



*Smart Solutions. Powerful Products.*

## PRODUCTS & SERVICES

Gate • Globe • Check • Ball



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# COOPER® Valves Company Information



## Our History

COOPER® Valves was founded in 1930 and in 1934 COOPER's foundry developed the first successful technique to pour 304 stainless steel. Since then COOPER has become a well-respected and approved valve manufacturer that specializes in exotic alloy valves, serving the downstream and mid-stream chemical, petrochemical, oil and gas, water, power, mining and refining industries for over 90 years. COOPER's success is derived from its dedication to building dependable valves through advanced engineering, experienced personnel, controlled manufacturing processes, and a wide level of end-user's approvals.

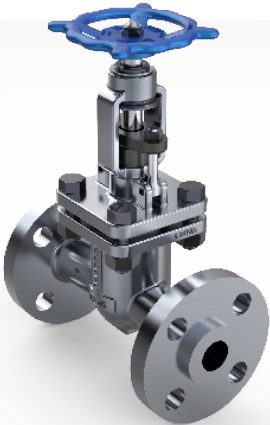
## Our Mission Statement

***To manufacture and deliver to our customers the finest valves in the world.***

Our motto is "Quality without Compromise". We strive to make every valve we produce "bullet proof" because we know that our quality directly impacts our end users, our community, and our environment. An American classic, Cooper's vision is to grow and maintain our market position as the leading manufacturer and supplier of high alloy and nickel valves in a global market..

We believe through hard work, intelligent decision making and effective management we can deliver the highest quality, shortest delivery products to our client base at a fair price. We believe that our employees and their dedication to preserving and protecting our core values will be our basis for success. We are all like-minded people with shared beliefs in striving to always do the best.

# Our COOPER Valves™



## Gate Valves

- > API 600, 602, 603 and ASME B16.34
- > Tested to API 598
- > For shut off and isolation applications



## Globe Valves

- > API 602, API 623, BS 1873, and ASME B16.34
- > Tested to API 598
- > For isolation and throttling applications



## Check Valves

- > API 594, 602, BS 1868, and ASME B16.34
- > Tested to API 598
- > Available in swing and lift type



## Ball Valves

- > API 608 and ASME B16.34
- > Tested to API 598
- > Firesafe to API 607



## Cryogenic Valves

- > API 600, 602, 603, API 608 and ASME B16.34
- > Tested to API 598
- > Designed & Tested per MSS-SP-134/BS 6364/ISO 28921-1

## Under Development

- > API 6D Trunnion Mounted Ball Valves
- > Lined and Sleeved Plug Valves

Cryogenic Gate Valve



Cryogenic Globe Valve



Cryogenic 3-Piece Ball Valve



Cryogenic 2-Piece Ball Valve



# About Our COOPER® Products

Valve Type	Shape Process	Size	Pressure Class	End Connections
<b>Gate</b>	Cast	0.50"- 36.0"	150#- 1500#	RFF, RTJ, BW, SE, SW, TSW
	Forged	0.25"- 3.00"		
<b>Globe</b>	Cast	0.50"- 12.0"	150#- 1500#	RFF, RTJ, BW, SE, SW, TSW
	Forged	0.50"- 3.00"		
<b>Check</b>	Cast	0.50"- 24.0"	150#- 1500#	RFF, RTJ, BW, SE, SW, TSW
	Forged	0.50"- 3.00"		
<b>Soft Seated Ball 2-Piece</b>	Cast	0.50"- 10.0"	150#- 600#	RFF, RTJ, BW
<b>Soft Seated Ball 3-Piece</b>	Cast	0.25"- 3.00"	1500 PSI/WOG	SE, SW, TSW, BW

## Typical Applications

The attention to detail we put into our products ensures a higher standard of dependability. This dependability allows COOPER® Valves to be installed in a wide range of challenging applications.

- > High Temperature (+1200°F)
- > Cryogenic Service (-320°F)
- > Corrosive/Erosive
- > Toxic/Lethal
- > Special/Severe

## COOPER® Features

- > Largest Offering of Nickel Alloy Materials
- > Wide Range Of Severe Service Applications
- > Material Test Reports
- > Traceability / Serial Numbers
- > API-598 Tested
- > Major End-User Approvals
- > Extensive Engineering Capabilities
- > Excellent Customer Service
- > Extended Warranty Program
- > Quick Deliveries & Stock
- > Recognized Highest Industry Quality
- > Extensive NDE Availability
- > ISO 9001:2015

# Our Services



## Manual Operations

- › Worm Gears, Spur Gears, Bevel Gears, and Reach Rods
- › Table Stands, Extension Systems, and Brackets
- › Shop Installation Services

## Valve Automation

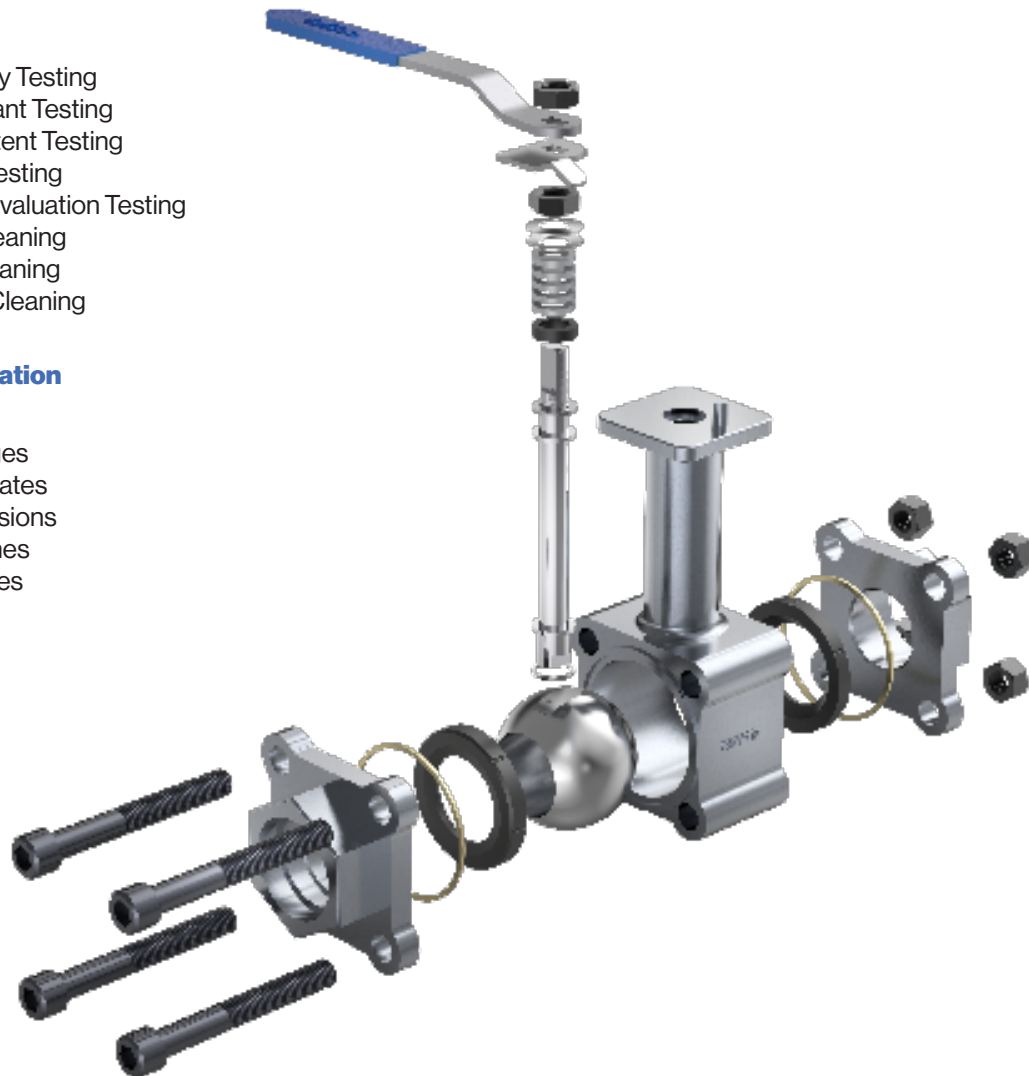
- › Electric, Hydraulic, and Pneumatic Automation
- › Multi-turn, Quarter-turn, and Linear
- › New Applications

## Testing

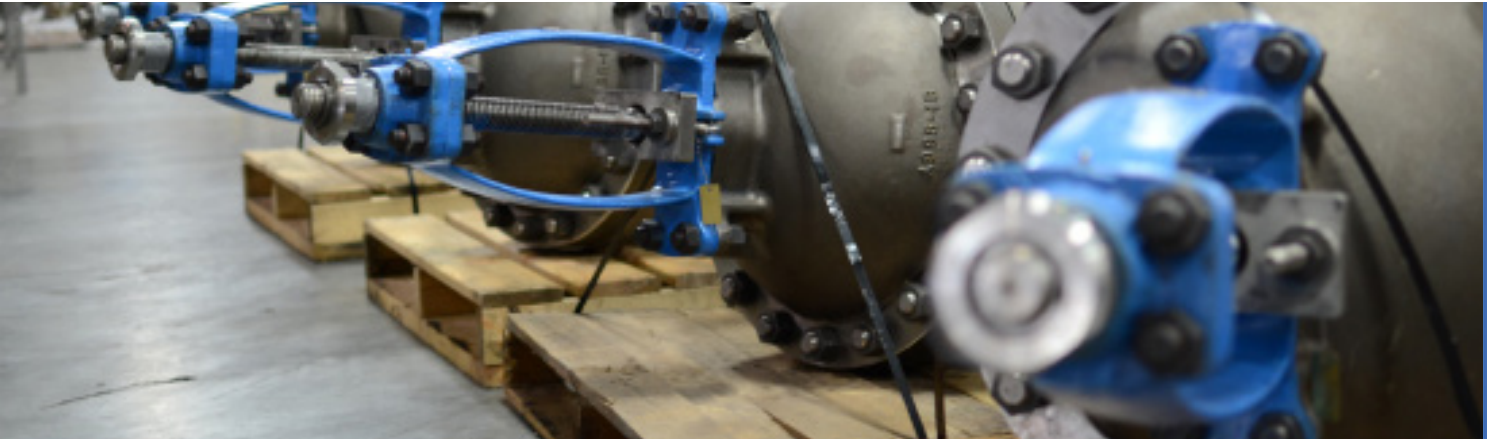
- › Radiography Testing
- › Dye Penetrant Testing
- › Ferrite Content Testing
- › Hardness Testing
- › Corrosion Evaluation Testing
- › Chlorine Cleaning
- › Oxygen Cleaning
- › Phosgene Cleaning

## Valve Modification

- › By Passes
- › Bore Changes
- › Mounting Plates
- › Stem Extensions
- › Limit Switches
- › Trim Changes
- › and More!



# Why Consider COOPER® Valves?



## Why COOPER?

- › Highest Quality Products Available
- › Short Lead Times
- › Friendly and Educated Staff
- › An American Classic
- › Fast and Reliable Service

## Industries COOPER® Valves Serves:

- › Chemical/Petrochemical
- › Refining
- › Mining
- › Power

## Available Inventory for Quick Delivery

COOPER® Valves maintains an inventory that is ever changing based upon market conditions. If you have any quick delivery or inventory needs please contact the factory at **+1 (832) 409-6050** or **sales@coopervalves.com**

## Certifications

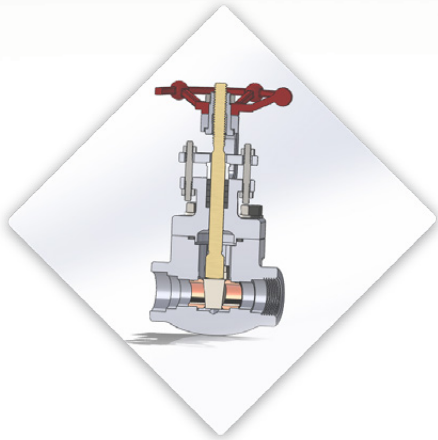


ISO 9001:2015



CRN

# COOPER® Valves Engineering



## Exceeding Customer Requirements

Meeting these needs requires full commitment on COOPER Valves to provide the highest quality in-house engineering services and product development. COOPER Valves engineering has over thirty years of engineering experience in design, development and most importantly customer support in the valve industry. COOPER Valve engineering uses the latest equipment, software and materials to meet the defined product requirements.

## 3D CAD Modeling

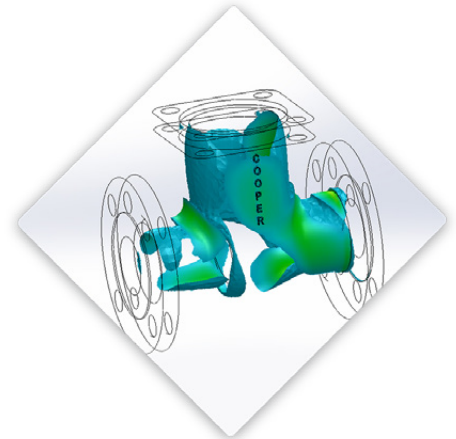
3D CAD allows COOPER Valve engineering to fully design all new product development and product improvements in a three dimensional computer environment. This allows engineering to develop different design paths and select the optimum design quicker, easier and more cost effective.

## Finite Element Analysis

Original design of valves and other flow control equipment required hand calculations to solve material stress, strain, and deformation to determine if the design will satisfy all requirements. The use of FEA will calculate these values quickly, efficiently and more accurately. This allows engineering to analyze various ideas, designs and iterations quicker to determine the best design. This allows development of better, stronger, lighter and cost effective designs.

## Computational Fluid Dynamics

CFD is used to analyze both fluid moving through the valve at any given time and temperature variations during operation. Once the environmental and operational conditions are known, the information can be inputted into the program to recreate the flow during operation. CFD will analyze the flow to provide critical information on the performance and operation. CFD can provide information on flow rates, velocity, mass flow, cavitation, turbulence, efficiency and much more. This information provides critical insights to develop the finest valves possible.



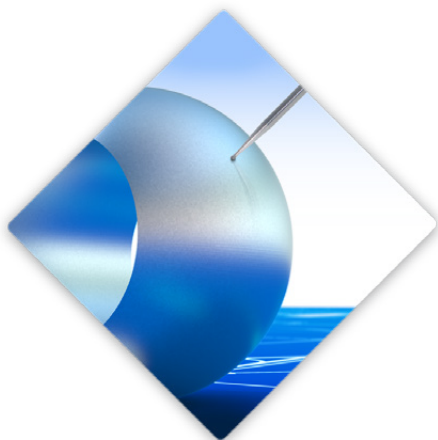
## Testing

However, all the technical resources can only provide an excellent representation of the valve during operations. Once the design and manufacturing processes are complete, COOPER Valves are tested using some of the latest equipment. If you want to know more about our testing capabilities, contact us today!

## New Product Development

COOPER Valves is committed to not only providing the finest quality valves but the continues product improvement and new product development to meet new challenges. COOPER Valves have several product improvements and new product development projects:

- › API 6D Certified Valve – Trunnion Mounted Ball Valves
- › Lined and Sleeved Plug Valves – Low Contact / Low Maintenance





# COOPER ALLOY™ - Materials List

COOPER ALLOY™ valves are available in a wide range of materials. The Cooper Sales Team can solve your most challenging and critical process applications. For pricing and ordering our valve products, please contact the Cooper Sales Team by phone at **1-832-407-1214** or by email at [sales@coopervalves.com](mailto:sales@coopervalves.com).

