



**PREMIUM**  
Oilfield Technologies

# OUR BRANDS

At Premium Oilfield Technologies, we're proud of our Patriot, Caliber, Sur-Lock, Tru-Flow and GDM offerings.

These brands deliver the equipment performance and reliability that our customers have come to expect. Their names represent the highest quality products with a focus on decreasing non-productive time while improving safety and performance.



**PATRIOT™**

**CALIBER®**

**SUR-LOCK®**

**TRU-FLOW™**

# Since 2003,

**Premium Oilfield Technologies** has been supplying high quality products to the oil and gas industry. Our core focus is to provide performance enhancing solutions that meet the strictest safety standards. We have developed, tested and enhanced mud pump components, top drives, mud valves, RCD/MPD systems, shaker screens and other drilling products that **decrease downtime, improve safety and perform in the toughest drilling environments.**

Premium Oilfield Technologies has worldwide locations and operations in all of the U.S. major shale plays. Our field locations boast a crew of experienced technical sales representatives that visit each rig several times per month. Geographic positioning allows us to directly supply our products to more than 500 drilling rigs every day.

## Premium Oilfield Technologies – Your Right Choice:

- ◆ Industry standard, fully interchangeable parts and systems
- \* Time-saving safety enhancements
- \* Performance enhancing, hammerless technology
- \* Field-based, rig site technical support
- \* Managed rig site inventory and consignment service - 24/7/365
- \* Strict onsite testing and quality assurance
- \* Trusted brand names and proven performance

## GLOBAL LOCATIONS

## FIELD SERVICE / SALES / MANUFACTURING

USA, Latin America, Russia, Australia, Middle East, India

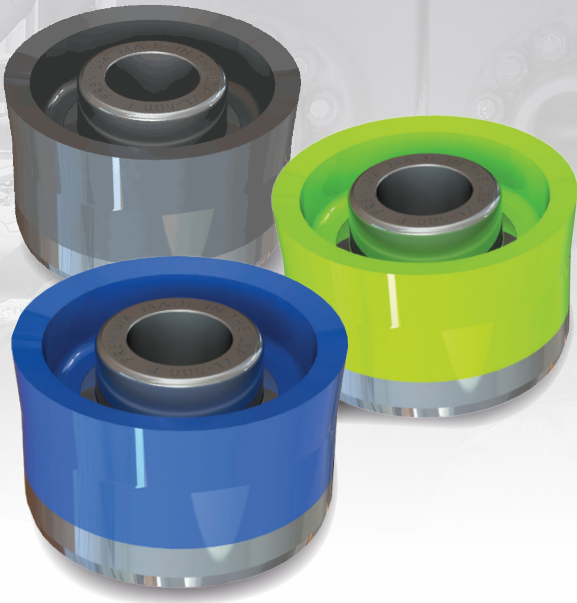
## OUR OFFERINGS

MUD PUMP EXPENDABLES • TOP DRIVES • MUD VALVES • SHAKER SCREENS • MPD AND RCD SYSTEMS • PERFORMANCE ENHANCEMENT • CENTRIFUGAL PUMPS

# Mud Pump Expendables

## PISTONS

Caliber® and Patriot™ pistons outperform all other pistons on the market today. They are built to deliver superior performance in a wide range of oil based, water based, brine or synthetic drilling muds. We offer a complete line of standard service and high performance pistons for any drilling condition. Longer piston life equates to longer liner life, greatly reducing costs associated with mud pump expendables and labor time.



## CALIBER®

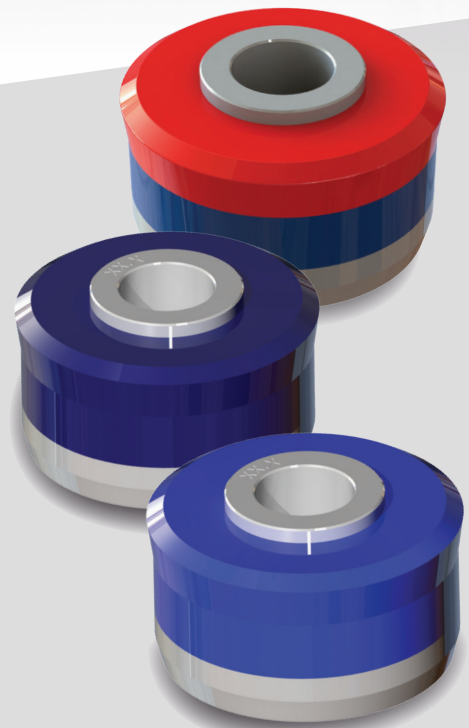
The field proven Caliber line of pistons provides multi-purpose solutions for all drilling environments and fluid types.

