

Globe Valve

# BOACHEM ZYA

PN 10-40  
DN 15-200  
Gland Packing  
Flanged Ends

## Type Series Booklet



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Type Series Booklet BOACHEM ZYA

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## Globe Valves

### Globe Valves with Gland Packing

## BOACHEM ZYA



#### Main applications

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

#### Fluids handled

- Aggressive liquids
- Steam
- Explosive fluids
- Flammable fluids
- Fluids containing gas
- Gas
- High-temperature hot water
- Highly aggressive fluids
- Condensate
- Corrosive fluids
- Fluids containing mineral oils
- Oil
- Polymerising/crystallising fluids
- Feed water
- 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 10 DN 250  
PN 16 DN 200  
PN 25 DN 150  
PN 40 DN 125
- Rotating stem
- Rising handwheel
- Back seat
- Fully confined bonnet gasket
- Stem sealed by 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
- Position indicator
- Valve disc with PTFE gasket (up to 200 °C)
- Oil and grease-free
- Serrated gasket (PTFE-coated)
- PTFE packing
- Applications down to -60 °C
- Heating jacket made of 1.4541/1.4301 or 1.4571/1.4404
- Other flange designs

#### Product benefits

- Long service life and high functional reliability of the gland packing due to stem with burnished shank.
- Reliable sealing: bonnet gasket fully confined to prevent creep.
- Additional safety and blow-out protection by standard back seat.

**Related documents**

- BOACHEM ZXAB bellows-type globe valve, see type series booklet 8150.1.
- BOACHEM ZYAB bellows-type Y-pattern globe valve, see type series booklet 8151.1.
- BOACHEM ZXA globe valve with gland packing, see type series booklet 8149.1.
- 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

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

**On all enquiries/orders please specify**

1. Type
2. Nominal pressure

**Pressure/temperature ratings**

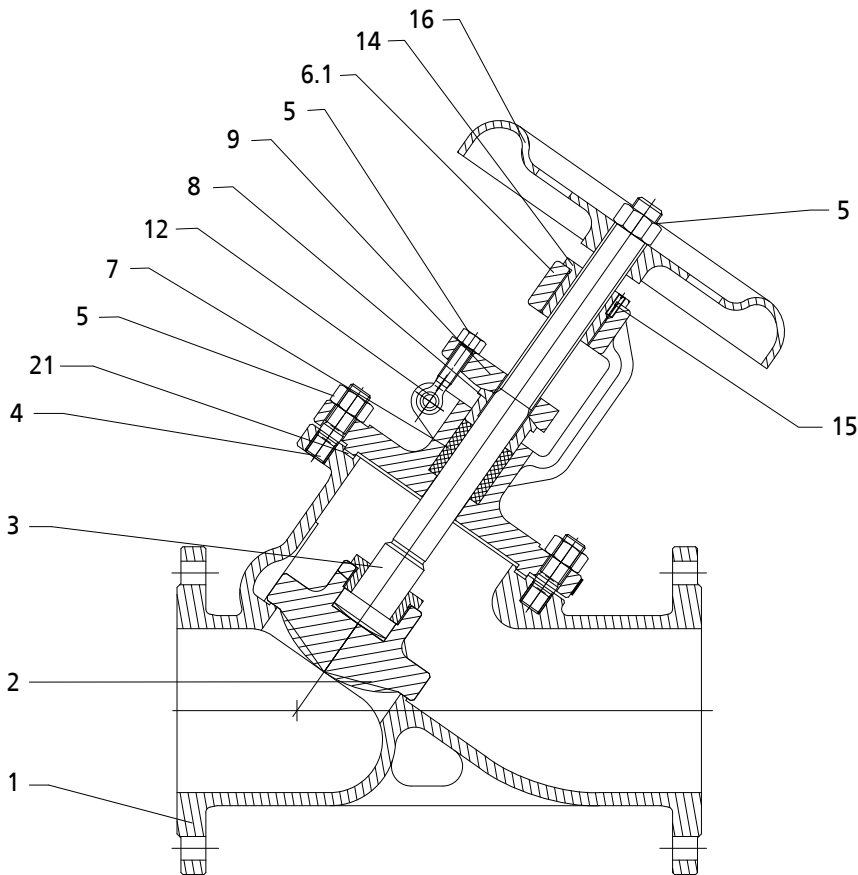
Permissible operating pressures in bar at a temperature of °C (to EN 1092-1)<sup>1)</sup>

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

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<sup>1)</sup> The valves are suitable for temperatures down to -10 °C.

