

Nozzle Check Valve

BOA-RFV

PN 10/16/25/40/63
DN 40-600

Type Series Booklet



Legal information/Copyright

Type Series Booklet BOA-RFV

All rights reserved. The contents provided herein must neither be distributed, copied, reproduced, edited or processed for any other purpose, nor otherwise transmitted, published or made available to a third party without the manufacturer's express written consent.

Subject to technical modification without prior notice.

© KSB SE & Co. KGaA, Frankenthal 2023-03-22

Contents

Check Valves and Strainers	4
Nozzle Check Valves to DIN/EN	4
BOA-RFV	4
Main applications.....	4
Fluids handled	4
Operating data.....	4
Body materials.....	4
Design details	4
Product benefits.....	4
Related documents	4
Purchase order specifications	4
Pressure/temperature ratings.....	5
Materials.....	5
Dimensions and weights.....	7
Installation information.....	8

Check Valves and Strainers

Nozzle Check Valves to DIN/EN

BOA-RFV



- PN 40: DN 40 to 200
- Two-piece body:
 - PN 10/16: DN 400 to 600
 - PN 25: DN 350 to 600
 - PN 40: DN 250 to 500
- Exterior coating: epoxy coating, thickness 80 µm, RAL 5017 (blue)
- Venturi-type body
- Stainless steel seat
- Rapid closure without pressure surges

Variants

- Other flange designs
- PN 63 on request

Product benefits

- Flow cross-sections optimised for low pressure loss
- Short travel provides rapid closure, minimising pressure surges
- Highly hydrodynamic technical characteristics with low pressure drop

Related documents

Table 3: Information/documents

Document	Reference number
Operating manual	V979011/1.10

Main applications

- Water supply systems

Fluids handled

- Hot water
- Heating water
- Cooling water

Operating data

Table 1: Operating properties

Characteristic	Value
Nominal pressure	PN 10/16/25/40/63
Nominal size	DN 40 - 600
Max. permissible pressure [bar]	63
Min. permissible temperature [°C]	≥ -10
Max. permissible temperature [°C]	≤ +90

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

Body materials

Table 2: Overview of available materials

Material	Material number	Temperature limit
EN-GJL-250	5.1301	+90 °C
EN-GJS-400-15	5.1306	+90 °C

Design details

Design

- Design to EN 12516
- Single-piece body:
 - PN 10/16: DN 40 to 400
 - PN 25: DN 40 to 300

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. Operating temperature
6. Materials
7. Fluid handled
8. Pipe connection
9. Variants
10. Number of type series booklet

Always indicate the original serial number and the year of construction when ordering spare parts.

Pressure/temperature ratings

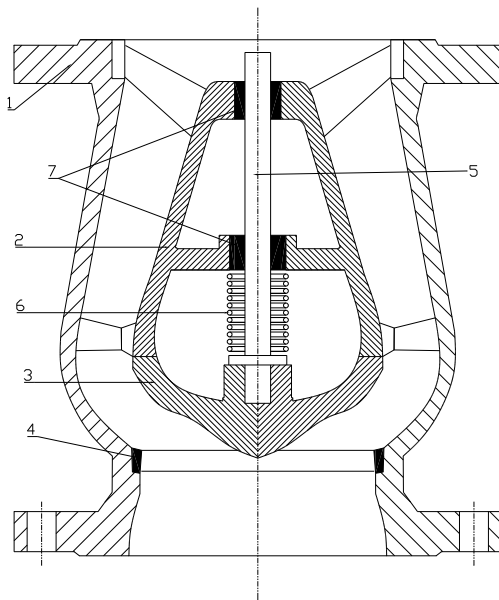
Table 4: Permissible operating pressures [bar] (to EN 12266-1)

PN	Material	[°C]						
		-10 to 120	150	180	200	230	250	300
10	EN-GJL-250	10,0	9,0	8,4	8,0	7,4	7,0	6,0
16		16,0	14,4	13,4	12,8	11,8	11,2	9,6
25		25,0	22,5	21,0	20,0	18,5	17,5	15,0
40		40,0	36,0	33,6	32,0	29,6	28,0	24,0

Table 5: Permissible operating pressures [bar] (to EN 12266-1)

PN	Material	[°C]					
		-10 to 120	150	200	250	300	350
16	EN-GJS-400-15	16,0	15,5	14,7	13,9	12,8	11,2
25		25,0	24,3	23,0	21,8	20,0	17,5
40		40,0	38,8	36,8	34,8	32,0	28,0
63		63,0	62,0	58,8	55,6	51,2	44,8

