



Globe Valve

BOA-Compact

Type Series Booklet



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Type Series Booklet BOA-Compact

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Globe Valves

Soft-seated Globe Valves to DIN/EN

BOA-Compact



Main applications

- Hot-water heating systems
- Air-conditioning systems
- Heat recovery systems

Fluids handled

- Water
- Water/glycol mixtures
- Other fluids on request.

Operating data

Table 1: Operating properties

Characteristic		Value
Nominal pressure	PN [bar]	6/16
Nominal size	DN	15 - 200
Maximum permissible pressure	p [bar]	16
Fluid temperature	T [°C]	≥ -10

Designation

Example: BOA-Control

Table 2: Designation key

Code	Description
BOA-Compact	Type series

Characteristic		Value
Fluid temperature	T [°C]	≤ +120

Observe the limits given in the technical codes.

Design details

Design

- Straight-way globe valve with slanted seat
- Slanted seat design
- Short face-to-face length to DIN EN 558/14
- Single-piece pressure-retaining body
- Non-rising handwheel
- Flanges to DIN EN 1092-2 Type 21
- Position indicator outside the insulating material
- Locking device, travel stop, position indicator, throttling plug and insulating cap with anti-condensation feature as standard
- Suitable for full insulation in acc. with German energy-saving regulations
- Non-rotating stem with protected, external thread
- Maintenance-free stem seal with EPDM profile ring
- Compact EPDM-encapsulated throttling plug as soft main seat and back seat
- Exterior coating: Blue (RAL 5002)

Variants

- Lead-sealable cap (prevents unauthorised actuation) as assembly set

BOA-Compact EKB:

- Use maintenance-free BOA-Compact EKB globe valves for water supply systems and cooling circuits as well as drinking water applications.

BOA-CVE:

- Automated variant with electric actuator (continuous-action, 24 V AC, 230 V AC) or 3-point actuator (24 V AC, 230 V AC).

BOA-Control/BOA-Control IMS:

- Balancing, measurement and shut-off valve incl. process monitoring

BOA-H:

- For handling fluids containing mineral oils, for temperatures above 120 °C and for low-pressure steam systems.

Valve body materials

Table 3: Overview of available materials

Material	Material number
EN-GJL-250	5.1301

Product benefits

- **Fully equipped at no extra charge**
 - Integrated (internal) travel stop as standard
 - Position indicator and locking device included
- **Space-saving and low-weight design**
 - Face-to-face length to EN 558/14 saves space.
 - Low component weight makes installation easier.
- **Efficient system operation**
 - Hydraulically favourable flow passage minimises pressure loss and saves energy.
- **Combined control and shut-off function**
 - The fully EPDM-coated throttling plug enables shut-off and throttling in a single valve model.
 - The linear characteristic curve ensures precise control.
- **Zero leakage and zero maintenance for life**
 - The lubricated-for-life EPDM profile ring provides zero leakage for life.
 - The single-piece body design ensures zero valve maintenance.
- **Easy to insulate**
 - The simple body design enables straightforward insulation.
 - The anti-condensation feature with insulating cap prevents condensation.
- **Flexible choice of face-to-face lengths**
 - One valve available in three face-to-face lengths: BOA-CS, BOA-Compact and BOA-W
 - Optionally available with integrated energy monitoring for the system (BOA-Control IMS)
- **BIM – Straightforward digital planning**
 - Digital product data sets optimised for planning, available for the entire valve programme (PN 6 to PN 40) for building services and supply systems
 - VDI 3805 standard (sheets 2 and 17)
 - Revit (family files and plug-in)
 - Direct availability in planning programs such as liNear, Trimble Nova, mh-software, and many more
 - CAD/BIM database: KSB PARTcommunity

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 Group 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 Group 2.

Purchase order specifications

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

- Type
- Nominal pressure
- Nominal size
- Variant

Pressure/temperature ratings

Table 4: Test pressure and operating pressure

PN	DN	Shell test with water	Seat tightness test with water	Permissible operating pressure (static load)
		Tests P10 and P11 to DIN EN 12266-1	Test P12, leakage rate A to DIN EN 12266-1	Fluid temperature -10 to +120 °C
		[bar]	[bar]	[bar]
6	15 to 200	9	6,6	6
16	15 to 200	24	17,6	16

