FluoroSeal Inc.

Specialty Valves

OPTIONS

EZ-SEAL® TOP SEAL & ADJUSTMENT SYSTEM

This product is available on FluoroSeal® Sleeved and Lined Plug Valves in ANSI/ASME and DIN standards. In fact all DIN valves up to DN 150 come fitted with the EZ-SEAL® (patented) as standard. This innovation places FluoroSeal® Plug Valves at the leading edge of technology in the industrial valve market .

The EZ-SEAL® offers 360° simultaneous and even compression adjustment of the packing and plug, eliminating side loading. Visual indication takes the guess work out of valve adjustment and remaining service life diagnostic.

Valve with EZ-SEAL® (Patented) Assembly

THE EZ-SEAL® CONCEPT

An easily accessible, single point frontal adjustment system that introduces the ease and precision of maintenance planning and cost savings on both manual and automated valve applications. Achievement is two-fold:

1. Maintenance technicians now have a trouble-free way of resealing both manual and automated valves with a single, quick and easy adjustment point (in comparison to time-consuming, cumbersome multiple adjustment bolt designs)
2. Visual gauging offers up-front knowledge of valve status, useful in scheduling valve change-out on shutdowns

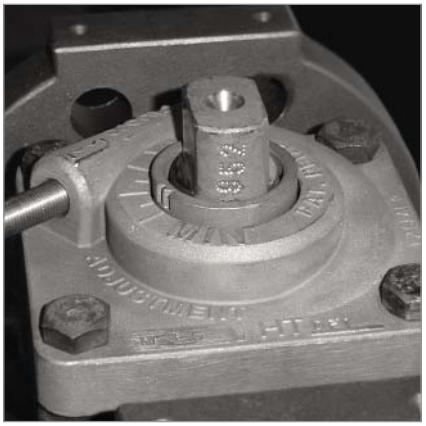
EZ-SEAL® (Patented) Bracket and Lock

ADVANTAGES

- No special tooling needed
- Significantly reduces recordable leakages
- Visual diagnostic
- Extended service life
- Allows for easy maintenance planning
- EZ-SEAL® Bracket and EZ-SEAL® Lock with a wide range of ISO mount patterns and five locking positions are offered in 304 SS as standard
- Allows direct mounting of actuation without inhibiting visual verification of stem status

DESIGN FEATURES SUMMARY

1. Single point frontal adjustment system
2. 360° simultaneous and even compression of top seal and plug
3. Plug adjustment is linear, impossible to side load
4. Tapered stem for increased sealing capabilities
5. Visual Min / Max cam adjustment indicator
6. Combination formed metal diaphragm and static eliminator
7. ISO mount stem
8. All-in-one ISO bracket and locking device, as standard
9. All components are high precision investment cast
10. Explosion-proof stem design
11. Positive shutoff



EZ-SEAL® (Patented) Cover with Cast On Min / Max Gauge

JACKETED PLUG VALVES

FluoroSeal® offers a number of jacketing solutions to customers requiring steam or hot oil-heated two-way or multiport plug valves to prevent process line freezing: either the bolt-on full jacket, or a welded-on full or partial jacketed valves to meet your requirements.

For the most efficient heat transfer, the welded-on full jacketed plug valve is offered with oversized flanges and face-to-face to match the jacketed piping it will be mounted on. A partial jacket with standard flanges is also available as an alternate, when space constraints or alternate piping heat source drive its use.

Finally, although less efficient, the bolt-on full jacket allows for in-line heat jacketing to be applied to an installed standard plug valve, eliminating the need for a shutdown for extensive maintenance action or piping change-over.

All FluoroSeal® jackets are available in various pressure-temperature ratings in a variety of materials, fabricated according to the latest ASME and PED process piping requirements, and welded using ASME- and PED-approved welders and procedures, ensuring a safe and reliable service according to the highest industry standards.

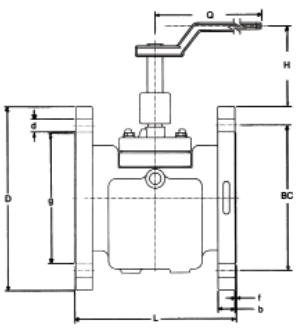
Fig. 1 Standard Welded Full Jacket with Oversized Flanges

Fig. 3 Full Bottom Jacket Using Valve Body Standard Flanges (Jacket Pressure Rating Available in 150 & 300 lbs)

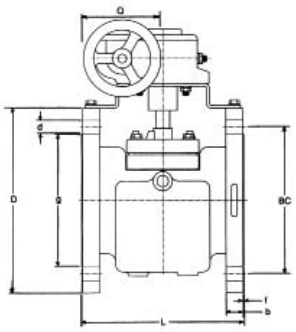
Fig. 2 Partial Welded Jacket

Fig. 4 Multiport with Full Welded Jacket

PLUG VALVES — OPTIONS



Wrench Operated



Enclosed Gear Operated

FULLY JACKETED ANSI/ASME CLASS 150 LBS

E = Clearance required for resleeving measured from center line
EG = Enclosed gear operated
N = Number of holes

SIZE	L		H		D		K		g		b		f		d		Q		E		N
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	#
2" x 1" x 2"	7.00	177.80	7.00	177.80	6.00	152.40	4.75	120.70	3.63	92.00	0.63	16.00	0.06	1.60	0.75	19.00	9.00	228.60	8.50	215.90	4
2 1/2" x 1 1/2" x 2 1/2"	8.00	203.20	7.63	193.70	7.50	190.50	5.50	139.70	4.13	104.60	0.75	19.00	0.06	1.60	0.75	19.00	14.25	362.00	10.38	263.70	4
3" x 1 1/2" x 3"	8.00	203.20	7.63	193.70	7.50	190.50	6.00	152.40	5.00	127.00	0.75	19.00	0.06	1.60	0.75	19.00	14.25	362.00	10.38	263.70	4
3" x 2" x 3"	8.00	203.20	8.00	203.20	7.50	190.50	6.00	152.40	5.00	127.00	0.75	19.00	0.06	1.60	0.75	19.00	16.50	419.10	12.25	311.20	4
4" x 3" x 4"	9.00	228.60	9.00	228.60	9.00	228.60	7.50	190.50	6.19	157.20	0.94	23.90	0.06	1.60	0.75	19.00	16.50	419.10	13.63	346.20	8
6" x 4" x 6"	10.50	266.70	10.00	254.00	11.00	279.40	9.50	241.30	8.50	215.90	1.00	25.40	0.06	1.60	0.88	22.40	23.63	600.20	16.25	412.80	8
6" x 4" x 6" EG	10.50	266.70	11.50	292.10	11.00	279.40	9.50	241.30	8.50	215.90	1.00	25.40	0.06	1.60	0.88	22.40	14.50	368.30	17.63	447.80	8
8" x 6" x 8" EG	11.50	292.10	12.00	304.80	13.50	342.90	11.75	298.45	10.62	269.75	1.13	28.70	0.06	1.60	0.88	22.40	14.50	368.30	21.75	552.50	8
10" x 8" x 10" EG	13.00	330.20	14.25	361.95	16.00	406.40	14.25	361.95	12.75	323.85	1.19	30.20	0.06	1.60	1.00	25.40	19.50	495.30	26.63	676.40	12
12" x 10" x 12" EG	14.00	355.60	15.75	400.05	19.00	482.60	17.00	431.80	15.00	381.00	1.25	31.80	0.06	1.60	1.00	25.40	19.50	495.30	31.25	793.80	12
14" x 12" x 14" EG	15.00	381.00	14.19	360.43	21.00	533.40	18.75	476.30	16.25	412.80	1.38	35.10	0.06	1.60	1.12	28.45	27.50	698.50	33.75	857.30	12
16" x 12" x 16" EG	16.00	406.40	16.31	414.27	23.00	584.20	21.25	539.75	18.50	469.90	1.38	35.10	0.06	1.60	1.13	28.58	27.50	698.50	33.75	857.30	16
18" x 16" x 18" EG	34.00	863.60	-	-	25.00	635.00	22.75	577.85	21.00	533.40	1.50	38.10	0.06	1.60	1.25	31.75	27.50	698.50	46.00	1168.40	16
20" x 18" x 20" EG	36.00	914.40	21.88	555.75	27.00	685.80	25.00	635.00	23.00	584.20	1.62	41.15	0.06	1.60	1.25	31.75	27.50	698.50	46.00	1168.40	20

