

# **TMCO, Inc.** The Measurement Company



# **Sure Shot<sup>®</sup>**

Made in USA 

# Sure Shot® Orifice Fitting

Fitting Applications include:

Gas Gathering  
Compressor Stations  
Onshore and Offshore Production  
Coal-Seam Gas Measurement

Gas Distribution  
Gas Transmission  
Process Gas Plant

All Sure Shot Orifice Fittings® meet or exceed the following regulatory requirements:

**AGA 3/API 14.3, ISO-5167**

**ASME B31.3-2016 and ASME B16.5-2017**

**MSS SP-55-2011**

**NACE MR0175-2000**

**Quality Management System  
Certified by DNV  
ISO 9000:2015**

**ABSA CRN 0F08996.2  
BC CRN 0F08996.21  
SAS CRN 0F08996.23**



# Sure Shot® Orifice Fitting

## STANDARD FEATURES INCLUDE:

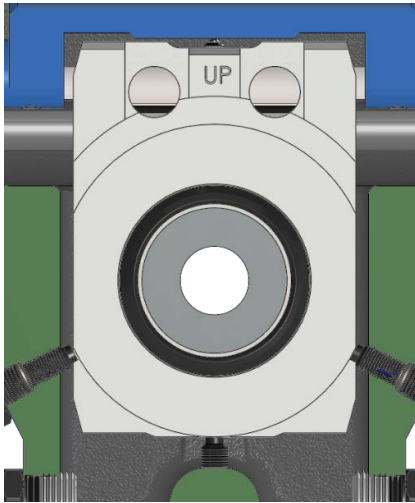
- Single Chamber Line Sizes, 2", 3", 4" and 6"
- Dual Chamber Line Sizes, 2", 3", 4", 6", 8", 10", 12" and 16"  
 Fitting Pressure Ratings:  
 ANSI Class 150 (285 PSI CWP)  
 ANSI Class 300 (740 PSI CWP)  
 ANSI Class 600 (1480 PSI CWP)
- Temperature -20° F to 275° F (-29deg C to 120deg C)
- Fitting End Connections: WXF-RF-RTJ
- Primary and secondary telemetry taps are standard  
 ½" NPT connections
- Body Material: A216 WCB-WCC
- O-Ring Material: HNBR
- Orifice Seal Material: HNBR and 304SS  
 HNBR bonded to a stainless steel metal insert which retains seal shape, ensuring no protrusion into the bore. The Orifice Seal design provides a positive seal against the orifice plate and the upstream seat face.
- Sure Shot® Seal Gap is less than 0.25" on both sides of the orifice plate, therefore "no Beta Ratio Range restrictions" and "no added uncertainty".

## Line ID's Available:

	S30	STD	S40	S60	SXH	S80	S100	S120
2IN	-	2.067	2.067	-	1.939	1.939	-	-
3IN	-	3.068	3.068	-	2.900	2.900	-	-
4IN	-	4.026	4.026	-	3.826	3.826	-	3.624
6IN	-	6.065	6.065	-	5.761	5.761	-	5.501
8IN	8.071	7.981	7.981	7.813	7.625	7.625	7.437	7.187
10IN	10.136	10.020	10.020	9.750	9.750	9.562	9.312	-
12IN	12.090	12.000	11.938	11.626	11.750	11.374	11.062	-
16IN	15.250	15.250	15.000	14.688	15.000	14.312	13.938	-

# Sure Shot® Dual Chamber Orifice Fitting

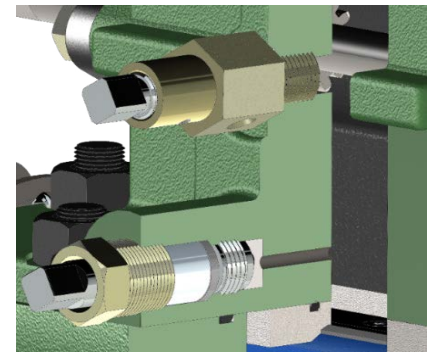
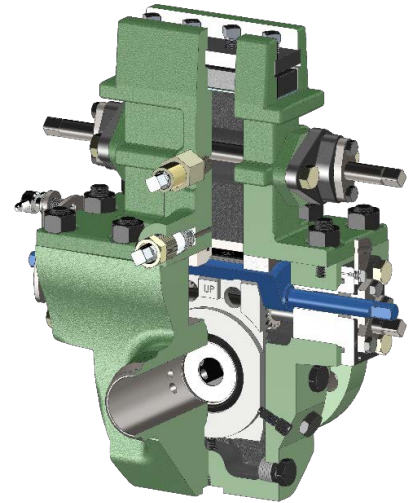
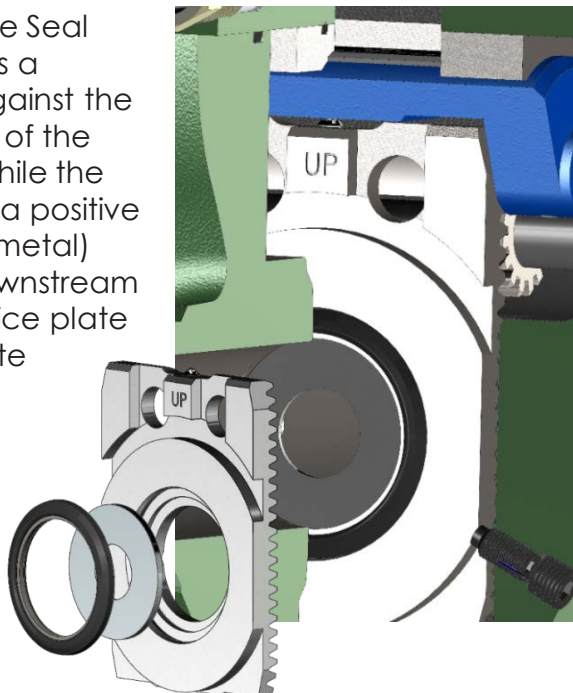
The **Sure Shot® Dual Chamber** design utilizes the eccentric plug to create a positive seal between the upper and lower chambers, thereby allowing the orifice plate to be inspected or replaced without shutting down the line. All O-Rings and non-asbestos gaskets are in stock for immediate delivery.



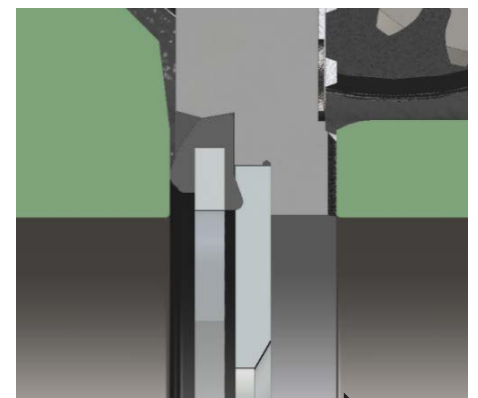
The **Sure Shot®** orifice plate carrier ensures accurate and repeatable concentricity by using a **4-point** alignment system consisting of (**qty. 3**) factory set internal carrier positioning screws located at the bottom and sides of the orifice fitting internal body, as well as (**qty.1**) ball plunger located in the top of the plate carrier itself.

