



M10F Ball Valve DN $\frac{1}{4}$ " to DN $2\frac{1}{2}$ "

Description

The M10F three-piece body ball valve has been designed for use as an isolating valve, not a control valve. It is antistatic and firesafe as standard and can be serviced without removal from the pipeline. The M10F can be used on applications that use steam and other industrial fluids for services ranging from vacuum to the higher temperatures and pressures.

Firesafe design

In normal working conditions, the ball rests against R-PTFE seals ensuring total closure.

Note: R-PTFE is PTFE reinforced with carbon and graphite.

When the valve is submitted to temperature above the limits R-PTFE can withstand, the seat becomes deformed and renders the R-PTFE to extrusion. When the R-PTFE has been totally destroyed, the ball will come to rest firmly against the metal seat in the cap, producing a metal-metal closing. This secondary seat in the valve cap, that has been machined with the same radius as the ball, ensures the valve will operate to international API Spec 6FA standard, and BS 6755 part 2 standards.


Available types

M10F2RB Zinc plated carbon steel body, reduced bore.

M10F2FB Zinc plated carbon steel body, full bore.

Note: Stainless steel versions are available on request.

Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the  mark when so required.

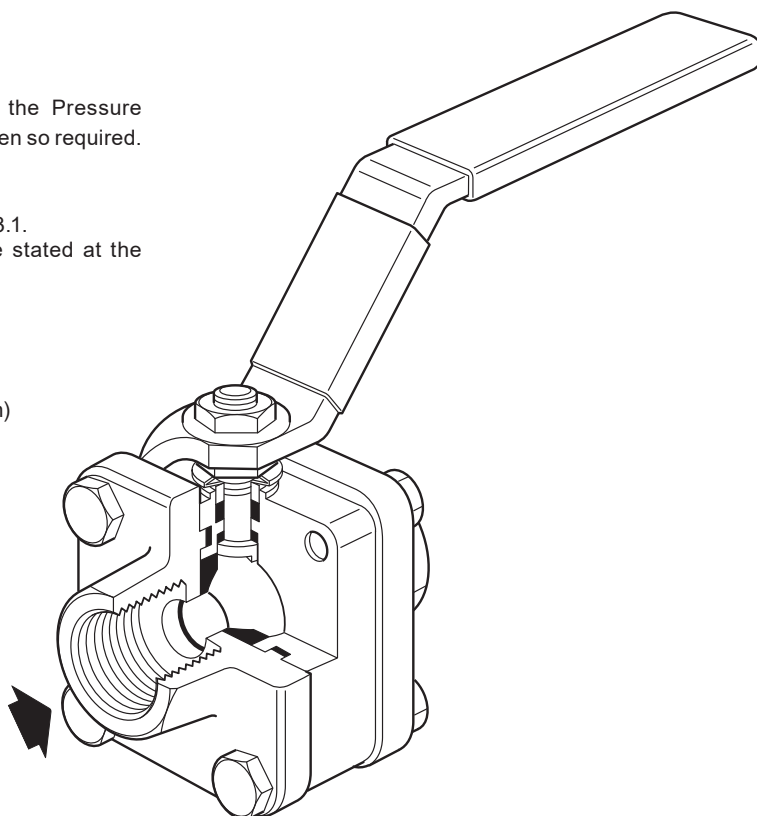
Certification

This product is available with certification to EN 10204 3.1.

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

Options

- Self-venting ball.
- Fully degreased under request (ie: Oxygen application)



Sizes and pipe connections

$\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ", $1\frac{1}{2}$ ", 2", ($2\frac{1}{2}$ " M10F2RB only).

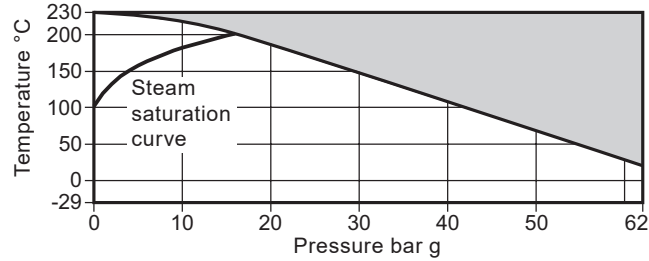
Screwed BSP, BSPT, NPT, BW, SW full bore and reduced bore.

