
- Component-tested to TRD 110, TRB 801 Nr. 45 TÜ.A. 237-95

¹⁾ previously: C 22.8

²⁾ previously: GS-C 25 N

The valves meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) of annex I for fluids of the groups 1 and 2.

Standard variants

- Throttle cone
- Pressure relief cone (standard with DN 125-200)
- Position indicator
- Stellite seats (standard with 1.7335/1.7357)
- Locking device
- PTFE packing (up to max. 250 °C)
- Free from oil and grease
- Back seat (standard with DN 10-50)
- Attachments for retrofitting electric actuators (DN 10-50)
- Connection branch made of 16 Mo 3 (ZXS ≥ DN 65)
- Other flange and butt-weld end designs
- Acceptance tests to technical codes such as TRD/TRB/AD2000 or customer specification

Remarks

- NORI® 160 globe valves with non-rotating stem, type ZXLF/ZXS according to type series booklet: 7633.1
- NORI® 160 non-return valves, type RXL/RXS according to type series booklet 7681.1
- Operating instructions: 0570.82

On all enquiries / orders please specify

- | | |
|----------------------------|-------------------------------|
| 1 Type | 7 Material |
| 2 PN | 8 Medium |
| 3 DN | 9 Flow rate *) |
| 4 Working pressure | 10 Pipe connection |
| 5 Differential pressure *) | 11 Standard variants |
| 6 Operating temperature | 12 Type series booklet number |

When ordering spares, indicate original factory number and year of manufacture.

*) Indispensable for variant with throttle cone

The valves do not have a potential internal source of ignition and can be used in potentially explosive atmospheres, group II, category 2 (zones 1+21) and category 3 (zones 2+22) according to ATEX 94/9/EC.



Pressure-Temperature ratings

Nom. pressure PN	Material	Material no.	Working pressures at temperatures in °C 1)														
			120	200	250	300	350	400	425	450	475	500	510	520	530	540	550
63	P 250 GH ²⁾ GP 240 GH ³⁾	1.0460 1.0619	63	50	45	40	36	32	28	22							
	13 CrMo 4-5 GS-17 CrMo 5-5	1.7335 1.7357				63	61	58	57	56	53	47	40	32	25	18	14
100	P 250 GH ²⁾ GP 240 GH ³⁾	1.0460 1.0619	100	80	70	60	56	50	45	34							
	13 CrMo 4-5 G-17 CrMo 5-5	1.7335 1.7357				100	95	91	89	87	82	74	62	49	38	28	21
160	P 250 GH ²⁾ GP 240 GH ³⁾	1.0460 1.0619	160	130	112	96	90	80	72	51							
	16 Mo 3	1.5415	160	160	160	139	125	118	115	112	110	87	70	57	45		
	13 CrMo 4-5 G-17 CrMo 5-5	1.7335 1.7357				160	153	146	142	139	132	118	100	79	62	46	35

1) The valves can be used down to -10 °C

2) previously: C 22.8

3) previously: GS-C 25 N

Operating pressures to EN 1092/1 are also permissible

Installation

Globe valves are installed in the line so that the medium enters the valve underneath the cone and flows out above it. They can also be installed in lines with alternating flow.