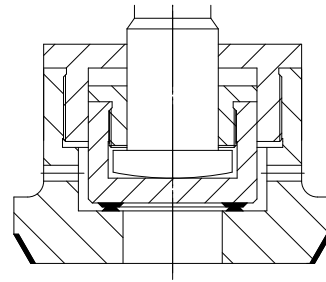
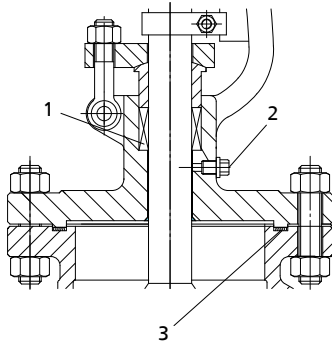
Materials



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	1.4408
6.1	Bonnet	G X 5 CrNiMo 19-11-2	
7	Gland packing	Graphit	
8	Thrust insert	X5 CrNiMo 18-10	
9	Gland follower	G X 5 CrNiMo 19-11-2	1.4401
12	Pin	A4-70	
14	Threaded bush	ZQAL9-4	1.4408
15	Screw	A3	
16	Handwheel	JS 1030	
21	Gasket	CrNiSt/graphite	

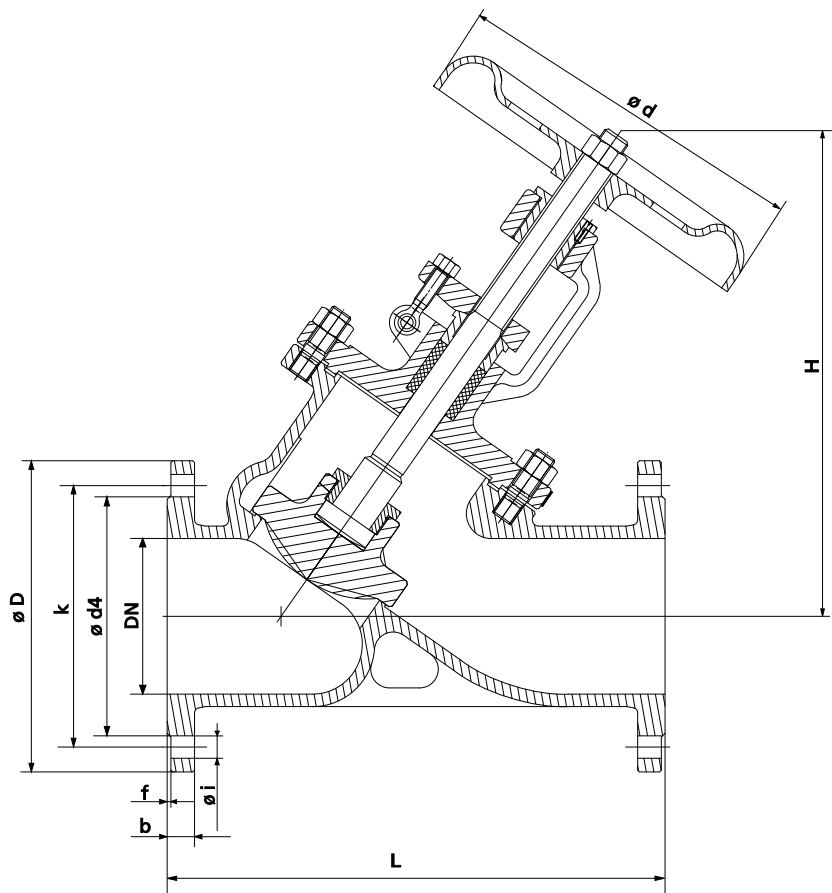
Variants



Pilot plug

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

Dimensions



Dimensions in mm

PN	DN	L	Ø D	k	No. of bolt holes z	Ø i	Ø d <sub>4</sub> 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 2	18	230	242	160	11
	50	230	165	125	4	18	102 x 3	20	235	250	160	16
10/16	65	290	185	145	8	18	122 x 3	22	260	280	180	27
	80	310	200	160	8	18	138 x 3	20	275	300	180	28
	100	350	220	180	8	18	158 x 3	20	350	380	250	48
	125	400	250	210	8	18	188 x 3	22	385	423	280	70
	150	480	285	240	8	22	212 x 3	22	445	490	400	120
10	200	600	340	295	8	30	268 x 3	24	605	665	450	175
16	200	600	340	295	12	30	268 x 3	24	605	665	450	175
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	53
	125	400	270	220	8	26	188 x 3	26	385	423	280	79
	150	480	300	250	8	26	218 x 3	28	445	490	400	135
25	200	600	360	310	12	30	278 x 3	30	605	665	450	215
40	200	600	375	320	12	30	285 x 3	34	605	665	450	221

### 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

**i** 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
$\Delta p$ bar	33	21	12







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