Design

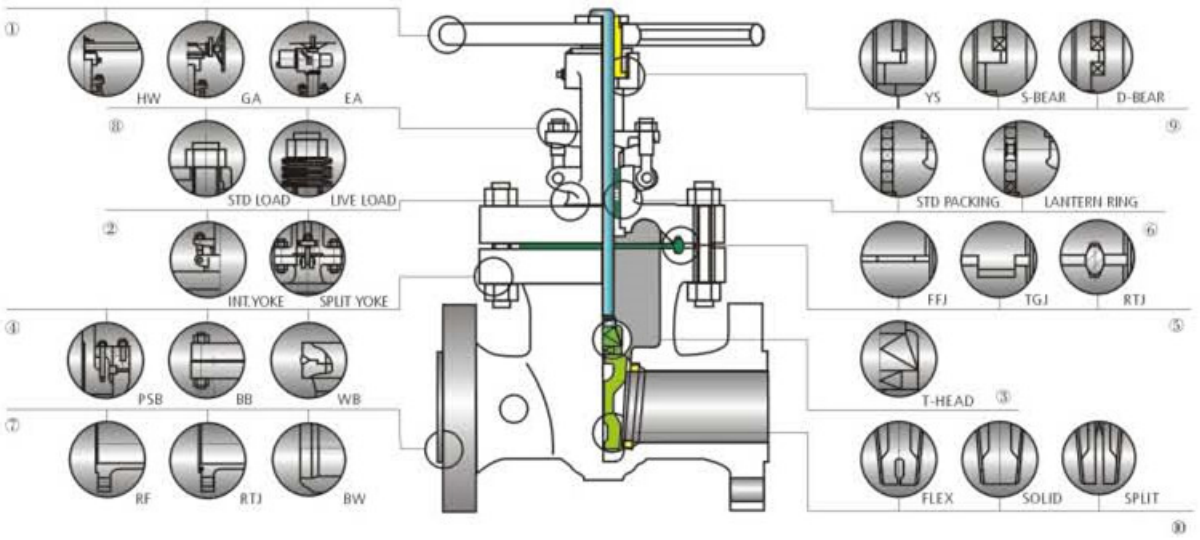
FBK cast steel gate valves are designed and manufactured to provide maximum service life and dependability. All gate valves are full bore and meet the design requirements of API 600 & API 6D, BS 1414 & BS EN 1984 and generally conform to ASME B16.34. Valves are available in a complete range of body/bonnet materials and trim.

Range of Materials

The major materials of standard body/bonnet are carbon, cryogenic and stainless steel. For some special applications, we can provide others as per customer's requirementes.

Available Modifications

Trim Changes
End Connection Modifications
Packing & Gasket Changes
Operator Type
Extended Stem
Pressure Equalizing
Customer's Specified Coatings
Changable Welded-end Bore
Oxygen & Chlorine Cleaning & Packaging



①Operation

Large handwheel is easy for operation and available with gear, motor, pneumatic or hydraulic actuators for more difficult services.

②OS & Y

The yoke is integrated with bonnet for cast steel gate valve 150LB-8", 300LB-8", 600LB-6",900LB-4" & below.

③Stem

T head integrally forged stem ensure sufficient strength of the joint.

④Bolted Bonnet(BB)

Three ways of bolt bonnet connection are optional: bolted bonnet(BB), welded bonnet(WB) and pressure sealed bonnet(PSB). In particular cases like operating in high temperature and high pressure(normally 2500LB above), PSB will be needed.

⑤Body-to-Bonnet Joint

Flat Face Joint(FFJ): 150LB
Tongue & Groove Joint(TGJ): 300LB & 600LB
Ring Joint(RTJ): 900LB & above

⑥Lantern Ring And Double Packing Set

The employ of lantern ring gives a excellent packing compactness. Double packing set is available for critical service.

⑦Ends Connection

Flanged or butt-welded end is for pipe connection.