When the eccentric plug is rotated into the closed position, it presses against the ball plunger and creates a stop which further aligns and locks the carrier in place.

The Orifice Plate Seal design provides a positive **seal** against the upstream face of the orifice plate, while the carrier creates a positive **stop** (metal to metal) against the downstream face of the orifice plate eliminating plate movement.



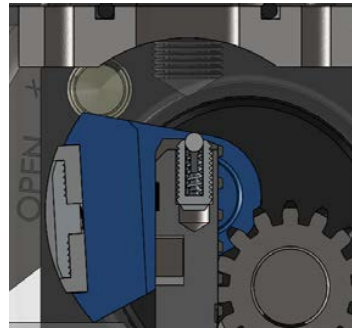
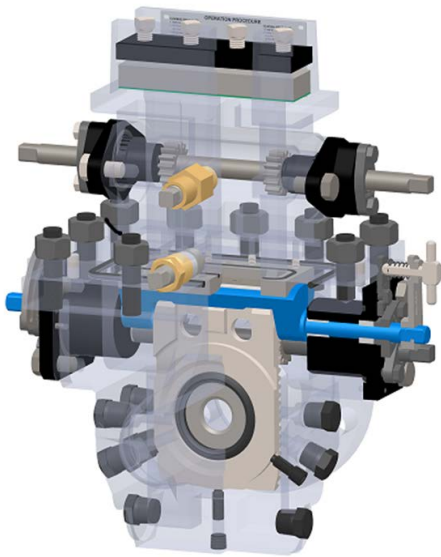
Equalizer Valve and Block and Bleed Valve are standard 1/2" NPT connection.



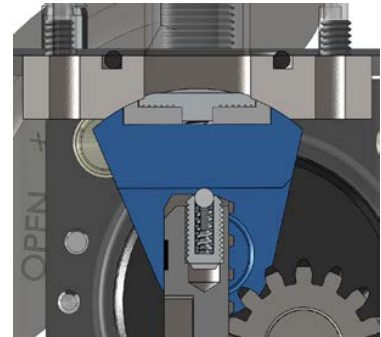
HNBR or Viton bonded to a stainless steel metal insert which retains seal shape, ensuring no protrusion into the bore.

# Sure Shot® Dual Chamber Orifice Fitting

The **Sure Shot® Dual Chamber** Orifice Fitting is equipped with a uniquely designed Eccentric Plug. When rotating the Eccentric Plug into the closed position, the PTFE insert lifts up creating a positive seal against the seat plate.



OPEN

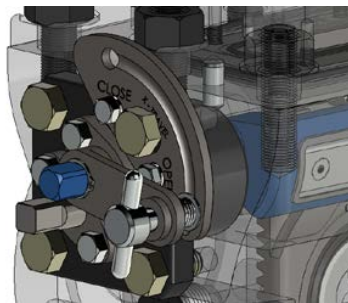


CLOSED



**Eccentric Plug**  
Patent# 4,635,674

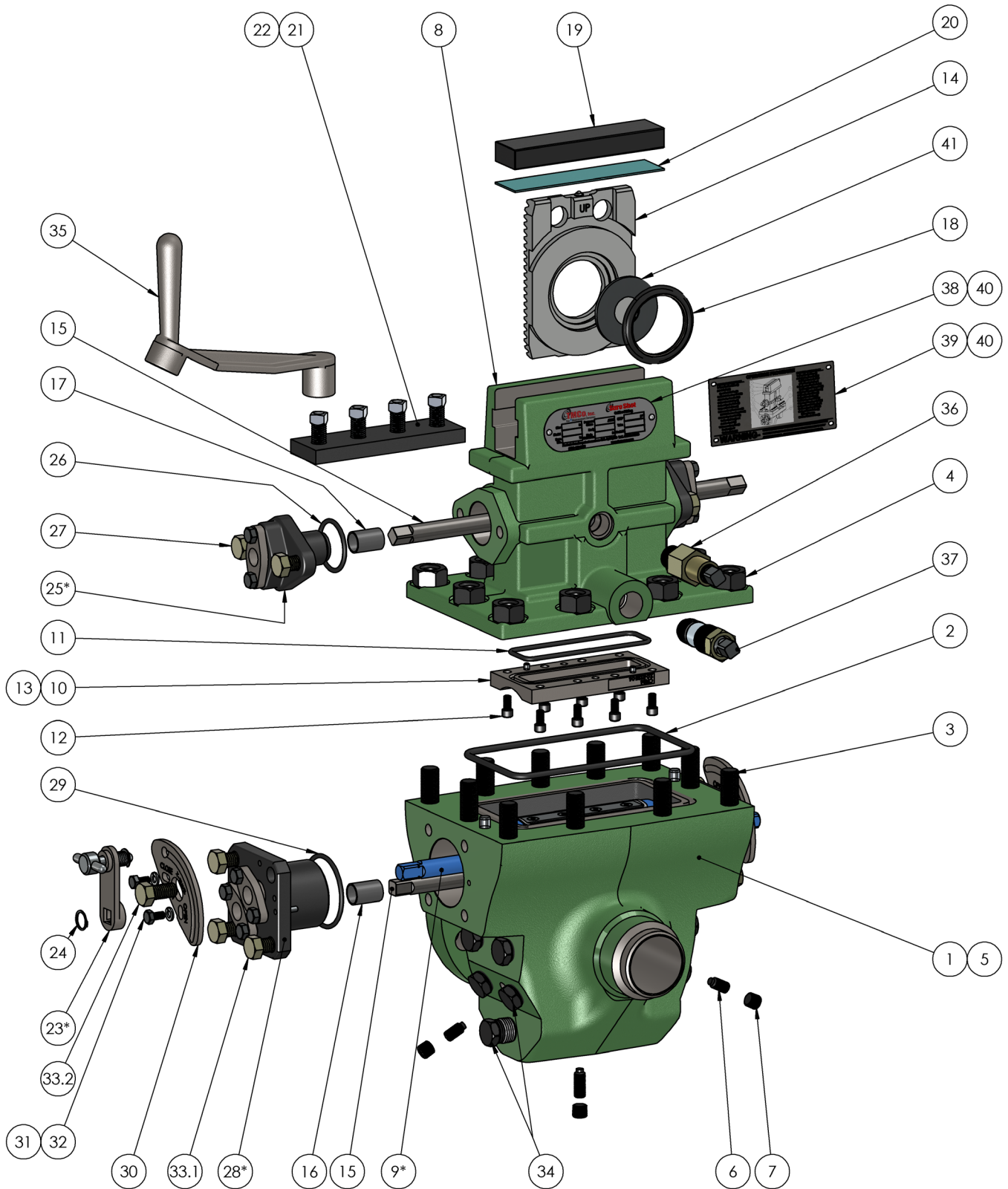
The Eccentric Plug and gear shaft seals use PTFE packing rings, which can be adjusted if necessary, by tightening the two gland follower bolts evenly on each shaft.



