

spirax sarco

M80i ISO Stainless Steel Ball Valve for Sanitary Applications

Description

The M80i cast 316L stainless steel, three-piece body ball valve has ISO mounting as standard. It has been designed in accordance with ASME BPE for use as an isolating valve, not a control valve on clean steam and other high purity and aseptic processes where bacteria and media deposits can put product quality at risk. The low maintenance, clean design is suitable for steam, liquid and gas services ranging from vacuum to the higher temperatures and pressures. Applications include the pharmaceutical, biotech, food and beverage and cosmetics industries.

Principal features:

- **True port design** - The internal diameter of the end connections and ball precisely match that of the connecting tubing to guarantee drainability.
- **Low ferrite** - M80i has <3% ferrite content on all wetted parts helping to prevent rouge.
- **Designed with orbital welding in mind** - ASME BPE compliant extended tube weld end connections means that automatic orbital welding can be performed without valve disassembly and low sulphur (0.005% to 0.017%) content helps a consistent and fully penetrated weld.
- **Designed for automation** - ISO 5211 mounting pad as standard enabling simple actuator mounting.
- **Lockable handle** - A spring loaded lockable handle allows the valve to be locked in the closed position – ensuring system integrity.

Surface finish

The M80i standard internal surface finish is electro-polished to 0.375 micron Ra (15 micro inch). External surface finishes are as cast / machined.

Available types

M80iV ISO	Virgin PTFE TFM 1600 electro-polished to 0.375 micron Ra
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Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification:

- Material Certification to EN 10204 3.1
- Elastomer FDA / USP compliance certificate.
- Surface finish certification.

Note: All certification / inspection requirements must be stated at the time of order placement.

Packaging

The M80i is finished and packaged in a segregated clean environment. Each valve is end capped and sealed in a plastic bag, in accordance with ASME BPE, to ensure the ingress of dirt is avoided.

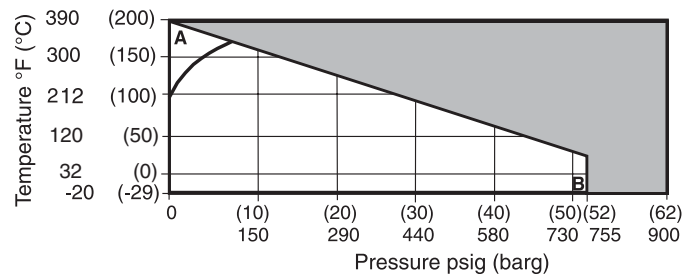
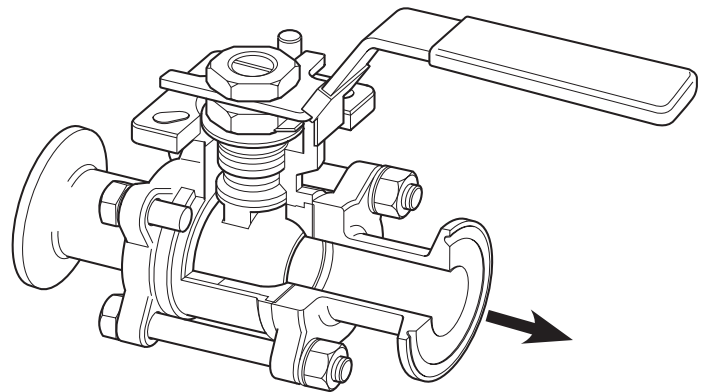
Sizes and pipe connections

2-1/2", 3" and 4" Sanitary clamp (ASME BPE).

2-1/2" , 3" and 4" extended O/D tube weld ends (ETO) (ASME BPE).

Alternatively: 1/2", 3/4", 1", 1-1/2" and 2" sanitary ball valves are available through our M70i range - see TI-P182-05-US.

Note: Other connection options are available on request. Please consult Spirax Sarco.