⑧Live Load Packing

With high pressure & temperature variations or frequent cycle required, live loading packing can extends service life in maintenance periods. Belleville springs are employed to provide constant gland stress.

⑨Yoke Sleeve(YS)

A longer thread life is allowed if the yoke sleeve is equipped. When size is larger than 150LB -12", 300LB -10", 600LB -6", 900/1500/2500LB -4", valves are regularly provided with roll bearings.

⑩Wedge

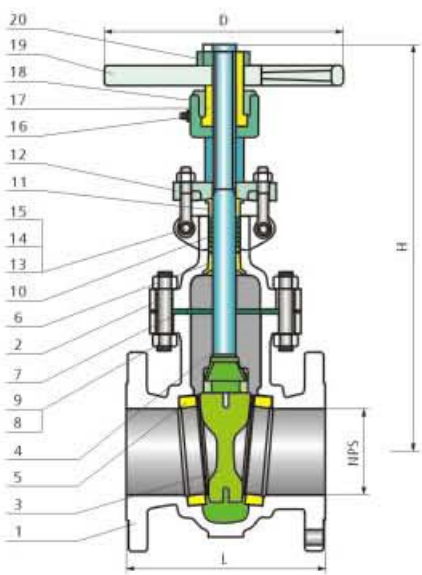
The wedge can be categorized into two groups on the basis of its property: flexible & solid wedge or single & dual wedge.

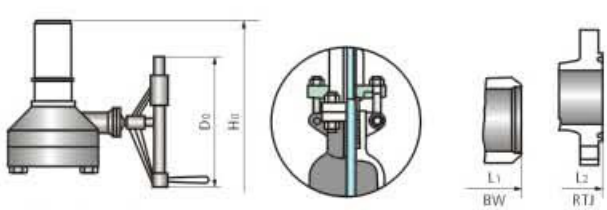
Applicable Standards

Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flanged End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6D

Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End





Gear Operator

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+CR13	A351-CF8M	A352-LCB+CR13
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+CR13	Integral+HF	A350-LF2+CR13
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Spiral Wound(Graphite+304 or 316)		
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		

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.

Dimensions Data — ANSI Class 150LB

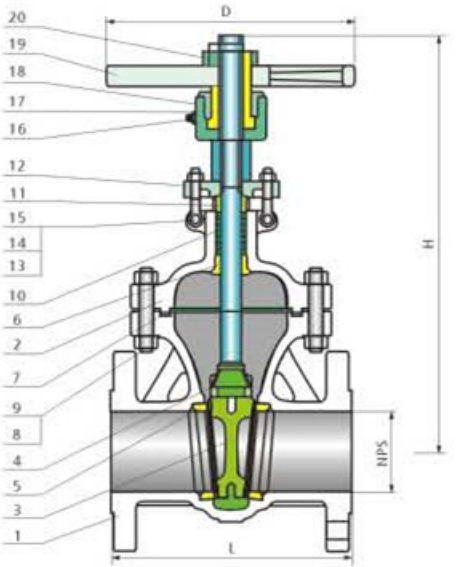
Size		in	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L(RF)		mm	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711
L1(BW)		mm	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016
L2(RTJ)		mm	191	203	216	241	279	305	343	368	394	419	445	470	521	-	-	-	-	-
H		mm	355	365	430	495	620	775	935	1110	1250	1420	-	-	-	-	-	-	-	-
Ho		mm	-	-	-	-	795	1015	1210	1405	1535	1780	2030	2300	2600	2680	2890	3110	3280	3640
D		mm	200	200	250	280	300	400	500	500	600	600	-	-	-	-	-	-	-	-
Do		mm	-	-	-	-	310	310	310	460	460	460	460	530	530	530	530	600	600	600
Weight	H.W	Kg	20	23	32	45	75	120	180	265	365	485	-	-	-	-	-	-	-	-
	G.O	Kg	-	-	-	-	104	150	215	315	451	545	651	863	1165	1550	1880	2300	2550	3390