When the Eccentric Plug requires inspection or replacement, simply unbolt the Thru Cover on either side and the entire sub-assembly can be extracted without having to remove the upper chamber of the fitting.

All Sure Shot® Dual Chamber Fittings are equipped with a specially designed locking mechanism. The spring loaded plunger locks the eccentric plug in the closed position to help prevent accidental opening while the upper chamber is open.

# Sure Shot® Dual Chamber Orifice Fitting



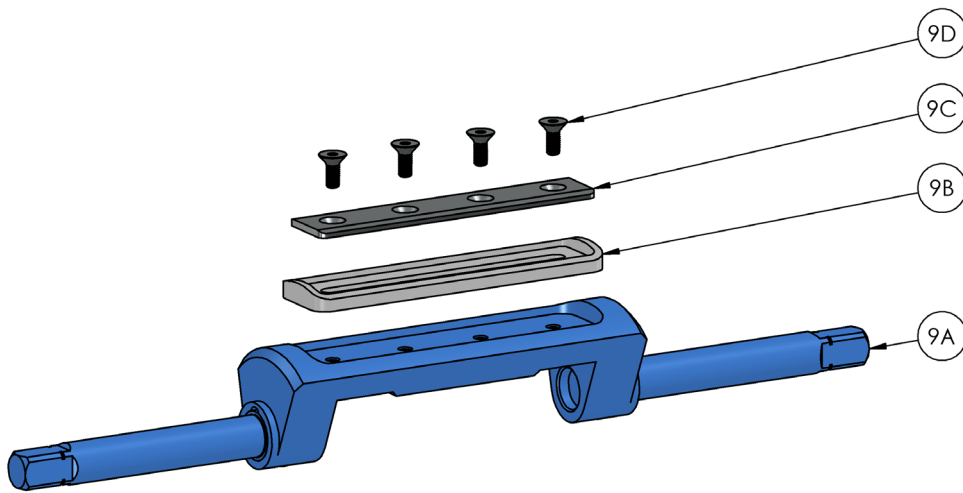
# Sure Shot® Dual Chamber Orifice Fitting

Item No.	Description:	Material:	2"	3"	4"	6"	8"	10"	12"	16"
1	Lower Chamber Body	Cast Carbon Steel	1	1	1	1	1	1	1	1
2	O-Ring, Mating Face	HNBR	1	1	1	1	1	1	1	1
3	Full Thread Stud	Carbon Steel	11	14	14	18	18	18	24	28
4	Heavy Hex Nut	Carbon Steel	11	14	14	18	18	18	24	28
5	Dowel Pin, Mating Face	Stainless Steel	2	2	2	2	2	4	4	2
6	Alignment Screw (Factory Set)	Carbon Steel	3	3	3	3	3	3	3	3
7	Socket Head Plug	Carbon Steel	3	3	3	3	3	3	3	3
8	Upper Chamber Body	Cast Carbon Steel	1	1	1	1	1	1	1	1
9*	Eccentric Plug Assembly		1	1	1	1	1	1	1	1
10	Seat Plate	Stainless Steel	1	1	1	1	1	1	1	1
11	O-Ring, Seat Plate	HNBR	1	1	1	1	1	1	1	1
12	Socket Head Cap Screw	Stainless Steel	8	8	8	12	12	16	16	16
13	Dowel Pin, Seat Plate	Stainless Steel	2	2	2	2	2	2	2	2
14	Orifice Plate Carrier w/ Plunger	Stainless Steel/Carbon	1	1	1	1	1	1	1	1
15	Gear Shaft	Stainless Steel	2	2	2	2	2	2	2	2
16	Gear Shaft Spacer (Lower Chamber)	Stainless Steel	2	2	2	2	2	2	2	2
17	Gear Shaft Spacer (Upper Chamber)	Stainless Steel	0	0	0	2	2	0	0	0
18	Orifice Plate Seal Ring	HNBR/Stainless Steel	1	1	1	1	1	1	1	1
19	Seal Bar, Coated	Carbon Steel	1	1	1	1	1	1	1	1
20	Seal Bar Gasket***	Non-Abs Fiber	1	1	1	1	1	1	1	1
21	Clamp Bar, Coated	Carbon Steel	1	1	1	1	1	1	1	1
22	Clamp Bar Bolts, Plated	Carbon Steel	4	5	6	7	8	11	13	16
23*	Safety Lock Arm Assembly		1	1	1	1	1	1	1	1
24	Safety Locking Arm Retaining Ring	Stainless Steel	1	1	1	1	1	1	1	1
25*	Upper Chamber Thru Cover Assembly		2	2	2	2	2	2	2	2
26	O-Ring, Upper Thru Cover	HNBR	2	2	2	2	2	2	2	2
27	Hex Head Bolt, Upper Thru Cover	Carbon Steel	4	4	4	4	4	4	4	4
28*	Lower Chamber Thru Cover Assembly		2	2	1	2	2	2	2	2
29	O-Ring, Lower Thru Cover	HNBR	2	2	2	2	2	2	2	2
30	Orientation Plate	Stainless Steel	2	2	2	2	2	2	2	2
31	Split Washer	Stainless Steel	4	4	4	4	4	4	4	4
32	Hex Head Screw	Stainless Steel	4	4	4	4	4	4	4	4
33.1	Hex Head Bolt, Lower Thru Cover	Carbon Steel	6	6	6	6	6	6	6	6
33.2	Hex Head Bolt, Lower Thru Cover	Carbon Steel	2	2	2	2	2	2	2	2
34	Hex Head NPT Plug	Carbon Steel	10	10	10	10	10	10	10	10
35	Crank Handle, Plated	Cast Carbon Steel	1	1	1	1	1	1	1	**
36	Block & Bleed Valve Assembly	Carbon/Stainless Steel	1	1	1	1	1	1	1	1
37	Equalizer Valve Assembly	Carbon/Stainless Steel	1	1	1	1	1	1	1	1
38	Name Tag	Stainless Steel	1	1	1	1	1	1	1	1
39	Operating Tag	Stainless Steel	1	1	1	1	1	1	1	1
40	Button Head Rivet	Stainless Steel	6	6	6	6	6	6	6	6
41	Orifice Plate (Sold Separately)		1	1	1	1	1	1	1	1

