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CONDUIT GATE VALVE



ZHEJIANG BOTELI TECHNOLOGY CO.,LTD.

Quality Determines Survival

On the basis of strictly implementing ISO9001 Quality Management System, BTL also passed CE European Union Safety Certification in 2002. It passed American Petroleum Institute API-6D certification in 2003. It passed ISO14001 Environmental System Certification and ISO45001 Occupational Health and Safety Certification as well as National Pressure Vessel Safety Registration (TS) Certification in 2003, all of which pro-

vide Passport for the company to enter international market. BTL not only makes full Use of domestic scientific research resources, but also employs first class technical talents from abroad. Through continuous improvement and development, it has formed complete quality control system, which provides reliable quality guarantee for "BTL manufacturing" From spare parts inspection, on-site inspection to

complete machine inspection, BTL implements quality control in every chain in inspection instruments, strictly controls The production. The BTL quality control center, equipped with first class inspection instruments, strictly controls every product to consistently carry out the "Fine Product" strategy.



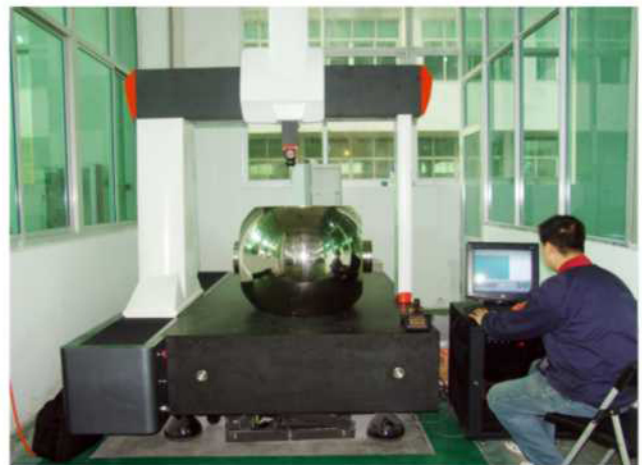
Spectrograph



tensile test machine



ultrasonic test device



metallographic analyzer

Main Benefits



■ BTL slab gate valve characterizes simple structure & high reliability, it is a widely used shut-off device in petroleum, natural gas, storage system, stations, airports, refining and chemicals.

- Safe endurance against internal pressure & external force
- Reliable seal
- Urgent seal
- Reliable operation
- Urgent shut-off
- Safe decompression
- Convenient online maintenance
- Weather proof
- Resistance of sulfur corrosion
- Fire safe and anti-static
- Pipe pigging
- Friendly interface with various actuator
- Friendly interface with various control system
- Maintenance free
- Service life with pipeline



■ Nominal Size

DN25~1500
(NPS1~60)

■ Nominal Pressure

PN1--420
(ANSI 150~2500)

■ Temperature

Range
-101°C~350°C

■ Applicable Medium

Crude Oil, Refined Oil
Acidic Medium
Chlorine Crude Oil
Natural Gas
Edible Oil
Coal Gas
Carbon Dioxide environment
Slurry, Water

■ Industrial Applications

Pipeline
Transmission
Oil Storage
Dehydration System
Drying System
Gas Separation
Compressor Station

Structural Features



■ Stem Enclosure

Stem enclosure is a protective device of stem, it can prevent stem thread from external damage, thus to prolong its service life. Stem indicator can indicate the opening status of the valve so that to avoid error operation.

■ Stem

There is no side load against stem, which results in low operation thrust. The stem is furnished with a protective enclosure and visible opening indicator. Stem sealing system consists of stem packing and back seat, packing gland is adjustable online.

■ Sealant Injection Port of Stem

In normal condition, stem sealing is not achieved with sealing grease. Sealing grease can be injected through injection port for urgent repair in the event that stem sealing is failed due to one or another reason

■ Valve Body

Valve body is an integral casting piece which has adequate rigidity against external force in pipeline. It is full port, circle shape and through conduit, this makes small loss of pressure and pipe pigging feasible.

■ Sealant Injection

In normal condition, stem sealing is not achieved with sealing grease. Sealing grease can be injected through injection port for urgent repair in the event that stem sealing is failed due to one or another reason.

Each sealant injection port is installed an injection valve and a buried non-return valve. The typical injection valve has a helmet to secure its safety and reliability. There is a buckle designed at the head of injection valve for fast connection of injection gun.

■ Drain Port

Drain fitting is installed on the bottom of valve body, valve can be vented or drained through drain fitting. The drain fitting can be an insulation valve or a special plug, safe and convenient.

■ The design and manufacture conform to API6D/ISO14313

■ Mounting Pad

(Adapter Flange) The mounting pad complied with ISO 5211 is suitable for various actuators. Actuator can be coupled with valve at factory or in the field.

■ Limit of Travel

The fully open or close status of valve is reached by travel limit rather than operating torque

■ Overpressure Release

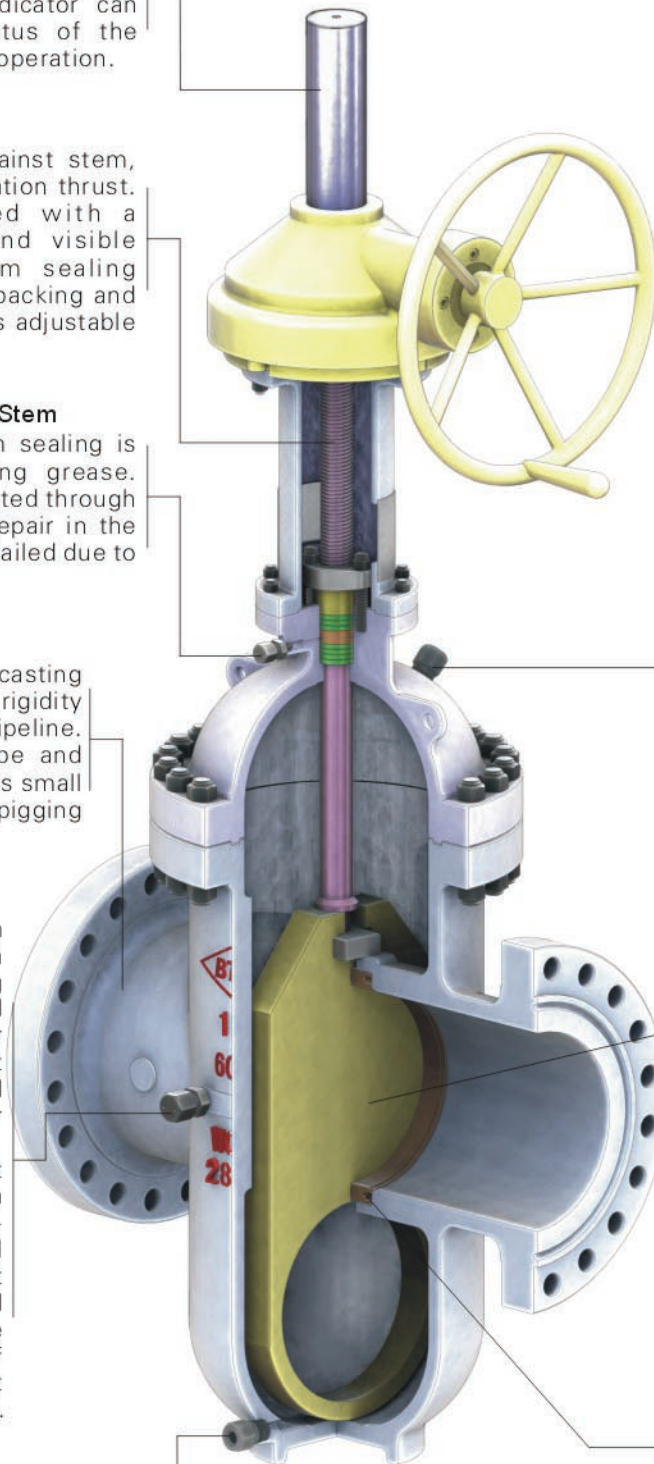
of Valve Cavity The overpressure of valve cavity is released automatically to upstream through seat ring, thus relief device of overpressure in body cavity is not required. When valve is fully closed, the upstream and downstream pressure will be blocked by valve seats, and then valve can be vented or drained.

■ Gate

The gate is design with diversion hole, it is always consistent with seal surface either is fully open or fully closed, the seal surface is protected from fluid erosion so as to prolong the valve service life.

■ Seat

Floating seat rings & gate enable automatic sealing by pressure and double block of upstream & downstream valve seat. Soft-seated design ensures "bubble tightness" sealing and self-cleaning. Floating seat rings always contact gate closely, sealing faces are well protected so that to prolong its service life.



