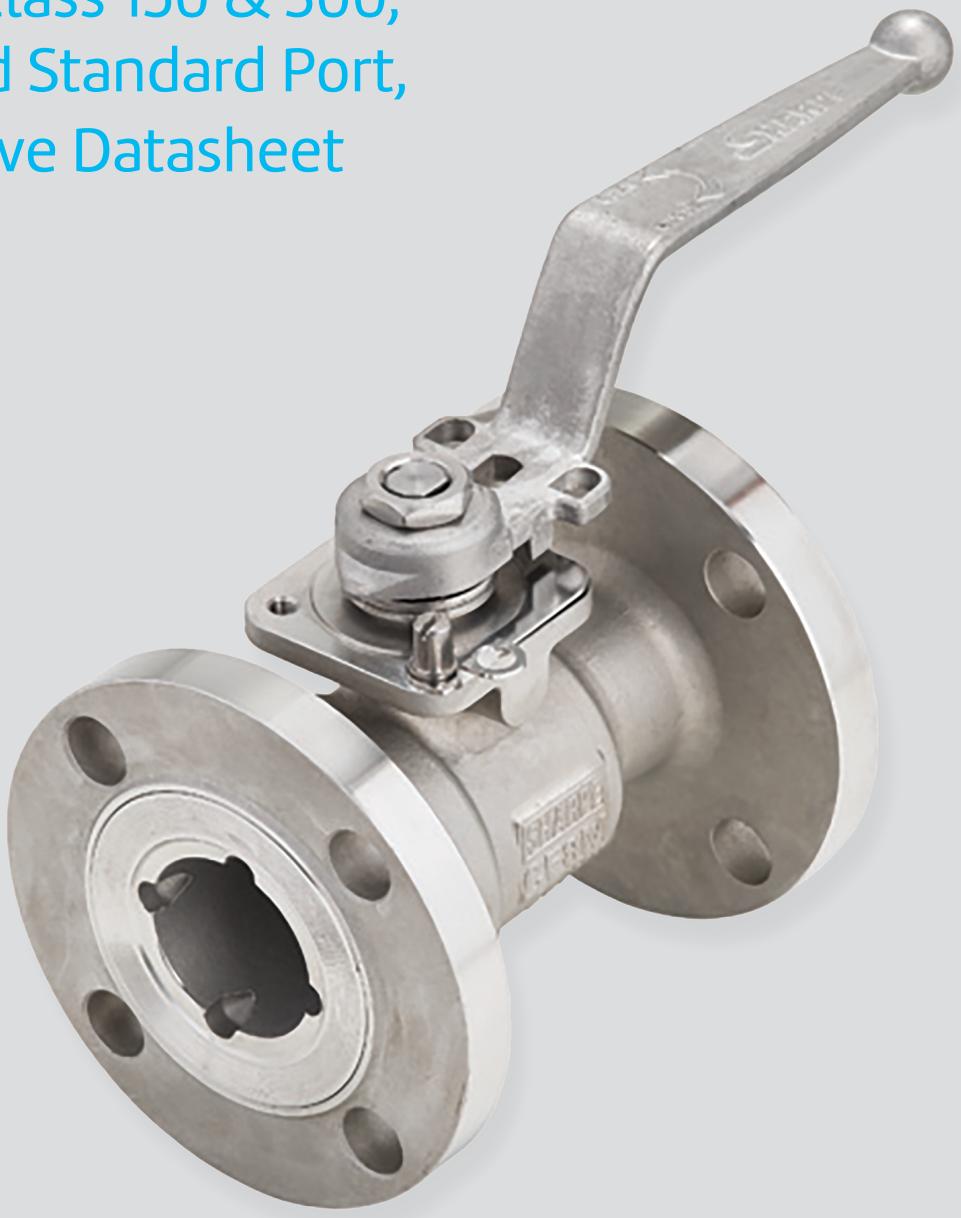
Building connections that last™

ASC Engineered Solutions

Sharpe® Series 74/FS74

ASME Class 150 & 300, Flanged Standard Port, Ball Valve Datasheet

1" – 4"



SHARPE
An ASC Engineered Solution

ASME Class 150 & 300, Flanged Standard Port, Ball Valve

Sharpe® Series 74/FS74

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

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 – multi-pack of flexible graphite seals for sealing under high temperature conditions.

