

Globe Valve

BOACHEM-ZXA

Type Series Booklet



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Type Series Booklet BOACHEM-ZXA

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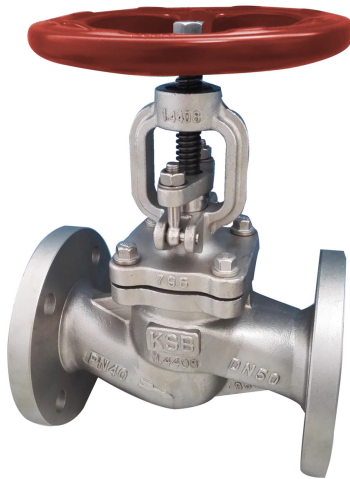
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Globe Valves

Globe Valves to DIN/EN with Gland Packing

BOACHEM-ZXA



Main applications

- Food industry / beverage industry
- Petrochemical industry
- Process engineering
- Sugar industry

Fluids handled

- Aggressive liquids
- Steam
- Explosive fluids
- Flammable fluids
- Fluids containing gas
- Gas
- Hot water
- Highly aggressive fluids
- Condensate
- Corrosive fluids
- Fluids containing mineral oils
- Oil
- Polymerising/crystallising fluids
- Boiler feed water
- Other fluids on request.

Operating data

Table 1: Operating properties

Characteristic	Value
Nominal pressure	PN 10 - 40
Nominal size	DN 15 - 400
Max. permissible pressure [bar]	40
Min. permissible temperature [°C]	≥ -10
Max. permissible temperature [°C]	≤ +400

Selection as per pressure/temperature ratings (⇒ Page 5)

Valve body materials

Table 2: Overview of available materials

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

Design details

Design

- Straight-way pattern
- Throttling plug ≤ DN 100
- On/off disc ≥ DN 125
- Balanced plug: PN 10/16 ≥ DN 200
PN 25/40 ≥ DN 150
- Rotating stem
- Rising handwheel
- Back seat
- Fully confined bonnet gasket
- Stem sealed by gland packing

Variants

- Throttling plug ≥ DN 125
- Balanced plug: PN 10/16 DN 125 to 150
PN 25/40 DN 125
- Stellite seat/disc interface
- Leakage detection hole
- Position indicator
- Limit switch(es)
- Locking device
- Valve disc with PTFE gasket (≤ 200 °C)
- Oil-free and grease-free
- Serrated gasket (PTFE-coated)
- PTFE packing
- Applications down to -60 °C
- Other flange designs

Product benefits

- Stem with burnished shank for long service life and high functional reliability of the gland packing
- Long service life: Guided disc design (of large valve sizes) prevents stem vibration.
- Serrated bonnet gasket fully confined to prevent creep, for reliable sealing

- Additional safety and blow-out protection by standard back seat.
- Suitable for various installation positions: Guided disc design (of large valve sizes) allows valve installation in any position (also with horizontal stem).
- Suitable for high differential pressures. Version with pilot plug (on large valve sizes) for valve duties up to the nominal pressure; no limitations for high differential pressures.

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see <https://www.ksb.com/en-global/company/corporate-responsibility/reach>.

Product information as per European Pressure Equipment Directive 2014/68/EU (PED)

The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids in Groups 1 and 2.

Product information as per UK Pressure Equipment (Safety) Regulations 2016

The valves satisfy the safety requirements of the UK Pressure Equipment (Safety) Regulations 2016 (PER) for fluids in Groups 1 and 2.

Product information as per Directive 2014/34/EU (ATEX)

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 (zone 2+22) to ATEX 2014/34/EU.

Pressure/temperature ratings

Table 4: Permissible operating pressure [bar] (to EN 1092-1)¹⁾

Nominal pressure PN	Material	[°C]							
		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	28,5	28,5	27,4

Product information as per UK Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016

The valves do not have a potential internal source of ignition and can be used in accordance with the UK's Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 in potentially explosive atmospheres, Group II, category 2 (zones 1+21) and category 3 (zone 2+22).

