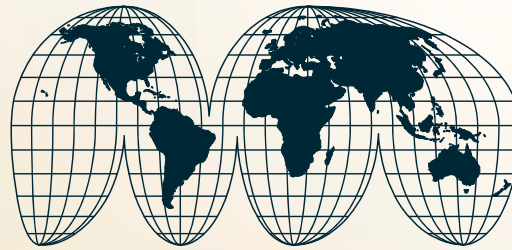


Smart Solutions. Powerful Products.



DSI® Forged Steel  
Carbon, Stainless and Alloy  
Gate, Globe and Check Valves



# Manufacturer of Quality Valve Products Around the Globe

**At Forum™ Energy Technologies we are committed to improving our clients' operational and financial performance by supplying the most comprehensive range of valve products in the industry through our family of trusted valve brands.**

For years, DSI® Forged Steel Valves have been satisfying the needs of Petroleum Refineries, Chemical Processing Plants, Power Generating Plants, and other processing facilities throughout the world.

Our Forged Steel Valves are designed, engineered and manufactured in strict conformance to API, ASTM, ASME, ANSI and other recognized standards. DSI® Forged Steel Valves are not only characterized by outstanding performance, reliability and quality, they're also known for their standard features normally optional in other brands.

### Low Fugitive Emission Service

DSI® standard Forged Steel Gate, Globe and Check Valves are designed and manufactured to ensure leakage of less than 100 ppm (parts per million) of volatile organic compounds (VOC).

### Standard Features of DSI® Forged Steel Valves

- All DSI® forged carbon steel valves maintain a .22% maximum carbon content and are normalized to further refine the grain and homogenize the microstructure.
- All valves meet NACE conformance.
- DSI® forged steel valves come standard with a Stellite® #6 seating surface. The Stellite® #6 is applied by an automatic GTAW process, maintaining a minimum thickness of 0.05 inches.
- Valves are furnished with non-asbestos Grafoil® packing. The top and bottom wiper rings are braided graphite, while the center rings are die-formed Grafoil® containing an inorganic passivating inhibitor for corrosion and oxidation resistance.
- The DSI® bolted bonnet and bolted cap valves not utilizing a ring joint connection are fitted with a 316 Stainless Steel spiral wound Grafoil® filled gasket.
- All flanged DSI® forged steel valves through Class 2500 are integrally forged to avoid the potential leak path that exist when welding flanges onto valve bodies.



- Welded bonnet valves are initially joined by threading the body-bonnet joint together, then welding by automatic GMAW. All welds are inspected after welding assuring quality control.
- DSI® forged steel valves contain no copper bearing alloys.
- Every DSI® forged steel valve is manufactured with a two-piece self-aligning gland flange assembly which ensures even compression of the stuffing box during assembly and repacking.

## Contents

### DSI® Forged Steel Gate, Globe and Check Valves

Company Profile and Features .....	2	Globe Valves .....	13-19
Product Range, Testing, Modifications & Accessories .....	3	Check Valves .....	20-28
Figure Numbers, Trim Chart .....	4	Pressure Temperature Charts .....	29
Gate Valves .....	5-12	Flow Coefficients (C <sub>v</sub> ) and Cracking Pressure Charts .....	30



# Product Range, Testing & Modifications

DSI® offers NDE Testing and a variety of product modifications, saving our customers time and resources by eliminating the need for multiple purchase orders, time and transportation costs.

A single warranty then applies to each modified product, with each product inspected for quality and conformance to our customer's specifications and industry standards.

## DSI® Forged Steel Valve Families

DSI® offers a broad range of standard commodity forged, flanged and take-off style Gate, Globe and Check valves.

Size Range: 1/2" thru 2"

Class Range: 150-4500

Style: Bolted, welded or union bonnet connection of either inside screw or outside screw and yoke design.

Materials: A105N, LF2, LF3, F316, F304, F316L, F5, F9, F11, and F22

Standard Production Valves



## Available Modifications for DSI® Forged Steel Valves

- Packing and Gasket Changes
- End Connection Modifications
- Trim Changes
- Cryogenic Gas Columns
- Teflon® Disc Inserts
- Oxygen & Chlorine Cleaning & Packaging
- Customer Specified Coatings
- API Performance Testing

Flanged End Production Valves



## NDE Testing Available

- Dye Penetrant Test
- Magnetic Particle Test
- PMI (Positive Material Identification)
- Ultrasonic Testing

Take-off Type Valves



## Manufactured in Strict Conformance With the Following Industry Standards:

Industry Standard	Specification
API 602	Compact steel gate, globe and check valves
API 598	Valve Inspection and Test
ANSI/ASME B16.34	Steel valve, flanged and butt-welding end
ANSI/ASME B16.5	Steel pipe flanges and flanged fittings
ANSI/ASME B16.10	Face-to-face and end-to-end dimensions of ferrous valves
ANSI/ASME B16.11	Forged steel fittings, socket welding and threaded
ANSI/ASME B1.20.1	Pipe threads, general purpose
ANSI/ASME B31.3	Chemical plant and petroleum refinery piping
MSS SP-25	Standard marking system for valves, fittings, flanges and unions
MSS-SP-6	Standard finishes for contact faces of pipe, flanges and connecting end flanges of valves and fittings
NACE MR0175/ISO 15156	Petroleum and natural gas industries, materials for use in H <sub>2</sub> S-containing environments in oil and gas production
NACE MR0103	Materials resistant to sulfide stress cracking in corrosive petroleum refining environments

**Note:** All information is subject to change without notice.

# Figure Numbers and Trim Chart

## Specifying DSI® Forged Steel Valve Figure Numbers

**Example: 4121T-A8-18** This number represents a Class 800, Gate Valve Type, Threaded (Standard) End-Port, BB-OS&Y Design Style, TFE Packing, A105N Body Material, Stellite® Seats for Trim and NACE conformance.

4	1	2	1	T	-	A	8	-	18
Class	Type	End-Port	Body/ Bonnet Style	Special	Body Material		Trim		Other
<b>1</b> 150	<b>1</b> Gate	<b>1</b> SW-Std.	<b>1</b> BB-OS&Y/BC	<b>BW</b> Buttweld Ends	<b>A</b> A105N	<b>O</b> F53	<b>1</b> 410	<b>25</b> F321	<b>18</b> NACE
<b>2</b> 300	<b>2</b> Globe	<b>2</b> Thrd-Std.	<b>2</b> UB-OS&Y/ UC	<b>CT</b> Ext. Couplet	<b>B</b> F5	<b>P</b> F304L	<b>2</b> F304	<b>26</b> F347	<b>20</b> Oxygen Clean
<b>3</b> 600	<b>3</b> Lift Check	<b>3</b> Flgd-Std.	<b>3</b> WB-OS&Y/ WC	<b>EB</b> Ext. Bonnet	<b>C</b> F11	<b>Q</b> I800	<b>5</b> Full Stellite®	<b>27</b> F91	<b>22</b> Cryogenic
<b>4</b> 800	<b>4</b> Swing Check	<b>4</b> F. Thrd x M. Thrd	<b>4</b> PS-OS&Y/ PSC	<b>FB</b> Full Port	<b>D</b> F316	<b>R</b> F51	<b>8</b> Stellite® Seats	<b>28</b> Alloy 20	<b>24</b> Bellows
<b>6</b> 1500	<b>5</b> Ball Check	<b>5</b> F. Thrd x M. SW	<b>5</b> UB-IS	<b>FF</b> Flat Faced Ends	<b>E</b> F316/F316L	<b>S</b> Monel®	<b>9</b> Monel®	<b>29</b> F316L	<b>26</b> Alkylation
<b>7</b> 2500	<b>6</b> Vert. Ball Check	<b>6</b> SW-Full	<b>6</b> WB-IS	<b>R</b> RTJ Ends	<b>F</b> LF2	<b>T</b> F91	<b>10</b> F316	<b>30</b> F44	
<b>8</b> 4500	<b>7</b> Needle/ Globe	<b>7</b> Thrd-Full	<b>7</b> RTJ-BB/BC	<b>S</b> Parallel Slide	<b>G</b> F9	<b>U</b> A20	<b>11</b> Monel® HFS	<b>31</b> I825 HFS	
	<b>8</b> Stop Check Globe	<b>8</b> Flgd-Full	<b>8</b> WB-PS	<b>SC</b> Special Class	<b>H</b> F22	<b>V</b> F317	<b>12</b> F316 HFS	<b>32</b> I825	
		<b>9</b> IREB-Std		<b>T</b> TFE Packing	<b>J</b> F347	<b>W</b> I625	<b>15</b> F304 HFS	<b>33</b> I625	
		<b>0</b> F. SW x F. Thrd		<b>Y</b> Y-Pattern	<b>K</b> LF3	<b>X</b> I825	<b>16</b> F316L HFS	<b>34</b> F316H	
					<b>L</b> F304	<b>Y</b> F55	<b>17</b> F321 HFS	<b>35</b> I800	
					<b>M</b> F321	<b>Z</b> F44	<b>19</b> F347 HFS	<b>36</b> F347H	
					<b>N</b> F317L		<b>20</b> F317	<b>51</b> Duplex SS	
							<b>21</b> F91 HFS	<b>53</b> Hastelloy® C	
							<b>22</b> F304L	<b>54</b> F304H	
							<b>24</b> F317L	<b>55</b> F55	

