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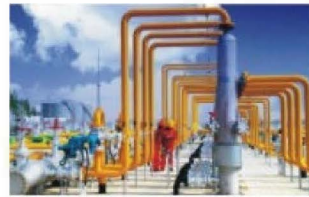
Plug Valve Serie



McSYS® *Mechanical and Fluid Control Systems*

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USER GUIDANCE

- ▲ This catalog introduces the full range valve of McSYS Co,LTD,just for easy and quickly guidance.Those who want to know more about these products are requested to contac,McSYS or its distributors for the detailed catalog.

MATERIAL

- ▲ The main material are indicated in this catalog is according to ASTM standard, if required, the EN standard material is available.

- ▲ The valve specifications edited in this catalog are limited to the following basic information:

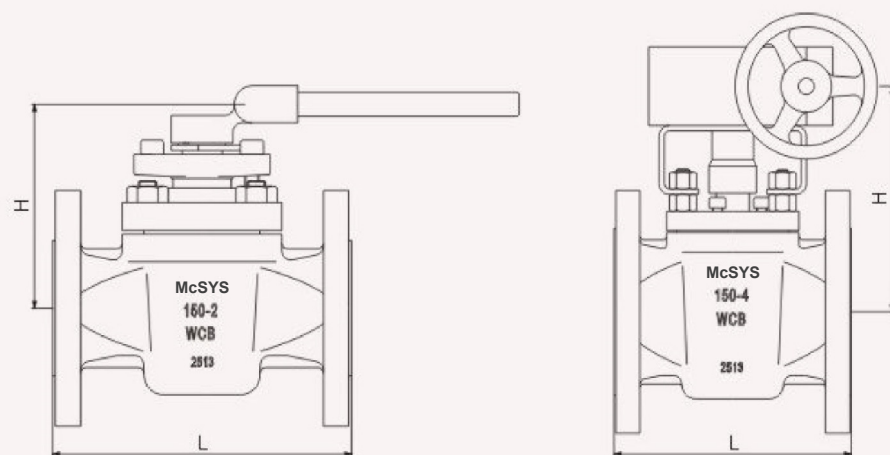
- 1、 Product type
- 2、 Pressure range
- 3、 Size
- 4、 Main dimensions
- 5、 Main materials

- ▲ Usually the products catalog should be revised once two years. During 24 months, we just offer the detail documents of new products.



SLEEVED PLUG VALVE IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

Class 150-600 NPS 1/2"-NPS16"



DESIGN

- ▲ Bi-direction flow
- ▲ Simple actuation
- ▲ Compact design
- ▲ Easy multi-port design
- ▲ Assured seal
- ▲ 270-360° port lips assure sleeve containment
- ▲ In-port & out-port set metal lips, assure that the sleeve can't be pushed away from body by flow at half-open condition
- ▲ the port lips provide a self-cleaning action
- ▲ No cavities, no containment
- ▲ Adjustable sealing
- ▲ Self-cleaning

STANDARDS

- ▲ Design: API6D, API599
- ▲ Face to face: ASME B16.10
- ▲ Flanges: ASME B16.5
- ▲ Welded ends: ASME B16.25
- ▲ Labeling: MSS SP-25
- ▲ Pressure test: API598, API6D

MAIN DIMENSIONS&WEIGHT

NPS	L			H			W (Kg)			CV
	150	300	600	150	300	600	150	300	600	
1/2	108	140	165	71	71	81	1.8	2.9	4.3	6
3/4	117	152	190	79	79	90	2.6	4.2	4.8	13
1	127	165	216	88	88	100	3.6	4.9	6.1	21
1-1/2	165	190	241	109	110	125	5.9	9.8	14.3	38
2	178	216	292	120	120	145	9.4	12.8	20.7	65
3	203	283	356	143	150	180	15.8	24.1	32.4	108
4	229	305	432	211*	225*	270*	23.3*	39.4*	62.6*	182
5	254	381	508	240*	250*	290*	33.4*	57.4*	97.4*	283
6	267	403	559	285*	300*	350*	39.5*	80.6*	126.3*	406
8	292	419	660	350*	370*	420*	83.4*	134.5*	228.6*	719
10	330	457	787	365*	390*	450*	128.0*	183.4*	414.0*	995
12	356	502	838	480*	510*	580*	204.0*	276.3*	512.0*	1453
14	381	762	889	540*	590*	680*	278*	447.6*	652.3*	1736

Note: 1, "*"the total weight with wormgear.
2, For class150 welding valve, the end-to-end dimension is similar as class300 flanged valve.

MAIN MATERIALS

Body/Bonnet	Plug	Sleeve	Bolt/nut	Nut	Gasket	Packing
Carbon steel	CF8	PTFE/PPL	B7/2h	2H	PTFE/PPL	PTFE/GRAPHITE
Stainless steel	CF8	PTFE/PPL	B8/8	8	PTFE/PPL	PTFE/GRAPHITE
CN7M	CN7M	PTFE/PPL	B8/B8M	8/8M	PTFE/PPL	PTFE/GRAPHITE
CD4MCU	CD4MCU	PTFE/PPL	B8/B8M	8/8M	PTFE/PPL	PTFE/GRAPHITE

Other material can be customized

SLEEVED PLUG VALVE IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

1. Top Cap (bonnet) 2. Stem 3. Line (through)

Corresponding adjustments for each leak path are as follows:
Note: Refer to Figure II-1 or Figure VI-1 for parts identification.

