

# **VALVES & SEATS**

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#### **VALVES & SEATS**

FET manufactures a full range of valves and seat for every drilling and well servicing application as part of our full line of Osprey® mud pump system solutions. All of our valves and seats can be used in water, water base, oil base and synthetic base mud applications. FET offers additional valves and seats not listed in this catalog, including drilling valves, frac valves and well service valves. FET's QC standards for the dimensional and material specs is extremely rigid in comparison to other manufacturers. Contact your FET representative to learn more.

## **Full Open**

#### [Up To 180°F] [Up To 82°C]

The full open style performs well in extreme conditions such as high-solids and high-pressure applications. This valve is based on the roughneck design and is fully interchangeable with other major manufacturers. The improvement to the original design is based on minor dimensional changes on the valve insert groove to accommodate a better fit between the valve and the valve insert.

## Full Open High Temp.

[130°F - 240°F] [54°C - 116°C]

The valve insert material is rated for high-temperature applications and should be used at temperatures above 180°F, up to a maximum of 240°F. It distinguishes itself from other manufactured high-temp valves by maintaining critical properties for abrasion resistance and tear resistance.

# Full Open Extra High Temp.

[200°F - 300°F] [93°C - 149°C]

The valve insert material is rated for high temperature applications and should be used at temperatures above 300°F. It distinguishes itself from other manufactured high-temp valves by maintaining critical properties for abrasion resistance and tear resistance.

# **4-Web Center Guided**

#### [Up To 180°F] [Up To 82°C]

It a well proven design and allows for easy replacement of the valve insert in the field. The valve is designed for use in low-solids applications, and pressures up to 6,000 psi. This valve does interchange with other major manufacturers. The 4-web valve. and seat are based on an existing design also known as the mud king or supreme style valve



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## 4-Web Center Guided High Temp.

[130°F - 240°F] [54°C - 116°C]

The valve is designed for use in low-solids applications, and pressures up to 6,000 psi. Designed for easy replacement of the valve insert in the field with a split plate/retainer system. This style has over 50 years of proven field service. It does include an option for a rubber insert which allows for high-temperature applications up to 240°F.

## **Double Angle 3-Web Center Guided**

[Up To 180°F] [Up To 82°C]

The double angle o-ring has proven to be the most well designed valve and seat on the market today. The valve is designed with a tough one-piece body and a "double angle" 55° seal contact surface, which maintains cylinder priming during shut down. The configuration gives maximum containment of the insert with minimal material. This style performs well in extreme service conditions such as high-pressure and high-solids applications. This design utilizes a snap on insert.

## **Double Angle 3-Web Center Guided High Temp.**

[130°F - 240°F] [54°C - 116°C]

This style performs well in extreme service conditions such as high temperature, high-pressure and high-solids applications. The double angle o-ring has proven to be the most well designed valve and seat on the market today. The valve is designed with a tough one-piece body and a "double angle" 55° seal contact surface, which maintains cylinder priming during shut down. The configuration gives maximum containment of the insert with minimal material. This design utilizes a snap on insert.

# **Replaceable 3-Web Center Guided**

[Up To 180°F] [Up To 82°C]

This style performs well in lower pressure applications, up to 5,000 psi. The center guided design with a single stem at both the bottom and top of the valve allow for an excellent alignment when opening and closing during operation

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# **Valves & Seats Characteristics**

Style	Insert Color	Max. Temp.	Abrasion Resistance	Tear Resistance	Extrusion Resistance	Max. Pressure	Use In Solids	Flow Characteristics
Full Open	Yellow	180°F (82°C)	Excellent	Excellent	Excellent	7500 psi	Excellent	Excellent
Full Open High Temp.	Red	240°F (116° C)	Very Good	Excellent	Excellent	7500 psi	Very Good	Excellent
Full Open Extra High Temp.	Blue	300°F (149° C)	Very Good	Excellent	Excellent	7500 psi	Very Good	Excellent
4-Web Center Guided	Yellow	180°F (82°C)	Excellent	Excellent	Excellent	7500 psi	Excellent	Very Good
4-Web Center Guided High Temp.	Red	240°F (116° C)	Very Good	Excellent	Excellent	7500 psi	Very Good	Very Good
Double Angle 3-Web Center Guided	Yellow	180°F (82°C)	Excellent	Excellent	Excellent	7500 psi	Excellent	Excellent
Double Angle 3-Web Center Guided High Temp.	Red	240°F (116°C)	Very Good	Excellent	Excellent	7500 psi	Very Good	Excellent
Replaceable 3-Web Center Guided	Yellow	180°F (82°C)	Excellent	Excellent	Excellent	5000 psi	Excellent	Excellent