### API Trim

Trim No.	Material	Seat / Disc		Stem	Notes
1	410	410	410	410	
2	304	304	304	304	
3	F310	310	310	310	
4	Hard 410	410	410	410	Seats 750 BHN min.
5	Hardfaced	Hardfaced	Hardfaced	410	
5A	Hardfaced	Ni-Cr	Ni-Cr	410	
6	410 and Cu-Ni	Cu-Ni	Cu-Ni	410	
7	410 and Hard 410	410	410	410	Seats 750 BHN min.
8	410 and Hardfaced	Hardfaced	410	410	
8A	410 and Hardfaced	Ni-Cr	410	410	
9	Monel®	Monel®	Monel®	Monel®	
10	316	316	316	316	
11	Monel® and Hardfaced	Hardfaced	Monel®	Monel®	
12	316 and Hardfaced	Hardfaced	316	316	
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20	
14	Alloy 20 and Hardfaced	Hardfaced	Alloy 20	Alloy 20	
15	304 and Hardfaced	Hardfaced	Hardfaced	304	
16	316 and Hardfaced	Hardfaced	Hardfaced	316	

### Footnotes:

**BB** • Bolted Bonnet                      **BC** • Bolted Cover  
**WB** • Welded Bonnet                    **WC** • Welded Cover  
**UB** • Union Bonnet                      **UC** • Union Cover  
**PS** • Full Penetration                 **IS** • Inside Screw  
**OS&Y** • Outside Screw & Yoke  
**IREB** • Integrally Reinforced Extended Body  
(male couplet x female threaded)

**Note:** All information is subject to change without notice.

# DSI® Forged Steel Gate Valves

## Class 150, 300, 600, 800, 1500 & 2500



### Parts & Materials, Availability

No.	Description	ASTM A105N	ASTM A350		ASTM A182		
			LF2	F316/L	F5	F9	F11
1	Body	A105N	LF2	F316/L	F5	F9	F11
2	Seat Ring*	410 + HF	316 + HF	316 + HF	410 + HF	410 + HF	410 + HF
3	Wedge*	410	316	316	410	410	410
4	Stem*	410	316	316	410	410	410
5	Gasket	316 + Graphite (SPW)					
6	Bonnet	A105N	LF2	F316/L	F5	F9	F11
7	Bonnet Bolt	B7M	L7M	B8	B16	B16	B16
8	Packing	Graphite					
9	Gland*	410	316	316	410	410	410
10	Gland Flange	A105N	LF2	316	A105N	A105N	A105N
11	Gland Nut	2HM	7M	Gr. 8	2HM	2HM	2HM
12	Gland Bolt	B7M	L7M	B8	B7M	B7M	B7M
13	Yoke Sleeve (Nut)	416					
14	Handwheel	Carbon Steel					
15	Handwheel Nut	Carbon Steel	Carbon Steel	Gr. 8	Carbon Steel	Carbon Steel	Carbon Steel
16	Name Plate	Aluminum	Aluminum	Stainless Steel	Aluminum	Aluminum	Aluminum

### Additional Materials

No.	Description	ASTM A182				
		F321	F347	F51	F22	F91
1	Body	F321	F347	F51	F22	F91
2	Seat Ring*	321 + HF	347 + HF	S31803	410 + HF	410 + HF
3	Wedge*	321	347	F51	410	410
4	Stem*	321	347	S31803	410	410
5	Gasket	316 + Graphite (SPW)	347 + Graphite (SPW)	N06625 + Graphite (SPW)	316 + Graphite (SPW)	316 + Graphite (SPW)
6	Bonnet	F321	F347	F51	F22	F91
7	Bonnet Bolt	B8	B8	B8	B16	B16
8	Packing	Graphite				
9	Gland*	321	347	S31803	410	410
10	Gland Flange	321	347	S31803	A105N	A105N
11	Gland Nut	Gr. 8	Gr. 8	Gr. 8	2HM	2HM
12	Gland Bolt	B8	B8	B8	B7M	B7M
13	Yoke Sleeve (Nut)	AISI 416	416	416	416	416
14	Handwheel	Carbon Steel				
15	Handwheel Nut	Gr. 8	Gr. 8	Gr. 8	Carbon Steel	Carbon Steel
16	Name Plate	Stainless Steel	Stainless Steel	Stainless Steel	Aluminum	Aluminum

\*Material may vary based on trim. Additional materials available upon request.

**Note:** All information is subject to change without notice.

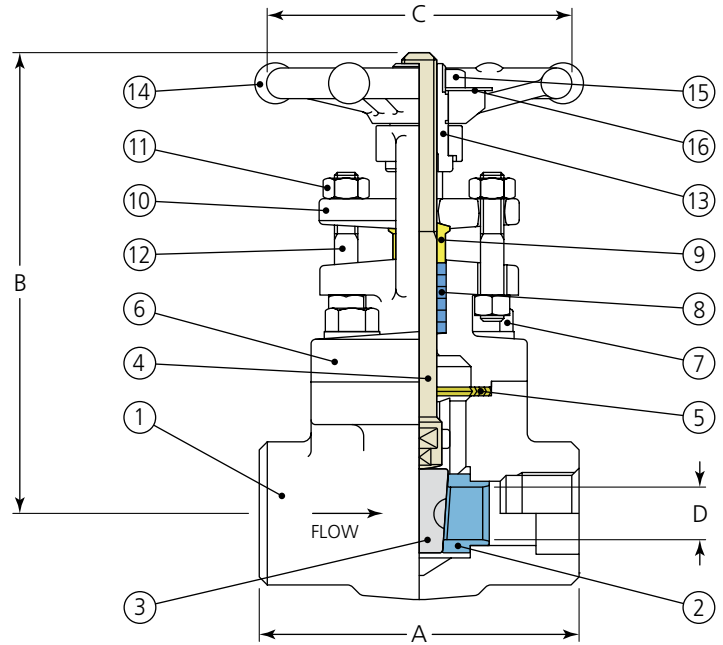
# DSI® Forged Steel Gate Valve

## API 602 • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Wedge*	410
4	Stem*	410
5	Gasket	316 + Graphite (SPW)
6	Bonnet	A105N
7	Bonnet Bolt	B7M
8	Packing	Graphite
9	Gland*	410
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve / Stem Nut	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data and Weight

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	Weight (lbs.)
1/4	3.15	5.71	3.15	0.31	3.97
1/2	3.15	5.71	3.15	0.39	3.75
3/4	3.54	6.08	3.15	0.55	4.63
1	4.33	7.31	3.94	0.71	7.94
1 1/4	5.00	8.58	4.72	0.94	11.24
1 1/2	5.00	9.77	5.00	1.16	15.43
2	5.12	10.63	5.12	1.44	20.06

#### Class 800, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	Weight (lbs.)
1/4	—				
1/2	3.54	6.08	3.07	0.55	4.85
3/4	4.33	7.30	3.94	0.71	8.16
1	5.00	8.58	4.65	0.94	11.90
1 1/4	5.00	10.08	5.51	1.16	16.31
1 1/2	5.12	10.90	5.51	1.44	21.16
2	5.91	12.88	6.69	1.89	31.31

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	Weight (lbs.)
1/2	3.54	6.02	3.07	0.39	5.50
3/4	4.33	7.13	3.94	0.55	8.36
1	4.72	8.65	4.72	0.71	11.88
1 1/4	5.12	9.60	5.51	0.94	17.60
1 1/2	5.12	10.79	5.51	1.14	22.44
2	5.91	11.97	6.69	1.42	33.00

#### Class 1500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	Weight (lbs.)
1/2	3.54	7.80	3.94	0.55	8.38
3/4	4.33	9.55	4.72	0.71	11.90
1	4.72	11.06	5.51	0.94	17.64
1 1/4	5.12	12.25	6.69	1.14	22.49
1 1/2	5.12	14.33	6.69	1.44	33.00
2	5.91	14.93	6.69	1.57	33.07

**Note:** All information is subject to change without notice.

# DSI® Forged Steel Gate Valve

## API 602 • Bolted & Welded Bonnet

### Dimensional Data, Weight and Figure Numbers

#### Class 2500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	4.33	6.89	3.94	0.39	7.72
3/4	4.72	8.31	4.72	0.55	12.13
1	5.12	9.55	5.51	0.71	16.53
1 1/4	5.12	10.98	6.69	0.94	22.05
1 1/2	8.27	12.17	6.69	1.14	35.27
2	9.45	14.01	10.24	1.44	39.68

#### Figure Numbers

Port	Bonnet	Class 800	Class 1500	Class 2500	Ends
Reduced	Bolted	4121	6121	—	Threaded
		4111	6111	—	Socketweld
		4101	6101	—	Thrd x SW
	Welded	4123	6123	—	Threaded
		4113	6113	—	Socketweld
		4103	6103	—	Thrd x SW
Full	Bolted	4171	6171	—	Threaded
		4161	6161	—	Socketweld
		4101FB	6101FB	—	Thrd x SW
	Welded	4173	6173	7173	Threaded
		4163	6163	7163	Socketweld
		4103FB	6103FB	7103	Thrd x SW

For years Industry professionals have specified DSI® valve products for their most demanding projects, and consistently DSI® delivers the highest performance fluid control products available anywhere.