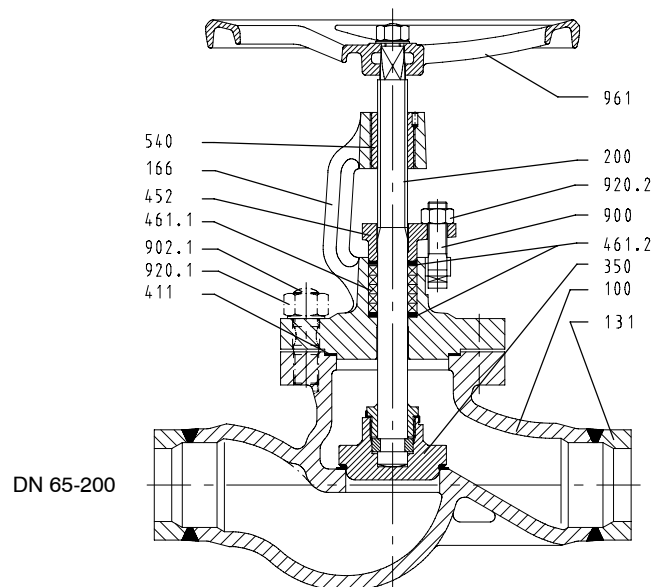
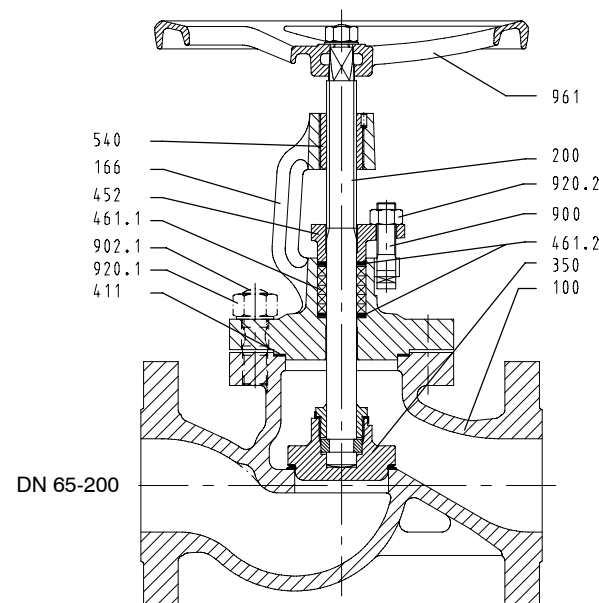
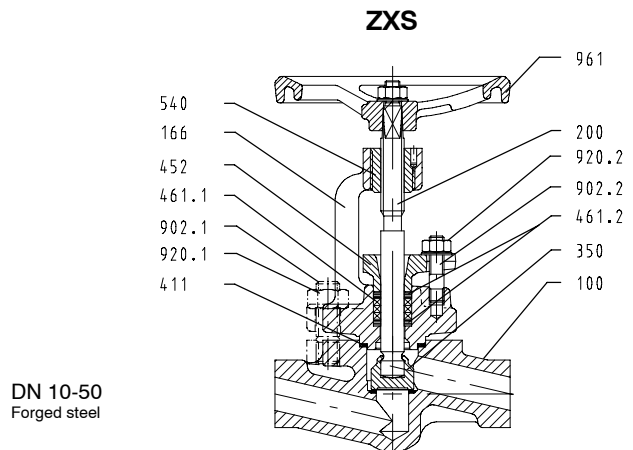
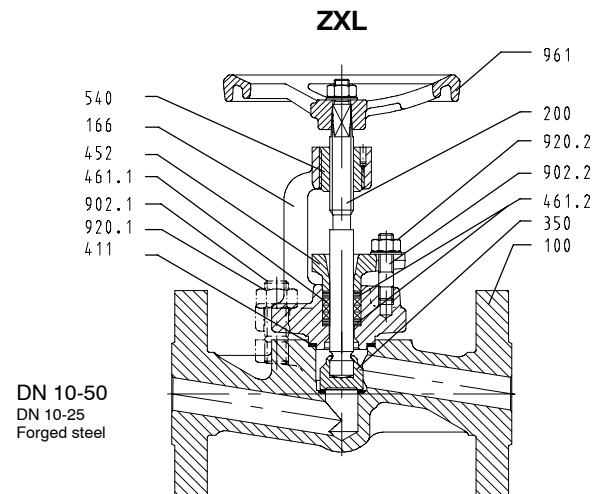
If differential pressures as specified for DN 65 to 200 above are exceeded, a pressure relief cone is required. In this case, the valve must be installed so that the medium to be sealed off above the cone.

The pressure relief cone acts as a bypass and can only serve its purpose if a back pressure builds up after opening so that the max. pressures specified in the table are not exceeded. For the optimum selection of valves with throttle cone, detailed information about the operating conditions should be provided.