Structural Features



Principle of Work

1. When the internal pressure P_1 is equal to P_2 , the gate is in closed status, the soft seat performs initial sealing. Every time when the valve is opening or closing, the soft seat can clean the side faces of the gate.
2. When the upstream pressure P_1 exceeds downstream pressure P_2 , the pressure is acting at the gate and pushes it toward the downstream soft seat until it tightly contacts the metal seat ring, so that to make double sealing of soft-to-metal and metal-to-metal.
3. After that, the medium pushes the upstream seat against the gate to achieve double block of upstream & downstream.
4. When pressure P_3 in body cavity exceeds pipeline pressure, the pressure P_3 will push the seat rings away from gate so as to release the exceeding pressure into pipeline. When P_1 exceeds P_2 , the pressure in body cavity will be released to the side of P_1 ; When P_1 is equal to P_2 , the pressure in body cavity will be released to both sides.

There are two different designs of Seat-to-Gate sealing:

1. Traditional Soft Seal: the inserted soft seal is the seal of polymer to the gate, it is feasible for low pressure ratings.
2. BTL Combined Seal: The soft seat insert made of special elastic material acts as major seal to ensure zero leakage required by API 6D. An additional RPTFE seat is designed beside the major seal to provide protection, so that to prolong the service life of the major seal. This kind of design features a metal to metal "quasi-seal" between seat and gate.

Valve Ends

The valve ends can be made as per clients' requirements, the normal ends includes flange, butt welding, clamps or any of two.

Face to Face Dimension

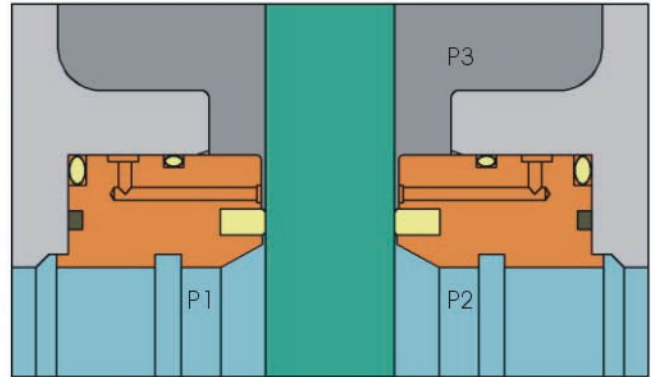
Face to Face dimension conforms to API 6D. However, Face to Face dimension beyond API 6D will be according to the manufacturer's standard or defined by the client.

Double Block & Bleed (DBB)

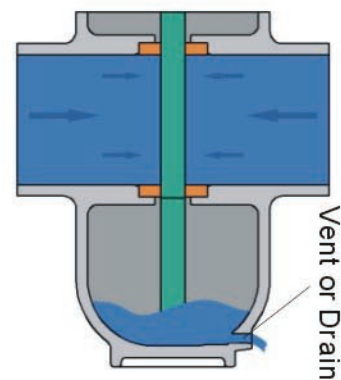
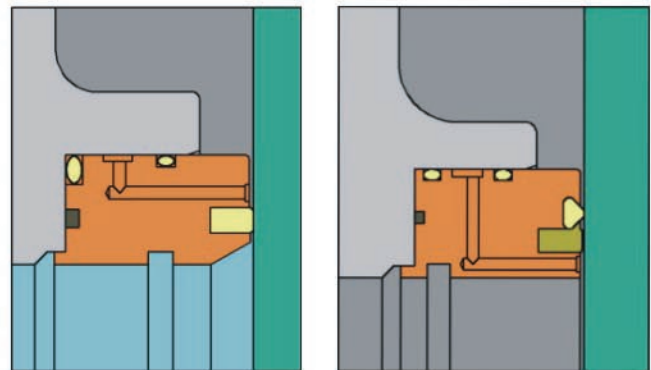
When the gate is fully open or closed, the fluid in the valve cavity can be vented or drained, at this moment both seats are shut off, either entry of the valve can work at full DP. DBB function enables the operator to bleed the valve cavity online and to check the seating integrity.

Optional Design

- ▲ Reduced Bore or Venturi Type
- ▲ "Pressure Seal" stem sealing system. Default design without back seat, unless otherwise specified.
- ▲ Lined trim for dirty fluids upon request
- ▲ Metal-to-Metal seats with alloy coating upon request.
- ▲ Extended piping for lubricant / sealant injection, vent and drain upon request
- ▲ Stem Extension upon request



Traditional Sealing Structure BTL Combined Sealing Structure



Fabrication Features



■ Body

Integral casting body with adequate rigidity against external force in pipeline

■ Surface Treatment of Trim

The gate, seat and stem can be electroless Nickel plated (ENP) as per client's request. ENP strict manufacture ensures the perfect surface hardness & anti-corrosion performance of the metal, and dramatically improves its resistance against erosion & corrosion, minimize its friction coefficient.

In addition, if required by service condition, anti-corrosion materials or hard facing with alloy for critical sealing parts are available.

■ Advanced Equipments

Advanced equipments are necessary for high-performance slab gate valve. All the essential spots of BTL slab gate valve are machined by CNC lathes & grinder, so that to guarantee the 100% primary qualified rate and 100% inter changeability of the products.

■ Pressure Test

BTL has more than 20 test benches with test size range 2" to 60" Class 150 through Class 2500. Pressure test is according to API 6D, API 598 or to clients' requirements.

■ Non-Destructive Test (NDT)

NDT is according to ASME, JB/T and other relevant standards. BTL has its own NDT lab which is able to make RT, UT, MT and PT. The lab staffs own high-tech qualification and certified by SNT-TC-1A

■ Coating & Painting

All types of corrossions at service circumstance shall be taken into account when designing coating & painting. Reference standards can be HG/T4077, SY004 or specific project requirement.



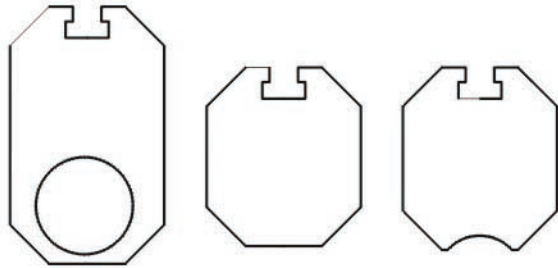
Flow Characteristics



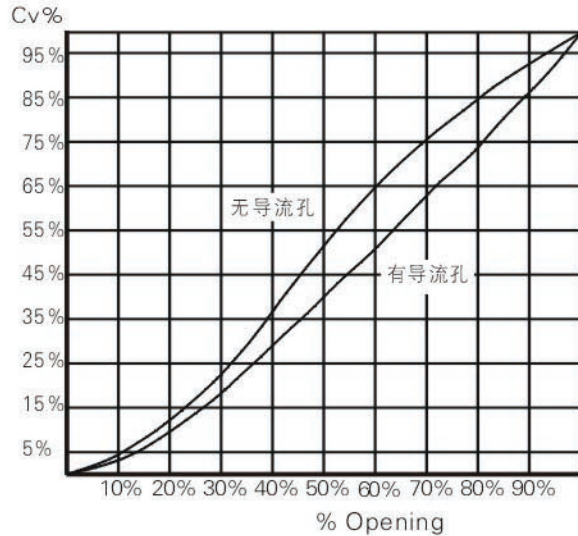
Analysis of Flow Characteristics

Characteristics of Equal Percent. For slab gate valve without diversion hole, its cavity shape is relatively regular and the cavity span is smaller than wedge gate valve, therefore, except its pressure loss is bigger, basically other characteristics are similar with slab gate valve with diversion hole.
For regulating type slab gate valve with diversion hole, its regulating function is superior to the flat gate valve without diversion valve.

