Globe Valve

BOACHEM ZYAB

PN 10-40
DN 15-200
Bellows
Flanged Ends

Type Series Booklet

KSB

Legal information/Copyright

Type Series Booklet BOACHEM ZYAB

KSB Aktiengesellschaft

Globe Valves

Bellows-type Globe Valves

BOACHEM ZYAB

Main applications

- Food and beverages industry
- Petrochemical industry
- Process engineering
- Sugar industry

Fluids handled

- Steam
- Explosive fluids
- Flammable fluids
- Fluids containing gas
- Gas
- Fluids posing a health hazard
- Toxic fluids
- High-temperature hot water
- Highly aggressive fluids
- Condensate
- Corrosive fluids
- Valuable fluids
- Volatile fluids
- Fluids containing mineral oils
- Oil
- Feed water
- Thermal oil
- Other fluids on request.

Operating data

Operating properties

Characteristic	Value
Nominal pressure	PN 10-40
Nominal size	DN 15-200
Max. permissible pressure	40 bar
Max. permissible temperature	400 °C

Selection as per pressure/temperature ratings (⇨ Page 4)

Body materials

Overview of available materials

Material	Material number	Temperature limit
GX5CrNiMo19-11-2	1.4408	Up to 400 °C

Design details

Design

- Straight-way Y-valve
- On/off disc
- Pilot plug from:
  PN 16 DN 200
  PN 25 DN 150
  PN 40 DN 125
- Non-rotating stem with protected, external thread
- Non-rising handwheel
- Position indicator
- Stem sealed by double-walled bellows and back-up gland packing
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 97/23/EC (PED) for fluids in Groups 1 and 2.
- 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) to ATEX 94/9/EC.

Variants

- Throttling plug
- Pilot plug
- Leakage detection hole
- Stellited seat/disc interface
- Valve disc with PTFE gasket (up to 200 °C)
- Applications down to -60 °C
- Locking device
- Position switch(es)
- Travel stop
- Serrated gasket (PTFE-coated)
- Oil and grease-free
- PTFE packing
- Heating jacket made of 1.4541/1.4301 or 1.4571/1.4404
- Other flange designs

Product benefits

- Leak-proof and easy to service due to double-walled bellows welded to the stem at the lower end. No

vibrations transmitted from valve disc to bellows. The valve disc is easy to replace.

- Easy to operate as position indicator and lubricating nipple are supplied as standard.
- Space-saving non-rising handwheel.
- Added safety and easy re-adjustment due to graphite back-up gland packing.
- Reduced maintenance costs due to replaceable valve disc. Instead of replacing the complete bellows set, only the valve disc is replaced if necessary.

Related documents

- BOACHEM ZXAB bellows-type globe valve, see type series booklet 8150.1.
- BOACHEM ZXA globe valve with gland packing, see type series booklet 8149.1.
- BOACHEM ZYA Y-pattern globe valve with gland packing, see type series booklet 8148.1.
- BOACHEM RXA non-return valve, see type series booklet 8147.1.
- BOACHEM FSA Y-pattern strainer, see type series booklet 8146.1.
- Operating manual 8115.8

On all enquiries/orders please specify

1. Type
2. Nominal pressure
3. Nominal size
4. Operating pressure
5. Differential pressure
6. Operating temperature
7. Fluid handled
8. Pipe connection
9. Variants
10. Number of type series booklet

