Atlas HTCR Extended Pneumatic Piston Pump™

Technical Specs

Operational Depth:
Up to 813 ft., 248 m

Flow range:
Up to 2.0 US gpm,
7.6 lpm @ 40 strokes/min

Well-casing size:
Min. 2 in., 4.8 cm

Model 101: HOT WELLS High Temp, Chemical Resistant

The Atlas HTCR Extended Pneumatic Piston Pump™ is a heavy-duty, special-service model built upon Blackhawk's most powerful pneumatic-pump base.

It is designed for unusually hot and chemically challenging wells. Enhanced construction materials are matched to individual well needs. Applications include leachate extraction, toxic remediation, high-discharge pressures, deep wells, angled or horizontal pumping, extended duty and winter operations.

The HTCR is a reciprocating-rod, positive-action piston pump, powered by industrial-quality compressed air. The drive motor is mounted at surface grade, above the wellhead, allowing for simple installation and easy, cleaner servicing.

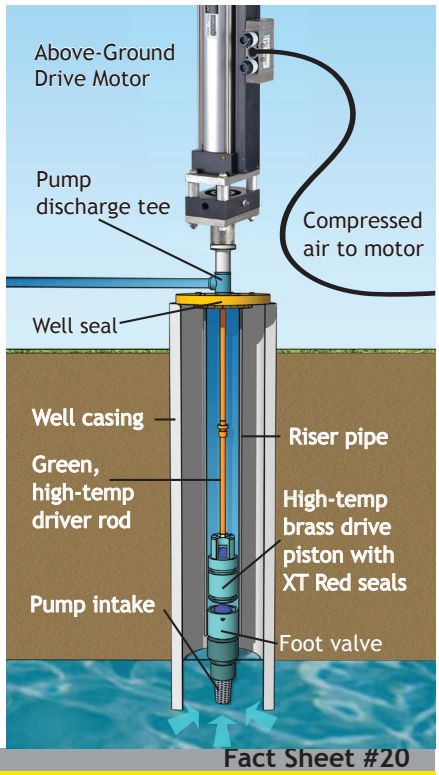
Power to the pump is direct from surface through the sucker-rod assembly. No air is introduced into the well. The liquid inlet is at pump-bottom intake; liquid is removed to 0 submergence depth.

How A Piston Pump Works

Above the wellhead, the motor pushes and pulls a flexible, high-temp drive rod connected to a reciprocating, high-temp brass piston near the bottom of the well.

Below the wellhead, the piston creates suction at intake as the motor pulls up the sucker rod, and liquid is pulled through a strainer and into the foot valve. Stainless-steel balls open a suction pull to allow liquid into the piston and then close naturally to prevent liquid from escaping.

The pumping action pulls liquid up the riser pipe, where it exits a discharge tee. No air is introduced into the well, and air does not come into contact with the liquid being pumped.



Fact Sheet #20

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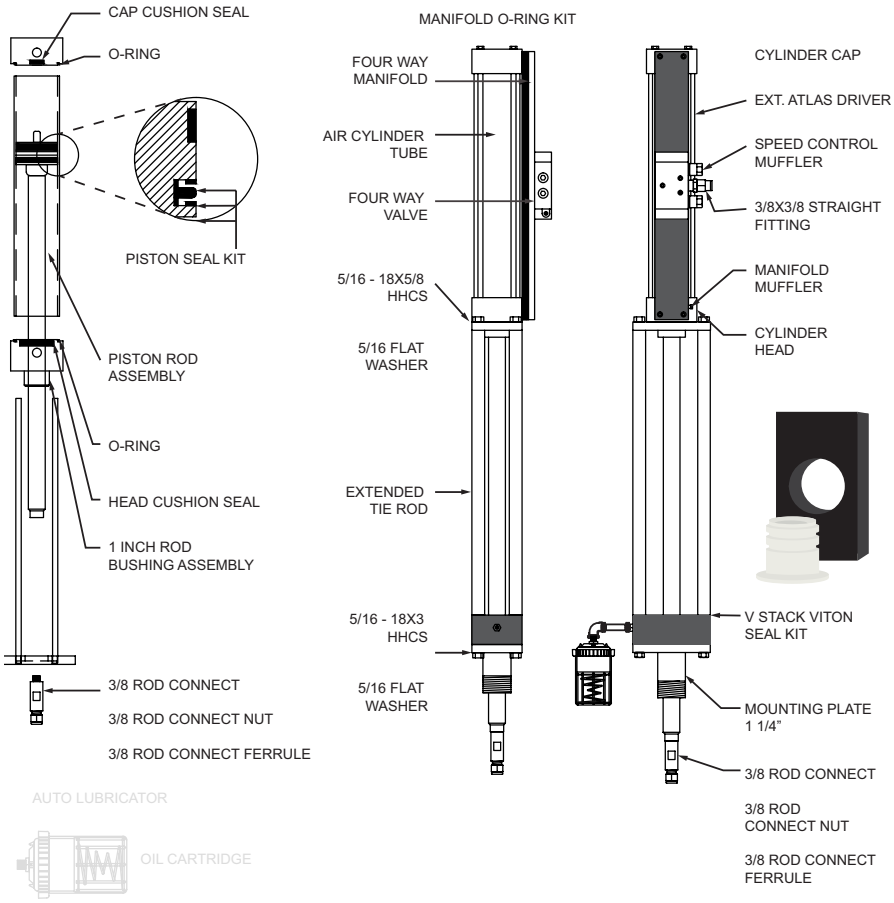
Assembly Drawings



Performance Data

Operating Depth	813 ft. / 248 m
Flow Range	Up to 2.0 US gpm / 7.6 lpm 2,880 US gpd / 10,900 lpd
Max. Operating Pressures	352 psig (based on 100 psi air supply)
Maximum Lift	813 feet of water
Strokes per Minute	5 - 40
Max. Strokes per Minute	40

(variable speed control adjusts to well conditions; liquid drawn down to top of screen)

Technical Data

External Diameter	1.9 in. (4.85 cm)
Total Cylinder Length	46 in. (116.8 cm)
Connection To Riser Pipe	1.25 in. (3.18 cm)
Connection To Sucker Rod	7/16 in. - 20 in.
Recommended Internal Bore-Hole Diameter	2 in. (4.85 cm) or greater
Weight Of Cylinder	12 lb. (5.4 kg)
Discharge Size	1.25 in. (3.18 cm) NPT
Installation	Any angle from vertical to horizontal
Driver Weight	35 lb. (15.8 kg)
Driver Rod Weight	12 lbs. per 100 feet (3.7 kg per 100 m)
Foot Valve Assembly Weight	8 lb. (3.6 kg)
Min. Well Casing Size	2 in. (4.85 cm)
Pneumatic Air Connection	3/8 in NPT, 3/8 in. OD tubing

Drive Piston: High-temp brass with XT Red seals.

Materials of Construction

Drive Rod: Specially treated Green, high-temp, fiberglass rod to further resist heat and chemical impacts.

Stuffing Box/Cartridge Seals: Delrin cartridge seal plate; custom Viton V-stack seals with brass seal plate for added protection. Cartridge pop-out seals to allow for easy replacement.

Drive Piston: High-temp brass with XT Red seals.

Downhole Piston Seals: XT Red, thermoset polyurethane, high-temp heat deflection

Rod oiler: Brass connection to Zerk fitting/oil port

Foot valve, check valve, downhole cylinder: Stainless steel

The best-performing environmental pump in the business