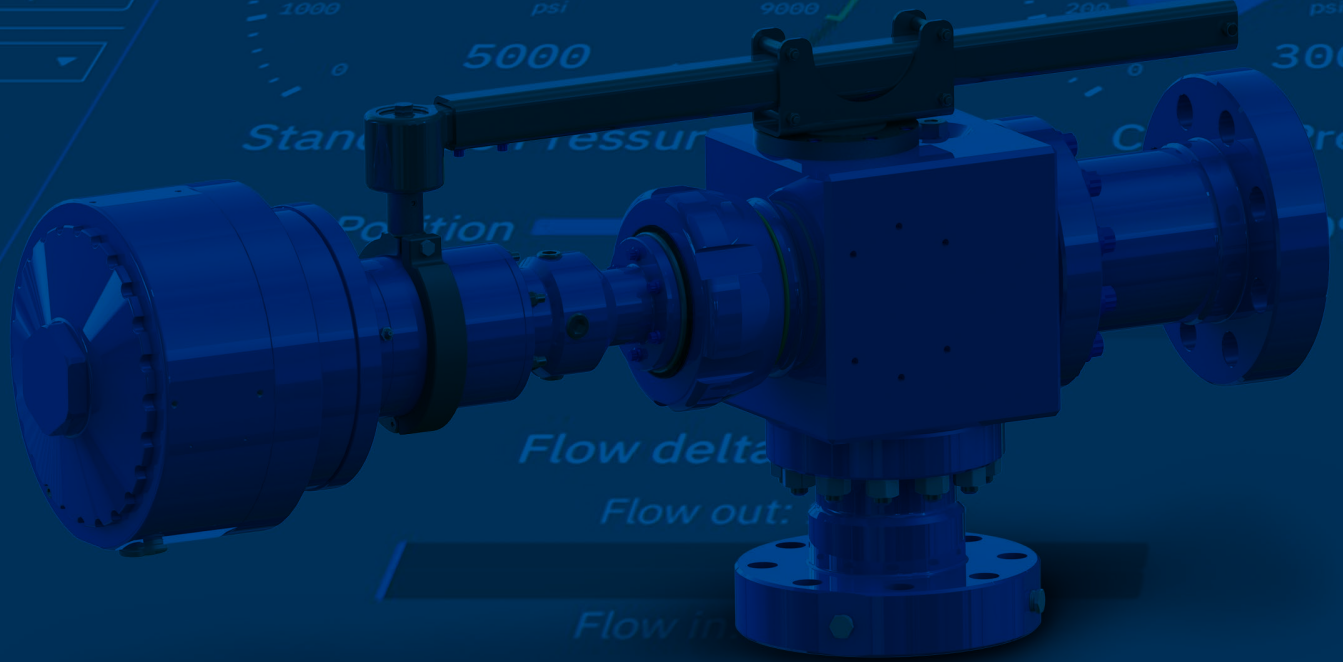


# RCD/MPD Solutions



  
**PREMIUM**  
Oilfield Technologies

Choke A Position  
 Current position 57.0%  
 << < 57 > >>  
 Full Close Full Open