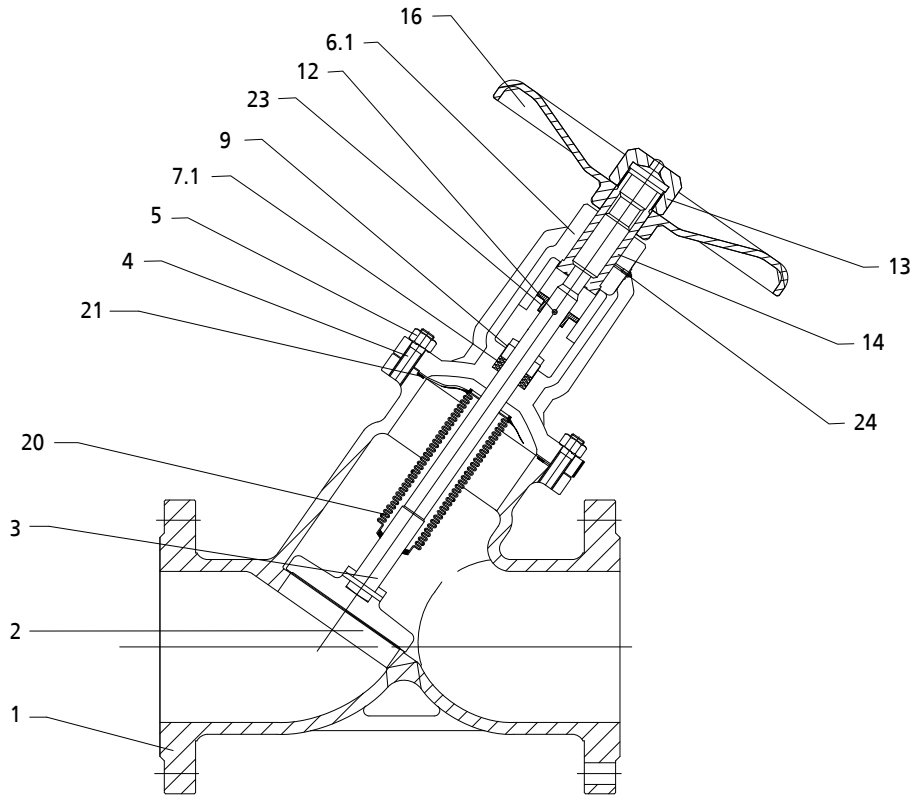
Pressure/temperature ratings

Permissible operating pressures in bar at a temperature of °C (to EN 1092-1)[1)]

Nominal pressure PN	Material	20	100	150	200	250	300	350	400
10	1.4408	10	10	9	8,4	7,9	7,4	7,1	6,8
16		16	16	14,5	13,4	12,7	11,8	11,4	10,9
25		25	25	22,7	21	19,8	18,5	17,8	17,1
40		40	40	36,3	33,7	31,8	29,7	28,5	27,4

1) The valves are suitable for temperatures down to -10 °C.

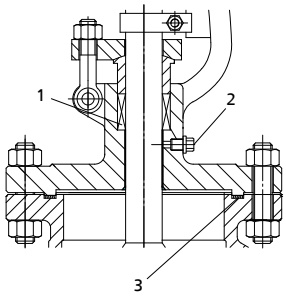
Materials



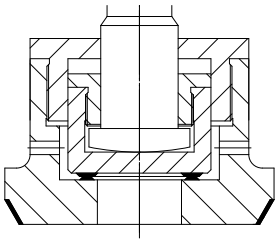
Overview of available materials

Part No.	Description	Material	Material number
1	Body	G X 5 CrNiMo 19-11-2	1.4408
2	Valve disc	X5 CrNiMo 18-10	1.4401
3	Stem	X6 CrNiMoTi 17-12-2	1.4571
4	Bolt	A4-70	
5	Nut	A4-70	
6.1	Bonnet	G X 5 CrNiMo 19-11-2	1.4408
7.1	Gland packing	Graphite	
9	Gland follower	G X 5 CrNiMo 19-11-2	1.4408
12	Retaining pin	X5 CrNiMo 18-10	1.4401
13	Threaded sleeve	JS 1025	
14	Threded bush	QAl9-4	
16	Handwheel	JL 1030	0.6020
20	Bellows	X5 CrNiMo 18-10	1.4401
21	Gasket	CrNiSt/graphite	
23	Position indicator	X5 CrNiMo 18-10	1.4401
24	Lubricating nipple	Brass	