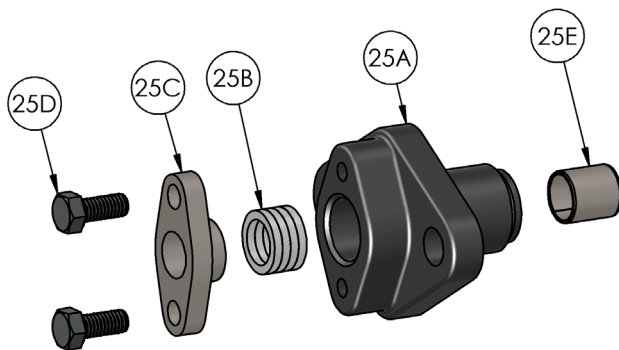
\*Denotes Sub-Assembly

\*\*Standard 1/2" Ratchet, 1/2" and 3/16" Socket

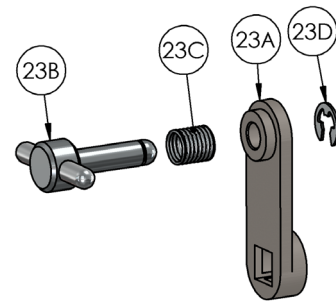
# Sure Shot® Dual Chamber Orifice Fitting Sub-Assemblies



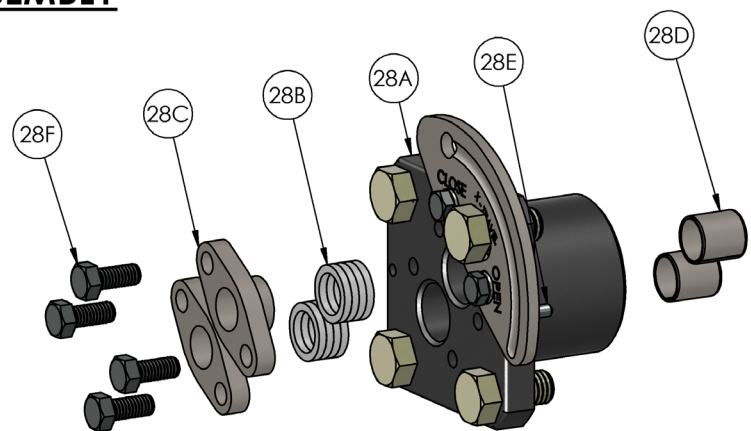
**9 ECCENTRIC PLUG SUB-ASSEMBLY**



**25 UPPER THRU COVER SUB-ASSEMBLY**



**23 LOCK ARM SUB-ASSEMBLY**



**28 LOWER THRU COVER SUB-ASSEMBLY**

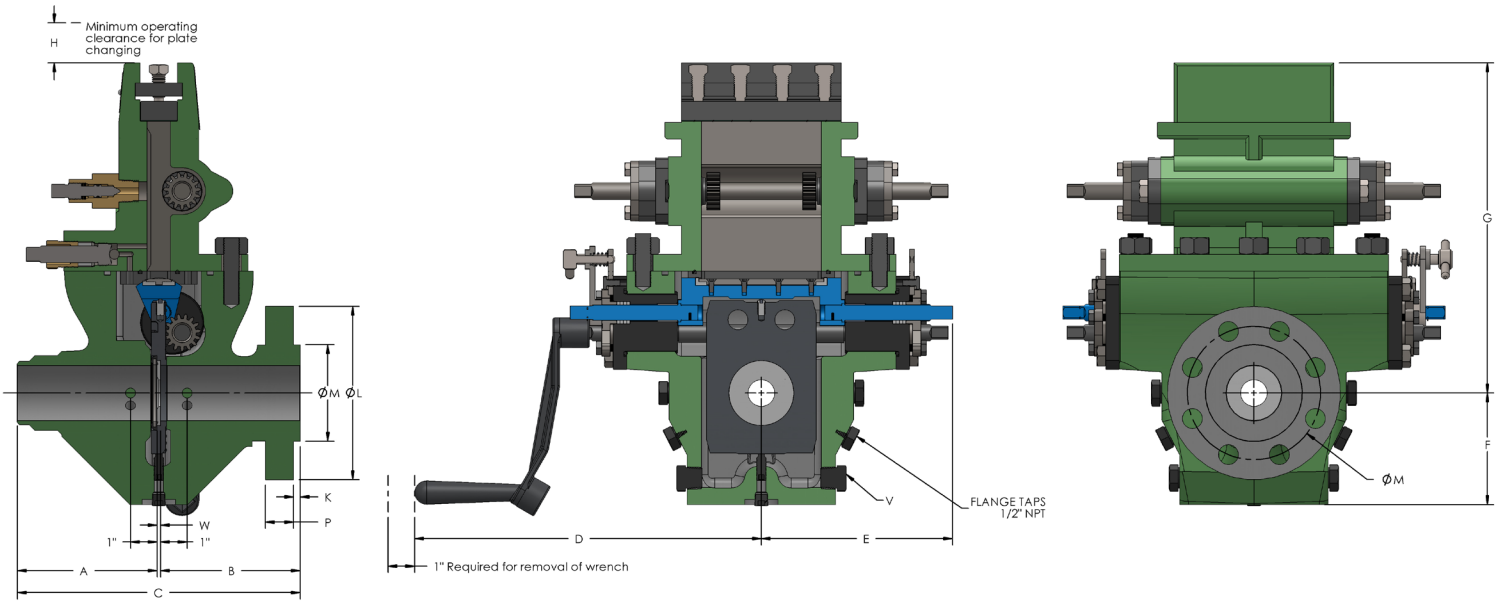


# Sure Shot® Dual Chamber Orifice Fitting Sub-Assemblies

Item No.	Description:	Material:	2"	3"	4"	6"	8"	10"	12"	16"
9	Eccentric Plug Assembly									
9A	Eccentric Plug Body, Coated	Stainless/Carbon Steel	1	1	1	1	1	1	1	1
9B	Insert	PTFE	1	1	1	1	1	1	1	1
9C	Retainer Plate	Stainless Steel	1	1	1	1	1	1	1	1
9D	Screw, Socket Head	Stainless Steel	4	5	6	8	10	11	12	15
23	Safety Locking Arm Assembly									
23A	Safety Locking Arm	Stainless Steel	1	1	1	1	1	1	1	1
23B	Safety Lock Handle	Stainless Steel	1	1	1	1	1	1	1	1
23C	Spring	Stainless Steel	1	1	1	1	1	1	1	1
23D	Spring Retainer Clip	Stainless Steel	1	1	1	1	1	1	1	1
25	Upper Cham. Thru Cover Assembly									
25A	Upper Thru Cover, Coated	Carbon Steel	1	1	1	1	1	1	1	1
25B	Packing Rings	PTFE	4	4	4	4	4	4	4	4
25C	Gland Follower	Stainless Steel	1	1	1	1	1	1	1	1
25D	Screw, Hex Head	Carbon Steel	2	2	2	2	2	2	2	2
25E	Split Bearings	Carbon Steel	1	1	1	1	1	1	1	1
28	Lower Cham. Thru Cover Assembly									
28A	Lower Thru Cover, Coated	Carbon Steel	1	1	1	1	1	1	1	1
28B	Packing Rings	PTFE	8	8	8	8	8	8	8	8
28C	Gland Follower	Stainless Steel	2	2	2	2	2	2	2	2
28D	Split Bearings	Carbon Steel	2	2	2	2	2	2	2	2
28E	Dowel Pin, Lower Thru Cover	Stainless Steel	2	2	2	2	2	2	2	2
28F	Screw, Hex Head	Carbon Steel	4	4	4	4	4	4	4	4

