

SEDELON VALVES



GLOBE VALVE CHECK VALVE STRAINER

Cast Globe Valve
Forged Globe Valve
Cast Check Valve
Forged Check Valve
Y Strainer & Basket Strainer



Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Болгода (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06

Жевск (3412)26-03-58
Курск (395)279-98-46
Казань (843)206-01-48
Алининград (4012)72-03-81
Алуга (4842)92-23-67
Емерово (3842)65-04-62
Имеров (8332)68-02-04
раснодар (861)203-40-90
расноярск (391)204-63-61
урск (4712)77-13-04
Ипецк (4742)52-20-81
Иргизия (996)312-96-26-47

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Урманск (8152)59-64-93
Абережные Челны (8552)20-53-41
Ижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Москва (3812)21-46-40
Рел (4862)44-53-42
Ренбург (3532)37-68-04
Иенза (8412)22-31-16
Казакстан (772)734-952-31

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-83
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Таджикистан (992)427-82-92-69

Ургут (3462)77-98-35
Верь (4822)63-31-35
Омск (3822)98-41-53
Ула (4872)74-02-29
Юмень (3452)66-21-18
Льяновск (8422)24-23-59
Фа (347)229-48-12
Абаровск (4212)92-98-04
Елябинск (351)202-03-61
Ереповец (8202)49-02-64
рославль (4852)69-52-93

<https://sedelon.nt-rt.ru/> || sde@nt-rt.ru

SEDELON VALVES



Gate Valve Series

Globe Valve Series Check Valve Series Strainer Series

Ball Valve Series

Butterfly Valve Series Plug Valve Series

Bronze Valve Series



To whom
it may
concern

Dear and Valuable Customer,

Believe and it becomes-SEDELON!

I am writing this letter to thank you for all your trust and support for SEDELON.

I believe you may here find a new continent.

Since 1998, Sedelon has rich experience and various achievement of gate valves, globe valves, check valves, ball valves, and butterfly valves for environment and safety in industrial projects.

Based on your ceaseless valuable feedback, Sedelon now has developed into a strong valve manufacturer which highly devotes to Quality and Service.

What we desire presently is to exceed our customers' expectation and lead a long-term enjoyable relationship with you.

Sincerely and warmly welcome your visit to Sedelon , we are always saving the best for you. Trust Sedelon, trust yourself.

May blessings and happiness all around you.

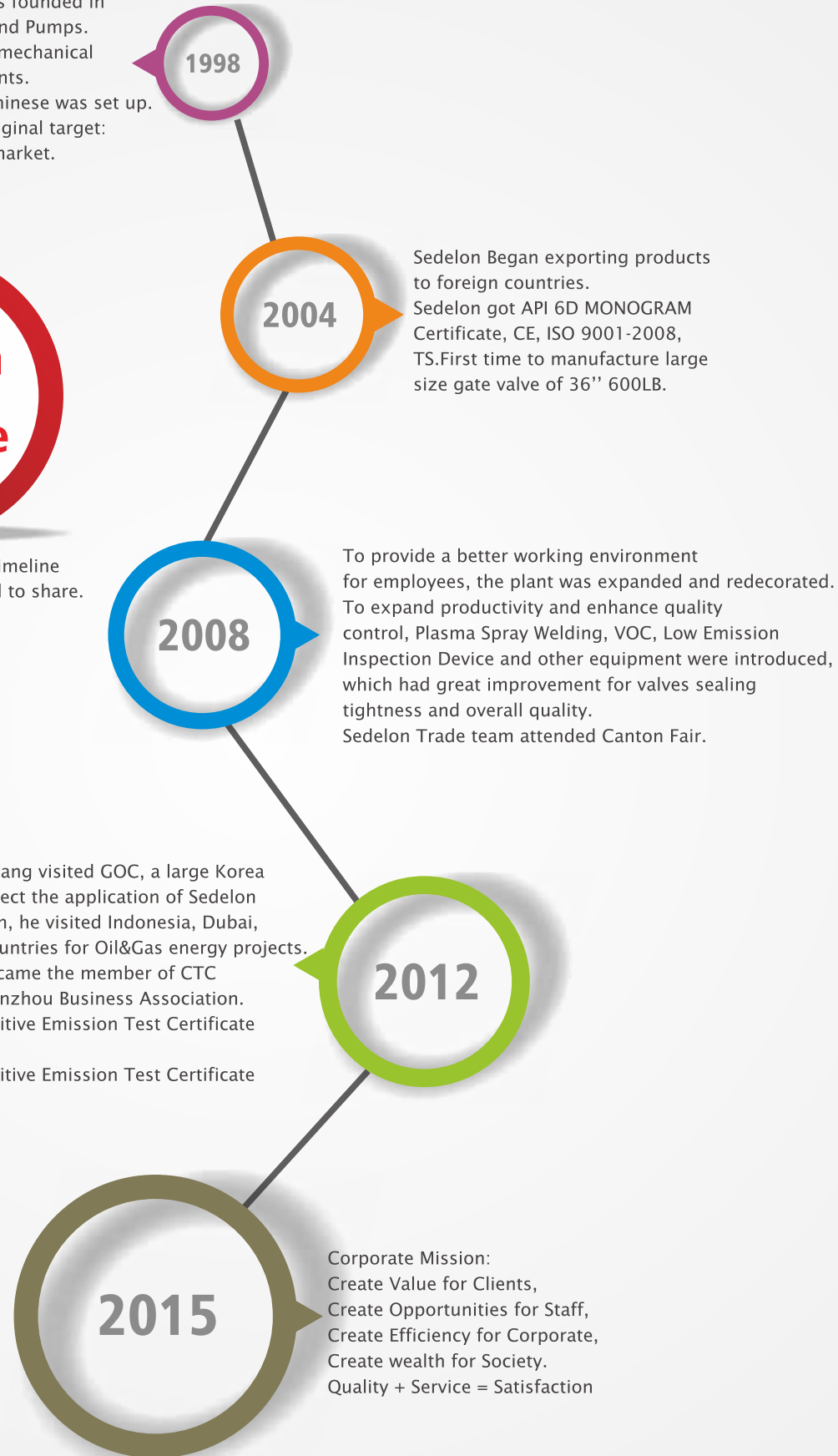
Faithfully

Sam Zhang

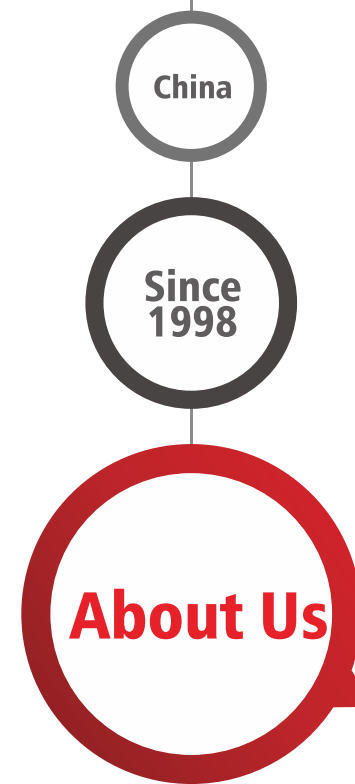
The Sedelon Valve Co., Ltd. was founded in Wenzhou, the land of Valves and Pumps. Sedelon introduced advanced mechanical equipment and absorbing talents. Company official website in Chinese was set up. Sedelon had set company's original target: Marching towards the global market.



Following a rich history timeline of Sedelon Valve is proud to share.



To be continued . . .



Sedelon Valve Company is Established in 1998.
Based in "The city of Valves and Pumps" Wenzhou, Zhejiang, China,
This Company is a Professional Manufacturer.

The main products of this company are Bronze valves, API/DIN gate/globe/ check valves, ball valves, butterfly valves, forged steel valves, ect. Its products have been widely used in petroleum, chemical, metallurgy, electric power, water conservancy, machinery and many other fields.

In order to provide customer high-quality and better service, the company has equipped the system certification such as API6D, CE, ISO9001, TS, Fugitive Emission Certificates, ect.

We have a strong management team which is formed by advanced technical experts, engineers, managers and salesmen. We emphasize the importance of teamwork. Working together and helping each other, we are just like a big and warm family.

The members of Sedelon all uphold the core concept of **"Quality + Service = Satisfaction"**.

We sincerely provide you high-quality products and excellent service. We are striving to be your first choice of manufacturer and supplier.



Producing Equipment

In order to improve the comprehensive strength and provide high performance products, Sedelon had tried our best to meet various requirements from customers by introducing advanced technology equipment. These producing equipment are necessary in valve production and we choose the superior.



- Vertical lathe
- Boring machine
- Engine lathe
- Milling machine
- Drilling machine
- Plasma spray welding machine
- Shot blasting machine
- Numerically controlled lathe
- Forklift trucks



As we all know, quality is the core of a brand, so Sedelon has built a very strict procedure for valve testing, following is our major testing equipment, some of which are imported from abroad.

Testing Equipment

- Automated Discrete Analyzer
- Fugitive Emission Testing(VOC)
- Impact Testing Machine
- Penetrant Testing
- Professional Paint Equipment
- Spectrometer(PMI)
- Wall Thickness Measurement Gauge
- Tension Test Machine
- Valve Pressure Test Device(From 150# to 2500# for 1/2" to 60")



Sedelon® Fugitive Emission Valves

Certificates

Sedelon Valve company compay to date has obtained the following main certifications :

CE,API6D,ISO9001,TS,Fugitive Emission Test Certificate and more to come.

We cherish our honor, We cherish our brand, we believe that we will be better in the near future.

Environmental Protection is Also Our Top Concern.
Sedelon Acquired Fugitive Emission Test Certificate.
Customized Packing Material, Perfect Sealing Performance.



Fugitive Emission Definition :

Pollutant released into air from leaks in equipment, pipe lines, seals, valves, etc., and not from the usual sources such chimneys and vents.

Protection of the Environment :

Environmental protection has been a top-concern topic of the whole world. Solutions are urgently needed to reduce the pressure loss and gas emission.

Perfect Sealing Performance :

Fugitive Emission Valves have already been adopted for the pipes in which the medium is poisonous, flammable and combustible. Gaskets and packing with high density and tightness are key points to avoid the emission.

Specialized Equipment :

The Leakage cannot be judged only by regular Air Test or Hydrostatic Test. In this case, helium instead of nitrogen will be used for the testing. Under the operation of the special facility, valves will be opened and closed automatically and frequently at the speed of 50 times per minutes to ensure the tightness. In the whole process, VOC testing facility is equipped nearby to monitor the sealing performance.



Contents

Globe Valve Series

- 04 Cast Steel Globe Valve
150#~2500#
- 06 Stainless Steel Globe Valve
150#~600#
- 08 Pressure Seal Cast Steel Globe Valve
900#~2500#
- 10 Forged Globe Valve
150#~1500#
- 12 Bellow Seal Globe Valve
PN16~PN40
- 14 DIN Globe Valve
PN16~PN64

Check Valve Series

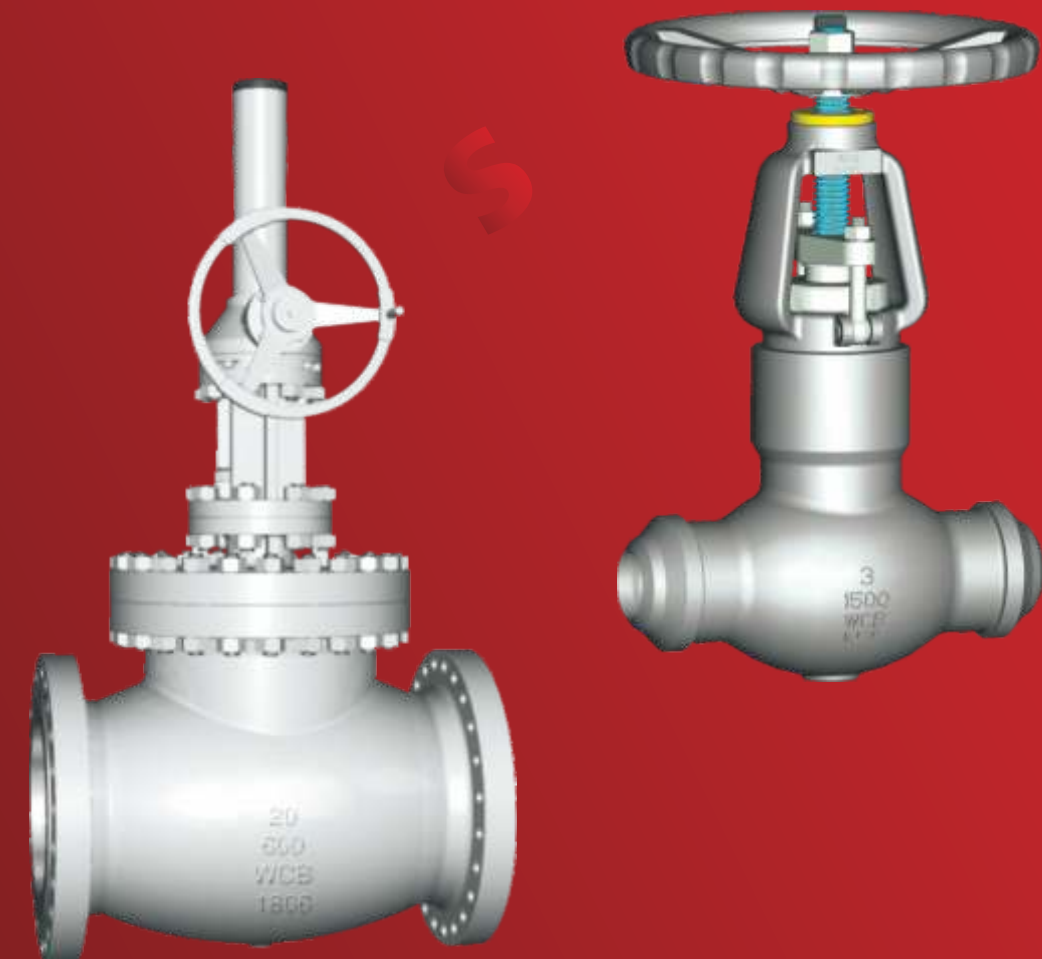
- 18 Cast Steel Swing Check Valve
150~2500#
- 22 Cast Stainless Steel Swing Check Valves
150#~600#
- 24 Pressure Seal Cast Steel Swing Check Valve
900#~2500#
- 26 Forged Steel Check Valve
150# ~1500#
- 28 DIN Check Valve
PN16~PN40
- 30 Cast Steel Wafer Check Valve
150#~900#