FULLY JACKETED ANSI/ASME CLASS 300 LBS

E = Clearance required for resleeving from center line
EG = Enclosed gear operated
N = Number of holes

SIZE	L		H		D		K		g		b		f		d		Q		E		N
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	#
2" x 1" x 2"	8.50	215.90	5.00	127.00	6.50	165.10	5.00	127.00	3.63	92.00	0.88	22.40	0.06	1.60	0.75	19.00	9.00	228.60	8.50	215.90	8
2 1/2" x 1 1/2" x 2 1/2"	11.13	282.70	5.31	135.00	8.25	209.60	5.88	149.40	4.13	104.60	1.13	28.70	0.06	1.60	0.88	22.40	14.25	362.00	10.38	263.70	8
3" x 1 1/2" x 3"	11.13	282.70	5.31	135.00	8.25	209.60	6.63	168.40	5.00	127.00	1.13	28.70	0.06	1.60	0.88	22.40	14.25	362.00	10.38	263.70	8
3" x 2" x 3"	11.13	282.70	5.31	135.00	8.25	209.60	6.63	168.40	5.00	127.00	1.13	28.70	0.06	1.60	0.88	22.40	16.50	419.10	12.25	311.20	8
4" x 3" x 4"	12.00	304.80	6.10	155.00	10.00	254.00	7.88	200.20	6.19	157.20	1.25	31.80	0.06	1.60	0.88	22.40	16.50	419.10	13.63	346.20	8
6" x 4" x 6"	15.88	403.40	11.50	292.10	12.50	317.50	10.63	270.00	8.50	215.90	1.44	36.60	0.06	1.60	0.88	22.40	23.63	600.20	16.25	412.80	12
6" x 4" x 6" EG	15.88	403.40	11.50	292.10	12.50	317.50	10.63	270.00	8.50	215.90	1.44	36.60	0.06	1.60	0.88	22.40	14.50	368.30	17.63	447.80	12
8" x 6" x 8" EG	16.50	419.10	12.00	304.80	15.00	381.00	13.00	330.20	10.62	269.75	1.63	41.40	0.06	1.60	1.00	25.40	14.50	368.30	21.75	552.50	12
10" x 8" x 10" EG	18.00	457.20	14.25	361.95	17.50	444.50	15.25	387.35	12.75	323.85	1.88	47.80	0.06	1.60	1.12	28.45	19.50	495.30	26.63	676.40	16
12" x 10" x 12" EG	19.75	501.65	15.75	400.05	20.50	520.70	17.75	450.85	15.00	381.00	2.00	50.80	0.06	1.60	1.25	31.75	19.50	495.30	31.25	793.80	16
16" x 12" x 16" EG	24.00	609.60	16.31	414.27	25.50	647.70	22.50	571.50	18.50	469.90	2.19	55.63	0.06	1.60	1.38	35.05	27.50	698.50	33.75	857.30	20
18" x 16" x 18" EG	26.00	660.40	-	-	28.00	711.20	24.75	628.65	21.00	533.40	2.31	58.67	0.06	1.60	1.38	35.05	27.50	698.50	46.00	1168.40	24
20" x 18" x 20" EG	28.00	711.20	-	-	30.50	774.70	27.00	685.80	23.00	584.20	2.44	61.98	0.06	1.60	1.38	35.05	27.50	698.50	46.00	1168.40	24

FULLY JACKETED ANSI/ASME CLASS 600 LBS

E = Clearance required for resleeving from center line
EG = Enclosed gear operated
N = Number of holes

SIZE	L		H		D		K		g		b		f		d		Q		E		N
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	#
2" x 1" x 2"	11.50	292.10	-	-	6.50	165.10	5.00	127.00	3.62	91.90	1.00	25.40	0.25	6.35	0.75	19.10	9.00	228.60	8.50	215.90	8
2 1/2" x 1 1/2" x 2 1/2"	13.00	330.20	-	-	7.50	190.50	5.88	149.40	4.12	104.60	1.12	28.40	0.25	6.35	0.88	22.40	14.25	362.00	10.38	263.70	8
3" x 1 1/2" x 3"	14.00	355.60	-	-	8.25	209.60	6.62	168.10	5.00	127.00	1.25	31.80	0.25	6.35	0.88	22.40	14.25	362.00	10.38	263.70	8
3" x 2" x 3"	14.00	355.60	-	-	8.25	209.60	6.62	168.10	5.00	127.00	1.25	31.80	0.25	6.35	0.88	22.40	16.50	419.10	12.25	311.20	8
4" x 3" x 4"	17.00	431.80	-	-	10.75	273.10	8.50	215.90	6.19	157.20	1.50	38.10	0.25	6.35	1.00	25.40	16.50	419.10	13.63	346.20	8
6" x 4" x 6"	22.00	558.80	-	-	14.00	355.60	11.50	292.10	8.50	215.90	1.88	47.80	0.25	6.35	1.12	28.40	23.63	600.20	16.25	412.80	12
6" x 4" x 6" EG	22.00	558.80	-	-	14.00	355.60	11.50	292.10	8.50	215.90	1.88	47.80	0.25	6.35	1.12	28.40	14.50	368.30	17.63	447.80	12
8" x 6" x 8" EG	26.00	660.40	-	-	16.50	419.10	13.75	349.30	10.62	269.70	2.19	55.60	0.25	6.35	1.25	31.80	14.50	368.30	21.75	552.50	12
10" x 8" x 10" EG	31.00	787.40	-	-	20.00	508.00	17.00	431.80	12.75	323.90	2.50	63.50	0.25	6.35	1.38	35.10	19.50	495.30	26.63	676.40	16
12" x 10" x 12" EG	33.00	838.20	-	-	22.00	558.80	19.25	489.00	15.00	381.00	2.62	66.50	0.25	6.35	1.38	35.10	19.50	495.30	31.25	793.80	20
16" x 12" x 16" EG	39.00	990.60	-	-	27.00	685.80	23.75	603.25	18.50	469.90	3.00	76.20	0.25	6.35	1.63	41.28	27.50	698.50	33.75	857.30	20
18" x 16" x 18" EG	43.00	1092.20	-	-	29.50	749.30	25.75	654.10	21.00	533.40	3.25	82.60	0.25	6.35	1.75	44.50	27.50	698.50	46.00	1168.40	20
20" x 18" x 20" EG	47.00	1193.80	-	-	32.00	812.80	28.50	723.90	23.00	584.20	3.50	88.90	0.25	6.35	1.75	44.50	27.50	698.50	46.00	1168.40	24