**Note:** All information is subject to change without notice.

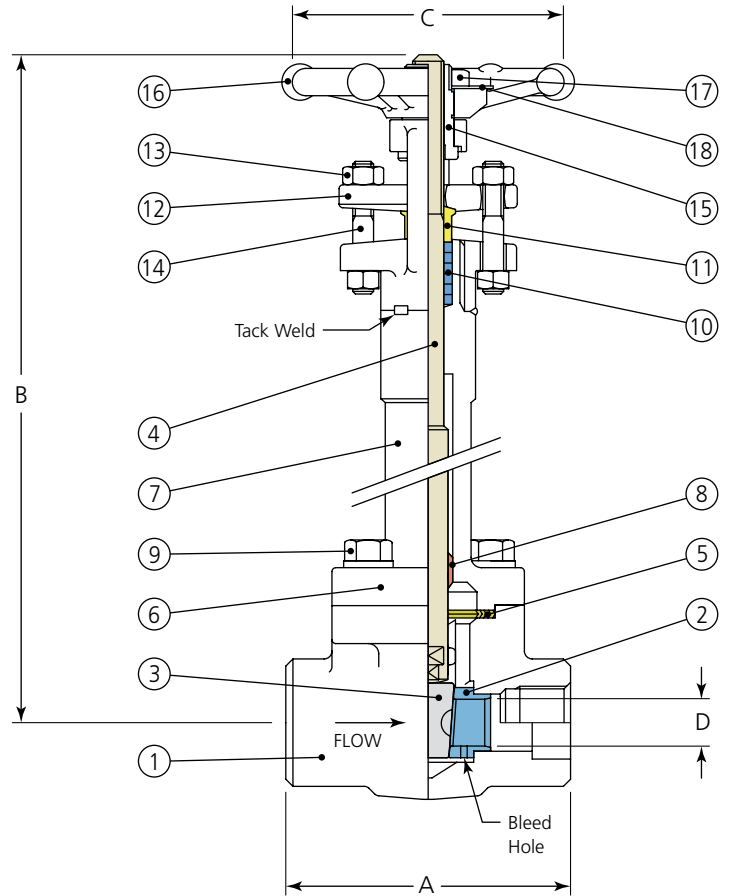
# DSI® Forged Steel Gate Valve

## Cryogenic, API 602 • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	F316
2	Seat Ring*	316 + HF
3	Wedge*	316
4	Stem*	316
5	Gasket	316 + Graphite (SPW)
6	Bonnet	F316
7	Yoke	F316
8	Stem Bushing	F316
9	Bonnet Bolt	B8
10	Packing	Graphite
11	Gland*	316
12	Gland Flange	316
13	Gland Nut	Gr. 8
14	Gland Stud	B8
15	Yoke Sleeve / Stem Nut	416
16	Handwheel	Carbon Steel
17	Handwheel Nut	Gr. 8
18	Name Plate	Stainless Steel

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	3.15	15.20	3.94	0.39	9.90
3/4	3.54	15.61	3.94	0.55	11.22
1	4.33	16.68	4.72	0.71	20.90
1 1/2	5.00	19.25	6.69	1.16	25.96
2	5.12	20.19	7.87	1.44	33.00

### Figure Numbers

Bonnet	Class 800	Ends
Bolted	4121 D12-22*	Threaded
	4111 D12-22*	Socketweld
	4101 D12-22*	Thrd x SW
Welded	4123 D12-22	Threaded
	4113 D12-22	Socketweld
	4103 D12-22	Thrd x SW

\* Figure number may vary by body & trim material.

**Note:** All information is subject to change without notice.



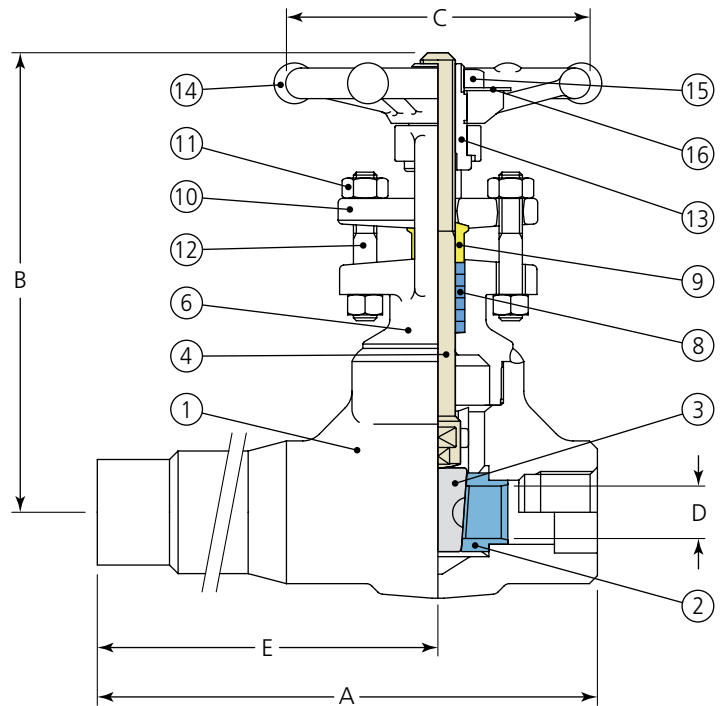
# DSI® Forged Steel Gate Valve

## API 602 • Extended Body • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410+HF
3	Wedge*	410
4	Stem*	410
6	Bonnet	A105N
8	Packing	Graphite
9	Gland*	410
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve/Stem Nut	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port					Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	E Center to End	
1/2	5.57	5.92	3.15	0.39	4.00	5.29
3/4	5.77	6.08	3.15	0.55	4.00	5.95
1	6.54	7.31	3.94	0.71	4.37	9.04
1 1/2	7.50	9.77	5.51	1.14	5.00	18.96
2	8.50	10.75	5.51	1.61	5.98	26.46

### Figure Numbers

Bonnet	Class 800	Class 1500	Ends
Bolted	4151	6151	Male SW x FPT
	4141	6141	MPT x FPT
Welded	4153	6153	Male SW x FPT
	4143	6143	MPT x FPT

**Note:** All information is subject to change without notice.

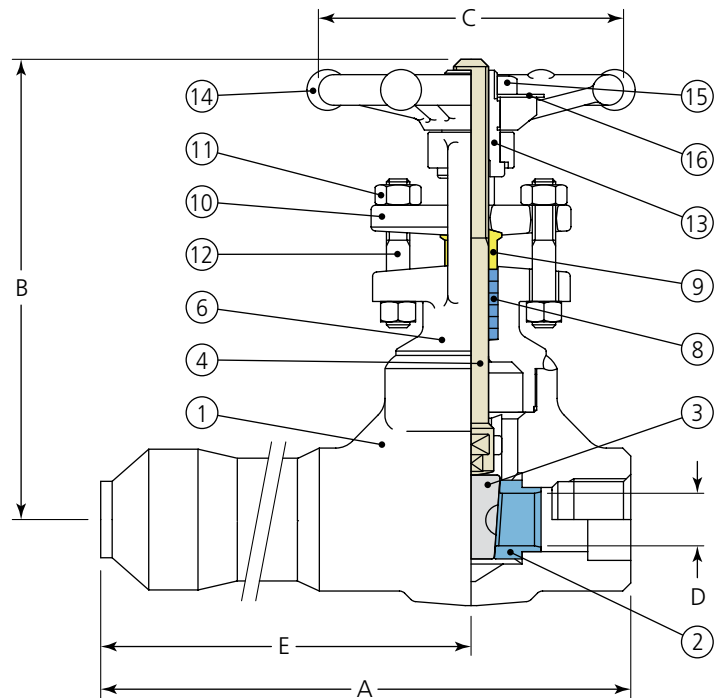
# DSI® Forged Steel Gate Valve

## API 602 • Integrally Reinforced Extended Body • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Wedge*	410
4	Stem*	410
6	Bonnet	A105N
8	Packing	Graphite
9	Gland*	410
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve / Stem Nut	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port					Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	E Center to End	
1/2	8.15	5.90	3.15	0.39	6.57	5.95
3/4	8.60	6.08	3.15	0.55	6.83	7.28
1	9.63	7.31	3.94	0.71	7.48	11.46
1 1/2	10.37	10.32	5.51	1.42	7.87	21.83
2	10.59	10.71	5.51	1.73	8.03	31.98

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port					Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	E Center to End	
1/2	8.60	5.98	3.15	0.39	6.83	8.36
3/4	9.63	7.05	3.94	0.55	7.48	12.54
1	10.37	11.34	5.51	0.71	8.00	22.88
1 1/2	10.53	11.95	5.51	1.16	8.00	33.88
2	12.80	12.60	10.24	1.44	9.85	48.00

### Figure Numbers

Bonnet	Class 800	Class 1500	Ends
Bolted	4191	6191	IREB X FPT
Welded	4193	6193	IREB X FPT

**Note:** All information is subject to change without notice.

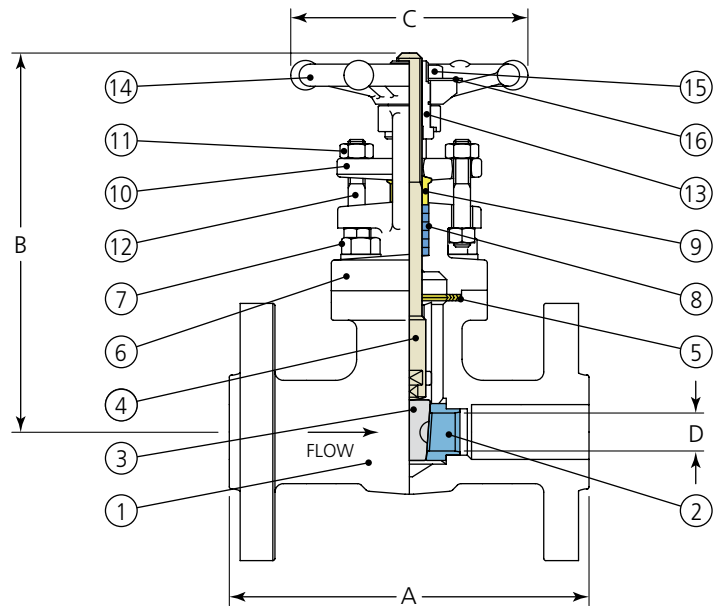
# DSI® Forged Steel Gate Valve

## API 602 • Flanged • Bolted Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Wedge*	410
4	Stem*	410
5	Gasket	316 + Graphite (SPW)
6	Bonnet	A105N
7	Bonnet Bolt	B7M
8	Packing	Graphite
9	Gland*	410
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve / Stem Nut	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 150, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	4.25	6.85	3.15	0.39	6.83
3/4	4.63	7.17	3.15	0.55	8.82
1	5.00	8.14	3.94	0.75	12.57
1 1/4	5.51	8.82	4.72	0.94	18.08
1 1/2	6.50	9.88	5.51	1.18	23.37
2	7.01	11.73	6.69	1.44	33.95

