

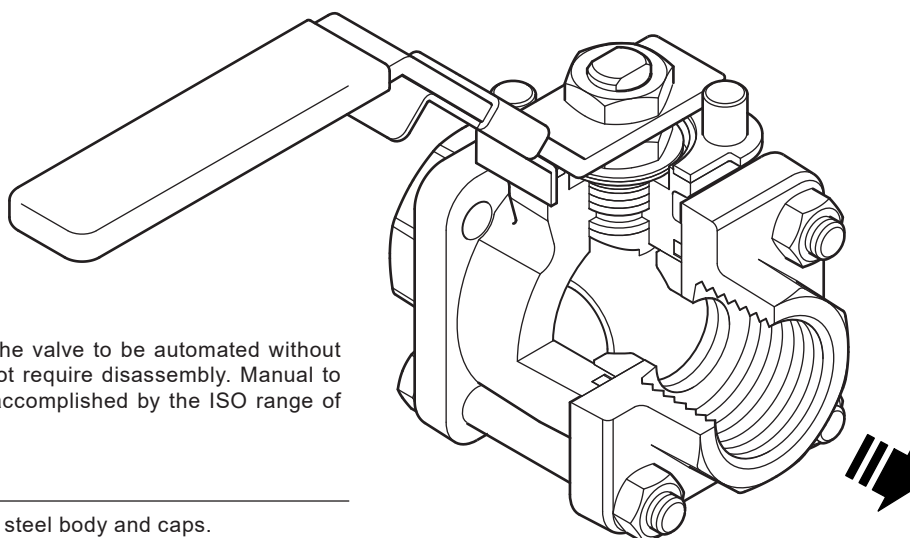


TI-P133-69
CMGT Issue 5

M10Pi ISO Ball Valve DN1¼" to DN2½"

Description

The M10Pi 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 can be used with process fluids for services ranging from vacuum to the higher temperatures and pressures.



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

M10Pi2 ISO	Zinc plated carbon steel body and caps.
M10Pi3 ISO	Stainless steel body and caps.

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 stem 100 mm (4") to allow full insulation.
- Fully degreased under request (ie: Oxygen application).

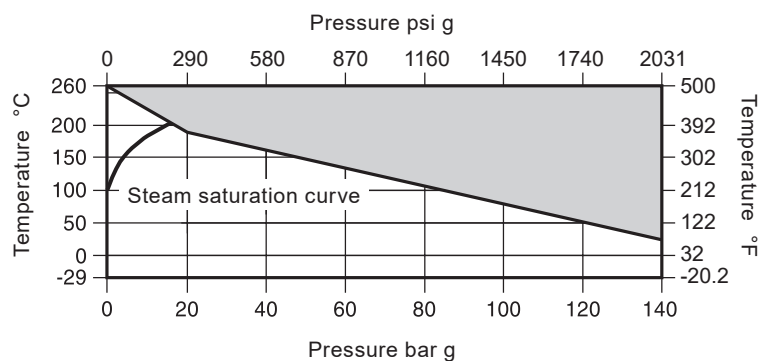
Technical data

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	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 BSP, BSPT, NPT, BW, SW
Reduced bore	1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" and 2 1/2" Screwed BSP, BSPT, NPT, BW, SW