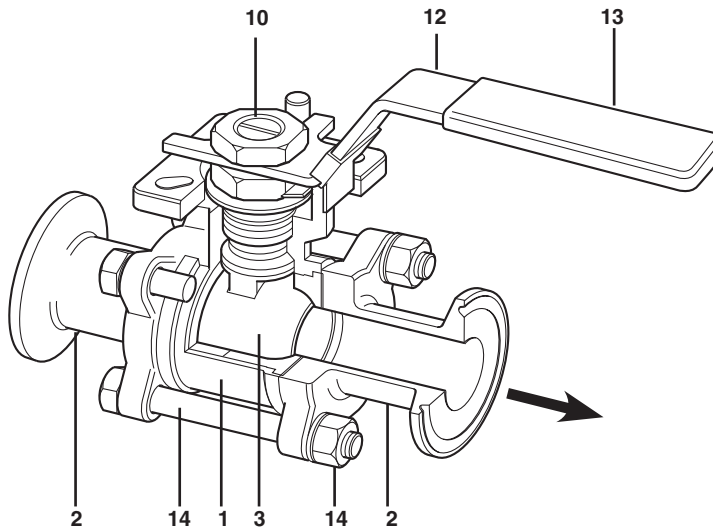
The product **must not** be used in this region.

A - B Virgin PTFE TFM 1600

Body design conditions

Body design conditions	PN63
PMA Max. allowable pressure	900 psig (62 barg) @ 68°F (20°C)
TMA Max. allowable temperature	390°F (200°C) @ 0 psig (0 barg)
Minimum allowable temperature	-20°F (-29°C)
PMO Max. operating pressure for saturated steam service	100 psig (7.0 barg)
TMO Max. operating temperature	390°F (200°C) @ 0 psig (0 barg)
Minimum operating temperature	-20°F (-29°C)
Note: For lower operating temperatures consult Spirax Sarco	
Δ PMX Maximum differential pressure is limited to the PMO	
Designed for a max. cold hydraulic test pressure of 1350 psig (93 barg)	

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The internals have been exploded below to help identify the position of some of the parts in the materials list.

Materials

No.	Part	Material
1	Body	Stainless steel ASTM A351 Gr. CF3M (316L)
2	End connections	Stainless steel ASTM A351 Gr. CF3M (316L)
3	Ball	Stainless steel ASTM A351 Gr. CF3M (316L)
4	Stem	Stainless steel AISI 316L
5	Seat and cavity filler	Virgin PTFE TFM 1600
6	Stem seals	PTFE TFM 1600
7	Spacer	Stainless steel AISI 304
8	Compression nut	Stainless steel AISI 304
9	Lock washer	Stainless steel AISI 304
10	Stem nut	Stainless steel AISI 304
11	O'ring	Viton
12	Handle	Stainless steel AISI 304
13	Cover	Vinyl
14	Studs and nuts	Stainless steel AISI 304
15	Bolt washer	AISI 304
16	Body seal	Virgin PTFE TFM 1600
17	Beleville washer	AISI 301

Technical data

Leakage	Test procedure to ISO 5208 (rate 3) Materials comply with;
Stem seal and seat	- FDA CFR title 21 paragraph 177, section 1550. - USP23 Class VI
Flow characteristic	Modified linear
Port	True port design

