ISO 9001
BUREAU VERITAS
Certification

spirax sarco

TI-D255-06
BR Rev.00

M80i ISO
Stainless Steel Ball Valve for Sanitary Applications

Description

The M80i investment 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 -** The 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 lockable handle allows the valve to be locked in the open or closed position – ensuring system integrity.

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

Available types

M80iVEP ISO	Virgin PTFE TFM 1600 electropolished to 0.375 micron Ra

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.

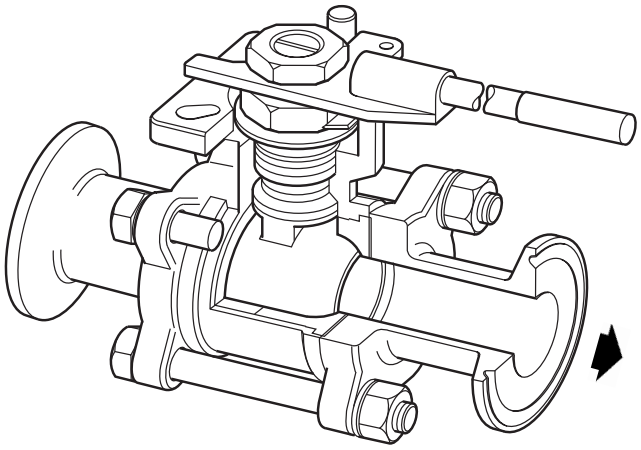
Note: All certification/inspection requirements must be stated at the time of order placement.

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.

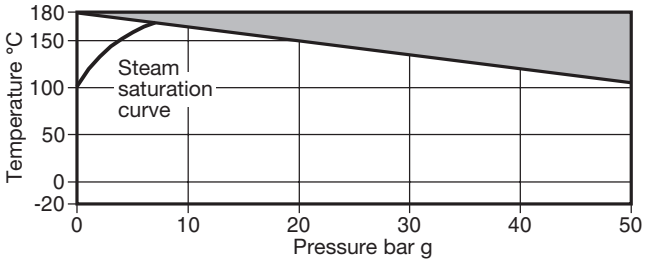
Sizes and pipe connections

2½", 3" and 4" Sanitary clamp (ASME BPE)
2½", 3" and 4" extended O/D tube weld ends (ETO) (ASME BPE).
Alternatively: ½", ¾", 1", 1½" and 2" sanitary ball valves are available through our M70i range - see TI-P182-05.

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



Pressure / temperature limits

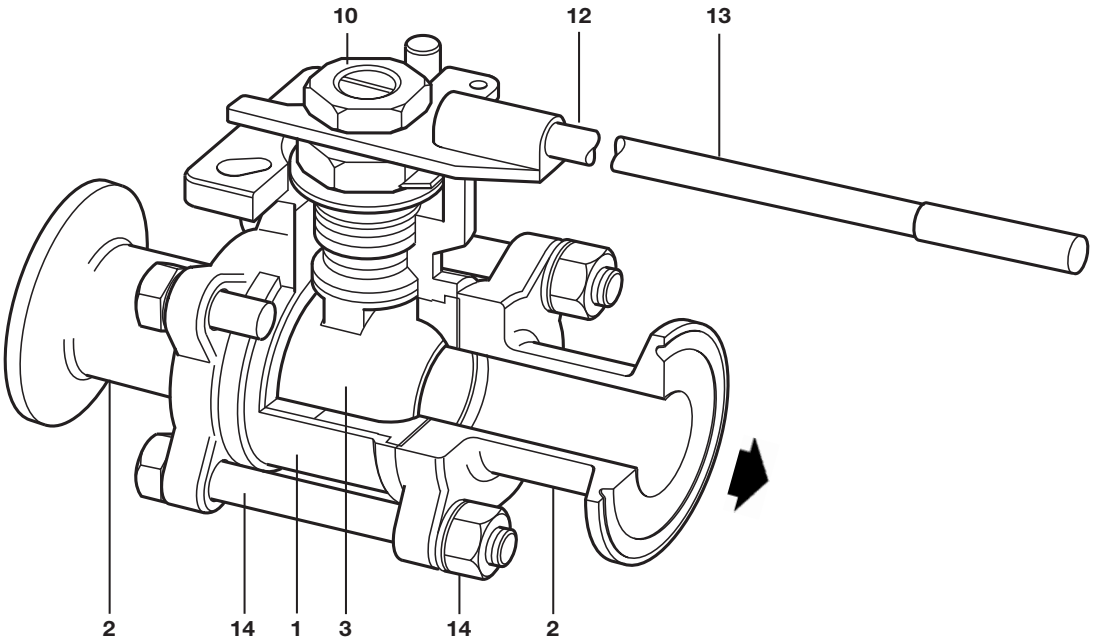


The product **must not** be used in this region.