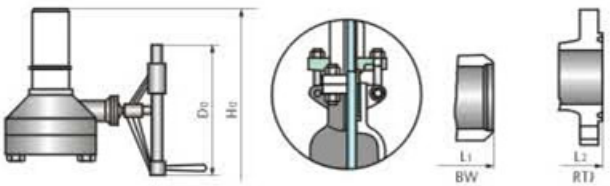
Applicable Standards

Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flanged End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6D

Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End





Gear Operator

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+CR13	A351-CF8M	A352-LCB+CR13
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+CR13	Integral+HF	A350-LF2+CR13
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Spiral Wound(Graphite+304 or 316)		
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		

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.

Dimensions Data — ANSI Class 300LB

Size		in	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L/L1(RF/BW)		mm	216	241	283	305	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727
L2(RTJ)		mm	232	257	298	321	419	435	473	518	778	854	930	1010	1165	1270	1372	1422	1553	1756
H		mm	364	385	445	520	649	798	1000	1129	1195	-	-	-	-	-	-	-	-	-
Ho		mm	-	-	-	650	835	1030	1255	1460	1585	1830	2000	2175	2620	2850	3080	3180	3300	3760
D		mm	200	200	280	300	350	400	450	500	600	-	-	-	-	-	-	-	-	-
Do		mm	-	-	-	310	310	310	460	460	460	460	460	530	530	600	600	600	600	600
Weight	H.W	Kg	26	36	55	67	147	228	332	512	715	-	-	-	-	-	-	-	-	-
	G.O	Kg	-	-	-	100	186	235	416	502	756	965	1224	1400	2385	3000	3300	3550	4400	6050

Applicable Standards

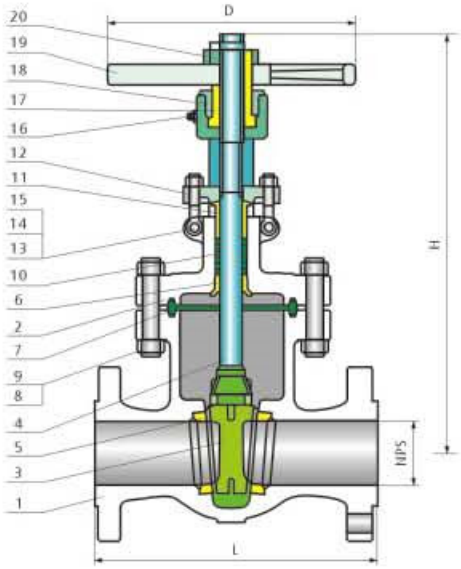
Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6DZ

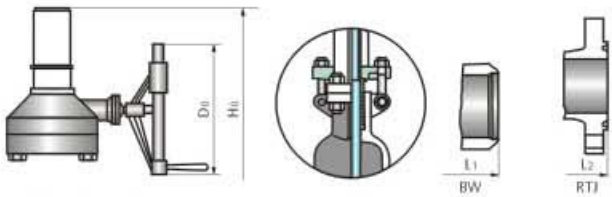
Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+CR13	A351-CF8M	A352-LCB+CR13
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+CR13	Integral+HF	A350-LF2+CR13
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Spiral Wound(Graphite+304 or 316)		
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		





Gear Operator

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.

