

Pressure Balanced Lubricated Plug Valves - API 6D

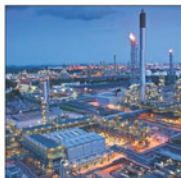
**Short Pattern
Regular Pattern
Venturi Pattern**

Class: 150 - 2500

Sizes: 2" - 36"

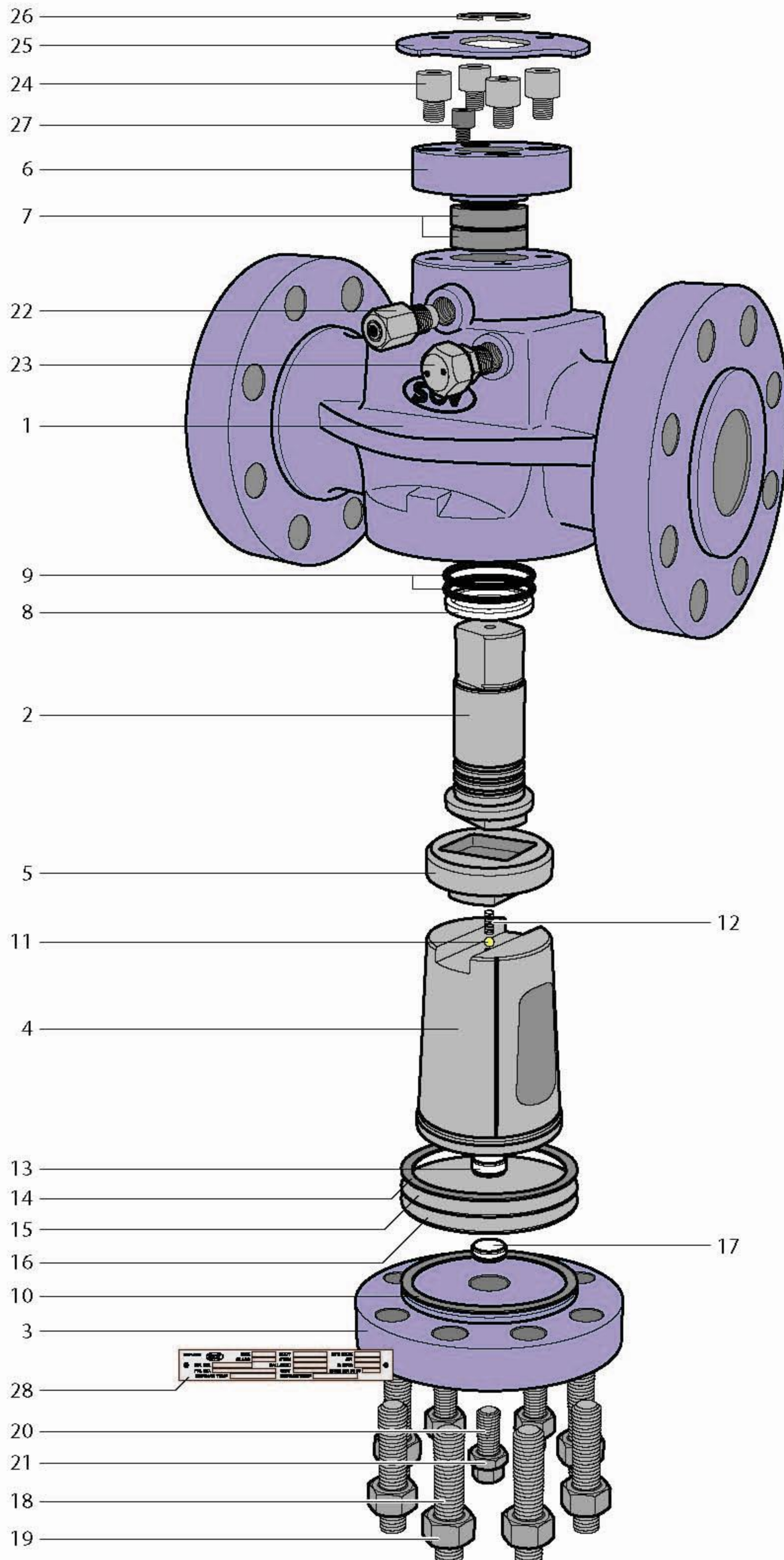
Design and Manufacturing Standards

Design and Manufacturing Standards	
Basic Design	API 6D
Shell Wall Thickness	API 6D
Face to Face Dimension	API 6D
Flange End Dimension	API 6D
Inspection & Testing	API 6D
Fire Safe Design	API 6FA/BS 6755



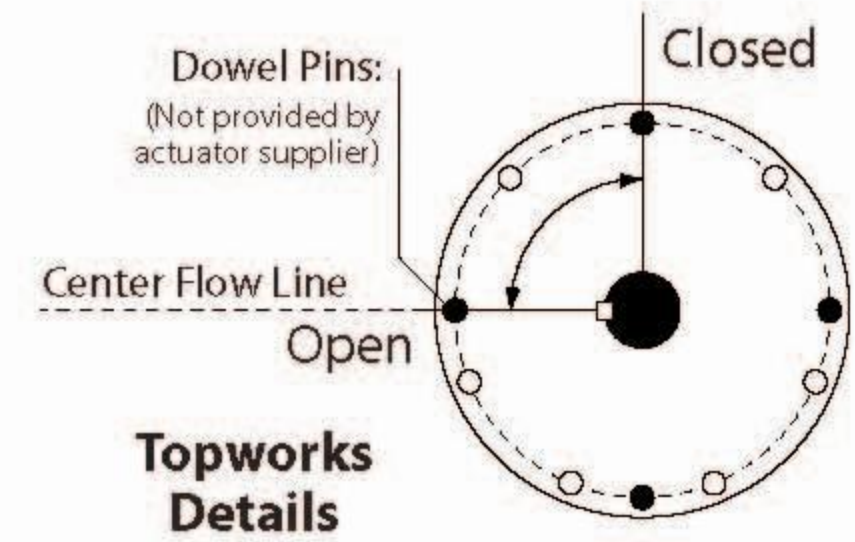
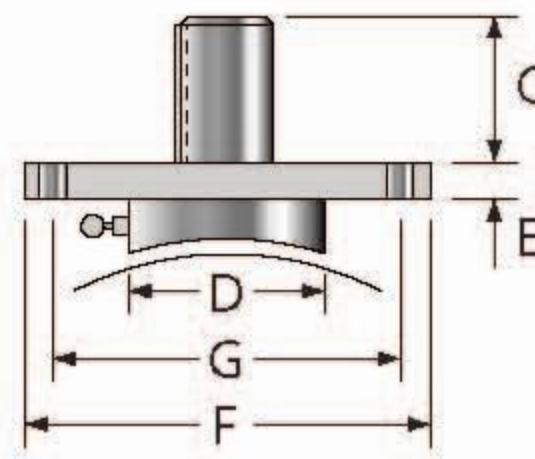
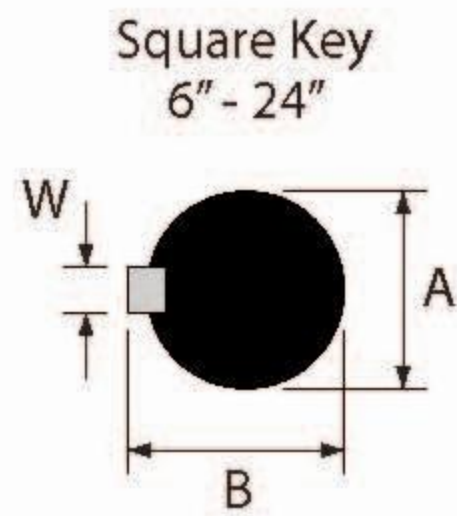
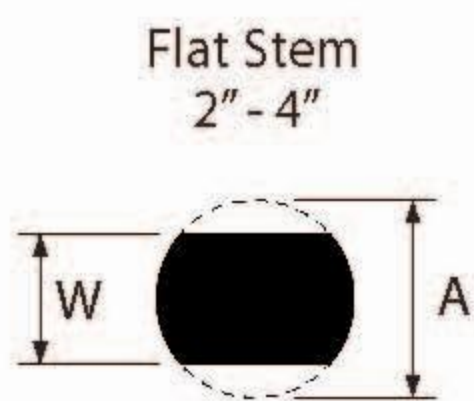
Pressure Balanced Lubricated Plug Valves - API 6D

[Expanded View]



No	Name Of Part
1	Body
2	Stem
3	Bonnet
4	Plug
5	Stem Plug Adapter
6	Top Cover
7	Packing
8	Thrust Bearing
9	O Rings
10	Gasket
11	Steel Ball
12	Spring
13	Upper Pivot Disc/Pivot Center
14	Graphite Gasket
15	Steel Pillow
16	Steel Washer
17	Lower Pivot Disc
18	Stud
19	Nut
20	Plug Adjustment Screw
21	Plug Adjustment Lock Nut
22	Stem Packing Injector
23	Lubricant/Sealant Injector
24	Gland Cap Screws
25	Indicator Stop Plate
26	Stop Plate Retainer
27	Stop Bolt
28	I.D. Tag

Pressure Balanced Lubricated Plug Valve Mounted Flanges & Stem Torque Information

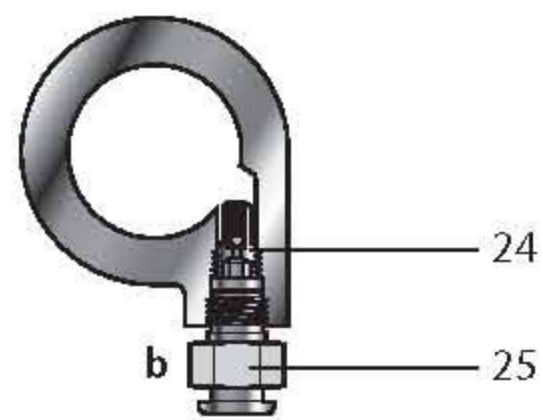
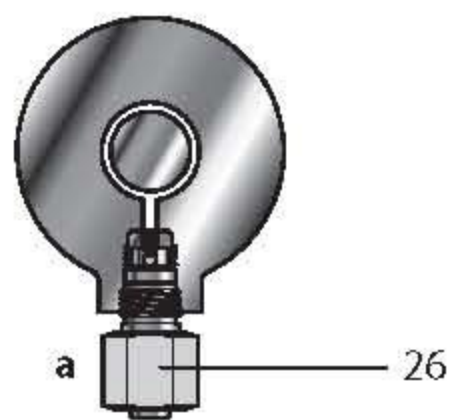
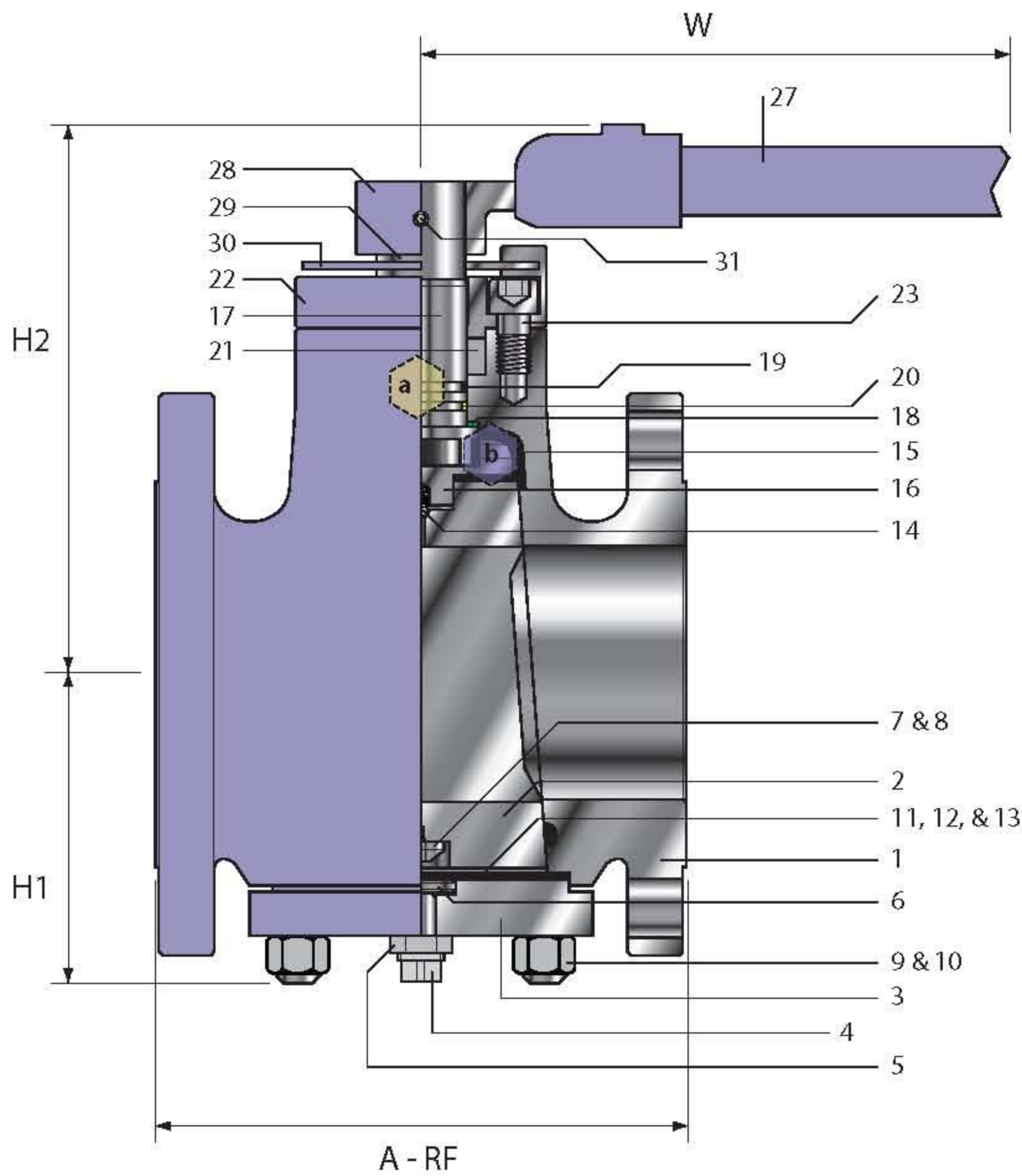


NPS	CL	ISO 5211 Code	A	B	C	D	E	F Flange Dia.	G Bolt Center	H Stud Size	I Hole Dia.	L No. of Holes	W	Max. Stem Shear Torque N.M.	Break Torque N.M.
2	150	F10	28	/	34	78	17	125	102	M10	11	4	20	409	58
2	300	F10	28	/	34	78	17	125	102	M10	11	4	20	409	101
2	600	F10	28	/	33	78	17	125	102	M10	11	4	20	409	172
3	150	F12	34	/	33	90	19	150	125	M12	13.5	4	24	706	121
3	300	F12	34	/	33	90	19	150	125	M12	13.5	4	24	706	213
3	300	F12	34	37	70	90	19	150	125	M12	13.5	4	10	1141	213
3	600	F12	34	/	33	90	19	150	125	M12	13.5	4	24	706	366
4	150	F14	38	/	39	108	21	175	140	M16	18	4	28	1076	242
4	300	F14	38	/	39	108	21	175	140	M16	18	4	28	1076	435
4	600	F14	38	41	67	108	21	175	140	M16	18	4	10	1616	757
6S	150	F14	42	/	43	105	20	175	140	M16	18	4	30	1379	600
6R	150	F14	42	45	65	105	22	175	140	M16	18	4	12	2180	600
6	300	F16	50	53.5	70	120	22	210	165	M20	22	4	14	3698	1112
6R	600	F25	50	53.5	80	120	25	300	254	M16	18	8	14	3698	2035
8S	150	F16	48	/	49	116	24	210	165	M20	22	4	34	2008	1097
8S	150	F16	48	51.5	80	116	24	210	165	M20	22	4	14	3256	1097
8R	150	F25	52	56	80	116	26	300	254	M16	18	8	16	4122	1280
8S	300	F25	52	56	80	122	26	300	254	M16	18	8	16	4122	2045
8R	300	F25	52	56	90	122	22	300	254	M16	18	8	16	4122	2355
8R	600	F25	62	66	90	150	25	300	254	M16	18	8	16	7025	4505
10S	150	F25	52	56	80	115	26	300	254	M16	18	8	16	4122	1609
10R	150	F25	52	56	80	115	26	300	254	M16	18	8	16	4122	2240
10S	300	F25	62	66	90	130	25	300	254	M16	18	8	16	7025	3038
10R	300	F25	66	70.5	85	150	28	300	254	M16	18	8	20	8445	4418
10R	600	F30	78	83	130	170	28	350	298	M20	22	8	20	14000	8478
10V	600	F25	68	72.5	115	140	25	300	254	M16	18	8	20	9271	5623
12S	150	F25	62	66.4	80	134	20	300	254	M16	18	8	18	7025	2466
12R	150	F25	68	72.5	90	130	23	300	254	M16	18	8	20	9271	3380
12R	300	F30	78	83	130	160	25	350	298	M20	22	8	22	14000	7483
12V	300	F25	68	72.5	90	144	22	300	254	M16	18	8	20	9271	4248
12R	600	F30	90	95	120	168	30	350	298	M20	22	8	25	21680	12801
12V	600	F30	78	83	130	170	28	350	298	M20	22	8	22	14000	8478
14V	150	F25	66	70.5	80	143	25	300	254	M16	18	8	20	8445	2835
14V	300	F25	78	83	120	170	25	300	254	M16	18	8	22	14000	5650
14V	600	F30	90	95	120	170	30	350	298	M20	22	8	25	21680	10930
16V	150	F25	78	83	120	150	26	350	298	M20	22	8	22	14000	4174
16V	300	F30	90	95	120	164	30	350	298	M20	22	8	25	21680	8128
16V	600	F35	98	104	150	190	35	415	356	M30	33	8	28	27914	16393
18V	150	F30	90	95	120	180	26	350	298	M20	22	8	25	21680	5700
18V	300	F35	98	104	150	190	32	415	356	M30	33	8	28	27914	11531
18V	600	F35	108	114	150	200	32	415	356	M30	33	8	28	37740	22472
20v	150	F30	95	100	140	180	32	350	298	M20	22	8	25	25640	8260
20V	300	F35	108	114	150	200	35	415	356	M30	33	8	28	37750	15701
20V	600	F35	118	125	160	210	35	415	356	M30	33	8	32	49089	30554
24V	150	F35	108	114	150	210	35	415	356	M30	33	8	28	37740	14911
24V	300	F35	118	125	160	210	35	415	356	M30	33	8	32	49089	26614
24V	600	F40	138	146	200	250	40	475	406	M36	39	8	36	78915	46757

1. Nominal Torque of the actuator = the break torque * 1.5 (safety coefficient).
2. The torques shown in the table is made out at the max. delt pressure when the valve is closed.
3. An extra torque may be taken into account for different media, on/off frequency and different materials internal parts.

