



Valves, Automation & Controls

SERIES 74/FS74



Fully Compliant
API 608 5th Edition
Class 150 | 300
API 607 6th Edition

***HIGH PERFORMANCE FLANGED
STANDARD PORT BALL VALVE***

SMITH-COOPER®
INTERNATIONAL

Stem Sealing

Increased Stem Sealing Area

Allows for a range of sealing combinations for severe applications and other stringent design demands.

Live-Loaded Stem

Two pairs of concave and opposing spring washers provide additional compensation for seal wear.

Safe Design

Blowout proof stem ensures the stem cannot be blown out by accidental medium pressure rise.

Wear Resistance

The thrust washer is either metallic for higher temperatures and wear resistance, or PEEK for lower temperatures.

Anti-Static

Static build-up discharges by anti-static device in stem or the metallic thrust washer.

Stem Assemblies

Various stem assemblies are available based on application requirements.

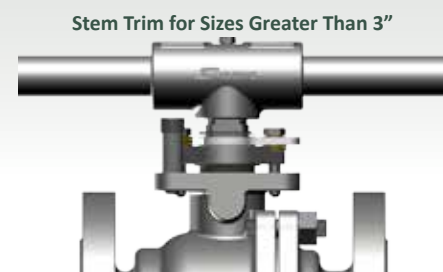
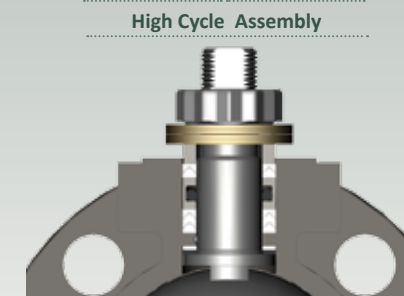
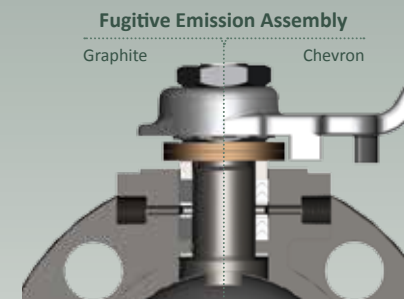
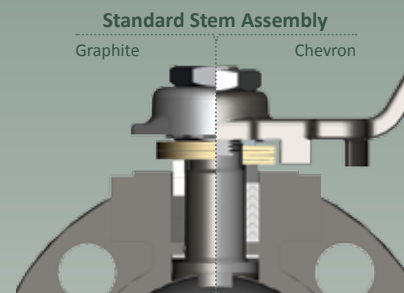
Standard – a multiple pack of Chevron “V” shaped stem seals for better sealing in TFM® or Nova materials.

High Temperature – double pack of flexible graphite seals for sealing under high temperature conditions.

Fugitive Emission – 2-pack stem seals in PTFE or graphite, with lantern ring to allow leak detection through the emission port(s).

High Cycle – unique design for demanding high cycle applications that consist of multi-system sealing devices in the stem bonnet.

Stem Trim for Sizes Greater Than 3” – According to API 608 all valve sizes greater than 3” have an adjustable packing gland with thru bolt holes. Gland bolts pass through the holes and thread to the valve body. The position stops are bolted to the body and are not integral to the packing gland, gland flange or gland bolting.



Rugged Body

Rugged body, (316 Stainless Steel, Carbon Steel, or Alloy 20) with higher and deeper stem packing area to allow for more stem seals.

Two cast bosses for optional fugitive emission ports. Larger ISO 5211 bolt pattern for handling higher valve torques.

Heavy Duty Stem Design

Stem diameters have been increased to meet the higher torque requirements of the most demanding applications. Stem to ball contact area is wider and larger, allowing the valve to be used for higher torque applications.

Design allows for the use of 316 stainless steel stem material, rather than 17-4PH, for superior corrosion resistance.

Floating Ball Design

Solid stainless steel ball with wide selection of configurations for a variety of applications including; diverting, mixing, controlling, flushing, purging and more. Floating ball seals on the downstream seat, reducing torque and assuring a bubble-tight shutoff.