Common Name	Castings		Forging		Bar	
	ASTM	UNS	ASTM	UNS	ASTM	UNS
<b>Carbon Steel</b>	A216 WCB	J03002	A105	K03504	A105	K03504
<b>Carbon Steel</b>	A216 WCC	J02503	---	---	---	---
<b>Low Temp Carbon Steel</b>	A352 LCB	J03003	---	---	---	---
<b>Low Temp Carbon Steel</b>	A352 LCC	J2505	A350 LF2	K03011	A350 LF2	K03011
<b>1-1/4 Chrome</b>	A217 WC6	J12072	A182 F11	K11572	A182 F11	K11572
<b>2-1/4 Chrome</b>	A217 WC9	J21890	A182 F22	K21590	A182 F22	K21590
<b>5 Chrome</b>	A217 C5	J42045	A182 F5	K41545	A182 F5	K41545
<b>9 Chrome</b>	A217 C12	J82090	A182 F9	K90941	A182 F9	K90941
<b>C12A</b>	A217 C12A	J84090	A182 F91	K90901	A182 F91	K90901
<b>304</b>	A351 CF8	J92600	A182 F304	S30400	A276 304	S30400
<b>304H</b>	A351 CF10	J92590	A182 F304H	S30409	A479 304H	S30409
<b>304L</b>	A351 CF3	J92700	A182 F304L	S30403	A276 304L	S30403
<b>316</b>	A351 CF8M	J92900	A182 F316	S31600	A276 316	S31600
<b>316H</b>	A351 CF10M	J92901	A182 F316H	S31609	A479 316H	S31609
<b>316L</b>	A351 CF3M	J92800	A182 F316L	S31603	A276 316L	S31603
<b>317</b>	A351 CG8M	J93000	A182 F317	S31700	A276 317	S31700
<b>317L</b>	A351 CG3M	J92999	A182 F317L	S31703	A276 317L	S31703
<b>321</b>	---	---	A182 F321	S32100	A276 321	S32100
<b>321H</b>	---	---	A182 321H	S32109	A276 321H	S32109
<b>347</b>	A351 CF8C	J92710	A182 F347	S34700	A276 347	S34700
<b>347H</b>	---	---	A182 F347H	S34709	A276 347H	S34709
<b>410</b>	A217 CA15	J91150	A182 F6A	S41000	A276 410	S41000
<b>Avesta 254-SMO</b>	A351 CK3MCUN	J93254	A182 F44	S31254	A276 S31254	S31254
<b>AL6XN</b>	A351 CN3MN	J94651	A182 F62	N08367	B462 N08367	N08367
<b>Alloy 20</b>	A351 / 744 CN7M	N08007	A182 F20/B462	N08020	B473 N08020	N08020
<b>Alloy 20 (Modified)</b>	A990 CN3MCu	J80020	---	---	---	---
<b>Duplex 2205 - Gr. 4A</b>	A995 Gr. 4A CD3MN	J92205	A182 F51	S31803	A276 S32205	S32205
<b>Super Duplex 2507 - Gr. 5A</b>	A995 Gr. 5A CE3MN	J93404	A182 F53	S32750	A479 S32750	S32750
<b>Super Duplex Zeron 100 - Gr. 6A</b>	A995 Gr. 6A CD3MWCuN	J93380	A182 F55	S32760	A479 S32760	S32760
<b>Super Duplex Ferralium 255 - Gr. 1B</b>	A995 Gr. 1B CD4MCuN	J93372	A182 F61	S32550	A479 S32550	S32550
<b>Hastelloy B</b>	A494 N12MV	N30012	---	---	B335 N10001	N10001
<b>Hastelloy B2</b>	A494 N7M	N30007	B564 N10665	N10665	B335 N10665	N10665
<b>Hastelloy C (Modified)</b>	A494 CW6M	N30107	---	---	---	---
<b>Hastelloy C22</b>	A494 CX2MW	N26022	B564 N06022	N06022	B574 N06022	N06022
<b>Hastelloy C276</b>	A494 CW12MW	N30002	B564 N10276	N10276	B574 N10276	N10276
<b>Hastelloy C4</b>	A494 CW2M	N26455	---	---	B574 N06455	N06455
<b>Inconel 600</b>	A494 CY40	N06040	B564 N06600	N06600	B166 N06600	N06600
<b>Inconel 625</b>	A494 CW6MC	N26625	B564 N06625	N06625	B446 N06625	N06625
<b>Incoloy 800</b>	A351 CT15C	N08151	B564 N08800	N08800	B408 N08800	N08800
<b>Inconel 825</b>	A494 CU5MCuC	N08826	B564 N08825	N08825	B425 N08825	N08825
<b>Monel (Weldable)</b>	A494 M30C	N24130	---	---	---	---
<b>Monel 400</b>	A494 M35-1	N24135	B564 N04400	N04400	B164 N04400	N04400
<b>Monel K500</b>	---	---	---	---	B865 N05500	N05500
<b>Nickel 200</b>	A494 CZ100	N02100	B564 N02200	N02200	B160 N02200	N02200
<b>Titanium Gr. 2</b>	B367 Gr. C-2	R50400	B381 Gr. F-2	R50400	B348 Gr. 2	R50400
<b>Titanium Gr. 3</b>	B367 Gr. C-3	R50550	B381 Gr. F-3	R50550	B348 Gr. 3	R50550
<b>Titanium Gr. 5</b>	B367 Gr. C-5	R50550	B381 Gr. F-5	R50550	B348 Gr. 5	R50550
<b>Titanium Gr. 7</b>	B367 Gr. C-7	R52400	B381 Gr. F-7	R52400	B348 Gr. 7	R52400
<b>Titanium Gr. 12</b>	B367 Gr. C-12	R53400	B381 Gr. F12	R53400	B348 Gr.12	R53400
<b>Zirconium</b>	B752 Gr. 702C	R60702	B493 Gr. 702	R60702	B550 Gr. 702	R60702

# GATE VALVES

**COOPER**®  
Valves

COOPER® Gate Valves are multi-turn valves typically used as a stop valve or isolation valve in either fully open or fully closed positions. Our gate valve design utilizes an Outside Screw and Yoke (OS&Y) which is advantageous in that the threads are outside the fluid resulting in minimized thread damage.

## STANDARDS FOR END CONNECTS

**Screwed End | Socket Weld | Thread by Socket Weld**

Valve Design: API 602 & B16.34

Pipe Threads, General Purpose, Inch: ASME B1.20.1

Socket Welding & Threaded: ASME B16.11

Tested in Accordance with: API 598

## STANDARDS FOR END CONNECTS

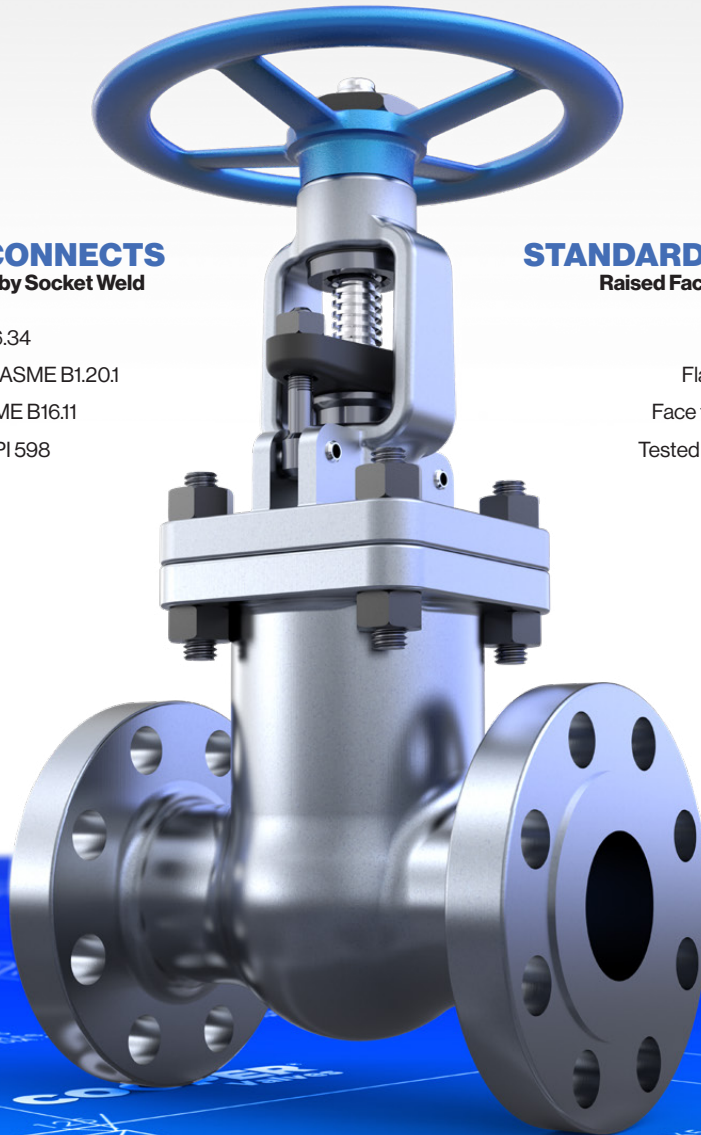
**Raised Face | Ring Type Joint | Butt Weld**

Valve Design: B16.34

Flange Dimensions: B16.5

Face to Face Dimensions: B16.10

Tested in Accordance with: API 598



# EXPANDED VIEW

1. **Body:** Cooper nickel alloy bodies with integral seats provide optimum strength and corrosion resistance.

2. **Bonnet Bolting:** The bonnet bolts and nuts secure the bonnet to the body.

3. **Bonnet Gasket:** The bonnet gasket creates a leak-proof seal between the bonnet and body.

4. **Bonnet & Yoke:** The Cooper bonnet and yoke assemblies are built to the same standards as the bodies. Larger size gate valves utilize a multi-piece bonnet design. Bonnet has integral back seat.

5. **Gland Bolt and Nut:** The gland bolts and nuts allow easy adjustment for packing compression.

6. **Grease Fitting:** The grease fitting allows easy stem lubrication.

7. **Stem Nut:** The stem nut provides a precision guide for proper stem alignment.

8. **Handwheel Nut:** The handwheel nut secures the handwheel to the bonnet assembly.

9. **Handwheel:** The handwheel cycles the valve.

10. **Key:** The key helps prevent the hand wheel from slipping.

11. **Stem:** The stem is precision machined and inserts into the horizontal channel in the disc.

12. **Gland Bolt Pin:** This pin secures the gland bolts to the yoke and bonnet.

13. **Gland Flange:** The gland flange applies pressure to the gland for accurate packing adjustments.

14. **Gland:** The gland (same as body material) compresses the packing to create a stem seal above the back seat, between the bonnet and stem.

15. **Packing:** The packing creates a seal above the back seat, between the bonnet and stem.

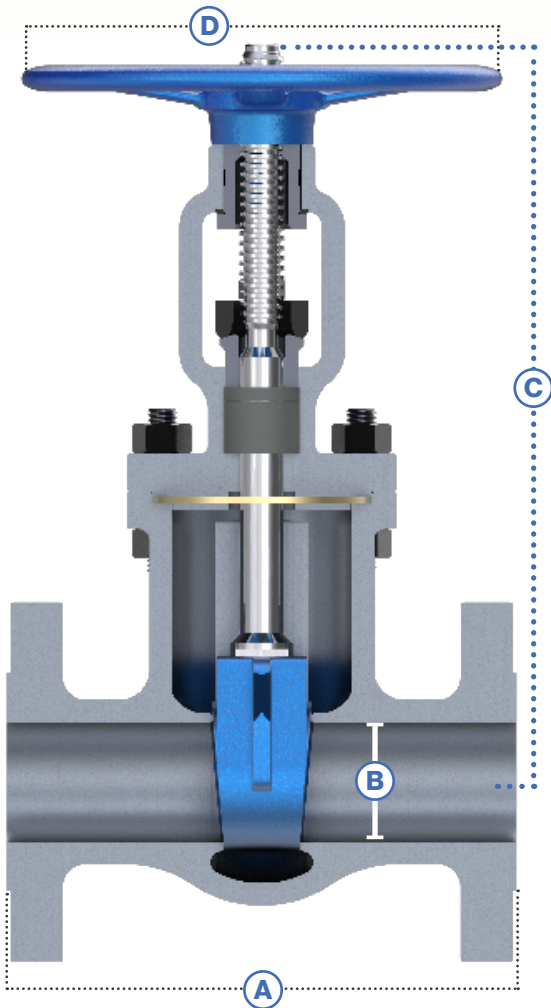
16. **Wedge:** Cooper's wedge is machined to the tightest tolerances to ensure trouble free shutoff and cycling.

17. **Integral Back Seat: (not shown)** The integral back seat, when engaged with the stem head, provides a stable shutoff to the stuffing box which isolates the packing from flow exposure.



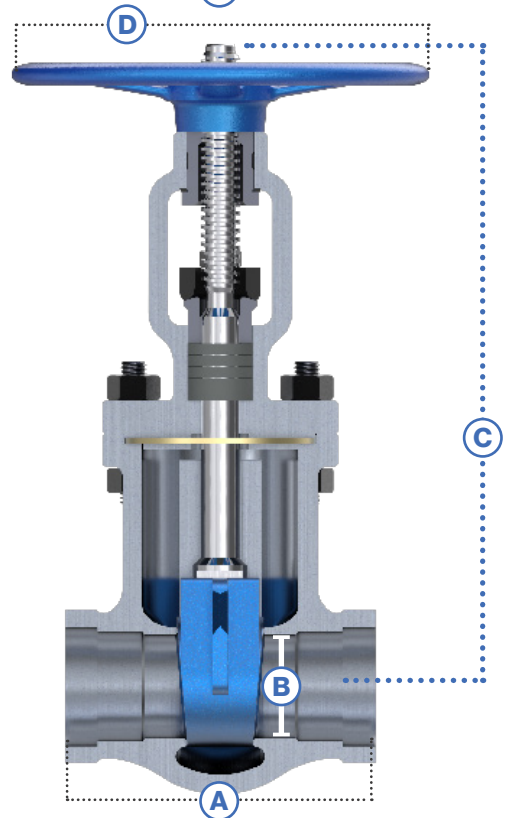
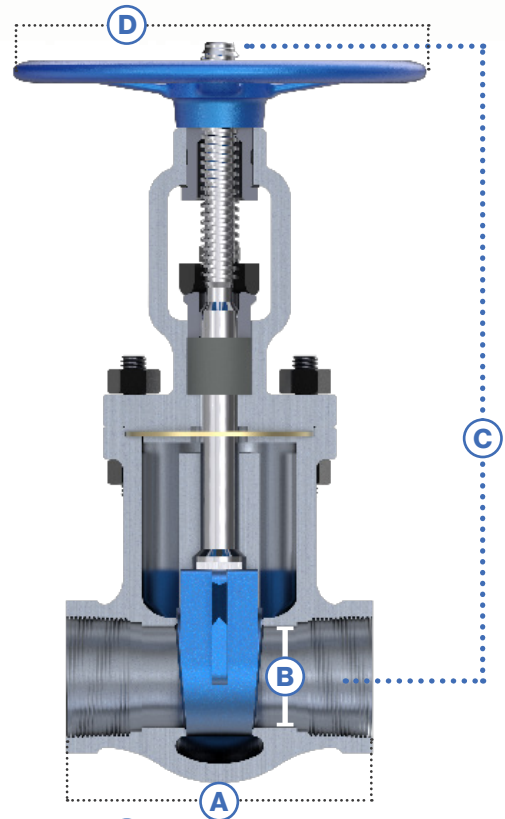
# Cast Full Port Gate Valves