Materials

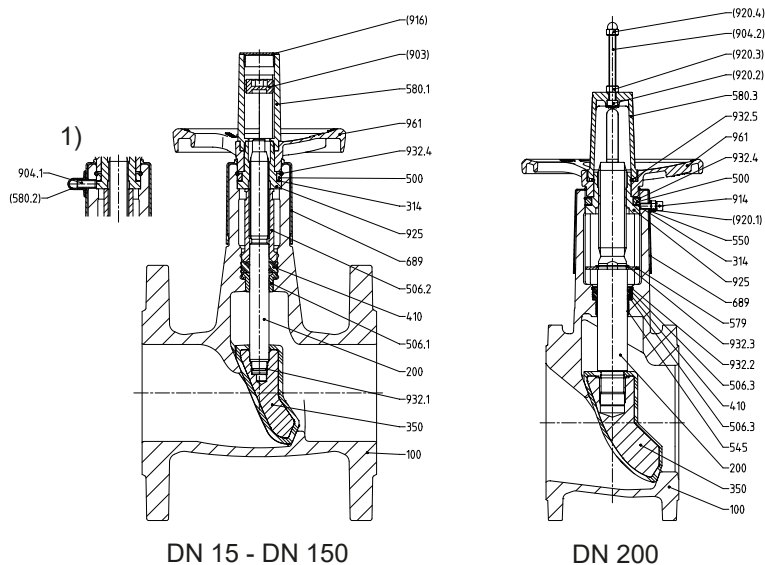


Fig. 1: Sectional drawing of globe valve

1) Shown rotated by 90°

Table 5: Overview of available materials

Part No.	Description	Material	Note
100	Body	EN-GJL-250 (5.1301)	-
200	Stem	Stainless steel, min. 13 % chrome	-
314	Thrust bearing	Steel/PTFE	DN 50 to DN 200
350	Valve disc/plug	EN-GJL-250 (5.1301) / EPDM	-
410	Profile seal	Elastomer EPDM	-
500	Ring	Steel, electro-galvanised and thick-film passivated	DN 32 to DN 200
506.1	Retaining ring	Plastic	DN 15 to DN 150
506.2		Plastic	DN 15 to DN 150
506.3		Stainless steel	DN 200
545	Bearing bush	Steel/PTFE	DN 200
550	Disc	Steel, electro-galvanised	DN 200
579	Stop	Steel, electro-galvanised and thick-film passivated	DN 200
580.1 ¹⁾		Cap assembly incl. travel stop, comprising:	
	580.1	Cap	DN 15 to DN 150
	903	Screw plug	
	916	Plug	
580.3 ¹⁾		Cap assembly incl. travel stop, comprising:	
	580.3	Cap	DN 200
	904.2	Grub screw	
	920.2	Nut	
	920.3	Nut	
	920.4	Nut	
689	Insulation	Plastic	-
904.1 ¹⁾		Locking device assembly, comprising:	
	904.1	Grub screw	DN 15 to DN 150
	580.2	Cap	
914 ¹⁾		Locking device assembly, comprising:	
	914	Hexagon socket head cap screw	DN 200
	920.1	Nut	
925	Stem nut	Steel, electro-galvanised and thick-film passivated	-
932.1	Circlip	Stainless spring steel	DN 15 to DN 150
932.2		Stainless spring steel	DN 200

1 Spare part

Part No.	Description	Material	Note
932.3	Circlip	Stainless spring steel	DN 200
932.4		Stainless spring steel	-
932.5		Stainless spring steel	DN 200
961	Handwheel	Plastic, glass-fibre reinforced and impact-resistant	DN 15 to DN 50
		Die-cast aluminium	DN 65 to DN 150
		EN-GJL-200 (5.1300)	DN 200

Colour coding system

Table 6: Colour coding system

Characteristic	BOA-Compact	BOA-W
Illustration		
Face-to-face length	Short face-to-face length to DIN EN 558/14	Face-to-face length to DIN EN 558/1
Colour	Plug: blue Cap: grey	Plug: blue Cap: grey