Outline of Various Type of Gate

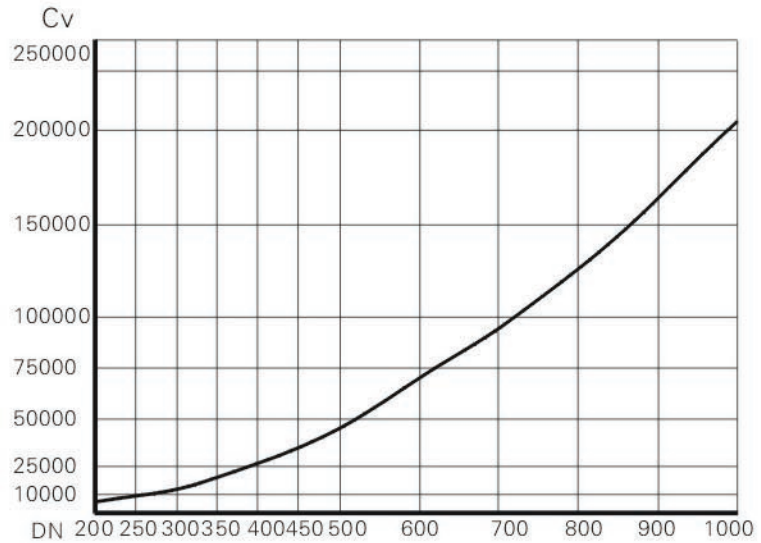
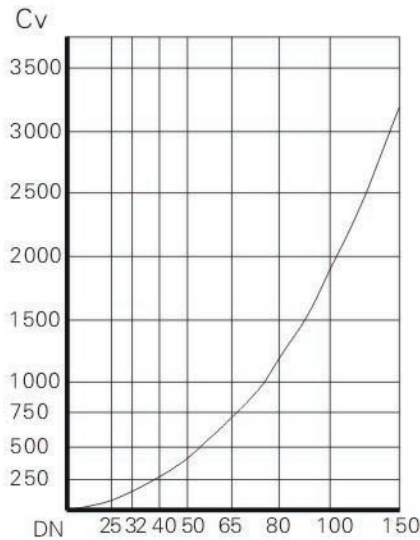


Gate with Diversion Hole Ordinary Gate Regulating Gate



Valve opening-Cv Curve Table

DN-Cv Curve of Flat Gate Valve with Diversion Hole



Applicable Standards

Design Basis		GB	API
Design Basis		JB 5298 GB/T19672	API 6D ASME B16.34
Face to Face Dimension	Flange	GB/T12221 GB/T19672 GB/T15188 JB/T5298	API 6D ASME B16.10
	Welding		
Flanged Ends		GB/T9113 JB/T79	ASME B16.5 MSS SP 44
Butt Weld Ends		GB/T12224	ASME B16.25
Pressure Test & Inspection		GB/T13927 JB/T9092	API 6D API598

Flat Gate Valve



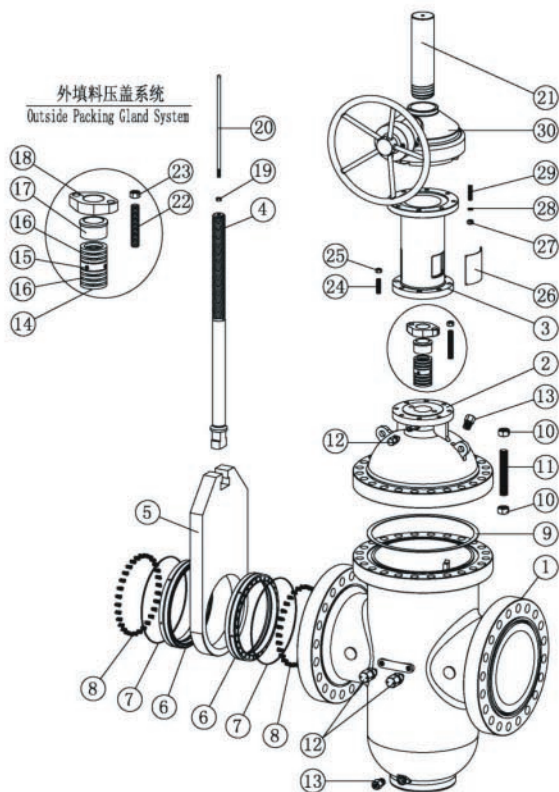
Materials of Main Parts

Parts	Normal Service Condition		Low-Temperature Service Condition	
	GB	ASTM	GB	ASTM
Body & Bonnet	WCB	A216 WCB、WCC	LCB、LCC	ASTM 352 LCB、LCC
Stem	Stainless Steel		Low Temperature Stainless Steel	
Seat Ring	High Quality Carbon Steel & Stainless Steel		Low Temperature Carbon Steel & Stainless Steel	
Gate	High Quality Carbon Steel & Stainless Steel		Low Temperature Carbon Steel & Stainless Steel	
Packing	NBR/VITON+PTFE+Graphite		BN18+PTFE+Graphite	
Yoke Nut	ZcuZn38Mn2Pb2 or ZcuAl10Fe3			
Sealing Face	PTFE+ Metal (HF)			
Surface Coating	ENP or GDN			
Load Spring	Stainless Steel			
O-Ring	NBR/FKM(VITON)	NBR/FKM(VITON)	BN18(VITON)	BN18(VITON)
Bolt	45/35CrMo	A193B7、B7M	35CrMoA	A320L7、L7M
Nut	35/30CrMo	A1942H、2HM	45	A194 2H、2HM

Remarks:

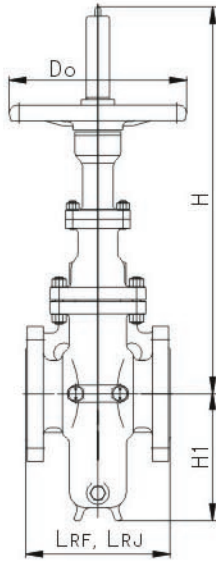
→ Valves for sulfur-containing medium are produced according to NACE MR-0175.

→ The most suitable materials of valve shall be decided by our company's technical department depends on different service condition.

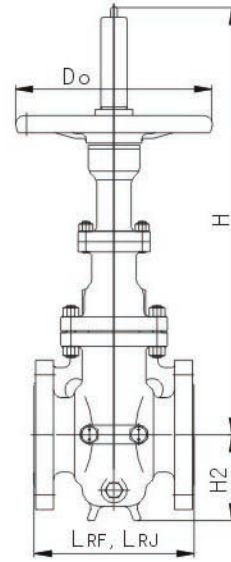
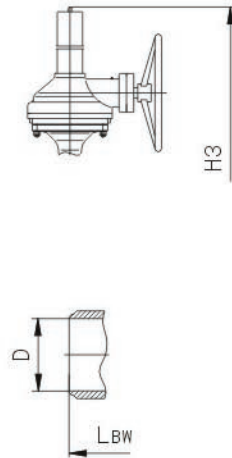


Item	Valve Part	Item	Valve Part	Item	Valve Part
1	Body	11	Bolt	21	Stem Enclosure
2	Bonnet	12	Injection Fitting	22	Bolt
3	Yoke	13	Drain Fitting	23	Nut
4	Stem	14	Packing Washer	24	Bolt
5	Gate	15	Packing Spacer	25	Nut
6	Seat Ring	16	Packing	27	Nut
7	O-Ring	17	Packing Gland	28	Elastic Washer
8	Load Spring	18	Gland Flange	29	Bolt
9	Gasket	19	Nut	30	Bevel Gear
10	Nut	20	Stem Indicator		

Dimension & Weight



With Diversion Hole

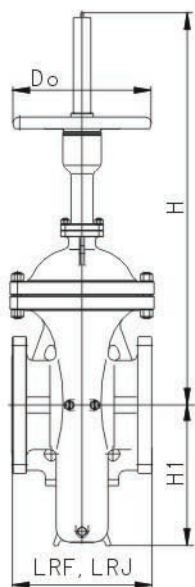


Without Diversion Hole

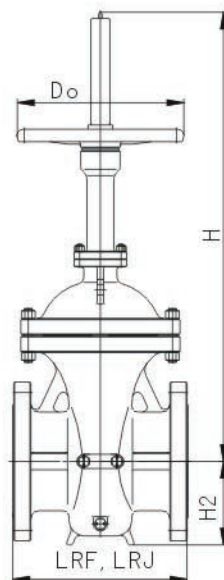
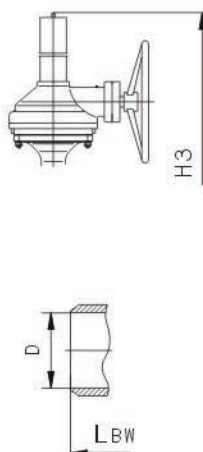
Outline Dimension & Weight of Pipeline Slab Gate Valve

