



3C.115-E
 CMGT Issue 5 - 2023

BSK and BSKT Bellows Sealed Globe Valves

Description

Manually operated isolation globe valves equipped with spinning handwheel that rotates clockwise and anticlockwise to open/close the valve, used as on-off valves (flat head plug, BSK) or for throttling services (modulating shutter, BSKT) on steam, condensate, hot or cold water and other compatible non-corrosive fluids. They are robust and compact units with bodies in cast iron and SG Iron, bellows sealed spindle and on-line flanged connections. To facilitate the plug closure under high pressure conditions, valves with larger dimensions (DN150, DN200 and DN250) are equipped with pressure balancing discs

Standards

These products fully comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carries bear the CE mark.

Certifications

On request, BSK and BSKT valves can be supplied with "Manufacturer's Typical Test Report" as drawn up by the manufacturer.

Note: All certification / inspection requirements must be stated at the time of order placement.



Available version

Model BSK

Material		Cast iron	Spheroidal cast iron
Model		BSK1 PN16	BSK2 PN16
Connections			
DN	15	•	•
	20	•	•
	25	•	•
	32	•	•
	40	•	•
	50	•	•
	65	•	•
	80	•	•
	100	•	•
	125	•	•

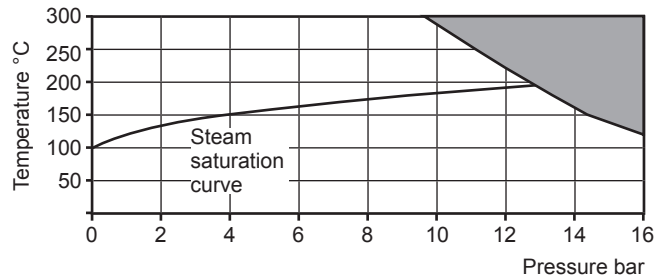
Balancing disc	150	•	•
	200	•	•
	250	•	•

Model BSKT

Material		Cast iron	Spheroidal cast iron
Model		BSK1T PN16	BSK2T PN16
Connections			
DN	15	•	•
	20	•	•
	25	•	•
	32	•	•
	40	•	•
	50	•	•
	65	•	•
	80	•	•
	100	•	•
	125	•	•
	150	•	•
	200	•	•

Pressure / temperature limits

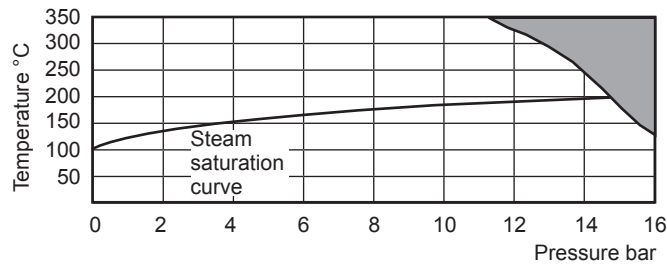
**BSK1 e BSK1T
PN16**



The product must not be used in this region

Body design conditions		PN 16
PMA - Maximum allowable pressure	@ 120°C	16 bar
TMA - Maximum allowable temperature	@ 9,6 bar	300°C
Minimum allowable temperature		- 10°C
PMO - Maximum operating pressure	@ 195°C	12,9 bar
TMO - Maximum operating temperature	@ 9,6 bar	300°C
Minimum operating temperature, danger of freezing considered		-10°C
Note: For lower temperatures, contact Spirax Sarco		
ΔPMX- Maximum differential pressure limit at PMO (on-off mode)		
Designed for a maximum cold hydraulic test pressure of		24 bar

**BSK2 e BSK2T
PN16**



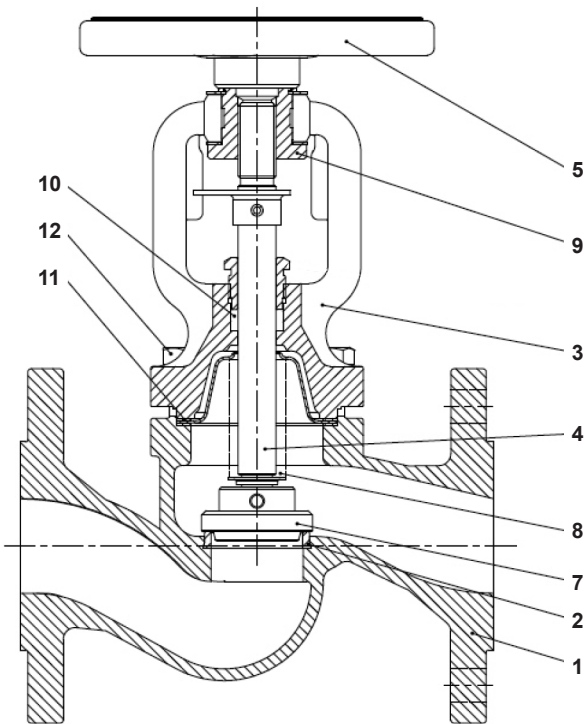
The product must not be used in this region