Max permissible differential pressure for shut-off (shut-off cone)

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

Pressure relief cone as standard in sizes from DN 125 onwards.

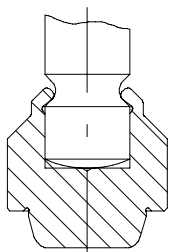


Materials

Part no.	Name of parts	Material	Temperature °C	Remarks	
100	Body	P 250 GH 1.0460	Up to 450	ZXL ≤ DN 25	
		GP 240 GH previously: GS-C 25 N 1.0619		ZXL ≥ DN 32, ZXS ≥ DN 65	
		16 Mo 3 1.5415	Up to 530	ZXS ≤ DN 50	
		13 CrMo 4-5 1.7335	Up to 550	ZXL ≤ DN 25, ZXS ≤ DN 50	
		G-17 CrMo 5-5 1.7357		ZXL ≥ DN 32, ZXS ≥ DN 65	
131	Connection branch	P 250 GH 1.0460	Up to 450	≥ DN 65	
		13 CrMo 4-5 1.7335	Up to 550		
166	Yoke	GP 240 GH 1.0619	Up to 450	≥ DN 65	
		16 Mo 3 1.5415	Up to 530	≤ DN 50	
		13 CrMo 4-5 1.7335	Up to 550	≥ DN 65	
		GS-17 CrMo 55 1.7357			
200 *)	Stem	X 39 CrMo 17-1 1.4122	Up to 550		
350 *)	Cone	X 39 CrMo 17-1 1.4122	Up to 550	≤ DN 50	
		P 250 GH 1.0460	Up to 450	≥ DN 65	
		13 CrMo 4-5 1.7335	Up to 550		Stellite
411 *)	Gasket	CrNi-steel / graphite	Up to 550	Serrated	
452	Gland	P 250 GH 1.0460			
461.1 *)	Packing	Graphite			Confined
461.2 *)					Nitrided
540 *)	Yoke bush	11 SMn 30+C 1.0715			≥ DN 65
900	T-head bolt	C 35 E 1.1181			Olive chromated
902.1/2	Stud	21 CrMo V 5-7 1.7709			
920.1/2	Hexagon nut	25 CrMo 4 1.7218			
920.2	Hexagon nut	C35E 1.1181			
961	Handwheel	GG-20/GG-25 0.6020/0.6025			≥ DN 65

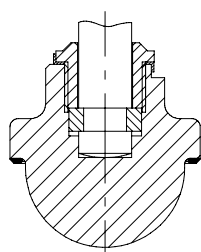
*) Recommended spare parts

Variants



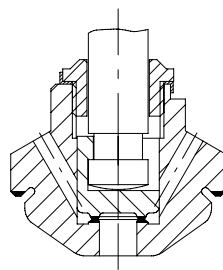
DN 10-50

Throttle cone



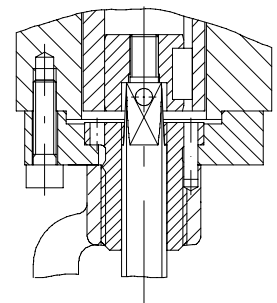
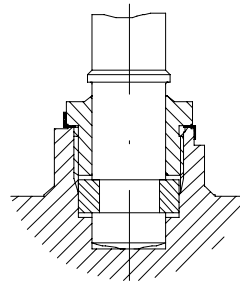
DN 65-200