Short Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 6" Class: 150

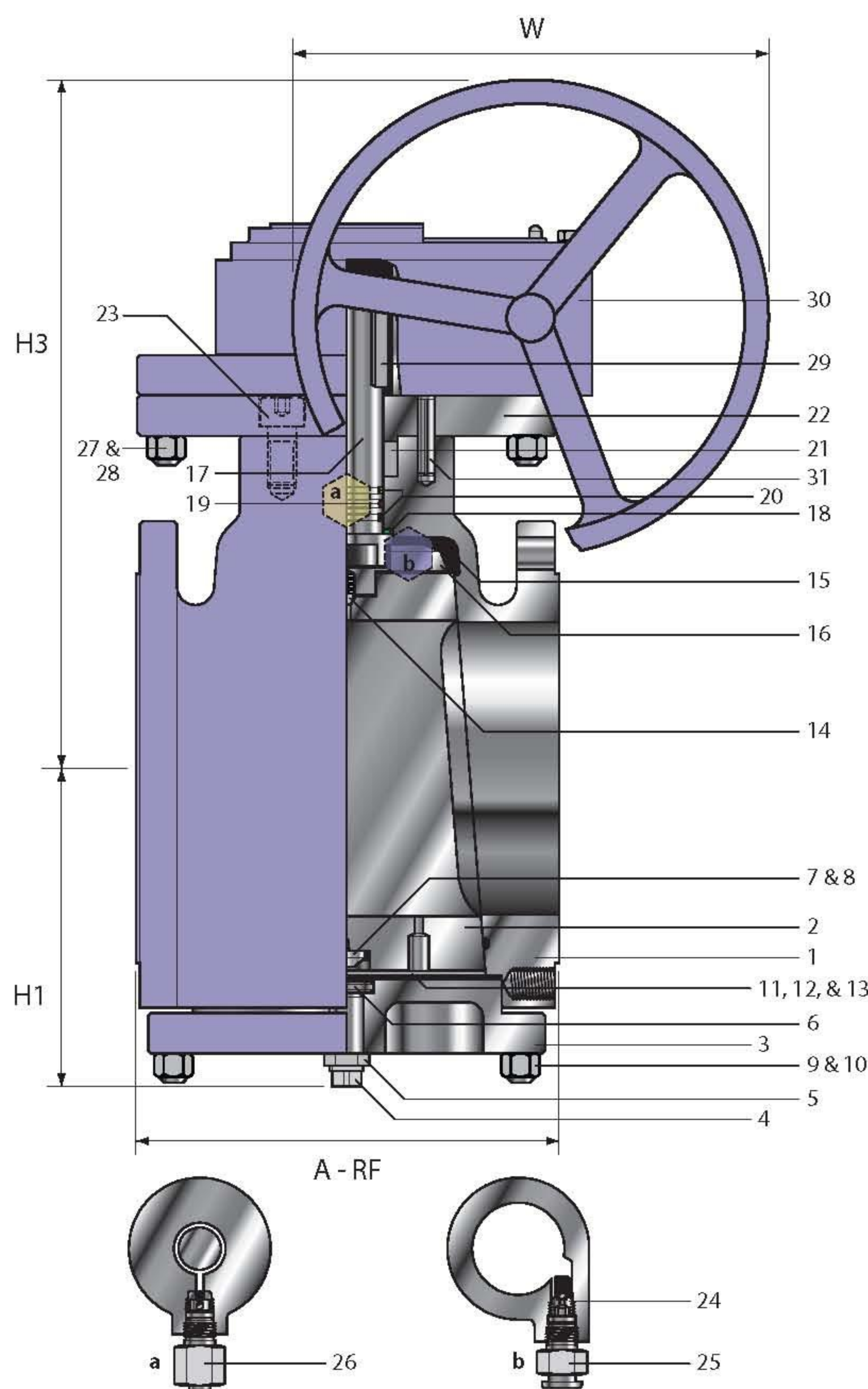


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel

CLASS 150	Size		A - RF	H1	H2	W	WGT LBS/KG
	NPS	2	7.01	3.84	5.83	14	42
	DN	50	178	95	148	350	19
	NPS	3	7.99	4.25	6.61	20	73
	DN	75	203	108	168	500	33
	NPS	4	9.02	5	7.91	24	115
	DN	100	229	127	201	600	52
	NPS	6	10.51	6.65	9.9	32	176
	DN	150	267	169	251	800	80

Short Pattern - Pressure Balanced Lubricated Plug Valves

Size: 6" - 12" Class: 150

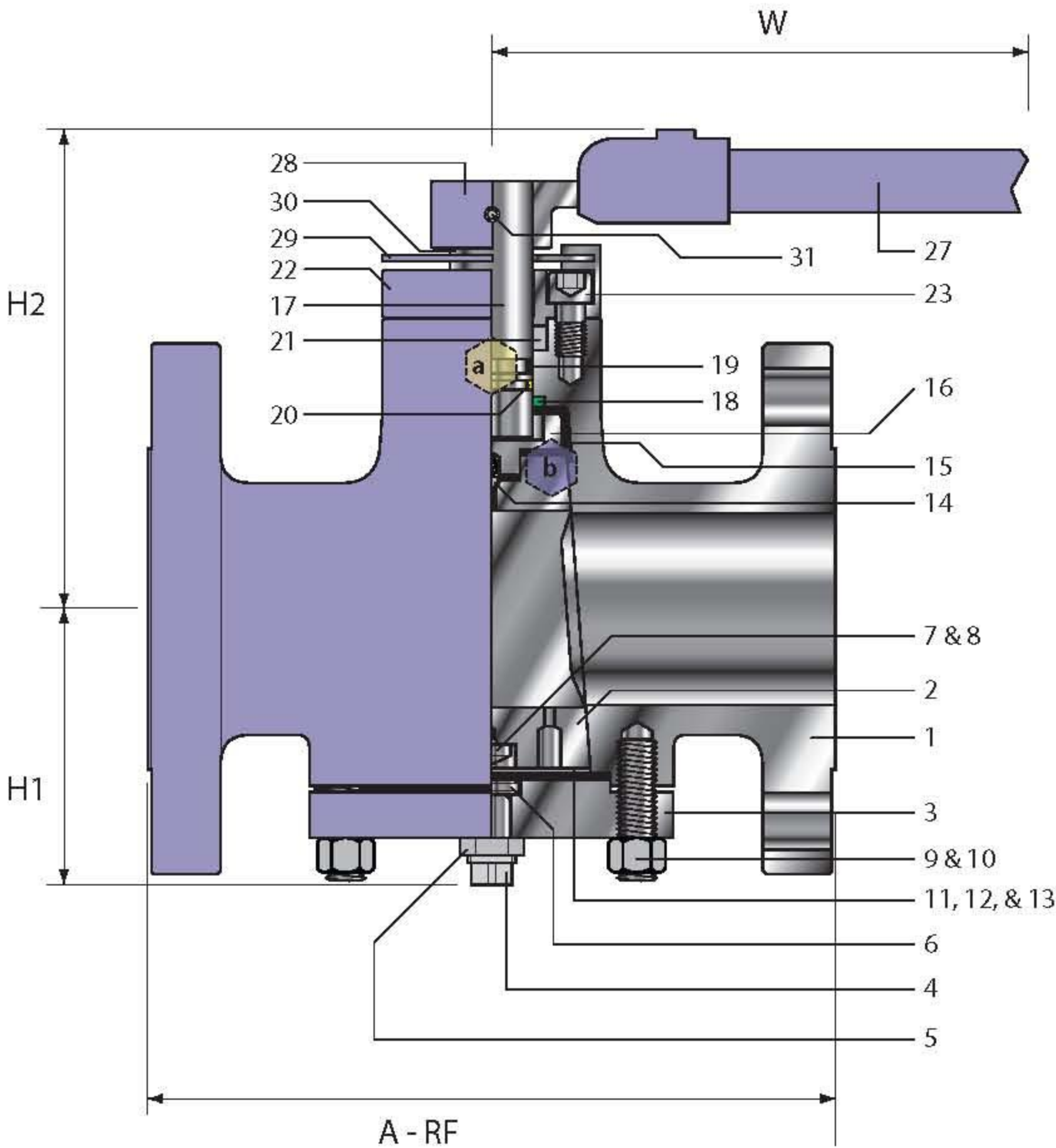


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Ductile Iron
31	Positioning Pin	Carbon Steel

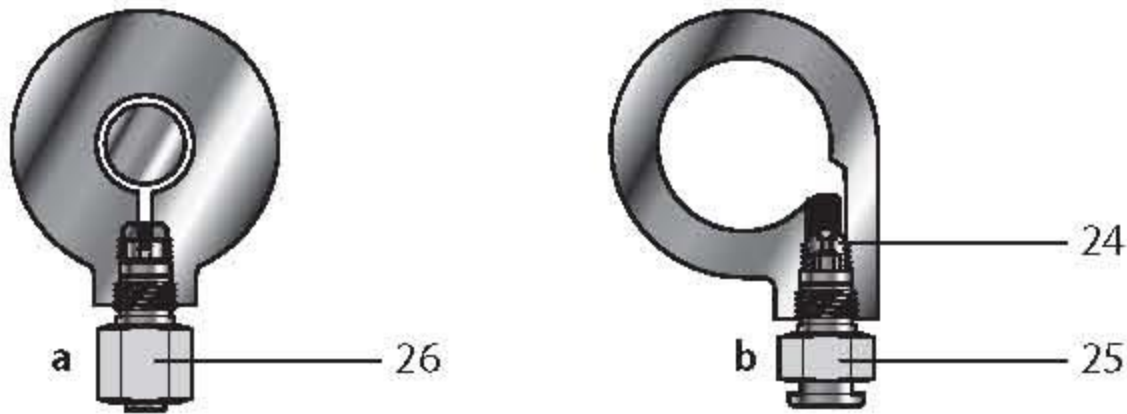
CLASS 150	Size		A - RF	H1	H3	W	WGT LBS/KG
	NPS	6	10.51	6.85	19.33	18	176
	DN	150	267	174	491	450	80
	NPS	8	11.5	8.46	23.31	24	348
	DN	200	292	215	592	600	158
	NPS	10	13	9.65	24.29	24	540
	DN	250	330	245	617	600	245
	NPS	12	14.02	11.22	25.98	24	772
	DN	300	356	285	660	600	350