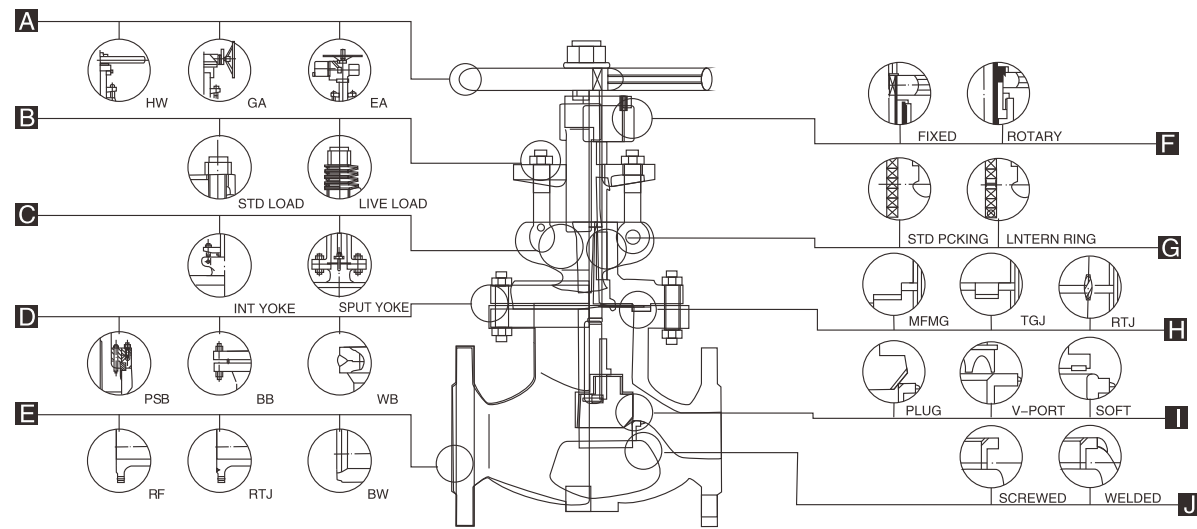
Y Type & Basket Strainer

- 33 Cast Steel Y-Strainer
150#~300#
- 34 Basket Strainer
150#~300#

Flanged Ends 150#~2500#

- 33
- 34
- 35





A Operation

Hand wheel operated
Gear operated
Motor operated
Pneumatic operated
Hydraulic operated

B Live Load Packing

Requiring frequent cycling or with high pressure/temperature variations, live loading extends the service life between maintenance periods. Belleville springs are employed to provide constant packing gland stress.

C OS & Y

Outside screw and yoke, cast steel globe valve yoke integral with bonnet for 10" and smaller, larger will be split yoke.

D BB

Bolted bonnet
Welding bonnet
Pressure seal bonnet

E End Connections

Flanged
RTJ/RJ flanged
Butt welding

F Yoke sleeve

Furnished in aluminum bronze to reduce operating torque. Most size furnished with ball bearing yoke sleeves.

G Lantern Ring And Double Packing Set

Lantern ring leak-off fitting connection and double packing stack is optionally available for critical services

H Body-to-Bonnet Joint

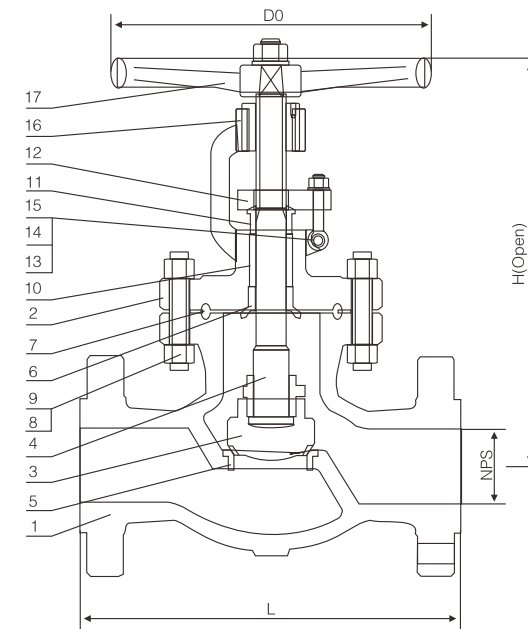
A male and female joint or tongue and groove joint is used 150LB to 600LB valves, ring joint is used in body to bonnet connection in 900LB & higher rated valves.

I Disc

Plug disc
V-port disc
Soft PTFE ring disc

J Seat Rings

Separate heavy duty, full ported rings for easy maintenance. Screwed or welded connection into body.



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1/4Cr-1/2Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Disc	A105+CR13	A182-F11+HF	A350-LF2+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+HF	A182-F11+HF	A350-LF2+HF
6	Stem Backseat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Yokesleeve		Aluminum-Bronze	
17	Handwheel		Malleable Iron	

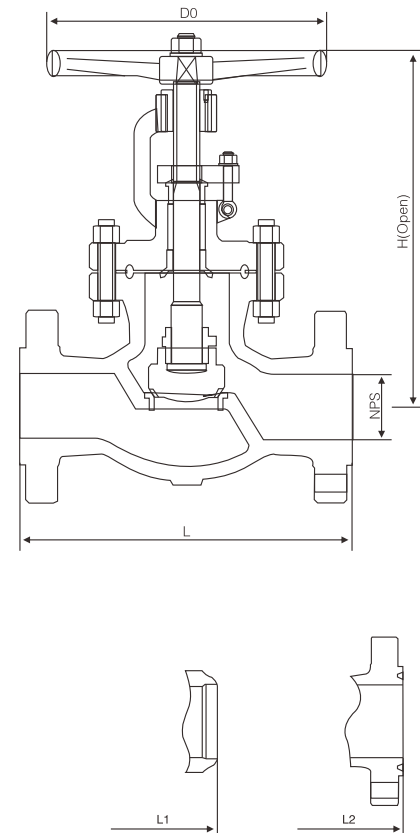
Note: 1) Ductile Ni-resist optional
2) Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Applicable standards:

- STEEL GLOBE VALVES BS 1873/16.34
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC, CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- IMPACT HANDWHEEL FOR 10" & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		
ANSI Class150#												ANSI Class300#										
2	50	8.00	203	8.00	203	15.00	380	7	180	18	14	10.50	267	11.12	282	16.75	425	8	200	25	20	
2 1/2	65	8.50	216	8.50	216	21.00	535	10	240	30	22	11.50	292	12.12	308	19.00	485	10	240	32	22	
3	80	9.50	241	9.50	241	17.50	445	11	280	41	33	12.50	318	13.12	333	19.88	505	11	280	38	27	
4	100	11.50	292	11.50	292	20.25	515	11	280	64	43	14.00	356	14.62	371	22.50	570	13	320	56	41	
6	150	16.00	406	16.00	406	22.00	560	13	320	86	72	17.50	444	18.12	460	25.25	640	16	400	96	75	
8	200	19.50	495	19.50	495	24.25	615	13	320	110	88	22.00	559	22.62	575	33.25	845	18	450	150	117	
10	250	24.50	622	24.50	622	32.00	815	16	400	280	245	24.50	622	25.12	638	35.50	900	20	500	360	310	
12	300	27.50	698	27.50	698	35.88	910	18	450	380	345	28.00	711	28.62	727	38.62	980	24	600	550	492	
14	350	31.00	787	31.00	787	48.38	1230	20	500	510	450	-	-	-	-	-	-	-	-	-	-	
16	400	36.00	914	36.00	914	57.00	1450	24	600	740	665	-	-	-	-	-	-	-	-	-	-	
in	mm	in	mm	in	mm	in	mm	in	mm	RF	BW	in	mm	in	mm	in	mm	in	mm	mm	RF/RTJ	BW

Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		
ANSI Class600#												ANSI Class900#										
2	50	11.50	292	11.62	295	17.50	445	10	240	35	27	14.50	368	14.62	371	22.00	560	11	280	57	41	
2 1/2	65	13.00	330	13.12	333	19.75	502	11	280	50	34	16.50	419	16.62	422	23.25	590	13	320	82	53	
3	80	14.00	356	14.12	359	21.00	533	13	320	60	42	15.00	381	15.12	384	25.25	640	16	400	91	58	
4	100	17.00	432	17.12	435	24.50	622	16	400	110	84	18.00	457	18.12	460	31.88	810	18	450	168	117	
6	150	22.00	559	22.12	562	29.50	750	18	450	230	192	24.00	610	24.12	613	41.38	1050	20	500	365	238	
8	200	26.00	660	26.12	663	36.50	927	20	500	410	350	29.00	737	29.12	740	53.50	1360	24	600	665	538	
10	250	31.00	787	31.12	790	44.88	1140	24	600	770	680	33.00	838	33.12	841	61.88	1570	24	600	1250	1060	
12	300	33.00	838	33.12	841	53.12	1350	24	600	1140	1030	-	-	-	-	-	-	-	-	-	-	
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	mm	RF/RTJ	BW

Dimensional datas

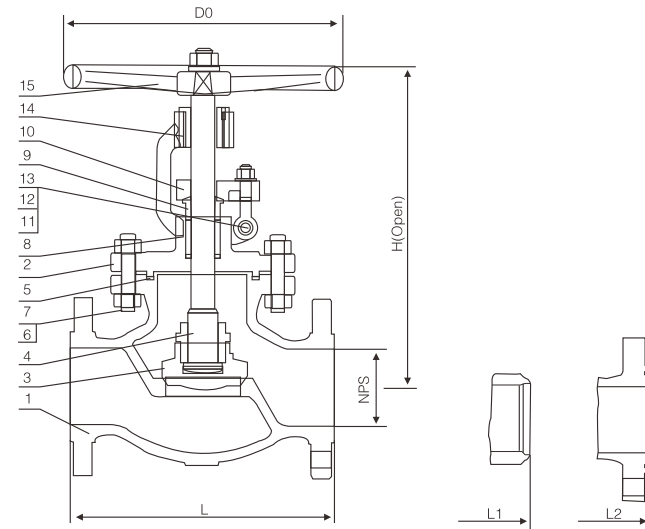
NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		
ANSI Class1500#												ANSI Class2500#										
2	50	14.50	368	14.62	371	22.00	560	13	320	68	57	17.75	451	17.88	454	25.50	650	16	400	97	72	
2 1/2	65	16.50	419	16.62	422	23.25	590	16	400	97	81	20.00	508	20.50	414	28.12	715	18	450	138	95	
3	80	18.50	470	18.62	473	29.50	750	18	450	116	95	22.75	578	23.00	584	32.50	825	20	500	167	108	
4	100	21.50	546	21.62	549	36.00	915	20	500	215	184	26.50	673	26.88	683	47.00	1195	24	600	305	196	
6	150	27.75	705	28.00	711	48.62	1235	24	600	445	347	36.00	914	36.50	927	70.50	1790	28	700	633	351	
8	200	32.75	832	33.12	841	65.00	1650	28	700	795	635	-	-	-	-	-	-	-	-	-	-	
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	mm	RF/RTJ	BW

Applicable standards:

- STEEL GLOBE VALVES BS 1873/16.34
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC, CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- IMPACT HANDWHEEL FOR 10" & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Dimensional datas of ANSI Class 150#

NPS DN	1/2 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L/L1 (RF/BW)	4.25 108	4.62 117	5.00 127	6.50 165	8.00 203	8.50 216	9.50 241	11.50 292	16.00 406	19.50 495	24.50 622	27.50 698	31.00 787	36.00 914	in mm
L2 (RTJ)	- -	- -	- -	- -	8.50 216	9.00 229	10.00 254	12.00 305	16.50 419	20.00 508	25.00 635	28.00 711	31.50 800	36.50 927	in mm
H (open)	7.00 180	7.5 190	8.25 210	9.25 235	15.00 380	21.00 535	17.50 445	20.25 515	22.00 560	24.25 615	32.00 815	35.88 910	48.38 1230	57.00 1450	in mm
D0	4 100	4 100	4 100	6 140	7 180	10 240	11 280	11 280	13 320	13 320	16 400	18 450	20 500	24 600	in mm
WT(kg)	3 2.5	3.5 3	4.5 4	11 8	18 14	30 22	41 33	64 43	86 72	110 88	280 245	380 345	510 450	740 665	BW RF/RTJ

Materials of parts

No	Part Name	ASTM Materials				
1	Body	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
3	Disc	A351-CF8	A351-CF8M	A351-CF3M	Alloy 20	A182 F51
4	Stem	A182-F304	A182-F316	A182-F316L	Alloy 20	A182 F51
5	Bonnet Gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L	316+Graphite	316+Graphite
6	Bonnet Stud	A193-B8	A193-B8M	A193-B8M	A193 -B8M	A193 -B8M
7	Bonnet Stud Nut	A194-8	A194-8M	A194-8M	A194 -8M	A194 -8M
8	Packing ²⁾	Graphite				
9	Gland	A276-304	A276-316	A276-316L	Alloy 20	A182 F51
10	Gland Flange	A351-CF8	A351-CF8M	A351-CF8M	A351 CN7M	A890 4A
11	Eyebolt Pin	A276-304	A276-316	A276-316	A276 316	A276 316
12	Eyebolt	A193-B8	A193-B8	A193-B8	A193 -B8M	A193 -B8M
13	Eyebolt Nut	A194-8	A194-8	A194-8	A194 -8M	A194 -8M
14	Yokesleeve	Aluminum-Bronze				
15	Handwheel	Malleable Iron				

Note: 1) Spiral wound construction, teflon optional
 2) Teflon optional.
 3) Ductile NI-resist optional.
 4) Disc and seat(integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown

Dimensional datas of ANSI Class 300#

NPS DN	1/2 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L/L1 (RF/BW)	6.00 152	7.00 178	8.00 203	9.00 229	10.50 267	11.50 292	12.50 318	14.00 356	17.50 444	22.00 559	24.50 622	28.00 711	- -	- -	in mm
L2 (RTJ)	- -	- -	- -	- -	11.12 282	12.12 308	13.12 333	14.62 371	18.12 460	22.62 575	25.12 638	28.62 727	- -	- -	in mm
H (open)	7.00 180	7.50 190	8.25 210	9.25 235	16.75 425	19.00 485	19.88 505	22.50 570	25.25 640	33.25 845	35.50 900	38.62 980	- -	- -	in mm
D0	4 100	4 100	4 100	6 140	8 200	10 240	11 280	13 320	16 400	18 450	20 500	24 600	- -	- -	in mm
WT(kg)	4 3	4.5 3.5	6 5	15 12	25 20	32 22	38 27	56 41	96 75	150 117	360 310	550 492	- -	- -	BW RF/RTJ

