

# RASAI

## SLEEVED PLUG VALVES

### About Ourselves

**RASAI** is an International Company. Founded in 1981, Rasai Flow Lines has been engaged in design, Manufacture and Distribution of High Tech Valves.

Over the last 20 years, **RASAI** has been providing its Valves for various end - uses and applications in refineries, petrochemicals, fertilizers, sugar, paper, steel, cement, chemical and pharmaceutical industries as well as in power plants around the world.

**RASAI's** design and engineering are novel and unique and conform to international standards and specifications. Our products are tested for various standards and ratings and are superior in quality.

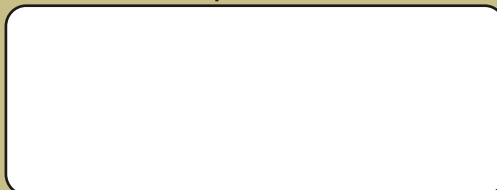


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# RASAI

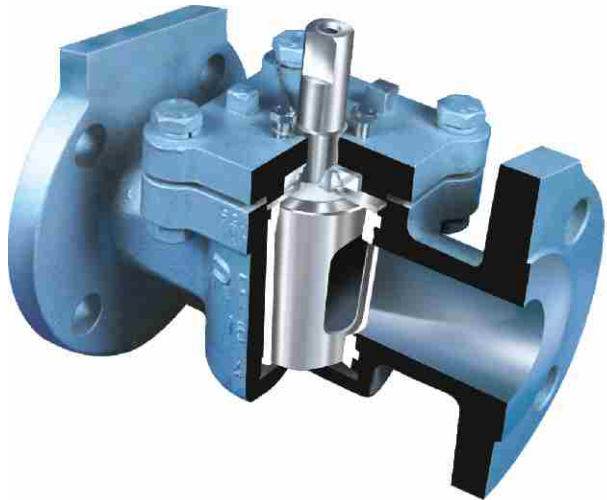
## SLEEVED PLUG VALVES

MATCHLESS IN QUALITY AND VALUE



**Most Efficient, Non-Lubricated,  
Corrosion Resisting, Self-Sealing and Long Lasting.**

PAGE	CONTENTS	PAGE	CONTENTS
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3	Valve Drawings In British / Metric Units	6	Valves With Actuator Mounting And Locking Device
4	Jacketed Type Valves	7	How To Order Your RASAII Sleeved Plug Valve ?



### Design Features

- Valves up to 4" in investment casting.
- 6" and above made out of Sand or Shell Casting.
- Superior Finish and longer life of valve body.
- Bi-directional flow.
- Positive shut-off with inline adjustment.
- Positive stem seal with reverse lip design.
- Inline PTFE sleeve surrounds the plug.
- PTFE sleeve locked in the body and field replaceable, on line.
- Designed for throttling.
- Unique plug and body design for low torque operation.
- Non-Lubricated, self-cleaning of plugs while in operation.
- Zero leakage (Bubble tight shut-off).
- Easy assembling and disassembling.
- Technologically superior design, our speciality.
- Cost effective and top value for your dollar.
- Proven performance.
- Self sealing.

## RASAII SLEEVED PLUG VALVES WITH IMPECCABLE PERFORMANCE!

Material and Specifications:

Refer to page 7,

How to order RASAII sleeved plug valves ?

### For Class 150#

Size		Break - Away Torque inch Lbs (Nm)	Flow Rate (Value)	
Inch	mm		Cv	Kv
1/2	15	192 (25.5)	9.5	11
3/4	20	192 (25.5)	9.5	11
1	25	308 (35)	42	49
1 1/2	40	460 (52)	95	112
2	50	630 (71)	190	224
3	80	965 (110)	326	384
4	100	1450 (165)	694	816
6	150	3820 (370)	1112	1308
8	200	6366 (721)	1665	1960

### Torque

**Start** - Break - Away Torque

**Running** - 60% of B.A.T

**Close** - 80% of B.A.T

**To obtain - Kv Value multiply  
Cv Value by 0.85**



4 inch Class 300# plug valve with gear box on special request.