Choke B



The Most Economical and Accurate Set-Point Pressure Control for Your Well

## Tru-Flow™ MPD Systems

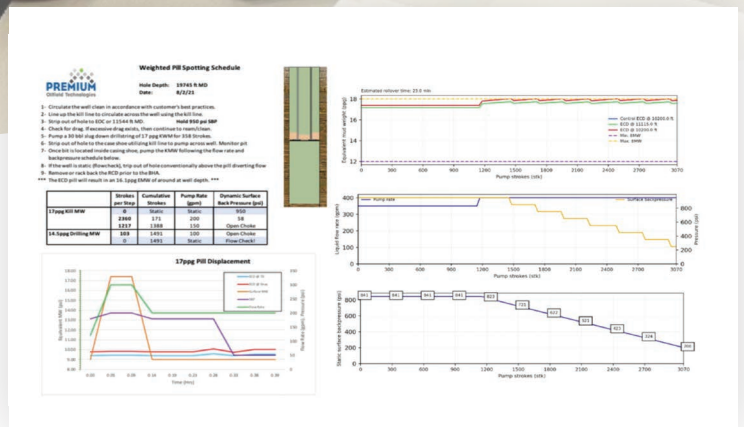
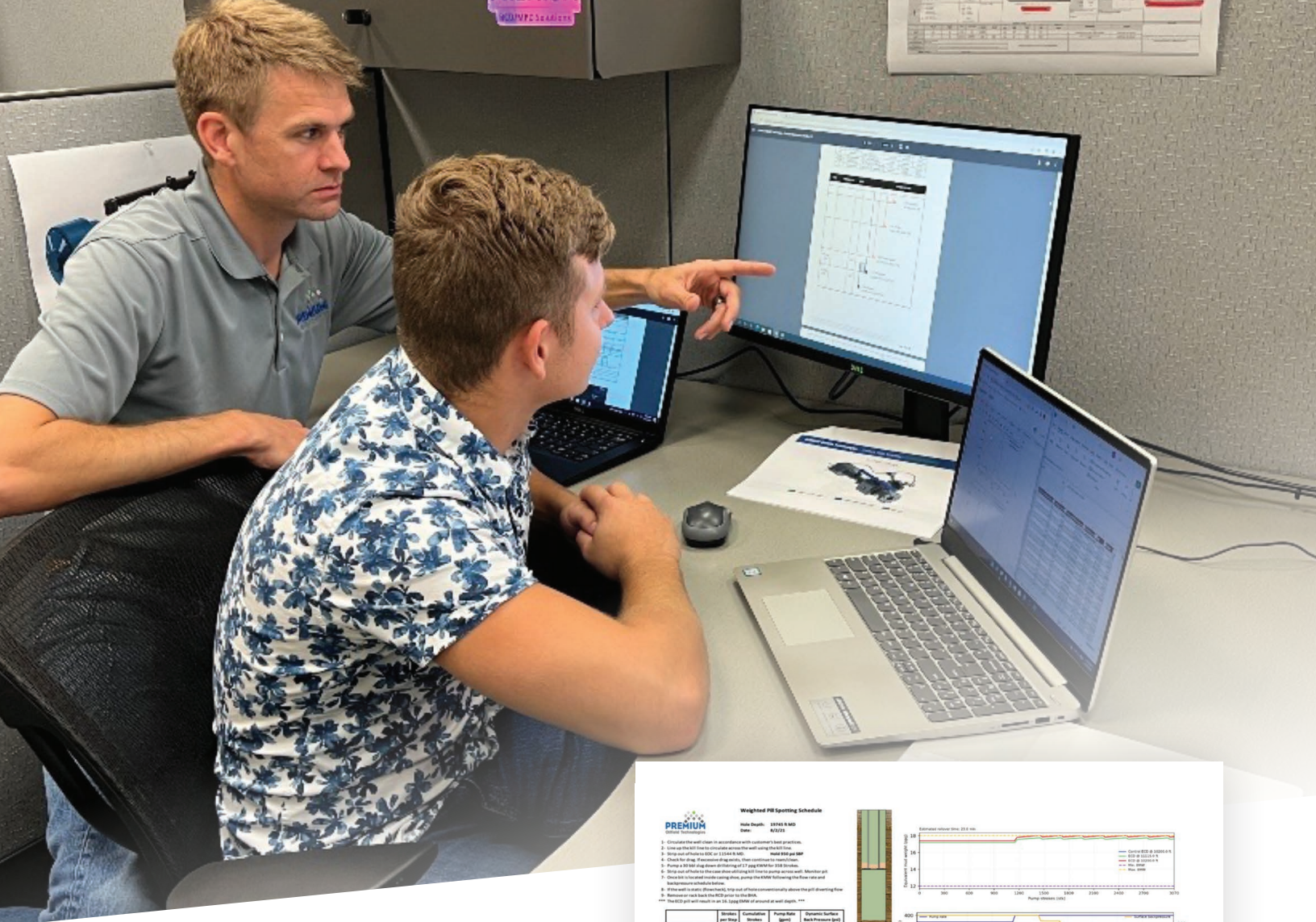
### Set-Point Pressure Control

