

spirax/sarco®

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

Description

The M10T 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). Screwed and welded versions of M10T can be serviced without removing the valve from the pipeline.

Available types

M10T2RB	Carbon steel body and ends, UHMWPE seats, reduced bore.
M10T2FB	Carbon steel body and ends, UHMWPE seats, full bore.
M10T3RB	Stainless steel body and ends, UHMWPE seats, reduced bore.
M10T3FB	Stainless steel body and ends, UHMWPE seats, full bore.
M10T4RB	A complete stainless steel construction, UHMWPE seats, reduced bore.
M10T4FB	A complete stainless steel construction, UHMWPE seats, full bore.

Options

- Self-venting ball.
- Extended stems 2" (50mm) and 4" (100mm) to allow full insulation.
- Lockable handle.
- Oval handle for confined spaces.
- Can be automated.

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.

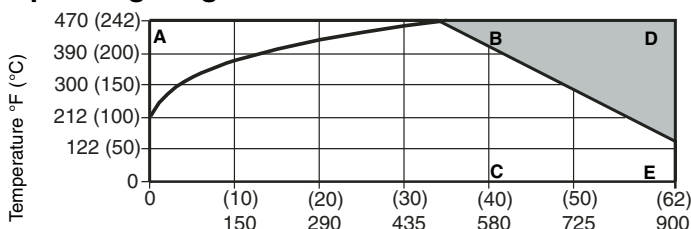
Technical data

Flow characteristic	Modified linear
Port	Full and reduced port versions
Leakage	Test procedure to ISO 5208 (rate 3)
Antistatic (optional)	Complies with ISO 7121 and BS 5351

Limiting conditions

Maximum allowable temperature	160°F @ 1020 psig (70°C @ 70 barg)
Maximum allowable pressure	1020 psig @ 160°F (70°C @ 70°C)
Designed for a maximum cold hydraulic test pressure of 1520 psig (105 barg).	

Operating range



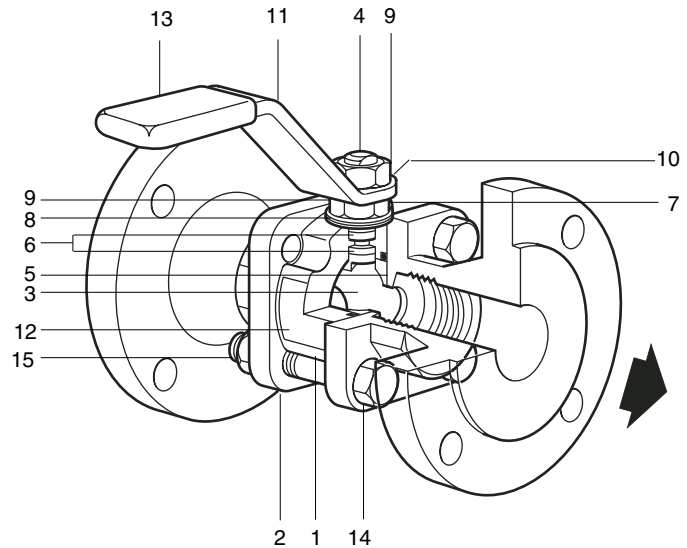
A-D-E: 1/4" to 1-1/2" FB and RB, and 2" RB

A-D-C: 2" FB and 2-1/2" RB

■ The product must not be used in this region.

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.

M10T Flanged



Materials

No.	Part	Material	Standard
1	Body	M10T2	Zinc plated carbon steel ASTM A105
		M10T3/4	Stainless steel ASTM A182F 316
2	Cap	M10T2	Zinc plated carbon steel ASTM A105
		M10T3/4	Stainless steel ASTM A182F 316
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	UHMWPE*	
6	Stem seal	UHMWPE*	
7	Separator	M10T2/T3	Zinc plated carbon steel ASTM A105
		M10T4	Stainless steel AISI 316
8	Belleville washer	Stainless steel	AISI 301
9	Stem nut	M10T2/T3	Zinc plated carbon steel SAE 12L14
		M10T4	Stainless steel AISI 316
10	Name-plate	Stainless steel	AISI 430
11	Lever	M10T2/T3	Zinc plated carbon steel SAE 1010
		M10T4	Stainless steel AISI 316
12	Name-plate	Stainless steel	AISI 430
13	Grip	Blue Vinyl	
14	Bolts	M10T2/T3	Zinc plated carbon steel ASTM A105
		M10T4	Stainless steel AISI 316
15	Nuts	M10T2/T3	Zinc plated carbon steel ASTM A105
		M10T4	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.