Related documents

Table 3: Information/documents

Document	Reference number
BOACHEM-ZXAB type series booklet (bellows-type globe valve)	8146.1
BOACHEM-RXA type series booklet (lift check valve)	8147.1
BOACHEM-FSA type series booklet (strainer)	8150.1
BOACHEM operating manual	8115.8

Purchase order specifications

Please specify the following information in all enquiries or purchase orders:

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. Reference number

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

Materials

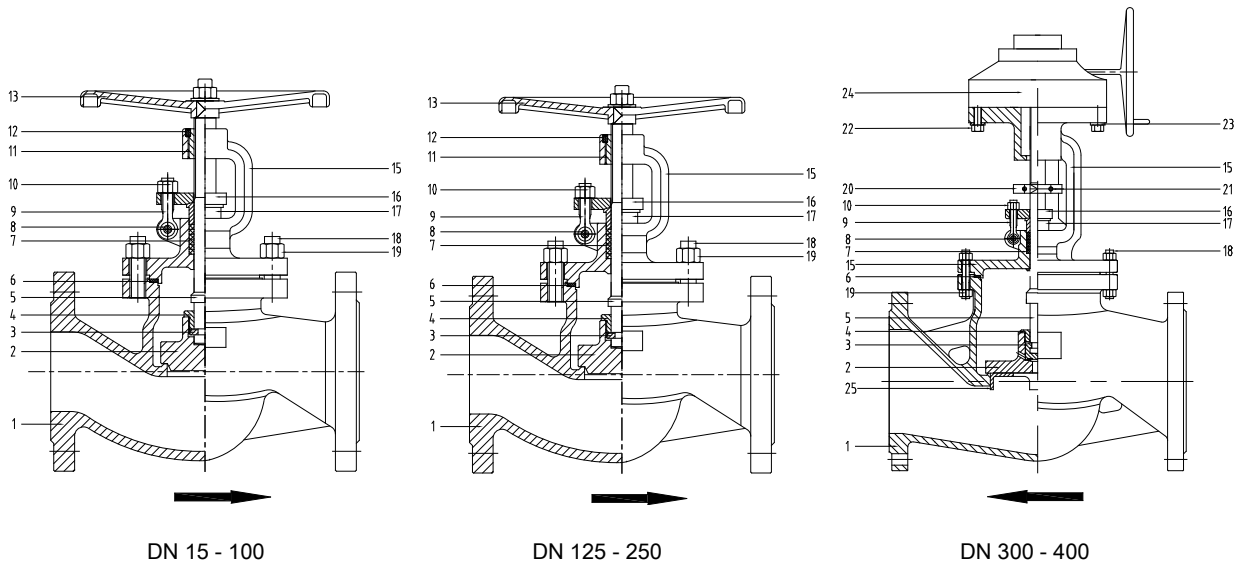


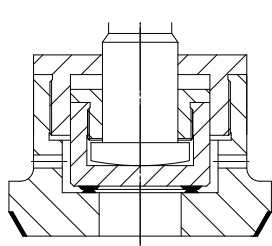
Fig. 1: Sectional drawings

Table 5: Parts list

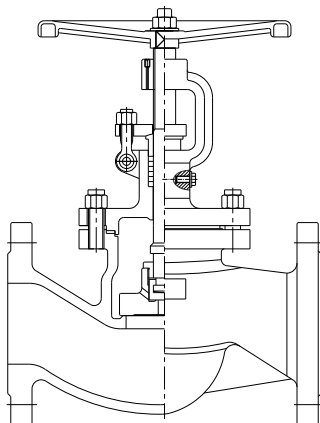
Part No.	Description	Material	Material number
1	Body	G X 5 CrNiMo 19-11-2	1.4408
2	Valve disc	ASTM A182 F316	-
3	Retaining ring (PN 10-16 DN 15-150; PN 25-40 DN 15-100)	ASTM A182 F316	-
	Pilot plug (PN 10-16 DN 200-400; PN 25-40 DN 150-400)	ASTM A182 F316	-
4	Valve disc nut	ASTM A276 316	-
5	Stem	ASTM A276 316	-
6	Gasket ²⁾	Graphite + stainless steel 316	-
7	Gland packing ²⁾	Graphite	-
8	Pin	ASTM A276 304	-
9	Eyebolt	A4-70	-
10	Nut	A4-80	-
11	Threaded bush	D-2	-
12	Bolt/screw	Stainless steel 304	-
13	Handwheel	EN-GJL-200	5.1300
14	Handwheel nut	Stainless steel	-
15	Body bonnet	G X 5 CrNiMo 19-11-2	1.4408
16	Gland follower	ASTM A276 304	-
17	Thrust insert	ASTM A276 316	-
18	Stud	A4-70	-
19	Nut	A4-80	-
20	Stop	ASTM A276 304	-
21	Bolt/screw	Stainless steel 304	-
22	Bolt/screw	A4-70	-
23	Washer	A4-70	-
24	Manual gearbox	Bought-in component	-
25	Disc guiding plate	ASTM A276 316	-