- Either choke or quarter-turn valve can automatically maintain set-point pressure input by user, thus automatically holding back-pressure
- Easy to operate software, no on-site engineer required
- Create custom ramp schedules to adjust for changing flow rates
- Smaller footprint – requires just choke, HMI, and cables
- Very accurate control of surface back pressure
- Competitive pricing, even compared to non-automated systems

### Purpose Built for MPD

- **Cost:** Competitive pricing, designed for drill crew operation, reduced POB, less equipment
- **Safety:** Closed loop system, eliminate ballooning, maintain constant BHP, mitigate and control influxes
- **Efficiency:** Reduced NPT, lighter mud weights, increased ROP, eliminate casing strings
- **Control:** Drill through narrow drilling windows, depleted formations, & HPHT environments, maintain wellbore stability, reduced ECD systems





## Tailored Engineered Solutions

### Planning

- Premium Oilfield Technologies can provide a tailored engineered solution, utilizing experienced engineering professionals to provide the customer with advice on the successful deployment and utilization of MPD on their well.
- Premium can assist in the selection and provision of a tailored equipment solution as well as advice on the optimal form of MPD designed to meet the customer's specific needs.
- Training is key to the successful implementation of MPD. Premium offers offsite and onsite training to familiarize field and office staff with the equipment, processes and procedures to successfully operate MPD on any well.

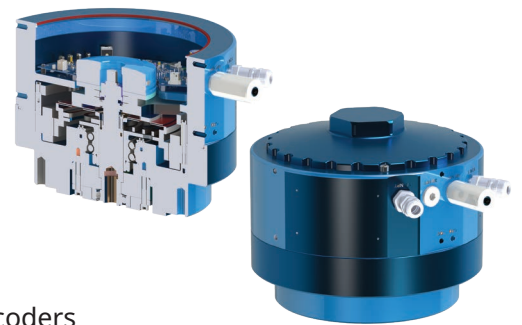
### Operational Assistance

- Premium can provide onsite technicians and supervisors to assist with the MPD operation as well as detailed procedures on how to operate the system in a safe and effective manner.
- Premium offers both onsite and offsite engineering assistance with tasks such as drilling, ramp schedules, spotting pills, displacing pills, stripping under pressure and MPD cementing operations.

# Sur-Tork EX Actuators

## Sur-Tork EX Actuator

- Utilizes a high torque and fully integrated servo drive system to achieve the most precise movement in the industry
- Autonomous internal system provides unmatched resolution and control through its integrated pressure control algorithm that analyzes active torque data
- Acts as a brain for multiple devices and offers optional connections, eliminating the need for additional power, communications and encoders

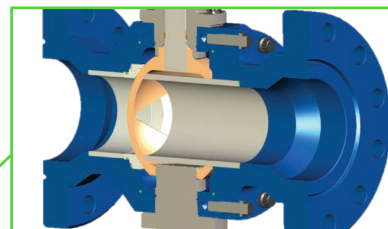
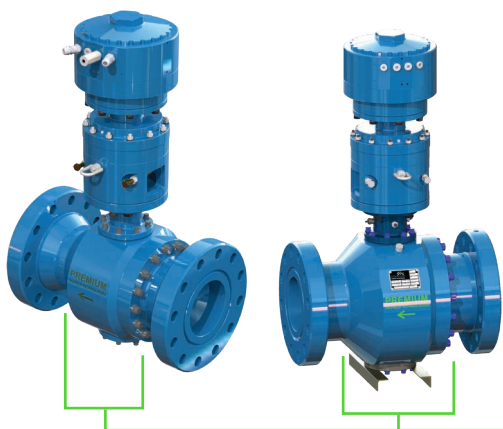


<b>Power supply</b>	90-240V <10 Amps @ 120V	<b>Angular resolution</b>	10 Arc seconds
<b>EX rating</b>	C-UL: CL,I, DIV 1, GP. C & D, T4 EN/IEC 60079-0: Ex d IIB T4	<b>Temp range</b>	-40 to 150°F
<b>Connection</b>	ISO F25/0.750" coupling	<b>Communication protocols</b>	Ethernet
<b>Torque</b>	20Nm continuous, 60Nm peak	<b>Analog communication</b>	Qty 4: 4-20mA analog loops for local connectivity to transmitters and instruments
<b>Speed</b>	Up to 320 RPM-Continuous Duty Cycle		

## Sur-Tork EX Quarter Turn Valve

- World's first and only quarter-turn valve capable of set-point pressure control, with the industry's fastest and most precise control
- Rugged design and high-torque output ensure continuous duty and provide the user with optional connections, eliminating the need for multiple boxes and devices.
- Paired with a MP-680 or MP-880 Control Valve, the Sur-Tork EX operator is a simple and elegant solution for maintaining back pressure when connected directly to the RCD outlet.

