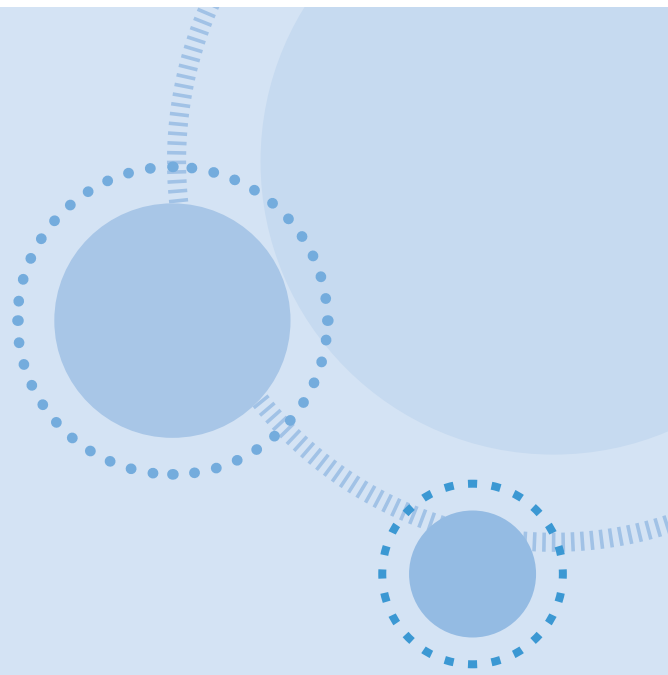


# MTS VALVES

MACHINERY TECHNOLOGY SOLUTIONS



*Teflon Sleeved Plug Valves*  
*Teflon Lined Plug Valves*



**MTS** MTS CO., LTD

SINCE 1997 MACHINERY TECHNOLOGY SOLUTIONS CO., LTD · [mts@mts98.co.kr](mailto:mts@mts98.co.kr)  
CONTROL VALVE, MANUAL VALVE, DAMPER, SPECIAL VALVE · [www.mts98.co.kr](http://www.mts98.co.kr)



# CEO GREETINGS

## DO ONE'S BEST TOP QUALITY CUSTOMER SATISFACTION



MTS Co., Ltd.[Machinery Technology Solutions] was established in 1997 and have grown up as one of the leading manufacturers for valve products include gate valve, globe valve, check valve, ball valve, butterfly valve, plug valve, pneumatic actuator & electric actuators etc.. in Korea through new ideas and accumulated know-how in the field of valve products.

In the year 2004, our company passed the ISO9001:2000 quality assurance system and appraised as "Management Renovation Company" by Small and Medium Business Administration of government. The company now functions developing, producing, assembling, sale and after-service as one concerned mechanism and is specialized in manufacturing valves.

Our all employees of our company have new resolution and will dedicate themselves to supply best quality products as prompt delivery.

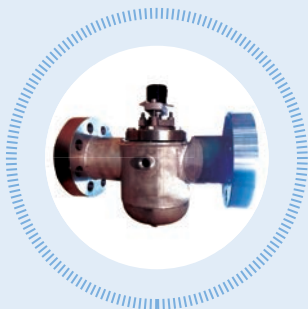
The technical staff of MTS makes qualified products capable of a great flexibility and permits to satisfy special kinds of requires.

Competence, Availability and Kindness are some of the most important qualities that characterise the relationship with customers.

**MACHINERY TECHNOLOGY SOLUTIONS CO., LTD**  
**President Myoeng-gil, An**

**MACHINERY  
TECHNOLOGY  
SOLUTIONS**

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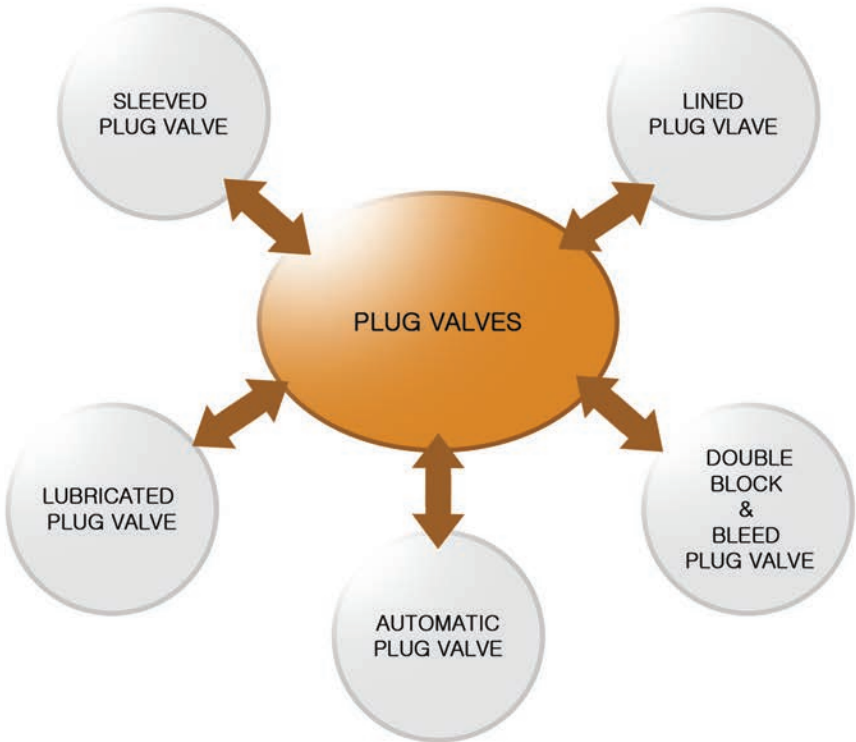
## MAIN PRODUCT APPLICATION

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- Chemical Plants
- Fats, Oils, Fatty Acid and Detergent Plants
- Power Plants–Fossil Fuel
- Breweries & Distilleries
- Electrical Component Plants
- Foundries
- Power Plant–Nuclear
- Coke By–Products Plants
- Food Processing Plants
- Paint & Paint Product Plants
- Textile Industry
- Steel & Other Metal Processing Plants
- Rubber & Synthetic Rubber Products Plants
- Petroleum Products & Handling Systems
- Pulp & Paper Plants
- Pharmaceutical Plants
- Water Treatment–Purification



# FIELD OF BUSINESS AND AREA



**Product's Outline**

**STANDARD PLUG VALVE**

<b>MANUAL VALVE</b>	(1) TEFLON SEAT PLUG VALVE - TEFLON SLEEVED VALVE(STAND PORT& FULL PORT) - TEFLON LINED VALVE - JACKETED VALVE(FULL JACKTED & PARTIAL JACKTED) (2) METAL SEAT VALVE - LUBRICATED PLUG VALVE - NON-LUBRICATED METAL SEAT PLUG VALVE
<b>CONTROL VALVE</b>	(1) ON-OFF CONTROL (2) THROTTLING CONTROL
<b>SPECIAL VALVE</b>	(1) DOUBLE BLOCK & BLEED VALVE (2) VOC PACKING TYPE PLUG VALVE
<b>PRESSURE RATING &amp; SIZE</b>	- ANSI 150LB 1/2" ~ 24" - ANSI 300LB 1/2" ~ 14" - ANSI 600LB 1/2" ~ 6" - JIS 10K, 20K 40K - DIN PN10, PN16, PN25, PN40

## FEATURE

FIG. P250 316/316  
SLEEVED PLUG VALVES



### SAVE SLEEVED PLUG VALVE Characteristic and Merits

#### 1 , Completely no leakage.

- ① Plug & Tapered pipe of the Teflon Sleeve uses the contact method giving absolutely no leakage compare to other Process Valves.
- ② Stem Seal structure has secured the security design and gives absolutely no leakage characteristic of magnet powered type.
- ③ Weather Proof Type characteristic has been added. The stem seal part weak for leakage because of corrosion after long usage. But our product has modular sealing structure in the stem part which guarantee absolutely no leakages the life span of the product. ( Top Seal structure )

#### 2 . No dead space in the valve.

The passage ways of the valve has no extra space like other Process valve allowing full control and open/close function, semi - permanent life span.

#### 3 . No need of maintenance and repair

Having no extra space there is no worry the moving materials to clog up inside the pipe.

① The Seal pressure made by the abrasion of the Teflon sleeve is re - controlled by the Cover of ADJ. Bolt for semi - permanent sealing.

② Inside Body of the port is a Metal lip with Self - Cleaning function which can control all sticky and solid materials.

③ Top entry type allowing easy maintenance without seperate stream line.



#### ► Non-Lubricater Type

#### ► Material

- Body, Plug

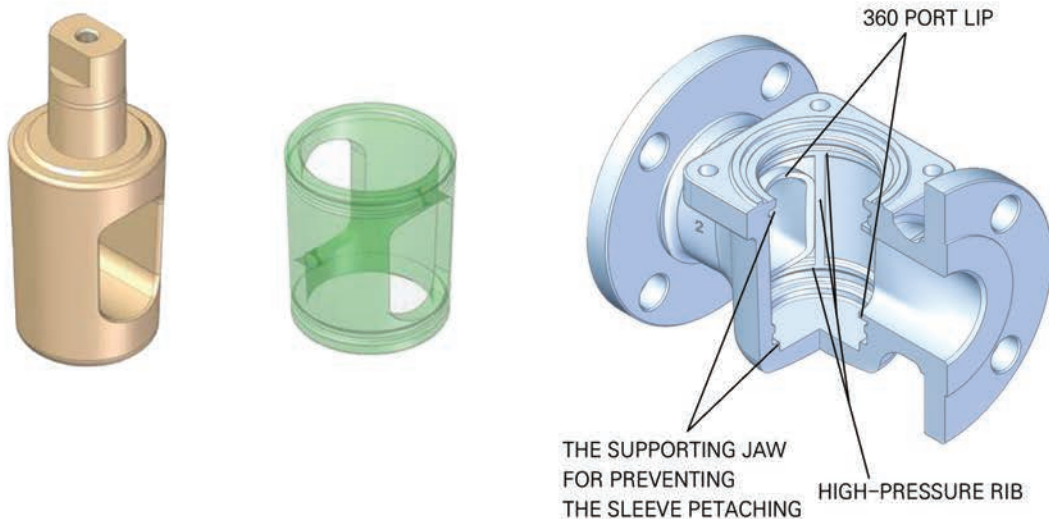
WCB, LCB, 304, 304L, 316, 316L, A20, CD4M  
CU, HB, HC, MO, INCONEL, TI, ZR

► Size 1/2" ~18"

► Allowable Temperature -50℃ ~230℃

► Main Fluid : Toxic, Flammable, Explosive  
Fluid Line and No-leakage required Line

## FEATURE



### **Design more economical, flexible, and compact fluid handing systems.**

Bi-directional flow, simple actuation, lightweight, compact design, and multi-port configurations all facilitate improved sysetem design.

### **Superior, Longer-lasting In-Line Sealing**

The inert PTFE sleeve completely surrounds the plug. The sleeve provides a large, circumferential sealing surface form port to port. Open, closed, or rotating, the sealing is assured. No ball or gate Valve can match this sealing power.

### **Secure sealing with no clod-flow, deformation blow-out, or rotating of the sleeve**

The sleeve is securely nestled in the valve body. High-pressure ribs, top and bottom retention, and 360 degree port lips all assure sleeve containment

### **No seizing. No sticking**

As the plug rotates, the 360 degree lips provide a self cleaning action to remove scaling and adhering media.

