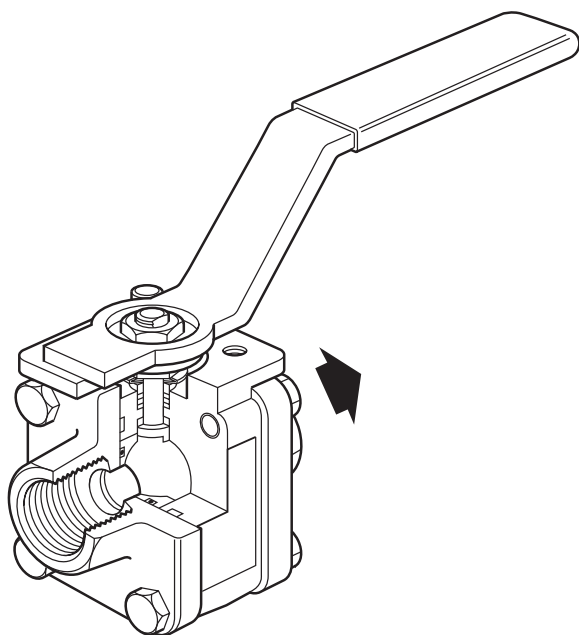


# spirax sarco

## M15 ISO Ball Valve DN $\frac{1}{4}$ " to DN $2\frac{1}{2}$ "



### 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 Pressure Equipment Directive (PED) and carries the  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.

## 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

## Sizes and pipe connections

¼", ⅜", ½", ¾", 1", 1¼", 1½", 2",

(2½" only available with reduced bore).

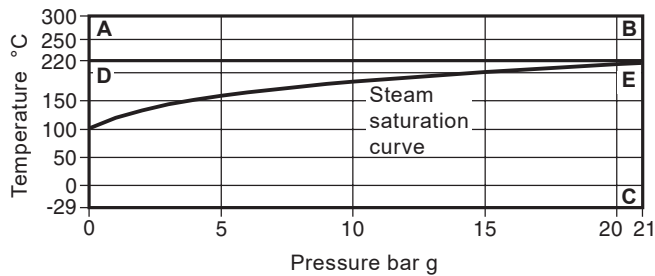
Screwed BSP, BSPT, NPT, SW, BW full bore and reduced bore.

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.

## Pressure /temperature limits

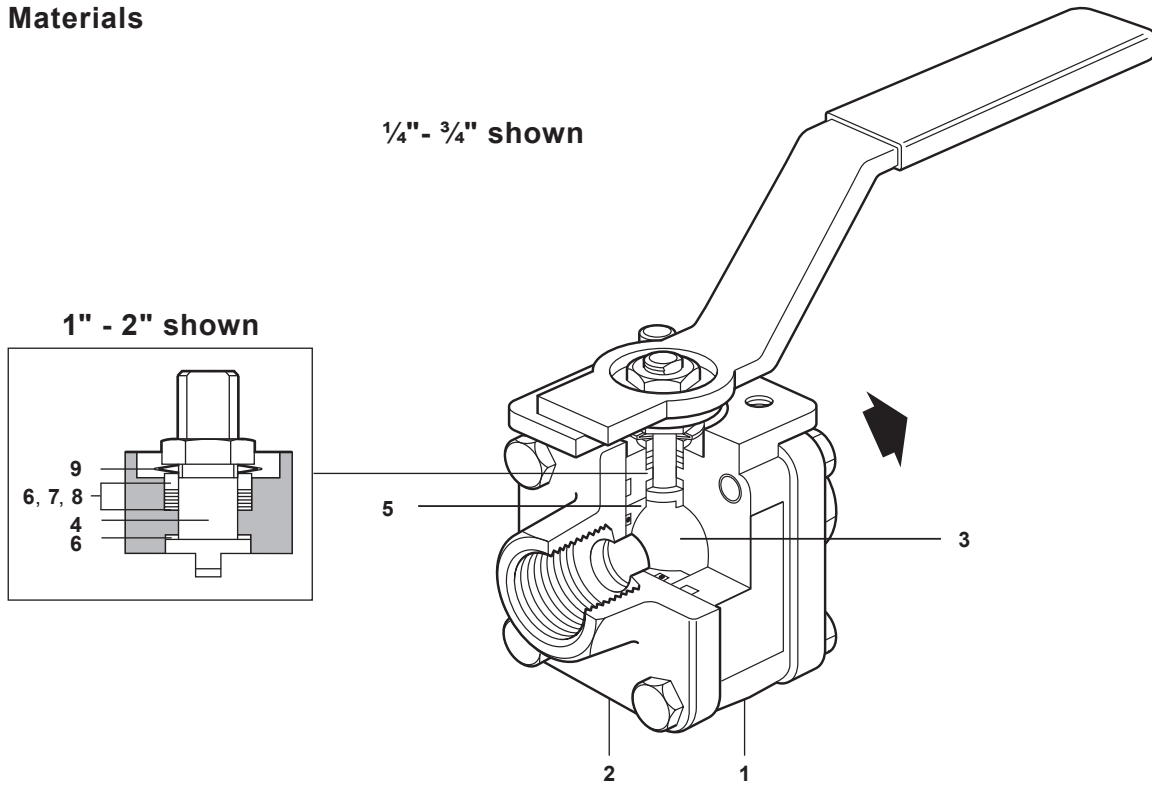


**A - B - C** M15\_K (Kalrez 'O' ring).

**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
<b>Note:</b> 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

