



## M80i ISO Stainless Steel Ball Valve for Sanitary Applications (2½" to 4")

### 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

<b>M80iV ISO</b>	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

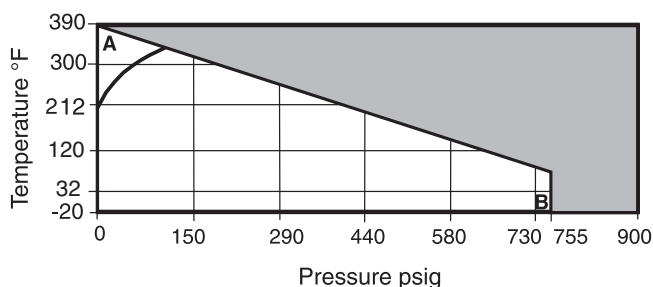
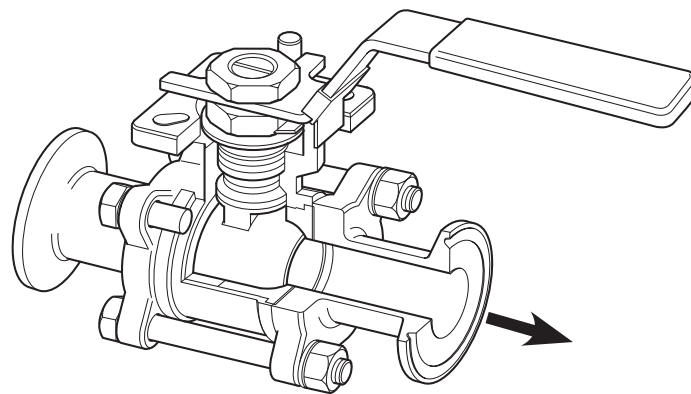
The M80i is finished and packaged in a segregated clean environment. Each valve is end capped and sealed in a plastic bag, in accordance with ASME BPE, to ensure the ingress of dirt is avoided.

### 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.

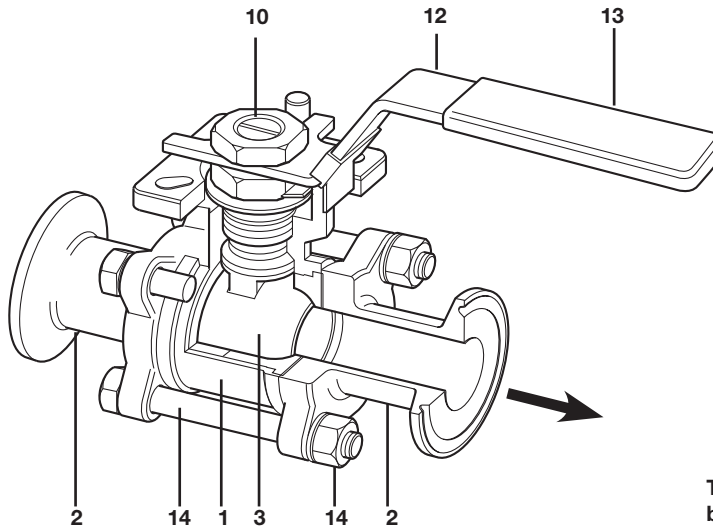


The product **must not** be used in this region.

**A - B** Virgin PTFE TFM 1600

PMA Max. allowable pressure	900 psig @ 68°F
TMA Max. allowable temperature	390°F @ 0 psig
Minimum allowable temperature	-20°F
PMO Max. operating pressure for saturated steam service	100 psig
TMO Max. operating temperature	390°F @ 0 psig
Minimum operating temperature	-20°F
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	
ΔPMX Maximum differential pressure is limited to the PMO	
Designed for a max. cold hydraulic test pressure of	1350 psig

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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	Stainless steel	AISI 304
*16	Body seal	Virgin PTFE TFM 1600	
17	Beleville washer		AISI 301

\*Note: Available spare parts sold as a kit.

