

API 6D

THROUGH CONDUIT GATE VALVE SLAB & EXPANDING



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Note:

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COMPANY PROFILE

SNY Valve (Yancheng) Co., Ltd. is committed to providing global customers with reliable and complete range of solution for engineering valve. Established in 2003 with CNY 150 million registered capital, SNY VALVE is a national high-tech comprehensive enterprise which integrating valve R&D manufacturing and sales. SNY VALVE headquarters is located in Yancheng city with two manufacturing workshops. We have sales centers in Yancheng, Suzhou and Beijing. SNY VALVE covers an area of over 100,000 sq. meters with more than 300 sets of production, test & inspection facilities. SNYVALVE has established long-term cooperative relations with many large enterprises at home and abroad, been approved by many end users and EPC companies, and products export to middle east, Europe, America, etc.

Main Products

SNY VALVE products are widely applied in oil, gas, petroleum refining, petrochemical, power, mining, metallurgy, LNG shipbuilding and other industries. Our product range are NPS 1/4~60 inch (DN6~DN1500), Class150~2500 (PN16~PN420). Our mainly products are gate valves, globe valves, check valves, ball valves, API6D valve, and we are actively developing special valves used for severe service such as cryogenic, ultra-high temperature and high corrosion. Products are designed according to standards of ANSI, ASTM, API, BS, JIS, DIN, GB, ISO, MSS, etc., and design temperature from -196 to 650 Deg.C. Material are available of carbon steel, stainless (including duplex and super duplex), and other alloys steel (low alloy, nickel-based alloy, Inconel, Monel, Hastelloy),etc.

Technical Strength

SNY VALVE has a first-class technology research and development team, and we have nearly 100 of all kinds of patents and copyrights. Company are capable of physical & chemical analysis, mechanical performance testing, NDT, impact test at ambient temperature and low temperature, hardness testing, metallographic analysis, coordinate measuring, valve torque testing, valve life testing, high-temperature & cryogenic testing, etc., products have been certified through fire safe, fugitive emission, TAT tests.



HEADQUARTERS

Established in 2003
Area: 34,000 m²
Located in Tinghu District,
Yancheng City.



THE SECOND FACTORY

Established in 2006
Area: 58,000 m²
Located in Yancheng E&T
development zone, Yancheng City.



SUZHOU BRANCH

Located in Suzhou Industrial Zone, Suzhou branch is the global sales & marketing center of SNY VALVE, which plays a comprehensive role in market promotion, sales, and set up distribution system.



BEIJING BRANCH

Located in Beijing International Business Center, Beijing branch is the domestic sales & marketing center of SNY VALVE, and plays a comprehensive role in market promotion, sales, and set up distribution system.

Environment, Health & Safety

Quality, health, safety and environment management have top priority in our growth plans and all our endeavors. SNY VALVE is committed to providing a safe, healthy and positive working environment for our employees and those under our care. SNY VALVE has established management policy and action guidelines regarding environmental issues. We view "harmony with nature" and "sustainable development" as integral to the pursuit of our business.

Social Responsibility

Constantly taking social responsibility, SNY VALVE has set up "SNY Scholarship" through cooperating with local university for aiding excellent students in straitened circumstance.

QUALIFICATION & CERTIFICATE

SNY VALVE is committed to provide the highest possible quality industrial valves at the most cost effective way to customers worldwide. We have been certified with ISO9001, ISO14001, OHSAS18001, CE/PED, API6D, API602, API600,ABS, CU-TR,TS,and obtained API607 /API 6Fa fire safe approvals.



QUALITY CONTROL

SNY VALVE has been certified with ISO 9001 & API Spec. Q1 for quality management system. SNY quality assurance and quality control capabilities are followed and implemented based on global standards.

We have

- State-of-the-art Quality Control Test Center
- In-house Non-destructive Test Equipment & ASNT Certified Personnel
- Pressure Test Equipment
- Special Testing Equipment for Product Validation

Raw material quality is ensured by a stringent vendor qualification system. By NDT (Radiographic Test, Magnetic Particle Test, Penetrant Test & Ultrasonic Test), Positive Material Identification (PMI), Tensile Test, and Hardness Test to evaluate samples & small lot production, as well as surveillance audits and sample check to ensure the compliance as per customers' requirements.

Valves manufactured at SNY valves are 100% pressure-tested. The product design has been validated through various special testing as per applicable industry standards such as Fire Safe Test, Low Temperature Test, Cryogenic Test, Vacuum Test, Fugitive Emission Test, High Pressure Gas Test, Elevated Temperature Test and so on.



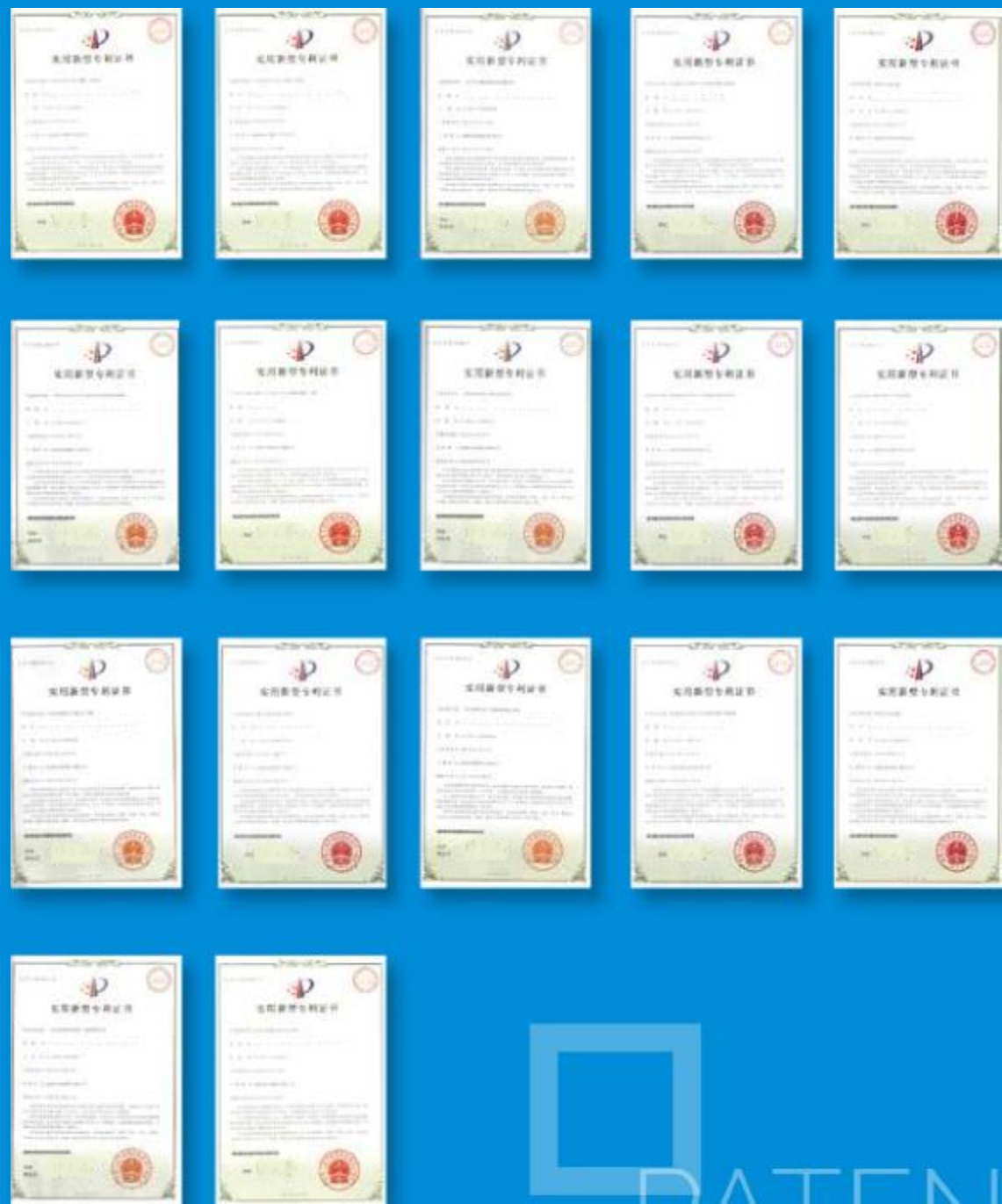
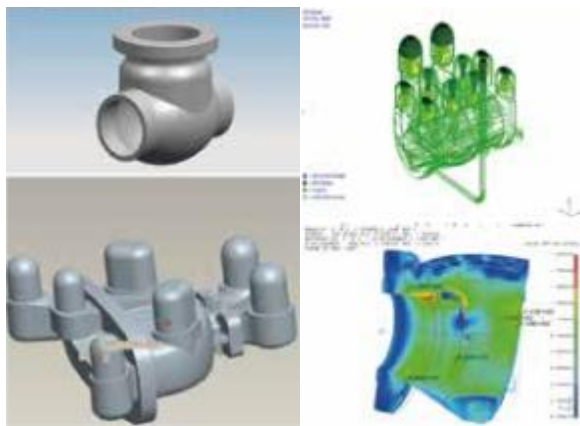


TECHNOLOGY PATENT

SNY VALVE always focus on technical innovation. It has one province technique center and one cryogenic ball valve engineering center. Technical team utilizes the most advanced computer technology to improve the existing products and develop the new products. Up to now, SNY VALVE possesses more than 90 patents.

