

Vogt

**Pressure Seal
Valves**



Vogt reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this catalogue, are provided for your information only and should not be relied upon unless confirmed in writing.

For more information visit www.vogtvalves.com

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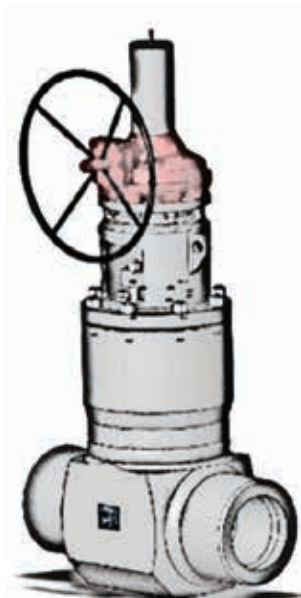
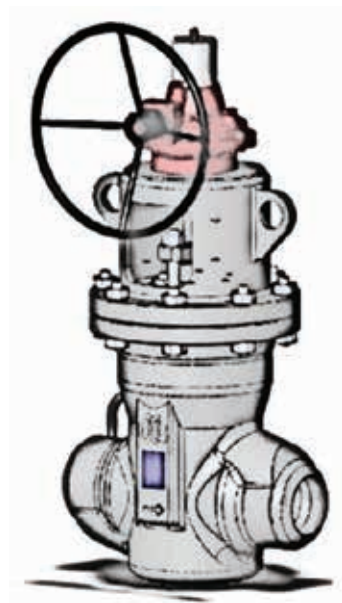
ISSUED 07/2018 revision 01

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Vogt Valves A History in the Making

In the late 1890s, Vogt pioneered the early development of ammonia absorption refrigeration systems that made artificial ice. This business, plus Vogt's fledgling boiler business, created an internal need for quality valves that initiated Vogt's early entry into the valve manufacturing business. The early reputation of Vogt's quality valves and rapidly growing petroleum processing industry created an outside demand that would firmly establish Vogt in the mass production of high-quality forged steel valves. For more than 100 years, Vogt's leadership has been evident in the production of forged steel gate, globe, angle and check valves in most popular materials, trims and bonnet configurations. Today, Vogt valves support a worldwide network of distributors with access to the world's largest capability for manufacturing of forged steel valves.



VOGT OFFERS FORGED STEEL PRESSURE SEAL VALVES

Class 900 to Class 4500 for the Oil & Gas, Power and Petrochemical Industries.

FORGED PRESSURE SEAL VALVES ARE PREFERRED FOR:

- Severe Service
- Higher reliability
- Stringent leakage rate
- Service to nominal pressure up to class 4500#

AVAILABLE CONFIGURATION:

- Flexible Wedge Gate
- Parallel Slide Gate
- T Pattern Globe
- Y Pattern Globe
- Swing Check
- Tilting Check
- Stop Check

MATERIALS:

Carbon steel: A105 – LF2

Stainless steel:

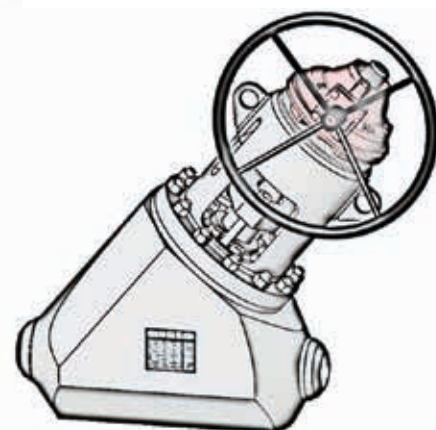
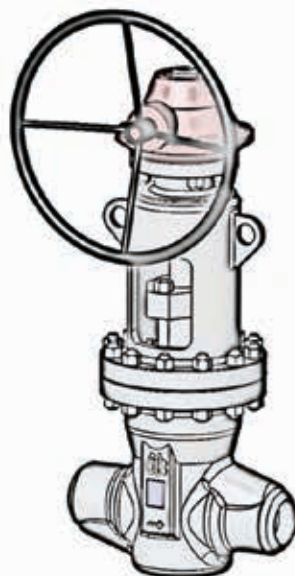
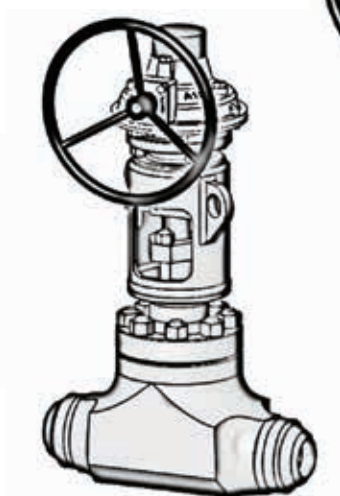
F304 – F316 – F321H – F347H