**Flange Gate Valve**



Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

**Threaded Gate Valve**



**Socket Weld Gate Valve**

## Sizes

1/2" thru 36"

## Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld
- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

### CLASS 150 - RF

IMPERIAL						METRIC					
SIZE (in.)	A	B	C	D	WT (lb)	SIZE (mm.)	A	B	C	D	WT (kg)
½	4.25	0.5	8.75	4	9	15	108	15	222	102	4
¾	4.62	0.75	8.75	4	10	20	117	20	222	102	5
1	5.00	1	9.63	4	18	25	127	25	246	102	8
1½	6.50	1.5	13.06	8	22	40	165	40	332	204	10
2	7.00	2	14.69	8	30	50	178	50	373	204	13
3	8.00	3	16.38	8	57	80	203	80	416	204	26
4	9.00	4	20.75	10	84	100	229	100	527	254	38
6	10.50	6	27.44	12	170	150	267	150	697	305	77
8	11.50	8	39.38	16	289	200	292	200	1000	406	131
10	13.00	10	46.94	22	435	250	330	250	1192	559	198
12	14.00	12	56.81	22	640	300	356	300	1443	559	291
14	15.00	13.25	65.63	22	925	350	381	350	1667	559	420
16	16.00	15.25	73.44	26	1300	400	406	400	1865	660	591
18	17.00	17.25	82.69	28	1478	450	432	450	2100	711	672
20	18.00	19.25	90.75	28	1786	500	457	500	2305	711	812
24	20.00	23.25	100.31	28	2602	600	508	600	2548	711	1183
30	24.00	29.25	126.3	39.4	4488.5	762	610	762	3400	1000	2189
36	28.00	35.25	140	39.4	6849.9	914	711	914	3700	1000	3113.6

### CLASS 300 - RF

IMPERIAL						METRIC					
SIZE (in.)	A	B	C	D	WT (lb)	SIZE (mm.)	A	B	C	D	WT (kg)
½	5.50	0.5	8.75	4	13	15	140	15	222	102	6
¾	6.00	0.75	8.75	4	16	20	152	20	222	102	7
1	6.50	1	9.63	4	24	25	165	25	245	102	11
1½	7.50	1.5	13.06	8	39	40	190	40	332	203	18
2	8.50	2	14.69	8	53	50	216	50	373	203	24
3	11.2	3	22.94	10	100	80	282	80	583	254	45
4	12.00	4	26.44	12	171	100	305	100	672	305	78
6	15.88	6	34.56	16	305	150	403	150	878	406	139
8	16.50	8	46.06	22	540	200	419	200	1170	559	245
10	18.00	10	55.56	22	823	250	457	250	1411	559	374
12	19.75	12	65	22	1250	300	502	300	1651	559	568
14	30.00	13.25	62.5	22	1650	350	762	350	1588	560	750
16	33.00	15.25	68.7	29.5	2096.6	400	838	400	1744	750	953
18	36.00	17.25	76	29.5	2579.3	450	914	450	1930	750	1170
20	39.00	19.25	83.9	29.5	3300	500	991	500	2130	750	1500
24	45.00	23.25	99.8	39.4	4998.4	600	1143	600	2520	1000	2272
30	55.00	29.25	148.5	39.4	5119	762	1397	762	3772	1000	2322
36	68.00	35.25	159	39.4	8318.2	914	1727	914	3989	1000	3781

### CLASS 600 - RF

IMPERIAL						METRIC					
SIZE (in.)	A	B	C	D	WT (lb)	SIZE (mm.)	A	B	C	D	WT (kg)
½	6.50	0.5	8.75	4	13	15	165	15	222	102	6
¾	7.50	0.75	8.75	4	16	20	190	20	222	102	7
1	8.50	1	9.63	4	24	25	216	25	245	102	11
1½	9.50	1.5	13.06	8	39	40	241	40	332	203	18
2	11.50	2	14.69	8	53	50	292	50	373	203	24
3	14.00	3	22.94	10	100	80	356	80	583	254	45
4	17.00	4	26.44	12	171	100	432	100	672	305	78
6	22.00	6	34.56	16	305	150	559	150	878	406	139
8	26.00	8	46.06	22	540	200	660	200	1170	559	245
10	31.00	10	55.56	22	823	250	787	250	1411	559	374

### CLASS 900 - RF

IMPERIAL						METRIC					
SIZE (in.)	A	B	C	D	WT (lb)	SIZE (mm.)	A	B	C	D	WT (kg)
1	10.00	1	14	8	55	25	254	25	356	203	25
1½	12.00	1.5	15.56	9	70	40	305	40	395	229	32
2	14.50	2	17.44	10	125	50	368	50	443	254	57
3	15.00	3	28.25	14	202	80	381	80	716	356	92
4	18.00	4	32.5	17	380	100	457	100	826	432	173
6	24.00	6	39.9	20	807	150	610	150	991	508	367
8	29.00	8	51.9	36	1465	200	737	200	1318	914	666

### CLASS 1500 - RF

IMPERIAL						METRIC					
SIZE (in.)	A	B	C	D	WT (lb)	SIZE (mm.)	A	B	C	D	WT (kg)
1	10.00	1	14	8	55	25	254	25	356	203	25
1½	12.00	1.5	15.56	9	70	40	305	40	395	229	32
2	14.50	2	17.44	10	125	50	368	50	443	254	57
3	18.50	3	28.25	14	202	80	381	80	716	356	92



# Cryogenic Cast Full Port Gate Valves



## Sizes

1/2" thru 36"

## Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld

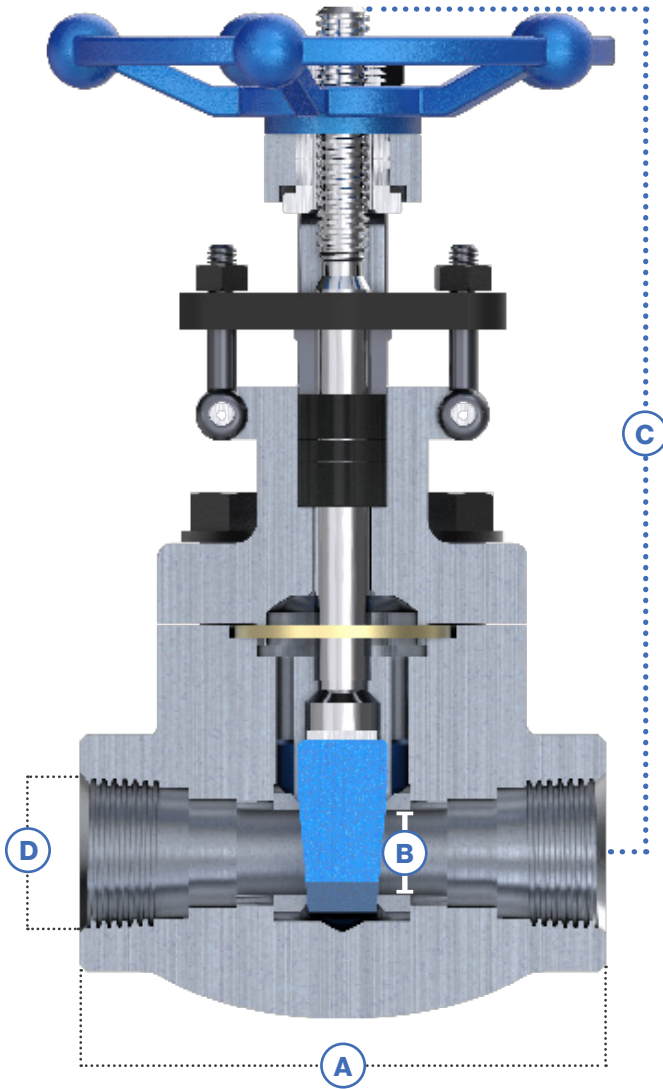
Pressure Relief Vent Hole can be provided to prevent cavity over pressurization.



Valve imagery is for representation purposes only.  
Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
Dimensions are subject to change without notice.

# Forged Regular Port Gate Valves

## Threaded Gate Valve



CLASS 800									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
¼*	2.99	0.25	5.43	0.56	6*	76	6	138	14
⅜*	2.99	0.38	5.43	0.69	10*	76	10	138	18
½	2.99	0.38	5.43	0.86	15	76	10	138	22
¾	3.62	0.5	5.79	1.07	20	92	13	147	27
1	4.09	0.71	6.85	1.33	25	104	18	174	34
1½	4.53	1.13	8.54	1.68	30	115	29	217	43
2	4.53	1.13	8.54	1.92	40	115	29	217	49
3	5.75	1.46	10.28	2.41	50	146	37	157	61

CLASS 1500									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
½	3.62	0.38	5.79	0.86	15	92	10	147	22
¾	4.09	0.5	6.14	1.07	20	104	13	156	27
1	4.53	0.71	8.15	1.33	25	115	18	207	34
1¼	5.75	1.13	9.69	1.68	30	146	29	246	43
1½	5.75	1.13	9.69	1.92	40	146	29	246	49
2	8.27	1.48	11.93	2.41	50	210	38	303	61



Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

1/2" thru 2"

### Connections

- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

# GLOBE VALVES

**COOPER**<sup>®</sup>  
Valves

COOPER<sup>®</sup> Cast Globe Valves are typically used for unidirectional isolation and when a pressure drop is required or preferred. Our globe valve design utilizes an Outside Screw and Yoke (OS&Y) which is advantageous in that the threads are outside the fluid resulting in minimized thread damage.

## STANDARDS FOR END CONNECTS

**Screwed End | Socket Weld | Thread by Socket Weld**

Valve Design: API 602 & B16.34

Pipe Threads, General Purpose, Inch: ASME B1.20.1

Socket Welding & Threaded: ASME B16.11

Tested in Accordance with: API 598

## STANDARDS FOR END CONNECTS

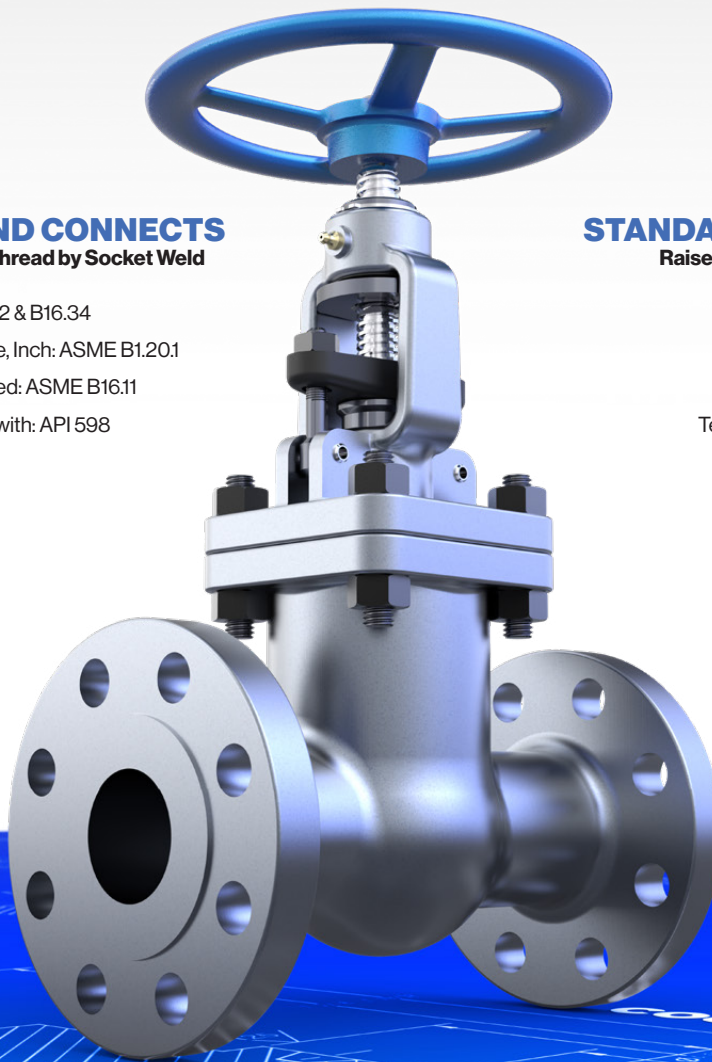
**Raised Face | Ring Type Joint | Butt Weld**

Valve Design: B16.34

Flange Dimensions: B16.5

Face to Face Dimensions: B16.10

Tested in Accordance with: API 598





# EXPANDED VIEW

1. **Body:** Cooper nickel alloy bodies with integral seats provide optimum strength and corrosion resistance.

2. **Bonnet Bolting:** The bonnet bolts and nuts secure the bonnet to the body.

3. **Bonnet Gasket:** The bonnet gasket creates a leak-proof seal between the bonnet and body.

4. **Bonnet & Yoke:** The Cooper bonnet and yoke assemblies are built to the same standards as the bodies. Larger size gate valves utilize a multi-piece bonnet design. Bonnet has integral back seat.

5. **Gland Bolt Pin:** This pin secures the gland bolts to the yoke and bonnet.

6. **Gland Bolt and Nut:** The gland bolts and nuts allow easy adjustment for packing compression.

7. **Grease Fitting:** The grease fitting allows easy stem lubrication.

8. **Stem Nut:** The stem nut provides a precision guide for proper stem alignment.

9. **Handwheel Nut:** The handwheel nut secures the handwheel to the bonnet assembly.

10. **Handwheel:** The handwheel cycles the valve.

11. **Key:** The key helps prevent the hand wheel from slipping.

12. **Snap Ring:** The snap ring helps to prevent loosening and distributes pressure evenly.

13. **Stem:** The stem is precision machined and inserts into the horizontal channel in the disc.

