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PT. ROTARINDO UTTAMA MAKMUR

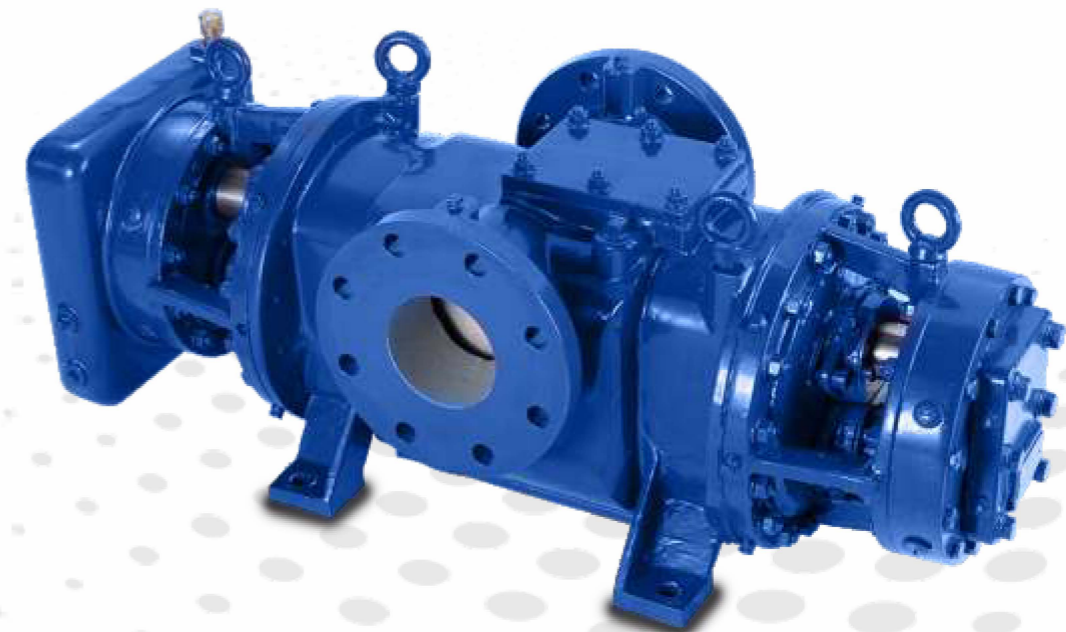
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Roto
pumps[®]
since 1968 >>>

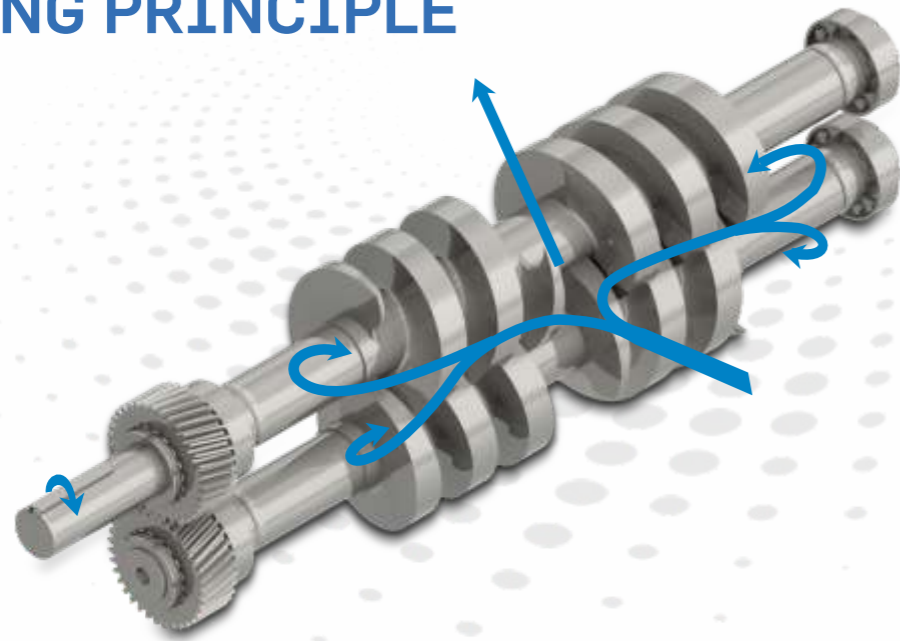
TWIN SCREW PUMP RANGE



FIT & FORGET PUMPS



PUMPING PRINCIPLE



The pumping element comprises of two intermeshing screws rotating within a stationary housing. The pumping elements are supported by the bearings. The clearances between the screws are maintained by a pair of timing gears. Intermeshing rotating screws in the pump casing and liner form transfer chambers, that transfer the fluid axially from the extreme ends to the center of the casing or vice-versa, depending upon the direction of rotation of the screw spindles.