### CoComponents

Body / Cover  
Plug  
Sleeve  
Diaphragm And  
Wedge Ring  
Metal Diaphragm  
Thrust Collar  
Washer  
Studs & Nut

See Page No 7

PTFE

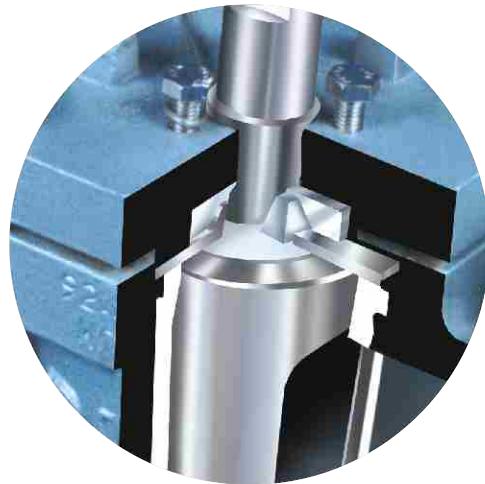
PTFE

SS 316

SS 316

PTFE

B7 & 2H / SS 316



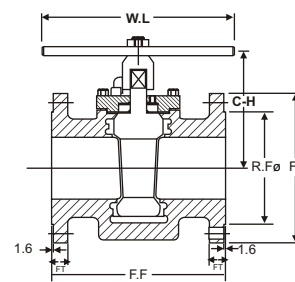
DIAPHRAGM AND  
WEDGE RING  
EXPOSED VIEW

### Options Available

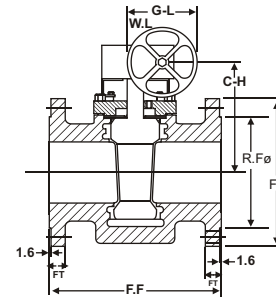
Both AnsI 150# And 300#  
Fully Jacketed  
Partially Jacketed  
Flanged End  
Butt Weld  
Socket Weld  
3-way  
3-way Jacketed  
4-way

## SLEEVED PLUG VALVE DRAWINGS

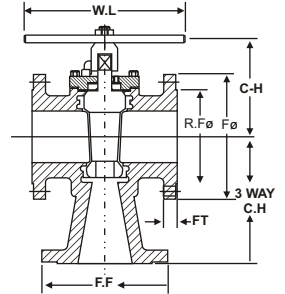
### 1/2" TO 4"



### 6" and Above, Gear Operated



### 3-Way Valves



### British Unit

all dimensions in Inches																				
Size	F-F		FØ		F.T		RFØ	RFT	P.C.D		NOH		SOH		W.L	G.L	C-H		3-WAY C.H	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS				CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#			150#	300#	150#	300#
½	4.25	5.50	3.50	3.75	.44	.56	1.38	.06	2.38	2.63	4	4	.63	.63	6.38		2.92	2.92	2.75	2.88
¾	4.63	6.00	3.88	4.63	.44	.63	1.69	.06	2.75	3.25	4	4	.63	.75	6.38		2.92	2.92	2.88	3.00
1	5.00	6.50	4.25	4.88	.44	.69	2.00	.06	3.13	3.50	4	4	.63	.75	8.75		3.25	3.25	3.50	3.78
1½	6.50	7.50	5.00	6.13	.56	.81	2.88	.06	3.88	4.50	4	4	.63	.88	12.50		3.75	3.75	4.13	4.38
2	7.00	8.50	6.00	6.50	.63	.88	3.63	.06	4.75	5.00	4	8	.75	.75	18.00		4.50	4.50	4.50	4.78
2½	8.00	11.13	7.50	8.25	.75	1.13	4.13	.06	5.50	5.88	4	8	.75	.88	24.00		4.75	4.75	5.13	5.58
3	8.00	11.13	7.50	8.25	.75	1.13	5.00	.06	6.00	6.63	4	8	.75	.88	24.00		5.00	5.00	6.13	5.58
4	9.00	12.00	9.00	10.00	.94	1.25	6.19	.06	7.50	7.88	8	8	.75	.88	30.00		6.10	6.10	6.00	6.78
6	10.50	15.88	11.00	12.50	1.00	1.44	8.50	.06	9.50	10.63	8	12	.88	.88		18	7.75	7.75	7.50	8.50
8	11.50	16.50	13.50	15.00	1.13	1.63	10.63	.06	11.75	13.00	8	12	.88	1.00		18	9.50	9.50	9.00	10.00
10	13.00	18.00	16.00	17.50	1.19	1.88	12.75	.06	14.25	15.25	12	16	1.00	1.13		24	11.00	11.00	11.00	12.00
12	14.00	19.75	19.00	20.50	1.25	2.00	15.00	.06	17.00	17.75	12	16	1.00	1.25		30	12.50	12.50		
14	15.00	30.00	21.00	23.00	1.38	2.12	16.25	.06	18.75	20.25	12	20	1.13	1.25		30	13.00	13.00		
16	30.00	33.00	23.50	25.50	1.44	2.25	18.50	.06	21.25	22.50	16	20	1.13	1.38		24	15.00	15.00		