Pressure relief cone

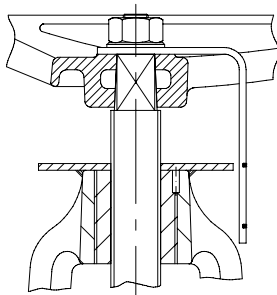


DN 65-200

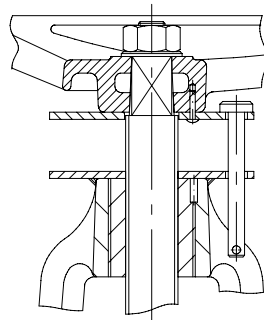
Back seat



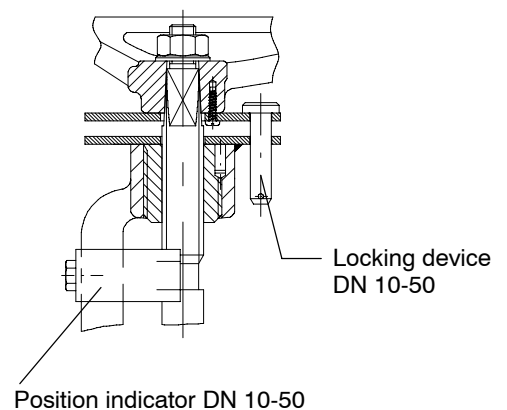
Attachments for retrofitting electric actuators DN 10-50



Position indicator DN 65-200



Locking device DN 65-200



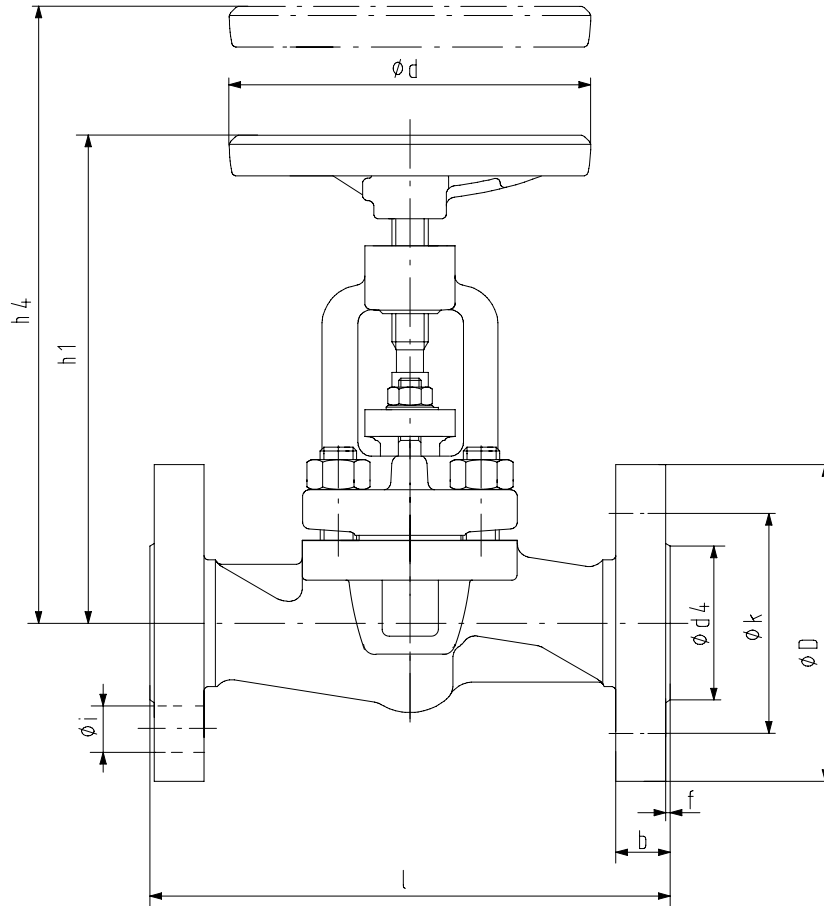
Position indicator DN 10-50

Locking device DN 10-50

Dimensions type ZXL

Face-to-face dimension - EN 558-1/2
(previously: DIN 3202/1-F2)
Flanges - Connection dimensions to
DIN 2501, (ISO 2084, BS 4504)
- raised face type E DIN 2526

Other flange designs:
e.g. grooved both ends type N DIN 2512,
recessed (female face) type R13 DIN 2513
lens joint type L DIN 2696
flanges to EN 1092-1 (PN 63-100)
Other flange designs on request