Dimensions Data — ANSI Class 600LB

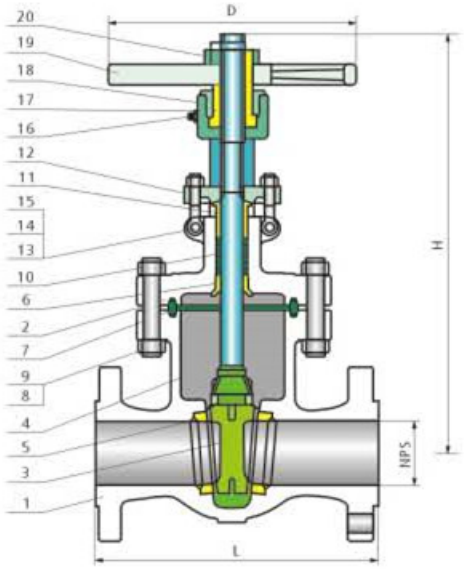
Size		in	2	2½	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1(RF/BW)		mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L2(RTJ)		mm	295	333	359	435	562	664	791	841	892	994	1095	1200	1407
H		mm	380	420	500	575	750	850	1005	1130	1270	1365	-	-	-
H0		mm	-	-	585	695	900	1110	1300	1650	1750	1900	2020	2172	2650
D		mm	250	280	300	350	450	550	650	700	900	900	-	-	-
D0		mm	-	-	310	310	460	460	460	460	530	530	600	600	600
Weight	H.W	Kg	37	50	82	142	245	423	682	932	1177	1513	-	-	-
	G.O	Kg	-	-	87	134	286	472	657	893	1318	1720	1980	2460	3650

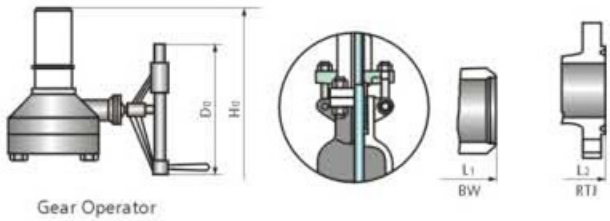
Applicable Standards

Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6D

Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End





Gear Operator

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+CR13	A351-CF8M	A352-LCB+CR13
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+HF	Integral+HF	A350-LF2+HF
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Steel Ring	316SS Ring	304SS Ring
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		

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.

Dimensions Data — ANSI Class 900LB

Size		in	2	2½	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1(RF/BW)		mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
L2(RTJ)		mm	371	422	384	460	613	740	841	968	1038	1140	-	-	-
H		mm	430	490	505	575	795	885	1035	1180	1350	1890	-	-	-
Ho		mm	-	-	-	625	900	1000	1130	1520	1600	2100	2232	2435	2640
D			300	350	350	400	500	650	700	900	900	900	-	-	-
Do		mm	-	-	310	310	460	460	530	530	530	600	800	800	950
Weight	H.W	Kg	70	110	140	178	358	550	1000	1215	1600	2150	-	-	-
	G.O	Kg	-	-	167	227	396	627	1100	1310	1665	2330	3000	3800	4650

Applicable Standards

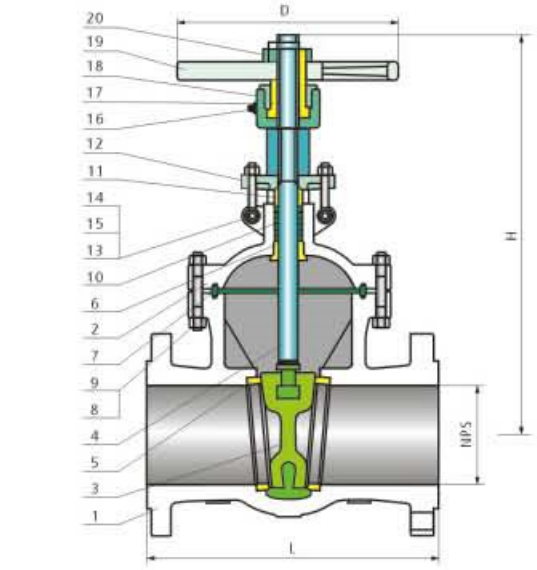
Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6D

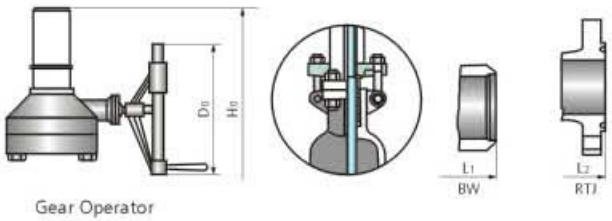
Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+CR13	A351-CF8M+HF	A352-LCB+CR13
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+HF	Integral+HF	A350-LF2+HF
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Steel Ring	316SS Ring	304SS Ring
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		





Gear Operator

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.