### **No cavities. No contamination.**

There are no body cavities where flow media can accumulate and contaminate future processing. The cavity-free design alos prevents sticking

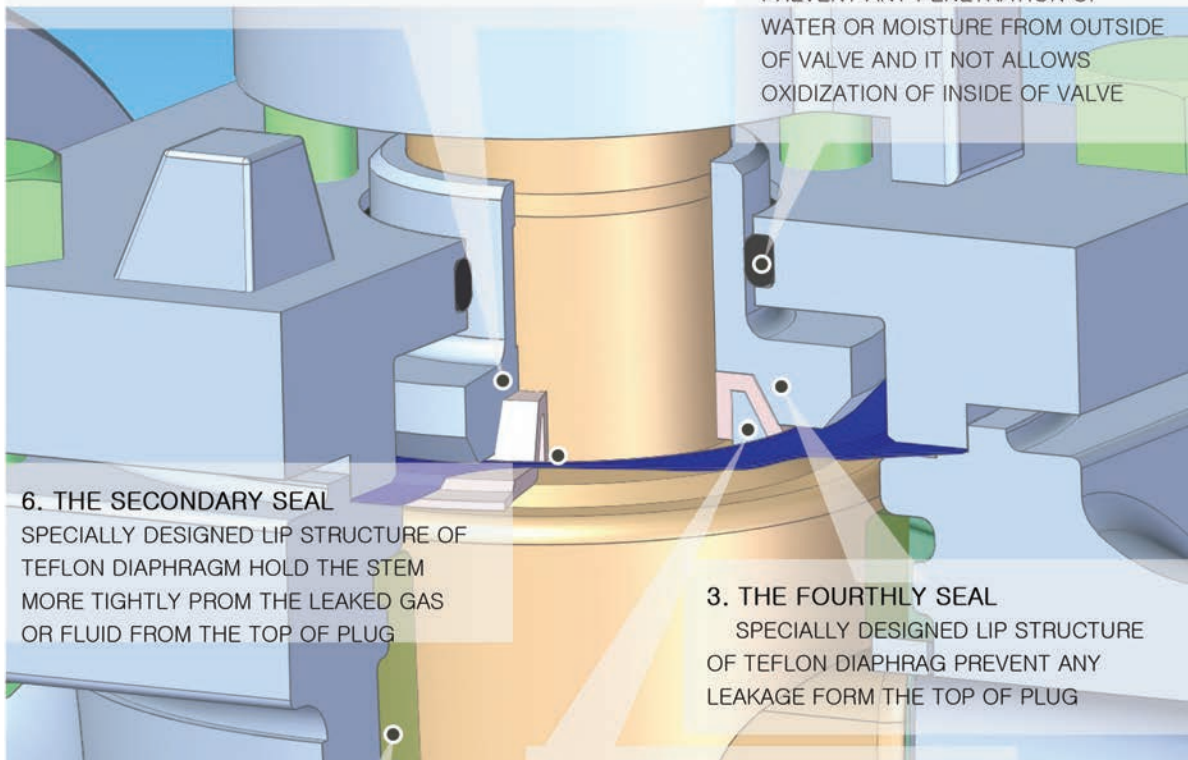
## TOP SEAL STRUCTURE

### 1. THE ANTISTATIC THRUST COLLAR

3-POINT STANDED THRUST COLLAR HOLDS THE STEM TIGHTLY AND PUSHES THE DIAPHRAM WITH DEFINED PRESSURE. HOLD THE STEM TIGHTLY AND EXTRACTS ANY STATIC ELEECTRICITY WHICH PLACES INSIDE THE VALVE.

### 2. WEATHER PROOF TYPE

WEATHER PROOF O-RING WILL PREVENT ANY PENETRATION OF WATER OR MOISTURE FROM OUTSIDE OF VALVE AND IT NOT ALLOWS OXIDIZATION OF INSIDE OF VALVE



### 6. THE SECONDARY SEAL

SPECIALLY DESIGNED LIP STRUCTURE OF TEFLON DIAPHRAGM HOLD THE STEM MORE TIGHTLY PROM THE LEAKED GAS OR FLUID FROM THE TOP OF PLUG

### 3. THE FOURTHLY SEAL

SPECIALLY DESIGNED LIP STRUCTURE OF TEFLON DIAPHRAGM PREVENT ANY LEAKAGE FORM THE TOP OF PLUG

### 4. THE TERTIARY SEAL

RTFE TEFLON WEDGE RING AND PLUG ARE TOUCHED TIGHTLY

### 5. THE PRIMARY SEAL

THE TOUCHED FACE BETWEEN TEFLON SLEEVE AND PLUG NOT ALLOW ANY LEAKAGE OF FLUID

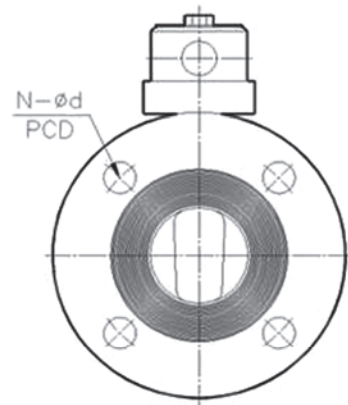
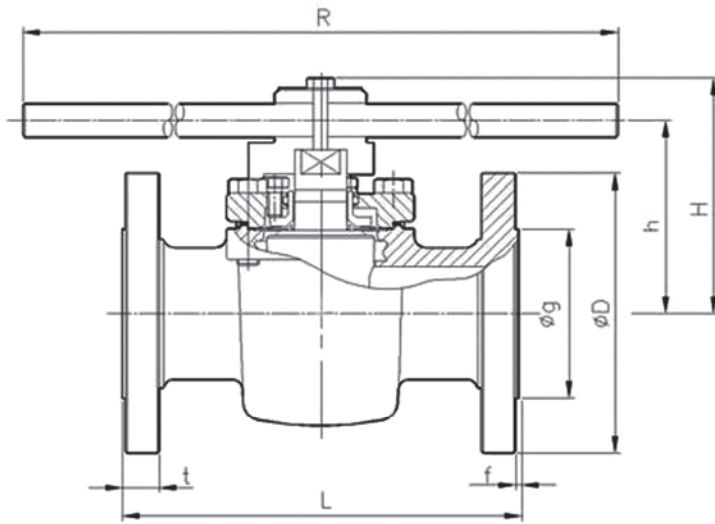


## PART OF STANDARD MATERIAL

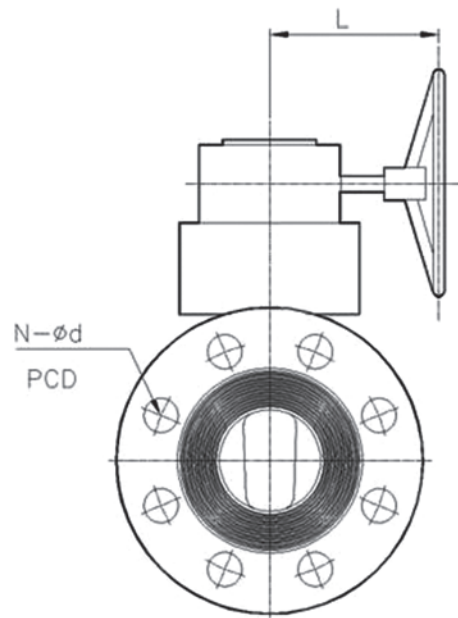
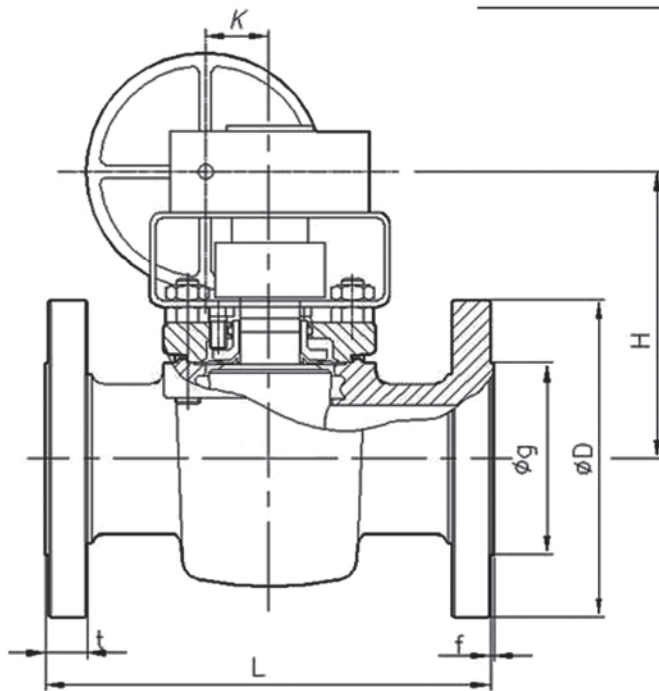


NO	DESCRIPTION	QUANTITY	MATERIAL	SPECIFICATION
1	HUB BOLT	1	STAINLESS STEEL	SUS304
2	NAME PLATE	1	STAINLESS STEEL	SUS304
3	HUB	1	CARBON STEEL	ASTM A216 WCB
4	WRENCH	1	CARBON STEEL	1045, PAINTED
5	COVER BOLT	1S	STAINLESS STEEL	SUS304
			CARBON STEEL	ASTM A193 B7
6	ADJUSTING BOLT	3	STAINLESS STEEL	SUS304
7	COVER	1	STAINLESS STEEL	ASTM A351 CF8M
			CARBON STEEL	ASTM A216 WCB
8	O-RING	1	VITON	-
9	THRUST COLLAR	1	STAINLESS STEEL	SUS304
10	METAL DIAPHRAGM	1	STAINLESS STEEL	SUS304
11	PTFE DIAPHRAGM	1	PTFE	-
12	WEDGE RING	1	RTFE	-
13	PLUG	1	STAINLESS STEEL	ASTM A351 CF8M
14	SLEEVE	1	PTFE(RTFE)	-
15	BODY	1	STAINLESS STEEL	ASTM A351 CF8M
			CARBON STEEL	ASTM A216 WCB

## VALVE DIMENSION



1/2" THRU 4"



4" OVER

## VALVE DIMENSION

FIG P250 RF-FLANGED 2-WAY ANSI CLASS 150#

DIMENSION UNIT : MM

IN	MM	L	END FLANGES						BOLT HOLE			h	H	R	K	W	OPERATOR
			D	g	t	f	PCD	N	d								
1/2"	15	108	89	35	9.7	1.6	60.5	4	16	58	80	180	-	-	WITH WRENCH		
3/4"	20	117	98	43	10.4	1.6	70.0	4	16	58	80	180	-	-			
1"	25	127	108	51	11.2	1.6	79.5	4	16	75	96	230	-	-			
1.1/2"	40	165	127	73	14.2	1.6	98.5	4	16	91	116	320	-	-			
2"	50	178	152	92	15.8	1.6	120.5	4	19	106	130	500	-	-			
2.1/2"	65	190	178	105	17.5	1.6	139.5	4	19	121	145	620	-	-			
3"	80	203	190	127	19.1	1.6	152.5	4	19	121	145	620	-	-			
4"	100	229	229	157	23.9	1.6	190.5	8	19	150	178	750	-	-	WITH WORM GEAR		
4"	100	229	229	157	23.9	1.6	190.5	8	19	-	233	250	53	117			
5"	125	254	254	186	23.9	1.6	216.0	8	22	-	260	300	62.5	228			
6"	150	267	279	216	25.4	1.6	241.5	8	22	-	260	300	62.5	228			
8"	200	292	343	270	28.6	1.6	298.5	8	22	-	343	300	62.5	228			
10"	250	330	406	324	30.2	1.6	362.0	12	25	-	374	500	91.5	297			
12"	300	356	483	381	31.8	1.6	432.0	12	25	-	464	560	113	330			
14"	350	381	533	413	35.1	1.6	476.0	12	29	-	575	630	153	370			
16"	400	762	597	470	36.6	1.6	539.0	16	29	-	615	560	113	360			
18"	450	864	635	533	39.7	1.6	578.0	16	32	-	725	630	153	420			
20"	500	914	698	584	42.9	1.6	635.0	20	32	-	829	800	235	552			
24"	600	1067	813	692	52.4	1.6	749.0	20	35	-	885	900	281	602			

FIG P250-J RF-FLANGED 2-WAY JIS 10K

DIMENSION UNIT : MM

IN	MM	L	END FLANGES						BOLT HOLE			h	H	R	K	W	OPERATOR
			D	g	t	f	PCD	N	d								
1/2"	15	108	95	51	12	1	70.0	4	15	58	80	180	-	-	WITH WRENCH		
3/4"	20	117	100	56	14	1	75.0	4	15	58	80	180	-	-			
1"	25	127	125	67	14	1	90.0	4	19	75	96	230	-	-			
1.1/2"	40	165	140	81	16	2	105.0	4	19	91	116	320	-	-			
2"	50	178	155	96	16	2	120.0	4	19	106	130	500	-	-			
2.1/2"	65	190	175	116	18	2	140.0	4	19	121	145	620	-	-			
3"	80	203	185	126	19	2	150.0	8	19	121	145	620	-	-			
4"	100	229	210	151	24	2	175.0	8	19	150	178	750	-	-	WITH WORM GEAR		
4"	100	229	210	151	24	2	175.0	8	19	-	233	250	53	117			
5"	125	254	250	185	24	2	210.0	8	23	-	260	300	62.5	228			
6"	150	267	280	212	25	2	240.0	8	23	-	260	300	62.5	228			
8"	200	292	330	262	29	2	290.0	12	23	-	343	300	62.5	228			
10"	250	330	400	324	30	2	355.0	12	25	-	374	500	91.5	297			
12"	300	356	445	368	32	3	400.0	16	25	-	464	560	113	330			
14"	350	381	490	413	35	3	445	16	25	-	575	630	153	370			
16"	400	762	560	475	36	3	510	16	27	-	615	560	113	360			
18"	450	864	620	530	37	3	565	20	27	-	725	630	153	420			
20"	500	914	675	585	42	3	620	20	27	-	829	800	235	552			
24"	600	1067	795	690	52	3	730	24	33	-	885	900	281	602			