Dimensions in mm

Nom. pressure PN	Nom. bore DN	Face-to-face dimension l	Flange øD	Bolt circle øk	Number of bolt holes z	Hole øi	Raised face ød ₄ x f	Flange thickness b	Centre-to-top height open h 1	Vertical clearance for removal h 4	Stroke	Hand-wheel ø d	Weight appr. kg
63-160	10	210	100	70	4	14	40 x 2	20	230	270	11	160	8.0
	15	210	105	75	4	14	45 x 2	20	230	270	11	160	9.5
	20	230	130	90	4	18	58 x 2	24	230	270	11	160	11.0
	25	230	140	100	4	18	68 x 2	24	230	270	11	160	12.5
	32	260	155	110	4	22	78 x 2	26	310	360	17	200	16.5
	40	260	170	125	4	22	88 x 3	28	310	360	17	200	20.5
63	50	300	180	135	4	22	102 x 3	26	315	370	22	200	25.0
100/160	50	300	195	145	4	26	102 x 3	30	315	370	22	200	26.0
63	65	340	205	160	8	22	122 x 3	26	415	540	36	315	40.0
	80	380	215	170	8	22	138 x 3	28	500	650	51	315	55.0
	100	430	250	200	8	26	162 x 3	30	550	710	51	400	85.0
	125	500	295	240	8	30	188 x 3	34	620	810	66	500	125.0
	150	550	345	280	8	33	218 x 3	36	625	840	75	500	150.0
	200	650	415	345	12	36	285 x 3	42	855	1120	118	500	260.0
100	65	340	220	170	8	26	122 x 3	34	415	540	36	315	45.0
	80	380	230	180	8	26	138 x 3	36	500	650	51	315	58.0
	100	430	265	210	8	30	162 x 3	40	550	710	51	400	88.0
	125	500	315	250	8	33	188 x 3	40	620	810	66	500	135.0
	150	550	355	290	12	33	218 x 3	44	625	840	75	500	170.0
	200	650	430	360	12	36	285 x 3	52	855	1120	118	500	285.0
160	65	340	220	170	8	26	122 x 3	34	415	540	36	315	45.0
	80	380	230	180	8	26	138 x 3	36	500	650	51	315	60.0
	100	430	265	210	8	30	162 x 3	40	550	710	51	400	90.0
	125	500	315	250	8	33	188 x 3	44	620	810	66	500	135.0
	150	550	355	290	12	33	218 x 3	50	625	840	75	500	175.0
	200	650	430	360	12	36	285 x 3	60	855	1120	118	500	320.0

Dimensions type ZXS

Face-to-face dimension – EN 12982/65 (previously: DIN 3202/2-S3) (DN 10-50) or per table (DN 65–200)

