

**SHARPE**<sup>®</sup>

Valves, Automation & Controls

# **SERIES FS50**



*FIRE SAFE API 607 4<sup>TH</sup> EDITION  
FULL PORT FLANGED BALL VALVES*

**Class 150 | 300 | 600**

[www.sharpevalves.com](http://www.sharpevalves.com)

# Design & Features

## Fire Safe API 607 4TH Edition

Series FS50 flanged valves have been qualified by testing to API standards 607, 4th Edition. The valve design incorporates a secondary metal seat in the body, providing the required shutoff should the seats be destroyed by fire.

## ASME B16.34 Design

Full port, split body design meets all the requirements of ASME B16.34 for Class 150, 300, and 600 ball valves.

## Blow-out, Heavy-duty Stem

The internal-entry stem is machined with a heavy shoulder to prevent blowout. All Class 600 stems are machined from high-strength 17-4PH stainless steel as a standard material.

## Anti-static Configuration

Anti-static devices are include at two points on the valve stem to provide continuous ball-to-stem and stem-to-body grounding, to prevent build-up of static charge in the valve, and potential sparking conditions.

## Live-loaded Stem Seals

Stem seals are live-loaded using Belleville springs to provide consistent sealing forces, reducing or eliminating the need for frequent seal adjustment.

## Fully Encapsulated Body Seals

Provides consistent and controlled loading of the body seal compression through a full metal-to-metal contact joint design, eliminating seal extrusion and potential body joint leakage.

## Integral Mounting Pad

Ideal for actuation, ISO 5211 mounting dimensions simplify fit and alignment between valve, bracketry, and actuator. Permits easy field conversion from manual operation to power actuation.

## Latching/Locking Handle

All Sharpe Series 50 ball valves supplied with lever Handles are designed to permit locking the valve in either the open or close position. Sizes through 2" are supplied with a slide latch engaged at open and closed positions to prevent inadvertent operation.

## Slotted Seat Design

Relief slots are provided at the perimeter of the seats to equalize pressure in the body cavity with the upstream line when the valve is closed, preventing upstream seat extrusion and enhancing downstream seating performance.

## Choice of Seats and Seals

A variety of seat material is available for the most demanding applications, including TFE, RTFE, TFM™, and NOVA, Stem packing and body seals are die-form flexible graphite.

## Floating Ball Design

Precision engineered and machined solid stainless steel ball with relief hole in the stem slot prevents build-up of cavity pressure while the valve is in the open position.

## Material Traceability

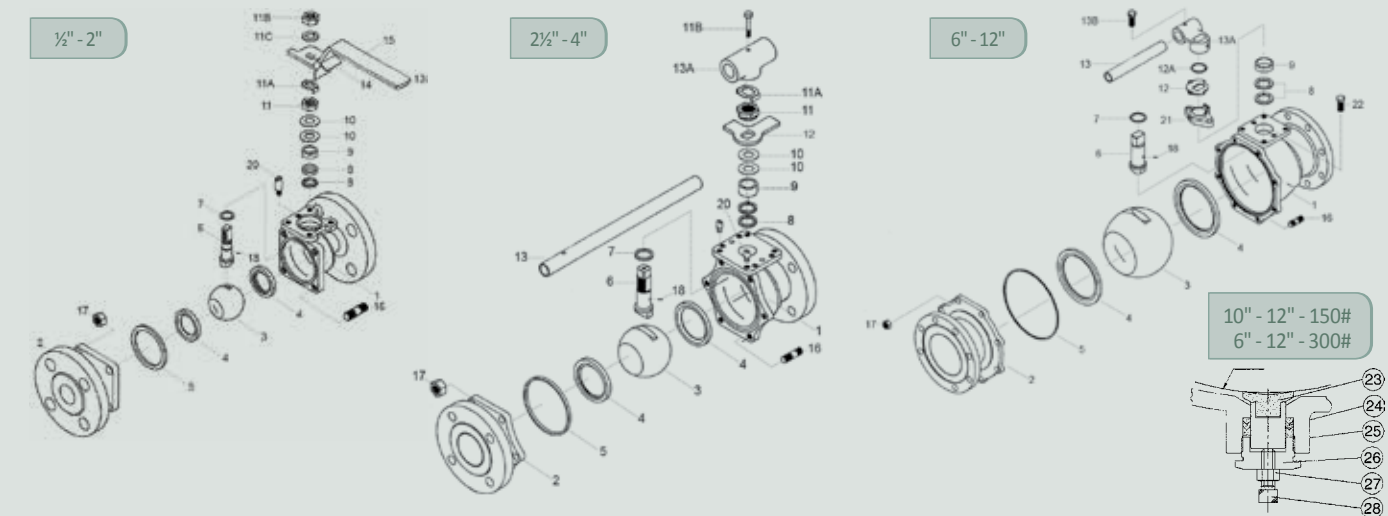
Body and end piece casting are marked with the heat codes providing traceability to the chemical analysis and material test reports performed at the foundry. CMTR's (Certified Material Test Reports) are available upon request.