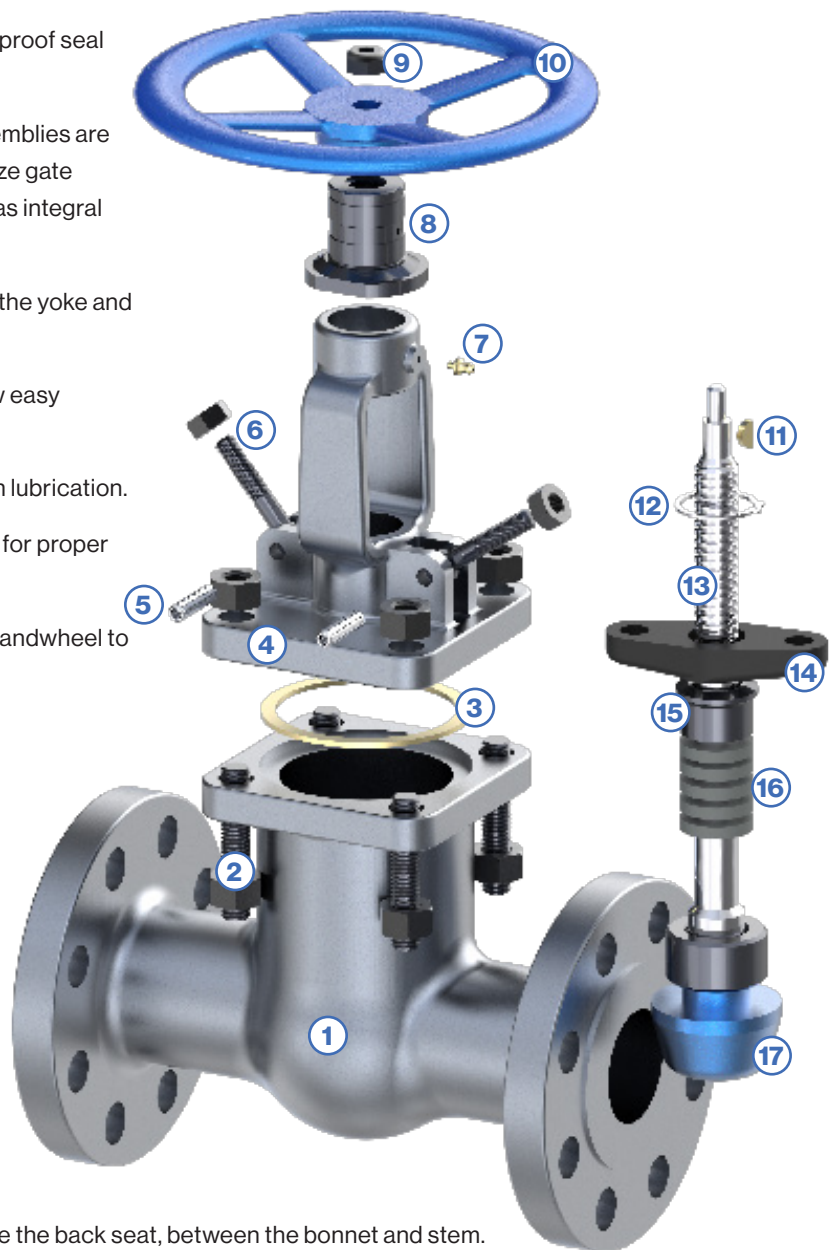
14. **Gland Flange:** The gland flange applies pressure to the gland for accurate packing adjustments.

15. **Gland:** The gland (same as body material) compresses the packing to create a stem seal above the back seat, between the bonnet and stem.

16. **Packing:** The packing creates a seal above the back seat, between the bonnet and stem.

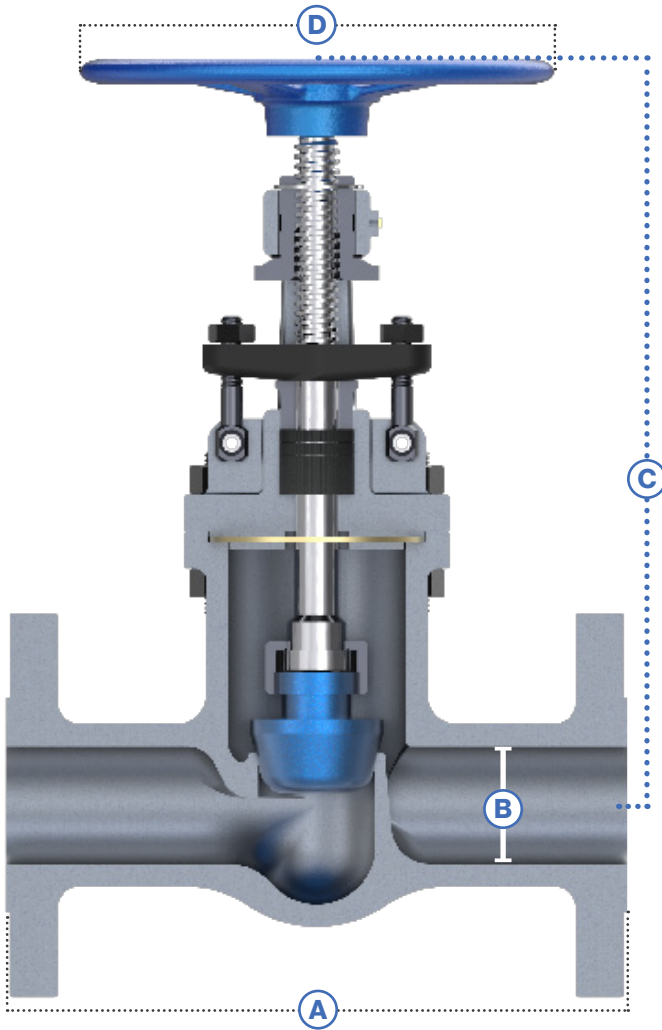
17. **Wedge:** Cooper's wedge is machined to the tightest tolerances to ensure trouble free shutoff and cycling.

18. **Integral Back Seat: (not shown)** The integral back seat, when engaged with the stem head, provides a stable shutoff to the stuffing box which isolates the packing from flow exposure.

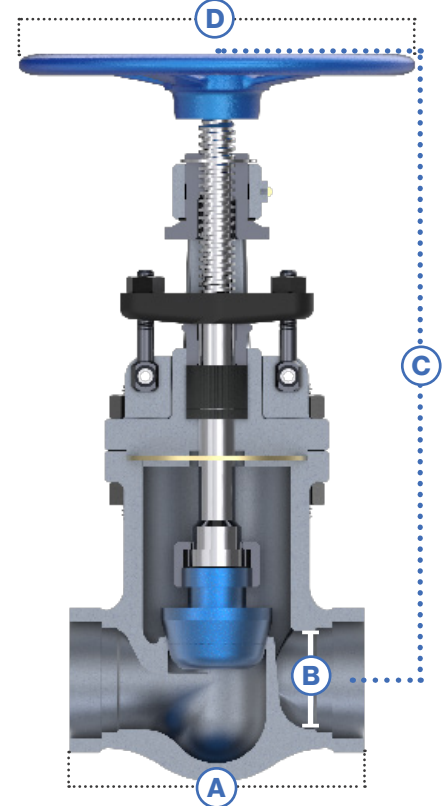
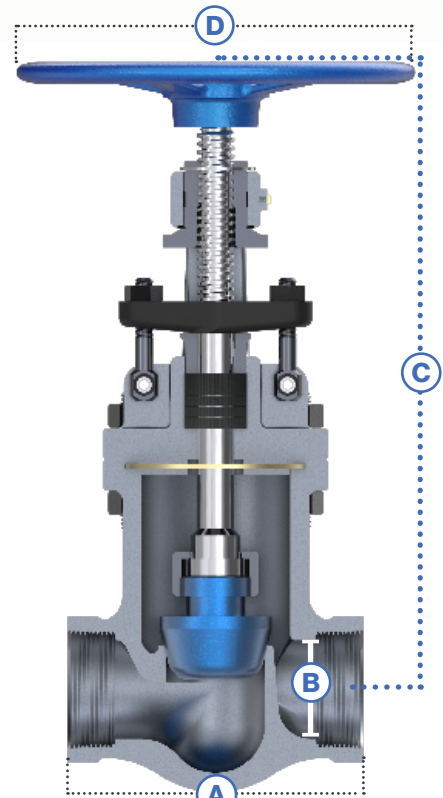


# Cast Full Port Globe Valves

## Flange Globe Valve



## Threaded Globe Valve



## Socket Weld Globe Valve

Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

1/2" thru 12"

### Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld
- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

CLASS 150 - RF					
IMPERIAL					
SIZE (in.)	A	B	C	D	WT (lb)
½	4.25	0.5	8.38	4	6
¾	4.62	0.75	8.38	4	7
1	5.00	1	9.31	4	8
1½	6.50	1.5	13.25	8	15
2	8.00	2	14.38	8	23
3	9.50	3	14.5	12	56
4	11.50	4	15.88	12	74
6	16.00	6	20.63	16	145
8	19.50	8	24.5	16	246
10	24.50	10	25.6	17.7	574.2
12	27.50	12	29	29.5	1100
METRIC					
SIZE (mm.)	A	B	C	D	WT (kg)
15	108	15	213	102	3
20	117	20	213	102	3
25	127	25	236	102	4
40	165	40	337	203	7
50	203	50	365	203	10
80	241	80	368	304	25
100	292	100	403	305	34
150	406	150	524	406	66
200	495	200	622	406	112
250	622	250	650	450	261
300	698	300	736	750	499

CLASS 300 - RF					
IMPERIAL					
SIZE (in.)	A	B	C	D	WT (lb)
½	6.00	0.5	8.38	4	13
¾	7.00	0.75	8.38	4	17
1	8.00	1	9.31	4	25
1½	9.00	1.5	13.25	8	36
2	10.50	2	14.19	8	54
3	12.50	3	19.5	12	92
4	14.00	4	22.19	12	147
6	17.50	6	26.69	16	280
8	22.00	8	40	22	566
10	24.50	10	31.5	17.7	827.2
METRIC					
SIZE (mm.)	A	B	C	D	WT (kg)
15	152	15	213	102	6
20	178	20	213	102	8
25	203	25	236	102	11
40	229	40	337	203	16
50	267	50	360	203	25
80	318	80	495	305	42
100	356	100	564	305	67
150	444	150	678	406	127
200	559	200	1016	559	257
250	622	250	800	450	376

CLASS 600 - RF					
IMPERIAL					
SIZE (in.)	A	B	C	D	WT (lb)
½	6.50	0.5	8.38	4	5
¾	7.50	0.75	8.38	4	5
1	8.50	1	9.31	4	7
1½	9.50	1.5	16.44	8	29
2	11.50	2	18.38	10	39
METRIC					
SIZE (mm.)	A	B	C	D	WT (kg)
15	165	15	213	102	2
20	190	20	213	102	2
25	216	25	236	102	3
40	241	40	418	203	13
50	292	50	467	254	18



# Cryogenic Cast Full Port Globe Valves

Cryogenic Globe Valve



## Sizes

1/2" thru 12"

## Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld

## Options

- > Renewable plug with Teflon insert good to -325°F.
- > Renewable plug with KEL-F insert good to -325°F.

Cooper Cryogenic Globe Valves are available in ASME pressure classes 150, 300 and 600 with OS&Y extended bolted bonnet and metal plug or renewable disc.

**Class 150:** Flanged or buttweld 1/2 thru 8".\*  
Threaded, socketweld, NPS 1/2 thru 2".

**Class 300:** Flanged or buttweld 1/2 thru 8".\*  
Threaded, socketweld, NPS 1/2 thru 2".

**Class 600:** Flanged or buttweld 1/2 thru 8".\*  
Threaded, socketweld, NPS 1/2 thru 2".

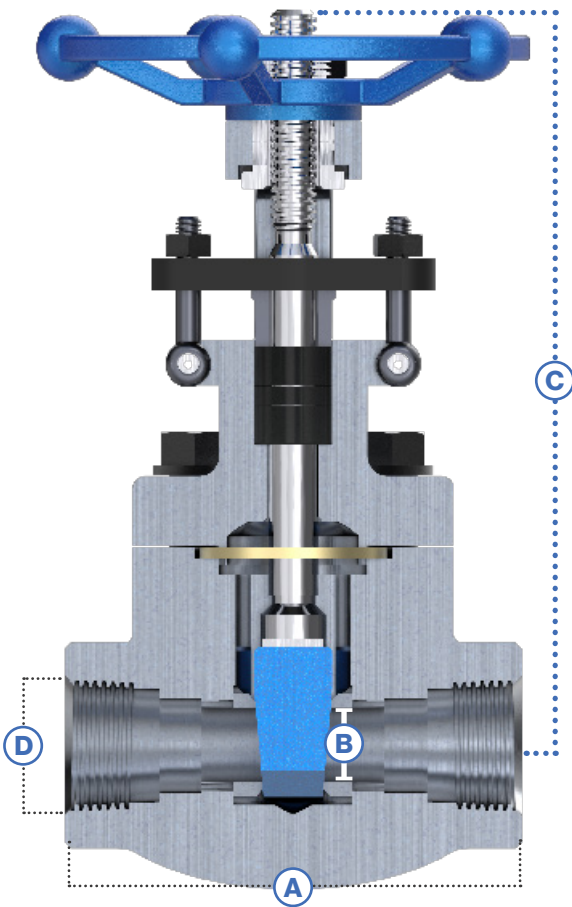
Valve imagery is for representation purposes only.  
Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
Dimensions are subject to change without notice.

## EXTENDED BONNET DIMENSIONS

IMPERIAL				IMPERIAL			
SIZE (in.)	Class 150	Class 300	Class 600	SIZE (mm.)	Class 150	Class 300	Class 600
1/2	13.5	13.5	13.5	15	343	343	343
3/4	13.5	13.5	13.5	20	343	343	343
1	15.25	15.25	15.25	25	387	387	387
1 1/2	18	18	18	40	457	457	457
2	18.5	18.5	18.5	50	470	470	470
3	18.5	21.88	ON	80	470	556	ON
4	20.38	24	REQUEST	100	518	610	REQUEST
6	24	30.31	ON	150	610	770	ON
8	30.31	34.31	REQUEST	200	770	871	REQUEST

# Forged Regular Port Globe Valves

## Threaded Forged Globe Valve



Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

1/2" thru 2"

### Connections

- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

CLASS 800									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
1/2	2.99	0.37	5.67	0.86	15	76	10	138	22
3/4	3.62	0.5	6.06	1.07	20	92	12.7	153.9	27
1	4.09	0.69	6.97	1.33	25	104	17.5	177	34
1 1/4	5.51	1.16	8.86	1.68	30	140	29.5	225	43
1 1/2	5.51	1.16	8.86	1.92	40	140	29.5	225	49
2	5.75	1.38	10	2.41	50	146	35.1	254	61

CLASS 1500									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
1/2	2.99	0.38	5.67	0.86	15	76	10	144	22
3/4	3.62	0.5	6.06	1.07	20	92	13	153.9	27
1	4.09	0.71	6.97	1.33	25	104	18	177	34
1 1/4	5.51	1.13	8.86	1.68	30	140	29	225	43
1 1/2	5.51	1.13	8.86	1.92	40	140	29	225	49
2	5.75	1.48	10	2.41	50	146	38	254	61



# CHECK VALVES

**COOPER**<sup>®</sup>  
Valves

COOPER<sup>®</sup> Check Valves have a simple yet reliable design that allows them to perform with low pressure drop and excellent seat tightness. We manufacture both swing check and lift check designs. Our lift check valves are generally used in applications where faster closing speeds are required to prevent surges.

