

February 13, 2019

Jefferson Parish, LA  
Bid No. 50-00125583  
(1) 24" x 42" Plug Valve

## **Specification Checklist**

Plug Valves – WTR –PVF24F – 24" x 42" – 100% Port.

Non-Lubricated Eccentric Type with Buna Nitrile Elastomer covering on all seating surfaces.

Flanged x Flanged End Connections ANSI B16.1 Class 125/150.

Rectangular Port Design – Capable of “Pigging” Operation.

Valve Body – ASTM A536 Grade 65-45-12 – Ductile Iron.

Valve Design and Construction per AWWA C517-09 Standards.

Seat – Welded – In Overlay – 1/8" Thickness – 99% Nickel.

Plug Construction – ASTM A536 Grade 65-45-12 Ductile Iron.

Plug – One Piece Design – Solid construction provided with PTFE Thrust Bearings on the upper and lower bearing journals designed to reduce torque and to prevent dirt and grit from entering the bearing and seal area.

Bearings – Sintered, Oil Impregnated, Type 316 Stainless Steel – ASTM A743 Grade CF-8M.

Valve Shaft Seals – “U” WP design in accordance with AWWA C517-09 Standards. Self adjusting and replaceable without removing the bonnet from the valve.

Worm Gear Operator – Includes Heavy Duty construction with ductile iron quadrant supported on top and bottom by oil impregnated bronze bearings. The Worm Gear and Shaft shall be manufactured of hardened steel and include high efficiency Roller Bearings.

Valve Design – Shall provide Bubble tight shutoff at 150 psi operating pressure.

Valves shall be factory tested to include hydrostatic and seat tests – and include certified copies of test results.

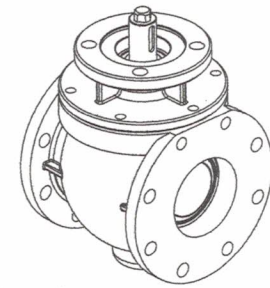
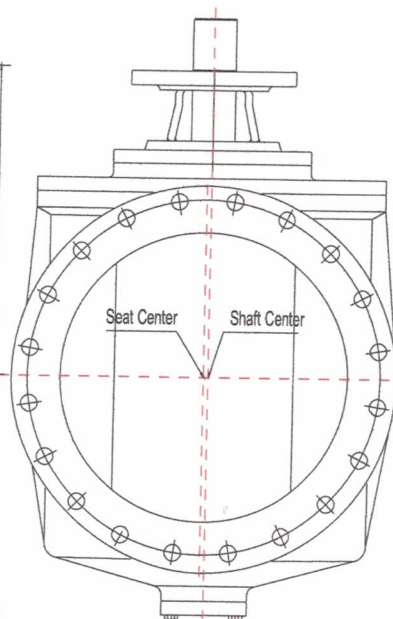
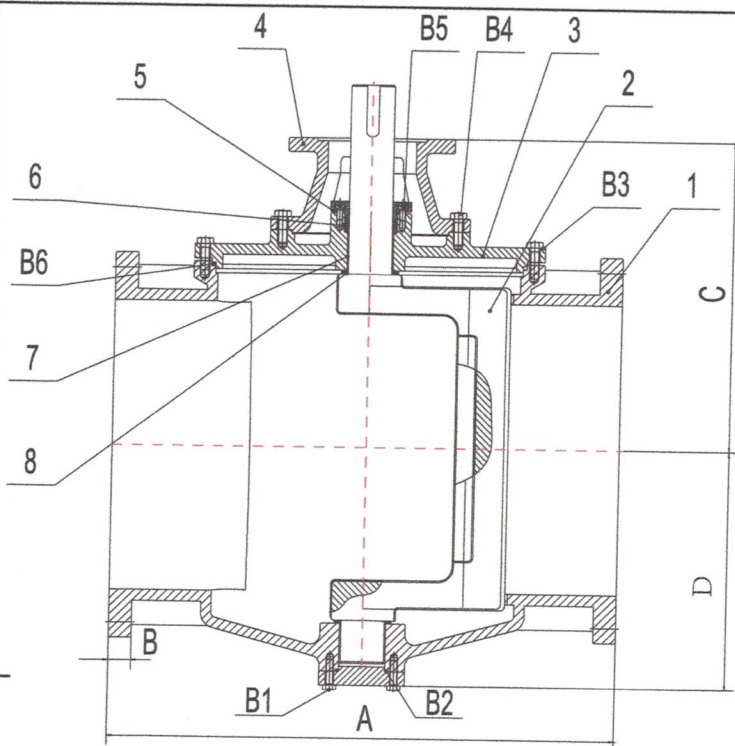
Proof of Design test reports to be provided per AWWA C517.

