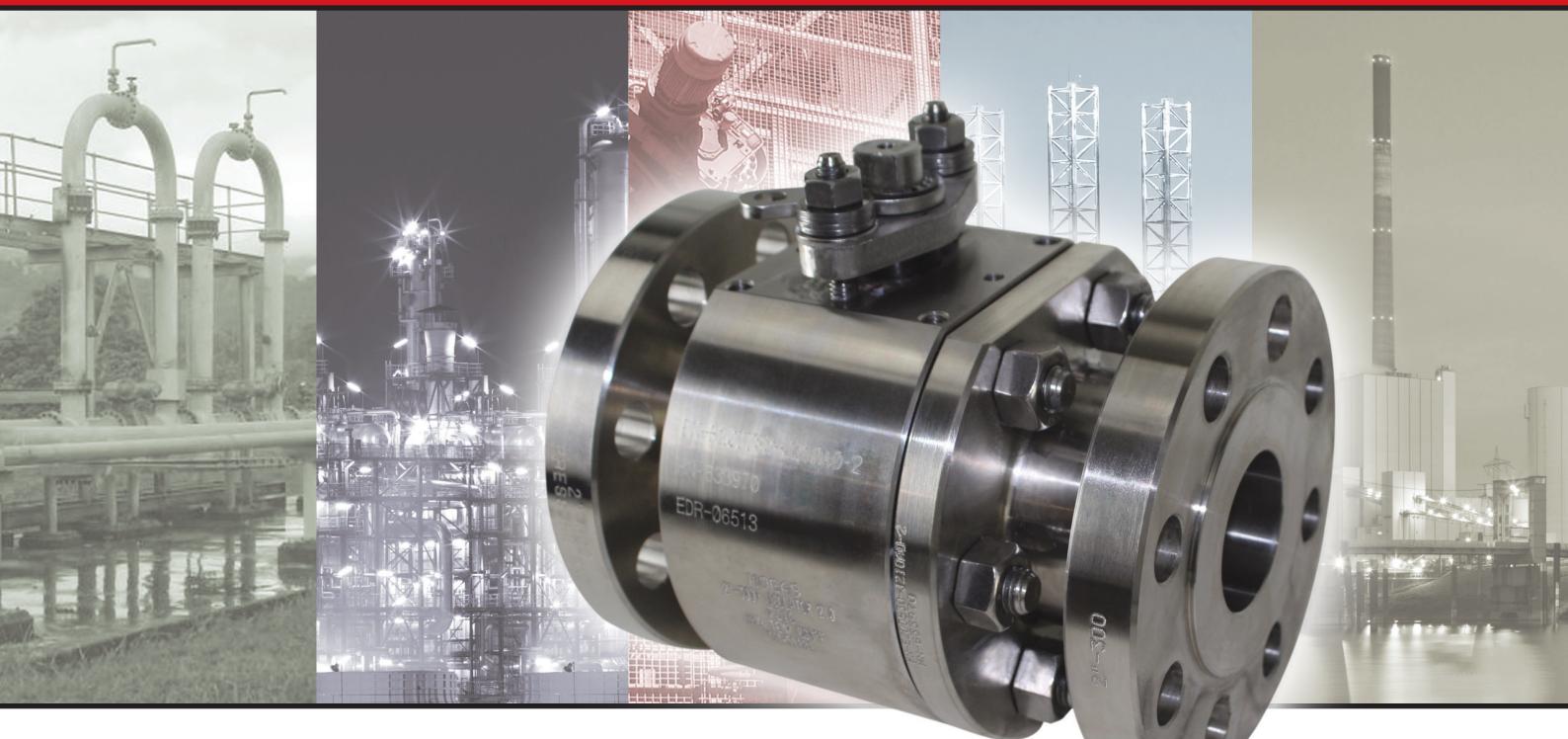


# ISOLATOR 2.0

Shut-off. Not shutdown.™



**MOGAS®**  
A Flowserve Company

## ***ISOLATOR 2.0 is ideal for the following services:***

### **Refining**

- Catalyst handling
- Hydrocarbon isolation
- Tri-phase flow – solids / liquids / gasses
- Slurry
- Catalyst / hydrocarbon slurry
- Gas isolation
- High pressure steam isolation
- Large particulates
- Amines
- Asphaltenes
- Resins

### **Pulp and Paper**

- Steam/recovery plant
- Kraft mill
- Bleach plant

### **Chemical/Petrochemical**

- Steam / superheated steam / condensate
- Hydrogen/nitrogen
- Silicon
- Amines
- Propylene powder
- Catalyst
- Isocyanate
- Hydrocarbons
- Solvents
- Acids
- Polymers
- Chlorides
- Surfactants

### **Slurry Transportation**

- Secondary lines on tailings and slurry
- By-pass lines
- Underground dewatering

### **Autoclave**

Drains and secondary isolation applications for:

- Heater vessels
- Steam applications
- Slurry services (feed pumps and tanks)
- Vents
- High pressure air
- Quench and flash vessels

### **Power Generation**

- Steam
- Fuel Gas
- Drain

# Next Generation of Reliable Isolation

## for Low Pressure Severe Services



MOGAS' ISOLATOR 2.0 is designed to be the most reliable product for isolation in low pressure (150 to 600 Class) severe service applications. Drawing on MOGAS' 50 year's experience in extreme severe service applications, advanced manufacturing capabilities and unrivaled after sales service, ISOLATOR 2.0 is designed to solve isolation problems by providing absolute shut-off. Why compromise on quality when you can now have a MOGAS valve for low pressure applications.

### Safety

You can feel confident that you're making the right decision when choosing a MOGAS valve. They are synonymous with 'peace of mind'. When a MOGAS valve is installed in an application, rest assured that it will isolate when it supposed to isolate, and will keep your colleagues, equipment and the environment safe from potentially hazardous conditions.

### Reliability and Durability

By addressing the root cause of problems, those problems can be eliminated. And, ISOLATOR 2.0 does just that. ISOLATOR 2.0 does not have graphite or PTFE seat gaskets behind the seats that will degrade over time through mechanical loads, thermal change and physical volume loss. ISOLATOR 2.0 metal-to-metal seals are extremely durable. High performance HVOF chrome carbide or nano-coated ball and seats provide superior wear resistance, reduced torque and an extended sealing surface.



Twenty 2-inch, ASME 600 Class ISOLATOR 2.0 valves were installed in a major utility supplier to isolate steam in the daily operation of soot blowers.