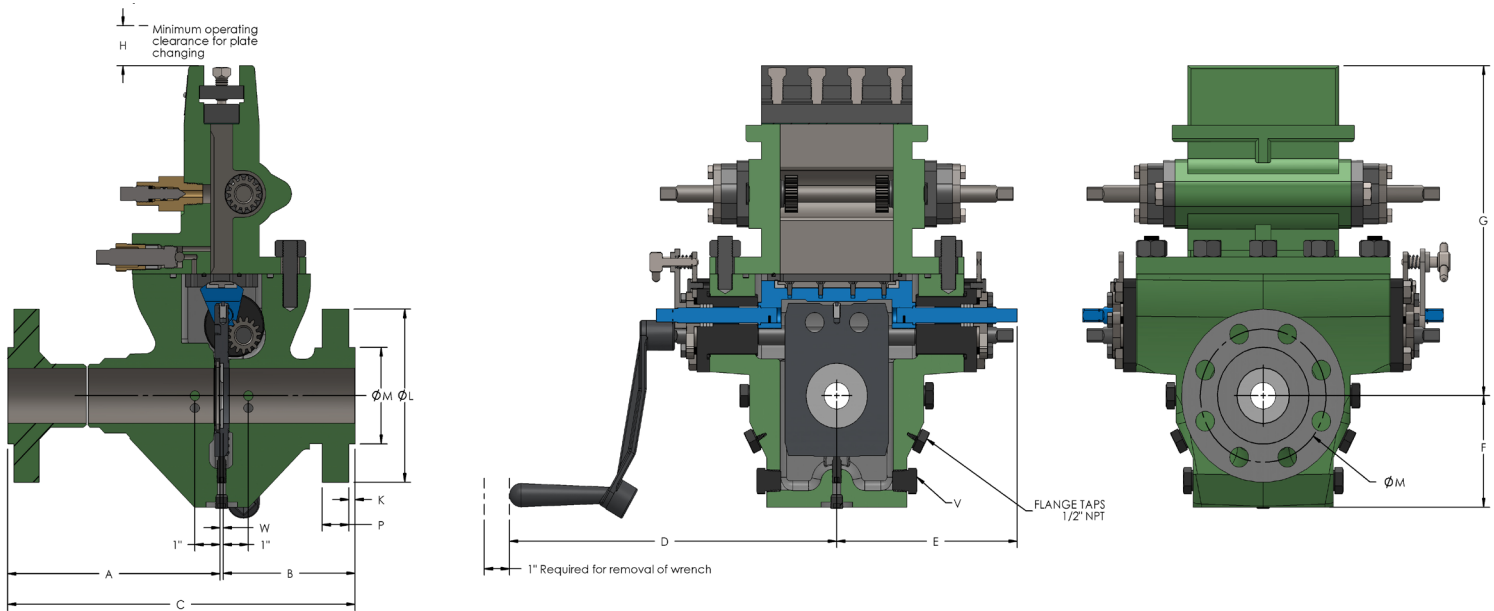
# Sure Shot® Dual Chamber Orifice Fitting

## WXF Raised Face



	Upstream face of orifice plate to face of weld bevel	Downstream of face of orifice plate to face of flange	Overall face to face length	Operating clearance from center	Body clearance from center	Centerline to bottom of fitting	Centerline to top of fitting	Carrier plate removal clearance	Flange thickness	Outside diameter of flange	Bolt circle diameter	Raised face diameter	Height of raised face	Size of drain plug	Orifice plate thickness	Qty and diameter of studs	Length of studs with (2) hex nuts	Weight RF (lbs. approx.)
	A	B	C	D	E	F	G	H	K	L	M	N	P	V	W			
<b>Class 150 (285 PSIG)</b>																		
2"	5 1/4	5 1/4	10 5/8	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	3/4	6	4 3/4	3 5/8	1/16	1/2	1/8	(4) 5/8	3 1/4	144
3"	6 3/8	6 3/8	12 7/8	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	15/16	7 1/2	6	5	1/16	3/4	1/8	(4) 5/8	3 1/4	199
4"	5 1/16	5 13/16	11	14 1/8	8	5 1/4	15 1/4	8	15/16	9	7 1/2	6 3/16	1/16	3/4	1/8	(8) 5/8	3 1/4	246
6"	7 5/16	7 5/16	14 3/4	15 1/2	10	6 1/8	18 3/8	10	1	11	9 1/2	8 1/2	1/16	3/4	1/8	(8) 3/4	4	346
8"	7 7/8	7 7/8	16	16 1/2	12	7 3/8	20 1/4	12	1 1/8	13 1/2	11 3/4	10 5/8	1/16	1	1/4	(8) 3/4	4 1/4	540
10"	8	8	16 1/4	17 3/8	14 1/2	8 3/8	24 7/8	14 1/2	1 3/16	16	14 1/4	12 3/4	1/16	1	1/4	(12) 7/8	4 3/4	1000
12"	8 7/8	7 7/8	17	18 7/8	16	9 3/8	28	16	1 1/4	19	17	15	1/16	1	1/4	(12) 7/8	4 3/4	1171
16"	10 5/16	10 5/16	21	23 3/4	20	14 1/4	36	20	1 7/16	23 1/2	21 1/4	18 1/2	1/16	1 1/4	3/8	(16) 1	5 1/2	2304
<b>Class 300 (740 PSIG)</b>																		
2"	5 1/4	5 1/4	10 5/8	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	7/8	6 1/2	5	3 5/8	1/16	1/2	1/8	(8) 5/8	3 1/2	145
3"	6 9/16	6 9/16	13 1/4	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	1 1/8	8 1/4	6 5/8	5	1/16	3/4	1/8	(8) 3/4	4 1/4	202
4"	5 11/16	6 3/16	12	14 1/8	8	5 1/4	15 1/4	8	1 1/4	10	7 7/8	6 3/16	1/16	3/4	1/8	(8) 3/4	4 1/2	265
6"	7 5/16	7 5/16	14 3/4	15 1/2	10	6 1/8	18 3/8	10	1 7/16	12 1/2	10 5/8	8 1/2	1/16	3/4	1/8	(12) 3/4	4 3/4	364
8"	7 7/8	7 7/8	16	16 1/2	12	7 3/8	20 1/4	12	1 5/8	15	13	10 5/8	1/16	1	1/4	(12) 7/8	5 1/2	566
10"	7 3/4	8 1/4	16 1/4	17 3/8	14 1/2	8 3/8	24 7/8	14 1/2	1 7/8	17 1/2	15 1/4	12 3/4	1/16	1	1/4	(16) 1	6 1/4	1040
12"	8 1/2	8 1/4	17	18 7/8	16	9 3/8	28	16	2	20 1/2	17 3/4	15	1/16	1	1/4	(16) 1 1/8	6 3/4	1228
16"	10 5/16	10 5/16	21	23 3/4	20	14 1/4	36	20	2 1/4	25 1/2	22 1/2	18 1/2	1/16	1 1/4	3/8	(20) 1 1/4	7 1/2	2403
<b>Class 600 (1480 PSIG)</b>																		
2"	5 1/4	5 1/4	10 5/8	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	1 1/16	6 1/2	5	3 5/8	1/4	1/2	1/8	(8) 5/8	4 1/4	147
3"	6 15/16	6 15/16	14	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	1 5/16	8 1/4	6 5/8	5	1/4	3/4	1/8	(8) 3/4	5	205
4"	6 9/16	6 9/16	13 1/4	14 1/8	8	5 1/4	15 1/4	8	1 9/16	10 3/4	8 1/2	6 3/16	1/4	3/4	1/8	(8) 7/8	5 3/4	276
6"	7 15/16	7 15/16	16	15 1/2	10	6 1/8	18 3/8	10	1 15/16	14	11 1/2	8 1/2	1/4	3/4	1/8	(12) 1	6 3/4	393
8"	8 3/8	8 7/8	17 1/2	16 1/2	12	7 3/8	20 1/4	12	2 1/4	16 1/2	13 3/4	10 5/8	1/4	1	1/4	(12) 1 1/8	7 3/4	609
10"	7 7/8	9 1/8	17 1/4	17 3/8	14 1/2	8 3/8	24 7/8	14 1/2	2 9/16	20	17	12 3/4	1/4	1	1/4	(16) 1 1/4	8 1/2	1120
12"	9 1/2	9 1/8	18 7/8	18 7/8	16	9 3/8	28	16	2 11/16	22	19 1/4	15	1/4	1	1/4	(20) 1 1/4	8 3/4	1303
16"	10 5/8	10 5/8	21 5/8	23 3/4	20	14 1/4	36	20	3 1/16	27	23 3/4	18 1/2	1/4	1 1/4	3/8	(20) 1 1/2	10	2525