#### Class 300, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	5.51	5.71	3.07	0.39	5.95
3/4	6.00	7.30	3.07	0.55	7.94
1	6.50	8.10	3.94	0.71	11.46
1 1/2	7.52	10.36	5.51	1.16	29.98
2	8.50	11.10	5.51	1.44	39.90

#### Class 600, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	6.50	5.71	3.15	0.39	8.38
3/4	7.50	6.08	3.15	0.55	11.24
1	8.50	7.31	3.94	0.71	16.53
1 1/2	9.51	9.77	5.51	1.16	29.98
2	11.50	10.75	5.51	1.44	39.90

### Figure Numbers

Class 150	Class 300	Class 600
1131	2131	3131

**Note:** All information is subject to change without notice.

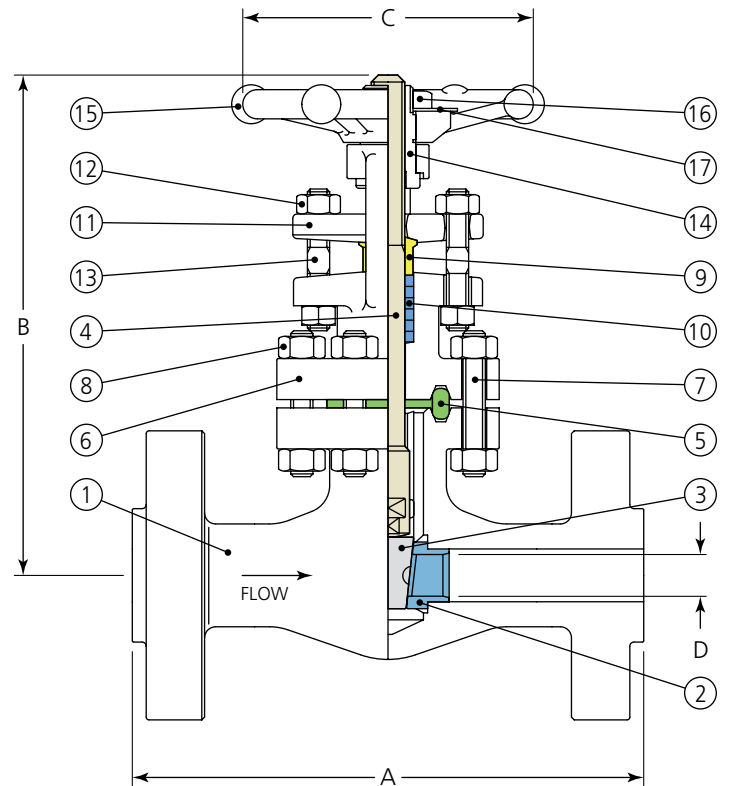
# DSI® Forged Steel Gate Valve

## API 602 • Flanged • Ring Joint Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Wedge*	410
4	Stem*	410
5	Gasket	Soft Steel RTJ
6	Bonnet	A105N
7	Bonnet Stud	B7M
8	Bonnet Nut	2HM
9	Gland*	410
10	Packing	Graphite
11	Gland Flange	A105N
12	Gland Nut	2HM
13	Gland Bolt	B7M
14	Yoke Sleeve / Stem Nut	416
15	Handwheel	Carbon Steel
16	Handwheel Nut	Carbon Steel
17	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 1500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	8.50	8.27	4.72	0.55	18.52
3/4	9.02	9.99	4.72	0.71	26.46
1	10.00	11.14	5.51	0.94	37.48
1 1/2	12.01	13.74	6.77	1.42	73.85
2	14.50	16.63	10.23	1.57	111.33

### Figure Numbers

End Connection	Class 1500
RF	6187
RTJ	6187R

**Note:** All information is subject to change without notice.



# DSI® Forged Steel Globe Valves

**Class 150, 300, 600, 800, 1500, 2500, 1690 & 2680**



## Parts & Materials, Availability

No.	Description	ASTM A105N	ASTM A350		ASTM A182		
			LF2	F316/L	F5	F9	F11
1	Body	A105N	LF2	F316/L	F5	F9	F11
2	Seat *	410 + HF	316 + HF	316 + HF	410 + HF	410 + HF	410 + HF
3	Disc *	410*	316	316	410	410	410
4	Stem*	410	316	316	410	410	410
5	Gasket	316 + Graphite (SPW)					
6	Bonnet	A105N	LF2	F316/L	F5	F9	F11
7	Bonnet Bolt	B7M	L7M	B8	B16	B16	B16
8	Gland*	410	316	316	410	410	410
9	Packing	Graphite					
10	Gland Flange	A105N	LF2	316	A105N	A105N	A105N
11	Gland Nut	2HM	7M	Gr. 8	2HM	2HM	2HM
12	Gland Bolt	B7M	L7M	B8	B7M	B7M	B7M
13	Yoke Sleeve	416					
14	Handwheel	Carbon Steel					
15	Handwheel Nut	Carbon Steel	Carbon Steel	Gr. 8	Carbon Steel	Carbon Steel	Carbon Steel
16	Name Plate	Aluminum	Aluminum	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

## Additional Materials

No.	Description	ASTM A182				
		F321	F347	F51	F22	F91
1	Body	F321	F347	F51	F22	F91
2	Seat *	321 + HF	347 + HF	S31803	410 + HF	410 + HF
3	Disc *	321	347	F51	410	410
4	Stem*	321	347	S31803	410	410
5	Gasket	316 + Graphite (SPW)	347 + Graphite (SPW)	N06625 + Graphite (SPW)	316 + Graphite (SPW)	316 + Graphite (SPW)
6	Bonnet	F321	F347	F51	F22	F91
7	Bonnet Bolt	B8	B8	B8M	B16	B16
8	Gland*	321	347	F51	410	410
9	Packing	Graphite				
10	Gland Flange	321	347	S31803	A105N	A105N
11	Gland Nut	Gr. 8	Gr. 8	Gr. 8	2HM	2HM
12	Gland Bolt	B8	B8	B8M	B7M	B7M
13	Yoke Sleeve	416				
14	Handwheel	Carbon Steel				
15	Handwheel Nut	Gr. 8	Gr. 8	Gr. 8	Carbon Steel	Carbon Steel
16	Name Plate	Stainless Steel				

\*Material may vary based on trim. Additional materials available upon request.

**Note:** All information is subject to change without notice.

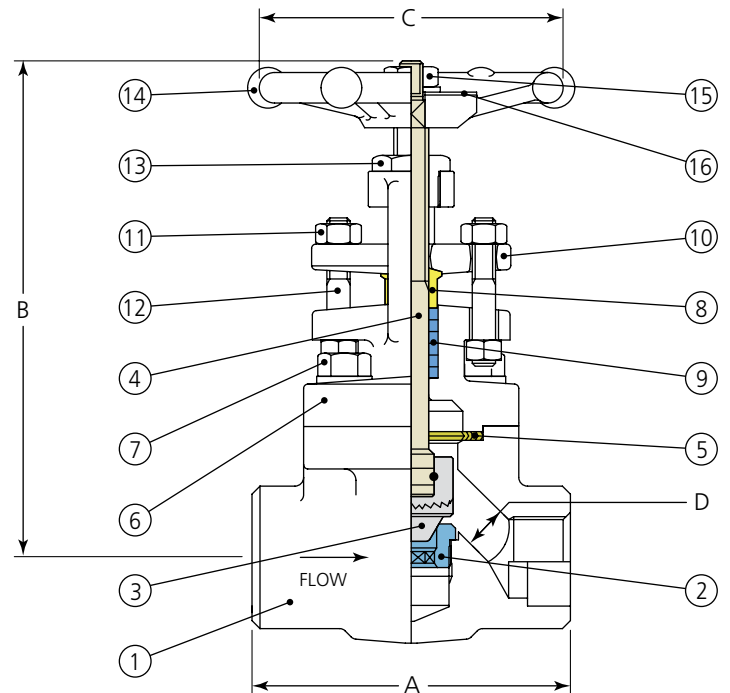
# DSI® Forged Steel Globe Valve

## API 602 • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat*	410 + HF
3	Disc*	410
4	Stem*	410
5	Gasket	316 + Graphite (SPW)
6	Bonnet	A105N
7	Bonnet Bolt	B7M
8	Gland*	410
9	Packing	Graphite
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data and Weight

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/4", 3/8"	3.15	3.54	3.15	0.28	3.97
1/2	3.15	6.22	3.15	0.35	3.75
3/4	3.54	6.61	3.15	0.47	4.41
1	4.33	7.82	3.94	0.69	7.05
1 1/4	5.00	9.12	4.72	0.87	11.68
1 1/2	6.10	10.51	5.51	1.10	17.20
2	6.69	11.49	5.51	1.34	23.37

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	3.54	6.49	3.15	0.35	4.40
3/4	4.33	7.67	4.72	0.43	7.26
1	4.72	9.21	5.51	0.71	12.10
1 1/4	5.12	10.14	5.51	0.73	17.60
1 1/2	6.69	11.33	5.51	1.02	26.40
2	8.27	12.96	6.69	1.22	33.07

**Note:** All information is subject to change without notice.

# DSI® Forged Steel Globe Valve

## API 602 • Bolted & Welded Bonnet

### Dimensional Data, Weight and Figure Numbers

#### Class 2500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	4.33	7.76	4.72	0.43	7.28
3/4	4.72	9.08	5.51	0.55	11.46
1	5.12	10.22	5.51	0.73	16.53
1 1/4	8.27	13.27	6.69	0.94	31.97
1 1/2	8.27	13.27	6.69	1.10	35.27
2	9.45	15.00	9.06	1.34	55.12

**Note:** Information subject to change without notice.

#### Figure Numbers

Bonnet	Class 800	Class 1500	Class 2500	Ends
Bolted	4221	6221	—	Threaded
	4211	6211	—	Socketweld
	4201	6201	—	Thrd x SW
Welded	4223	6223	7273	Threaded
	4213	6213	7263	Socketweld
	4203	6203	7203	Thrd x SW