1. Top Cap (bonnet)

Leakage due to thermal or pressure cycling is eliminated by snugging the top cap fasteners in a "criss-cross" pattern. This adjustment is most effective when the valve is not pressurized. It is important that the top cap fasteners not be tightened excessively and that torque values applied be within industry standard for fasteners.

2. Stem

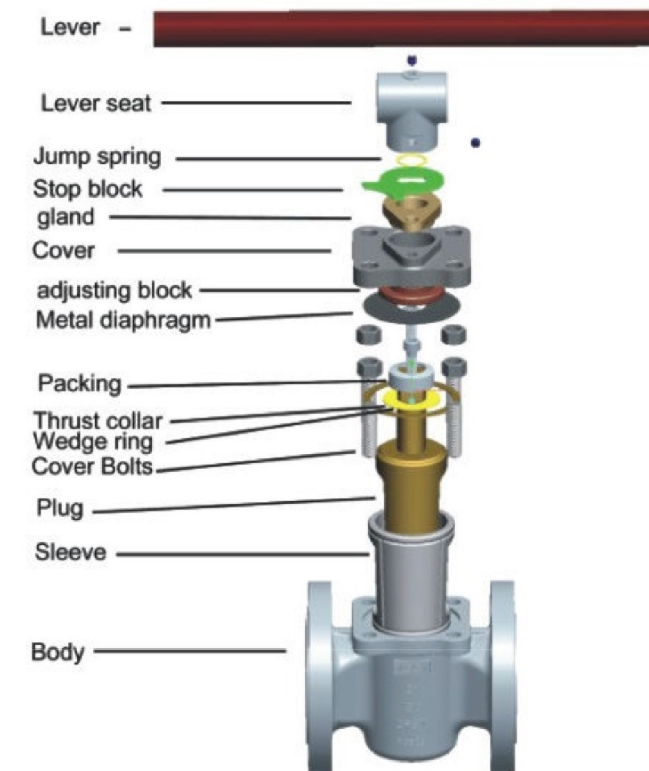
Leakage due to wear of the diaphragm, and/or wear to the sleeve (primary seal) is eliminated by tightening the adjuster fasteners in turn increments. It is recommended that the adjuster fasteners be tightened evenly.

The valve should be operated between adjustments to assure that the plug properly seats itself into the sleeve. If leakage persists after repeated adjustments, the sleeve and diaphragm will require replacement as covered in Section VA and VB or Section VI.

3. Line (through)

Through leakage due to wear of the primary seal can be eliminated by tightening the adjuster fasteners in 1/4 turn increments. It is recommended that the fasteners be tightened evenly.

The valve should be operated during adjustments to pre-vent excessive operating torque. Should leakage persist after repeated adjustments, the sleeve will require replacement as covered in Section VA and VB or Section VI.



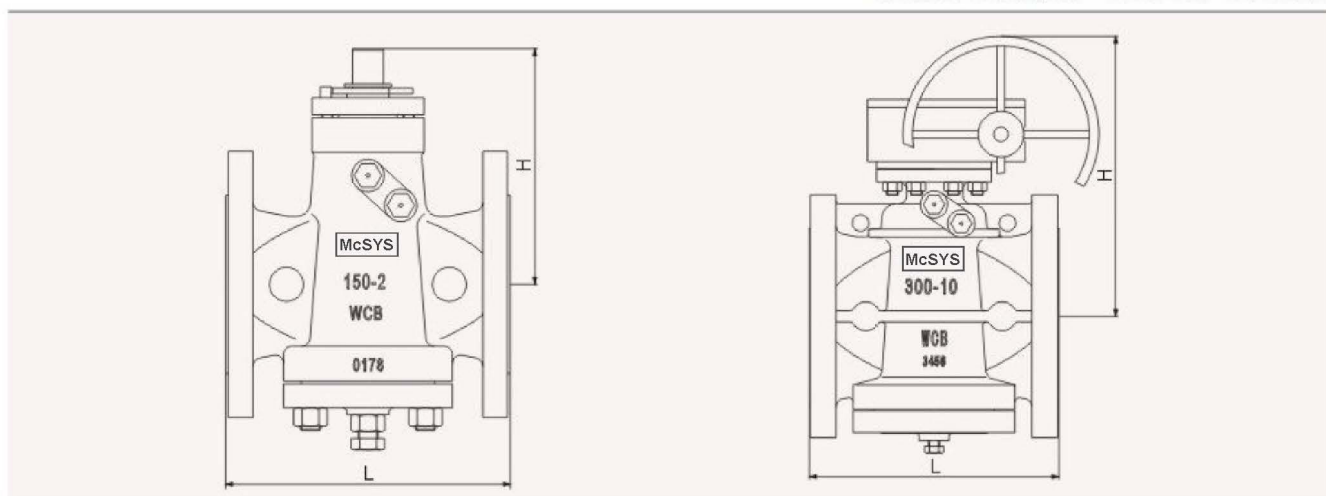
WARNING

To avoid personal injury and prevent damage to equipment, do not operate or repair this valve without observing the following procedures outlined in this manual.