SNY VALVE design philosophy is to develop a safe and cost-efficient valve. Through the latest software of 3D, CAD & Solid works, engineer is available to fictitiously check and verify if the parts & valves can be assembled precisely before they are actually made, which can speed up the development process & saves the costs.

SNY VALVE technical personnel are always ready to offer on-line or on-site technical training and support for all of our customers.



PATENT



FACTORY MANAGEMENT & FACILITIES

SNY VALVE organically integrates the advanced manufacturing equipment and the staffs. By using the most advanced hardware and software, centralizing the production resources, increasing our efficiency and continuously improving the process control, we are able to meet or exceed the different requirement of customers. Company implement 6S management onsite to reduce waste and improve process control. Advanced management software such as K/3 (ERP) & OA (Collaborative Management Software) play an important role in SNY VALVE. Synchronized supervision & management are performed through the whole manufacturing process to improve productivity & efficiency. Our business philosophy is: stable & reliable quality, on-time delivery and reasonable price.

SNY VALVE have more than 300 sets(units) equipment, such as CNC machining Center, CNC lathes, CNC boring-milling machine, general lathes, large-scale vertical lathe, sphere grinders, plasma overlaying welding equipment and heat treatment equipment, etc. CNC machining Center is Japanese FANUC 0I-MD NC, and the three-way coupling is from Germany S+J/R+W, which realizes the automatic continuous milling of plane, groove, bevel, and a variety of linear processing, and ensure the accuracy of ball.



SNY VALVE realizes the casting quality is the most important to valve life, safety of personnel and environment, especially in the high temperature and high pressure applications. So our strict customers always audit the foundries at first from our approved suppliers before order execution.

SNY VALVE has established unique strategic supply chain management system. We have strategically foundries and one own foundry. They each have a full set of quality inspection facilities, such as spectrometer, NDT and PMI inspection, etc.

INTRODUCTION OF FOUNDRIES





INDUSTRY APPLICATIONS

- Oil & Gas Pipeline
- Refinery
- Petrochemical
- Power
- Chemical
- LNG & LPG
- Mining
- Metallurgy
- Aerospace
- Water Treatment
- Offshore Engineering



Figure Numbers

	Normal Size	Valve Type	Normal Press	End Connection	Operation	Special Requirement	Body Material	Trim Material	Spec Mater
Example:	A 1 6	B G S	C 6	D R	E G	F F N	G W C C	H 2 4 9 2	I N

Explanation: NPS 16,Soft Seated Slab Gate Valve , Class 600, RF Flanged End, Gearbox Operated, No machining on Raised Face, Body Material WCC, Gate Material LF2+ENP, Seat Sealing Ring NYLON 12, Stem 4140+ENP, Stem Sealing VITON B, NACE Requirement.

A Normal Size							
2	NPS2	16	NPS16	D50	DN50	D400	DN400
2 1/2	NPS2 1/2	18	NPS18	D65	DN65	D450	DN450
3	NPS3	20	NPS20	D80	DN80	D500	DN500
4	NPS4	22	NPS22	D100	DN100	D550	DN550
5	NPS5	24	NPS24	D125	DN125	D600	DN600
6	NPS6	26	NPS26	D150	DN150	D650	DN650
8	NPS8	28	NPS28	D200	DN200	D700	DN700
10	NPS10	30	NPS30	D250	DN250	D750	DN750
12	NPS12	32	NPS32	D300	DN300	D800	DN800
14	NPS14	34	NPS34	D350	DN350	D850	DN850
		36	NPS36			D900	DN900
D End Connection							
R	RF Flanged	B**	Butt-welding(** is the pipe nominal size or can be described as OD*Wall Thickness)				

B Valve Type							
GS	Soft Seated Slab Gate Valve						
GSM	Metal Seated Slab Gate Valve						
GE	Soft Seated Expanding Gate Valve						
GEM	Metal Seated Expanding Gate Valve						

C Normal Pressure							
0	Class125	-2.5	PN(DIN)2.5	-20	PN(ANSI)2		
1	Class150	-6	PN(DIN)6	-50	PN(ANSI)5		
3	Class300	-10	PN(DIN)10	-110	PN(ANSI)1		
4	Class400	-16	PN(DIN)16	-150	PN(ANSI)1		
6	Class600	-25	PN(DIN)25	-260	PN(ANSI)2		
8	Class800	-40	PN(DIN)40	-420	PN(ANSI)4		
9	Class900	-63	PN(DIN)63				
15	Class1500	-100	PN(DIN)100				
25	Class2500						

F Special Requirement					E Operation				
B16.47B	ASME B16.47B standard end flange				Default	Lever/Handle/Handwheel	B	Bare Stem	
BW	Belleville spring at packing bolt shall be anti-loosening				G	Gearbox	P	Pneumatic Actuator	
CE	Valves exported to EU, and shall be CE marked				E	Electric Actuator	H	Hydraulic Actuator	
FN	No machining on raised face								
EPW**	Buttwelding end with pup piece (** is the pup piece dimension)								
LS	Valve with lock								
SH	Shell requirement								

H Trim Material					G Body Material				
Gate/Seat Ring	Seat Sealing Ring1	Stem	Stem/Seat Sealing		WCA	A216	WCA		
1 A105+ENP	1 PTFE	1 A105+ENP	1 VITON A		WCB	A216	WCB		
2 LF2+ENP	2 PTFE + 15 Glass Fiber	2 LF2+ENP	2 VITON B		WCC	A216	WCC		
3 F304	3 PTFE + 25% Carbon Fiber	3 3 F304	3 VITON AED		LCB	A352	LCB		
4 F316	4 NYLON12	4 F316	4 NBR		LCC	A352	LCC		
5 F304L	5 DEVLON	5 F304L	5 HNBR		CF8	A351	CF8		
6 F316L	6 PEEK	6 F316L	6 HNBR-AED		CF8M	A351	CF8M		
7 F51	7 PPL	7 F51	7 EPDM		CF3	A351	CF3		
8 INCONEL 625	8 PCTFE	8 17-4PH	Z Flexible Graphite		CF3M	A351	CF3M		
9 INCOLOY 825	Z WC+WC	9 4140+ENP	Y Braided + Flexible Graphite						
	Y WC+HF								
	X Ni60+Ni55								

Note: Material of seat ring is same as gate. Special material can be described in special material.

I Special Material	
B7M/2HM	bolt&nut material is B7M/2HM
BZ	galvanized bolt
BN	nickelplated bolt&nut
BP	PTFE plated bolt
NC	NACE Requirement



PART 1



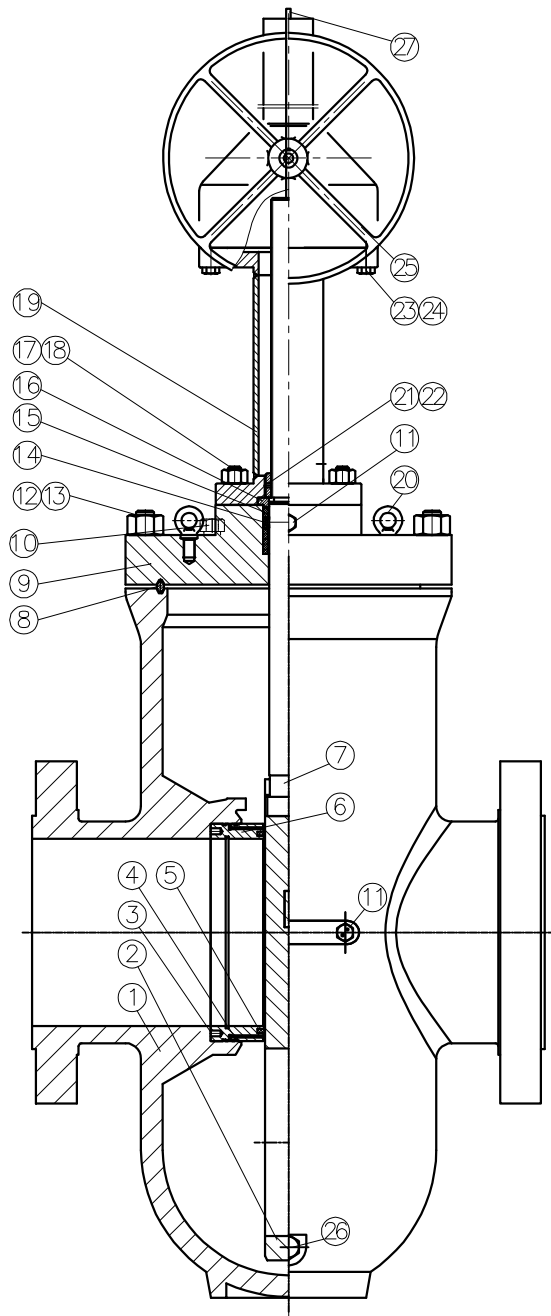
Design Standard

Basic Design	API 6D/ASME B16.34
Face to Face/End to End	API 6D/ASME B16.10
End Flange	ASME B16.5 / MSS SP-44 ASME B16.47
Butt-welding End	ASME B16.25/API 602
Testing	API 6D

