



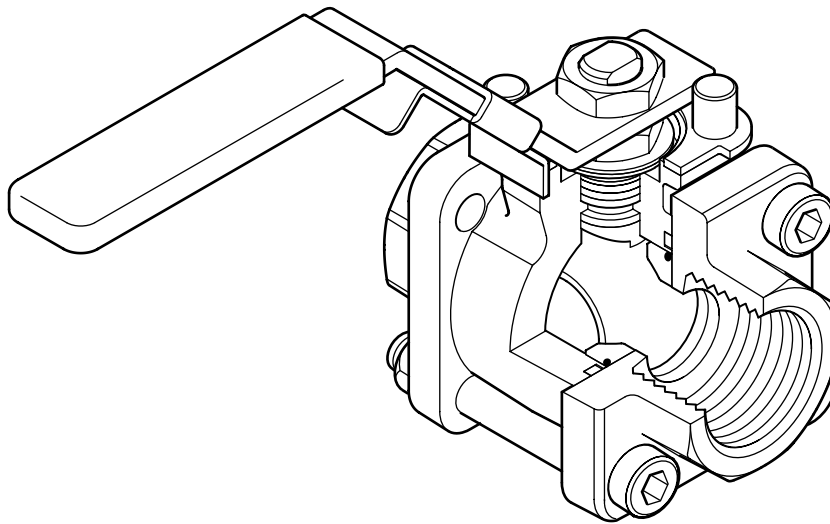
Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

## M10HPi ISO Ball Valve DN $\frac{1}{4}$ " to DN2"

TI-P133-71  
ST Issue 2



### Description

The M10HPi ISO three-piece body ball valve has a lockable handle and ISO mounting as standard. It features a special floating ball, which has received a surface hardening and a blow-out proof stem. This particular ball valve has been specially designed for manual isolation of applications using high-pressure gas. The M10HPi ISO has been designed for use as an isolating valve, not a control 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 easily accomplished by the ISO range of Spirax Sarco ball valves.

### Available types

**M10HPi2 ISO** Zinc plated carbon steel body and caps.

**M10HPi3 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 European Pressure Equipment Directive 97/23/EC and carries the  $\text{CE}$  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.
- 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

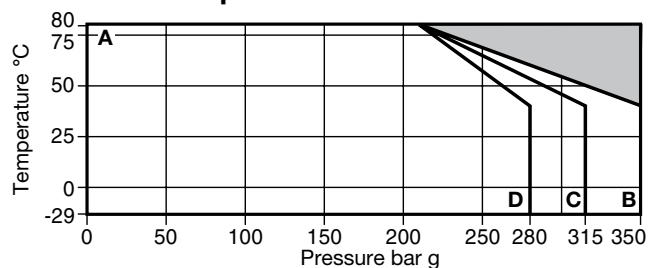
#### Full bore

$\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ " and 1 $\frac{1}{2}$ "  
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 $\frac{1}{2}$ " and 2"  
Screwed BSP, BSPT, NPT, BW, SW

### Pressure / temperature limits



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

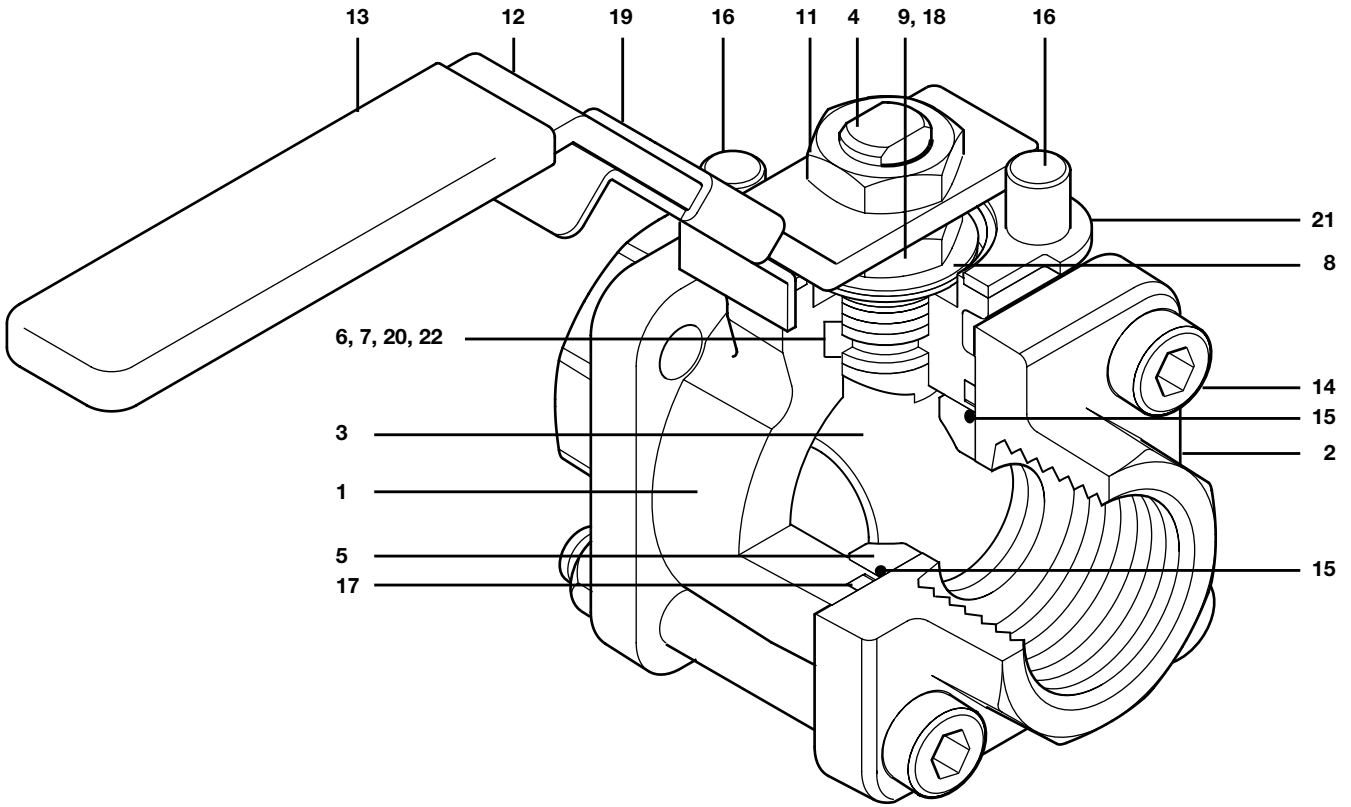
**A - B**  $\frac{1}{4}$ ",  $\frac{3}{8}$ " and  $\frac{1}{2}$ " RB  
**A - C**  $\frac{1}{2}$ " FB;  $\frac{3}{4}$ " and 1" RB  
**A - D** 1" FB; 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " and 2" RB