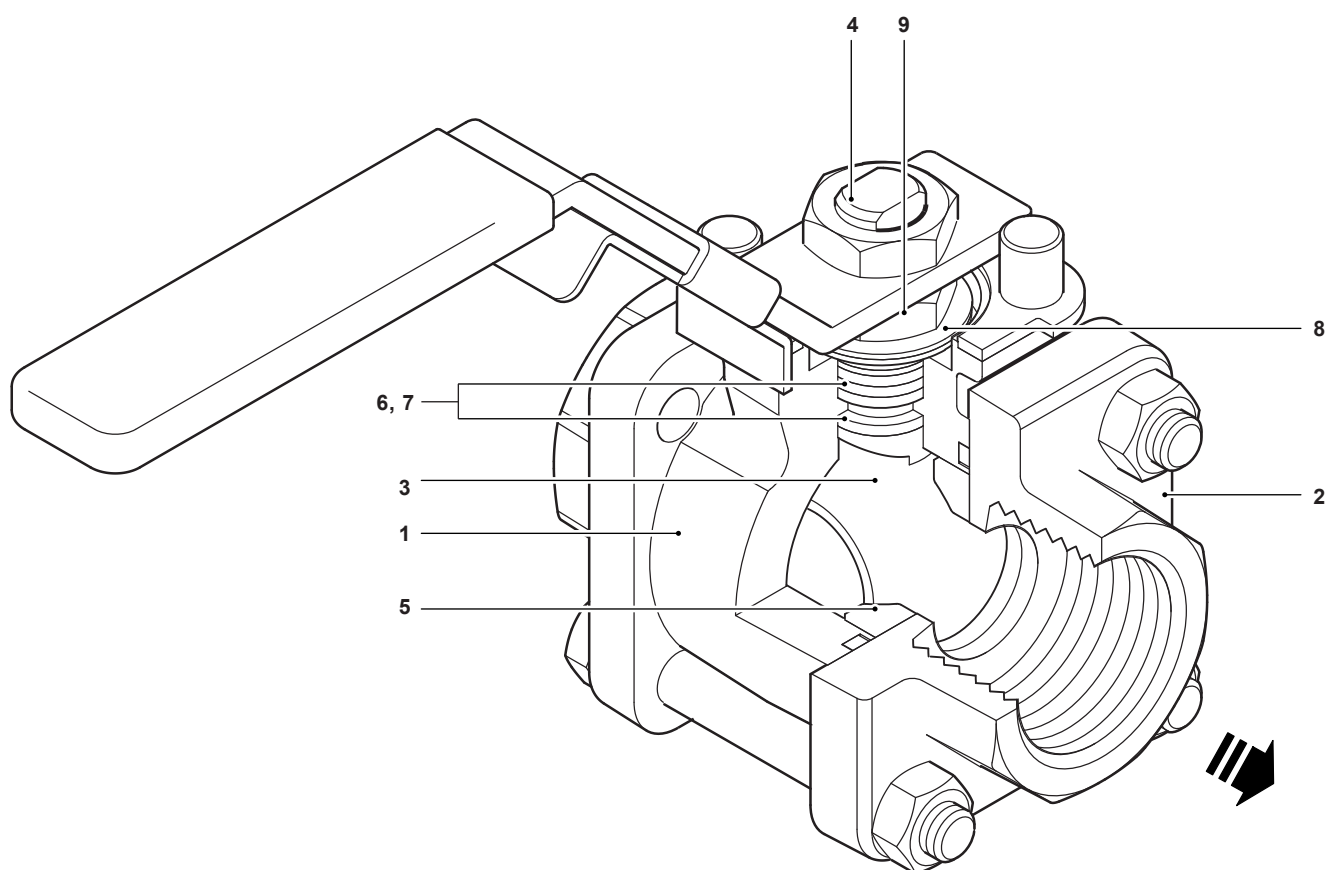
Pressure/temperature limits



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

PMA	Maximum allowable pressure	140 bar g @ 32 °C	2031 psi g @ 89.6 °F
TMA	Maximum allowable temperature	260 °C @ 0 bar g	500 °F @ 0 psi g
	Minimum allowable temperature	-29 °C	-20.2 °F
PMO	Maximum operating pressure for saturated steam service	17.5 bar g	254 psi g
TMO	Maximum operating temperature	260 °C @ 0 bar g	500 °F @ 0 psi g
	Minimum operating temperature	-29 °C	-20.2 °F
Note: For lower operating temperatures consult Spirax Sarco			
ΔPMX	Maximum differential pressure is limited to the PMO		
	Designed for a maximum cold hydraulic test pressure of:	210 bar g	3046 psi g