MP-680 & MP-880 Control Valve Specifications		
Valve Type	6" Control Valve	8" Control Valve
<b>Dimensions</b>	L=29.12", H=49.5" with actuator mounted	L=29.12", H=52.7" with actuator mounted
<b>Flange Type &amp; PSI Rating</b>	9" 3K API flange, 3000psi static, 200psi dynamic (while throttling)	
<b>Weight</b>	Valve 1065 lbs, with gear & actuator 1470 lbs	Valve 1275 lbs, with gear & actuator 1680 lbs
<b>Ball Type</b>	6" segmented ball, 60deg v or full bore	8" segmented ball, 60deg v or full bore
<b>Gear Torque with RTM-20N Sur-TORK Actuator</b>	6400 ft/lbs peak 2000 ft/lbs continuous modulating (6 seconds open-close @ 230V)	
<b>Backlash</b>	10 arc minutes	8 arc minutes
<b>Interface</b>	ISO 5211 F16	
<b>Shaft Size</b>	2.00" x 1/2" sq key	2.50" x 5/8" sq key





# Tru-Flow™ Products

## Tru-Flow MPD Choke

- Designed specifically for MPD applications offering the finest control in the modern oilfield
- Small footprint design allows for easier handling while the connection options provide maximum flexibility
- Best-in-class trim design ensuring precise control and allowing for the passing of large cuttings while in operation
- Sur-Tork EX precision electric servo actuators come standard on all Tru-Flow chokes, giving the user additional connection options for valves and sensors



<b>Inlet</b>	4-1/16" 5K	<b>Debris passage</b>	1.75" maximum
<b>Pressure rating</b>	3000 psi	<b>Temp range</b>	-40 to 250°F
<b>Outlet</b>	4-1/16" 5K	<b>Actuator</b>	Electric – Class I Div 1 fully integrated Servo Motor, drive, encoder, torque sensor, pressure transmitter, 10 Arc sec resolution, 90-240V AC single phase 10A, ethernet connectivity -40 to 150°F
<b>Trim size</b>	3.00" maximum		
<b>Travel</b>	3.00" maximum	<b>Actuator speed</b>	Open-close time = 3 Sec (220V)

## Tru-Flow™ MPD Mini Skid

Purpose built for MPD, allowing for fast and safe installation  
Small footprint for quick integration while providing the benefits of a full MPD system.

- Isolation valves for the quick maintenance of the choke

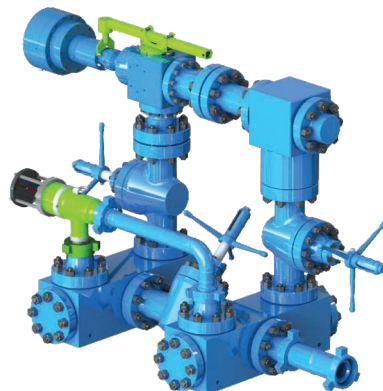


<b>Choke Manifold</b>	4" 3000 psi rated electric choke and 2x isolation valves	<b>Temp range</b>	-40 to 250°F
<b>Choke trim size</b>	3.00" maximum	<b>Actuator</b>	Electric - Class I Div 1 fully integrated Servo Motor, drive, encoder, torque sensor, pressure transmitter, 10 Arc sec resolution, 90-240V AC single phase 10A, ethernet connectivity -40 to 150°F
<b>Choke trim travel</b>	3.00" maximum		
<b>Debris passage</b>	1.75" maximum	<b>Actuator speed</b>	Open-close time = 3 Sec (220V)
<b>Dimensions</b>	58" x 84" x 55"	<b>Weight</b>	3900lbs