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 6" Class: 150

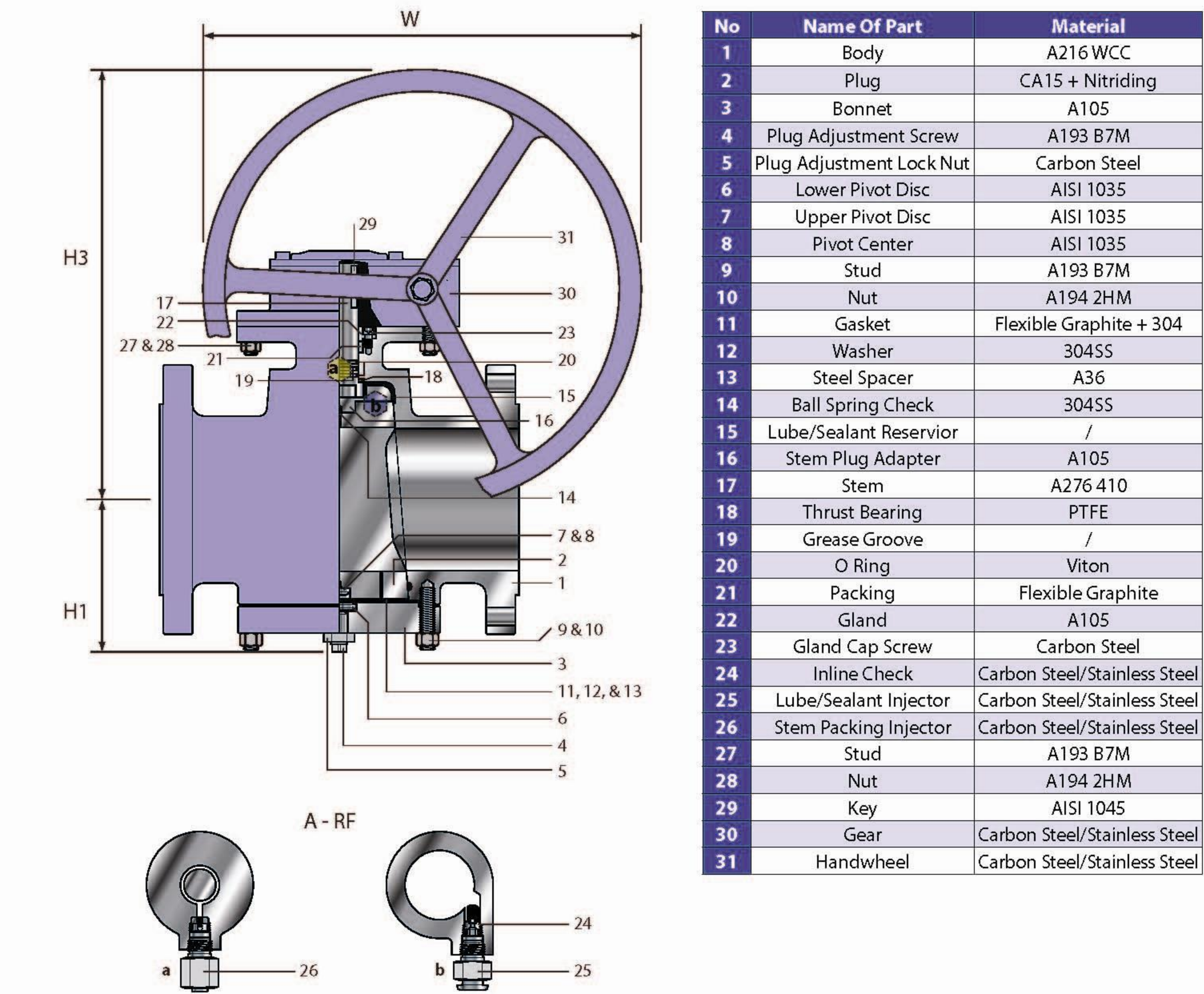


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel



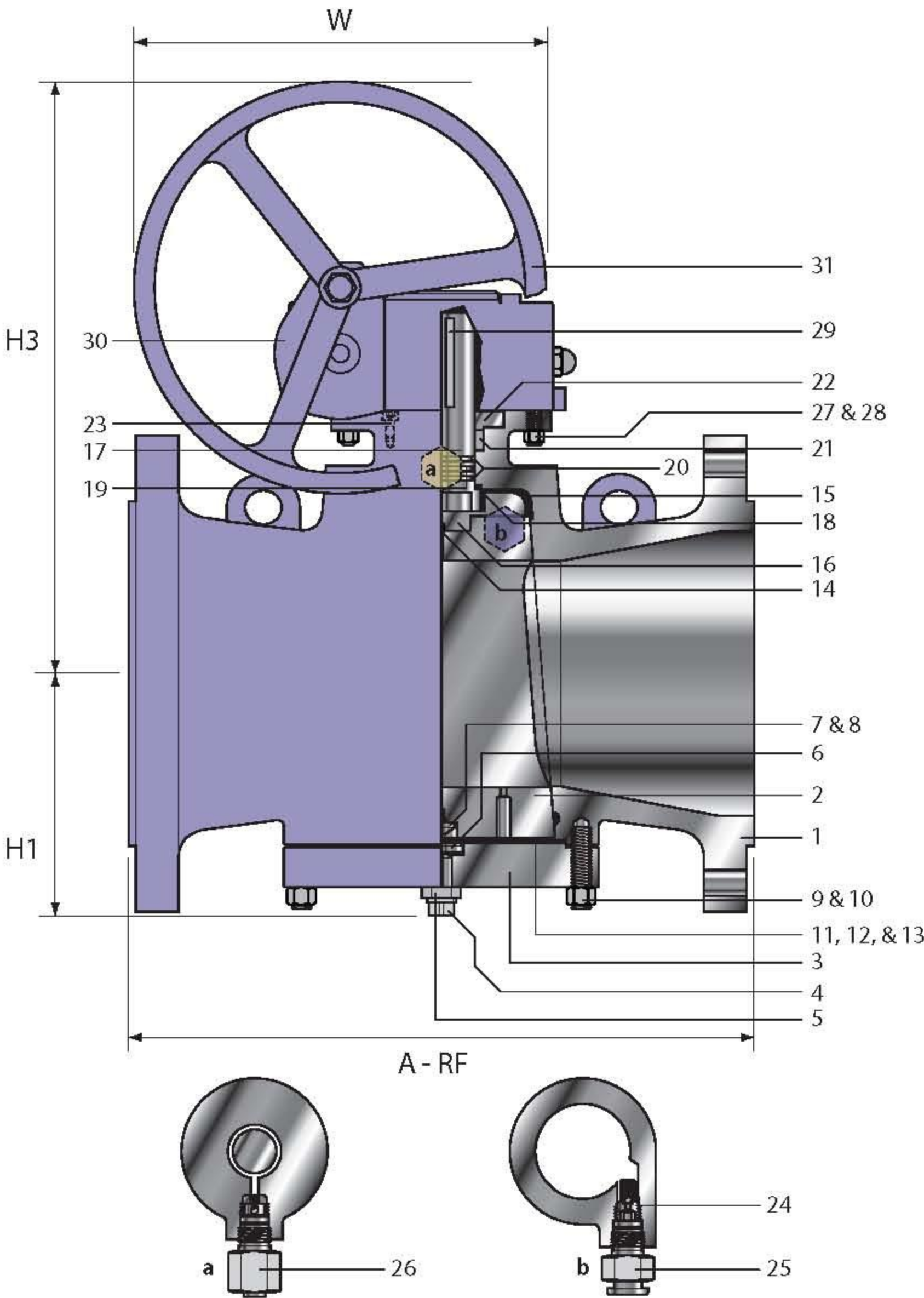
CLASS 150	Size		A - RF	H1	H2	W	WGT LBS/KG
	NPS	2	8	4.63	7	14	47
	DN	50	203	118	178	350	21.3
	NPS	3	9.5	6.34	8.63	20	101
	DN	75	241	161	219	500	46
	NPS	4	12	7.05	9.25	24	187
	DN	100	305	179	235	600	85
	NPS	6	15.5	7.2	10.4	32	187
	DN	150	432	183	264	800	85

Regular Pattern -
Pressure Balanced Lubricated Plug Valves
Size: 6" - 12" Class: 150



CLASS 150	Size		A - RF	H1	H3	W	WGT LBS/KG
	NPS	6	15.5	7.2	20.16	18	202
	DN	150	394	183	512	450	92
	NPS	8	18	9.4	24.21	24	400
	DN	200	457	239	615	600	182
	NPS	10	21	11.0	26.73	24	620
	DN	250	533	279	679	600	282
	NPS	12	24	12.8	29.92	24	887
	DN	300	610	325	760	600	403

Venturi Pattern -
Pressure Balanced Lubricated Plug Valves
Size: 14" - 36" Class: 150

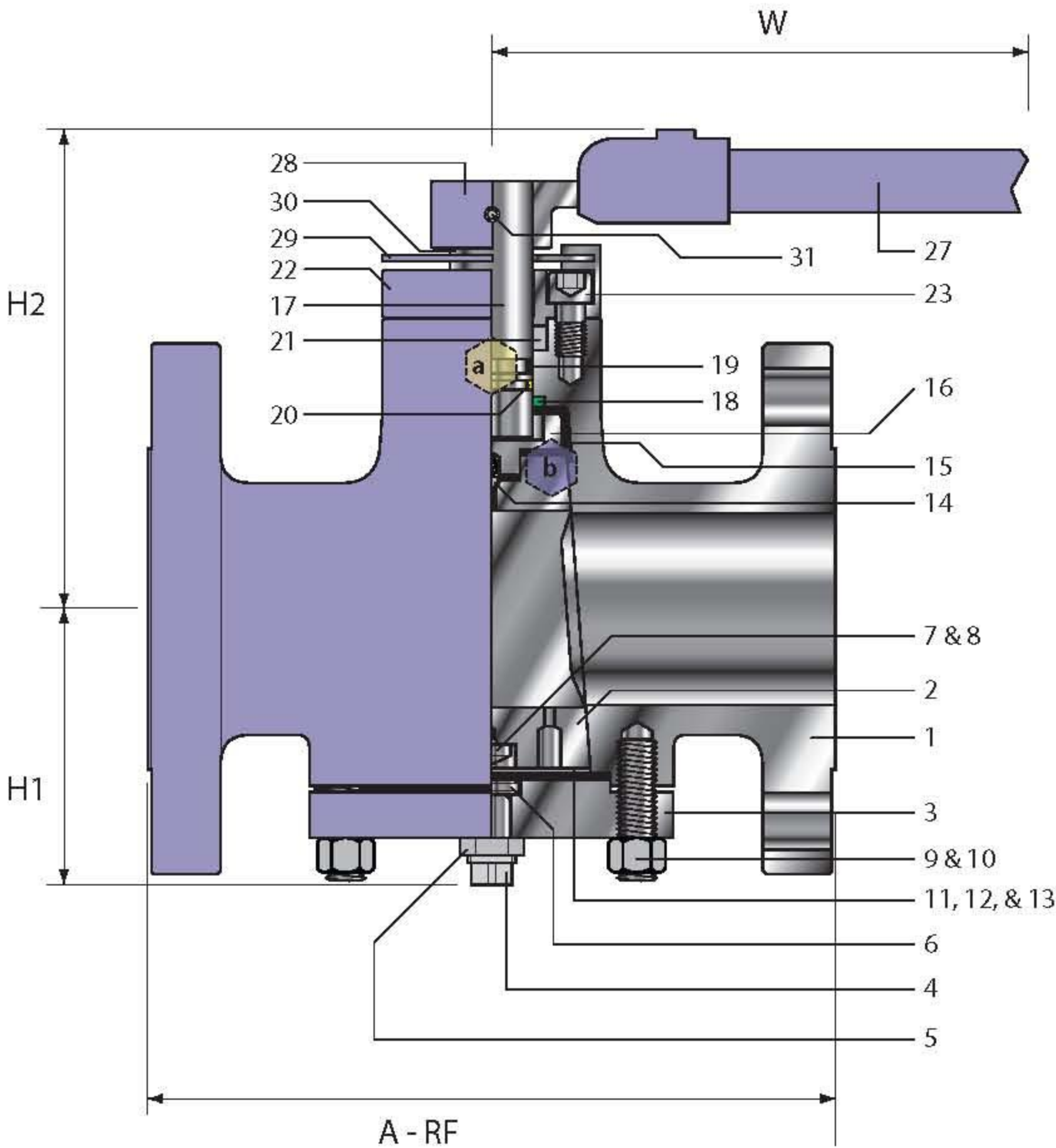


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

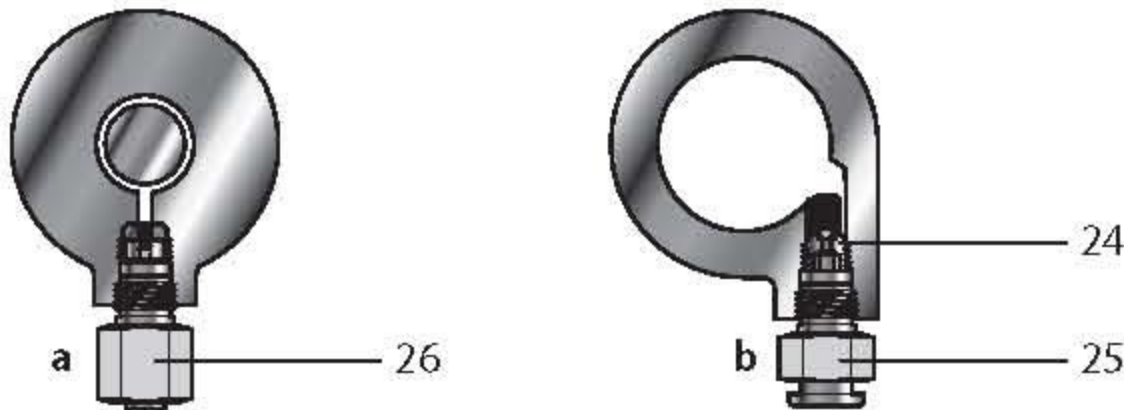
Size		A - RF	H1	H3	W	WGT LBS/KG
CLASS 150	NPS 14	27.01	10.43	26.18	24	1477
	DN 350	686	265	665	600	640
	NPS 16	30	12.48	32.6	24	1731
	DN 400	762	317	828	600	785
	NPS 18	34.02	16.4	30.1	24	1951
	DN 450	864	416	765	600	885
	NPS 20	35.98	18.4	30.8	24	2130
	DN 500	914	467	785	600	966
	NPS 24	42.01	20.3	31.5	24	4092
	DN 600	1067	516	800	600	1856
	NPS 30	50.98	228	41.1	24	8155
	DN 750	1295	579	1044	600	3699
	NPS 36	.63	*	*	24	*
	DN 900	1600	*	*	600	*

Short Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 6" Class: 300



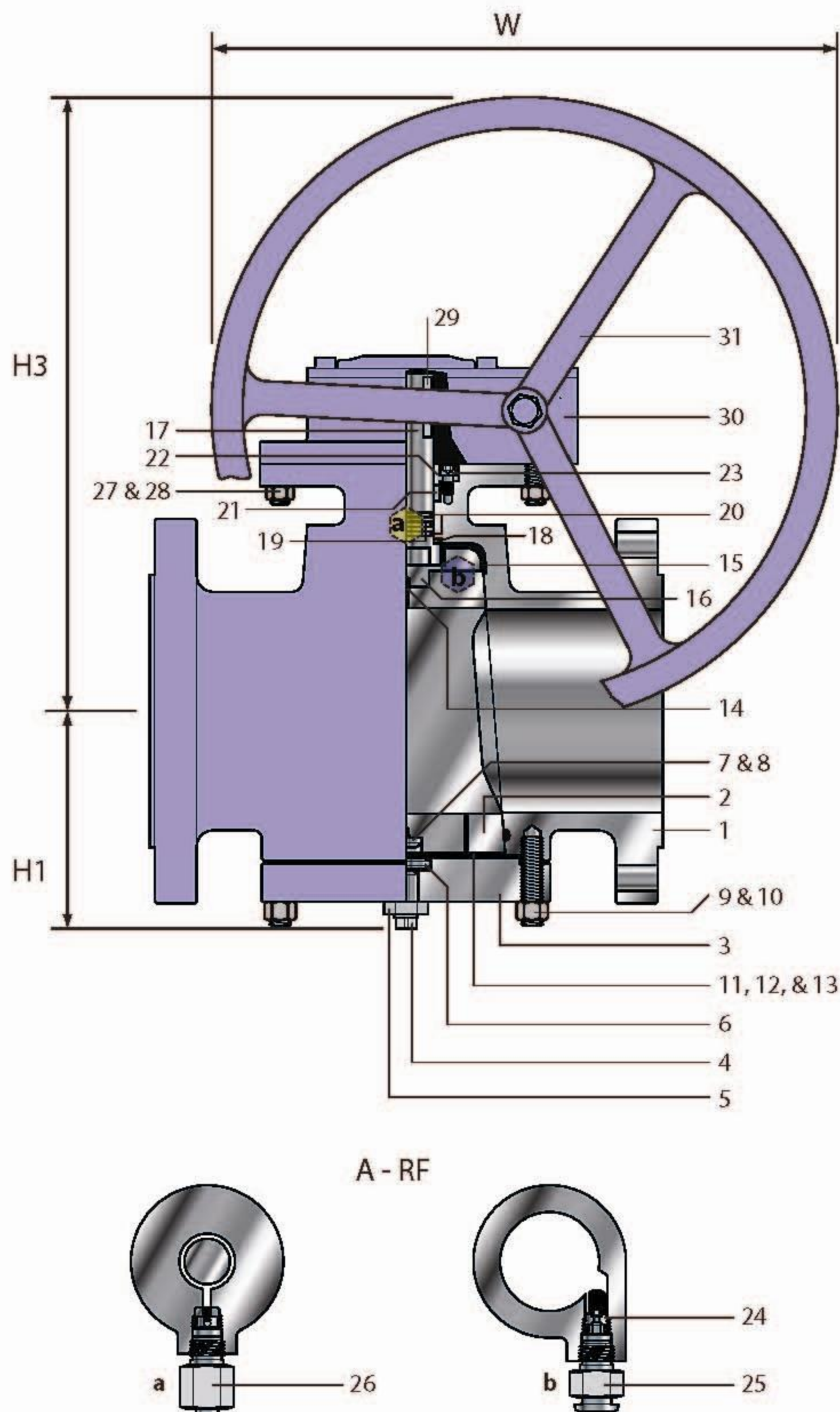
No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel



CLASS 300	Size		A - RF	H1	H2	W	WGT LBS/KG
	NPS	2	8.5	3.74	5.83	14	46
	DN	50	216	95	148	350	21
	NPS	3	11.14	4.41	6.61	20	84
	DN	75	283	112	168	500	38
	NPS	4	12.01	5.35	7.91	24	132
	DN	100	305	136	201	600	60
	NPS	6	15.87	6.9	9.72	32	188
	DN	150	403	175	247	800	85

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 4" - 12" Class: 300

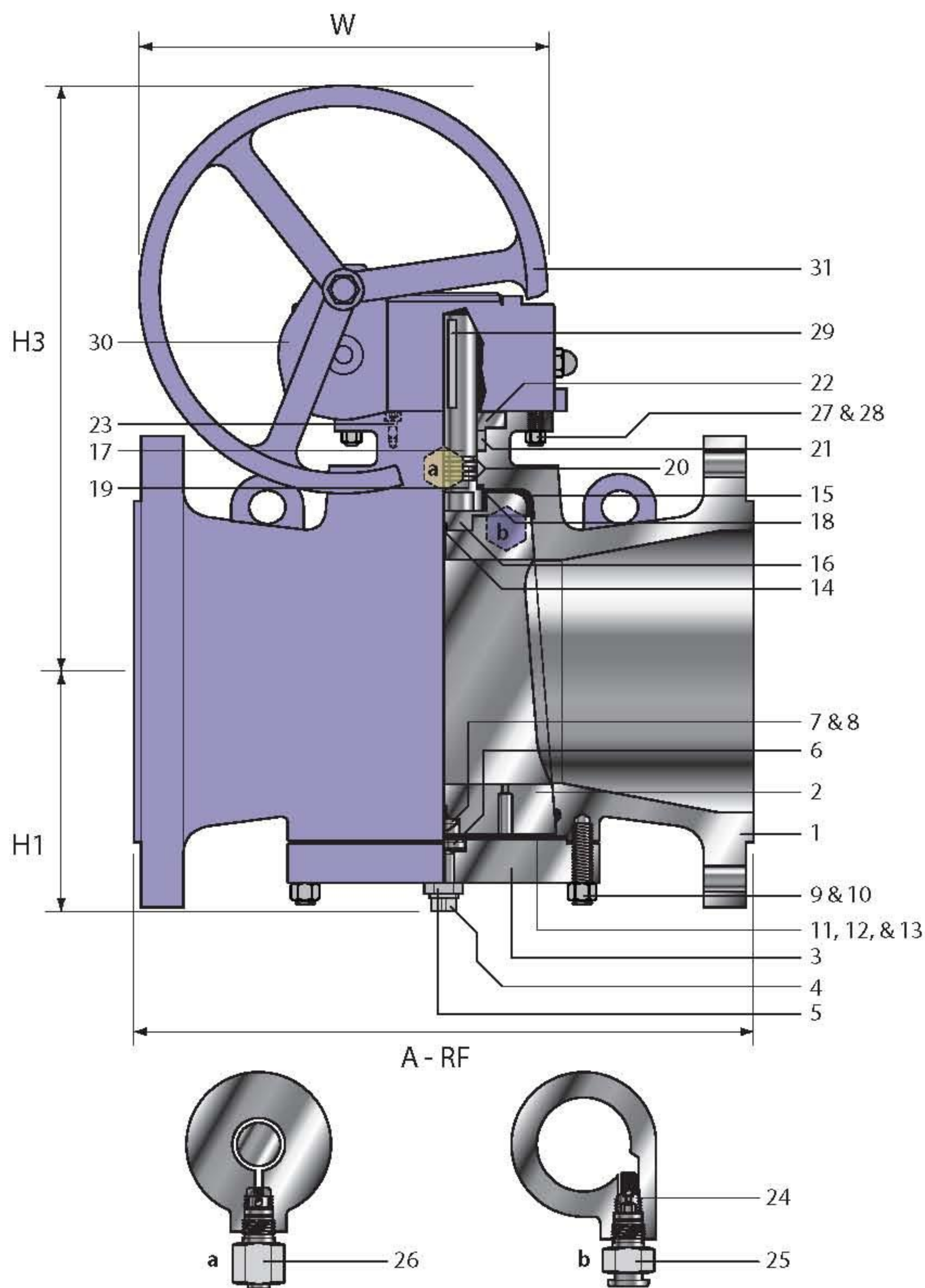


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Gland	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