all dimensions in Inches

### Metric Unit

all dimensions in Millimetre																				
Size	F-F		FØ		F.T		RFØ	RFT	P.C.D		NOH		SOH		W.L	G.L	C-H		3-WAY C.H	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS				CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#			150#	300#	150#	300#
15	108	140	89	96	11	14.3	35	1.5	60	67	4	4	16	15	152		74	74	70	73
20	117	152	98	117	11	16	43	1.5	70	83	4	4	16	19	152		74	74	73	76
25	127	165	108	124	11	17.5	51	1.5	79	89	4	4	16	19	178		82	82	89	96
40	165	190	127	156	14.3	20.7	73	1.5	98	114	4	4	16	22	229		95	95	105	111
50	178	216	152	165	16	22.3	92	1.5	121	127	4	8	19	19	305		114	114	114	121
65	203	283	190	210	19	29	105	1.5	140	149	4	8	19	22	457		120	120	130	141
80	203	283	190	210	19	29	127	1.5	152	168	4	8	19	22	457		127	127	130	141
100	229	305	229	254	24	32	157	1.5	190	200	8	8	19	22	762		154	154	152	171
150	267	403	279	318	25.4	37	216	1.5	241	270	8	12	22	22		224	196	196	190	216
200	292	419	343	381	29	41	270	1.5	298	330	8	12	22	25		406	241	241	229	254
250	330	457	406	445	30	48	324	1.5	362	387	12	16	25	29		406	279	279	280	305
300	356	502	483	521	32	51	381	1.5	432	450	12	16	25	32		406	317	317		
350	381	762	527	584	35	54	413	1.5	476	514	12	20	29	32		406	330	330		
400		838	597	648	37	57.2	470	1.5		572		20	29	35		459	381	381		

all dimensions in Millimetre

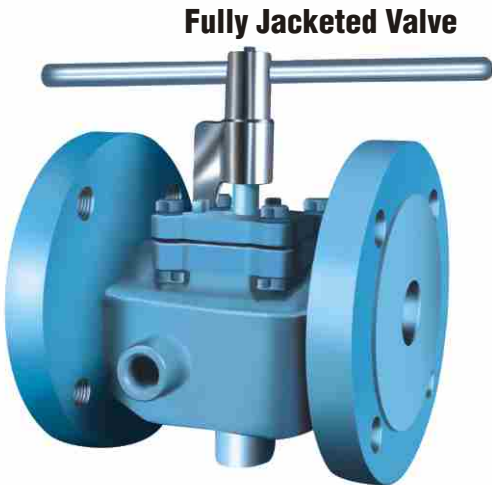
### LEGEND

F-F	FACE TO FACE	NOH	NUMBER OF HOLES
FØ	FLANGE DIAMETRE	SOH	SIZE OF HOLE
F-T	FLANGE THICKNESS	W.L	WRENCH LENGTH
RFØ	RAISED FACE DIAMETRE	G.L	GEAR LENGTH
RF.T	RAISED FACE THICKNESS	C-H	CENTER OF FLANGE TO HEIGHT OF BODY
P.C.D	PITCH CIRCLE DIAMETRE	3-WAY C-H	CENTER OF FLANGE TO BOTTOM FLANGE

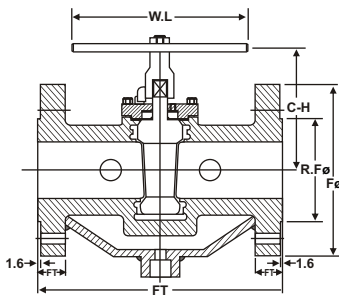
JACKETED TYPE VALVES (FULLY AND PARTIALLY JACKETED)



RASAI VALVES ARE JUST TAILOR-MADE FOR YOU !



- Fully jacketed valve is specially designed for circulation of hot or cold gas or liquids.
- Design permits through hydrostatic or pneumatic testing of the body prior to addition of jacket.
- Proven performance in critical temperature control applications.
- Multiple connections allow for proper jacket drainage.
- Fully jacketed sleeved plug valve is the chosen preference for complex fluid applications.
- Over-sized flange in accordance with international standards.
- Can withstand up to 270°C temperature.
- Anti-static eliminator is a standard feature in RASAI valves.