PRESSURE BALANCE PLUG VALVE IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

Class 150-2500 NPS 1/2"-NPS24"



DESIGN

- ▲ Bi-direction flow
- ▲ Simple actuation
- ▲ Compact design
- ▲ Easy multi-port design
- ▲ Lubricated seal
- ▲ Pressure balance
- ▲ Fire-proof
- ▲ Anti-static device

STANDARDS

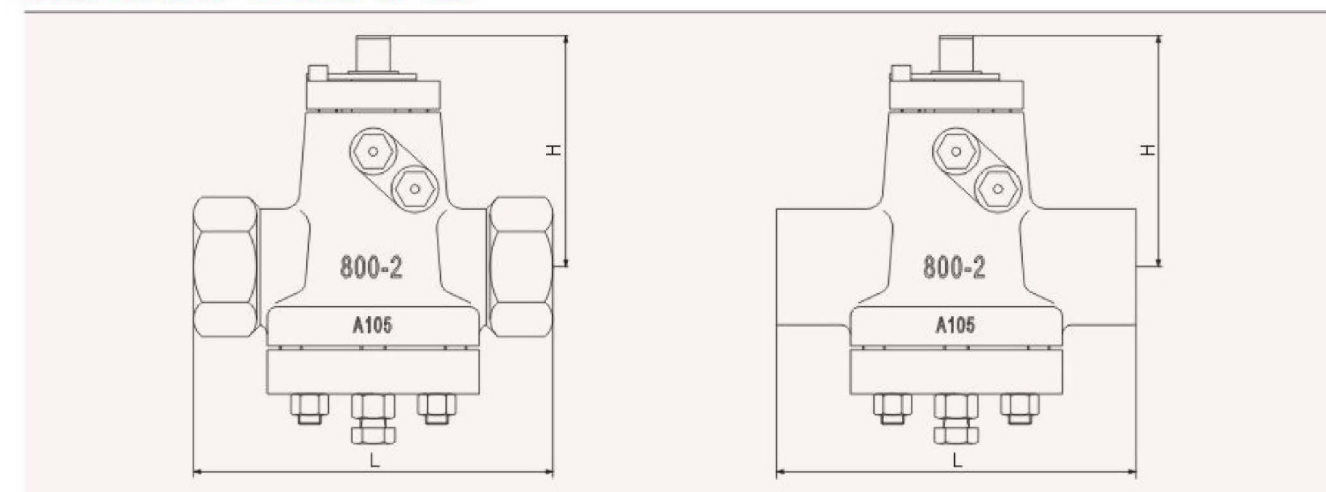
- ▲ Design: API6D, API599
- ▲ Face to face: ASME B16.10
- ▲ Flanges: ASME B16.5
- ▲ Welded ends: ASME B16.25
- ▲ Labeling: MSS SP-25
- ▲ Pressure test: API598, API6D

MAIN DIMENSIONS&WEIGHT(CLASS300)

NPS	L			H			W (Kg)		
	short	regular	venturi	short	regular	venturi	short	regular	venturi
2	216	-	-	183	-	-	22	-	-
3	283	-	-	225	-	-	41	-	-
4	305	-	-	238	-	-	64	-	-
6	-	403	403	-	586	518	-	183	132
8	-	502	419	-	630	586	-	281	205
10	-	268	457	-	745	635	-	272	302
12	-	711	502	-	648	750	-	518	549
14	-	-	762	-	-	768	-	-	801
16	-	-	838	-	-	789	-	-	916
20	-	-	991	-	-	965	-	-	1594
24	-	-	1143	-	-	990	-	-	2093

PRESSURE BALANCE PLUG VALVE IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

Class 150-2500 NPS 1/2"-NPS24"



MAIN DIMENSIONS&WEIGHT(CLASS800)

SIZE	L	H	W(Kg)
	regular	regular	regular
1/2	89	108	2.5
3/4	133	127	7.0
1	133	127	7.0
1-1/2	229	174	22
2	229	174	26

MAIN MATERIALS

Body/Bonnet	Plug	Seat	Bolt/nut	Gasket	Packing
Carbon steel	Carbon steel +HF	Same as body	B7/2h	Graphite+SS304	Graphite
Stainless steel	Stainless steel +HF	Same as body	B8/8	Graphite+SS304	Graphite
Other material can be customized					

OTHER REQUIRED

- ▲ Fire-proof can be required;
- ▲ Anti-static device can be required;
- ▲ Three-way can be required as "L" type or "T" Type;
- ▲ Four-way can be required as "L" type , "T" type or double "L" Type;
- ▲ DBB sleeved plug valve can be required.
- ▲ Full-port plug valve can be required.