Body design conditions		PN 16
PMA - Maximum allowable pressure	@ 120°C	16 bar
TMA - Maximum allowable temperature	@ 11,2 bar	350°C
Minimum allowable temperature		- 10°C
PMO - Maximum operating pressure	@ 200,5°C	14,7 bar
TMO - Maximum operating temperature	@ 11,2 bar	350°C
Minimum operating temperature, danger of freezing considered		-10°C
Note: For lower temperatures, contact Spirax Sarco		
ΔPMX- Maximum differential pressure limit at PMO (on-off mode)		
Designed for a maximum cold hydraulic test pressure of		24 bar

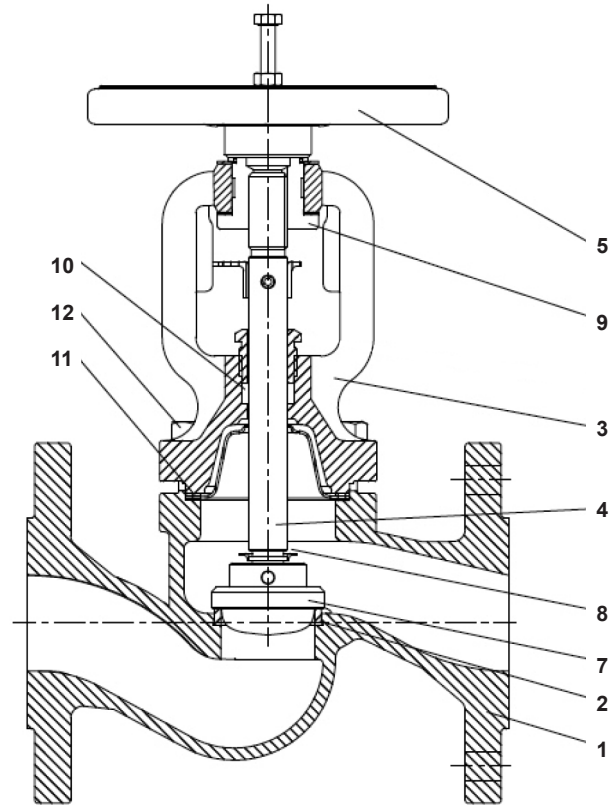
Technical data

Seat/plug gasket	according to EN 12266 - 1 Class A standards
Face-to-face dimensions	according to EN 558 - 1 Series A standards
Sized and pre-bored flanges	according to EN 1092 - 2 PN 16 standards

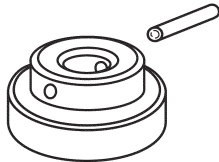
BSK1 e BSK2



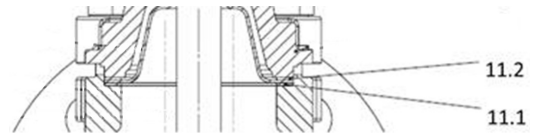
BSK1T e BSK2T



Plug with balancing disc group
(For BSK1 e BSK2 DN150, DN200 and 250 only)