Low alloyed material: F1 – F5 – F11 – F22 – F9 – F91 – F92

Nickel based: 825 – 625 – Hastelloy® C276 – Hastelloy® C22

DESIGN AND MANUFACTURING STANDARDS

API 600	Steel Gate Valves Flanged and Butt-welding Ends, Bolted Bonnets
API 623	Steel Globe Valves-Flanged and Butt welding Ends, Bolted Bonnets
API 594	Check valves: Flanged, Lug, Wafer and Butt welding
ASME B16.5	Pipe flanges and flanged fittings ISO5210 [NPS ½ through NPS 24]
ASME B16.10	Face to face and end to end dimensions of valves
ASME B16.25	Butt-welding ends
ASME B16.34	Valves-flanged threaded and welding end



QUALITY ASSURANCE


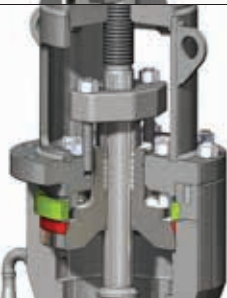
Our activities are organized in accordance to procedures qualified to ISO 9001:2015
TÜV süd

DESIGN AND MANUFACTURING STANDARDS

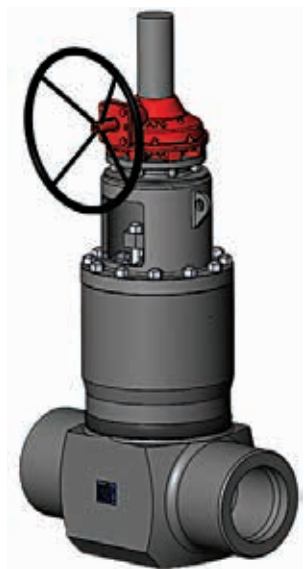
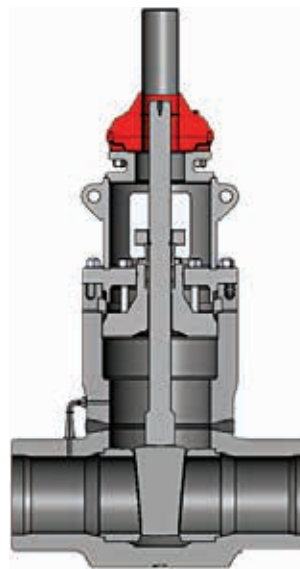
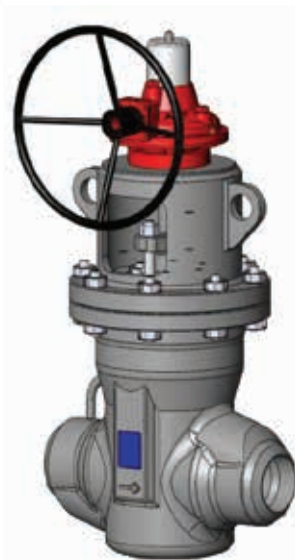
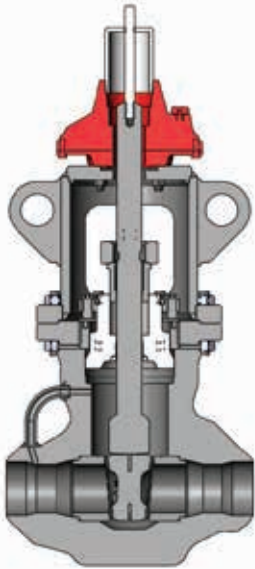
DESIGN AND MANUFACTURING STANDARDS	
API 624	Fugitive emissions testing
API 622	Type testing of process valve packing for fugitive emissions
API 6FA	Specification for fire test for valves
API 607	Fire Safe for quarter turn valves and valves equipped with non metallic seats
ISO 15848-1 & 2	Fugitive emissions testing for valve stem seal and body joint
NACE MR01.75 / ISO15156	Petroleum petrochemical and natural gas industries, materials for use in H ₂ S containing environments oil and gas production

	GATE						GLOBE						CHECK					
	WEDGE			PARALLEL SLIDE			T PATTERN			Y PATTERN			SWING			TILTING		
	#900	#1500	#2500	#900	#1500	#2500	#900	#1500	#2500	#900	#1500	#2500	#900	#1500	#2500	#900	#1500	#2500
1/2"																		
3/4"																		
1"																		
1 1/2"																		
2"																		
2 1/2"																		
3"																		
4"																		
6"																		
8"																		
10"																		
12"																		
14"																		
16"																		
18"																		
20"																		
24"																		

Larger size details available on request • Class 4500 details available on request

	GATE	GLOBE	CHECK
	TBP - Threaded Body - one forged piece with Pillars		TB - Threaded Body one forged piece
	TBY - Threaded Body - one forged piece with Yoke		
	SR1 - Segmented ring - one forged piece with Yoke		SR - Segmented ring one forged piece
	SR2 - Segmented ring - two forged piece with Yoke		

Weight figures are relevant to BW end valves. For dimensions and weights in larger sizes or flanged valves consult the factory.
Dimensions and weights are subject to change without notice.

