

# Figure 513 3-Way Plug Valve



## Key Features of Figure 513 3-way Plug Valve



### Body & Seat

The Figure 513 3-way plug valve body is a high integrity casting in cast iron ASTM A126 Class B. The precision machined, internal tapered surface of the body is the valve seat which is provided with a corrosion and erosion resistant epoxy coating. Other materials are available.

### End Connections

The 3-flanges are to ASME/ANSI B16.1 Class 125 flat faced.

Certain sizes of valve require some tapped bolt holes because of limited access for nuts behind the flange, details are shown on page 5.

### Plug

The ductile iron plug is totally encapsulated (3" thru 12") with a molded and vulcanized Buna-N providing sealing and tight shut-off. For tight shut-off applications, it is advisable that the flow is against the rear of the plug. Tight shut-off not available with double-style plug or on 14" and 16" valves.

A large-diameter stem and upper and lower trunnion are integral with the plug casting. The upper end of the stem has a 2" square drive for wrench operation and also 2 key ways for maximum versatility when mounting gear operators. A cast marking on the end of the shaft indicates the plug face orientation.

The single style plug is standard in the Figure 513 3-way plug valve to provide straight-through and 90° flow paths. A double-style plug is optionally available upon request (not tight shut-off).

### Bearings

The plug rotates in permanently lubricated, corrosion resistant stainless steel bearings in the body and bonnet.

### Bonnet Seal

The bolted bonnet is assembled in a precision location in the body and uses superior 'O'-Ring sealing, with metal to metal contact, providing lower stress compared to traditional gaskets.

### Stem Seal

Multiple self-adjusting U-cup seals provide positive stem sealing with trouble-free service.

### Operation

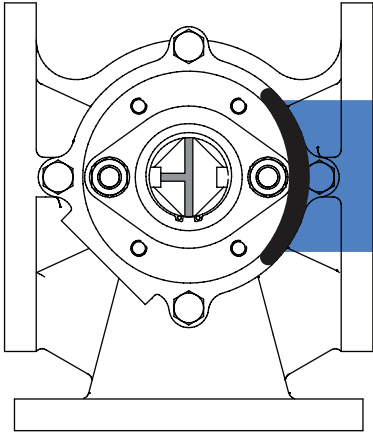
Manual operation by lever or gear available on all sizes. Chainwheel operation is also available.

Electric or pneumatic actuation is available on request.

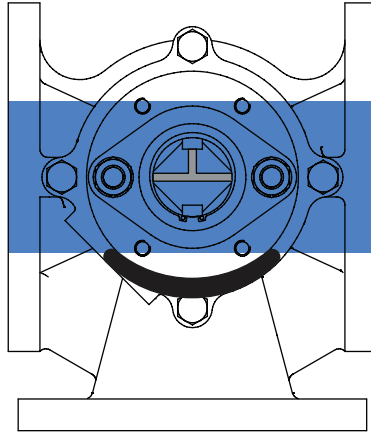
### Coating

The valve interior and exterior surfaces are coated with 10-12 mils of 2-Part epoxy.

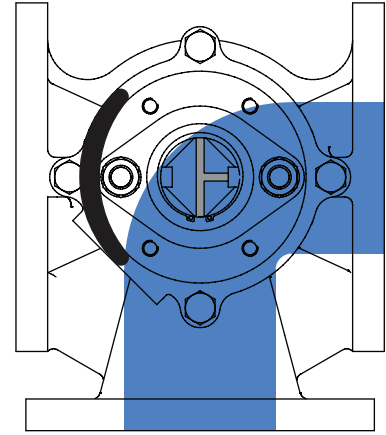
## Available Flow Paths



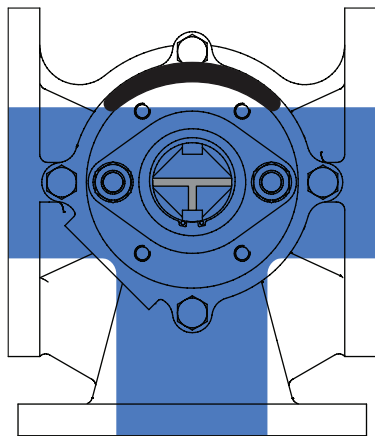
Valve in closed position\*



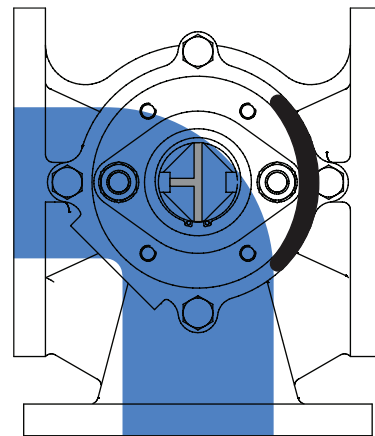
Flow straight through valve



Flow through 90° to side port



All 3 ports connected and open



Flow through 90° to side port

\*It is advisable that the flow is against the rear side of the plug for tight shut-off applications. Not available with double-style plug.

### Pressure/Temperature ratings

Flange rating to ASME/ANSI B16.1 Class 125, the maximum cold working pressure for all sizes is 175psi.

The operating temperature of the valve may depend on the elastomer used for the plug and seals.

### Installation

The Figure 513 3-way plug valve can be installed in any orientation although it is advisable to have the valve stem vertical for ease of access.

If the valve has been supplied for tight shut-off, the flow path and therefore the upstream pressure should be against the rear side of the plug.