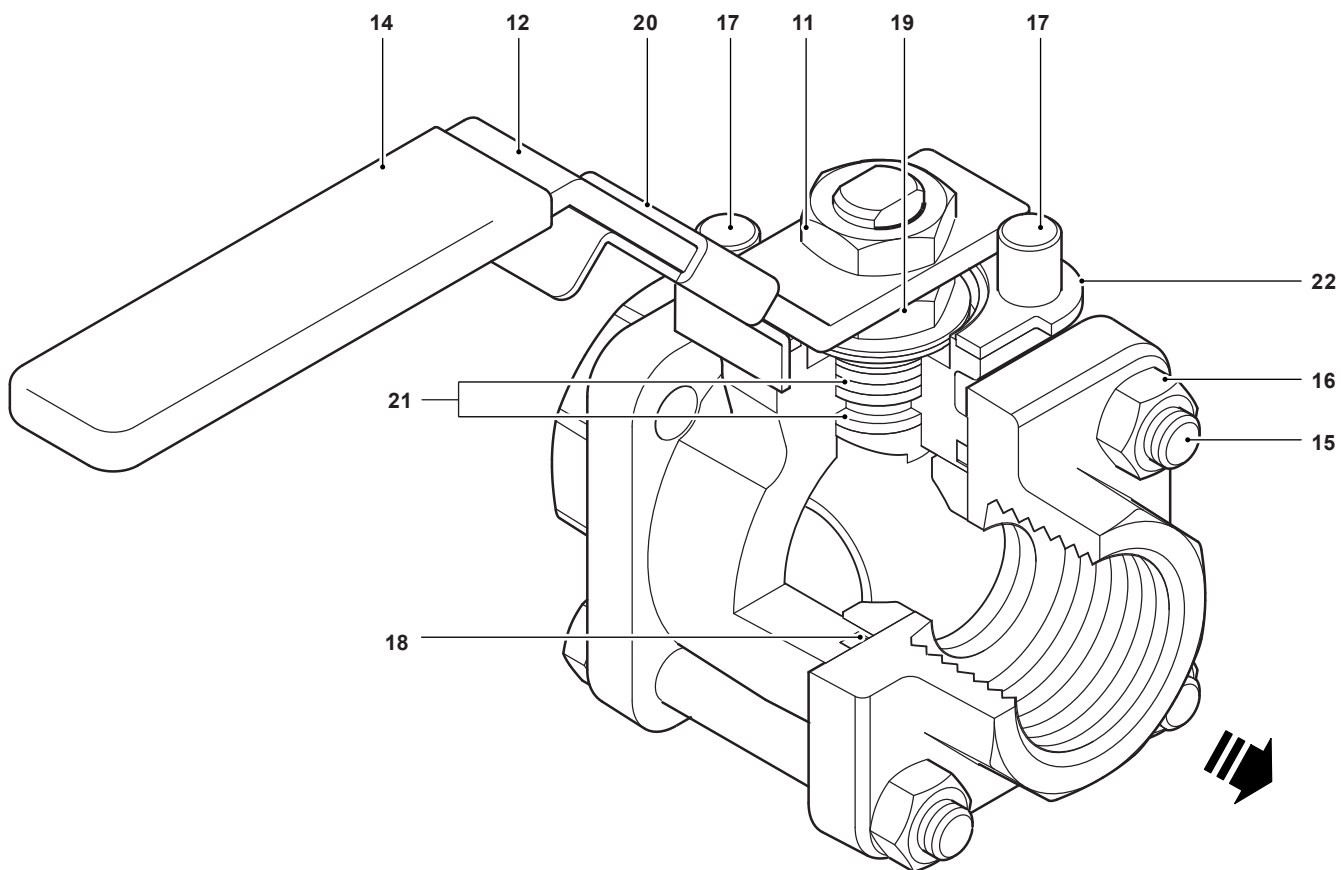
Materials



No.	Part	Material		
1	Body	M10Pi2 ISO	Zinc plated carbon steel	ASTM A105
		M10Pi3 ISO	Stainless steel	ASTM A 182 F 316L
2	Cap	M10Pi2 ISO	Zinc plated carbon steel	ASTM A105
		M10Pi3 ISO	Stainless steel	ASTM A 182 F 316L
3	Ball		Stainless steel	AISI 316
4	Stem		Stainless steel	AISI 316
5	Seat		Reinforced PTFE	
6	Stem seal		Reinforced PTFE antistatic	
7	Separator		Zinc plated carbon steel	SAE 1010
8	Belleville washer		Stainless steel	AISI 301
9	Lower stem nut		Zinc plated carbon steel	SAE 1010
10	Name-plate - DN (Not shown)		Stainless steel	AISI 430

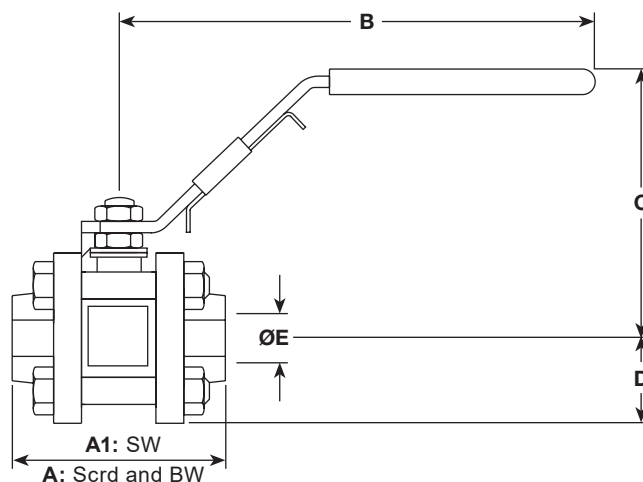
Materials continued on next page

Materials (continued)



