



M10Ti ISO "Teflon Free" Ball Valve

1/4" to 2 1/2"

(Not Suitable for Steam)

Description

The M10Ti ISO three-piece body ball valve has been designed for use as an isolating valve, not a control valve, has a lockable handle as standard and can be serviced without removal from the pipeline (screwed and welded versions only). It has been specially designed for applications that cannot use Teflon, for example the tobacco industry. The seat and seals are of UHMWPE (Ultra High Molecular Weight Polyethylene).

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 easily accomplished by the ISO range of Spirax Sarco ball valves.

Available types

M10Ti2 ISO Zinc plated carbon steel body and caps.

M10Ti4 ISO Complete stainless steel construction.

Note: The nomenclature will be followed with either **FB** (full bore) or **RB** (reduced bore).

Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the **CE** mark when so required. The product has been specifically designed for use on steam, compressed air, water, and other industrial fluids that are in Group two of the above mentioned PED.

Certification

This product is available with certification to EN 10204 3.1.

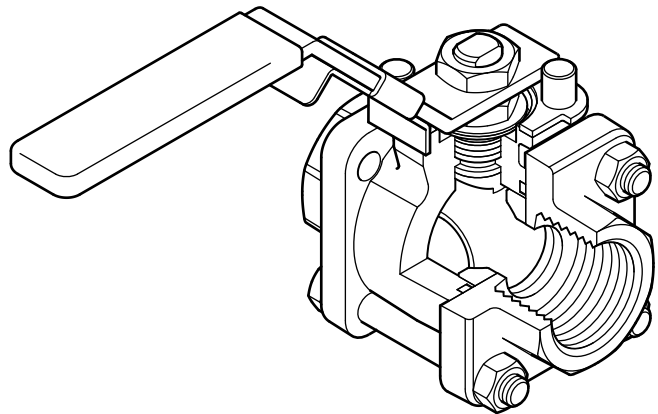
Note: All certification / inspection requirements must be stated at the time of order placement.

Options

- Self-venting ball.
- Extended stem 4" (100 mm) to allow full insulation. (manual operation only)

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 (optional)	Complies with ISO 7121 and BS 5351



Sizes and pipe connections

Full bore

1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2"
Screwed NPT, BW, SW

Flanged

1/2" to 2"

ASME (ANSI) Class 150,
ASME (ANSI) Class 300

Reduced bore

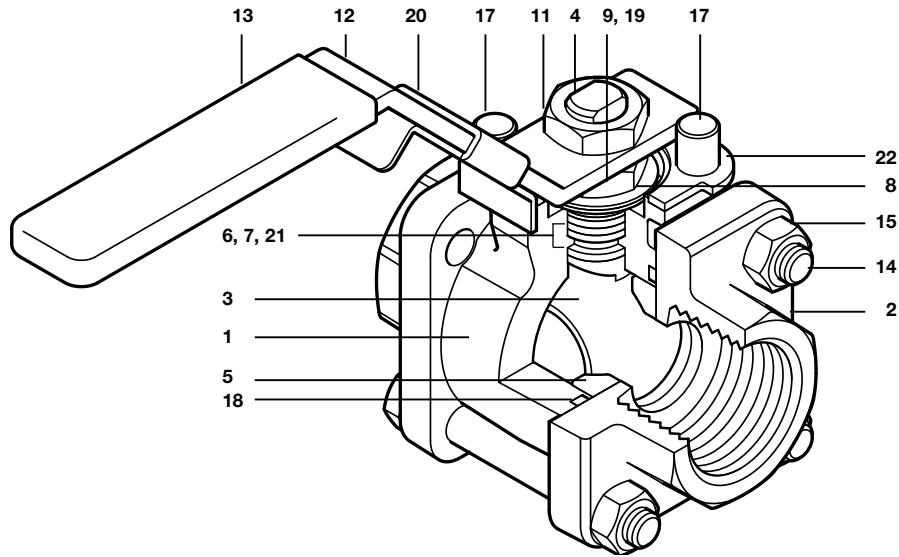
1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" and 2 1/2"
Screwed NPT, BW, SW

Flanged

1/2" to 2 1/2"

ASME (ANSI) Class 150,
ASME (ANSI) Class 300

PMA	Maximum allowable pressure	1015 psi g @ 158°F
TMA	Maximum allowable temperature	158°F @ 1015 psi g
	Minimum allowable temperature	-20°F
PMO	Maximum operating pressure	1015 psi g
TMO	Maximum operating temperature	158°F @ 1015 psi g
	Minimum operating temperature	-20°F
Note: For lower operating temperatures consult Spirax Sarco		
ΔPMX	Maximum differential pressure	1015 bar
Designed for a maximum cold hydraulic test pressure of 1523 psig		



