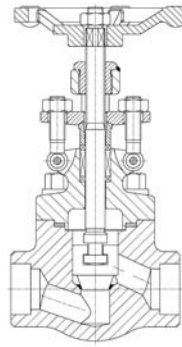


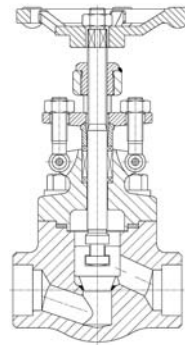
**Class: 800LB**  
**Design acc. : API 602**  
**Socket-welding : ASME B16.11**  
**Screwed end: ASME B1.20.1(NPT)**  
**Test and inspection : API 598**  
**Body : A105 / F316**



**FIG : 161**

**Page 1**

**Class: 1500LB**  
**Design acc. : API 602**  
**Socket-welding : ASME B16.11**  
**Screwed end: ASME B1.20.1(NPT)**  
**Test and inspection : API 598**  
**Body : A105 / F316**

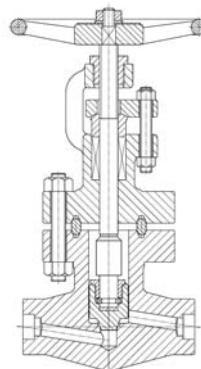


**FIG : 162**

**Page 2**



**Class: 2500LB**  
**Design acc. : ASME B16.34**  
**Socket-welding : ASME B16.11**  
**Screwed end: ASME B1.20.1(NPT)**  
**Test and inspection : API 598**  
**Body : F11 / F316**



**FIG : 163**

**Page 3**

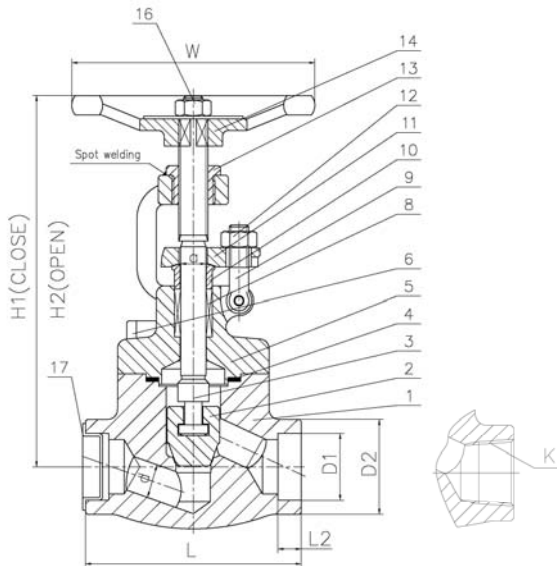


FIG.	Class	Material	Range
145.161	800	A105	1/4"-2"
235.161	800	F316	1/4"-2"

**Design acc. : API 602**  
**Socket-welding : ASME B16.11**  
**Screwed end : ANSI B1.20.1(NPT)**  
**Test and inspection : API 598**

**Material List**

NO.	Part	Material	
		FIG.145.161	FIG.235.161
1	Body	A105+STL	F316+STL
2	Disc	A276-420	F316
3	Stem	A182-F6a	F316
4	Bonnet gasket	Spiral wound graphite+304	Spiral wound graphite+316
5	Bonnet	A105	F316
6	Bolt	A193-B7	A193-B8M
8	Packing	Flexible graphite +s.s.wire	Flexible graphite +s.s.wire
	Packing	Flexible graphite	Flexible graphite
9	Eyebolt	A193-B7	A193-B8M
10	Packing bushing	A276-420	F316
11	Gland flange	A105	F316
12	Nut	A194-2H	A194-8M
13	Stem nut	A276-410	ZCuAl10Fe3
14	Handwheel	A197	A197
16	Lock nut	A194-2H	A194-8M

**Dimension List**

Class	Size	L	a	H1	H2	d	D	W	Socket-welding		Screwed end	Weight(KG)
									D1	L2	K	
800LB	1/4"	79	11.5	148	158	6.5	34	100	14.1	9.6	NPT 1/4	2.1
	3/8"	79	11.5	148	158	6.5	34	100	17.6	9.6	NPT 3/8	2.1
	1/2"	79	11.5	148	158	10	34	100	21.7	9.6	NPT 1/2	2.0
	3/4"	92	11.5	148	158	13	40	100	27.1	12.7	NPT 3/4	2.2
	1"	111	13	176	192	17.5	49	125	33.8	12.7	NPT 1	3.8
	1 1/4"	120	16	209	227	23	58	160	42.6	12.7	NPT 1 1/4	5.5
	1 1/2"	152	16	221	241	28.5	64	160	48.6	12.7	NPT 1 1/2	7.1
2"	172	20	255	279	35	78	180	61.1	15.9	NPT 2	11.5	