**Note:** All information is subject to change without notice.

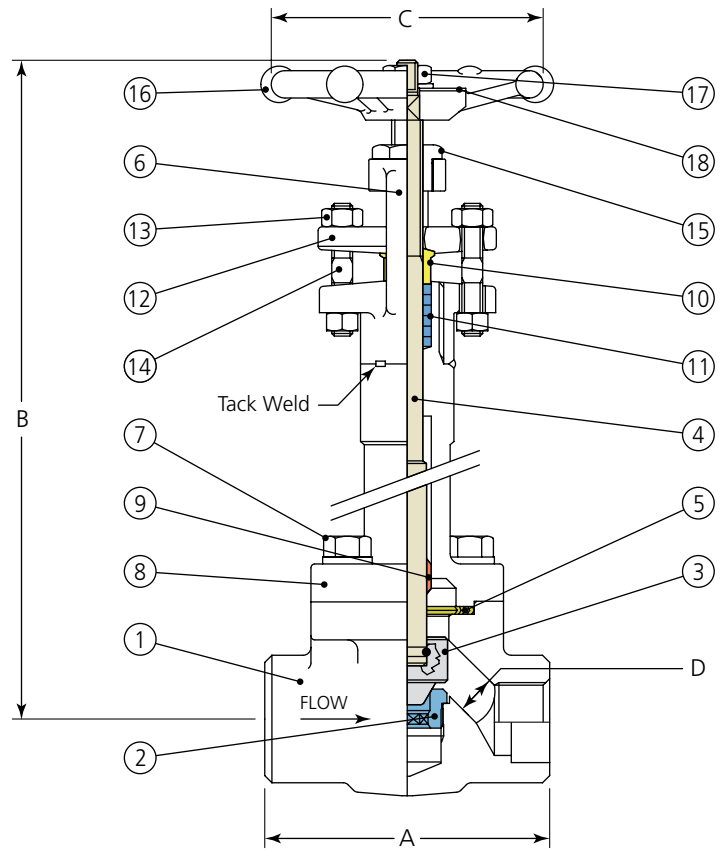
# DSI® Forged Steel Globe Valve

## Cryogenic, API 602 • Bolted & Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	F316
2	Seat*	316 + HF
3	Disc*	316
4	Stem*	316
5	Gasket	316 + Graphite (SPW)
6	Yoke	F316
7	Bonnet Bolt	B8
8	Bonnet	F316
9	Stem Guide	F316
10	Gland*	316
11	Packing	Graphite
12	Gland Flange	316
13	Gland Nut	Gr.8
14	Gland Bolt	B8
15	Yoke Sleeve	416
16	Handwheel	Carbon Steel
17	Handwheel Nut	Gr. 8
18	Name Plate	Stainless Steel

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	3.15	15.55	3.94	0.35	5.29
3/4	3.54	15.86	3.94	0.47	5.95
1	4.33	17.15	4.72	0.67	9.04
1 1/2	6.10	20.08	6.69	1.10	18.96
2	6.69	20.59	7.87	1.34	26.46

### Figure Numbers

Bonnet	Class 800	Ends
Bolted	4221 D12-22*	Threaded
	4211 D12-22*	Socketweld
	4201 D12-22*	Thrd x SW
Welded	4223 D12-22*	Threaded
	4213 D12-22*	Socketweld
	4203 D12-22*	Thrd x SW

\* Figure number may vary by body & trim material.

**Note:** All information is subject to change without notice.



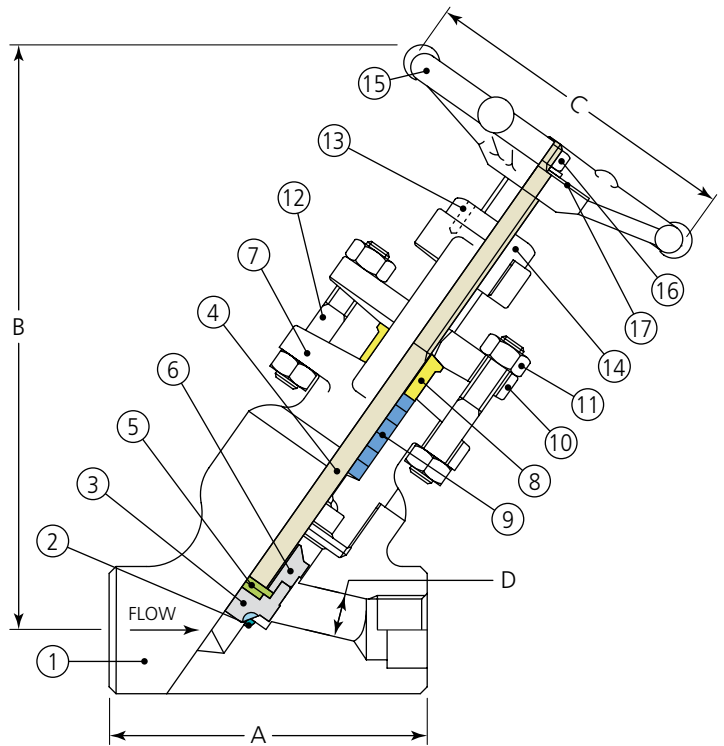
# DSI® Forged Steel Globe Valve

## Y-Pattern, API 602 • Welded Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat*	410+HF
3	Disc*	410
4	Stem*	410
5	Thrust Bearing	410
6	Disc Nut	410
7	Bonnet	A105N
8	Gland*	410
9	Packing	Graphite
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Pin	410
14	Yoke Sleeve	416
15	Handwheel	Carbon Steel
16	Handwheel Nut	Carbon Steel
17	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 1690, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	3.94	7.71	3.94	0.51	6.60
3/4	4.33	8.42	5.51	0.69	8.80
1	4.92	9.31	5.51	0.87	11.00
1 1/2	6.30	12.95	7.87	1.34	24.20
2	7.48	15.28	10.24	1.73	37.40

#### Class 2680, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	4.33	9.10	4.72	0.47	8.80
3/4	4.92	9.71	5.51	0.59	11.00
1	6.30	11.72	6.69	0.75	21.00
1 1/2	7.48	13.86	7.87	1.10	37.50
2	8.27	16.06	10.24	1.34	50.70

### Figure Numbers

Class 1690	Class 2680	Ends
1690-213Y	2680-213Y	Socketweld
1690-223Y	2680-223Y	Threaded
1690-203Y	2680-203Y	Thrd x SW

**Note:** All information is subject to change without notice.

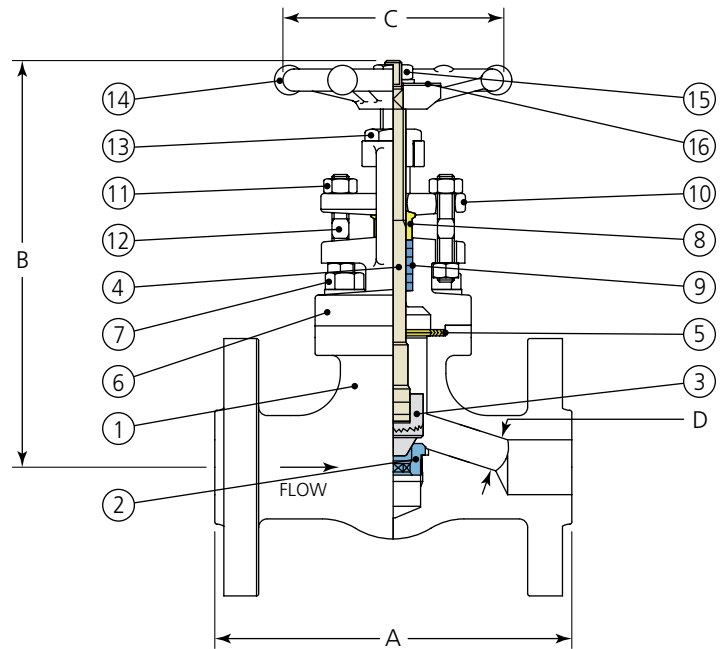
# DSI® Forged Steel Globe Valve

## API 602 • Integral Flanged • Bolted Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat*	410 + HF
3	Disc*	410
4	Stem*	410
5	Gasket	316 + Graphite (SPW)
6	Bonnet	A105N
7	Bonnet Bolt	B7M
8	Gland*	410
9	Packing	Graphite
10	Gland Flange	A105N
11	Gland Nut	2HM
12	Gland Stud	B7M
13	Yoke Sleeve	416
14	Handwheel	Carbon Steel
15	Handwheel Nut	Carbon Steel
16	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 150, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	4.25	7.28	3.15	0.35	6.83
3/4	4.62	7.56	3.15	0.49	8.82
1	5.00	8.66	3.94	0.69	12.57
1 1/2	6.50	10.43	5.51	1.14	23.37
2	8.00	12.20	6.69	1.38	33.95

#### Class 300, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	6.00	6.30	3.15	0.35	7.72
3/4	7.00	6.61	3.15	0.49	10.58
1	8.00	7.87	3.94	0.69	15.87
1 1/2	9.00	10.55	5.51	1.14	31.97
2	10.50	11.42	6.69	1.38	39.68

#### Class 600, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	6.50	6.30	3.15	0.35	8.16
3/4	7.50	6.61	3.15	0.49	11.68
1	8.50	7.87	3.94	0.69	18.08
1 1/2	9.50	10.55	5.51	1.14	33.07
2	11.50	11.42	6.69	1.38	47.40