### Lowest Cost of Ownership

MOGAS valves are more durable and have a long life cycle, so they cost less over time. ISOLATOR 2.0 offers many features that contribute to a longer lasting valve, such as a wider ball/seat sealing surface, compared to competitor seat faces. This means reliable isolation and less downtime from unplanned shutdowns.

### Process Efficiency

ISOLATOR 2.0 proven designs, materials of construction and innovative coatings prevent media leakage into the process, which means improved process efficiency and higher return on your investment.

### Service

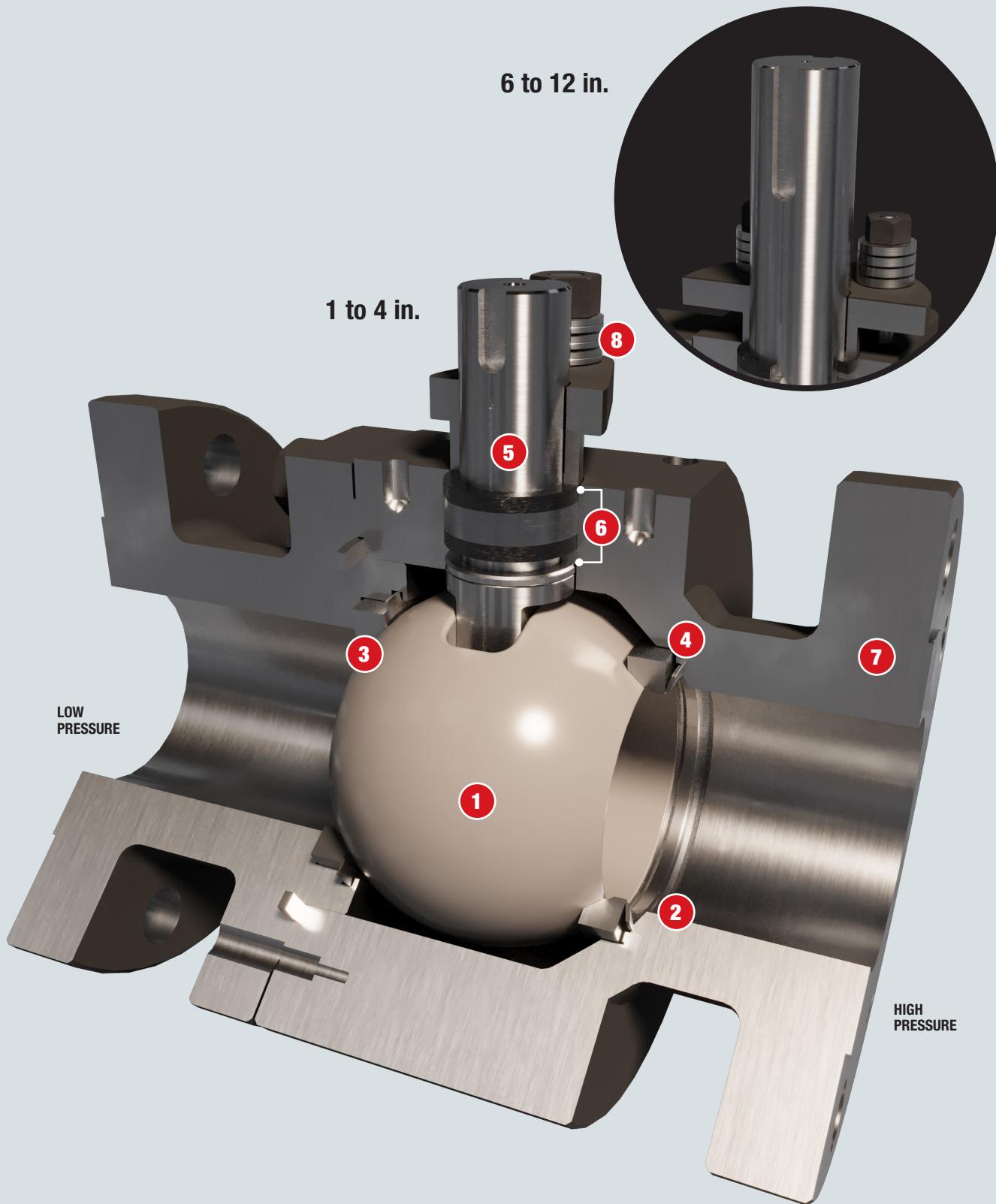
When you select MOGAS products, service is a big part of what comes with them. And with ISOLATOR 2.0 comes the same world-class after-sales service enjoyed by all MOGAS product lines. Our knowledge, experience and the unparalleled desire to delight our customers separate MOGAS from everyone else. Our product, our people: together, they ensure that your process runs smoothly.

### Warranty

The ISOLATOR 2.0 comes with a statistically driven, application-specific PERFORMANCE GUARANTEE ... plus a Lifetime Warranty on materials and workmanship.

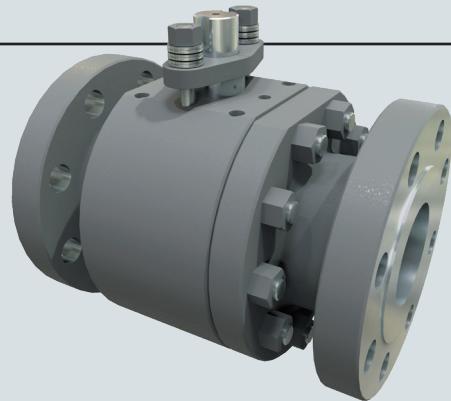
# Valve Configurations

for 1, 1.5, 2, 3, 4, 6, 8, 10 and 12 inch



# Features and Benefits

ISOLATOR 2.0 is the next generation metal-seated, bi-directional floating ball valve for absolute isolation in specific refining, chemical/petrochemical, mining, power generation and pulp & paper applications. This ASME 150-600 Class valve withstands temperatures up to 1000° F, and its durable materials of construction and proven coatings reflect its lineage of a longer life cycle over time. Available in sizes\* 1 to 12 inch and in materials of construction that will suit your application.