PRESSURE BALANCE PLUG VALVE
IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

Class 150-2500 NPS 1/2"-NPS24"

MAIN DIMENSIONS&WEIGHT(CLASS600)

NPS	L		H		W (Kg)	
	regular	venturi	regular	venturi	regular	venturi
1/2	165	-	106	-	5.5	-
3/4	190	-	130	-	9.6	-
1	216	-	130	-	11.0	-
1-1/2	241	-	174	-	19.5	-
2	292	-	175	-	22.8	-
3	356	-	220	-	48	-
4	432	-	240	-	88	-
6	559	559	575	520	252	178
8	660	660	760	590	423	310
10	787	787	784	750	605	451
12	838	838	850	790	634	608

MAIN DIMENSIONS&WEIGHT(CLASS900)

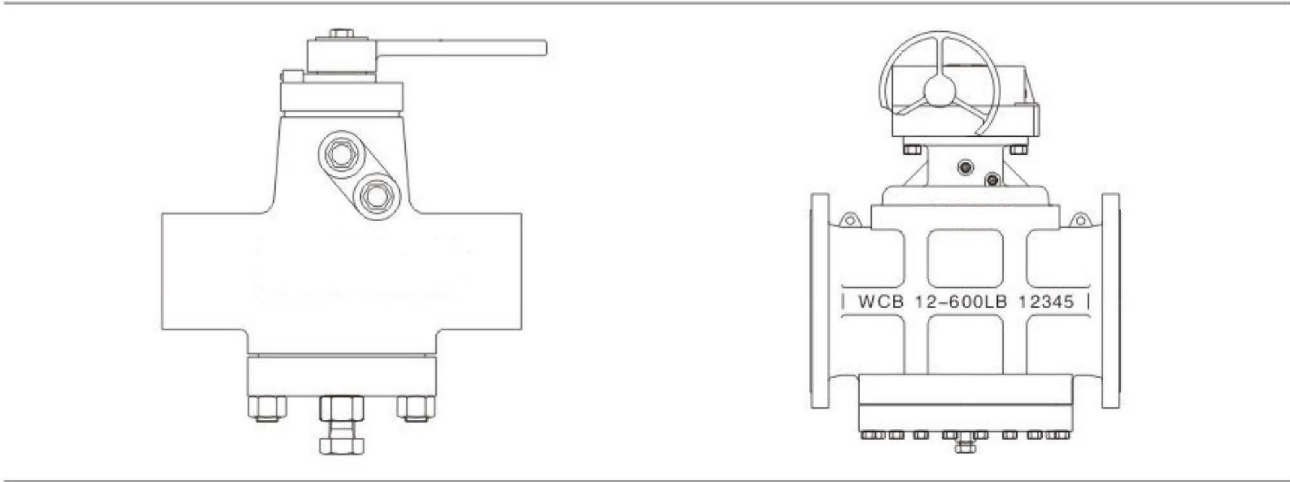
NPS	L		H		W (Kg)	
	regular	venturi	regular	venturi	regular	venturi
3	381	-	220	-	115	-
4	457	-	240	-	132	-
6	610	-	608	-	271	-
8	737	-	663	-	605	-
10	838	-	781	-	680	-
12	-	965	-	840	-	794

MAIN DIMENSIONS&WEIGHT(CLASS1500)

NPS	L		H		W (Kg)	
	regular	venturi	regular	venturi	regular	venturi
1/2	216	-	106	-	4.8	-
3/4	229	-	132	-	9.0	-
1	254	-	132	-	14.0	-
1-1/2	305	-	168	-	16.8	-
2	368	-	180	-	72	-
3	470	-	218	-	123	-
4	546	-	516	-	161	-
6	-	705	-	265	-	263
8	-	832	-	531	-	518

PRESSURE BALANCE PLUG VALVE FULL BOPF
IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

Class 150-2500 NPS 1/2"-NPS24"



DESIGN

- ▲ Bi-direction flow
- ▲ Simple actuation
- ▲ Compact design
- ▲ Easy multi-port design
- ▲ Assured seal
- ▲ Lubricated seal
- ▲ No cavities, no containment

STANDARDS

- ▲ Design: API6D, API599
- ▲ Face to face: ASME B16.10
- ▲ Flanges: ASME B16.5
- ▲ Welded ends: ASME B16.25
- ▲ Labeling: MSS SP-25
- ▲ Pressure test: API598, API6D

MAIN MATERIALS

Body/Bonnet	Plug	Seat	Bolt/nut	Gasket	Packing
Carbon steel	Carbon steel +HF	Same as body	B7/2h	Graphite+SS304	Graphite
Stainless steel	Stainless steel +HF	Same as body	B8/8	Graphite+SS304	Graphite
Other material can be customized					

MAIN DIMENSIONS&WEIGHT

SIZE	RF(L)			RTJ(L)			W(KG)		
	150	300	600	150	300	600	150	300	600
2	267	283	330	279	298	333	28.5	35	47
3	343	387	445	356	403	448	71	87	107
4	432	457	508	445	473	511	109	124	163
6	546	559	660.4	559	575	664	253	311	473
8	622	686	794	635	702	797	485	585	798
10	660	826	940	673	841	943	882	1096	1318
12	762	965	1067	775	981	1070	1400	1616	2108