### Figure Numbers

Class 150	Class 300	Class 600
1231	2231	3231

**Note:** All information is subject to change without notice.

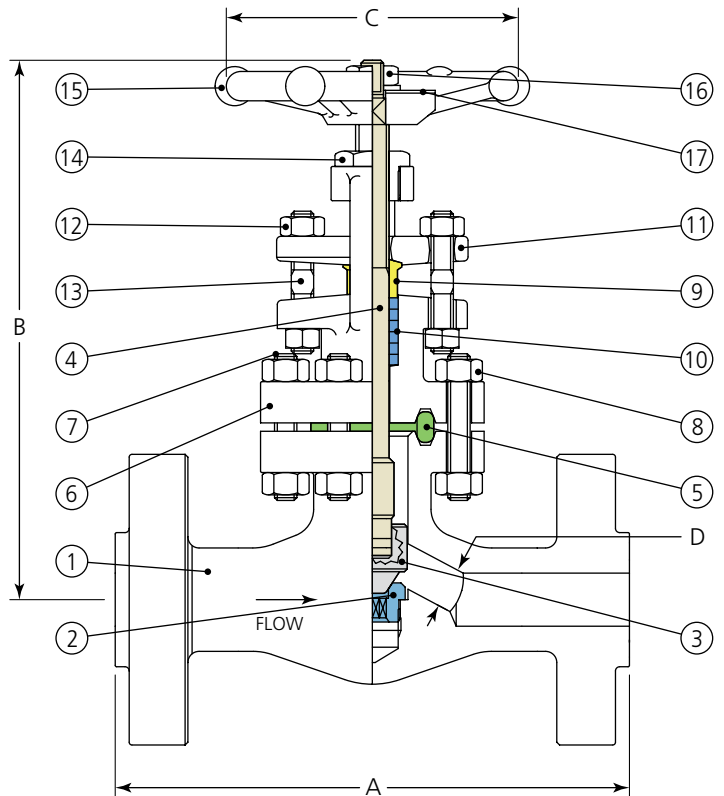
# DSI® Forged Steel Globe Valve

## API 602 • Flanged • Ring Type Joint Bolted Bonnet

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat*	410 + HF
3	Disc*	410
4	Stem*	410
5	Gasket	Soft Steel RTJ
6	Bonnet	A105N
7	Bonnet Stud	B7M
8	Bonnet Nut	2HM
9	Gland*	410
10	Packing	Graphite
11	Gland Flange	A105N
12	Gland Nut	2HM
13	Gland Stud	B7M
14	Yoke Sleeve	416
15	Handwheel	Carbon Steel
16	Handwheel Nut	Carbon Steel
17	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 1500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port				Weight (lbs.)
	A End to End	B Center to Top (open)	C Handwheel Diameter	D Port Diameter	
1/2	8.50	8.92	4.72	0.43	26.46
3/4	9.00	10.67	5.51	0.55	33.07
1	10.00	11.22	5.51	0.71	37.48
1 1/2	12.00	15.79	7.87	1.18	79.37
2	14.50	16.66	10.24	1.48	121.25

### Figure Numbers

End Connection	Class 1500
RF	6287
RTJ	6287R

**Note:** All information is subject to change without notice.

# DSI® Forged Lift Check, Ball Check & Swing Check Valves

## Class 150, 300, 600, 800, 1500 & 2500



### Lift Check and Ball Check Valves • Parts & Materials, Availability

No.	Description	ASTM A105N	ASTM A350		ASTM A182		
			LF2	F316/L	F5	F9	F11
1	Body	A105N	LF2	F316/L	F5	F9	F11
2	Seat Ring*	410+HF	316+HF	316+HF	410+HF	410+HF	410+HF
3	Disc/Ball*	410	316	316	410	410	410
4	Spring	316					
5	Gasket	316+Graphite (SPW)					
6	Cover	A105N	LF2	F316/L	F5	F9	F11
7	Cover Bolt	B7M	L7M	B8	B16	B16	B16
8	Rivet	316					
9	Name Plate	Aluminum	Aluminum	Stainless Steel	Aluminum	Aluminum	Aluminum

### Additional Materials

No.	Description	ASTM A182				
		F321	F347	F51	F22	F91
1	Body	F321	F347	F51	F22	F91
2	Seat Ring*	321+HF	347+HF	S31803	410+HF	410+HF
3	Disc/Ball*	321	347	F51	410	410
4	Spring	316				
5	Gasket	316+Graphite (SPW)	347+Graphite (SPW)	N06625+Graphite (SPW)	316+Graphite (SPW)	316+Graphite (SPW)
6	Cover	F321	F347	F51	F22	F91
7	Cover Bolt	B8	B8	B8	B16	B16
8	Rivet	316				
9	Name Plate	Stainless Steel	Stainless Steel	Stainless Steel	Aluminum	Aluminum

**Note:** All information is subject to change without notice.



# DSI® Forged Lift Check, Ball Check & Swing Check Valves

## Class 150, 300, 600, 800, 1500 & 2500

### Swing Check Valves • Parts & Materials, Availability

No.	Description	ASTM A105N	ASTM A350	ASTM A182			
			LF2	F316/L	F5	F9	F11
1	Body	A105N	LF2	F316/L	F5	F9	F11
2	Seat Ring*	410+HF	316+HF	316+HF	410+HF	410+HF	410+HF
3	Disc*	410	316	316	410	410	410
4	Pin*	410	316	316	410	410	410
5	Swing Arm	316					
6	Disc Nut	Gr. 8					
7	Gasket	316+Graphite (SPW)					
8	Cover	A105N	LF2	F316/L	F5	F9	F11
9	Cover Bolt	B7M	L7M	B8	B16	B16	B16
10	Rivet	316					
11	Name Plate	Aluminum	Aluminum	Stainless Steel	Aluminum	Aluminum	Aluminum

### Additional Materials

No.	Description	ASTM A182				
		F321	F347	F51	F22	F91
1	Body	F321	F347	F51	F22	F91
2	Seat Ring*	321+HF	347+HF	S31803	410+HF	410+HF
3	Disc*	321	347	F51	410	410
4	Pin*	321	347	S31803	410	410
5	Swing Arm	316				
6	Disc Nut	Gr. 8				
7	Gasket	316+Graphite (SPW)	347+Graphite (SPW)	N06625+Graphite (SPW)	316+Graphite (SPW)	316+Graphite (SPW)
8	Cover	F321	F347	F51	F22	F91
9	Cover Bolt	B8	B8	B8	B16	B16
10	Rivet	316				
11	Name Plate	Stainless Steel	Stainless Steel	Stainless Steel	Aluminum	Aluminum

\*Material may vary based on trim. Additional materials available upon request.

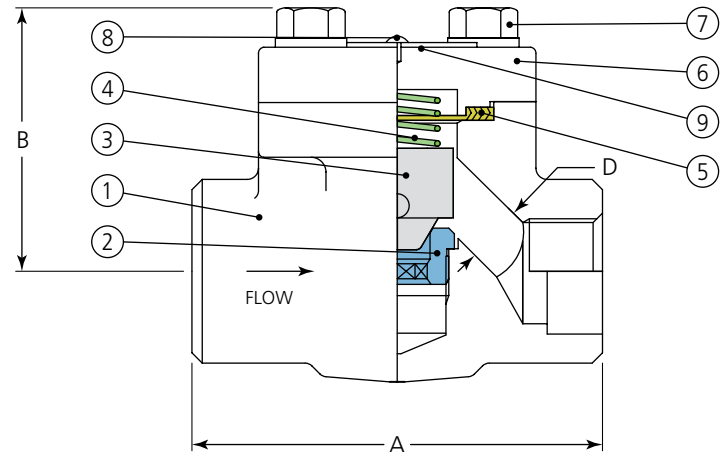
# DSI® Forged Lift Check Valve

## API 602 • Bolted & Welded Cover

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc/Ball*	410
4	Spring	316
5	Gasket	316 + Graphite (SPW)
6	Cover	A105N
7	Cover Bolt	B7M
8	Rivet	316
9	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.15	1.93	0.35	2.43
3/4	3.54	2.17	0.47	3.97
1	4.33	2.74	0.67	5.73
1 1/4	5.00	3.03	0.87	7.94
1 1/2	6.10	4.13	1.10	12.13
2	6.69	4.76	1.34	18.52

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.54	2.16	0.35	4.84
3/4	4.33	2.75	0.43	6.82
1	4.72	3.03	0.57	9.24
1 1/4	5.11	4.13	0.74	12.76
1 1/2	6.69	4.52	1.06	20.68
2	8.26	5.70	1.22	26.62

### Figure Numbers

Bonnet	Class 800	Class 1500	Ends
Bolted	4321	6321	Threaded
	4311	6311	Socketweld
	4301	6301	Thrd x SW
Welded	4323	6323	Threaded
	4313	6313	Socketweld
	4303	6303	Thrd x SW

**Note:** All information is subject to change without notice.

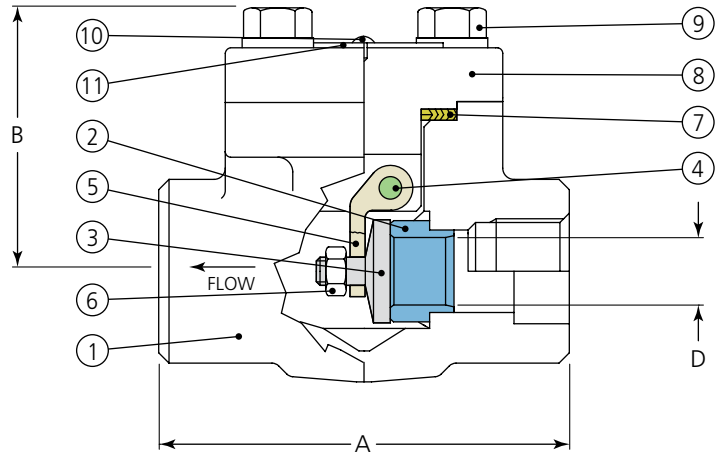
# DSI® Forged Swing Check Valve

## API 602 • Bolted & Welded Cover

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc *	410
4	Pin*	410
5	Swing Arm	316
6	Disc Nut	Gr. 8
7	Gasket	316 + Graphite (SPW)
8	Cover	A105N
9	Cover Bolt	B7M
10	Rivet	316
11	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.15	1.93	0.35	2.43
3/4	3.54	2.17	0.47	3.97
1	4.33	2.74	0.67	5.73
1 1/4	5.00	3.03	0.87	7.94
1 1/2	6.10	4.13	1.10	12.13
2	6.69	4.76	1.34	18.52