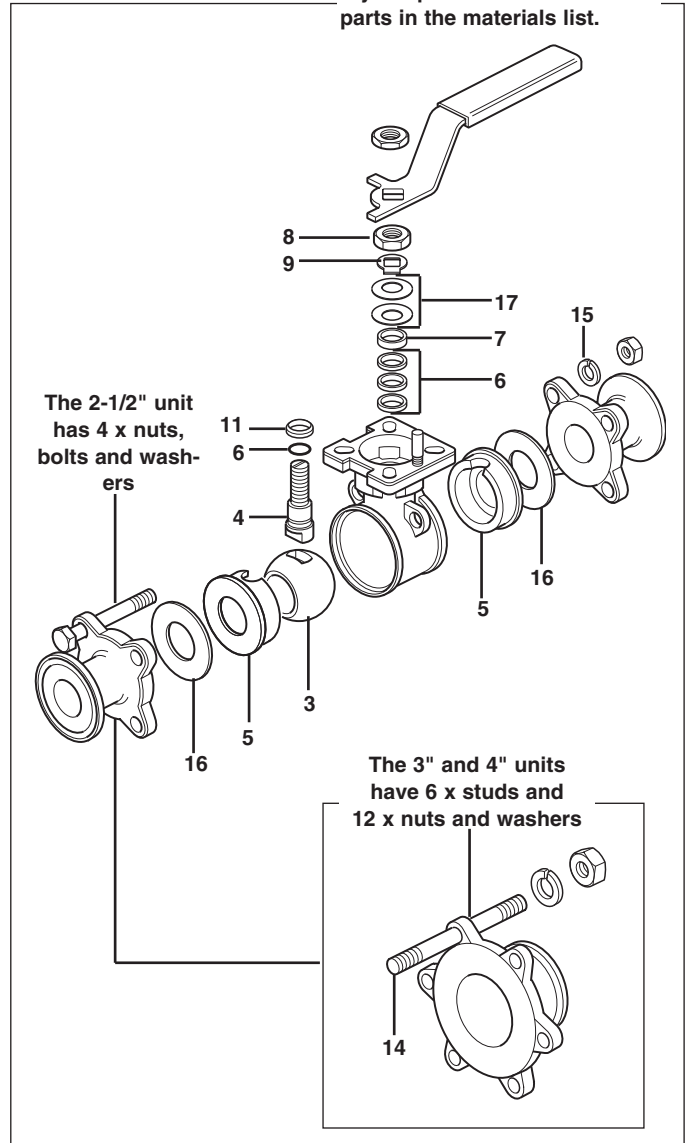
Cv values

Size	2½"	3"	4"
Cv	786	994	2255

Torque value

Size	2½"	3"	4"
Ft-lbs	34	37	56

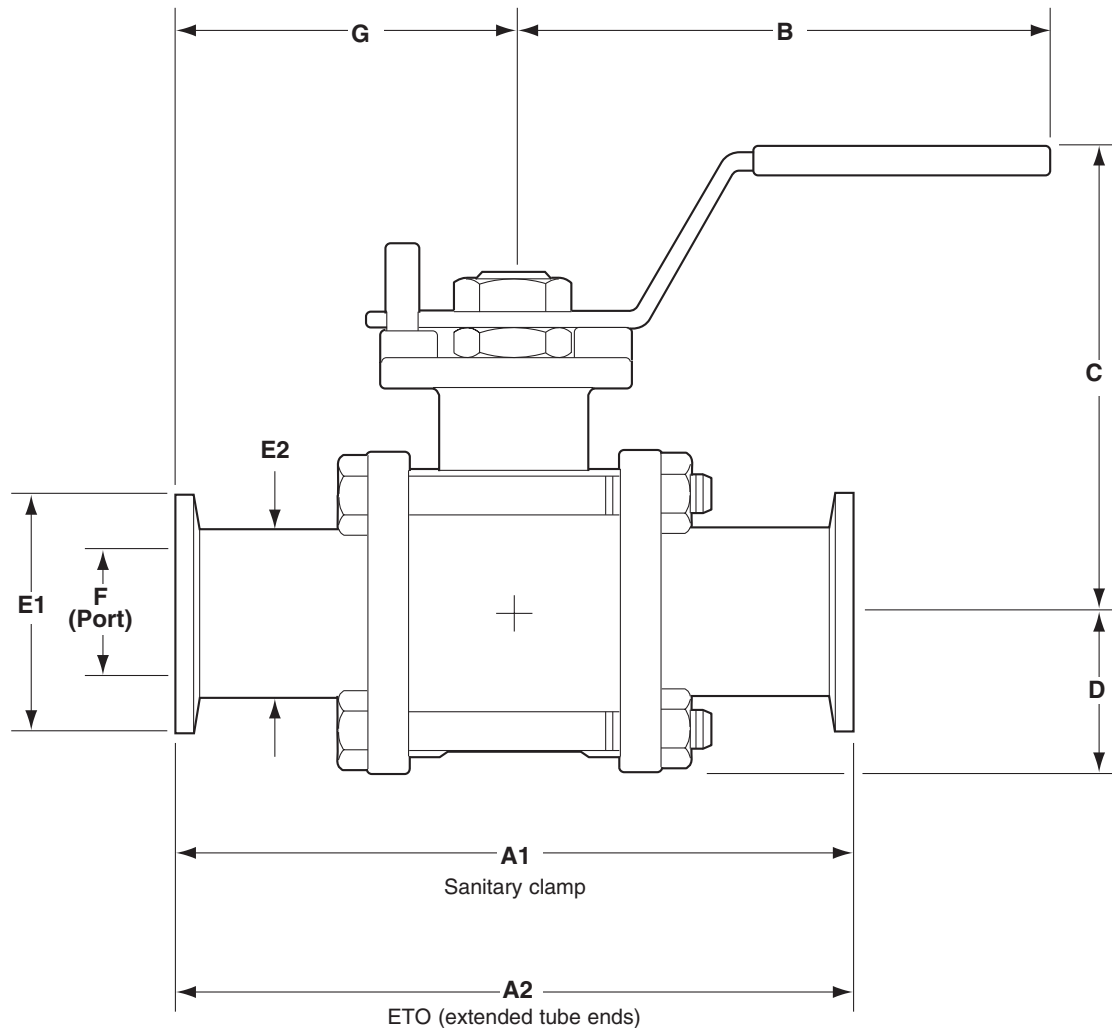
The torque figures shown are for a valve at maximum operating pressure that is operated frequently. Valves that are subject to long static periods may require at least 75% greater break out torque



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Dimensions / weights approximate in inches (mm) and pounds (kg).

Size	A1	A2	B	C	D	E1 (Clamp)	E2 (ETO)	F	G (Clamp)	G (ETO)	Weight
2½"	6.76 (171.6)	7.53 (191.0)	14.58 (370)	4.14 (105)	2.21 (56.14)	3.05 (77.5)	2.50 (63.4)	2.38 (60.3)	33.81 (85.80)	3.76 (95.50)	20 (9.0)
3"	9.01 (228.6)	9.06 (230.0)	14.58 (370)	4.53 (115)	3.07 (78.03)	3.58 (90.9)	3.00 (76.2)	2.88 (73.0)	4.50 (114.30)	4.53 (115.00)	40 (18.0)
4"	10.01 (254.1)	9.99 (253.5)	15.76 (400)	5.59 (142)	3.96 (100.60)	4.68 (118.9)	4.00 (101.6)	3.84 (97.4)	5.01 (127.05)	4.99 (126.75)	51 (23.0)



Safety Information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P182-07-US) supplied with the product.

How to order

The size, end connections and certification requirements must be specified at time of order placement.

Example: 1 of Spirax Sarco 4" M80iV ISO forged sanitary ball valve complete with sanitary clamp (ASME BPE) end connections, electro-polished to 0.375 micron Ra (15 micro inch)
The unit is to be supplied complete with EN 10204 3.1 material certification.

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Spare parts

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

Available spares

Integrated seat and cavity filler, stem, seats, stem 'O' ring and body seals kit

5, 6, 11, 16

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- Integrated seat and cavity filler, stem seals, stem 'O' ring and body seals kits for a Spirax Sarco 4" M80iV ISO cast stainless steel ball valves.

Note: The main spares drawing illustrates the 2-1/2" unit. The same spares are available for the 3" and 4" units.