## 1 Floating ball design

- Rotating ball does not cause turbulent redirection or displacement of process fluid in the flowstream, resulting in less turbulent flow
- Straight-through full bore path protects sealing surfaces and packing area from particulate erosion
- Metal seats wipe sealing surface of ball clean during operation preventing solids build-up and clogging

## 2 Pressure-energized sealing

- Belleville spring in upstream provides constant contact between ball and seat for absolute shut-off and lower operating torque
- Allows resilience during thermal expansion of trim; no graphite seat gaskets

## 3 Matched ball and seats

- SphereSeal<sup>SM</sup> lapping process on ball and seat set provides 100% sealing contact through the full transition between the open and closed position
- Mate lapping behind seat provides tight sealing
- Optimum seat face diameter allows for lower torque without sealing compromise

## 4 Independent replaceable seats

- Minimizes maintenance and repair costs

## 5 Blowout-proof stem design

- One piece design meets industry safety standards
- High strength alloy construction
- Thicker, more robust stem tang eliminates failure at the stem-ball interface

## 6 Packing box

- Hardened inner stem seal and graphite rings prevent stem packing leaks and risk of fugitive emissions

## 7 Forged or cast body / end connections

- Greater wall thickness in critical areas provides longer valve life
- Available as raised face flanged, rtj, socketweld and buttweld

## 8 Live-loaded springs

- Energized Belleville spring washers and gland flange provide constant pressure on packing

## Features Not Shown

- Standard design including stem and bore complies to API 608
- Absolute isolation in compliance with API 598
- Fire safe (API 607) and fugitive emissions compliant (API 641 or ISO 15848)

## Options

- Mounting bracket and stem adaptor accommodates all types of actuators and accessories, such as electric, hydraulic and pneumatic actuators, and positioners and solenoids.

\* For 1/2- and 3/4-inch end connections consult factory.

# Parts List

for 1, 1.5, 2, 3 and 4 inch

## Materials of Construction

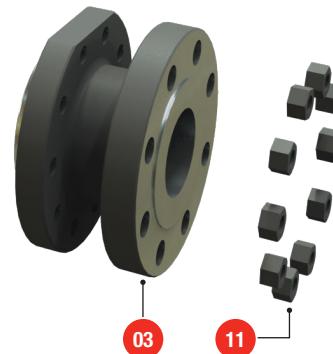
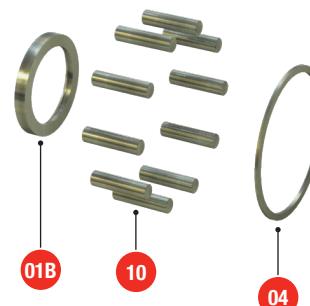
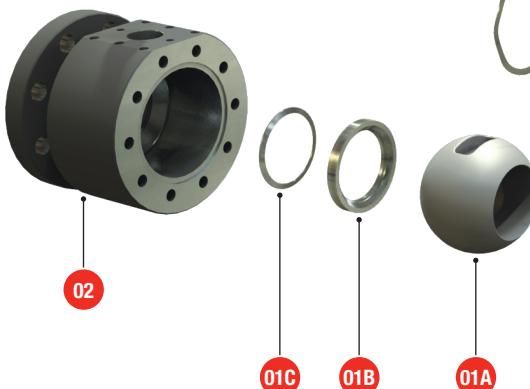
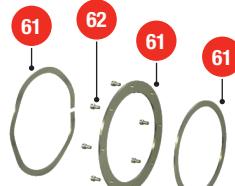
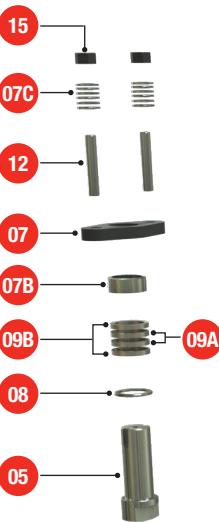
No.	Description	A182-F316 NACE	Ti Gr 12	A182-F53	A105
<b>01A</b>	Ball <sup>1</sup>	316SS	Ti Gr 12	A182-F53	410SS
<b>01B</b>	Seat <sup>1</sup>	316SS	Ti Gr 12	A182-F53	410SS
<b>1C</b>	Spring Disc <sup>1</sup>	Inconel 718	Ti Gr 5	Inconel 718	Inconel 718
<b>02</b>	Body	A182-F316	Ti Gr 12	A182-F53	A105
<b>03</b>	End Connect	A182-F316	Ti Gr 12	A182-F53	A105
<b>04</b>	Gasket, Spiral Wound <sup>1,2</sup>	316SS	Ti Gr 2	Inconel 600	316 SS
<b>05</b>	Stem	Gr 660	B348-5	A182-F53	Gr 660
<b>07</b>	Gland Flange	316SS	316SS	316SS	316SS
<b>07B</b>	Thruster, Gland Flange	316SS	316SS	316SS	316SS
<b>07C</b>	Spring Discs (live loaded)	INC X750	INC X750	INC X750	INC X750
<b>08</b>	Bearing, Stem Seal <sup>1,3</sup>	Stellite 3	Ti Gr 5 / Nano	A182-F53 Nitrided	Stellite 3
<b>09A</b>	Ring, Stem Packing <sup>1,2</sup>	Chesterton 5300	Chesterton 5300	Chesterton 5300	Chesterton 5300
<b>09B</b>	Ring, Anti-Extrusion <sup>1,2</sup>	Chesterton 1601	Chesterton 1601	Chesterton 1601	Chesterton 1601
<b>10</b>	Stud, Body	A193 Gr B8M CL 2	A564 Type 630 (17-4 PH)	A193 Gr B8M CL 2	A193 Gr B7
<b>11</b>	Nut, Body	A194 Gr 8M	A564 Type 630 (17-4 PH)	A194 Gr 8M	A194 Gr 2H
<b>12</b>	Stud, Gland	A193 Gr B8M	A193 Gr B8M	A193 Gr B8M	A193 Gr B8M
<b>15</b>	Nut, Gland	A194 Gr 8M	A194 Gr 8M	A194 Gr 8M	A194 Gr 8M
<b>61</b>	Wave Spring Ring <sup>1</sup>	A286	—	—	A286
<b>61</b>	Locked-in Seat Ring <sup>1</sup>	—	Ti Gr 12	A182-F53	—
<b>61</b>	Retaining Ring <sup>1</sup>	316SS	Ti Gr 12	A182-F53	316SS
<b>62</b>	Seat Locking Screws	—	Ti Gr 12	A182-F53	—

SS = Stainless Steel

<sup>1</sup> Available as spare part in major trim kits. Consult factory.

<sup>2</sup> Available as spare part in soft goods kit. Consult factory.

<sup>3</sup> Glass-filled TFE stem seal version available for Titanium and F53 materials but limited to maximum temperature of 400° F (204° C).



