

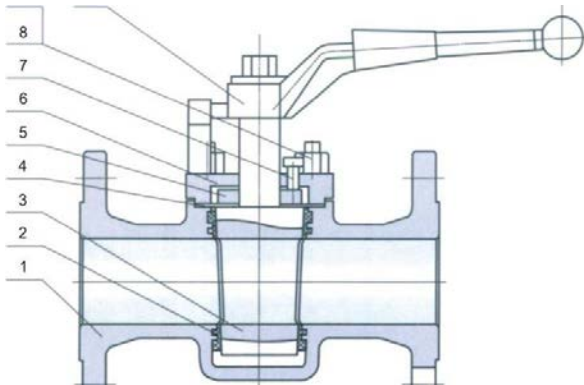
JAN, 2021

# AFFCO FLOWCONTROL

## PLUG VALVE



## SLEEVE TYPE SOFT SEALING PLUG VALVE



Plug valve has an inverted pressure-balance lubrication plug, including connecting lift plug, track plug, sleeve type soft seal plug, three-way and four-way plug, single and double flush plug. Customized type is available upon request.

ANSI standard plug valve is suitable for petroleum, chemical, pharmaceutical, chemical fertilizer, power and other industries of the flow of the medium and cut off with nominal pressure rating 150Lb~1500Lb, working temperature of -29 °C ~550 °C . End connection includes butt-weld ends and flanged ends. Valve is driven by handwheel, gear or wrench.

### Features

The cover and plug are enclosed 90 degrees by bolts, and the sealing is realized by wrapping the sealing end face around the sleeve. It has a unique 360 degree metal edge to protect and fix the sleeve. There is no cavity for medium accumulation in the valve. The metal edge has the function of self-cleaning with rotation, which is suitable for the operation conditions of strong viscosity.

### Standards

Design and Manufacture: API 599, API 6D  
 Flange connection: ANSI B16.5  
 Face to face (end to end): ANSI B 16.10  
 Test and inspection: API 598, API6D  
 Valve Marking: MSS-SP-25

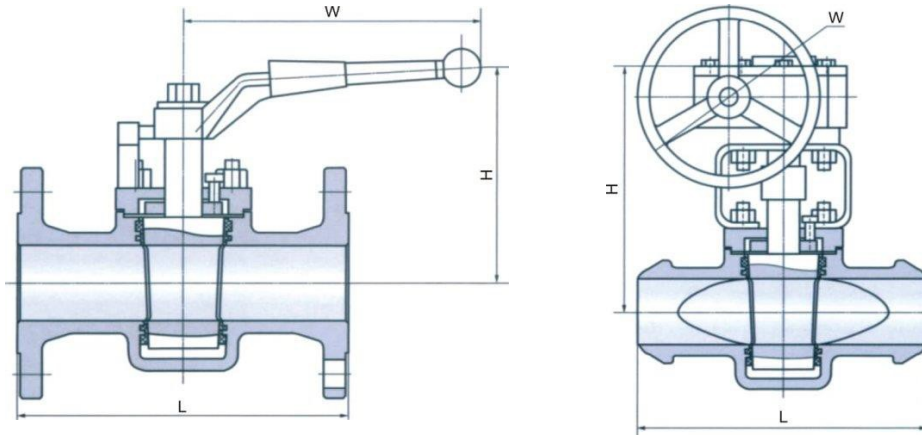
### Performance

Pressure Rating	Shell test (MPa)	Closure test (MPa)	Working Temperature (°C)	Medium Available
Class 150	3.0	2.2	≤180°C	WOG
Class 300	7.5	5.5		
Class 600	15.0	11.0		
Class 900	22.5	16.5		

### Material of Main parts

Parts No.	Parts Name	Material				
		A216 WCB	A351 CF8	PTFE/RTFE	A351 CF3	A351 CF3M
1	Body	A216 WCB	A351 CF8	A351 CF8M	A351CF3	A351CF3M
2	Sleeve	PTFE/RTFE				
3	Plug	A182 F6a	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
4	Gasket	Flexible graphite+ Stainless steel/PTFE				
5	Adjusting gasket	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
6	Cover	A216 WCB	A351 CF8	A351 CF8	A351 CF3	A351 CF3M
7	Adjusting bolt	A193 B7	A193 B8	A193 B8M	A193 B8M	A193 B8M
8, 9	Bolt/nut	B7/2H	B8/8	B8M/8M	B8M/8M	B8M/8M
10	Wrench	ASTM A105/A216 WCB				

**SLEEVE TYPE SOFT SEALING PLUG VALVE**



Dimensions																
Class 150																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
H	mm	110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W	mm	175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight	kg	8.5	9.5	10.5	12	14	18	22	26	40	60	70	130	219	381	570

