
innovative
efficient
reliable
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reliable

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***

IndianOil | HP | Oil India Limited | Bharat Petroleum | ONGC | Reliance Industries Limited | Cairn | GASCO | TAKREER | ADNOC | ADGAS | Qatar Petroleum | PETRONAS | EGPC

*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
Oily 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 KO 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
Slop oil
Sludge transfer
Oily water treatment

Distribution

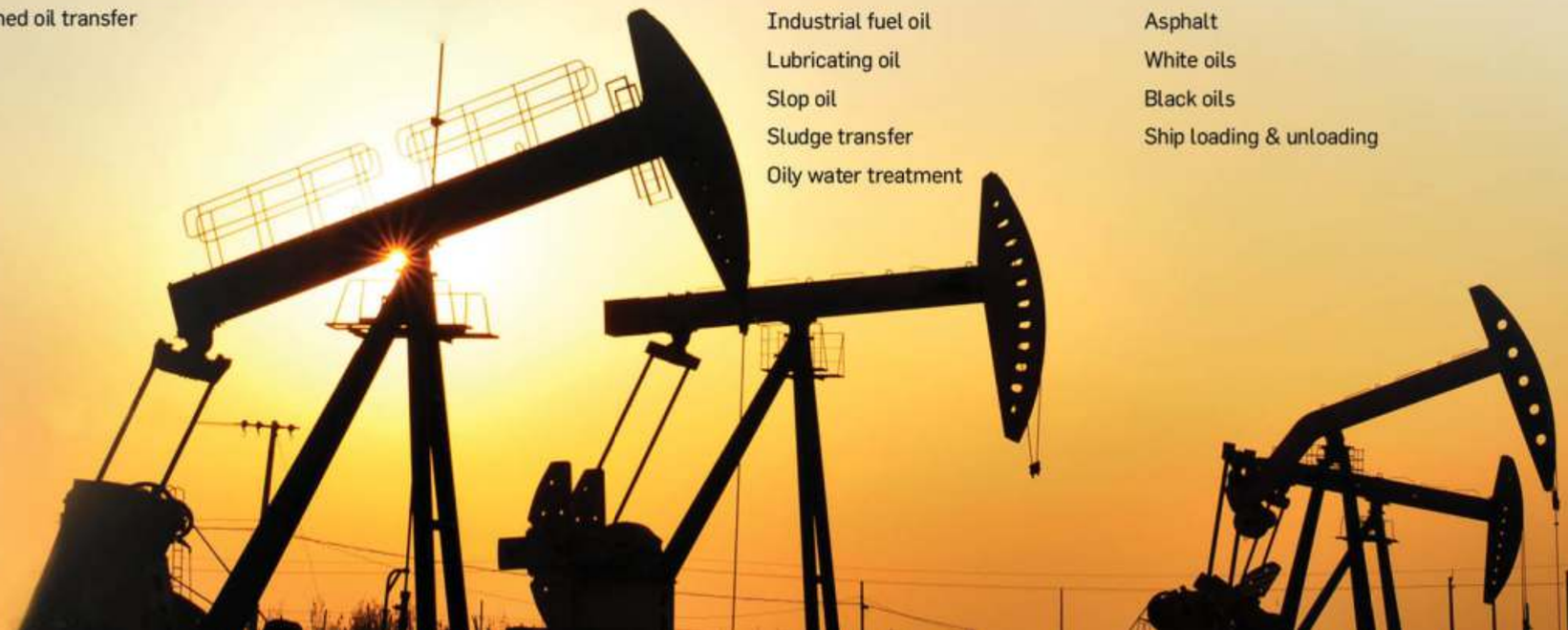
Storage & Distribution

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

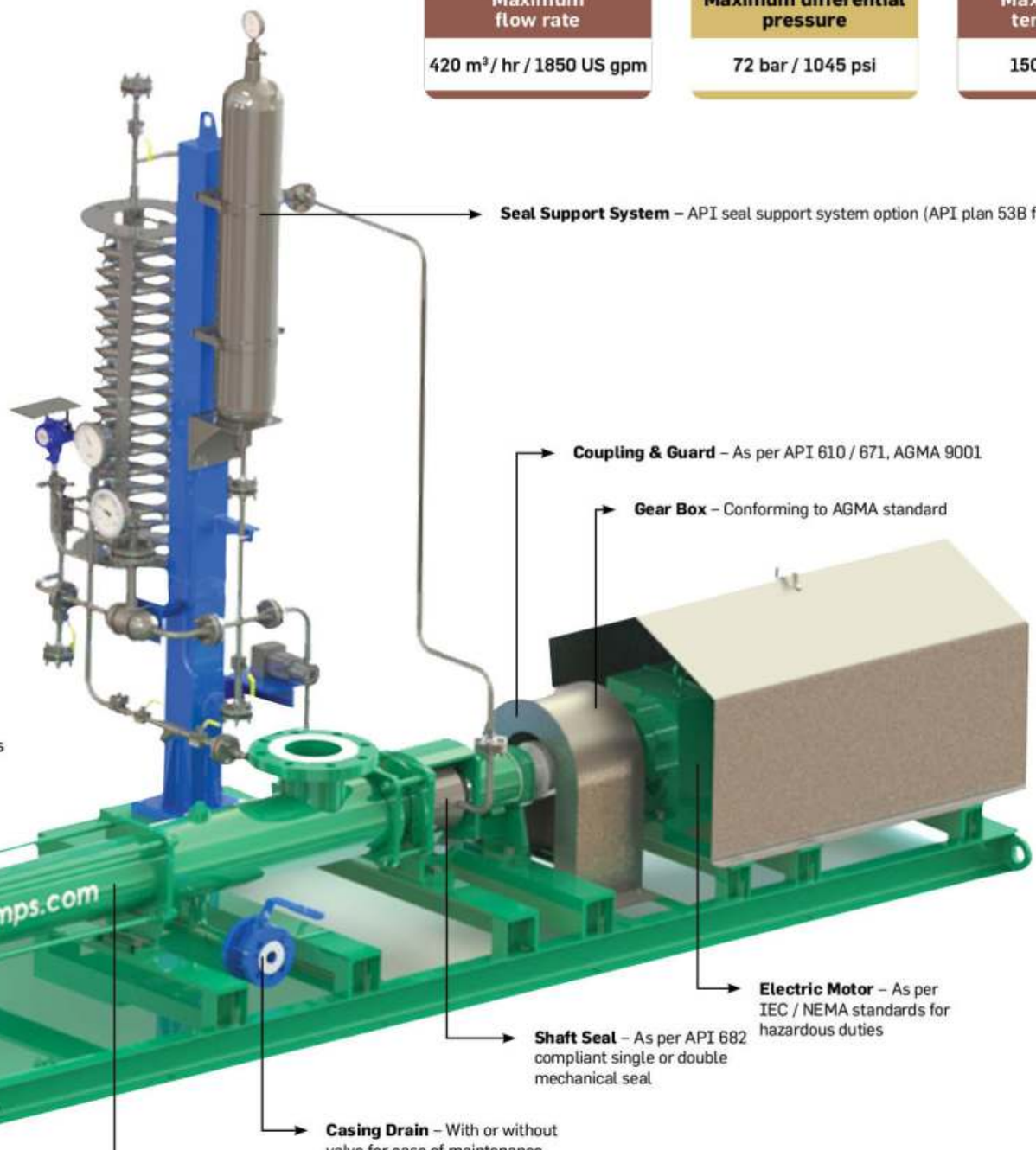
Low internal velocity: Ensures minimum degradation of shear-sensitive media

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

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

performance **summary**

Maximum flow rate	Maximum differential pressure	Maximum fluid temperature
420 m³ / hr / 1850 US gpm	72 bar / 1045 psi	150 °C / 302 °F