Through Conduit Slab Gate Valve

1. Valve with soft & metal seats. In case of soft seat damaged, the metal to metal seat will act as a secondary seal.
2. The seat with self pressure relieving function to prevent the pressure increasing too high in cavity.
3. O-rings and / or spring preloaded force offer a bi-directional sealing of the valve and are easy for operation.
4. Seat sealing surface is located outside the fluid, which will be free from erosion, and can be cleaned up during discs movement.

General Assembly Drawing

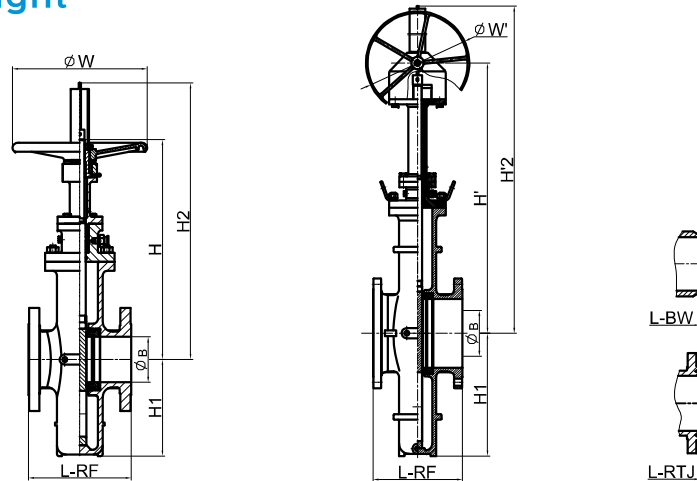


Material of Construction

Part No.	Part Name	Carbon Steel	Low Temperature
1	Body	ASTM A216 Gr.WCC	ASTM A352 Gr.LCC
2	Gate	ASTM A105 + ENP	ASTM A350 Gr.LF2 + ENP
3	Spring	Inconel X-750	Inconel X-750
4	O-Ring	VITON(AED)	HNBR
5	Seal Insert	RPTFE / Nylon	DEVLON
6	Seat	ASTM A105 + ENP	ASTM A350 Gr.LF2 + ENP
7	Stem	ASTM A705 Type 630(17-4PH)	ASTM A705 Type 630(17-4PH)
8	Gasket	Stainless Steel / Graphite	Stainless Steel / Graphite
9	Bonnet	ASTM A105	ASTM A350 Gr.LF2
10	Vent Valve	ASTM A276 Type 316	ASTM A276 Type 316
11	Grease Fitting	ASTM A276 Type 316	ASTM A276 Type 316
12	Nut	ASTM A194 Gr.2HM	ASTM A194 Gr.7M
13	Stud	ASTM A193 Gr.B7M	ASTM A320 Gr.L7M
14	Lantern Ring	ASTM A276 Type 410	ASTM A276 Type 410
15	Packing	Braided & Die Formed Graphite	Braided & Die Formed Graphite
16	Gland Flange	ASTM A105	ASTM A105
17	Nut	ASTM A194 Gr.2HM	ASTM A194 Gr.7M
18	Stud	ASTM A193 Gr.B7M	ASTM A320 Gr.L7M
19	Yoke	ASTM A105	ASTM A105
20	Lifting Lug	Carbon Steel (Galvanized)	Carbon Steel (Galvanized)
21	Stop Nut	ASTM A105	ASTM A105
22	Screw	ASTM A276 Type 410	ASTM A276 Type 410
23	Hex Bolt	ASTM A193 Gr.B7M	ASTM A320 Gr.L7M
24	Spring Washer	ASTM A29 Gr.1566	ASTM A29 Gr.1566
25	Gear Operator	Assembly	Assembly
26	Plug	ASTM A276 Type 316	ASTM A276 Type 316
27	Position Indicator	ASTM A276 Type 410	ASTM A276 Type 410

Note: Materials listed in the table are general. When ordering, please contact SNY sales or technical team to confirm the details.

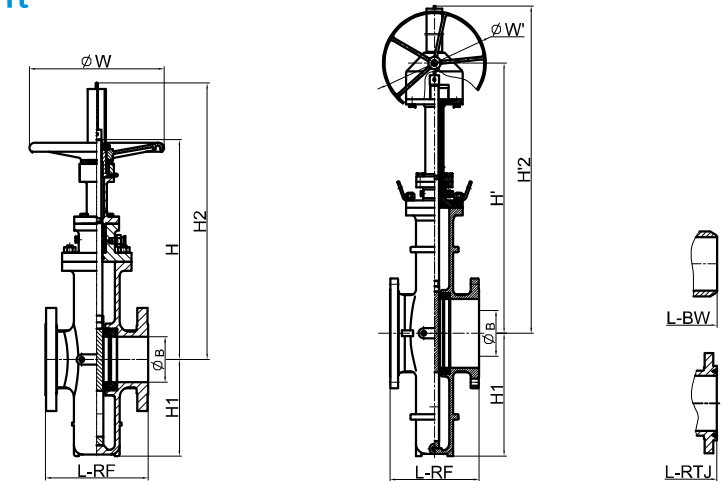
Dimension & Weight



CLASS 150

Size NPS DN	B in mm	L-RF in mm	L-BW in mm	L-RTJ in mm	H in mm	H1 in mm	H2 in mm	W in mm	H' in mm	H2' in mm	W' in mm	Weight lb Kg
2	1.94	7.00	8.50	7.50	13.90	4.90	1.70	7.90	/	/	/	88
50	49	178	216	191	352	125	44	200	/	/	/	40
3	2.94	8.00	11.13	8.50	16.20	6.30	20.90	9.80	16.70	21.50	12.20	126
80	74	203	283	216	410	160	530	250	425	545	310	57
4	3.94	9.00	12.00	9.50	19.30	8.50	24.80	11.80	19.90	19.90	12.20	157
100	100	229	305	241	490	215	630	300	505	505	310	71
6	5.94	10.50	15.88	11.00	25.00	11.20	34.80	13.80	25.20	33.50	12.20	240
150	150	267	403	279	635	285	885	350	640	852	310	109
8	7.94	11.50	16.50	12.00	30.70	14.60	40.90	13.80	30.70	41.70	12.20	441
200	201	292	419	305	780	370	1040	350	780	1060	310	200
10	9.94	13.00	18.00	13.50	36.60	17.70	49.60	15.70	36.60	50.00	12.20	617
250	252	330	457	343	930	450	1260	400	930	1270	310	280
12	11.94	14.00	19.75	14.50	43.10	20.90	58.50	17.70	43.10	58.70	12.20	981
300	303	356	502	368	1095	530	1485	450	1095	1490	310	445
14	13.19	15.00	22.50	15.50	/	24.00	/	/	49.20	66.50	18.10	1312
350	334	381	572	394	/	610	/	/	1250	1690	460	595
16	15.19	16.00	24.00	16.50	/	26.80	/	/	52.80	72.00	18.10	1687
400	385	406	610	419	/	680	/	/	1340	1830	460	765
18	17.19	17.00	26.00	17.50	/	29.90	/	/	57.10	78.10	18.10	2116
450	436	432	660	445	/	760	/	/	1450	1985	460	960
20	19.19	18.00	28.00	18.50	/	33.90	/	/	62.20	85.60	18.10	2811
500	487	457	711	470	/	860	/	/	1580	2175	460	1275
24	23.19	20.00	32.00	20.50	/	41.70	/	/	13.20	102.80	24.00	4535
600	589	508	813	521	/	1060	/	/	1860	2610	610	2057
30	28.94	24.00	360.00	25.00	/	49.60	/	/	89.00	124.00	24.00	7562
750	735	610	914	635	/	1260	/	/	2260	3150	610	3430
36	34.44	28.00	40.00	29.13	/	58.30	/	/	101.80	143.10	24.00	11684
900	874	711	1016	740	/	1480	/	/	2585	3635	610	5300
40	38.44	/	/	/	/	/	/	/	/	/	/	/
1000	976	/	/	/	/	/	/	/	/	/	/	/
48	45.94	/	/	/	/	/	/	/	/	/	/	/
1200	1166	/	/	/	/	/	/	/	/	/	/	/