CLASS 300	Size		A - RF	H1	H3	W	WGT LBS/KG
	NPS	4	12	5.35	8.5	10	132
	DN	100	305	136	216	250	60
	NPS	6	15.87	6.89	10.55	14	392
	DN	150	403	175	268	350	178
	NPS	8	19.76	8.23	11.46	18	609
	DN	200	502	209	291	450	276
	NPS	10	22.36	9.69	12.91	24	784
	DN	250	568	246	328	600	356
	NPS	12	27.99	11.22	18.7	32	1120
	DN	300	711	285	475	800	508

Venturi Pattern - Pressure Balanced Lubricated Plug Valves

Size: 14" - 36" Class: 300

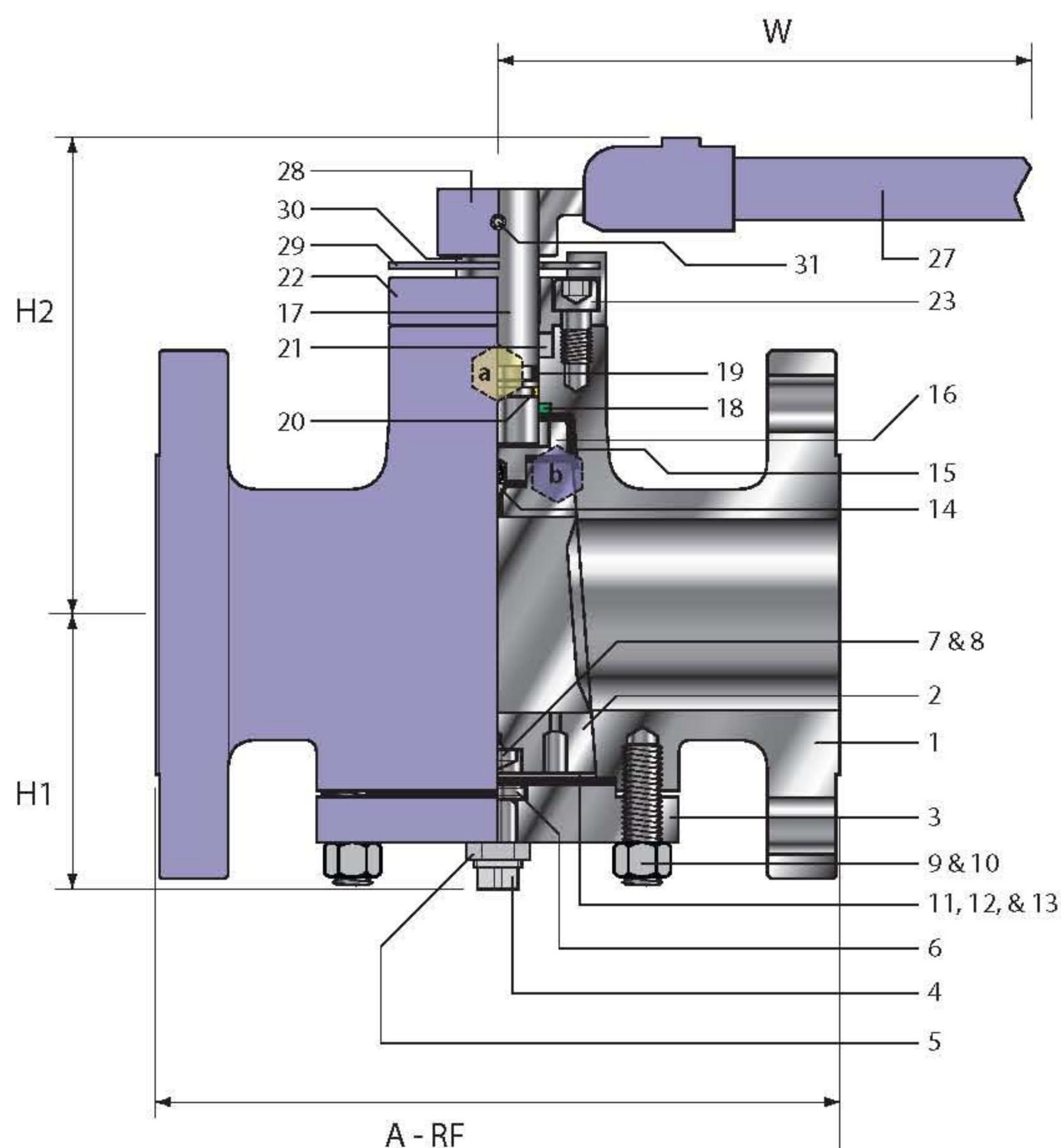


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

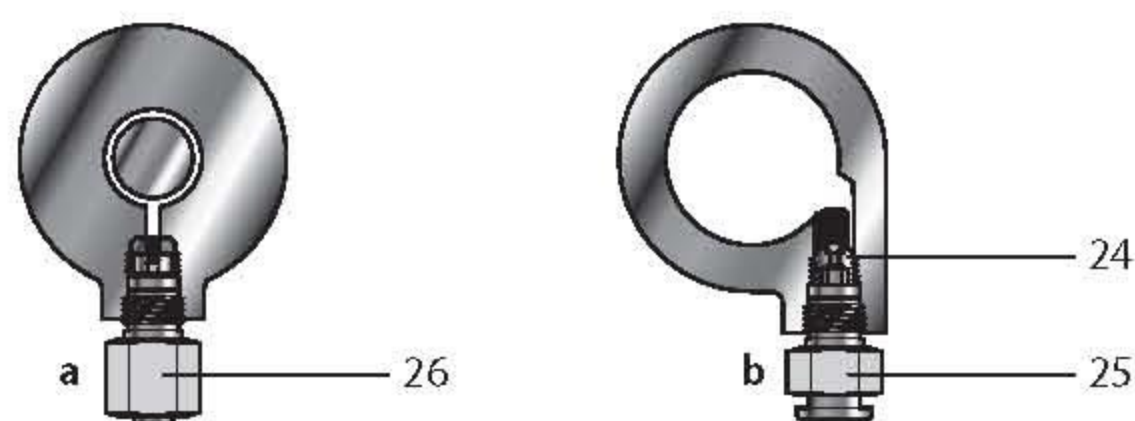
CLASS 300	Size		A - RF	H1	H3	W	WGT LBS/KG
	NPS	14	30	10.43	26.18	24	1755
	DN	350	762	265	665	600	796
	NPS	16	32.99	12.48	32.6	24	1989
	DN	400	838	317	828	600	902
	NPS	18	35.98	16.4	30.1	24	2418
	DN	450	914	416	765	600	1097
	NPS	20	39.02	18.5	37	24	3474
	DN	500	991	470	940	600	1576
	NPS	24	45	20.7	38.2	24	4530
	DN	600	1143	525	970	600	2060
	NPS	30	55	*	*	24	*
	DN	750	1397	*	*	600	*
	NPS	36	67.99	*	*	24	*
	DN	900	1727	*	*	600	*

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 4" Class: 600



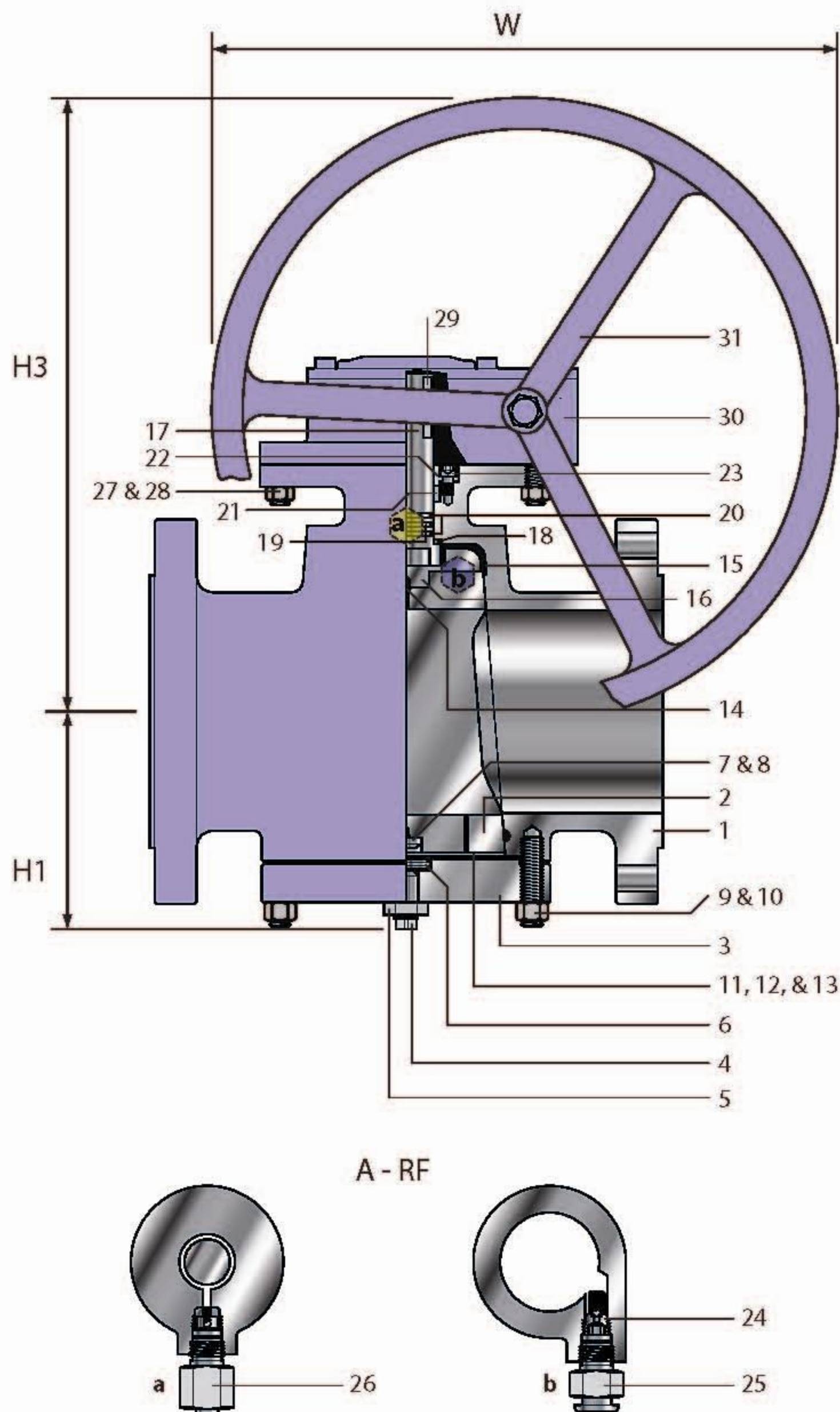
No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel



600	Size		A - RF	A - RTJ	H1	H2	W	WGT LBS/KG
	NPS	2	11.5	11.6	3.82	5.83	22	47
	DN	50	292	295	97	148	550	21.3
	NPS	3	14.37	14.1	4.41	6.61	28	101
	DN	75	356	359	112	168	700	46
	NPS	4	17	17.1	5.35	8.27	40	187
	DN	100	432	435	136	210	1000	85

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 4" - 12" Class: 600

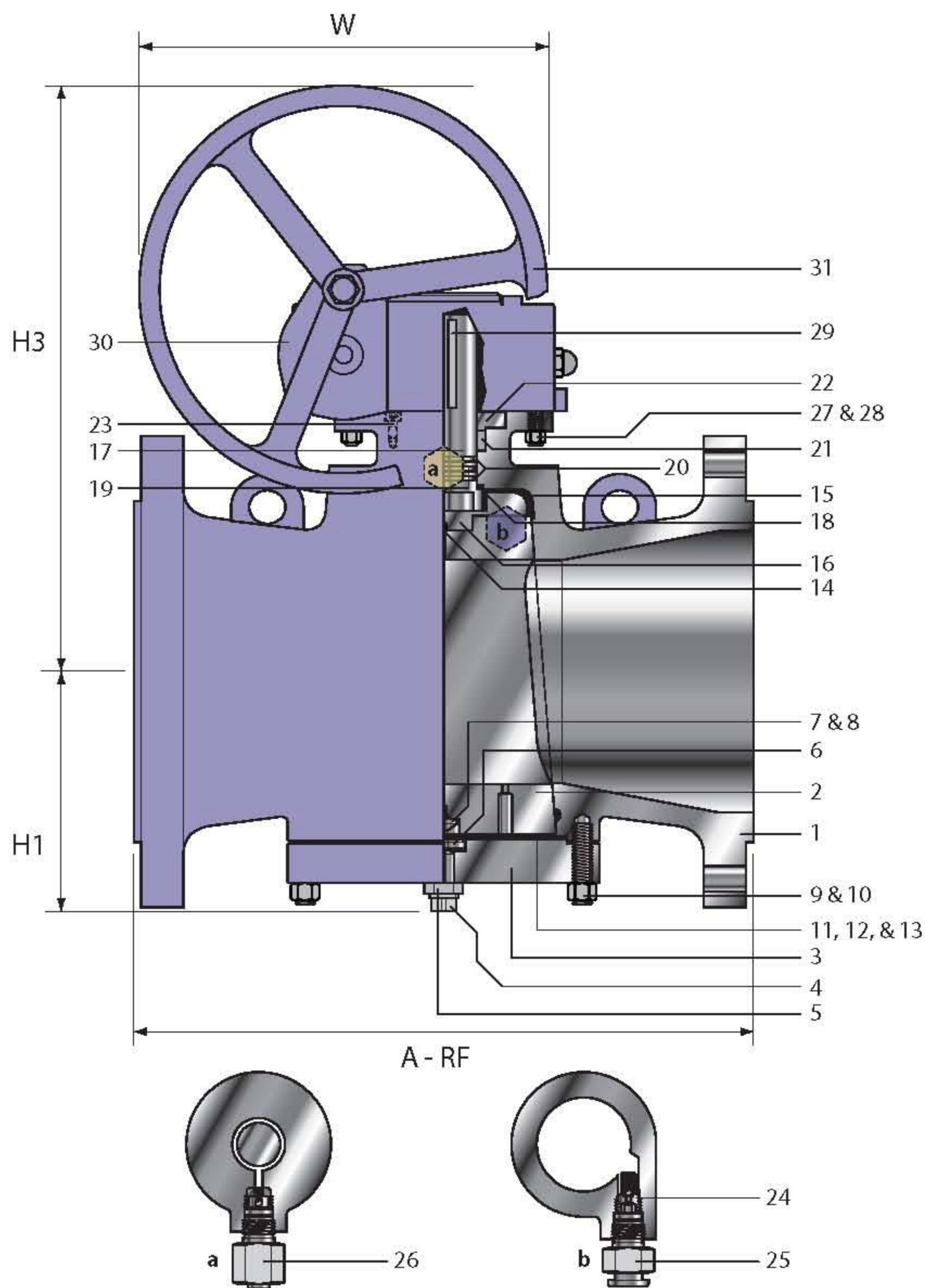


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Gland	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