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

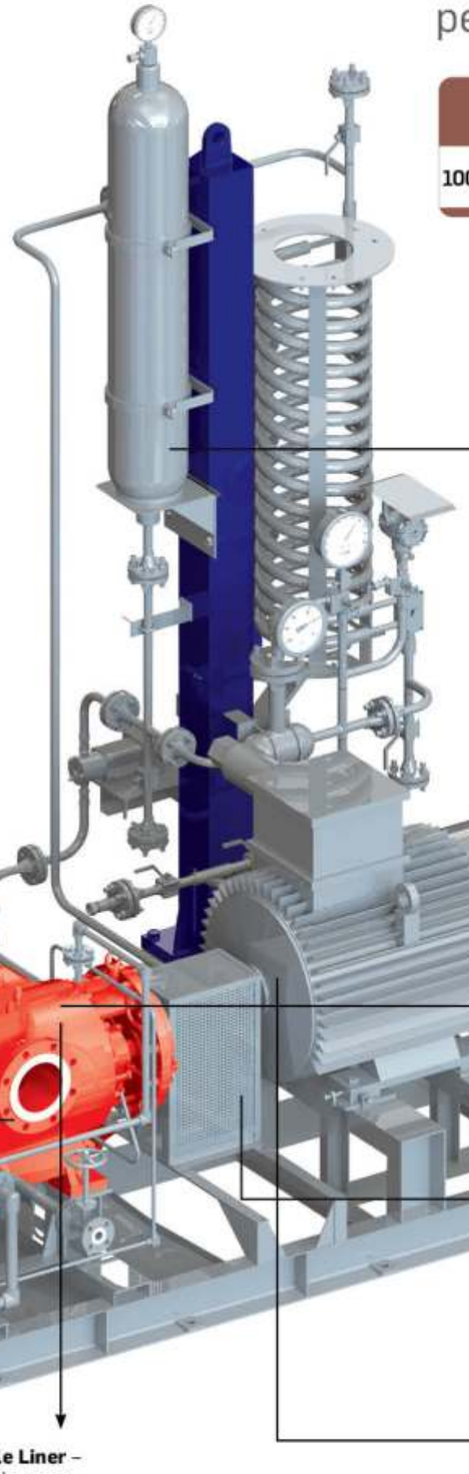
Self-priming and capable of handling entrapped air / vapour / gas: Due to positive displacement action and being inherently self-priming

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



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

Connections – ANSI / ASME B16.5 flange connections suitable for API

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

Baseplate – Welded steel construction with drain connection and lifting arrangement

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

Replaceable Liner – Renewable liners are standard feature

performance **summary**

Maximum flow rate	Maximum differential pressure	Maximum fluid temperature
1000 m^3 / hr / 4402 US gpm	40 bar / 580 psi	150 °C / 662 °F

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.



Closed Drain Vessel Pumping Oil & Water at Group Gathering Station

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.



Pumping Vacuum Residue at Refinery