Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice. © Copyright 2025

BM, BMRA, BMF and BMFRA Self-acting Control Valves

Description and available types

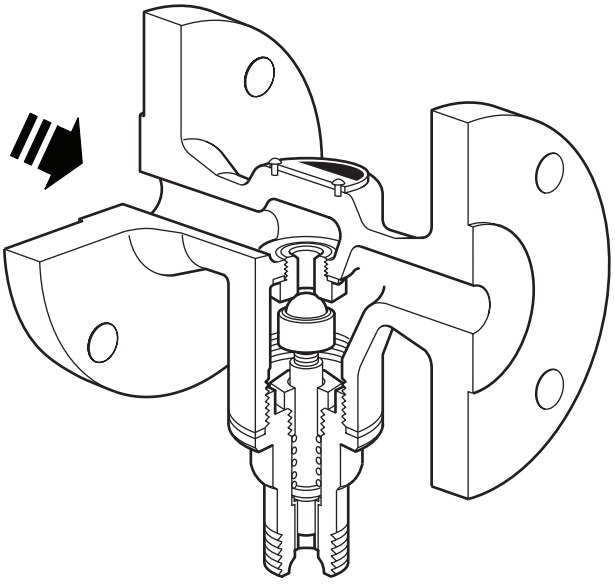
BM	Cast steel, normally open, single seat with 4 orifice sizes: **BM2, BM3, BM4 and BM6.**
BMRA	Cast steel, normally closed, single seat.
BMF	Cast iron, normally open, single seat with 4 orifice sizes: **BMF2, BMF3, BMF4 and BMF6**.
BMFRA	Cast iron, normally closed, single seat.

Sizes and pipe connections

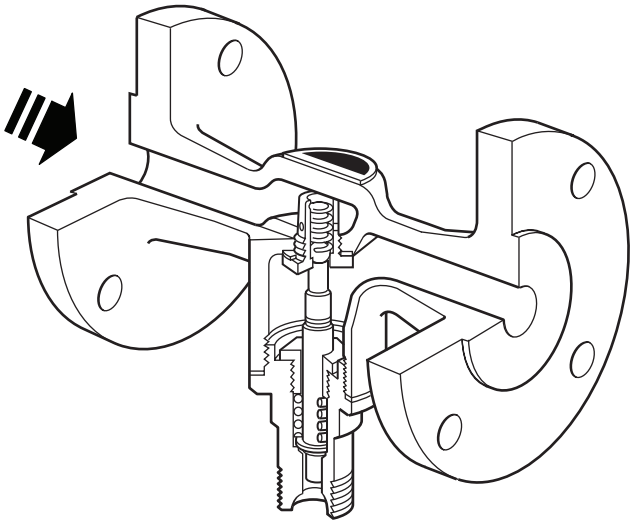
BM and BMRA	DN15 (½") standard flange:	EN 1092 PN25 and ANSI 300

Note: ANSI 150 connections are available to special order for both BM and BMRA self-acting control valves.