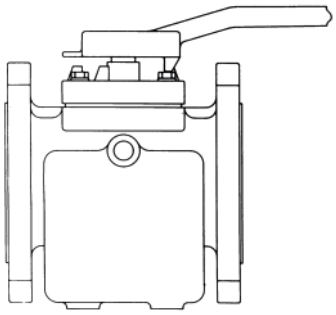
PARTIALLY JACKETED PLUG VALVES

Heat dissipation due to the partial insulating effect of the PTFE sleeve, combined with the basic plug valve design, provides a more uniform heat flange-to-flange with a partial jacket than with a full jacket. Therefore, a partial jacket should be selected for most applications.

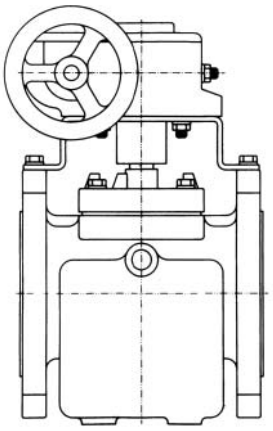
Refer to standard valves for dimensional data. Available in sizes 1" to 18".

DIN Partially Jacketed Plug Valves are available upon request.

PARTIALLY JACKETED 2-WAY ANSI/ASME CLASS 150, 300 & 600 LBS

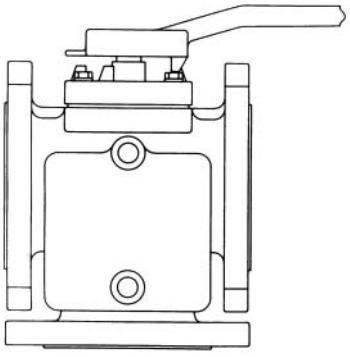


1/2" to 4"
Wrench Operated

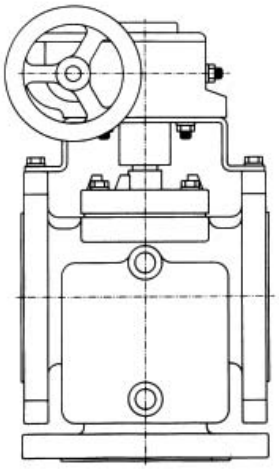


4" to 24"
Enclosed Gear Operated

PARTIALLY JACKETED MULTIPORT ANSI/ASME CLASS 150, 300 & 600 LBS



1/2" to 4"
Wrench Operated



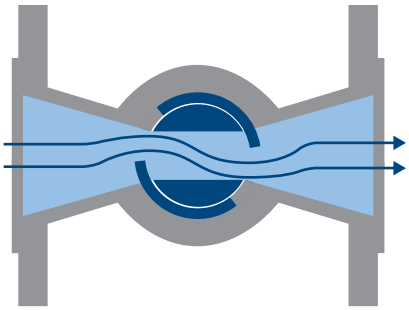
4" to 24"
Enclosed Gear Operated

JACKET INLET OUTLET AND DRAIN CONNECTIONS

VALVE SIZE	1/2" – 2"		3" – 6"		8" – 24"	
	in	mm	in	mm	in	mm
NPT	1/2	12.70	3/4	19.05	1	25.40

V-PORT & CHARACTERIZED PLUGS

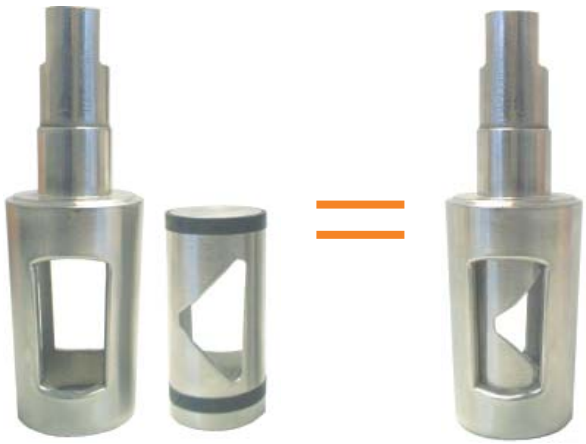
FluoroSeal® Plug Valves are also available with Characterized Plugs for fine control applications. Standard V-Ports in 60° and other custom configurations are available in all trim materials.



Flow Diagram

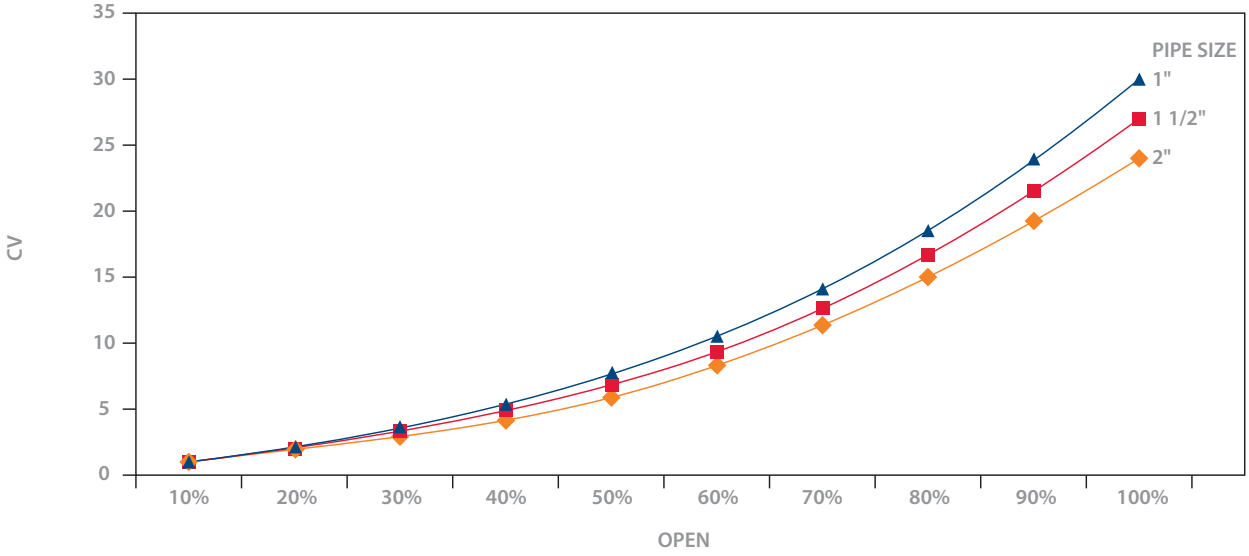
The design and features of the FluoroSeal® Plug Valve makes it an excellent choice for fine throttling in slurry and chemical applications. The no cavity design allows the plug valve to throttle without exposing the stem seal to line pressure, a definite advantage over most ball valves specifically in high cycling applications.