PN1.0MPa PN1.6MPa PN2.5MPa API 6D 150Lb													
NPS	D	LRF	LRJ	LBW	H	H1	H2	H3	Do	Weight (with Diversion Hole)		Weight (without Diversion Hole)	
										RF/RJ	BW	RF/RJ	BW
2	49	178	191	216	470	138	93	-	200	50	38	40	28
2 1/2	62	191	204	241	515	160	113	-	250	63	50	51	38
3	74	203	216	283	587	199	110	-	250	68	55	54	41
4	100	229	241	305	691	254	125	704	250	99	82	79	67
5	125	254	267	381	770	278	136	795	300	128	118	102	82
6	150	267	279	403	852	328	152	893	300	176	160	141	125
8	201	292	305	419	1047	403	190	1094	350	290	268	232	206
10	252	330	343	457	1230	500	222	1305	400	330	300	264	234
12	303	356	368	502	1455	590	255	1518	450	480	430	384	334
14	334	334	381	572	1644	640	280	1700	560	730	650	584	504
16	385	406	419	610	1823	707	325	1838	-	990	898	792	700
18	436	432	444	660	2019	801	340	2036	-	1270	1180	1016	925
20	487	457	470	711	2207	873	375	2255	-	1630	1500	1300	1170
22	538	508	*	*	2500	960	400	2683	-	2090	1840	1670	1420
24	589	508	521	813	2810	1080	445	2894	-	2630	2480	2100	1950
26	633	559	*	864	2960	1110	486	3084	-	3060	2760	2450	2150
28	684	610	*	914	3110	1230	548	3248	-	3640	3200	2912	2472
30	735	650	*	914	3230	1260	603	3367	-	4280	3760	3424	1914
32	779	711	*	965	3391	1382	654	3472	-	5160	4210	4128	3178
34	830	762	*	1016	4000	1420	715	4157	-	6150	5210	4920	4030
36	874	711	*	1016	4230	1490	762	4318	-	7060	6210	5650	4800
38	925	864	*	*	4460	1570	816	4583	-	7700	6780	6160	5240
40	976	1575	*	*	4700	1650	883	4816	-	8300	7300	6640	5640
42	1020	1625	*	*	4950	1730	937	5083	-	10190	8970	8152	6932
48	1166	1803	*	*	5670	1950	1024	5795	-	13600	12200	10880	9480
54	1312	1915	*	*	6580	2190	1186	6707	-	16800	14780	13440	11420
56	1360	2032	*	*	6830	2290	1240	6912	-	18200	16020	14560	12380
60	1458	*	*	*	7100	2410	1336	7284	-	21000	18500	16800	14300

Dimension & Weight



With Diversion Hole

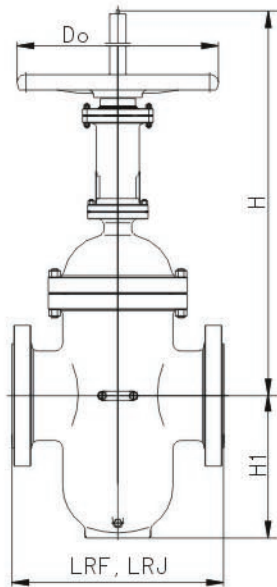


Without Diversion Hole

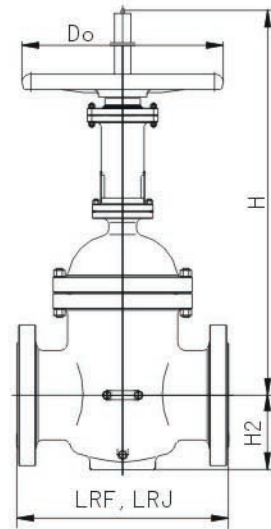
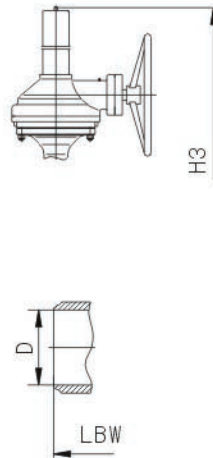
PN4.0MPa API 6D 300Lb

NPS	D	LRF	LRJ	LBW	H	H1	H2	H3	Do	Weight (with Diversion Hole)		Weight (without Diversion Hole)	
										RF/RJ	BW	RF/RJ	BW
2	49	216	232	216	510	166	99	-	200	55	53	44	42
2 1/2	62	241	257	241	580	171	113	-	250	60	57	48	45
3	74	283	298	283	595	219	133	-	250	75	70	60	55
4	100	305	321	305	696	257	168	704	250	155	145	124	114
5	125	381	397	381	825	278	146	845	300	160	150	128	118
6	150	403	419	403	950	313	170	984	350	190	170	152	132
8	201	419	435	419	1077	430	200	1124	400	330	290	264	224
10	252	457	473	457	1258	498	242	1335	450	490	430	392	332
12	303	502	518	502	1565	572	294	1598	500	690	625	552	487
14	334	762	778	762	1625	649	318	1700	550	1000	890	800	690
16	385	838	854	838	1975	737	370	2036	-	1410	1260	1128	978
18	436	914	930	914	2100	803	420	2182	-	1910	1620	1528	1238
20	487	991	1010	991	2350	877	470	2425	-	2410	2110	1928	1628
22	538	1092	1114	1092	2520	960	527	2683	-	2990	2720	2392	2122
24	589	1143		1143	2810	1080	562	3094	-	3750	3410	3000	2660
26	633	1245	1270	1245	3040	1170	614	3184	-	4390	3970	3512	3092
28	684	1346	1372	1346	3210	1230	667	3348	-	5280	4710	4224	3654
30	735	1397	1422	1397	3500	1320	693	3627	-	6190	5540	4952	4302
32	779	1524	1553	1524	3620	1410	721	3772	-	7420	6690	5936	5206
34	830	1626	1654	1626	4000	1480	787	4157	-	8850	8030	7080	6260
36	874	1727	1756	1727	4230	1550	843	4318	-	10180	9230	8144	7194
38	925	1829	*	1829	4560	1650	875	4683	-	11200	9870	8960	7630
40	976	2083	*	2083	4800	1690	923	4916	-	11980	10470	9584	8074
42	1020	2133	*	2133	5150	1790	977	5283	-	12550	11930	10040	9420
48		2286	*	2286	5870	2040		5995	-	18800	17200	15040	13440
54	1312	*	*	*	6780	2270	1260	6907	-	20580	18930	16460	14810
56	1360	2489	*	2489	7030	2350		7112	-	22700	21000	18160	16460
60	1458	*	*	*	7350	2499	1395	7484	-	24600	23000	19680	18080

Dimension & Weight



With Diversion Hole

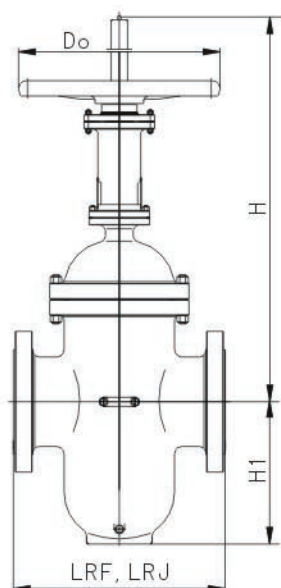


Without Diversion Hole

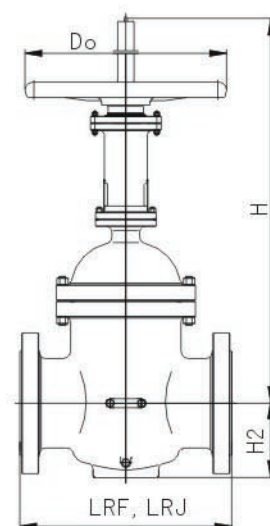
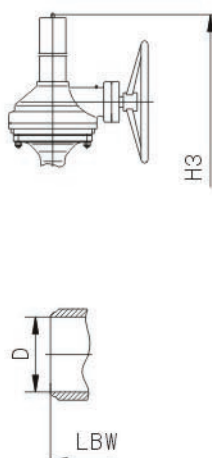
PN10.0MPa API 6D 600Lb

NPS	D	LRF	LRJ	LBW	H	H1	H2	H3	Do	Weight (with Diversion Hole)		Weight (without Diversion Hole)	
										RF/RJ	BW	RF/RJ	BW
2	49	292	295	292	605	153	107	-	200	80	74	64	58
2 1/2	62	330	333	330	626	170	120	-	250	105	100	84 1/2	79
3	74	356	359	356	647	229	130	-	250	110	105	88	83
4	100	432	435	432	793	254	145	830	400	155	125	124	94
5	125	508	511	508	888	300	162	905	450	260	190	208	138
6	150	559	562	559	950	340	185	1030	450	308	260	246	198
8	201	660	664	660	1096	415	206	1142	550	484	380	387	283
10	252	787	791	787	1360	520	255	1467	800	750	580	600	470
12	303	838	841	838	1587	590	295	1608	800	1350	150	1080	780
14	334	889	892	889	1790	700	338	1885	-	1680	1390	1344	1054
16	385	991	994	991	2032	780	366	2127	-	2015	1650	1612	1247
18	436	1092	1095	1092	2150	850	400	2235	-	2680	2150	2144	1614
20	487	1194	1120	1194	2380	950	435	2475	-	2995	2580	2396	1981
22	538	1295	1305	1295	2520	1040	480	2648	-	3890	3270	3112	2492
24	589	1397	1407	1397	2825	1150	505	2915	-	4840	3980	3872	3012
26	633	1448	1461	1448	3040	1230	530	3130	-	5680	4990	4544	3854
28	684	1549	1562	1549	3380	1310	548	3460	-	6890	6100	5512	4722
30	735	1651	1664	1651	3620	1430	660	3740	-	7990	7190	6392	5592
32	779	1778	1794	1778	3880	1500	680	4030	-	9510	8550	7608	6648
34	830	1930	1946	1930	4150	1580	-	4270	-	11300	10300	9040	8040
36	874	2083	2099	2083	4380	1663	-	4520	-	12000	10800	9600	8400
38	925	2235	※	2235	4600	1750	-	4725	-	13200	12500	10560	9860
40	976	2387	※	2387	4880	1830	-	4925	-	14800	13700	11840	10740
42	1020	2489	※	2489	5150	1920	-	5240	-	16400	14500	13120	11220
48	1166	2692	※	2692	5870	2170	-	5970	-	19500	18700	15600	14800