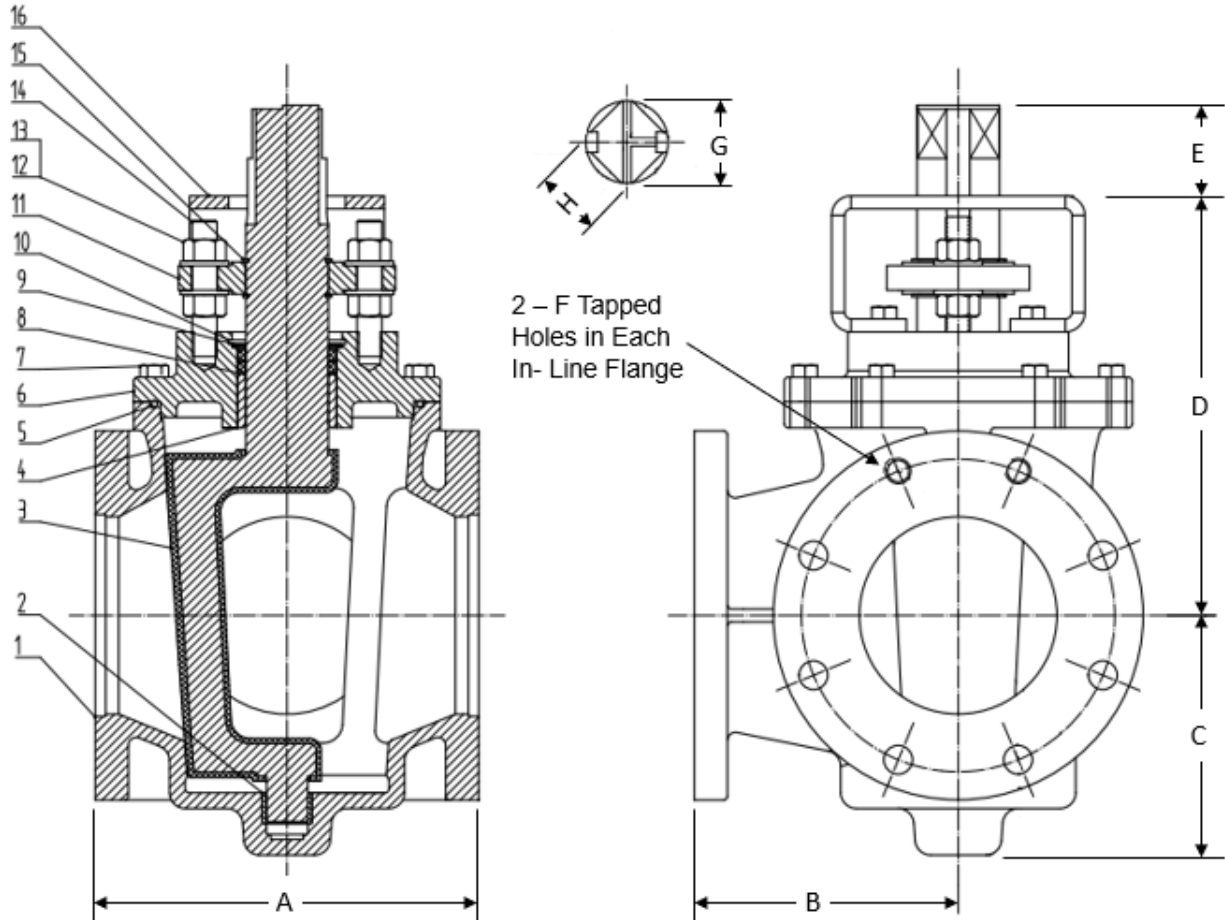
### In-Line Maintenance

In the unlikely event of gland leakage, the stem seals can be replaced without removing the bonnet. Access to the inside of the body for inspection or cleaning does not require removal of the valve from the line.

If wear should occur between the plug face and the seat, the plug can be adjusted externally.

## Dimensions and Parts List

	3"	4"	6"	8"	10"	12"	14"	16"
A	8	10	12	14	16 <sup>3</sup> / <sub>4</sub>	19	21	23 <sup>3</sup> / <sub>4</sub>
B	5 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	8	9	11	11 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>8</sub>
C	4 <sup>3</sup> / <sub>4</sub>	6	7 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	11	10 <sup>1</sup> / <sub>2</sub>	14	11 <sup>5</sup> / <sub>8</sub>
D	--	11 <sup>1</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>8</sub>	17 <sup>7</sup> / <sub>8</sub>	18 <sup>7</sup> / <sub>8</sub>	20 <sup>1</sup> / <sub>4</sub>
E	1 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	3	3	3	3 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>
F	--	5 <sup>5</sup> / <sub>8</sub> "-11	3 <sup>3</sup> / <sub>4</sub> "-10	3 <sup>3</sup> / <sub>4</sub> "-10	7 <sup>7</sup> / <sub>8</sub> "-9	7 <sup>7</sup> / <sub>8</sub> "-9	1"-8	1"-8
G Dia.	1 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>
H Sq.	1	2	2	2	--	--	--	--



ITEM	NAME	MATERIAL	ITEM	NAME	MATERIAL
1	BODY	CAST IRON	9	SEAL RETAINING RING	BRONZE
2	BOTTOM BEARING	316 SS	10	LOWER RETAINING RING	304 SS
3	PLUG	DUCTILE IRON + BUNA	11	GLAND	DUCTILE IRON
4	UPPER BEARING	316 SS	12	HEX NUT	304 SS
5	O-RING	BUNA	13	WASHER	304 SS
6	BONNET	CAST IRON	14	STUD	304 SS
7	HEX BOLT	304 SS	15	UPPER RETAINING RING	304 SS
8	U-CUP	BUNA	16	MOUNTING ADAPTOR	STEEL