The Cage Control V-Port Plug Valve is mostly used in highly abrasive applications offering the benefits of a metal seated control valve, with the added advantage of a bubble-tight shutoff at a fraction of the cost. This product is available in all materials from 1" to 14" (DN 25 to DN 150).



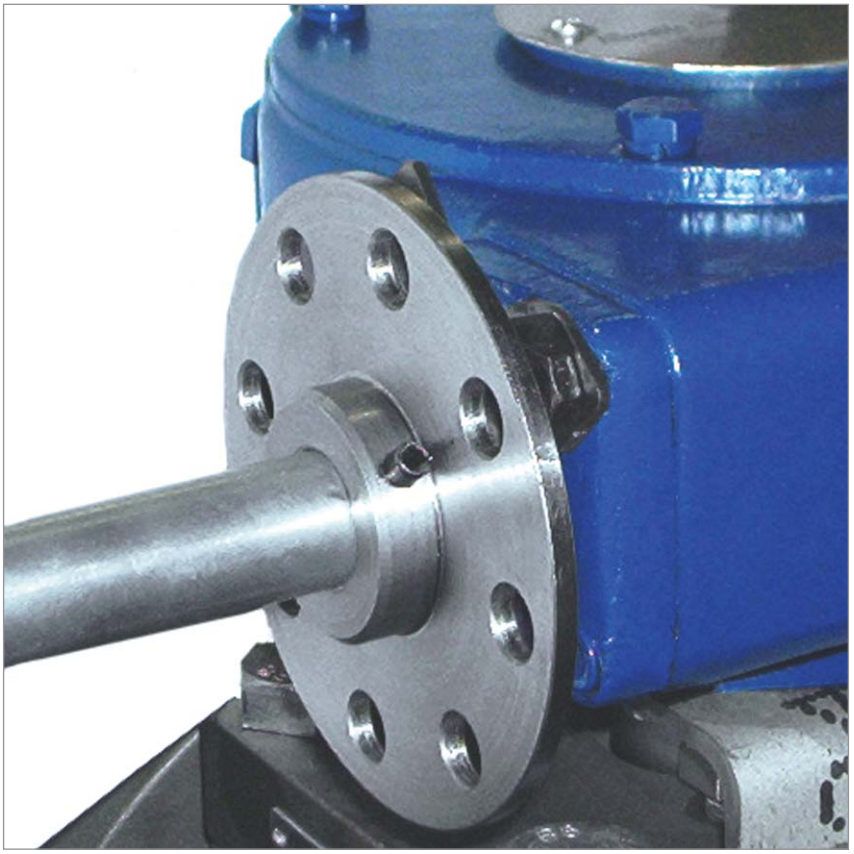
Characterized Plug

TYPICAL FLOW CHART FOR A 1" 60° V-PORT PLUG VALVE

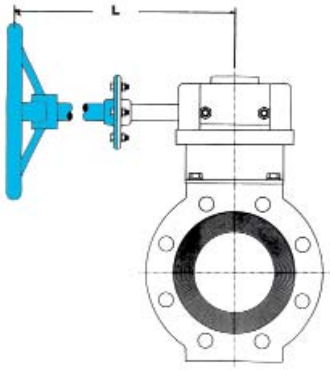


FluoroSeal Inc.

Specialty Valves

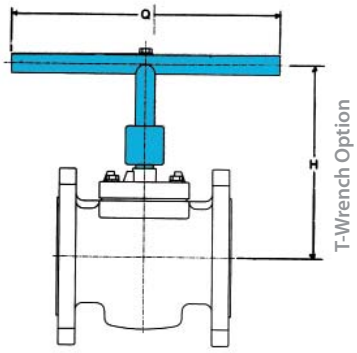


ACCESSORIES



HANDWHEEL EXTENSION — GEAR OPERATOR

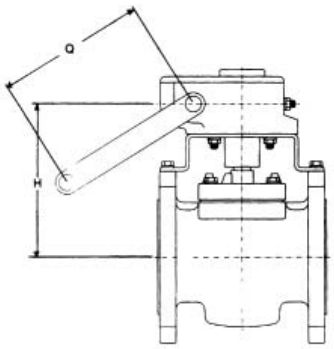
Custom extension to fit your particular space requirements. Please specify the length (L) needed. Support may be required depending on the length of the extension. (To be supplied by the customer.)



T-WRENCH AND EXTENSION OPTION

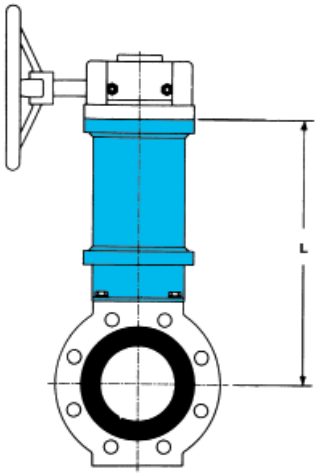
If longer "H" dimension, please specify.

VALVE SIZE	1/2" (DN 15)		3/4" (DN 20)		1" (DN 25)		1 1/2" (DN 40)		2" (DN 50)		3" (DN 80)		4" (DN 100)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Q	12.00	304.80	12.00	304.80	18.00	457.20	28.00	711.20	36.00	914.40	36.00	914.40	42.00	1066.80
H	6.80	172.72	6.80	172.72	7.40	187.96	8.00	203.20	8.40	213.36	9.00	228.60	9.60	243.84



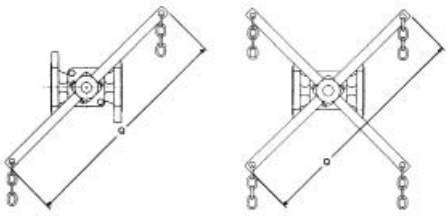
CRANK HANDLE

VALVE SIZE	4" EG (DN 100)		6" EG (DN 150)		8" EG		10" EG		12" EG	
	in	mm	in	mm	in	mm	in	mm	in	mm
Q	7.25	184.15	7.25	184.15	9.75	247.65	9.75	247.65	13.75	349.25
H	10.75	273.05	11.50	292.10	13.00	330.20	15.50	393.70	17.25	438.15



STEM EXTENSION — GEAR OPERATOR

Stem extensions are used for remote operation of the valve. Actuators can be attached to the top of the extension. Specify the length (L) of the extension required and the figure number of the valve it is to be attached to.