Dimension & Weight



With Diversion Hole



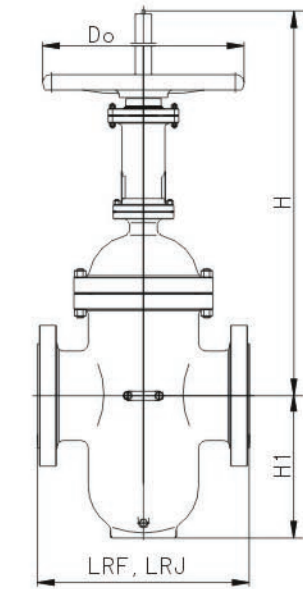
Without Diversion Hole

PN16.0MPa API6D 900Lb

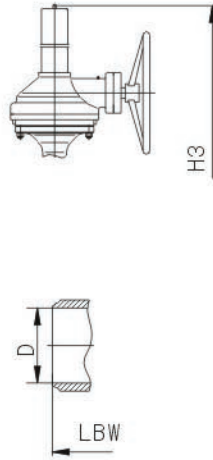
NPS	D	LRF	LRJ	LBW	H	H1	H2	H3	Do	Weight (with Diversion Hole)		Weight (without Diversion Hole)	
										RF/RF	BW	RF/RF	BW
2	49	368	371	368	725	185	123	—	350	100	88	80	68
2 1/2	62	419	422	419	760	209	138	—	350	143	130	114	101
3	74	381	384	381	794	225	160	—	350	186	170	149	133
4	100	457	460	457	860	280	184	310	450	240	218	192	170
5	125	559	562	559	975	315	215	350	550	342	330	274	262
6	150	610	613	610	1090	370	252	420	650	443	421	354	332
8	201	737	740	737	1380	460	290	480	850	707	672	565	530
10	252	838	841	838	1680	550	345	570	—	1034	983	827	776
12	303	965	968	965	2159	640	410	670	—	1720	1634	1376	1290
14	322	1029	1038	1029	2442	710	452	745	—	2476	2353	1980	1857
16	373	1130	1140	1130	2625	760	515	790	—	2750	2613	2200	2750
18	423	1219	1232	1219	3036	900	600	950	—	3763	3575	3014	2826
20	471	1321	1334	1321	3344	980	650	1035	—	4559	4331	3647	3419
22	522	*	*	*	*	1080	730	1140	—	*	*	*	*
24	570	1549	1568	1549	3927	1170	790	1260	—	7320	6954	5856	5490
26	617	1651	*	1651	4235	1260	843	1370	—	8614	8184	6891	6461
28	665	1905	*	1905	4488	1350	900	1480	—	—	9840	8286	7768
30	712	2108	*	2108	4664	1440	—	1560	—	12412	11792	9930	9309



Dimension & Weight



With Diversion Hole



Without Diversion Hole

PN25.0MPa API 6D 1500Lb

NPS	D	LRF	LRJ	LBW	H	H1	H2	H3	Do	Weight (with Diversion Hole)		Weight (without Diversion Hole)	
										RF/RJ	BW	RF/RJ	BW
2	49	368	371	368	725	185	123	-	450	180	145	144	109
2 1/2	62	419	422	419	760	215	138	-	450	240	210	192	162
3	74	470	473	470	794	250	160	-	500	375	340	300	265
4	100	546	549	546	860	300	184	310	500	445	403	356	314
5	127	673	676	673	975	315	215	350	500	660	620	528	488
6	150	705	711	705	1090	400	252	420	-	830	740	664	574
8	201	832	841	832	1380	517	290	480	-	1250	1195	1000	945
10	252	991	1000	991	1680	605	345	570	-	2100	1890	1680	1470
12	303	1130	1146	1130	2159	649	410	670	-	3260	3090	2608	2608
14	322	1257	1276	1257	2442	770	452	745	-	4690	4460	3752	3522
16	373	1384	1407	1384	2625	796	515	790	-	5215	4950	4172	3907
18	423	1537	1559	1537	3036	990	600	950	-	7130	6780	5704	5354
20	471	1664	1686	1664	3344	1090	650	1035	-	8640	8210	6912	6482



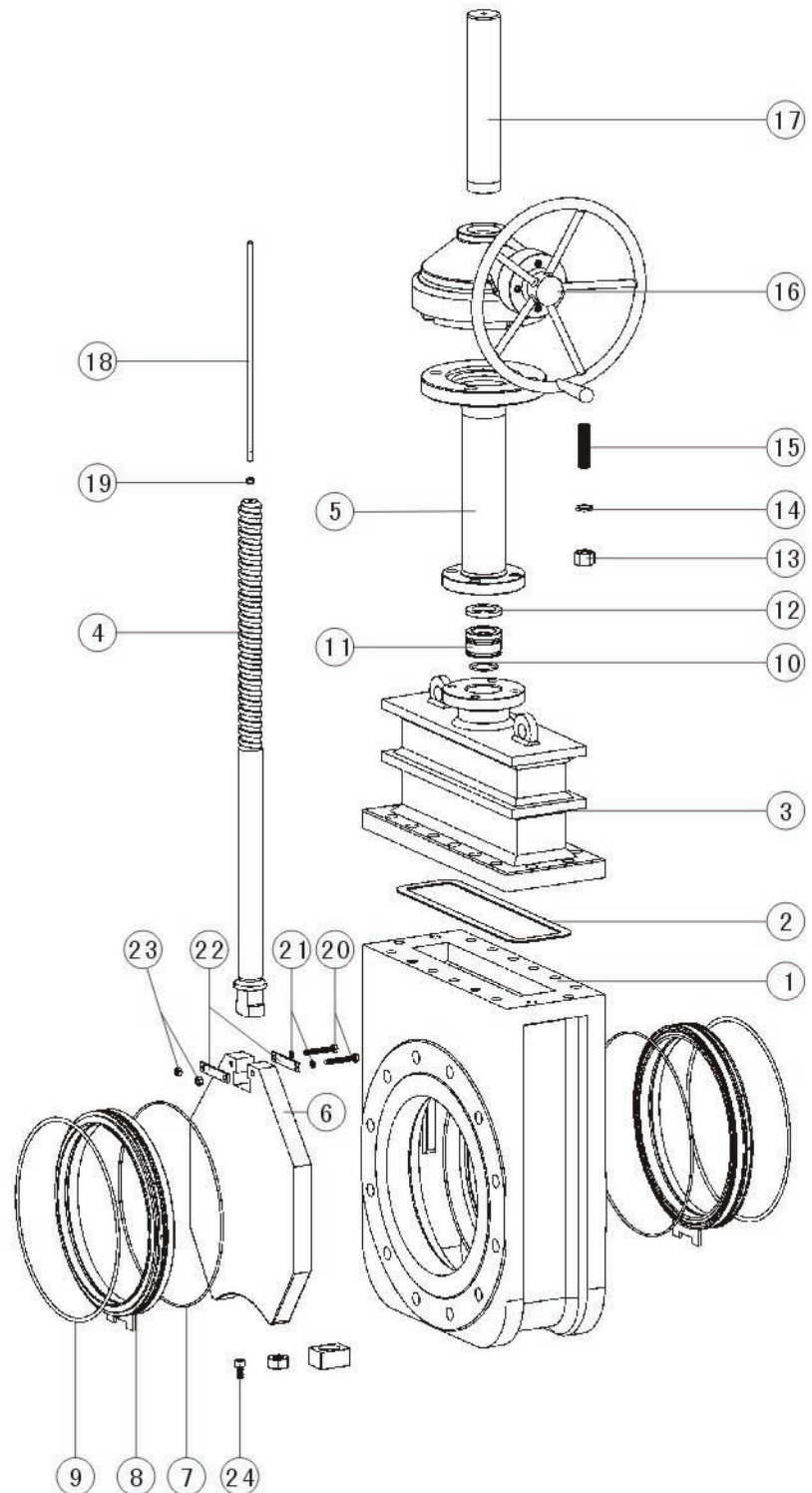
Light Slab Gate Valve



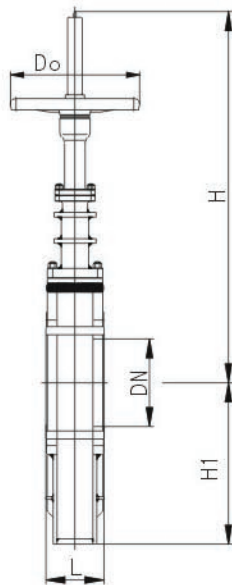
Brief Description

BTL light slab gate valve is suitable for installation near storage tank or at high altitude. The fully welded body and bonnet results in light weight, the most optimum design is achieved by finite element analysis. It is of the basic features of the ordinary full opening slab gate valve, but its weight is only one-third of the latter. This unique design can reduce the loads of pipeline, and consequently prevents pipeline from sinking, meanwhile minimizes the adverse influence of foundation changes against pipeline and facilities