## STANDARDS FOR END CONNECTS

**Screwed End | Socket Weld | Thread by Socket Weld**

Valve Design: API 602 & B16.34

Pipe Threads, General Purpose, Inch: ASME B1.20.1

Socket Welding & Threaded: ASME B16.11

Tested in Accordance with: API 598

## STANDARDS FOR END CONNECTS

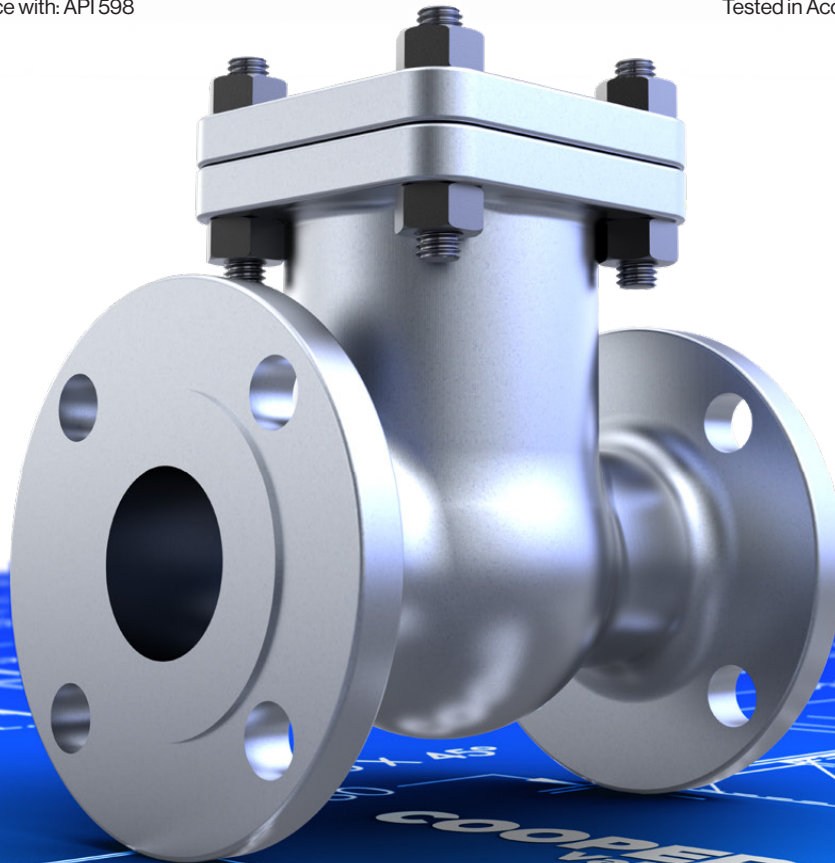
**Raised Face | Ring Type Joint | Butt Weld**

Valve Design: B16.34

Flange Dimensions: B16.5

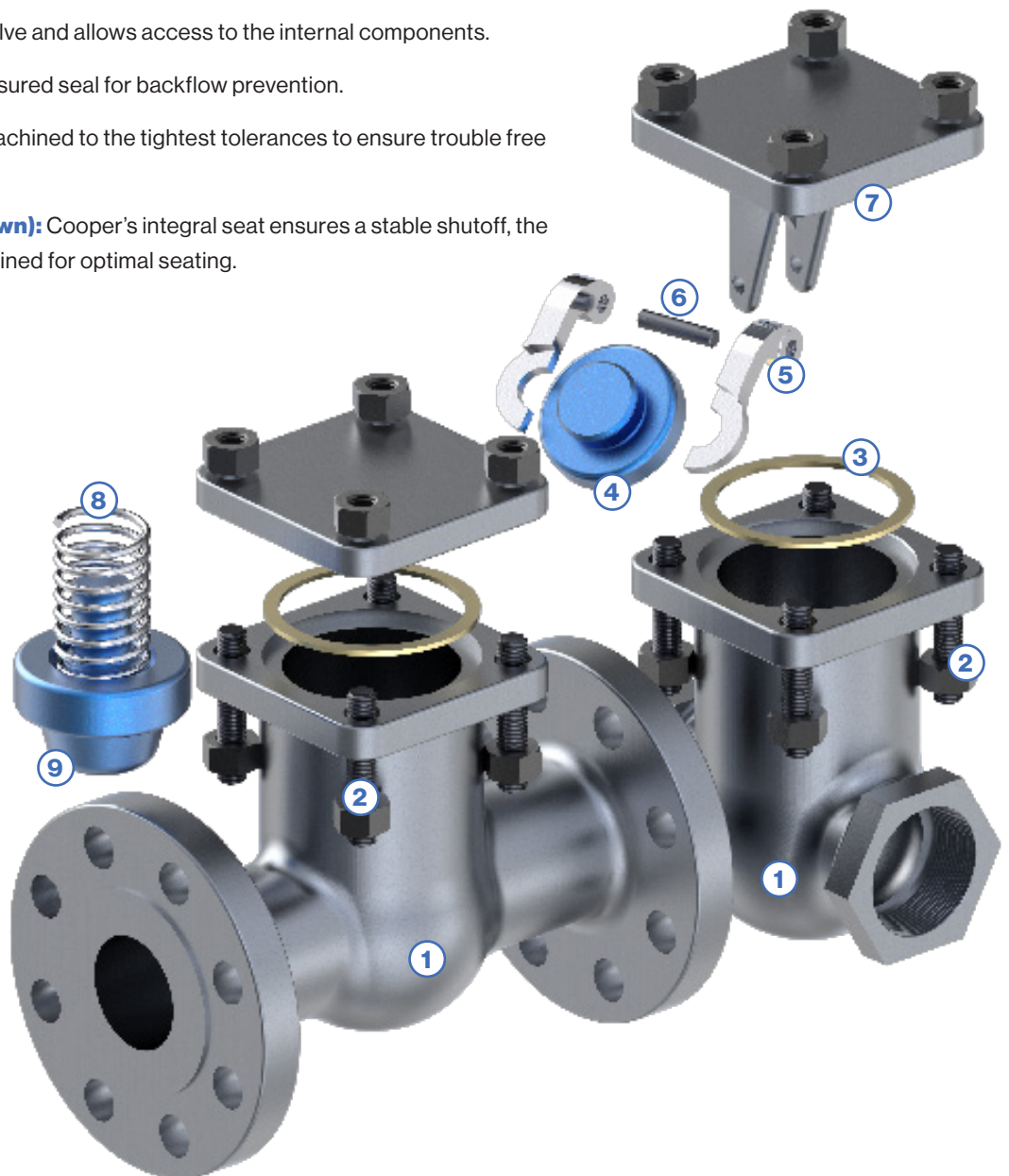
Face to Face Dimensions: B16.10

Tested in Accordance with: API 598



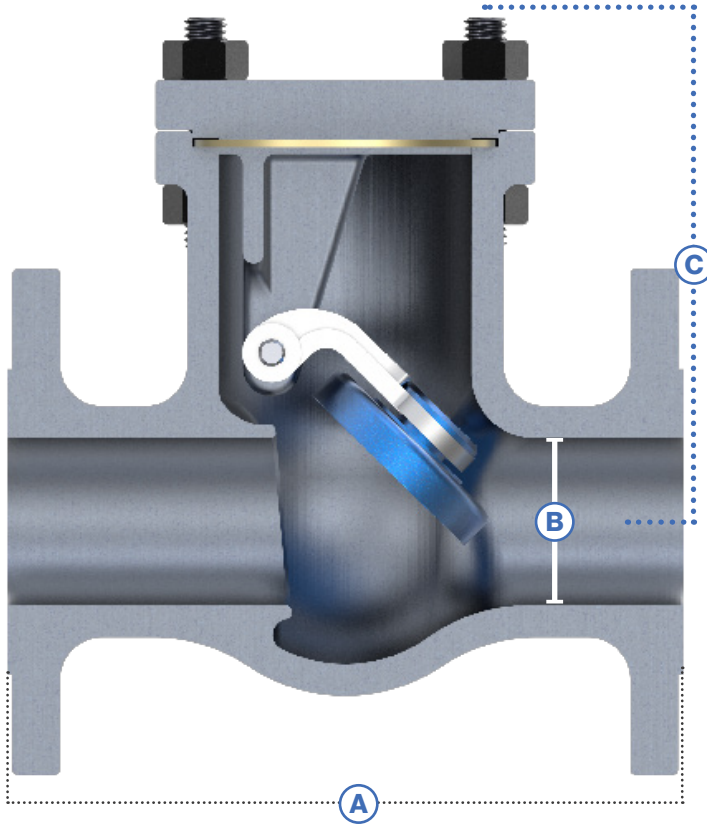
# EXPANDED VIEW

1. **Body:** The Cooper nickel alloy bodies with integral seat provide optimum strength and corrosion resistance.
2. **Bonnet Bolting:** The bonnet bolts and nuts secure the bonnet to the body.
3. **Cover Gasket:** The cover gasket creates a leakproof seal between the cover and the body.
4. **Disc:** The disc allows unidirectional flow and restricts back flow with trouble-free shutoff.
5. **Swing Arm(s):** The swing arm(s) allow the disc to open and close.
6. **Hinge Pin:** The hinge pin provides a stable mechanism for the swing arm(s) to function.
7. **Cover:** The cover seals the valve and allows access to the internal components.
8. **Wedge Spring:** Ensures pressured seal for backflow prevention.
9. **Wedge:** Cooper's wedge is machined to the tightest tolerances to ensure trouble free shutoff and cycling.
10. **Integral Back Seat (not shown):** Cooper's integral seat ensures a stable shutoff, the integral seat is precision machined for optimal seating.

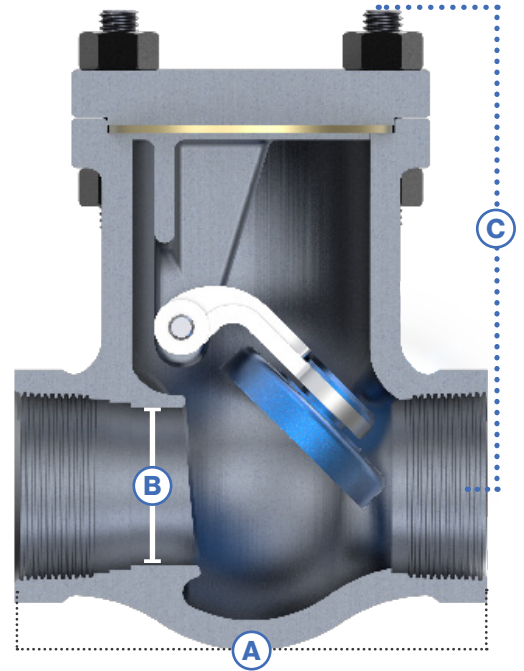


# Cast Full Port Swing Checks

## Flange Swing Check Valve



## Threaded Swing Check Valve



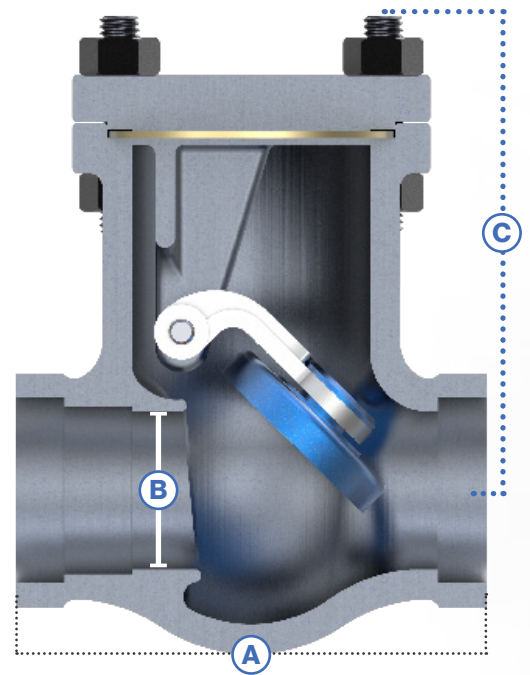
Valve imagery is for representation purposes only.  
Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
Dimensions are subject to change without notice.

### Sizes

1/2" thru 24"

### Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld
- > Screwed End
- > Socket Weld
- > Thread by Socket Weld



## Socket Weld Swing Check Valve



CLASS 150 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	4.25	0.5	3.19	9
¾	4.63	0.75	3.19	7
1	5	1	3.69	8
1½	6.5	1.5	4.81	15
2	8	2	5.75	23
3	9.5	3	5	56
4	11.5	4	7.44	74
6	14	6	9.31	145
8	19.5	8	10.25	246
10	24.5	10	11.63	420
12	27.5	12	14.13	635
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	108	15	81	3
20	118	20	81	3
25	127	25	94	4
40	165	40	122	7
50	203	50	146	10
80	241	80	127	25
100	292	100	189	34
150	356	150	236	66
200	495	200	260	112
250	622	250	295	191
300	699	300	359	289

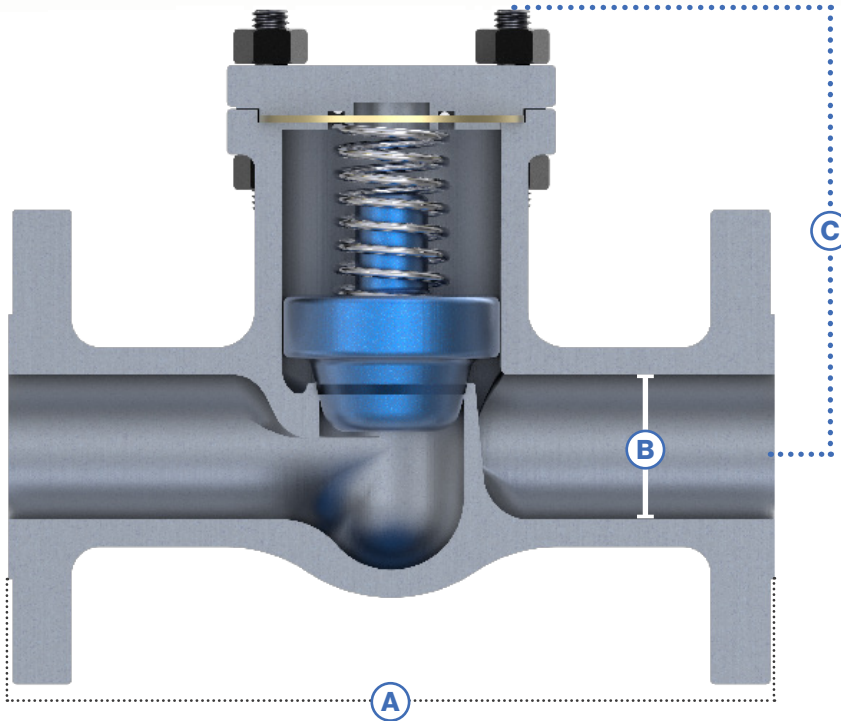
CLASS 600 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	6.50	0.50	3.19	16
¾	7.50	0.75	3.19	19
1	8.50	1.00	3.69	21
1½	9.50	1.50	6.63	50
2	11.5	2.00	7.00	70
3	14.00	3.00	8.75	135
4	17.00	4.00	10.25	255
6	22.00	6.00	12.63	530
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	165	15	81	7
20	191	20	81	9
25	216	25	94	10
40	241	40	168	23
50	292	50	178	32
80	356	80	222	61
100	432	100	260	116
150	559	150	321	241

CLASS 300 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	6	0.50	3.19	16
¾	7	0.75	3.19	18
1	8.5	1.00	3.69	21
1½	9.5	1.5	4.81	30
2	10.50	2.00	5.75	60
3	12.50	3.00	6.25	115
4	14.00	4.00	7.63	185
6	17.50	6.00	11.13	230
8	21.00	8.00	10.75	620
10	24.5	10	14.38	800
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	152	15	81	7
20	178	20	81	8
25	216	25	94	10
40	241	40	122	14
50	268	50	146	27
80	318	80	159	52
100	356	100	194	84
150	445	150	283	105
200	422	200	273	282
250	511	250	365	364