Fugitive Emissions – API 641 with Graphite packing (I) – Two-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.

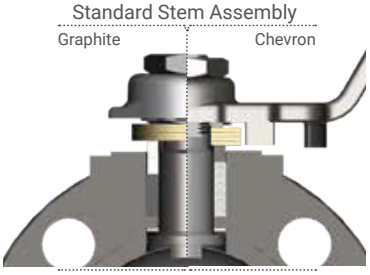
Unique Handle

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.

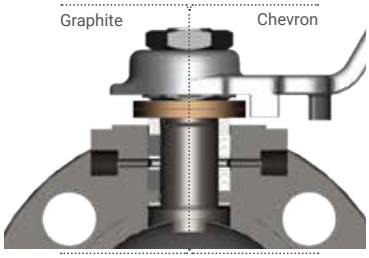
Tamper Proof Locking Device

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.

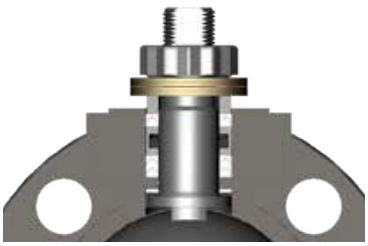
Standard Stem Assembly



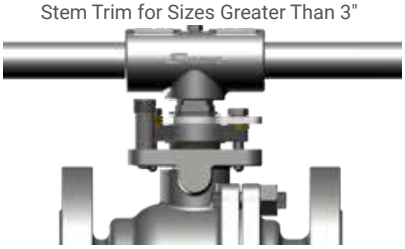
Fugitive Emission Assembly



High Cycle Assembly



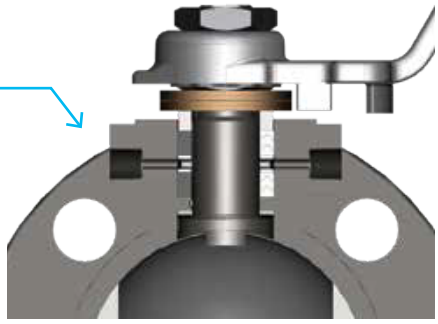
Stem Trim for Sizes Greater Than 3"



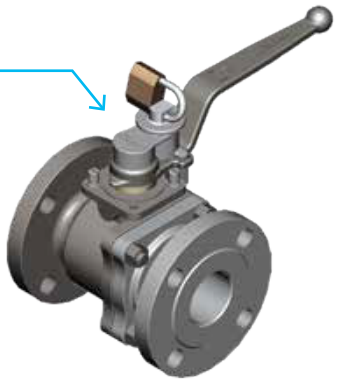
Options & Accessories

Integrated Fugitive Emission Ports [Option Code F1 or F2]
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.



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



Spring Return Handle [Option Code DMH]
Spring return handle ensures that the valve cannot be left open (or closed).

Lockable Stem Extension [Option Code L]
An option to move the valve top interface away from the pipeline to accommodate insulation.

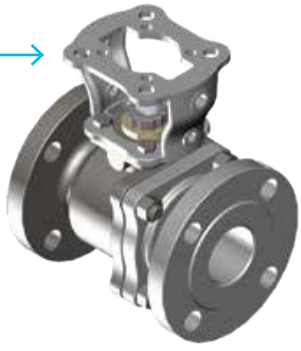
Steam Jackets [Option Code SJ or SJ3]
Steam jackets maintain a more uniform process temperature.

Users can flow steam or oil between the jacket and the valve body.

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).