Dimensions																
Class 300																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
H	mm	110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W	mm	175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight	kg	9.5	10.5	12	14	16	20	24	29	53	75	85	185	230	390	550



## PLUG VALVE

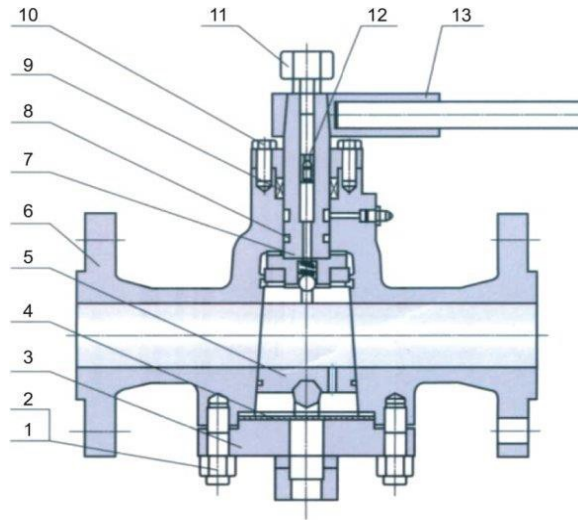
Dimensions																
Class 600																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H	mm	110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W	mm	175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight	kg	11	13	17	20	23	27	31	36	72	98	141	245	330	515	710

Dimensions												
Class 600												
Size	inch	16	18	20	22	24	26	30	32	34	36	
L-RF	mm	991	1092	1194	1295	1397	1448	1651	1778	1930	2083	
H	mm	680	772	842	965	1050	1120	1230	1300	1420	1550	
W	mm	400	400	400	500	500	600	800	800	800	800	
Weight	kg	1850	2245	2860	3050	4560	5605	6856	8000	9150	12300	

Dimensions																
Class 900																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029
H	mm	110	115	115	135	140	150	165	180	380	460	520	580	620	680	760
W	mm	175	175	175	220	280	305	350	405	300	300	320	320	350	380	450
Weight	kg	13	16	21	24	28	32	40	47	91	117	165	285	420	610	860

Note: 4" and above with worm gear.

**INVERTED PRESSURE BALANCE LUBRICATED PLUG VALVE**



**Standards**

Design and Manufacture: API599, API6D  
 Face to face (end to end): ANSI B 16.10  
 Flanged connection: ANSIB16.5  
 Butt welded end: ANSI B16.25  
 Test and inspection: API598, API6D

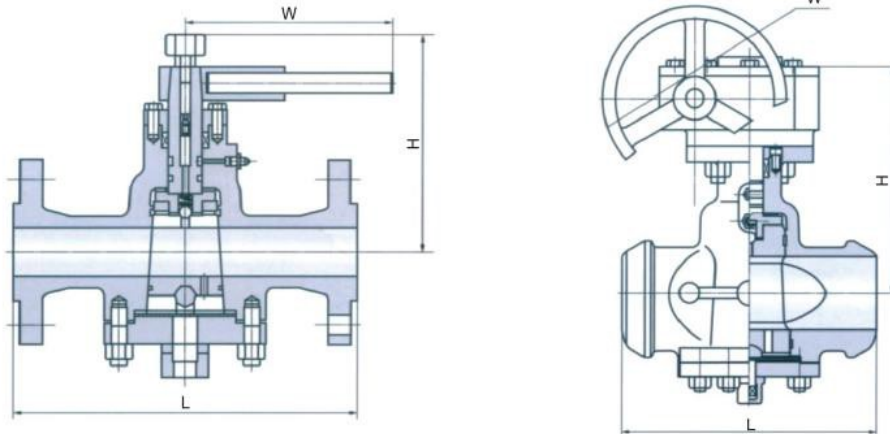
**Features**

Bolt cover, structure of flip-chip balanceable pressure and light on/off operation.

An oil groove is set between valve body and seal surface, which may infuse the seal grease to increase the seal capability.

Parts No.	Parts Name	Materials				
		A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
1、 2	Body/Nut	A193 B7/A194 2H	A193 B8/A194 8	A193 B8M	A194 8M	
3	Cover	A216 WCB	A351 CF8	A351 CF8M		
4	Gasket	Flexible graphite + stainless steel/PTFE				
5	Plug	A182F304	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
6	Body	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
7	stem	A182 F410	A182 F304	A182 F316	A182F 304L	A351 CF3M
8	"O" ring	NBR/FEP/SBR				
9	Packing	Flexible graphite/PTFE				
10	Gland	A216 WCB	A351 CF8	A351 CF8M		
11, 12	Oichozzle / Check valve	Material refer to body				
13	wrench	ASTM A47-32510 A216 WCB				