# Parts List

for 6, 8, 10 and 12 inch

## Materials of Construction

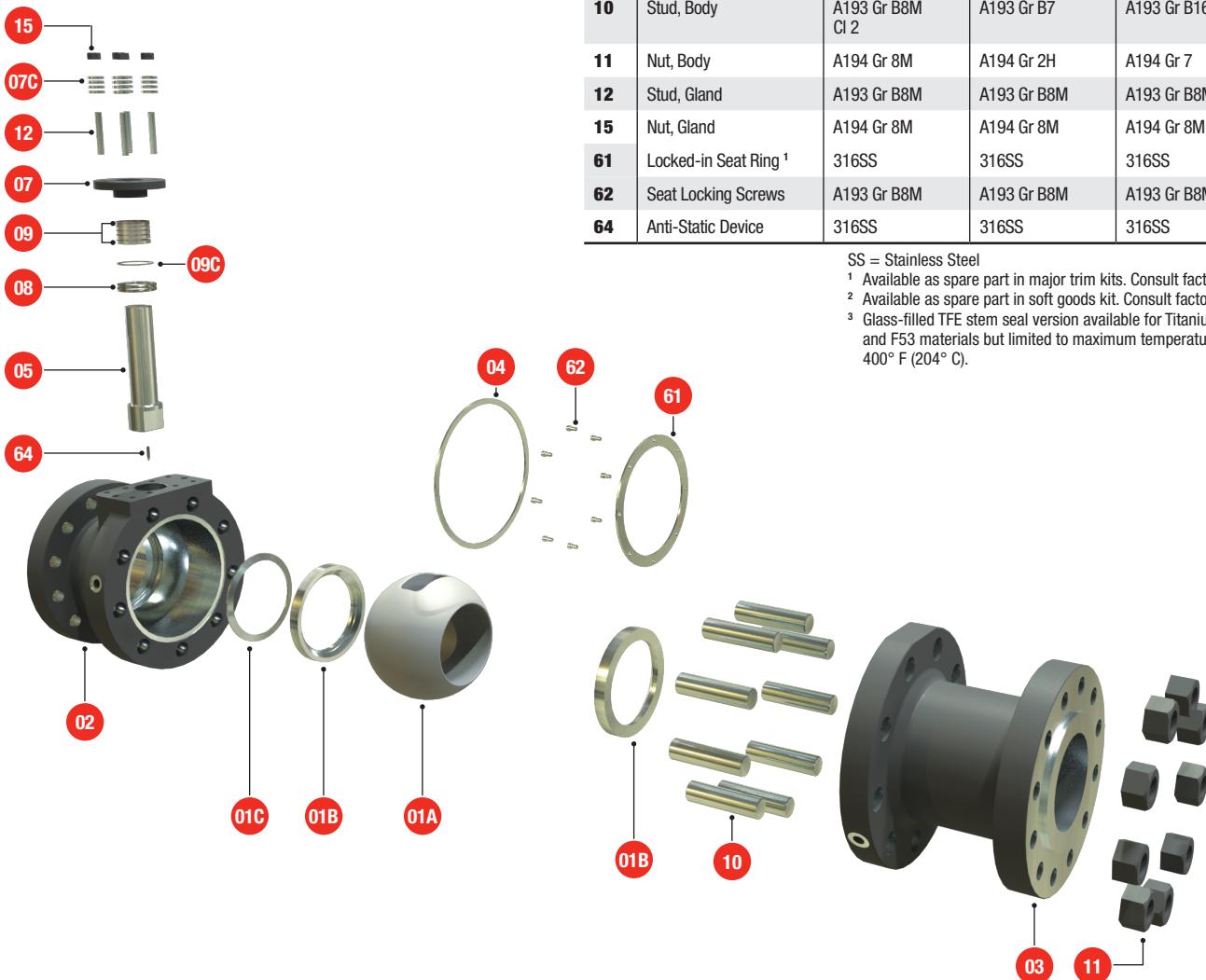
No.	Description	A351-CF8M	A216-WCB	A217-C12
<b>01A</b>	Ball <sup>1</sup>	316SS	410SS	410SS
<b>01B</b>	Seat <sup>1</sup>	316SS	410SS	410SS
<b>01C</b>	Spring Disc <sup>1</sup>	Inconel 718	Inconel 718	Inconel 718
<b>02</b>	Body	A351-CF8M	A216-WCB	A182-F316
<b>03</b>	End Connect	A351-CF8M	A216-WCB	A182-F316
<b>04</b>	Gasket, Spiral Wound <sup>1,2</sup>	316SS	316SS	316SS
<b>05</b>	Stem	Gr 660	Gr 660	Gr 660
<b>07</b>	Gland Flange	316SS	316SS	316SS
<b>07C</b>	Spring Discs (live loaded)	Inc X750	Inc X750	Inc X750
<b>08</b>	Bearing, Stem Seal <sup>1,3</sup>	Stellite 3	Stellite 3	Stellite 3
<b>09</b>	Ring, Stem Packing <sup>1,2</sup>	Chesterton 1622	Chesterton 1622	Chesterton 1622
<b>09C</b>	Ring, Metal Anti-Extrusion	301SS/316SS Moly	301SS/316SS Moly	301SS/316SS Moly
<b>10</b>	Stud, Body	A193 Gr B8M Cl 2	A193 Gr B7	A193 Gr B16
<b>11</b>	Nut, Body	A194 Gr 8M	A194 Gr 2H	A194 Gr 7
<b>12</b>	Stud, Gland	A193 Gr B8M	A193 Gr B8M	A193 Gr B8M
<b>15</b>	Nut, Gland	A194 Gr 8M	A194 Gr 8M	A194 Gr 8M
<b>61</b>	Locked-in Seat Ring <sup>1</sup>	316SS	316SS	316SS
<b>62</b>	Seat Locking Screws	A193 Gr B8M	A193 Gr B8M	A193 Gr B8M
<b>64</b>	Anti-Static Device	316SS	316SS	316SS

SS = Stainless Steel

<sup>1</sup> Available as spare part in major trim kits. Consult factory.

<sup>2</sup> Available as spare part in soft goods kit. Consult factory.

<sup>3</sup> Glass-filled TFE stem seal version available for Titanium and F53 materials but limited to maximum temperature of 400° F (204° C).