CLASS 600	Size		A - RF	A - RTJ	H1	H3	W	WGT LBS/KG
	NPS	4	17	17.1	5.35	13.78	10	187
	DN	100	432	435	136	350	250	85
	NPS	6	22.01	22.1	9.75	17.52	14	560
	DN	150	559	562	248	445	350	254
	NPS	8	25.98	26.1	11.8	22.83	18	896
	DN	200	660	664	298	580	450	406
	NPS	10	30.98	31.1	12.3	30.5	18	1290
	DN	250	787	791	313	775	450	584
	NPS	12	33	33.1	14.8	27.7	24	1367
	DN	300	838	841	375	704	600	620

Venturi Pattern - Pressure Balanced Lubricated Plug Valves

Size: 6" - 24" Class: 600

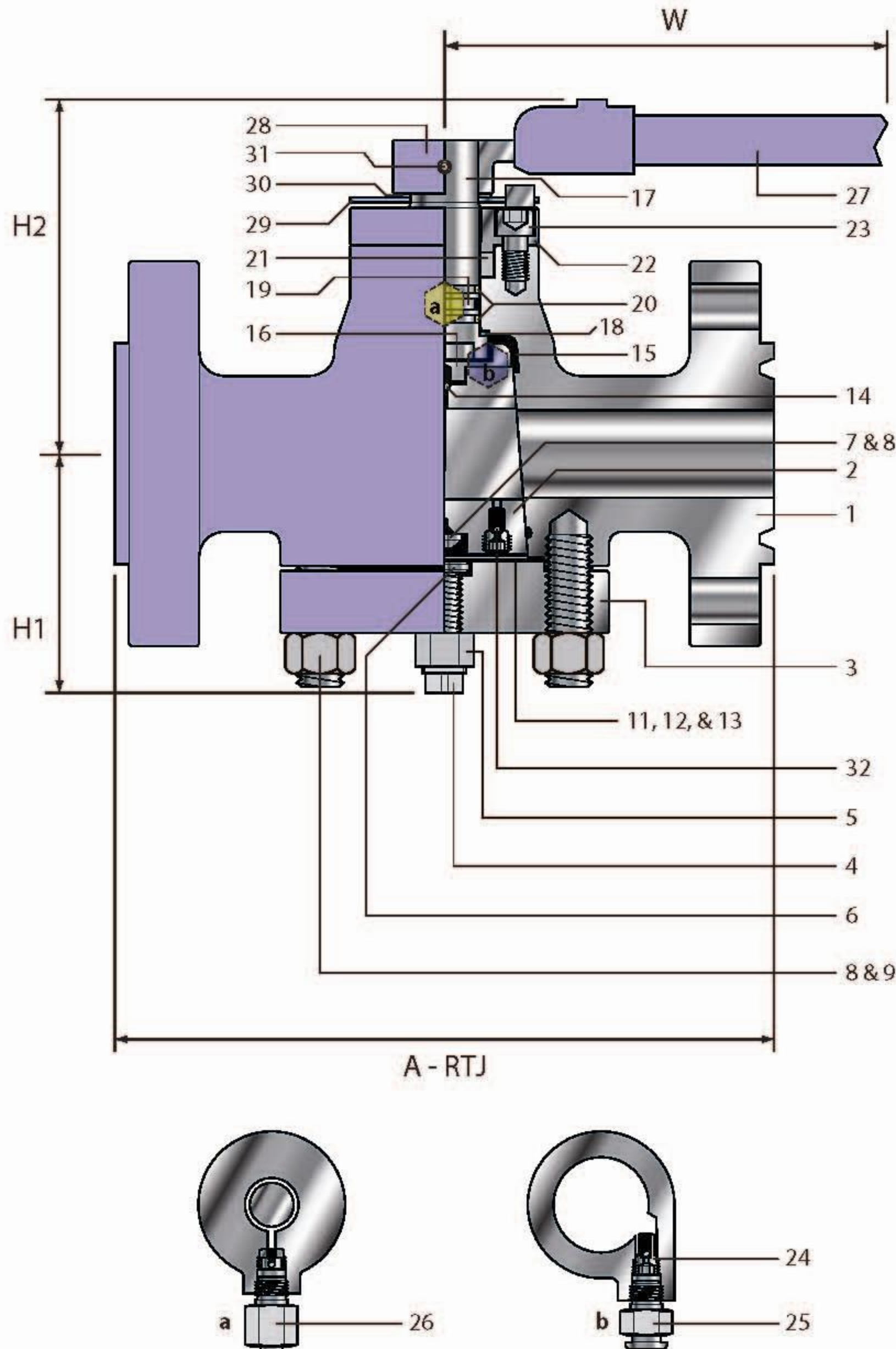


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

CLASS 600	Size		A - RF	A - RTJ	H1	H3	W	WGT LBS/KG
	NPS	6	22	22.1	5.35	20.67	24	330
	DN	150	559	562	136	525	600	150
	NPS	8	25.98	26.1	7.28	22.44	24	670
	DN	200	660	664	185	570	600	304
	NPS	10	30.98	31.1	9.13	24.02	24	965
	DN	250	787	791	232	610	600	437
	NPS	12	32.99	33.1	13.2	30.4	24	1358
	DN	300	838	841	335	773	600	616
	NPS	14	35	35.1	14.8	32.5	24	1905
	DN	350	889	892	375	825	600	864
	NPS	16	39.02	39.1	16.9	33.3	32	2575
	DN	400	991	994	429	845	800	1168
	NPS	18	42.99	43.1	18.3	35.4	32	3644
	DN	450	1092	1095	464	900	800	1653
	NPS	20	47	47.2	18.8	37.2	32	4079
	DN	500	1194	1200	477	945	800	1850
	NPS	24	55	55.4	19.5	34.3	32	4764
	DN	600	1397	1407	496	870	800	2161

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 3" Class: 900

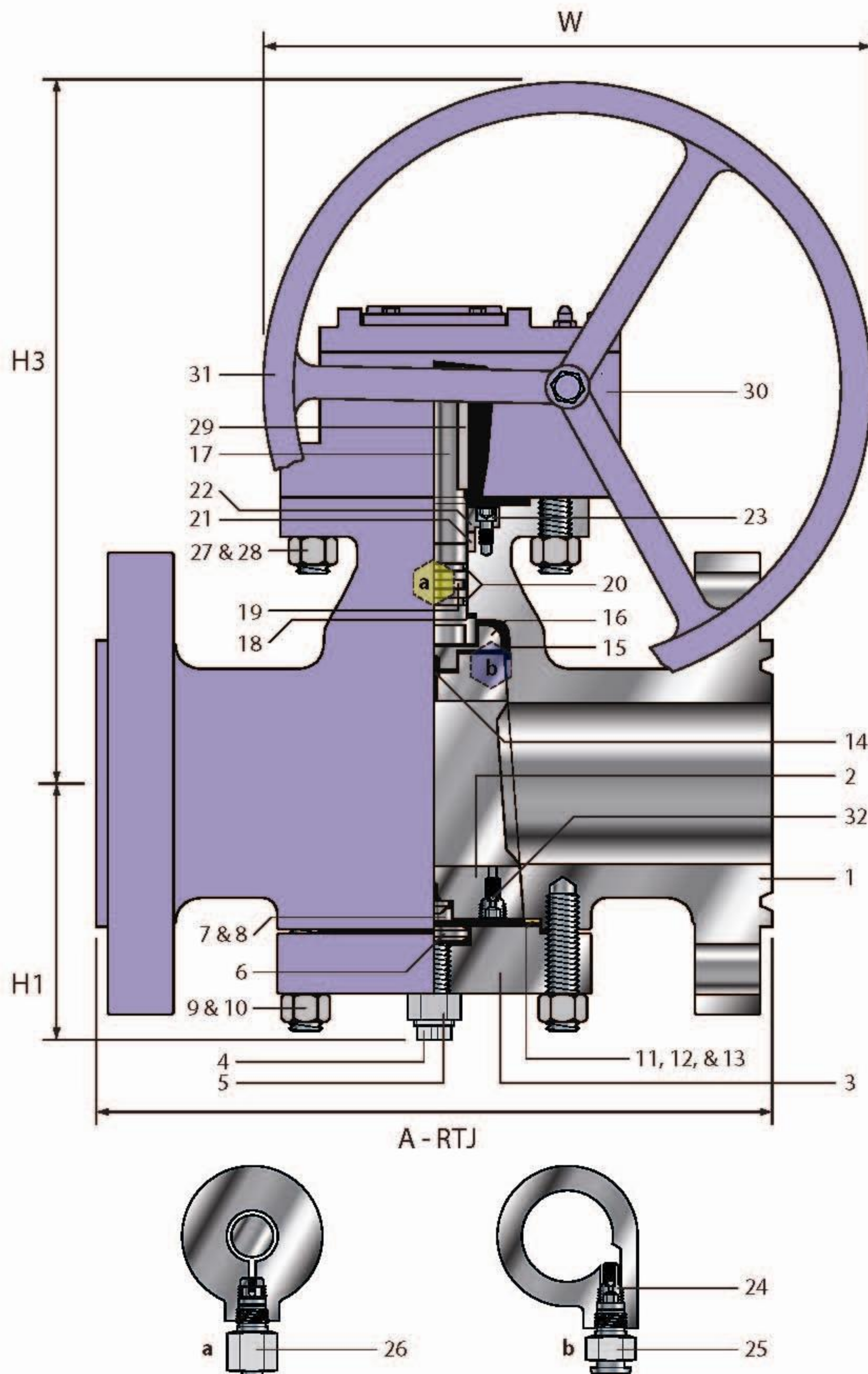


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel
32	Inline Check	Carbon Steel/Stainless Steel

900	Size		A - RF	A - RTJ	H1	H2	W	WGT LBS/KG
	NPS	2	/	14.6	5.31	7.13	32	54
	DN	50	/	371	135	181	800	24.5
	NPS	3	15	15.12	7.09	8.7	40	250
	DN	75	381	384	180	221	1000	114

Regular Pattern - Pressure Balanced Lubricated Plug Valves

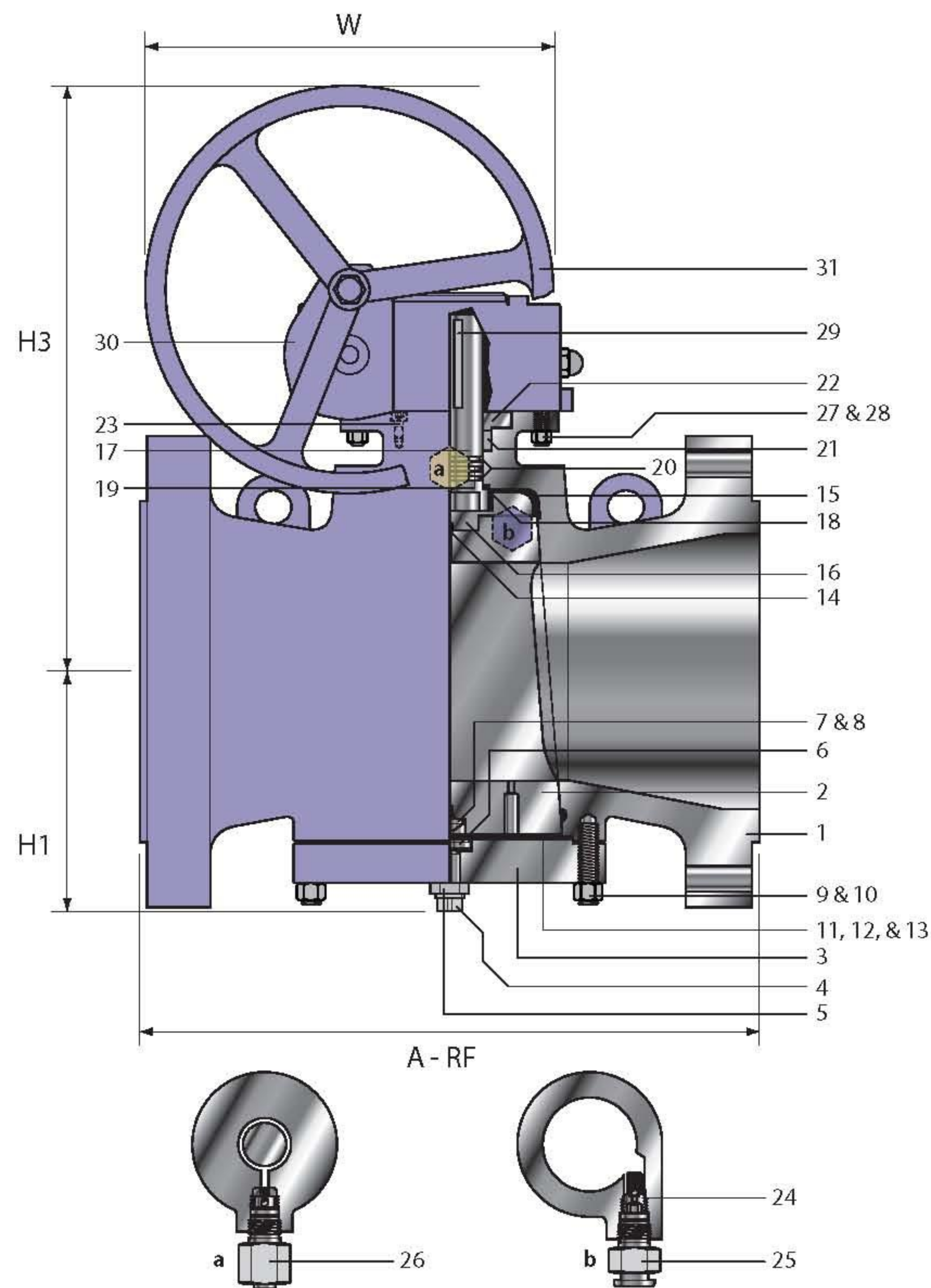
Size: 4" - 12" Class: 900



No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Gland	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel
32	Inline Check	Carbon Steel/Stainless Steel

CLASS 900	Size		A - RF	A - RTJ	H1	H3	W	Gear	WGT LBS/KG
	NPS	4	18	18.11	6.57	9.08	18	108W	276
	DN	100	457	460	167	249	450		125
	NPS	6	24	24.13	10.04	15.16	24	208W	581
	DN	150	610	613	255	385	600		264
	NPS	8	29	29.13	11.89	17.56	24	308W	1300
	DN	200	737	740	302	446	600		591
	NPS	10	33	33.11	12.8	19.09	24	408W	1456
	DN	250	838	841	352	485	600		662
	NPS	12	38	38.11	15.94	21.1	24	408W	2854
	DN	300	965	968	405	536	600		1295

Venturi Pattern -
Pressure Balanced Lubricated Plug Valves
Size: 14" - 24" Class: 900

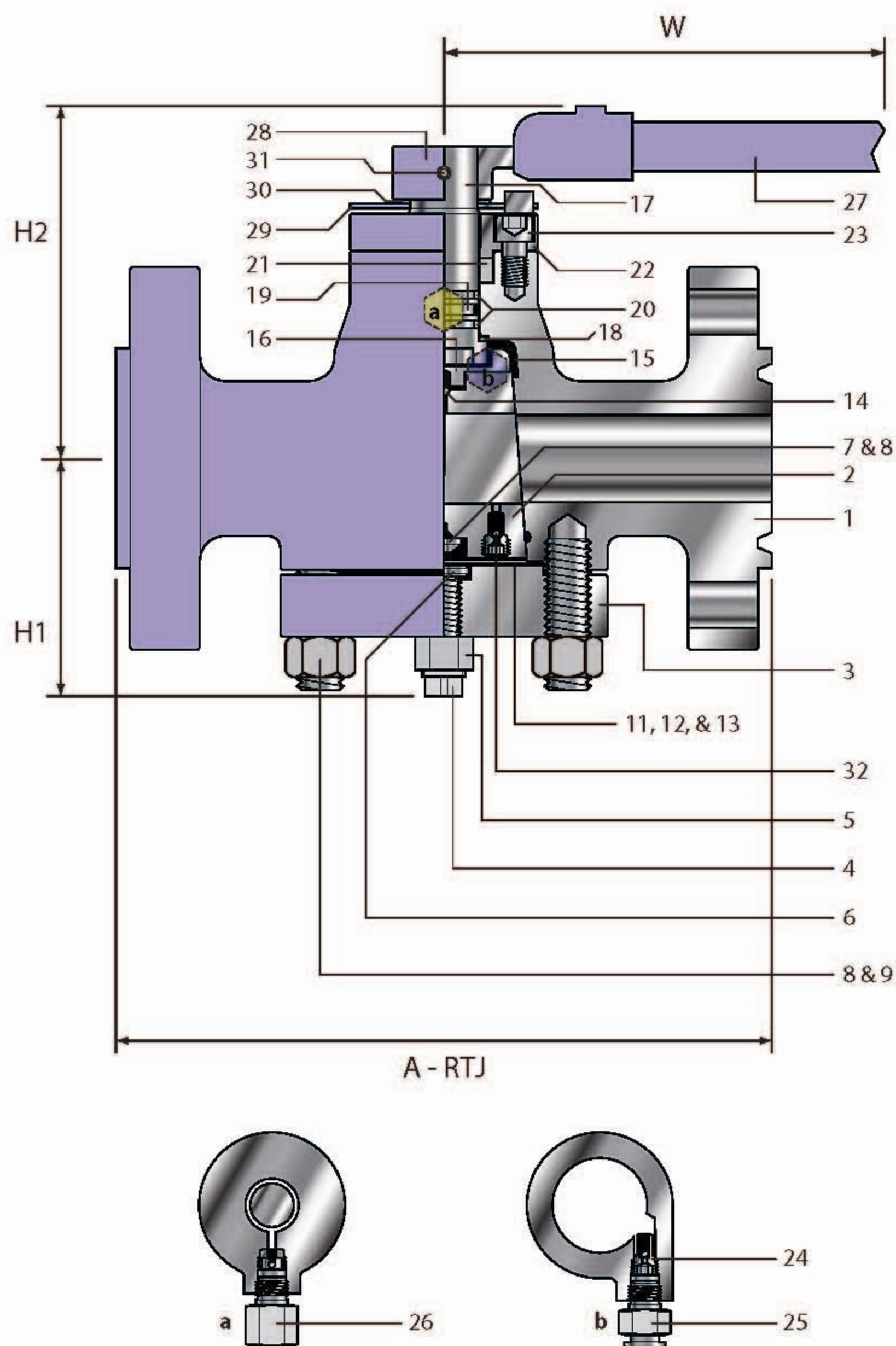


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

Size		A - RF	A-RTJ	H1	H3	W	WGT LBS/KG
CLASS 900	NPS 14	40.5	40.9	14.8	32.5	24	*
	DN 350	1029	1038	375	825	600	*
	NPS 16	44.5	44.9	16.9	33.3	32	4365
	DN 400	1130	1140	429	845	800	1980
	NPS 18	48	48.5	18.3	35.4	32	*
	DN 450	1219	1232	464	900	800	*
	NPS 20	52	52.5	18.8	37.2	32	9000
	DN 500	1321	1334	477	945	800	4082
	NPS 24	61	61.7	19.5	34.3	32	*
	DN 600	1549	1568	496	870	800	*

