

spirax/sarco®

M10T ISO Ball Valve DN1/4" to DN2-1/2"

Description

The M10T ISO is a three piece body ball valve specially designed for applications that cannot use Teflon, for example the tobacco industry. The seats and seals are of UHMWPE* (Ultra High Molecular Weight Polyethylene). The screwed and welded versions of M10T ISO can be serviced without removing the valve from the pipeline. 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

M10T2RB ISO	Zinc plated carbon steel body, UHMWPE seats, reduced bore, ISO mounting.
M10T2FB ISO	Zinc plated carbon steel body, UHMWPE seats, full bore, ISO mounting.
M10T3RB ISO	Stainless steel body, UHMWPE seats, reduced bore, ISO mounting.
M10T3FB ISO	Stainless steel body, UHMWPE seats, full bore, ISO mounting.
M10T4RB ISO	A complete stainless steel construction, UHMWPE seats, reduced bore, ISO mounting.
M10T4FB ISO	A complete stainless steel construction, UHMWPE seats, full bore, ISO mounting.

Options

- Self-venting ball.
- Extended stems 2" (50mm) and 4" (100mm).
- Lockable handle.
- Oval handle for confined spaces, ideal for trap modules.

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 and NPT, SW, BW full bore and reduced bore. Standard flanges ANSI 150. Optional ANSI 300 and PN40 full bore and reduced bore.

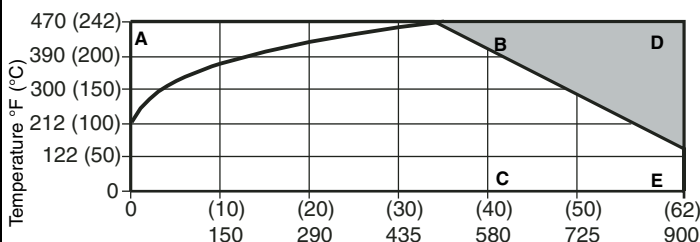
Technical data

Flow characteristic	Modified linear
Port	Full and reduced port versions
Leakage	Test procedure to ISO 5208 (rate A)
Antistatic (optional)	

Limiting conditions

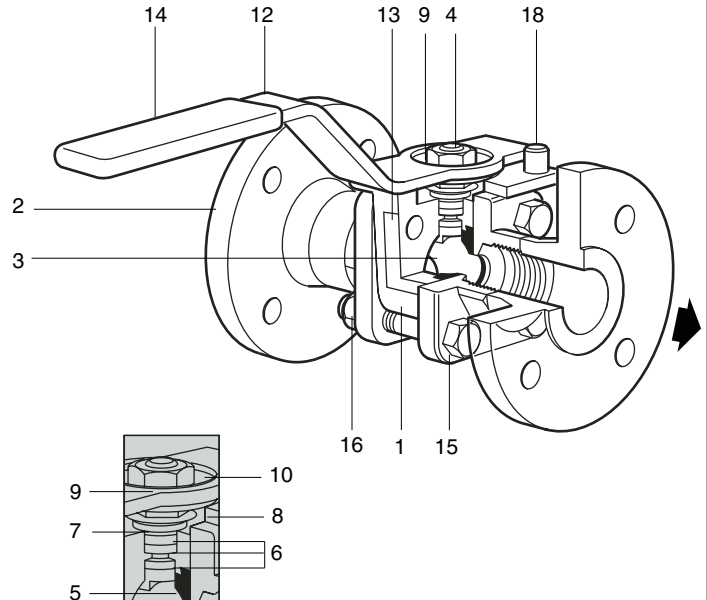
Maximum allowable temperature 160°F @ 1015 psig (70°C @ 70 barg)
 Maximum allowable pressure 1015 psig @ 160°F (70 barg @ 70°C)
 Designed for a maximum cold hydraulic test pressure of 1525 psig (105 barg).

Operating range



A-D-E: 1/4" to 1-1/2" FB and RB, and 2" RB Pressure psig (barg)
 A-D-C: 2" FB and 2-1/2" RB

The product must not be used in this region.



Materials

No. Part Material

No.	Part	Material	Standard
1	Body	M10T2 ISO	Zinc plated carbon steel ASTM A105
		M10T3 ISO	Stainless steel ASTM A 182 F 316L
		M10T4 ISO	Stainless steel ASTM A 182 F 316L
		M10T2 ISO	Zinc plated carbon steel ASTM A105
2	Cap	M10T3 ISO	Stainless steel ASTM A 182 F 316L
		M10T4 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	M10T2 ISO	Zinc plated carbon steel SAE 1010
		M10T3 ISO	Stainless steel AISI 316
		M10T4 ISO	Stainless steel AISI 301
9	Stem nuts	M10T2 ISO	Zinc plated carbon steel SAE 1010
		M10T3 ISO	Stainless steel AISI 316
10	Name-plate (DN)	Stainless steel	AISI 430
12	Lever	M10T2 ISO	Zinc plated carbon steel SAE 1010
		M10T3 ISO	Stainless steel AISI 316
		M10T4 ISO	Stainless steel AISI 430
13	Name-plate	Stainless steel	AISI 430
14	Grip	Vinyl	
15	Bolts	M10T2 ISO	Zinc plated carbon steel Grade 5
		M10T3 ISO	Stainless steel AISI 316
		M10T4 ISO	Stainless steel AISI 316
16	Nuts	M10T2 ISO	Zinc plated carbon steel Grade 5
		M10T3 ISO	Stainless steel AISI 316
		M10T4 ISO	Stainless steel AISI 316
18	Stop screw	M10T2 ISO	Zinc plated carbon steel SAE 12L14
		M10T3 ISO	Stainless steel AISI 316

*UHMWPE is an ultra high molecular weight polyethylene, that can be used in low to medium level radiation service and in applications where fluorocarbons cannot be tolerated. UHMWPE seats are white in color, more translucent than PTFE.