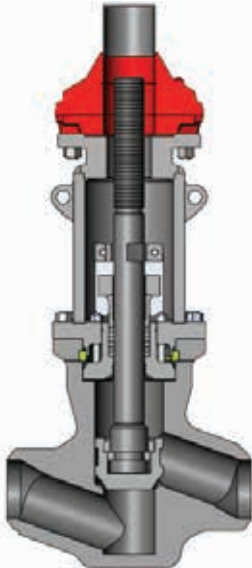


GATE one piece

- Sizes ½" through 6"
- Closed Die Forging
- B16.34 design
- Class 900
- Class 1500
- Class 2500
- Wedge
- Parallel slide

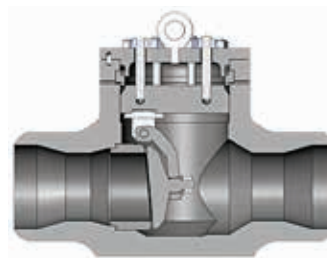
GATE two pieces welded

- Sizes 8" through 24"
- Open Die Forging
- B16.34 design
- Class 900
- Class 1500
- Class 2500
- Wedge
- Parallel slide



GLOBE

- Sizes ½" through 24"
- Closed Die Forging
- B16.34 design
- Class 900
- Class 1500
- Class 2500
- T-Pattern
- Y-Pattern
- Stop Check



CHECK

- Sizes ½" through 24"
- Closed Die Forging
- Open Die Forging
- B16.34 design
- Class 900
- Class 1500
- Class 2500
- Swing
- Tilting disc

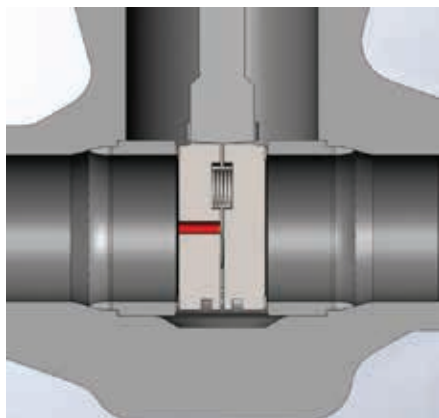
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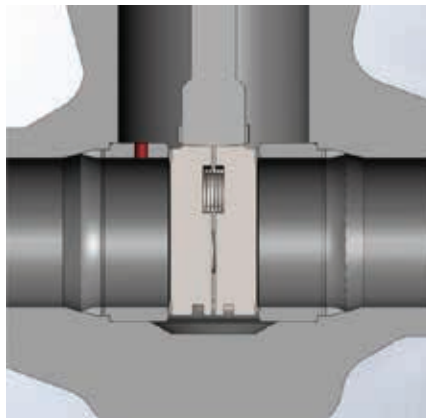
Overpressure Release

Equalizer pipe, relief valve or drilled seat available to avoid body cavity overpressure.

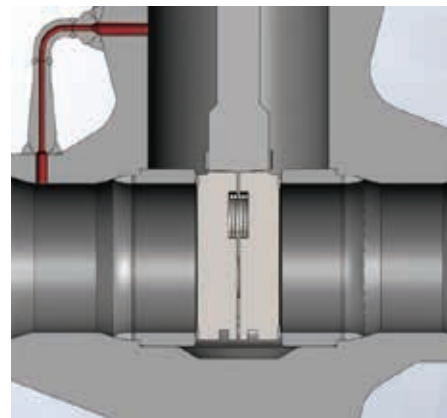
Body cavity can be pressure equalized upstream by means of:



HOLE IN THE DISC



HOLE IN THE SEAT

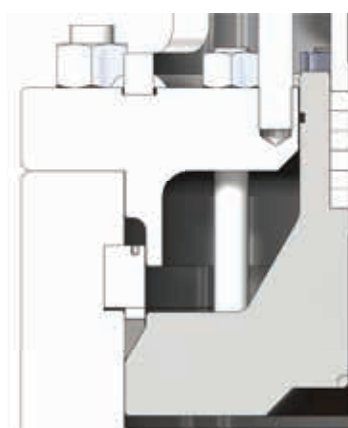


EQUALIZER PIPE

Overpressure relief configurations render the valve unidirectional.

Main Body Seal

Sealing material, composite or metallic, available in triangular shape as standard. Encapsulated rectangular shape available upon request.



PRESSURE SEAL

Bypass and Drain

Bypass and drain are available with on/off globe or gate valves. In case bypass is requested body cavity can still be pressure equalized or pressure relieved. With these configurations the valve will be bidirectional.