**INVERTED PRESSURE BALANCE LUBRICATED PLUG VALVE**



Dimensions																
Class 150																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380
Weight	kg	10	12	14	17	19	21	29	33	48	75	98	125	171	230	370

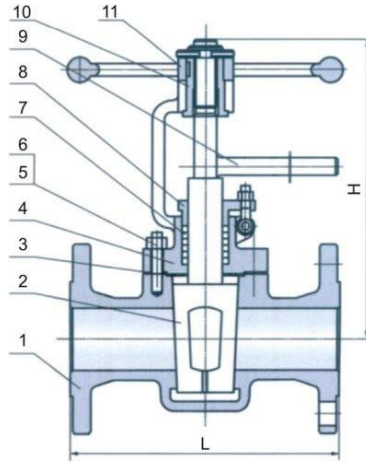
Dimensions																
Class 300																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380
Weight	kg	12	14	16	19	21	24	31	36	61	86	130	190	225	380	560

Dimensions																
Class 600																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380
Weight	kg	14	16	18	20	24	29	35	47	91	129	210	320	660	920	1250

Dimensions																
Class 900																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380
Weight	kg	17	19	21	24	30	37	44	65	110	160	255	380	810	1050	1460

Note: 4" and above with worm gear

**CONNECTION LIFT PLUG VALVE**



**Standards**

Design and Manufacture: API599, API6D  
 Butt welded end: ANSI B 16.25

Face to face (end to end): ANSI B 16.10  
 Flanged connection : ANSI B16.5  
 Test and inspection: APL598, AP11 6

**Features**

Bolt bonnet OS&Y lifting-round plug , opening and closing of the valve is carried out while the sealed surface is take off, so it will not cause abrasion on the sealed surface. Double direction.

**Opening and closing of the valve**

Process of opening and closing of the valve:

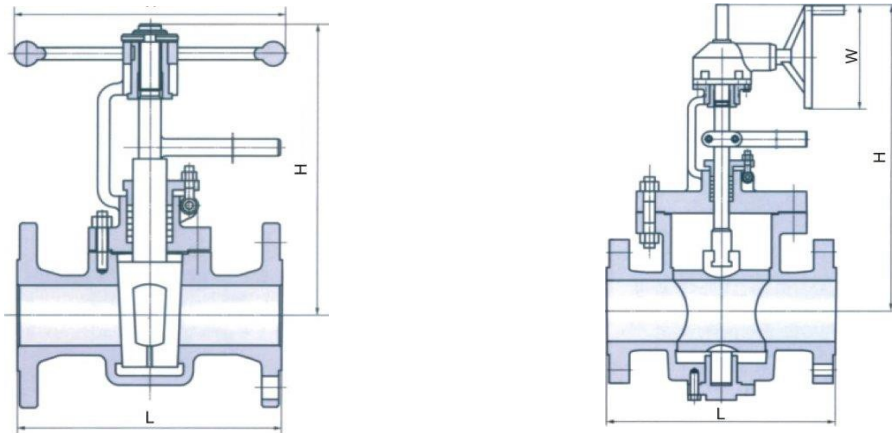
When opening the valve, first of all, turn the hand wheel to make the plug lifted and separated with the sealed surface, then turn the handle by 90 degree to connect the channel of plug with the channel of valve body. So that the valve is opened. When closing the valve, first of all, turn the handle by 90 degree to mark the channel of plug vertical to the channel of valve body, and then the hand wheel to descend the plug, so that the valve is closed.

**Material of Main parts**

Parts No.	Part name	Material						
		A216WCB	A217WC9	A217C5	A351CF8	A351CF8M	A351CF3	A351CF3M
1	Body	A216 WCB	A217 WCB	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Plug	A351 CF8	A351 CF8	A351 CF8	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
3	Gasket	Flexible graphite + stainless steel / PTFE						
4	Cover	A216 WCB	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
5	Bolt	A193 B7	A193 B16	A193 B16	A193 B8	A193 B8M		
6	Nut	A194 2H	A1944	A194 4	A194 8	A193 8M		
7	Packing	Flexible graphite/PTFE						
8	Gland	A216 WCB	A216 WC9	A216 C5	A351 CF8		A351 CF8M	
9	Wrench	A216 WCB	A216 WC9	A216 C5	A351 CF8		A351 CF8M	
10	Yoke nut	A439-D2/Cu-Alloy						
11	Hand wheel	ASTM A536 Gr.60-40-18 A216 WCB						



**CONNECTION LIFT PLUG VALVE**



Dimensions																
Class 150																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
H	mm	190	195	225	260	280	310	340	395	435	470	535	590	630	680	720
W	mm	120	140	140	180	200	220	260	300	300	340	400	450	450	500	500
Weight	kg	9	10	11	17	19	23	25	32	55	82	98	130	178	250	380