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. TI-P133-54-US 01.05

Dimensions (approximately) in inches

Reduced bore

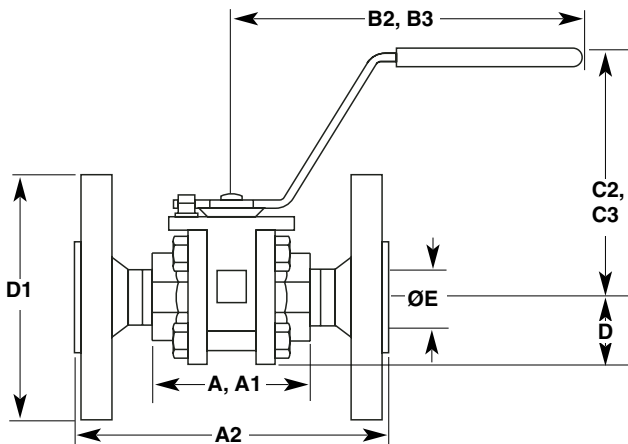
Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.21	2.05	-	5.12	-	2.48	-	0.87	-	0.32
3/8"	2.21	2.05	-	5.12	-	2.48	-	0.87	-	0.32
1/2"	2.48	2.05	4.26	5.12	5.71	2.60	3.19	0.95	3.51	0.43
3/4"	2.68	2.36	4.61	5.12	5.71	2.72	3.31	1.02	3.86	0.55
1"	3.39	3.31	5.00	6.38	6.38	3.94	3.94	1.22	4.26	0.83
1-1/4"	3.90	3.70	5.52	6.38	6.38	4.10	4.10	1.46	4.65	0.99
1-1/2"	4.26	4.02	6.50	7.29	7.29	4.41	4.41	1.62	5.00	1.22
2"	4.89	4.65	7.01	7.29	7.29	4.73	4.73	1.89	5.99	1.50
2-1/2"	5.99	5.99	-	9.85	-	5.52	-	2.25	-	2.01

Full bore

Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.21	2.29	-	5.12	-	2.48	-	0.87	-	0.32
3/8"	2.48	2.36	-	5.12	-	2.60	-	0.95	-	0.43
1/2"	2.68	2.52	-	5.12	5.71	2.72	3.31	1.02	-	0.55
3/4"	3.39	3.31	-	6.38	6.38	3.94	3.94	1.22	-	0.83
1"	3.90	3.86	-	6.38	6.38	4.10	4.10	1.46	-	0.99
1-1/4"	4.26	4.18	-	7.29	7.29	4.41	4.41	1.62	-	1.22
1-1/2"	4.89	4.89	-	7.29	7.29	4.73	4.73	1.89	-	1.50
2"	5.99	5.99	-	9.85	9.85	5.52	5.52	2.25	-	2.01

Weights (approximate) in lb

Size	Reduced bore		Full bore
	Scrd /BW/SW	ANSI 150	Scrd /BW/SW
1/4"	1.4	-	1.4
3/8"	1.4	-	1.0
1/2"	1.6	3.9	2.1
3/4"	2.1	5.2	3.5
1"	3.5	7.7	4.5
1-1/4"	4.5	9.9	6.1
1-1/2"	6.1	13.1	5.0
2"	5.0	20.2	16.5
2-1/2"	16.5	-	-



A: Scrd and BW
A1: SW
A2: ANSI 150

B2: Scrd, BW and SW
B3: Flanged ANSI 150
C2: Scrd, BW and SW
C3: Flanged ANSI 150

D: Scrd, BW and SW
D1: Flanged ANSI 150

E: All versions

Cv Values M10T ISO

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced bore	2.9	2.9	7.0	12	32	57	82	121	197
Full bore	2.9	8.0	20	42	68	104	179	240	-

Operating torque (FT. lbs.)

Reduced bore	1.5	1.5	1.5	2.6	9.6	15.5	22.1	29.5	33.2
Full bore	1.5	1.5	2.6	9.6	15.5	22.1	29.5	33.2	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 100 bar.

Valves that are subject to long static periods, 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.

The new parts can be fitted without removing the complete ball valve from the pipeline (screwed, SW and BW versions only).

Remove the four bolts and nuts and loosen the lower two. The complete assembly can then be removed and the new parts fitted.

M10T ISO flanged ball valves must be removed from the pipeline to facilitate the fitting of the new parts.

How to order

Example: 1 off Spirax Sarco 1/2" screwed BSP M10T2FB 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 and stem seal set 5, 6

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 ball valve.

Example: 1 - Seat and stem seal set for a 1/2" M10T2FB ball valve.