Materials

No. Part		Material	
1	Body	M10Ti2 ISO	Zinc plated carbon steel ASTM A105
		M10Ti4 ISO	Stainless steel ASTM A 182 F 316L
2	Cap	M10Ti2 ISO	Zinc plated carbon steel ASTM A105
		M10Ti4 ISO	Stainless steel ASTM A 182 F 316L
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
*5	Seat	UHMWPE	
*6	Stem seal	UHMWPE	
7	Separator	M10Ti2 ISO	Zinc plated carbon steel SAE 1010
		M10Ti4 ISO	Stainless steel AISI 316
8	Belleville washer	Stainless steel	AISI 301
9	Lower stem nut	M10Ti2 ISO	Zinc plated carbon steel SAE 1010
		M10Ti4 ISO	Stainless steel AISI 304
10	Name-plate - DN (Not shown)	Stainless steel	AISI 430
11	Upper stem nut	M10Ti2 ISO	Zinc plated carbon steel SAE 1010
		M10Ti4 ISO	Stainless steel AISI 304
12	Lever	M10Ti2 ISO	Zinc plated carbon steel SAE 1010
		M10Ti4 ISO	Stainless steel AISI 316
13	Grip	Vinyl light blue	
14	Bolts	M10Ti2 ISO	Zinc plated carbon steel Grade 5
		M10Ti4 ISO	Stainless steel AISI 304
15	Nuts	M10Ti2 ISO	Zinc plated carbon steel SAE 1010
		M10Ti4 ISO	Stainless steel AISI 304
16	Studs	M10Ti4 ISO	Stainless steel AISI 316
Note: Item 16 can not be shown as it is only applicable to welded versions			
17	Stop screw	M10Ti2 ISO	Zinc plated carbon steel SAE 12L 14
		M10Ti4 ISO	Stainless steel AISI 304
*18	Body/cap 'O' ring	Geothermal EPDM	
19	Nut locker	Stainless steel	AISI 316
20	Lockable handle	Stainless steel	AISI 316
*21	Stem seal	Stainless steel	
22	Lock-plate	Stainless steel	AISI 316

*Note: Available spare parts sold as a kit.

Dimensions (approximate) in Inches

Reduced Bore

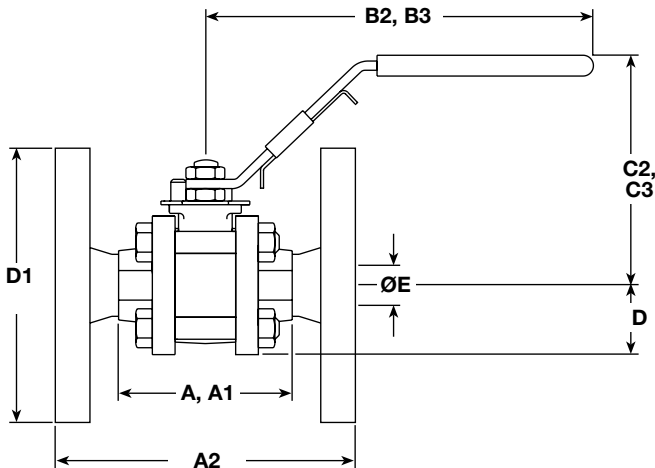
Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
3/8"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
1/2"	2.6	2.6	4.3	6.4	6.4	0.4	0.4	0.9	3.5	0.4
3/4"	2.8	2.8	4.6	6.4	6.4	3.7	3.7	1	3.8	0.5
1"	3.4	3.4	5	6.4	6.4	3.9	3.9	1.2	4.3	0.8
1-1/4"	4	4	5.5	6.4	6.4	4.2	4.2	1.5	4.6	1
1-1/2"	4.3	4.3	6.5	7.3	7.3	4.6	4.6	1.6	5	1.2
2"	4.9	4.7	7	7.3	7.3	4.8	4.8	1.9	5.9	1.5
2-1/2"	6	6	-	9.8	9.8	5.5	5.5	2.2	-	2

Full Bore

Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
3/8"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
1/2"	2.8	2.8	-	6.4	6.4	3.7	3.7	1	-	0.5
3/4"	2.8	2.8	-	6.4	6.4	3.9	3.9	1.2	-	0.8
1"	3.4	3.4	-	6.4	6.4	4.2	4.2	1.5	-	1
1-1/4"	4	4	-	7.3	7.3	4.6	4.6	1.6	-	1.2
1-1/2"	4.3	4.3	-	7.3	7.3	4.8	4.8	1.9	-	1.5
2"	6	6	-	9.8	9.8	5.5	5.5	2.2	-	2

Weights (approximate) in lb

Size	Reduced Bore		Full Bore
	Scrd / BW / SW	ASME 150	Scrd / BW / SW
1/4"	1.8	-	1.8
3/8"	1.8	-	1.8
1/2"	1.9	3.7	2.2
3/4"	2.2	4.9	3.4
1"	3.4	6.4	5.1
1-1/4"	5.1	9.1	6.7
1-1/2"	6.7	14.1	9.7
2"	9.7	18.4	19.9
2-1/2"	18.0	-	-



- A: Scrd
- A1: SW
- A2: Flanged ASME 150
- B2: Scrd, BW and SW
- B3: ASME 150
- C2: Scrd, BW and SW
- C3: ASME 150
- D: Scrd, BW and SW
- D1: Flanged ASME 150
- E: All versions

Cv values

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced Bore	5.7	7.8	6.9	11.56	31.2	56.6	80.9	119	194.2
Full Bore	5.7	7.8	19.6	41.6	67	102.8	176.8	236.9	-

Operating torque (Lb-Ft)

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced Bore	2.4	2.4	2.4	4.0	9.7	14.7	36.8	44.2	55.3
Full Bore	2.4	2.4	4.0	9.7	14.7	36.8	44.2	55.3	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 580 psi. Valves that are subject to long static periods, may require greater break-out torque.

Safety information, installation and maintenance

Installation and Maintenance Instructions, IM-P133-73.

How to order example:

1 off Spirax Sarco 1/2" screwed NPT M10Ti2FB ISO ball valve.

Spare parts

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

Available spare

Seat, seals and body gasket set

5, 6, 18, 21

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 - Seat, seals and body gasket set for a Spirax Sarco 1/2" M10Ti2FB ISO ball valve.