Dimensions																
Class 300																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
H	mm	190	195	225	260	280	310	340	395	435	470	535	590	630	680	720
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	10	12	14	19	21	28	34	39	75	85	135	200	255	415	650

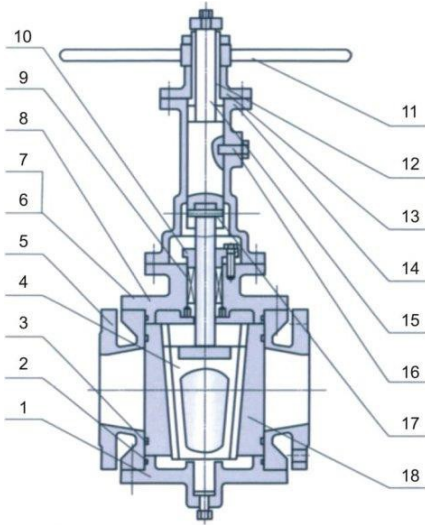
Dimensions																
Class 600																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H	mm	190	195	225	260	280	310	340	395	435	470	535	590	630	680	720
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	13	14	19	23	25	32	40	55	105	139	300	440	730	1150	1570

Dimensions																
Class 900																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF.BW	mm	229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029
H	mm	190	195	225	260	280	310	340	395	435	470	535	590	630	680	720
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	16	17	26	30	33	39	50	70	137	181	397	590	860	1470	1880

Note: 4" or above with worm gear



## ORBIT PLUG VALVE



### Standards

Design and Manufacture: API599, API6D  
 Face to face (end to end): ANSI B16.10  
 Flanged connection: ANSI B 16.5  
 Test and inspection: API 6D

### Features

Bolt bonnet OS& y lifting-round plug, its sealing is realized by the sealing rings around the valve disc. It has unique protection of swallow tailed sink and fixed sealing rings.  
 Bi-directional

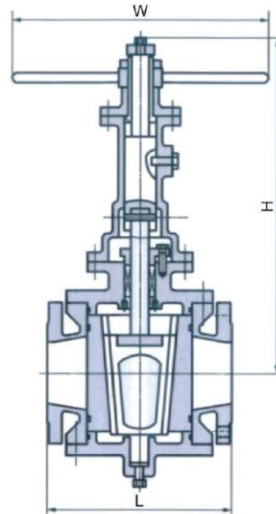
### Opening and closing of the valve

When the valve is fully opened, the channel of plug is in alignment with the channel of valve body, which can ensure ideal and lowest decrease on pressure. When the hand wheel is turned, the plug will rotate toward the closing direction, and make the same time draft the rotation of valve seat will be separated; if the hand wheel is turned inversely, first of all the plug will move upward, and the valve disc is turned by 90 degree driven by the plug, and finally the channel of plug will be in alignment with the channel of valve body, so that valve is be fully opened.

### Material of Main parts

Parts No.	Parts Name	Materials				
		A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
1,14	Botten / yoke	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	O-ring	NBR/FEP/SBR/PTFE				
3	Sealing ring	NBR/FEP/SBR/PTFE				
4	Plug	A182 F6a	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
5,8	Body cover	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
6,7	Bolt / nut	B 7/2H	B 8/8	B 8M/8M	B 8M/8M	B 8M/8M
9	Packing	Flexible graphite + stainless steel/PTFE				
10	Gland	A21 6WCB	A351 CF8	A351 CF8	A351 CF3	A351 CF3M
11	Hand wheel	ASTM A536Gr.60-40-18A 216 WCB				
12	Yoke nut	Cu-Alloy / A439-D2				
13	Yoke nut bushing	A182 WCB				
17	Pin	A182 F6a	A182 F321	A182 F321	A182 F316	A182 F316L
15,18	Stem / Disc	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
16	Guiding stud	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L

**ORBIT PLUG VALVE**



Dimensions																
Class 150																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
H	mm	230	260	300	340	380	435	460	490	525	570	625	700	780	870	980
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	10	12	18	25	29	34	39	50	65	95	135	210	275	350	605

Dimensions																
Class 300																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
H	mm	230	260	300	340	380	435	460	490	525	570	625	700	780	870	980
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	11	13	20	27	31	37	44	60	82	115	165	225	305	405	650

Dimensions																
Class 600																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H	mm	230	260	300	340	380	435	460	490	525	570	625	700	780	870	980
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	13	15	22	29	34	41	54	68	99	128	191	258	430	650	870

Dimensions																
Class 900																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	229	229	254	279	305	368	419	381	457	559	610	737	830	965	1029
H	mm	230	260	300	340	380	435	460	490	525	570	625	700	780	870	980
W	mm	120	140	140	180	200	220	260	280	300	340	400	450	450	500	500
Weight	kg	15	19	24	32	38	47	62	75	115	147	220	379	490	720	1020