BMF and BMFRA	DN15 (½") standard flange:	EN 1092 PN16

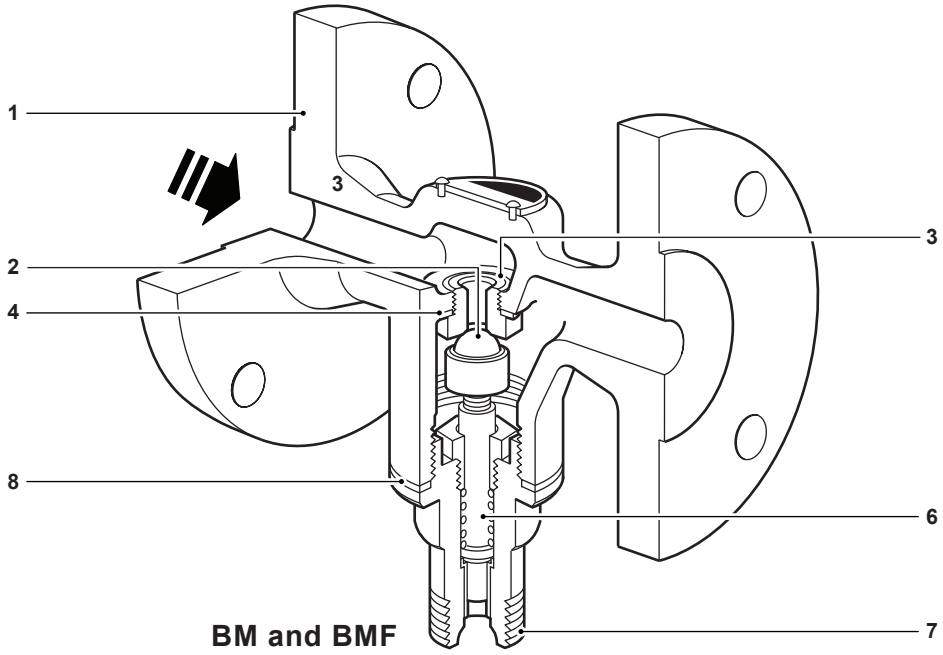


BM and BMF

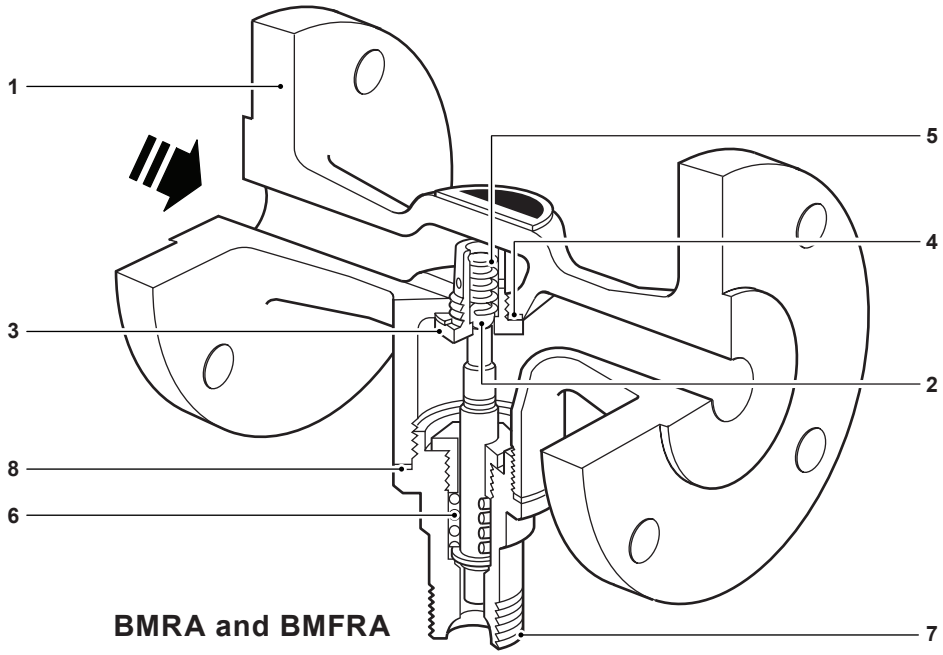


BMRA and BMFRA

Materials



BM and BMF

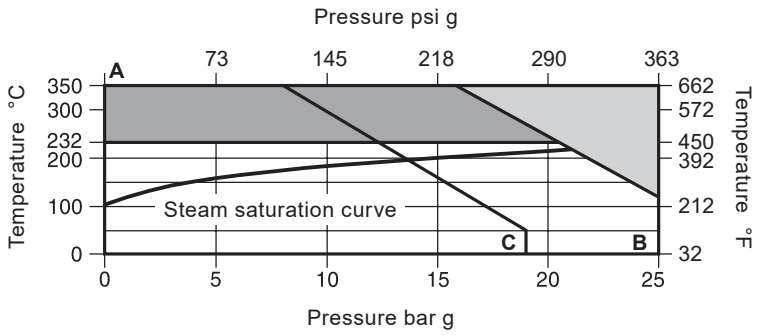


BMRA and BMFRA

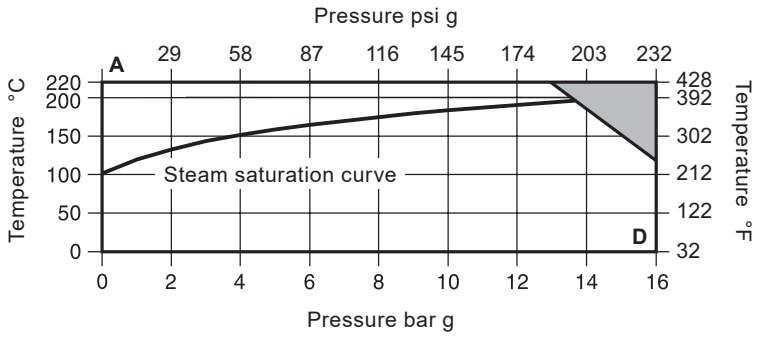
No.	Part		Material	
1	Body	**BMF**	Cast iron	DIN 1691 GG 20
		BM	Cast steel	DIN 17245 GS C25
2	Valve closure member		Stainless steel	AISI 440 B
3	Valve seat ring		Stainless steel	BS 970 431 S29
4	Valve seat gasket		Mild steel	BS 1449 CS4
5	Ball return spring		Stainless steel	BS 2056 302 S26
6	Main return spring		Stainless steel	BS 2056 302 S26
7	Bonnet		Steel	DIN 17243 C22.8
8	Bonnet gasket		Reinforced exfoliated graphite	

Pressure/temperature limits

BM and BMRA



BMF and BMFRA



The product **must not** be used in this region.

When the valve is operated with a self-acting temperature control system in this region a Spirax Sarco spacer must be used in conjunction with the system.

A - B Flanged EN 1092 PN25 and ANSI 300

A - C Flanged ANSI 150

A - D Flanged EN 1092 PN16

Body design conditions	BM and BMRA			PN25
	BMF and BMFRA			PN16
Maximum design temperature	BM and BMRA	Fitted to a Spirax Sarco spacer	350 °C	662 °F
		Fitted directly to the actuator	232 °C	450 °F
	BMF and BMFRA		220 °C	428 °F
Maximum differential pressure	BM		17.2 bar	247 psi
	BMRA		10.3 bar	149 psi