# Teflon Sleeved Plug Valves

## VALVE DIMENSION

FIG P230 RF-FLANGED 2-WAY ANSI CLASS 300#

UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	140	95	35	14.3	1.6	66.5	4	16	58	80	180	-	-	WITH WRENCH
3/4"	20	152	117	43	15.9	1.6	82.5	4	19	58	80	180	-	-	
1"	25	162	124	51	17.5	1.6	89.0	4	19	75	96	230	-	-	
1.1/2"	40	190	156	73	20.7	1.6	114.5	4	22	91	116	320	-	-	
2"	50	216	165	92	22.3	1.6	127.0	8	19	106	130	500	-	-	
3"	80	283	210	127	28.6	1.6	168.0	8	22	121	145	620	-	-	
4"	100	305	254	157	31.8	1.6	200.0	8	22	150	178	620	-	-	
4"	100	305	254	157	31.8	1.6	200.0	8	22	-	233	750	53	117	WITH WORM GEAR
5"	125	381	279	186	35.0	1.6	235.0	8	22	-	260	300	62.5	228	
6"	150	403	318	216	36.6	1.6	270.0	12	22	-	260	300	62.5	228	
8"	200	419	381	270	41.3	1.6	330.0	12	25	-	343	300	62.5	228	
10"	250	457	444	324	47.7	1.6	387.5	16	29	-	374	500	91.5	297	
12"	300	502	521	381	50.8	1.6	451.0	16	32	-	464	560	113	330	
14"	350	762	584	413	54.0	1.6	514.5	20	32	-	575	630	153	370	
16"	400	838	648	470	57.2	1.6	571.5	20	35	-	615	560	113	360	
18"	450	914	711	533	60.4	1.6	628.5	24	35	-	725	630	153	420	
20"	500	991	775	584	63.5	1.6	686.0	24	35	-	829	800	235	552	
24"	600	1143	914	692	69.9	1.6	812.8	24	41	-	885	900	281	602	

FIG P230-J RF-FLANGED 2-WAY JIS 20K

UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	140	95	51	14	1	70.0	4	16	58	80	180	-	-	WITH WRENCH
3/4"	20	152	100	56	16	1	75.0	4	19	58	80	180	-	-	
1"	25	162	152	67	16	1	90.0	4	19	75	96	230	-	-	
1.1/2"	40	190	140	81	18	2	105.0	4	19	91	116	320	-	-	
2"	50	216	155	96	18	2	120.0	8	19	106	130	500	-	-	
3"	80	283	200	132	22	2	160.0	8	23	121	145	620	-	-	
4"	100	305	255	160	24	2	185.0	8	23	150	178	620	-	-	
4"	100	305	225	160	24	2	185.0	8	23	-	233	750	53	117	WITH WORM GEAR
5"	125	381	270	195	26	2	225.0	8	25	-	260	300	62.5	228	
6"	150	403	305	230	28	2	200.0	8	25	-	260	300	62.5	228	
8"	200	419	350	275	30	2	305.0	12	25	-	343	300	62.5	228	
10"	250	457	430	345	34	2	380.0	12	27	-	374	500	91.5	297	
12"	300	502	480	395	35	3	430.0	16	27	-	464	560	113	330	
14"	350	762	540	440	54	3	480.0	16	33	-	575	630	153	370	
16"	400	838	605	495	57	3	540.0	16	33	-	615	560	113	360	
18"	450	914	675	560	60	3	605.0	20	33	-	725	630	153	420	
20"	500	991	730	615	63	3	660.0	20	33	-	829	800	235	552	
24"	600	1143	845	720	69	3	770.0	24	39	-	885	900	281	602	

## VALVE DIMENSION

FIG P260 RF-FLANGED 2-WAY ANSI CLASS 600#

DIMENSION

UNIT : MM

IN	MM	L	END FLANGES						BOLT HOLE			h	H	R	K	W	OPERATOR
			D	g	t	f	PCD	N	d								
1/2"	15	165	95	35	20.7	6.4	66.5	4	16	58	80	180	-	-	WITH WRENCH		
3/4"	20	190	117	43	22.3	6.4	82.5	4	19	58	80	180	-	-			
1"	25	216	124	51	23.9	6.4	89.0	4	19	75	96	230	-	-			
1.1/2"	40	241	156	73	28.7	6.4	114.5	4	22	91	116	320	-	-			
2"	50	292	165	92	31.8	6.4	127.0	8	19	106	130	500	-	-			
3"	80	356	210	127	38.2	6.4	168.0	8	22	121	145	620	-	-			
4"	100	432	273	157	44.5	6.4	216.0	8	25	150	178	620	-	-			
4"	100	432	273	157	44.5	6.4	216.0	8	25	-	233	750	53	117	WITH WORM GEAR		
5"	125	508	330	186	38.1	6.4	266.5	8	29	-	260	300	62.5	228			
6"	150	559	356	216	54.1	6.4	292.0	12	29	-	260	300	62.5	228			
8"	200	660	419	270	62.0	6.4	349.0	12	32	-	343	300	62.5	228			
10"	250	787	508	324	69.9	6.4	432.0	16	35	-	374	500	91.5	297			
12"	300	838	559	381	73.1	6.4	489.0	20	35	-	464	560	113	330			

FIG P260-J RF-FLANGED 2-WAY JIS 40K

DIMENSION

UNIT : MM

IN	MM	L	END FLANGES						BOLT HOLE			h	H	R	K	W	OPERATOR
			D	g	t	f	PCD	N	d								
1/2"	15	165	115	55	20	1	80.0	4	19	58	80	180	-	-	WITH WRENCH		
3/4"	20	190	120	60	20	1	85.0	4	19	58	80	180	-	-			
1"	25	216	130	70	22	1	95.0	4	19	75	96	230	-	-			
1.1/2"	40	241	160	90	23	2	120.0	8	23	94	116	320	-	-			
2"	50	292	165	105	26	2	130.0	8	19	106	130	500	-	-			
2.1/2"	65	330	200	130	30	2	160.0	8	23	121	145	620	-	-			
3"	80	356	210	140	32	2	170.0	8	23	121	145	620	-	-			
4"	100	432	250	165	36	2	205.0	8	25	150	178	750	-	-	WITH WORM GEAR		
4"	100	432	250	165	36	2	205.0	8	25	-	233	250	53	117			
5"	125	508	300	200	40	2	250.0	8	27	-	260	300	62.5	228			
6"	150	559	355	240	44	2	295.0	12	33	-	260	300	62.5	228			
8"	200	660	405	290	50	2	349.0	12	33	-	343	300	62.5	228			
10"	250	787	475	355	56	2	410.0	12	33	-	374	500	91.5	297			
12"	300	838	540	410	60	3	470.0	16	39	-	464	560	113	330			

## JACKETED VALVE

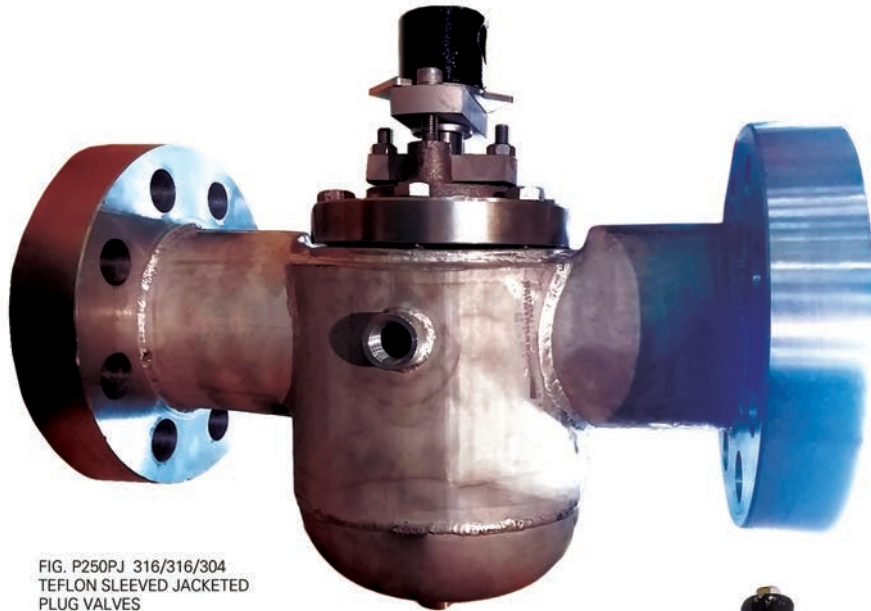
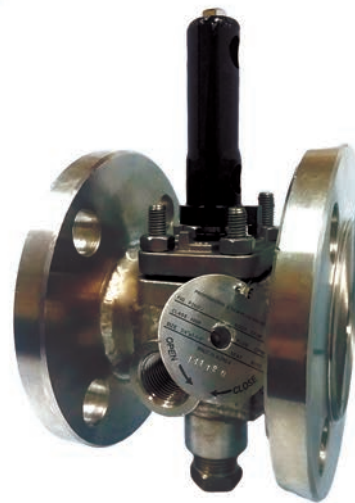


FIG. P250PJ 316/316/304  
TEFLON SLEEVED JACKETED  
PLUG VALVES

1. PA, MNT, DNT, LACTAM, PET POLYMER of the line are used for the accurate control of the temperature of the flow.
2. Applicable for the heating or cooling flow in the Jacket. (MAX. 230°C ~ MIN. -50°C)
3. Possible supply to valve contacts and Jacket contacts.
4. Complete body anti pressure test before or after of Jacket welding to guarantee the credibility.



### Non-Lubricated Type

Jacket Type : Partical(Semi) Jacket, Full Jacket

Material

- Body, Plug

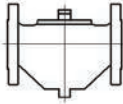
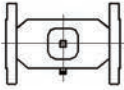

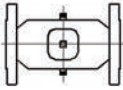
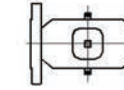
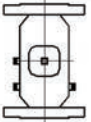
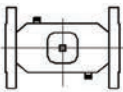
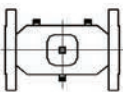
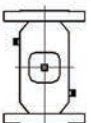
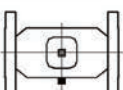
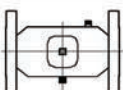
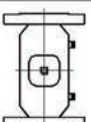


WCB, LCB, CF8, CF8M, CF3, CF3M, A20, CD4M, HB, HC, MONEL, INCONEL, TI, ZR

Jacket : Carbon Steel, Stainless Steel

Size : 1/2"~18"

Allowable Temperature : -50°C ~ 230°C

## JACKETED CONNECTION ARRANGEMENT

FLOW	HORIZONTAL STEM				VERTICAL STEM	
STEM DIRECTION	VERTICAL STEM		HORIZONTAL STEM		VERTICAL STEM	
<b>JACKET FORM</b>						
	<b>A</b>		<b>F</b>		<b>I</b>	
	<b>B</b>		<b>G</b>		<b>J</b>	
	<b>C</b>		<b>H</b>		<b>K</b>	
	<b>D</b>					
	<b>E</b>					

**NOTE**

1. FORM A, B, C, D, E IS BOTTOM VIEW
2. SCREWED, SOCKETED OR FLANGED STEAM CONNECTION IS AVAILABLE
3. WHEN REQUIRED FORM IS NOT DECIED OR DIFFERENT FROM THIS STD FORM CUSTOMER IS TO ADVISE MTS USING THIS SHEET

## FULL BORE VALVE



FIG. P250FB 316/316 FULL BORE  
TEFLON SLEEVED PLUG VALVES

### MTS FULL BORE SLEEVED PLUG VALVE`s Characteristics and merits

#### 1. Completely no leakage.

- ① PLUG & Tapered pipe of the Teflon Sleeve uses the contact method giving absolutely no leakage problems compared to other Process Valves.
- ② Stem Seal structure has secured the security design and gives absolutely no leakage characteristic of magnet powered type.
- ③ The Weather Proof Type`s characteristic has been added. The leakage through the stem seal parts of other enterprises` product take place at the sealing points but our products had unique designed the sealing structure in the stem parts and the covering parts which should have absolutely verified no leakages during longtime using, and eventually increasing the life span of them. ( Top Seal structure )

#### 2. No dead space in the valve.

The passage ways of the valve have no extra space like other Process valves allowing full control and open/close function, Semi-Permanent life span.

#### 3. No need of maintenance and repair

Having no extra space there is no worry the moving materials to clog up inside the pipe.

- ① The Seal pressure made by the abrasion of the Teflon sleeve is re-controlled by the Cover of Adjusting Bolts for Semi-Permanent Sealing.
- ② Inside Body of the port is a Metal lip with Self-cleaning function which can control all sticky and solid materials.
- ③ Top entry type allowing maintenance in On-line status possible. Valve which doesn`t need much maintenance.

