ROTO-JET PUMP

High Pressure Pitot Tube Pumps

Excellent
Power & Industrial
Solutions

WEIR
POWER & INDUSTRIAL

Product Line Overview

Handles Tough Applications!

Boiler Feed and Desuperheating
Oil Production
Semi-Conductor Manufacturing
Central Cleaning Systems
Mining
Spraying Systems
Hydraulic Systems
Petroleum-Chemical
Steel Mills
Hydro-Blast Cleaning
Pulp and Paper Mills
Transfer
Reverse Osmosis
Water Injection
Turbine FuelFeed
NO_x Supression

Model VSR™ Pump
(Variable Speed Roto-Jet)

Capacity: to 275 gpm (62 m³/hr)
Heads: to 4000 ft. (1213 m)
Pressures: to 1730psi (120 Bar)
Temperatures: to 250° F (121° C)
Maximum Speed: 5400 RPM

Model RD-11® Pump

Capacity: to 150 gpm (34 m³/hr)
Heads: to 1500 ft. (457m)
Pressures: to 650 psi (45 Bar)
Temperatures: to 250° F (121° C)
Maximum Speed: 4858 RPM

Model 2100® Pump

Capacity: to 465 gpm (105 m³/hr)
Heads: to 3000ft. (911m)
Pressures: to 1300 psi (89 Bar)
Temperatures: to 250° F (121° C)
Maximum Speed: 4709 RPM

Model 2200® Pump

Capacity: to 535 gpm (121.4 m³/hr)
Heads: to 4042 ft. (1232 m)
Pressures: to 1750 psi (120 Bar)
Temperatures: toto 250° F (121° C)
Maximum Speed: 5443 RPM

Model RO® Pump

Capacity: to 450 gpm (91 m³/hr)
Heads: to 5200 ft. (1585 m)
Pressures: to 2250 psi (155 Bar)
Temperatures: to 550° F (288° C)
Maximum Speed: 6321 RPM

Model RO D850® Pump

Capacity: to 750 gpm
Heads: to 2100 ft. (900 psi)
Pressures: to 640 m (62 Bar)
Temperatures: to 250° F
Maximum Speed: 4380 RPM

Model RG® Pump

Capacity: to 400 gpm (91 m³/hr)
Heads: to 2600 ft. (792 m)
Pressures: to 1125 psi (77 Bar)
Temperatures: to 250° F (121° C)
Maximum Speed: 4380 RPM

Model R11/APIR11® Pump

Capacity: to 150 gpm (121.4 m³/hr)
Heads: to 1500 ft. (457 m)
Pressures: to 650 psi (45 Bar)
Temperatures: to 275° F (135° C)
Maximum Speed: 4858 RPM

Roto-Jet® Pump Design Benefits

Operation

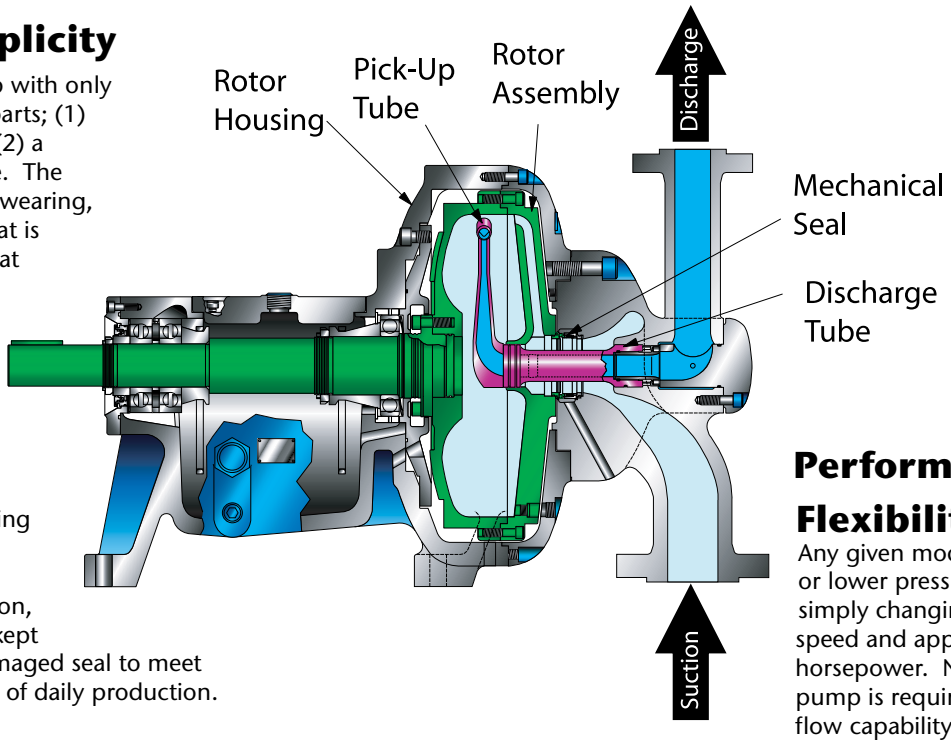
The Roto-Jet is totally, hydraulically stable and can operate with a minimal continuous bypass flow at shutoff indefinitely and at any flow point throughout the total head curve range with no wearing or damaging effect to the pump. The reason for this unique benefit is that all radial forces tend to be balanced within the rotor, and axial thrust is solely a function of suction pressure. Radial and axial forces applied to the Roto-Jet are independent of flow rate. Thus, the pump can operate at design point to shut-off free of shaft deflection or added thrust load applied to the bearings.

Seize-Proof

Unlike conventional centrifugal pumps, the Roto-Jet pump will not seize if run dry by a loss of suction or if operated with a minimal continuous bypass flow against a closed discharge valve. The mechanical seal is not mounted to the pump drive shaft, therefore, seal failure temperature rise is not transferred to the critical drive shaft/bearing area. The Roto-Jet design does not incorporate wear rings or any close shaft tolerances which would be subject to heat expansion and drive shaft seizure.

Design Simplicity

A single stage pump with only two basic working parts; (1) a rotating case and (2) a stationary pitot tube. The pump has only one wearing, rubbing part and that is a mechanical seal that sees only suction pressure. Seal leakage due to seal failure vents to atmosphere. Seal leakage cannot contaminate bearing area due to isolation of the bearing pedestal from the wetted end of the pump. For this reason, the Roto-Jet can be kept in service with a damaged seal to meet the critical demands of daily production.



Performance Flexibility

Any given model is capable of higher or lower pressure performance by simply changing the external pump speed and applying the required horsepower. No modification of the pump is required. A wide range of flow capability is achieved by simply changing the pitot tube.