# Valve Parts and Identification

## CLASS 150 | 300 | 600

- » Fire safe API 607 4<sup>th</sup> edition
- » Blow out proof stem
- » 10" and 12" supported ball 150#
- » 6" thru 12" supported ball 300#

APPLICABLE STANDARDS	
Wall Thickness	ASME B 16.34
Face to Face Dimensions	ASME B 16.10
Flange Dimensions	ASME B 16.5
NACE	MR-01-75
Fire Safe	API 607 4th Edition
Pressure Testing	ASME B 16.34 API 598 (Optional)
Basic Design	ASME B16.34

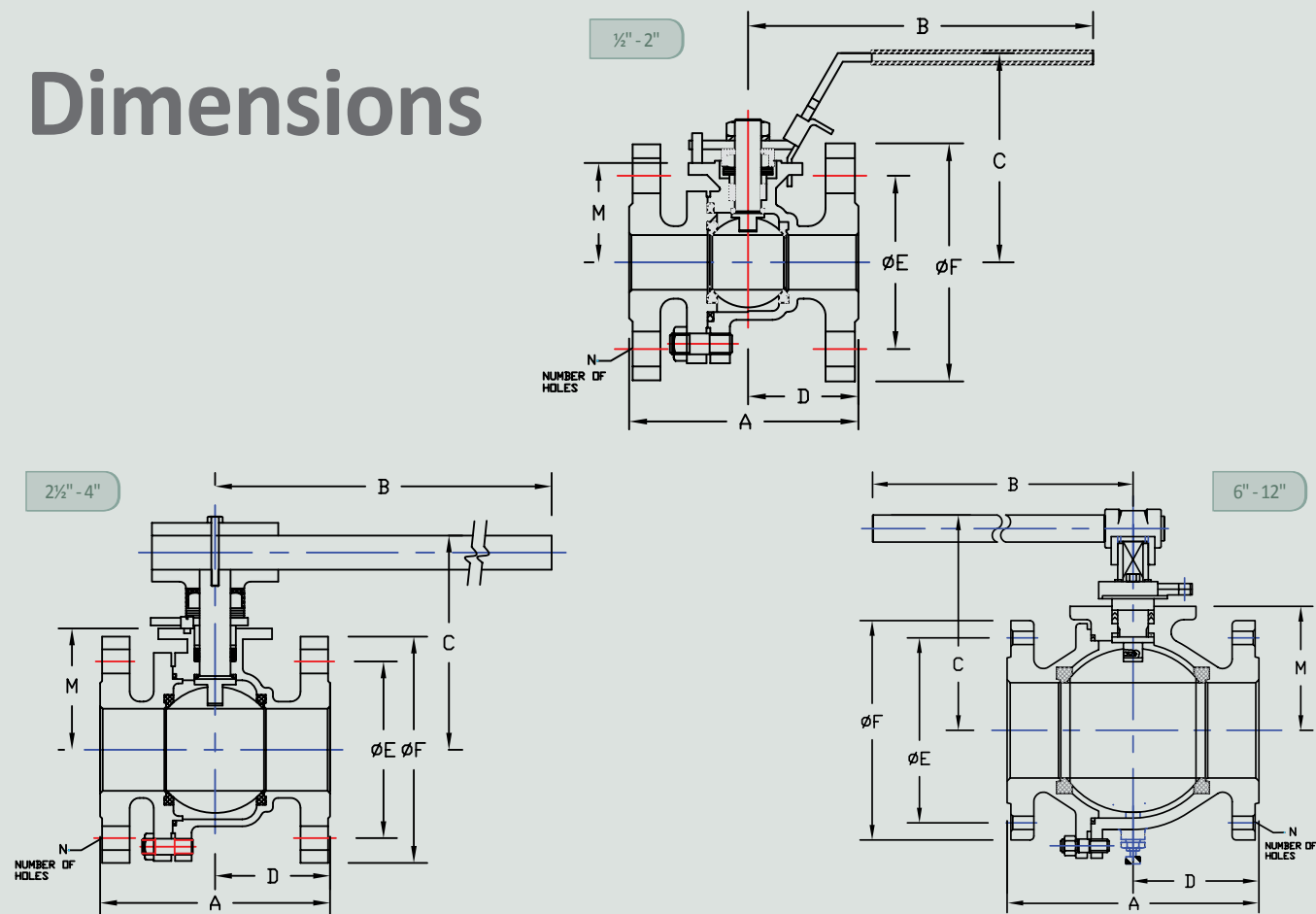


PART NO.	PART	QTY.	MATERIAL
1	Body	1	316 Stainless Steel ASTM A351 CF8M Carbon Steel ASTM A216 WCB
2	End Connector	1	316 Stainless Steel ASTM A351 CF8M Carbon Steel ASTM A216 WCB
3	Ball	1	316 Stainless Steel
4	Seat	2	RTFE / TFM
5	Body Seal	1	Flexible Graphite
6	Stem	1	316 Stainless Steel 17-4PH Standard in 600# Option in 150# & 300#
7	Thrust Bearing	1	Reinforced TFE
8	Stem Packing	1	Flexible Graphite
9	Gland Packing	1	304 Stainless Steel
10	Belleville Washer (1/2"-4")	4	301 Stainless Steel Carbon Steel
11	Packing Nut (1/2"-4")	1	304 Stainless Steel
11A	Lock Tab	1	Stainless Steel
11B	Handle Nut	1	304 Stainless Steel
11C	Lock Washer	1	304 Stainless Steel (1/2"-2")
12	Stopper	1	304 Stainless Steel
13	Handle	1	304 Stainless Steel (1/2"-2") Galvanized Steel (2 1/2"-4") Ductile Iron (6"-8")
13A	Wrench Block	1	304 Stainless Steel ( 2 1/2"- 4") Ductile Iron (6"-8")
13B	Handle Nut	1	304 Stainless Steel
14	Locking Device (1/2"-2")	1	304 Stainless Steel