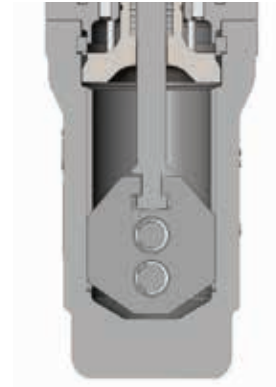
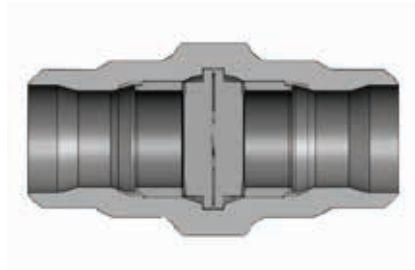
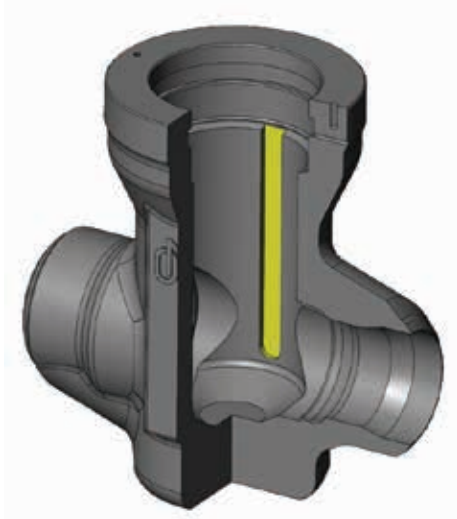
BYPASS WITH ONE
GLOBE VALVE +
PRESSURE RELIEF



BYPASS WITH
TWO GLOBE VALVES +
EQUALIZER PIPE

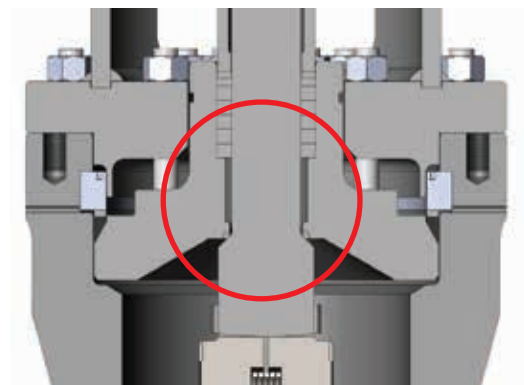
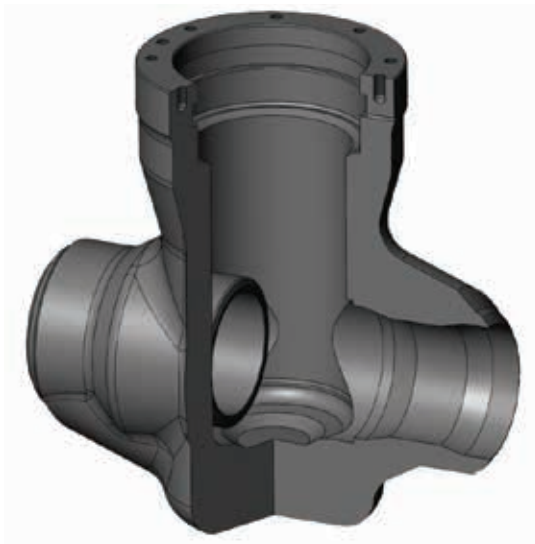
Body Guided Design

Gate standard design has female machined guides in the body
Stem guided design without body grooves available on request



Stem Guided Design

Stem guided by the bushing
Stem and bearing can be Chrome carbide coated



NOTE: Fully supported “pocket” design available





Choice of Operators

Manual, Electric, Hydraulic Actuator, Pneumatic linear Standard operator interfaces connections are designed to ISO5210



BEVEL GEARBOX



ELECTRIC ACTUATOR



HYDRAULIC ACTUATOR



PNEUMATIC LINEAR ACTUATOR

In consideration of the high number of turns required to operate large size valves, Vogt suggests use of an actuator to minimize operating or stroke time.

Double start stem design available to decrease operating time.

Actuator flanges are standardized to ISO 5210 mounting interfaces, allowing interchangeability at any time.