British Unit

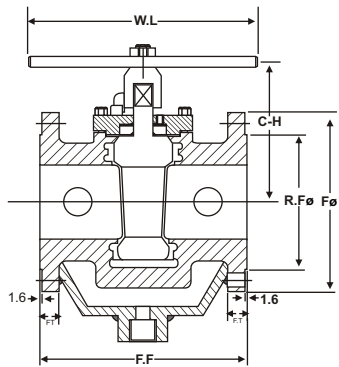
all dimensions in Inches

Size	F-F		FØ		F.T		RFØ	RFT	P.C.D		NOH		SOH		C-H		3-WAY C.H.	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS		CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#	150#	300#	150#	300#
½ x 1	5.00	6.50	4.25	4.88	.44	.69	2.00	.06	3.13	3.50	4	4	.63	.75	3.25	3.25	3.50	3.75
¾ x 1	5.00	6.50	4.25	4.88	.44	.69	2.00	.06	3.13	3.50	4	4	.63	.75	3.25	3.25	3.50	3.75
1 x 2	7.00	8.50	6.00	6.50	.63	.88	3.63	.06	4.75	5.00	4	8	.75	.75	4.50	4.50	4.50	4.75
1½x2½	8.00	11.13	7.50	8.25	.75	1.13	4.13	.06	5.50	5.88	4	8	.75	.88	4.75	4.75	5.13	5.56
2 x 3	8.00	11.13	7.50	8.25	.75	1.13	5.00	.06	6.00	6.63	4	8	.75	.88	5.00	5.00	5.13	5.56
3 x 4	9.00	12.00	9.00	10.00	.94	1.25	6.19	.06	7.50	7.88	8	8	.75	.88	6.10	6.10	6.00	6.75
4 x 6	10.50	15.88	11.00	12.50	1.00	1.44	8.50	.06	9.50	10.63	8	12	.88	.88	7.75	7.75	7.50	8.50
6 x 8	11.50	16.50	13.50	15.00	1.13	1.63	10.63	.06	11.75	13.00	8	12	.88	1.00	9.50	9.50	9.00	10.00
8 x 10	13.00	18.00	16.00	17.50	1.19	1.88	12.75	.06	14.25	15.25	12	16	1.00	1.13	11.00	11.00	11.00	12.00
10 x 12	14.00	19.75	19.00	20.50	1.25	2.00	15.00	.06	17.00	17.75	12	16	1.00	1.25	12.50	12.50		
12 x 14	15.00	30.00	21.00	23.00	1.38	2.12	16.25	.06	18.75	20.25	12	20	1.13	1.25	13.00	13.00		

Partially Jacketed Valve



- Designed in compliance with international standards.
- Design portion extends up to body level only with normal flanges.
- Anti-static eliminator is a standard feature in RASAI valves.
- F-F Dimensions and Flange Diameter will vary to that of Fully Jacketed type.
- Total height of the valve including handle cup will differ.



British Unit

all dimensions in Inches

Size	F-F		FØ		F.T		RFØ	RFT	P.C.D		NOH		SOH		C-H		SWAY C.H	
	CLASS		CLASS		CLASS				CLASS		CLASS		CLASS		CLASS		CLASS	
	150#	300#	150#	300#	150#	300#			150#	300#	150#	300#	150#	300#	150#	300#	150#	300#
1	5.00	6.50	4.25	4.88	.44	.69	2.00	.06	3.13	3.50	4	4	.63	.75	3.25	3.25	3.50	3.75
1½	6.50	7.50	5.00	6.13	.56	.81	2.88	.06	3.88	4.50	4	4	.63	.88	3.75	3.75	4.13	4.38
2	7.00	8.50	6.00	6.50	.63	.88	3.63	.06	4.75	5.00	4	8	.75	.75	4.50	4.50	4.50	4.75
2½	8.00	11.13	7.50	8.25	.75	1.13	4.13	.06	5.50	5.88	4	8	.75	.88	4.75	4.75	5.13	5.50
3	8.00	11.13	7.50	8.25	.75	1.13	5.00	.06	6.00	6.63	4	8	.75	.88	5.00	5.00	5.13	5.50
4	9.00	12.00	9.00	10.00	.94	1.25	6.19	.06	7.50	7.88	8	8	.75	.88	6.10	6.10	6.00	6.77
6	10.50	15.88	11.00	12.50	1.00	1.44	8.50	.06	9.50	10.63	8	12	.88	.88	7.75	7.75	7.50	8.50
8	11.50	16.50	13.50	15.00	1.13	1.63	10.63	.06	11.75	13.00	8	12	.88	1.00	9.50	9.50	9.00	10.00
10	13.00	18.00	16.00	17.50	1.19	1.88	12.75	.06	14.25	15.25	12	16	1.00	1.13	11.00	11.00	11.00	12.00