Valves are as manufactured by WTR Plug Valve Partnership – Bloomington, MN.

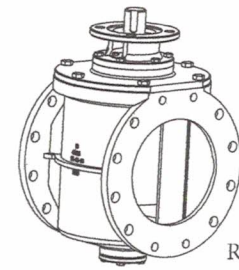
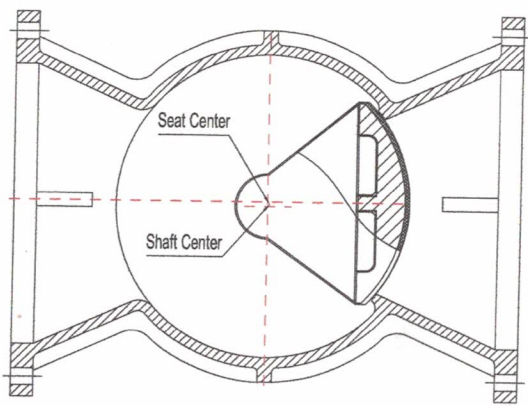
Water Technology Resources (WTR Valves) – A Woman Owned Business Enterprise (WBE) located in Bloomington, Mpls, Minnesota.

PROVIDE WITH HANDWHEEL AND SEPERATE 2" OPERATING NUT / INDICATOR

A



Round Port Available up to 6"



Rectangular Port Available up to 72"

Size	Dimensions (inch)					
	A		B		C	D
	Flange	MJ	Flange	MJ		
3	8	11.5	0.83	2.45	7.67	3.54
4	9	14.25	0.67	2.45	8.66	4.45
6	10.5	15.75	0.75	2.45	10.63	6.5
8	11.5	17.37	0.79	2.45	12.28	8.22
10	13	19.37	0.87	2.45	14	10.27
12	14	20.75	0.91	2.45	15.2	11.65
14	17	24.5	0.98	3.5	16.77	13
16	17.75	27.25	1.06	3.5	17.87	14.3
18	21.5	29.25	1.1	3.5	19.13	15.7
20	23.5	31	1.18	3.5	21.14	17.2
24	42	42	1.85	3.5	22.12	18

Bill of Material		
Item	Description	Material
1	Body	Ductile Iron ASTM A536 Grade 65-45-12
2	Plug	Ductile Iron ASTM A536 Grade 65-45-12 + Buna-N
3	Cover	Ductile Iron ASTM A536 Grade 65-45-12
4	Yoke	Ductile Iron ASTM A536 Grade 65-45-12
5	Packing Gland	Ductile Iron ASTM A536 Grade 65-45-12
6	Packing	EPDM
7	Bushing	Nylon + PTFE
8	Gasket	PTFE
B1	Hex Bolt	Stainless Steel Type 304
B2	O ring	EPDM
B3	Hex Bolt	Stainless Steel Type 304
B4	Hex Bolt	Stainless Steel Type 304
B5	Inner Hex Bolt	Stainless Steel Type 304
B6	O ring	EPDM

Note: Other materials are available upon request.

Flange to ANSI B16.1 Class 125  
 MJ to ANSI/AWWA C111/A21.11  
 Plug fully encapsulated with EPDM/NBR  
 Full Port Flow Area  
 Design Conform to AWWA C517  
 Coating conform to AWWA C550  
 Seat test up to 400psi zero leakage

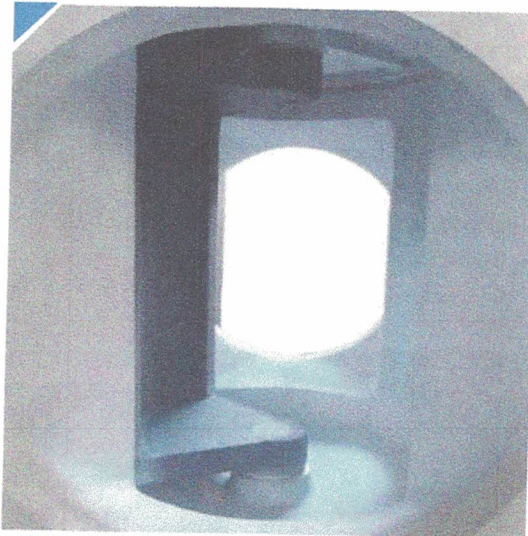
AWWA C517 Full Port Eccentric Plug Valves