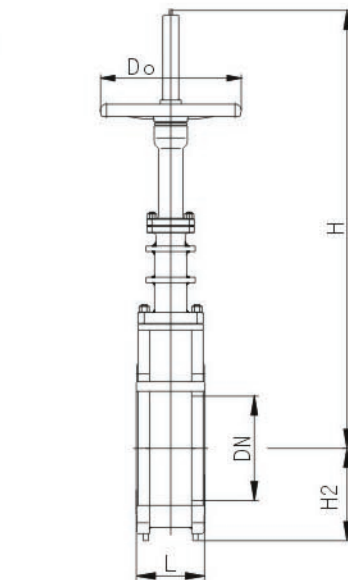
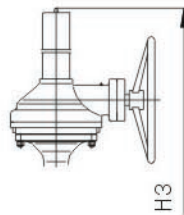
Item	Valve Parts
1	Body
2	Wound Gasket
3	Bonnet
4	Stem
5	Yoke
6	Gate
7	Seat
8	Seat Retainer
9	O-Ring
10	O-Ring
11	Gland
12	Packing
13	Hex Nut
14	Elastic Washer
15	Bolt
16	Bolt
17	Stem Enclosure
18	Stem Indicator
19	Locking Nut
20	Bolt
21	Elastic Washer
23	Hex Nut
24	Hex Screw



Light Slab Gate Valve



With Diversion Hole



Without Diversion Hole

Outline Dimension & Weight of Light Slab Gate Valve

PN1.0MPa PN1.6MPa PN2.5MPa API 6D 150Lb									
NPS	D	L	H	H1	H2	H3	Do	Weight (with Diversion Hole)	Weight (without Diversion Hole)
4	100	127	712	257	128	–	250	85	70
5	125	140	820	278	138	–	250	120	100
6	150	140	894	339	168	–	250	145	120
8	201	152	1074	432	185	1104	300	250	210
10	252	165	1277	498	206	1326	350	290	240
12	303	178	1505	570	233	1563	350	410	340
14	334	190	1705	640	256	1784	400	515	430
16	385	216	1835	710	292	1900	450	715	580
18	436	222	2037	800	330	2097	–	730	600
20	487	229	2265	877	370	2315	–	840	700
22	538	267	2500	960	382	2578	–	960	800
24	589	267	2730	1030	446	2815	–	1190	980
26	633	292	3040	1110	485	3100	–	1440	1200
28	684	292	3090	1190	525	3150	–	1655	1380
30	735	318	3500	1260	560	3600	–	2690	2240
32	779	318	3680	1340	594	3795	–	3120	2600
34	830	330	4000	1420	625	4135	–	3710	3090
36	874	330	4230	1490	660	4328	–	4200	3500
38	925	410	4460	1570	711	4585	–	4765	3970
40	976	410	4700	1650	762	4800	–	4945	4120
42	1020	410	4950	1730	816	5070	–	6045	5035
48	1166	470	5670	1950	883	5785	–	7655	6380
54	1312	530	6580	2290	1024	6735	–	8640	7200
60	1458	600	7100	2410	1083	7245	–	11760	9800

K-Type Slab Gate Valve



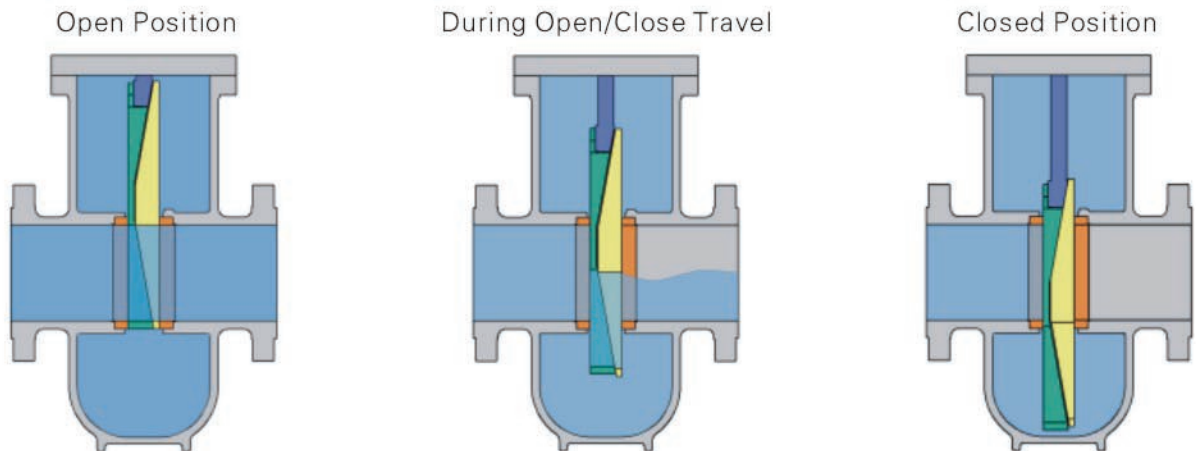
■ Brief Description

The K-type expanding slab gate valve is a kind of high performance gate valve with outstanding features. This type of valves possesses functions of double & bi-directional sealing and reinforced mechanical sealing. It is full bore and feasible for pipe pigging, is widely used in pipelines of subterranean heat steam, petroleum, natural gas production, transmission, collection and storage. It is also suitable for corrosive fluids like coal gas, acid, alkali and etc..

■ Features

- ▲ Full bore suitable for pipeline pigging, smooth path, small flow resistance and no pressure loss.
- ▲ No matter the valve is fully open or fully closed, the fluid is insulated from valve cavity, this feature allows the operator to release the pressure through vent & drain fittings in emergency situation, and then solve the accident in safety.
- ▲ The unique top-entry design enables professional maintenance personnel to change the internal parts of the valve online.
- ▲ Due to bi-directional sealing design, the pressure entrapped in valve cavity cannot be released to downstream through downstream seat; the pressure may rise because of temperature change or other reasons. In this case, the pressure in valve cavity can be released by a safety device in valve body so that to assure the safe running of pipeline and facilities.
- ▲ The installation location of this kind of valve is diverse, it can be vertical, horizontal, backward or slanting.
- ▲ Stem packing material can be replaced safely online.
- ▲ The fully-enclosed structure has perfect protection property and it is all-weather suitable.

■ Working Principle

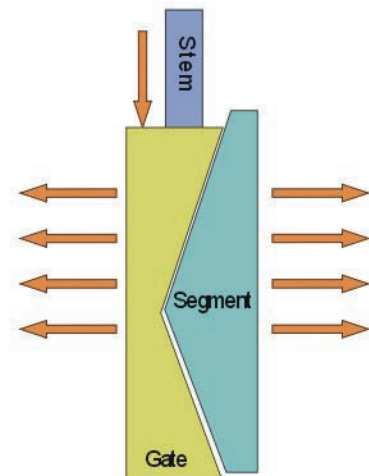
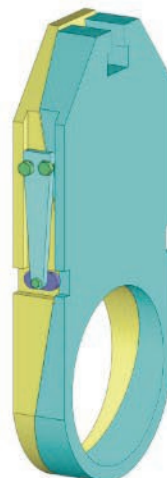


When the valve is fully open, the upper back angles are separated from each other and gate-segment assembly starts to expand, sealing against both seats, insulating valve cavity from flow fluids and foreign materials.

During open/close travel, the upper & lower back angles are in contact with each other, the tiny space between gate-segment assembly and seats allows the gate-segment assembly to travel freely.