Dimensional datas of ANSI Class 600#

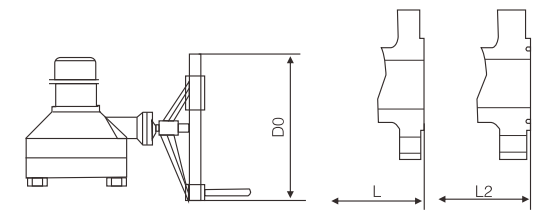
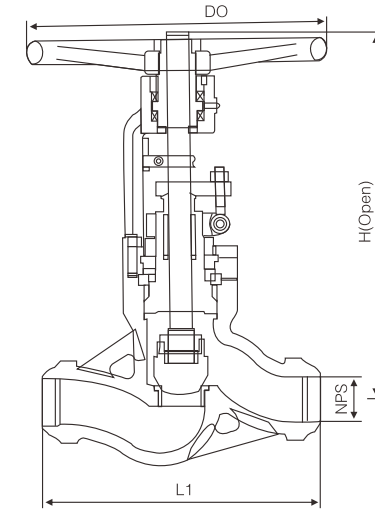
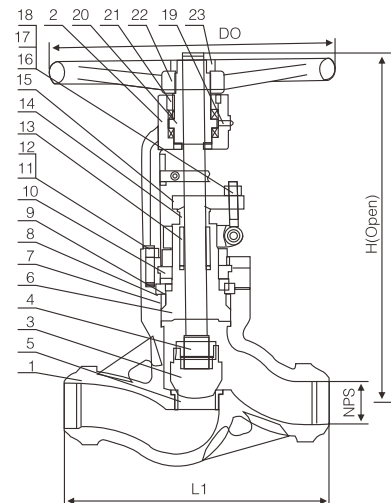
NPS DN	1/2 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L/L1 (RF/BW)	6.50 165	7.50 190	8.50 216	9.50 241	11.50 292	13.00 330	14.00 356	17.00 432	22.00 559	26.00 660	31.00 787	33.00 838	- -	- -	in mm
L2 (RTJ)	- -	- -	- -	- -	11.62 295	13.12 333	14.12 359	17.12 435	22.12 562	26.12 663	31.12 790	33.12 841	- -	- -	in mm
H (open)	7.25 185	7.62 195	9.00 230	11.00 280	17.50 445	19.75 502	21.00 533	24.50 622	29.50 750	36.50 927	44.88 1140	53.12 1350	- -	- -	in mm
D0	4 100	4 100	6 140	5 200	10 240	11 280	13 320	16 400	18 450	20 500	24 600	24 600	- -	- -	in mm
WT(kg)	6 4.8	8 6.2	14 9.5	23 16.5	35 27	50 34	60 42	110 84	230 192	410 350	770 680	1140 1030	- -	- -	BW RF/RTJ

Applicable standards:

- STEEL GLOBE VALVES, API 603
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC, CHOICE PLUG OR BALL
- SEAT RINGS INTEGRAL WITH BODY
- IMPACT HANDWHEEL FOR 10" & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials				
1	Body	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
2	Yoke	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
3	Disc	A216-WCB+HF	A217-WC6+HF	A351-CF8M+HF	Alloy 20	A182 F51
4	Stem	A182-F6a	CR-MO-V	A182-316	Alloy 20	A182 F51
5	Seat Ring	A105+HF	A182-F11+HF	A240-316+HF	Alloy 20	A182 F51
6	Bonnet	A105	A182-F11	A240-316	Alloy 20	A182 F51
7	Bonnet Gasket ¹⁾	Steel Ring	304SS Ring	316SS Ring	316+Graphite	316+Graphite
8	Adapter Ring	Carbon Steel	A276-420	A276-316	Alloy	A182 F51
9	Retainer	Carbon Steel	A276-420	A276-316	Alloy	A182 F51
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel	Alloy	A182 F51
11	Bonnet Stud	A193-B7	A193-B16	A193-B8M	A193 -B8M	A193 -B8M
12	Bonnet Stud Nut	A194-2H	A194-7	A194-8M	A194 -8M	A194 -8M
13	Packing	Graphite				
14	Gland	A276-420	A276-304	A276-316L	Alloy 20	A182 F51
15	Gland Flange	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
16	Eyebolt Pin	Carbon Steel	A276-420	A276-316	A276 316	A276 316
17	Eyebolt	Carbon Steel	A193-B7	A193-B8	A193 -B8M	A193 -B8M
18	Eyebolt Nut	Carbon Steel	A194-2H	A194-8	A194 -8M	A194 -8M
19	Grease Fitting	Brass+Steel				
20	Yokesleeve	Aluminum-Bronze				
21	Yokesleeve Jam Nut	CarbonSteel	Stainless Steel			
22	Handwheel	Malleable Iron				
23	Handwheel Nut	Carbon Steel				

Applicable standards:

- STEEL GLOBE VALVES, BS1873/16.34
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST ,API 598

Design descriptions:

- PSB, PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Dimensional datas

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	in mm
ANSI Class 900#									
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	in
	216	254	305	356	508	660	787	914	mm
L (RF)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	in
	368	419	381	457	610	737	838	965	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	in
	371	422	384	460	613	740	841	968	mm
H (open)	22	22	22	27	36.38	43.38	50.62	57	in
	557	557	557	685	925	1100	1285	1450	mm
DO	16	16	16	16	28	28	36	36	in
	400	400	400	400	700	700	900	900	mm
WT(kg)	46	53	68	100	270	450	740	1150	BW
	75	82	95	135	355	680	1050	1480	RF/RTJ

Dimensional datas

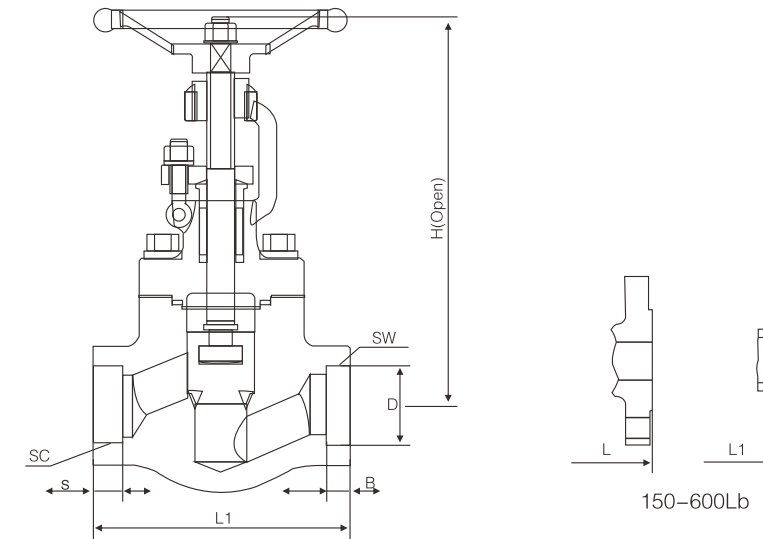
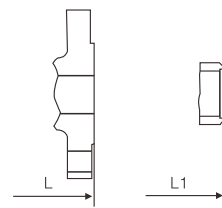
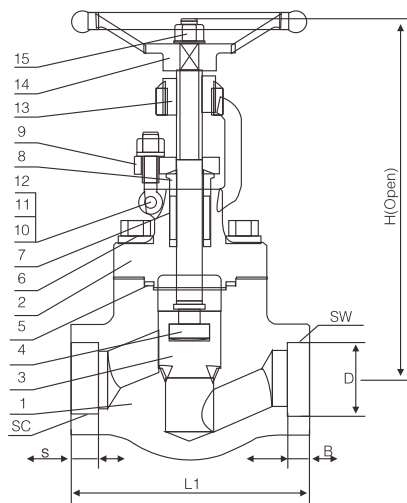
NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	2 50	2½ 65	3 80	4 100	6 150	in mm
ANSI Class 1500#												
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	11.00	13.00	14.50	18.00	24.00	in
	216	254	305	406	559	711	279	330	368	457	610	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	17.75	20.00	22.75	26.50	36.00	in
	368	419	470	546	705	832	451	508	578	673	914	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	17.88	20.50	23.00	26.88	36.50	in
	371	422	473	549	711	842	454	514	584	683	927	mm
H (open)	22	22	24.38	30	44.62	54.75	23.38	23.38	28	32.25	49.62	in
	557	557	620	760	1135	1390	595	595	710	820	1260	mm
DO	16	18	20	24	28	36	16	20	24	28	36	in
	400	450	500	600	700	900	400	500	600	700	900	mm
WT(kg)	57	65	90	190	450	730	65	78	125	155	480	BW
	86	112	162	240	580	950	115	136	205	275	860	RF/RTJ



Materials of parts

No	Part Name	C-Si	ASTM Materials	
			16Cr-12Ni-2Mo	1/4Cr-1/2Mo-Si
1	Body	A105	A182-F316	A182-F11
2	Bonnet	A105	A182-F316	A182-F11
3	Disc	A182-F6a	A182-F316	A182-F6A+HF
4	Stem	A276-410	A276-316	A276-410
5	Bonnet Gasket ¹⁾	Graphite+304	Graphite+316	Graphite+304
6	Bonnet Stud	A193-B7	A193-B8M	A193-B16
7	Packing	Graphite		
8	Gland	A276-410	A276-316	A276-410
9	Gland Flange	A105	A182-F316	A182-F11
10	Eyebolt Pin	A276-410	A276-316	A276-410
11	Eyebolt	A193-B7	A193-B8M	A193-B16
12	Eyebolt Nut	A194-2H	A194-8M	A194-2H
13	Yokesleeve	A276-410		
14	Handwheel	Malleable Iron		
15	Handwheel Nut	Carbon Steel		

Note: 1) seat integral with body
2) spiral wound construction



Dimensional datas

NPS DN	Unit	L1 ¹⁾	L(Flanged Ends)			d	SW		SC	H(open)	D0	WT ²⁾ (kg)	
			150#	300#	600#		D	B					
3/8	in	3.12	4.00	6.00	6.50	0.354	0.693	0.378	3/8	0.540	6.50	4.00	3.8/2.8
10	mm	79	102	152	165	9	17.6	9.6		13.6	164	100	
1/2	in	3.12	4.25	6.00	6.50	0.354	0.858	0.378	1/2	0.535	6.50	4.00	5.6/3.4
15	mm	79	108	152	165	9	21.8	9.6		13.6	164	100	
3/4	in	3.62	4.62	7.00	7.50	0.512	1.067	0.500	3/4	0.547	6.50	4.00	7.8/4.7
20	mm	92	117	178	190	13	27.1	12.7		13.9	164	100	
1	in	4.38	5.00	8.00	8.50	0.689	1.331	0.500	1	0.681	8.00	5.00	12.5/9.2
25	mm	111	127	203	216	17.5	33.8	12.7		17.3	203	125	
1 1/4	in	4.75	5.50	8.50	9.00	0.906	1.677	0.500	1 1/4	0.709	8.88	6.25	17/10.5
32	mm	120	140	216	229	23	42.6	12.7		18	224	160	
1 1/2	in	6.00	6.50	9.00	9.50	1.142	1.917	0.500	1 1/2	0.724	10.25	6.25	23.5/13.3
40	mm	152	165	229	241	29	48.7	12.7		18.4	260	160	
2	in	6.75	8.00	10.50	11.50	1.378	2.406	0.626	2	0.756	11.88	7.00	38.8/18.9
50	mm	172	203	267	292	35	61.1	15.9		19.2	300	180	

Notes: 1) BW, SW or SC.
2) 600#-RF/800#-(BW/SW/SC).

Applicable standards:

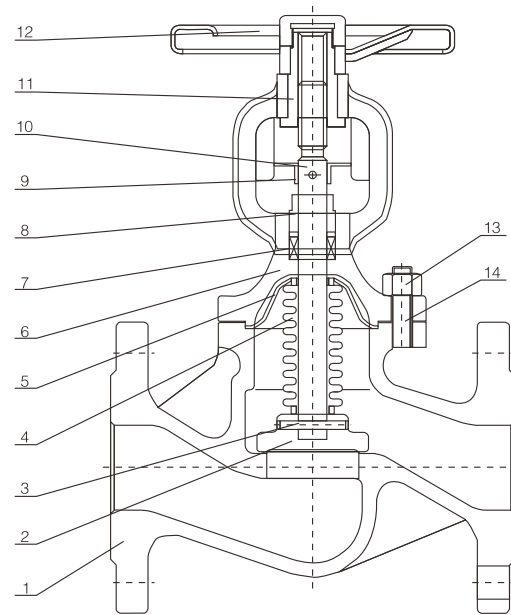
- STEEL GLOBE VALVES, API 602
- STEEL VALVES, ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- SOCKET-WELDING ENDS, ASME B16.11
- SCREWED ENDS, ASME B1.20.1
- INSPECTION AND TEST, API 598

Design descriptions:

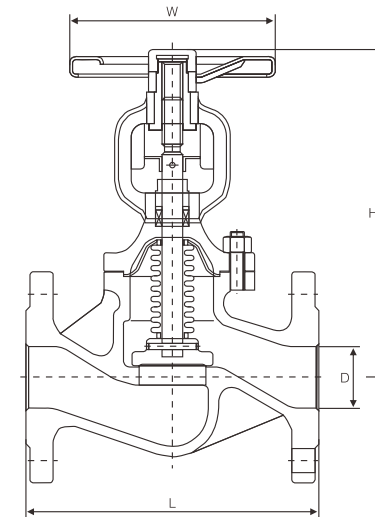
- OUTSIDE SCREW AND YOKE (OS&Y)
- BOLTED BONNET
- CHOICE OF WB, WELDED BONNET
- LOOSE DISC, CHOICE OF PLUG OR BALL
- SEAT RINGS INTEGRAL WITH BODY
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- HORIZONTAL SERVICE
- SW, SOCKET-WELDING ENDS
- SC, SCREWED ENDS
- BW, BUTTWELDING ENDS

Dimensional datas

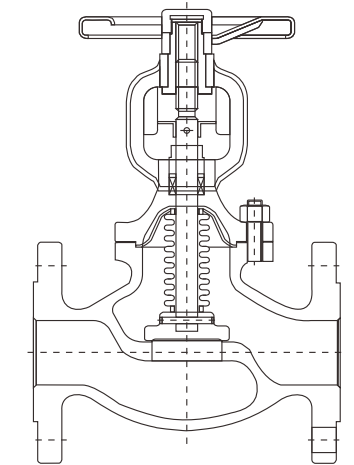
NPS	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	in
L	92	111	111	120	152	172	200	220	in
W	100	125	125	160	160	180	200	240	in
H	171	207	207	240	258	330	355	370	in
d	7	12	15	20	28	32	40	45	in
Weight(kg)	2.3	3.6	3.7	6.8	7.6	11.6	15	21.9	in



DIN Structure



API Structure



No	Part Name	No	Part Name
1	Body	8	Gland Bushing
2	Disc	9	Guide Menier
3	Pin	10	Stem
4	Bellow	11	Stem Nut
5	Gasket	12	Handwheel
6	Bonnet	13	Nut
7	Packing	14	Bolt

Materials of parts

Body	GS-C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Disc	A105/F316/F304/F316L/F304L/F51
Bellow	304/316/316L/304L/S31803
Stem	F6a/F304/F316/F304L/F316L/F51/Monel
Bonnet	GS-C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gland Bushng	410/304/316/304L/316L
Stem Nut	C95200/D2/A536
Gasket	Flexible graphite+304/Flexible graphite+316
Packing	Flexible graphite

Materials could be choosed according to customers' requirement & working condition.