DBB PLUG VALVE
IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL

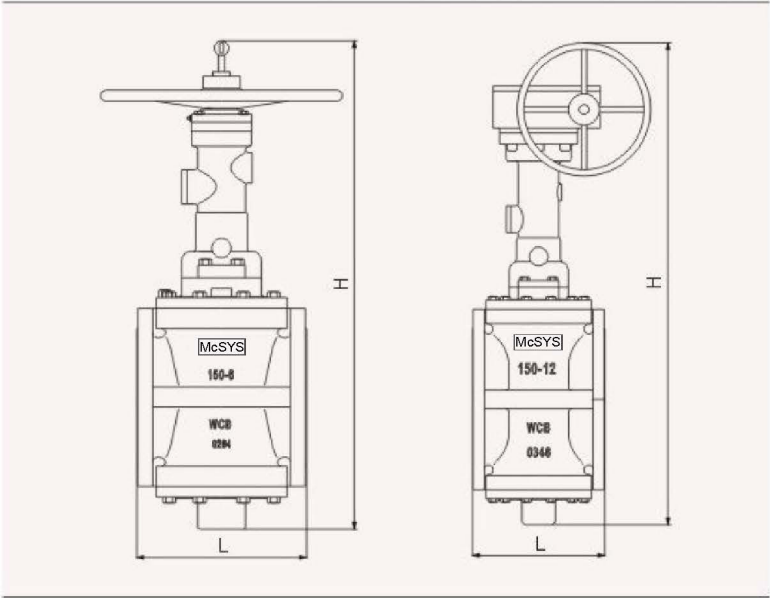
DESIGN

- ▲ Simple and quickly operation
- ▲ Easy maintenance
- ▲ Compact design
- ▲ Reliable sealing
- ▲ No friction between sealing face
- ▲ Low torque
- ▲ With shut-open directions
- ▲ With DBB functions

STANDARDS

- ▲ Design: API6D,API599
- ▲ Face to face: ASME B16.10
- ▲ Flanges: ASME B16.5
- ▲ Welded ends: ASME B16.25
- ▲ Labeling: MSS SP-25
- ▲ Pressure test: API598,API6D

Class 150-600 NPS 1/2"-NPS24"



MAIN DIMENSIONS&WEIGHT

SIZE	L			H			W (Kg)		
	150	300	600	150	300	600	150	300	600
2	178	216	292	540	540	650	28	31	57
3	203	283	356	575	575	685	36	42	66
4	229	305	432	605	660	870	45	68	123
6	267	403	559	805	923	1158	71	145	320
8	292	419	660	1010	1085	1237	185	271	198
10	330	457	787	1075	1335	1563	238	405	873
12	356	502	838	1360	1620	2080	362	632	1125
14	381	762	-	1450	1497	-	455	917	-
16	406	838	-	1646	1580	-	619	1195	-
18	432	914	-	1654	1852	-	642	1587	-
20	813	991	-	1745	2230	-	1304	1896	-
24	914	1321	-	1865	1350	-	1803	3716	-

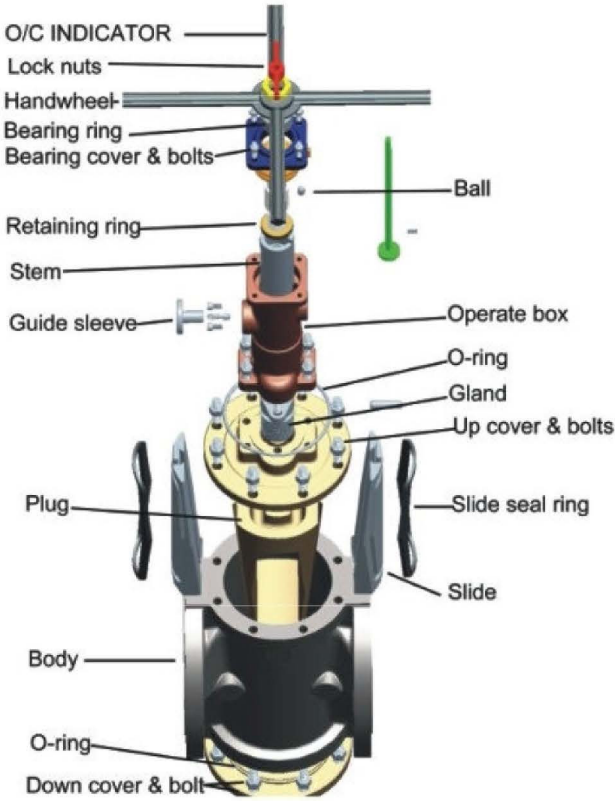
MAIN MATERIALS

Body/Bonnet	Slide	Seal ring	Bolt/nut	Gasket	Packing
Carbon steel	Carbon steel	Viton	B7/2H	Graphite or PTFE	Graphite or PTFE
Stainless steel	Stainless steel	Viton	B7/2H	Graphite or PTFE	Graphite or PTFE
Other material can be customized					

OTHER

- ▲ Pressure relief system can be required
- ▲ Full-port plug valve can be required

DBB PLUG VALVE
IN CARBON STEEL, ALLOY STEEL AND STAINLESS STEEL



The internal design is very simple. Seals (Slide) are permanently bonded into the slips (seal ring) which are mounted on a central plug.

In the open position the slip seals are completely out of the flow.

Turning the operator handwheel clockwise rotates the plug assembly 90° to block flow, maintained between the seal and the valve body, allowing free movement and avoiding abrasion.