A - B Virgin PTFE TFM 1600

Body design conditions		720 psi
PMA	Maximum allowable pressure	50 bar g @ 109°C
TMA	Maximum allowable temperature	180°C @ 0 bar g
Minimum allowable temperature		-20°C
PMO	Maximum operating pressure for saturated steam service	7 bar g
TMO	Maximum operating temperature	180°C @ 0 bar g
Minimum operating temperature		-20°C
ΔPMX	Maximum differential pressure is limited to the PMO	
Designed for a maximum cold hydraulic test pressure of 75 bar g		

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.



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	Virgin 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	Stem 'O'ring	Viton	
12	Handle	Stainless steel	AISI 304
13	Cover	Vinyl	
14	Nuts and bolts	Stainless steel	AISI 304
15	Bolt washer		AISI 304
16	Body seal	Virgin PTFE TFM 1600	
17	Beleville washer		AISI 301
18	Packing follower	Virgin PTFE TFM 1600	
19	Thrust washer	Virgin PTFE TFM 1600	

Technical data

Leakage test procedure to ISO 5208 (Rate A) / EN 12266-1 (Rate A)	
Stem seal and seat	Materials comply with; - FDA CFR title 21 paragraph 177, section 1550. - USP23 Class VI
Flow characteristic	Modified linear
Port	True port design

K_V values

Size	**2½"**	**3"**	**4"**
K_V	680	860	1950

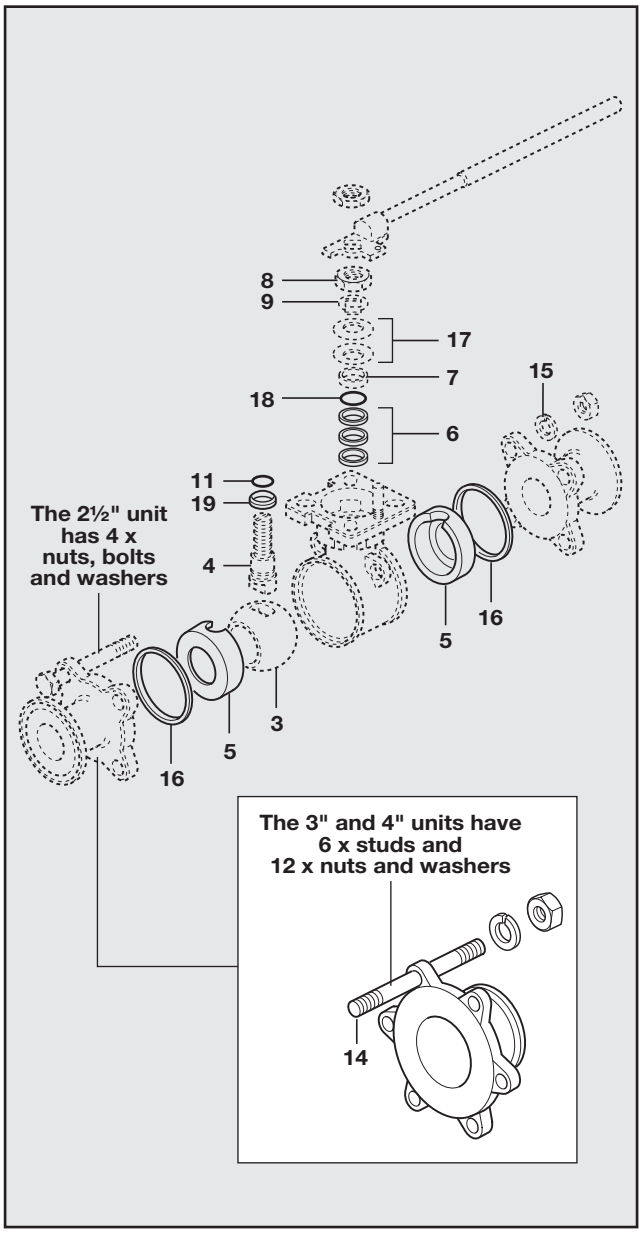
For conversion: C_V (UK) = K_V x 0.963 C_V (US) = K_V x 1.156