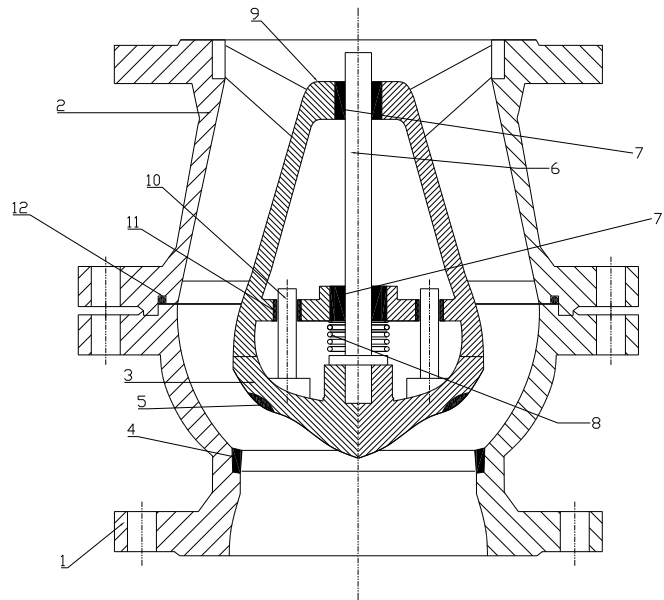
Materials



PN 10/16, DN 40 - 400

PN 25, DN 40 - 300

PN 40, DN 40 - 200



PN 10/16, DN 400 - 600

PN 25, DN 350 - 600

PN 40, DN 250 - 500

Table 6: Parts list DN 40 - 400 (PN 10/16), DN 40 - 300 (PN 25), DN 40 - 200 (PN 40)

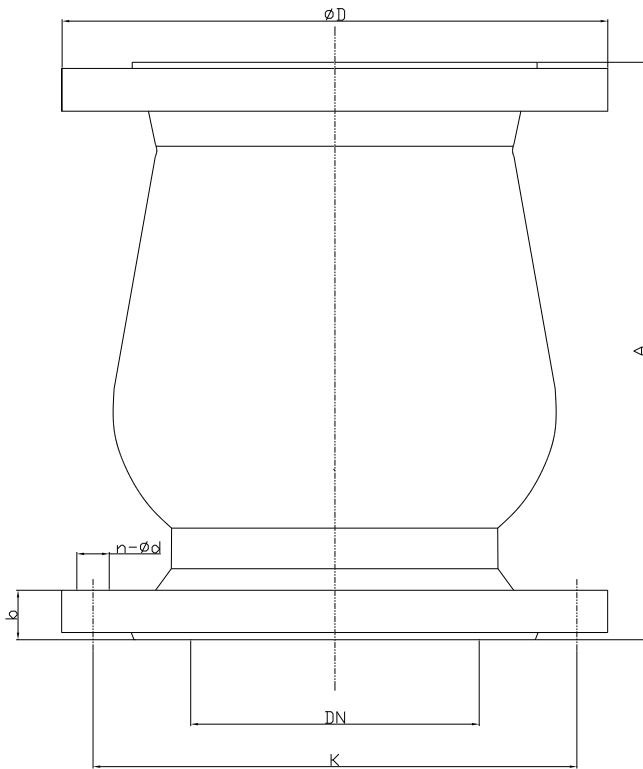
Part No.	Description	Material	Material number	PN	DN	Note
1	Body	EN-GJL-250	5.1301	10/16	40 - 400	Epoxy coating
		EN-GJL-250	5.1301	25	40 - 50	Epoxy coating
		EN-GJS-400-15	5.1306	25	65 - 400	Epoxy coating
		EN-GJL-250	5.1301	40	40 - 50	Epoxy coating
		EN-GJS-400-15	5.1306	40	65 - 400	Epoxy coating
2	Flow diffuser	Bronze	-	10/16/25/40	40 - 100	-
		EN-GJL-250	5.1301	10/16/25	125 - 400	-
		EN-GJS-400-15	5.1306	40	125 - 400	-
3	Valve disc	Stainless steel 18/8	-	10/16/25/40	40 - 150	-

Part No.	Description	Material	Material number	PN	DN	Note
3	Valve disc	EN-GJS-400-15	5.1306	10/16/25/40	200 - 400	Seat ring, stainless steel 18/8
4	Body seat	Stainless steel SS316	-	10/16/25/40	40 - 400	-
5	Guide stem	Stainless steel SS316	-	10/16/25/40	40 - 400	-
6	Compression spring	Stainless steel SS316	-	10/16/25/40	40 - 400	-
7	Bush	Bronze	-	10/16/25/40	200 - 400	-

Table 7: Parts list DN 400 - 600 (PN 10/16), DN 350 - 600 (PN 25), DN 250 - 500 (PN 40)