When the valve is fully closed, the lower back angles are separated from each other and the gate-segment assembly starts to expand, pressing closely against both seats and forming a tight sealing.

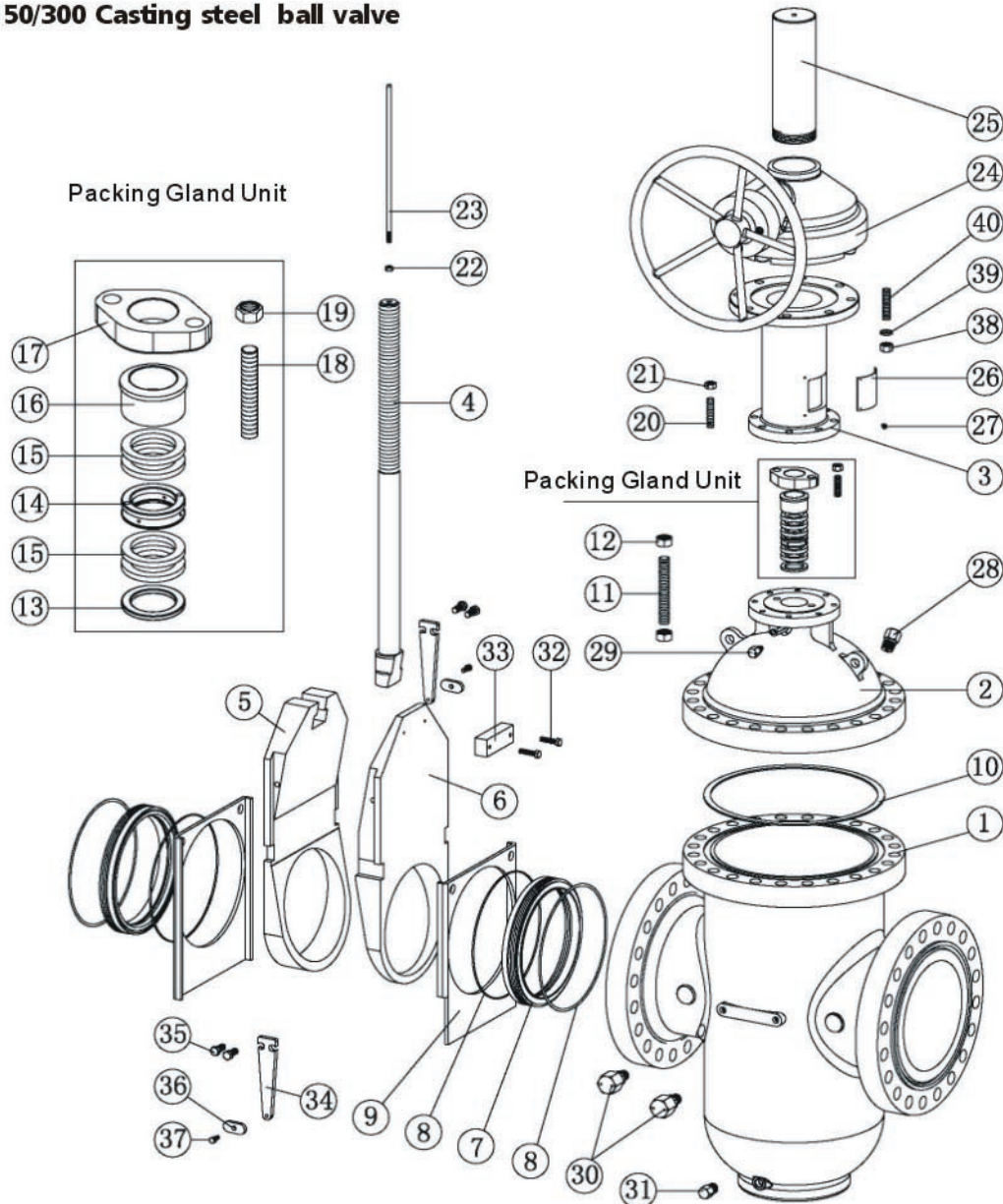
Moved by actuating device, the stem drives the gate up and down and the segment is making a simultaneous movement by a connecting rod, thus to achieve the passage or shut-off of the fluid by mechanically expanding the gate-segment assembly.



K-Type Slab Gate Valve

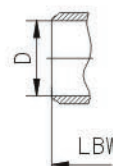
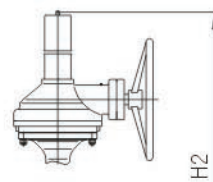
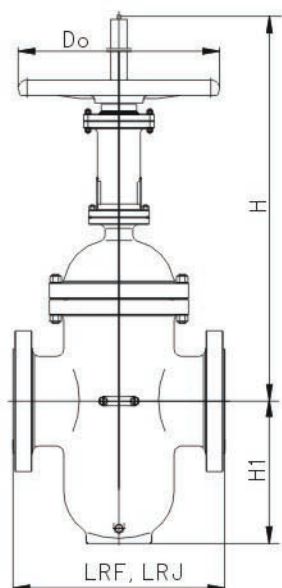


CLASS150/300 Casting steel ball valve



Item	Valve Parts	Item	Valve Parts	Item	Valve Parts	Item	Valve Parts
1	Body	11	Bolt	21	Nut	31	Drain Fitting
2	Bonnet	12	Nut	22	Nut	32	Cap Screw
3	Supporting Ribs	13	Washer	23	Stem Indicator	33	Stopper
4	Stem	14	Spacer	24	Bevel Gear	35	Cap Screw
5	Gate	15	Packing	25	Stem Enclosure	37	Screw
6	Segment	16	Packing Gland	27	Screw	38	Nut
7	Seat	17	Gland Flange	28	Vent Fitting	39	Elastic Washer
8	O-Ring	18	Bolt	29	Sealant Fitting	40	Bolt
9	Guide Stripe	19	Nut	30	Sealant Fitting		
10	Gasket	20	Bolt				

K-Type Expanding Slab Gate Valve



PN1.0MPa PN1.6MPa PN2.5MPa API 6D 150Lb

NPS	D	LRF	LRJ	LBW	D0	H	H1	H2
2	49	178	191	216	200	470	138	-
2 1/2	62	191	203	241	200	515	160	-
3	74	203	216	283	250	587	199	-
4	100	229	241	305	250	691	254	-
5	125	254	267	381	300	770	278	-
6	150	267	279	403	300	852	328	-
8	201	292	305	419	350	1047	403	1190
10	252	330	343	457	400	1230	500	1360
12	303	356	368	502	450	1455	590	1560
14	334	381	394	572	-	1644	640	1740
16	385	406	419	610	-	1823	707	1925
18	436	432	445	660	-	2019	801	2145
20	487	457	470	711	-	2207	873	2400

PN4.0MPa API 6D 300Lb

NPS	D	LRF	LRJ	LBW	D0	H	H1	H2
2	49	216	232	216	200	470	161	-
2 1/2	62	241	257	241	250	515	200	-
3	74	283	298	283	250	587	210	-
4	100	305	321	305	250	691	254	-
5	125	381	397	381	300	770	270	-
6	150	403	419	403	350	964	324	-
8	201	419	435	419	400	1157	425	1200
10	252	457	473	457	450	1594	530	1637
12	303	502	518	502	450	1820	600	1863
14	334	762	778	762	-	1873	641	1920
16	385	838	854	838	-	2122	714	2169
18	436	914	930	914	-	2205	787	2252
20	487	991	1010	991	-	2699	895	2746

