

ECCENTRIC PLUG VALVES

CLOW VALVE COMPANY

Size Range	3" – 24"	
Size Range	Water working Pressure psi	Hydrostatic Test psi
3"–12"	175	265
14"–24"	150	225

Available End Connections & Size Range

Figure No.

Flanged	3"-24"	F-5412
M.J.	3"-24"	F-5413
Grooved	3"-16"	F-5414
Flanged – Full Port	3"-12"	

Accessories

Floorstands	Electric Motor Actuators
Extension Stems	Cylinder Actuators
Extended Bonnets	Limit Switches
2" Sq. Operating Nuts	Stem Guides
Handwheels	Floor Boxes
Lever Wrench Head (3"–8")	"T" Handles
Chainwheels	Chainlevers (3"–8")
Worm Gear Actuators	

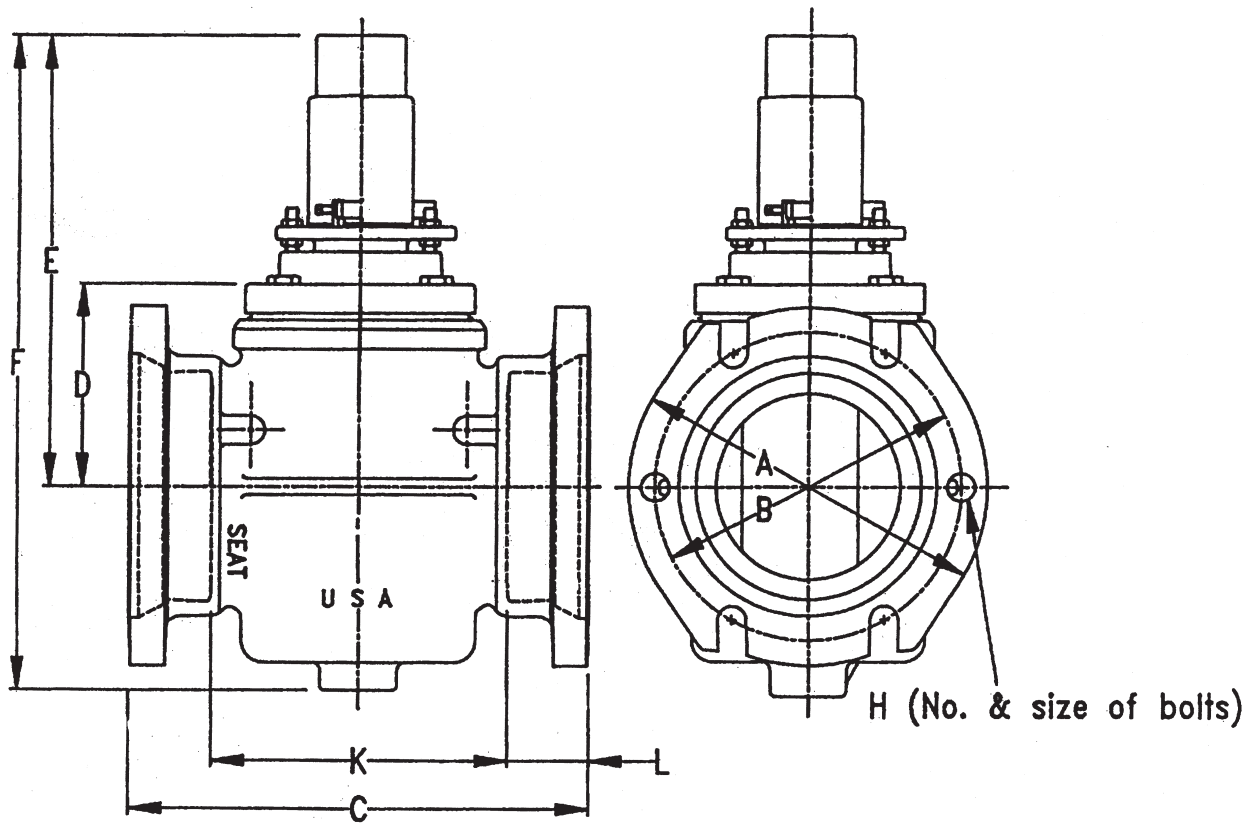
* Note: Call Factory For Special Applications

Valves 3" through 8" are available with lever actuators. Geared actuators are recommended on 6" and larger valves. It is also recommended that valves installed in pipelines with high velocity or where water hammer conditions can be caused by sudden valve shut-off that geared actuators be installed. Lever actuators can only be used for pressure ratings of 100 psi maximum and 25 psi in the reverse flow condition.

