delivering excellence with advanced pumping solutions

Roto Pumps carries with it a rich legacy of 50 years in providing fluid handling solutions to varied industries.

Mr. Ram Ratan Gupta, Founder of Roto Pumps pioneered in 1968, a unique process for manufacturing of Progressive Cavity Pumps (PCPs) in India.

The company believes in ‘in-house’ development of products and manufacturing technology and continuously invests in R&D to produce quality products conforming to international standards.

The company has strong foothold in the oil & gas industry, both offshore and onshore. It offers wide range of products that cater to the increasing demand of the industry. The Roto Pumps products are built as per API 676 standards to give customers the promise of quality and reliability.

Roto Pumps conform to the following standards

- API 676 3rd edition rotary positive displacement pumps
- API 682 4th edition mechanical seals
- Material as per NACE MR-01-75
- ATEX Directive 94 / 9 / EC
- API 671 metallic flexible coupling and spacer
- Pressure relief valves to API 520 / 526

our customers are our partners in success

*Note: We are the trusted pumping partners of the aforementioned customers. Any requirement to prove our association with them will be supported by legitimate evidence.*
delivering momentum through structured processes

**Exploration**
- Well Services
  - Drilling mud transfer
  - Decanter centrifuge feeding
  - Oil mud transfer
  - Waste management
- Enhanced Oil Recovery
  - Water injection
  - Polymer transfer
  - Surfactant transfer
- Fracking
  - Viscous liquids with suspended solids
  - Shear-sensitive media
  - Crude oil with suspended solids

**Production**
- Oil & Gas Processing
  - Open & closed drains transfer
  - Flare K0 drum emptying
  - Crude oil transfer
  - Hydrocarbon condensate transfer
  - Rich MEG / Glycol reclamation
  - Hydrocarbon sludge
- Produced Water Management
  - Produced water treatment
  - Skimmed oil transfer

**Transportation**
- Transfer Services
  - Crude oil transfer from group gathering stations to processing units through pipelines

**Refining**
- Refinery & Petrochemical
  - Vacuum residue
  - Visbreaker feed
  - Catalytic reforming unit feed
  - Delayed coker unit feed
  - Catalyst slurry
  - Bitumen
  - Asphalt
  - Black oils
  - White oils
  - Industrial fuel oil
  - Lubricating oil
  - Sludge transfer
  - Oily water treatment

**Distribution**
- Storage & Distribution
  - Crude oil transfer
  - Tank stripping
  - Oily sludge
  - Railway wagon unloading
  - Road tanker unloading
  - Export pumps
  - Sump emptying
  - Slop oil
  - Bitumen
  - Asphalt
  - White oils
  - Black oils
  - Ship loading & unloading

**Consumer**
- Petrol Dispensing Units
  - Lubricating oil
pioneering solutions that deliver success

progressive cavity pumps

Distinctive design, features & benefits

Positive displacement: Head developed is independent of speed, and capacity is approximately proportional to speed

Self-priming: Can work on gaseous liquids, does not require a foot valve up to 9.5 mwc and is effective even in high vacuum conditions

Non-clogging: Can handle high percentage of solids in suspension

Versatile across viscosity range: Can handle all kinds of liquids — from water to liquids with very high viscosity

Low NPSHr: Ensures smooth operation with high temperature and high vapour pressure liquids

Low internal velocity: Ensures minimum degradation of shear-sensitive media

Ideal for multi-phase pumping: Can handle oil, water, gas and solids and combination together

Smooth and non-pulsating flow: No need of pulsation dampers

Maximum flow rate: 420 m³/hr / 1850 US gpm

Maximum differential pressure: 72 bar / 1045 psi

Maximum fluid temperature: 150°C / 302°F

Seal Support System — API seal support system option (API plan 53B for illustration)

Coupling & Guard — As per API 610 / 671, AGMA 9001

Gear Box — Conforming to AGMA standard

Electric Motor — As per IEC / NEMA standards for hazardous duties

Shaft Seal — As per API 682, compliant single or double mechanical seal

Casing Drain — With or without valve for ease of maintenance

Connections — As per ANSI / ASME B16.5 flange connections with various ratings

Baseplate — Welded steel construction with drain connection and lifting lugs

Stator — Available in various elastomers to suit the application requirement

Wetted Parts — Various material options to suit wide range of applications
delivering high performance and results

twin screw pumps

Distinctive design, features & benefits

Long and trouble-free service life: Due to absence of metal-to-metal contact between the pumping elements & housing, the pump can even run dry for limited period of time.

No axial thrust: Dual flow of liquid in opposite direction balances axial thrust.

Higher volumetric efficiency: Due to special double profile of screw flanks.

High cavitation-free suction lift: Due to low NPSH.

Self-priming and capable of handling entrapped air / vapour / gas: Due to positive displacement action and being inherently self-priming.

Uniform metered flow: Being a positive displacement pump, head developed is independent of speed, and capacity is approximately proportional to speed.

Capable of handling wide variety of fluids: Clear lubricating / non-lubricating as well as aggressive liquids can be handled due to choice of different designs and materials.

Safe to operate: Has in-built relief valve designed to by pass up to 100% capacity.

Wider conformity to API 676, 3rd edition.

Performance summary:

- Maximum flow rate: 1000 m³/hr / 4402 US gpm
- Maximum differential pressure: 40 bar / 560 psi
- Maximum fluid temperature: 150 °C / 662 °F

Connections - ANSI / ASME B16.5 range connections suitable for API

Baseplate - Welded steel construction with drain connection and lifting arrangement

Replaceable Liner - Renewable liners are standard feature

Seal System - API seal support system option

Shaft Seal - Single or double mechanical seal as per API 682 and with various flushing and quenching plans

Timing Gear - Hardened & ground precision gears maintain the clearance between the screws and transmit high torque

Electric Motor - As per IEC / NEMA standards for hazardous duties
customising solutions for every need

engineered solution for closed / open drain oil vessels

Mixture of Produced water, oil and solids are channelized into closed or open drains to avoid harmful effects to the environment. Due to very low NPSH requirement, variable viscosities and shear sensitivity of the product, conventional pumps are not suitable.

Roto semi-submersible pumps are self-priming and are capable of handling solids, liquids and gases all put together. We offer best-in-class designs when it comes to customized pumps for closed/open drain oil & KO drum applications. These pumps are custom designed for various sump depths up to 10 meters.

vacuum residue

The highly viscous fractionated atmospheric residue is transported from the atmospheric distillation tower (ADU) to the Vacuum Distillation tower (VDU). Due to very low pressure, heavy materials are vaporized at temperatures under cracking conditions. High amount of light and middle fractions of gas oils, fuel oils and a residue (Vacuum Bottoms) are removed from the fluid, resulting in increase in viscosity of Vacuum residue feedstock. A twin screw pump is used at this location.

Roto Twin Screw Pumps can handle the highly viscous residual fluid even at the elevated process temperatures and are capable of dealing with low NPSH conditions due to the high vapor pressure of the process stream.

material of construction

Material of Construction can vary from carbon steel to exotic materials like Duplex, Super Duplex, and Inconel etc. These pumps are fitted with mechanical seals as per API 682 with customized API seal support system as per the specifications. The coupling between the drive motor & pumps are conforming to API 610/671/AGMA 9001.