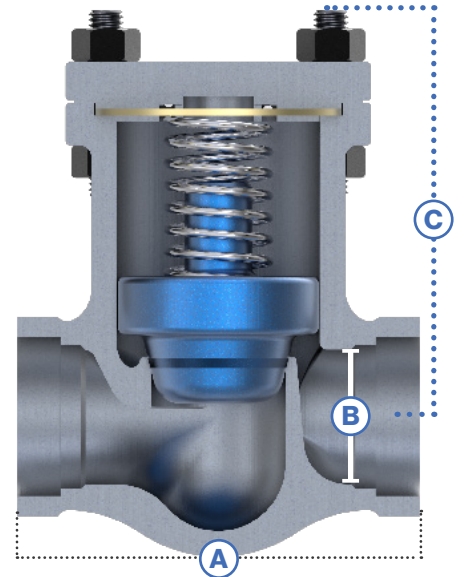
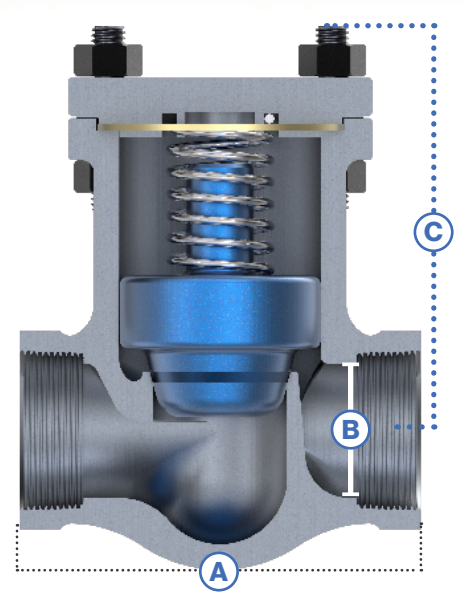


# Cast Full Port Lift Checks

## Flange Lift Check Valve



## Threaded Lift Check Valve



Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

1/2" thru 2"

### Connections

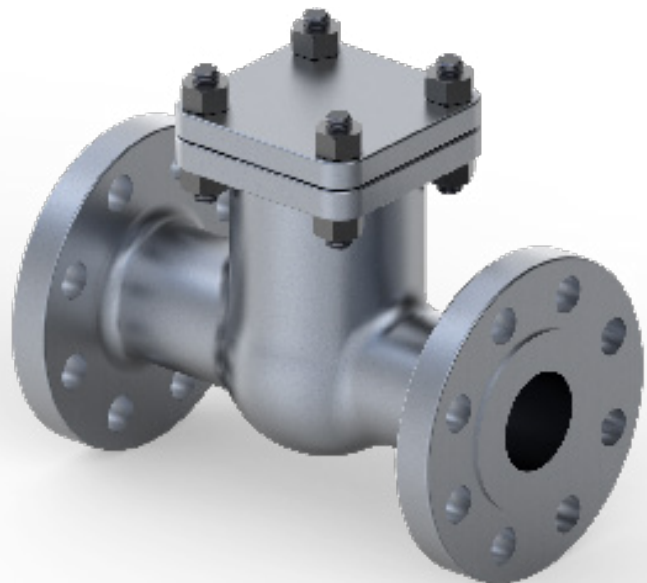
- > Raised Face
- > Ring Type Joint
- > Butt Weld
- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

## Socket Weld Lift Check Valve

CLASS 150 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	3.44	0.50	3.19	5
¾	3.44	0.75	3.19	5
1	4.06	1.00	3.69	7
1½	5.44	1.50	4.19	12
2	5.94	2.00	5.75	17
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	87	15	81	2
20	87	20	81	2
25	103	25	94	3
40	138	40	106	5
50	151	50	146	8

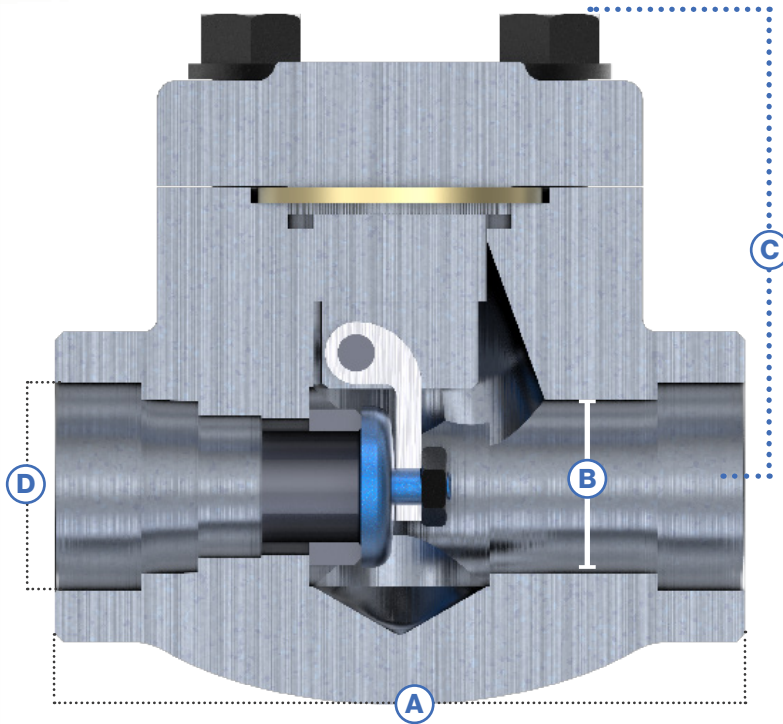
CLASS 300 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	3.44	0.50	3.19	5
¾	3.44	0.75	3.19	5
1	4.06	1.00	3.69	7
1½	5.44	1.50	4.19	12
2	5.94	2.00	5.75	17
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	87	15	81	2
20	87	20	81	2
25	103	25	94	3
40	138	40	106	5
50	151	50	146	8

CLASS 600 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	WT (lb)
½	3.44	0.50	3.19	5
¾	3.44	0.75	3.19	5
1	4.06	1.00	3.69	7
1½	5.44	1.50	7.00	29
2	7.00	2.00	7.00	39
METRIC				
SIZE (mm.)	A	B	C	WT (kg)
15	87	15	81	2
20	87	20	81	2
25	103	25	94	3
40	138	40	178	13
50	178	50	178	18



# Forged Regular Port Swing Check Valves

## Forged Swing Check Valve



Note: Pipe threads, general purpose, inch: B1.20.1. Socket welding and thread: B16.11  
 Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

1/2" thru 2"

### Connections

- > Screwed End
- > Socket Weld
- > Thread by Socket Weld



### CLASS 800

#### IMPERIAL

SIZE (in.)	A	B	C	D
1/2	2.99	.038	1.81	0.86
3/4	3.62	0.50	2.20	1.07
1	4.09	0.71	2.56	1.33
1 1/4	4.53	1.13	2.95	1.68
1 1/2	4.53	1.13	2.95	1.92
2	5.75	1.46	3.94	2.41

#### METRIC

SIZE (mm.)	A	B	C	D
15	76	10	46	22
20	92	13	56	27
25	104	18	65	34
30	115	29	75	43
40	115	29	75	49
50	146	37	100	61

### CLASS 1500

#### IMPERIAL

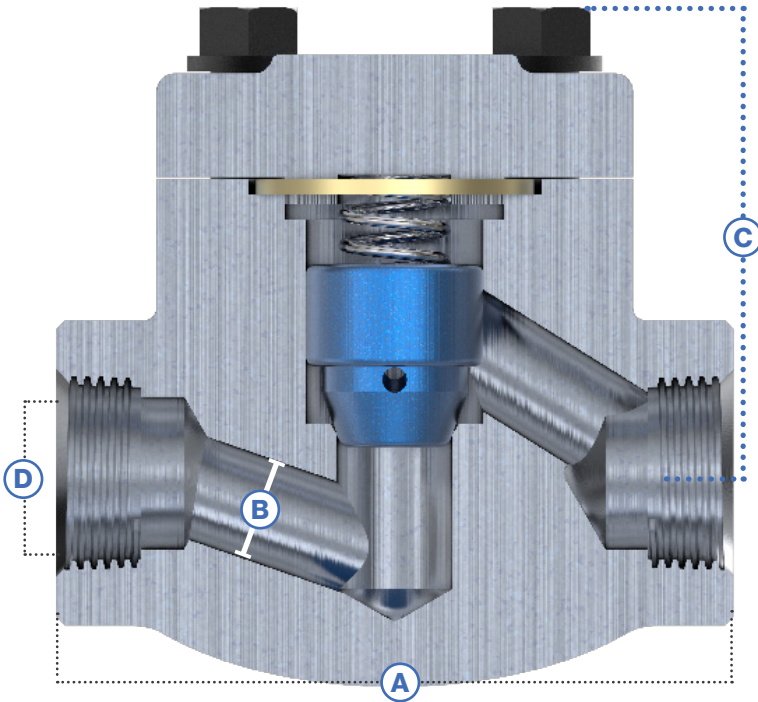
SIZE (in.)	A	B	C	D
1/2	3.62	0.38	2.20	0.86
3/4	4.09	0.5	2.56	1.07
1	4.53	0.71	2.95	1.33
1 1/4	5.75	1.13	3.94	1.68
1 1/2	5.75	1.13	3.94	1.92
2	8.27	1.46	4.92	2.41

#### METRIC

SIZE (mm.)	A	B	C	D
15	92	10	56	22
20	104	13	65	27
25	115	18	75	34
30	146	29	100	43
40	146	29	100	49
50	210	37	125	61

# Forged Regular Port Lift Check Valves

Forged Lift Check Valve



Note: Pipe threads, general purpose, inch: B1.20.1. Socket welding and thread: B16.11  
 Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

## Sizes

1/2" thru 2"

## Connections

- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

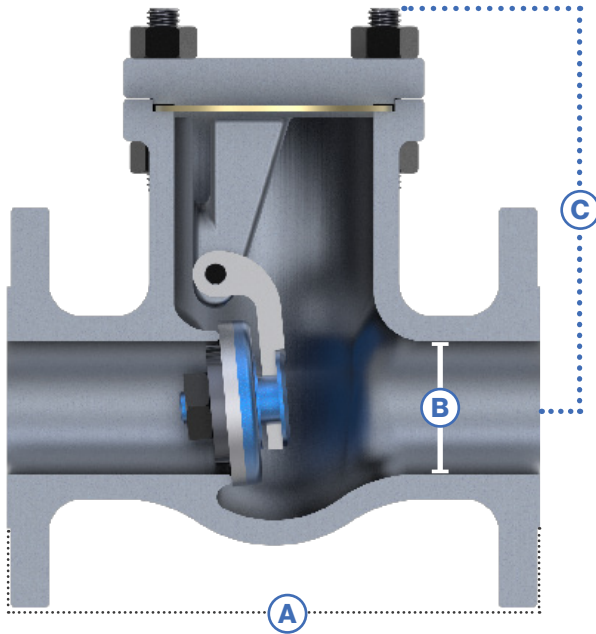


CLASS 800				
IMPERIAL				
SIZE (in.)	A	B	C	D
1/2	2.99	.038	1.81	0.86
3/4	3.62	0.50	2.20	1.07
1	4.09	0.69	2.56	1.33
1 1/4	4.51	1.16	2.95	1.68
1 1/2	4.51	1.16	2.95	1.92
2	5.75	1.38	3.94	2.41
METRIC				
SIZE (mm.)	A	B	C	D
15	76	10	46	22
20	92	13	56	27
25	104	18	65	34
30	140	29	75	43
40	140	29	75	49
50	146	35	100	61

CLASS 1500				
IMPERIAL				
SIZE (in.)	A	B	C	D
1/2	3.62	0.37	2.20	0.86
3/4	4.09	0.5	2.56	1.07
1	5.51	0.63	2.95	1.33
1 1/4	5.75	1.06	3.94	1.68
1 1/2	5.75	1.06	3.94	1.92
2	8.27	1.38	4.92	2.41
METRIC				
SIZE (mm.)	A	B	C	D
15	92	10	56	22
20	104	13	65	27
25	115	18	75	34
30	146	29	100	43
40	146	29	100	49
50	210	37	125	61

# Cryogenic Full Port Check Valves

## Cryogenic Swing Check Valve



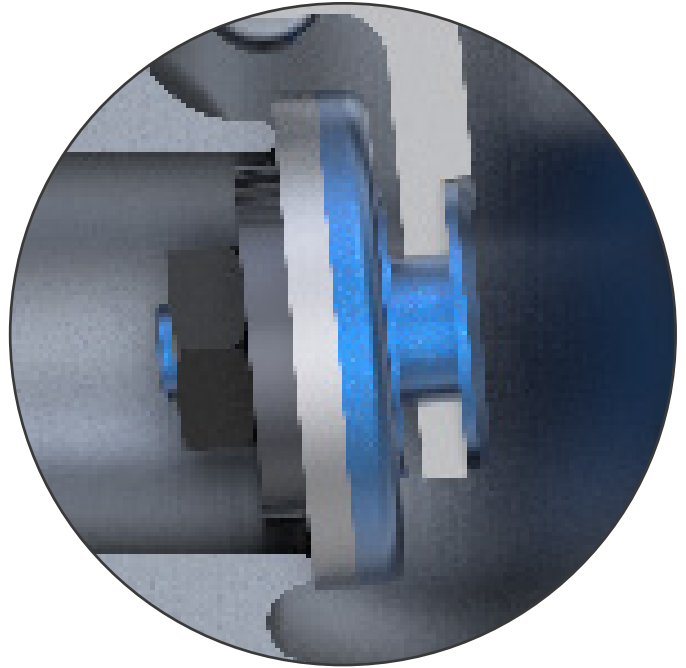
Valve imagery is for representation purposes only.  
Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
Dimensions are subject to change without notice.

### Sizes

1/2" thru 36"

### Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld



Renewable discs available with  
virgin Teflon or KEL-F inserts

### Options

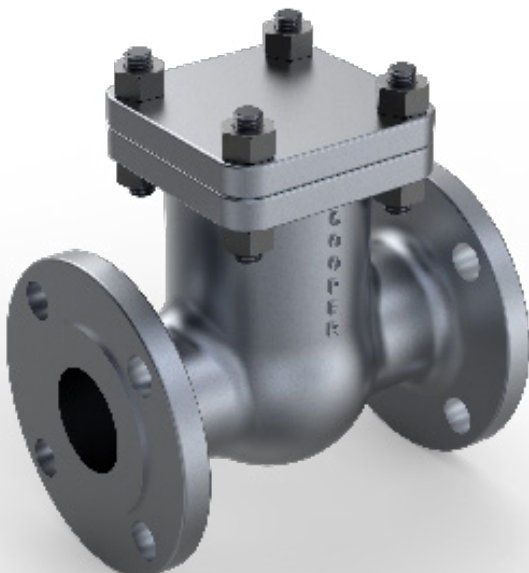
- > Renewable Disc with Teflon Insert (Good to -100°F)
- > Renewable Disc with KEL-F Insert (Good to -325°F)

Cooper Cryogenic Swing Check Valves are available in ASME pressure classes 150, 300 and 600 with bolted cover and metal or renewable disc.

**Class 150:** Flanged or buttweld 1/2 thru 12".\*  
Threaded, socketweld, NPS 1/2 thru 2".

**Class 300:** Flanged or buttweld 1/2 thru 10".\*  
Threaded, socketweld, NPS 1/2 thru 2".

**Class 600:** Flanged or buttweld 1/2 thru 6".\*  
Threaded, socketweld, NPS 1/2 thru 2".



# FIGURE NUMBERS

Valve Type

**GA**

**GA** = GATE  
**GL** = GLOBE  
**SC** = S. CHECK

**LC** = L. CHECK  
**2B** = 2 PC BALL  
**3B** = 3 PC BALL

**TB** = TRUNNION BALL  
**PL** = PLUG VALVE

Valve Class

**015**

**015** = 150  
**030** = 300  
**060** = 600

**080** = 800  
**090** = 900  
**150** = 1500

**250** = 2500  
**450** = 4500

End Connection

**RF**

**RF** = RAISED FACE FLANGED  
**FF** = FLAT FACED FLANGED  
**RJ** = RING TYPE JOINT

**SW** = SOCKET WELD (SW)  
**TE** = SCREWED ENDS (TH)  
**BW** = BUTT WELD

**TS** = MIXED (TH X SW)  
**EP** = EXT. BODY (MP X FSE)

Body Material

**CF8M**

Please refer to the table on Page 9 for Body Material (Common Name).