Dimensions inches approximate

ANSI 150 - Reduced bore

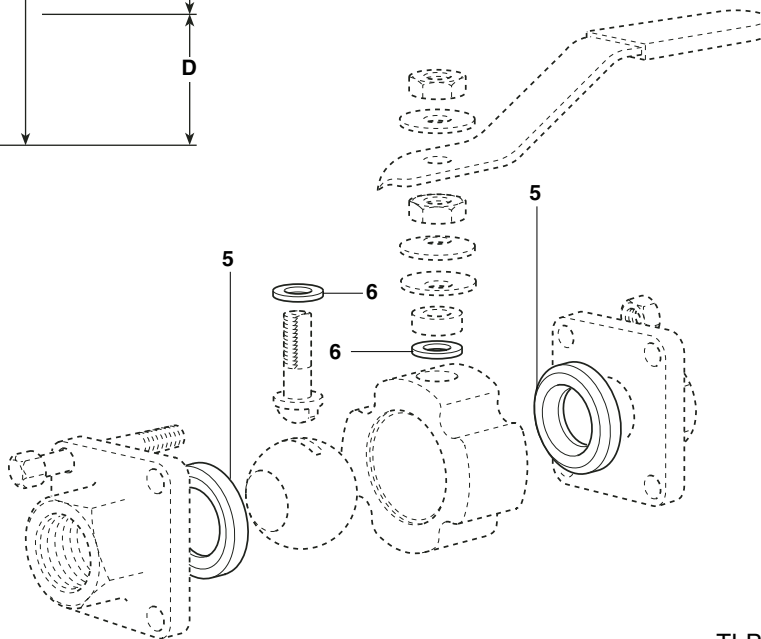
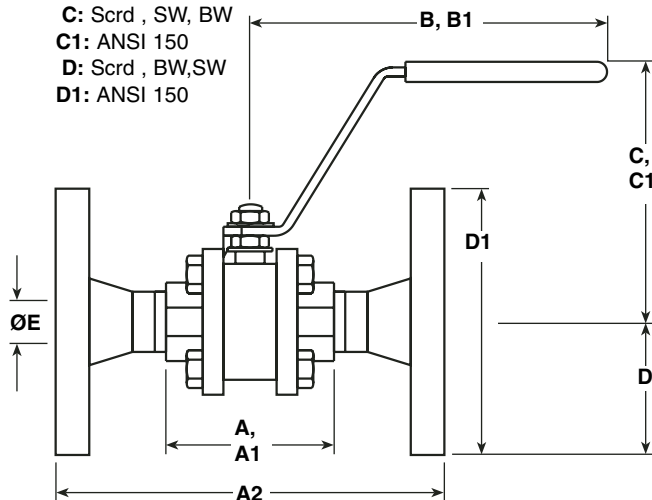
Size	A	A1	A2	B	B1	C	C1	D	D1	E	weight
1/4"	2.21	2.05	-	4.73	-	2.25	-	0.87	-	0.32	1.1
3/8"	2.21	2.05	-	4.73	-	2.25	-	0.87	-	0.32	1.1
1/2"	2.48	2.05	4.26	4.73	4.73	2.40	3.43	0.95	3.51	0.43	1.3
3/4"	2.68	2.36	4.61	4.73	4.73	2.48	3.51	1.02	3.86	0.55	1.5
1"	3.39	3.31	5.00	6.19	6.19	3.59	3.59	1.22	4.26	0.83	2.8
1-1/4"	3.90	3.70	5.52	6.19	6.19	3.74	3.74	1.46	4.61	0.99	3.9
1-1/2"	4.26	4.02	6.50	7.09	7.09	4.29	4.29	1.62	5.00	1.22	5.5
2"	4.89	4.65	7.01	7.09	7.09	4.53	4.53	1.89	5.99	1.50	7.7
2-1/2"	5.99	5.99	-	9.65	-	5.20	-	2.25	-	2.01	15.2

ANSI 150 - Full bore

Size	A	A1	A2	B	B1	C	C1	D	D1	E	weight
1/4"	2.21	2.29	-	4.73	-	2.25	-	0.87	-	0.32	1.1
3/8"	2.48	2.36	-	4.73	-	2.40	-	0.95	-	0.43	1.3
1/2"	2.68	2.52	-	4.73	-	2.48	-	1.02	-	0.55	1.5
3/4"	3.39	3.31	-	6.19	-	3.59	-	1.22	-	0.83	2.8
1"	3.90	3.86	-	6.19	-	3.74	-	1.46	-	0.99	3.9
1-1/4"	4.26	4.18	-	7.09	-	4.29	-	1.62	-	1.22	5.5
1-1/2"	4.89	4.89	-	7.09	-	4.53	-	1.89	-	1.50	7.7
2"	5.99	5.99	-	9.65	-	5.20	-	2.25	-	2.01	15.2

Note: the weights shown correspond to screwed, BW and SW versions.

- A: Scrd and BW
- A1: SW
- A2: ANSI 150
- B: Scrd, SW, BW
- B1: ANSI 150
- C: Scrd, SW, BW
- C1: ANSI 150
- D: Scrd, BW, SW
- D1: ANSI 150



Cv values

M10T

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.)

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	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 1450 psig (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. The complete assembly can then be removed and the new parts fitted.

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.