Features and Application:

Bellow Seal globe valve adopts sealed structure. In common valves, the packing seal of the stem ages fast and it is easy to leak, but this design totally eliminates these shortcomings. Apart from increasing the efficiency of materials and the safety of production equipment, it not only reduces maintenance costs and frequent maintenance of products but also provides a clean and safe working environment.

Double seal design (bellows and packings), if the bellows invalidates, the stem packings will prevent outside leaking. There are no fluid loss, but it reduces the energy loss and improves the equipment safety.

Longer service life, less maintenance and lower operating costs.

Firm and durable seal design of bellows ensures the zero leakage of stem and provides more reliable performance and no maintenance.

Quenched stem and surface nitridation with good performance of corrosion and friction resistance.

Excellent performance, graceful outline, and more visibility with position indicating of stem.

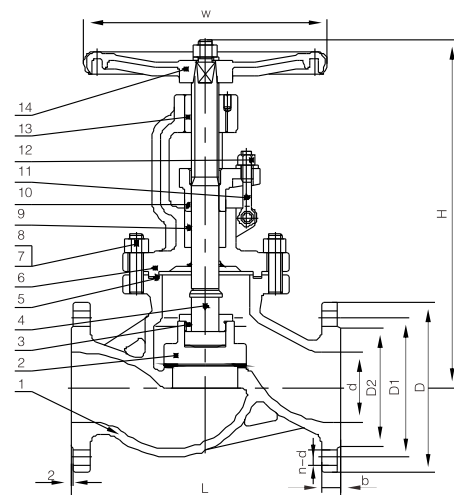
Applicable Standards:

- DESIGN & MANUFACTURE : BS 1873、ASME B16.34
- CONNECTION DIMENSION : EN 1092、ASME B16.5
- INSPECTION & TEST : EN 588-1、DIN 3202、ASME B16.10
- MATERIAL : EN 12266、ISO 5208、API 598

Dimensional datas

PN 16															
NPS	DN	L	D	H	W	WT	T	NPS	DN	L	D	H	W	WT	T
		mm	mm	mm	mm	Kg	N.M			mm	mm	mm	mm	Kg	N.M
1/2	15	130	15	174	100	3.5	14	4	100	350	100	345	280	50	127
3/4	20	150	20	176	125	4	18	5	125	400	125	370	320	65	209
1	25	160	25	207	160	6	23	6	150	480	150	430	350	84	319
1/4	32	180	32	207	160	10	26	8	200	600	200	488	400	150	408
1/2	40	200	40	210	180	13	31	10	250	730	250	530	500	240	885
2	50	230	50	225	200	19	49	12	★300	850	300	600	460	360	1129
2/2	65	290	65	250	220	26	62	14	★350	980	350	700	600	490	1515
3	80	310	80	260	240	30	103	16	★400	1150	400	800	700	600	1805
PN 25															
NPS	DN	L	D	H	W	WT	T	NPS	DN	L	D	H	W	WT	T
		mm	mm	mm	mm	Kg	N.M			mm	mm	mm	mm	Kg	N.M
1/2	15	130	15	174	100	3.5	18	4	100	350	100	345	280	65	140
3/4	20	150	20	176	125	4	23	5	125	400	125	370	320	85	222
1	25	160	25	207	160	6	30	6	150	480	150	430	350	109	341
1/4	32	180	32	207	160	10	34	8	200	600	200	488	400	180	436
1/2	40	200	40	210	180	13	38	10	250	730	250	530	500	300	974
2	50	230	50	225	200	19	56	12	★300	850	300	600	460	450	1242
2/2	65	290	65	250	220	31	69	14	★350	980	350	700	600	613	1667
3	80	310	80	260	240	36	112	16	★400	1150	400	800	700	750	1986
PN 40															
NPS	DN	L	D	H	W	WT	T	NPS	DN	L	D	H	W	WT	T
		mm	mm	mm	mm	Kg	N.M			mm	mm	mm	mm	Kg	N.M
1/2	15	130	15	174	100	3.5	24	4	100	350	100	345	280	85	278
3/4	20	150	20	176	125	4	30	5	125	400	125	370	320	111	419
1	25	160	25	207	160	6	39	6	150	480	150	430	350	142	599
1/4	32	180	32	207	160	10	44	8	200	600	200	488	400	234	835
1/2	40	200	40	210	180	13	46	10	250	730	250	530	500	390	1266
2	50	230	50	225	200	19	78	12	★300	850	300	600	460	585	1615
2/2	65	290	65	250	220	40	92	14	★350	980	350	700	600	797	2167
3	80	310	80	260	240	47	179	16	★400	1150	400	800	700	975	2582

Note: ★Manual control



Materials of parts

No	Part Name	ASTM Materials				
1	Body	A216-WCB+Cr13	A217-WC6+HF	A352-LCB+Cr13	A351 CN7M	A890 4A
2	Disc	A105+Cr13	A182-F11+HF	A350-LF2+Cr13	Alloy 20	A182 F51
3	Stem	A182-F6a	A182-F11	A182-F6a	Alloy 20	A182 F51
4	Disc Nut	A182-F6a	A182-F11	A182-F6a	Alloy 20	A182 F51
5	Bonnet Gasket	304+Graphite			316+Graphite	
6	Bonnet	A216-WCB	A217-WC6	A352-LCB	A351 CN7M	A890 4A
7	Bonnet Stud	A193 B7	A193-B16	A320-L7	A193 -B8M	A193 -B8M
8	Bonnet Stud Nut	A194 -2H	A194 -7	A194-4	A194 -8M	A194 -8M
9	Packing	Graphite				
10	Gland Flange	A216-WCB	A217-WC6	A352-LCB	A351 CN7M	A890 4A
11	Eyebolt	A193-B7	A193-B16	A320-L7	A193 -B8M	A193 -B8M
12	Eyebolt Nut	A194 -2H	A194 -7	A194-4	A194 -8M	A194 -8M
13	Yokesleeve	Aluminum-Bronze				
14	Handwheel	Malleable				

Note:

1).Ductile Ni-resist optional

2).Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Applicable standards:

Face to Face Dimensions: EN558-1/DIN3202 F2

Flange end Dimension : EN1092-1/DIN2545

Design and Manufacture:EN 13709/DIN3356

Pressure Test:EN12266/DIN3230

Materials:WCB、WC6、WC9、CF8、CF8M、CF3、CF3M、CN7M、LC1

LC2、LC3、LCB、LCC、Monel、20# Alloys、4A、5A、C95800、C95500, ect.

PN16

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	158	188	212	268	320	378	438	490
d2	mm	125	145	160	180	210	240	295	355	410	470	525
D	mm	165	185	200	220	250	285	340	405	460	520	580
b	mm	18	18	20	20	22	22	24	26	28	30	32
n-Φd	mm	4-18	8-18	8-18	8-18	8-18	8-22	12-22	12-26	12-26	16-26	16-30
H	mm	305	354	402	437	496	541	699	815	914	1189	1350
W	mm	200	200	250	250	300	350	400	450	500	550	600

PN25

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	162	188	218	278	335	395	450	505
d2	mm	125	145	160	190	220	250	310	370	430	490	550
D	mm	165	185	200	235	270	300	360	425	485	555	620
b	mm	20	22	24	24	28	28	30	32	34	38	40
n-Φd	mm	4-18	8-18	8-18	8-22	8-26	8-26	12-26	12-30	16-30	16-33	16-36
H	mm	325	363	415	453	505	556	744	864	948	1269	1450
W	mm	200	200	250	300	350	400	450	500	550	600	600

PN40

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	162	188	218	285	345	410	465	535
d2	mm	125	145	160	190	220	250	320	385	450	510	585
D	mm	165	185	200	235	270	300	375	460	515	580	660
b	mm	20	22	24	24	28	28	34	38	42	46	50
n-Φd	mm	4-18	8-18	8-18	8-22	8-26	8-26	12-30	12-33	16-33	16-36	16-39
H	mm	325	370	430	480	532	589	783	888	965	1285	1512
W	mm	200	200	250	300	350	400	450	500	550	600	600

Pn64

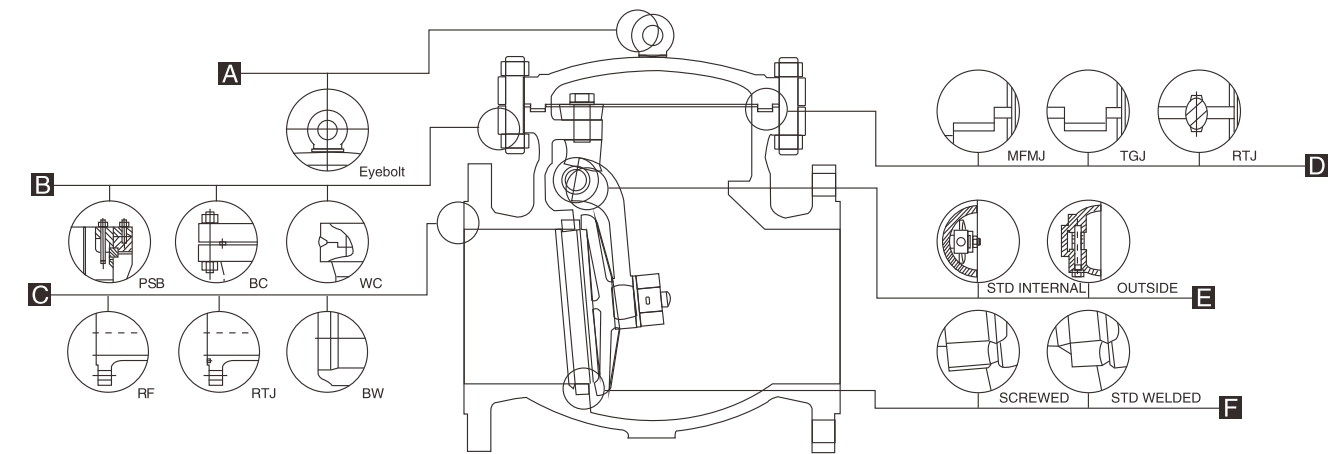
DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	300	340	380	430	500	550	650	775	900	1025	1150
d1	mm	102	122	138	162	188	218	285	345	410	465	535
d2	mm	135	160	170	200	240	280	345	400	460	525	585
D	mm	180	205	215	250	295	345	415	470	530	600	670
b	mm	26	26	28	30	34	36	42	48	52	56	60
n-Φd	mm	4-22	8-22	8-22	8-28	8-30	8-33	12-36	12-36	16-36	16-39	16-42
H	mm	305	354	402	437	496	541	699	815	914	1189	1350
W	mm	200	200	250	250	300	350	400	450	500	550	600



Check Valve Type:
Swing
Wafer
Lift/Piston
Pressure Seal



Check Valve Series

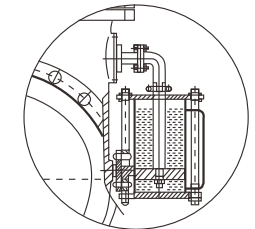


A Eyebolt

For 150Lb-8", 300Lb-8",
600Lb-6", 900Lb/1500Lb/
2500Lb-4" & over.

BBC

Bolted cover, welded
cover and pressure
seal bonnet in services
requiring frequent cycling
or with high pressure/
temperature variations.



C End Connections

A choice of RF flanged, RTJ
flanged or butt welding
end for piping flexibility.

D Body-to-Cover Joint

A Male and Female Joint
or Tongue and Groove Joint
are used for 150LB to 600LB
valves. Ring Joint is used
in the body to cover
connection in 900Lb
& higher rated valves.

**HCU weighted
mechanical accumulator**

By using the hydraulic control unit,
the valve opens at lower flow rates
with the help of buffer action.

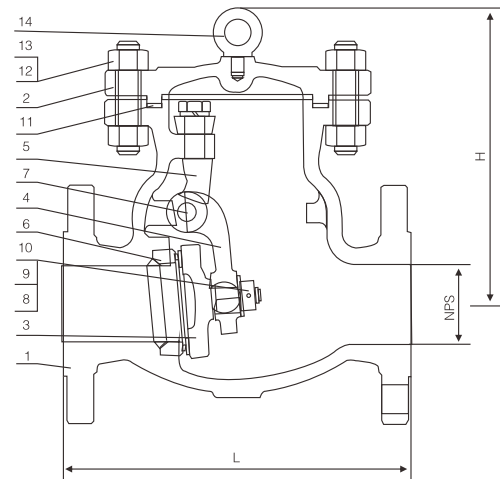
E Outside Lever And Weight

Internal hinge pin is available for
swing check valves of all size.
An external hinge pin can be only
used for valves sized
12" or smaller. These valves
should also be equipped with
an optional outside lever and
weight.

