



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

TI-P133-34
ST Issue 5

M15 ISO Ball Valve DN1/4" to DN2 1/2"

Description

The M15 ISO three-piece body ball valve has ISO mounting and metal seats as standard. This makes it suitable for working with fluids that contain solids in suspension. It can be used on flow control applications that use steam and other industrial fluids for services ranging from vacuum to the higher temperatures and pressures. The M15 ISO has been designed for use as a control valve not an isolating valve, and can be serviced without removal from the pipeline.

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 safely and easily accomplished by the ISO range of Spirax Sarco ball valves.

Available types

M152V __ ISO	Zinc plated carbon steel body, Viton 'O' ring.
M152K __ ISO	Zinc plated carbon steel body, Kalrez 'O' ring.
M153V __ ISO	Stainless steel body, Viton 'O' ring.
M153K __ ISO	Stainless steel body, Kalrez 'O' ring.
M154V __ ISO	Complete stainless steel, Viton 'O' ring.
M154K __ ISO	Complete stainless steel, Kalrez 'O' ring.

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

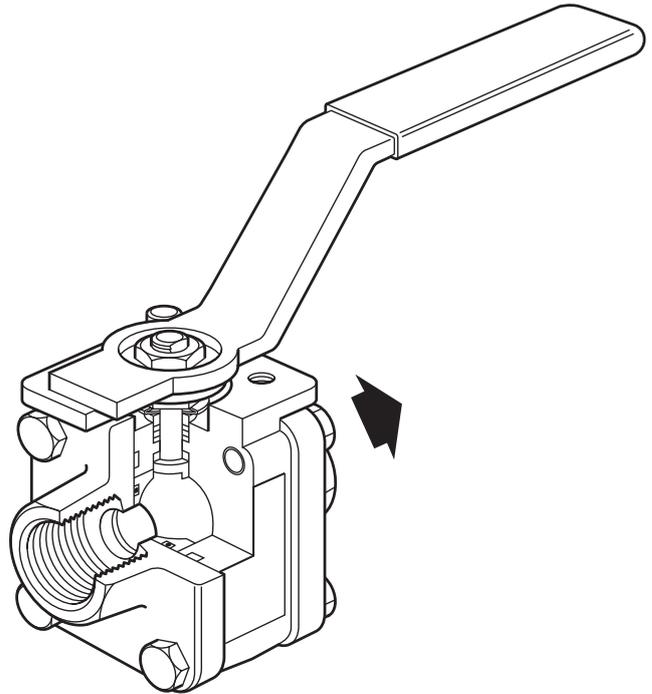
- Self-venting ball.
- Extended stem 50 mm (2") and 100 mm (4") to allow full insulation.
- Lockable handle.
- Oval handle for confined spaces.

Sizes and pipe connections

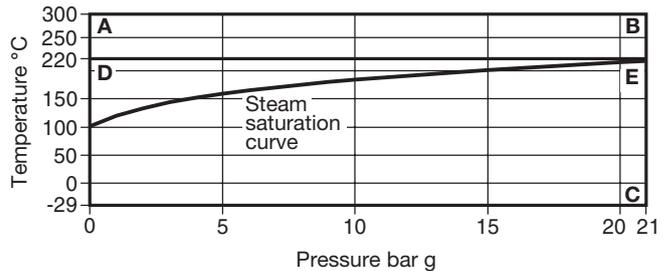
1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2",
(2 1/2" only available with reduced bore).
Screwed BSP, BSPT, NPT, SW, BW full bore and reduced bore.
DN15 - DN50 (DN65 only available with reduced bore).
Flanged ANSI 150 and ANSI 300, full bore and reduced bore.
Flanged EN 1092 PN40, full bore and reduced bore.

Technical data

Flow characteristic	Equal percentage
Port	Full and reduced bore versions
Leakage	Test procedure to ANSI B 16.104 Class IV
Antistatic (optional)	Complies with ISO 7121 and BS 5351

