

# **Blue Lightning Pistons**



Super premium bonded polyurethane piston designed for operation in extreme drilling environments.

The Blue Lightning piston is manufactured from an engineered elastomeric compound that delivers excellent resistance to tear, abrasion and extrusion while maintaining high mechanical properties. A unique anti-extrusion feature, coupled with a premium elastomer, improves service life while reducing downtime and allowing for reduced pump maintenance.

#### **Anti-Extrusion Feature**

The anti-extrusion feature is a significant feature of the Blue Lightning. Manufactured from a proprietary bearing material that expands upon installation, this feature reduces friction by reducing or eliminating contact between the steel piston body and the liner wall. Additional benefits include reduced extrusion of the urethane and dramatically increased run times, even in pressures above 5000 psi. The bearing even reduces liner wear and liner damage over other piston designs. The Blue Lightning can be operated in pressures of up to 7500 psi.

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# **Bonded Pistons**



These pistons are constructed of urethane, bonded to a solid metal hub. Double durometer urethane is designed to provide optimum performance in oil base or water base mud and high drilling pressures.

### Features:

- Rated for all drilling operations
- Maximum operating temperature is 180°F
- High pressure mud pump service
- Extended service

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## **Bullnose Extreme Pistons**





Designed to preform in the harshest of drilling conditions, its oil-resistant high-temperature premium urethane homogenous compound has excellent abrasion resistance low friction surface, and high tensile strengths. It is compatible with all applications and mud types and will withstand operating temperatures from -20°F up to 350°F with pressures up to 7500psi. Superior design and ultra-durable quality adds value through increased run times in extreme conditions, reduced maintenance, and reduced cost per pumping hour.

### Features:

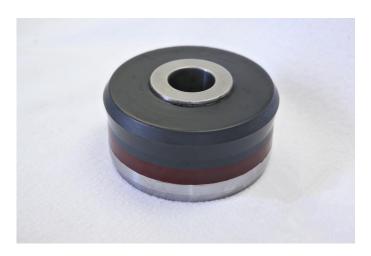
- Wide Temperature Range, -20°F to 350°F, 7500 psi.
- "Bull nose" lip design provides better sealing to reduce flush system contamination
- Fully compatible with all types of drilling and mud during any point of the drilling process

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Manufactured from highly engineered premium urethane homogenous compound, Bull nose Piston outperforms all other polyurethane pistons on the today's market. The compound provides superior resistance to tear, abrasion, and extrusion, and is capable of operating in fluid temperature from -20°F up to 225°F. It is compatible with water, oil and synthetic designed piston head is composed of two different urethane compounds bonded together for superior performance.

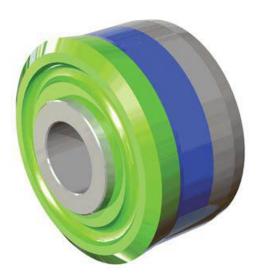
### Features:

- The piston body, while made of high strength alloy steel, is compatible with existing piston rods
- Resistant to high pressure, abrasion, heat and extrusion
- Averages 30%+ longer life than offer mud pump pistons
- Dual-durometer bonded urethane allows for longer piston life
- "Bull nose" lip design provides better sealing to reduce flush system contamination

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# Flex Lip EXTREME Piston



Designed to perform in the harshest of drilling conditions, its oil-resistance high-temperature premium urethane homogenous compound has excellent abrasion resistance, low friction surface, and high tensile strengths. It is compatible with all applications and mud types and will withstand operating temperatures from -20°F up to 350°F with pressure up to 7500 psi. Superior design and ultra-durable quality adds value through increase run times in extreme conditions, reduced maintenance, and reduced cost per pumping hour.

#### Features:

- Designed to withstand extreme drilling conditions in all applications
- Wide Temperature Range, -20°F to 350°F
- Excellent abrasion and chemical resistance urethane
- Fully compatible with all types of drilling and mud during any point of the drilling process

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Manufactured from highly engineered premium urethane homogenous compound, Flex Lip Piston outperforms all other polyurethane piston on the today's market. The compound provides superior resistance to tear, abrasion, and extrusion, and is capable of operating in fluid temperatures from -20°F. It is compatible with water, oil and synthetic based drilling fluids and delivers superior resistance.

#### Features:

- The piston body, while made of high strength alloy steel, is compatible with existing piston rods.
- Resistance abrasion and chemical resistance urethane
  Excellent abrasion and chemical resistance urethane

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## **Green Duo Pistons**



The Green Duo piston is a bonded dual durometer piston that is highly resistant to abrasion and tear. The bonded construction resists extrusion under pressure and restricts movement to reduce the build-up of heat.

The Green Duo piston is recommended for systems with oil or synthetic based mud. It is also recommended for water based muds when weights are 11 lb/gal or over. The Green Duo piston is not recommended for clear water or seawater pumping due to the lack of lubricity of these fluids. As in all urethane pistons, the backflush requirement is recommended at 14 gal/min or greater for each piston.

#### Features:

- -Temperature resistance up to 180°F (82°C)
- -Can be operated in pressures up to 6300 psi
- -Backflush requirement is 14 gal/min or greater for each piston
- -Not recommended for clear water or seawater pumping due to lack of lubricity of these fluids

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# **Replaceable Rubber Pistons**





Premium's replaceable rubber pistons are made with nitrile rubber to resist extrusion and abrasion. These pistons are fully interchangeable with most other manufactures products. Available sizes are from 3" through 7½" and series are A, B, K and L. If flange is not worn past these marks, rubber kit can be installed

Fabric anti-extrusion device reduces extrusion of the rubber even at maximum pressure rating

### Features:

- High tensile strength
- Rated for all drilling operations
- Maximum operating temperature is 250°F
- Extended service life

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# **White Lightning Pistons**







Super premium bonded polyurethane piston designed for operation in extreme drilling environments.

The White Lightning bonded piston is manufactured from an engineered elastomeric compound that delivers excellent resistance to tear, abrasion, chemical attack and extrusion while maintaining high mechanical properties.

### Features/Benefits

- Increased run times up to 7500 PSI
- Consistent run times
- Reduced cost per operating hour
- Reduced maintenance and downtime
- Flex Lip design for decreased liner wear

Elastomer compound which provides:

Increased resistance to water, oil, and aggressive synthetic drilling fluids

Temperature resistance up to 2300 F (110 o C)

Increased abrasion and particle embedment resistance

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