Dimensions and weights

BOA-Compact

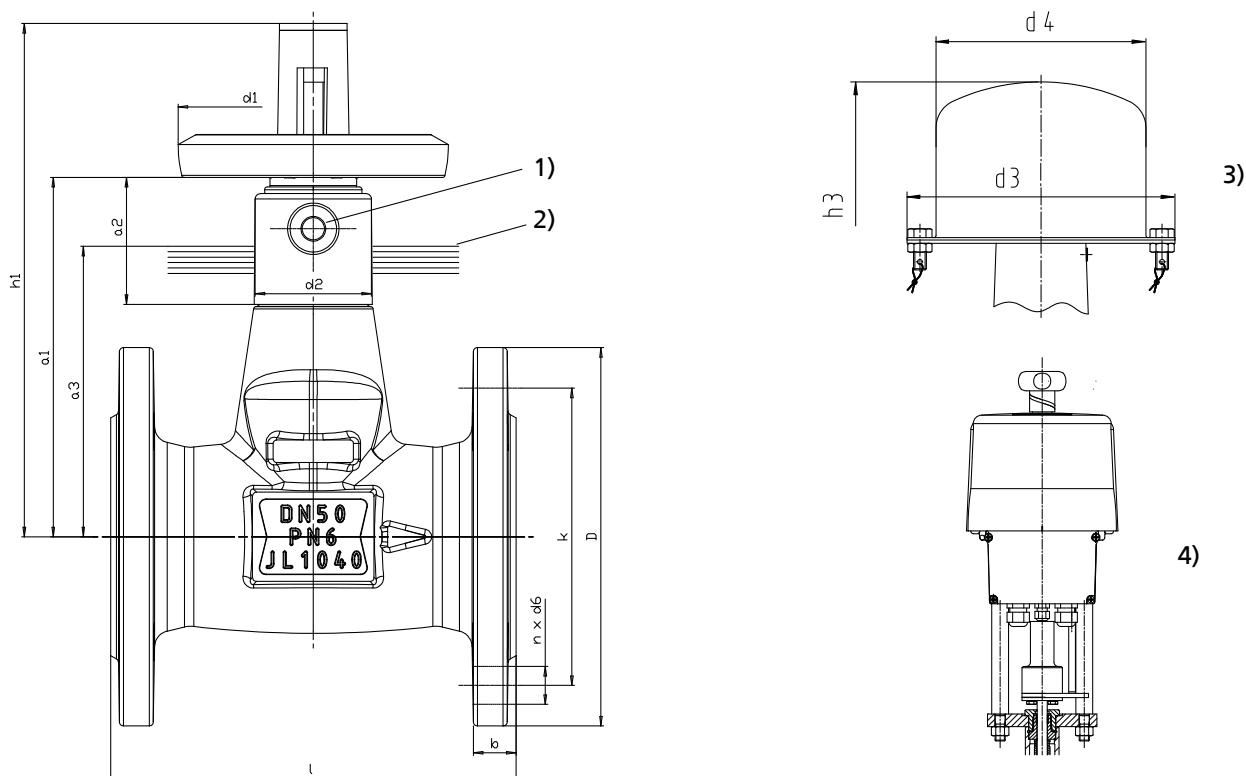


Fig. 2: Dimensions of globe valve

1)	Locking device	3)	Lead-sealable cap (prevents unauthorised actuation) as assembly set
2)	Insulation boundary in acc. with German energy-saving regulations	4)	With electric actuator (BOA-CVE C/CS/IMS/W/EKB)

Table 7: Dimensions and weights

PN	DN	a ₁ [mm]	a ₂ [mm]	a ₃ [mm]	b [mm]	D [mm]	d ₁ [mm]	d ₂ [mm]	d ₃ [mm]	d ₄ [mm]	d ₆ [mm]	h ₁ [mm]	h ₃ [mm]	k [mm]	l [mm]	n [mm]	[kg]
6	15	105	46	50	12	80	80	35	166	130	11	156	195	55	115	4	1,7
	20	105	46	55	14	90	80	35	166	130	11	156	195	65	120	4	2,1
	25	105	46	65	14	100	80	35	166	130	11	156	195	75	125	4	2,3
	32	122	46	75	16	120	100	43	166	130	14	179	210	90	130	4	3,8
	40	122	46	85	16	130	100	43	166	130	14	179	210	100	140	4	4,3
	50	131	46	95	16	140	100	43	166	130	14	189	220	110	150	4	4,9
	65	174	66	112,5	16	160	125	47	166	130	14	252	260	130	170	4	7,7
	80	185	76	135	18	190	160	52	210	170	19	252	310	150	180	4	10,9
	100	215	73	155	18	210	160	63	210	170	19	298	350	170	190	4	14,7
	125	270	115	170	20	240	200	85	270	220	19	373	435	200	200	8	21,0
	150	282	113	182,5	20	265	250	85	390	340	19	386	460	225	210	8	26,5
16	200	434	174	220	30	340	315	136	390	340	19	693	600	280	230	8	71,0
	15	105	46	57,5	14	95	80	35	166	130	14	156	195	65	115	4	2,3
	20	105	46	62,5	16	105	80	35	166	130	14	156	195	75	120	4	2,7
	25	105	46	72,5	16	115	80	35	166	130	14	156	195	85	125	4	3,0
	32	122	46	85	18	140	100	43	166	130	19	179	210	100	130	4	4,8
	40	122	46	95	18	150	100	43	166	130	19	179	210	110	140	4	5,5
	50	131	46	107,5	20	165	100	43	166	130	19	189	220	125	150	4	6,9
	65	174	66	125	20	185	125	47	166	130	19	252	260	145	170	4	10,0
	80	185	76	140	22	200	160	52	210	170	19	252	310	160	180	8	12,5
	100	215	73	160	24	220	160	63	210	170	19	298	350	180	190	8	17,1
	125	270	115	175	26	250	200	85	270	220	19	373	435	210	200	8	26,5
	150	282	113	192,5	26	285	250	85	390	340	23	386	460	240	210	8	31,0
	200	434	174	220	30	340	315	136	390	340	23	693	600	295	230	12	71,0

