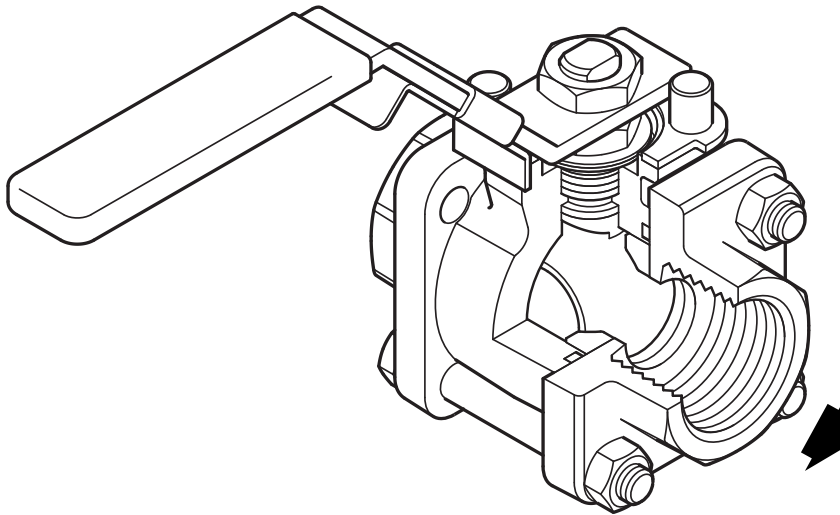




spirax sarco

TI-D216-07
BR Rev.00

M10Vi ISO Ball Valve DN $\frac{1}{4}$ " to DN $2\frac{1}{2}$ "



Description

The M10Vi 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

M10Vi2__ISO Zinc plated carbon steel body, PTFE seats.

M10Vi3__ISO Stainless steel body, PTFE seats.

M10Vi4__ISO Complete stainless steel, PTFE 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 European Pressure Equipment Directive 97/23/EC 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.
- Oval handle for confined spaces. Ideal for trap modules.

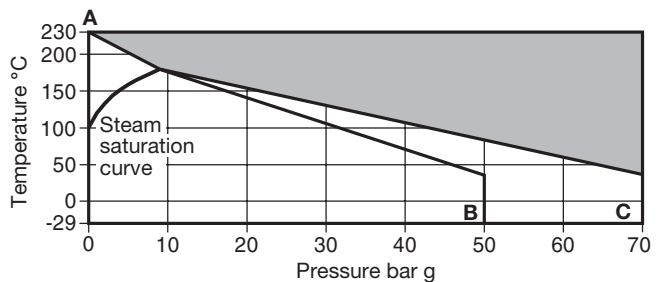
Technical data

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

$\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ ", 2", (2 $\frac{1}{2}$ " only available with reduced bore).
Screwed BSP, BSPT, NPT, BW, SW full bore and reduced bore.
DN15 to DN50 (DN65 only available with reduced bore).
Flanged PN40, ANSI 150 and ANSI 300 full bore and reduced bore.

Pressure / temperature limits

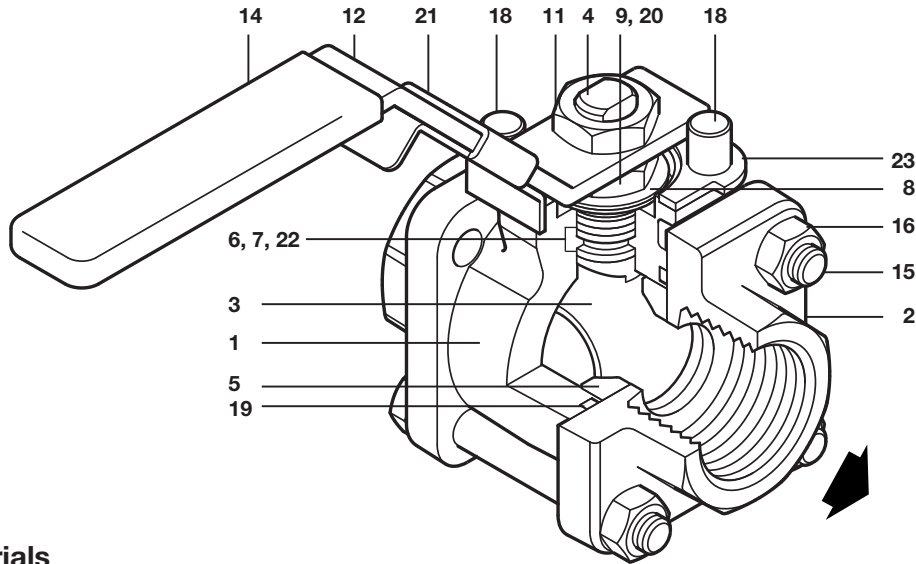


The product must not be used in this region.

- A - B** 2" FB and 2 $\frac{1}{2}$ " RB only
A - C $\frac{1}{4}$ " - 1 $\frac{1}{2}$ " FB, RB and 2" RB

Note: The flange standard may restrict the maximum operating pressure. Please check with Spirax Sarco.