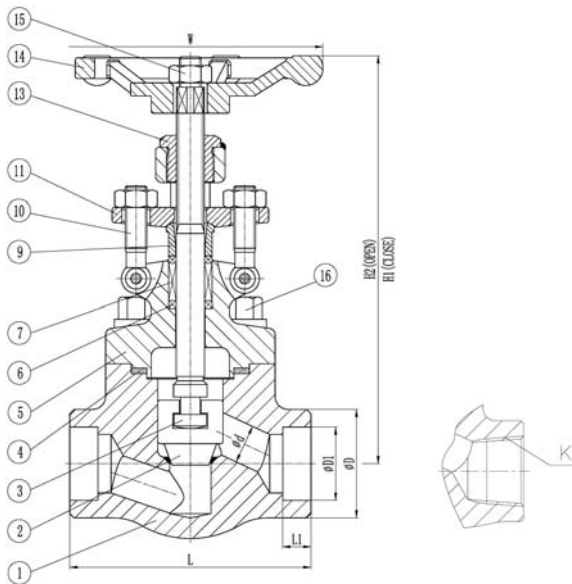


FIG.	Class	Material	Range
147.162	1500	A105	1/2"-2"
237.162	1500	F316	1/2"-2"

**Design acc. : API 602**  
**Socket-welding : ASME B16.11**  
**Screwed end: ASME B1.20.1(NPT)**  
**Test and inspection : API 598**

**Material List**

NO.	Part	Material	
		FIG. 147.162	FIG. 237.162
1	Body	A105	F316
2	Disc	A276-420	F316
3	Stem	A182-F6a	F316
4	Bonnet gasket	Spiral wounded graphite+304	Spiral wounded graphite+316
5	Bonnet	A105	F316
6	Packing	Flexible graphite +s.s.wire	Flexible graphite +s.s.wire
7	Packing	Flexible graphite	Flexible graphite
9	Packing bushing	A276-420	F316
10	Eyebolt	A193-B7	A193-B8M
11	Gland flange	A105	F316
13	Stem nut	A276-410	ZCuAl10Fe3
14	Handwheel	A197	A197
15	Lock nut	A194-2H	A194-8M
16	Bolt	A193-B7	A193-B8M

**Dimension List**

Class	Size	L	H1	H2	d	D	W	D1	L1	A
1500LB	1/2"	92	177	187	10	42	125	21.8	10	NPT 1/2
	3/4"	111	177	187	13	49	125	27.2	13	NPT 3/4
	1"	120	211	227	17.5	58	160	33.9	13	NPT 1
	1 1/4"	152	224	242	23	64	160	42.7	13	NPT 1 1/4
	1 1/2"	172	258	278	28.5	78	180	48.8	13	NPT 1 1/2
	2"	220	301	325	35	88	200	61.2	16	NPT 2

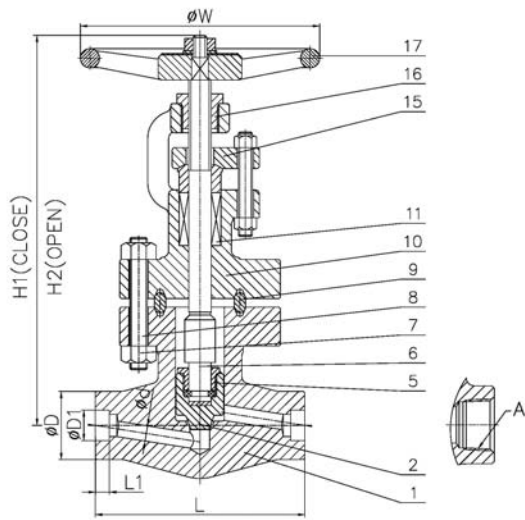


FIG.	Class	Material	Range
198.163	2500	F11	1/2"-2"
238.163	2500	F316	1/2"-2"

**Design acc. : ASME B16.34**  
**Socket-welding : ASME B16.11**  
**Screwed end: ASME B1.20.1(NPT)**  
**Test and inspection : API 598**

**Material List**

NO.	Part	Material	
		FIG. 198.163	FIG. 238.163
1	Body	F11+Cr13	F316+STL
2	Disc	A276-420	F316
5	Disc gland	A276-410	F316
6	Stem	A182-F6a	F316
7	Nut	A194-8M	A194-8M
8	Bolt	A193-B16	A193-B8M
9	Gasket	304	304
10	Bonnet	F11	F316
11	Packing	Flexible graphite +s.s.wire	Flexible graphite +s.s.wire
15	Gland flange	F304	F316
16	Stem nut	A276-410	ZCuAl10Fe3
17	Handwheel	A197	A197

**Dimension List**

Class	Size	L	H1	H2	d	D	W	D1	L1	A
2500LB	1/2"	150	280	293	11	52	200	21.8	10	1/2"
	3/4"	150	280	293	14	52	200	27.2	13	3/4"
	1"	170	328	344	19	64	200	33.9	13	1"
	1 1/4"	200	363	383	25	80	300	42.7	13	1 1/4"
	1 1/2"	200	363	383	28	80	300	48.8	13	1 1/2"
	2"	230	417	442	35	95	300	61.2	16	2"