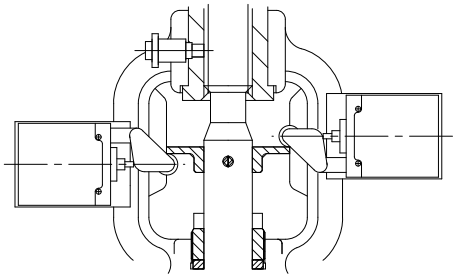
Variants



1) PTFE packing
2) Leakage detection hole
3) Serrated gasket

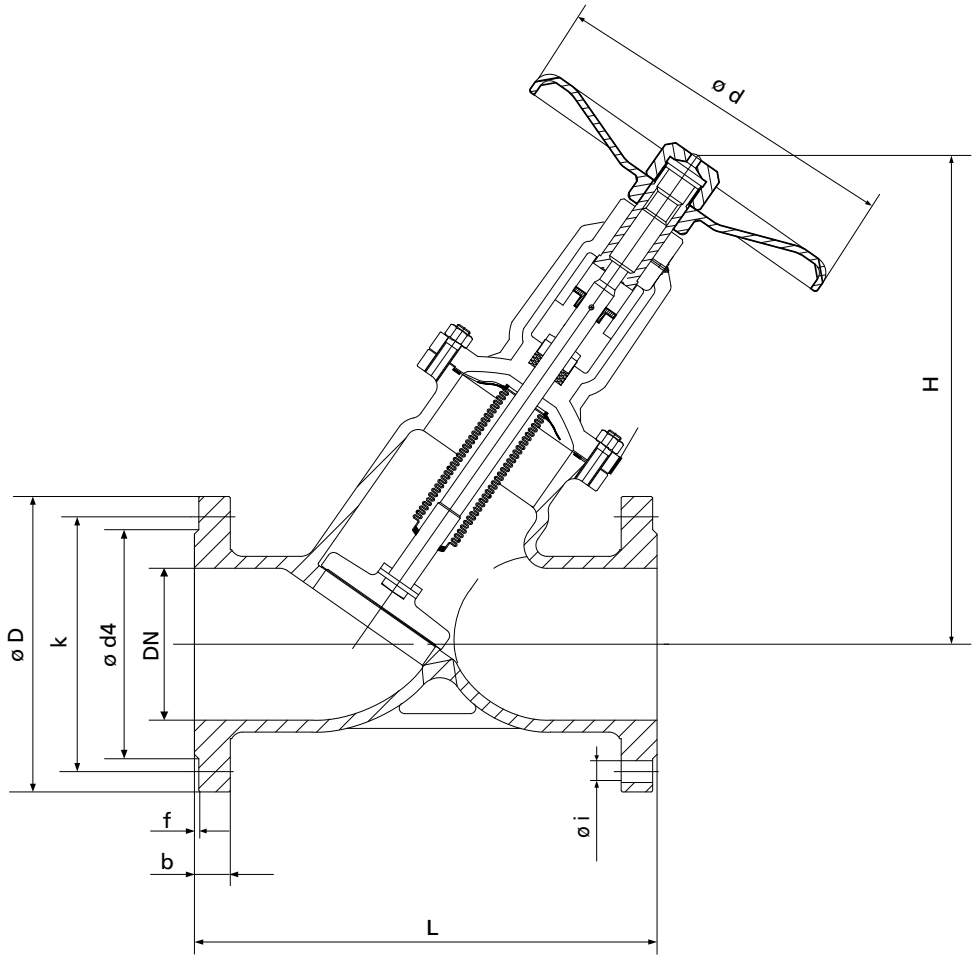


Pilot plug



Position switch(es)

Dimensions



Dimensions in mm

PN	DN	L	Ø D	k	No. of bolt holes z	Ø i	Ø d_4 x f	b	H (closed)	H (open)	Ø d	[kg]
10-40	15	130	95	65	4	14	45 x 2	16	195	202	120	5
	20	150	105	75	4	14	58 x 2	18	195	205	120	5
	25	160	115	85	4	14	68 x 2	18	200	210	140	8
	32	180	140	100	4	18	78 x 2	18	200	215	140	9
	40	200	150	110	4	18	88 x 3	18	230	242	160	11
	50	230	165	125	4	18	102 x 3	20	235	250	160	16
	65	290	185	145	8	18	122 x 3	22	260	280	180	27
10/16	65	290	185	145	4	18	122 x 3	22	260	280	180	23
	80	310	200	160	8	18	138 x 3	24	275	300	180	28
	100	350	220	180	8	18	158 x 3	24	350	380	250	35
	125	400	250	210	8	18	188 x 3	26	385	423	280	48
	150	480	285	240	8	22	212 x 3	28	445	490	400	74
10	200	600	340	295	8	22	268 x 3	24	605	665	450	141
16	200	600	340	295	12	22	268 x 3	24	605	665	450	141
25/40	80	310	200	160	8	18	138 x 3	24	275	300	180	32
	100	350	235	190	8	22	162 x 3	24	350	380	250	43
	125	400	270	220	8	26	188 x 3	28	385	423	280	62
	150	480	300	250	8	26	218 x 3	28	445	490	400	90
25	200	600	360	310	12	26	278 x 3	30	605	665	450	165
40	200	600	375	320	12	30	285 x 3	34	605	665	450	175

Mating dimensions - Standards

Face-to-face lengths:	EN 558-1/1, ISO 5752/1
Flanges:	Mating dimensions to DIN EN 1092-1, ISO 7005
Flange facing:	DIN EN 1092-1, type B1

Other flange designs

- E.g. groove (type D), tongue (type C), recess (type F), spigot (type E) to EN 1092-1 at both ends
- Other flange designs on request

Installation instructions

Shut-off globe valves must be installed in the line so as to ensure that the fluid enters the valve beneath the valve disc and flows out above the valve disc. They can also be installed in lines with alternating flow. If the max. permissible differential pressures for shut-off are exceeded for valves from DN 125 to 200, a pilot plug design is required. In this case the valve must be installed in such a way that the pressure to be sealed off lies above the valve disc. The pilot plug acts as a bypass and can only serve its purpose if backpressure builds up after opening, so that the max. permissible differential pressures for shut-off (see table) are not exceeded.

Differential pressures in bar

DN	125	150	200
Δp bar	33	21	14

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