Dimensions Data — ANSI Class 1500LB

Size		in	2	2½	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1(RF/BW)		mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L2(RTJ)		mm	371	422	473	549	711	841	1000	1146	1276	1407	1559	1686	1971
H		mm	430	490	540	650	835	925	1230	-	-	-	-	-	-
Ho		mm	-	-	680	810	1035	1180	1525	1620	1905	2050	2380	2580	2915
D		mm	300	350	400	500	600	750	900	-	-	-	-	-	-
Do		mm	-	-	310	310	460	530	600	600	600	600	600	600	600
Weight	H.W	Kg	70	110	175	270	520	820	1560	-	-	-	-	-	-
	G.O	Kg	-	-	202	300	575	915	1750	2120	3306	5300	8070	11790	14275

Applicable Standards

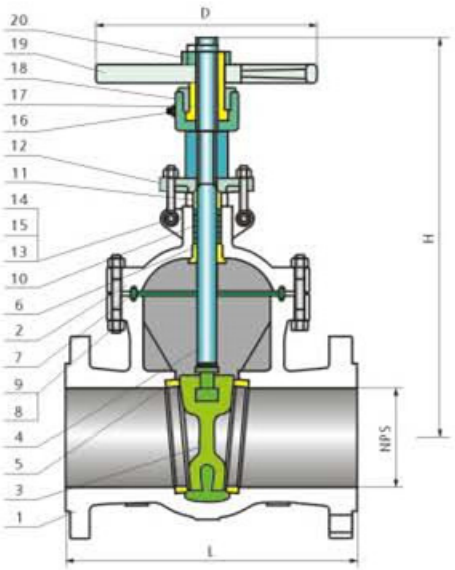
Design & Manufacture: API600
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Inspection & Test: API 598/API 6D

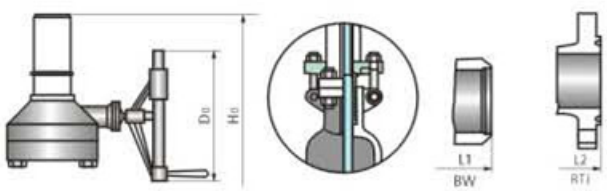
Design Description

Full Bore
OS&Y Rising Stem & Non-rising Stem
Bolted Bonnet
Flexible Wedge, Fully Guided
Solid or Split Wedge
Renewable Seat Ring
Forged T-head Stem
Flanged or Butt Welded End

Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Cryogenic Steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Wedge	A216-WCB+HF	A351-CF8M+HF	A352-LCB+HF
4	Stem	A182-F6a	A182-F316	A182-F6a
5	Seat Ring	A105+HF	Integral+HF	A350-LF2+HF
6	Stem Backseat	A276-420	Integral	A276-420
7	Bonnet Gasket	Steel Ring	316SS Ring	304SS Ring
8	Bonnet Stud	A193-B7	A193-B8	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-8	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-316	A276-420
12	Gland Flange	A216-WCB	A351-CF8	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-304	Carbon Steel
14	Eyebolt	A193-B7	A193-B8	A320-L7
15	Eyebolt Nut	A194-2H	A194-8	A194-4
16	Grease Fitting	Brass+Steel		
17	Yoke Sleeve	Aluminum-Bronze[1]		
18	Yoke Sleeve Jam Nut	Carbon Steel		
19	Handwheel	Ductile Iron		
20	Handwheel Nut	Carbon Steel		





Gear Operator

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.