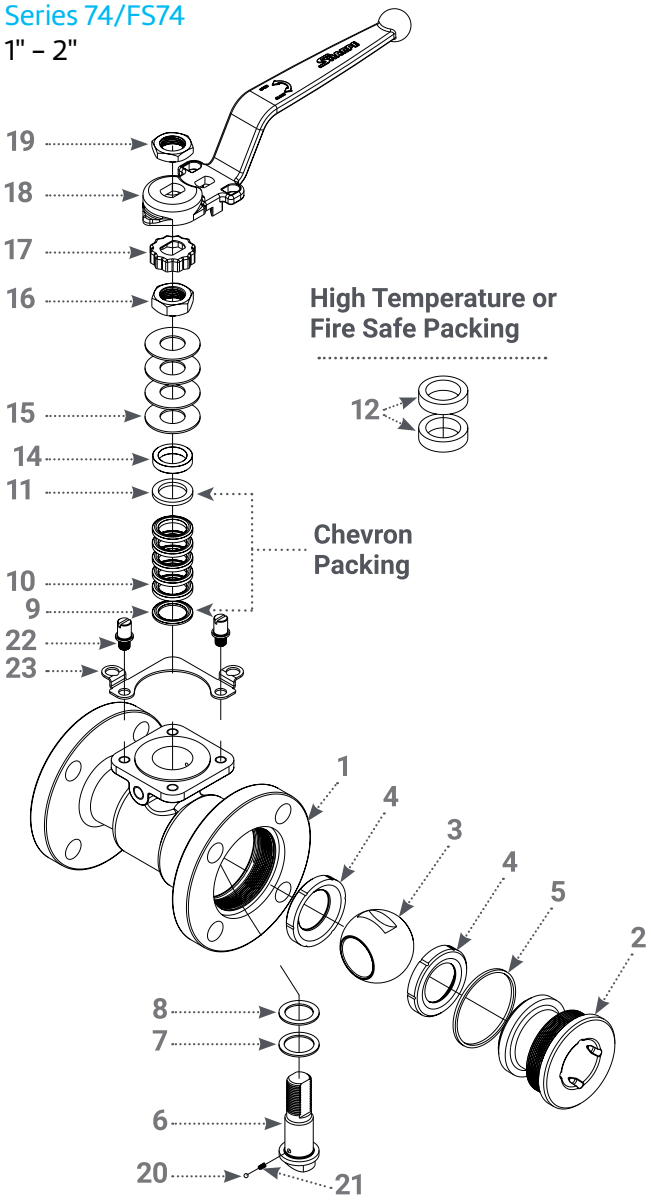
Aesthetic design offers wide tool clearance for installation and open visual.



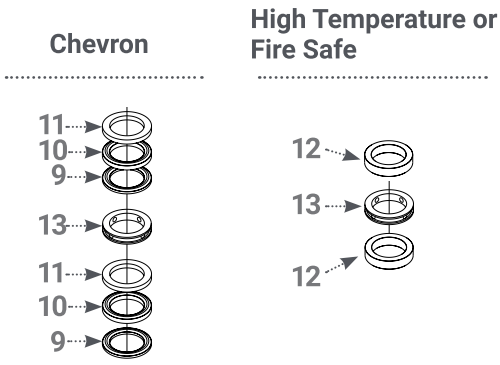
ASME Class 150 & 300, Flanged Standard Port, Ball Valve

Sharpe® Series 74/FS74

Series 74/FS74
1" – 2"



Fugitive Emission Monitoring with Lantern Ring Packing



Parts & Materials Sizes 1" – 2"

Item	Description	Material	Qty.
1	Body	Carbon Steel ASTM A216 WCB 316 Stainless Steel ASTM A351 CF8M Alloy 20 ASTM A351 CN7M ***	1
2	End Piece	Carbon Steel ASTM A216 WCB 316 Stainless Steel ASTM A351 CF8M Alloy 20 ASTM A351 CN7M ***	1
3	Ball	316 Stainless Steel or Alloy 20 ***	1
4*	Seat	PTFE, RTFE, TFM®, Nova, PEEK, Super Nova	2
5*	Body Seal	PTFE, TFM™, Graphite	1
6	Stem	316 Stainless Steel 17-4PH Alloy 20 ***	1
7*	Thrust Bearing - Bottom	Nova, PEEK	1-2
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	Stainless Steel	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

Note:

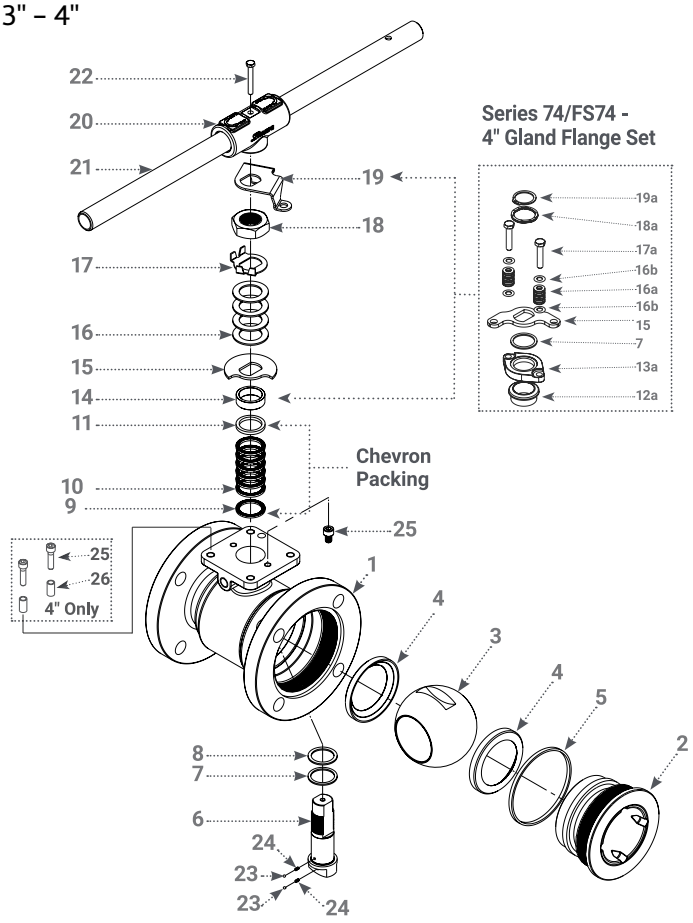
The quantities listed in the stem arrangement are for fugitive emission assemblies. Standard stem assemblies carry more seals and no lantern rings.

* Repair Kit Item.
** middle stem packing is only used from size 1-½" and above.
*** Other materials available, call to discuss your special requirements.

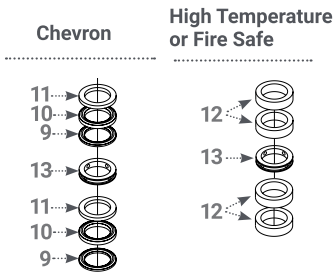
ASME Class 150 & 300, Flanged Standard Port, Ball Valve

Sharpe® Series 74/FS74

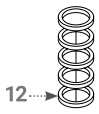
Series 74/FS74
3" – 4"



Fugitive Emission Monitoring with Lantern Ring Packing



High Temperature or Fire Safe Packing



Parts & Materials 3" – 4"

Item	Description	Material	Qty.
1	Body	Carbon Steel ASTM A216 WCB 316 Stainless Steel ASTM A351 CF8M Alloy 20 ASTM A351 CN7M	1
2	End Piece	Carbon Steel ASTM A216 WCB 316 Stainless Steel ASTM A351 CF8M Alloy 20 ASTM A351 CN7M	1