PMA	Maximum allowable pressure	70 bar g @ 40°C
TMA	Maximum allowable temperature	230°C @ 0 bar g
Minimum allowable temperature		-29°C
PMO	Maximum operating pressure for saturated steam service	10 bar g
TMO	Maximum operating temperature	232°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 105 bar g		



Materials

No. Part		Material		
1	Body	M10Vi2 ISO	Zinc plated carbon steel	ASTM A105
		M10Vi3 ISO	Stainless steel	ASTM A 182 F 316L
		M10Vi4 ISO		
2	Cap	M10Vi2 ISO	Zinc plated carbon steel	ASTM A105
		M10Vi3 ISO	Stainless steel	ASTM A 182 F 316L
		M10Vi4 ISO		
3	Ball	Stainless steel	AISI 316	
4	Stem	Stainless steel	AISI 316	
5	Seat	Virgin PTFE		
6	Stem seal	Reinforced PTFE antistatic		
7	Separator	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 316
8	Belleville washer	Stainless steel	AISI 301	
9	Nut	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 304
10	Name-plate - DN (Not shown)	Stainless steel	AISI 430	
11	Stem nut	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 304
12	Lever	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 316
13	Name-plate (Not shown)	Stainless steel	AISI 430	
14	Grip	Vinyl orange		
15	Bolts	M10Vi2 ISO	Zinc plated carbon steel	Grade 5
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 304
16	Nuts	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 304
17	Studs	M10Vi4 ISO	Stainless steel	AISI 31
Note: Item 17 can not be shown as it is only applicable to welded versions				
18	Stop screw	M10Vi2 ISO	Zinc plated carbon steel	SAE 12L 14
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 304
19	Body/cap gasket	PTFE		
20	Nut locker	Stainless steel	AISI 316	
21	Lockable handle	M10Vi2 ISO	Zinc plated carbon steel	SAE 1010
		M10Vi3 ISO		
		M10Vi4 ISO	Stainless steel	AISI 316
22	Stem seal	PEEK		
23	Lock-plate	Stainless steel	AISI 316	

Dimensions (approximate) in mm**Reduced bore**

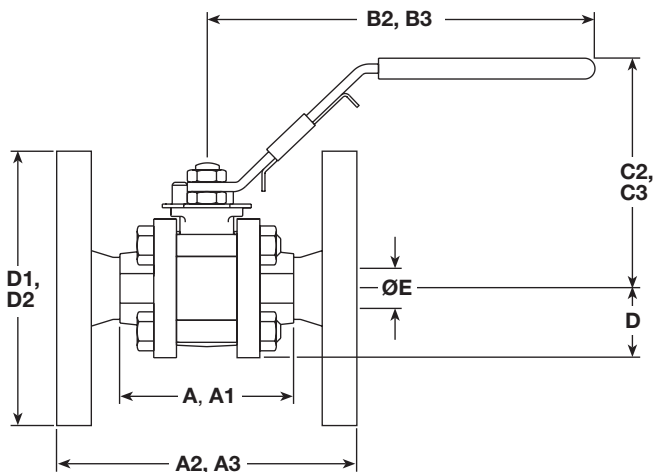
Size	A	A1	A2	A3	B2	B3	C2	C3	D	D1	D2	E
1/4"	56	52	-	-	130	-	63	-	22	-	-	8
3/8"	56	52	-	-	130	-	63	-	22	-	-	8
1/2"	63	52	108	130	130	145	66	81	24	89	95	11
3/4"	68	60	117	150	130	145	69	84	26	98	105	14
1"	86	84	127	160	162	162	100	100	31	108	115	21
1 1/4"	99	94	140	180	162	162	104	104	37	118	140	25
1 1/2"	108	102	165	200	185	185	112	112	41	127	150	31
2"	124	118	178	230	185	185	120	120	48	152	165	38
2 1/2"	152	152	-	-	250	-	140	-	57	-	-	51

Full bore

Size	A	A1	A2	A3	B2	B3	C2	C3	D	D1	D2	E
1/4"	56	58	-	-	130	-	63	-	22	-	-	8
3/8"	63	60	-	-	130	-	66	-	24	-	-	11
1/2"	68	64	-	130	130	145	69	84	26	-	95	14
3/4"	86	84	-	150	162	162	100	100	31	-	105	21
1"	99	98	-	160	162	162	104	104	37	-	115	25
1 1/4"	108	106	-	180	185	185	112	112	41	-	140	31
1 1/2"	124	124	-	200	185	185	120	120	48	-	150	38
2"	152	152	-	230	250	250	140	140	57	-	165	51

Weights (approximate) in kg

Size	Reduced bore			Full bore	
	Scrd /BW/SW	PN40	ANSI 150	Scrd /BW/SW	PN40
1/4"	0.65	-	-	0.65	-
3/8"	0.65	-	-	0.72	-
1/2"	0.72	2.30	1.77	0.95	2.60
3/4"	0.95	3.20	2.35	1.60	3.80
1"	1.60	4.20	3.47	2.05	4.70
1 1/4"	2.05	5.70	4.47	2.75	6.40
1 1/2"	2.75	6.80	5.96	4.25	8.30
2"	4.25	9.50	9.16	7.50	12.80
2 1/2"	7.50	-	-	-	-



- A:** Scrd and BW
A1: SW
A2: Flanged ANSI 150
A3: Flanged PN40
B2: Scrd, BW and SW
B3: Flanged PN40 and ANSI 150
C2: Scrd, BW and SW
C3: Flanged PN40 and ANSI 150
D: Scrd, BW and SW
D1: Flanged ANSI 150
D2: Flanged PN40
E: All versions

K_v 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	6	10	27	49	70	103	168
Full bore	2.5	6.8	17	36	58	89	153	205	-
For conversion	$C_V (UK) = K_V \times 0.963$				$C_V (US) = K_V \times 1.156$				

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	3.25	3.25	3.25	5.50	13.25	20	50	60	75
Full bore	3.25	3.25	5.50	13.25	20	50	60	75	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 40 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 M10Vi2FB ISO ball valve.

Spare parts

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

Available spare

Seat, seals and body gasket set	5, 6, 19, 22
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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" M10Vi2FB ISO ball valve.

