

# spirax sarco

TI-P133-51  
CMGT Issue 8

## M10P

### Ball Valve

### DN $\frac{1}{4}$ " to DN2 $\frac{1}{2}$ "

#### Description

The M10P three-piece body ball valve has been designed for use as an isolating valve, not a control valve, and can be serviced without removal from the pipeline. It can be used on applications that use steam and other industrial fluids for services ranging from vacuum to the higher temperatures and pressures.

#### Available types

**M10P2**\_ \_ Zinc plated carbon steel body and caps, PDR 0.8 seats.

**M10P3**\_ \_ Stainless steel body and caps, PDR 0.8 seats.

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

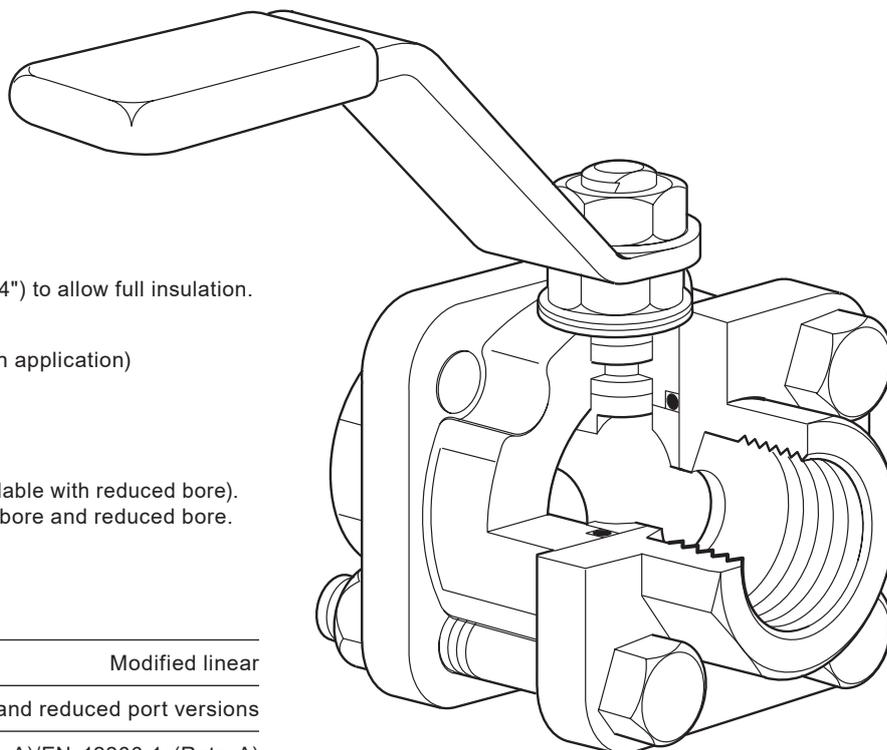
#### Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the **CE** mark when so required.

#### 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 stems 50 mm (2") and 100 mm (4") to allow full insulation.
- Lockable handle.
- Fully degreased under request (ie: Oxygen application)

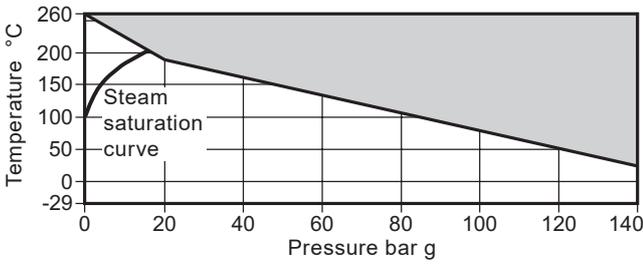
#### Sizes and pipe connections

$\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ ", 2", (2 $\frac{1}{2}$ " only available with reduced bore).  
Screwed BSP, BSPT, API/NPT, SW, BW 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)/EN 12266-1 (Rate A)	
Antistatic device (optional) complies with ISO 7121 and BS 5351	

## Pressure/temperature limits



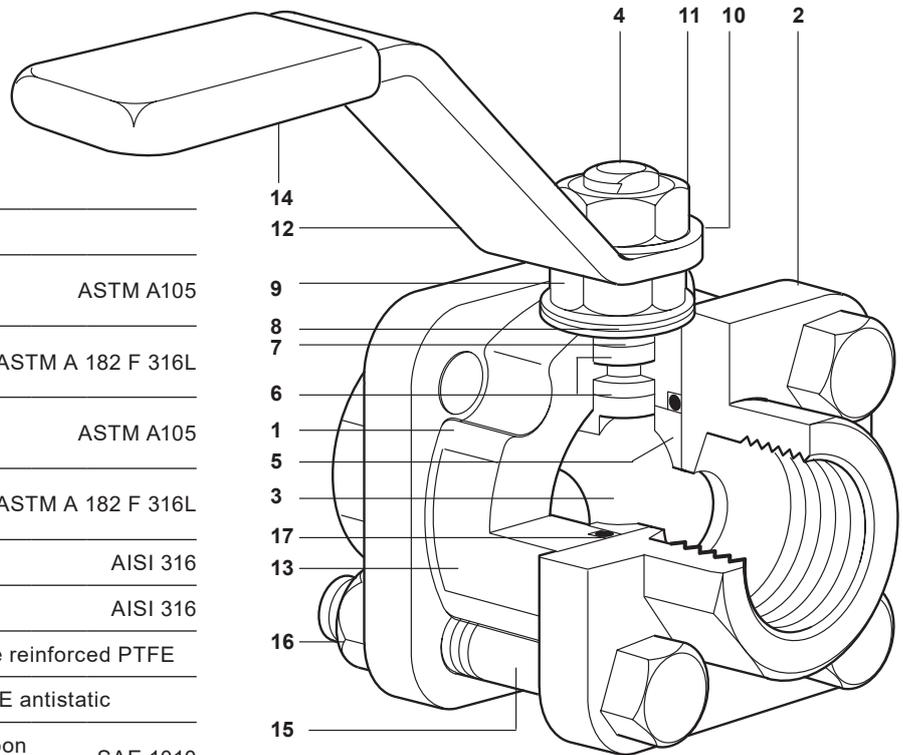
The product **must not** be used in this region.

