

活塞总成：

德州润东石油机械有限公司所生产的活塞总成，其主体材质采用锻钢 45# 或 40Cr 锻造而成，活塞皮碗胶皮材料采用进口高分子材料复合而成。

德州润东石油机械有限公司为了满足各类油田的钻井需要，研究开发出了适合高温、高压、高耐磨、高耐水解等性能的活塞总成。具体系列如下：



第一系列 主体材料：活塞皮碗的材质采用日本产丁晴橡胶 JSR-220S，

皮碗底部加强物为尼龙 N-12；

特点：抗压一般，耐温、耐磨一般；

适用范围：一般在泵压 18Mpa 左右，泥浆温度 $\leq 60^{\circ}\text{C}$ 使用时，使用时间可达 200H。



第二系列 主体材料：活塞皮碗的主体材质是日产 JSR-220S，底部为 30 层高强度纤维夹布；

特点：抗压性能好，耐磨性及耐温性能好；

适用范围：一般在泵压 20Mpa 左右，泥浆温度 $\leq 80^{\circ}\text{C}$ 使用时，使用时间可达 400H。

第三系列 主体材料：活塞皮碗的主体材质是美国产合成聚酯、醚类；

特点：耐磨性好，耐水解性能好；

适用范围：泵压在 20Mpa 左右，泥浆温度 $\leq 80^{\circ}\text{C}$ 使用时，使用时间可达 500H。



第四系列 主体材料：皮碗主体材料采用氢化丁晴橡胶或其他高温高耐磨材料，并添加多种添加剂，30 层高强度纤维夹布或高分子复合材料加强；

特点：耐高温、抗压、耐磨性能非常好，当温度在 80-150 度之间仍具有良好的综合性能；

适应范围：适用于泵压 $\geq 26\text{Mpa}$ 左右，泥浆温度 $\leq 80^{\circ}\text{C}$ 时，使用时间

可达 600H，尤其适用于陶瓷缸套及高压泥浆泵。



Piston Assembly:

The piston assembly was made of forging steel 45# or 40Cr, and piston rubber was made of import high molecular materials by Dezhou Rundong Petroleum Machinery Co., Ltd.

In order to meet the demands of different petroleum drilling technology, Dezhou Rundong Petroleum Machinery Co., Ltd. has studied and developed the new model piston assembly with good properties of high-temperature, high-pressure resistance, high anti-friction.

First Set

1. Main Part Materials: piston rubber: Japan JSR -220S

Piston rubber base: Nylon(N-12);

2. Characteristics: Ordinary anti-compression, and anti-temperature.

3. Application: When the Pump pressure is around 18Mpa, Temperature of mud $\leq 60^{\circ}\text{C}$, the service life is 200H.

Second Set

1. Main Part Materials: piston rubber: Japan JSR -220S, Piston rubber base: 30 layers high strength fabric cloth.

2. Characteristics: Good anti-compression, and anti-temperature.

3. Application: When the Pump pressure is around 20Mpa, Temperature of mud $\leq 80^{\circ}\text{C}$, the service life is 400H.

Third Set

Main Part Materials: piston rubber: American Polyurethane or polyether es

1. Characteristics: Good anti-compression, and anti-temperature.

2. Application: When the Pump pressure is around 20Mpa, Temperature of mud $\leq 80^{\circ}\text{C}$, the service life is 500H.

Fourth Set

1. Main Part Materials: Piston Rubber: Hydrogenated NBR or advanced high temperature tolerance and anti-abrasion materials reinforced by additives. Piston rubber base: 30 layers high strength fabric cloth or polymer composite.

2. Characteristics: Excellent anti-compression, abrasive wear and high temperature tolerance property, good combination property at $80\sim 150^{\circ}\text{C}$.

3. Application: When the Pump pressure is around 26Mpa, Temperature of mud $\geq 80^{\circ}\text{C}$, the service life is 600H, especially for ceramic liner and high pressure mud pump.