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.54	2.16	0.35	4.84
3/4	4.33	2.75	0.43	6.82
1	4.72	3.03	0.57	9.24
1 1/4	5.11	4.13	0.74	12.76
1 1/2	6.69	4.52	1.06	20.68
2	8.26	5.70	1.22	26.62

### Figure Numbers

Bonnet	Class 800	Class 1500	Ends
Bolted	4421	6421	Threaded
	4411	6411	Socketweld
	4401	6401	Thrd x SW
Welded	4423	6423	Threaded
	4413	6413	Socketweld
	4403	6403	Thrd x SW

**Note:** All information is subject to change without notice.

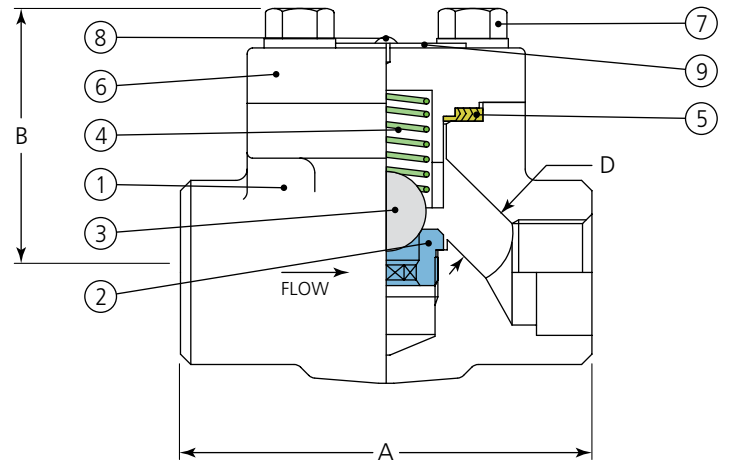
# DSI® Forged Ball Check Valve

## API 602 • Bolted & Welded Cover

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc/Ball*	410
4	Spring	316
5	Gasket	316 + Graphite (SPW)
6	Cover	A105N
7	Cover Bolt	B7M
8	Rivet	316
9	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 800, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.15	1.93	0.35	2.43
3/4	3.54	2.17	0.47	3.97
1	4.33	2.74	0.67	5.73
1 1/4	5.00	3.03	0.87	7.94
1 1/2	6.10	4.13	1.10	12.13
2	6.69	4.76	1.34	18.52

#### Class 1500, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	3.54	2.16	0.35	4.84
3/4	4.33	2.75	0.43	6.82
1	4.72	3.03	0.57	9.24
1 1/4	5.11	4.13	0.74	12.76
1 1/2	6.69	4.52	1.06	20.68
2	8.26	5.70	1.22	26.62

### Figure Numbers

Bonnet	Class 800	Class 1500	Ends
Bolted	4521	6521	Threaded
	4511	6511	Socketweld
	4501	6501	Thrd x SW
Welded	4523	6523	Threaded
	4513	6513	Socketweld
	4503	6503	Thrd x SW

**Note:** All information is subject to change without notice.

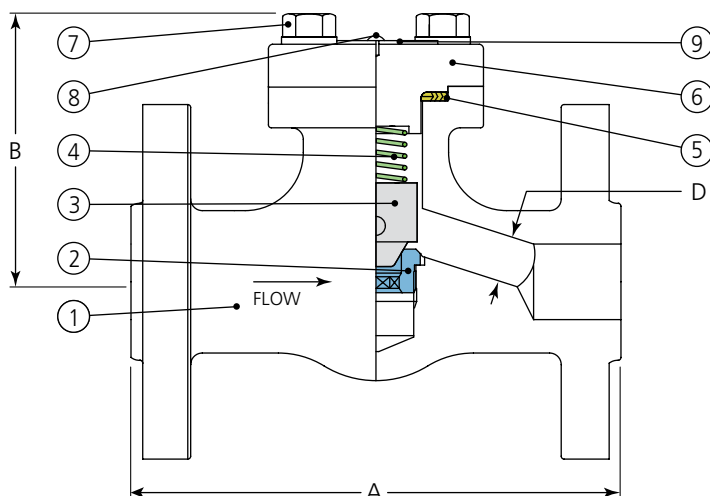
# DSI® Forged Lift Check Valve

## API 602 • Flanged

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc/Ball*	410
4	Spring	316
5	Gasket	316 + Graphite (SPW)
6	Cover	A105N
7	Cover Bolt	B7M
8	Rivet	316
9	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 150, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	4.25	3.01	0.35	6.17
3/4	4.63	3.19	0.47	8.82
1	5.00	3.60	0.67	11.68
1 1/2	6.50	3.82	1.14	19.84
2	7.99	5.43	1.34	33.07

#### Class 300, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	6.00	1.93	0.35	6.17
3/4	7.01	2.17	0.47	10.36
1	7.99	2.74	0.67	12.57
1 1/2	9.02	3.82	1.10	26.01
2	10.51	4.49	1.34	37.48

#### Class 600, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	6.44	1.93	0.35	6.39
3/4	7.50	2.17	0.47	10.58
1	8.50	2.74	0.67	21.38
1 1/2	9.51	3.82	1.10	26.45
2	11.50	4.49	1.34	38.14

### Figure Numbers

Class 150	Class 300	Class 600
1331	2331	3331

**Note:** All information is subject to change without notice.

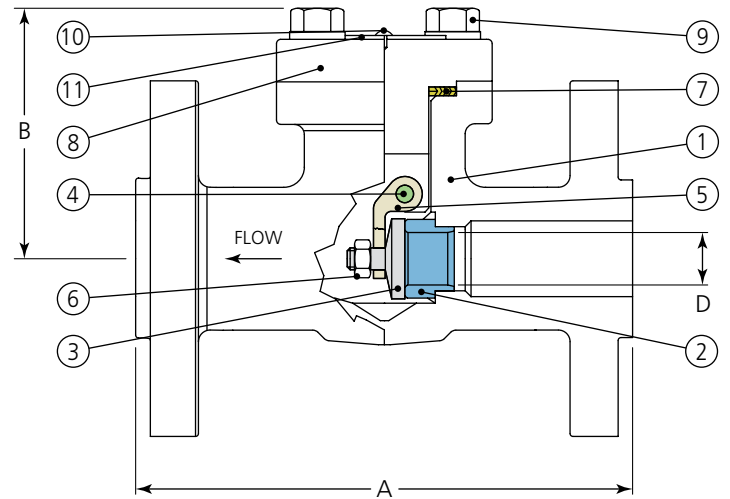
# DSI® Forged Swing Check Valve

## API 602 • Flanged

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc*	410
4	Pin*	410
5	Swing Arm	316
6	Disc Nut	Gr. 8
7	Gasket	316 + Graphite (SPW)
8	Cover	A105N
9	Cover Bolt	B7M
10	Rivet	316
11	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 150, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	4.25	3.19	0.39	6.17
3/4	4.63	3.19	0.55	8.82
1	5.00	3.60	0.71	11.68
1 1/2	6.50	4.37	1.16	19.84
2	7.99	5.31	1.42	33.07

#### Class 300, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	6.00	1.93	0.39	6.17
3/4	7.01	2.28	1.89	10.36
1	8.50	2.76	0.94	12.57
1 1/2	9.49	4.33	1.44	26.01
2	10.51	5.71	1.89	37.48

#### Class 600, Reduced Port

Valve Size (in.)	Dimensions (in.), Reduced Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	6.50	1.93	0.39	6.39
3/4	7.50	2.17	0.55	10.58
1	8.50	2.76	0.71	21.38
1 1/2	9.51	3.82	1.18	26.45
2	11.50	4.49	1.44	38.14

### Figure Numbers

Class 150	Class 300	Class 600
1431	2431	3431

**Note:** All information is subject to change without notice.

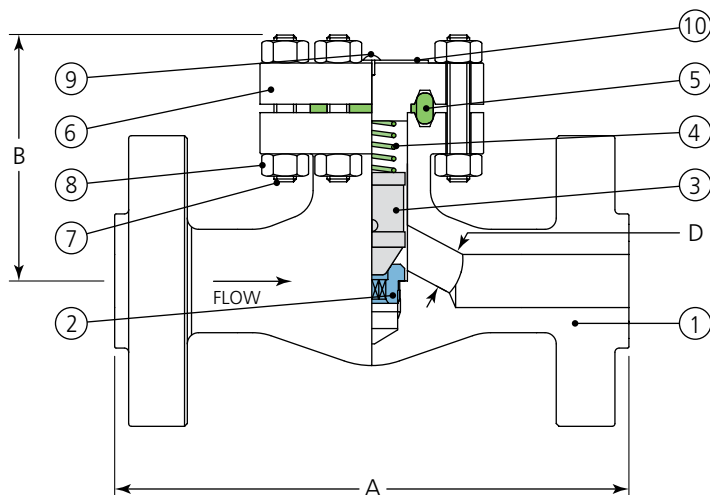
# DSI® Forged Lift Check Valve

## API 602 • Flanged • Ring Type Joint

### Parts & Materials

No.	Description	Material
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc/Ball*	410
4	Spring	316
5	Gasket	Soft Steel RTJ
6	Cover	A105N
7	Cover Stud	B7M
8	Cover Nut	2HM
9	Rivet	316
10	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 1500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	8.50	3.54	0.43	16.76
3/4	9.00	4.13	0.57	23.81
1	10.00	4.72	0.75	31.97
1 1/2	12.00	6.30	1.22	68.34
2	14.50	6.70	1.48	94.80

