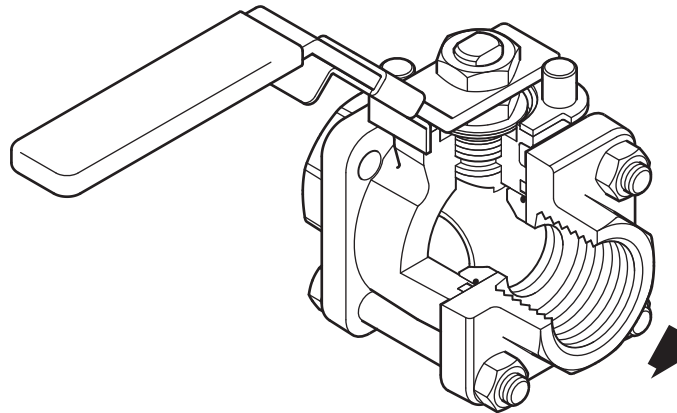




M10HTi ISO "Teflon Free" Ball Valve

1/4" to 2 1/2"

(Medium Pressure Applications)



Description

The M10HTi ISO three-piece body ball valve has a lockable handle and ISO mounting as standard and features a special ball, which has received a surface hardening. This particular ball valve has been specially designed for applications that cannot use Teflon at high temperatures, for example the tobacco industry. The M10HTi 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

M10HTi2 ISO	Zinc plated carbon steel body and caps.
M10HTi4 ISO	Complete stainless steel construction.

Note: The nomenclature will be followed with either **FB** (full bore) or **RB** (reduced bore) and needs to be stated when placing an order.

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 4" (100 mm) to allow full insulation. (manual operation only)

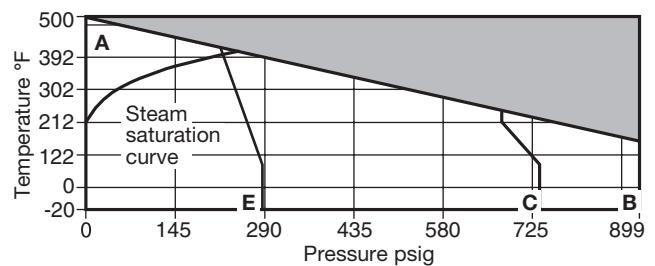
Technical data

Flow characteristic	Modified linear
Port	Full and reduced bore versions
Leakage test procedure to ISO 5208 (Rate A)/EN 12266-1 (Rate A)	

Sizes and pipe connections

Full bore 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2"	Flanged 1/4" to 2" ASME 150, 300
Screwed NPT, BW, SW	
Reduced bore 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" and 2 1/2"	Flanged 1/4" to 2 1/2" ASME 150, 300
Screwed NPT, BW, SW	

Pressure / temperature limits

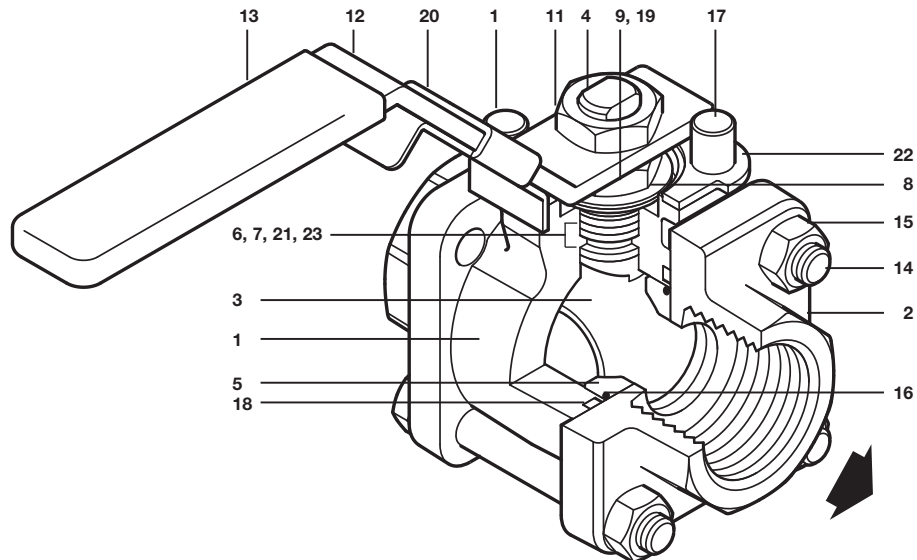


The product must not be used in this region.

- A - B** Screwed, socket weld and butt weld.
- A - C** Flanged ASME 300.
- A - E** Flanged ASME 150.

PMA	Maximum allowable pressure	899 psi g @ 140°F
TMA	Maximum allowable temperature	500°F @ 0 psi g
Minimum allowable temperature		-20°F
PMO	Maximum operating pressure for saturated steam service	254 psig
TMO	Maximum operating temperature	500°F @ 0 psi g
Minimum operating temperature		-20°F
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 1349 psi g		

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.