Screwed end:

Both straightway screwed end and 3-way screwed end valves are available upon request. Class 150 and 300 wrench standard is maintained for all valves.

SIZE	.5	.75	1	1.5	2
F-F	3.25	3.25	4.63	5.5	6.5

Socket Weld:

Welding is possible without disassembling of the valve. Welding of ductile iron is not recommended. Manufactured in compliance with ANSI B16.11

SIZE	.5	.75	1	1.5	2
F-F	3.25	3.25	4.63	5.5	6.5

Butt weld:

Valves 6" through 12" are gear operated. Butt weld valves are machined to match schedule 40 (ANSI) piping system unless specified.

SIZE	.5	.75	1	1.5	2
F-F	11	11	12	12.50	13

SIZE	15	20	25	40	50
F-F	82.55	82.55	117.6	139.7	165.1

SIZE	15	20	25	40	50
F-F	82.55	82.55	117.6	139.7	165.1

SIZE	15	20	25	40	50
F-F	280	280	300	320	340

British Unit - all dimensions in inches, Metric Unit - all dimensions in millimetres.

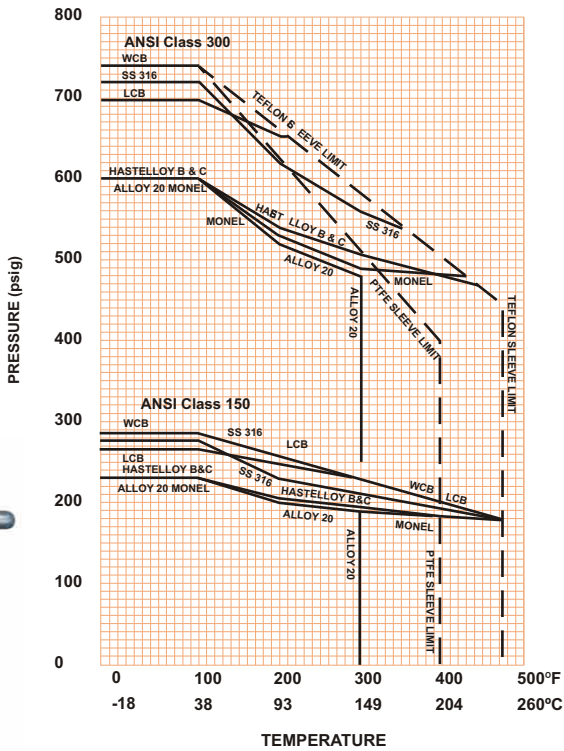
D Type Plug



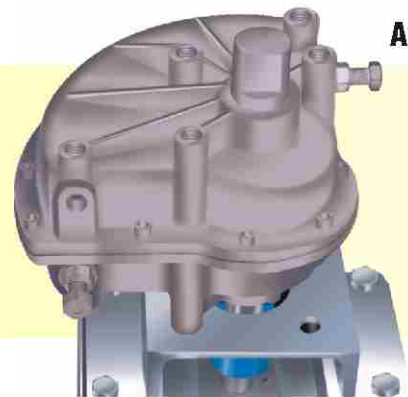
4 Way Valve



PRESSURE - TEMPERATURE RATINGS



PLUG	POSITION 0°	POSITION 90°	POSITION 180°	
				FLOW 1
				FLOW 2
				FLOW 3
				FLOW 4
				FLOW 5
				FLOW 6
				FLOW 7
				FLOW 8



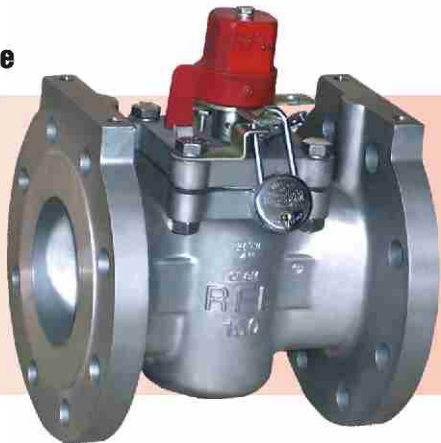
Vane Type Actuator

Actuator Mounting (Pneumatic Actuator)

RASAI offers actuator mounting for sleeved plug valves to suit customers' requirements. We offer mounting provisions with actuator mounting brackets, with necessary holes pre drilled for easy mounting of pneumatic actuators. The actuator style number to be specified at the time of ordering the valve. Trouble free on/off operation of valve through pneumatic actuators is assured. The valves are tailor-made according to customer's preference.