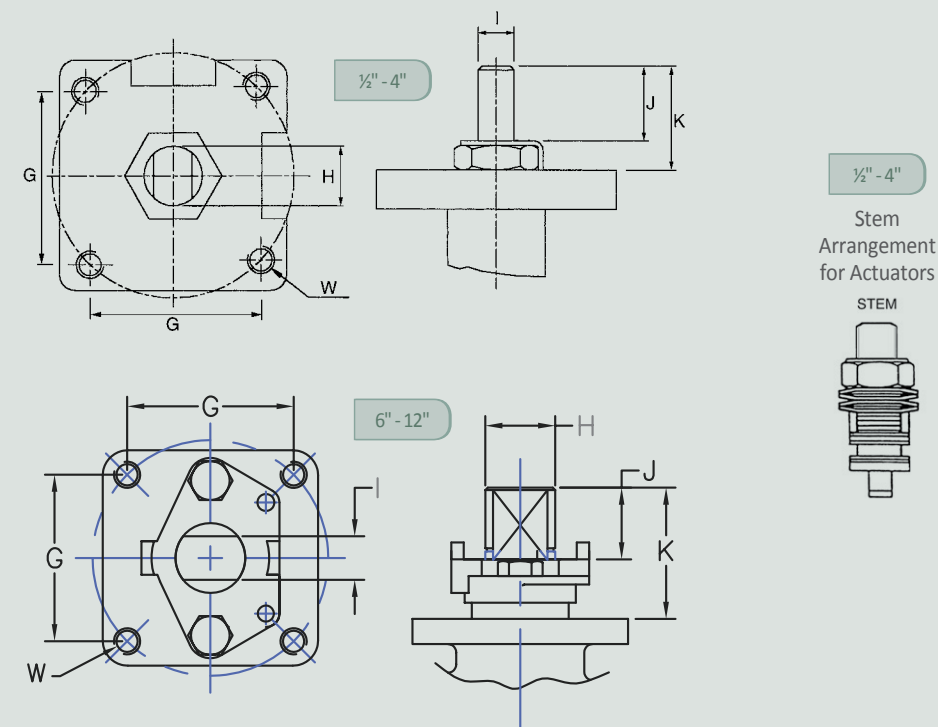
PART NO.	PART	QTY.	MATERIAL
15	Sleeve	1	Vinyl
16	Body Stud	SEE* N	A193 ASTM A193, Gr. B8M (Stainless Steel)
17	Nut	SEE* N	A193 ASTM A194, Gr. 8 (Stainless Steel)
18	Anti Static Device	2	316 Stainless Steel
20	Stop Pin (1/2"-2") (2 1/2"-4")	1 1	304 Stainless Steel 304 Stainless Steel
21	Gland Flange (6"-12")	1	316 Stainless Steel Carbon Steel
22	Gland Bolts (6"-12")	2	304 Stainless Steel
23	Supporter Seat (10"-12") 150# (6"-12") 300#	1	Reinforced TFE
24	Packing (10"-12") 150# (6"-12") 300#	3	Flexible Graphite
25	Supporter (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
26	Bushing (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
27	Bushing Nut (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
28	Adjust Screw (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel

