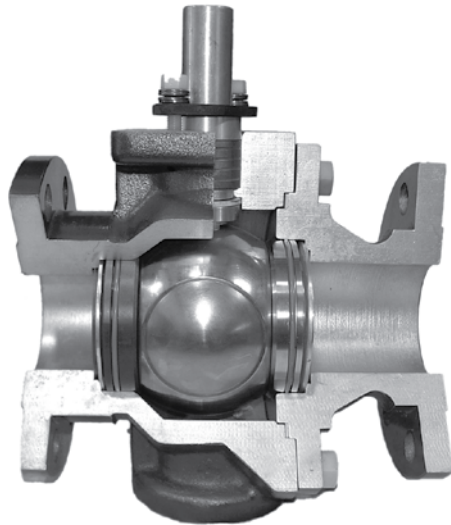
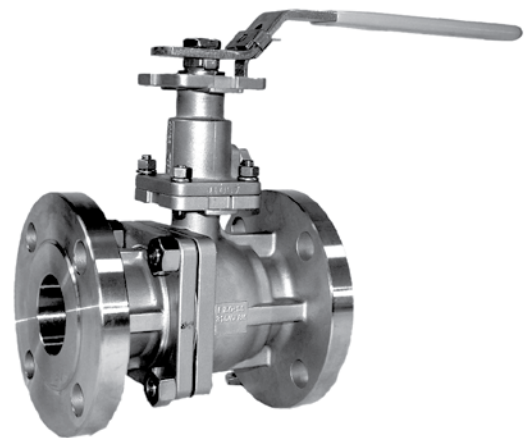


SEVERE SERVICE METAL SEATED VALVES



Extreme Service Series

**Redundant Safety Device
for secondary containment
Assuring Added Safety
for Extreme Temperatures**



Severe Service Series

Flo-Tite works with customers to design valves tailored to their specific needs. Knowledge of applications, materials and design allows our engineers to find solutions to problems quickly and effectively.

Flo-Tite Metal Seating is available in the following Ball Valve Types

- Super-Flo Series - Flanged End - Full Port ANSI Class 150 & ANSI Class 300
- UNI-Flo Series - Flanged End - Standard Port
- 3 PC Designs
- Multi-Choice Series and Tri-Pro Series
- Threaded Socket or Butt Weld End Connections
- Multi-Choice rated ANSI Class 300, Max Temperature 600°F
- Tri-Pro rated ANSI Class 600, Max Temperature 1000°F

Extreme Service Valves where temperatures exceed 800°F are designed for specific application in Flo-Tite's Extreme Service Series.

MATERIAL DESCRIPTIONS

Models MS/F150, MS/F300, MS/SF150 Flanged End Valves

	1/2" Through 1 1/2"	2" Through 12"
Ball	316 sst W/ Hard Chrome Plate	316 sst W/ Hard Chrome Plate
Seats	316 sst W/ Stellite Hardface	316 sst W/ Stellite Hardface
Seat Seal	FEP /Viton O-Ring or Graphite	FEP / Viton O-Ring or Graphite
Stem	316 sst Stainless Steel	17-4 SST Stem
Body Gasket	SS - Spiral Wound	SS - Spiral Wound
Stem Packing	TFM or Graphoil	Supplied TFM or Graphoil
Bolting	ASTM A193 B8	Supplied ASTM A193 B8

3 PC SERIES TRI-PRO OR MULTI-TASK

Series 200/300 or HPF

	1/2" Through 1 1/2"	2" Through 12"
Ball	316 sst W/ Hard Chrome Plate	316 sst W/ Hard Chrome Plate
Seats	316 sst W/ Stellite Hardface	316 sst W/ Stellite Hardface
Seat Seal	FEP /Viton O-Ring or Graphite	FEP / Viton O-Ring or Graphite
Stem	316 sst Stainless Steel	17-4 SST Stem
Body Gasket	304/GRAPHITE FLEXITALLIC	304/GRAPHITE FLEXITALLIC
	FEP/Viton O-Ring	FEP/Viton O-Ring
Stem Packing	TFM or Graphoil	TFM or Graphoil
Bolting	ASTM A193 B8	ASTM A193 B8