#### Non-Lubricated Plug Type

Material (Body , Plug) : WCB, LCB, CF8, CF8M, CF3M, A20, CD4M, HB, HC, MO, INCONEL, TI, ZR

SIZE : 1/2" ~ 12"

PORT : 2, 3, 4, 5 WAY

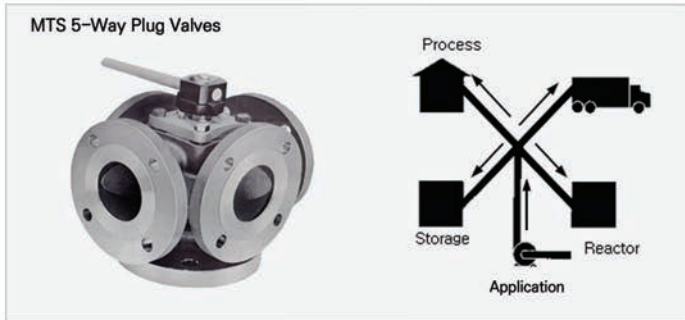
CLASS : ANSI #150, 300, 600 / JIS 10K, 20K, 40K / DIN PN10, PN16, PN25, PN40

Allowable temperature : -50°C ~ 230°C

End Connection : SCR(PT,NPT), BW, SW, FF, RF, LMF, T&G



## MULTI PORT VALVE



As no limitation of flow direction, Multiport have no obstacle to do piping arrangement like blending, diverting and segregation. It's economical to use only one 3-way valve instead of applying the three valves respectively, multiport make piping be simple and minimal.

Tandem operation, Steam Purging, Switching of relief valves for test, Recirculation of slurry tanks, diversion of duplex strainers, Pump bypass & switching, Schedule switching, Throttling switching.



**EXAMPLE : 3-WAY Port Arrangement**

FORMS	A	AX	D	C	I	T	L
FLOW							
POSITION 1 0°							
POSITION 2 90°							
POSITION 3 180°							
POSITION 4 270°							

## EXTENDED PACKING PLUG VALVES (VOC PACKING TYPE)

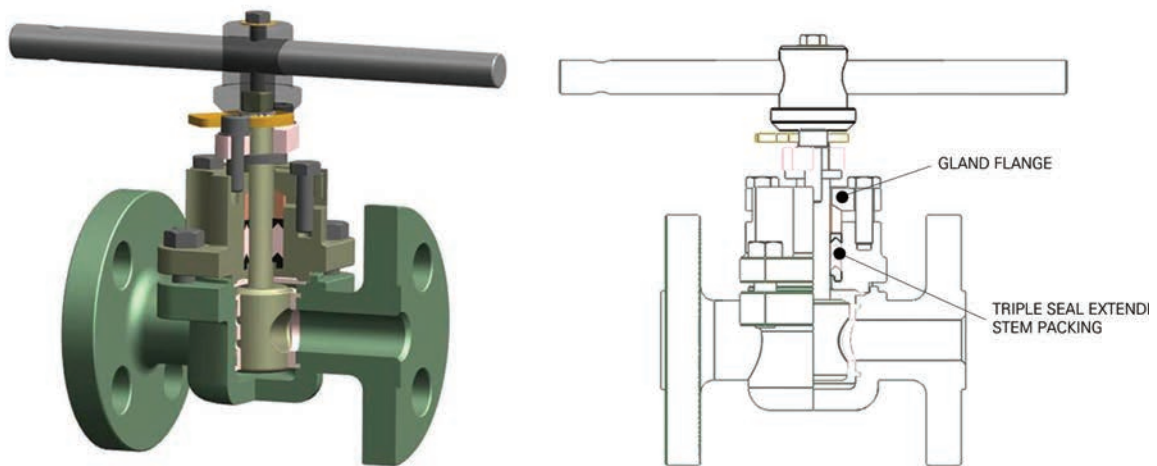


FIG. P250EP CF8M/CF8M FULL BORE  
TEFLON SLEEVED PLUG VALVES

### Feature

- Extended triple seal stem packing type. Easy to choose the kinds and material of packing. (Graphite, PTFE V-Packing, VOC packing etc.)
- No leakage semi-permanent structure through equally pressured Triple Seal Stem Packing by Gland flange.
- Various and steady Leaking Prevention by Stem Sealing.
- Able to be used as Live Loaded Extended Packing by using Plate Spring with an Option to use gland Flange Bolt to do triple sealing against various temperature effectively.
- Able to prevent stern requirements for leaking prevention and control the requirements for sealing economically.

## EXTENDED PACKING PLUG VALVES (PART OF STANDARD MATERIAL)

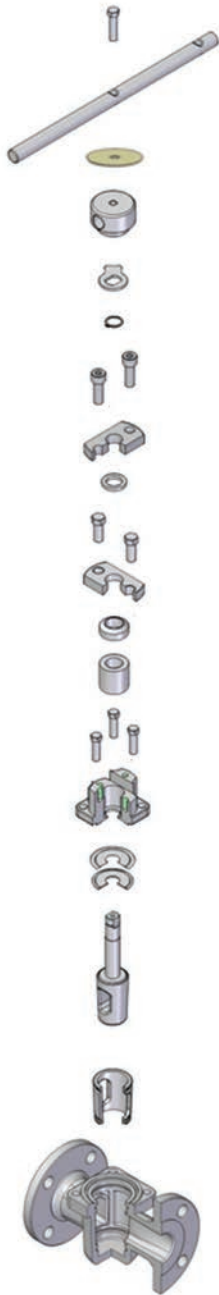
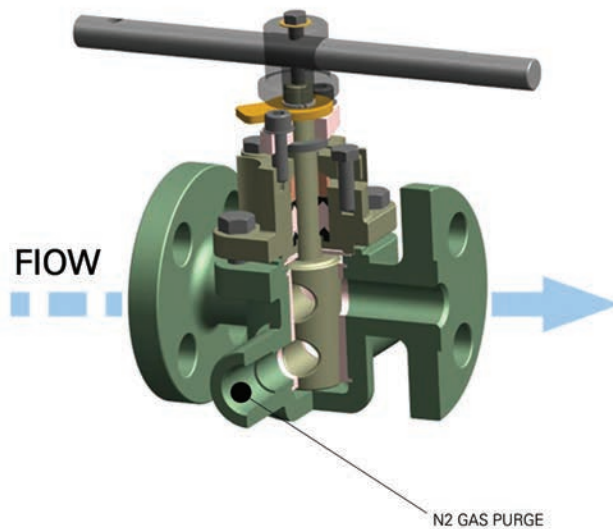


FIG. P250EP 316/316

NO	DESCRIPTION	QUANTITY	MATERIAL	SPECIFICATION
1	HUB BOLT	1	STAINLESS STEEL	SUS304
2	WRENCH	1	CARBON STEEL	1045, PAINTED
3	MAIN PLATE	1	STAINLESS STEEL	SUS304
4	HUB	1	CARBON STEEL	ASTM A216 WCB
5	INDICATOR	1	STAINLESS STEEL	SUS304
6	SNAP RING	1	CARBON STEEL	1020, PAINTED
7	ADJUSTING BOLT	2	STAINLESS STEEL	SUS304
8	ADJUSTING PLATE	1	STAINLESS STEEL	SUS304
9	STOP PLATE	1	STAINLESS STEEL	SUS304
10	GLAND BOLT	2	STAINLESS STEEL	SUS304
11	GLAND FLANGE	1	STAINLESS STEEL	SUS304
12	GLAND	1	STAINLESS STEEL	SUS304
13	PACKING	1SET	VOC PACKING	GRAPHITE
14	COVER BOLT	4	STAINLESS STEEL	SUS304
15	COVER	1	STAINLESS STEEL	ASTM A351 CF8
16	METAL DIAPHRAGM	1	STAINLESS STEEL	SUS304
17	PTFE DIAPHRAGM	1	PTFE	-
18	PLUG	1	STAINLESS STEEL	ASTM A351 CF8M
19	SLEEVE	1	PTFE	-
20	BODY	1	STAINLESS STEEL	ASTM A351 CF8M

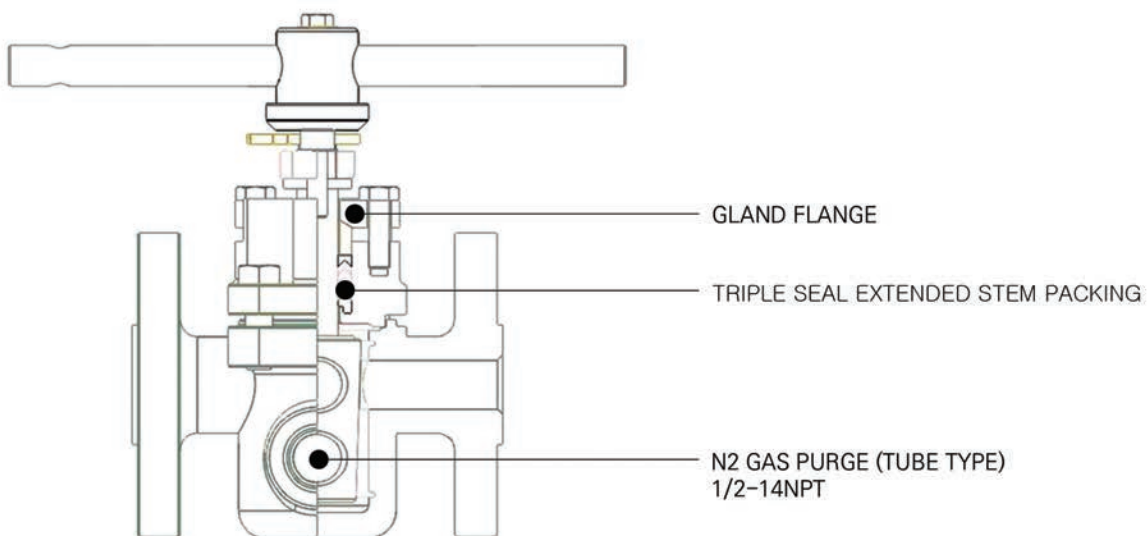
## N2 GAS PURGE EXTENDED PACKING PLUG VALVES



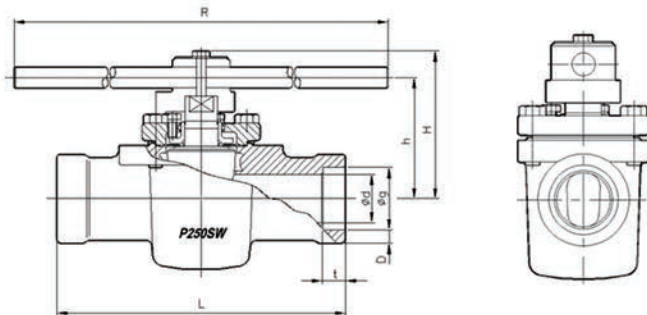
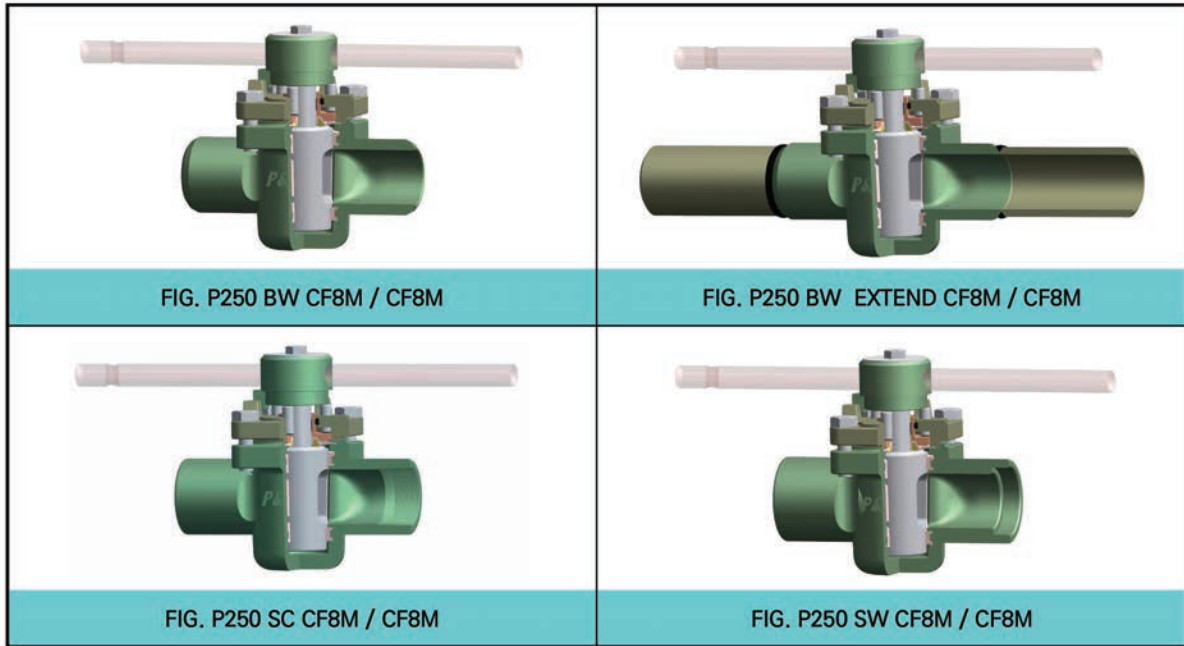
MTS FIG. P250EP, PM WCB/CF8M  
N2 PURGE ON-OFF EXTENDED PACKING TYPE PLUG VALVES

### Advantage

1. Completely No Leakage.
  - As tapered Plug and Teflon Sleeve contact face to give absolutely no leakage.
  - Stem Seal Structure has been designed to complement the controversial point of other plug valves.
  - As stem Seal is not exposed externally it doesn't rust and able to increase life span. (Weather Proof Type)
2. NO Dead Spaces.
  - No dead space in the fluid way can allow full control of open/close function and gives semi-permanent life span.
3. Few Manintenance and Repair needed.
  - No dead space dosen't allow fluid be clogged up.
  - Re-adjusting of Seal Pressure by using Adjusting Bolt After abrasion of Teflon Sleeve gives semi-permanent sealing function
  - Metal lib around Port has Self-Cleaning function to control steamy and solid material liquid.
  - Top Entry type can alloo to be repaired on line.