# Tru-Flow™ Products

## Tru-Flow™ MPD Single Leg Choke Manifold

- Small footprint manifold designed for simple rig integration
- Single choke leg upgradeable to a second choke and Coriolis meter
- EX Rated – Class I, Div 1, 90-240 VAC low amp power supply
- Functionalities include static position, pressure or ramp schedule mode (automated connection schedule)
- Integrated pop-off for overpressure protection



<b>Skid dimensions</b>	8' long x 4' wide x 6' tall	<b>Debris passage</b>	1.75" maximum
<b>Pressure rating</b>	3000 psi	<b>Temp range</b>	-40 – 250°F
<b>Inlet/outlet Flanges</b>	4" Fig' 602	<b>Actuator</b>	Electric – Class I Div 1 Fully integrated servo motor, drive, encoder, torque sensor, pressure transmitter, 10 Arc sec resolution. 90-240V AC single phase 10A, ethernet connectivity -40 to 150°F
<b>Choke trim size</b>	3.00" maximum	<b>Actuation speed</b>	Open – close = 3 sec (220V)
<b>Choke Leg</b>	3" 3000 psi MPD chokes with electric actuation	<b>PRV</b>	Integrated pop off valve included for overpressure protection

## Tru-Flow MPD Dual Leg MPD Manifold

- Small footprint manifold designed for simple rig integration
- Dual choke leg manifold for redundancy with option for Coriolis meter
- EX Rated – Class I, Div 1, 90-240 VAC low amp power supply
- Functionalities include static position, pressure or ramp schedule mode (automated connection schedule)
- Second choke can be operated as a pressure relief valve for overpressure protection

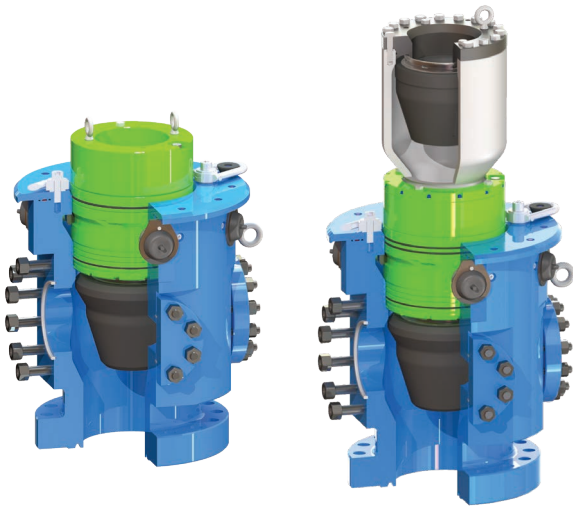


<b>Skid dimensions</b>	8' long x 4' wide x 6' tall	<b>Debris passage</b>	1.75" maximum
<b>Pressure rating</b>	3000 psi	<b>Temp range</b>	-40 – 250°F
<b>Inlet/outlet flanges</b>	4" Fig' 602	<b>Actuator</b>	Electric – Class I Div 1 fully integrated servo motor, drive, encoder, torque sensor, pressure transmitter, 10 arc sec resolution. 90-240V AC single phase 10A, ethernet connectivity -40 to 150°F
<b>Choke trim size</b>	3.00" maximum	<b>Actuation speed</b>	Open – Close = 3 Sec (220V)
<b>Choke Leg</b>	3" 3000 psi MPD chokes with electric actuation	<b>PRV</b>	Second choke leg can be configured as a pressure relief choke

# RCD Products

## RCD Model T-3000

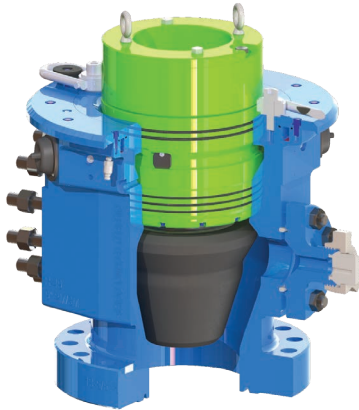
- Low profile RCD measuring 43" tall with bearing assembly installed
- High pressure – 3000 psi static / 1800 psi @ 100 rpm
- Hands-free bearing latch system – no HPU required
- Self-lubricated – sealed bearing assemblies with oil level inspection port
- 9" pass through for up to 6-5/8" drillpipe
- Rated for up to 220 RPM
- Quick change sealing element system
- Single or dual element bearing offerings