MULTI-PORT SERIES

	MS/MPF15 3/4" thru 12"	MS/MPF30 1" thru 12"
Ball	316 sst W/ Hard Chrome Plate	316 sst W/ Hard Chrome Plate
Seats	316 sst W/ Stellite Hardface	316 sst W/ Stellite Hardface
Seat Seal	FEP /Viton O-Ring or Graphite	FEP / Viton O-Ring or Graphite
Stem	316 sst	316 - SST or 17-4 SST
Body Gasket	304/GRAPHITE FLEXITALLIC	304/GRAPHITE FLEXITALLIC
	FEP/Viton O-Ring	FEP/Viton O-Ring
Stem Packing	TFM or Graphoil	TFM or Graphoil
Bolting	ASTM A193 B8	A564 Gr 630 Studs, 2H Nuts

NOTE: All Valve Bodies are available in 316 SS, WCB or Alloy 20

For Technical information such as Dimensions, Weights CV & Assembly Exploded Views can be found in our standard catalog brochures or on our website www.flotite.com for all valve series.

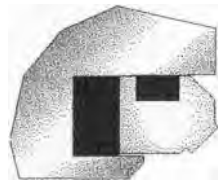
DESIGN & TECHNICAL DATA

SEVERE SERVICE VALVE SEATING

Flo-Tite's metal seated valves are manufactured and tested for a Class V Shut-off between the seat and the ball. This is accomplished by grinding every ball to very tight tolerance, carefully generating a radius on each individual seat to the mating ball, and then hand lapping them together. On request, Flo-Tite valves will also provide the customers with a valve tested for Class VI Shut-Off.

SEAT STYLES

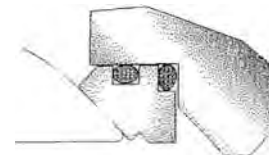
G Seal-Graphite Sealed Seat



A series of graphite seal rings behind the metal seat, coupled with a graphite outer diameter seat seal, prevent media from building up behind the seat. The rings also allow for expansion of the internal valve components in high temperature applications.

Temperature Range: -40 to 1000 deg F
Applications: Steam, Abrasion, High Temperatures, Fine Solids
Shut-Off: Class V

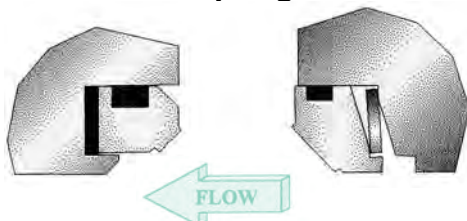
O Seal-Graphite Sealed Seat



A double seal design providing both spring loading and excellent sealing capabilities. There is no area for media to build up behind the seat, which prevents the valve from locking up.

Temperature Range: -150 to 650 deg F
Applications: Steam, Abrasion, Low Pressure Differentials, Fine Solids, Emulsions
Shut-Off: Class V, Class VI, Bubble Tight

P Seat-Spring Loaded



For uni-directions applications. This sealing seat is available as a separate seat ring for easy repair or integral with the tailpiece for high temperature applications. The spring seat OD seal prevents media from building up between the spring and the back of the seat.

Temperature Range: -40 to 1250 deg F
Application: Steam, Low Pressure Differentials, High Temperatures
Shut-Off: Class V, Class VI, Bubble Tight

Features:

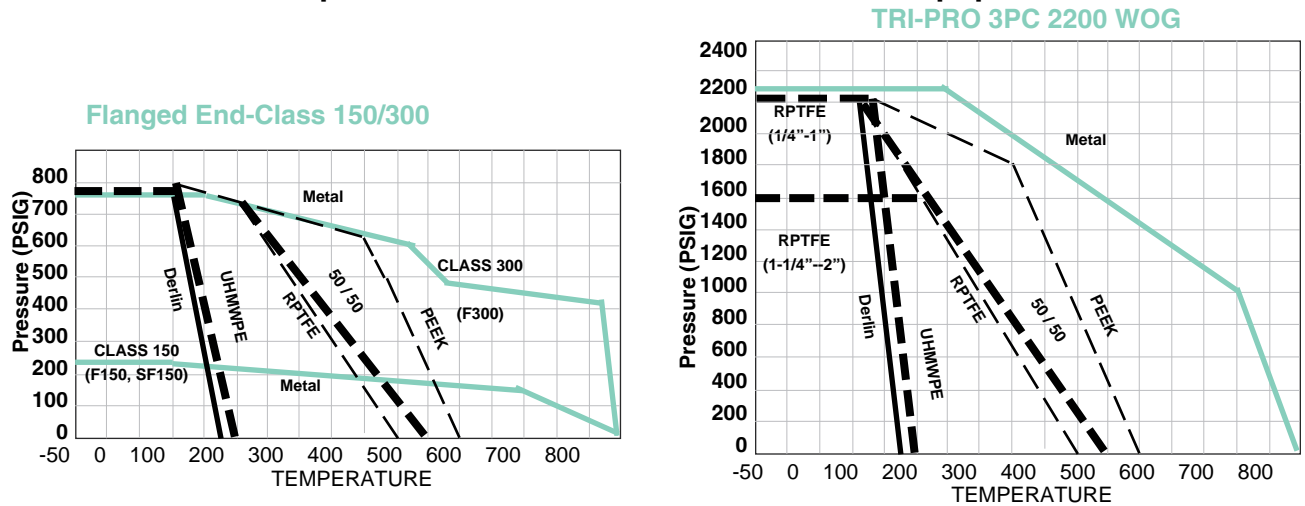
- Solid stellite seats providing corrosion and erosion resistance.
- Superior ball-to-seat interface for tight shutoff.
- Solid, high-sphericity 316 stainless steel ball with hard chrome plating.
- 17-4 PH stem provides added strength that will withstand high torques in rough applications.
- Seats are hand-lapped to the ball as individually matched sets, assures line contact between ball and seats.

DESIGN & TECHNICAL DATA

Flo-Tite's Metal-Seal series valves incorporate the most innovative designs on today's market. Proven in the field, they provide uninterrupted service with the highest shutoff for longer periods of time in service. Our metal-seal series is designed to withstand corrosion; high temperatures, pressure surges and abrasion better than any other valve on the market.

PRESSURE & TEMPERATURE DATA

The chart below compares **Flo-Tite's** Metal-Seal seats to other popular ball valve seats.



Important Note:

- Consult factory for all applications exceeding 800°F
- When quoting Metal-Seal Valves, it is very important that we have the following information: Media, temperature, pressure and class shut-off required.

INDUSTRY LEAKAGE STANDARD

CODE	Class or Seal Type	Test Fluid	Test Pressure	Allowed Pressure	Notes
ANSI/FCI 70-2-1976	I				No Tests performed by agreement between user & Mfg.
	II	Water or air	Lesser of 45-60 psig or max. Pressured difference	0.5% of full rated valve capacity	Pressure and flow measured within - 10%
	III	Water or air	Lesser of 45-60 psig or max. Pressured difference	0.1% of full rated valve capacity	Pressure and flow measured within - 10%
	IV	Water or air	Lesser of 45-60 psig or max. Pressured difference	0.01% of full rated valve capacity	Pressure and flow measured within - 10%
	V	Water	Max. difference pressure or by agreement	5x10 ml per min per in. dia. Per psi	Pressure and flow measured within - 10%
	VI	Air or nitrogen	Lesser of 45-60 psig or max. Pressured difference	Per B16.104 table to 3" nom. dia	Approx. 6 or less bubbles per min. per in of dia.

Valve Size	1	1 1/2	2	2 1/2	3	4	6	8
BB / Min	1	2	3	5	6	11	27	45

This brochure is general in nature and manufacturer reserves the right to alter dimensions, materials or to make design improvements.



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