PMA	Maximum allowable (operating) pressure (PMO)	$\frac{1}{4}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " RB $\frac{1}{2}$ " FB; $\frac{3}{4}$ " and 1" RB 1" FB; 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " and 2" RB	350 bar 315 bar 280 bar
TMA	Maximum allowable temperature		80°C
	Minimum allowable temperature		-29°C
TMO	Maximum operating temperature	80°C @ 210 bar g	
	Minimum operating temperature		-29°C
<b>Note:</b>	For lower operating temperatures consult Spirax Sarco		
$\Delta$ PMX	Maximum differential pressure is limited to the PMO		
	Designed for a maximum cold hydraulic test pressure of 1.5 x PMO		

Local regulations may restrict the use of this product to below the conditions quoted.

In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

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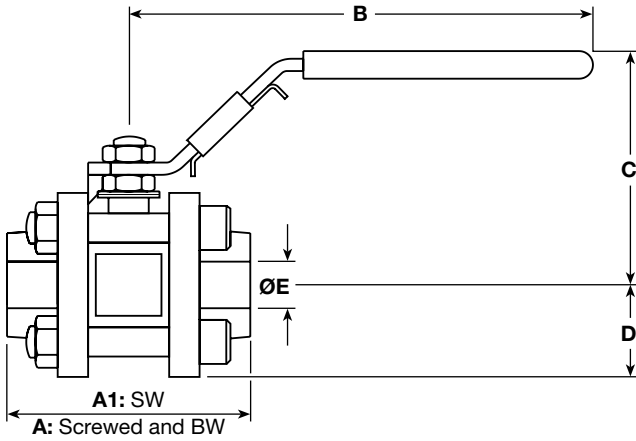
**Materials**

No.	Part	Material	
1	Body	M10HPi2 ISO	Zinc plated carbon steel ASTM A105
		M10HPi3 ISO	Stainless steel ASTM A 182 F 316L
2	Cap	M10HPi2 ISO	Zinc plated carbon steel SAE 1040
		M10HPi3 ISO	Stainless steel AISI 316
3	Ball	Stainless steel (hardened) AISI 316	
4	Stem	Stainless steel AISI 316	
5	Seat	Acetal	
6	Stem seal	Reinforced PEEK	
7	Separator	Zinc plated carbon steel SAE 1010	
8	Belleville washer	Stainless steel AISI 301	
9	Stem nut	Zinc plated carbon steel SAE 1010	
10	Name-plate (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	Grip	Vinyl green	
14	Socket head cap screw	Carbon steel ASTM A 574	
15	Seat 'O' ring (2" RB and 1½" FB only)	Viton	
16	Stop screw	Zinc plated carbon steel SAE 12L 14	
17	Body / cap 'O' ring	Viton	
18	Nut locker	Stainless steel AISI 316	
19	Lockable handle	Stainless steel AISI 316	
20	Stem seal	Reinforced PTFE	
21	Lock-plate	Stainless steel AISI 304L	
22	Stem seal	Stainless steel AISI 316	

**Dimensions/weights (approximate) in mm and kg**

**Reduced bore**

Size	A	A1	B	C	D	E	Weight
1/4"	82	82	162	93	28	11	1.46
3/8"	84	84	162	93	28	11	1.49
1/2"	84	84	162	93	28	11	1.46
3/4"	92	92	162	95	29	14	1.71
1"	114	114	162	101	34	21	2.54
1 1/4"	132	132	182	106	40	25	3.92
1 1/2"	146	146	186	116	46	31	5.56
2"	154	154	186	123	51	38	6.95



**Full bore**

Size	A	A1	B	C	D	E	Weight
1/4"	82	82	162	93	28	11	1.46
3/8"	84	84	162	93	28	11	1.49
1/2"	92	92	162	95	29	14	1.71
3/4"	114	114	162	101	34	21	2.54
1"	132	132	182	106	40	25	3.92
1 1/4"	146	146	186	116	46	31	5.56
1 1/2"	154	154	186	123	51	38	6.95

**K<sub>v</sub> values**

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Reduced bore	5	6.8	6	10	27	49	70	103
Full bore	5	6.8	17	36	58	89	153	-

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"
Reduced bore	10	10	10	15	25	40	55	100
Full bore	10	10	15	25	40	55	100	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure. 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 M10HPi2FB 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**

Seat, seals, body / cap 'O' ring and seat 'O' ring set **5, 6, 15, 17, 20, 22**

**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, body / cap 'O' ring and seat 'O' ring set for a Spirax Sarco 1/2" M10HPi2FB ISO ball valve.