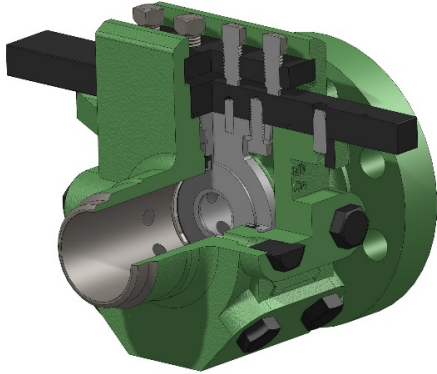
# Sure Shot® Orifice Fitting Dual Chamber FXF Raised Face



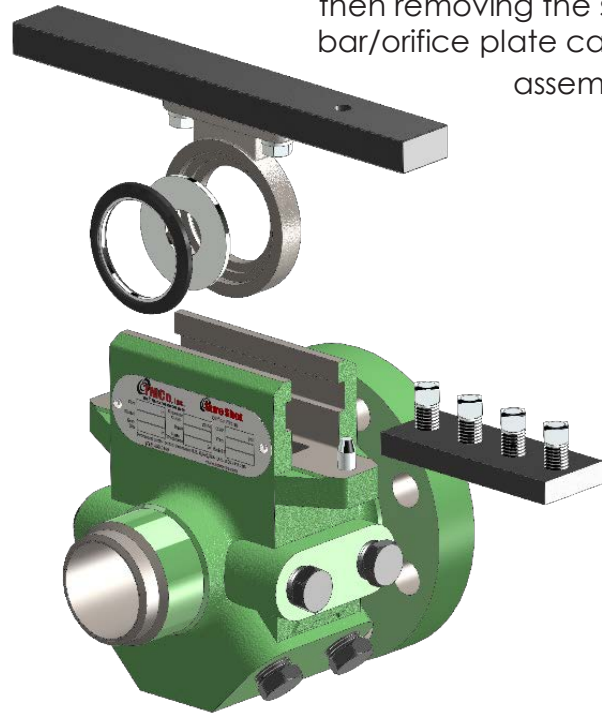
	A	B	C	D	E	F	G	H	K	L	M	N	P	V	W			
<b>Class 150 (285 PSIG)</b>																		
2"	7 13/16	5 1/4	13 3/16	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	3/4	6	4 3/4	3 5/8	1/16	1/2	1/8	(4) 5/8	3 1/4	150
3"	9 3/16	6 3/8	15 11/16	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	15/16	7 1/2	6	5	1/16	3/4	1/8	(4) 5/8	3 1/4	211
4"	8 1/8	5 13/16	14 1/16	14 1/8	8	5 1/4	15 1/4	8	15/16	9	7 1/2	6 3/16	1/16	3/4	1/8	(8) 5/8	3 1/4	263
6"	10 7/8	7 5/16	18 5/16	15 1/2	10	6 1/8	18 3/8	10	1	11	9 1/2	8 1/2	1/16	3/4	1/8	(8) 3/4	4	372
8"	11 15/16	7 7/8	20 1/16	16 1/2	12	7 3/8	20 1/4	12	1 1/8	13 1/2	11 3/4	10 5/8	1/16	1	1/4	(8) 3/4	4 1/4	582
10"	12 1/16	8	20 5/16	17 3/8	14 1/2	8	24 7/8	14 1/2	1 3/16	16	14 1/4	12 3/4	1/16	1	1/4	(12) 7/8	4 3/4	1054
12"	13 7/16	7 7/8	21 9/16	18 7/8	16	9 1/2	28	16	1 1/4	19	17	15	1/16	1	1/4	(12) 7/8	4 3/4	1259
16"	15 3/8	10 5/16	26 1/16	23 3/4	20	14 1/4	36	20	1 7/16	23 1/2	21 1/4	18 1/2	1/16	1 1/4	3/8	(16) 1	5 1/2	2444
<b>Class 300 (740 PSIG)</b>																		
2"	8 1/16	5 1/4	13 7/16	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	7/8	6 1/2	5	3 5/8	1/16	1/2	1/8	(8) 5/8	3 1/2	154
3"	9 3/4	6 9/16	16 7/16	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	1 1/8	8 1/4	6 5/8	5	1/16	3/4	1/8	(8) 3/4	4 1/4	220
4"	9 1/8	6 3/16	15 7/16	14 1/8	8	5 1/4	15 1/4	8	1 1/4	10	7 7/8	6 3/16	1/16	3/4	1/8	(8) 3/4	4 1/2	292
6"	11 1/4	7 5/16	18 11/16	15 1/2	10	6 1/8	18 3/8	10	1 7/16	12 1/2	10 5/8	8 1/2	1/16	3/4	1/8	(12) 3/4	4 3/4	409
8"	12 5/16	7 7/8	20 7/16	16 1/2	12	7 3/8	20 1/4	12	1 5/8	15	13	10 5/8	1/16	1	1/4	(12) 7/8	5 1/2	635
10"	12 7/16	8 1/4	20 15/16	17 3/8	14 1/2	8 3/4	24 7/8	14 1/2	1 7/8	17 1/2	15 1/4	12 3/4	1/16	1	1/4	(16) 1	6 1/4	1140
12"	14 1/16	8 1/4	22 3/16	18 7/8	16	10 1/4	28	16	2	20 1/2	17 3/4	15	1/16	1	1/4	(16) 1 1/8	6 3/4	1370
16"	16 1/8	10 5/16	26 13/16	23 3/4	20	14 1/4	36	20	2 1/4	25 1/2	22 1/2	18 1/2	1/16	1 1/4	3/8	(20) 1 1/4	7 1/2	2653
<b>Class 600 (1480 PSIG)</b>																		
2"	8 7/16	5 1/4	13 13/16	12 7/8	6 1/2	4 3/16	12 7/16	6 1/2	1 1/16	6 1/2	5	3 5/8	1/4	1/2	1/8	(8) 5/8	4 1/4	159
3"	10 1/2	6 15/16	17 9/16	13 5/8	7 1/4	4 5/8	13 7/8	7 1/4	1 5/16	8 1/4	6 5/8	5	1/4	3/4	1/8	(8) 3/4	5	228
4"	10 7/8	6 9/16	17 9/16	14 1/8	8	5 1/4	15 1/4	8	1 9/16	10 3/4	8 1/2	6 3/16	1/4	3/4	1/8	(8) 7/8	5 3/4	318
6"	12 7/8	7 15/16	20 15/16	15 1/2	10	6 1/8	18 3/8	10	1 15/16	14	11 1/2	8 1/2	1/4	3/4	1/8	(12) 1	6 3/4	474
8"	13 15/16	8 5/8	23 1/16	16 1/2	12	7 3/8	20 1/4	12	2 1/4	16 1/2	13 3/4	10 5/8	1/4	1	1/4	(12) 1 1/8	7 3/4	729
10"	14 3/16	9 1/8	23 9/16	17 3/8	14 1/2	10	24 7/8	14 1/2	2 9/16	20	17	12 3/4	1/4	1	1/4	(16) 1 1/4	8 1/2	1310
12"	16 1/4	8 13/16	25 5/16	18 7/8	16	11	28	16	2 11/16	22	19 1/4	15	1/4	1	1/4	(20) 1 1/4	8 3/4	1529
16"	17 15/16	10 5/8	28 15/16	23 3/4	20	14 1/4	36	20	3 1/16	27	23 3/4	18 1/2	1/4	1 1/4	3/8	(20) 1 1/2	10	3006