- ◆ Flex lip design with bonded urethane for longer life
- ◆ Available for a wide range of services including water and oil based muds
- ◆ Temperature options up to 400°F and pressure ranges to 7500 psi

## PATRIOT™

Discover the reason why Patriot pistons are the most trusted brand for offshore operations worldwide.

- ◆ Bull nose lip design seals for less “squirt” which reduces flush system contamination
- ◆ Superior lip and cut back hub design reduce wear on the liner, dramatically lowering mud pump operating costs
- ◆ Over 35 years of field use and experience in offshore and land applications



# Mud Pump Expendables

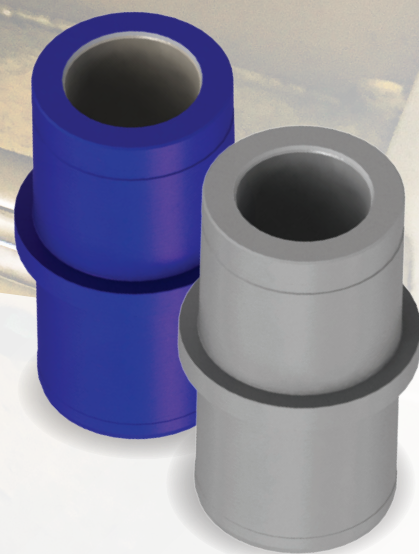


## VALVES AND SEATS

Caliber® and Patriot™ valves and seats are designed for multiple drilling conditions and various configurations with the goal of increasing service life. Our single piece forged design and high quality hardened steel create a very stable and robust valve/seat combination. We stock a wide variety of designs and can manufacture an assortment of standard service valves and seats to meet any need.

## LINERS

We provide liners for all brands of mud pumps including, but not limited to Oilwell, National, Gardner Denver, Lewco, Ideco, Emsco, Bomco, Drillmec and Wirth. Liners are available in two styles: chrome-iron liners for standard service and zirconia-ceramic liners for long lasting performance in situations where normal liner change frequencies are too costly. We offer a variety of sizes in-stock for every need.



# Shaker Screens

Patriot™ replacement screens for shale shakers combine high quality mesh combinations with a proprietary adhesive compound that results in extended screen life. Patriot screens are made in the USA at our Oklahoma City manufacturing plant. All screens are engineered to meet exact design specifications of the manufacturer's shale shaker and are available in a variety of configurations.

## SCREEN FEATURES (VARY BY MODEL):

- ◆ High quality cold-rolled steel for less flex
- ◆ Frame, pre-tensioned and metal back hook strip types
- ◆ Two gasket compounds for varying service conditions
- ◆ Variety of weights and sizes available

# **PATRIOT™**

NOV Brandt®  
National®  
M-I SWACO®  
Fluid System®

DFE  
SWACO®  
Double Life®  
Derrick®

We manufacture a complete line of replacement screens for the above as well as custom shakers.

All OEM company and product names are trademarked.

# Performance Enhancement

We work closely with our clients in the field to learn ways to help save time and money. We take these lessons and apply them in the research, development and testing of our products. In response to problems observed in the field, we have developed new performance enhancing technologies that save time and money while increasing safety.

## Sur-Lock® Hammerless™ Technologies

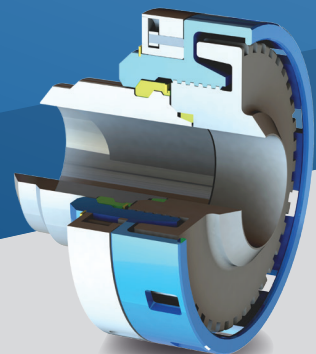
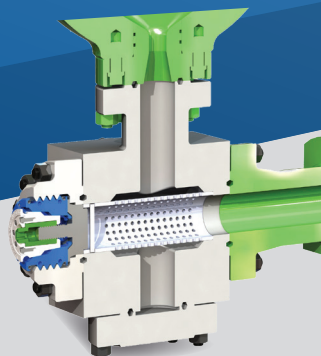
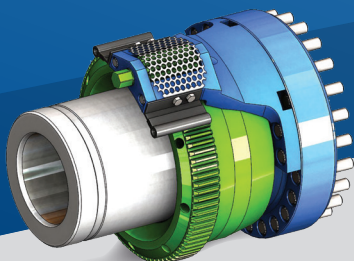
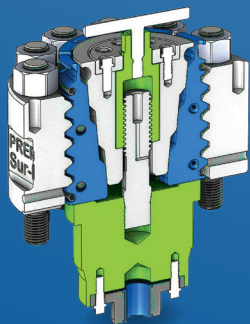
Premium's Sur-Lock Hammerless Technologies are designed to eliminate unsafe practices and radically decrease the time it takes to perform standard maintenance procedures. Our innovative designs require no hammers, special tooling or hydraulic pumps for maintenance.