### Figure Numbers

End Connection	Class 1500
RF	6387
RTJ	6387R

**Note:** All information is subject to change without notice.



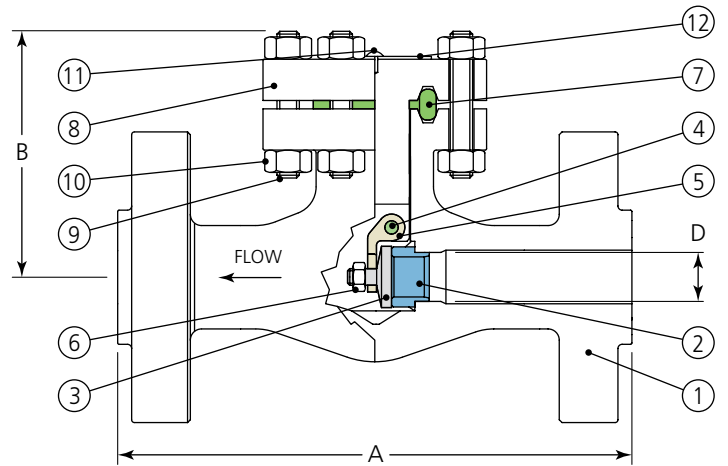
# DSI® Forged Swing Check Valve

## API 602 • Flanged • Ring Type Joint

### Parts & Materials

No.	Description	ASTM A 105N
1	Body	A105N
2	Seat Ring*	410 + HF
3	Disc*	410
4	Pin*	410
5	Swing Arm	316
6	Disc Nut	Gr. 8
7	Gasket	Soft Steel RTJ
8	Cover	A105N
9	Cover Stud	B7M
10	Cover Nut	2HM
11	Rivet	316
12	Name Plate	Aluminum

\*Material may vary based on trim.



### Dimensional Data, Weight and Figure Numbers

#### Class 1500, Full Port

Valve Size (in.)	Dimensions (in.), Full Port			Weight (lbs.)
	A End to End	B Center to Top	D Port Diameter	
1/2	8.50	3.54	0.55	16.76
3/4	9.00	4.13	0.71	23.81
1	10.00	4.72	0.94	31.97
1 1/2	12.00	6.30	1.42	68.34
2	14.50	6.70	1.57	94.80

### Figure Numbers

End Connection	Class 1500
RF	6487
RTJ	6487R

**Note:** All information is subject to change without notice.

# Pressure Temperature Charts

Working Pressure by Class (PSIG)																			
Material		A105* & A350 LF2*						A182 F11 Class 2**						A182 F5					
Standard Class		150	300	600	800	1500	2500	150	300	600	800	1500	2500	150	300	600	800	1500	2500
Shell Test, PSIG		450	1125	2225	2975	5575	9275	450	1125	2250	3000	5625	9375	450	1125	2250	3000	5625	9375
Seat Test, PSIG		315	815	1630	2175	4080	6790	320	825	1650	2200	4125	6875	320	825	1650	2200	4125	6875
-20 to 100 °F	-29 to 38 °C	285	740	1480	1975	3705	6170	290	750	1500	2000	3750	6250	290	750	1500	2000	3750	6250
200	93.5	260	680	1360	1810	3395	5655	260	750	1500	2000	3750	6250	260	750	1500	2000	3750	6250
300	149	230	655	1310	1745	3270	5450	230	720	1445	1940	3610	6015	230	730	1455	1940	3640	6070
400	204.5	200	635	1265	1690	3170	5280	200	695	1385	1880	3465	5775	200	705	1410	1880	3530	5880
500	260	170	605	1205	1610	3015	5025	170	665	1330	1775	3325	5540	170	665	1330	1775	3325	5540
600	315.5	140	570	1135	1515	2840	4730	140	605	1210	1615	3025	5040	140	605	1210	1615	3025	5040
650	343.5	125	550	1100	1465	2745	4575	125	590	1175	1570	2940	4905	125	590	1175	1570	2940	4905
700	371	110	530	1060	1415	2665	4425	110	570	1135	1515	2840	4730	110	570	1135	1515	2840	4730
750	399	95	505	1015	1350	2535	4230	95	530	1065	1420	2660	4430	95	530	1065	1420	2660	4430
800	426.5	80	410	825	1100	2055	3430	80	510	1015	1355	2540	4230	80	510	1015	1355	2540	4230
850	454.5	65	320	640	850	1595	2655	65	485	975	1300	2435	4060	65	485	975	1300	2435	4060
900	482	50	230	460	615	1150	1915	50	450	900	1200	2245	3745	50	375	745	995	1870	3115
950	510	35	135	275	365	685	1145	35	320	640	850	1595	2655	35	275	550	735	1370	2285
1000	538	20	85	170	225	430	715	20	215	430	575	1080	1800	20	200	400	530	995	1655
1050	565.5	—	—	—	—	—	—	20(1)	145	290	385	720	1200	20(1)	145	290	385	720	1200
1100	593.5	—	—	—	—	—	—	20(1)	95	190	255	480	800	20(1)	100	200	265	495	830
1150	621	—	—	—	—	—	—	20(1)	65	130	175	325	545	20(1)	60	125	165	310	515
1200	649	—	—	—	—	—	—	15(1)	40	80	110	205	345	15(1)	35	70	95	170	285

Working Pressure by Class (PSIG)													
Material		A182 F9						A182 F316 / F316L					
Standard Class		150	300	600	800	1500	2500	150	300	600	800	1500	2500
Shell Test, PSIG		450	1125	2250	3000	5625	9375	425	1100	2175	2900	5400	9000
Seat Test, PSIG		320	825	1650	2200	4125	6875	305	795	1585	2115	3960	6600
-20 to 100 °F	-29 to 38 °C	290	750	1500	2000	3750	6250	275	720	1440	1920	3600	6000
200	93.5	260	750	1500	2000	3750	6250	235	620	1240	1655	3095	5160
300	149	230	730	1455	1940	3640	6070	215	560	1120	1495	2795	4660
400	204.5	200	705	1410	1880	3530	5880	195	515	1025	1370	2570	4280
500	260	170	665	1330	1775	3325	5540	170	480	955	1275	2390	3980
600	315.5	140	605	1210	1615	3025	5040	140	450	900	1205	2255	3760
650	343.5	125	590	1175	1570	2940	4905	125	440	885	1180	2210	3680
700	371	110	570	1135	1515	2840	4730	110	435	870	1160	2170	3620
750	399	95	530	1065	1420	2660	4430	95	425	855	1140	2135	3560
800	426.5	80	510	1015	1355	2540	4230	80	420	845	1125	2110	3520
850	454.5	65	485	975	1300	2435	4060	65	420	835	1115	2090	3480
900	482	50	450	900	1200	2245	3745	50	415	830	1105	2075	3460
950	510	35	375	755	1005	1885	3145	35	385	775	1030	1930	3220
1000	538	20	255	505	675	1270	2115	20	365	725	970	1820	3030
1050	565.5	20(1)	170	345	460	855	1430	—	—	—	—	—	—
1100	593.5	20(1)	115	225	300	565	945	—	—	—	—	—	—
1150	621	20(1)	75	150	200	375	630	—	—	—	—	—	—
1200	649	20(1)	50	105	140	255	430	—	—	—	—	—	—

Note: (1) For welding end valves only. Flanged end ratings terminate at 1000°F (538°C).

\*Permissible, but not recommended for prolonged use above 800°F (425°C).

\*\*Permissible, but not recommended for prolonged use above 1100°F (593°C).

Note: All information is subject to change without notice.

# Flow Coefficients (C<sub>v</sub>) and Cracking Pressure Charts

## Flow Coefficients (C<sub>v</sub>)

Valve Type	Class	Port	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Gate	150-800	Reduced	6	10	26	44	65	103
	1500	Reduced	6.2	10.5	26.5	45	65.5	99
	800	Full	12.3	23.2	43	57	98	200
	1500	Full	12.5	23.7	44	59	100	200
	2500	Full	5	12.1	23	42.5	56	97
Globe	150-800	Reduced	1.5	3.7	6.4	10.4	17.8	21.5
	1500	Reduced	1.7	2.9	5.8	—	15.5	19.8
	800	Full	3.2	5.8	11.5	15.2	20.9	38.3
	1500	Full	2.8	6	12	—	20	24
Lift Check	150-800	Reduced	1.2	3.4	6.3	—	15.1	18.2
	1500	Reduced	1.6	2.7	5.3	—	11	19.2
	800	Full	2.8	5.2	11.1	—	17.8	32
	1500	Full	2.6	5.8	11	—	19	22
Swing Check	150-800	Reduced	3.8	6.2	13.3	18.1	27.8	54.5
	800	Full	5.4	12.2	16.8	25.5	54.3	101
Y Pattern Globe	800	Full	4.8	11.1	13.9	—	37	68
	1500/1690	Full	5.2	11.2	14.8	—	35	68
	2500/2680	Full	2.9	5.8	12.1	—	27	36
Y Pattern Lift Check	800	Full	4.1	10.8	13.1	—	36	66.5
	1500/1690	Full	4.2	10.9	13.7	—	34	66.8
	2500/2680	Full	2.8	5.6	11.6	—	27	35.5

**Note:** C<sub>v</sub> = number of gallons per minute of water that will create a 1 psi pressure drop.

## Cracking Pressure, Lift & Ball Checks, Class 800 and Below

Size (in.)	Without Spring (psi)	With Spring Partial Opening (psi)	With Spring Total Opening (psi)
1/2"	0.87	30.46	37.71
3/4"	0.73	13.05	18.85
1"	0.73	7.25	13.05
1 1/4"	0.73	4.35	10.15
1 1/2"	0.87	4.35	7.25
2"	0.73	2.90	5.80
2" Full Bore	0.87	2.90	4.35

**Note:** All information is subject to change without notice.

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