# Sure Shot® Orifice Fitting Single Chamber

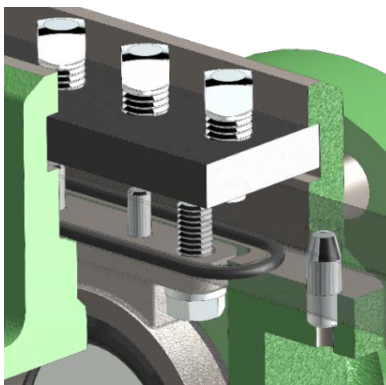
All TMCo Sure Shot® Single Chamber Fittings include telemetering taps.



The simple and efficient design allows quick change of the orifice plate by removing the clamp bar with bolts and then removing the seal bar/orifice plate carrier assembly.



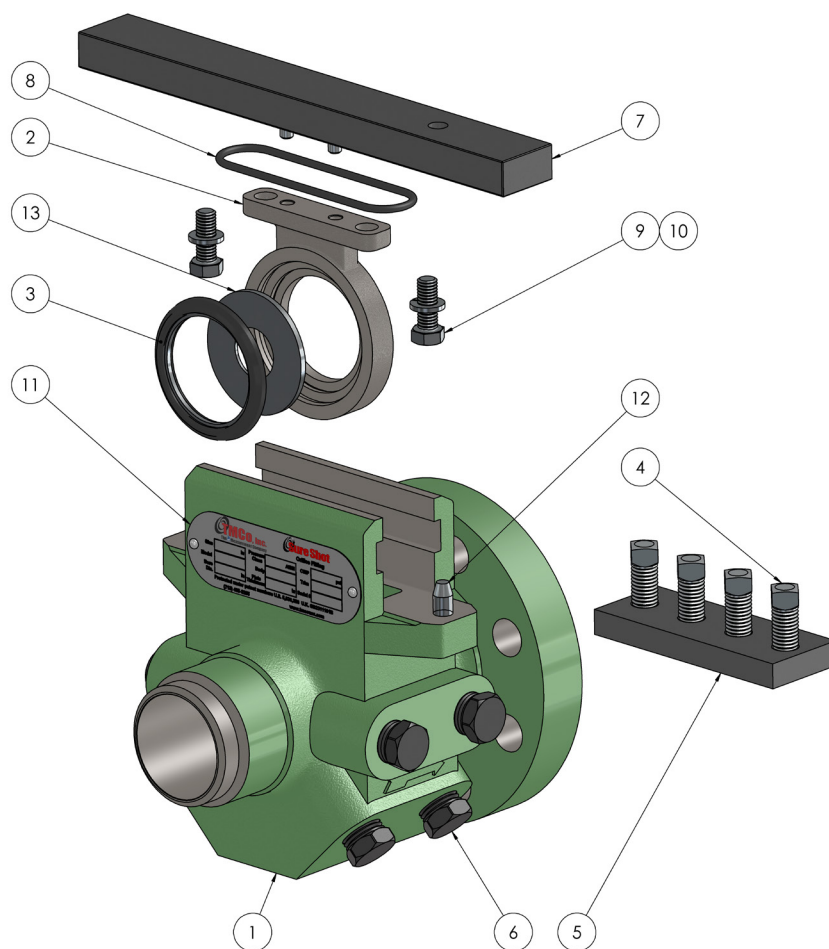
HNBR or Viton bonded to a stainless steel metal insert which retains seal shape, ensuring no protrusion into the bore. The Orifice Seal design provides a positive seal against the orifice plate and the upstream seat face, while the carrier creates a positive stop against the downstream seat face.



The seal bar is specially designed with a guide pin, making reinstallation of the carrier assembly simple and efficient, while maintaining the integrity of the eccentricity requirements.

TMCo seal bar design uses a dovetailed O-ring groove and standard HNBR O-rings to provide both reliable service and economical O-ring replacement.