# **API 5 Part Numbers**

Valves/Seats/ Springs	Standard Valve	Standard Valve Insert	High-Temp Valve	Extra High- Temp Valve	Puller Head	1" Taper Seat	2" Taper Seat	Carbon Steel Standard Spring	Carbon Steel Long Spring	Stainless Steel Standard Spring
Full-Open/ Roughneck Style	MV-452	MI-599	-	-	-	-	MS-454	5710-30		
Forum 4-Web	MV-4W51U	MI-4W51	-	-	-	MS- 4W512	MS-4W51	57-110	-	-
Double Angle 3-Web	050011700	-	052148700	-	051493222	-	050862300	-	-	051479000
3-Web Plate Type	050499100	050488800	-	-	051493222	-	050862300	051398800	-	051420200

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# **API 6 Part Numbers**

Valves/Seats/ Springs	Standard Valve	Standard Valve Insert		Extra High- Temp Valve		1" Taper Seat	2" Taper Seat	Carbon Steel Standard Spring	Carbon Steel Long Spring	Stainless Steel Standard Spring
Full-Open/ Roughneck Style	MV-461	MI-46	MV-461HT	MV-461XHT	SP-360R	MS-464	MS-466	5710-115	5710- 115L	5710-115L-SS
Forum 4-Web	MV-4W61U	MI-4W61	MV- 4W61HT	MV- 4W61XHT	SP4-6	MS-4W61	MS-4W62	5710-115	5710- 115L	5710-115L-SS
Double Angle 3-Web	050011900	051584400	052148700	-	SP3-6	051243600	050481800	-	-	051479000
3-Web Plate Type	050503800	050489000	-	-	SP3-6	051243600	050481800	-	-	051557600

# **API 7 Part Numbers**

Valves/Seats/ Springs	Standard Valve	Standard Valve Insert		Extra High- Temp Valve		1" Taper Seat	2" Taper Seat	Carbon Steel Standard Spring	Carbon Steel Long Spring	Stainless Steel Standard Spring
Full-Open/ Roughneck Style	MV-471	MI-47	MV-471HT	MV-471XHT	SP-400	MS-4712	MS-471	5710-115	5710- 115L	5710-115L-SS
Forum 4-Web	MV-4W71U	MI-4W71	MV- 4W71HT	MV- 4W71XHT	SP4-7	MS-4W712	MS-4W71	5710-115	5710- 115L	5710-115L-SS
Double Angle 3-Web	050011000	051427500	052050200	-	SP3-7	051429900	050930900	-	-	051479000
3-Web Plate Type	050506200	050489300	-	-	SP3-6	051429900	050930900	-	-	051442300

# **API 8 Part Numbers**

Valves/Seats/ Springs	Standard Valve	Standard Valve Insert		Extra High- Temp Valve		1" Taper Seat	2" Taper Seat	Carbon Steel Standard Spring	Carbon Steel Long Spring	Stainless Steel Standard Spring
Full-Open/ Roughneck Style	MV-481	MI-48	MV-481HT	MV-481XHT	SP-450	MS-481	MS-482	5710-101	5710- 101L	5710-101L- SS
Forum 4-Web	MV-4W81U	MI-4W81	MV- 4W81HT	MV- 4W81XHT	SP4-8	MS-4W81	MS-4W82	5710-38	5710- 38L	5710-38SS
Double Angle 3-Web	050012000	051583100	050012022	-	SP3-8	-	050484500		-	052050400
3-Web Plate Type	050510900	050489700	-	-	SP3-8	-	050484500	050471300	-	051442300

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## **OUR CORE VALUES**

#### No One Gets Hurt

The safety of our employees and customers is our first priority coupled with a healthy respect for the environment.

## **Integrity**

In everything we do, in every interaction, both internally and externally, we strive to operate with the utmost integrity and mutual respect.

#### **Customer Focused**

Our products enhance our customer's performance and we listen to their needs and work with them to solve their challenges.

#### **Good Place To Work**

We are committed to creating a workplace that fosters innovation, teamwork and pride. Every team member is integral to our success and is treated equally and fairly.

#### **Forum Energy Technologies**

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