Note: Flanged connections ANSI class 150, ANSI class 300 and EN 1092 PN40 are available on request.

Technical data

Flow characteristic	Modified linear
Port	Full and reduced bore versions
Leakage test procedure	to ISO 5208 (Rate A)/EN 12266-1 (Rate A)
Antistatic device	Complies with ISO 7121 and BS 5351
Firesafe	Designed to BS 6755 part 2 and API Spec 6FA standards

Pressure/temperature limits

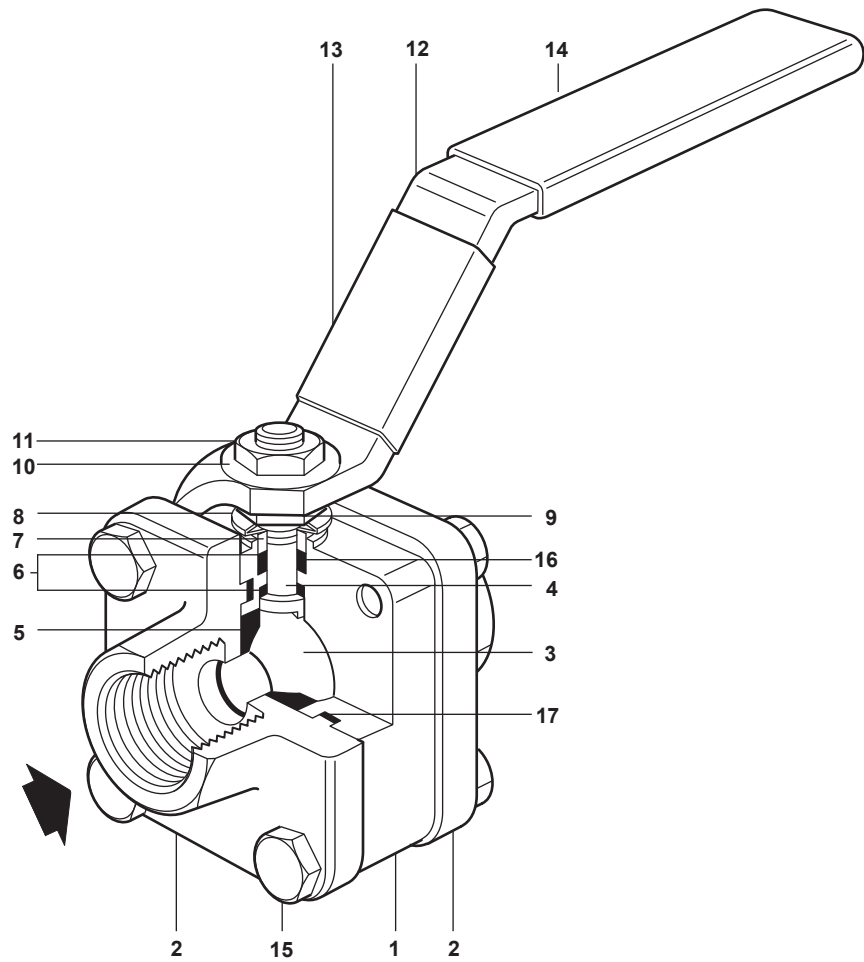


The product **must not** be used in this region.

Note: In gases applications, the maximum operating pressure is restricted to 40 bar g.

PMA	Maximum allowable pressure	62 bar g @ 25 °C
TMA	Maximum allowable temperature	230 °C @ 0 bar g
	Minimum allowable temperature	-29 °C
PMO	Maximum operating pressure for saturated steam service	15 bar g
TMO	Maximum operating temperature	230 °C @ 0 bar g
	Minimum operating temperature	-29 °C
Note: For lower operating temperatures consult Spirax Sarco		
ΔPMX	Maximum differential pressure is limited to the PMO	
	Designed for a maximum cold hydraulic test pressure of:	93 bar g