## SCREW & NUCLEAR WELD ENDS TYPE



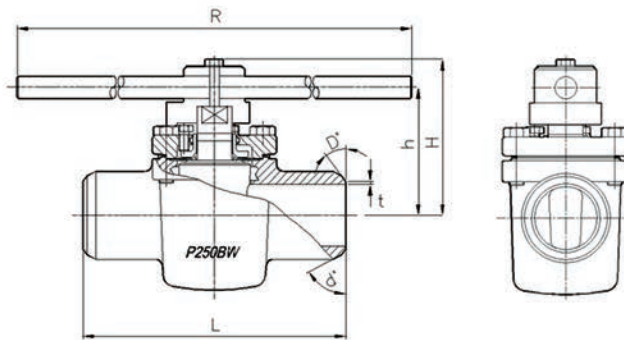
**FIG. P250SW CF8M/CF8M**

SOCKET WELD PLUG VALVES  
 2-WAY, CLASS 150#, 300# /  
 JIS 10K, 20K  
 1/2" ~ 2"

DIMENSION MM

IN	MM	L	t	Ød	Øq	D	h	H	R	OPERATOR
1/2"	15	140	9.5	15.0~16.6	21.8~22.2	4.67	58	80	180	WITH WRENCH
3/4"	20	152	12.5	20.2~21.7	27.2~27.6	4.90	58	80	180	
1"	25	165	12.5	25.9~27.4	33.9~34.3	5.69	75	96	220	
1.1/2"	40	190	12.5	40.1~41.6	48.8~49.2	6.35	91	116	320	
2"	50	216	16.0	51.7~53.3	61.2~61.7	6.93	106	130	450	

## SCREW & NUCLEAR WELD ENDS TYPE



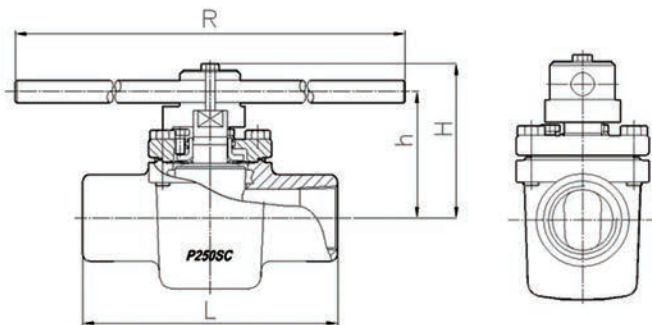
**FIG. P250BW CF8M/CF8M**

**BUTT WELD PLUG VALVES**  
 2-WAY, CLASS 150#, 300# /  
 JIS 10K, 20K  
 1/2" ~ 2"

DIMENSION

MM

IN	MM	L	t	D°	d°	h	H	R	OPERATOR
1/2"	15	140	1.6	37.5	62.5	80	-	180	WITH WRENCH
3/4"	20	152	1.6	37.5	62.5	80	-	180	
1"	25	165	1.6	37.5	62.5	75	96	220	
1.1/2"	40	190	1.6	37.5	62.5	91	116	320	
2"	50	216	1.6	37.5	62.5	106	130	450	



**FIG. P250SC CF8M/CF8M**

**SCREW PLUG VALVES**  
 2-WAY, CLASS 150#, 300# /  
 JIS 10K, 20K  
 1/2" ~ 2"

DIMENSION

MM

IN	MM	L	h	H	R	OPERATOR
1/2"	15	140	80	-	180	WITH WRENCH
3/4"	20	152	80	-	180	
1"	25	165	75	96	220	
1.1/2"	40	190	91	116	320	
2"	50	216	106	130	450	

## FEATURE



FIG. P25L CF8/PFA TEFLON LINED PLUG VALVES

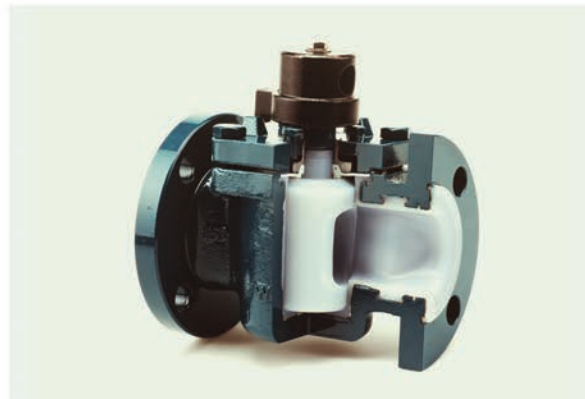


FIG. P25LEP WCB/PFA TEFLON LINED PLUG VALVES

### MTS PLUG VALVE is Characteristic and has Merits

#### 1. Completely no leakage.

- ① PLUG & Tapered pipe of the Teflon Lining uses the contact method giving absolutely no leakage problems compared to other Process Valves.
- ② Stem Seal structure has secured the security design and gives absolutely no leakage characteristic of magnet powered type.
- ③ Weather Proof Type characteristic has been added. The stem seal part of other company's products will happen to leak cause by corrosion in the sealing after long usage but our product has used the sealing structure in the stem part and the covering part which gives absolutely no leakage for longtime use eventually increasing the life span of the product. ( Top Seal structure )



#### 2. No dead space in the valve.

The passage ways of the valve has no extra space like other Process valve and allowing full control and open/close function, semi – permanent life span.

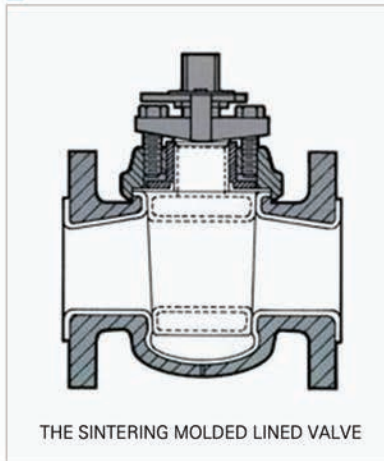
#### 3. No need of maintenance and repair. Having no extra space there is no worry that the moving materials are clogged up inside the pipe.

- ① The Seal pressure made by the abrasion of the Teflon lining is re – controlled by the Cover of ADJ.Bolt for semi – permanent sealing.
- ② Specially designed Teflon hinge will not allow any crack, shrinkage or deformation of Teflon lining.
- ③ Top entry type allowing maintenance in on-line status possible. Valve which doesn't need much maintenance.

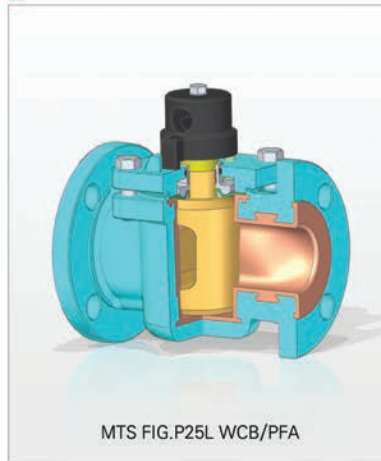
## TEFLON LINED MATERIAL

MTS Lined Plug Valves are designed with cast dovetail recesses and machined grooves that lock the liner to the body casting. The fluorocarbon must therefore be molded in a liquid state. PFA and FEP were selected as lining materials because of their melt processibility, as well as their many other desirable features. In the manufacture of fully lined products the choice of lining materials and the method of lining are critical considerations, as all wetted parts are lined with a corrosion resistant material.

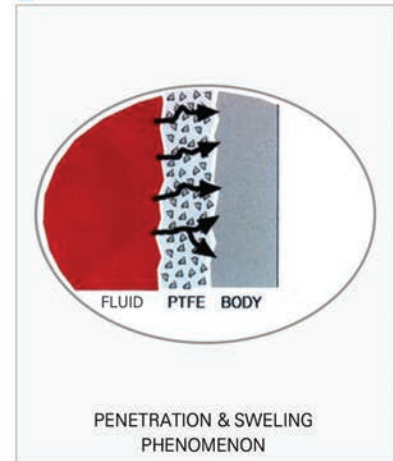
### 1. Sintered Molding



### 2. Melt molding



### 3. Appendix



Unpigmented PFA is the lining material used for all 900 Series & 090 Tuflin ball valves. PFA is a class of fluoropolymers that offers the processing ease of conventional thermoplastics but substantially extends its temperature limits. It is a copolymer that combines the carbon-fluorine backbone of fluorocarbons with a perfluoroalkoxy side chain.

PFA has features that make it extremely desirable as a liner for corrosive fluid flow applications. In addition, PFA has been found to be better in handling some monomers, such as butadiene, permitting the use of PFA lined products on a wider range of applications. It is chemically inert, heat resistant, weather resistant, stress cracking resistant, and has negligible moisture absorption.

It has anti-stick characteristics and a low coefficient of friction which reduce torque. It is molded and machined to close tolerances for excellent sealing and wear resistance between parts. PFA is a true thermoplastic and is melt processible, allowing it to be molded to extremely difficult shapes. PFA resin has a branched polymer chain that provides good mechanical properties at melt viscosities much lower than those of PTFE. However, the unique branch in PFA is longer and more flexible, leading to improvements in high temperature properties, melting point, and thermal stability. The strength and stiffness of PFA at high operating temperatures are equivalent to or better than those of PTFE; and, creep resistance is better than PTFE over a wide temperature range. PFA flex life is excellent.



## TEFLON LINED MATERIAL

### Feature

Non-sticking : The coated surface don't adhered all material.

Heat resistance : It is available from -260° to +260°.

Low coefficient of friction : The abrasion resistance is excellent(coefficient of friction:0.5~0.20).

Chemical resistance : Teflon is generally stable to all chemical products.

Cryogenic stability : The teflon maintain a physical properties at low temperature.

### Type

FEP(Fluorinated Ethylene-propylene)

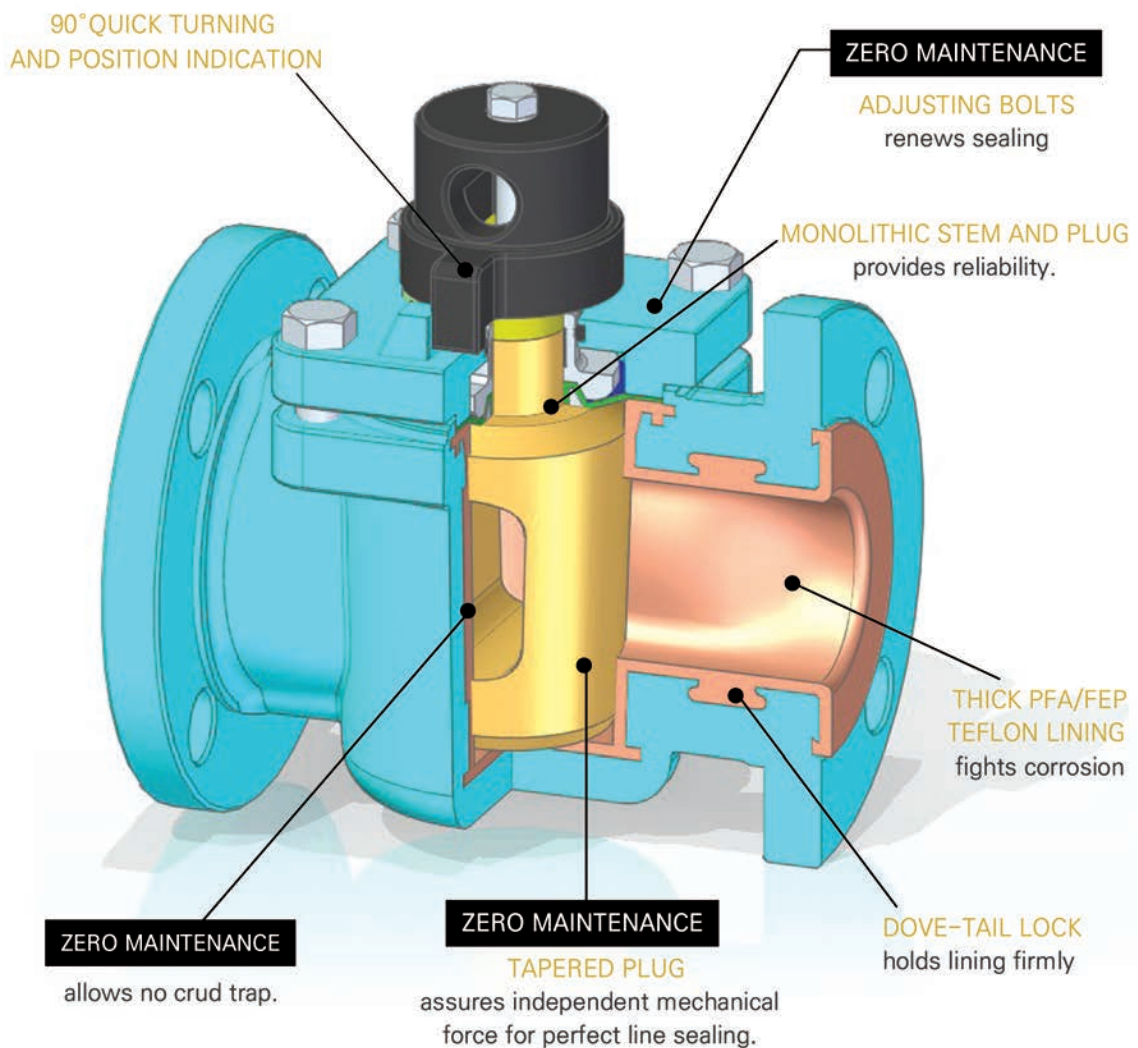
Chemical,Inertness, low coefficient of friction, insolubility in solvents, low adhesion properties, wide service temp, range, toughness.