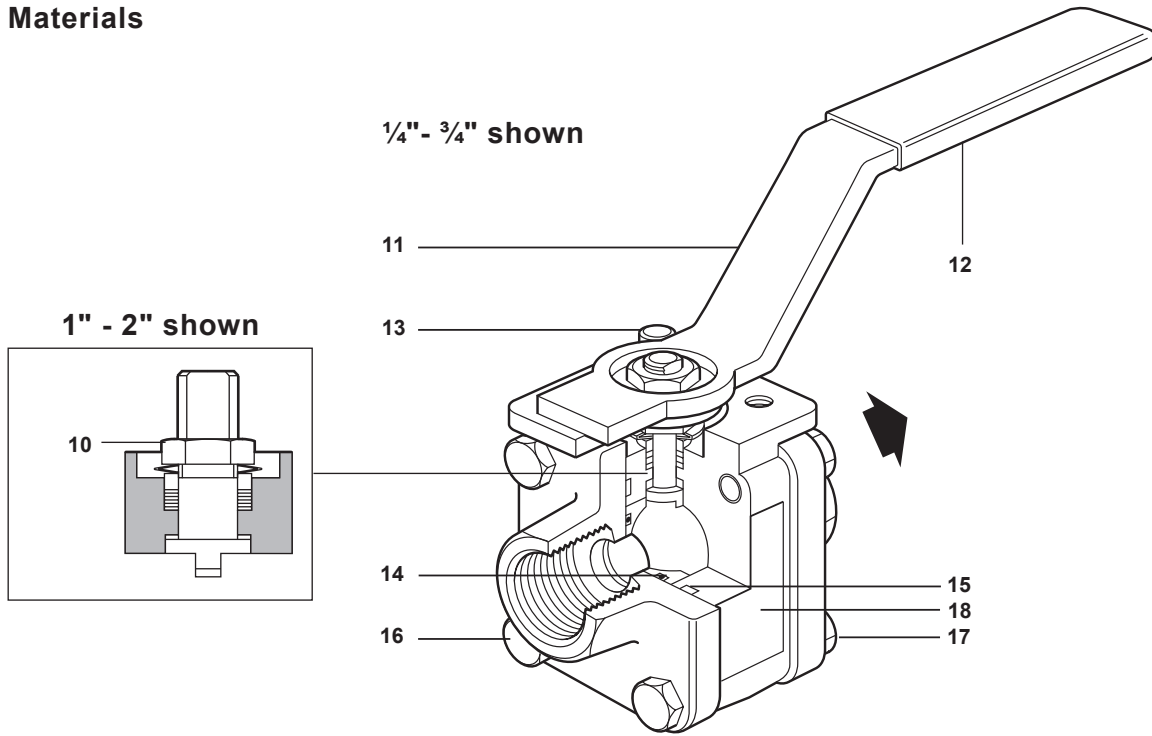
## Materials



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

Materials continued on next page

## Materials



No.	Part	Material	
10	Nut	M152	Zinc plated carbon steel
		M153	SAE 12L 14
		M154	Stainless steel
11	Lever	M152	Zinc plated carbon steel
		M153	SAE 1010
		M154	Stainless steel
12	Grip	Vinyl	
13	Stop screw	M152	Zinc plated carbon steel
		M153	SAE 12L 14
		M154	Stainless steel
14	'O' ring	M15_V	Viton
		M15_K	Kalrez
15	Cap gasket	Graphite	
16	Bolts	M152	Zinc plated carbon steel
		M153	Grade 5
		M154	Stainless steel
17	Nuts	M152	Zinc plated carbon steel
		M153	SAE 1010
		M154	Stainless steel
18	Name-plate	Stainless steel	

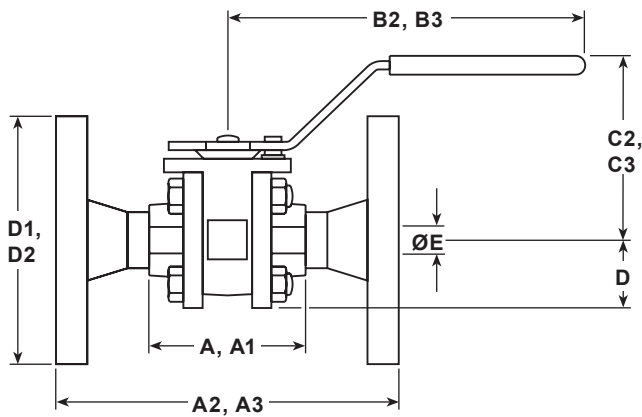
## Dimensions (approximate) in mm

### 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



- 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 ANSI 150
- D2:** Flanged PN40
- E:** All models

## 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	-	-	-	-

## 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	5	6.8	6	10	27	49	70	103	168	For conversion: C <sub>v</sub> (UK) = K <sub>v</sub> x 0.963 C <sub>v</sub> (US) = K <sub>v</sub> x 1.156
Full bore	5	6.8	17	36	58	89	153	205	-	

## 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	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 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 damage to the valve and/or injury to personnel.

## How to order

Specify:	Model Material 'O' rings Size Bore Connections	Body material	2 = Carbon steel
			3 = Stainless steel
			4 = All stainless steel
		'O' rings	V = Viton
			K = Kalrez
		Bore	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 a grey 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.