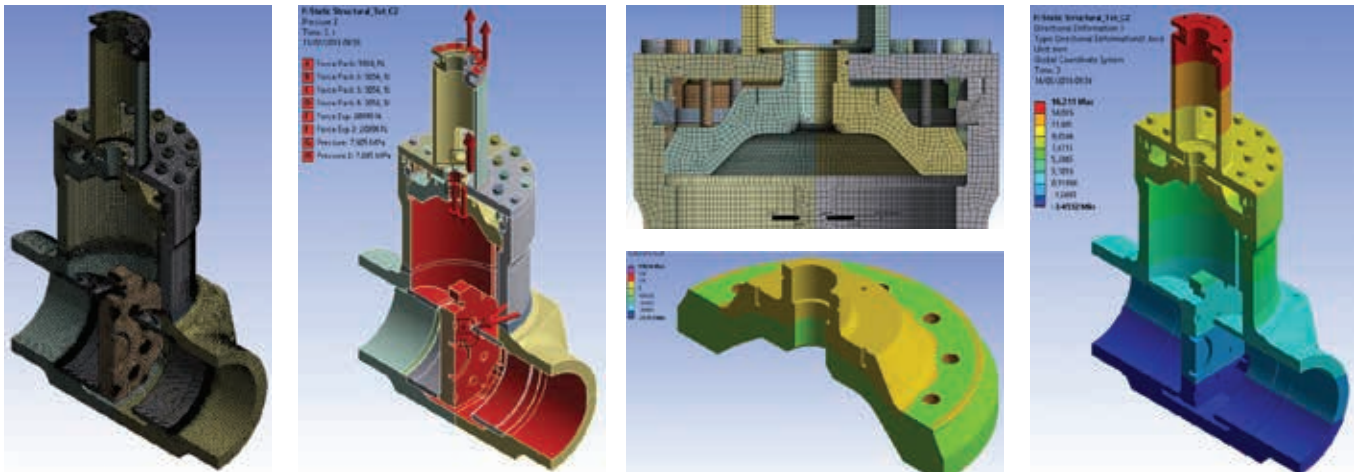
On wedge configuration gear and actuators can be supplied with high temp stem expansion compensator.

DESIGN VERIFICATION

Finite Element Analysis is performed on all designs to evaluate the product performance in simulated min./max. service conditions. Computational Fluid Dynamics calculations and 3D solid design analysis are executed in house.

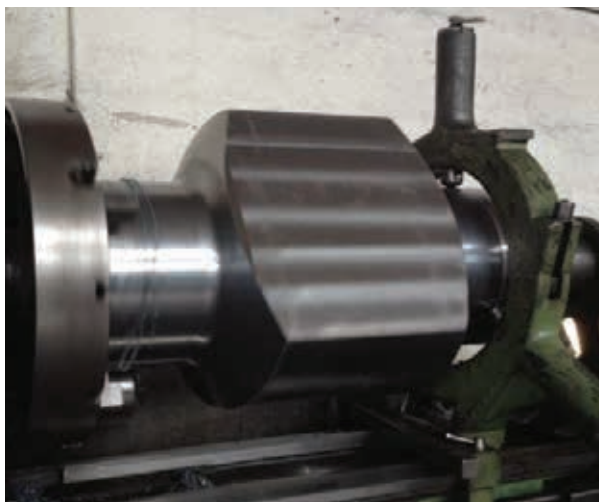
Design analysis is performed in addition to code to mitigate stress and or fatigue introduced by temperature/pressure, maximize flow, minimize erosion and optimize each component part.

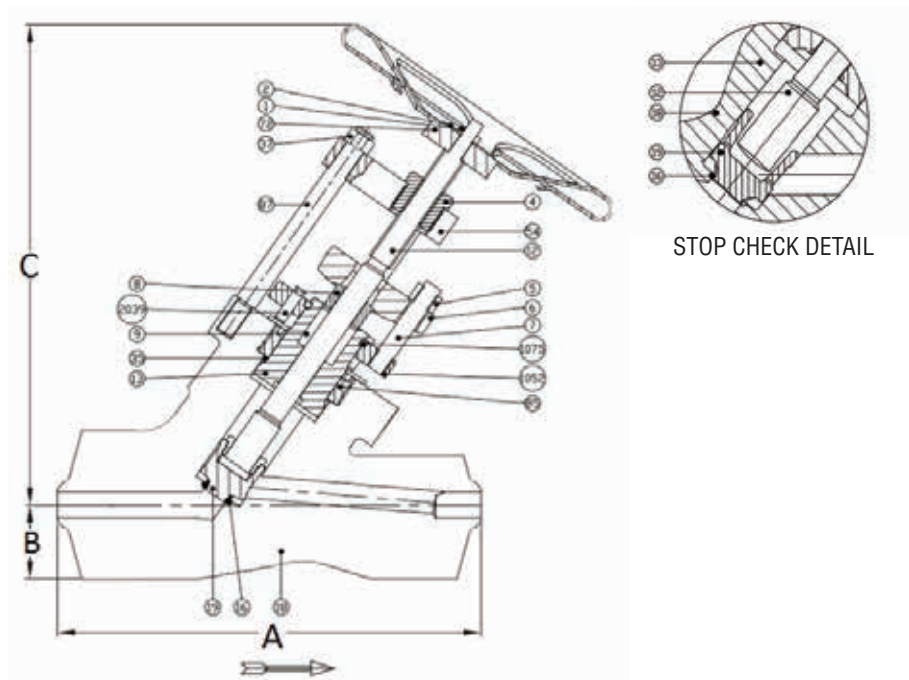
DESIGNED BY ANALYSIS AND DESIGNED TO CODE



IN PROCESS QUALITY CONTROL

Forgings up to 50 tons are machined to final shape in any alloyed steel material; strict surveillance of machining tolerances ensure proper mating of parts during assembly. Two piece bodies are full penetration welded with post weld heat treatment and 100% radiographic inspection as standard. All other welding activities are inspected using UT or RX. All component parts are inspected in one of our laboratories, by our NDE technicians and/or our QA/QC level II/III inspectors to guarantee the highest level of reliability.