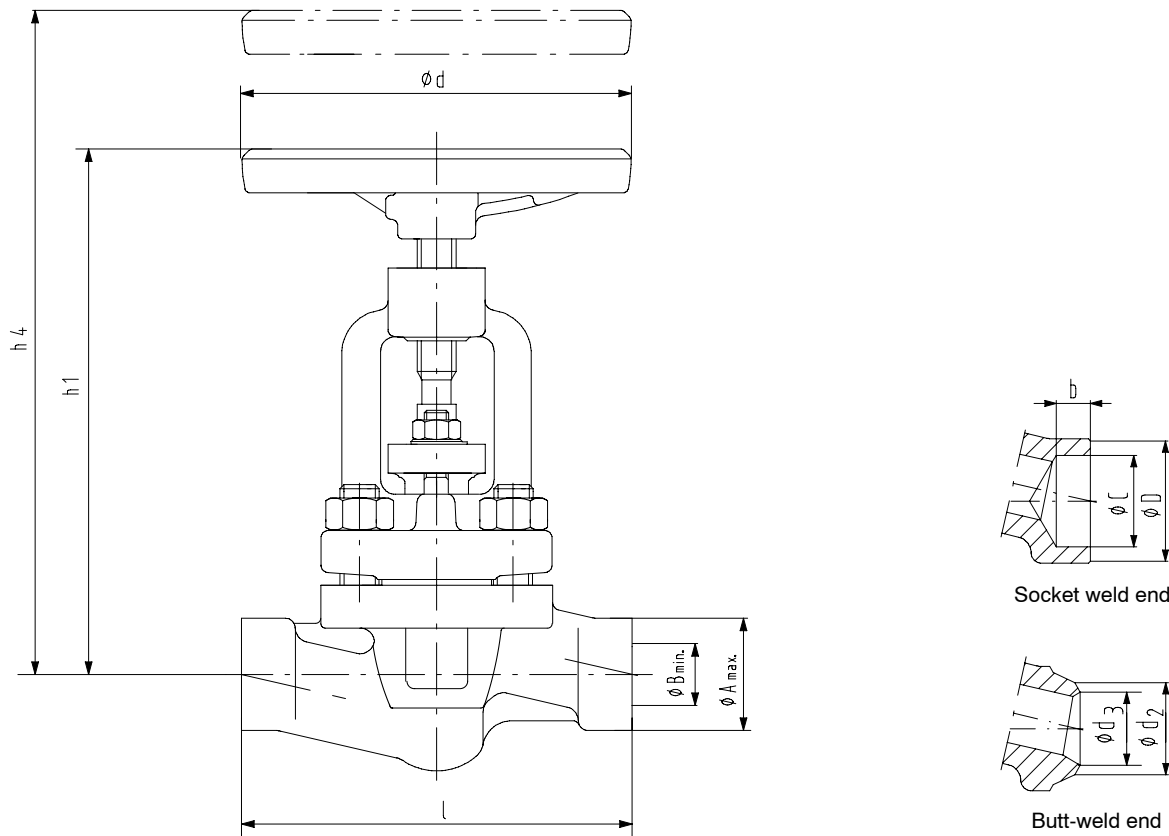
Butt weld ends – DIN 3239-Form 1

Groove form – DIN 2559/21

socket weld ends – ASME B16.11, DIN 3239/2

Different designs of butt-weld ends, socket-weld ends and welding groove forms are possible, but only within the dimensions $A_{max.}$ und $B_{min.}$.

Butt weld ends to EN 12627 or socket weld ends to EN 12760 possible.



Dimensions in mm

Nom. pressure PN	Nom. bore DN	Face-to-face dimension l	Butt-weld ends not machined		Butt-weld ends to DIN 3239-type 1 Groove forms to DIN 2559-21 Ød3 *)			Socket-weld ends to ASME B 16.11 resp. DIN 3239 T 2			Centre-to-top height open h ₁	Vertical clearance for removal h ₄	Stroke Ød	Hand-wheel Ød	Weight appr. kg	
			ØA _{max.}	ØB _{min.}	Ød2	PN 63	PN 100	PN 160	ØD _{-0.5}	ØC ^{+0.2}						b _{min.}
63-160	10	150	46	9	18	13.0	13.0	13.0	25.0	17.6	9.5	230	270	11	160	6.0
	15	150	46	14	22	17.0	17.0	17.0	30.5	21.7	9.5	230	270	11	160	6.5
	20	150	46	19	28	22.0	22.0	22.0	36.5	27.1	12.7	230	270	11	160	7.5
	25	160	46	22	34	28.5	28.5	27.0	44.5	33.8	12.7	230	270	11	160	8.5
	32	180	63	28	43	37.0	37.0	35.0	53.5	42.5	12.7	305	355	17	200	11.0
	40	210	63	35	49	43.0	43.0	41.0	60.5	48.7	12.7	305	355	17	200	13.5
	50	250	80	42	61	54.0	54.0	52.5	73.5	61.1	15.9	310	365	22	200	17.0
	65	420	83	52	77	69.0	69.0	65.0				415	540	36	315	30.0
	80	460	108	62	90	81.0	81.0	76.5				500	650	51	315	45.0
	100	510	118	78	115	104.0	104.0	98.5				550	710	51	400	72.0
	125	600	153	109	141	130.5	127.0	120.5				620	810	66	500	110.0
	150	650	173	125	170	156.5	154.0	144.5				625	840	75	500	165.0
	200	750	229	176	222	204.5	199.5	189.0				855	1120	118	500	215.0