# Torque Data

## for 1, 1.5, 2, 3 and 4 inch

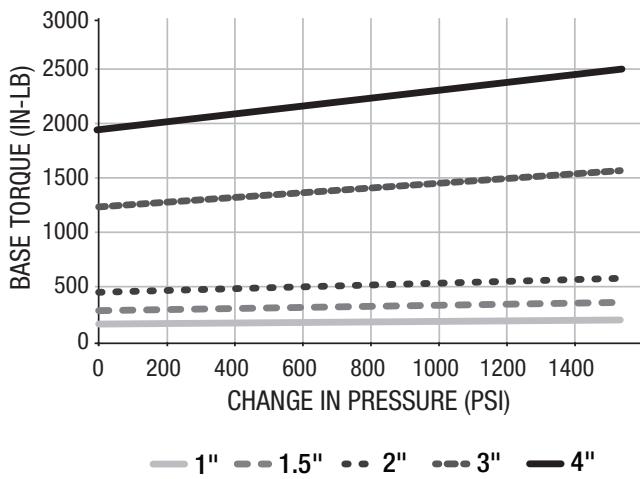
### Base Torque Data<sup>1</sup>

Size (in)	1	1.5		2		3		4	
ASME Class	150–600	150–600		150–600		150–600		150–600	
ΔP (psi) / ΔP (Bar)	Break Torque								
	(in-lb)	(N-m)	(in-lb) <sup>2</sup>						
1 / 0.1	188	21	313	35	484	55	1,279	145	1,995
50 / 3.4	199	22	346	39	562	63	1,537	174	2,577
100 / 6.9	211	24	379	43	639	72	1,795	203	3,158
150 / 10.3	223	25	412	47	716	81	2,054	232	3,740
200 / 13.8	234	26	446	50	794	90	2,312	261	4,321
250 / 17.2	246	28	479	54	871	98	2,570	290	4,903
275 / 19.0	252	28	496	56	910	103	2,700	305	5,194
300 / 20.7	257	29	512	58	948	107	2,829	320	5,484
400 / 27.6	281	32	579	65	1,103	125	3,345	378	6,647
500 / 34.5	304	34	646	73	1,258	142	3,862	436	7,810
600 / 41.4	327	37	712	80	1,413	160	4,379	495	8,974
700 / 48.3	350	40	779	88	1,567	177	4,895	553	10,137
720 / 49.6	355	40	792	89	1,598	181	4,999	565	10,369
750 / 51.7	362	41	812	92	1,645	186	5,154	582	10,718
800 / 55.2	374	42	845	95	1,722	195	5,412	611	11,300
900 / 62.1	397	45	912	103	1,877	212	5,929	670	12,463
1,000 / 68.9	420	47	978	110	2,031	229	6,446	728	13,626
1,100 / 75.8	443	50	1,045	118	2,186	247	6,962	787	14,789
1,200 / 82.7	467	53	1,112	126	2,341	264	7,479	845	15,952
1,300 / 89.6	490	55	1,178	133	2,496	282	7,996	903	17,115
1,400 / 96.5	513	58	1,245	141	2,650	299	8,512	962	18,278
1,440 / 99.3	522	59	1,271	144	2,712	306	8,719	985	18,744
1,500 / 103.4	536	61	1,311	148	2,805	317	9,029	1020	19,441
									2197

<sup>1</sup> Service and/or actuator safety factor not added.

<sup>2</sup> Gear operator recommended for torque values greater than 1,200 in/pds.

### TORQUE TO RUN



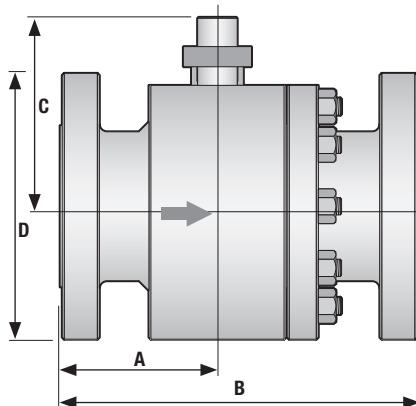
# Dimensions

for 1, 1.5, 2, 3 and 4 inch

## Dimensions (in)

NPS	Bore	Class	A	B	C	D	E	F	Weight <sup>2</sup> , lb
1	1.00	150	1.99	5.00	2.69	4.25	Note 1	Note 1	11.5
		300	2.86	6.50		4.88			15
		600	3.83	8.50					17
1.5	1.50	150	2.67	6.50	3.57	5.00	Note 1	Note 1	30
		300	3.30	7.50		6.12			34
		600	4.05	9.50					40
2	2.00	150	2.93	7.00	4.36	6.00	Note 1	Note 1	42
		300	3.63	8.50		6.50			51
		600	5.20	11.50					60
3	3.00	150	3.62	8.06	5.87	7.50	Note 1	Note 1	78
		300	4.87	11.12		8.25			105
		600	6.13	14.00					125
4	4.00	150	3.68	9.00	7.35	9.00	Note 1	Note 1	120
		300	5.25	12.00		10.00			167
		600	7.74	17.00		10.75			241

## 1 through 4-inch, ASME 150–600 Class



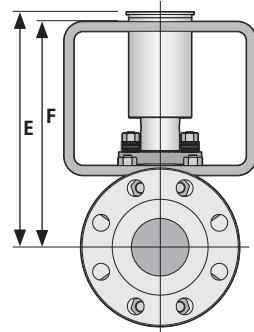
## Dimensions (mm)

DN	Bore	Class	A	B	C	D	E	F	Weight <sup>2</sup> , kg
25	25.4	150	50.5	127.0	68.4	107.9	Note 1	Note 1	5.2
		300	72.6	165.1		123.9			6.8
		600	97.2	215.9					7.7
40	38.1	150	67.8	165.1	90.6	127.0	Note 1	Note 1	13.6
		300	83.8	190.5		155.4			15.4
		600	102.8	241.3					18.1
50	50.8	150	74.4	177.8	110.7	152.4	Note 1	Note 1	19.0
		300	92.2	215.9		165.1			23.1
		600	132.1	292.1					27.2
80	76.2	150	91.9	204.7	149.1	190.5	Note 1	Note 1	35.4
		300	123.7	282.4		209.5			47.6
		600	155.7	355.6					56.7
100	101.6	150	93.5	228.6	186.7	228.6	Note 1	Note 1	54.4
		300	133.3	304.8		254.0			75.7
		600	196.6	431.8		273.0			109.3