Sleeved plug valve with locking device

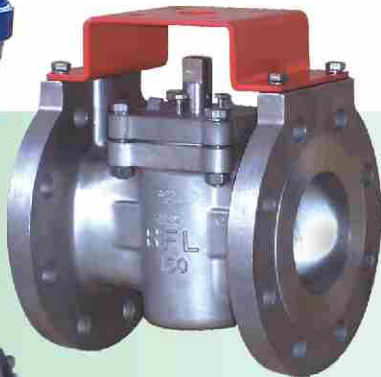
Sleeved Plug Valves with locking device is also our specialty. RASAI provides only the provision for locking device, not the locks themselves, this ensures protection of valves from any unauthorized operation.



Rotary Mounting

RASAI offers rotary mountings for sleeved plug valves to suit customers' requirements. We offer mounting provisions with rotary mounting brackets, with necessary holes pre drilled for easy mounting of rotary actuator. Actuator style to be specified at the time of ordering. The valve is tailor-made according to customers' preference.

RASAI can also offer electrical actuator mountings for sleeved plug valve to suit customers' requirements. We offer mounting provisions with electrical actuator mounting brackets, with necessary holes pre drilled for easy mounting of electrical actuators. Electrical Actuator model is to be specified at the time of ordering the valve. Trouble free on/off operation of the valves through electrical actuator is assured.



Mounting Bracket for Actuator



Sleeved plug valve with extended gland packing

Extended Gland Packing is also a RASAI's specialty. Extended Packing is available upon customers' request, when specified.



VALVE TYPE

SPV	SLEEVED PLUG VALVE
SPJ	SLEEVED PLUG VALVE JACKETED

BODY / END PIECE MATERIAL

02	DI
03	WCB
04	SS 316 (CF8M)
05	SS 316L (CF3M)
06	CD4Mcu
07	ALLOY 20 (CN7M)
08	Hastalloy 'B'
09	Hastalloy 'C'
10	Monel 400

LINING

N	NO LINING *	*Created to Balance Part Nos.
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OPERATION

W	WRENCH OPERATED
G	GEAR OPERATED
P	PNEUMATIC OPERATED
E	ELECTRICAL ACTUATOR

SIZES

SIZES	INCHES	MM
0050	1/2"	15
0075	3/4"	20
0100	1"	25
0150	1 1/2"	40
0200	2"	50
0300	3"	80
0400	4"	100
0600	6"	150
0800	8"	200
1000	10"	250
1200	12"	300
1400	14"	350
1600	16"	400

PRESSURE CLASS

1	150#
3	300#
6	600#

PLUG

02	DI
03	WCB
04	SS 316 (CF8M)
05	SS 316L (CF3M)
06	CD4Mcu
07	ALLOY 20 (CN7M)
08	Hastalloy 'B'
09	Hastalloy 'C'
10	Monel 400

END CONNECTION

FE	FLANGED END
SE	SCREWED END
BW	BUTT WELD
SW	SOCKET WELD
3W	3 WAY
4W	4 WAY

Easy Method of Ordering Using Part Numbers

EXAMPLE\*

Sleeved plug valve	SPV
Class 300#	3
WCB Body	03
SS 316 Plug	04
No lining	N
Wrench Operated	W
Flanged End	FE
Size 1 1/2"	0150

For easy method of Ordering use the chart and use the part numbers specified above.

\*Example:

SPV30304NWFE0150  
SLEEVED PLUG VALVE, CLASS 300#, BODY - WCB, PLUG-SS316, SLEEVE-N(NO LINING) WRENCH OPERATED, END CONNECTION - FLANGED END, SIZE - 1 1/2"

Note

Available in both ANSI class 150# & 300# & DIN and BS standards.  
Special alloy valves are also available upon request. Pressure tested to standard API-598 and designed as per API - 599