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 3" Class: 1500

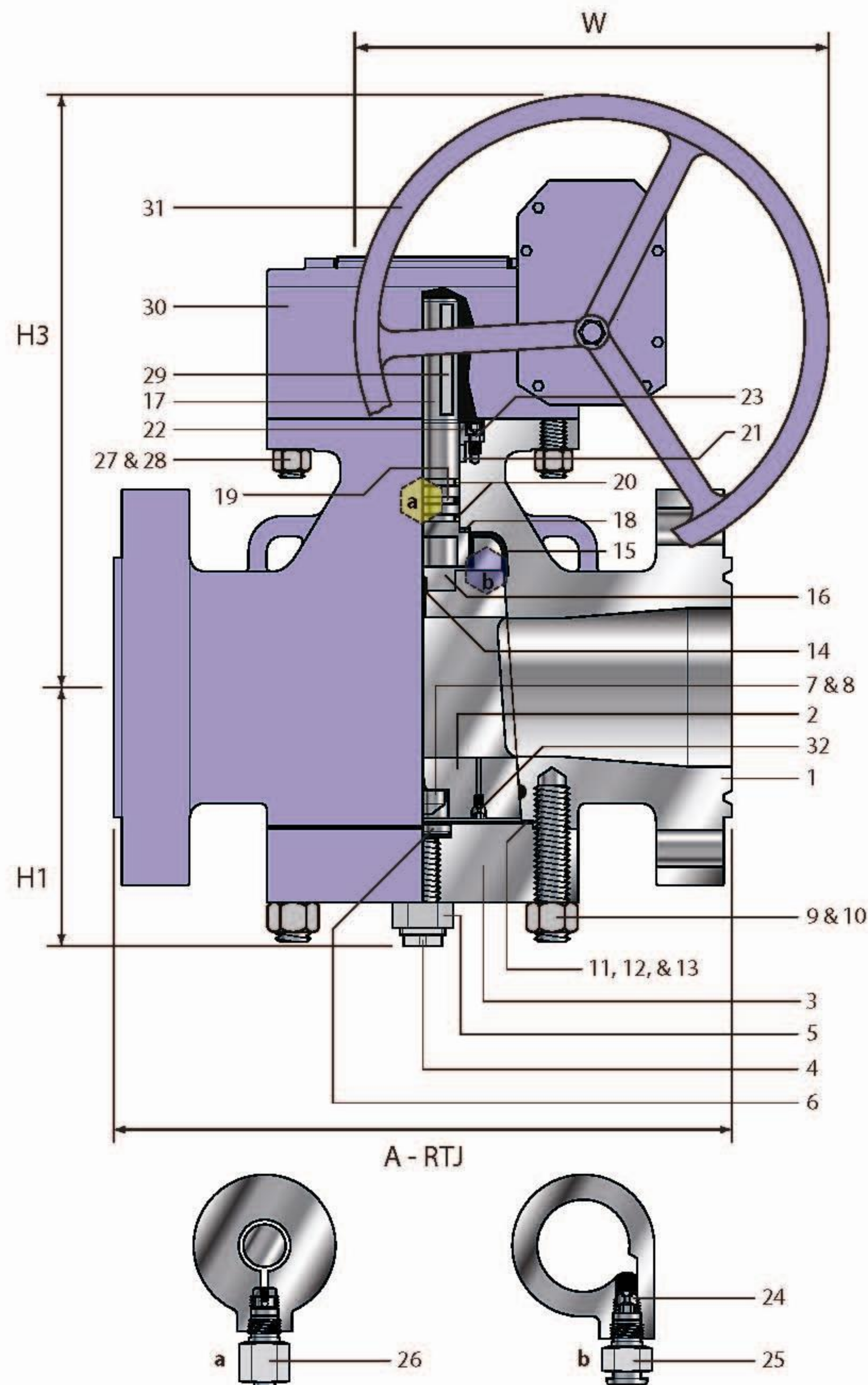


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel
32	Inline Check	Carbon Steel/Stainless Steel

1500	Size		A - RF	A - RTJ	H1	H2	W	WTS LBS/KG
	NPS	2	14.5	14.6	5.31	7.13	32	150
	DN	50	368	371	135	181	800	68
	NPS	3	18.5	18.62	7.2	8.82	40	260
	DN	75	470	473	183	224	1000	118

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 4" - 12" Class: 1500

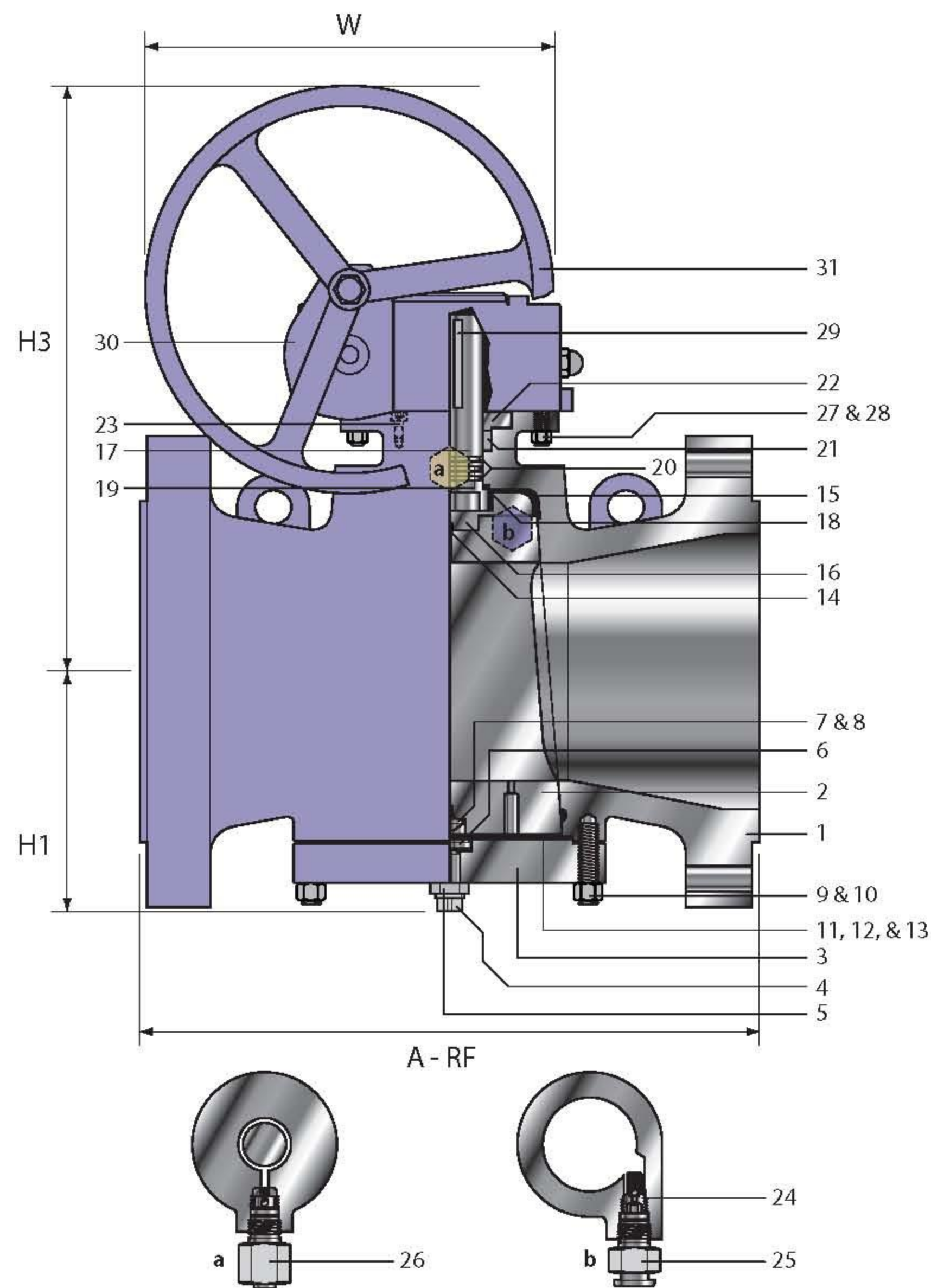


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Gland	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel
32	Inline Check	Carbon Steel/Stainless Steel

CLASS 1500	Size		A - RF	A - RTJ	H1	H3	W	Gear	WGT LBS/KG
	NPS	4	21.5	21.61	8.86	22.44	24	208W	355
	DN	100	546	549	225	570	600		161
	NPS	6	27.8	27.99	10.83	28.54	24	308W	1130
	DN	150	705	711	275	725	600		513
	NPS	8	32.8	33.11	12.6	30.12	24	408W	1710
	DN	200	832	841	320	765	600		776
	NPS	10	39	39.37	10.57	31.69	24	408W	2720
	DN	250	991	1000	370	805	600		1234
	NPS	12	44.5	45.12	16.93	34.06	24	508W	3760
	DN	300	1130	1146	430	865	600		1706

Venturi Pattern - Pressure Balanced Lubricated Plug Valves

Size: 6" - 18" Class: 1500

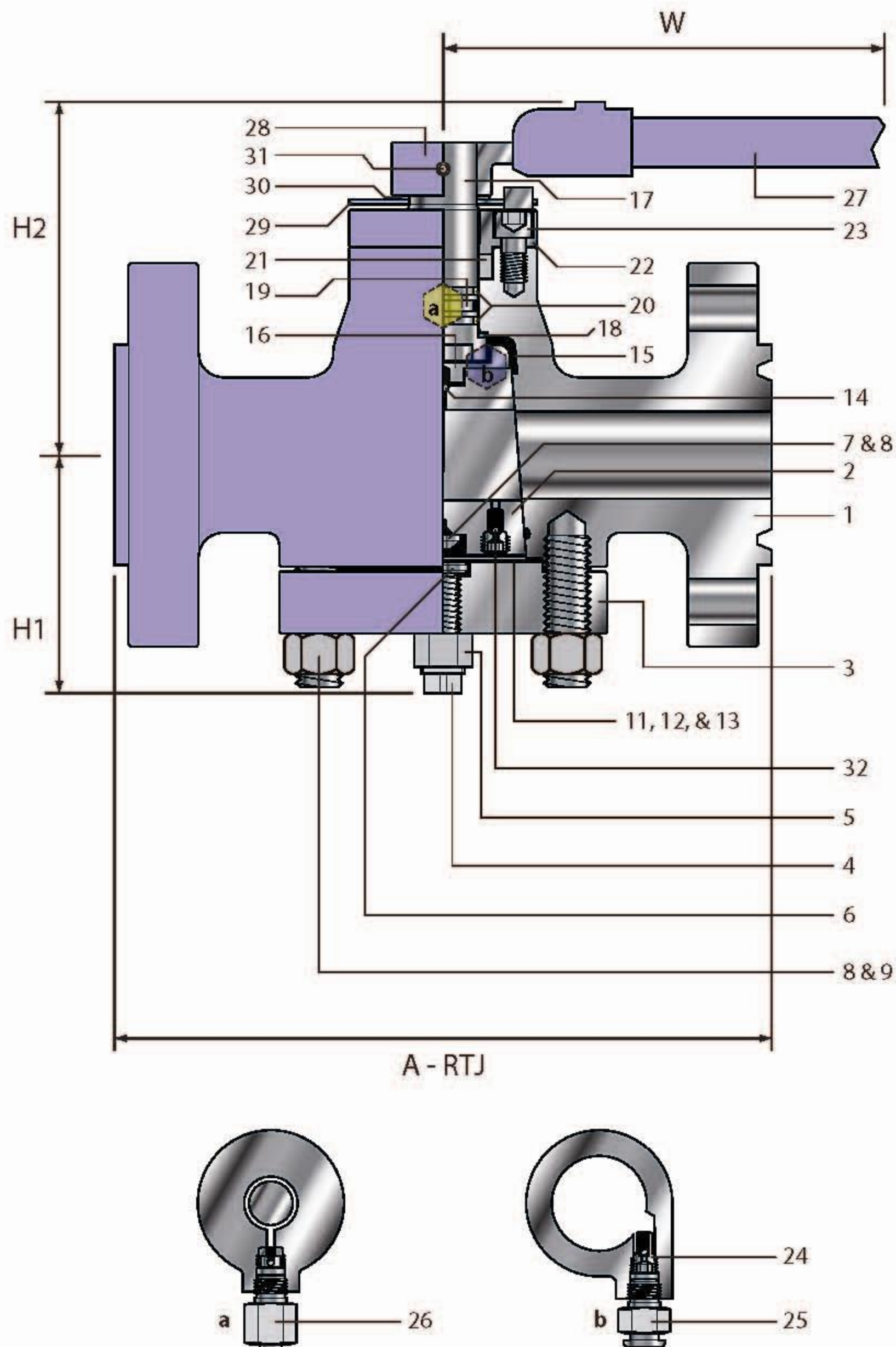


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservior	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7M
28	Nut	A194 2HM
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel

1500	Size		A - RF	A-RTJ	H1	H3	W	WGT LBS/KG
	NPS	14	49.5	50.2	16.97	37.36	24	*
	DN	350	1257	1276	431	949	600	*
	NPS	16	54.5	55.4	19.41	38.27	24	7900
	DN	400	1384	1407	493	927	600	3583
	NPS	18	60.5	61.4	21	40.75	32	*
	DN	450	1537	1559	534	1035	800	*