F Seat Rings

Screwed seat ring type,
which is renewable and
of easy maintenance is
used for valves sized 8"
and smaller. For bigger
size valves, over-
welded type is an
appropriate choice.

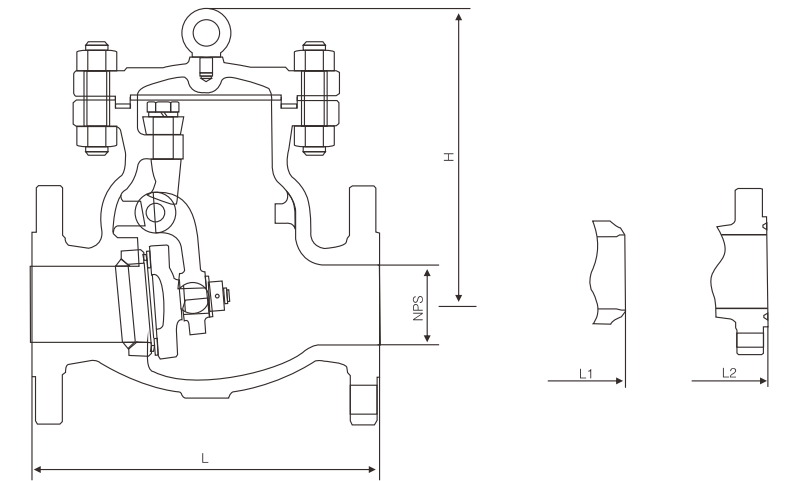




Materials of parts

No	Part Name	ASTM Materials		
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Cover	A216-WCB	A217-WC6	A352-LCB
3	Disc ¹⁾	A105-CR13	A182-F11+HF	A350-LF2+CR13
4	Hinge	A216-WCB	A217-WC6	A352-LCB
5	Fork Part	A216-WCB	A217-WC6	A352-LCB
6	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
7	Hinge Pin	A276-420	A276-304	A276-420
8	Disc Washer	Carbon Steel	A276-304	Carbon Steel
9	Disc Nut	Carbon Steel	A194-7	Carbon Steel
10	Disc Nut Pin	Carbon Steel	A276-420	Carbon Steel
11	Gasket	Spiral Wound(Graphite+304)		
12	Stud	A193-B7	A193-B16	A320-L7
13	Stud Nut	A194-2H	A194-7	A194-4
14	Eyebolt ²⁾	Carbon Steel		

Note:1)Cast steel disc for NPS 4" and above.
2)NPS 6" & larger.
3)Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Dimensional datas of ANSI Class 150#

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	900	mm
L/L1 (RF/BW)	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	51.00	57.00	60.00	77.00	in
	203	216	241	292	356	495	622	699	787	864	978	978	1295	1295	1448	1524	1956	mm
L2 (RTJ)	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	-	-	-	-	in
	216	229	254	305	368	508	635	711	800	876	991	991	1308	-	-	-	-	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	37.00	37.00	38.62	48.00	in
	152	165	175	204	293	353	390	432	475	525	582	627	883	940	940	980	1220	mm
wt(kg)	14	20	25	40	71	118	177	263	353	542	632	855	970	1600	1600	1990	2760	RF/RTJ
	10	12	17	29	57	96	143	227	295	468	552	755	831	1420	1420	1760	2230	BW

Dimensional datas of ANSI Class 300#

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	900	mm
L/L1 (RF/BW)	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	53.00	59.00	62.75	82.00	in
	267	292	318	356	445	533	622	711	838	864	978	1016	1346	1346	1499	1594	2083	mm
L2 (RTJ)	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	54.00	60.00	63.75	-	in
	283	308	333	371	460	549	638	727	854	879	994	1035	1368	1372	1524	1619	-	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	35.88	37.00	38.62	48.00	in
	152	165	175	204	292	353	390	432	475	525	582	627	883	910	940	980	1220	mm
wt(kg)	16	23	29	46	82	136	204	302	405	625	730	985	1115	1465	1840	2290	3180	RF/RTJ
	11	13	18	31	61	103	155	245	315	503	593	812	895	1205	1525	1895	2395	BW

Applicable standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES, ISO14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- BC, BOLTED COVER
- SWING TYPE, ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS

Dimensional datas of ANSI Class 600#

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	in mm
	50	65	80	100	150	200	250	300	350	400	450	500	600	
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	mm
H	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	in
	190	205	222	255	368	445	490	540	595	655	730	785	1105	mm
wt(kg)	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	RF/RTJ
	16	19	26	44	87	147	220	350	452	720	845	1160	1280	BW

Dimensional datas of ANSI Class 900#

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	in mm
	50	65	80	100	150	200	250	300	350	400	450	500	600	
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	-	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	-	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	-	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	-	mm
H	9.50	10.00	11.00	12.50	18.12	22.00	24.00	26.50	29.38	32.00	33.50	38.75	-	in
	240	256	278	320	460	560	610	675	745	815	850	985	-	mm
wt(kg)	37	54	68	109	195	321	481	711	956	1468	1870	2316	-	RF/RTJ
	21	25	34	58	115	194	290	461	597	950	1210	1533	-	BW

Applicable standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- BUTTWELDING ENDS,ASME B16.25
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS

Dimensional datas of ANSI Class1500#

NPS DN	DN	L/L1 (RF/BW)		L2 (RTJ)		H		WT(kg)	
		in	mm	in	mm	in	mm	in	mm
2	50	14.50	368	14.62	371	9.50	240	40	29
2½	65	16.50	419	16.62	422	10.00	256	63	47
3	80	18.50	470	18.62	473	13.00	330	70	49
4	100	21.50	546	21.62	549	14.75	375	115	84
6	150	27.75	705	28.00	711	18.88	480	250	152
8	200	32.75	832	33.12	841	23.50	595	470	310
10	250	39.00	991	39.38	1000	26.00	660	740	470
12	300	44.50	1130	45.12	1146	29.12	740	1100	710
14	350	49.50	1257	50.25	1276	30.88	785	1410	910
16	400	54.50	1384	55.38	1407	32.88	835	1600	1100
in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Dimensional datas of ANSI Class2500#

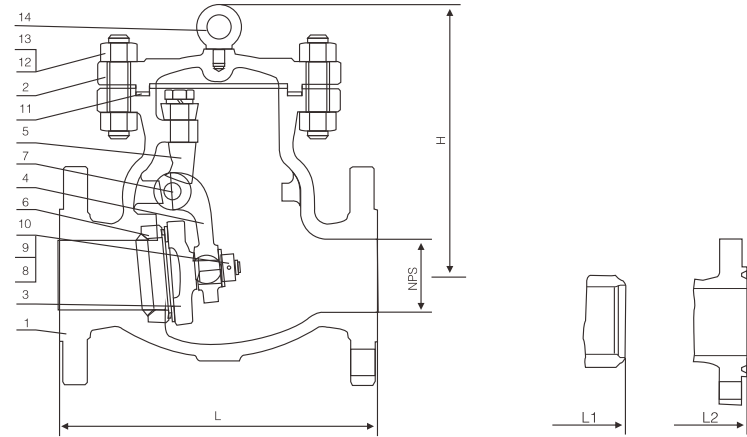
NPS DN	DN	L/L1 (RF/BW)		L2 (RTJ)		H		WT(kg)	
		in	mm	in	mm	in	mm	in	mm
2	50	17.75	451	17.88	454	10.75	275	50	35
2½	65	20.00	508	20.25	514	13.25	335	76	55
3	80	22.75	578	23.00	584	13.75	350	85	68
4	100	26.50	673	26.88	683	15.12	385	165	115
6	150	36.00	914	36.50	927	19.50	495	460	225
8	200	40.25	1022	40.88	1038	24.62	625	900	580
10	250	50.00	1270	50.88	1292	28.00	712	1300	860
12	300	56.00	1422	56.88	1445	35.62	905	1800	1150
14	350	-	-	-	-	-	-	-	-
16	400	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	mm	mm

Applicable standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- BUTTWELDING ENDS,ASME B16.25
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS



Dimensional datas of ANSI Class 150#

NPS DN	1/2 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	26 650	in mm
L/L1 (RF/BW)	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	-	in
	108	117	127	165	203	216	241	292	356	495	622	699	787	864	978	978	1295	-	mm
L2 (RTJ)	-	-	-	-	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	-	in
	-	-	-	-	216	229	254	305	368	508	635	711	800	876	991	991	1308	-	mm
H	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	-	in
	80	85	100	110	152	165	175	204	293	353	390	432	475	525	582	627	883	-	mm
WT(kg)	2.5	3.5	5	7.5	14	20	25	40	71	118	177	263	353	542	632	855	970	-	BW
	2	3	3.5	5.5	10	12	17	29	57	96	143	227	295	468	552	755	831	-	RF/RTJ

Materials of parts

No	Part Name	ASTM Materials				
1	Body	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
2	Cover	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
3	Disc	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
4	Hinge	A351-CF8	A351-CF8M	A351-CF3M	A351 CN7M	A890 4A
5	Hinge Pin	A276-304	A276-316	A276-316L	Alloy 20	A182 F51
6	Disc Washer	A276-304	A276-316	A276-316L	Alloy 20	A182 F51
7	Disc Nut	A193-B8	A193-B8M	A193-B8M	A194 -8M	A194 -8M
8	Disc Nut Pin	A276-304	A276-316	A276-316L	Alloy 20	A182 F51
9	Bonnet Gasket	Graphite+304	Graphite+316	Graphite+316L	316+Graphite	316+Graphite
10	Bonnet Stud	A193-B8	A193-B8M	A193-B8M	A193 -B8M	A193 -B8M
11	Bonnet Stud Nut	A194-8	A194-8M	A194-8M	A194 -8M	A194 -8M
12	Eyebolt	A194-8	A194-8	A194-8	A194 -8M	A194 -8M

Note: 1) Spiral wound construction, teflon optional
 2) Nps 6" & larger
 3) Disc and seat (integral with body) may either be solid facing material or a base material equal to or better than body/bonnet
 Material with facing as shown.

Applicable standards:

- STEEL CHECK VALVES, API 603
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

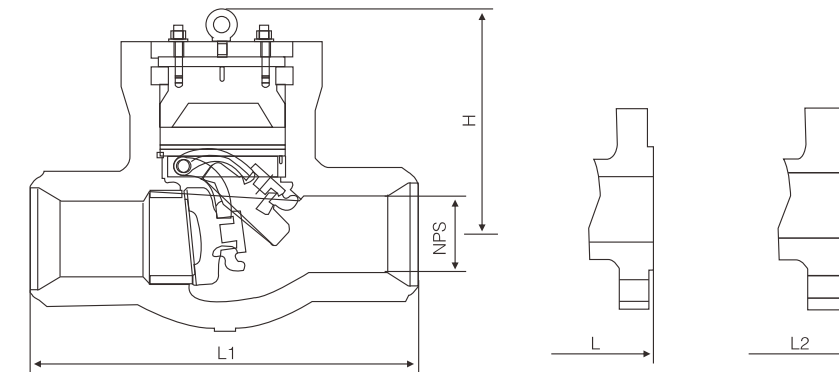
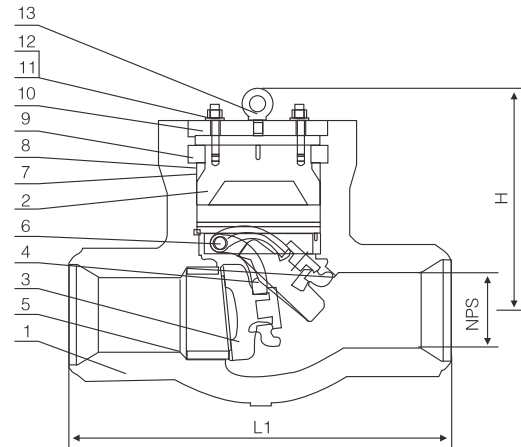
- BC, BOLTED COVER
- SWING TYPE, ANTI-ROTATION DISC
- SEAT RINGS INTEGRAL WITH BODY
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS

Dimensional datas of ANSI Class 300#

NPS DN	2/1 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	26 650	in mm
L/L1 (RF/BW)	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	-	in
	152	178	203	229	267	292	318	356	445	533	622	711	838	864	978	1016	1346	-	mm
L2 (RTJ)	-	-	-	-	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	-	in
	-	-	-	-	283	308	333	371	460	549	638	727	854	879	994	1035	1368	-	mm
H	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	-	in
	80	85	100	110	152	165	175	204	293	353	390	432	457	525	582	627	883	-	mm
wt(kg)	3	4	6	10	16	23	29	46	82	136	204	302	405	625	730	985	1115	-	RF/RTJ
	2.5	3.5	5	7	11	13	18	31	61	103	155	245	315	503	593	812	895	-	BW

Dimensional datas of ANSI Class 600#

NPS DN	2/1 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	26 650	in mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	-	in
	165	190	216	241	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	-	mm
L2 (RTJ)	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	-	in
	-	-	-	-	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	-	mm
H	3.38	3.50	4.50	5.50	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	-	in
	85	90	115	140	190	205	222	255	368	445	490	540	595	655	730	785	11305	-	mm
wt(kg)	5.5	7.5	12	15	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	-	RF/RTJ
	4	6	8	12.5	16	19	26	44	87	147	220	350	452	720	845	1160	1280	-	BW



Materials of parts

No	Part Name	ASTM Materials				
1	Body	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
2	Pres. Seal Bonnet	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
3	Disc	A105+HF	A182-F11+HF	A351-CF8M+HF	A351 CN7M	A890 4A
4	Hinge	A216-WCB	A217-WC6	A351-CF8M	A351 CN7M	A890 4A
5	Seat Ring	A105+HF	A182-F11+HF	A240-316+HF	A351 CN7M	A890 4A
6	Hinge Pin	A276-420	A276-304	A276-316	Alloy 20	A182 F51
7	Bonnet Gasket	Steel Ring	304SS Ring	316SS RING	Alloy 20	A182 F51
8	Adapter Ring	Carbon Steel	A276-420	A276-316	Alloy 20	A182 F51
9	Retainer	Carbon Steel	A276-420	A276-316	Alloy 20	A182 F51
10	Cover	Carbon Steel	Alloy Steel	Stainless Steel	Alloy 20	A182 F51
11	Stud	A193-B7	A193-B7	A193-B8M	A193 -B8M	A193 -B8M
12	Stud Nut	A194-2H	A194-2H	A194-8M	A194 -8M	A194 -8M
13	Eyebolt		Carbon Steel		A194 -8M	A194 -8M

