spirax sarco®

M10F ISO Ball Valve 1/2" to 2-1/2"

Description

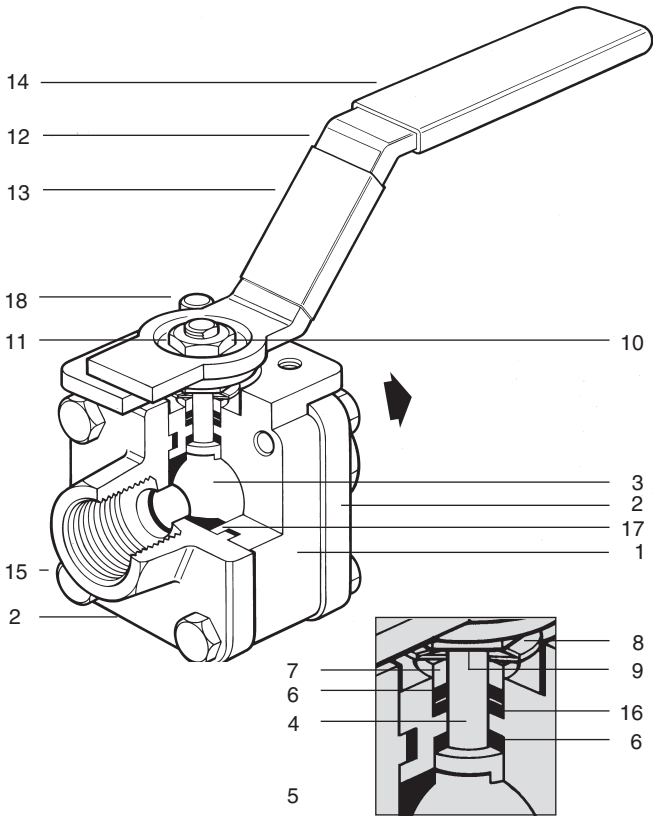
M10F is a three piece firesafe antistatic ball valve designed for steam and other industrial fluids for service ranging from vacuum to higher temperatures and pressures.

Firesafe design

In normal working conditions, the ball rests against R-PTFE seals ensuring total closure.
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 ensures the valve will operate to international API Spec 6 FA and BS 6755 part 2 standards.

ISO mounting

The integral ISO body mounting allows the valve to be automated without losing seal integrity, as the body does not require disassembly. Manual to remote control may therefore be safely and easily accomplished by the ISO range of Spirax Sarco ball valves.



Available types

M10F2RB ISO	Zinc plated carbon steel body, reduced bore.
M10F2FB ISO	Zinc plated carbon steel body, full bore.

Options

• Self venting ball.

Sizes and pipe connections

1/4", 3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", (2-1/2" only available with reduced bore).
Screwed BSP, BSPT, NPT, SW, BW full bore and reduced bore.
Note; Flanged connections ANSI class 150, 300 and PN40 are available on request.

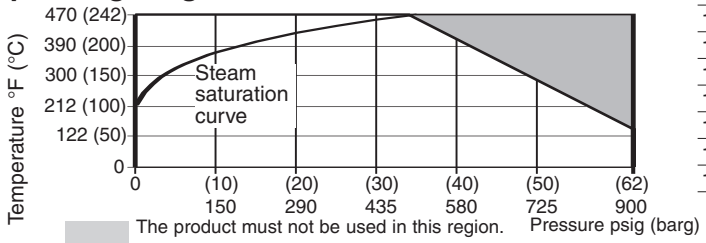
Technical data

Flow characteristic	Modified linear
Port	Full and reduced bore versions
Leakage	Test procedure to ISO 5208 (rate A)
Antistatic	Complies with ISO 7121 and BS 5351
Firesafe Designed to BS 6755 Part 2 and API Spec 6FA standards	

Limiting conditions

Maximum operating temperature	445°F@0 psig (230°C @ 0 barg)
Maximum operating pressure	900 psig @ 77°F (62 barg @ 25˚C)
Maximum saturation steam pressure	215 psig (15 barg)
Maximum cold hydraulic test pressure	1350 psig (93 barg)

Operating range



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	R-PTFE	
6	Stem seal	Antistatic R-PTFE	
7	Separator	Zinc plated carbon steel	SAE 12L14
8	Belleville washer	Stainless steel	AISI 301
9	Nut	Zinc plated carbon steel	SAE 12L14
10	Name-plate (DN)	Stainless steel	AISI 430
11	Stem nut	Zinc plated carbon steel	SAE 12L14
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	
18	Stop screw	Zinc plated carbon steel	SAE 12L14

Local regulations 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.

Dimensions / weights (approximate) in mm and kg

Reduced bore

Size	A	A1	B2	C2	D	E	Weight
1/4"	2.36	1.93	5.12	2.60	1.02	0.43	2.0
3/8"	2.36	1.93	5.12	2.60	1.02	0.43	2.0
1/2"	2.36	1.93	5.12	2.60	1.02	0.43	2.0
3/4"	2.60	2.29	5.12	2.72	1.14	0.55	2.1
1"	3.15	3.07	6.38	3.94	1.30	0.83	3.6
1-1/4"	3.78	3.59	6.38	4.10	1.46	0.99	5.1
1-1/2"	4.02	3.78	7.29	4.41	1.62	1.22	6.7
2"	4.65	4.41	7.29	4.73	1.89	1.50	10.1
2-1/2"	5.75	5.83	9.85	5.52	2.25	2.01	17.5

