

# spirax/sarco®

## M10V Ball Valve 1/4" to 2-1/2"

### Description

M10V is a three piece body ball valve designed for use with the majority of industrial fluids. The M10V can be serviced without removing the valve from the pipeline (screwed and welded versions).

### Available types

<b>M10V2RB</b>	Zinc plated carbon steel body, PTFE seats, reduced bore.
<b>M10V2FB</b>	Zinc plated carbon steel body, PTFE seats, full bore.
<b>M10V3RB</b>	Stainless steel body, PTFE seats, reduced bore.
<b>M10V3FB</b>	Stainless steel body, PTFE seats, full bore.
<b>M10V4RB</b>	A complete stainless steel construction, PTFE seats, reduced bore.
<b>M10V4FB</b>	A complete stainless steel construction, PTFE seats, full bore.

### Options

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

### 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.

1/2" to 2" flanged ANSI 150 only available with reduced bore.

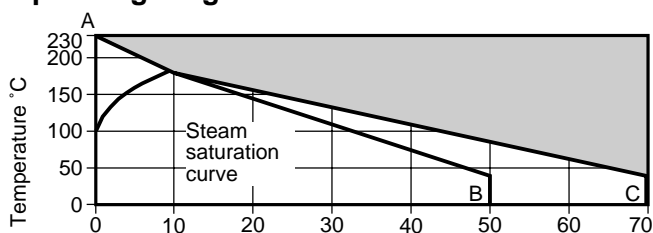
### Technical data

Flow characteristic	Modified linear
Port	Full and reduced bore
Leakage	Test procedure to ISO 5208 (rate A)
Antistatic	Complies with ISO 7121 and BS 5351

### Limiting conditions

Maximum operating temperature	445° @ 0 psig (230°C @ 0 barg)
Maximum operating pressure	1000 psig @ 104°F (70 barg @ 40°C)
Maximum saturation steam pressure	150 psig (10 barg)
Maximum cold hydraulic test pressure	1500 psig (105 barg)

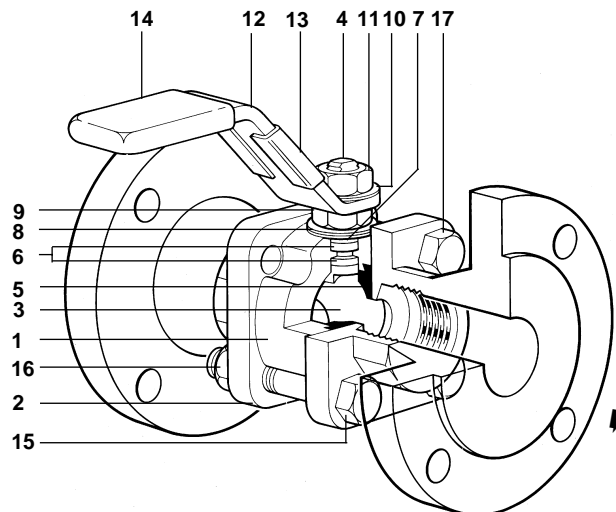
### Operating range



The product must not be used in this region.

A - B 2" FB and 2-1/2" RB only.

A - C 1/4" - 1-1/2" FB, RB and 2" RB.



### Materials

No	Part	Material	
1	Body	M10V2	Zinc plated carbon steel ASTM A105
		M10V3	Stainless steel ASTM A 182 F 316
		M10V4	Stainless steel ASTM A 182 F 316
2	Cap	M10V2	Zinc plated carbon steel ASTM A105
		M10V3	Stainless steel ASTM A 182 F 316
3	Ball	M10V2	Stainless steel AISI 316
		M10V3	Stainless steel AISI 316
4	Stem	M10V2	Stainless steel AISI 316
		M10V3	Stainless steel AISI 316
5	Seat	M10V2	Virgin PTFE
		M10V3	Virgin PTFE
6	Stem seal	M10V2	Reinforced PTFE antistatic
		M10V3	Reinforced PTFE antistatic
7	Separator	M10V2	Zinc plated carbon steel ASTM A105
		M10V3	Stainless steel AISI 316
		M10V4	Stainless steel AISI 316
8	Belleville washer	M10V2	Stainless steel AISI 301
		M10V3	Stainless steel AISI 301
9	Stem nut	M10V2	Zinc plated carbon steel SAE 12L14
		M10V3	Zinc plated carbon steel SAE 12L14
		M10V4	Stainless steel AISI 316
10	Name-plate (DN)	M10V2	Stainless steel AISI 430
		M10V3	Stainless steel AISI 430
11	Stem nut	M10V2	Zinc plated carbon steel SAE 12L14
		M10V3	Zinc plated carbon steel SAE 12L14
		M10V4	Stainless steel AISI 316
12	Lever	M10V2	Zinc plated carbon steel SAE 1010
		M10V3	Zinc plated carbon steel SAE 1010
		M10V4	Stainless steel AISI 316
13	Name-plate	M10V2	Stainless steel AISI 430
		M10V3	Stainless steel AISI 430
14	Grip	M10V2	Vinyl
		M10V3	Vinyl
15	Bolts	M10V2	Zinc plated carbon steel
		M10V3	Zinc plated carbon steel
		M10V4	Stainless steel AISI 316
16	Nuts	M10V2	Zinc plated carbon steel
		M10V3	Zinc plated carbon steel
17	Studs	M10V2	Stainless steel AISI 316
		M10V3	Stainless steel AISI 316