²⁾ Spare part

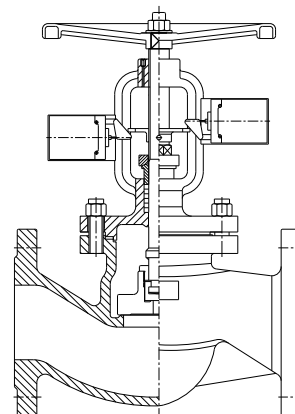
Variants



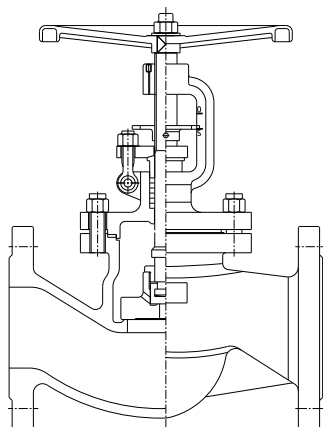
Balanced plug



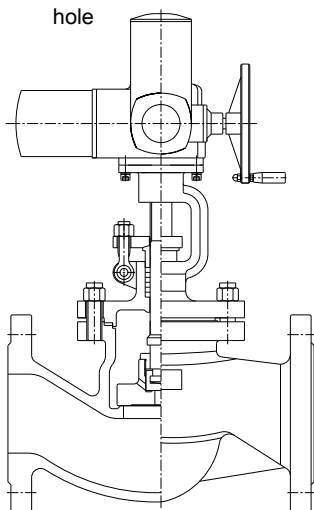
Leakage detection
hole



Limit switch



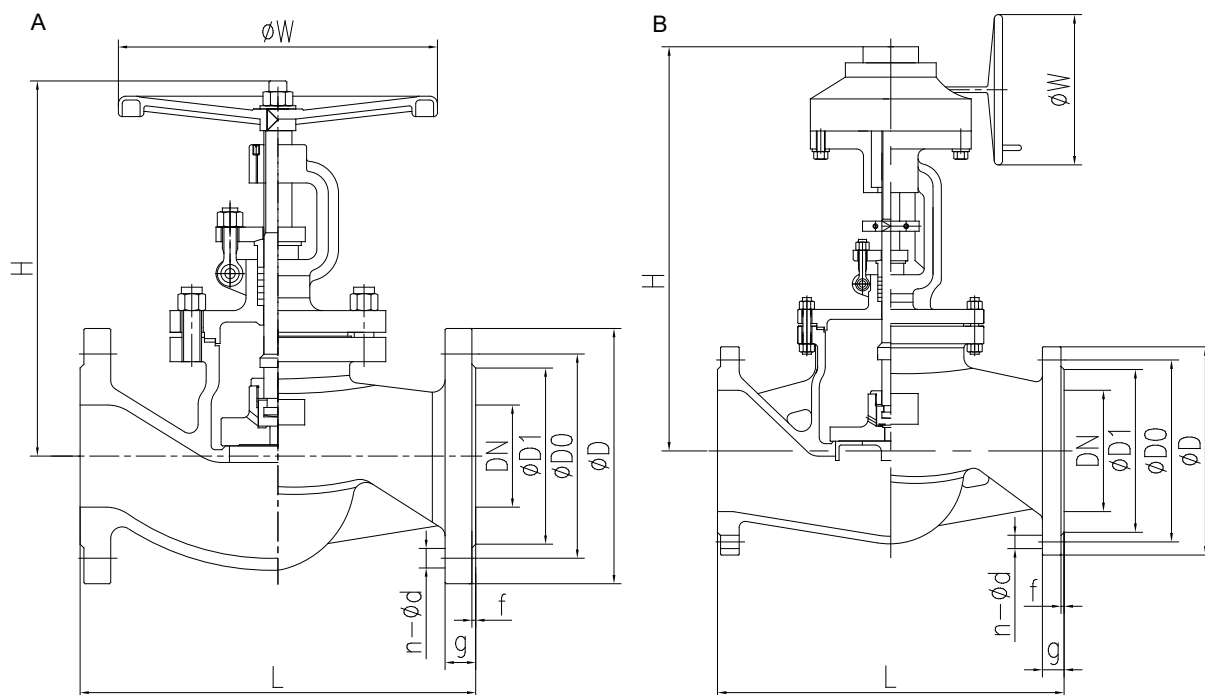
Position indicator



Mounting of electric actuator

Fig. 2: Sectional drawings

Dimensions and weights



A	Dimensions of BOACHEM-ZXA with handwheel	B	Dimensions of BOACHEM-ZXA with gearbox
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Table 6: Dimensions and weights

PN	DN	L	D	D0	D1	g	f	n × Ø d	H (closed)	W	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
10 - 40	15	130	95	65	45	16	2	4 × 14	190	140	4
	20	150	105	75	58	18	2	4 × 14	190	140	4,5
	25	160	115	85	68	18	2	4 × 14	195	160	5,5
	32	180	140	100	78	18	2	4 × 18	210	180	8
	40	200	150	110	88	18	3	4 × 18	220	180	10,5
10/16	50	230	165	125	102	20	3	4 × 18	230	200	13
	65	290	185	145	122	18	3	4 × 18	280	200	17,5
	80	310	200	160	138	20	3	8 × 18	290	250	21,8
	100	350	220	180	158	20	3	8 × 18	385	280	36,5
	125	400	250	210	188	22	3	8 × 18	410	300	48,2
10	150	480	285	240	212	22	3	8 × 22	500	350	77
	200	600	340	295	268	24	3	8 × 22	635	400	132
	250	730	395	350	320	26	3	12 × 22	680	450	265
	300	850	445	400	370	26	4	12 × 22	970	500	380
	350	980	505	460	430	26	4	16 × 22	1020	500	680
16	400	1100	565	515	482	26	4	16 × 26	1180	500	850
	200	600	340	295	268	24	3	12 × 22	635	400	132