\*\* See Dimensions

# Dimensions



# Dimensions

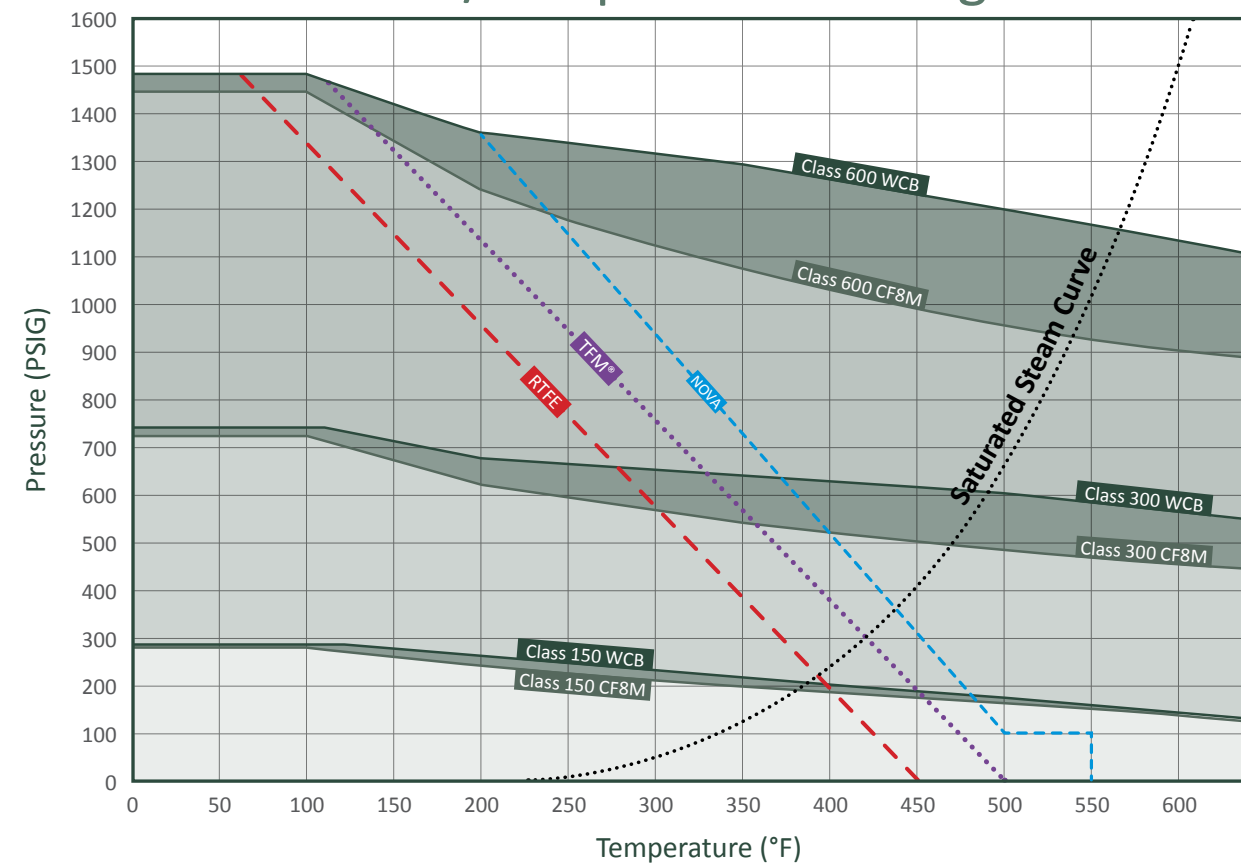


SIZE	A			B			C			D			E			F			G			H		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
1/2"	4.25	5.50	6.50	4.78	4.78	6.89	3.58	3.58	3.75	1.97	2.64	3.25	2.38	2.62	2.62	3.50	3.75	3.75	1.00	1.00	1.39	3/4-24 UNF	3/4-24 UNF	
3/4"	4.62	6.00	7.50	4.78	4.78	6.89	3.72	3.72	3.68	2.24	2.94	3.40	2.75	3.25	3.25	3.85	4.62	4.62	1.00	1.00	1.39	3/4-24 UNF	3/4-24 UNF	
1"	5.00	6.50	8.50	6.25	6.25	7.68	3.80	3.80	3.84	2.20	3.19	4.25	3.13	3.50	3.50	4.25	4.88	4.88	1.17	1.17	1.39	3/4-20 UNF	3/4-18 UNF	
1 1/2"	6.50	7.50	9.50	8.98	8.98	9.45	4.45	4.45	4.63	3.01	3.70	4.55	3.88	4.50	4.50	5.00	6.12	6.12	1.39	1.39	1.95	3/4-18 UNF	3/4-16 UNF	
2"	7.00	8.50	11.50	8.98	8.98	9.45	4.82	4.82	5.09	3.47	4.30	5.47	4.75	5.00	5.00	6.00	6.50	6.50	1.39	1.39	1.95	3/4-18 UNF	3/4-16 UNF	