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 2" - 3" Class: 2500

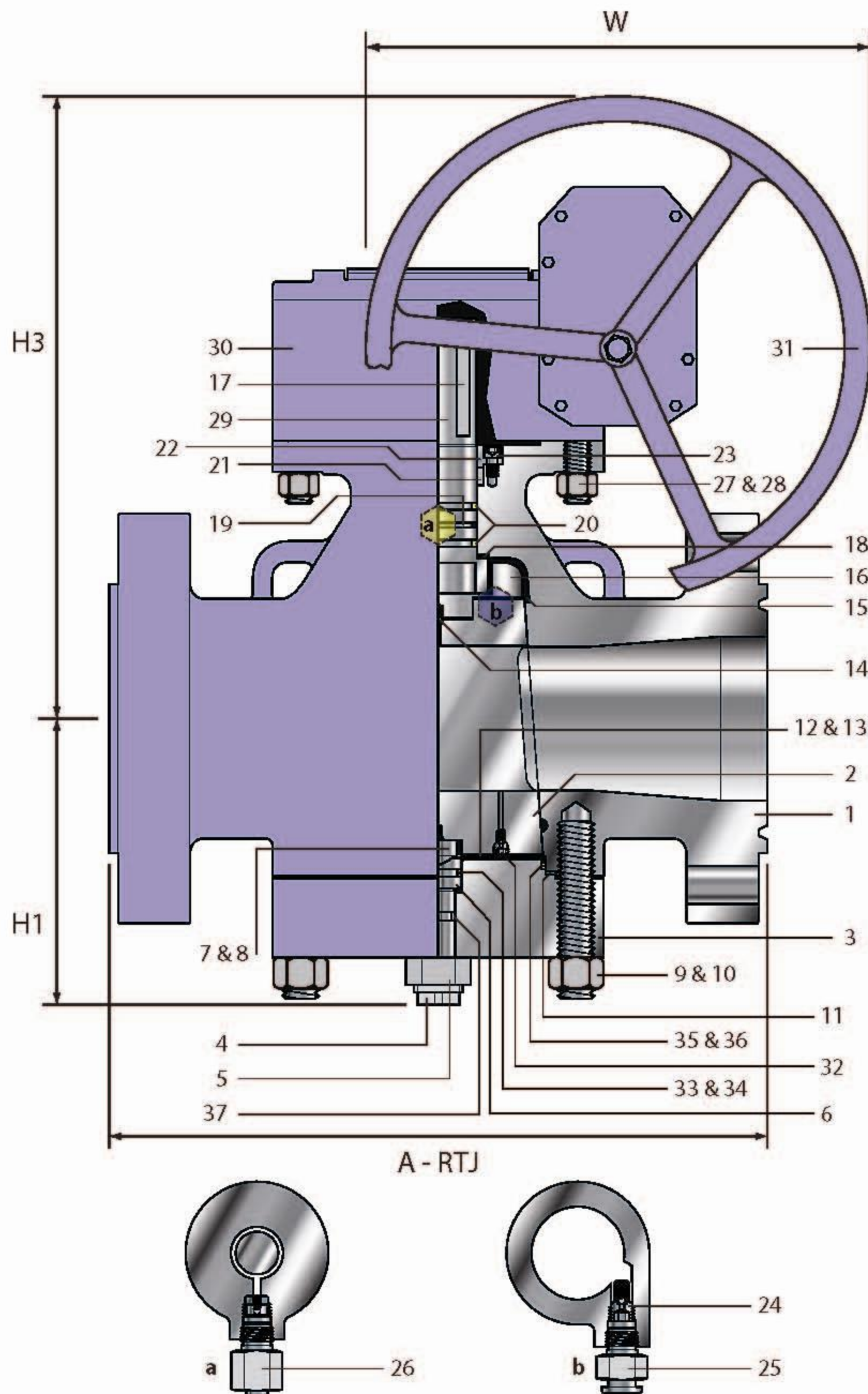


No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105 WCC
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Lever	Carbon Steel
28	Hub	Carbon Steel
29	Indicator Stop Plate	Carbon Steel
30	Stop Plate Retainer	AISI 1566
31	Set Screw	Carbon Steel
32	Inline Check	Carbon Steel/Stainless Steel

2500	Size		A - RF	A - RTJ	H1	H2	W	WGT LBS/KG
	NPS	2	17.8	17.87	5.71	7.52	40	163
	DN	50	451	454	145	191	1000	82
	NPS	3	22.8	22.99	7.6	9.21	40	342
	DN	75	578	584	193	234	1000	155

Regular Pattern - Pressure Balanced Lubricated Plug Valves

Size: 4" - 12" Class: 2500



No	Name Of Part	Material
1	Body	A216 WCC
2	Plug	CA15 + Nitriding
3	Bonnet	A105
4	Plug Adjustment Screw	A193 B7M
5	Plug Adjustment Lock Nut	Carbon Steel
6	Lower Pivot Disc	AISI 1035
7	Upper Pivot Disc	AISI 1035
8	Pivot Center	AISI 1035
9	Stud	A193 B7M
10	Nut	A194 2HM
11	Gasket	Flexible Graphite + 304
12	Washer	304SS
13	Steel Spacer	A36
14	Ball Spring Check	304SS
15	Lube/Sealant Reservoir	/
16	Stem Plug Adapter	A105
17	Stem	A276 410
18	Thrust Bearing	PTFE
19	Grease Groove	/
20	O Ring	Viton
21	Packing	Flexible Graphite
22	Top Cover	A105
23	Gland Cap Screw	Carbon Steel
24	Inline Check	Carbon Steel/Stainless Steel
25	Lube/Sealant Injector	Carbon Steel/Stainless Steel
26	Stem Packing Injector	Carbon Steel/Stainless Steel
27	Stud	A193 B7
28	Nut	A194 2H
29	Key	AISI 1045
30	Gear	Carbon Steel/Stainless Steel
31	Handwheel	Carbon Steel/Stainless Steel
32	Inline Check	Carbon Steel/Stainless Steel
33	O Ring	Viton
34	Back Ring	PTFE
35	O Ring	Viton
36	Back Ring	PTFE
37	Packing	Flexible Graphite

CLASS 2500	Size		A - RF	A - RTJ	H1	H3	W	Gear	WGT LBS/KG
	NPS	4	26.5	26.89	9.92	23.7	24	308W	570
	DN	100	673	683	252	602	600		259
	NPS	6	36	36.5	11.85	29.72	24	308W	1440
	DN	150	914	927	301	755	600		653
	NPS	8	40.2	40.87	13.39	30.98	24	408W	2370
	DN	200	1022	1038	340	787	600		1075
	NPS	10	50	50.87	15.59	32.83	24	508W	4050
	DN	250	1270	1292	396	834	600		1837
	NPS	12	56	56.89	17.8	34.84	24	508W	5730
	DN	300	1422	1445	452	885	600		2599

Pressure Temperature Ratings - ASME B16.34 - 2004

Note: Pressures in PSI

150	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	285	285	285	290	265	290	290	290	290	290	275	275	290	290
	200	260	260	260	260	255	260	260	260	260	260	235	235	260	260
	300	230	230	230	230	230	230	230	230	230	230	215	215	230	230
	400	200	200	200	200	200	200	200	200	200	200	195	195	200	200
	500	170	170	170	170	170	170	170	170	170	170	170	170	170	170
	600	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	650	125	125	125	125	125	125	125	125	125	125	125	125	125	125
	700	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	750	95	95	95	95	95	95	95	95	95	95	95	95	95	95
	800	80	80	80	80	80	80	80	80	80	80	80	80	/	/
	850	65	65	65	65	65	65	65	65	65	65	65	65	/	/
	900	50	50	50	50	50	50	50	50	50	50	50	50	/	/
	950	35	35	35	35	35	35	35	35	35	35	35	35	/	/
	1000	20	20	20	20	20	20	20	20	20	20	20	20	/	/
	1050	/	/	/	/	/	20	/	20	20	20	20	20	/	/
	1100	/	/	/	/	/	20	/	20	20	20	20	20	/	/
	1150	/	/	/	/	/	20	/	20	20	20	20	20	/	/
	1200	/	/	/	/	/	15	/	15	20	20	20	20	/	/
	1250	/	/	/	/	/	/	/	/	/	/	20	20	/	/
	1300	/	/	/	/	/	/	/	/	/	/	20	20	/	/
	1350	/	/	/	/	/	/	/	/	/	/	20	20	/	/
	1400	/	/	/	/	/	/	/	/	/	/	20	20	/	/
	1450	/	/	/	/	/	/	/	/	/	/	20	20	/	/
	1500	/	/	/	/	/	/	/	/	/	/	15	15	/	/
300	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	740	740	740	750	695	750	750	750	750	750	720	720	750	750
	200	680	680	680	750	660	750	750	750	750	750	620	620	745	745
	300	655	655	655	730	640	720	730	730	730	730	560	560	665	665
	400	635	635	635	705	615	695	705	705	705	705	515	515	615	615
	500	605	605	605	665	585	665	665	665	665	665	480	480	580	580
	600	570	570	570	605	550	605	605	605	605	605	450	450	555	555
	650	550	550	550	590	535	590	590	590	590	590	440	440	545	545
	700	530	530	530	555	510	570	555	570	570	570	435	435	540	540
	750	505	505	505	505	475	530	505	530	530	530	425	425	530	530
	800	410	410	410	410	390	510	410	510	510	510	420	420	/	/
	850	320	320	320	320	300	485	320	485	485	485	420	420	/	/
	900	230	230	230	225	200	450	225	375	450	450	415	415	/	/
	950	135	135	135	135	135	320	135	275	375	385	385	385	/	/
	1000	85	85	85	85	85	215	85	200	255	365	365	365	/	/
	1050	/	/	/	/	/	145	/	145	170	360	160	160	/	/
	1100	/	/	/	/	/	95	/	100	115	300	305	305	/	/
	1150	/	/	/	/	/	65	/	60	75	225	235	235	/	/
	1200	/	/	/	/	/	40	/	35	50	145	185	185	/	/
	1250	/	/	/	/	/	/	/	/	/	/	145	145	/	/
	1300	/	/	/	/	/	/	/	/	/	/	115	115	/	/
	1350	/	/	/	/	/	/	/	/	/	/	95	95	/	/
	1400	/	/	/	/	/	/	/	/	/	/	75	75	/	/
	1450	/	/	/	/	/	/	/	/	/	/	60	60	/	/
	1500	/	/	/	/	/	/	/	/	/	/	40	40	/	/

Pressure Temperature Ratings - ASME B16.34 - 2004

Note: Pressures in PSI

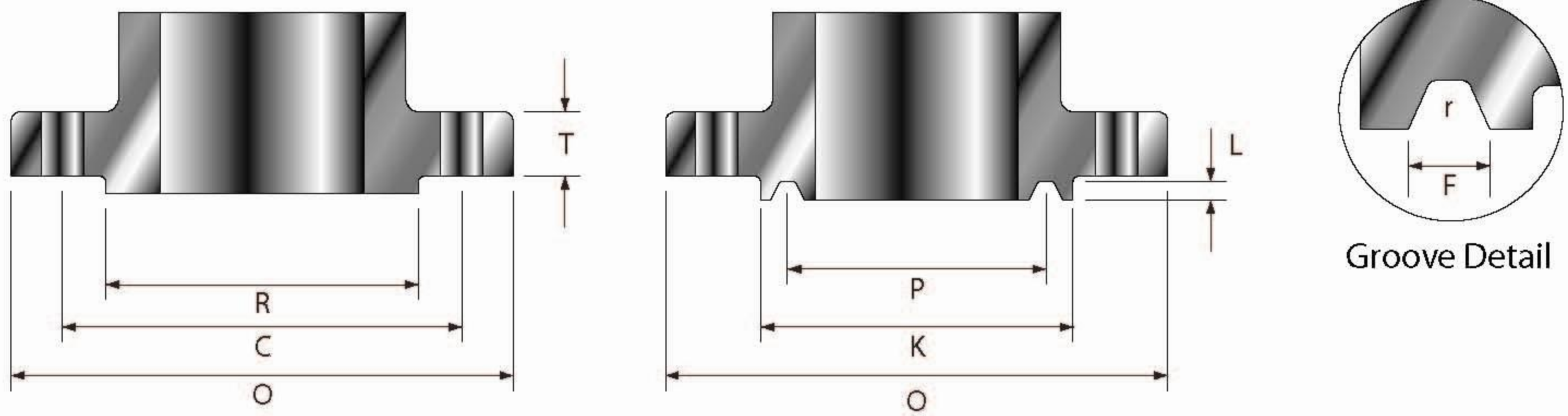
600	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	1480	1480	1480	1500	1395	1500	1500	1500	1500	1500	1440	1440	1500	1500
	200	1360	1360	1360	1500	1320	1500	1500	1500	1500	1500	1240	1240	1490	1490
	300	1310	1310	1310	1455	1275	1445	1455	1455	1455	1455	1120	1120	1335	1335
	400	1265	1265	1265	1405	1230	1385	1405	1410	1410	1410	1025	1025	1230	1230
	500	1205	1205	1205	1330	1175	1330	1330	1330	1330	1330	995	995	1160	1160
	600	1135	1135	1135	1210	1105	1210	1210	1210	1210	1210	900	900	1115	1115
	650	1100	1100	1100	1175	1065	1175	1175	1175	1175	1175	885	885	1095	1095
	700	1060	1060	1060	1110	1025	1135	1110	1135	1135	1135	870	870	1085	1085
	750	1015	1015	1015	1015	955	1065	1015	1065	1065	1065	855	855	1065	1065
	800	825	825	825	825	780	1015	825	1015	1015	1015	845	845	/	/
	850	640	640	640	640	595	975	640	975	975	975	835	835	/	/
	900	460	460	460	445	405	900	445	745	900	900	830	830	/	/
	950	275	275	275	275	275	640	275	550	755	775	775	775	/	/
	1000	170	170	170	170	170	430	170	400	505	725	725	725	/	/
	1050	/	/	/	/	/	290	/	290	345	720	720	720	/	/
	1100	/	/	/	/	/	190	/	200	225	605	610	610	/	/
	1150	/	/	/	/	/	130	/	125	150	445	475	475	/	/
	1200	/	/	/	/	/	80	/	70	105	290	370	370	/	/
	1250	/	/	/	/	/	/	/	/	/	/	295	295	/	/
	1300	/	/	/	/	/	/	/	/	/	/	235	235	/	/
	1350	/	/	/	/	/	/	/	/	/	/	190	190	/	/
	1400	/	/	/	/	/	/	/	/	/	/	150	150	/	/
	1450	/	/	/	/	/	/	/	/	/	/	115	115	/	/
	1500	/	/	/	/	/	/	/	/	/	/	85	85	/	/
900	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	2220	2220	2220	2250	2090	2250	2250	2250	2250	2250	2160	2160	2250	2250
	200	2035	2035	2035	2250	1980	2250	2250	2250	2250	2250	1860	1860	2230	2230
	300	1965	1965	1965	2185	1915	2165	2185	2185	2185	2185	1680	1680	2000	2000
	400	1900	1900	1900	2110	1845	2080	2110	2115	2115	2115	1540	1540	1845	1845
	500	1810	1810	1810	1995	1760	1995	1995	1995	1995	1995	1435	1435	1740	1740
	600	1705	1705	1705	1815	1655	1815	1815	1815	1815	1815	1355	1355	1670	1670
	650	1650	1650	1650	1765	1600	1765	1765	1765	1765	1765	1325	1325	1640	1640
	700	1590	1590	1590	1665	1535	1705	1665	1705	1705	1705	1305	1305	1625	1625
	750	1520	1520	1520	1520	1430	1595	1520	1595	1595	1595	1280	1280	1595	1595
	800	1235	1235	1235	1235	1175	1525	1235	1525	1525	1525	1265	1265	/	/
	850	955	955	955	955	895	1460	955	1460	1460	1460	1255	1255	/	/
	900	690	690	690	670	605	1350	670	1120	1350	1350	1245	1245	/	/
	950	410	410	410	410	410	955	410	825	1130	1160	1160	1160	/	/
	1000	255	255	255	255	255	650	255	595	760	1090	1090	1090	/	/
	1050	/	/	/	/	/	430	/	430	515	1080	1080	1080	/	/
	1100	/	/	/	/	/	290	/	300	340	905	915	915	/	/
	1150	/	/	/	/	/	195	/	185	225	670	710	710	/	/
	1200	/	/	/	/	/	125	/	105	155	430	555	555	/	/
	1250	/	/	/	/	/	/	/	/	/	/	440	440	/	/
	1300	/	/	/	/	/	/	/	/	/	/	350	350	/	/
	1350	/	/	/	/	/	/	/	/	/	/	290	290	/	/
	1400	/	/	/	/	/	/	/	/	/	/	225	225	/	/
	1450	/	/	/	/	/	/	/	/	/	/	175	175	/	/
	1500	/	/	/	/	/	/	/	/	/	/	125	125	/	/

