

spirax/sarco®

BM and BMRA Cast Steel Valves

BM

Normally open, closes with rising temperature for heating. Single seat with four different orifice sizes - BM 2, BM 3, BM 4 & BM 6.

BMRA

Reverse acting (normally closed), opens with rising temperature for cooling. Single seat.

Model	BM, BMRA
Sizes	1/2"
Connections	ANSI 300 flanged
Construction	Carbon Steel Body Stainless Steel Trim
Options	ANSI 150 flanges

LIMITING OPERATING CONDITIONS

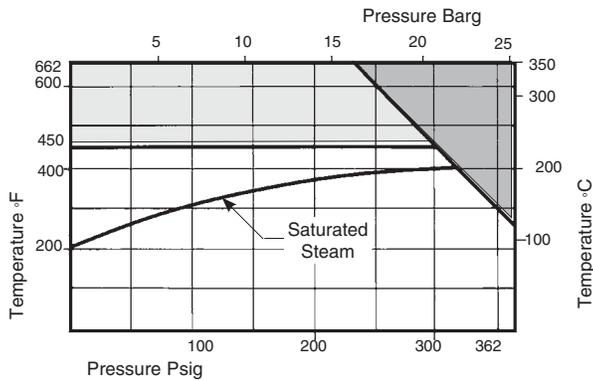
Maximum Differential Pressure

1/2" / 15 mm

BM **250 psi*** **17 bar**

BMRA **150 psi** **10 bar**

* On liquid applications, the permissible maximum differential pressure may be affected by high static pressure. Please consult the factory if the application requires a large differential pressure with a high inlet pressure.



- If the valve is to be used in this region, a spacer (stock #0467000) must be fitted between the valve and the control system to protect the control system from overheating.
- The valves must not be used in this region
- The valves may be used in this region provided that the above maximum differential pressures are not exceeded. Valves with ANSI flanges must not be used above flange limits.

SHUTOFF: ANSI CLASS IV

PRESSURE SHELL DESIGN CONDITIONS

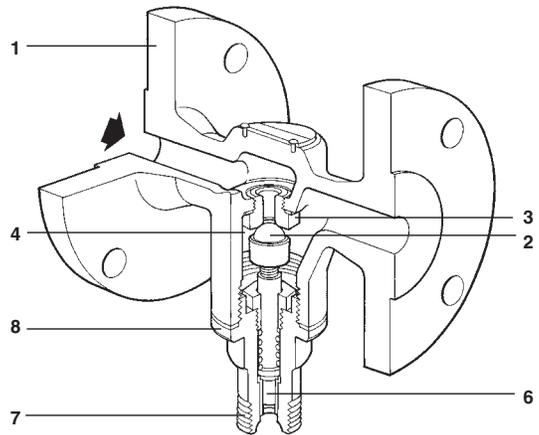
PMA 362 psig/248°F 25 barg/120°C
 Max. allowable pressure 290 psig/482°F 20 barg/250°C
 188 psig/750°F 13 barg/400°C

TMA 750°F/0-188 psig 400°C/0-13 barg
 Max. allowable temperature

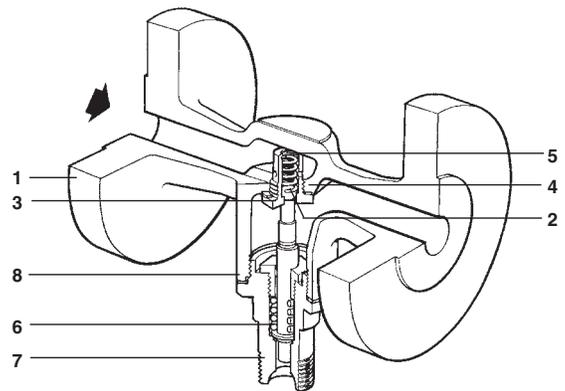
TYPICAL APPLICATIONS

Industrial or commercial applications using steam or hot water as a heating medium, or water for cooling.

BM



BMRA



CONSTRUCTION MATERIALS

No.	Part	Material	Material Spec.	Closest Equivalent
1	Body	Steel	DIN 17245 GS C25	A216 Gr WCB
2	Valve	Stainless Steel	AISI 440C	
3	Valve Seat	Stainless Steel	BS 970 431 S29	A276 Gr. 431
4	Valve Seat Gasket	Mild Steel		
5	Ball Return Spring	Stainless Steel		
6	Main Return Spring	Stainless Steel		
7	Bonnet	Brass	BS 970 070 M20	A108 Grade 1022
8	Bonnet Gasket	Nickle Reinforced Exfoliated Graphite		

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.

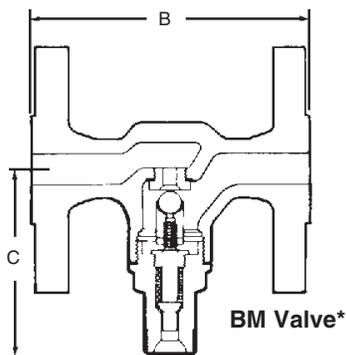
In the interests of development and improvement of the product, we reserve the right to change the specification.