2 1/2"	7.50	9.50	-	13.75	13.75	-	6.70	6.70	-	3.54	4.05	-	5.50	5.89	-	7.00	7.52	-	2.84	2.84	-	1-14 UNS	-	
3"	8.00	11.12	14.00	13.75	13.75	13.75	7.07	7.07	7.20	3.64	5.40	6.18	6.00	6.62	6.62	7.48	8.25	8.25	2.84	2.84	2.84	1-14 UNS	1-14 UNS	
4"	9.00	12.00	17.00	13.75	13.75	13.75	7.70	7.70	7.96	4.42	5.93	8.64	7.50	7.88	8.50	9.01	10.00	10.75	2.84	2.84	2.84	1-14 UNS	1-14 UNS	
6"	15.50	15.87	-	25.60	25.60	-	11.22	11.22	-	7.64	7.60	-	9.50	10.63	-	10.98	12.50	-	3.48	3.48	-	1.72	1.72	-
8"	18.00	19.75	-	37.40	37.40	-	11.57	12.71	-	8.66	9.33	-	11.75	13.00	-	13.50	15.00	-	3.48	3.48	-	1.72	1.72	-
10"	21.00	22.37	-	43.31	43.31	-	14.65	14.49	-	10.47	11.18	-	14.25	15.25	-	15.98	17.50	-	3.90	3.90	-	1.96	1.96	-
12"	24.00	25.51	-	43.31	43.31	-	16.26	16.06	-	12.00	12.80	-	17.00	17.75	-	19.01	20.50	-	3.90	3.90	-	1.96	1.96	-