	250	730	405	355	320	26	3	12 × 26	680	450	265
	300	850	460	410	378	28	4	12 × 26	970	500	380
	350	980	520	470	438	30	4	16 × 26	1020	500	680
25/40	400	1100	580	525	490	32	4	16 × 30	1180	500	850
	65	290	185	145	122	22	3	8 × 18	280	200	19,5
	80	310	200	160	138	24	3	8 × 18	290	250	23,5
	100	350	235	190	162	24	3	8 × 22	385	280	40,5
	125	400	270	220	188	26	3	8 × 26	410	300	57,5
25	150	480	300	250	218	28	3	8 × 26	500	350	90
	200	600	360	310	278	30	3	12 × 26	635	400	148
	250	730	425	370	335	32	3	12 × 30	680	450	265
	300	850	485	430	395	34	4	16 × 30	970	500	430

PN	DN	L	D	D0	D1	g	f	n × Ø d	H (closed)	W	[kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
25	350	980	555	490	450	38	4	16 × 33	1020	500	775
	400	1100	620	550	505	40	4	16 × 36	1180	500	935
40	200	600	375	320	285	34	3	12 × 30	635	400	155
	250	730	450	385	345	38	3	12 × 33	680	450	265
	300	850	515	450	410	42	4	16 × 33	1170	500	450
	350	980	580	510	465	46	4	16 × 36	1320	500	810
	400	1100	660	585	535	50	4	16 × 39	1480	500	980

Mating dimensions as per standard

Face-to-face length: EN 558-1/1, ISO 5752/1
 Flanges: Mating dimensions to DIN EN 1092-1
 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 information

The direction of flow through globe valves must correspond to the direction indicated by the arrow on the valve body.



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