ISO 5211 Top-Works Compatibility

The top-works offer compatibility for mounting a wide range of accessories.

Sharpe® actuators and accessories may be retrofitted on existing valves without disruption of line integrity.

Unique Handle

A unique cast stainless steel handle specially designed to accommodate locking devices and high operating torques.

A comfortable, ergonomic, non-slip, hand grip design. Handle length according to API 608 requirements.

Tamper Proof Locking Device

All Sharpe® Valves come standard with a lockable handle. The optional, Sharpe® exclusive, tamper proof locking device cannot be removed with a lock in place. When not being used with a lock its springs ensure the locking device snaps into place in the open or closed position to prevent accidental operation.



Valves, Automation & Controls

Integrated Fugitive Emission Ports

One or two ports can be drilled and tapped into our specially designed body. Ports align with a lantern ring precisely located between an upper and lower set of stem packing to allow monitoring of emissions.

Lockable Stem Extension

An option to move the valve top interface away from the pipe line to accommodate insulation.

Tamper Proof Locking Device

Upgrade from the standard locking device found on all Sharpe® Valves to our unique spring loaded Tamper Proof Locking Device.

Spring Return Handle

Spring return handle ensures that the valve cannot be left open (or closed).

Cast Mounting Brackets

Cast stainless steel brackets with hole patterns conforming to ISO 5211 on top and bottom for actuation mounting.

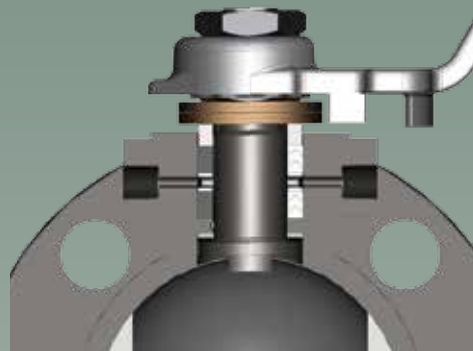
Safety locking holes for securing valves during maintenance (requires special coupler)

Aesthetic design offers wide tool clearance for installation and open visual.

Steam Jackets

Steam jackets enables the valves to be kept at a controlled temperature.

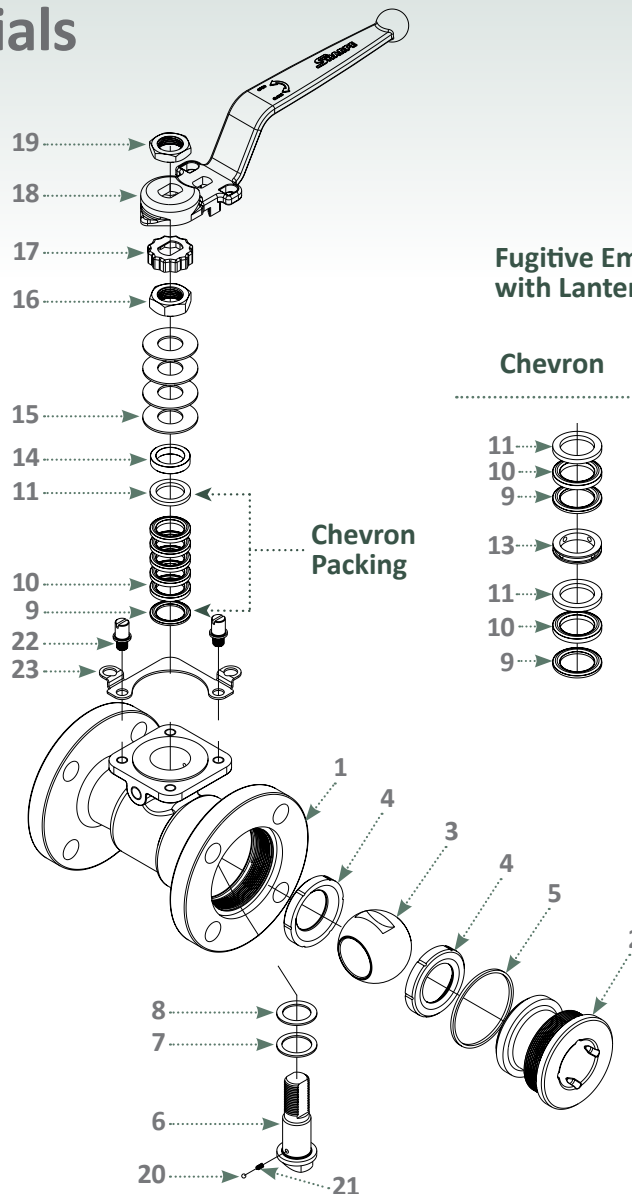
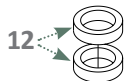
ACCESSORIES:



Parts & Materials

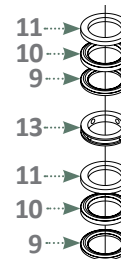
Series 74/FS74 - 1" - 2"

High Temperature or
Fire Safe Packing

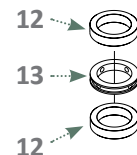


Fugitive Emission Monitoring
with Lantern Ring Packing

Chevron



High Temperature or
Fire Safe



Chevron
Packing

Sizes 1" - 2"

ITEM	DESCRIPTION	MATERIAL	QTY
1	Body	Carbon Steel 316 Stainless Steel Alloy 20 ***	1
2	End Piece	Carbon Steel 316 Stainless Steel Alloy 20 ***	1
3	Ball	316 Stainless Steel Alloy 20 ***	1
4*	Seat	PTFE, RTFE, TFM®, Nova, PEEK	2
5*	Body Seal	PTFE, Graphite	1
6	Stem	316 Stainless Steel 17-4PH Alloy 20 ***	1

ITEM	DESCRIPTION	MATERIAL	QTY
7*	Thrust Bearing - Bottom	Nova, PEEK	1
8*	Thrust Bearing - Top	Nova	1
9*	Stem Packing - Bottom	PTFE, TFM®, Nova	2
10*,**	Stem Packing - Middle	PTFE, TFM®, Nova	2
11*	Stem Packing - Top	PTFE, TFM®, Nova	2
12*	Stem Packing	Graphite (FS or high temperature)	2
13	Lantern Ring	300 Series Stainless Steel	1
14	Gland	300 Series Stainless Steel	1
15*	Belleville Washer	17-7PH	4
16	Packing Nut	300 Series Stainless Steel	1
17	Lock Tab	300 Series Stainless Steel	1
18	Handle	304 Stainless Steel ASTM A351 CF8	1
19	Handle Nut	300 Series Stainless Steel	1
20	Anti - Static Ball	300 Series Stainless Steel	1
21	Anti - Static Spring	Hard Drawn Stainless Steel	1
22	Stop Pin	300 Series Stainless Steel	2
23	Lock Plate	300 Series Stainless Steel	1