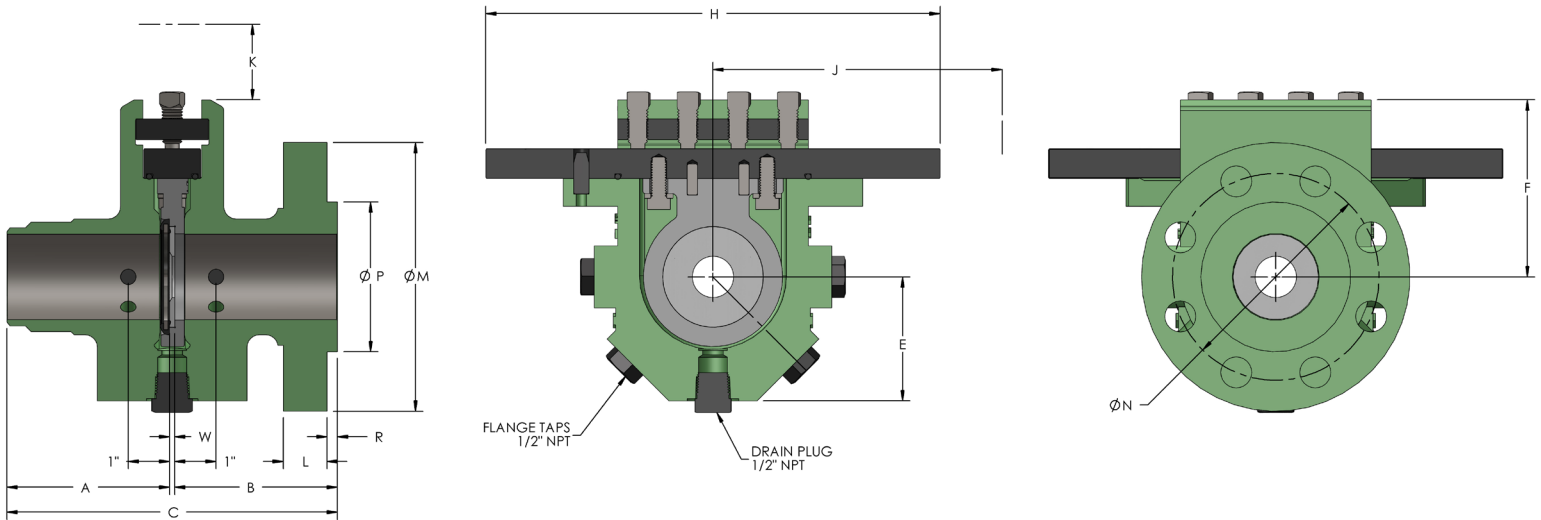
# Sure Shot® Orifice Fitting Single Chamber



ITEM NO.	DESCRIPTION	MATERIAL	QTY
1	Single Chamber Body	CAST CARBON STEEL	1
2	Orifice Plate Carrier	CAST STAINLESS STEEL	1
3	Orifice Plate Seal Ring	HNBR/STAINLESS STEEL	1
4	Clamp Bar Bolts, Plated	CARBON STEEL	4 TO 6
5	Clamp Bar, Coated	CARBON STEEL	1
6	Hex Head NPT Plug	CARBON STEEL	9
7	Seal Bar w/ Dowel Pins, Coated	CARBON STEEL	1
8	Seal Bar O-Ring	HNBR	1
9	Hex Head Screws	STAINLESS STEEL	2
10	Lock Washers	STAINLESS STEEL	2
11	Name Tag w/Rivets	STAINLESS STEEL	1
12	Guide Pin	STAINLESS STEEL	1
13	Orifice Plate (Sold Separately)		1

# Sure Shot® Single Chamber Orifice Fitting

## Weld x Flange Raised Face



	Upstream face of orifice plate to face of weld bevel	Downstream face of orifice plate to face of flange	Overall face to face length	Centerline to bottom of fitting	Centerline to top of fitting	Overall width	Clamping bar removal clearance	Plate removal clearance	Flange thickness	Outside diameter of flange	Bolt circle diameter	Raised face diameter (RF)	Height of raised face	Orifice plate thickness	Qty and diameter of studs	Length of studs with 2 hex nuts	Weight RF (lbs approx)
	A	B	C	E	F	H	J	K	L	M	N	P	R	W			
<b>Class 150 (285 PSIG)</b>																	
2"	3 9/16	3 9/16	7 1/4	3 9/16	4 1/4	11	2 3/8	5 5/8	3/4	6	4 3/4	3 5/8	1/16	1/8	(4) 5/8	3 1/4	34
3"	3 7/8	3 7/8	7 7/8	4	4 7/8	12	3 1/8	6 3/4	15/16	7 1/2	6	5	1/16	1/8	(4) 5/8	3 1/4	49
4"	4 7/16	4 7/16	9	4 1/2	5 1/4	13	3 1/2	7 1/2	15/16	9	7 1/2	6 3/16	1/16	1/8	(8) 5/8	3 1/4	77
6"	5 1/16	5 1/16	10 1/4	5 1/2	6 3/8	15	4 3/8	9 1/2	1	11	9 1/2	8 1/2	1/16	1/8	(8) 3/4	4	115
<b>Class 300 (740 PSIG)</b>																	
2"	3 9/16	3 9/16	7 1/4	3 9/16	4 1/4	11	2 3/8	5 5/8	7/8	6 1/2	5	3 5/8	1/16	1/8	(8) 5/8	3 1/2	35
3"	4 1/16	4 1/16	8 1/4	4	4 7/8	12	3 1/8	6 3/4	1 1/8	8 1/4	6 5/8	5	1/16	1/8	(8) 3/4	4 1/4	53
4"	4 7/16	4 7/16	9	4 1/2	5 1/4	13	3 1/2	7 1/2	1 1/4	10	7 7/8	6 3/16	1/16	1/8	(8) 3/4	4 1/2	86
6"	5 1/16	5 1/16	10 1/4	5 1/2	6 3/8	15	4 3/8	9 1/2	1 7/16	12 1/2	10 5/8	8 1/2	1/16	1/8	(12) 3/4	4 3/4	133
<b>Class 600 (1480 PSIG)</b>																	
2"	3 15/16	3 15/16	8	3 9/16	4 1/4	11	2 3/8	5 5/8	1 1/16	6 1/2	5	3 5/8	1/4	1/8	(8) 5/8	4 1/4	37
3"	4 7/16	4 7/16	9	4	4 7/8	12	3 1/8	6 3/4	1 5/16	8 1/4	6 5/8	5	1/4	1/8	(8) 3/4	5	56
4"	4 15/16	4 15/16	10	4 1/2	5 1/4	13	3 1/2	7 1/2	1 9/16	10 3/4	8 1/2	6 3/16	1/4	1/8	(8) 7/8	5 3/4	97
6"	5 11/16	5 11/16	11 1/2	5 1/2	6 3/8	15	4 3/8	9 1/2	1 15/16	14	11 1/2	8 1/2	1/4	1/8	(12) 1	6 3/4	162

# Notes



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