P.F.A(Perfluoroalkoxy)

PFA resembles FEP in good mechanical properties. The unique branch in PFA is longer and more flexible, leading to improvents in high temp. Properties, highes melting point and greater thermal stability.

Property	PFA(Perfluoroalkoxy)		FEP(Fluorinated Ethylene-Propylene)	
	ASTM method	Value	ASTM method	Value
Melting point	---		---	486-540°F
Tensile strength, 73°F	D638	575-590°F	D638	3000 psi
Elongation, 73°F	D638	3800 psi	D638	300%
Flexural modulus, 73°F	D790	300%	D790	95,000-105,000 psi
Impact strength, 73°F	D256	100,000 psi	D256	No break
Coefficient of linear thermal expansion		No break		
per°F (70 ° to 212°F)	D646	6.7 X 10	D696(-100 ° to 160°F)	4.6-5.8 X 10
Flammability	D635	Nonflammable	D635	Nonflammable
Weather and chemical resistance		Excellent	---	Excellent

## FEATURE



The processing of all contact sealing surface is made within tolerance.

- (1) It is displayed on the top cover as a protrusion so that the handle(wrench) is operating the valve for ON/OFF.
- (2) Three adjust-bolts adjust The thrust-collar to plug within valve body.
- (3) The various topseal provide safety device so gas or fluid does not leak to the top.
- (4) The internal of valve body became fully teflon lining because it prepare prevention of corrosion to rake sludge contained in the fluid.
- (5) The liner is locked to the casting by mean of cast dovetail recesses and machined grooved, permitting the valve to be used on high vaccum and pressure application without liner coppapse, shringage or blowout.
- (6) The bottom seal adjust provides a positive means of maintaining tight shutoff.
- (7) The body of the valve is coated with corrosion-resistant paint to retard external corrosion and rust.

## PART OF STANDARD MATERIAL

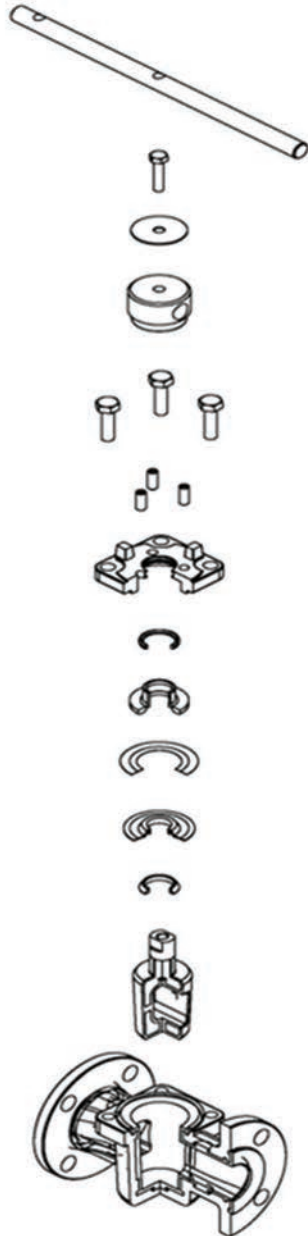
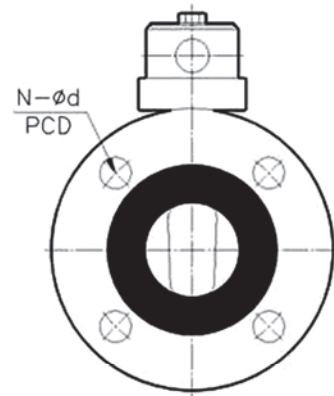
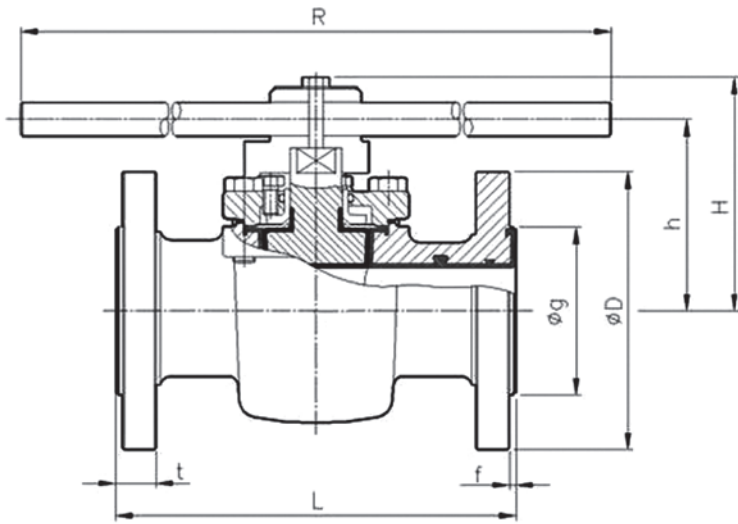


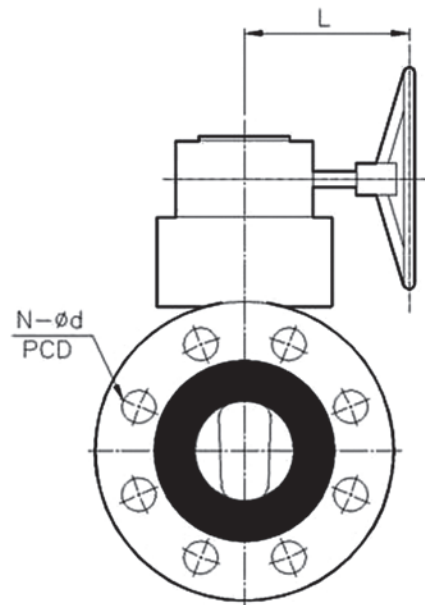
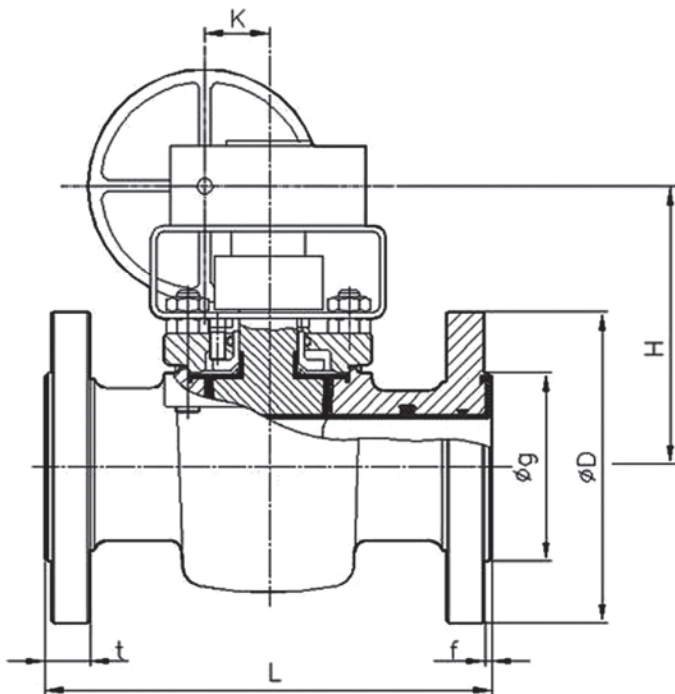
FIG. P25L WCB+PFA/WCB+PFA

NO	DESCRIPTION	QUANTITY	MATERIAL	SPECIFICATION
1	WRENCH	1	CARBON STEEL	1045, PAINTED
2	HUB BOLT	1	STAINLESS STEEL	SUS304
3	NAME PLATE	1	STAINLESS STEEL	SUS304
4	HUB	1	CARBON STEEL	ASTM A216 WCB
5	COVER BOLT	4	CARBON STEEL	ASTM A193 B7
6	ADJUSTING BOLT	3	STAINLESS STEEL	SUS304
7	COVER	1	CARBON STEEL	ASTM A216 WCB
8	O-RING	1	VITON	-
9	THRUST COLLAR	1	STAINLESS STEEL	CF8
10	METAL DIAPHRGAM	1	STAINLESS STEEL	SUS304
11	PTFE DIAPHRAGM	1	PTFE	-
12	WEDGE RING	1	RTFE	-
13	PLUG	1	CAST STL PFA LINED	ASTM A216 WCB
14	BODY	1	CAST STL PFA LINED	ASTM A216 WCB

## VALVE DIMENSION



1/2" THRU 4"



4" OVER

## VALVE DIMENSION

P25L Flanged ANSI class 150#

DIMENSION

UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	108	89	35	9.7	2.0	60.5	4	16	58	80	180	-	-	WITH WRENCH
3/4"	20	117	98	43	10.4	2.0	70.0	4	16	58	80	180	-	-	
1"	25	127	108	51	11.2	3.0	79.5	4	16	75	96	230	-	-	
1.1/2"	40	165	127	73	14.2	3.0	98.5	4	16	91	116	320	-	-	
2"	50	178	152	92	15.8	3.0	120.5	4	19	106	130	500	-	-	
2.1/2"	65	190	178	105	17.5	3.0	139.5	4	19	121	145	620	-	-	
3"	80	203	190	127	19.1	3.0	152.5	4	19	121	145	620	-	-	WITH WORM GEAR
4"	100	229	229	157	23.9	3.5	190.5	8	19	150	178	750	-	-	
4"	100	229	229	157	23.9	3.5	190.5	8	19	-	233	250	53	117	
5"	125	254	254	186	23.9	3.5	216.0	8	22	-	260	300	62.5	228	
6"	150	267	279	216	25.4	3.5	241.5	8	22	-	260	300	62.5	228	
8"	200	292	343	270	28.6	3.5	198.5	8	22	-	343	300	62.5	228	
10"	250	330	406	324	30.2	4.0	362.0	12	25	-	374	500	91.5	297	WITH WORM GEAR
12"	300	356	438	381	31.8	4.0	432.0	12	25	-	464	560	113	330	

P23L Flanged ANSI class 300#

DIMENSION

UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	140	95	95	16.3	2.0	66.5	4	16	58	80	180	-	-	WITH WRENCH
3/4"	20	152	43	43	17.9	2.0	82.5	4	19	58	80	180	-	-	
1"	25	165	51	51	20.5	3.0	89.0	4	19	75	96	230	-	-	
1.1/2"	40	190	73	73	23.7	3.0	114.5	4	22	91	116	320	-	-	
2"	50	216	92	92	25.3	3.0	127.0	8	19	106	130	500	-	-	
2.1/2"	65	241	105	105	28.3	3.0	149.0	8	22	121	145	620	-	-	
3"	80	283	127	127	31.6	3.0	168.0	8	22	121	145	620	-	-	WITH WORM GEAR
4"	100	305	157	157	35.3	3.5	200.0	8	22	150	178	750	-	-	
4"	100	305	157	157	35.3	3.5	200.0	8	22	-	233	250	53	117	
5"	125	381	186	186	38.2	3.5	235.0	8	22	-	260	300	62.5	228	
6"	150	103	216	216	39.1	3.5	270.0	12	22	-	260	300	62.5	228	
8"	200	419	270	270	46.8	3.5	330.0	12	25	-	343	300	62.5	228	
10"	250	457	324	324	52.2	4.0	387.0	16	29	-	374	500	91.5	297	WITH WORM GEAR
12"	300	502	381	381	54.8	4.0	451.0	16	32	-	464	560	113	330	