	BMF		16.0 bar	232 psi
	BMFA		10.3 bar	149 psi
Designed for a maximum cold hydraulic test pressure of:	BM and BMRA		38 bar g	551 psi g
	BMF and BMFRA		24 bar g	348 psi g

Kv values

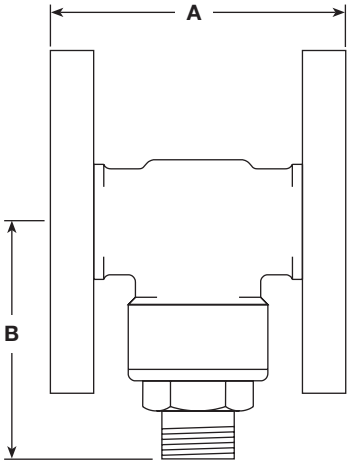
BM2 BMF2	BM3 BMF3	BM4 BMF4	BM6 BMF6	BMRA BMFRA
0.38	0.64	1.03	1.65	0.59

For conversion:
Cv (UK) = Kv x 0.963
Cv (US) = Kv x 1.156

Capacities

For saturated steam sizing capacities, see TI-GCM-08.
For water sizing capacities, see TI-GCM-09.

Dimensions/weights (approximate) in mm (inches) and kg (lbs)



Size	BS 4504 DIN PN16 and PN25 A	ANSI 300 A	B	Weight
DN15 (½")	130 (5.1)	127 (5)	87 (3.4)	3.6 (8)

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-S21-01) supplied with the product.

Installation note
The valve should be fitted in a horizontal line. The actuator position will depend on the type fitted to the valve.

Maintenance note
How to fit general:

- Remove the control system sensor from the plant and allow it to cool (SA systems).
- Disconnect the actuator from the valve.
- Before attempting to carry out any repairs, make sure that the valve is fully isolated.
- It is important always to renew the complete assembly as listed in 'Spare parts' and to make sure that all the joint faces are clean.
- Always reassemble using new gaskets lightly coated with a suitable jointing compound (preferably of a non-graphited type).