Sur-Lock Hammerless Technologies provide a 100% mechanical solution for increased operational efficiency, single person maintenance and reduced NPT (non-productive time). All Sur-Lock mud pump maintenance systems use single point retention, allow for precise torque measurement and drastically reduce NPT on the rig.

### SUR-LOCK PRODUCT LINE INCLUDES:

- ◆ VALVE COVER SYSTEM
- ◆ ROD LINK SYSTEM
- ◆ LINER RETENTION SYSTEM
- ◆ HAMMERLESS UNION
- ◆ STRAINER COVER

# SUR-LOCK

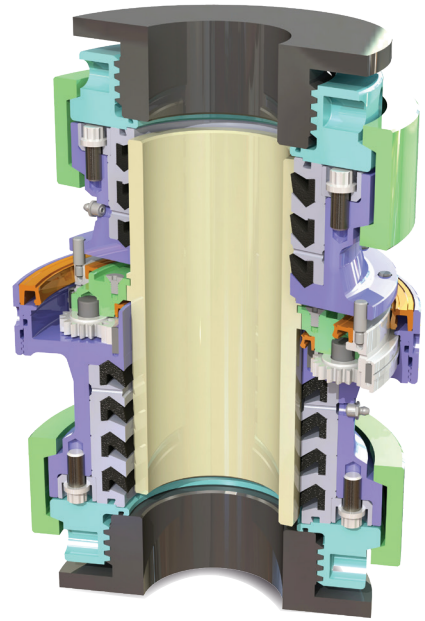


**HAMMERLESS™**  
TECHNOLOGY

## Sur-Drive™ Hammerless™ Epicyclic Washpipe

Premium designed the Sur-Drive™ Epicyclic Swivel System to address multiple problems that drillers have with their top drive washpipe cartridge assemblies. Seal systems are one of the most common causes of downtime for a drilling rig. Sur-Drive's unique epicyclic design slows down internal speed within the cartridge for any given top drive rotational speed. At the slower rotational speeds, seal life is significantly increased.

**SUR-DRIVE™**

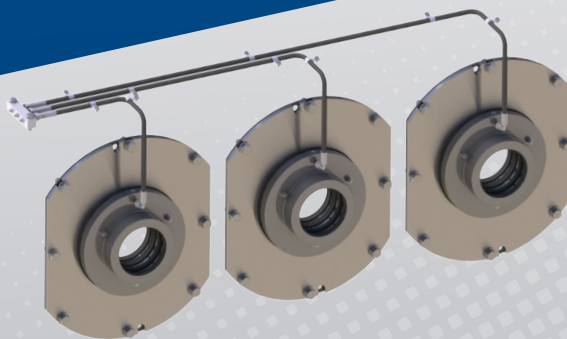


**SUR-DRIVE WORKS EQUALLY WELL IN WATER AND OIL BASED MUD APPLICATIONS.**



## Premium Liner Wash Upgrade

Retrofit your current system with the Premium Liner Wash Upgrade to increase flow rates, decrease downtime and get longer piston/liner life. The upgrade produces best results when paired with the Patriot Liner Wash. Typical flow rates are between 5 to 7 gpm per cylinder on existing systems. Install our upgrade and you can increase this to 10-12 gpm.



## Sur-Line® System

We developed the Sur-Line® system to prevent mud and other fluids from passing between the power end and fluid end sections of the mud pump. Sur-Line uses a unique floating seal system that bolts into the wall between the power section and the fluid end section. The seals inside this housing seal against the OD of the pony rod, preventing fluid from passing between the two sections of the mud pump.