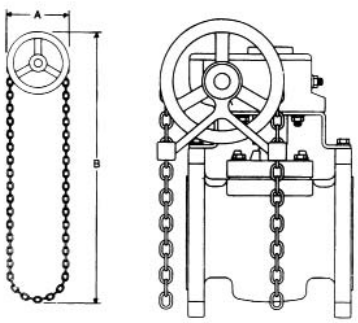
CHAIN WRENCH

Specify the chain length required and whether the valve will be installed in a horizontal or vertical line. To calculate chain length:

90° rotation: 1. Double required drop
2. Multiply Q by 0.5
3. 1+2 = required chain length

180° rotation: Double calculation for 90°

VALVE SIZE	1/2" (DN 15)		3/4" (DN 20)		1" (DN 25)		1 1/2" (DN 40)		2" (DN 50)		3" (DN 80)		4" (DN 100)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Q	13.00	330.20	13.00	330.20	16.00	406.40	24.00	406.40	36.00	914.40	36.00	914.40	60.00	1524.00



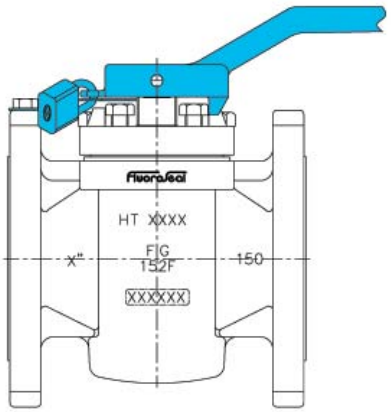
CHAIN WHEEL

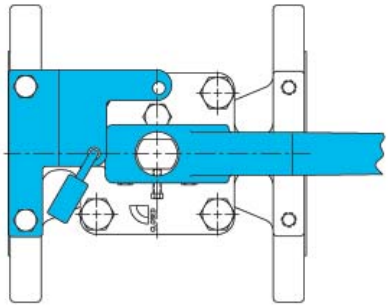
Specify the chain length required and whether the valve will be installed in a horizontal or vertical line. To calculate chain length:

1. Double required drop B
2. Multiply chain wheel diameter A by 2.6
3. 1+2 = required chain length

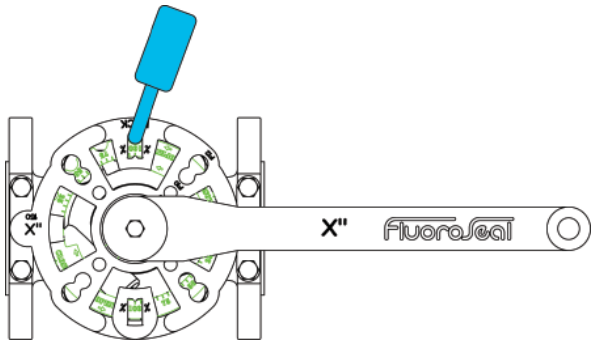
WRENCH OPERATOR LOCKING DEVICE

Padlock is not supplied.





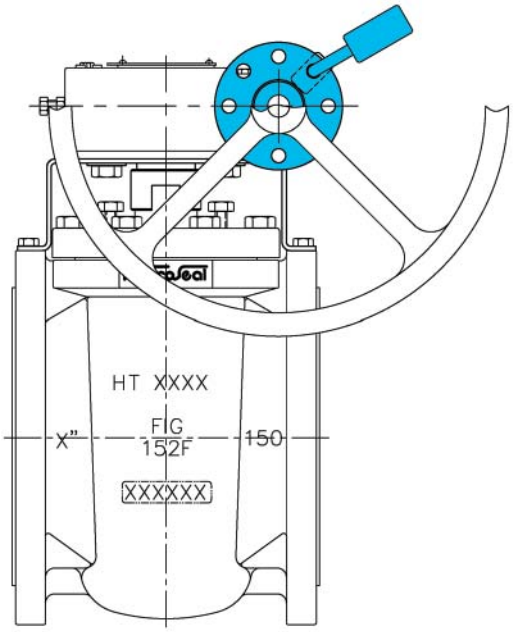
Locking Device on Regular Cover

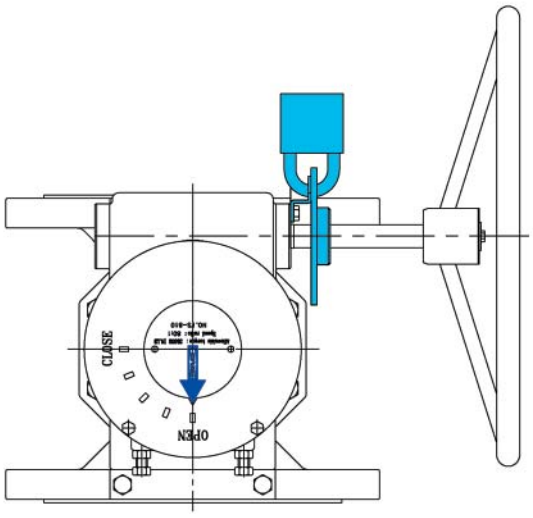


Locking Device on EZ-SEAL®

GEAR OPERATOR LOCKING DEVICE

Padlock is not supplied.





PLUG-SLEEVED-R001-2013

FluoroSeal Inc.

Specialty Valves

TECHNICAL DATA

OUR ENGINEERING COMMITMENT

We will assist you in making the most appropriate selection of alloys and polymers to suit your application. We will provide you with CV factors and other necessary flow calculations, therefore making your decision process as easy as possible. We will work together with you to develop the best valve possible, no matter what your industry sector. Our Engineered Solutions Division (ESD) is staffed with highly skilled engineers, technicians and draftsmen specialized in modifying existing designs to meet your specific needs.

Please consult our website, www.fluorosealvalves.com, for the most up-to-date listing of torque and CV values.


Chemical


Mining


Oil & Gas


Power Generation


Pulp & Paper

QUALITY ASSURANCE

FluoroSeal® Plug Valves possess all of the best design features presently available in a non-lubricated valve. They are inspected throughout the full manufacturing process from foundry to final assembly and packaging to assure high quality and consistency in every unit.