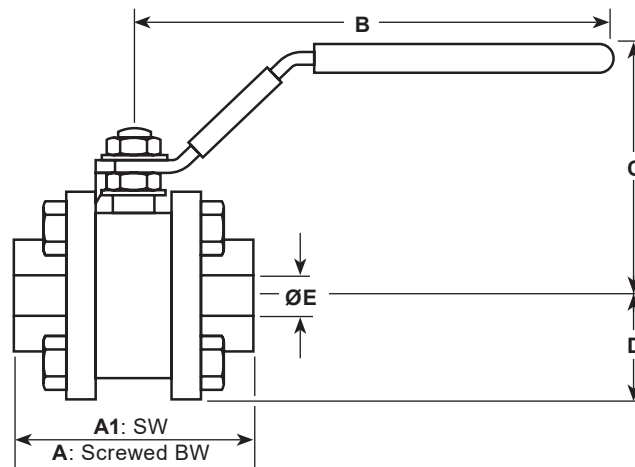
Materials



No.	Part	Material	
1	Body	Zinc plated carbon steel	ASTM A105
2	Cap	Zinc plated carbon steel	ASTM A105
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	Carbon reinforced PTFE (R-PTFE)	
6	Stem seal	Antistatic R-PTFE	
7	Separator	Zinc plated carbon steel	SAE 1010
8	Belleville washer	Stainless steel	AISI 301
9	Nut	Zinc plated carbon steel	SAE 1010
10	Name-plate (DN)	Stainless steel	AISI 430
11	Stem nut	Zinc plated carbon steel	SAE 1010
12	Lever	Zinc plated carbon steel	SAE 1010
13	Name-plate	Stainless steel	AISI 430
14	Grip	Vinyl	
15	Bolts	Zinc plated carbon steel	ASTM A193 B7
16	Stem seal	Graphite	
17	Body gasket	Graphite	

Dimensions/weights (approximate) in mm and kg
Reduced bore

Size	A	A1	B	C	D	E	Weight
1/4"	60	58	120	63	26	11	0.66
3/8"	60	58	120	63	26	11	0.66
1/2"	60	49	120	63	26	11	0.66
3/4"	66	56	120	66	29	14	0.85
1"	80	78	157	94	33	21	1.50
1 1/4"	96	91	157	99	37	25	2.30
1 1/2"	102	98	180	111	41	31	3.00
2"	118	112	180	117	48	38	4.50
2 1/2"	146	145	245	134	57	51	7.80



Full bore

Size	A	A1	B	C	D	E	Weight
1/4"	60	58	120	63	26	11	0.66
3/8"	60	58	120	63	26	11	0.66
1/2"	66	61	120	66	29	14	0.85
3/4"	80	78	157	94	33	21	1.50
1"	96	95	157	99	37	25	2.30
1 1/4"	102	102	180	111	41	31	3.00
1 1/2"	118	118	180	117	48	38	4.50
2"	146	145	245	134	57	51	9.10

K_v values

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Reduced bore	2.5	6.8	6	10	27	49	70	103	168
Full bore	2.5	6.8	17	36	58	89	153	205	-

For conversion:
 $C_v (UK) = K_v \times 0.963$
 $C_v (US) = K_v \times 1.156$

Operating torque (N m)

Size	¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"
Reduced bore	2	2	2	3.5	13	21	30	40	45
Full bore	2	2	3.5	13	21	30	40	45	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 62 bar.

Valves that are subject to long static periods, may require greater break-out torque.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

Welding

Only the models that have connections designed for welding (SW, BW, Imperial Tube connections) should be welded. Valves with SW or BW welding connections must be disassembled before welding onto the pipeline, the ends should be welded separately and the valve should be reassembled when the ends are cool. Carbon steel valves with threaded (BSPT, BSP, NPT) or flanged connections must not be welded to avoid damages to the valve and/or injury to personnel.

How to order example:

1 off Spirax Sarco ½" screwed NPT M10F2RB ball valve.

Spare parts

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

Available spare

Body gasket, seat and stem seal set

5, 6, 16, 17

How to order spares

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

Example: 1-Body gasket, seat and stem seal set for a Spirax Sarco ½" M10F2FB ball valve.