Note:1) graphite optional
2)disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Applicable standards:

- STEEL CHECK VALVES, BS 16.34/API 6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE DISC, FULLY GUIDED
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS

Dimensional datas

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
ANSI Class900#											
L1 (BW)	8.50 216	10.00 254	12.00 305	14.00 356	20.00 508	26.00 660	31.00 787	36.00 914	39.00 991	43.00 1092	in mm
L (RF)	14.50 368	16.60 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	40.5 1029	44.5 1130	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	40.88 1038	44.88 1140	in mm
H	9.50 240	9.50 240	10.00 255	13.38 340	15.75 400	18.12 460	21.62 550	24.00 610	27.00 685	29.50 750	in mm
wt(kg)	22 44	34 55	38 61	71 116	176 255	485 630	761 940	1125 1433	1345 1710	1490 1820	BW RF/RTJ

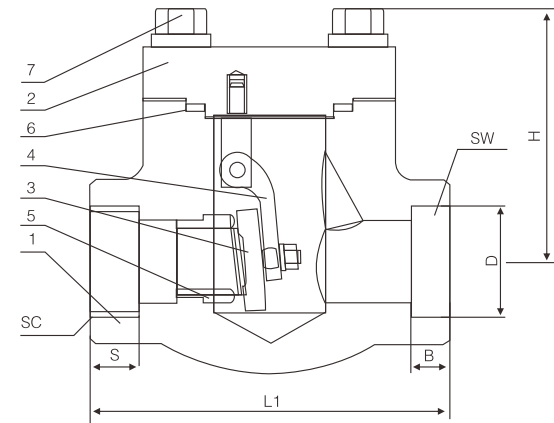
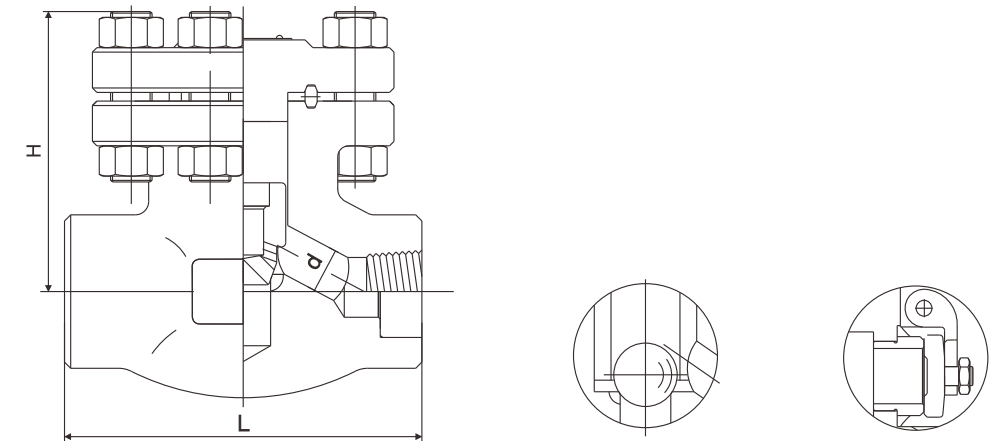
Dimensional datas

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	in mm
ANSI Class1500#																		
L1 (BW)	8.50 216	10.00 254	12.00 305	16.00 406	22.00 559	28.00 711	34.00 864	39.00 991	42.00 1067	11.00 279	13.00 330	14.50 368	18.00 457	24.00 610	30.00 762	36.00 914	41.00 1041	in mm
L (RF)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39 991	44.5 1130	49.5 1257	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	40.25 1022	50 1270	56 1422	in mm
L2 (RTJ)	14.62 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 842	39.38 1000	45.12 1146	50.25 1276	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	40.88 1038	50.88 1292	56.88 1445	in mm
H	9.50 240	9.50 240	11.88 300	15.38 390	18.00 455	20.62 525	24.00 610	27.00 685	30.00 760	10.25 260	10.25 260	13.75 350	16.12 410	18.88 480	22.38 570	25.25 640	32.00 815	in mm
wt(kg)	22 44	37 61	45 110	78 155	245 378	530 675	815 1160	1213 1710	1555 2315	55 93	78 130	95 170	182 315	300 618	630 1125	825 1760	1580 2910	BW RF/RTJ

Note:
1) lift type check valve seat ring integral with body.
2) spiral wound construction.

Materials of parts

No	Part Name	C-Si	ASTM Materials	
			16Cr-12Ni-2Mo	1/4Cr-1/2Mo-Si
1	Body	A105	A182-F316	A182-F11
2	Cover	A105	A182-F316	A182-F11
3	Disc	A182-F6a	A182-F316	A182-F6A+HF
4	Hinge	A276-410	A276-316	A276-410
5	Seat	A276-410	A182-F316	A276-410+HF
6	Gasket ²⁾	Graphite+304	Graphite+316	Graphite+304
7	Stud	A193-B7	A193-B8M	A193-B16



Dimensional datas

NPS DN	Unit	L ¹⁾	L(Flanged Ends)			d	SW		SC		H	WT ²⁾ (kg)
			150#	300#	600#		D	B	NPT	S		
3/8	in	3.12	4.00	6.00	6.50	0.354	0.693	0.378	3/8	0.540	2.40	3.8/2.8
10	mm	79	102	152	165	9	17.6	9.6		13.6	61	
1/2	in	3.12	4.25	6.00	6.50	0.354	0.858	0.378	1/2	0.535	2.40	5.6/3.4
15	mm	79	108	152	165	10	21.8	9.6		13.6	61	
3/4	in	3.62	4.62	7.00	7.50	0.512	1.067	0.500	3/4	0.547	2.40	7.8/4.7
20	mm	92	117	178	190	13	27.1	12.7		13.9	61	
1	in	4.38	5.00	8.00	8.50	0.689	1.331	0.500	1	0.681	3.07	12.5/9.2
25	mm	111	127	203	216	17.5	33.8	12.7		17.3	78	
1 1/4	in	4.75	5.50	8.50	9.00	0.906	1.677	0.500	1 1/4	0.709	3.31	17/10.5
32	mm	120	140	216	229	23	42.6	12.7		18	84	
1 1/2	in	4.75	6.50	9.00	9.50	1.142	1.917	0.500	1 1/2	0.724	10.25	23.5/13.3
40	mm	120	165	229	241	30	48.7	12.7		18.4	3.98	
2	in	5.50	8.00	10.50	11.50	1.378	2.406	0.626	2	0.756	4.72	38.8/18.9
50	mm	140	203	267	292	35	61.1	15.9		19.2	120	

Applicable standards:

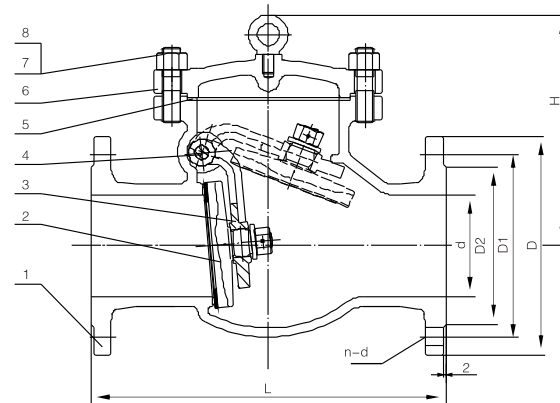
- STEEL CHECK VALVES, API 602
- STEEL VALVES, ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- SOCKET-WELDING ENDS, ASME B16.11
- SCREWED ENDS, ASME B1.20.1
- INSPECTION AND TEST, API 598

Design descriptions:

- BOLTED COVER
- CHOICE OF WB, WELDED COVER
- SEAT RINGS TYPE
- SEAT RINGS INTEGRAL WITH BODY OF LIFT
- HORIZONTAL OR VERTICAL SERVICE
- SW, SOCKET-WELDING ENDS
- SC, SCREWED ENDS
- BW, BUTTWELDING ENDS
- FLANGED ENDS

Dimensional datas

NPS	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	in
L	110	110	110	110	150	150	210	235	in
H	166	166	171	207	240	258	330	355	in
d	9	10	12	15	20	28	32	40	in
	8	10.5	13.5	18	24	29	36.5	45	in
Weight(kg)	2	2.1	1.9	4	5.1	7.2	12.1	14	in
	1.9	2.3	2.3	4.35	5.25	7.8	12.5	14.6	in



Materials of parts

No	Part Name	ASTM Materials				
1	Body	A216-WCB+Cr13	A217-WC6+HF	A352-LCB+Cr13	A351 CN7M	A890 4A
2	Disc	A105+Cr13	A182-F11+HF	A350-LF2+Cr13	Alloy 20	A182 F51
3	Hinge	A216-WCB	A217-WC6	A352-LCB	A351 CN7M	A890 4A
4	Hinge Pin	A182-F6a	A182-F6a	A182-F6a	Alloy 20	A182 F51
5	Bonnet Gasket	304+Graphite	304+Graphite	304+Graphite	316+Graphite	316+Graphite
6	Cover	A216-WCB	A217-WC6	A352-LCB	A351 CN7M	A890 4A
7	Bonnet Stud	A193 B7	A193 B16	A320-L7	A193 -B8M	A193 -B8M
8	Bonnet Stud Nut	A194 -2H	A194 -7	A194 -4	A194 -8M	A194 -8M

Note:1) graphite optional
2)disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Applicable standards:

Face to Face Dimensions: EN558-1/DIN3202 F1
 Flange end Dimension : EN1092-1/DIN2545
 Design and Manufacture : EN 13709/DIN3356
 Pressure Test : EN14341/DIN3840
 Materials : WCB , WC6 , WC9 , CF8, CF8M, CF3, CF3M , CN7M, LC1
 LC2, LC3, LCB, LCC, Monel, 20# Alloys, 4A, 5A, C95800, C95500, ect.

PN16

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	158	188	212	268	320	378	438	490
d2	mm	125	145	160	180	210	240	295	355	410	470	525
D	mm	165	185	200	220	250	285	340	405	460	520	580
b	mm	18	18	20	20	22	22	24	26	28	30	32
n-Φd	mm	4-18	8-18	8-18	8-18	8-18	8-22	12-22	12-26	12-26	16-26	16-30
H	mm	135	140	145	165	250	285	315	390	420	450	520

PN25

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	162	188	218	278	335	395	450	505
d2	mm	125	145	160	190	220	250	310	370	430	490	550
D	mm	165	185	200	235	270	300	360	425	485	555	620
b	mm	20	22	24	24	28	28	30	32	34	38	40
n-Φd	mm	4-18	8-18	8-18	8-22	8-26	8-26	12-26	12-30	16-30	16-33	16-36
H	mm	135	140	150	170	265	295	345	400	435	460	530

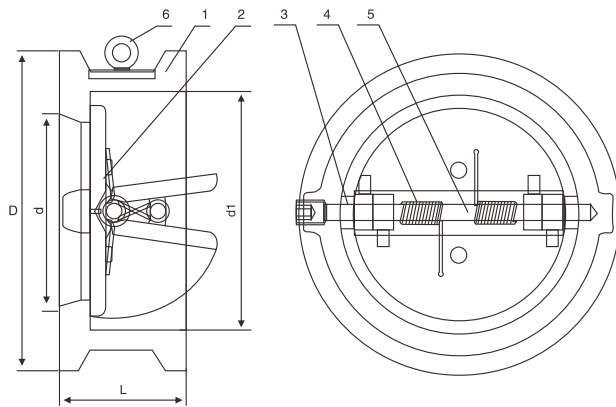
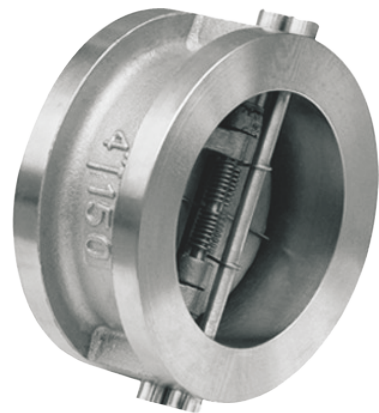
PN40

DN		50	65	80	100	125	150	200	250	300	350	400
d	mm	50	63	76	100	125	150	200	250	300	336	387
L(RF)	mm	230	290	310	350	400	480	600	730	850	980	1100
d1	mm	102	122	138	162	188	218	285	345	410	465	535
d2	mm	125	145	160	190	220	250	320	385	450	510	585
D	mm	165	185	200	235	270	300	375	460	515	580	660
b	mm	20	22	24	24	28	28	34	38	42	46	50
n-Φd	mm	4-18	8-18	8-18	8-22	8-26	8-26	12-30	12-33	16-33	16-36	16-39
H	mm	145	160	180	190	280	310	350	430	450	480	550

Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	18Cr-9NiMo	Carbon Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Plate	A216-WCB+CR13	A351-CF8M+HF	A350-LCB+CR13
3	Stop Pin	A276-420	A276-304	A276-420
4	Back Spring	A313-304	A313-316	A313-304
5	Hinge Pin	A276-420	A276-304	A276-420
6	Eyebolt ⁽²⁾	Carbon Steel		

Note:1)NPS 8" & larger.