All internal processes are vetted according to best standard industry practices, inspections performed with equipment subject to periodic calibrations, and for special processes, such as welding, procedures and operators are fully qualified to the requirements of the ASME Boiler and Pressure Vessel Code, as well as to PED/CE requirements.

Please consult our website, www.fluorosealvalves.com, for the latest copy of our ISO, PED and AD Certificates.

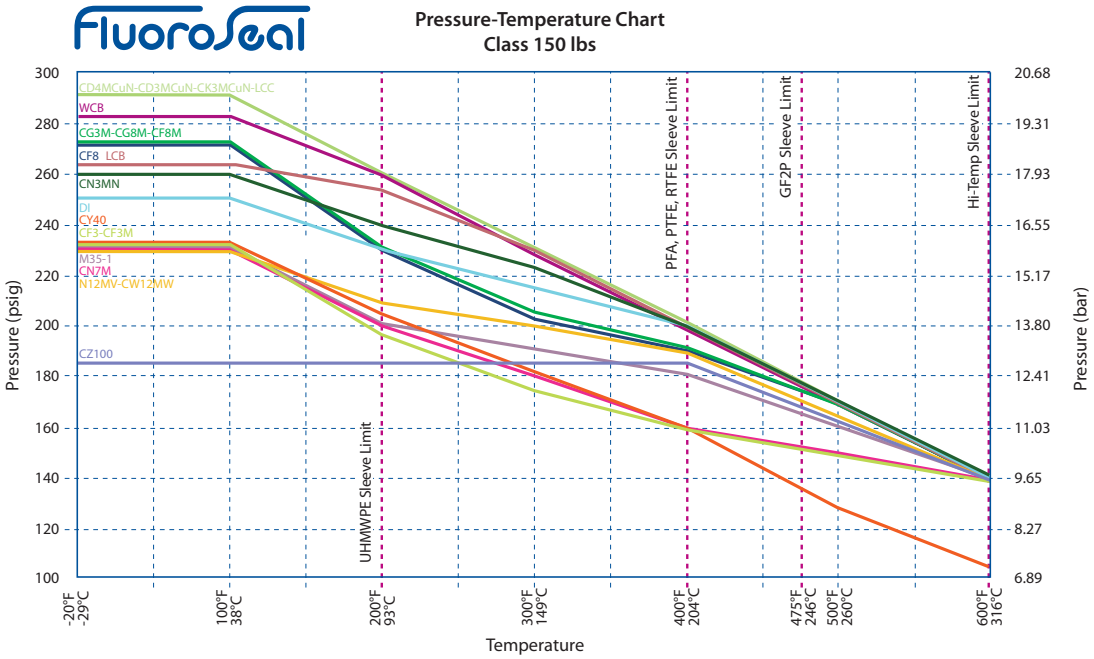
TESTING

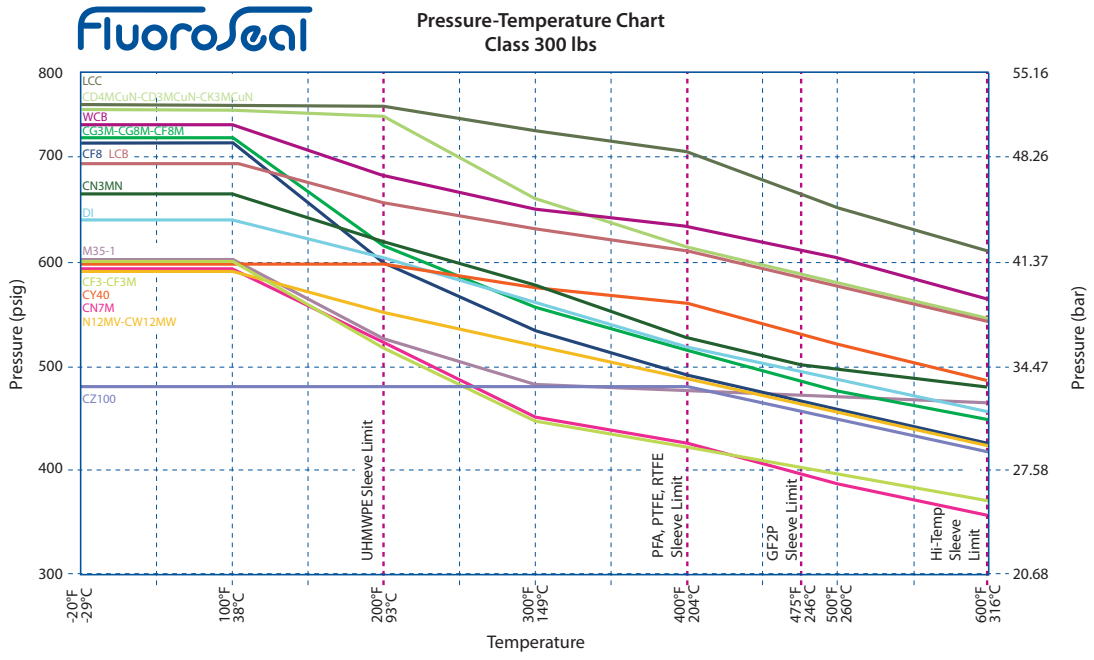
All FluoroSeal® valves are pressure tested prior to shipment to ensure full compliance with ANSI B16.34 and MSS SP-61 (or DIN EN 12266-1) shell and seat test requirements. At customer option, API 598 requirements can also be met.

All high nickel alloy valves are also shell tested with helium on a standard basis. In addition, non-destructive tests such as radiographic, liquid penetrant or magnetic particle evaluations can be performed to various requirements, at customer option.