Trim Material

**10**

**00** = SAME AS BODY  
**01** = F6A (13% CR) - API TRIM 1  
**02** = 304 - API TRIM 2  
**03** = 310 - API TRIM 3  
**05** = 13% CR - FULL STELLITE - API TRIM 5  
**06** = 410 AND Cu-Ni - API TRIM 6  
**08** = 13% CR - 1/2 STELLITE - API TRIM 8  
**09** = MONEL - API TRIM 9  
**10** = 316 - API TRIM 10

**11** = MONEL AND 1/2 STELLITE - API TRIM 11  
**12** = 316 - 1/2 STELLITE - API TRIM 12  
**13** = ALLOY 20 - API TRIM 13  
**14** = ALLOY 20 - 1/2 STELLITE - API TRIM 14  
**15** = 304 - 1/2 STELLITE - API TRIM 15  
**16** = 316 - FULL STELLITE - API TRIM 16  
**17** = 347 - FULL STELLITE - API TRIM 17  
**18** = ALLOY 20 - 1/2 STELLITE - API TRIM 18  
**FS** = FULL STELLITE **HS** = HALF STELLITE

Port

**FP**

**FP** = FULL PORT

**RP** = REDUCED PORT

Figure Number

**GA015RF - CF8M - 10 - FP**

# BALL VALVES



COOPER® Ball Valves are a Floating Ball design for bubble tight operation in clean services and low temperature settings. They have blowout proof stems, are API 607 Firesafe, and have an ISO 5211 Mounting Pad. Additionally, with special configuration our Ball Valves are capable of cryogenic service.

## STANDARDS FOR END CONNECTS

**Screwed End | Socket Weld | Thread by Socket Weld**

Valve Design: API 602 & B16.34

Pipe Threads, General Purpose, Inch: ASME B1.20.1

Socket Welding & Threaded: ASME B16.11

Tested in Accordance with: API 598

## STANDARDS FOR END CONNECTS

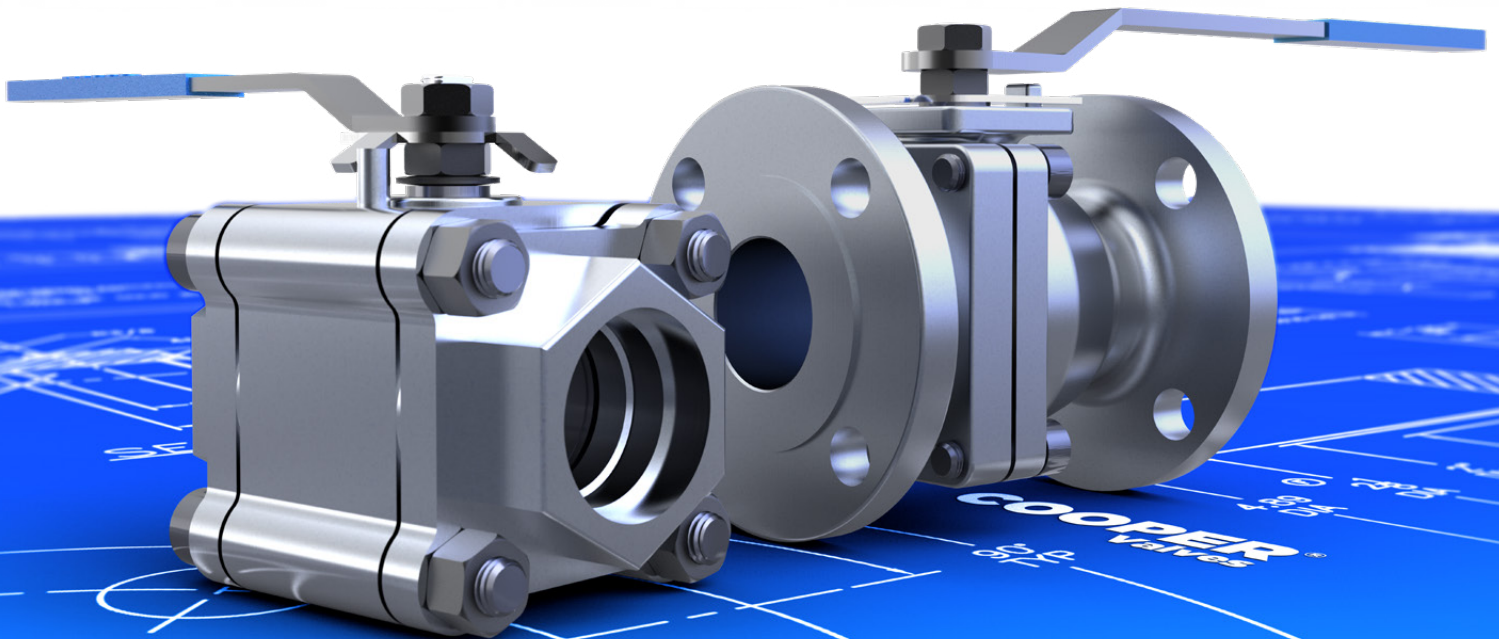
**Raised Face | Ring Type Joint | Butt Weld**

Valve Design: B16.34

Flange Dimensions: B16.5

Face to Face Dimensions: B16.10

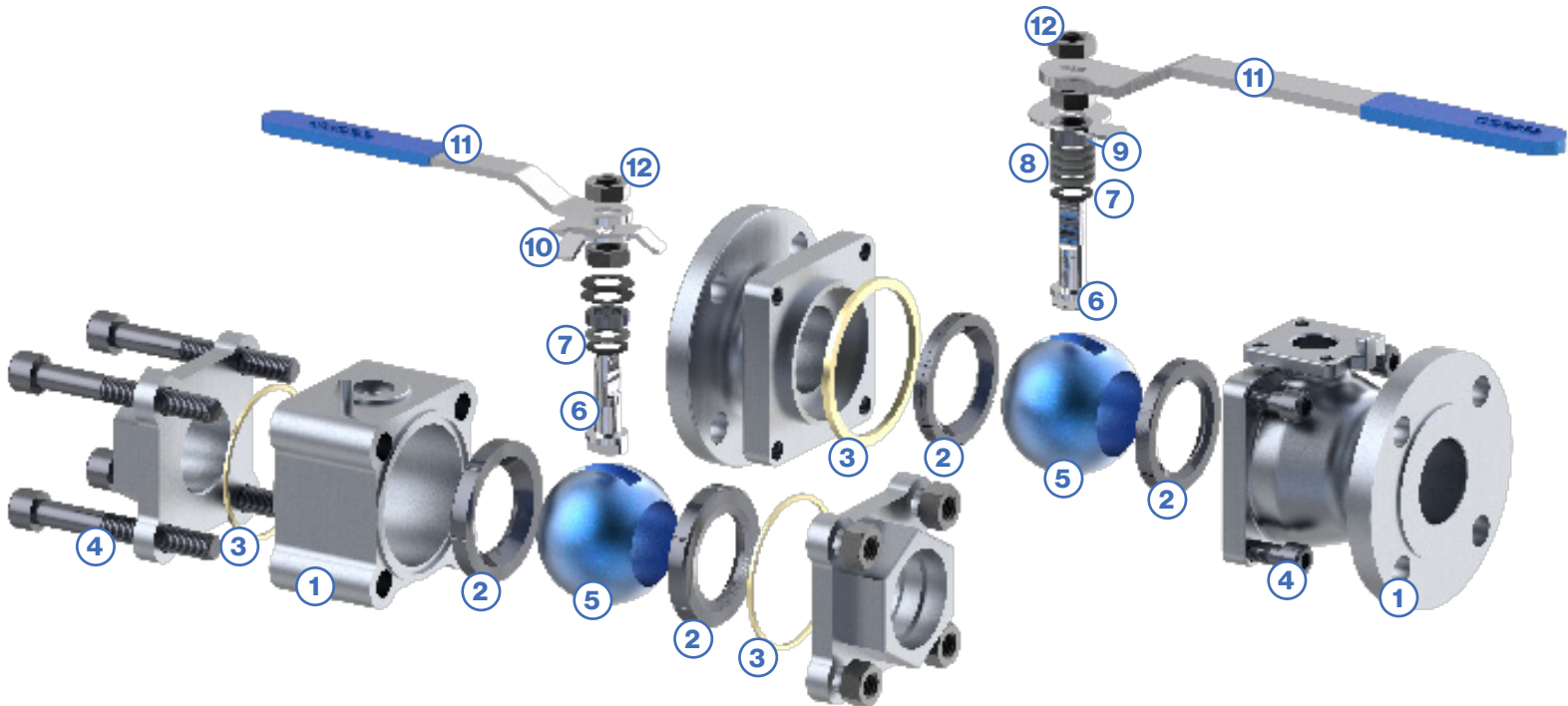
Tested in Accordance with: API 598, API 607 Rev 8\*





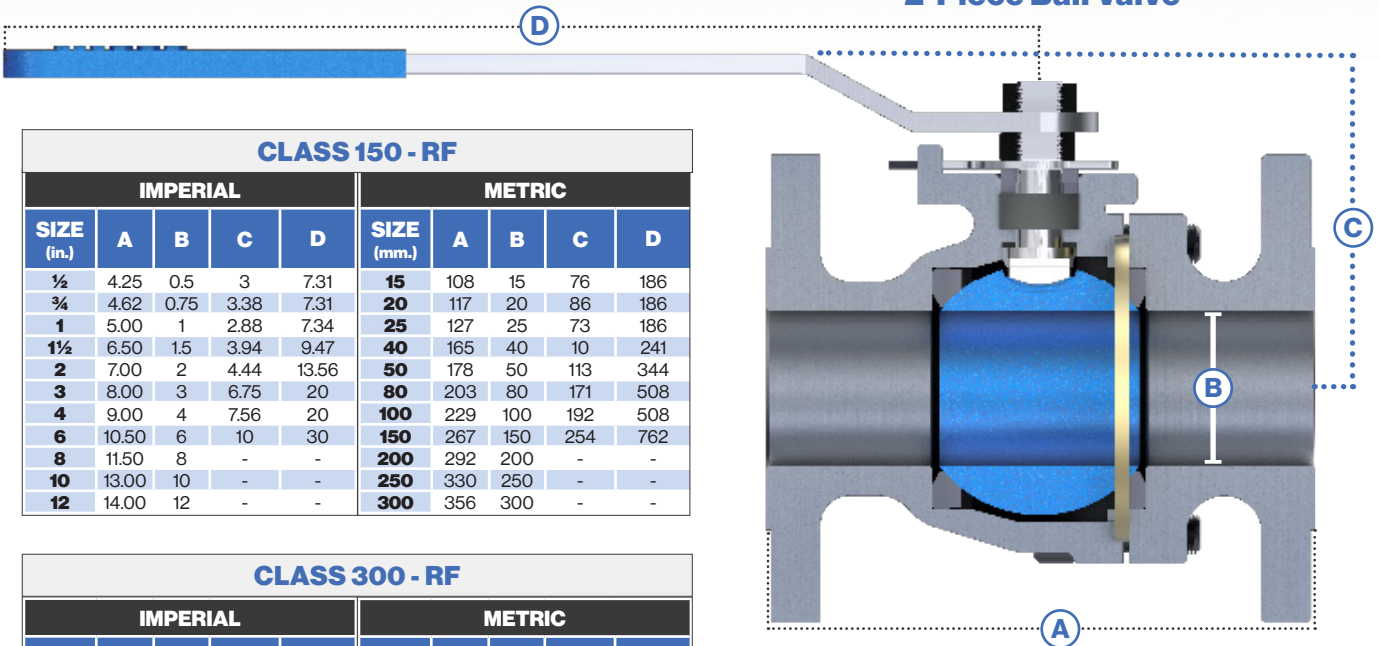
# EXPANDED VIEW

1. **Body and End Piece:** The end piece is built to the same standards as the bodies.
2. **Seat:** The seat ensures positive shutoff for pressure or vacuum services.
3. **Body Seal:** The body seal creates a leakproof seal between the body and end piece.
4. **Body & End Piece Bolting:** The body and end piece bolting secures the body to the end piece.
5. **Ball:** The seat ensures positive shutoff for pressure or vacuum services.
6. **Stem:** Blow-out proof stem ensures the valve stem cannot be blown out of the body under pressure.
7. **Thrust Bearing:** The thrust bearing provides back seating, protection, and reduces friction and loading.
8. **Packing:** The packing creates a pressured seal.
9. **Stem Bushing:** Compresses the packing and thrust bearing to create a stem seal. Stem Bushing is same as body material.
10. **Stop Plate:** The stop plate prevents the stem turning past 90°.
11. **Lever:** Cycles the valve.
12. **Handle Nuts:** These secure the lever to the stem.
13. **Anti-Static Spring (not shown):** Insures electrical continuity between the body, ball, and stem.



# Cast Full Port 2-Piece Ball Valves

## 2-Piece Ball Valve



CLASS 150 - RF									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
½	4.25	0.5	3	7.31	15	108	15	76	186
¾	4.62	0.75	3.38	7.31	20	117	20	86	186
1	5.00	1	2.88	7.34	25	127	25	73	186
1½	6.50	1.5	3.94	9.47	40	165	40	10	241
2	7.00	2	4.44	13.56	50	178	50	113	344
3	8.00	3	6.75	20	80	203	80	171	508
4	9.00	4	7.56	20	100	229	100	192	508
6	10.50	6	10	30	150	267	150	254	762
8	11.50	8	-	-	200	292	200	-	-
10	13.00	10	-	-	250	330	250	-	-
12	14.00	12	-	-	300	356	300	-	-

CLASS 300 - RF									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
½	5.50	0.5	3	7.31	15	140	15	76	186
¾	6.00	0.75	3.38	7.31	20	152	20	86	186
1	6.50	1	3.41	7.34	25	165	25	87	186
1½	7.50	1.5	3.94	9.47	40	190	40	100	241
2	8.50	2	4.48	13.56	50	216	50	114	344
3	11.12	3	6.88	20	80	282	80	175	508
4	12.00	4	8.03	20	100	305	100	204	508
6	15.88	6	12.5	30	150	403	150	318	762
8	16.50	8	-	-	200	419	200	-	-
10	18.00	10	-	-	250	457	250	-	-
12	19.75	12	-	-	300	502	300	-	-

CLASS 600 - RF				
IMPERIAL				
SIZE (in.)	A	B	C	D
½	5.50	0.5	3	7.31
¾	6.00	0.75	3.38	7.31
1	6.50	1	3.41	7.34
1½	7.50	1.5	3.94	9.47
2	8.50	2	4.48	13.06
3	11.12	3	6.88	20
4	12.00	4	8.03	30
6	15.88	6	12.5	30
8	16.50	8	-	-
10	18.00	10	-	-
METRIC				
SIZE (mm.)	A	B	C	D
15	140	15	76	186
20	152	20	86	186
25	165	25	87	186
40	190	40	100	241
50	216	50	114	332
80	282	80	175	508
100	305	100	204	762
150	403	150	318	762
200	419	200	-	-
250	457	250	-	-