<b>Dimensions</b>	Low profile – 43" OAL with bearing assembly	<b>Latching mechanism</b>	Fail safe closed - hydraulic latch (no HPU required)
<b>Pressure Rating</b>	3000 psi static, 1800 psi dynamic	<b>Bottom flange</b>	13-5/8" 5K or 11" 5K
<b>RPM Rating</b>	220 rpm max	<b>Outlet flanges</b>	(2) 4-1/16" 5K, 7-1/16" 3K, 9" 3K
<b>Bearing Lubrication</b>	Self lubricated bearing – integrated reservoir	<b>Sealing elements</b>	Single or dual elements – nitrile, polyurethane – slip on style

## RCD Model T-2000

- Low profile RCD measuring 33.25" tall with bearing assembly installed
- High pressure – 2000 psi static / 1200 psi @ 100 rpm
- Hands-free bearing latch system – no HPU required
- Self-lubricated – sealed-bearing assemblies with oil level inspection port
- 9" pass through for up to 6-5/8" drillpipe
- Rated for up to 220 rpm
- Quick change sealing element system



<b>Dimensions</b>	Lowest profile – 33.25" OAL with bearing assembly	<b>Latching mechanism</b>	Fail safe closed - hydraulic latch (no HPU required)
<b>Pressure rating</b>	2000 psi static, 1200 psi dynamic	<b>Bottom flange</b>	13-5/8" 5K
<b>RPM rating</b>	220 rpm max	<b>Outlet flanges</b>	4-1/16" 5K, 9" 2K
<b>Bearing lubrication</b>	Self lubricated bearing – integrated reservoir	<b>Sealing elements</b>	Single element – nitrile, polyurethane – slip on style

## CORPORATE

### **Premium Oilfield Technologies - USA**

10600 W. Sam Houston Pkwy. North  
Houston, TX 77064  
T: +1 281.670.5200

## USA MANUFACTURING & REPAIR

### *Patriot and Urethane*

10600 W. Sam Houston Pkwy. North  
Houston, TX 77064  
T: +1 281.670.5228

### *Premium Drilling Equipment and Support*

9841 Windmill Park Ln.  
Houston, TX 77064  
T: +1 281.670.5200

### *Well Service Solutions and Equipment*

2904 SCR 1250  
Midland, TX 79706  
T: +1 432.563.2338

### *West Texas Operations - All Divisions*

10207 West Industrial Ave.  
Midland, TX 79706  
T: +1 432.332.3651

### *Patriot Screens*

4602 S. MacArthur Blvd.  
Oklahoma City, OK 73179  
T: +1 405.470.6553

## NORTH AMERICA FIELD SALES, SERVICES AND REPAIR OFFICES

California / Colorado / Louisiana / New Mexico / North Dakota / Oklahoma / Pennsylvania / Texas / Utah  
Wyoming / Leduc, Alberta

## INTERNATIONAL

### **KUWAIT**

#### **Premium Oilfield Technologies**

P.O. Box 721  
Yarmouk, Kuwait  
72658  
T: +965 99679126  
T: +965 66022296

### **UAE**

#### **Premium Oilfield Technologies Trading LLC**

P.O. Box 89561  
Dubai, UAE  
T: +971 55 889 7210  
T: +971 56 986 3834

### **UAE**

#### **Premium Drilling Equipment and Support Middle East**

#FZS1BA04 Jebel Ali Free Zone (South)  
P.O. Box 262263  
Dubai, UAE  
T: +971 4 889 4897  
T: +971 50 658 7570

### **INDIA**

#### **PMR Mud Riggers India Private Limited**

21/17, D-1 Block, MIDC  
Chinchwad, Pune MH 411019  
India

### **SAUDI ARABIA**

#### **Premium Mud Pumps Trading Est.**

P.O. Box 956  
Dammam, KSA  
Postal Code: 31951  
T: +966 50 0157516



Premium Oilfield  
Technologies  
Q1-3977



[sales@premiumoilfield.com](mailto:sales@premiumoilfield.com)  
[premiumoilfield.com](http://premiumoilfield.com)