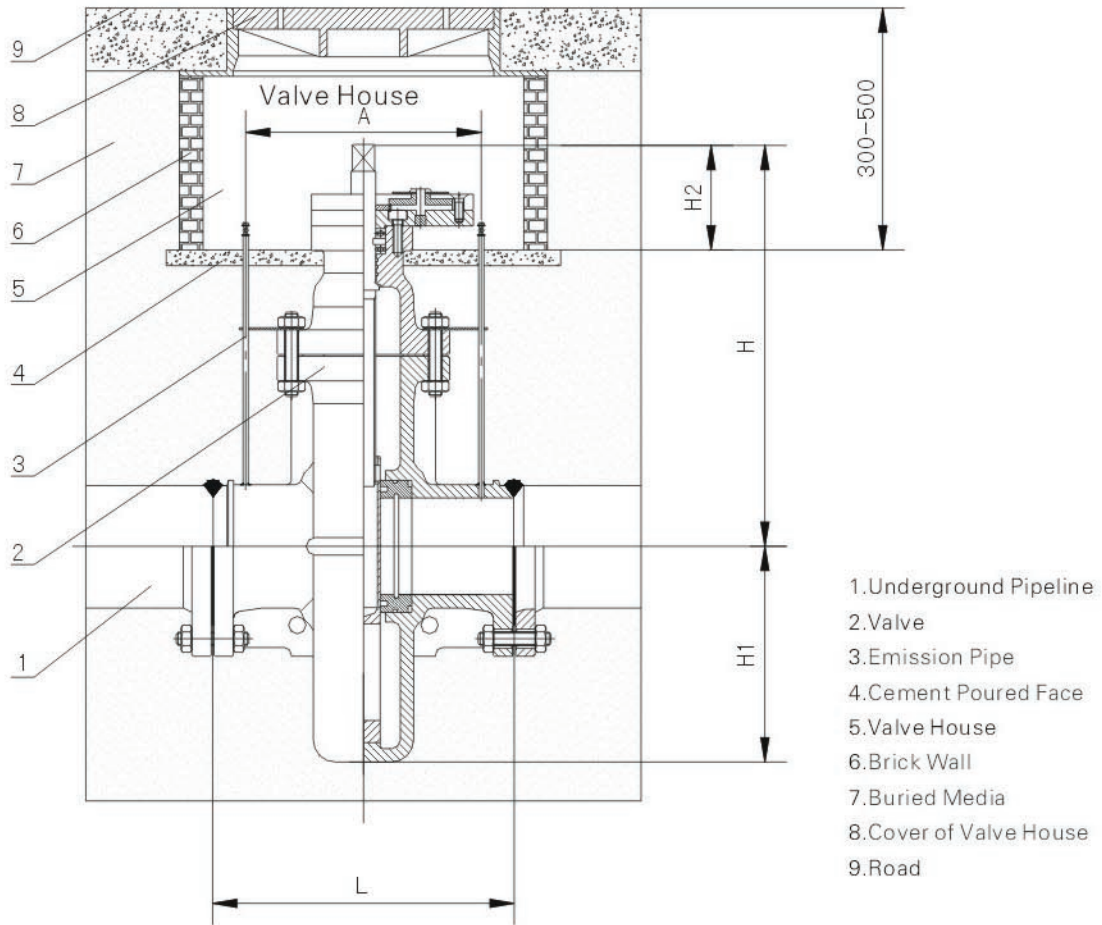
PN10.0MPa API 6D 600Lb

NPS	D	LRF	LRJ	LBW	D0	H	H1	H2
2	49	292	295	292	300	494	176	-
2 1/2	62	330	333	330	300	549	216	-
3	74	356	359	356	300	606	227	-
4	100	432	435	432	400	721	270	-
5	125	508	511	508	400	819	286	-
6	150	559	562	559	500	964	342	-
8	201	660	664	660	600	1157	443	1190
10	252	787	791	787	800	1594	512	1360
12	303	838	841	838	800	1820	588	1560
14	334	889	892	889	-	1972	672	1740
16	385	991	994	991	-	2061	744	1925
18	436	1092	1095	1092	-	2197	787	2145
20	487	1194	1200	1194	-	2492	895	2400

PN15.0MPa API 6D 900Lb

NPS	D	LRF	LRJ	LBW	D0	H	H1	H2
2	49	368	371	368	300	530	186	-
2 1/2	62	419	422	419	300	595	226	-
3	74	381	384	381	350	650	241	-
4	100	457	460	457	450	781	310	-
5	125	559	562	559	500	875	333	-
6	150	610	613	610	500	1175	389	-
8	201	737	740	737	680	1429	491	1512
10	252	838	841	838	-	1680	557	1763
12	303	965	968	965	-	1873	623	1956
14	334	1029	1038	1029	-	1927	712	2010
16	385	1130	1140	1130	-	2061	786	2144
18	436	1219	1232	1219	-	2337	835	2420
20	487	1321	1334	1321	-	2616	947	2699

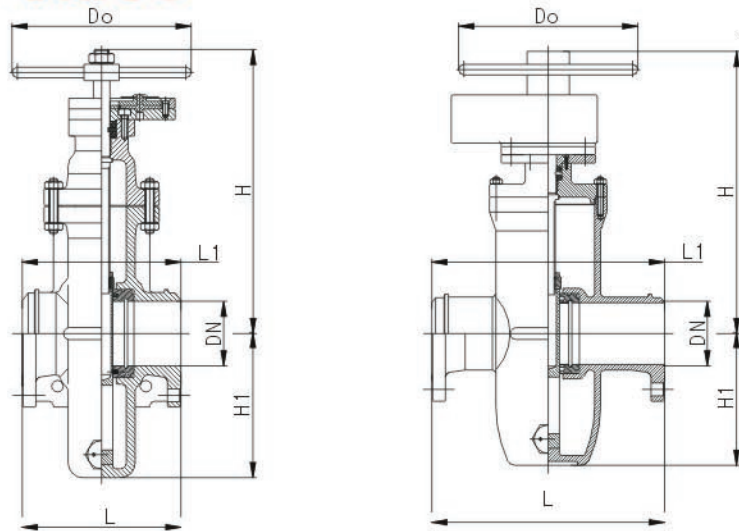
Slab Gate Valve for Fuel Gas



Dimension

DN	L Butt Welded	L Flanged	H	H1	H2	A
100	305	229	420	514	140	225
150	403	267	540	300	150	300
200	419	292	600	388	150	320
250	457	330	700	475	150	360
300	502	356	800	547	160	400
350	572	381	900	625	180	470
400	610	406	1100	712	180	500
500	711	457	1300	880	180	570
600	813	508	1500	1045	200	670
700	914	610	1700	1190	200	770

K-Type Expanding Slab Gate Valve



PN0.4MPa PN0.6MPa PN1.0MPa PN1.6MPa (PN2.5MPa API 6D Class150Lb)

DN	L	L1	H	Do	H1	PN1.0MPa(kg)	PN1.6MPa Weight(kg)	PN2.5MPa Weight(kg)
25	165	-	228	180	85	15	15	15
32	165	-	231	180	103	21	21	21
40	178	-	240	250	115	23	23	23
50	178	216	255	250	130	24	26	26
65	190	241	355	300	160	42	44	47
80	203	283	360	300	180	47	51	53
100	229	305	400	300	214	54	57	63
150	267	403	500	350	300	110	120	134
200	292	419	570	350	388	146	157	173
250	330	457	680	400	475	251	274	293
300	356	502	750	450	547	314	366	387
350	381	572	875	450	625	481	523	550
400	406	610	1000	500	712	585	638	663
450	432	650	1130	500	785	815	1014	1056
500	457	711	1200	600	880	1098	1254	1338
600	508	813	1420	800	1045	1756	1934	2017
700	610	914	1650	800	1190	2352	3041	3146
800	660	965	1880	1000	1360	3323	3726	3992
900	771	1016	2100	1000	1510	4452	5173	5350
1000	811	-	2300	1200	1715	5789	6437	6688

PN4.0MPa API 6D Class300Lb

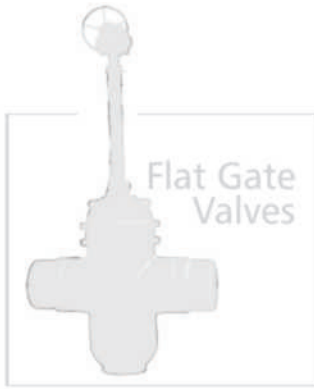
PN6.4MPa API 6D Class400Lb

DN	L	L1	H	Do	H1	Weight(Kg)	L	L1	H	Do	H1	Weight(Kg)
25	165	165	238	180	85	19	-	-	-	-	-	-
32	178	178	238	180	103	25	-	-	-	-	-	-
40	190	190	245	250	115	30	-	-	-	-	-	-
50	216	216	265	250	130	40	250	250	265	250	158	57
65	241	241	365	300	160	59	280	280	365	300	190	83
80	283	283	375	300	180	71	310	310	375	300	225	89
100	305	305	420	300	214	78	350	350	420	300	255	102
150	406	406	540	350	300	173	450	450	520	350	275	214
200	419	419	610	350	388	330	550	550	590	350	410	366
250	457	457	710	400	475	429	650	650	700	400	490	514
300	502	502	810	450	547	648	750	750	780	450	570	794
350	572	762	920	450	625	965	850	850	910	450	625	1630
400	610	838	1120	550	712	1463	950	950	1020	500	735	1793
450	660	914	1230	700	785	1725	-	-	-	-	-	-
500	711	991	1310	800	880	2211	-	-	-	-	-	-
600	787	1143	1520	1000	1045	3333	-	-	-	-	-	-

Product Application

Our products are widely applicable to the projects of electric station, foodstuff, medication, petrochemical, steel –works, water processing of industrial environment –protection, tall buildings, water supply pipe, drain pipe and so on.





BTL

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