



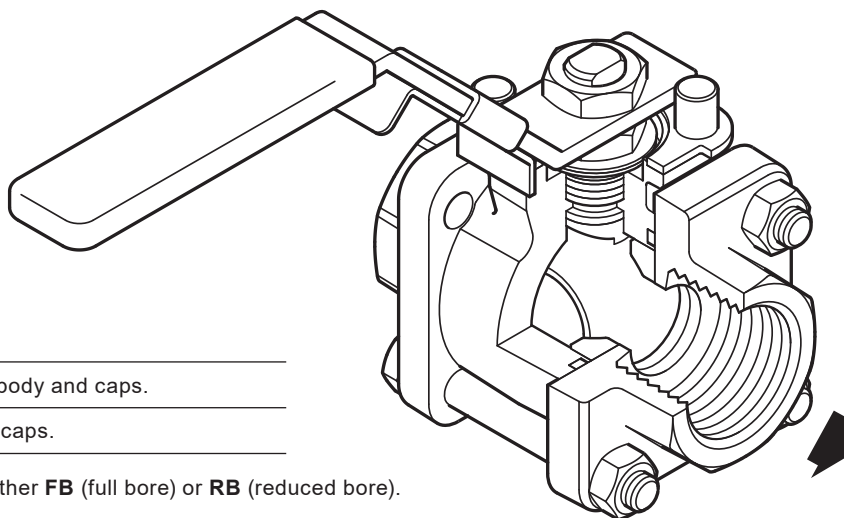
M10Pi ISO Ball Valve DN $\frac{1}{4}$ " to DN $2\frac{1}{2}$ "

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).

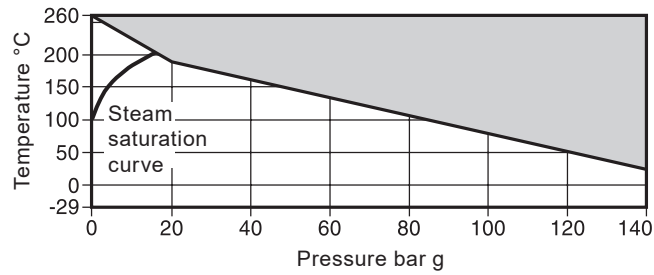
Technical data

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

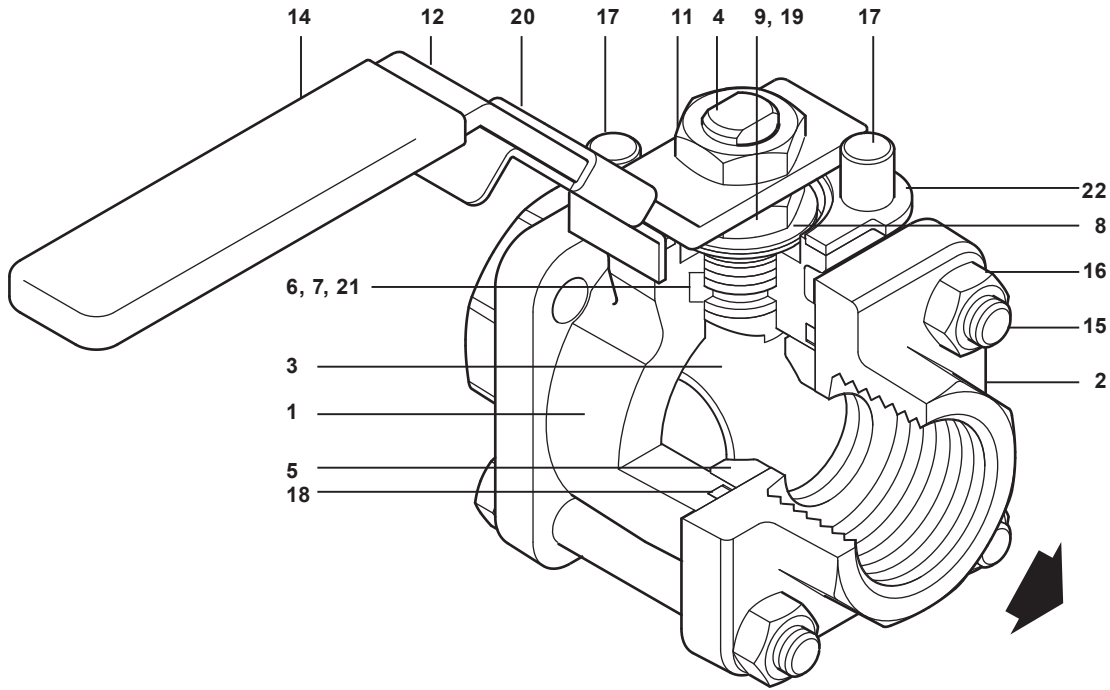
Full bore	$\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ", $1\frac{1}{2}$ " and 2" Screwed BSP, BSPT, NPT, BW, SW
Reduced bore	$\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ", $1\frac{1}{2}$ ", 2" and $2\frac{1}{2}$ " Screwed 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
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	-29 °C
	Note: For lower operating temperatures consult Spirax Sarco	
Δ PMX	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	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
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
¼"	66	66	162	93	24	11	0.86
⅜"	66	66	162	93	24	11	0.84
½"	66	66	162	93	24	11	0.81
¾"	72	72	162	95	26	14	1.02
1"	87	87	162	101	31	21	1.56
1¼"	104	104	162	106	37	25	2.35
1½"	111	111	186	118	41	31	3.08
2"	125	119	186	123	48	38	4.41
2½"	153	153	251	140	57	50	8.17

Full bore

Size	A	A1	B	C	D	E	Weight
¼"	66	66	162	93	24	11	0.86
⅜"	66	66	162	93	24	11	0.84
½"	72	72	162	95	26	14	1.02
¾"	87	87	162	101	31	21	1.56
1"	104	104	162	106	37	25	2.35
1¼"	111	111	186	118	41	31	3.08
1½"	125	125	186	123	48	38	4.41
2"	153	153	251	140	57	50	9.05

K_v values

Size	¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"
Reduced bore	5	6.8	6	10	27	49	70	103	168
Full bore	5	6.8	17	36	58	89	153	205	-

For conversion

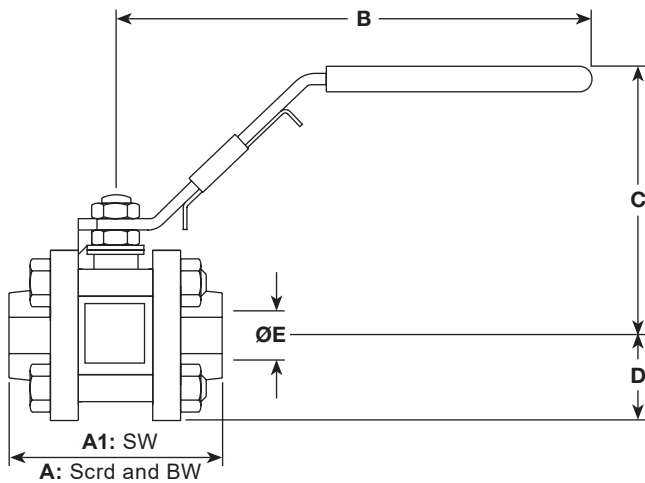
$$C_v \text{ (UK)} = K_v \times 0.963$$

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

Operating torque (N m)

Size	¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"
Reduced bore	3.5	3.5	3.5	6	14	21	50	60	75
Full bore	3.5	3.5	6	14	21	50	60	75	-

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 1/2" 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 1/2" M10Pi2FB ISO ball valve.