TI-1-807-US 06.10

BM and BMRA Cast Steel Valves

DIMENSIONS (NOMINAL) IN INCHES AND MILLIMETERS

SIZE	ANSI 300		WEIGHT
DN	B	C	
1/2	5.0	3.4	8.0 lb
15	127	87	3.6 kg



C_v AT P BAND*

Valve	BM2	BM3	BM4	BM6	BMRA
C _v	0.44	0.74	1.20	1.92	0.66
P Band (°F)*	5.4°	8°	8°	8°	8°

* The proportional band (P Band) is the difference required between the desired set temperature and the actual controlled temperature to open the valve fully. The above figures apply to valves fitted with 121 or 123 control systems. For 122 or 128 systems, the P Band will be twice the amount shown.

Example: For a BM3 valve with a 122 control system, the valve will not fully open until the controlled temperature drops to 16°F below the set point.

For complete sizing information, see TIS 1.011 (steam) or TIS 1.012 (water).

SAMPLE SPECIFICATION

Control valve shall be steel body with stainless steel trim, single seated with flanged pipe connections. Valve shall achieve ANSI Class IV Shutoff. Valve is coupled to the appropriate temperature control system. This combined unit is self acting and provides proportional control action. The temperature control system shall be brass with PVC covered capillary or stainless steel sensor and capillary, oil filled, hydraulically operated; and shall incorporate packless glands and a gas filled overheat protection device. Temperature setting shall be adjustable while control is in service, include °F adjustment scale and shall incorporate a tamper proof device. When required, sensor bulb shall be mounted in a separable well for removal from the equipment. Refer to TIS 1.900 or 1.901 for temperature control system details.

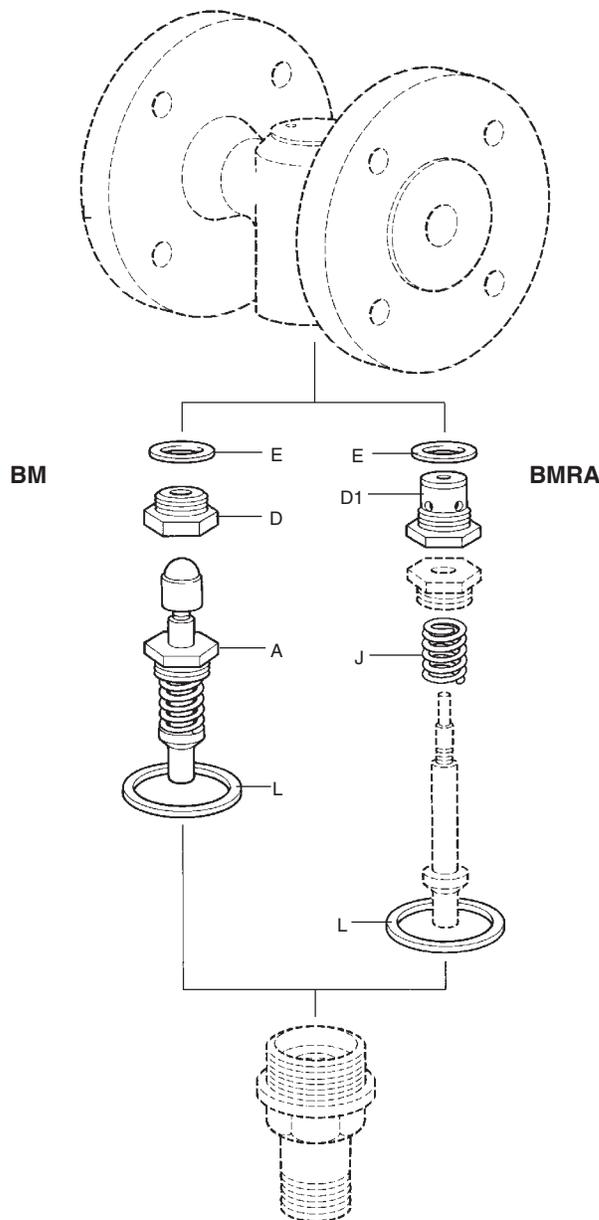
INSTALLATION

The valve should be installed in a horizontal section of the heating or cooling medium inlet piping. The control system connection must point vertically downward. A bypass with suitable stop valves should be provided to permit servicing, and a Y-pattern strainer should be installed upstream of the valve. If the valve is smaller than the pipeline, eccentric reducers should be used. In a steam system, a steam trap should be installed upstream of the valve to ensure that the steam entering the valve is as dry as possible.

MAINTENANCE

Except for periodic cleaning of the upstream strainer, maintenance or servicing is normally required only if a malfunction is detected. **Complete installation and maintenance instructions are given in the IMI sheet, which accompanies the product.**

SPARE PARTS



Valve Seat Assembly	BM	A, D, E, L
Valve Seat Assembly	BMRA	J, D1, E, L
Gasket Set	(pkt of 3 each)	L, E