Materials

No.	Part		Material	
1	Body	M10HTi2 ISO	Zinc plated carbon steel	ASTM A105
		M10HTi4 ISO	Stainless steel	ASTM A 182 F 316L
2	Cap	M10HTi2 ISO	Zinc plated carbon steel	ASTM A105
		M10HTi4 ISO	Stainless steel	ASTM A 182 F 316L
3	Ball		Stainless steel (hardened)	AISI 316
4	Stem		Stainless steel	AISI 316
*5	Seat		Virgin PEEK	
*6	Lower stem seal		Reinforced PTFE antistatic	
7	Separator	M10HTi2 ISO	Zinc plated carbon steel	SAE 1010
		M10HTi4 ISO	Stainless steel	AISI 316
8	Belleville washer		Stainless steel	AISI 301
9	Lower stem nut	M10HTi2 ISO	Zinc plated carbon steel	SAE 1010
		M10HTi4 ISO	Stainless steel	AISI 304
10	Name-plate (Not shown)		Stainless steel	AISI 430
11	Upper stem nut	M10HTi2 ISO	Zinc plated carbon steel	SAE 1010
		M10HTi4 ISO	Stainless steel	AISI 304
12	Lever	M10HTi2 ISO	Zinc plated carbon steel	SAE 1010
		M10HTi4 ISO	Stainless steel	AISI 316
13	Grip		Vinyl yellow	
14	Studs	M10HTi2 ISO	Zinc plated carbon steel	A193 B7
		M10HTi4 ISO	Stainless steel	AISI 316
15	Nuts	M10HTi2 ISO	Zinc plated carbon steel	A194 2H
		M10HTi4 ISO	Stainless steel	AISI 304
*16	Seat 'O' ring		Geothermal EPDM	
17	Stop screw		Zinc plated carbon steel	SAE 12L 14
			Stainless steel	AISI 304
*18	Body / cap 'O' ring		Geothermal EPDM	
19	Nut locker		Stainless steel	AISI 316
20	Lockable handle		Stainless steel	
*21	Stem seal		Graphite	
22	Lock-plate		Stainless steel	AISI 316
*23	Stem seal		Stainless steel	

*Note: Available spare parts sold as a kit.

Dimensions (approximate) in Inches

Reduced Bore

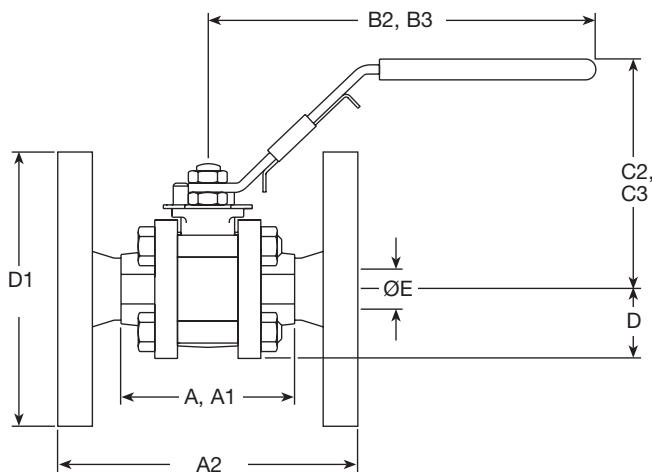
Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
3/8"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
1/2"	2.6	2.6	4.3	6.4	6.4	0.4	0.4	0.9	3.5	0.4
3/4"	2.8	2.8	4.6	6.4	6.4	3.7	3.7	1	3.8	0.5
1"	3.4	3.4	5	6.4	6.4	3.9	3.9	1.2	4.3	0.8
1-1/4"	4	4	5.5	6.4	6.4	4.2	4.2	1.5	4.6	1
1-1/2"	4.3	4.3	6.5	7.3	7.3	4.6	4.6	1.6	5	1.2
2"	4.9	4.7	7	7.3	7.3	4.8	4.8	1.9	5.9	1.5
2-1/2"	6	6	-	9.8	9.8	5.5	5.5	2.2	-	2

Full Bore

Size	A	A1	A2	B2	B3	C2	C3	D	D1	E
1/4"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
3/8"	2.6	2.6	-	6.4	-	0.4	-	0.9	-	0.4
1/2"	2.8	2.8	-	6.4	6.4	3.7	3.7	1	-	0.5
3/4"	2.8	2.8	-	6.4	6.4	3.9	3.9	1.2	-	0.8
1"	3.4	3.4	-	6.4	6.4	4.2	4.2	1.5	-	1
1-1/4"	4	4	-	7.3	7.3	4.6	4.6	1.6	-	1.2
1-1/2"	4.3	4.3	-	7.3	7.3	4.8	4.8	1.9	-	1.5
2"	6	6	-	9.8	9.8	5.5	5.5	2.2	-	2

Weights (approximate) in lb

Size	Reduced Bore		Full Bore
	Scrd / BW / SW	ASME 150	Scrd / BW / SW
1/4"	1.8	-	1.8
3/8"	1.8	-	1.8
1/2"	1.9	3.7	2.2
3/4"	2.2	4.9	3.4
1"	3.4	6.4	5.1
1-1/4"	5.1	9.1	6.7
1-1/2"	6.7	14.1	9.7
2"	9.7	18.4	19.9
2-1/2"	18.0	-	-



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

Cv values

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced Bore	5.7	7.8	6.9	11.56	31.2	56.6	80.9	119	194.2
Full Bore	5.7	7.8	19.6	41.6	67	102.8	176.8	236.9	-

Operating torque (Lb-Ft)

Size	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
Reduced Bore	2.4	2.4	2.4	4.0	9.7	14.7	36.8	44.2	55.3
Full Bore	2.4	2.4	4.0	9.7	14.7	36.8	44.2	55.3	-

The indicated torque values are for valves frequently operated, that are submitted to a maximum differential pressure of 580 psi. Valves that are subject to long static periods, may require greater break-out torque.

Safety information, installation and maintenance

Installation and Maintenance Instructions, IM-P133-75.

How to order example:

1 off Spirax Sarco 1/2" screwed NPT M10HTi2FB 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

5, 6, 16, 18, 21, 23

and seat 'O' ring set

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" M10HTi2FB ISO ball valve.