SIZE	I +0.000 / -0.002			J			K			M			N			W			PORT			WEIGHT			CV			
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	ALL
1/2"	0.220	0.224	0.39	0.39	0.39	0.39	0.73	0.73	0.72	1.34	1.36	1.39	4	4	4	M5 X .8P	M6 X 1.0P	0.59	0.49	0.59	4	5	6	26				
3/4"	0.220	0.224	0.39	0.39	0.34	0.70	0.70	0.75	1.48	1.50	1.48	4	4	4	M5 X .8P	M6 X 1.0P	0.79	0.79	0.79	6	7	8	50					
1"	0.291	0.393	0.53	0.53	0.60	0.85	0.85	0.85	1.77	1.77	1.77	4	4	4	M5 X .8P	M6 X 1.0P	1.00	0.98	0.98	8	10	11.5	94					
1 1/2"	0.340	0.472	0.68	0.68	0.84	1.18	1.18	1.36	2.24	2.24	2.32	4	4	4	M6 X 1.0P	M8 X 1.25P	1.50	1.50	1.50	15	19	22	260					
2"	0.340	0.472	0.68	0.68	0.84	1.18	1.22	2.61	2.61	2.69	4	8	8	M6 X 1.0P	M8 X 1.25P	1.97	2.00	2.00	20	33	38	480						
2 1/2"	0.748	-	0.69	0.69	-	1.87	1.87	-	3.76	3.76	-	4	8	-	M10 X 1.5P	-	2.56	2.56	-	36	50	-	750					
3"	0.748	0.748	0.69	0.69	0.69	1.87	1.87	1.87	4.15	4.15	4.43	4	8	8	M10 X 1.5P	M10 X 1.5P	3.00	3.00	3.00	45	68	78	1300					
4"	0.748	0.748	0.69	0.69	0.69	1.91	1.91	1.93	4.74	4.74	4.74	8	8	8	M10 X 1.5P	M10 X 1.5P	3.94	3.94	3.94	75	96	146	2300					
6"	1.018*	-	1.30	1.30	-	3.58	3.58	-	7.17	7.19	-	8	12	-	M12 X 1.75	-	6.00	6.00	-	168	229	-	5400					
8"	1.018*	-	1.30	1.30	-	3.58	3.58	-	7.72	8.64	-	8	12	-	3/4-11 UNC	-	7.88	7.88	-	292	378	-	10000					
10"	1.377*	-	1.79	1.79	-	3.86	3.86	-	9.88	9.69	-	12	16	-	M16X2.0P	-	9.84	9.84	-	479	578	-	15000					
12"	1.377*	-	1.79	1.79	-	3.86	3.86	-	11.46	11.26	-	12	16	-	M16X2.0P	-	11.81	11.81	-	752	955	-	21000					

\* +.000/-0.003

# Seat Pressure/Temperature Rating



# SHARPE® VALVES

Choose from our full line of high quality valves and actuators to meet your needs.