# Teflon Lined Plug Valves

## VALVE DIMENSION

### P25L-J Flanged JIS / KS 10K

DIMENSION UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	108	95	51	13	2.0	70	4	15	58	80	180	-	-	WITH WRENCH
3/4"	20	117	100	56	15	2.0	75	4	15	58	80	180	-	-	
1"	25	127	125	67	16	3.0	90	4	19	75	96	230	-	-	
1.1/2"	40	165	140	81	17	3.0	105	4	19	91	116	320	-	-	
2"	50	178	155	96	17	3.0	120	4	19	106	130	500	-	-	
2.1/2"	65	190	175	116	19	3.0	140	4	19	121	145	620	-	-	
3"	80	203	185	126	19	3.0	150	8	19	121	145	620	-	-	
4"	100	229	210	151	19.5	3.5	175	8	19	150	178	750	-	-	WITH WORM GEAR
4"	100	229	210	151	19.5	3.5	175	8	19	-	233	250	53	117	
5"	125	254	250	182	21.5	3.5	210	8	23	-	260	300	62.5	228	
6"	150	267	280	212	23.5	3.5	240	8	23	-	260	300	62.5	228	
8"	200	292	330	262	23.5	3.5	290	12	23	-	343	300	62.5	228	
10"	250	330	400	324	26	4.0	355	12	25	-	374	500	91.5	297	
12"	300	356	445	368	25	4.0	400	16	25	-	464	560	113	330	

### P23L-J Flanged JIS / KS 20K

DIMENSION UNIT : MM

IN	MM	L	END FLANGES							h	H	R	K	W	OPERATOR
			D	g	t	f	BOLT HOLE								
							PCD	N	d						
1/2"	15	140	95	51	15	2.0	70	4	15	58	80	180	-	-	WITH WRENCH
3/4"	20	152	152	56	17	2.0	75	4	15	58	80	180	-	-	
1"	25	165	125	67	18	3.0	90	4	19	75	96	230	-	-	
1.1/2"	40	190	140	81	19	3.0	105	4	19	91	116	320	-	-	
2"	50	216	155	96	19	3.0	120	8	19	106	130	500	-	-	
2.1/2"	65	241	175	116	21	3.0	140	8	19	121	145	620	-	-	
3"	80	283	200	132	23	3.0	160	8	23	121	145	620	-	-	
4"	100	305	225	160	26	3.5	185	8	23	150	178	750	-	-	WITH WORM GEAR
4"	100	305	225	160	26	3.5	185	8	25	-	233	250	53	117	
5"	125	381	270	195	28	3.5	225	8	25	-	260	300	62.5	228	
6"	150	403	305	230	30	3.5	260	12	25	-	260	300	62.5	228	
8"	200	419	350	275	32	3.5	305	12	25	-	343	300	62.5	228	
10"	250	457	430	345	36	4.0	380	16	27	-	374	500	91.5	297	
12"	300	502	480	395	36	4.0	430	16	27	-	464	560	113	330	

## FEATURE



FIG. P250M CF8M/CF8M  
METAL SEATED PLUG VALVES

### MTS METAL SEATED PLUG VALVES

Non-Lubricated Lift & Turn Type

Type : Standard Bore, Full Bore.

Material

Body, Plug : CF8, CF8M, CF3M, A20, CD4M, MONEL  
Size : 1/2" ~ 12"

Class : ANSI #150, #300, #600 / JIS 10K, 20K, 40K

Temperature : -50°C ~ 500°C

End Connection :

SC(PT, NPT), BW, SW, FF, RF, LGF, T&G

Application for Main Fluid :

High and Low temperature like PA, RFCC,  
Heat Medium Tar, LPG or the place which needs  
Zero Leakage, Zero Maintenance either Fire Safe  
function required Process.

### Characteristic

- Structure : Similar Sleeve type Plug valves but like Lined Type.

- 1) Operation with No Leakage
- 2) No Dead-Space
- 3) No Maintenance

- Non Lubricate type

This is Non-Lubricate type Metal seat type.

Therefore it doesn't need Lubricant. Also it is able to prevent any contamination in Line which is available to manage line clearly.

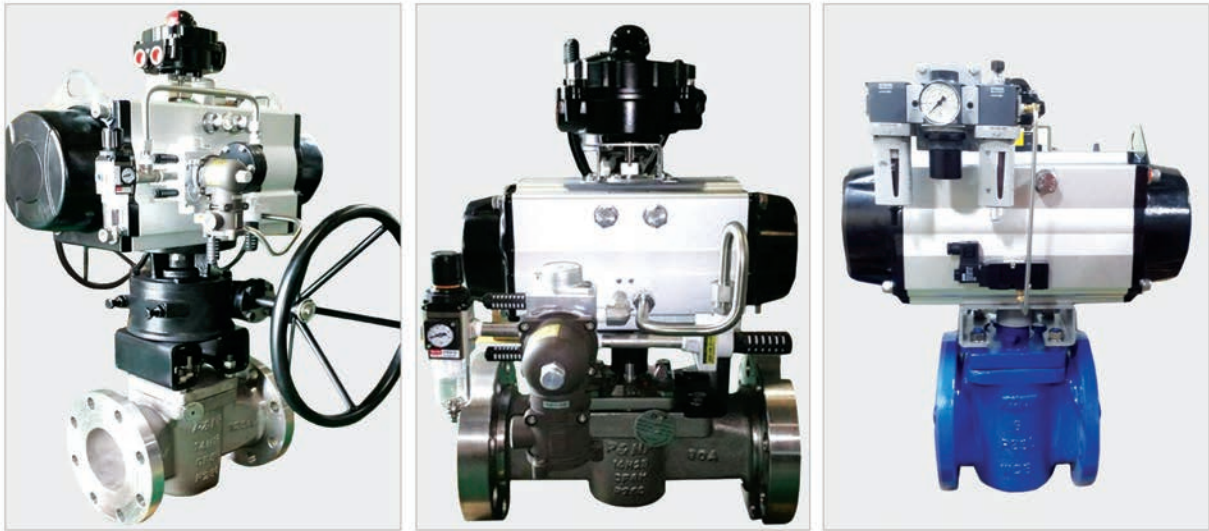
Putting tapered metal plug in to Metal seat which was nestled in the body can achieve perfect sealing.

Valve open is attained by lifting Tapered plug up slightly and quarter turn.

valve closure is done by reverse way with valve open which is operated by unique mechanism.

Thus operation doesn't need any force and makes open and closure available absolutely anytime.

## FEATURE



CONTROL VALVES in Petrochemical process and Heavy and Chemical process...

Control valve of plumbing valve is automatic valve as opposed to the meaning of the case.

A fluid for control valve of general plumbing is used in a steam or water and Globe valve are generally used.

Most traditional control valve manufacturer is a globe valve manufacturer.

The globe valve is structurally solid materials, corrosion resistant materials, caustic materials, adhesive materials, poisons, etc., it is difficult to control fluid including.

Process control valves must be made only by a specialist manufacturer of process valves.

Automation Business Unit of 'MTS' can supply any control valve.

### MTS's CONTROL VALVE...

1. MTS's Auto valves are a specialist in valve automation systems offering rack and pinion, heavy-duty and electric actuators along with positioners, limit switches, engineered special control circuits and related accessories.

2. V-port control valves are available in a variety of trim configurations to satisfy your exact control needs. Standard-port control valve are available in 1/2 in (15mm) through 12 in (300mm) sizes with Cv values.

3. MTS's control valves are readily adaptable for automatic operation because the torque is relatively constant and lubrication is not required.

4. The flow characteristic of MTS Process Control Valves is between linear and equal percentage.

Control Valves with linear or equal percentage characteristics are supplied as a standard, others on request.

The appropriate data are determined in the MTS's testing equipment.



## FLOW DATA(CHARACTERISTICS, CV FACTORS)

Basic Curve

Valve Size	OPEN (%)									
	10	20	30	40	50	60	70	80	90	100
1/2	0	0	0.21	0.36	0.81	1.68	2.78	4.86	8.1	9
3/4	0	0	0.21	0.36	0.81	1.68	2.78	4.86	8.1	9
1	0	0	0.99	1.53	3.87	8.09	13.37	23.40	38.7	46
1.1/2	0	0.16	2.43	6.03	11.25	26.25	38.06	52.50	80.1	89
2	0	0.81	6.21	10.80	18.90	35.7	56.57	90.90	154.8	172
3	0	1.35	7.92	18.90	39.60	63	105.94	163.8	264.6	294
4	0	0.72	12.33	34.20	89.10	138.6	213.94	310.5	493.2	548
6	0	4.77	30.96	63.00	111.6	224.7	376.46	570.6	967.5	1075

Linear Curve

Valve Size	OPEN (%)									
	10	20	30	40	50	60	70	80	90	100
1	0.02	0.04	0.12	0.28	0.56	1.1	1.87	2.8	3.88	5
1.1/2	0.06	0.11	0.3	0.72	1.45	2.75	4.68	6.98	9.28	12
2	0.09	0.12	0.45	1.08	2.1	4.25	7.56	11.8	16	20
3	0.11	0.21	0.75	2.25	4.55	9.2	17.3	26.6	36.3	46
4	0.14	0.26	1.68	4.5	6.4	17.4	30.3	47.4	63.8	81
6	0.3	0.65	3.4	8.4	17	34.6	62.6	95.7	129	162

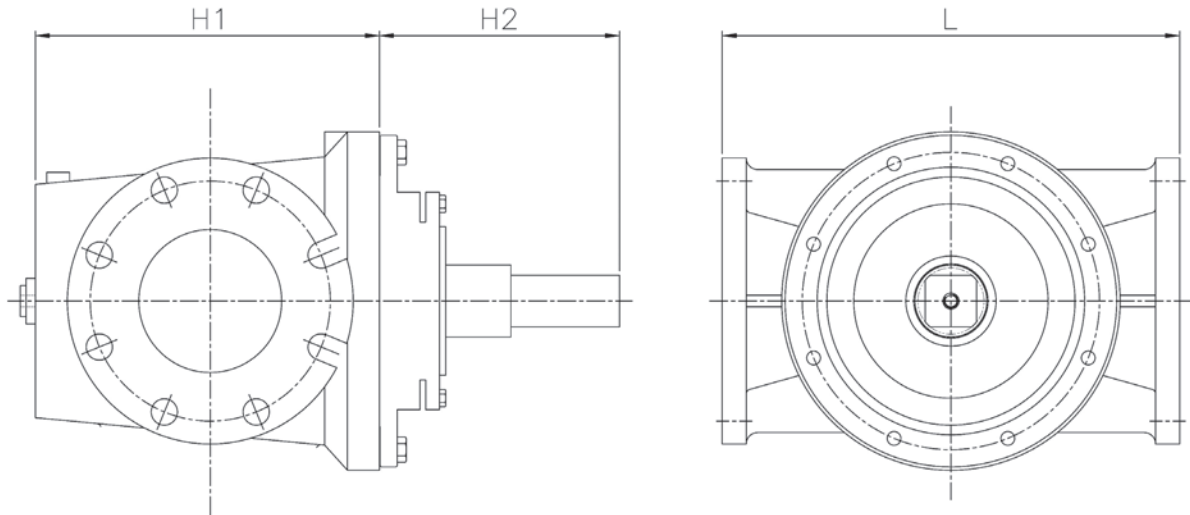
Equal Percentage Curve

Valve Size	OPEN (%)									
	10	20	30	40	50	60	70	80	90	100
1	0.2	0.47	1	1.9	3.14	4.71	6.7	9.75	14	20
1.1/2	0.3	0.9	2.3	4.3	7	10.5	14.8	21.5	30.8	44
2	0.5	2.25	5.1	9.23	15	22.5	31.8	45.6	67	97
3	1	6.9	14	22.5	32.8	48.7	69	94.5	125	178
4	1.9	11	24	40	58.8	85	120	162	220	307
6	4.5	24	51	82	120	175	248	342	455	641

Parabolic Curve

Valve Size	OPEN (%)									
	10	20	30	40	50	60	70	80	90	100
1	0.1	0.18	0.31	0.63	1.31	2.22	3.76	6.18	9.1	12
1.1/2	0.18	0.56	1.52	3.08	5.51	6.4	14.4	20.6	26.6	33
2	0.3	0.92	2.47	4.75	8.2	13.8	22.22	31.7	41.4	51
3	0.4	1.5	4.2	9.1	17.8	32.1	49.3	70	90.5	115
4	2	3.2	7.9	16.8	31.8	57	88.9	127	165	201
6	4	6.4	15.8	33.6	63.6	114	178	254	330	402