When the operator is turned further clockwise, the tapered plug begins to lower, forcing the slips against the body initiating the verifiable seal. Because the seals never drag, the valve requires less torque to cycle.

In the closed position, the slip seals are expanded, compressing the slip seals until metal-to-metal seating is effected.

Because it is mechanical, the Twin Seal doesn' t rely on line pressure differential to help make its seal. It even seals in vacuum service.

LINED PLUG VALVE

DESIGN

- McSYS fully lined plug valves are cavity-free due to the special body design, the liner is firmly locked.
- Plug coating is extended over the shaft sealing.
- The lining are moulded into dovetail recesses in the body to lock them in place to prevents liner collapse in vacuum conditions and blow out in high pressure conditions.
- Two way cavity free designs prevent accumulation of particulate matter making it an ideal choice for slurry application.
- There is ideal taper design for the plug and the body cavity. When it failures to seal as a result of worn in using process, the three adjusting bolts in the cover work for external adjustment of in-line seal, to assure a maximum sealing capability and an extended service life.
- Top sealing components form the second sealing. When the sealing surface failures to work, it prevents medium leaking through the valve stem.
- Disassemble the four bolts on the cover, all the parts in valve can be took out, and replace the parts directly without the need to remove valve form pipeline.
- Lined three-way plug valve is the best choice for corrosive diverter valve application.
- It can sustain any corrosive medium in addition to the "molten alkali metals and fluorine elements". It is ideal products used in chlor-alkali, industrial in organic chemicals, metal and mining, nitrogen and phosphatic fertilizers, petroleum refining, pharmaceutical etc.
- Lining material: PFA, FEP, PO etc.
- Operation methods: manual, worm gear, electric, pneumatic and hydraulic actuator.
- McSYS lined plug valves are available as per the needs of applications in additional sizes and other than standard materials.