SALIENT CHARACTERISTICS

Long & Trouble-Free Service Life

Can even run dry for limited period of time due to absence of metal to metal contact between the pumping elements.

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-R.

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 is developed independent of speed and capacity, and is approximately proportional to speed.

Capable of Handling a Huge Variety of Fluids

Lubricating/non-lubricating as well as aggressive liquids can be handled due to choice of different designs and material of construction.

Safe to Operate

Has in-built relief valve designed to bypass.

API 676

Wider conformity to API 676, 3rd edition.

INDUSTRIES WE SERVE



Oil and Gas
(Upstream to Downstream)



Defence, Marine & Offshore



Chemical & Fertilizer



Paint, Ink & Varnish



Edible oil



Power & Steel

INDUSTRIAL FLUIDS

- ▶ Lube Oil
- ▶ Hydraulic Oil
- ▶ Diesel Oil
- ▶ Thermal Oil
- ▶ Black/White Oils
- ▶ Slop Oil
- ▶ Base Oil
- ▶ Crude Oil
- ▶ Recycled Oil
- ▶ Waste Oil
- ▶ Turbine Oil
- ▶ Furnace Oil
- ▶ LDO & HSD
- ▶ Avcat Fuel
- ▶ Condensates
- ▶ Tar
- ▶ Asphalt
- ▶ Bitumen
- ▶ Vacuum Residue
- ▶ Naphtha
- ▶ LSHS
- ▶ Hydrocarbons
- ▶ Mazut
- ▶ Phenol
- ▶ Benzene
- ▶ Toluene
- ▶ Additives & Adhesives
- ▶ Paint & Varnish
- ▶ Resins & Solvents
- ▶ Glues & Binders
- ▶ Emulsion
- ▶ Glycerine
- ▶ Glycol
- ▶ Acids
- ▶ Alkalis
- ▶ Paraffin
- ▶ Polybutadiene
- ▶ Polyisoprene
- ▶ Styrene
- ▶ Liquid Sulphur
- ▶ Xylene
- ▶ Aniline
- ▶ Polyethylene
- ▶ Polymers
- ▶ Raw & Clean Chemicals
- ▶ Polymeric Suspensions
- ▶ Bleaching Agents
- ▶ Vegetable Oils
- ▶ Palm Oils
- ▶ Mineral Oils
- ▶ Pine Oil
- ▶ Molasses
- ▶ Lecithin
- ▶ Viscose & Flakes
- ▶ Paper Pulp
- ▶ Black Liquor
- ▶ Brine
- ▶ Seawater
- ▶ Bilge

ENGINEERED FOR HIGH PERFORMANCE

① Built in Safety Relief Valve

- Prevents excessive pressure to built up in the system.