Dimensions Data — ANSI Class 2500LB

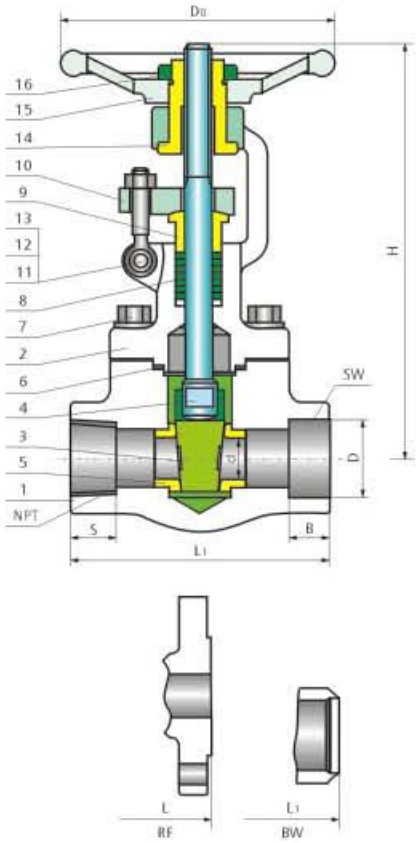
Size		in	2	2½	3	4	6	8	10	12
		mm	50	65	80	100	150	200	250	300
L/L1(RF/BW)		mm	451	508	578	673	914	1022	1270	1422
L2(RTJ)		mm	454	514	584	683	927	1038	1292	1445
H		mm	490	580	630	725	1040	1150	1400	-
Ho		mm	580	630	765	850	1100	1150	1460	1660
D		mm	280	300	350	400	600	750	900	-
Do		mm	310	310	310	460	530	600	600	600
Weight	H.W	Kg	100	150	245	390	780	1260	2380	-
	G.O	Kg	130	180	275	420	835	1355	2565	3250

Applicable Standards

Design & Manufacture: API602
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10/Manufacturer Standard
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Socket Welded End: ASME B16.11
Threaded End: ASME B1.20.1
Inspection & Test: API 598

Design Description

OS & Y Rising Stem
Bolted Bonnet or Welded Bonnet
Single Wedge, Fully Guided
Renewable Seat Ring
Yoke Integral with Bonnet
SW, Screwed Welded End
NPT, Threaded End
BW, Butt Welded End
Flanged End



Main Parts Materials

NO	Part Name	ASTM Material		
		Carbon Steel	Stainless Steel	Alloy Steel
1	Body	A105	A182-F316	A182-F11
2	Bonnet	A105	A182-F316	A182-F11
3	Wedge	A182-F6a	A182-F316	A182-F6a+HF
4	Stem	A276-410	A276-316	A276-410
5	Seat Ring	A276-410	A182-F316	A276-410+HF
6	Bonnet Gasket[1]	Graphite+304	Graphite+316	Graphite+304
7	Bonnet Stud	A193-B7	A193-B8M	A193-B16
8	Packing	Graphite		
9	Gland	A276-410	A276-316	A276-410
10	Gland Flange	A105	A182-F316	A182-F11
11	Eyebolt Pin	A276-410	A276-316	A276-410
12	Eyebolt	A193-B7	A193-B8M	A193-B16
13	Eyebolt Nut	A194-2H	A194-8M	A194-4
14	Yoke Sleeve	A276-410		
15	Handwheel	Malleable Iron		
16	Handwheel Nut	Carbon Steel		

Note: 1) Spiral wound construction.

Dimensions Data — ANSI Class 150LB/300LB/600LB/800LB

Size		L_1[1]	Flange End			d	SW		NPT	H	D_0	Weight[2] (kg)	
			150LB	300LB	600LB		D	B	S				
in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Bolted	Welded
3/8	10	79	102	140	165	10	17.6	9.6	13.6	151	100	4.5	4
1/2	15	79	108	140	165	10	21.8	9.6	13.6	151	100	5.1	4
3/4	20	92	117	152	190	13.5	27.1	12.7	13.9	158	100	8.2	4.3
1	25	111	127	165	216	18	33.8	12.7	17.3	185	125	10.5	6.6
1¼	32	120	140	178	229	24	42.6	12.7	18	239	160	12.4	9.5
1½	40	120	165	190	241	30	48.7	12.7	18.4	243	160	20.1	11
2	50	140	178	216	292	36.5	61.1	15.9	19.2	279	180	28	14.5

Note: 1) 150LB~800LB-BW, SW or NPT; 2) 600LB-RF, 800LB-BW/SW/NPT.