Lined Three-way Plug Valve



Lined Plug Valve

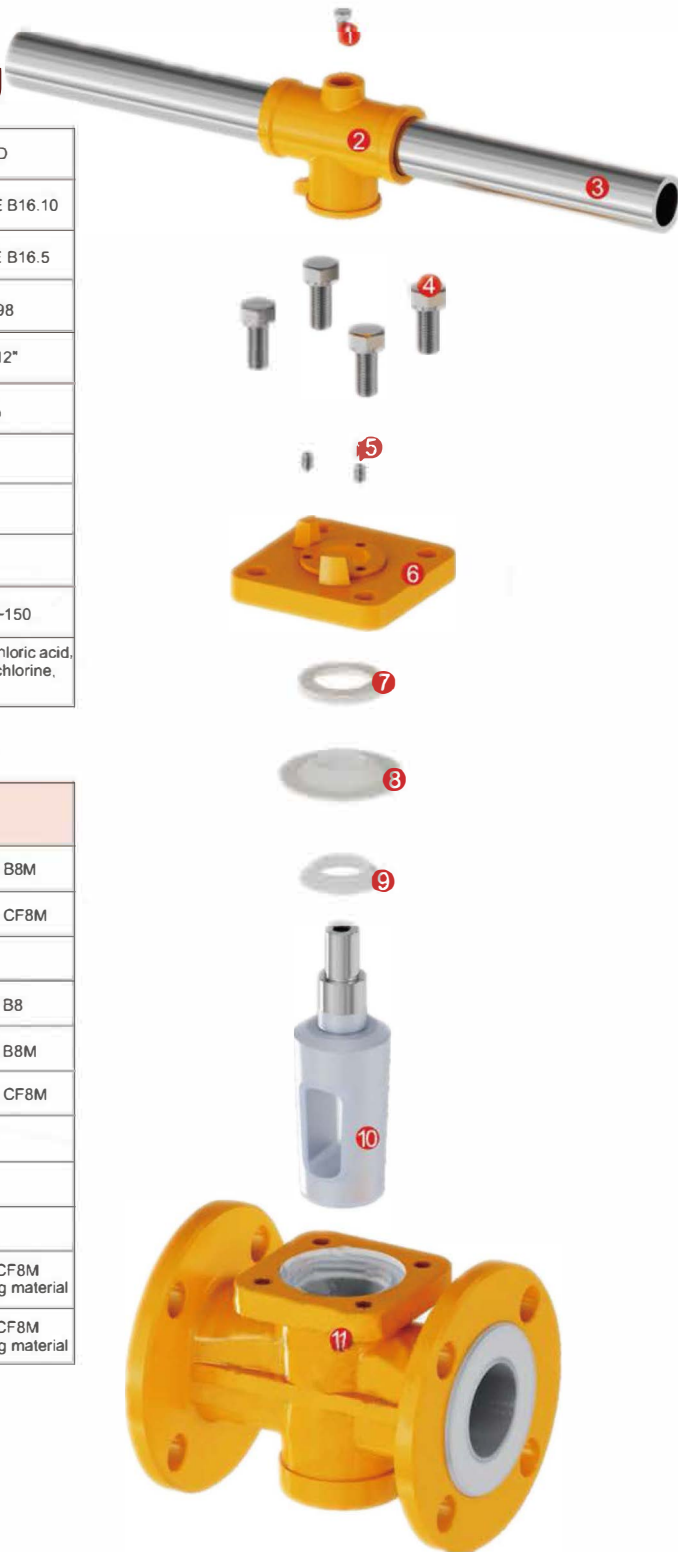
LINED PLUG VALVE

TECHNICAL SPECIFICATION

Design & Manufacture Standard		HG/T 3704, GB/T 12240		API 6D
Face-to-face Dimension Standard		HG/T 3704, GB/T 12221		ASME B16.10
Flange Standard		HG/T 20592, GB/T 9119		ASME B16.5
Inspection & Test Standard		GB/T 13927, JB/T 9092		API 598
Nominal Diameter		DN15~DN300		1/2"~12"
Nominal Pressure (MPa)		1.0	1.6	150Lb
Pressure Test (MPa)	Shell Test	1.5	1.5	1.5
	High Pressure Sealing	1.1	1.1	1.1
	Low Pressure Sealing	0.6	0.6	0.6
Temperature Range (°C)		PFA: -30~200 FEP: -30~150		
Applicable Medium		Strong corrosive medium i.e. hydrochloric acid, Nitric acid, Hydrofluoric acid, Liquid chlorine, Sulfuric Acid and Aqua regia etc.		

MATERIAL SPECIFICATION

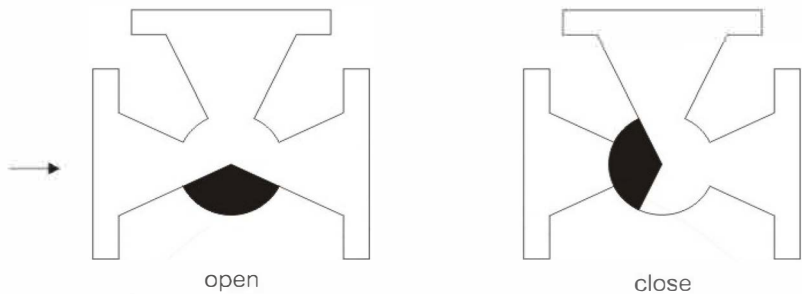
No	Name	Material		
1	Body blot	A193 B7	A320 B8	A193 B8M
2	Handle seat	A216 WCB	A351 CF8	A351 CF8M
3	Operation rod	1025 SS304		
4	Top cap bolt	A193 B7	A320 B8	A193 B8
5	Adjusting screw	A193 B7	A320 B8	A193 B8M
6	Bonnet	A216 WCB	A351 CF8	A351 CF8M
7	Metal gasket	SS304		
8	V-shape gasket	PTFE		
9	Wedge ring	PTFE		
10	Plug	A216 WCB +Lining material	A351 CF8 +Lining material	A351 CF8M +Lining material
11	Body	A216 WCB +Lining material	A351 CF8 +Lining material	A351 CF8M +Lining material



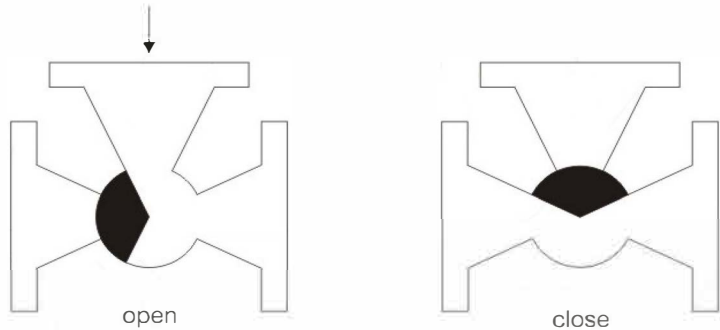
LINED PLUG VALVE -Three Way

Optional Flow Arrangements

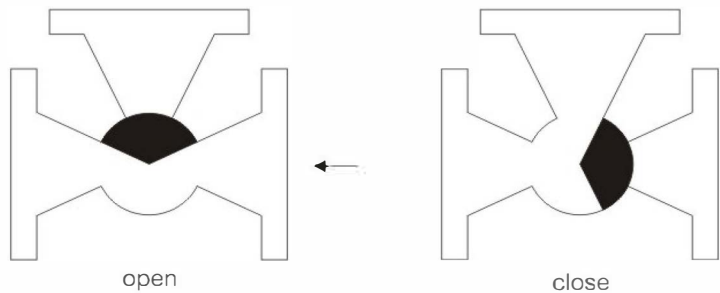
◆Option 1



◆Option 2



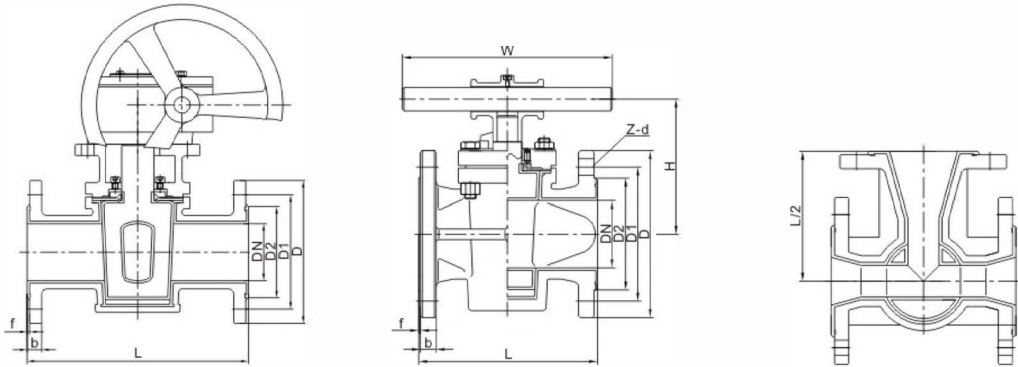
◆Option 3



Note: For more options, please consult factory.