Pressure Temperature Ratings - ASME B16.34 - 2004

Note: Pressures in PSI

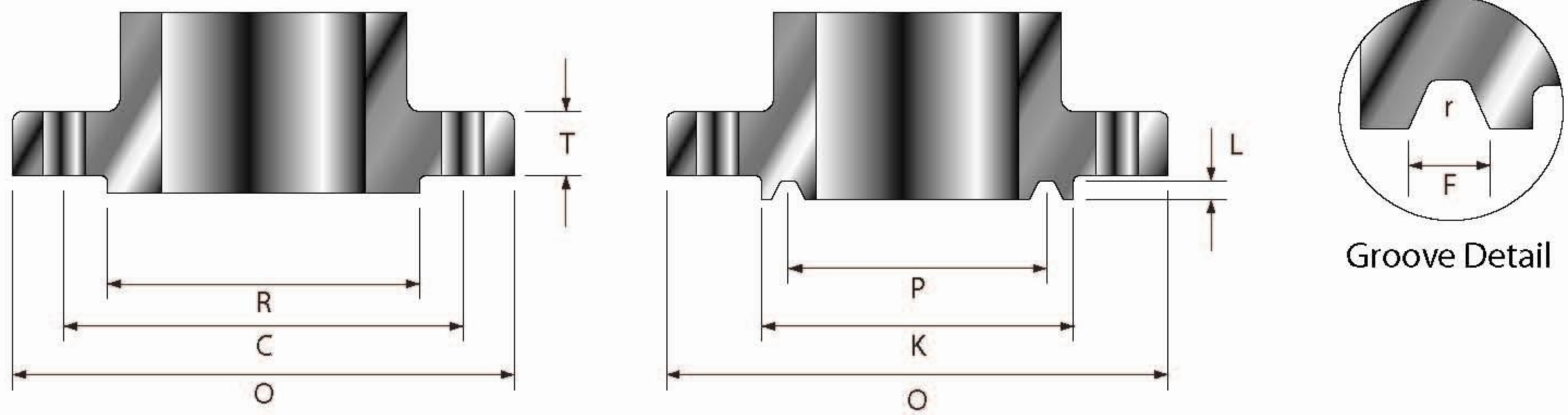
1500	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	3705	3705	3705	3750	3480	3750	3750	3750	3750	3750	3600	3600	3750	3750
	200	3395	3395	3395	3750	3300	3750	3750	3750	3750	3750	3095	3095	3720	3720
	300	3270	3270	3270	3640	3190	3610	3640	3640	3640	3640	2795	2795	3335	3335
	400	3170	3170	3170	3520	3075	3465	3520	3530	3530	3530	2570	2570	3070	3070
	500	3015	3015	3015	3325	2930	3325	3325	3325	3325	3325	2390	2390	2905	2905
	600	2840	2840	2840	3025	2755	3025	3025	3025	3025	3025	2255	2255	2785	2785
	650	2745	2745	2745	2940	2665	2940	2940	2940	2940	2940	2210	2210	2735	2735
	700	2665	2665	2665	2775	2560	2840	2775	2840	2840	2840	2170	2170	2710	2710
	750	2535	2535	2535	2535	2385	2660	2535	2660	2660	2660	2135	2135	2660	2660
	800	2055	2055	2055	2055	1955	2540	2055	2540	2540	2540	2110	2110	/	/
	850	1595	1595	1595	1595	1490	2435	1595	2435	2435	2435	2090	2090	/	/
	900	1150	1150	1150	1115	1010	2245	1115	1870	2245	2245	2075	2075	/	/
	950	685	685	685	685	685	1591	685	1370	1885	1930	1930	1930	/	/
	1000	430	430	430	430	430	1080	430	995	1270	1820	1820	1820	/	/
	1050	/	/	/	/	/	720	/	720	855	1800	1800	1800	/	/
	1100	/	/	/	/	/	480	/	495	565	1510	1525	1525	/	/
	1150	/	/	/	/	/	325	/	310	375	1115	1185	1185	/	/
	1200	/	/	/	/	/	205	/	170	255	720	925	925	/	/
	1250	/	/	/	/	/	/	/	/	/	/	735	735	/	/
	1300	/	/	/	/	/	/	/	/	/	/	585	585	/	/
	1350	/	/	/	/	/	/	/	/	/	/	480	480	/	/
	1400	/	/	/	/	/	/	/	/	/	/	380	380	/	/
	1450	/	/	/	/	/	/	/	/	/	/	290	290	/	/
	1500	/	/	/	/	/	/	/	/	/	/	205	205	/	/
2500	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53
	-20 to 100	6170	6170	6170	6250	5805	6250	6250	6250	3250	6250	6000	6000	6250	6250
	200	5655	5655	5655	6250	5505	6250	6250	6250	6250	6250	5160	5160	6200	6200
	300	5450	5450	5450	6070	5315	6015	6070	6070	6070	6070	4660	4660	5560	5560
	400	5280	5280	5280	5865	5125	5775	5865	5880	5880	5880	4280	4280	5120	5120
	500	5025	5025	5025	5540	4885	5540	5540	5540	5540	5540	3980	3980	4840	4840
	600	4730	4730	4730	5040	4595	5040	5040	5040	5040	5040	3760	3760	4640	4640
	650	4575	4575	4575	4905	4440	4905	4905	4905	4905	4905	3680	3680	4560	4560
	700	4425	4425	4425	4630	4270	4730	4630	4730	4730	4730	3620	3620	4520	4520
	750	4230	4230	4230	4230	3970	4430	4230	4430	4430	4430	3560	3560	4430	4430
	800	3430	3430	3430	3430	3255	4230	3430	4230	4230	4230	3520	3520	/	/
	850	2655	2655	2655	2655	2485	4060	2655	4060	4060	4060	3480	3480	/	/
	900	1915	1915	1915	1855	1685	3745	1855	3115	3745	3745	3460	3460	/	/
	950	1145	1145	1145	1145	1145	3655	1145	2285	3145	3220	3220	3220	/	/
	1000	715	715	715	715	715	1800	715	1655	2115	3030	3030	3030	/	/
	1050	/	/	/	/	/	1200	/	1200	1430	3000	3000	3000	/	/
	1100	/	/	/	/	/	800	/	830	945	2515	2545	2545	/	/
	1150	/	/	/	/	/	545	/	515	630	1855	1970	1970	/	/
	1200	/	/	/	/	/	345	/	285	770	1200	1545	1545	/	/
	1250	/	/	/	/	/	/	/	/	/	/	1230	1230	/	/
	1300	/	/	/	/	/	/	/	/	/	/	970	970	/	/
	1350	/	/	/	/	/	/	/	/	/	/	800	800	/	/
	1400	/	/	/	/	/	/	/	/	/	/	630	630	/	/
	1450	/	/	/	/	/	/	/	/	/	/	485	485	/	/
	1500	/	/	/	/	/	/	/	/	/	/	345	345	/	/

Flange Dimensions - ANSI B16.5 & B16.47



Class	Size	Flg. Dia.	Flg. Thick.	Raised Face Dia.	Drilling			Face Dia.	Ring Joint				
		O	T		Bolt Circle Dia.	# of Bolts	Hole Dia.		Pitch Dia.	Grv. Depth	Grv. Width	Btm. Radius	Ring No.
150	2	6.00	0.75	3.62	4.75	4	0.75	4.00	3.250	0.250	0.344	0.03	R22
	2.5	7.00	0.88	4.12	5.50	4	0.75	4.75	4.000	0.250	0.344	0.03	R25
	3	7.50	0.94	5.00	6.00	4	0.75	5.25	4.500	0.250	0.344	0.03	R29
	4	9.00	0.94	6.19	7.50	8	0.75	6.75	5.875	0.250	0.344	0.03	R36
	6	11.00	1.00	8.50	9.50	8	0.88	8.62	7.625	0.250	0.344	0.03	R43
	8	13.50	1.12	10.62	11.75	8	0.88	10.75	9.750	0.250	0.344	0.03	R48
	10	16.00	1.19	12.75	14.25	12	1.00	13.00	12.000	0.250	0.344	0.03	R52
	12	19.00	1.25	15.00	17.00	12	1.00	16.00	15.000	0.250	0.344	0.03	R56
	14	21.00	1.38	16.25	18.75	12	1.12	16.75	15.625	0.250	0.344	0.03	R59
	16	23.50	1.44	18.50	21.25	16	1.12	19.00	17.875	0.250	0.344	0.03	R64
	18	25.00	1.56	21.00	22.75	16	1.25	21.50	20.375	0.250	0.344	0.03	R68
	20	27.50	1.69	23.00	25.00	20	1.25	23.50	22.000	0.250	0.344	0.03	R72
	22	29.50	1.81	25.25	27.25	20	1.38	/	/	/	/	/	/
	24	32.00	1.88	27.25	29.50	20	1.38	28.00	26.500	0.250	0.344	0.03	R76
	26	34.25	2.69	29.50	31.75	24	1.38	/	29.500	0.500	0.781	0.060	R93
	28	36.50	2.81	31.50	34.00	28	1.38	/	31.500	0.500	0.781	0.060	R94
	30	38.75	2.94	33.75	36.00	28	1.38	/	33.750	0.500	0.781	0.060	R95
	32	41.75	3.19	36.00	38.50	28	1.62	/	36.000	0.562	0.906	0.060	R96
	34	43.75	3.25	38.00	40.50	32	1.62	/	38.000	0.562	0.906	0.060	R97
	36	46.00	3.56	40.25	42.75	32	1.62	/	40.250	0.562	0.906	0.060	R98
300	2	6.50	0.88	3.62	5.00	8	0.75	4.25	3.250	0.312	0.469	0.03	R23
	2.5	7.50	1.00	4.12	5.88	8	0.88	5.00	4.000	0.312	0.469	0.03	R26
	3	8.25	1.12	5.00	6.62	8	0.88	5.75	4.875	0.312	0.469	0.03	R31
	4	10.00	1.25	6.19	7.88	8	0.88	6.88	5.875	0.312	0.469	0.03	R37
	6	12.50	1.44	8.50	10.62	12	0.88	9.50	8.312	0.312	0.469	0.03	R45
	8	15.00	1.62	10.62	13.00	12	1.00	11.88	10.625	0.312	0.469	0.03	R49
	10	17.50	1.88	12.75	15.25	16	1.12	14.00	12.750	0.312	0.469	0.03	R53
	12	20.50	2.00	15.00	17.75	16	1.25	16.25	15.000	0.312	0.469	0.03	R57
	14	23.00	2.12	16.25	20.25	20	1.25	18.00	16.500	0.312	0.469	0.03	R61
	16	25.50	2.25	18.50	22.50	20	1.38	20.00	18.500	0.312	0.469	0.03	R65
	18	28.00	2.38	21.00	24.75	24	1.38	22.62	21.000	0.312	0.469	0.03	R69
	20	30.50	2.50	23.00	27.00	24	1.38	25.00	23.000	0.375	0.531	0.06	R73
	22	33.00	2.62	25.25	29.25	24	1.62	27.00	25.000	0.438	0.594	0.06	R81
	24	36.00	2.75	27.25	32.00	24	1.62	29.50	27.250	0.438	0.656	0.06	R77
	26	38.25	3.31	29.50	34.50	28	1.75	31.88	29.500	0.500	0.781	0.06	R93
	28	40.75	3.56	31.50	37.00	28	1.75	33.88	31.500	0.500	0.781	0.06	R94
	30	43.00	3.75	33.75	39.25	28	1.88	36.12	33.750	0.500	0.781	0.06	R95
	32	45.25	3.94	36.00	41.50	28	2.00	38.75	36.000	0.562	0.906	0.06	R96
	34	47.50	4.12	38.00	43.50	28	2.00	40.75	38.000	0.562	0.906	0.06	R97
	36	50.00	4.38	40.25	46.00	32	2.12	43.00	40.250	0.562	0.906	0.06	R98

Flange Dimensions - ANSI B16.5 & B16.47



Class	Size	Flg. Dia.	Flg. Thick.	Circle Raise	Drilling			Face Dia.	Ring Joint				Ring No.
		O	T	R	Bolt Circle Dia. C	# of Bolts	Hole Dia.	K	Pitch Dia. P	Grv. Depth L	Grv. Width F	Btm. Radius r	
600	2	6.50	1.00	3.62	5.00	8	0.75	4.25	3.250	0.312	0.469	0.03	R23
	2.5	7.50	1.12	4.12	5.88	8	0.88	5.00	4.000	0.312	0.469	0.03	R26
	3	8.25	1.25	5.00	6.62	8	0.88	5.75	4.875	0.312	0.469	0.03	R31
	4	10.75	1.50	6.19	8.50	8	1.00	6.88	5.875	0.312	0.469	0.03	R37
	6	14.00	1.88	8.50	11.50	12	1.12	9.50	8.312	0.312	0.469	0.03	R45
	8	16.50	2.19	10.62	13.75	12	1.25	11.88	10.625	0.312	0.469	0.03	R49
	10	20.00	2.50	12.75	17.00	16	1.38	14.00	12.750	0.312	0.469	0.03	R53
	12	22.00	2.62	15.00	19.25	20	1.38	16.25	15.000	0.312	0.469	0.03	R67
	14	23.75	2.75	16.25	20.75	20	1.5	18.00	16.500	0.312	0.469	0.03	R61
	16	27.00	3.00	18.50	23.75	20	1.62	20.00	18.500	0.312	0.469	0.03	R65
	18	29.25	3.25	21.00	25.75	20	1.75	22.62	21.000	0.312	0.469	0.03	R69
	20	32.00	3.50	23.00	28.50	24	1.75	25.00	23.000	0.375	0.531	0.06	R73
	22	34.25	3.75	25.25	30.62	24	1.88	27.00	25.000	0.438	0.594	0.06	R81
	24	37.00	4.00	27.25	33.00	24	2.00	29.50	27.250	0.438	0.659	0.06	R77
900	2	8.5	1.5	3.62	6.5	8	1	4.88	3.75	0.312	0.469	0.03	R24
	2.5	9.62	1.62	4.12	7.50	8	1.12	5.39	4.250	0.312	0.469	0.03	R27
	3	9.50	1.50	5.00	7.50	8	1.00	6.12	4.875	0.312	0.469	0.03	R31
	4	11.50	1.75	6.19	9.25	8	1.25	7.12	5.875	0.312	0.469	0.03	R37
	6	15.50	2.19	8.50	12.50	12	1.25	9.50	8.312	0.312	0.469	0.03	R45
	8	18.50	2.50	10.62	15.50	12	1.50	12.12	10.625	0.312	0.469	0.03	R49
	10	21.50	2.75	12.75	18.50	16	1.50	14.25	12.750	0.312	0.469	0.03	R53
	12	24.00	3.12	15.00	21.00	20	1.50	16.50	15.000	0.312	0.469	0.03	R57
	14	25.25	3.38	16.25	22.00	20	1.62	18.38	16.500	0.438	0.656	0.06	R62
	16	27.75	3.50	18.50	24.25	20	1.75	20.62	18.500	0.438	0.656	0.06	R66
	18	31.00	4.00	21.00	27.00	20	2.00	23.38	21.00	0.500	0.781	0.06	R70
	20	33.75	4.25	23.00	29.50	20	2.12	25.50	23.000	0.500	0.781	0.06	R74
	24	41.00	5.50	27.25	35.50	20	2.62	30.38	27.250	0.625	1.062	0.09	R78
1500	2	8.50	1.50	3.62	6.50	8	1.00	4.88	3.750	0.312	0.469	0.03	R24
	2.5	9.62	1.62	4.12	7.50	8	1.12	5.38	4.250	0.312	0.469	0.03	R27
	3	10.50	1.88	5.00	8.00	8	1.25	6.62	5.375	0.312	0.469	0.03	R35
	4	12.25	2.12	6.19	9.50	8	1.38	7.62	6.375	0.312	0.469	0.03	R39
	6	15.50	3.25	8.50	12.50	12	1.50	9.75	8.312	0.375	0.531	0.06	R46
	8	19.00	3.62	10.62	15.50	12	1.75	12.50	10.625	0.438	0.656	0.06	R50
	10	23.00	4.25	12.75	19.00	12	2.00	14.62	12.750	0.438	0.656	0.06	R54
	12	26.00	4.88	15.00	22.50	16	2.12	17.25	15.000	0.562	0.906	0.06	R58
	14	29.50	5.25	16.25	25.00	16	2.38	19.25	16.500	0.625	1.062	0.09	R63
	16	32.50	5.75	18.50	27.75	16	2.62	21.50	18.500	0.688	1.188	0.09	R67
	18	36.00	6.38	21.00	30.50	16	2.88	24.12	21.000	0.688	1.188	0.09	R71
	20	38.75	7.00	23.00	32.75	16	3.12	26.50	23.000	0.688	1.312	0.09	R75
	24	46.00	8.00	27.25	39.00	16	3.62	31.25	27.250	0.812	1.438	0.09	R79
2500	2	9.25	2.00	3.62	6.75	8	1.00	4.48	4.000	0.312	0.469	0.030	R26
	2.5	10.50	2.25	4.12	7.75	8	1.13	5.86	4.375	0.375	0.531	0.060	R28
	3	12.00	2.62	5.00	9.00	8	1.25	6.61	5.000	0.375	0.531	0.060	R32
	4	14.00	3.00	6.19	10.75	8	1.50	7.99	6.188	0.438	0.656	0.060	R38
	5	16.50	3.62	7.31	12.75	8	1.75	9.48	7.500	0.500	0.781	0.060	R40
	6	19.00	4.25	8.50	14.50	8	2.00	10.98	9.000	0.500	0.781	0.060	R47
	8	21.75	5.00	10.62	17.25	12	2.00	13.38	11.000	0.562	0.906	0.060	R51
	10	26.50	6.50	12.75	21.75	12	2.50	16.73	13.500	0.688	1.188	0.090	R55
	12	30.00	7.25	15.00	24.38	12	2.75	19.48	16.000	0.688	1.312	0.090	R60