Torque value

Size	**2½"**	**3"**	**4"**
N m	110	130	145

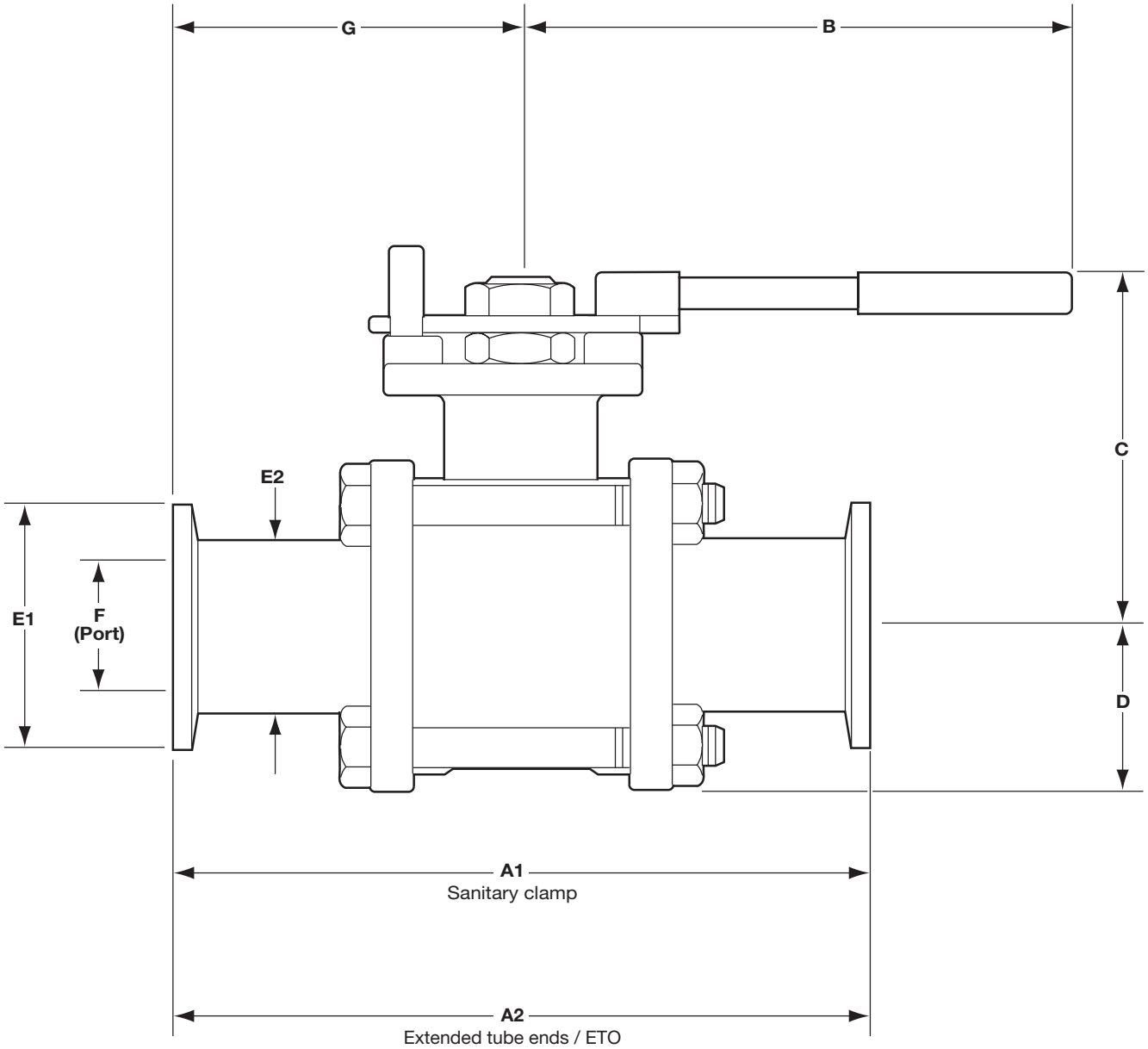
The torque figures shown are for a valve at maximum operating pressure that is operated frequently.
Valves that are subject to long static periods, may require greater break-out torque.

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



Dimensions / weights (approximate) in mm and kg

Size	A1	A2	B	C	D	E1 (Clamp)	E2 (ETO)	F	G (Clamp)	G (ETO)	Weight
2½"	171.6	191.0	383	134	56.14	77.5	63.4	60.3	85.80	95.50	9.0
3"	228.6	230.0	386	144	78.03	90.9	76.2	73.0	114.30	115.00	12.2
4"	254.1	253.5	424	187	100.60	118.9	101.6	97.4	127.05	126.75	23.0



Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions supplied with the product.

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

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

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 seals, stem 'O' ring, body seals kit, packing follower and thrust washer	**5, 6, 11, 16, 18, 19**

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, body seals kit, packing follower and thrust washer for a Spirax Sarco 4" M80iV ISO cast stainless steel ball valve.

Note: The main spares drawing illustrates the 2½" unit. The same spares are available for the 3" and 4" units.