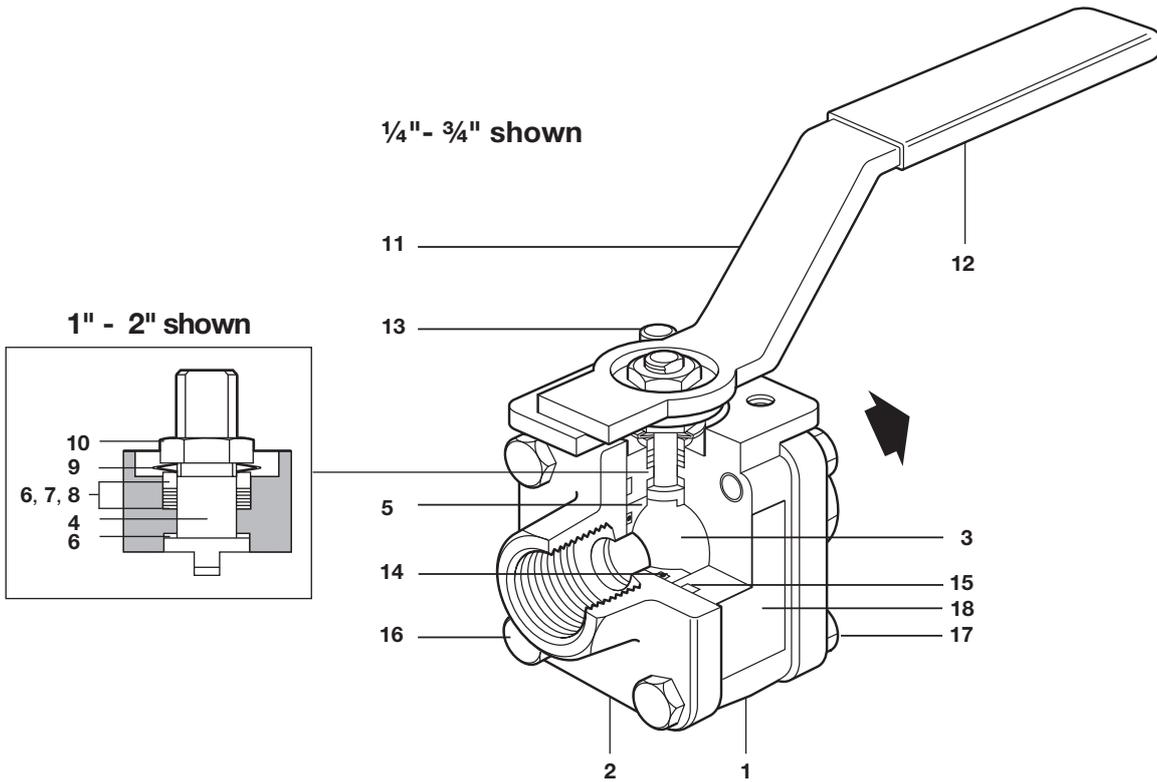


Pressure / temperature limits



A-B-C M15_K (Kalrez 'O' ring).
D-E-C M15_V (Viton 'O' ring).

PMA	Maximum allowable pressure	M15_K 21 bar g @ 300°C
		M15_V 21 bar g @ 220°C
TMA	Maximum allowable temperature	M15_K 300°C
		M15_V 220°C
Minimum allowable temperature		-29°C
PMO	Maximum operating pressure for saturated steam service	21 bar g
TMO	Maximum operating temperature	M15_K 300°C @ 21 bar g
		M15_V 220°C @ 21 bar g
Minimum operating temperature		-29°C
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 32 bar g		



Materials

No. Part		Material	
1 Body	M152	Zinc plated carbon steel	ASTM A105
	M153	Stainless steel	ASTM A 182 F316L
	M154		
2 Cap	M152	Zinc plated carbon steel	ASTM A105
	M153	Stainless steel	ASTM A 182 F316L
	M154		
3 Ball		Stainless steel	AISI 316L + CrN
4 Stem		Stainless steel	AISI 316
5 Seat		Stainless steel	AISI 316 + CrN
6 Stem seal		PEEK	
7 Stem seal		PTFE reinforced with graphite	
8 Separator	M152	Zinc plated carbon steel	SAE 12L 14
	M153		
	M154	Stainless steel	AISI 316
9 Belleville washer		Stainless steel	AISI 301
10 Nut	M152	Zinc plated carbon steel	SAE 12L 14
	M153		
	M154	Stainless steel	AISI 316
11 Lever	M152	Zinc plated carbon steel	SAE 1010
	M153		
	M154	Stainless steel	AISI 316
12 Grip		Vinyl	
13 Stop screw	M152	Zinc plated carbon steel	SAE 12L 14
	M153		
	M154	Stainless steel	AISI 316
14 'O' ring	M15_V	Viton	
	M15_K	Kalrez	
15 Cap gasket		Graphite	
16 Bolts	M152	Zinc plated carbon steel	Grade 5
	M153		
	M154	Stainless steel	Grade A2 70
17 Nuts	M152	Zinc plated carbon steel	SAE 1010
	M153		
	M154	Stainless steel	Grade A2
18 Name-plate		Stainless steel	