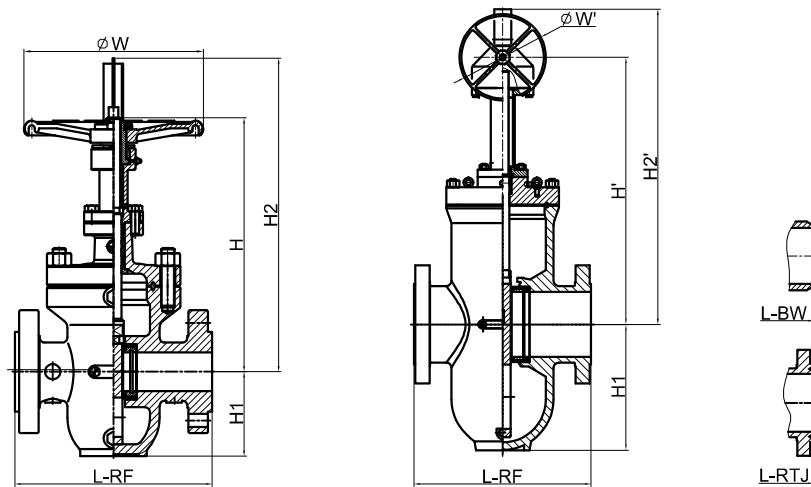
Dimension & Weight



CLASS 300

Size NPS DN	B in mm	L-RF in mm	L-BW in mm	L-RTJ in mm	H in mm	H1 in mm	H2 in mm	W in mm	H' in mm	H2' in mm	W' in mm	Weight lb Kg
2	1.94	8.50	8.50	9.13	13.90	5.10	17.00	7.90	/	/	/	93
50	49	216	216	232	352	130	440	200	/	/	/	42
3	2.94	11.13	11.13	11.75	16.20	6.50	20.90	9.80	16.70	21.50	12.20	154
80	74	283	283	298	410	165	530	250	425	545	310	70
4	3.94	12.00	12.00	12.63	19.30	8.70	24.80	11.80	19.90	19.90	12.20	198
100	100	305	305	321	490	220	630	300	505	505	310	90
6	5.94	15.88	15.88	16.50	25.00	11.40	34.80	13.80	25.20	33.50	12.20	364
150	150	403	403	419	635	290	885	350	640	852	310	165
8	7.94	16.50	16.50	17.13	30.70	14.80	40.90	15.70	30.70	41.70	12.20	639
200	201	419	419	435	780	375	1040	400	780	1060	310	290
10	9.94	18.00	18.00	18.63	36.60	17.90	49.60	17.70	36.60	50.00	12.20	677
250	252	457	457	473	930	455	1260	450	930	1270	310	307
12	11.94	19.75	19.75	20.38	43.10	21.10	58.50	19.70	43.10	58.70	12.20	1459
300	303	502	502	518	1095	535	1485	500	1095	1490	310	662
14	13.19	30.00	30.00	30.63	/	24.40	/	/	49.20	66.50	18.10	1896
350	334	762	762	778	/	620	/	/	1250	1690	460	860
16	15.19	33.00	33.00	33.63	/	27.20	/	/	52.80	72.00	18.10	2723
400	385	838	838	854	/	690	/	/	1340	1830	460	1235
18	17.19	36.00	36.00	36.63	/	30.30	/	/	57.10	78.10	18.10	3748
450	436	914	914	930	/	770	/	/	1450	1985	460	1700
20	19.19	39.00	39.00	39.75	/	34.40	/	/	62.20	85.60	24.00	4116
500	487	991	991	1010	/	875	/	/	1580	2175	610	1867
24	23.19	45.00	45.00	45.88	/	42.10	/	/	74.00	103.50	24.00	7379
600	589	1143	1143	1165	/	1070	/	/	1880	2630	610	3347
30	28.94	55.00	55.00	56.00	/	50.00	/	/	90.40	125.40	28.00	10318
750	735	1397	1397	1422	/	1270	/	/	2295	3185	710	4680
36	34.44	68.00	68.00	69.13	/	58.90	/	/	103.50	144.90	28.00	20503
900	874	1727	1727	1756	/	1495	/	/	2630	3680	710	9300
40	38.44	/	/	/	/	/	/	/	/	/	/	/
1000	976	/	/	/	/	/	/	/	/	/	/	/
48	45.94	/	/	/	/	/	/	/	/	/	/	/
1200	1166	/	/	/	/	/	/	/	/	/	/	/

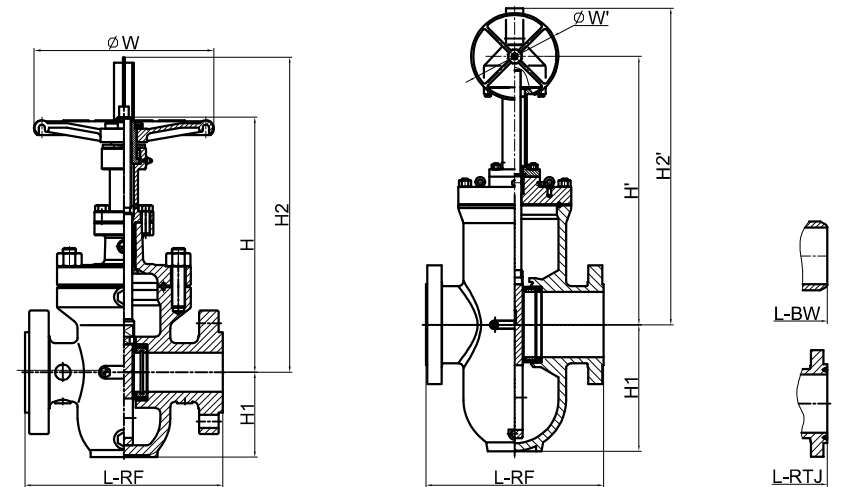
Dimension & Weight



CLASS 600

Size	B	L-RF	L-BW	L-RTJ	H	H1	H2	W	H'	H2'	W'	Weight
NPS	in	in	in	in	in	in	in	in	in	in	in	lb
DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg
2	1.94	11.50	11.50	11.63	15.00	5.30	20.10	9.80	/	/	/	132
50	49	292	292	295	381	135	510	250	/	/	/	60
3	2.94	14.00	14.00	14.13	18.30	6.50	24.80	11.80	18.90	26.00	12.20	209
80	74	356	356	359	465	165	630	300	480	660	310	95
4	3.94	17.00	17.00	17.13	22.20	8.30	30.70	13.80	22.80	31.70	12.20	375
100	100	432	432	435	565	210	780	350	580	805	310	170
6	5.94	22.00	22.00	22.13	27.50	11.80	38.40	17.70	28.00	39.00	12.20	661
150	150	559	559	562	698	300	975	450	710	990	310	300
8	7.94	26.00	26.00	26.13	36.20	15.70	47.00	19.70	36.40	47.60	18.10	1195
200	201	660	660	664	920	400	1195	500	925	1210	460	542
10	9.94	31.00	31.00	31.13	43.10	19.70	56.30	25.20	42.10	55.90	18.10	2116
250	252	787	787	791	1095	500	1430	640	1070	1420	460	960
12	11.94	33.00	33.00	33.13	49.00	23.20	66.50	26.80	48.00	66.70	24.00	2855
300	303	838	838	841	1245	590	1690	680	1220	1695	610	1295
14	13.19	35.00	35.00	35.13	/	26.00	/	/	50.80	73.20	24.00	3682
350	334	889	889	892	/	660	/	/	1290	1860	610	1670
16	15.19	39.00	39.00	39.13	/	29.50	/	/	54.30	77.60	24.00	4663
400	385	991	991	994	/	750	/	/	1380	1970	610	2115
18	17.19	43.00	43.00	43.13	/	33.10	/	/	61.80	87.00	24.00	6967
450	436	1092	1092	1095	/	842	/	/	1570	2210	610	3160
20	19.19	47.00	47.00	47.25	/	36.80	/	/	71.30	100.80	28.00	9370
500	487	1194	1194	1200	/	935	/	/	1810	2560	710	4250
24	23.19	55.00	55.00	55.38	/	42.50	/	/	90.90	124.60	28.00	14032
600	589	1397	1397	1407	/	1080	/	/	2310	3165	710	6365
30	28.94	65.00	65.00	65.50	/	53.50	/	/	105.30	146.00	31.50	20525
750	735	1651	1651	1664	/	1360	/	/	2675	3710	800	9310
36	34.44	82.00	82.00	82.63	/	60.20	/	/	120.10	168.70	31.50	27227
900	874	2083	2083	2099	/	1530	/	/	3050	4285	800	12350