Mating dimensions as per standard

Face-to-face lengths:	DIN EN 558/14, ISO 5752/14
Flanges:	DIN EN 1092-2, flange type 21
Flange facing:	DIN EN 1092-2, type B

Installation instructions

Flow through the valve must be in the direction indicated by the flow direction arrow cast onto the valve body. An alternating flow direction is permissible for shut-off.

Chemical resistance chart

The information provided in this chemical resistance chart is based on experience, the Dechema lists as well as manufacturer information. Corrosion resistance is largely dependent on the operating conditions, temperatures and concentrations. Hydroabrasive wear in fluids containing solids is not covered in this list. The information provided in this list is for orientation only. Warranty claims may not be asserted on the basis of this list.

- The fluids used and any vapours must not be aggressive to EPDM and cast iron.

Table 8: Symbols key

Symbol	Description
✓	The fluid handled is not normally aggressive toward the materials. The valve can be used if the following is observed. ²⁾⁽³⁾
✗	The fluid handled is aggressive toward the materials. Valve cannot be used.
○	The materials and/or the valve can only be used under certain operating conditions. Please enquire accordingly, stating the operating conditions such as concentration, temperature, pH and composition of the fluid handled.

Table 9: Chemical resistance chart for water

Fluids handled	BOA-Control
Water	
Bathing water (fresh water)	○
Bathing water (seawater)	✗
Brackish water	✗
Service water	○
Chlorinated water (≤ 0.6 mg/kg)	✓
Deionised water (demineralised water) ⁴⁾	○
Distilled water ⁴⁾	○
Heating water ⁴⁾	✓
Condensate	○
Oil-free cooling water	○
Oil-containing cooling water	✗
Seawater	✗
Ozonised water (≤ 0.5 mg/kg)	✓
Pure water	✓
Raw water	○
Grey water ³⁾	✓
Partly desalinated water ⁴⁾	○
Thermal water	✗
Drinking water	✗
Fully desalinated water ⁴⁾	○
Oils (aromatic content 5 mg/kg)	
Vegetable oil	✗
Mineral oil	✗
Synthetic oils	✗
Petroleum	✗
Oil-water emulsion	✗
Kerosene	✗
Refrigerants	
Ammonium hydroxide (≤ 25 %, ≤ 25 °C)	✓

- General criteria for water to be handled by products made of non-alloyed materials: pH > 7; chlorides (Cl⁻) < 150 mg/kg; chlorine (Cl) < 0.6 mg/kg. Other factors to be considered: hardness, content of carbon dioxide (CO₂), oxygen (O₂) and dissolved substances. Consult us if limits are exceeded.
- Can only be used for installations and the respective water quality as specified in the VdTÜV 1466 or VDI 2035 guidelines. In addition, a pH ≥ 9.5 and an oxygen content ≤ 0.02 mg/l are recommended.
- Can only be used for installations and the respective water quality as specified in the VdTÜV 1466 or VDI 2035 guidelines. In addition, a pH ≥ 9.5 and an oxygen content ≤ 0.02 mg/l are recommended.

Fluids handled	BOA-Control
Glycol (ethylene glycol)	✓
Water/glycol mixture (glycol content ≤ 50 %, ≤ 90 °C)	✓
Inorganic cooling brine (pH 7.5)	✓
Cleaning agents	
Lye for bottle rinsers (e.g. P3)	✓
Lye for metal cleaning	x
Miscellaneous	
Landfill gas	○
Oil-containing compressed air	x
Aqueous glycerine	○
Carbon dioxide (gas)	✓
Carbon dioxide (aqueous solution)	x
Oxygen	x

Scope of supply

Depending on the model, the following items are included in the scope of supply:

- Valve
- Installation/operating manual