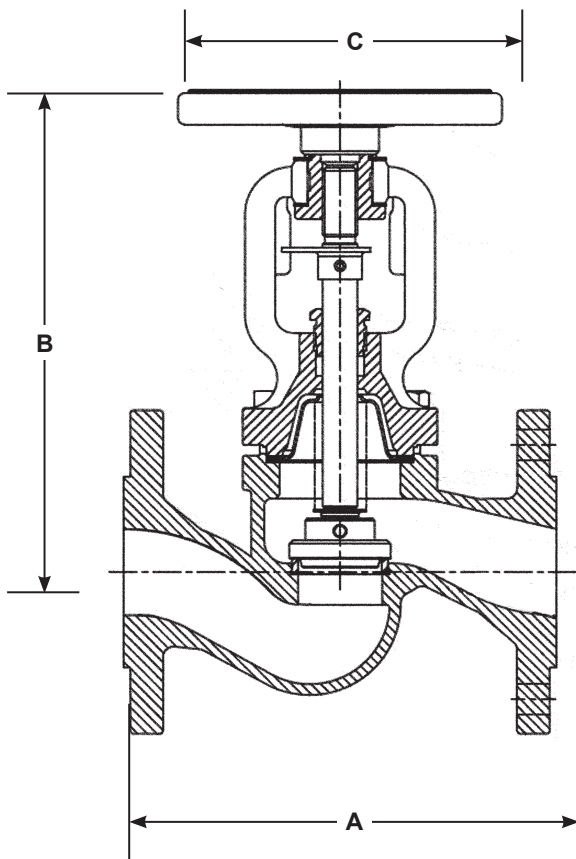


Gasket detail body (11.1) cover (11.2)
for BSK1, BSK1T BSK2 and BSK2T



Materials BSK1, BSK1T, BSK2, BSK2T

N°	Part number	Material	Designation	
1	Body	Cast iron	EN-GJL-250 (5.1301)	
				BSK1
				BSK1T
				BSK2
2	Seat	Spheroidal cast iron	EN-GJL-400-18-LT (5.3103)	
				BSK2
				BSK2T
				BSK2T
3	Cover	Stainless steel	X12Cr13 (1.4021)	
4	Spindle	Stainless steel	X12Cr13 (1.4021)	
5	Handwheel	Steel		
7	Plug	Stainless steel	X20Cr13+QT (1.4021)	
8	Bellows	Stainless steel	X6CrNiMoTi 17-12-2	
9	Bush	Steel	11SMnPb30	
10	Stuffing box gasket	Graphite		
11	Valve body/cover gasket	Graphite with CrNiSt inserts		
12	Body/cover assembly bolts	Steel	BSK1, BSK1T	
			Class 5.8	
			BSK2, BSK2T	
			A2-70	



Flowrate

To calculate flow rate, use the KV coefficients shown below.

K_v flow rate coefficients

DN	15	20	25	32	40	50	65	80	100	125	150	200
BSK1	5.9	7.4	13	18	30	41	79	115	181	225	364	725
BSK2												
K _v												
BSK1T	3.4	6.3	9.4	16	26	40	70	106	170	245	360	-
BSK2T												

Conversion factor: C_v (US) = K_v / 0,865

To convert K_v into volumetric flow rate (m³/h):

$$Q = K_v \cdot \sqrt{\Delta P}$$

where:

Q = Flow rate volume in m³/h

ΔP = Pressure drop in bar

How to order

Example: N°1 Spirax Sarco BSK1 on/off Isolation Globe Valve, with bellows sealed spindle and PN16 on-line flanged connections.

Safety, installation and maintenance Information

For detailed instructions, refer to the Installation and Maintenance Instructions 3.530.5275.150 supplied with the product.

Installation note

Valve must always be fitted respecting the flow direction indicated by the arrow imprinted on the valve body and preferably with the spindle and the handwheel vertically placed over the valve body. Vertical mounting (with spindle and handwheel installed below the valve body) is not recommended. In addition to the vertical position and the horizontal plane, alternative locations are however possible.

Disposal

These products are recyclable: No ecological hazard is anticipated with disposal of this product providing due care is taken.

Dimensions / weights (approximate) in mm and kg

DN	A	B	C	Weight	
				BSK1 BSK2	BSK1T BSK2T
15	130	178	125	3.2	3.2
20	150	178	125	3.9	3.9
25	160	193	125	4.6	5
32	180	201	125	6,5	6.7
40	200	224	150	9	9.3
50	230	228	150	11	11.5
65	290	270	175	15,8	16.3
80	310	295	200	20,5	21.4
100	350	325	250	35	36
125	400	380	300	49	51.5
150	480	427	400	76	78
200	600	569	500	130,5	130.5
250	730	645	600	210	-

Spare parts

Spare parts are available according to the groups in the following table.

Available spares

Stuffing box and body (1 piece) cover (1 piece) gaskets assembly (1 piece) **10, 11.1 and 11.2**

Spindle (1 piece) and bellows gaskets assembly (1 piece) **4 and 8**

Plug (1 piece) (with balancing disc for BSK1/BSK2 DN150 and DN200; BSK1 DN250 only) **7**

Note: handle the valve body/cover gaskets with care as it has a metal core that can be sharp.

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state type and size of valve and its nominal diameter.

Example: N° 1 stuffing box and body/cover gasket assembly for a Spirax Sarco BSK1 PN16 DN50 bellows sealed globe valve.