*) d₃ = d_p acc. to DIN 3239

Nom. bore DN	Corresponding pipe dimensions		
	PN 63	PN 100	PN 160
10	17.2x2.0	17.2x2.0	17.2x2.0
15	21.3x2.0	21.3x2.0	21.3x2.0
20	26.9x2.3	26.9x2.3	26.9x2.3
25	33.7x2.6	33.7x2.6	33.7x3.2
32	42.4x2.6	42.4x2.6	42.4x3.6
40	48.3x2.6	48.3x2.6	48.3x3.6
50	60.3x3.2	60.3x3.2	60.3x4.0
65	76.1x3.6	76.1x3.6	76.1x5.6
80	88.9x4.0	88.9x4.0	88.9x6.3
100	114.3x5.0	114.3x5.0	114.3x8.0
125	139.7x4.5	139.7x6.3	139.7x10.0
150	168.3x5.6	168.3x7.1	168.3x12.5
200	219.1x7.1	219.1x10.0	219.1x16.0

Product Features - to our Customers' Benefit

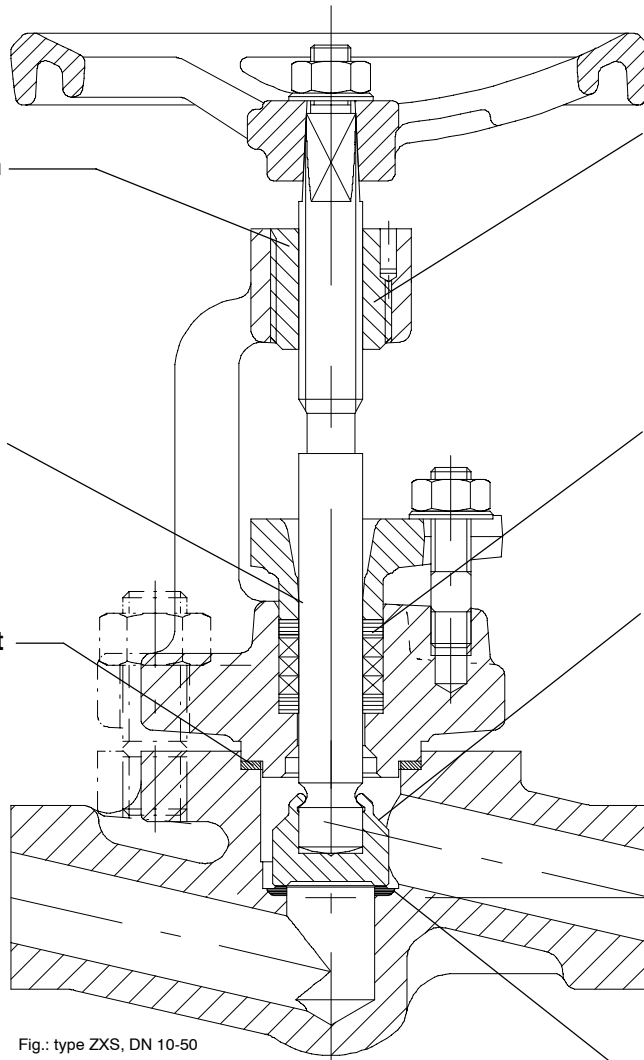


Fig.: type ZXS, DN 10-50

Replaceable yoke bush

Your benefit

- Retrofitting of actuators possible without dismantling pressure-retaining parts

Stem with burnished shank

Your benefit

- Long gland life

Serrated bonnet gasket inside and outside confined

Your benefit

- Reliable sealing towards the atmosphere

Olive-chromated studs

Your benefit

- Corrosion-resistant
- Easy to repair

Yoke bush free from non-ferrous metals, with trapezoid thread (nitrided)

Your benefit

- High reliability

Confined graphite gland

Your benefit

- High tightness
- Easy to service

Torque-free back seat (DN 10-50 standard)

Your benefit

- Additional stem seal for emergency operation
- Blow-out protection for staff and plant

Valve seat made of wear and corrosion-resistant materials

Your benefit

- High reliability
- Long life

Subject to technical modification without prior notice