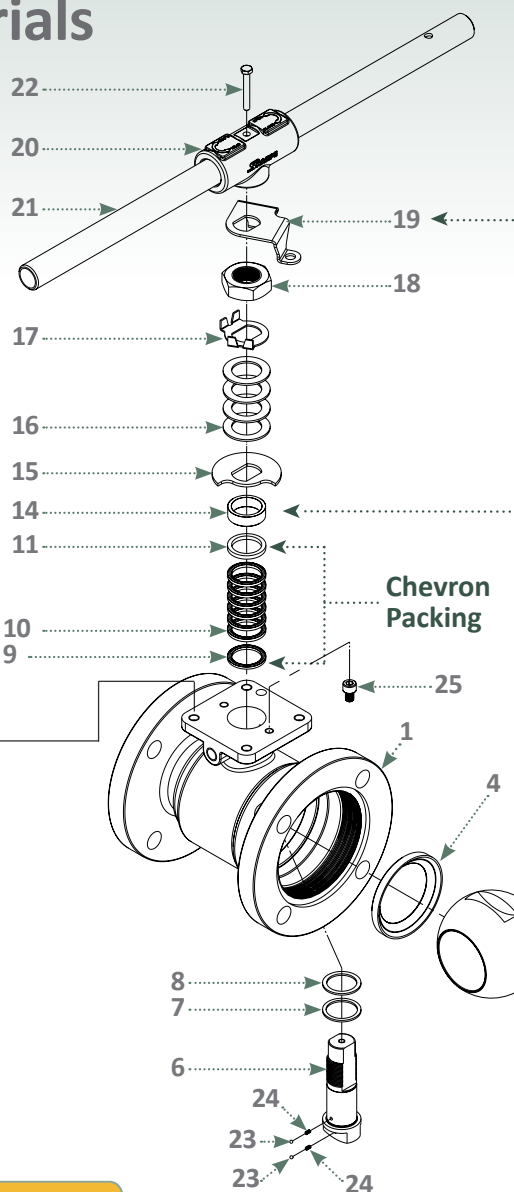
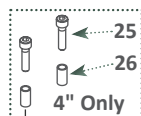
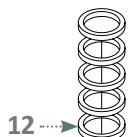
The quantities listed in the stem arrangement are for fugitive emission assemblies. Standard stem assemblies carry more seals and no lantern rings.

* these parts are used in repair kits. ** middle stem packing is only used from size 1-1/2" and above. ***Other materials available, call to discuss your special requirements.

Parts & Materials

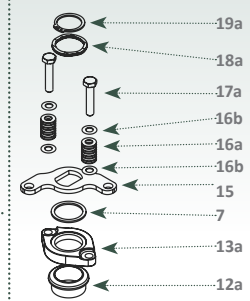
Series 74/FS74 - 3" - 4"

High Temperature or
Fire Safe Packing



Chevron
Packing

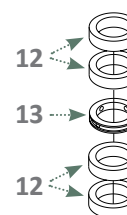
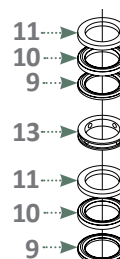
Series 74/FS74 - 4" Gland Flange Set



Fugitive Emission Monitoring
with Lantern Ring Packing

Chevron

High Temperature
or Fire Safe



Sizes 3" - 4"

ITEM	DESCRIPTION	MATERIAL	QTY
1	Body	Carbon Steel 316 Stainless Steel Alloy 20	1
2	End Piece	Carbon Steel 316 Stainless Steel Alloy 20	1
3	Ball	316 Stainless Steel Alloy 20	1
4*	Seat	PTFE, RTFE, TFM®, Nova, PEEK	2
5*	Body Seal	PTFE, Graphite	1
6	Stem	Stainless Steel 17-4PH Alloy 20	1
7*	Thrust Bearing - Bottom	Nova, PEEK	1
8*	Thrust Bearing - Top	Nova	1
9*	Stem Packing - Bottom	PTFE, TFM®, Nova	2
10*	Stem Packing - Middle	PTFE, TFM®, Nova	2
11*	Stem Packing - Top	PTFE, TFM®, Nova	2
12*	Stem Packing	Graphite (FS or high temperature)	4
12a	Gland Position Ring	300 Series Stainless Steel	1