## Technical data

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

## Cv values

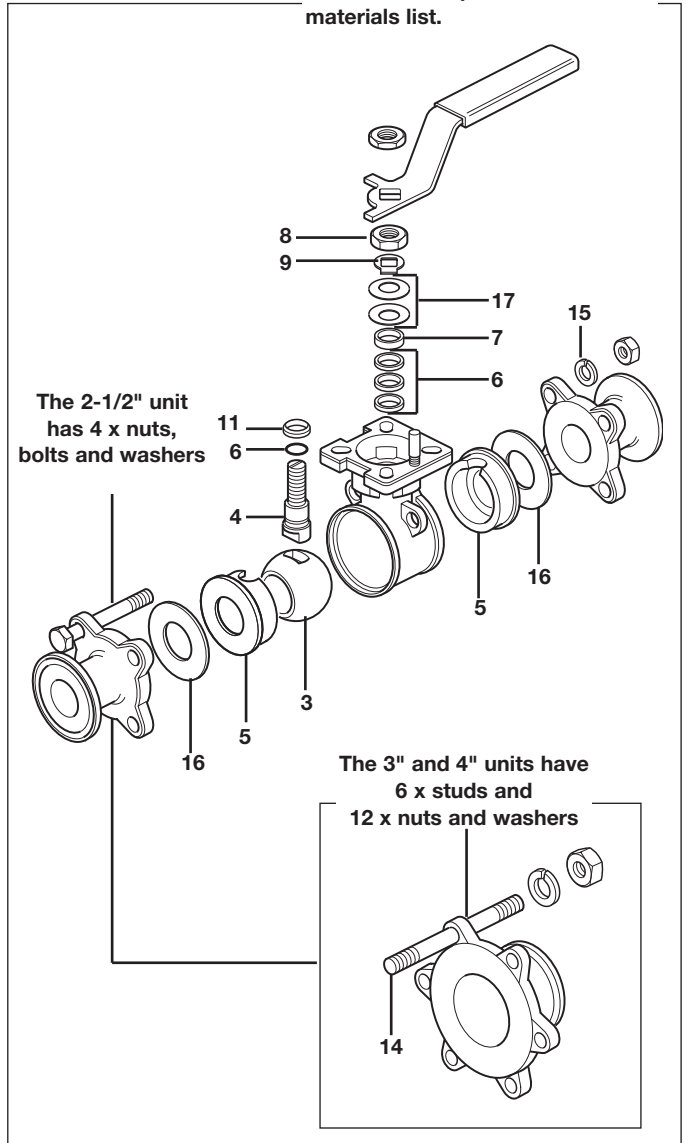
Size	2½"	3"	4"
Cv	786	994	2255

## 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.

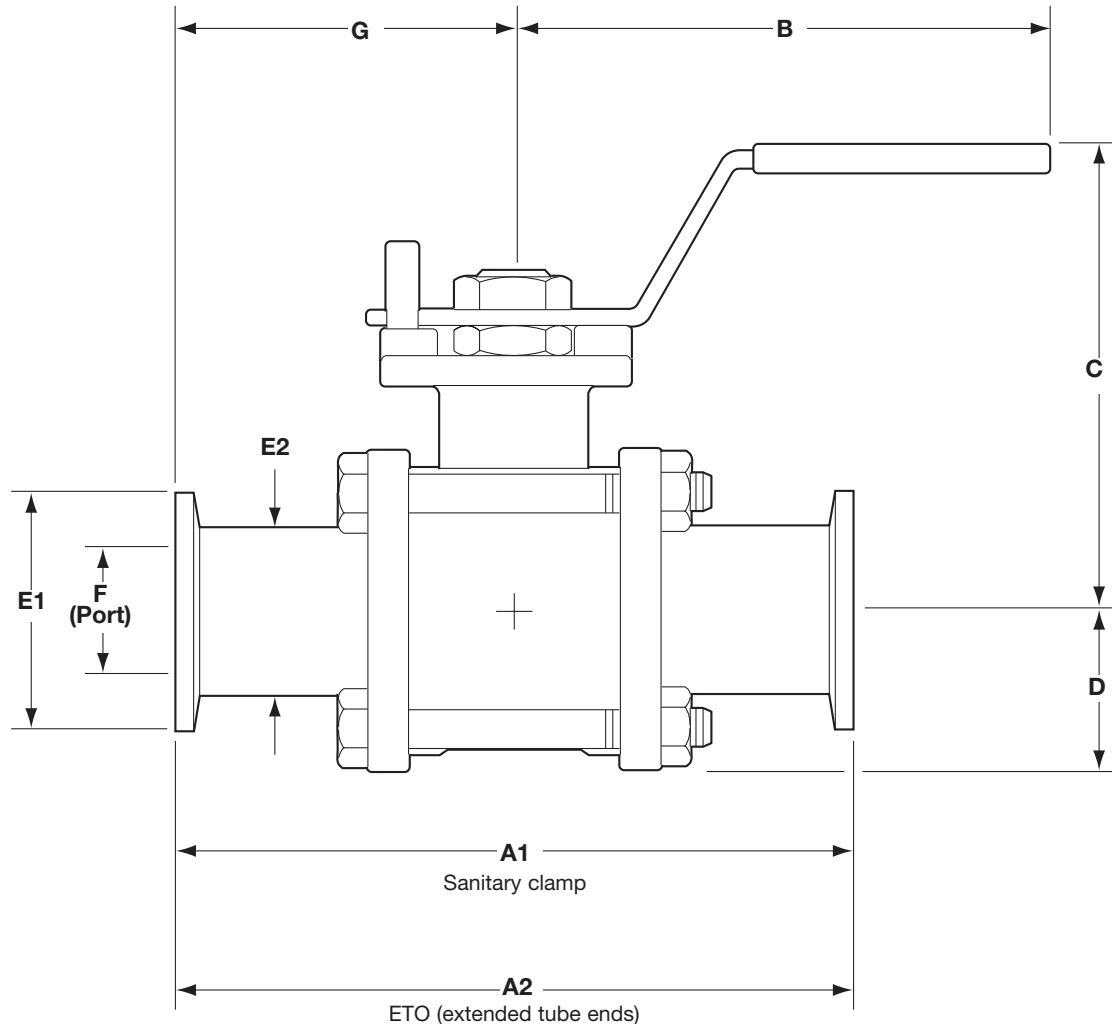
Valves that are subject to long static periods may require at least 75% greater break out torque



# M80i ISO Stainless Steel Ball Valve for Sanitary Applications

**Dimensions / weights** approximate in inches and pounds.

Size	A1	A2	B	C	D	E1 (Clamp)	E2 (ETO)	F	G (Clamp)	G (ETO)	Weight
2½"	6.76	7.53	14.58	4.14	2.21	3.05	2.50	2.38	33.81	3.76	20
3"	9.01	9.06	14.58	4.53	3.07	3.58	3.00	2.88	4.50	4.53	40
4"	10.01	9.99	15.76	5.59	3.96	4.68	4.00	3.84	5.01	4.99	51



## Safety Information, installation and maintenance

Installation and Maintenance Instructions IM-P182-07-US.

## 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.

# M80i ISO Stainless Steel Ball Valve for Sanitary Applications

## 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.