Dimensional datas of ANSI Class 150#

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	7.25 184	7.50 191	8.00 203	8.62 219	8.75 222	in mm
D	4.00 103	4.88 122	5.38 135	6.75 173	8.62 220	10.88 277	13.25 337	16.00 407	17.62 448	20.12 512	21.50 547	23.75 604	28.12 715	in mm
d	2.00 51	2.50 65	3.25 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	13.75 350	15.75 400	17.75 450	19.75 500	23.62 600	in mm
D1	2.25 56	2.88 73	3.50 88	4.25 108	6.25 160	8.25 210	10.50 266	12.12 310	14.00 355	16.00 405	18.00 455	19.88 505	23.75 605	in mm
WT	2	3	4	6	13	25	39	54	80	117	138	163	331	kg

Dimensional datas of ANSI Class 300#

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	8.75 222	9.12 232	10.38 264	11.50 292	12.50 318	in mm
D	4.25 110	5.00 128	5.75 147	7.00 179	9.88 249	12.00 305	14.12 359	16.50 420	19.00 483	21.12 537	23.38 594	25.62 652	30.38 772	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	14.00 350	16.00 400	18.00 450	20.00 500	24.00 600	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 160	8.25 210	10.50 266	12.25 310	14.00 355	16.00 405	18.00 455	20.00 505	24.00 608	in mm
WT	3	4	6	8	18	31	51	77	117	190	200	265	410	kg

Dimensional datas of ANSI Class 600#

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L	2.38 60	2.62 67	2.88 73	3.12 79	5.38 137	6.50 165	8.38 213	9.00 229	10.75 273	12.00 305	in mm
D	4.38 110	5.00 128	5.75 147	7.50 191	10.38 264	12.50 318	15.62 398	17.88 455	19.25 490	22.12 562	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	13.25 337	15.25 387	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	14.00 355	15.75 400	in mm
WT	4	5	8	11	26	55	95	140	223	360	kg

Dimensional datas of ANSI Class 900#

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L	2.75 70	3.25 83	3.25 83	4.00 102	6.25 159	8.12 206	9.50 241	11.50 292	-	-	in mm
D	5.50 140	6.38 162	6.50 165	8.00 204	11.25 286	14.00 356	17.00 432	19.50 495	-	-	in mm
d	2.00 51	2.50 62	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	-	-	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	-	-	in mm
WT	8	11	14	20	42	84	145	220	-	-	kg

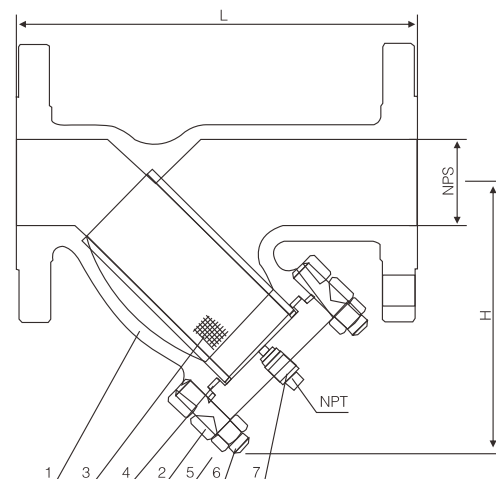
Applicable standards:

- STEEL CHECK VALVES, API 594/API6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

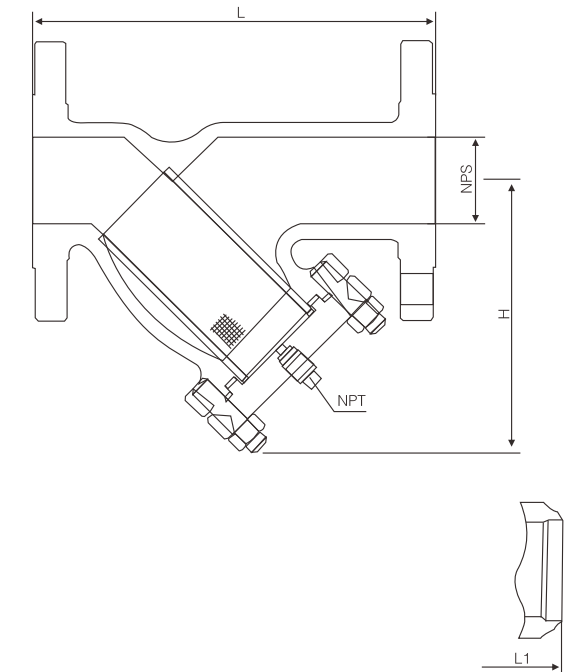
- ONE PIECE BODY
- BUTTERFLY SWING TYPE
- DUAL-PLATE DISC, LONG-PATTERN
- RENEWABLE SPLIT DISC
- HORIZONTAL OR VERTICAL SERVICE
- WAFER ENDS
- AVAILABLE WITH FLANGED ENDS

Note:
1) spiral wound construction



Materials of parts

No	Part Name	ASTM Materials		
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet Cap	A216-WCB	A351-CF8M	A350-LCB
3	Screen	A240-304	A240-316	A240-304
4	Bonnet Gasket	Graphite+304	PTFE	Graphite+304
5	Bonnet Stud	A193-B7	A193-B8	A320-L7
6	Bonnet Stud Nut	A194-2H	A194-8	A194-7
7	Drain Plug	A276-410	A276-316	A276-410



Percentage of open area

MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45 1/2	0.066	0.103	37.1
180	46 1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
300	48	0.039	0.044	27.6

Even the mesh*is same:
open area is not always same
due to the diameter of wire.
The details of wire as follows:

- A: Number of Wire
- B: Diameter of Wire
- C: Width of Opening
- D: Percentage of OPEN AREA

Applicable Standards:

- STEEL STRAINER, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

- Y-PATTERN TYPE
- BOLTED BONNET CAP WITH DRAIN PLUG
- PERFORATED STAINLESS STEEL SCREEN
- STRAINER DENSITY 100 MESH DESIGN
- FULL RANGE OF STRAINER DENSITY
- RENEWABLE STRAINER DENSITY
- FLANGED OR BUTTWELDING ENDS

Dimensional datas

NPS	DN	L/L1 (RF/BW)		H		PLUG (NPT)	WT (KG)		L/L1 (RF/BW)		H		PLUG (NPT)	WT (KG)	
		ANSI Class 150#						ANSI Class 300#							
1/2	15	5.50	140	3.38	87	1/8	2.1	0.8	5.50	140	3.38	87	1/8	2.5	1.2
3/4	20	6.00	152	4.12	105	1/2	2.3	1.2	6.00	152	4.12	105	1/2	3.4	1.8
1	25	6.50	165	4.50	114	1/2	3.1	1.4	6.50	165	4.50	114	1/2	4.2	2.6
1 1/2	40	8.00	203	6.12	156	1/2	6.2	3.7	8.00	203	6.12	156	1/2	8.6	4.8
2	50	9.00	229	7.12	181	1/2	9.7	6.7	9.00	229	7.12	181	1/2	11.12	8.2
2 1/2	65	11.00	279	10.25	259	3/4	23.5	16.5	11.00	279	10.25	259	3/4	29	20
3	80	12.50	318	11.50	293	3/4	28	22	12.50	318	11.50	293	3/4	38	27
4	100	14.50	368	12.75	324	3/4	37	28	14.50	368	12.75	324	3/4	57	39
6	150	18.50	470	17.62	448	3/4	67	59	18.50	470	17.62	448	3/4	105	74
8	200	23.50	597	21.00	535	3/4	91	78	23.50	597	21.00	535	3/4	176	131
10	250	26.50	673	27.12	690	1	135	113	26.50	673	27.12	690	1	230	164
12	300	30.50	775	30.75	780	1	168	151	30.50	775	30.75	780	1	360	268
in	mm	in	mm	in	mm	in	RF	BW	in	mm	in	mm	in	RF	BW

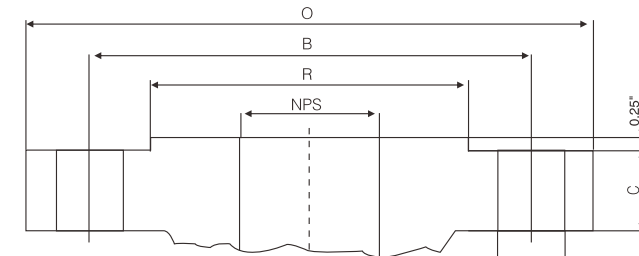
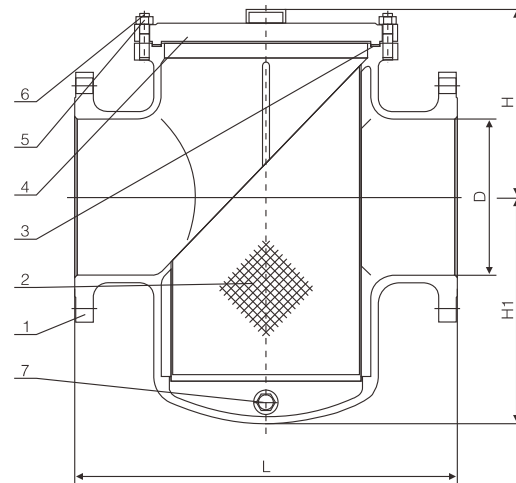
Name of parts

No	Part Name	No	Part Name
1	Body	5	Bottom End Cover
2	Disc	6	Gasket
3	Gasket	7	NPT Screw Plug
4	Seat		

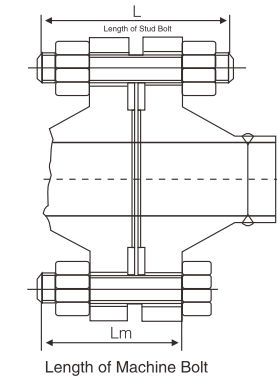
Materials of parts

Body	WCB/CF8M/CF8/CF3M/CF3/CD3MN
Strainer	316/304/316L/304L/S31803
Bonnet	F316/F304/F316L/F304L/F51
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gasket	Flexible graphite+304/Flexible graphite+316
Screw Plug	410/316/304/316L/304L/S31803

Materials could be chosen according to customers' requirement & working condition.



ANSI Class150Lb/300Lb
0.25"(6.4mm) Raised face joint



Class150#

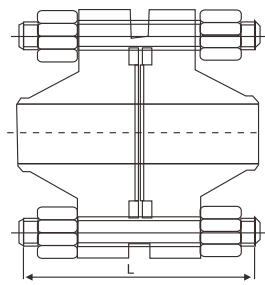
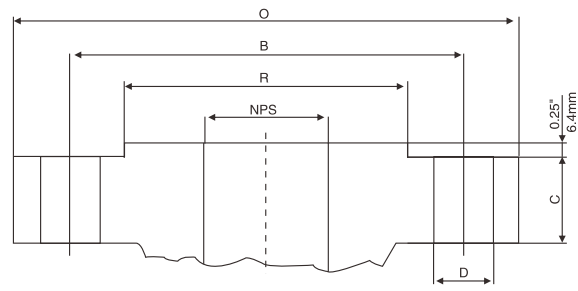
NPS		O		C		R		B		D		Bolt		L		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm
2	50	6.00	152.4	0.75	19.1	3.62	91.9	4.75	120.7	0.75	19.1	4	5/8	3.25	82.6	2.75	69.9
2 1/2	65	7.00	177.8	0.88	2.4	4.12	104.6	5.50	139.7	0.75	19.1	4	5/8	3.50	88.9	3.00	76.2
3	80	7.50	190.5	0.94	23.9	5.00	127.0	6.00	152.4	0.75	19.1	4	5/8	3.50	88.9	3.00	76.2
4	100	9.00	228.6	0.94	23.9	6.19	157.2	7.50	190.5	0.75	19.1	8	5/8	3.50	88.9	3.00	76.2
5	25	10.00	254.0	0.94	23.9	7.31	185.7	8.50	215.9	0.88	22.4	8	3/4	3.75	95.3	3.25	82.6
6	150	11.00	279.4	1.00	25.4	8.50	215.9	9.50	241.3	0.88	22.4	8	3/4	4.00	101.6	3.25	8.6
8	200	13.50	342.9	1.12	28.4	10.62	269.7	11.75	298.5	0.88	22.4	8	3/4	4.25	108.0	3.50	88.9
10	250	16.00	406.4	1.19	30.2	12.75	323.9	14.25	362.0	1.00	25.4	12	7/8	4.50	114.3	4.00	101.6
12	300	19.00	482.6	1.25	31.8	15.00	381.0	17.00	431.8	1.00	25.4	12	7/8	4.75	120.7	4.00	101.6
14	350	21.00	533.4	1.38	35.1	16.25	412.8	18.75	476.3	1.12	28.4	12	1	5.25	133.4	4.50	114.3
16	400	23.50	596.9	1.44	36.6	18.50	469.9	21.25	539.8	1.12	28.4	16	1	5.25	133.4	4.50	114.3
18	450	25.00	635.0	1.56	39.6	21.00	533.4	22.75	577.9	1.25	31.8	16	1 1/8	5.75	146.1	5.00	127.0
20	500	27.50	698.5	1.69	42.9	23.00	584.2	25.00	635.0	1.25	31.8	20	1 1/8	6.25	158.8	5.50	139.7
24	600	32.00	812.88	1.88	47.8	27.25	692.2	39.50	749.3	1.38	35.1	20	1 1/4	6.75	171.5	6.00	152.4
26	650	34.25	70.0	2.69	68.3	29.50	749.3	31.75	806.5	1.38	35.1	24	1 1/4	8.25	209.6	7.50	190.5
28	700	36.50	927.1	2.81	71.4	31.50	800.1	34.00	863.6	1.38	35.1	28	1 1/4	8.50	215.9	7.75	196.9
30	750	38.75	984.3	2.94	74.7	33.75	857.3	36.00	914.4	1.38	35.1	28	1 1/4	9.00	228.6	8.00	203.2
32	800	41.75	1060.5	3.18	80.8	36.00	914.4	38.50	977.9	1.62	41.1	28	1 1/2	9.75	247.7	8.75	222.3
34	850	43.75	1111.3	3.25	82.6	38.00	965.2	40.50	1028.7	1.62	41.1	32	1 1/2	10.00	254.0	9.00	228.6
36	900	46.00	1168.4	3.56	90.4	40.25	1022.4	42.75	1085.9	1.62	41.1	32	1 1/2	10.50	266.7	9.50	241.3