Valve seat assembly:

- To replace the valve seat assembly unscrew the bonnet (**7**).
- Remove the valve seat (**3**) from the body (**1**) and replace it with a new one using a box spanner 18 mm A/F.
- Unscrew the spindle retaining nut and withdraw it from the bonnet ball head and spindle assembly. The ball head and spindle assembly of the BM and BMF valves are preassembled and set to the correct length. No further adjustment is necessary.
- Replace the new assembly or spring (BMRA and BMFRA).
- Tighten the spindle retaining nut.
- Refit the bonnet to the valve body using a new gasket.

How to order
Example: 1 off Spirax Sarco DN15 BMRA self-acting control valve having flanged EN 1092 PN25 connections.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

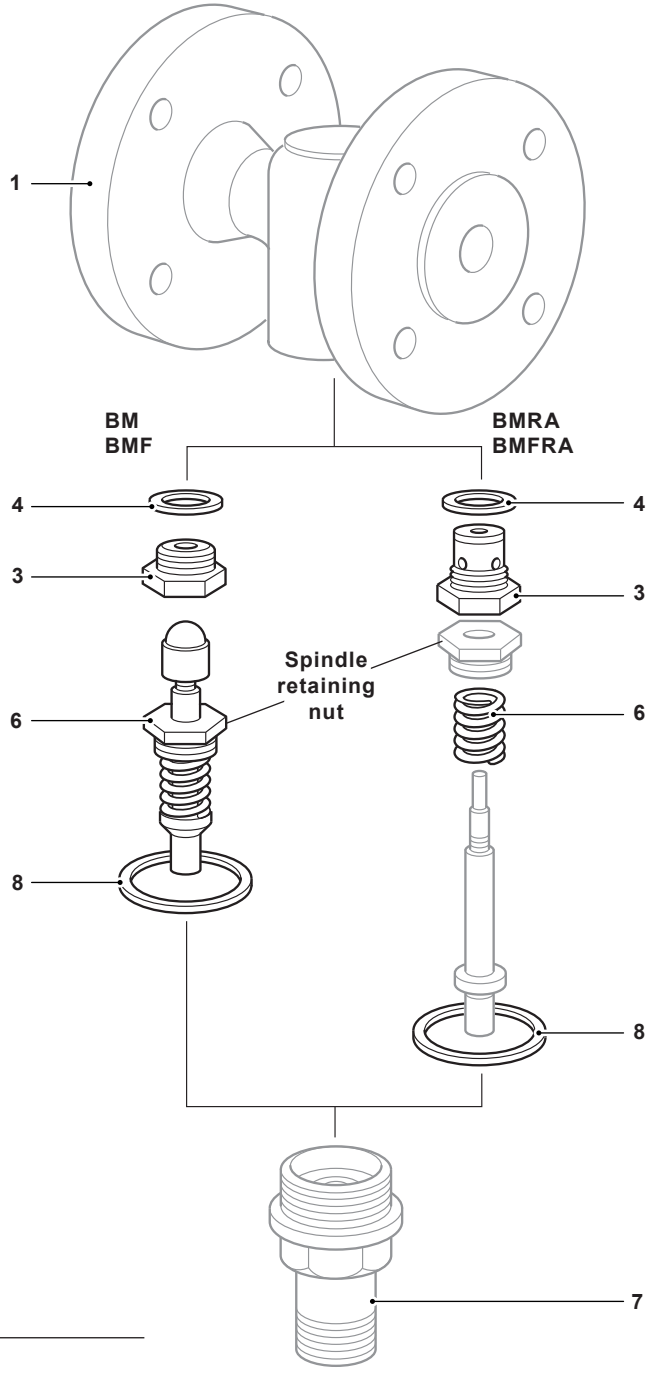
Available spares

Valve seat assembly	BM and BMF	**3, 4, 6, 8**
	BMRA and BMFRA	**3, 4, 6, 8**
Gasket set	(3 of each in a packet)	**4, 8**

How to order spares

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

Example:
1 - Valve seat assembly for a DN15 BMRA self-acting control valve.



Recommended tightening torques

Item	Part	or mm	N m	ft lbf
3	Valve seat	18 A/F	40 - 50	30 - 37
7	Bonnet		70 - 80	52 - 59