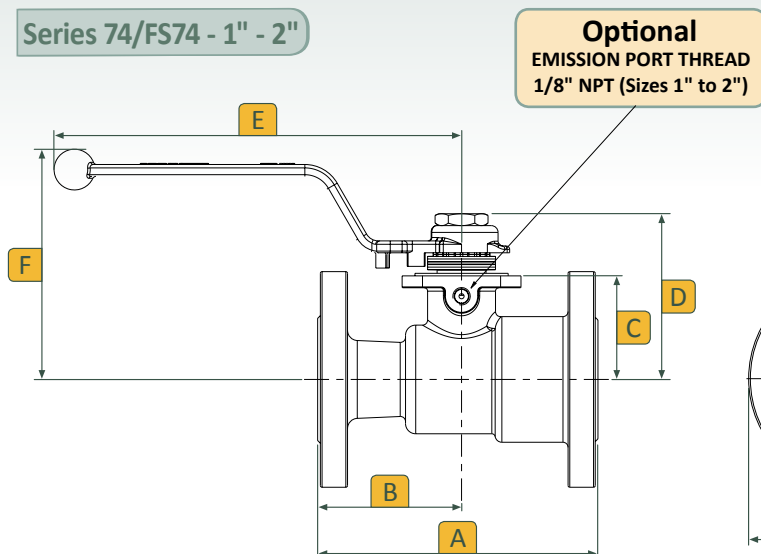
ITEM	DESCRIPTION	MATERIAL	QTY
13	Lantern Ring	300 Series Stainless Steel	1
13a	Gland (size 4" only)	316 Stainless Steel A351 CF8M	1
14	Gland	300 Series Stainless Steel	2
15	Stop Plate	300 Series Stainless Steel	1
16	Belleville Washer	17-7PH	4
16a	Belleville Washer	17-7PH	16
16b	Washer	300 Series Stainless Steel	4
17	Lock Tab	300 Series Stainless Steel	1
17a	Gland Bolt	300 Series Stainless Steel	2
18	Packing Nut	300 Series Stainless Steel	1
18a	Retainer Spring	300 Series Stainless Steel	1
19	Lock Plate	300 Series Stainless Steel	1
19a	Lock Plate	300 Series Stainless Steel	1
20	Wrench Block	304 Stainless Steel ASTM A351CF8	1
21	Handle Pipe	Stainless Steel Zinc Plated Carbon Steel	1
22	Wrench Bolt	300 Series Stainless Steel	1
23	Anti-Static Ball	300 Series Stainless Steel	2
24	Anti-Static Spring	Hard Drawn Stainless Steel	2
25	Stop Pin	300 Series Stainless Steel	1/2
26	Stop Pin Sleeve	300 Series Stainless Steel	2

The quantities listed in the stem arrangement are for fugitive emission assemblies. Standard stem assemblies carry more seals and no lantern rings.

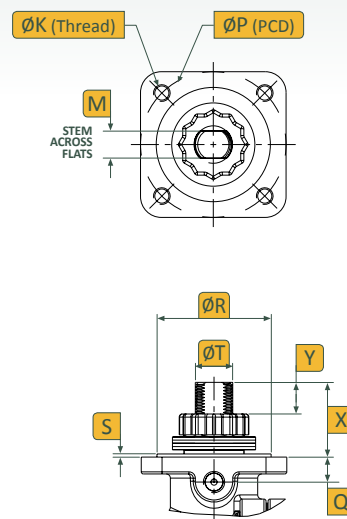
* these parts are used in repair kits.

Dimensions

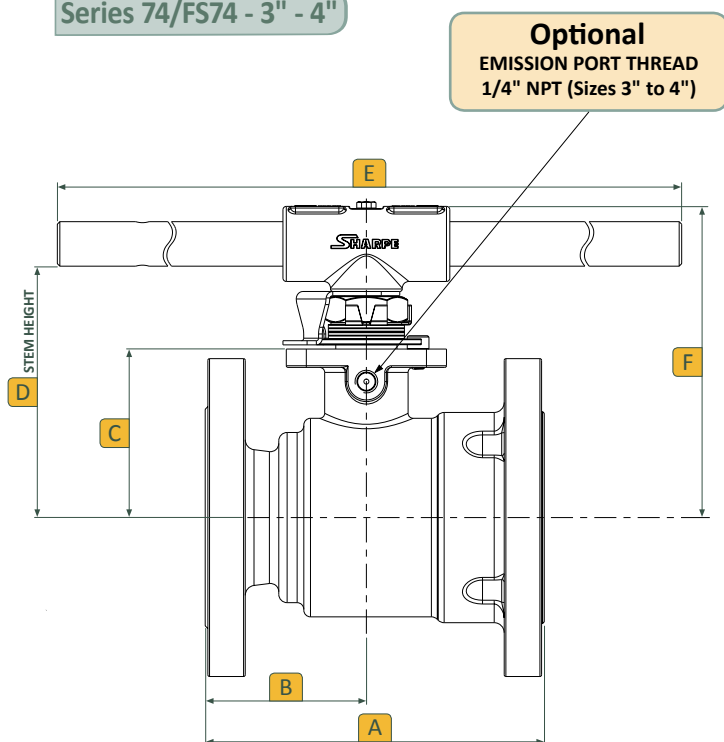
Series 74/FS74 - 1" - 2"