Dimension & Weight



CLASS 900

Size	B	L-RF	L-BW	L-RTJ	H	H1	H2	W	H'	H2'	W'	Weight
NPS	in	in	in	in	in	in	in	in	in	in	in	lb
DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg
2	1.94	14.50	14.50	14.63	16.90	6.00	22.80	9.80	/	/	/	165
50	49	368	368	371	430	153	580	250	/	/	/	75
3	2.94	15.00	15.00	15.13	18.70	7.10	26.00	13.80	18.10	25.80	12.20	243
80	74	381	381	384	475	180	660	350	460	655	310	110
4	3.94	18.00	18.00	18.13	22.20	10.20	31.10	15.70	24.80	33.10	12.20	496
100	100	457	457	460	565	260	790	400	630	840	310	225
6	5.94	24.00	24.00	24.13	30.50	13.20	39.60	22.00	29.90	39.80	12.20	911
150	150	610	610	613	775	335	1005	560	760	1010	310	413
8	7.94	29.00	29.00	29.13	38.80	16.10	49.80	25.20	37.80	50.00	18.10	1301
200	201	737	737	740	985	410	1265	640	960	1270	460	590
10	9.94	33.00	33.00	33.13	/	21.30	/	/	42.50	61.00	18.10	2469
250	252	838	838	841	/	540	/	/	1080	1550	460	1120
12	11.94	38.00	38.00	38.13	/	23.60	/	/	47.80	65.20	24.00	3527
300	303	965	965	968	/	600	/	/	1215	1655	610	1600
14	12.69	40.50	40.50	40.88	/	28.00	/	/	52.80	72.40	24.00	4299
350	322	1029	1029	1038	/	710	/	/	1340	1840	610	1950
16	14.69	44.50	44.50	44.88	/	29.90	/	/	56.30	78.00	28.00	5864
400	373	1130	1130	1140	/	760	/	/	1430	1980	710	2660
18	16.69	48.00	48.00	48.50	/	33.50	/	/	61.40	85.00	28.00	7606
450	423	1219	1219	1232	/	850	/	/	1560	2160	710	3450
20	18.56	52.00	52.00	52.50	/	37.20	/	/	66.50	92.70	31.50	12390
500	471	1321	1321	1334	/	945	/	/	1690	2355	800	5620
24	22.44	61.00	61.00	61.75	/	45.30	/	/	78.00	108.90	31.50	18408
600	570	1549	1549	1568	/	1150	/	/	1980	2765	800	8350



PART 2



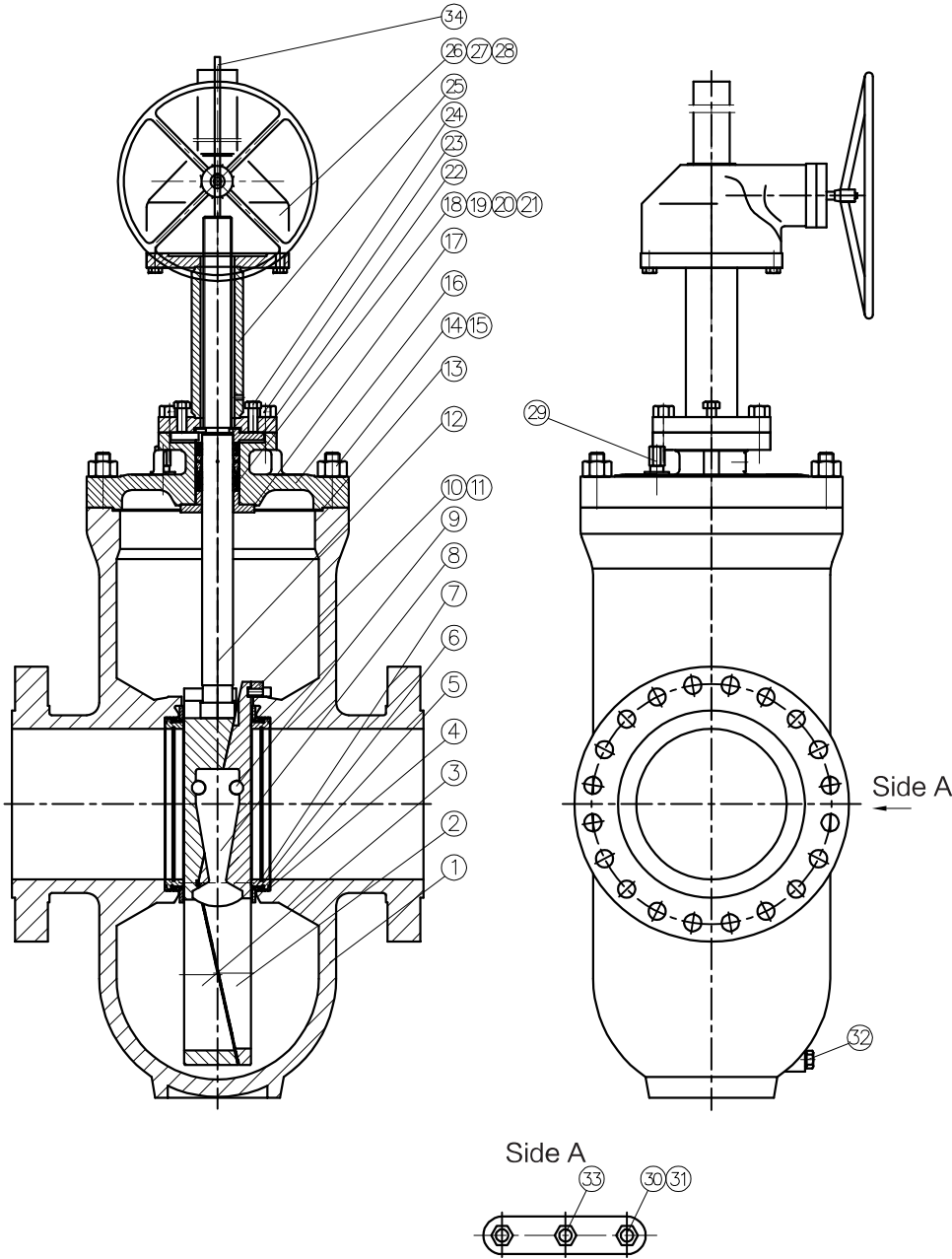
Design Standard

Basic Design	API 6D/ASME B16.34
Face to Face/End to End	API 6D/ASME B16.10
End Flange	ASME B16.5 / MSS SP-44 ASME B16.47
Butt-welding End	ASME B16.25/API 602
Testing	API 6D

Through Conduit Expanding Gate Valve

- 1. Seat sealing is designed with preloaded force. When valve is shutoff, the seats are energized to have a tight seal upstream and downstream. When valve is fully opened, the cavity is isolated from the fluid.
- 2. Even it is deformed due to the temperature changing, the sealing will be still in good condition, and the disc & segment will not be seized up due to high temperature expansion.
- 3. Optional vent device enable the cavity abnormal overpressure release to the low-pressure side of the valve when in shutoff or fully opened position, which ensure the safety and avoid high operating force. position, vent system will release the pressure when the body cavity overpressured.