② Robust Pump Housing

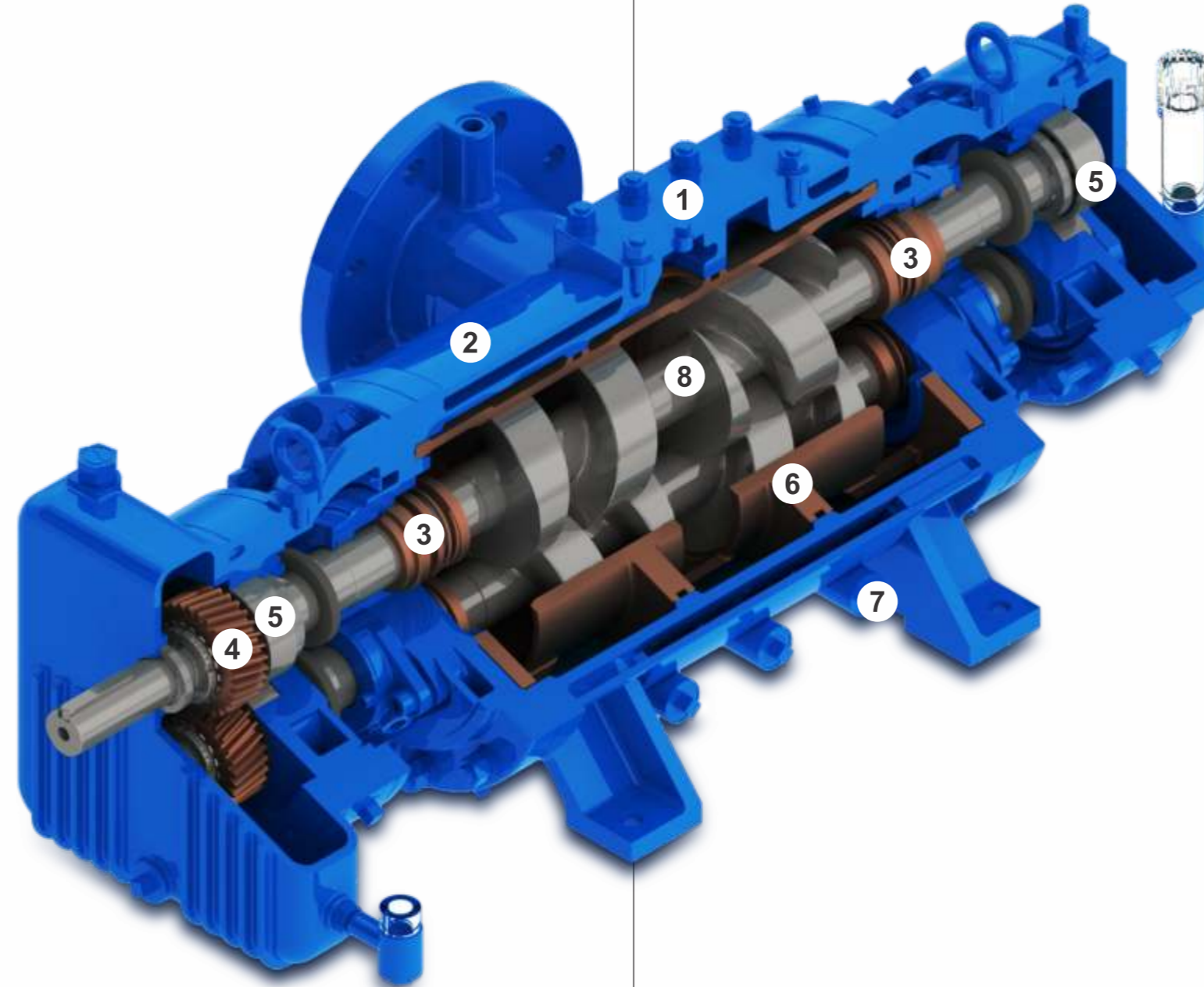
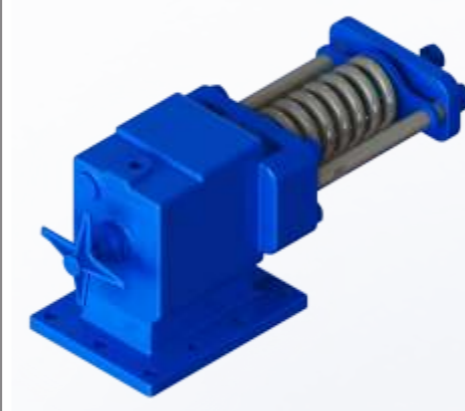
- Suction flange & the casing offers minimum resistance to the flow of liquid.
- Casings are designed to take care of the flange loads.
- Suction pump casings are foot mounted and non-jacketed.
- Options available for centre line mounting, sump heating and steam jacketing.
- Available in casted and fabricated options.

③ Shaft Sealing

- Various shaft sealing options available such as Gland Packing, Cartridge Seals, Single Mechanical Seals & Double Mechanical Seals.
- API 682 mechanical seal can be fitted.
- Various flushing and quenching plans as per API 682 are feasible.

④ Timing Gear

- Hardened steel helical gears at the drive end transmits torque evenly.
- Capable of transmitting higher torques.
- Extremely low noise and vibration due to double helical gears.
- Capable of maintaining the clearances between the two screws.



⑤ Spherical Roller Bearing

- Well suited for radial and axial loads arising out of hydraulic pressures.
- Can take care of the misalignment arising due to unforeseen working conditions at the site.
- Option available for monitoring of bearing temperature.

⑥ Replaceable Liner

- Standard features for non-cast iron pumps.
- Extended pump service life & maintenance cost.

⑦ Heating & Cooling

- Steam jacketed pumps come with bearing and gearbox cooling and as standard.
- Electrical or steam tracing options are feasible.
- Auxiliary piping options available for carrying steam and cooling water.

⑧ Screw Profiles

- Vertically aligned screws with a unique double profile of screw flanks make this pump compact.
- Can run the pump dry for a brief period.
- Various pitch sizes are available to suit application requirements.
- Offer optimized flow rates with high volumetric and mechanical efficiencies.
- Suitable for high-pressure applications.
- Integral screw with shaft eliminates assembly failure.