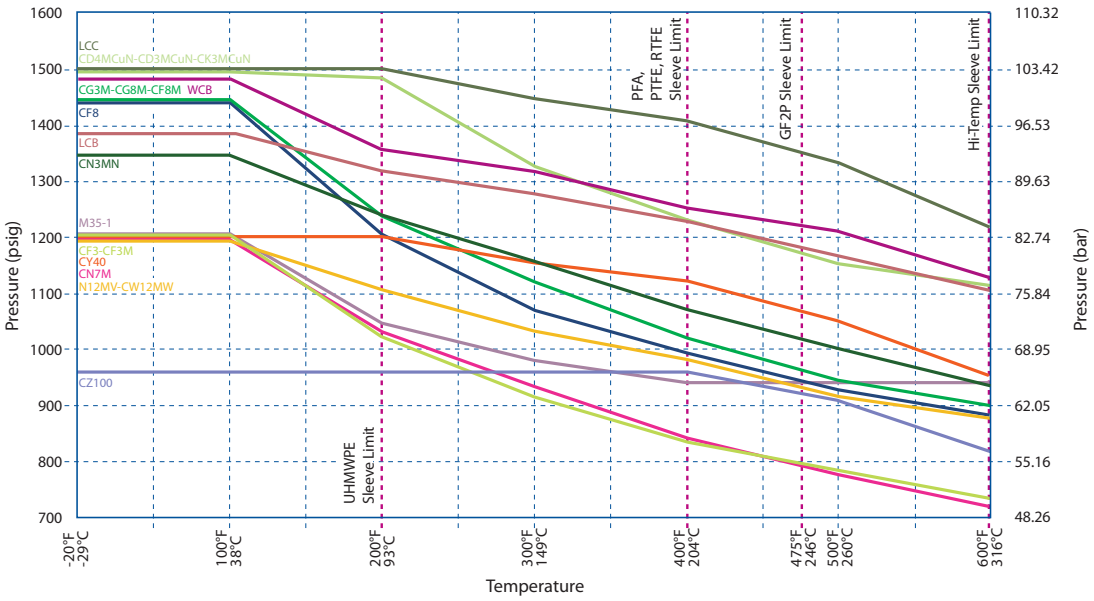
PLUG-SLEEVED-R001-2013

MATERIAL PROPERTIES

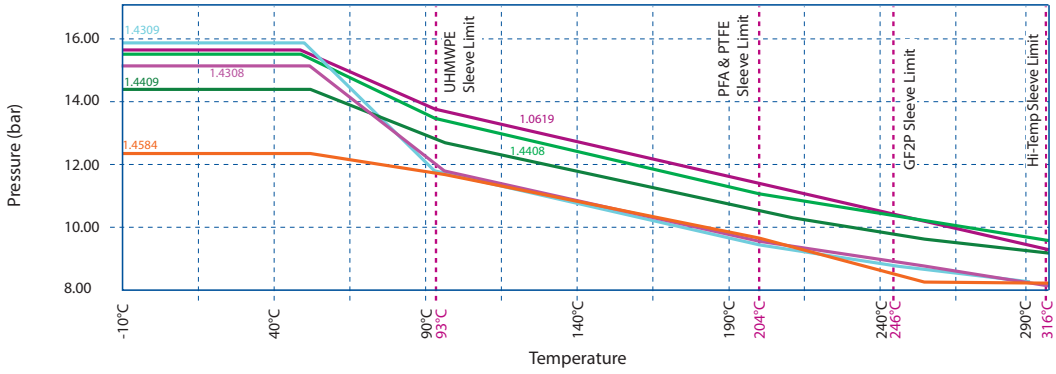




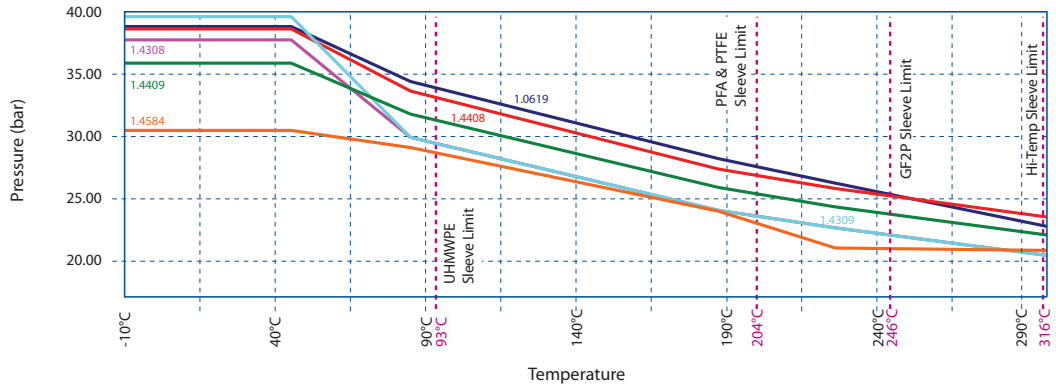
Pressure-Temperature Chart
Class 600 lbs



Pressure-Temperature Chart
PN 16



Pressure-Temperature Chart
PN 40



FluoroSeal Inc.

SLEEVED PLUG VALVES ORDERING INSTRUCTIONS

Size	Port	Class	Flow	End Connection		Operator		Flow Pattern		Body Material		Plug Material		Cover Bolt Material		Sleeve Material		Special and / or Option
					/		–		–		/		–		–		–	

Size
1/2" to 24" or DN15 to DN600
Refer to catalog for Class avail.

Port

R	Reduced	F	Full

Class

15	Class 150 lbs	30	Class 300 lbs
60	Class 600 lbs	D10	PN10
D16	PN 16	D25	PN25
D40	PN 40		

Flow

2	2-Way	3	3-Way

End Connection

F	Flanged Raised Face	FF	Flanged Flat Face
SE	Screwed	SW	Socket Weld
X	Screwed x Socket Weld	BW	Butt Weld
S	Special		

Operator

B	Bare Stem	EG	Enclosed Gear
EGL	Enclosed Gear + Locking Device	W	Wrench
WL	Wrench + Locking Device	WXT	Wrench + Stem Extension

Flow Pattern (Leave blank for 2-Way)

FA1, FA2, FA3, FA4, FA5	Refer to catalog for Flow Patterns

Body Material
Refer to Body & Plug Material Table

Plug Material
Refer to Body & Plug Material Table

Cover Bolt Material

1	B7*	2	B7M*
3	B8*	4	B16*
5	B8M Class 1*	6	B8M Class 2*
7	L7**	8	L7M**
9	B446 Gr.1	10	TC3
11	A20	12	A20 (Teflon Coated)
13	MO 400	14	HC
15	HC (Teflon Coated)	16	Inconel 718
17	TC5	18	ISO 898-1, 5.6
19	A2-70	20	A4-70
21	Special		

*According to ASTM A193 **According to ASTM A320

Sleeve Material

A	PFA	G	GF2P
P	PTFE	R	RTFE
U	UHMWPE	Z	Hi-Temp Teflon®

Special (A combination of Specials can be used)

CL	Prepared for Chlorine Service
DBB	Double Block & Bleed
FE	Severe Service
HF	UOP-Approved HF-Alkylation Configuration
HOX	Prepared for Hydrogen Peroxide
ISY	Prepared for Isocyanate Service
OXY	Prepared for Oxygen Service
PHOS	Prepared for Phosgene Service

Options (A combination of Options can be used)

CCV	Cage Control Valve	EZ	EZ-SEAL®
FJ	Full Jacket	FS	Fire Safe
PJ	Partial Jacket	V6	V-Port 60°
S	Special — Description required		
VN(X,Y,Ø)	Vented Plug (Specify Location (X,Y) and Diameter(Ø)) Special venting available on request		

X:	Y:	Ø:
U: Upstream	T: Top	1/8
D: Downstream	M: Middle	1/4
	B: Bottom	

Note: HF, FS, CL are vented by default, specify NV if no venting is required for these options.