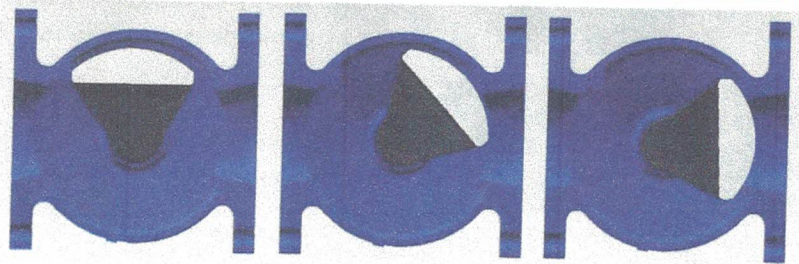


## ADVANCED FULL PORT ECCENTRIC PLUG VALVE

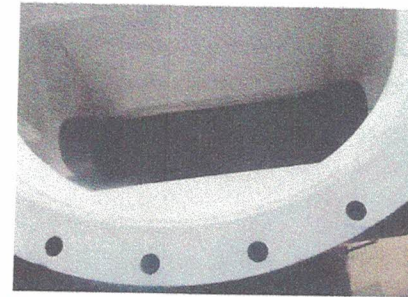
**F**ull port design of our EP series plug valves provide a 100% pipeline opening area and high flow capacity. Rectangular opening and eccentric plug design provide positive shut off with wear resistant action and low torque. Without need for exact alignment, plug shutoff position has wider tolerances and reliable seat. See below picture.



100% RECTANGULAR PORT OPENING  
PROVIDES HIGH FLOW CAPACITY



## LONGER LIFE AND LESS MAINTENANCE



Welded Nickel/SS Seat Surface  
Provides Protection for Corrosion  
Damage of the Plug Face.

**T**he seat surface is welded with 95% pure Nickel or stainless steel 316. This will help to protect the plug face from being damaged by corrosion of the seat surface. The raised seat surface ensure the plug rubber face only contact with the Nickel or Stainless Steel. This can prolong the life of the rubber encapsulated

### Heavy Duty Construction

Rugged construction and advanced design features maximize the valve performance and extend service life to provide reliability at the lowest possible usage cost.



One Piece Ductile Iron Plug with  
Full Rubber Encapsulation Provide  
Extended Plug Life.

**O**ne piece casted ductile iron plug provides added strength and best journal alignment. The plug is rotated out of the flow path when the valve opens, this will extend plug life. Fully rubber encapsulated plug face provides dead-tight shutoff without using sealing lubricants. Resilient plug design also provides bi-directional seal with the full rated fluid pressure.





'OPEN WINDOW' YOKE DESIGNED FOR EASY ADJUSTMENT OF PACKINGS.

There are two opened windows on the yoke for adjusting the packing gland without moving the actuator. This could save the cost of fixing the valves on site and ensure a longer life of sealing. For underground applications, the windows will be closed to protect the packings.

### V-type Packing

Field adjustable V-type packing rings ensure a reliable seal and maintenance free for most applications.

### Full Top Access Cover

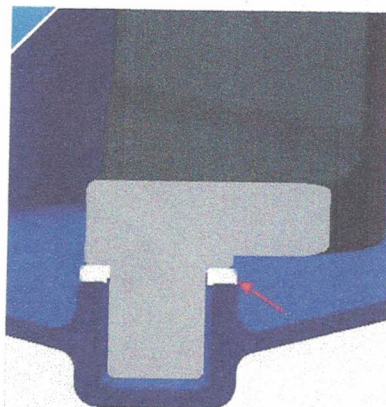
Allows inspection or maintenance without removing the valve from the line.

### Corrosion Resistant Bearings

Heavy duty stainless steel 316 bearings are permanently lubricated. And used in both up and bottom journals.

### Corrosion Resistant Coatings

Various corrosion resistant coatings are available upon request. Coating thickness can be determined by applications.



GRIT PREVENTERS EXTEND PACKING AND BEARING LIFE BY MINIMIZING CONTACT WITH ABRASIVE LINE MEDIA

## WIDE RANGE OF SIZES, PRESSURES, MATERIALS

We offer from 4inch (DN100) to 72inch (DN1800) eccentric plug valves in pressure rating 150/250 class (PN10/PN16) and various materials to choose upon customers' requests or application needs.