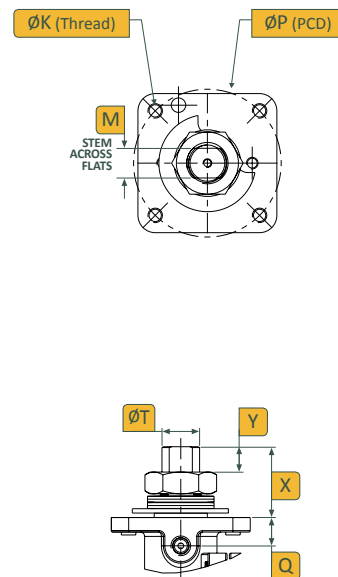
Dimensions for Actuator Mounting



Series 74/FS74 - 3" - 4"



Dimensions for Actuator Mounting

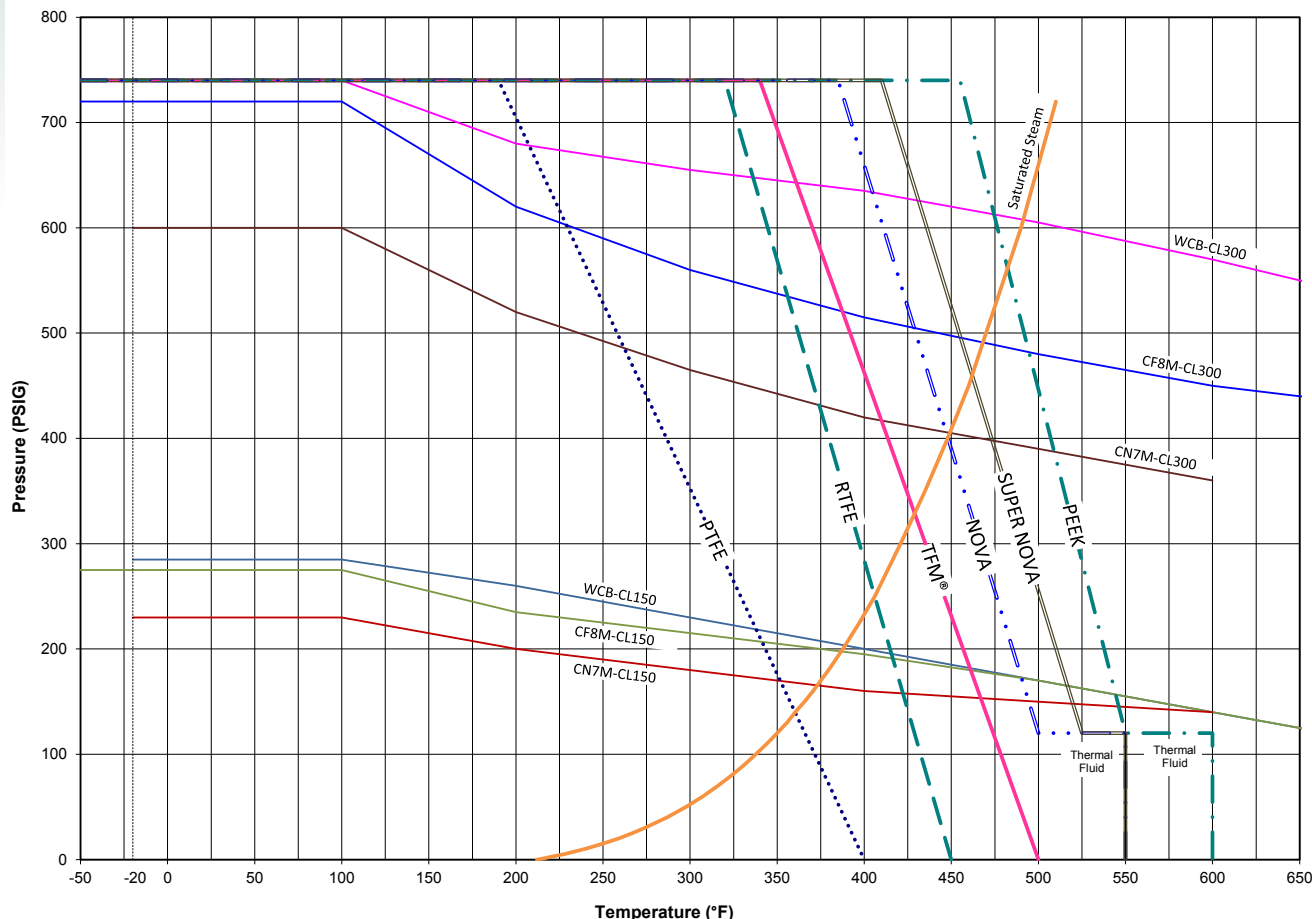


Dimensions (Inches)

SIZE	ØPORT	Class 150	Class 300	Class 150	Class 300	C	D	E	F	Class 150	Class 300	K (Thread)	M	ØP (PCD)	Q	ØR	S	ØT	X	Y
		A	A	B	B					ØH	ØH									
1"	0.81	5.00	6.50	2.70	2.72	1.53	2.28	6.40	3.68	4.25	4.88	M5-P0.8	0.264	F04 (1.65)	0.57	1.181	0.394	0.394	0.74	0.37
1½"	1.24	6.50	7.50	3.35	3.21	2.40	3.82	9.45	5.35	6.10	6.12	M8-P1.25	0.512	F07 (2.76)	0.47	2.165	0.059	0.709	1.41	0.54
2"	1.50	7.00	8.50	3.86	5.35	2.56	3.98	9.45	5.51	6.50	6.50	M8-P1.26	0.512	F07 (2.76)	0.47	2.165	0.059	0.709	1.41	0.54
3"	2.50	8.00	11.12	3.82	6.93	3.98	5.90	23.6	7.36	7.52	8.27	M10-P1.5	0.807	F10 (4.02)	0.77	NA	NA	1.024	1.93	0.68
4"	3.25	9.00	12.00	4.80	7.79	4.59	6.50	23.6	7.95	9.02	10.0	M10-P1.5	0.807	F10 (4.02)	0.77	NA	NA	1.024	1.93	0.68

The dimensions above are for information only. Please refer to Sharpe® Valves if you need dimensions for construction.

Pressure-Temperature Ratings Series 74



Note:

The maximum pressure/temperature ratings of the valve assemblies are limited to lowest of the body or seat material fitted.
 The valve body ratings are based on ASME B16.34 rating for materials.
 The graphs are based on laboratory testing and our experience in field.
 The seat ratings depend on the material, design, application and function.

Sharpe® Seat Materials

PTFE

T - Virgin PTFE

Polytetrafluoroethylene is a Fluorocarbon-based polymer. This seating material has excellent chemical resistance and a low coefficient of friction. Its temperature range is -100°F to 400°F (-73°C to 204°C). Color - white.

TFM®

M - TFM® PTFE

Dyneon TFM® PTFE is a second generation PTFE with improved chemical and heat resistant properties and stress recovery. Its temperature range is -100°F to 500°F (-73°C to 260°C) Color - white.

RTFE

R - Reinforced Polytetrafluoroethylene (RTFE).

PTFE's mechanical properties are enhanced by adding 15% filler material to provide improved strength, stability and wear resistance. Its temperature range is from -320°F to 450°F (-196°C to 232°C). Color-off-white.

NOVA

N - Nova

This is a Teflon base filled with glass amorphous carbon powder and graphite. It has a lower thermal contraction-expansion than PTFE, and is ideal for steam or thermal fluid applications up to 550°F (288°C). Color - black.