# Fluid End Modules

## Caliber® 7500 psi High Pressure Fluid Ends

Premium offers a complete line of fluid end modules and components that are manufactured to OEM specifications and interchangeability. We offer 7500 psi designs for all major pumps. Our Caliber modules have forged high-tensile strength steel and are machined to precise engineering tolerances. Each forging is machined and heat treated to maintain the best physical properties inside the module and on the surface, thus minimizing washing and stress cracking.

### WE PROVIDE FLUID ENDS FOR THE FOLLOWING BRANDS\*:

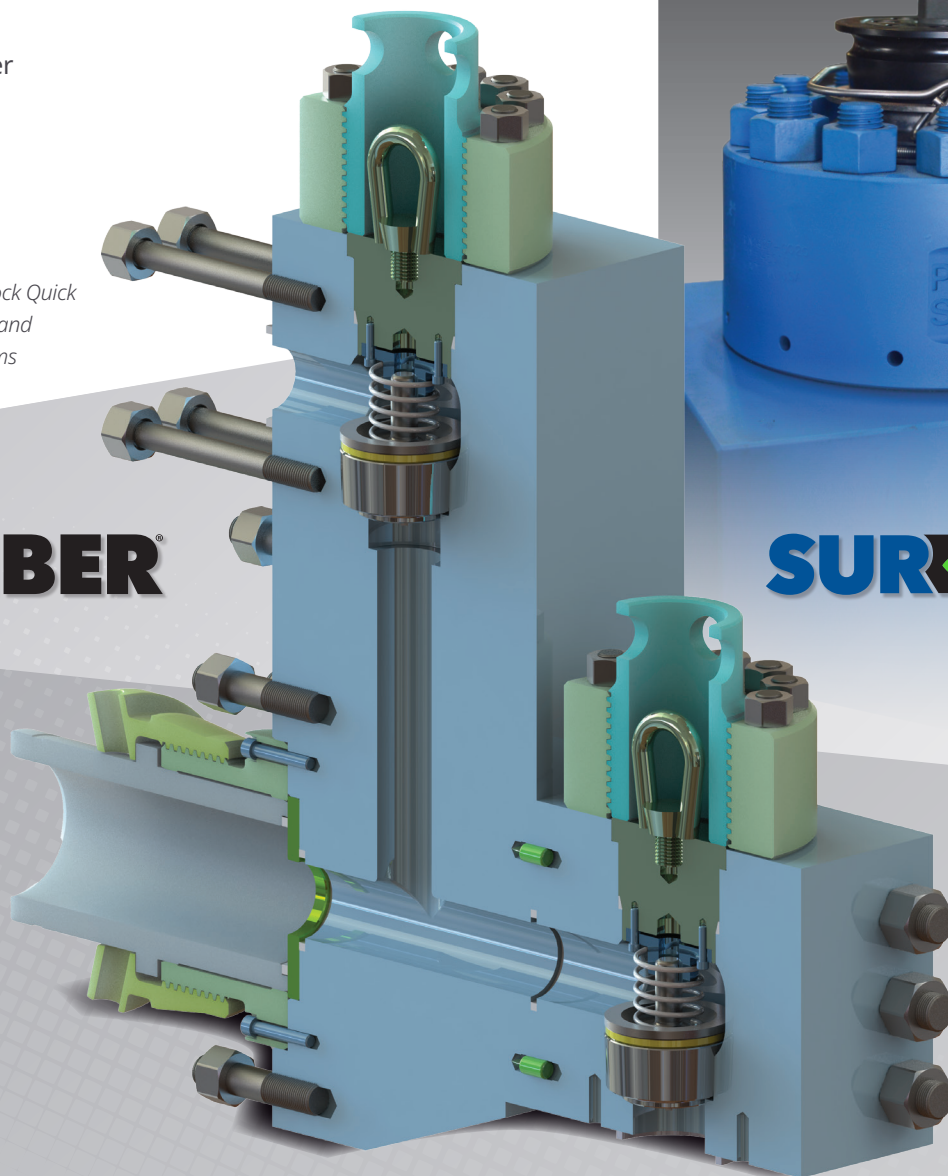
- ◆ Emsco
- ◆ Gardner Denver
- ◆ Lewco
- ◆ National
- ◆ Wirth
- ◆ Ideco

*\*Available with Sur-Lock Quick  
Change Valve Covers and  
Liner Retention Systems*



**CALIBER®**

**SUR-LOCK®**





# Mud Handling

## SWIVEL / TOP DRIVE PARTS

Premium carries cartridge assemblies for all major top drive and swivel brands. We recommend carrying an extra assembly on standby for quick turnaround and reduced downtime.