General Assembly Drawing

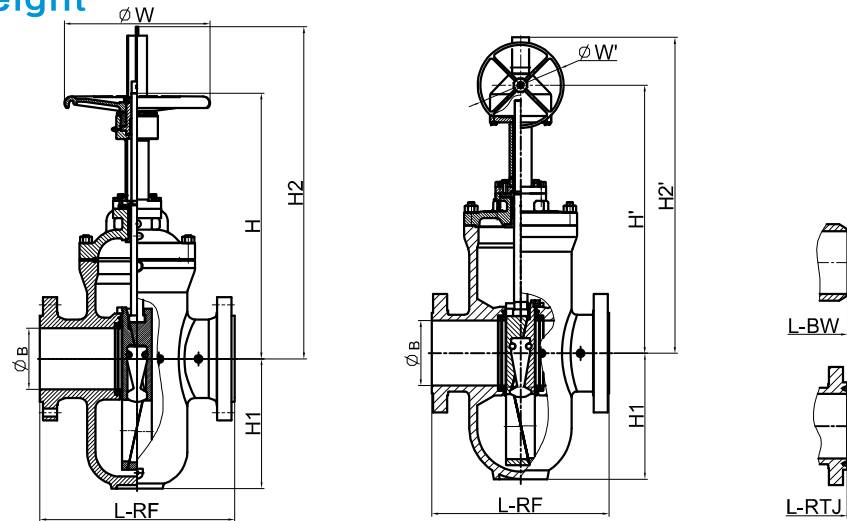


Material of Construction

Part No.	Part Name	Carbon Steel	Low Temperature
1	Body	ASTMA216 Gr.WCC	ASTMA352 Gr.LCC
2	Gate	ASTMA216 Gr.WCC + ENP	ASTMA352 Gr.LCC + ENP
3	Segment	ASTMA216 Gr.WCC + ENP	ASTMA352 Gr.LCC + ENP
4	O-Ring	VITON(AED)	HNBR
5	Seat	ASTMA105 + ENP	ASTMA350 Gr.LF2 + ENP
6	Fireproof Gasket	Graphite	Graphite
7	SKIRT	Carbon Steel (Galvanized)	Carbon Steel (Galvanized)
8	Lever Arm	Carbon Steel (Galvanized)	Carbon Steel (Galvanized)
9	Lever Arm Pin	ASTMA276 Type 410	ASTMA276 Type 410
10	Stop Block	ASTMA105	ASTMA350 Gr.LF2
11	Bolt	ASTMA276 Type 410	ASTMA276 Type 410
12	Stem	ASTMA705 Type 630(17-4PH)	ASTMA705 Type 630(17-4PH)
13	Gasket	Stainless Steel/Graphite	Stainless Steel/Graphite
14	Nut	ASTMA194 Gr.2HM	ASTMA194 Gr.7M
15	Stud	ASTMA193 Gr.B7M	ASTMA320 Gr.L7M
16	Bonnet	ASTMA105	ASTMA350 Gr.LF2
17	Backseat	ASTMA276 Type 410	ASTMA276 Type 410
18	O-Ring	VITON(AED)	HNBR
19	O-Ring	VITON(AED)	HNBR
20	Packing	Braided & Die Formed Graphite	Braided & Die Formed Graphite
21	Lantern Ring	ASTMA276 Type 410	ASTMA276 Type 410
22	Gland Flange	ASTMA105	ASTMA105
23	Hex Bolt	ASTMA193 Gr.B7M	ASTMA320 Gr.L7M
24	Hex Bolt	ASTMA193 Gr.B7M	ASTMA320 Gr.L7M
25	Yoke	ASTMA105	ASTMA105
26	Spring Washer	ASTMA29 Gr.1566	ASTMA29 Gr.1566
27	Hex Bolt	ASTMA193 Gr.B7M	ASTMA320 Gr.L7M
28	Gear Operator	Assembly	Assembly
29	Vent Valve	ASTMA276 Type 316	ASTMA276 Type 316
30	Check Valve	ASTMA276 Type 316	ASTMA276 Type 316
31	Grease Fitting	ASTMA276 Type 316	ASTMA276 Type 316
32	Plug	ASTMA276 Type 316	ASTMA276 Type 316
33	Plug	ASTMA276 Type 316	ASTMA276 Type 316
34	Position Indicator	ASTMA276 Type 410	ASTMA276 Type 410

Note: Materials listed in the table are general. When ordering, please contact SNY sales or technical team to confirm the details.

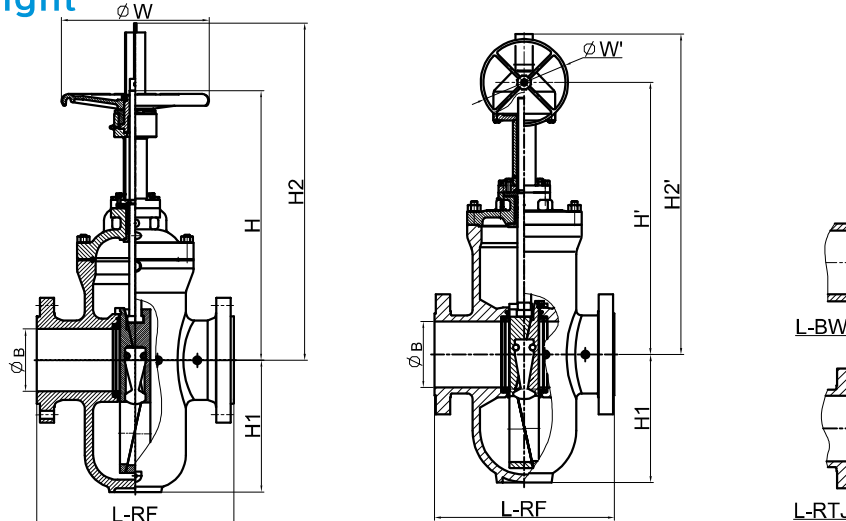
Dimension & Weight



CLASS 600

Size	B	L-RF	L-BW	L-RTJ	H	H1	H2	W	H'	H2'	W'	Weight
NPS	in	in	in	in	in	in	in	in	in	in	in	lb
DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg
2	1.94	11.50	11.50	11.63	15.40	5.30	20.70	9.80	/	/	/	99
50	49	292	292	295	390	135	525	250	/	/	/	45
3	2.94	14.00	14.00	14.13	18.70	6.50	25.40	11.80	18.90	26.00	12.20	187
80	74	356	356	359	475	165	645	300	480	660	310	85
4	3.94	17.00	17.00	17.13	22.20	8.30	30.70	15.70	22.80	31.70	12.20	390
100	100	432	432	435	565	210	780	400	580	805	310	177
6	5.94	22.00	22.00	22.13	29.50	12.60	40.60	17.70	28.00	39.00	12.20	717
150	150	559	559	562	750	320	1030	450	710	990	310	325
8	7.94	26.00	26.00	26.13	36.20	15.70	47.40	19.70	36.40	47.60	18.10	1224
200	201	660	660	664	920	400	1205	500	925	1210	460	555
10	9.94	31.00	31.00	31.13	43.10	19.70	56.90	25.20	42.10	55.90	18.10	2094
250	252	787	787	791	1095	500	1445	640	1070	1420	460	950
12	11.94	33.00	33.00	33.13	49.00	23.20	66.90	26.80	48.00	66.70	24.00	2921
300	303	838	838	841	1245	590	1698	680	1220	1695	610	1325
14	13.19	35.00	35.00	35.13	/	26.00	/	/	50.80	73.20	24.00	3770
350	334	889	889	892	/	660	/	/	1290	1860	610	1710
16	15.19	39.00	39.00	39.13	/	29.50	/	/	54.30	77.60	24.00	4685
400	385	991	991	994	/	750	/	/	1380	1970	610	2125
18	17.19	43.00	43.00	43.13	/	33.10	/	/	61.80	87.00	24.00	6658
450	436	1092	1092	1095	/	842	/	/	1570	2210	610	3020
20	19.19	47.00	47.00	47.25	/	36.80	/	/	71.30	100.80	28.00	9458
500	487	1194	1194	1200	/	935	/	/	1810	2560	710	4290
24	23.19	55.00	55.00	55.38	/	44.50	/	/	90.90	124.60	28.00	14694
600	589	1397	1397	1407	/	1130	/	/	2310	3165	710	6665
30	28.94	65.00	65.00	65.50	/	54.10	/	/	104.70	145.90	31.50	24339
750	735	1651	1651	1664	/	1375	/	/	2660	3705	800	11040
36	34.44	82.00	82.00	82.63	/	62.20	/	/	124.00	172.00	31.50	34083
900	874	2083	2083	2099	/	1580	/	/	3150	4370	800	15460