Class300#

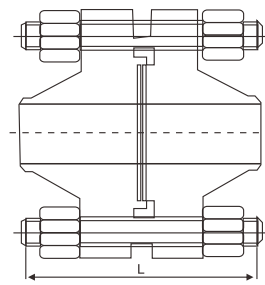
NPS		O		C		R		B		D		Bolt		L		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm
2	50	6.50	165.1	0.88	22.4	3.62	91.9	5.00	127.0	0.75	19.1	8	5/8	3.50	101.6	3.00	76.2
2 1/2	65	7.50	190.5	1.00	25.4	4.12	104.6	5.88	149.4	0.88	22.4	8	3/4	4.00	114.3	3.25	82.6
3	80	8.25	209.6	1.12	28.4	5.00	127.0	6.62	168.1	0.88	22.4	8	3/4	4.25	120.7	3.50	88.9
4	100	10.00	254.0	1.25	31.8	6.19	157.2	7.88	200.2	0.88	22.4	8	3/4	4.50	127.0	3.75	95.3
5	25	11.00	279.4	1.38	35.1	7.31	185.7	9.25	235.0	0.88	22.4	8	3/4	4.75	133.4	4.25	108.0
6	150	12.50	317.5	1.44	36.6	8.50	215.9	0.62	269.7	0.88	22.4	12	3/4	4.75	139.7	4.25	108.0
8	200	15.00	381.0	1.62	41.1	10.62	269.7	13.00	330.2	1.00	25.4	12	7/8	5.50	152.4	4.75	120.7
10	250	17.50	444.5	1.88	47.8	12.75	323.9	15.25	387.4	1.12	28.4	16	1	6.25	171.5	5.50	139.7
12	300	20.50	520.7	2.00	50.8	15.00	381.0	17.75	450.9	1.25	31.8	16	1 1/8	6.75	184.2	5.75	146.1
14	350	23.00	584.2	2.12	53.8	16.25	412.8	20.25	514.4	1.25	31.8	20	1 1/8	7.00	190.5	6.25	158.8
16	400	25.50	647.7	2.25	57.2	18.50	469.9	22.50	571.5	1.38	35.1	20	1 1/4	7.50	203.2	6.50	165.1
18	450	28.00	711.2	2.38	60.5	21.00	533.4	24.75	628.7	1.38	35.1	24	1 1/4	7.75	209.3	6.75	171.5
20	500	30.50	774.7	2.50	63.5	23.00	584.2	27.00	685.8	1.38	35.1	24	1 1/4	8.00	222.3	7.25	184.2
24	600	36.00	914.4	2.75	69.9	27.25	692.2	32.00	812.8	1.62	41.1	24	1 1/2	9.00	254.0	8.00	203.2
26	650	38.25	971.6	3.12	79.2	29.50	749.3	34.50	876.3	1.75	44.5	28	1 1/8	10.25	285.8	9.25	235.0
28	700	40.75	1035.1	3.38	85.9	31.50	800.1	37.00	939.8	1.75	44.5	28	1 1/8	10.75	298.5	9.75	247.7
30	750	43.00	1092.2	3.62	91.9	33.75	857.3	39.25	997.0	1.88	47.8	28	1 1/4	11.50	317.5	10.50	266.7
32	800	45.25	1149.4	3.88	98.6	36.00	914.4	41.50	1054.1	2.00	50.8	28	1 1/8	12.25	342.9	11.25	285.8
34	850	47.50	1206.5	4.00	101.6	38.00	965.2	43.50	1104.9	2.00	50.8	28	1 1/8	12.75	349.3	11.75	298.5
36	900	50.00	1270.0	4.12	104.6	40.25	1022.4	46.00	1168.4	2.12	53.8	32	2	13.25	362.0	12.25	311.2

Applicable Standards:

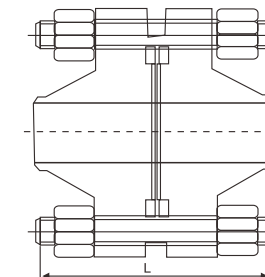
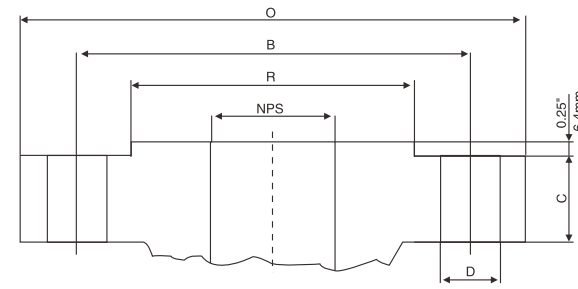
- DESIGN & MANUFACTURE CONFORM WITH : ASME B16.34
- CONNECTION DIMENTION CONFORMS WITH : ASME B16.5, ASME B16.11, EN 1092
- STRUCTURE AND LENGTH CONFORMS WITH THE TERMS OF THE CONTRACT
- MATERIAL CONFORMS WITH : ISO 5208, API 598



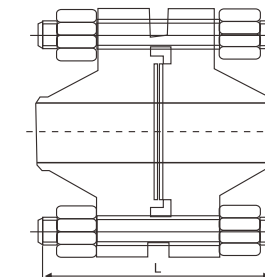
ANSI Class600Lb/900Lb
0.25\"/>



ANSI Class600Lb/900Lb
Male & female



ANSI Class600Lb/900Lb
0.25\"/>



ANSI Class600Lb/900Lb
male & female

Class600#

NPS		O		C		R		B		D		Bolt		L		LRTJ		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	in	mm
2	50	6.50	165.1	1.00	25.4	3.62	91.9	5.00	127.0	0.75	19.1	8	5/8	4.25	108.0	4.00	101.6	4.00	101.6
2 1/2	65	7.50	190.5	1.12	28.4	4.12	104.6	5.88	149.4	0.88	22.4	8	3/4	4.75	120.7	4.50	114.3	4.50	114.3
3	80	8.25	209.6	1.25	31.8	5.00	127.0	6.62	168.1	0.88	22.4	8	3/4	5.00	127.0	5.00	127.0	4.75	120.7
4	100	10.75	273.1	1.50	38.1	6.19	157.2	8.50	215.9	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
5	25	13.00	330.2	1.75	44.5	7.31	185.7	10.50	266.7	1.12	28.4	8	1	6.50	165.1	6.50	165.1	6.25	158.8
6	150	14.00	355.6	1.88	47.8	8.50	215.9	11.50	292.1	1.12	28.4	12	1	6.75	171.5	6.75	171.5	6.50	165.1
8	200	16.50	419.1	2.19	55.6	10.62	269.7	13.75	349.3	1.25	31.8	12	1 1/8	7.50	190.5	7.50	190.5	7.25	184.2
10	250	20.00	508.8	2.50	63.5	12.75	323.9	17.00	431.8	1.38	35.1	16	1 1/4	8.50	215.9	8.50	215.9	8.25	209.6
12	300	22.00	558.8	2.62	66.5	15.00	381.0	19.25	489.0	1.38	35.1	20	1 1/4	8.75	222.3	8.75	222.3	8.50	215.9
14	350	23.75	603.3	2.75	69.9	16.25	412.8	20.75	527.1	1.50	38.1	230	1 3/8	9.25	235.0	9.25	235.0	9.00	228.6
16	400	27.00	685.8	3.00	76.2	18.50	469.9	23.75	603.3	1.62	41.1	20	1 1/2	10.00	254.0	10.00	254.0	9.75	247.7
18	450	29.25	743.0	3.25	82.6	21.00	533.4	25.75	654.1	1.75	44.5	20	1 5/8	10.75	273.1	10.75	273.1	10.50	266.7
20	500	32.00	812.8	3.50	88.9	23.00	584.2	28.50	723.9	1.75	44.5	24	1 5/8	11.25	285.8	11.25	285.8	11.00	279.4
24	600	37.00	939.8	4.00	101.6	27.25	692.2	33.00	838.2	2.00	50.8	24	1 7/8	13.00	330.2	13.25	336.6	12.75	323.9
26	650	40.00	1016.0	4.25	108.0	29.50	749.3	36.00	914.4	2.00	50.8	28	1 7/8	14.00	355.6	14.00	355.6	13.75	349.3
28	700	42.25	1073.2	4.38	111.3	31.50	800.1	38.00	965.2	2.12	53.8	28	2	14.50	368.3	14.50	368.3	14.25	362.0
30	750	44.50	1130.3	4.50	114.3	33.75	857.3	40.25	1022.4	2.12	53.8	28	2	15.00	381.0	14.75	375.4	14.75	374.7
32	800	47.00	1193.8	4.62	117.3	36.00	914.4	42.50	1079.5	2.38	60.5	28	2 1/4	15.50	393.7	15.75	400.1	15.25	387.4
34	850	49.00	1244.6	4.75	120.7	38.00	965.2	44.50	1130.3	2.38	60.5	28	2 1/4	16.25	412.8	16.25	412.8	16.00	406.4
36	900	51.75	1314.5	4.88	124.0	40.25	1022.4	47.00	1193.8	2.62	66.5	28	2 1/2	15.75	400.1	16.75	425.5	15.50	393.7

Class900#

NPS		O		C		R		B		D		Bolt		L		LRTJ		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	in	mm
2	50	8.50	215.9	1.50	38.1	3.62	91.9	6.50	165.1	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
2 1/2	65	9.62	244.3	1.62	41.1	4.12	104.6	7.50	190.5	1.12	28.4	8	1	6.25	158.8	6.25	158.8	6.00	152.4
3	80	9.50	241.3	1.50	38.1	5.00	127.0	7.50	190.5	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
4	100	11.50	292.1	1.75	44.5	6.19	157.2	9.25	235.0	1.25	31.8	8	1 1/8	6.75	171.5	6.75	171.5	6.50	165.1
5	25	13.75	349.3	2.00	50.8	7.31	185.7	11.00	279.4	1.38	35.1	8	1 1/4	7.50	190.5	7.50	190.5	7.25	184.2
6	150	15.00	381.0	2.19	55.6	8.50	215.9	12.50	317.5	1.25	31.8	12	1 1/8	7.50	190.5	7.75	196.9	7.25	184.2
8	200	18.50	469.9	2.50	63.5	10.62	269.7	15.50	393.7	1.50	38.1	12	1 3/8	8.75	222.3	8.75	222.3	8.50	215.9
10	250	21.50	546.1	2.75	69.9	12.75	323.9	18.50	469.9	1.50	38.1	16	1 3/8	9.25	235.0	9.25	235.0	9.00	228.6
12	300	24.00	609.6	3.12	79.2	15.00	381.0	21.00	533.4	1.50	38.1	20	1 3/8	10.00	254.0	10.00	254.0	9.75	247.7
14	350	25.25	641.4	3.38	85.9	16.25	412.8	22.00	558.8	1.62	41.1	20	1 1/2	10.75	273.1	11.00	279.4	10.50	266.7
16	400	27.75	704.9	3.50	88.9	18.50	469.9	24.25	616.0	1.75	44.5	20	1 5/8	11.25	285.8	11.50	292.1	11.00	279.4
18	450	31.00	787.4	4.00	101.6	21.00	533.4	27.00	685.8	2.00	50.8	20	1 7/8	12.75	323.9	13.25	336.6	12.50	317.5
20	500	33.75	857.3	4.25	108.0	23.00	584.2	29.50	749.3	2.12	53.8	20	2	13.75	349.3	14.25	362.0	13.50	342.9
24	600	41.00	1041.4	5.50	139.7	27.25	692.2	35.50	901.7	2.62	66.5	20	2 1/2	17.25	438.2	18.00	457.2	17.00	431.8

Class1500#

NPS		O		C		R		B		D		Bolt		L		LRTJ		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	in	mm
2	50	8.50	215.9	1.50	38.1	3.62	91.9	6.50	165.1	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
2 1/2	65	9.62	244.3	1.62	41.1	4.12	104.6	7.50	190.5	1.012	28.4	8	1	6.25	158.8	6.25	158.8	6.00	152.4
3	80	10.50	266.7	1.88	47.8	5.00	127.0	8.00	203.2	1.25	31.8	8	1 1/8	7.00	177.8	7.00	177.8	6.75	171.5
4	100	12.25	311.2	2.12	53.8	6.19	157.2	9.50	241.3	1.38	35.1	8	1 1/4	7.75	196.9	7.75	196.9	7.50	190.5
5	25	14.75	374.7	2.88	73.2	7.31	185.7	11.50	292.1	1.62	41.1	8	1 1/2	9.75	247.7	9.75	247.7	9.50	241.3
6	150	15.50	393.7	3.25	82.6	8.50	215.9	12.50	317.5	1.50	38.1	12	1 3/8	10.25	260.4	10.50	266.7	10.00	254.0
8	200	19.00	482.6	3.62	91.9	10.62	269.7	15.50	393.7	1.75	44.5	12	1 5/8	11.50	292.1	12.75	323.9	11.25	285.8
10	250	23.00	584.2	4.25	108.0	12.75	323.9	19.00	482.6	2.00	50.8	12	1 7/8	13.25	336.6	13.50	342.9	13.00	330.2
12	300	26.50	673.1	4.88	124.0	15.00	381.0	22.50	571.5	2.12	53.8	16	2	14.75	374.7	15.25	387.4	14.50	368.3
14	350	29.50	749.3	5.25	133.4	16.25	412.8	25.00	635.0	2.38	60.5	16	2 1/4	16.00	406.4	16.75	425.5	15.75	400.1
16	400	32.50	825.5	5.75	146.1	18.50	469.9	27.50	704.9	2.62	66.5	16	2 1/2	17.50	444.5	18.50	469.9	17.25	438.2
18	450	36.00	914.4	6.38	162.1	21.00	533.4	30.50	774.7	2.88	73.2	16	2 3/4	19.50	495.3	20.75	527.1	19.25	489.0
20	500	38.75	984.3	7.00	177.8	23.00	584.2	32.75	831.9	3.12	79.2	16	2	21.25	539.8	22.25	565.2	21.00	533.4
24	600	46.00	1168.4	8.00	203.2	27.25	692.2	39.00	990.6	3.62	91.9	16	3 1/2	24.25	616.0	25.50	647.7	24.00	609.6

Class2500#

NPS		O		C		R		B		D		Bolt		L		LRTJ		Lm	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	in	mm
2	50	9.25	235.0	2.00	50.8	3.62	91.9	6.75	171.5	1.12	28.4	8	1	7.00	177.8	7.00	177.8	6.75	171.5
2 1/2	65	10.50	266.7	2.25	57.2	4.12	104.6	7.75	196.9	1.25	31.8	8	1 1/8	7.75	196.9	8.00	203.2	7.50	190.5
3	80	12.00	304.8	2.62	66.5	5.00	127.0	9.00	228.6	1.38	35.1	8	1 1/4	8.75	222.3	9.00	228.6	8.50	215.9
4	100	14.00	355.6	3.00	76.2	6.19	157.2	10.75	273.1	1.62	41.1	8	1 1/2	10.00	254.0	10.25	260.4	9.75	247.7
5	25	16.50	419.1	3.62	91.9	7.31	185.7	12.75	323.9	1.88	47.8	8	1 3/4	11.75	298.5	12.25	311.2	11.50	292.1
6	150	19.00	482.6	4.25	108.0	8.50	215.9	14.50	368.3	2.12	53.8	8	2	13.50	342.9	14.00	355.6	13.25	336.6
8	200	21.75	552.5	5.00	127.0	10.62	269.7	17.25	438.2	2.12	53.8	12	2						