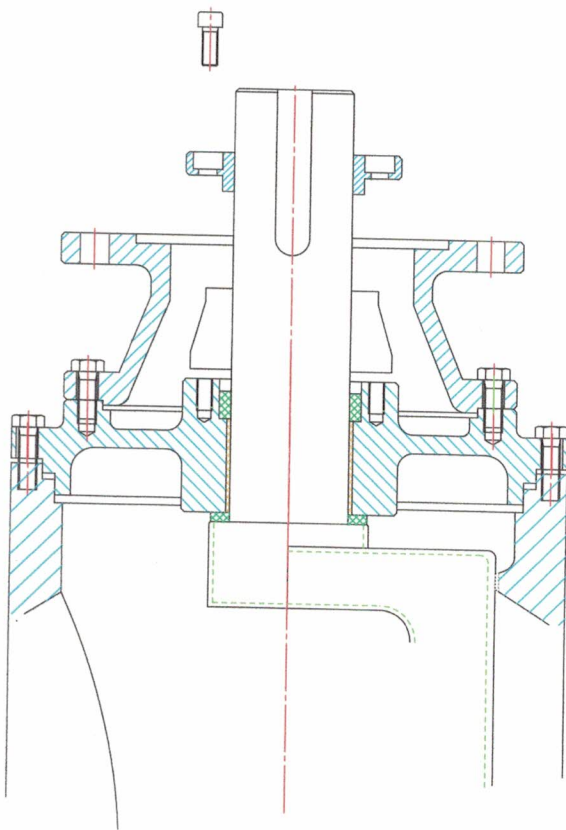
38inch (DN1200) Full Port Eccentric Plug Valve



## Design Features

### Simple Packing Replacement

AWWA C517 Series Valves use a standard ISO valve stem size. This combined with industry standard stack heights allows for the use of off-the-shelf packing. The packing gland and retention design further allows for the replacement of the packing without removing the valve from the line. In some cases the line pressure can be maintained. All service can be performed without any special training.



Easy Packing Removal

### Design Standards

Construction	AWWA C517 ASME B16.34 API 598
Coatings	AWWA C550
Connections	ANSI B16.1 Class 125* ANSI B16.5 Class 150 ANSI/AWWA C111/A21.11 ISO 7005
Laying Length	AWWA C517 Short* ISO 5752
Classifications	150A 150B* 250B
Bonnet	MSS SP-101* ISO 5211
Stem Diameter	ISO 5211
Key Size	ISO R773

\*Standard Option



American Water Works  
Association



## Material Options

- Body**
- ☐ ASTM A536 65-45-12\*
  - ☐ ASTM A126 Class B
  - ☐ ASTM A351 CF8
  - ☐ ASTM A351 CF8M
  - ☐ ASTM A216 WCB
  - ☐ \_\_\_\_\_

- Disc**
- ASTM A536 65-45-12\*
  - ASTM A126 Class B
  - ASTM A351 CF8
  - ASTM A351 CF8M
  - ASTM A216 WCB

- Stem**
- ☐ ASTM A276 304\*
  - ☐ ASTM A276 316
  - ☐ \_\_\_\_\_

- Seat**
- ASTM A276 304\*
  - ASTM A276 316

- Seal**
- ☐ EPDM\*
  - ☐ PTFE
  - ☐ NBR
  - ☐ FPM
  - ☐ \_\_\_\_\_

- Bushings**
- SS304 Reinforced PTFE\*
  - Bronze
  - ASTM A276 316

- Packing**
- ☐ EPDM\*
  - ☐ PTFE
  - ☐ NBR
  - ☐ \_\_\_\_\_

- Taper Disc Pins**
- SS304\*
  - SS316

- Exterior Hardware**
- ☐ Zinc Plated CS\*
  - ☐ SS304
  - ☐ SS316
  - ☐ \_\_\_\_\_

- Gasket**
- EPDM\*
  - PTFE
  - NBR

- Key**
- ☐ ASTM 1045

\*Standard Option  
Other Materials Available Upon Request

## Seal Selection Guide

Designation	Common Name(s)	Composition	Min/Max Temperature Range	General Properties	Resistant to:	Attacked by:
PTFE	Teflon®	Polytetrafluoroethylene	-100 F / 450 F	Excellent abrasion resistance and chemically inert	Acids, harsh inorganic and organic chemicals, oils, oxidizing agents, and solvents	Molten alkali metals and fluorine at high temperatures
EPDM, EPM	EPDM	Ethylene-propylene-diene; Ethylene-propylene	-40 F / 300 F	Excellent ozone, chemical, and aging resistance. Poor resistance to petroleum-based fluids.	Animal and vegetable oils, ozone, strong and oxidizing chemicals.	Mineral oils and solvents, aromatic hydrocarbons.
NBR	Buna-N	Nitrile-butadiene	-30 F / 250 F	Excellent resistance to petroleum-based fluids. Good physical properties.	Many hydrocarbons, fats, oils, greases, hydraulic fluids, chemicals.	Ozone (except PVC blends), ketones, esters, aldehydes, chlorinated and nitro hydrocarbons.
FPM	Viton®	Hexafluoropropylene-vinylidene fluoride	-10 F / 400 F	Excellent oil and air resistance both at low and high temperatures. Very good chemical resistance.	All aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils.	Ketones, low molecular weight esters and nitro containing compounds.