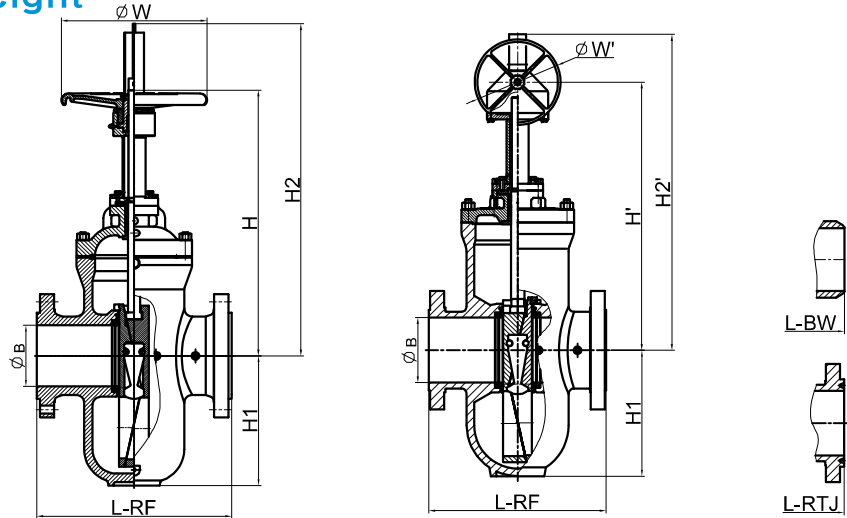
Dimension & Weight



CLASS 900

Size	B	L-RF	L-BW	L-RTJ	H	H1	H2	W	H'	H2'	W'	Weight
NPS	in	in	in	in	in	in	in	in	in	in	in	lb
DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg
2	1.94	14.50	14.50	14.63	16.90	6.00	22.80	9.80	/	/	/	165
50	49	368	368	371	430	153	580	250	/	/	/	75
3	2.94	15.00	15.00	15.13	18.70	7.10	26.00	13.80	18.10	25.80	12.20	309
80	74	381	381	384	475	180	660	350	460	655	310	140
4	3.94	18.00	18.00	18.13	22.20	10.20	31.10	15.70	24.80	33.10	12.20	498
100	100	457	457	460	565	260	790	400	630	840	310	226
6	5.94	24.00	24.00	24.13	30.50	13.20	39.60	22.00	29.90	39.80	12.20	886
150	150	610	610	613	775	335	1005	560	760	1010	310	402
8	7.94	29.00	29.00	29.13	38.80	16.10	49.80	25.20	37.80	50.00	18.10	1510
200	201	737	737	740	985	410	1265	640	960	1270	460	685
10	9.94	33.00	33.00	33.13	/	21.30	/	/	42.50	61.00	18.10	2701
250	252	838	838	841	/	540	/	/	1080	1550	460	1225
12	11.94	38.00	38.00	38.13	/	23.60	/	/	47.80	65.20	24.00	3638
300	303	965	965	968	/	600	/	/	1215	1655	610	1650
14	12.69	40.50	40.50	40.88	/	28.00	/	/	52.80	72.40	24.00	4167
350	322	1029	1029	1038	/	710	/	/	1340	1840	610	1890
16	14.69	44.50	44.50	44.88	/	29.90	/	/	56.30	78.00	28.00	5952
400	373	1130	1130	1140	/	760	/	/	1430	1980	710	2700
18	16.69	48.00	48.00	48.50	/	33.50	/	/	61.40	85.00	28.00	7231
450	423	1219	1219	1232	/	850	/	/	1560	2160	710	3280
20	18.56	52.00	52.00	52.50	/	37.20	/	/	66.50	92.70	31.50	10692
500	471	1321	1321	1334	/	945	/	/	1690	2355	800	4850
24	22.44	61.00	61.00	61.75	/	45.30	/	/	78.00	108.90	39.40	16843
600	570	1549	1549	1568	/	1150	/	/	1980	2765	1000	7640

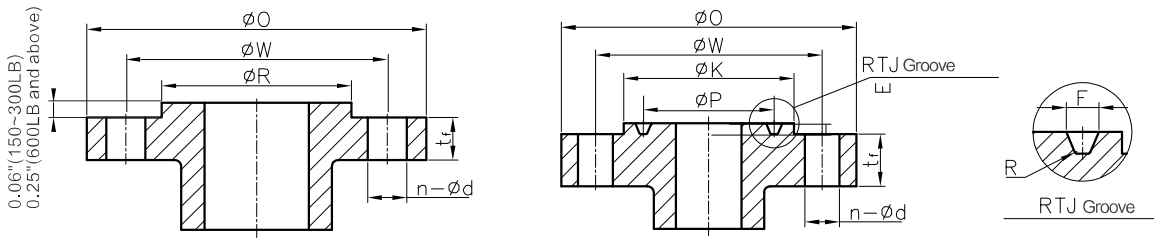
Dimension & Weight



CLASS 1500

Size	B	L-RF	L-BW	L-RTJ	H	H1	H2	W	H'	H2'	W'	Weight
NPS	in	in	in	in	in	in	in	in	in	in	in	lb
DN	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg
2	1.94	14.50	14.50	14.63	16.90	6.00	22.80	9.80	/	/	/	165
50	49	368	368	371	430	153	580	250	/	/	/	75
3	2.94	18.50	18.50	18.63	18.70	7.30	26.00	15.70	18.70	26.20	12.20	408
80	74	470	470	473	475	185	660	400	475	665	310	185
4	3.94	21.50	21.50	21.63	25.20	10.60	33.50	15.70	25.20	32.90	12.20	772
100	100	546	546	549	640	270	850	400	640	835	310	350
6	5.69	27.75	27.75	28.00	30.50	13.80	40.40	23.60	30.90	40.90	12.20	1367
150	144	705	705	711	775	350	1025	600	785	1040	310	620
8	7.56	32.75	32.75	33.13	/	16.70	/	/	39.00	51.40	24.00	2139
200	192	832	832	841	/	425	/	/	990	1305	610	970
10	9.44	39.00	39.00	39.38	/	22.00	/	/	43.70	63.40	24.00	2822
250	239	991	991	1000	/	560	/	/	1110	1610	610	1280
12	11.31	44.50	44.50	45.13	/	25.20	/	/	49.20	68.50	28.00	4938
300	287	1130	1130	1146	/	640	/	/	1250	1740	710	2240
14	12.44	49.50	49.50	50.25	/	29.30	/	/	55.90	77.40	28.00	8091
350	315	1257	1257	1276	/	745	/	/	1420	1965	710	3670
16	14.19	54.50	54.50	55.38	/	31.10	/	/	58.70	81.70	31.50	10185
400	360	1384	1384	1407	/	790	/	/	1490	2075	800	4620
18	16.00	60.50	60.50	61.38	/	38.00	/	/	63.80	89.20	31.50	12346
450	406	1537	1537	1559	/	965	/	/	1620	2265	800	5600