Dimensions (approximate) in mm

Reduced bore

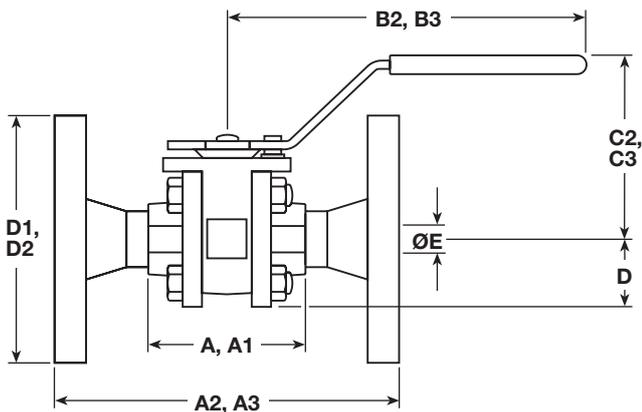
Size	A	A1	A2	A3	B2	B3	C2	C3	D	D1	D2	E
1/4"	63	60	-	-	145	-	81	-	26	-	-	11
3/8"	63	63	-	-	145	-	81	-	26	-	-	11
1/2"	63	52	108	130	145	145	81	81	26	89	95	11
3/4"	70	60	117	150	145	145	84	84	29	98	105	14
1"	83	81	127	160	162	162	100	100	34	108	115	21
1 1/4"	99	95	140	180	162	162	104	104	37	118	140	25
1 1/2"	106	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"	63	60	-	-	145	-	81	-	26	-	-	11
3/8"	63	63	-	-	145	-	81	-	26	-	-	11
1/2"	70	70	-	130	145	145	84	84	29	-	-	14
3/4"	83	83	-	150	162	162	100	100	34	-	-	21
1"	99	99	-	160	162	162	104	104	37	-	-	25
1 1/4"	106	106	-	180	185	185	112	112	41	-	-	31
1 1/2"	124	124	-	200	185	185	120	120	48	-	-	38
2"	152	152	-	230	250	250	140	140	57	-	-	51

Weights (approximate) in kg

Size	Reduced bore			Full bore	
	Scrd/BW/SW	PN40	ANSI 150	Scrd/BW/SW	PN40
1/4"	0.92	-	-	0.92	-
3/8"	0.92	-	-	0.92	-
1/2"	0.92	2.15	2.10	1.00	2.90
3/4"	1.00	2.25	2.47	1.70	3.45
1"	1.70	4.40	3.57	2.40	4.60
1 1/4"	2.40	6.00	3.20	3.10	4.60
1 1/2"	3.20	7.10	6.15	4.70	8.20
2"	4.70	11.00	8.55	8.75	13.50
2 1/2"	9.50	-	-	-	-



- A: Screwed and BW
- A1: SW
- A2: Flanged ANSI 150
- A3: Flanged PN40
- B2: Screwed, BW and SW
- B3: Flanged PN40 and ANSI 150
- C2: Screwed, BW and SW
- C3: Flanged PN40 and ANSI 150
- D: Screwed, BW and SW
- D1: Flanged ANSI150
- D2: Flanged PN40
- E: All models

Kv values

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
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: Cv(UK) = Kv x 0.963 Cv(US) = Kv x 1.156

Operating torques (N m)

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Reduced bore	4	4	4	6	22	30	50	60	80
Full bore	4	4	6	22	30	50	60	80	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 62 bar. Valves that are subject to a long static period, 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

Specify:	Model	Body material	2 = Carbon steel
	Material	material	3 = Stainless steel
'O' rings	Size	'O' rings	4 = All stainless steel
	Bore		V = Viton
Connections	Bore		K = Kalrez
			RB = Reduced bore
			FB = Full bore

Example: 1 off Spirax Sarco 1/2" screwed BSP M152VFB 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 spares

Ball	3
Seat, seals, 'O' ring and cap gasket set	5, 6 and 6A, 7, 14, 15

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, seals, 'O' ring and cap gasket set for a Spirax Sarco 1/2" M152VFB ISO ball valve.