Full bore

Size	A	A1	B2	C2	D	E	Weight
1/4"	2.36	2.36	5.12	2.60	1.02	0.43	2.0
3/8"	2.36	2.36	5.12	2.60	1.02	0.43	2.0
1/2"	2.60	2.56	5.12	2.72	1.14	0.55	2.1
3/4"	3.15	3.15	6.38	3.94	1.30	0.83	3.6
1"	3.78	3.78	6.38	4.10	1.46	0.99	5.1
1-1/4"	4.02	4.02	7.29	4.41	1.62	1.22	6.7
1-1/2"	4.65	4.65	7.29	4.73	1.89	1.50	10.1
2"	5.75	5.75	9.85	5.52	2.25	2.01	17.5

C_V values

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced bore	3.5	7.6	7.0	12	32	57	82	121	197
Full bore	3.5	8.0	20	42	68	104	179	240	-

Operating torques (ft / lb)

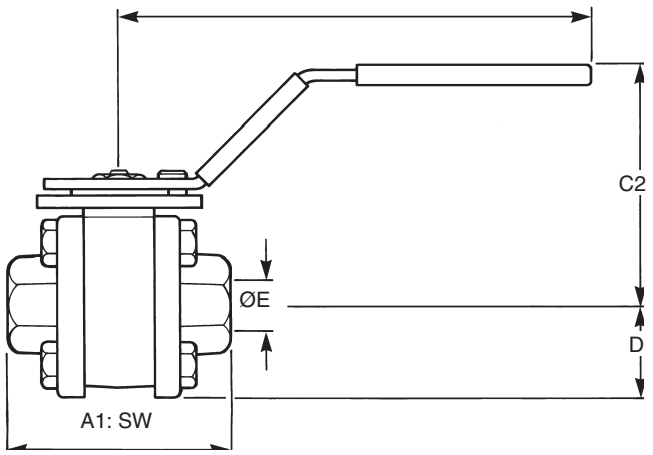
Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced bore	1.5	1.5	1.5	3	10	15.5	23	29.5	33.5
Full bore	1.5	1.5	3	10	15.5	23	29.5	33.5	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 900 psi (62 barg). Valves that are subject to a long static period, may require up to 75 % greater break out torque

Maintenance

Before commencing any dismantling work ensure that no flow is taking place in the pipeline and the line is isolated. Any fluid remaining in the line should be drained off.

To fit new parts, remove the valve from the pipeline, and remove the eight coupling bolts. Remove the valve body and fit parts as necessary. Whenever the valve is dismantled, the graphite stem seal and body gaskets (16, 17) must be replaced before reassembly.



A: Scrd and BW

How to specify

Example: Spirax Sarco 1/2" screwed NPT M10F2RB ISO ball valve.

Spare parts

The spare parts available are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

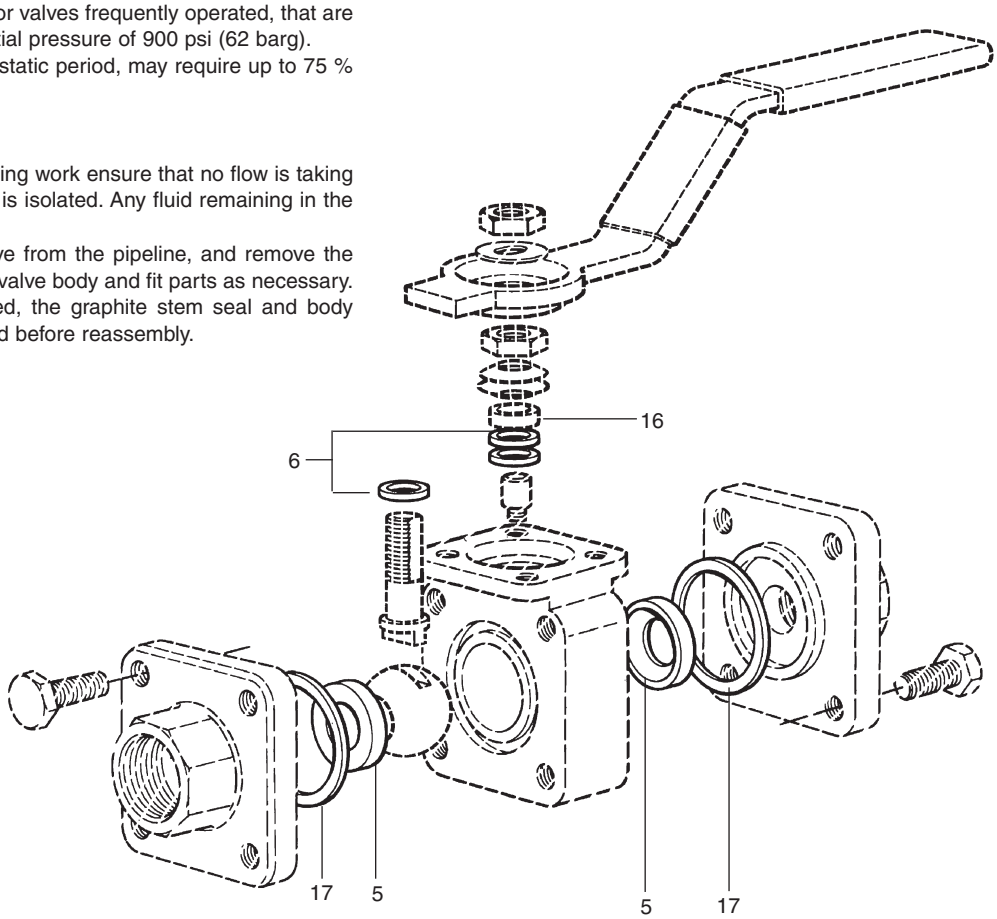
Available spares

Seat, stem seal set and body gaskets	5, 6, 16, 17

How to order spares

Always order spares by using the description given in the column headed Available Spares and stating the size and type of ball valve.

Example: 1- Seat, stem seal set and body gaskets for 1/2" M10F2FB ISO ball valve.



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