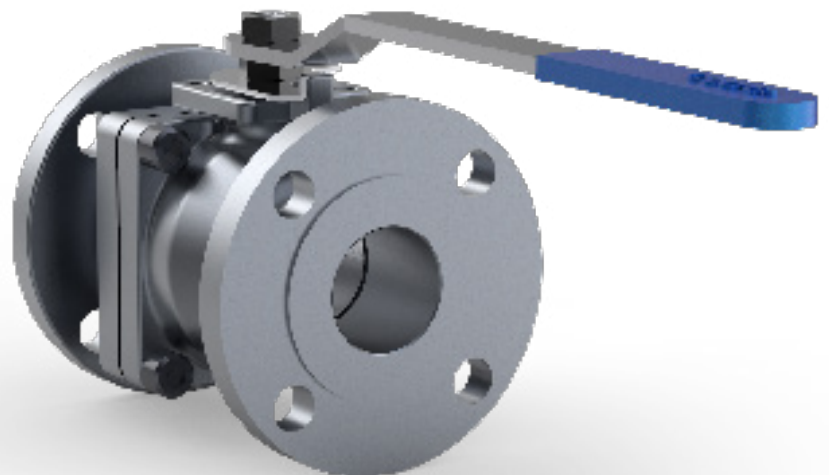
Valve imagery is for representation purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

### Sizes

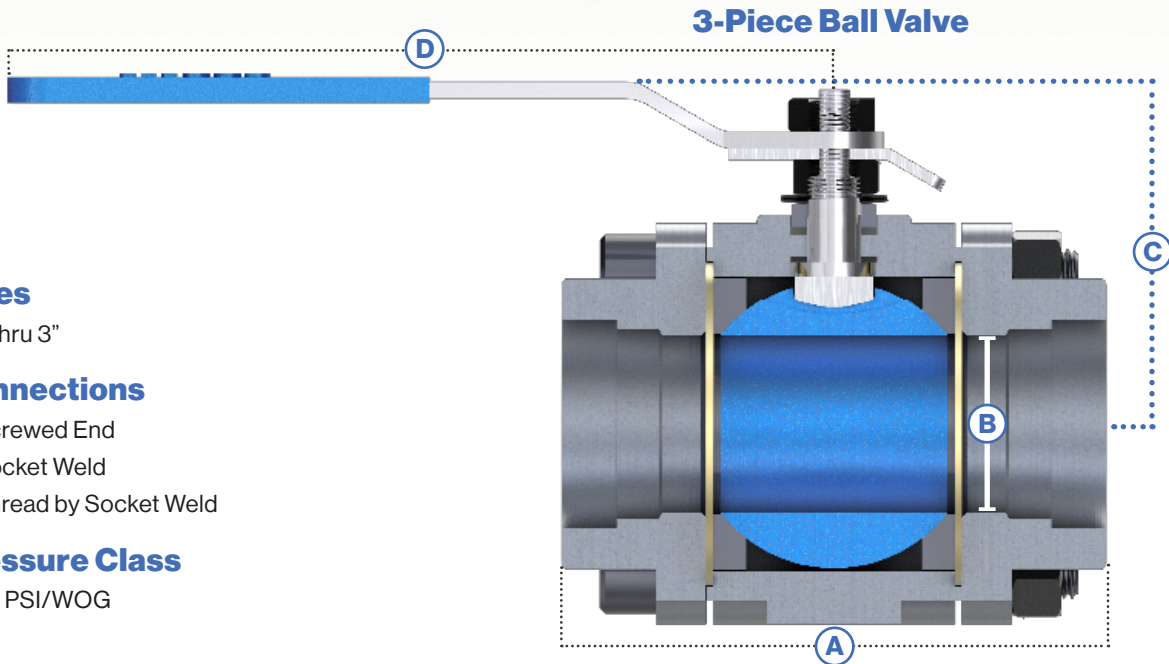
1/2" thru 12"

### Connections

- > Raised Face
- > Ring Type Joint
- > Butt Weld (Available on request)



# Cast Full Port 3-Piece Ball Valves



## Sizes

1/4" thru 3"

## Connections

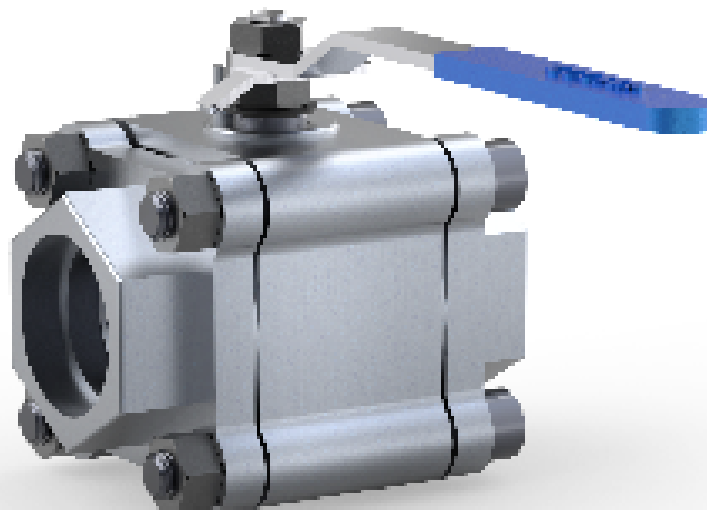
- > Screwed End
- > Socket Weld
- > Thread by Socket Weld

## Pressure Class

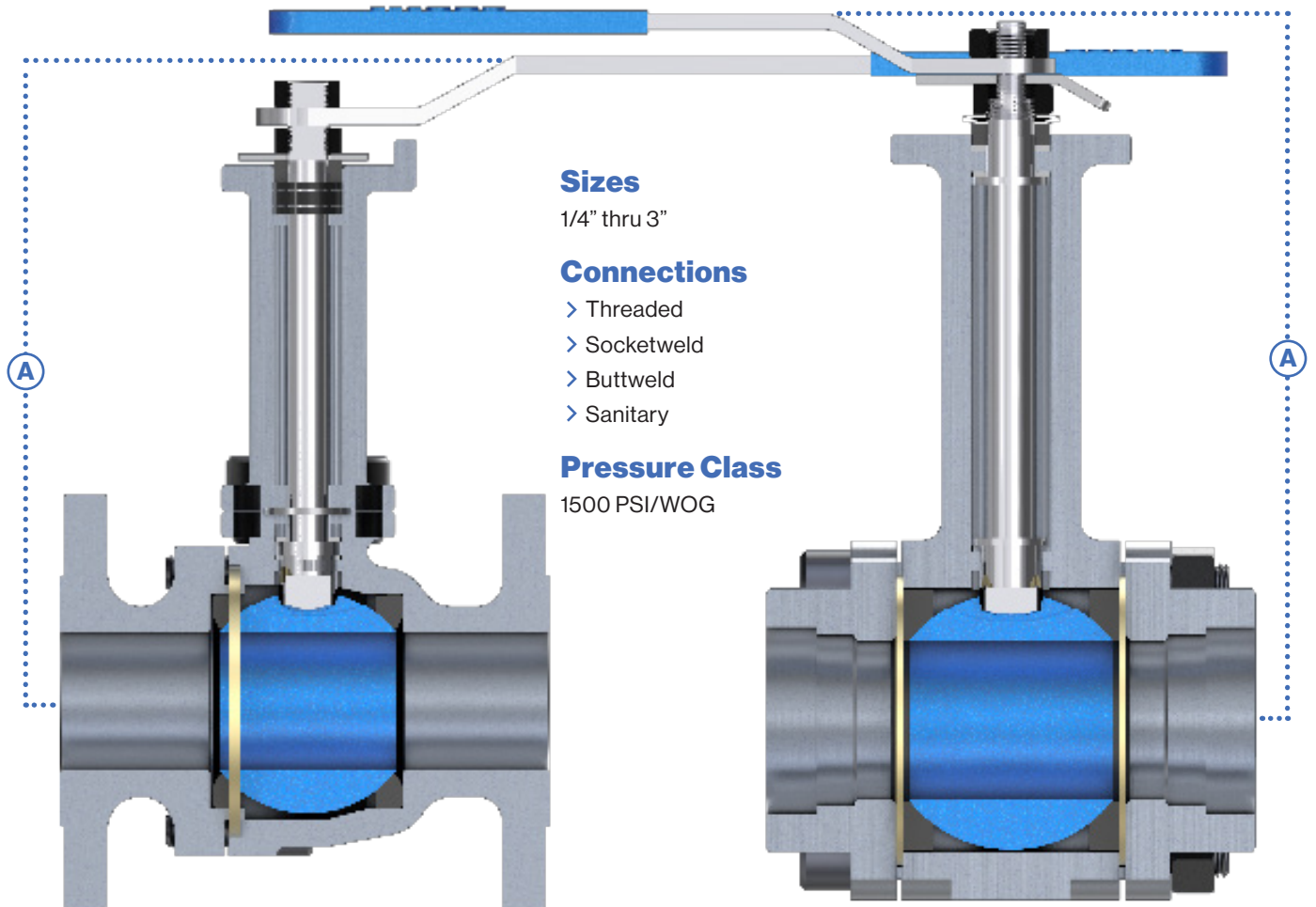
1500 PSI/WOG

Valve imagery is for representational purposes only.  
 Note: Dimensions are in Inches/Millimeters - Weight is in Pounds/Kilograms.  
 Dimensions are subject to change without notice.

CLASS 1500 - STANDARD PORT/FULL PORT									
IMPERIAL					METRIC				
SIZE (in.)	A	B	C	D	SIZE (mm.)	A	B	C	D
¼	2.91	0.44/0.25	1.94	4.75	5	74	11/6	49	121
⅜	2.91	0.44/0.38	1.94	4.75	10	74	11/10	49	121
½	2.91/3.09	0.44/0.50	1.94/2.00	4.75	15	74/78	11/13	49/51	121
¾	3.09/3.75	0.56/0.75	2.00/2.25	4.75/5.88	20	78/95	14/19	51/57	121/149
1	3.75/4.16	0.81/1.00	2.25/2.50	5.88	25	95/106	21/25	57/64	149
1¼	4.16/4.53	1.00/1.25	2.50/3.00	5.88/7.63	30	106/115	25/32	64/76	149/194
1½	4.53/5.00	1.25/1.50	3.00/3.25	7.63	40	115/127	32/38	76/83	194
2	5.00/5.94	1.50/2.00	3.25/4.00	7.63/9.50	50	127/151	38/51	83/102	194/241
3	7.25	2.50/3.00	6.00/7.00	9.50/10.0	80	184	64/76	152/178	241/251



# Cryogenic Ball Valves



## Sizes

1/4" thru 3"

## Connections

- > Threaded
- > Socketweld
- > Butt weld
- > Sanitary

## Pressure Class

1500 PSI/WOG

Standard extended bonnet and stem "A" dimension available in 3", 4", 6" & 8" lengths. Other lengths available on request.

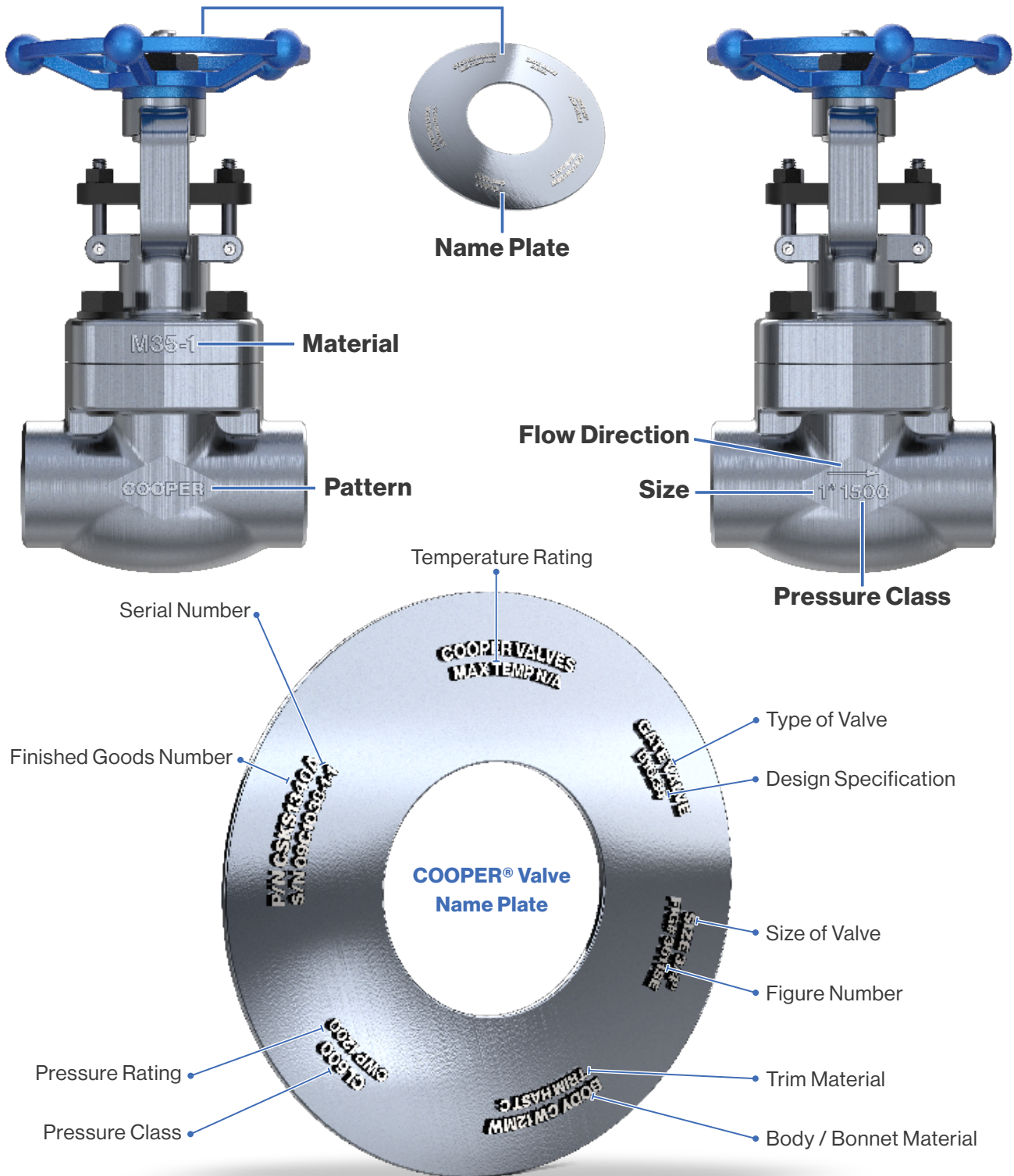
## Special Advantages

- > Reinforced TFE seats and seals
- > Secondary metal-to-metal seat
- > Self-adjusting packing
- > Blowout-proof stem
- > 1/4" thru 3" standard and full port
- > 781 PEEK thrust bearing – exceptionally long life
- > Pressures: vacuum to 1500 PSI
- > Ends: threaded, socketweld, butt weld & sanitary
- > Materials: cast stainless steel & exotic alloy
- > All valves tested to ASME, MSS, or API specifications
- > All valves serialized – full traceability of materials
- > Flexible manufacturing facility – widest choice of special applications in the industry.

# Valve and Name Plate Overview

## Name Plate

The name plate displays all construction and tracking data regarding the respective valve on which it is attached. Below is a general overview of the identification tag components. Name Plates are securely fastened to the valve. Globe and Check Valves will have a flow direction arrow on body for proper installation.





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