Roto pumps

PT. ROTARINDO UTTAMA MAKMUR

since 1968

PUMP RANGE

Flow Rate: Up to 1000 m³/hr / 4402 gpm

Pressure: Up to 40 bar / 580 psi

Viscosity: up to 100,000 cSt

Temperature: Up to 350^oc/662^of

Horizontal External Bearing Pumps

Roto twin screw pumps are capable of handling non-lubricating as well as aggressive fluids.

These external bearing pumps are available with or without replaceable liner, in-line suction & delivery ports. The bearings are separately lubricated. These pumps can be supplied with in built safety relief valve. Shaft seals in gland packing or mechanical seals are available. Mechanical seal options are single, dual, cartridge or API 682 compliance. Pumps with Sump Heating, Steam Jacketing, Electrical or Steam Tracing, Bearing and Gear Box Cooling options are available.

Short Shaft Pump



Long Shaft Pump



Long Shaft Steam Jacketted Pump

Horizontal Internal Bearing Pumps



Roto twin screw pumps are capable of handling lubricating fluids.

These internal bearing pumps are available with or without replaceable liner, in-line suction & delivery ports. The bearings and the timing gears are lubricated by the pumping liquid itself. These pumps can be supplied with in built safety relief valve. Shaft seals in gland packing or mechanical seals are available. Mechanical seal options are single, dual, cartridge or API 682 compliance. Pumps with Sump heating design are also available.

Vertical Twin Screw Pump

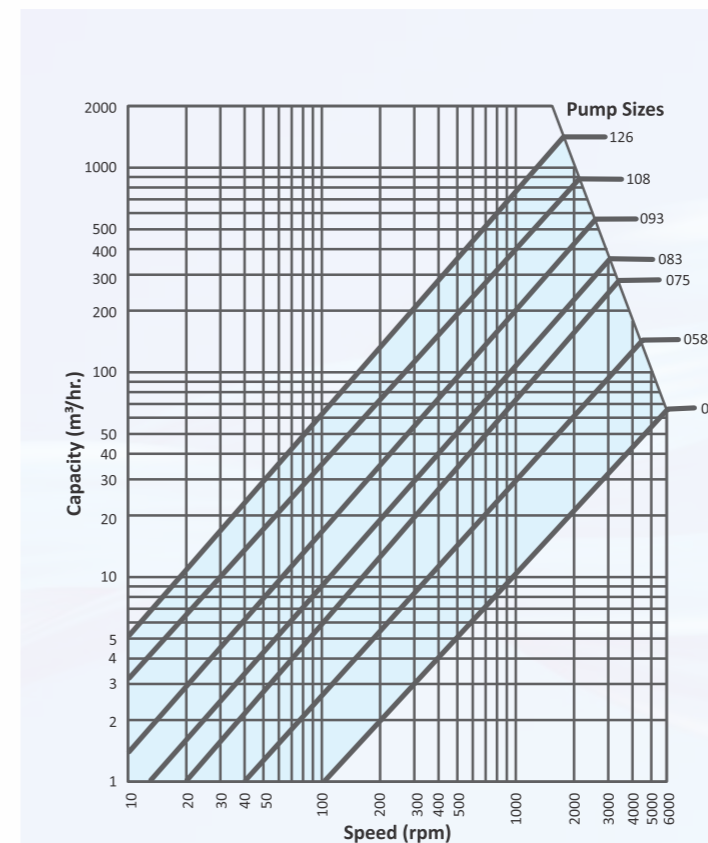
Twin Screw Pump in vertical execution for handling viscous oils and similar fluids are available in fabricated steel as a standard.

These pumps can be supplied with an renewable liner, inbuilt safety relief valve for 100% bypass and Shaft sealing by Gland Packing or mechanical Seal.

Internal bearing or External bearing options are available.



THEORETICAL PERFORMANCE CURVE



Material of Construction

Housing Components: Cast Iron, Cast Steel, Cast Stainless Steel

Liner: Cast Iron, Cast Stainless Steel

Screws: Alloy Steel, Nitrided Steel & Stainless Steel

Timing Gears: EN 36/EN 24

Gear Box: Cast Iron, Aluminium

Special Execution : In addition to the material of construction listed above, Roto Twin Screw Pumps can also be supplied with pump body in welded steel construction along with renewable liners of suitable material. For abrasive and/or corrosive applications, the screw and the pump body can be supplied with special coating for better wear and corrosion resistance. Roto Twin Screw pumps are also available in exotic alloys such as Duplex and Super Duplex.

Roto also undertakes skid mounted pumping systems complete with piping and instrumentation.

KEY INSTALLATIONS



Transferring Aviation Fuel



Transferring Lube Oil



Transferring Kerosene Oil



Transferring Crude Oil