No.	Part	Material	
11	Upper stem nut	Zinc plated carbon steel	SAE 1010
12	Lever	Zinc plated carbon steel	SAE 1010
13	Name-plate (Not shown)	Stainless steel	AISI 430
14	Grip	Vinyl black	
15	Studs	Zinc plated carbon steel	B7
16	Nuts	Zinc plated carbon steel	2H
17	Stop screw	Zinc plated carbon steel	SAE 12L 14
18	Body/cap 'O' ring	Viton	
19	Nut locker	Stainless steel	AISI 304
20	Lockable handle	Stainless steel	AISI 304L
21	Stem seal	Stainless steel	AISI 316
22	Lock-plate	Stainless steel	AISI 304L

Dimensions/weights (approximate) in mm and kg



Reduced bore

Size	A	A1	B	C	D	E	Weight
1/4"							0.86 (1.90)
3/8"	66 (2.60)	66 (2.60)		93 (3.66)	24 (0.94)	11 (0.43)	0.84 (1.85)
1/2"			162 (6.38)				0.81 (1.79)
3/4"	72 (2.83)	72 (2.83)		95 (3.74)	26 (1.02)	14 (0.55)	1.02 (2.25)
1"	87 (3.43)	87 (3.43)		101 (3.98)	31 (1.22)	21 (0.83)	1.56 (3.44)
1 1/4"	104 (4.09)	104 (4.09)		106 (4.17)	37 (1.46)	25 (0.98)	2.35 (5.18)
1 1/2"	111 (4.37)	111 (4.37)	186 (7.32)	118 (4.65)	41 (1.61)	31 (1.22)	3.08 (6.79)
2"	125 (4.92)	119 (4.69)		123 (4.84)	48 (1.89)	38 (1.50)	4.41 (9.72)
2 1/2"	153 (6.02)	153 (6.02)	251 (9.88)	140 (5.51)	57 (2.24)	50 (1.97)	8.17 (18.0)

Full bore

Size	A	A1	B	C	D	E	Weight
1/4"							0.86 (1.90)
3/8"	66 (2.60)	66 (2.60)		93 (3.66)	24 (0.94)	11 (0.43)	0.84 (1.85)
1/2"	72 (2.83)	72 (2.83)	162 (6.38)	95 (3.74)	26 (1.02)	14 (0.55)	1.02 (2.25)
3/4"	87 (3.43)	87 (3.43)		101 (3.98)	31 (1.22)	21 (0.83)	1.56 (3.44)
1"	104 (4.09)	104 (4.09)		106 (4.17)	37 (1.46)	25 (0.98)	2.35 (5.18)
1 1/4"	111 (4.37)	111 (4.37)	186 (7.32)	118 (4.65)	41 (1.61)	31 (1.22)	3.08 (6.79)
1 1/2"	125 (4.92)	119 (4.69)		123 (4.84)	48 (1.89)	38 (1.50)	4.41 (9.72)
2"	153 (6.02)	153 (6.02)	251 (9.88)	140 (5.51)	57 (2.24)	50 (1.97)	8.17 (18.0)

Kv values

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	For conversion Cv (UK) = Kv x 0.963 Cv (US) = Kv x 1.156
Reduced bore	5	6.8	6	10	27	49	70	103	168	
Full bore	5	6.8	17	36	58	89	153	205	-	

Operating torque

Size		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Reduced bore	Nm (lbf ft)	3.5 (3)	3.5 (3)	3.5 (3)	6 (4)	14 (10)	21 (16)	50 (37)	60 (44)	75 (52)
Full bore	Nm (lbf ft)	3.5 (3)	3.5 (3)	6 (4)	14 (10)	21 (16)	50 (37)	60 (44)	75 (52)	

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.

How to order example:

1 off Spirax Sarco ½" screwed BSP M10Pi2FB ISO 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 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 ½" M10Pi2FB ISO ball valve.