3"-8" ECCENTRIC PLUG VALVE
MJ Ends – General Dimensions

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F-5413



VALVE SIZE	A	B	C	D	E	F	H	K	L
3"	7 $\frac{5}{8}$	6 $\frac{3}{16}$	11 $\frac{7}{8}$	3 $\frac{15}{32}$	6 $\frac{3}{4}$	11	4- $\frac{3}{4}$	6 $\frac{7}{8}$	2 $\frac{1}{2}$
4"	9 $\frac{1}{8}$	7 $\frac{1}{2}$	12 $\frac{1}{4}$	4 $\frac{7}{16}$	11	16 $\frac{3}{8}$	4- $\frac{3}{4}$	7 $\frac{1}{4}$	2 $\frac{1}{2}$
6"	11 $\frac{1}{8}$	9 $\frac{1}{2}$	15 $\frac{3}{4}$	6 $\frac{1}{8}$	14 $\frac{1}{2}$	21	6- $\frac{3}{4}$	9 $\frac{1}{8}$	2 $\frac{1}{2}$
8"	13 $\frac{3}{4}$	11 $\frac{3}{4}$	17 $\frac{1}{2}$	7 $\frac{5}{8}$	16	24 $\frac{1}{4}$	6- $\frac{3}{4}$	12 $\frac{1}{2}$	2 $\frac{1}{2}$

ECCENTRIC PLUG VALVE Features and Benefits
CLOW VALVE COMPANY

1. **Stem Packing Seals** - Clow utilizes Buna-N multiple "V" ring stem packing seals. This sealing system conforms to AWWA C517 standards. The Clow Valve is re-packable while under pressure without removing the actuation. The packing seal is held in place with an adjustable gland follower to provide many years of reliable service.
2. **Bolted Bonnet** - Valve bonnets are fully sealed and bolted to the valve body for easy removal of the plug should maintenance be required.
3. **Shaft Bearings** - Sintered 316 stainless steel shaft bearings are used in the upper and lower trunnions. These bearings are permanently lubricated for ease of operation even after long periods of inactivity.
4. **Valve Body** -The body and cover of the valve is made from cast iron conforming to ASTM A126 Class B. Flanged valves are in full compliance with ANSI B16.1 Class 125 standards, mechanical joint (MJ) valves are in compliance with AWWA C111/ANSI 21.11, and grooved end valves are in compliance with AWWA C606.
5. **Welded Nickel Seat** - Clow welds a corrosion resistant nickel seat to a raised area in the body. The weld is 95% nickel and at least 1/8" thick after it is machined. The nickel covers the entire seat surface so the possibility of corrosion that could damage the plug face is minimized.
6. **Plug** - The valve plug is made from cast iron ASTM A126, Class B. The portion of the plug in the valve body cavity is coated with Buna-N rubber using an injection molding process. This allows for the entire surface to be covered not just the plug face. The rubber to iron bond on the plug is inspected for strength per ASTM D429.
7. **O-Ring Bonnet Seal** - The seal between the body and bonnet is an O-Ring allowing for easier maintenance and since O-rings require less compressive force to seal the number of bonnet bolts is reduced.

**ECCENTRIC PLUG VALVE
Specifications**

CLOW VALVE COMPANY

Eccentric Plug Valves shall be of the tight closing, resilient faced, non-lubricating variety and shall be of eccentric design such that the valves pressure member (plug) rises off the body seat contact area immediately upon shaft rotation during the opening movement. Valves shall be drop-tight at the rated pressure (175 psi through 12", 150 psi 14" and above) and shall be satisfactory for applications involving throttling service as well as frequent or infrequent on-off service. The valve closing member should rotate approximately 90 degrees from the full-open to full-close position and vice-versa.

The valve body shall be constructed of cast iron conforming to ASTM A126, Class B. Body ends shall be:

1. Flanged with dimensions, facing, and drilling in full conformance with A - ANSI B16.1, Class 125.
2. Mechanical Joint, meeting the requirements of AWWA C111/ANSI A21.11.
3. Grooved, meeting the requirements of AWWA C606.

Eccentric Plug Valves shall have a rectangular shaped port. Port areas for 3"- 20" valves shall be at least 80% of full pipe area.

Valve seat surface shall be a welded-in overlay, cylindrically shaped, and of not less than 90% pure nickel. The seat area shall be raised, with the raised area completely covered with weld to ensure proper seat contact. The machined seat area shall be a minimum of .125" thick and .500" wide.

The valve plug shall be constructed of cast iron conforming to ASTM-A126, Class B. The plug shall have a cylindrical seating surface that is offset from the center of the plug shafts. The plug shafts shall be integral. The plug shall be 100% encapsulated with Buna-N rubber in all valve sizes. The rubber compound shall be approximately 70 (Shore A) durometer. The rubber to metal bond must withstand 75 lbs of pull under test procedure ASTM D-429 Method B.

Shaft bearings, upper and lower, shall be sleeve type metal bearings which are sintered, oil impregnated, and permanently lubricated type 316 stainless steel conforming to ASTM A743 Grade CF-8M. Thrust bearings shall be Nylatron.

Plug valve shaft seals shall be of the multiple V-ring type (Chevron) and shall be adjustable. All packing shall be replaceable without removing the bonnet or actuator and while the valve is in service. Shaft seals shall be made of Buna N.

Each valve shall be seat tested at the full rated working pressure and a hydrostatically shell tested at 1 1/2 times the rated working pressure. Certified copies of individual tests shall be submitted when requested. Certified copies of proof of design tests shall be submitted upon request.

Manual valves shall have lever or worm gear type actuators with a handwheel, a 2" square nuts, or a chainwheel attached. Lever actuators shall be furnished on valves 8" and smaller where the maximum unseating pressure is 25 psig or less. Worm gear type actuators shall be furnished on all 4" or larger valves where the maximum unseating pressure is 25 psig or more.

All eccentric plug valves shall be Clow F5412 {Flanged}, F5413 (mechanical joint), or F5414 {grooved} or approved equal.