BUTT WELDING ENDS ACCORDING TO ASME B16.25

DESIGN ACCORDING TO ASME B16.34

END TO END ACCORDING TO ASME B16.10 SHORT PATTERN

DESCRIPTION		MATERIAL SPECIFICATION			
		ASTM A105N	ASTM A182 F11	ASTM A182 F22	ASTM A182 F91
1	WHEEL NUT	CARBON STEEL			
2	NAMEPLATE	AISI 316			
5	GLAND NUT	ASTM A194 2H	ASTM A194 Gr.7		
6	GLAND FLANGE	ASTM A105			
7	GLAND STUD	ASTM A193 B7	ASTM A194 B16		
8	GLAND	ASTM A479 410			
9	PACKING	GRAPHITE			
12	STEM	ASTM A479 410			ASTM A479 XM-19
13	BONNET	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A739 B22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
16	INTEGRAL SEAT	STELLITE Gr.6			
19	DISC PLUG	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A182 F22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
18	BODY	ASTM A105N	ASTM A182 F11	ASTM A182 F22 Cl.3	ASTM A182 F91
35	GASKET	S.S. 316			
37	PILLAR NUT	ASTM A194 2H			ASTM A194 Gr.8
72	HANDWHEEL	CARBON STEEL			
54	YOKE FLANGE	ASTM A105			AISI 316
85	SCREWED RING	ASTM A479 410			ASTM A479 XM-19
87	PILLAR	ASTM A105			
4	BUSHING	AISI 416			
1052	COUPLING FLANGE	ASTM A105			
2039	BONNET BOLTS	ASTM A193 B8			
1075	SEGMENTED RING	ASTM A182 F6			

Weight figures are relevant to BW end valves. For dimensions and weights in larger sizes or flanged valves consult the factory.
Dimensions and weights are subject to change without notice.

CLASS 900

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
½"	110	4.33	20	0.79	149	5.87	7	16
¾"	110	4.33	20	0.79	175	6.89	9	20
1"	142	5.59	28	1.10	185	7.28	12	27
1 ½"	170	6.69	38	1.50	283	11.14	16	36
2"	368	14.49	43	1.69	350	13.78	56	124

CLASS 1500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
½"	142	5.59	25	0.98	240	9.45	10	23
¾"	226	8.90	42	1.65	265	10.43	19	42
1"	254	10.00	42	1.65	305	12.01	20	45
1 ½"	305	12.01	42	1.65	360	14.17	26	58
2"	368	14.49	58	2.28	360	14.17	80	177

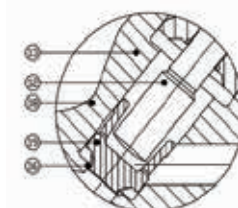
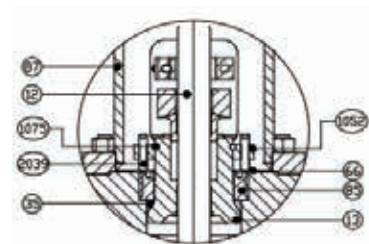
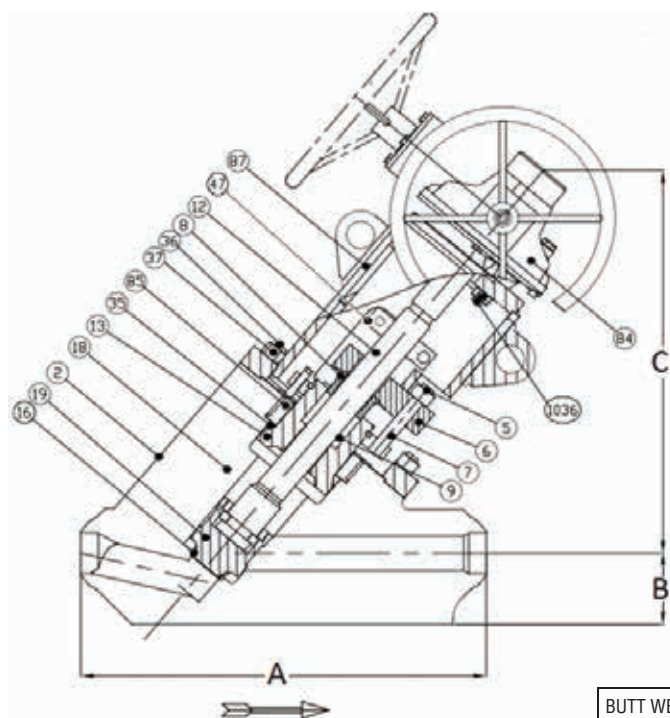
CLASS 2500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
½"	246	9.69	42	1.65	310	12.20	21	47
¾"	273	10.75	42	1.65	350	13.78	25	56
1"	308	12.13	33	1.30	350	13.78	27	60
1 ½"	384	15.12	45	1.77	395	15.55	34	75
2"	451	17.76	58	2.28	420	16.54	100	221