BODY & PLUG MATERIAL TABLE

CODE	DESCRIPTION	ASTM DESIGNATION	DIN
WCB	Carbon Steel	A216 Gr. WCB	1.0619
LCB	Low Temp. Ferritic Alloy Steel	A352 Gr. LCB	1.6220
LCC	Low Temp. Ferritic Alloy Steel	A352 Gr. LCC	1.7219
304	304 Austenitic Stainless Steel	A351 Gr. CF8	1.4308
304L	304L Austenitic Stainless Steel	A351 Gr. CF3	1.4309
316	316 Austenitic Stainless Steel	A351 Gr. CF8M	1.4408
316L	316L Austenitic Stainless Steel	A351 Gr. CF3M	1.4409
317	317 Austenitic Stainless Steel	A351 Gr. CG8M	
317L	317L Austenitic Stainless Steel	A351 Gr. CG3M	
A20	Alloy 20	A351 Gr. CN7M	1.4500
904L	904L Stainless Steel	Cast Grade	1.4584
CD4N	Ferinox® 255 Super-Duplex S.S.	A995 Gr. 1B (CD4MCuN)	1.4517
CD3	2205 Super-Duplex S.S.	A995 Gr. 4A (CD3MN)	1.4470
CE3	2507 Super-Duplex S.S.	A995 Gr. 5A (CE3MN)	1.4417
CK3	254 SMO Super-Austenitic S.S.	A351 Gr. CK3MCuN	
CN3	AL-6XN Super-Austenitic S.S.	A351 Gr. CN3MN	
HB	HASTELLOY® B*	A494 Gr. N7M	2.4882
HB2	HASTELLOY® B 2*	A494 Gr. N12MV	2.4685
HC	HASTELLOY® C*	A494 Gr. CW6M	2.4883
HC2	HASTELLOY® C 276*	A494 Gr. CW12MW	2.4686
I600	INCONEL® 600*	A494 Gr. CY40	2.4816
I625	INCONEL® 625*	A494 Gr. CW6MC	2.4856
MO	MONEL® 400	A494 Gr. M35-1	2.4365
NI	Nickel	A494 Gr. CZ-100	2.4170
TC2	Titanium (Comm. Pure)*	B367 Gr. C2	3.7035
TC3	Titanium (Comm. Pure)*	B367 Gr. C3	3.7031
TC5	Titanium Alloy 6Al-4V*	B367 Gr. C5	
ZR2	Zirconium*	B752 Gr. 702C	
ZR5	Zirconium*	B752 Gr. 705C	

Other and Special Alloys Available on Request
* Drilled and tapped flange actuation-mounting pads independent of cover and top seal assembly are optional on lever-operated valves (1/2" thru 4") in HASTELLOY®, INCONEL®, Titanium, and Zirconium alloys.

TERMS & CONDITIONS

CONTROLLING PROVISIONS

These terms and conditions shall control with respect to any purchase order or sale of FluoroSeal Inc.'s products. No waiver, alteration or modification of these terms and conditions whether on Buyer's purchase order or otherwise, shall be valid unless the waiver, alteration or modification is specifically accepted in writing and signed by an authorized representative of FluoroSeal Inc.

DELIVERY FluoroSeal Inc. will make every effort to complete delivery of products as indicated on its acceptance of an order, but FluoroSeal Inc. assumes no responsibility or liability, and will accept no back charge, for loss or damage due to delay or inability to deliver caused by acts of God, war, labor difficulties, accident, delays of carriers, by contractors or suppliers, inability to obtain materials, shortages of fuel and energy, or any other causes of any kind whatever beyond the control of FluoroSeal Inc. FluoroSeal Inc. may terminate any contract of sale of its products without liability of any nature, by written notice to Buyer, in the event that the delay in delivery or performance resulting from any of the aforesaid causes shall continue for a period of sixty (60) days. Under no circumstances shall FluoroSeal Inc. be liable for any special or consequential damages or for loss, damage, or expense (whether or not based on negligence) directly or indirectly arising from delays or failure to give notice of delay.

WARRANTY FluoroSeal Inc. warrants for one year from the date of shipment of its manufactured products to the extent that FluoroSeal Inc. will replace those having defects in material or workmanship when used for the purpose and in the manner which FluoroSeal Inc. recommends. If FluoroSeal Inc.'s examination shall disclose to its satisfaction that the products are defective, and an adjustment is required, the amount of such adjustment shall not exceed the net sale price of the defective product(s) only and no allowance will be made for labor or expense for repairing or replacing defective products or workmanship or damage resulting from the same. FluoroSeal Inc. warrants the products which it sells of other manufacturers to the extent of the warranties of their respective makers. Where engineering design or fabrication work is supplied, Buyer's acceptance of FluoroSeal Inc.'s design or of delivery of work shall relieve FluoroSeal Inc. of all further obligation, other than expressed in FluoroSeal Inc.'s product warranty.

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SHIPMENTS All products sent out will be carefully examined, counted and packed. The cost of any special packing or special handling caused by Buyer's requirements or requests shall be added to the amount of the order. No claim for shortages will be allowed unless made in writing within ten (10) days of receipt of a shipment. Claims for products damaged or lost in transit should be made to the carrier, as FluoroSeal Inc.'s responsibility ceases, and title passes, on delivery to the carrier.

SPECIAL PRODUCTS Orders covering special or non-standard products are not subject to cancellation except on such terms as FluoroSeal Inc. may specify on application.

PRICES AND DESIGNS Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated.

TAXES The amount of any sales, excise or other taxes, if any, applicable to the products, shall be added to the purchase price and shall be paid by Buyer unless Buyer provides FluoroSeal Inc. with an exemption certificate acceptable to the taxing authorities.

NUCLEAR PLANTS Where the products, engineering design or fabrication is for nuclear plant applications, Buyer agrees (a) to take all necessary steps to add FluoroSeal Inc. as an insured under the American Nuclear Insurers (ANI) pool and under the Mutual Atomic Energy Reinsurance Pool (MAERP) for property damage and liability insurance and if necessary steps could have been taken, but are not taken, Buyer shall hold FluoroSeal Inc. harmless against all such losses which could have been thus covered; (b) Buyer agrees to hold FluoroSeal Inc. harmless with respect to any personal injury or death, property damage or any other loss in a nuclear incident which is caused directly or indirectly by defective design, material, or workmanship, furnished by FluoroSeal Inc. and which is covered by insurance maintained by Buyer (or which could be so covered but with respect to which Buyer has elected to self-insure), and further agrees to waive subrogation by its carriers of such insurance against FluoroSeal Inc.; (c) as to nuclear hazards for which Buyer cannot obtain insurance coverage, the liability of FluoroSeal Inc. for any personal injury or death, property damage or any other loss directly caused by defective design, material, or workmanship furnished by FluoroSeal Inc. shall not exceed the value of the material furnished by FluoroSeal Inc. at the time of the loss occurrence.

MINIMUM INVOICE $250 plus shipping.

TERMS Cash, net 30 days unless otherwise specified.

Most recent terms and conditions are available in the Downloads section of our website.

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1 888 269 0220 (Canada & U.S.A.)