Parts & Materials Continued

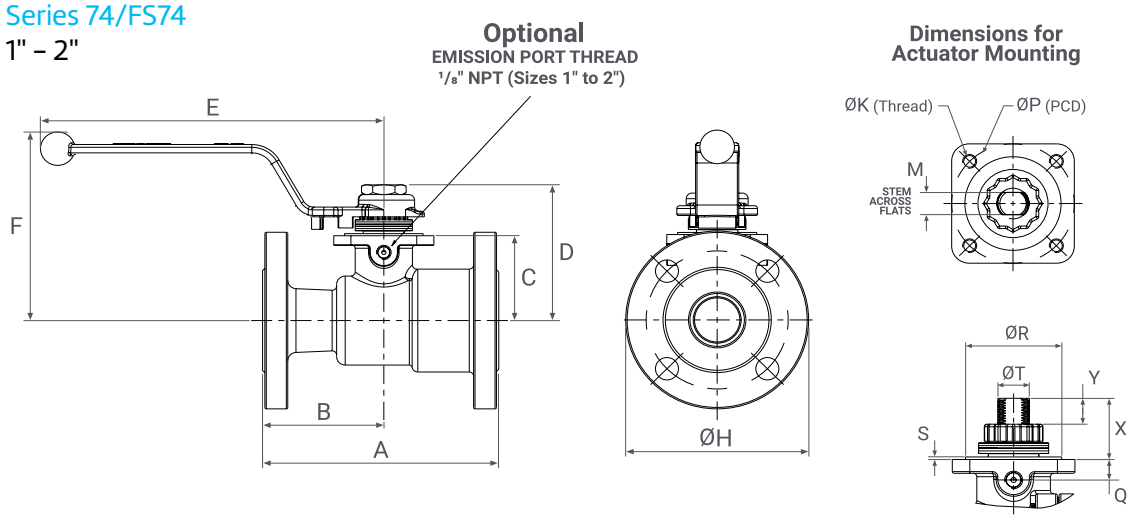
Item	Description	Material	Qty.
3	Ball	316 Stainless Steel or Alloy 20	1
4*	Seat	PTFE, RTFE, TFM®, Nova, PEEK, Super Nova	2
5*	Body Seal	PTFE, Graphite	1
6	Stem	Stainless Steel 17-4PH Alloy 20	1
7*	Thrust Bearing - Bottom	Nova, PEEK	1-2
8*	Thrust Bearing - Top	Nova	1
9*	Stem Packing - Bottom	PTFE,TFM®, 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
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	Stainless Steel	4
16a	Belleville Washer	Stainless Steel	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 Stainles 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

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

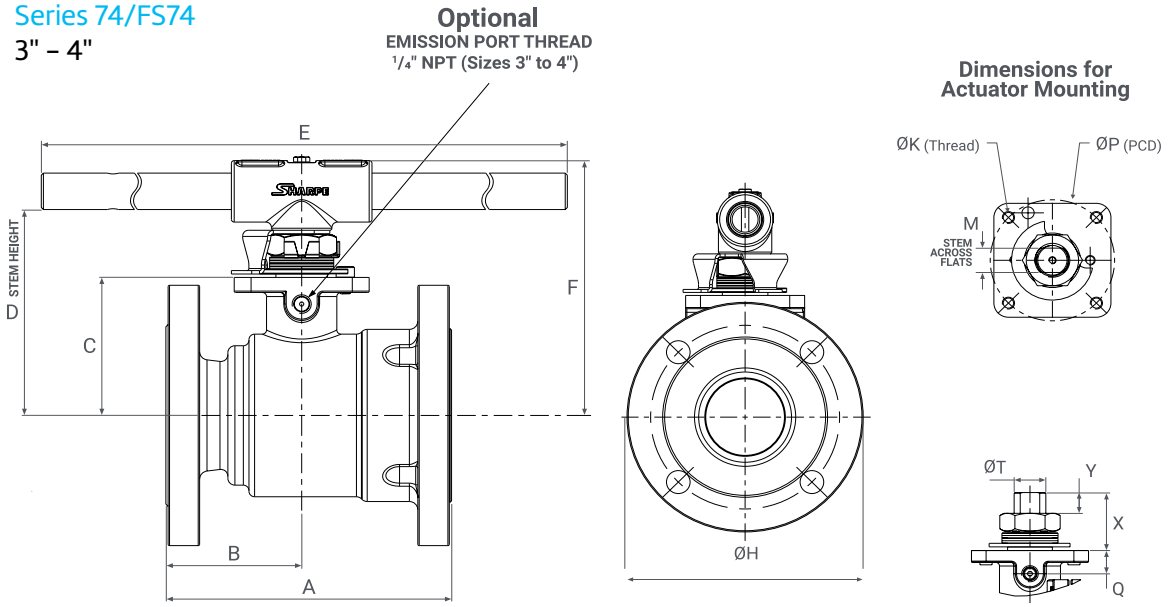
* Repair Kit Item.