Stop Check design available | One single piece - closed die forging | Threaded body with pillars



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STOP CHECK DETAIL

BUTT WELDING ENDS ACCORDING TO ASME B16.25
DESIGN ACCORDING TO ASME B16.34
END TO END ACCORDING TO ASME B16.10 SHORT PATTERN

DESCRIPTION		MATERIAL SPECIFICATION			
		ASTM A105N	ASTM A182 F11	ASTM A182 F22	ASTM A182 F91
2	NAMEPLATE	AISI 316			
5	GLAND NUT	ASTM A194 2H	ASTM A194 Gr.7		
6	GLAND FLANGE	ASTM A105			
7	GLAND STUD	ASTM A193 B7	ASTM A193 B16		
8	GLAND	ASTM A479 410			
9	PACKING	GRAPHITE			
12	STEM	ASTM A479 410			ASTM A479 XM-19
13	BONNET	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A739 B22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
16	INTEGRAL SEAT	STELLITE Gr.6			
19	DISC PLUG	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A182 F22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
18	BODY	ASTM A105N	ASTM A182 F11	ASTM A182 F22 Cl.3	ASTM A182 F91
35	GASKET	GRAPHITE + SS.316			
36	BODY BOLTS	ASTM A193 B7 / 2H	ASTM A193 B16 / Gr.7		
85	SCREWED RING	ASTM A182 F6a CL.2			ASTM A182 FXM-19
47	INDICATOR	ASTM A105			AISI 316
1075	SEGMENTED RING	ASTM A479 410			
66	WASHER	ASTM A516 Gr.70			
84	GEAR	DUCTILE IRON			
87	YOKE	ASTM A105			
2039	BONNETS BOLTS	ASTM A193 B8			
1036	GEAR BOLTS & NUTS	ASTM A193 B7 / ASTM A194 2H			
1052	COUPLING FLANGE	ASTM A105			

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CLASS 900

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
2 ½"	368	14.49	53	2.09	420	16.54	82	181
3"	381	15.00	62	2.44	510	20.08	110	243
4"	457	17.99	82	3.23	550	21.65	340	750

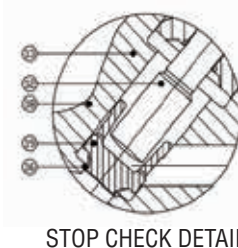
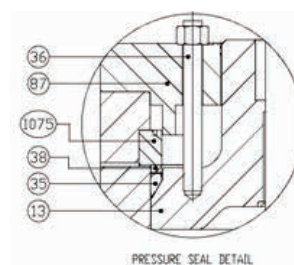
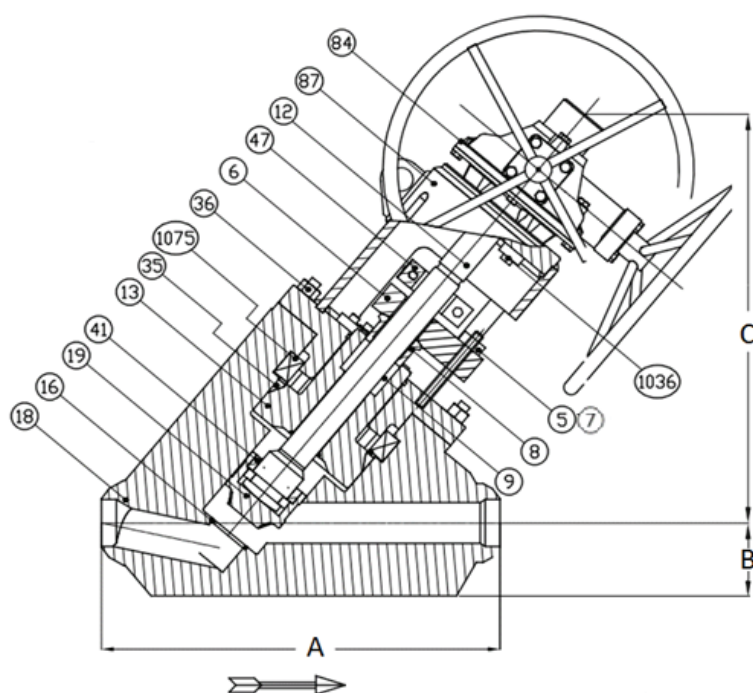
CLASS 1500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
2 ½"	384	15.12	62	2.44	430	16.93	106	234
3"	470	18.50	68	2.68	540	21.26	130	287
4"	546	21.50	90	3.54	645	25.39	190	419