Our washpipes are chrome plated and ground to a fine finish, ensuring a tight seal and reduced friction. Washpipe packing is molded using rubber impregnated fabric to increase durability and longevity. All of our parts are interchangeable on a part-to-part and unit-to-unit basis.



## PULSATION DAMPENERS

We offer a variety of pulsation dampeners with internal bladders that are made from high quality Patriot urethane and are resistant to oil based mud. This ensures reliable mud motor performance, longer service and superior durability.

### FEATURES INCLUDE:

- ◆ Greater than 7500 psi
- ◆ 180°F temperature rating
- ◆ Greatly reduces frequency of changes
- ◆ High temperature bladders available
- ◆ Complete and mini kits offered
- ◆ Stabilizers and accessories available



# PATRIOT™

## TEST CUPS

The Patriot™ Type F Test Cup is made from our proprietary high performance urethane, providing greater service life and durability. Patriot urethane is 3-4 times stronger than nitrile rubber.

### FEATURES INCLUDE\*:

- ◆ Operating pressures up to 15,000 psi
- ◆ Excellent resistance to oil based mud
- ◆ Operating temperatures up to 220°F
- ◆ Custom fittings for any size and casing weight
- ◆ Complete cup tester assemblies available

*\*not suited for clear or sea water uses*



# Mud Valves

## 7500/5000 PSI MUD VALVES

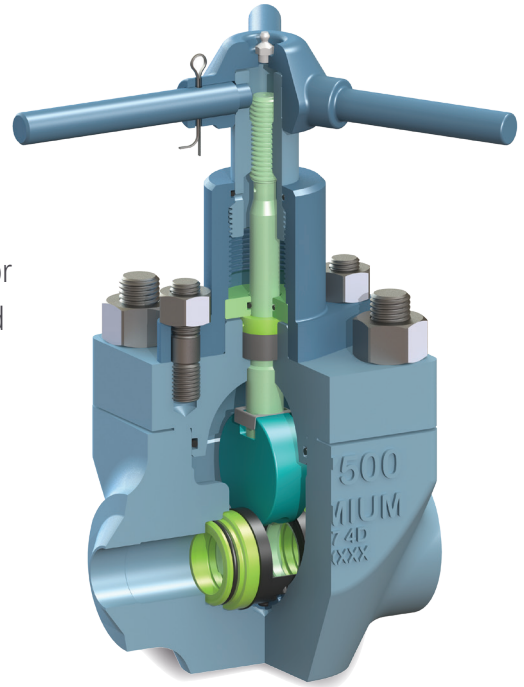
Premium offers a full line of 7500 psi and 5000 psi mud valves designed for high pressure, extreme service applications.

### MR-7500

The MR-7500 valve and parts are compatible and interchangeable with Demco mud valves. Each valve is fully assembled and tested in our U.S. manufacturing facility prior to shipment. We also stock major and minor spare parts kits for all of the below mud valves, for 1-1/2", 2", 3", 4" and 5" bores.

#### MUD VALVE MODELS AVAILABLE INCLUDE:

- ◆ MR-7500, 7500 psi, high pressure
- ◆ MR-500, 5000 psi
- ◆ MR-50T, 5000 psi

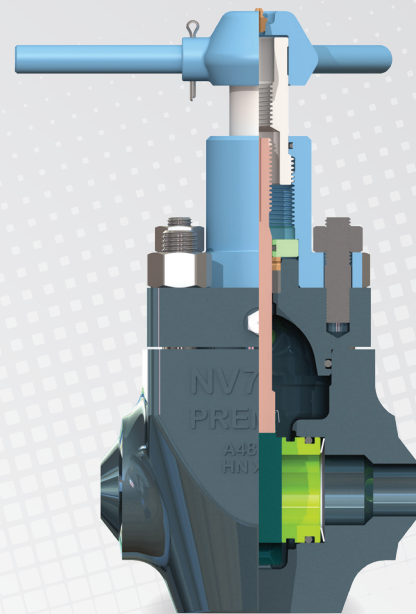


### NV-7500

The Premium proprietary NV-7500 mud gate valve is a full metal to metal sealing gate valve for use in applications up to 7500 psi. The NV-7500 uses single piece seat rings, creating an upstream metal to metal seal. This upstream design helps eliminate debris contamination into the valve body and reduces wear on the internal components.