Applicable Standards

Design & Manufacture: API602
Pressure-temperature Rating: ASME B16.34
Face to Face: ASME B16.10/Manufacturer Standard
Flange End: ASME B16.5
Butt Welded End: ASME B16.25
Socket Welded End: ASME B16.11
Threaded End: ASME B1.20.1
Inspection & Test: API 598

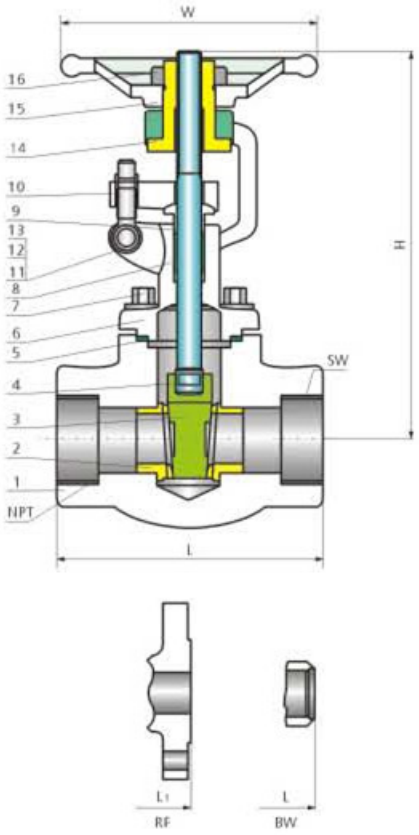
Design Description

OS & Y Rising Stem
Bolted Bonnet or Welded Bonnet
Single Wedge, Fully Guided
Renewable Seat Ring
Yoke Integral with Bonnet
SW, Screwed Welded End
NPT, Threaded End
BW, Butt Welded End
Flanged End

Main Parts Materials

No	Part Name	ASTM Materials		
		Carbon Steel	Stainless Steel	Alloy Steel
1	Body	A105	A182-F316	A182-F11
2	Bonnet	A105	A182-F316	A182-F11
3	Wedge	A182-F6a	A182-F316	A182-F6a+HF
4	Stem	A276-410	A276-316	A276-410
5	Seat Ring	A276-410	A182-F316	A276-410+HF
6	Bonnet Gasket[1]	Graphite+304	Graphite+316	Graphite+304
7	Bonnet Stud	A193-B7	A193-B8M	A193-B16
8	Packing	Graphite		
9	Gland	A276-410	A276-316	A276-410
10	Gland Flange	A105	A182-F316	A182-F11
11	Eyebolt Pin	A276-410	A276-316	A276-410
12	Eyebolt	A193-B7	A193-B8M	A193-B16
13	Eyebolt Nut	A194-2H	A194-8M	A194-4
14	Yoke Sleeve	A276-410		
15	Handwheel	Malleable Iron		
16	Handwheel Nut	Carbon Steel		

Note: 1)Spiral wound construction.



Dimensions Data — ANSI Class 900LB/1500LB

Size Reduced Bore		L	L1	H(Open)	W	Weight(kg)	
in	mm	mm	mm	mm	mm	Bolted	Welded
3/8	10	95	-	169	100	2.5	2.4
1/2	15	111	216	197	125	4.3	4.2
3/4	20	111	229	197	125	4.2	4.0
1	25	120	254	236	160	6.6	6.3
1 1/4	32	120	279	246	160	8.8	8.7
1 1/2	40	140	305	283	180	12.5	12.1
2	50	178	368	330	200	17.2	17.2