## COCK VALVE



DIMENSION

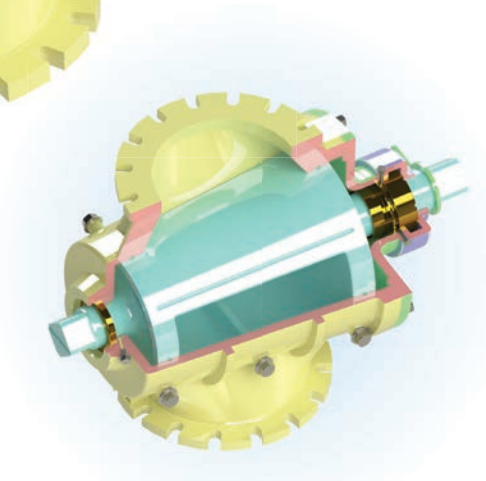
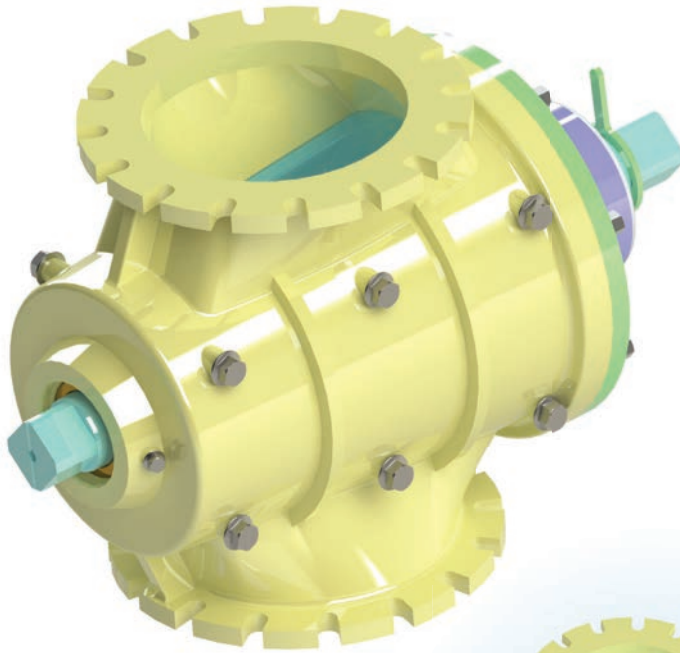
(UNIT : MM)

SIZE		L*	H*	H1*	H2*
MM	INCH				
50A	2"	190	175	100	75
65A	2 2/1"	210	280	180	100
80A	3"	229	400	250	150
100A	4"	229	460	280	180
125A	5"	356	210	301	210
150A	6"	394	610	350	260
200A	8"	457	750	400	350
250A	10"	533	880	480	400
300A	12"	610	950	520	430
350A	14"	686	1050	580	470
400A	16"	762	1130	630	500
450A	18"	864	1280	700	580
500A	20"	914	1370	750	620
600A	24"	1067	1490	810	680
650A	26"	1295	1590	860	730
700A	28"	1295	1710	910	800
800A	32"	1600	1840	990	850
900A	36"	1600	1910	1010	900
1000A	40"	1600	2000	1050	950

\* Please contact sales office for other size.

\* The dimensions of the ANSI 150LB, KS(JIS) 10K, 20K, DIN 10,16

## COCK VALVE



SECTION

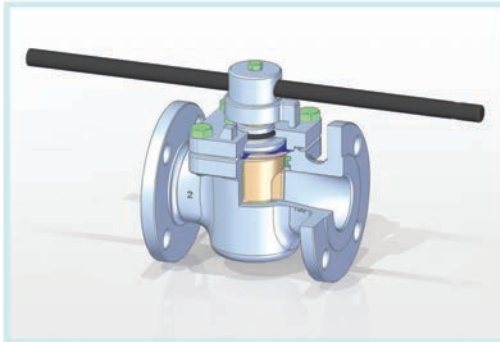
### DESCRIPTION

SIZE RANGE: 25A ~ 1000A  
TEMP. RANGE: 0 ~ 250  
LEAKAGE: ZERO LEAKAGE  
FLANGE RATINGS: MAKER STANDARD  
FLANGE DRILLINGS: MAKER STANDARD  
FLUID: COG/LDG/BFG/FOG  
MIXED GAS

### MATERIAL

BODY: FCD450/SCPH2/SCS13  
DISC: FCD450/SCPH2/SCS13  
SHAFT: STS304/STS316/STS630  
SEAT: GREASE  
\* Please contact sales office for other material.

## SCOPE OF PRODUCTS



### TEFLON SLEEVED PLUG VALVES

#### MATERIAL

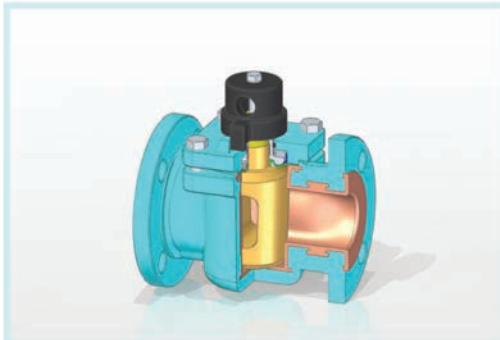
- BODY / PLUG : ASTM A216 WCB, WCC  
: ASTM A351 CF8M, CF3M, CF8, CF3, CN7M, CD4M  
: ASTM A352 LCB

- SLEEVE : PTFE, RTFE, TFM 4215

#### PRESSURE & SIZE RANGE

- ANSI 150LB 1/2" ~ 24" - ANSI 300LB 1/2" ~ 24"
- ANSI 600LB 1/2" ~ 12" - JIS 10K, 20K, 40K - DIN PN10, PN16, PN25, PN40

Main Fluid : Toxic, Flammable, Explosive Fluid Line and No-leakage required Line



### TEFLON LINED PLUG VALVES

#### MATERIAL

- BODY / PLUG : ASTM A216 WCB  
: ASTM A351 CF8M, CF3M

- LINING MAT'L : FEP, PFA

#### PRESSURE & SIZE RANGE

- ANSI 150LB 1/2" ~ 12" - ANSI 300LB 1/2" ~ 12"
- JIS 10K, 20K, 40K - DIN PN10, PN16, PN25, PN40

MAIN FLUID : Acidic or Alkalic Fluid Line specially required for No-Leakage



### EXTENDED PACKING PLUG VALVES

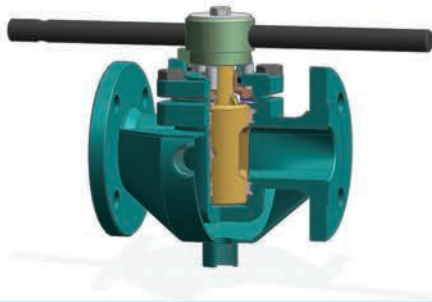
#### Feature

Extended triple seal stem packing type. Easy to choose the kinds and material of packing. (Graphite, PTFE V-Packing, VOC packing) No leaked semi-permanent structure though equally pressured Triple Seal Stem Packing by Gland flange.

Various and steady Leaking Prevention by Steam Sealing. Able to be used as Live Loaded Extended Packing by using Plate Spring with an Option to use Gland Flange Bolt to do triple sealing against various temperature effectively.

- Able to prevent stem requirements for leaking prevention and control the requirements for sealing economically.

## SCOPE OF PRODUCTS



### JACKETED PLUG VALVES

1. PA, MNT, DNT, LACTAM, PET POLYMER of the line are used for the accurate control of the temperature of the flow.
2. Applicable for the heating or cooling flow in the Jacket. (MAX.230°C~ MIN. -50°C)
3. Possible supply to valve contacts and Jacket contacts.
4. Complete body anti pressure test before the welding of the Jacket or after the welding for the guarantee of credibility.

### PRESSURE & SIZE RANGE

- ANSI 150LB 1/2" ~ 24" - ANSI 300LB 1/2" ~ 24"
- ANSI 600LB 1/2" ~ 12" - JIS 10K, 20K, 40K - DIN PN10, PN16, PN25, PN40



### TEFLON LINED SWING CHECK VALVES

Structure Teflon Lined Swing Check Valve is composed of the Body and 2 Discs all of which comes in contact with the flowing bodies The areas of contact has Teflon mold making the product applicable to places where anticorrosive characteristic is needed instead of high steel alloy valve. The disc with a attached hinge between the valve's body and the flange moves to stop or allow the flow.

### Use

- 1) Prevent of the counter rotation of the Pump Motor
- 2) Shock prevention of the Pump
- 3) Shut-off function when the back head is high



### METAL SEATED PLUG VALVES

### MATERIAL

- BODY / PLUG : ASTM A216 WCB, WCC
- : ASTM A351 CF8M, CF3M, CF8, CF3, CN7M, CD4M
- : ASTM A352 LCB
- SLEEVE : PTFE, RTFE, TFM4215

### PRESSURE & SIZE RANGE

- ANSI 150LB 1/2" ~ 12" - ANSI 300LB 1/2" ~ 12"
- ANSI 600LB 1/2" ~ 6" - JIS 10K, 20K, 40K - DIN PN10, PN16, PN25, PN40

Main Fluid : Toxic, Flammable, Explosive Fluid Line and No-leakage required Line

### OTHER PRODUCT



LUBRICATED PLUG VALVES



DOUBLE BLOCK AND BLEED PLUG VALVES

# MTS Plug Valves Ordering Table

## MTS PLUG VALVES HOW TO ORDER

### EXAMPLE

: MTS FIG P250 CF8M/CF8M/PTFE 2-WAY TEFLON SLEEVED PLUG VALVE, 2",  
ANSI 150# RF-FLANGED ENDS , WITH WRENCH OPERATED.

**P**

**2**

**5**

**0**

**RF-FLANGED**

FIG.	MTS FIG	PORT TYPE		CLASS		VALVE TYPE		J	OPTION(I)	PJ	OPTION(II)
<b>P</b>	<b>PLUG</b>	<b>2</b>	<b>2-WAY</b>	ANSI		<b>0</b>	<b>TEFLON SLEEVED</b>	<b>N/A</b>	<b>ANSI</b>	<b>PJ</b>	<b>PARTIAL JACKET</b>
		3	3-WAY	<b>5</b>	<b>ANSI 150#</b>	L	TEFLON LINED	J	JIS	FJ	FULL JACKET
		4	4-WAY	3	ANSI 300#	DBB	DOUBLE BLOCK & BLEED TYPE	DIN	DIN	CV	CONTROL VALVES
		5	5-WAY	6	ANSI 600#					FS	FIRE SAFE
				9	ANSI 900#						FF
					JIS					<b>RF</b>	<b>RAISE FACE</b>
				5	JIS 10K					SC	SCREWD (NPT,PT)
				3	JIS 20K					SW	SOCKET WELDED
				6	JIS 40K					BW	BUTT WELDED
					DIN					EP	EXTEND PACKING
				5	PN10					0 F	SOCKET TYPE
				3	PN25					0 M	FULL ORE
										0 L	METAL SEATED LUBRECATED

**CF8M/CF8M/PTFE**

**2"**

**WITH WRENCH OP**

BODY/PLUG MATERIALS		SIZE		G	ACTUATOR	ACTION		ACCESSORY		
WCB	ASTM A216 WCB	1/2B	15A	N/A	<b>WRENCH TYPE</b>	O/F	ON-OFF	A	AIR SETS	
CF8	ASTM A351 CF8	3/4B	20A	G	WORM GEAR TYPE	E	EQUAL	SV	SOLENOID VALVE (EXPLOSION PROOF)	
CF3	ASTM A351 CF3	1B	25A	C.S	CYLINDER			LS	LIMITS SWITCH (EXPLOSION PROOF)	
<b>CF8M</b>	<b>ASTM A351 CF8M</b>	<b>1 1/2B</b>	40A		SPRING RETURN			IP	I/P POSITIONAL	
CF3M	ASTM A351 CF3M	<b>2B</b>	50A	CD	CYLINDER			EP	E/P POSITIONER	
A20	ASTM A351 CN7M	2 1/2B	65A		DOUBLE ACTING			MO	MANUAL OVERRIDE (YES)	
CD4M	ASTM A351 CD4MCu	3B	80A	M	MOTOR			MO	MANUAL OVERRIDE (NO)	
MO	ASTM A494 M-30C	4B	100A					LS	LONG STEM	
HB	ASTM A494 N-12MW	5B	125A					LD	LOCKING DEVICE	
HC	ASTM A494 CW-12MW	6B	150A							
NI	ASTM A494 CZ-100	8B	200A							
INCONEL	ASTM A494 CZ-40	10B	250A							
TI	ASTM A-B367	12B	300A							
ZR	ASTM A-B752	14B	350A							
DI	ASTM A-395	16B	400A							
PFA	PFA TEFLON	18B	450A							
PTFE	PTFE TEFLON	20B	500A							
		24B	600A							

# MEMO

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# MTS MTS CO., LTD



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## FACTORY 2

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**MTS VALVES** 2016. 08 NO.01

Size and component specification in this catalogue are subject to change without prior notice for quality improvement.