LINED PLUG VALVE -Three Way

Lined Three-Way Plug Valve



HG/T 20592 PN10

Unit:mm

DN	L	D	D1	D2	Z-d	f	b	H	W	H0
25	160	115	85	65	4-14	2	14	98	260	-
32	180	140	100	78	4-18	3	16	101	260	-
40	200	150	110	85	4-18	3	16	128	320	-
50	230	165	125	100	4-18	3	16	128	320	-
65	290	185	145	120	4-18	3	18	135	320	-
80	310	200	160	135	8-18	3	20	164	400	322
100	350	220	180	155	8-18	3	20	178	400	332
125	400	250	210	185	8-18	3	22	205	-	385
150	480	285	240	210	8-23	3	24	220	-	405

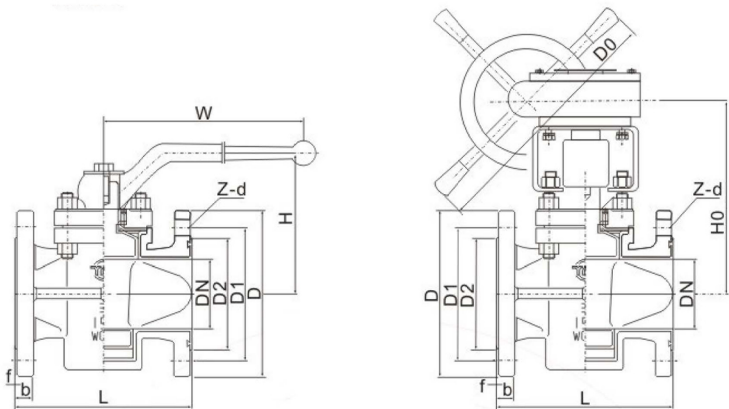
HG/T 20592 PN16

25	160	115	85	65	4-14	2	14	98	260	-
32	180	140	100	78	4-18	3	16	101	260	-
40	200	150	110	85	4-18	3	16	128	320	-
50	230	165	125	100	4-18	3	16	128	320	-
65	290	185	145	120	4-18	3	18	135	320	-
80	310	200	160	135	8-18	3	20	164	400	322
100	350	220	180	155	8-18	3	20	178	400	332
125	400	250	210	185	8-18	3	22	205	-	385
150	480	285	240	210	8-23	3	24	220	-	405

Note: For more size please consult factory.

LINED PLUG VALVE

Ansi Lined Plug Valve



ASME B16.5 Class150

Unit:mm

NPS	DN	L	D	D1	D2	Z-d	f	b	H	W	H0
1/2	15	110	89	60.5	35	4-16	2	11	85	180	-
3/4	20	117	98	70.0	43	4-16	2	13	88	180	-
1	25	127	108	79.5	51	4-16	2	14	98	260	-
1 1/4	32	140	117	89.0	64	4-16	2	15.7	101	260	-
1 1/2	40	165	127	98.5	73	4-16	2	17.5	128	320	-
2	50	178	152	120.5	92	4-19	2	19	128	320	-
2 1/2	65	190	178	139.5	105	4-19	2	22	135	320	-
3	80	203	190	152.5	127	4-19	2	24	164	400	322
4	100	229	229	190.5	157	8-19	2	24	178	400	332
5	125	254	254	216.0	186	8-22	3	24	205	-	385
6	150	267	279	241.5	216	8-22	3	25.4	220	-	405
8	200	292	343	298.5	270	8-22	3	28.5	-	-	455
10	250	330	406	362.0	324	12-25	3	30	-	-	490

ASME B16.5 Class300

1/2	15	140	95	66.5	35	4-16	2	14	85	180	-
3/4	20	152	117	82.5	43	4-19	2	15.7	88	180	-
1	25	165	124	89.0	51	4-19	2	17.5	98	260	-
1 1/4	32	178	133	98.5	64	4-19	2	19	101	260	-
1 1/2	40	190	156	114.5	73	4-22	2	20.5	128	320	-
2	50	216	165	127.0	92	8-19	2	22.4	128	320	-
2 1/2	65	241	190	149.0	105	8-22	2	25.4	135	320	-
3	80	283	210	168.5	127	8-22	2	28.4	164	400	322
4	100	305	254	200.0	157	8-22	2	32	178	400	332
5	125	381	279	235.0	186	8-22	3	35	205	-	385
6	150	403	318	270.0	216	12-22	3	36.6	220	-	405
8	200	419	381	330.0	270	12-25	3	41	-	-	455
10	250	457	445	387.5	324	16-29	3	47.8	-	-	490

Note: For more size please consult factory.