SUPER NOVA

B - Super Nova is a free-flowing compound based on TFM® containing electro-graphitized carbon. It features: increased thermal dimensional stability and surface hardness, improved deformation under load, reduced friction and wear, and good chemical stability. It has a high limiting oxygen index (LOI), low coefficient of friction, very good mechanical properties and exceptional temperature resistance. It is used as a seat material in chemical processing and automotive industries. It is ideal to use with steam and thermal fluid applications up to 550°F (288°C) and as low as -40°F (-40°C). Color - black.

PEEK

P - PEEK (Unfilled) Polyetheretherketone

PEEK Polymer offers a unique combination of chemical, mechanical and thermal properties. Excellent for water and steam application at elevated temperatures up to 600°F (315°C). Color - beige.

OTHER

Other seat materials

Other seat material are available according to the application, such as very high temperature or cryogenic conditions.

How To Order Series 74/FS74

1"
Size

FS74
Series

1
Class

6
Body / Ends

6
Ball

6
Stem

R
Seat

G
Body Seal


G
Stem Packing

1 / 1
Ends

X
Service

OH
Options

Size	Series	Body/Ends	Seat	Body Seal	Ends	Options
1"	74 Reduced Port	2 Alloy 20	B Super Nova	G Graphite	1 Class 150 Flanged RF	OH Oval Handle*
1½"	FS74 Fire Safe	4 Carbon Steel	M TFM®	I Impregnated Graphite	1F Class 150 Flanged FF	F1 1 Emission Port
2"	CF74 Cavity Fill	6 316 Stainless Steel	N Nova	M TFM®	3 Class 300 Flanged RF	F2 2 Emission Port
3"	Fire Safe valves must use: Graphite or Impregnated Graphite Body Seals and Stem Packing. PTFE, RTFE, TFM®, Nova, Super Nova Seats	Ball 2 Alloy 20 6 316 Stainless Steel	P Virgin PEEK	T PTFE	3F Class 300 Flanged FF	L Lockable Stem Extension**
4"			R RTFE 15% Glass Filled			VB Vented Ball
	Cavity Filler Seats available in PTFE.	Stem 2 Alloy 20 6 316 Stainless Steel 7 17-4 PH	T PTFE			SJ Steam Jacket
	Class 1 150 3 300			Stem Packing G Graphite I Impregnated Graphite M TFM® N Nova T PTFE	Service X Oxygen Service** U Vacuum MN Ammonia Service SF Silicone Free **	TP Tamper Proof Locking Device
						** Per Sharpe® Standard
						HC High Cycle Stem
						PN4 Packing Nut Design 4" Only



Other materials / options available please contact us with your unique requirement.

* Up to 2"
 ** 3-¼" up to 1", 4" on larger valves
 *** Call Sharpe® Valves for sizing / application of DMH (1" and under only)

Technical Information			
VALVE SIZE	FLOW COEFF. Cv	APPROX. WEIGHT lbs	
		Class 150	Class 300
1"	30	8	11
1½"	82	18	24
2"	120	21	25
3"	350	39	49
4"	720	65	85



Applicable Standards

Wall Thickness	ASME B16.34
Face to Face Dimensions	ASME B16.10
Fugitive Emission	ISO 15848-1 (with I or N stem packing)
Flange Dimensions	ASME B16.5
Basic Design	ASME B16.34, API 608 5th Edt.
Fire Safe	API 607 6th Edt. (FS74 only)
Pressure Test	API 598, MSS-SP 72
Mounting Dimensions	ISO 5211
NACE (Only with 316 SS Stem)	MR-0175 / ISO 15156
Marking	MSS-SP 25

TFM® is a registered trademark of Dyneon, LLC.



SMITH-COOPER®
INTERNATIONAL

Toll Free 877-774-2773

Fax 708-562-9250

www.smithcooper.com • www.sharpevalves.com

Los Angeles, CA • Chicago, IL • Atlanta, GA • Vancouver, WA