Part No.	Description	Material	Material number	PN	DN	Note
1	Lower body section	EN-GJL-250	5.1301	10/16	400 - 600	Epoxy coating
		EN-GJS-400-15	5.1306	25	350 - 600	Epoxy coating
		EN-GJS-400-15	5.1306	40	250 - 500	Epoxy coating
2	Upper body section	EN-GJL-250	5.1301	10/16	400 - 600	Epoxy coating
		EN-GJS-400-15	5.1306	25	350 - 600	Epoxy coating
		EN-GJS-400-15	5.1306	40	250 - 500	Epoxy coating
3	Valve disc	EN-GJS-400-15	5.1306	10/16	400 - 600	-
		EN-GJS-400-15	5.1306	25	350 - 600	-
		EN-GJS-400-15	5.1306	40	250 - 500	-
4	Body seat	Stainless steel SS316	-	10/16	400 - 600	-
		Stainless steel SS316	-	25	350 - 600	-
		Stainless steel SS316	-	40	250 - 500	-
5	Valve disc seat	Stainless steel SS316	-	10/16	400 - 600	-
		Stainless steel SS316	-	25	350 - 600	-
		Stainless steel SS316	-	40	250 - 500	-
6	Guide stem	Stainless steel SS316	-	10/16	400 - 600	-
		Stainless steel SS316	-	25	350 - 600	-
		Stainless steel SS316	-	40	250 - 500	-
7	Bush	Bronze	-	10/16	400 - 600	-
		Bronze	-	25	350 - 600	-
		Bronze	-	40	250 - 500	-
8	Compression spring	Stainless steel SS316	-	10/16	400 - 600	-
		Stainless steel SS316	-	25	350 - 600	-
		Stainless steel SS316	-	40	250 - 500	-
9	Flow diffuser	Aluminium	-	10/16	400 - 600	-
		Aluminium	-	25	350 - 600	-
		Aluminium	-	40	250 - 500	-
10	Locking pin	Stainless steel 18/8	-	10/16	400 - 600	> DN 500
		Stainless steel 18/8	-	25	350 - 600	> DN 500
11	Bush	Bronze	-	10/16	400 - 600	-
		Bronze	-	25	350 - 600	-
		Bronze	-	40	250 - 500	-
12	O-ring	Rubber	-	10/16	400 - 600	-
		Rubber	-	25	350 - 600	-
		Rubber	-	40	250 - 500	-

Dimensions and weights



BOA-RFV

Table 8: Dimensions [mm] and weights [kg]

PN	DN	A	D	b	n-Ød	K	[kg]
10/16	40	120	150	19	4-19	110	7
	50	120	165	19	4-19	125	7
	65	150	185	19	4-19	145	11
	80	180	200	19	8-19	160	17
	100	240	220	19	8-19	180	23
	125	300	250	19	8-19	210	33
	150	350	285	19	8-23	240	45
10	200	400	340	20	8-23	295	75
	250	450	395	22	12-23	350	115
	300	500	445	24,5	12-23	400	135
	350	600	505	24,5	16-23	460	210
	400	700	565	24,5	16-28	515	300
	450	750	615	25,5	20-28	565	465
	500	850	670	26,5	20-28	620	720
	600	1000	780	30	20-31	725	830
16	200	400	340	20	12-23	295	75
	250	450	405	22	12-28	355	115
	300	500	460	24,5	12-28	410	145
	350	600	520	26,5	16-28	470	220
	400	700	580	28	16-31	525	315
	450	750	640	30	20-31	585	490
	500	850	715	31,5	20-34	650	780
	600	1000	840	36	20-37	770	900
25	40	120	150	19	4-19	110	7
	50	120	165	19	4-19	125	7
	65	150	185	19	8-19	145	11
	80	180	200	19	8-19	160	17
	100	240	235	19	8-23	190	27
	125	300	270	19	8-28	220	40
	150	350	300	20	8-28	250	54
	200	400	360	22	12-28	310	100

PN	DN	A	D	b	n-Ød	K	[kg]
25	250	450	425	24,5	12-31	370	130
	300	500	485	27,5	16-31	430	170
	350	600	555	30	16-34	490	390
	400	700	620	32	16-37	550	540
	450	750	670	34,5	20-37	600	600
	500	850	730	36,5	20-37	660	940
	600	1000	845	42	20-41	770	990
40	40	120	150	19	4-19	110	7
	50	120	165	19	4-19	125	7
	65	150	185	19	8-19	145	11
	80	180	200	19	8-19	160	17
	100	240	235	19	8-23	190	27
	125	300	270	23,5	8-28	220	40
	150	350	300	26	8-28	250	54
	200	400	375	30	12-31	320	106
	250	450	450	34,5	12-34	385	220
	300	500	515	39,5	16-34	450	300
	350	600	580	44	16-37	510	440
	400	700	660	48	16-41	585	575
	450	750	685	49	20-41	610	670
	500	850	755	52	20-44	670	1050


Mating dimensions as per standard

Face-to-face lengths: Manufacturer's standard

Flanges: EN 1092-2

Flange facing: EN 1092-2

Installation information

 The valves can be installed in horizontal, vertical or angled position.



KSB Italia S.p.A.

Via Massimo D'Azeglio, 32
20863 Concorezzo MB
Tel. +39 039 6048-000 – Fax +39 039 6048-097
www.ksb.com

Centri Service

Concorezzo MB • Via Massimo D'Azeglio, 32
Tel. +39 039 6048-000 • Fax +39 039 6048-882
Scorzè VE • Via Guido Rossa, 12/A
Tel. +39 041 5840917 • Fax +39 041 5840918