<sup>1</sup> Varies with actuator model

<sup>2</sup> Does not include adaption

## Mounting Bracket and Stem Adapter



# Torque Data

## for 6 and 8 inch

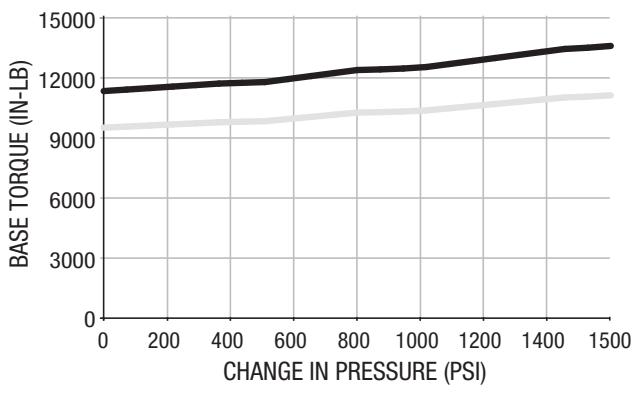
### Base Torque Data<sup>1</sup>

Size (in)	6		8					
ASME Class	150-300		600		150	300	600	
$\Delta P$ (psi) / $\Delta P$ (Bar)	Break Torque							
	(in-lb) <sup>2</sup>	(N-m)	(in-lb) <sup>2</sup>	(N-m)	(in-lb) <sup>2</sup>	(N-m)	(in-lb) <sup>2</sup>	(N-m)
1 / 0.1	9,637	1,089	11,472	1,296	12,272	1,387	14,209	1,605
50 / 3.4	11,586	1,309	13,442	1,519	16,781	1,896	18,741	2,117
100 / 6.9	13,576	1,534	15,452	1,746	21,382	2,416	23,366	2,640
150 / 10.3	15,565	1,759	17,463	1,973	25,983	2,936	27,990	3,162
200 / 13.8	17,554	1,983	19,473	2,200	30,584	3,456	32,615	3,685
250 / 17.2	19,543	2,208	21,484	2,427	35,185	3,975	37,240	4,208
275 / 19.0	20,537	2,320	22,489	2,541	37,485	4,235	39,552	4,469
300 / 20.7	21,532	2,433	23,494	2,654	39,786	4,495	41,865	4,730
400 / 27.6	25,510	2,882	27,515	3,109	48,987	5,535	51,114	5,775
500 / 34.5	29,488	3,332	31,536	3,563	58,189	6,574	60,364	6,820
600 / 41.4	33,466	3,781	35,557	4,017	67,391	7,614	69,613	7,865
700 / 48.3	37,444	4,231	39,578	4,472	76,593	8,654	78,863	8,910
720 / 49.6	38,240	4,321	40,382	4,563	78,433	8,862	80,713	9,119
750 / 51.7	39,433	4,455	41,588	4,699	81,194	9,174	83,488	9,433
800 / 55.2	41,422	4,680	43,599	4,926	85,795	9,694	88,112	9,955
900 / 62.1	45,400	5,130	47,620	5,380	94,996	10,733	97,362	11,000
1,000 / 68.9	49,378	5,579	51,641	5,835	104,198	11,773	106,611	12,045
1,100 / 75.8	53,356	6,028	55,662	6,289	113,400	12,812	115,861	13,091
1,200 / 82.7	57,335	6,478	59,683	6,743	122,602	13,852	125,110	14,136
1,300 / 89.6	61,313	6,927	63,704	7,198	131,804	14,892	134,360	15,181
1,400 / 96.5	65,291	7,377	67,725	7,652	141,005	15,931	143,609	16,226
1,440 / 99.3	66,882	7,557	69,333	7,834	144,686	16,347	147,309	16,644
1,500 / 103.4	69,269	7,826	71,745	8,106	150,207	16,971	152,859	17,271
								169,069
								19,102

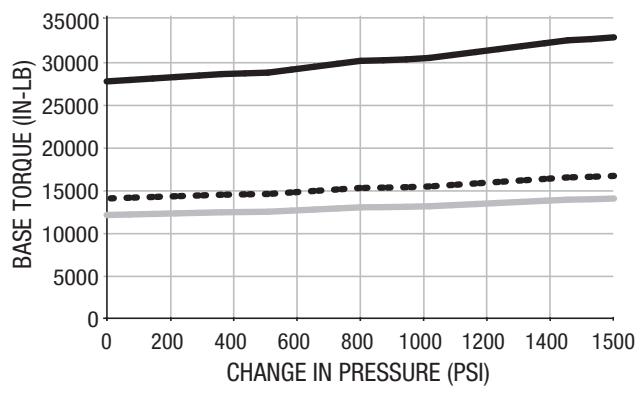
<sup>1</sup> Service and/or actuator safety factor not added.

<sup>2</sup> Gear operator recommended for torque values greater than 1,200 in/pds.