Whatever your flow control requirements are, SHARPE® has the right products and service to meet your needs today.



## How To Order Series FS50

Size	Series	Class	Alloy	Seats	Options																																		
<table border="1"> <tr><th>Size</th></tr> <tr><td>½"</td></tr> <tr><td>¾"</td></tr> <tr><td>1"</td></tr> <tr><td>1½"</td></tr> <tr><td>2"</td></tr> <tr><td>2½"</td></tr> <tr><td>3"</td></tr> <tr><td>4"</td></tr> <tr><td>6"</td></tr> <tr><td>8"</td></tr> <tr><td>10"</td></tr> <tr><td>12"</td></tr> </table>	Size	½"	¾"	1"	1½"	2"	2½"	3"	4"	6"	8"	10"	12"	<table border="1"> <tr><th>Series</th></tr> <tr><td>FS50</td></tr> </table>	Series	FS50	<table border="1"> <tr><th>Class</th></tr> <tr><td>150# = 11</td></tr> <tr><td>300# = 33</td></tr> <tr><td>600# = 66</td></tr> </table>	Class	150# = 11	300# = 33	600# = 66	<table border="1"> <tr><th>Alloy</th></tr> <tr><td>4 Carbon Steel</td></tr> <tr><td>6 Stainless Steel</td></tr> </table>	Alloy	4 Carbon Steel	6 Stainless Steel	<table border="1"> <tr><th>Seats</th></tr> <tr><td>M TFM™</td></tr> <tr><td>R Reinforced TFE</td></tr> <tr><td>N NOVA</td></tr> </table>	Seats	M TFM™	R Reinforced TFE	N NOVA	<table border="1"> <tr><th>Options</th></tr> <tr><td>X Oxygen Service</td></tr> <tr><td>OH Oval Handle</td></tr> <tr><td>E Extended Stem</td></tr> <tr><td>GO Gear Operator</td></tr> <tr><td>7 17 - 4PH Stem</td></tr> <tr><td>A Nace</td></tr> <tr><td>NS Anti-Static</td></tr> </table>	Options	X Oxygen Service	OH Oval Handle	E Extended Stem	GO Gear Operator	7 17 - 4PH Stem	A Nace	NS Anti-Static
Size																																							
½"																																							
¾"																																							
1"																																							
1½"																																							
2"																																							
2½"																																							
3"																																							
4"																																							
6"																																							
8"																																							
10"																																							
12"																																							
Series																																							
FS50																																							
Class																																							
150# = 11																																							
300# = 33																																							
600# = 66																																							
Alloy																																							
4 Carbon Steel																																							
6 Stainless Steel																																							
Seats																																							
M TFM™																																							
R Reinforced TFE																																							
N NOVA																																							
Options																																							
X Oxygen Service																																							
OH Oval Handle																																							
E Extended Stem																																							
GO Gear Operator																																							
7 17 - 4PH Stem																																							
A Nace																																							
NS Anti-Static																																							



2701 Busse Road, Elk Grove Village, IL 60007  
 Toll Free (877) 774-2773 | Local (708) 562-9221  
 Fax (708) 562-0890  
[info@sharpevalves.com](mailto:info@sharpevalves.com) | [www.sharpevalves.com](http://www.sharpevalves.com)



CHICAGO, IL • LOS ANGELES, CA • ATLANTA, GA • VANCOUVER, WA

Due to continuous development of our product range we reserve the right to change the dimensions and information contained in the leaflet as required. Issue: 12/2013