#### FEATURES INCLUDE:

- ◆ Single piece seat/Belville spring design
- ◆ Metal to metal sealing
- ◆ Upstream sealing (reduced solids in valve cavity)
- ◆ Special urethane stem packing
- ◆ Interchangeable Demco upper section (bonnet)
- ◆ Stainless steel stem/gate/seats and forged bonnet
- ◆ Certs available up to API PSL-3



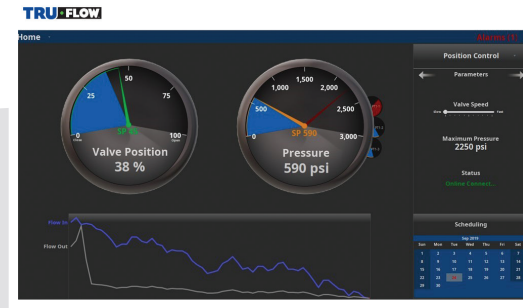
# MPD Solutions



## Tru-Flow™ MPD Software

Our Tru-Flow™ MPD software can be customized based on well complexity and risk tolerance.

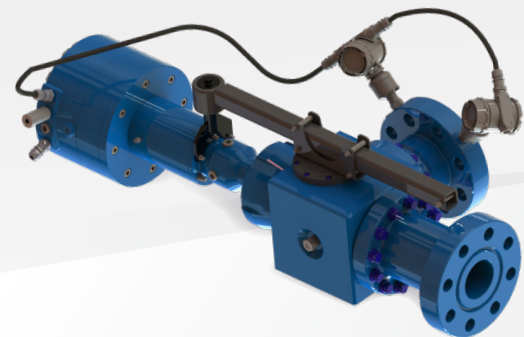
- ◆ System suitable for installation in C1D1 area
- ◆ Operator station suitable for installation in C1D2 area
- ◆ Up to 2 chokes can be operated independently, as a pressure relief or in tandem
- ◆ Can be used with quarter turn ball valve
- ◆ Surface backpressure sensors expandable to 3 for redundancy
- ◆ Optional flow meter for event monitoring and influx, or loss detection
- ◆ Electrically actuated for accuracy and speed
- ◆ Simple dashboard interface that is easy to learn and use
- ◆ System configuration requires minimal training
- ◆ No calibration expert needed



## Tru-Flow MPD Choke

The Premium Tru-Flow choke is designed specifically for MPD and offers improved accuracy with a small footprint design.

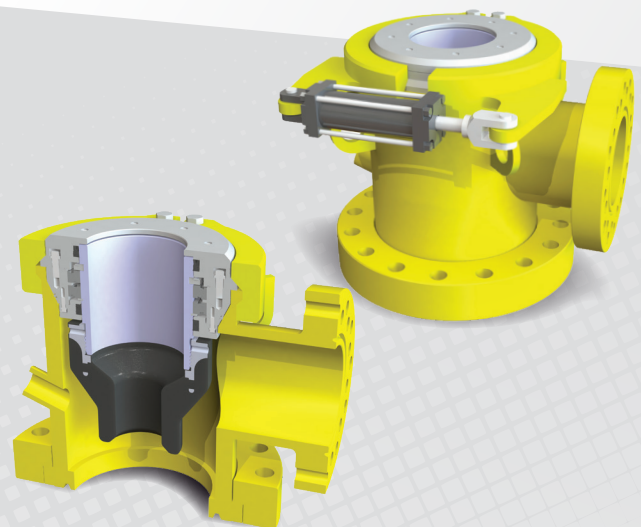
- ◆ Best-in-class trim design allows for the passing of large cuttings experienced in an MPD environment
- ◆ 3" orifice choke designed for 3K psi
- ◆ Proprietary linear choke trim design
- ◆ Integrated ball screw driven operator for increased accuracy with reduced torque
- ◆ Electric motor actuation; hazardous area classified



## RCDs

The Premium line of Cutter RCDs are compact and fit-for-purpose with customizable installations for specific rig requirements.