ASME Class 150 & 300,
Flanged Standard Port, Ball Valve
Sharpe® Series 74/FS74

Series 74/FS74
1" – 2"



Series 74/FS74
3" – 4"



Dimensions (Inches)

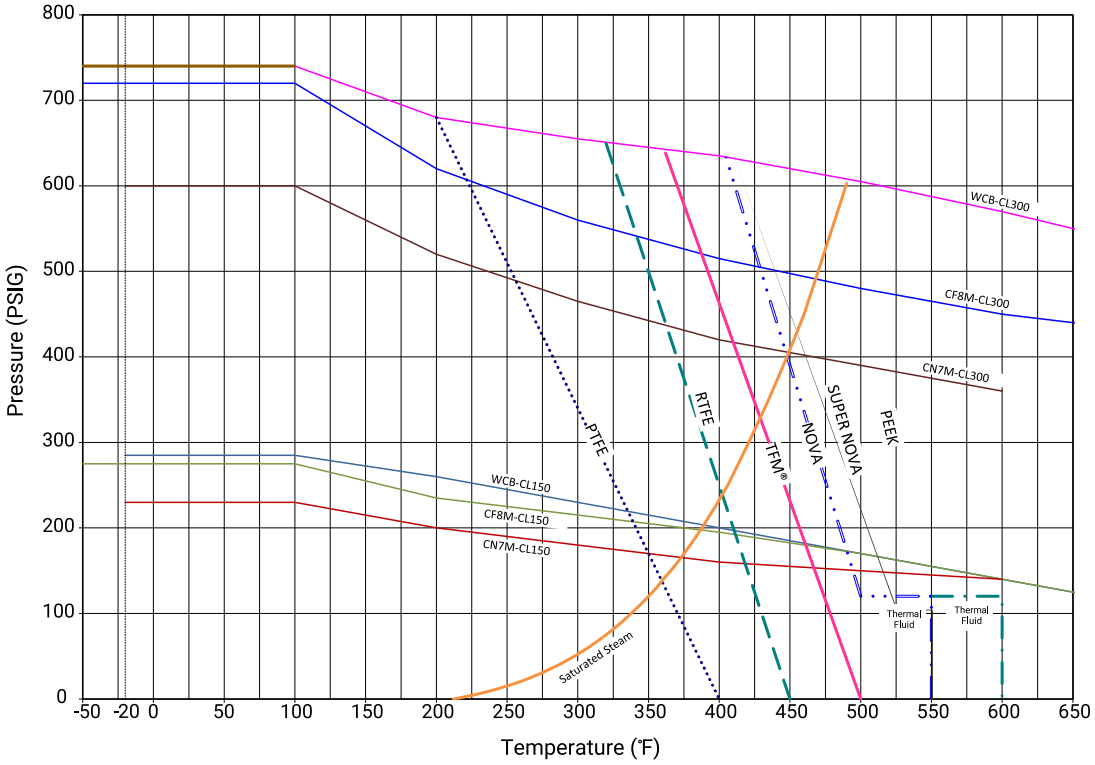
Size	ØPORT	A Class 150	A Class 300	B Class 150	B Class 300	C	D	E	F	ØH Class 150	ØH Class 300	K (Thread)	M	ØP (PCD)	Q	ØR	S	ØT	X	Y
1"	0.81	5.00	6.50	2.70	2.72	1.53	2.28	6.40	3.68	4.25	4.88	M5-P0.8	0.264	F04 (1.65)	0.57	1.181	0.394	0.394	0.74	0.37
1½"	1.24	6.50	7.50	3.35	3.21	2.40	3.82	9.45	5.35	6.10	6.12	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

Note:

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

ASME Class 150 & 300,
Flanged Standard Port, Ball Valve
Sharpe® Series 74/FS74

Pressure -Temperature Ratings Series 74



Note:

The practical pressure–temperature rating of a valve is determined by the limitations of the body material and seat/seal material.
An application's maximum pressure–temperature conditions must be below the body rating curve, and left of the seat material curve.