CLASS 2500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
2 ½"	508	20.00	76	2.99	454	17.87	146	322
3"	578	22.76	110	4.33	540	21.26	170	375
4"	-	-	-	-	-	-	-	-

Stop Check design available | One single piece - closed die forging | Threaded body with yoke



BUTT WELDING ENDS ACCORDING TO ASME B16.25
 DESIGN ACCORDING TO ASME B16.34
 END TO END ACCORDING TO ASME B16.10 SHORT PATTERN

DESCRIPTION		MATERIAL SPECIFICATION			
		ASTM A105N	ASTM A182 F11	ASTM A182 F22	ASTM A182 F91
2	NAMEPLATE	AISI 316			
5	GLAND NUT	ASTM A194 2H	ASTM A194 Gr.7		
6	GLAND FLANGE	ASTM A105			
7	GLAND STUD	ASTM A193 B7	ASTM A193 B16		
8	GLAND	ASTM A479 410			
9	PACKING	GRAPHITE			
12	STEM	ASTM A479 410			ASTM A479 XM-19
13	BONNET	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A739 B22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
16	INTEGRAL SEAT	STELLITE Gr.6			
19	DISC PLUG	ASTM A105N+STELLITE Gr.6	ASTM A182 F11+STELLITE Gr.6	ASTM A182 F22+STELLITE Gr.6	ASTM A182 F91+STELLITE Gr.6
18	BODY	ASTM A105N	ASTM A182 F11	ASTM A182 F22 Cl.3	ASTM A182 F91
35	GASKET	GRAPHITE + SS.316			
36/37	BODY BOLTS	ASTM A193 B7 / 2H	ASTM A193 B16 / Gr.7		
41	SCREWED DISC RING	ASTM A479 410			
47	INDICATOR	ASTM A105			AISI 316
1075	SEGMENT RING	ASTM A182 F6a CL.2			ASTM A182 FXM-19
38	SPACER RING	ASTM A105			F316
84	GEAR	DUCTILE IRON			
87	YOKE	ASTM A105			
1036	GEAR BOLTS NUTS	ASTM A193 B7 / ASTM A194 2H			

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CLASS 900

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
4"	-	-	-	-	-	-	-	-
6"	508	20.00	122	4.80	700	27.56	410	904
8"	660	25.98	163	6.40	830	32.68	760	1676
10"	787	30.98	203	8.00	1020	40.16	950	2095
12"	914	35.98	244	9.60	1150	45.28	1290	2844
14"	991	39.02	284	11.20	1280	50.39	1560	3440
16"	1092	42.99	325	12.80	1400	55.12	2020	4454
18"	1219	47.99	366	14.40	1530	60.24	2900	6394
20"	1321	52.01	406	16.00	1700	66.93	3180	7011
24"	1549	60.98	488	19.20	1850	72.83	3750	8268

CLASS 1500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
4"	-	-	-	-	-	-	-	-
6"	559	22.01	152	6	630	24.80	430	948
8"	711	27.99	203	8	810	31.89	920	2029
10"	864	34.02	254	10	930	36.61	1110	2448
12"	991	39.02	305	12	1200	47.24	1620	3572
14"	1067	42.01	356	14	1320	51.97	1780	3925
16"	1194	47.01	406	16	1450	57.09	2450	5402
18"	1346	52.99	457	18	1560	61.42	3600	7937
20"	1473	57.99	508	20	1680	66.14	3960	8731
24"	1943	76.50	610	24	1830	72.05	4760	10494

CLASS 2500

SIZE	A		B		C		W	
	mm	Inch	mm	Inch	mm	Inch	Kg	Lbs
4"	673	26.50	125	4.92	690	27.17	550	1213
6"	610	24.02	183	7.20	650	25.59	605	1334
8"	762	30.00	244	9.60	850	33.46	1120	2470
10"	914	35.98	305	12.00	970	38.19	1360	2999
12"	1041	40.98	366	14.40	1250	49.21	2280	5027
14"	1118	44.02	427	16.80	1380	54.33	2425	5347
16"	1245	49.02	488	19.20	1550	61.02	3490	7695
18"	1397	55.00	549	21.60	1650	64.96	4300	9480
20"	1537	60.51	610	24.00	1730	68.11	5120	11288
24"	1994	78.50	732	28.80	1990	78.35	6950	15323

Stop Check design available | One single piece - open die forging | Segmented ring design

Weight figures are relevant to BW end valves. For dimensions and weights in larger sizes or flanged valves consult the factory.
Dimensions and weights are subject to change without notice.