### TORQUE TO RUN



### TORQUE TO RUN



# Torque Data

## for 10 and 12 inch

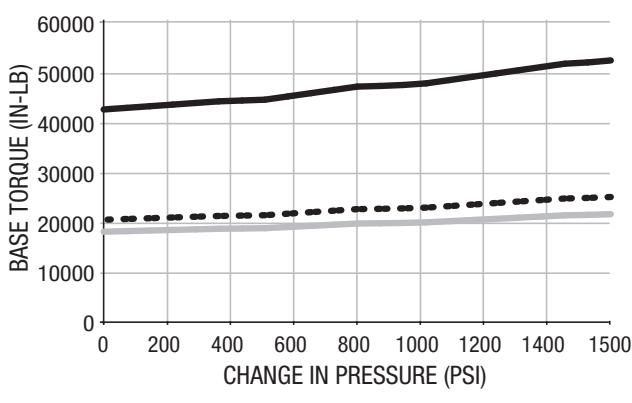
### Base Torque Data<sup>1</sup>

Size (in)	10				12					
ASME Class	150	300	600		150	300	600			
ΔP (psi) / ΔP (Bar)	Break Torque									
	(in-lb) <sup>2</sup>	(N-m)								
1 / 0.1	18,498	2,090	20,899	2,361	43,023	4,861	34,759	3,927	41,065	4,640
50 / 3.4	26,972	3,047	29,558	3,340	51,986	5,874	49,456	5,588	55,836	6,309
100 / 6.9	35,619	4,024	38,394	4,338	61,131	6,907	64,453	7,282	70,908	8,012
150 / 10.3	44,267	5,001	47,230	5,336	70,277	7,940	79,450	8,977	85,980	9,714
200 / 13.8	52,914	5,978	56,065	6,334	79,423	8,974	94,447	10,671	101,052	11,417
250 / 17.2	61,561	6,955	64,901	7,333	88,569	10,007	109,444	12,366	116,124	13,120
275 / 19.0	65,885	7,444	69,319	7,832	93,142	10,524	116,943	13,213	123,660	13,972
300 / 20.7	70,208	7,932	73,737	8,331	97,714	11,040	124,441	14,060	131,196	14,823
400 / 27.6	87,503	9,887	91,409	10,328	116,006	13,107	154,436	17,449	161,340	18,229
500 / 34.5	104,797	11,840	109,080	12,324	134,298	15,174	184,430	20,838	191,484	21,635
600 / 41.4	122,092	13,795	126,752	14,321	152,589	17,240	214,424	24,227	221,628	25,041
700 / 48.3	139,386	15,749	144,424	16,318	170,881	19,307	244,418	27,616	251,772	28,446
720 / 49.6	142,845	16,139	147,958	16,717	174,539	19,720	250,417	28,293	257,801	29,128
750 / 51.7	148,034	16,726	153,259	17,316	180,026	20,340	259,415	29,310	266,844	30,149
800 / 55.2	156,681	17,703	162,095	18,314	189,172	21,374	274,412	31,004	281,916	31,852
900 / 62.1	173,975	19,657	179,767	20,311	207,464	23,440	304,406	34,393	312,061	35,258
1,000 / 68.9	191,270	21,611	197,439	22,308	225,755	25,507	334,400	37,782	342,205	38,664
1,100 / 75.8	208,564	23,565	215,110	24,304	244,047	27,574	364,394	41,171	372,349	42,070
1,200 / 82.7	225,859	25,519	232,782	26,301	262,338	29,640	394,388	44,560	402,493	45,476
1,300 / 89.6	243,153	27,473	250,453	28,297	280,630	31,707	424,383	47,949	432,637	48,881
1,400 / 96.5	260,448	29,427	268,125	30,294	298,921	33,774	454,377	51,338	462,781	52,287
1,440 / 99.3	267,365	30,208	275,194	31,093	306,238	34,600	466,374	52,693	474,839	53,650
1,500 / 103.4	277,742	31,381	285,797	32,291	317,213	35,840	484,371	54,727	492,925	55,693
										534,489
										60,389

<sup>1</sup> Service and/or actuator safety factor not added.

<sup>2</sup> Gear operator recommended for torque values greater than 1,200 in/pds.

### TORQUE TO RUN



— 10" 150 CLASS    ••• 10" 300 CLASS    — 10" 600 CLASS



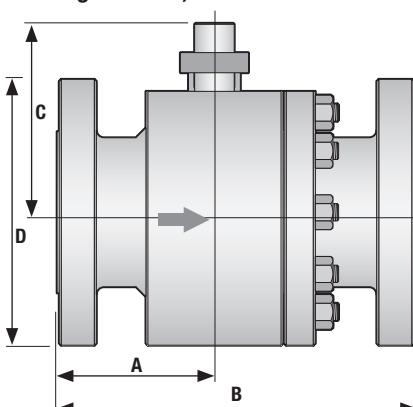
# Dimensions

for 6, 8, 10 and 12 inch

## Dimensions (in)

NPS	Bore	Class	A	B	C	D	E	F	Weight <sup>2</sup> , lb
6	6.00	150	7.25	15.50	13.35	11.00	Note 1	Note 1	332
		300	6.70	15.88	13.35	12.50			377
		600	7.97	22.00	13.35	14.00			507
8	8.00	150	8.85	18.00	17.56	13.50	Note 1	Note 1	669
		300	9.09	19.75	17.56	15.00			760
		7.94	600	9.86	26.00	17.81			904
10	10.00	150	10.59	21.00	19.83	16.00	Note 1	Note 1	1,137
		300	10.97	22.38	19.83	17.50			1,272
		9.88	600	12.25	31.00	21.76			1,784
12	12.00	150	11.53	24.00	24.40	19.00	Note 1	Note 1	1,972
		300	11.78	25.50	24.40	20.50			2,101
		11.88	600	13.25	33.00	24.27			2,608

## 6 through 12 inch, ASME 150-600 Class



## Dimensions (mm)

DN	Bore	Class	A	B	C	D	E	F	Weight <sup>2</sup> , kg
150	152.4	150	184.2	393.7	339.1	279.4	Note 1	Note 1	151
		300	170.2	403.4	339.1	317.5			171
		600	202.4	558.8	339.1	355.6			230
200	203.2	150	224.8	457.2	446.0	342.9	Note 1	Note 1	303
		300	230.9	501.7	446.0	381.0			345
		201.7	600	250.4	660.4	452.4			410
250	254.0	150	269.0	533.4	503.7	406.4	Note 1	Note 1	516
		300	278.6	568.5	503.7	444.5			577
		251.0	600	311.2	787.4	552.7			809
300	304.8	150	292.9	609.6	619.8	482.6	Note 1	Note 1	894
		300	299.2	647.7	619.8	520.7			953
		301.8	600	336.6	838.2	616.5			1,183