The valve body ratings are based on ASME B16.34 rating for materials.

The graph is based on laboratory testing and installed field experience.

The seat ratings depend on the material, design, application and function.

Sharpe® Seat Materials

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

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

R - Reinforced Polytetrafluoroethylene (RTFE 15% Glass Filled). PTFE's mechanical properties are enhanced by adding filler material to provide improved strength, stability and wear resistance. Its temperature range is from -320°F to 450°F (-196°C to 204°C). Color-off-white.

N - Nova
A PTFE 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. Its temperature range is from -50°F to 550°F (-45°C to 288°C). Color - black.

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.

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

Other seat material are available, please contact us with your requirements.

ASME Class 150 & 300, Flanged Standard Port, Ball Valve

Sharpe® Series 74/FS74

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	API 641 1st edition with Graphite Packing (code I) ISO 15848-1 (with I or N stem packing)
Flange Dimensions	ASME B16.5
Basic Design	ASME B16.34, API 608 6th Ed
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

Notes:

3M™ Dyneon™ TFM™ are trademarks owned by 3M.

ASME Class 150 & 300, Flanged Standard Port, Ball Valve

Sharpe® Series 74/FS74

How to order Sharpe® Series 74/FS74

1"	FS74	1	–	6	6	6	R	G	G	–	1/1	–		–	
Size	Series	Class		Body/ Ends	Ball	Stem	Seat	Body Seal	Stem Packing		Ends		Service		Options

Size
1"
1½"
2"
3"
4"

Series	
74	Reduced Port
FS74	Fire Safe

Fire Safe valve must use: Graphite or Impregnated Graphite Body Seals and Stem Packing. PTFE, RTFE, TFM®, Nova, Super Nova Seats.

Class	
1	150
3	300

Body & Ends	
4	Carbon Steel (WCB)
6	Stainless Steel (CF8M) ~316 SS
2	Alloy 20 (CN7M) *

Ball	
6	316 Stainless Steel
2	Alloy 20 *

Stem	
6	316 Stainless Steel
7	17-4PH
2	Alloy 20 *

Seat	
B	Super Nova
R	RTFE 15% Glass Filled
M	TFM®
N	Nova
T	PTFE
P	Virgin PEEK

Body Seal	
G	Graphite
I	Impregnated Graphite
M	TFM®
T	PTFE

Stem Packing	
G	Graphite
I	Impregnated Graphite
M	TFM®
N	Nova
T	PTFE

Ends	
1/1	Class 150 Flanged RF
3/3	Class 300 Flanged RF
1F/F	Class 150 Flanged FF
3F/3F	Class 300 Flanged FF

Service	
MN	Ammonia Service (1)(2)
SF	Silicone Free (1)(3)
U	Vacuum (1)(3)
X	Oxygen Service (1)(3)(4)

(1) Per Sharpe Standard
(2) 74 or FS74
(3) 70 or CF70
(4) No impregnated graphite

Options	
OH	Oval Handle (2" valves & smaller)
F1	1 Emission Port
F2	2 Emission Port
L	Lockable Stem Extension ‡
VB	Vented Ball
SJ	Oil Jacket with 2 Ports *
SJ3	Steam Jacket With 3 Ports *
TP	Tamper Proof Locking Device (1" valves & smaller) §
DMH	Spring Return Handles § *
HC	High Cycle Stem
PN4	Packing Nut Design 4" Only (Not API 608)

‡ 3½" extension (1" valves). 4" extension (larger valves).

§ Call Sharpe® Valves for sizing / application of DMH.

Note:

* POA

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

About ASC Engineered Solutions

ASC Engineered Solutions is defined by quality—in its products, services and support. With nearly 2,000 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF®, SprinkFLEX®, Trenton Pipe and VEP. With headquarters in Oak Brook, IL, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.

asc-es.com

Building connections that last™

ASC Engineered Solutions

FC-DS-SERIES 74-FS74-v03 20240308