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-P133-08 US 05.01

## Dimensions / weights (approximate) in mm and kg

### Reduced bore

Size	A	A1	A2	B	B1	C	C1	D	D1	E	Weight
1/4"	56	52	-	120	-	57	-	22	-	8	0.52
3/8"	56	52	-	120	-	57	-	22	-	8	0.52
1/2"	63	52	108	120	120	61	87	24	89	11	0.61
3/4"	68	60	117	120	120	63	89	26	98	14	0.70
1"	86	84	127	157	157	91	91	31	108	21	1.27
1-1/4"	99	94	140	157	157	95	95	37	117	25	1.77
1-1/2"	108	102	165	180	180	109	109	41	127	31	2.50
2"	124	118	178	180	180	115	115	48	152	38	3.50
2-1/2"	152	152	-	245	-	132	-	57	-	51	6.90

### Full bore

Size	A	A1	A2	B	B1	C	C1	D	D1	E	Weight
1/4"	56	58	-	120	-	57	-	22	-	8	0.52
3/8"	63	60	-	120	-	61	-	24	-	11	0.61
1/2"	68	64	-	120	-	63	-	26	-	14	0.70
3/4"	86	84	-	157	-	91	-	31	-	21	1.27
1"	99	98	-	157	-	95	-	37	-	25	1.77
1-1/4"	108	106	-	180	-	109	-	41	-	31	2.50
1-1/2"	124	124	-	180	-	115	-	48	-	38	3.50
2"	152	152	-	245	-	132	-	57	-	51	6.90

Weights shown are only for screwed, butt and socket weld 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	2.5	2.5	7	11.5	31.5	57	81.5	120.5	196.5
Full bore	2.5	7.5	19	42	67.5	104	179	239.5	-

### 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	7.5	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 930 psi. Valves that are subject to long static periods, may require up to 75 % greater break out torque.

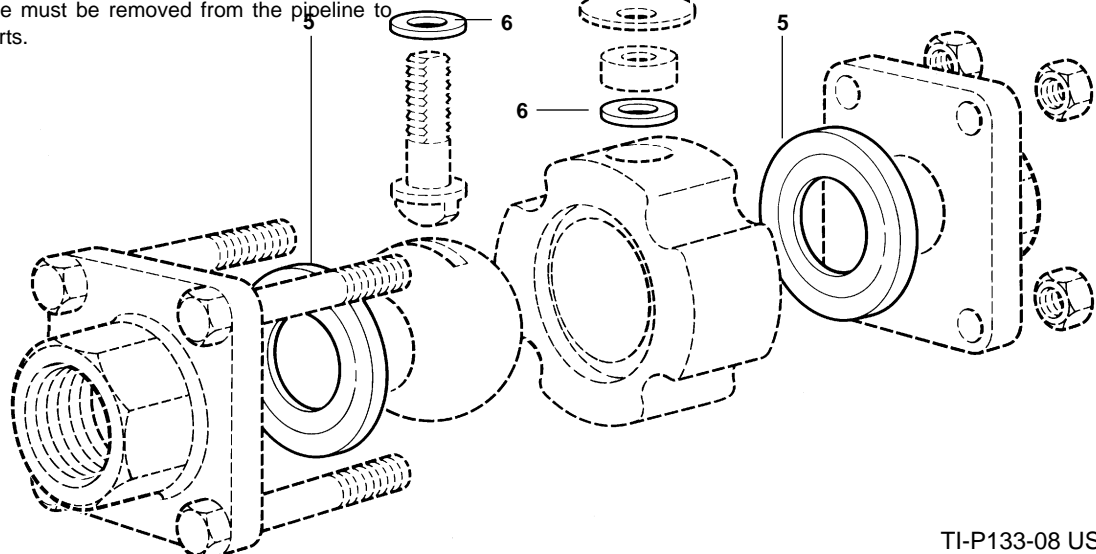
### Maintenance

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.

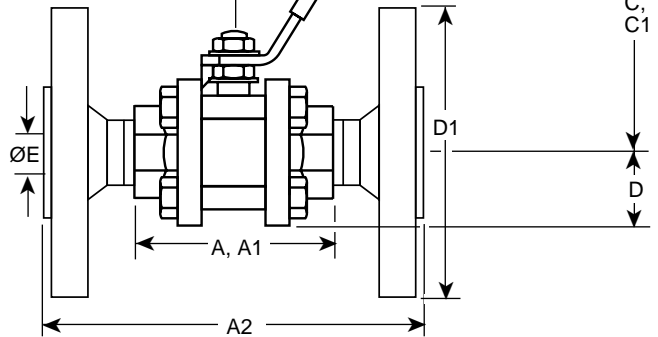
The new parts can be fitted without removing the complete ball valve from the pipeline, (screwed, SW, BW versions only).

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

The M10V flanged ball valve must be removed from the pipeline to facilitate the fitting of new parts.



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



### How to order

**Example:** Spirax Sarco 1/2" screwed NPT M10V2FB ball valve.

### Spare parts

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

### Available spare

Seat and stem seal set

5, 6

### How to order spares

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

**Example:** 1-Seat and stem seal set for 1/2" M10V2FB ball valve.