<sup>1</sup> Varies with actuator model

<sup>2</sup> Does not include adaption

# Temperature / Pressure Ratings

## Temperature vs Pressure — Standard Class Ratings

Class	Material	Temperature °F									
		-20 to 100	200	300	400	500	600	700	800	900	1000
<b>ASME 150</b> Maximum Pressure (psig)	F316/CF8M	275	235	215	195	170	140	110	80	50 <sup>2</sup>	20 <sup>2</sup>
	C12	290	260	230	200	170	140	110	80	50	20
	F53	290	260	230	200	170	140	—	—	—	—
	Ti Gr 12 <sup>1</sup>	288	260	230	200	170	140	—	—	—	—
	A105/WCB	285	260	230	200	170	140	110	80	—	—
<b>ASME 300</b> Maximum Pressure (psig)	F316/CF8M	720	620	560	515	480	450	435	420	415 <sup>2</sup>	365 <sup>2</sup>
	C12	750	750	730	705	665	605	570	510	450	255
	F53	750	745	665	615	580	555	—	—	—	—
	Ti Gr 12 <sup>1</sup>	750	701	609	536	490	463	—	—	—	—
	A105/WCB	740	680	655	635	605	570	530	410	—	—
<b>ASME 600</b> Maximum Pressure (psig)	F316/CF8M	1440	1240	1120	1025	955	900	870	845	830 <sup>2</sup>	725 <sup>2</sup>
	C12	1500	1500	1455	1410	1330	1210	1135	1015	900	505
	F53	1500	1490	1335	1230	1160	1115	—	—	—	—
	Ti Gr 12 <sup>1</sup>	1500	1401	1217	1071	979	926	—	—	—	—
	A105/WCB	1480	1360	1310	1265	1205	1135	1060	825	—	—
Class	Material	Temperature °C									
		-29 to 38	100	150	200	250	300	350	400	475	538
<b>ASME 150</b> Maximum Pressure (bar)	F316/CF8M	19.0	16.2	14.8	13.7	12.1	10.2	8.4	6.5	3.7 <sup>2</sup>	1.4 <sup>2</sup>
	C12	20.0	17.7	15.8	13.8	12.1	10.2	8.4	6.5	3.7	1.4
	F53	20.0	17.7	15.8	13.8	12.1	10.2	—	—	—	—
	Ti Gr 12 <sup>1</sup>	19.8	17.7	15.8	13.8	12.1	10.2	—	—	—	—
	A105/WCB	19.6	17.7	15.8	13.8	12.1	10.2	8.4	6.5	—	—
<b>ASME 300</b> Maximum Pressure (bar)	F316/CF8M	49.6	42.2	38.5	35.7	33.4	31.6	30.3	29.4	28.7 <sup>2</sup>	25.2 <sup>2</sup>
	C12	51.7	51.7	50.3	48.6	46.3	42.9	40.3	36.5	31.7	17.5
	F53	51.7	50.7	45.9	42.7	40.5	38.9	—	—	—	—
	Ti Gr 12 <sup>1</sup>	51.7	47.7	41.8	37.3	34.2	32.4	—	—	—	—
	A105/WCB	51.1	46.6	45.1	43.8	41.9	39.8	37.6	34.7	—	—
<b>ASME 600</b> Maximum Pressure (bar)	F316/CF8M	99.3	84.4	77.0	71.3	66.8	63.2	60.7	58.9	57.3 <sup>2</sup>	50.0 <sup>2</sup>
	C12	103.4	103.0	100.3	97.2	92.7	85.7	80.4	73.3	63.4	35.0
	F53	103.4	101.3	91.9	85.3	80.9	77.7	—	—	—	—
	Ti Gr 12 <sup>1</sup>	103.4	95.4	83.6	74.6	68.4	64.7	—	—	—	—
	A105/WCB	102.1	93.2	90.2	87.6	83.9	79.6	75.1	69.4	—	—

<sup>1</sup> MOGAS recommended temperatures/pressures; Ti Gr 12 is not a B16.34 material.

<sup>2</sup> The 316SS body and 410SS trim are rated to 1000° F (538° C).

## Industry Codes and Standards

The following partial list of industry codes and standards are referenced in the manufacturing of MOGAS valves: API, ASTM, ATEX, CRN, DIN, FCI, GOST-R, ISA, ISO, NACE, NBBI, PED, SIL, TA-Luft, TUV. For a complete list, go to [mogas.com](http://mogas.com).

ASME	Title
<b>B16.5</b>	Steel Pipe Flanges & Flanged Fittings
<b>B16.10</b>	Face to Face & End to End Dimensions of Valves
<b>B16.11</b>	Forged Fittings Socket Welding and Threaded
<b>B16.25</b>	Butt-welding Ends
<b>B16.34</b>	Valve – Flanged, Threaded & Welded End
<b>FCI 70-2</b>	Control Valve Seat Leakage

MSS	Title
<b>SP-25</b>	Standard Marking System for Valves, Flanges & Unions
<b>SP-55</b>	Quality Standard for Steel Castings for Valves, Flanges & Fittings
<b>SP-61</b>	Pressure Testing of Steel Valves

API	Title
<b>598</b>	Valve Inspection & Test
<b>607 / 6FA</b>	Fire Test for Quarter Turn Valves
<b>641</b>	Fugitive Emissions for Quarter Turn Valves
<b>608</b>	Floating Ball Valve Range Extended for Harsh Environments

NACE	Title
<b>MR-0103</b>	Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments

British Standard	Title
<b>BS 6755</b>	Testing of Valves Part 1 – Specification for Production Pressure Testing Requirements Part 2 – Specification for Fire Type Testing Requirements

PED	Title
<b>2014/68/ EU</b>	Pressure Equipment Directive

# Service

## Global Capabilities



**We provide exceptional service for unique locations—everyday, everywhere.**



MOGAS' proven process includes industry experts, innovative engineers, tenured manufacturing personnel and a support team whose motto is 'Anytime. Anywhere'.

### Service Excellence in Action

When you select MOGAS products, service is a big part of what comes with them. The MOGAS commitment to service means more than basic repairs. It also means timely access to our knowledgeable and experienced team of experts—anytime, anywhere in the world. And when our team becomes part of your team, you can trust that we will do everything we can to come through for you.

When you have a problem, our technical advisors get to the root of it. They will look at your entire application to accurately identify and solve the issue. Using a comprehensive approach helps you improve equipment reliability and operational efficiency, as well as reduce costs. Our core services include:

#### Project Support

- Installation, startup and commissioning
- Shutdown planning and implementation
- Procurement and contract management

#### Repair, Refurbish & Customization

- 24-hour emergency response
- Troubleshooting
- Valve performance analysis
- 3D finite analysis
- High pressure testing
- Online repair documentation

#### Preventive Maintenance

- Complete system inspection
- Routine maintenance, valve repacking
- Valve asset management



# Severe Service

## The MOGAS Definition

- Extreme temperatures
- High pressures
- Abrasive particulates
- Acidic products
- Heavy solids build-up
- Critical plant safety
- Large pressure differentials
- Velocity control
- Noise control

### MOGAS Industries, Inc. Headquarters

14204 East Hardy Road  
Houston, TX, USA 77039-1405  
Phone: +1.281.449.0291  
Fax: +1.281.590.3412  
E-mail: [mogas@mogas.com](mailto:mogas@mogas.com)

### Europe

Phone: +44 (0)116.279.3367

### China

Phone: +86 (0)10.84549478

### Australia

Phone: +61 (0)8.9456.3533

### Middle East

Phone: +971 (0)4.880.8787

### India

Phone: +91 9910323201

For other MOGAS locations  
or a distributor in your area,  
visit us online at  
[www.mogas.com](http://www.mogas.com)