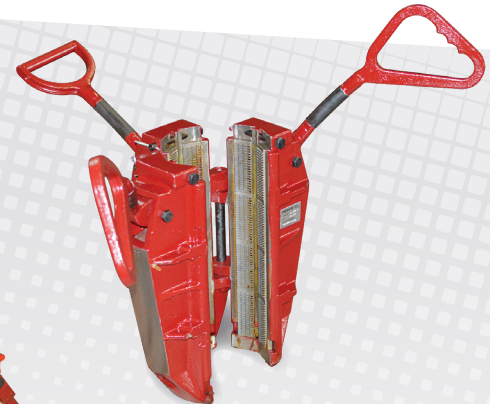
- ◆ Available in low pressure, intermediate and hybrid designs
- ◆ Maintenance free sealed bearing does not require separate hydraulic lubricator
- ◆ Patented low profile, dual hinged clamp system



# Handling Tools

We offer a complete line of handling tools for your drilling operations. All slips come with safety flex handles and are interchangeable with the OEM equivalent.

- ◆ Rotary slips
- ◆ Drill collar slips
- ◆ Casing slips
- ◆ Safety clamps
- ◆ Dies and inserts



# Centrifugal Pumps

Caliber® centrifugal pumps incorporate field proven designs and updated technology to extend service life and reduce downtime during drilling operations.

## FEATURES AND BENEFITS INCLUDE:

- ◆ Cooling fins added to frame help disperse heat and extend bearing and packing life
- ◆ Optional retaining ring to secure inboard bearing
- ◆ Open impeller design to maximize flow
- ◆ Concentric casing design minimizes turbulence
- ◆ Replaceable shaft sleeve to absorb wear and extend shaft life
- ◆ Long life mechanical seals



**CALIBER**

# Services

Premium provides a team of highly trained mud pump, top drive, MPD/RCD, solids control, handling tool and valve experts to aid customers in selecting the right parts for their specific drilling environments. Our field mechanics and technicians are trained to perform all types of pump and valve maintenance including but not limited to: pump alignment, periodic maintenance and equipment change-outs.

## CONSIGNMENT BOX PROGRAM

We offer a reliable consignment box program that reduces downtime for our customers and ensures that rig inventory is where you need it, when you need it, 24/7/365. Each rig site has a customized consignment box stocking plan and dedicated service technicians who visit the rigs several times per month. Premium technicians manage inventory and restock consignment boxes, invoicing only for what the customer has used.

## LASER ALIGNMENT

Premium leads the industry in technology for precise alignment of mud pump sections and fluid end sections. We use a specially designed laser system for determining alignment. This method is far superior and more accurate than the traditional method of using uncalibrated wooden rods. Proper alignment of the pump's crosshead to the fluid end liner is a requirement for maximizing piston and liner life. Our laser alignment inspection system takes the guesswork out of the alignment process by providing results indicating horizontal and vertical offset as well as angular misalignment – down to 0.0001".

## TESTING / SAFETY INSPECTIONS

All equipment and parts are inspected 100% per engineering drawings. Premium supports a strict Quality Control department to maintain micrometers, hardness testing equipment and pressure testing equipment. Job routers are strictly followed for each part to deliver consistent quality.



Premium Oilfield  
Technologies  
Q1-3977





"Here at Premium, we are focused on finding and developing the very best drilling products and technology, and bringing them directly to your rig...24/7/365. Every day our hardware and software engineers are constantly improving and inventing new pistons, valves, pumps, RCDS, shaker screens, top drives and mud valves. We have products for every application and every budget. Give us a call and let us show you why we are the preferred manufacturer and supplier for more than half of the rigs in the USA, along with Latin America, Asia and the Middle East where we have local field technicians and sales consultants ready to help with just about any drilling problem."

**Cam Hewell**

President, Premium Oilfield Technologies



## CORPORATE

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

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Houston, TX 77064  
T: +1 281.670.5200

## USA MANUFACTURING & REPAIR

### *Patriot and Urethane*

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Houston, TX 77064  
T: +1 281.670.5228

### *West Texas Operations - All Divisions*

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

### *Premium Drilling Equipment and Support*

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

### *Patriot Screens*

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

### *Well Service Solutions and Equipment*

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

## NORTH AMERICA FIELD SALES, SERVICES AND REPAIR OFFICES

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

## INTERNATIONAL

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T: +971 56 986 3834

### **INDIA**

**PMR Mud Riggers India Private Limited**  
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Chinchwad, Pune MH 411019  
India

### **UAE**

**Premium Oilfield Technologies FZE Top Drive Solutions**  
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