**Note:** For valve sizes 1/4", 3/8" and 1/2" RB in gases applications, the maximum operating pressure is restricted to 40 bar g.

PMA	Maximum allowable pressure	140 bar g @ 32 °C
TMA	Maximum allowable temperature	260 °C @ 0 bar g
	Minimum allowable temperature	-29 °C
PMO	Maximum operating pressure for saturated steam service	17.5 bar g
TMO	Maximum operating temperature	260 °C @ 0 bar g
	Minimum operating temperature <b>Note:</b> For lower operating temperatures consult Spirax Sarco	-29 °C
ΔPMX	Maximum differential pressure is limited to the PMO	
Designed for a maximum cold hydraulic test pressure of 210 bar g		

## Materials

No.	Part	Material	
1	Body	<b>M10P2</b> Zinc plated carbon steel	ASTM A105
		<b>M10P3</b> Stainless steel	ASTM A 182 F 316L
2	Cap	<b>M10P2</b> Zinc plated carbon steel	ASTM A105
		<b>M10P3</b> Stainless steel	ASTM A 182 F 316L
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	Carbon/graphite reinforced PTFE	
6	Stem seal	Reinforced PTFE antistatic	
7	Separator	Zinc plated carbon steel	SAE 1010
8	Belleville washer	Stainless steel	AISI 301
9	Nut	Zinc plated carbon steel	SAE 1010
10	Name-plate (DN)	Stainless steel	AISI 430
11	Stem nut	Zinc plated carbon steel	SAE 1010
12	Lever	Zinc plated carbon steel	SAE 1010
13	Name-plate	Stainless steel	AISI 430

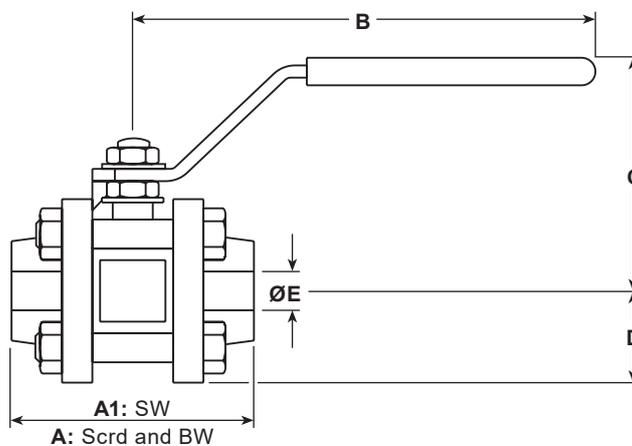


No.	Part	Material	
14	Grip	Vinyl (black)	
15	Bolts	Zinc plated carbon steel	Grade 5
16	Nuts	Zinc plated carbon steel	Grade 5
17	Cap gasket	Viton 'O' ring	

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

### Reduced bore

Size	A	A1	B	C	D	E	Weight
1/4"	63	52	120	61	24	11	0.52
3/8"	63	52	120	61	24	11	0.52
1/2"	63	52	120	61	24	11	0.61
3/4"	68	60	120	63	26	14	0.70
1"	86	84	157	91	31	21	1.27
1 1/4"	99	94	157	195	37	25	1.77
1 1/2"	108	102	180	109	41	31	2.50
2"	124	118	180	115	48	38	3.50
2 1/2"	152	152	245	132	57	51	6.90



### Full bore

Size	A	A1	B	C	D	E	Weight
1/4"	63	60	120	61	24	11	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

## K<sub>v</sub> 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	6.8	6	10	27	49	70	103	168
Full bore	2.5	6.8	17	36	58	89	153	205	-

For conversion:

$$C_v \text{ (UK)} = K_v \times 0.963$$

$$C_v \text{ (US)} = K_v \times 1.156$$

## Operating torque (N m)

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Reduced bore	2	2	2	3.5	13	21	30	40	45
Full bore	2	2	3.5	13	21	30	40	45	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 140 bar. Valves that are subject to long static periods, may require greater break-out torque.

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

### Welding

Only the models that have connections designed for welding (SW, BW, Imperial Tube connections) should be welded. Valves with SW or BW welding connections must be disassembled before welding onto the pipeline, the ends should be welded separately and the valve should be reassembled when the ends are cool. Carbon steel valves with threaded (BSPT, BSP, NPT) or flanged connections must not be welded to avoid damages to the valve and/or injury to personnel.

## How to order example:

1 off Spirax Sarco 1/2" screwed BSP M10P2FB ball valve.

## Spare parts

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

### Available spares

Seat and stem seal set	5, 6, 17
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### 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 Spirax Sarco 1/2" M10P2FB ball valve.