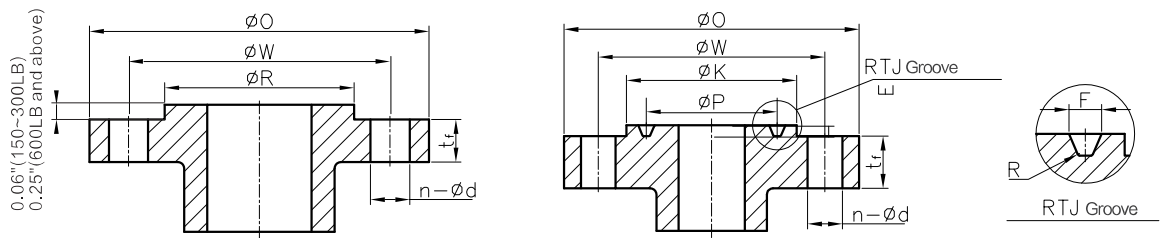
Flange Dimensions ASME B16.5&B16.47



Dimensions are in inches

Mpa	Size	O	TF	R	W	n	d	K	P	E	F	R	Ring No.
150	2	6	0.56	3.62	4.75	4	0.75	4	3.25	0.25	0.344	0.03	R22
	2.5	7	0.62	4.12	5.5	4	0.75	4.75	4	0.25	0.344	0.03	R25
	3	7.5	0.69	5	6	4	0.75	5.25	4.5	0.25	0.344	0.03	R29
	4	9	0.94	6.19	7.5	8	0.75	6.75	5.875	0.25	0.344	0.03	R36
	6	11	1	8.5	9.5	8	0.88	8.62	7.625	0.25	0.344	0.03	R43
	8	13.5	1.12	10.62	11.75	8	0.88	10.75	9.75	0.25	0.344	0.03	R48
	10	16	1.19	12.75	14.25	12	1	13	12	0.25	0.344	0.03	R52
	12	19	1.25	15	17	12	1	16	15	0.25	0.344	0.03	R56
	14	21	1.38	16.25	18.75	12	1.12	16.75	15.625	0.25	0.344	0.03	R59
	16	23.5	1.44	18.5	21.25	16	1.12	19	17.875	0.25	0.344	0.03	R64
	18	25	1.56	21	22.75	16	1.25	21.5	20.375	0.25	0.344	0.03	R68
	20	27.5	1.69	23	25	20	1.25	23.5	22	0.25	0.344	0.03	R72
	22	29.5	1.81	25.25	27.25	20	1.38	/	/	/	/	/	/
	24	32	1.88	27.25	29.5	20	1.38	28	26.5	0.25	0.344	0.03	R76
	26	34.25	2.69	29.5	31.75	24	1.38	/	29.5	0.5	0.781	0.06	R93
	28	36.5	2.81	31.5	34	28	1.38	/	31.5	0.5	0.781	0.06	R94
	30	38.75	2.94	33.75	36	28	1.38	/	33.75	0.5	0.781	0.06	R95
	32	41.75	3.19	36	38.5	28	1.62	/	36	0.562	0.906	0.06	R96
300	34	43.75	3.25	38	40.5	32	1.62	/	38	0.562	0.906	0.06	R97
	36	46	3.56	40.25	42.75	32	1.62	/	40.25	0.562	0.906	0.06	R98
	2	6.5	0.88	3.62	5	8	0.75	4.25	3.25	0.312	0.469	0.03	R23
	2.5	7.5	1	4.12	5.88	8	0.88	5	4	0.312	0.469	0.03	R26
	3	8.25	1.12	5	6.62	8	0.88	5.75	4.875	0.312	0.469	0.03	R31
	4	10	1.25	6.19	7.88	8	0.88	6.88	5.875	0.312	0.469	0.03	R37
	6	12.5	1.44	8.5	10.62	12	0.88	9.5	8.312	0.312	0.469	0.03	R45
	8	15	1.62	10.62	13	12	1	11.88	10.625	0.312	0.469	0.03	R49
	10	17.5	1.88	12.75	15.25	16	1.12	14	12.75	0.312	0.469	0.03	R53
	12	20.5	2	15	17.75	16	1.25	16.25	15	0.312	0.469	0.03	R57
	14	23	2.12	16.25	20.25	20	1.25	18	16.5	0.312	0.469	0.03	R61
	16	25.5	2.25	18.5	22.5	20	1.38	20	18.5	0.312	0.469	0.03	R65
	18	28	2.38	21	24.75	20	1.38	22.62	21	0.312	0.469	0.03	R69
	20	30.5	2.5	23	27	24	1.38	25	23	0.375	0.531	0.06	R73
	22	33	2.62	25.25	29.25	24	1.62	27	25	0.438	0.594	0.06	R81
	24	36	2.75	27.25	32	24	1.62	29.5	27.25	0.438	0.656	0.06	R77
	26	38.25	3.31	29.5	34.5	24	1.75	31.88	29.5	0.5	0.781	0.06	R93
	28	40.75	3.56	31.5	37	28	1.75	33.88	31.5	0.5	0.781	0.06	R94
600	30	43	3.75	33.75	39.25	28	1.88	36.12	33.75	0.5	0.781	0.06	R95
	32	45.25	3.94	36	41.5	28	2	38.75	36	0.562	0.906	0.06	R96
	34	47.5	4.12	38	43.5	28	2	40.75	38	0.562	0.906	0.06	R97
	36	50	4.38	40.25	46	28	2.12	43	40.25	0.562	0.906	0.06	R98
	2	6.5	1	3.62	5	8	0.75	4.25	3.25	0.312	0.469	0.03	R23
	2.5	7.5	1.12	4.12	5.88	8	0.88	5	4	0.312	0.469	0.03	R26
	3	8.25	1.25	5	6.62	8	0.88	5.75	4.875	0.312	0.469	0.03	R31
	4	10.75	1.5	6.19	8.5	8	1	6.88	5.875	0.312	0.469	0.03	R37
	6	14	1.88	8.5	11.5	12	1.12	9.5	8.312	0.312	0.469	0.03	R45
	8	16.5	2.19	10.62	13.75	12	1.25	11.88	10.625	0.312	0.469	0.03	R49
	10	20	2.25	12.75	17	16	1.38	14	12.75	0.312	0.469	0.03	R53
	12	22	2.62	15	19.25	20	1.38	16.25	15	0.312	0.469	0.03	R57
	14	23.75	2.75	16.25	20.75	20	1.5	18	16.5	0.312	0.469	0.03	R61
	16	274	3	18.5	23.75	20	1.62	20	18.5	0.312	0.469	0.03	R65
	18	29.25	3.25	21	25.75	20	1.75	22.62	21	0.312	0.469	0.03	R69
	20	32	3.5	23	28.5	24	1.75	25	23	0.375	0.531	0.06	R73
	22	34.25	3.75	25.25	30.62	24	1.88	27	25	0.438	0.594	0.06	R81
	24	37	4	27.25	33	24	2	29.5	27.25	0.438	0.659	0.06	R77

Flange Dimensions ASME B16.5&B16.47



Dimensions are in inches

Mpa	Size	O	TF	R	W	n	d	K	P	E	F	R	Ring No.
900	2	8.5	1.5	3.62	6.5	8	1	4.88	3.75	0.312	0.469	0.03	R24
	3	9.5	1.5	5	7.5	8	1	6.12	4.875	0.312	0.469	0.03	R31
	4	11.5	1.75	6.19	9.25	8	1.25	7.12	5.875	0.312	0.469	0.03	R37
	6	15.5	2.19	8.5	12.5	12	1.25	9.5	8.312	0.312	0.469	0.03	R45
	8	18.5	2.5	10.62	15.5	12	1.5	12.12	10.625	0.312	0.469	0.03	R49
	10	21.5	2.75	12.75	18.5	16	1.5	14.25	12.75	0.312	0.469	0.03	R53
	12	24	3.12	15	21	20	1.5	16.5	15	0.312	0.469	0.03	R57
	14	25.25	3.38	16.25	22	20	1.62	18.38	16.5	0.438	0.656	0.06	R62
	16	27.75	3.5	18.5	24.25	20	1.75	20.62	18.5	0.438	0.656	0.06	R66
	18	31	4	21	27	20	2	23.38	21	0.5	0.781	0.06	R70
1500	20	33.75	4.25	23	29.5	20	2.12	25.5	23	0.5	0.781	0.06	R74
	24	41	5.5	27.25	35.5	20	2.62	30.38	27.25	0.625	1.062	0.09	R78
	2	8.5	1.5	3.62	6.5	8	1	4.88	3.75	0.312	0.469	0.03	R24
	3	10.5	1.88	5	8	8	1.25	6.62	5.375	0.312	0.469	0.03	R35
	4	12.25	2.12	6.19	9.5	8	1.38	7.62	6.375	0.315	0.469	0.03	R39
	6	15.5	3.25	8.5	12.5	12	1.5	9.75	8.312	0.375	0.531	0.06	R46
	8	19	3.62	10.62	15.5	12	1.75	12.5	10.625	0.438	0.656	0.06	R50
	10	23	4.25	12.75	19.22.5	12	2	14.62	12.75	0.438	0.656	0.06	R54
	12	26	4.88	15	25	16	2.12	17.25	15	0.562	0.906	0.06	R58
	14	29.5	5.25	16.25	27.75	16	2.38	19.25	16.5	0.625	1.062	0.09	R63
2500	16	32.5	5.75	18.5	30.5	16	2.62	21.5	18.5	0.688	1.188	0.09	R67
	18	36	6.38	21	32.75	16	2.88	24.12	21	0.688	1.188	0.09	R71
	20	38.75	7	23	39	16	3.12	26.5	23	0.688	1.312	0.09	R75
	24	46	8	27.25	44	16	3.62	31.25	27.25	0.812	1.438	0.09	R79
	2	9.25	2	3.62	6.75	8	1	4.48	4	0.312	0.469	0.03	R26
	3	12	2.62	5	9	8	1.25	6.61	5	0.375	0.531	0.06	R32
	4	14	3	6.19	10.75	8	1.5	7.99	6.188	0.438	0.656	0.06	R38
	5	16.5	3.62	7.31	12.75	8	1.75	9.48	7.5	0.5	0.781	0.06	R40
	6	19	4.25	8.5	14.5	8	2	1.98	9	0.5	0.781	0.06	R47
	8	21.75	5	10.62	17.25	12	2	13.38	11	0.562	0.906	0.06	R51
	10	26.5	6.5	12.75	21.75	12	2.5	16.73	13.5	0.688	1.188	0.09	R55
	12	30	7.25	15	24.38	12	2.75	19.48	16	0.688	1.312	0.09	R60

Note: Due to quick development of products, the data in our catalogue may be updated. SNY reserves the right to change the design, material, or specifications without notice and free of obligation to furnish or install such changes on products on products previously sold.

PRODUCT WARRANTY

SNY offer the product warranty within 18 months from the date of shipment or 12 months after installation, whichever occurs first.