



**PATH BREAKING  
PUMPING SOLUTIONS  
FOR THE MARINE INDUSTRY**





## ADVANCED PUMPING SOLUTIONS FOR MARINE INDUSTRY

Roto has emerged as a reliable and trustworthy supplier of pumps in marine Industry. Roto pumps are operating on many vessels across the globe in various marine applications. Roto offers tremendous benefits to Shipyards, Owners and OEMs with its engineering know how which has enabled them to meet the competitive scenario and ever changing marine requirements.

### CERTIFICATIONS & AFFILIATIONS

#### CLASS SOCIETIES

Roto is capable of meeting various class requirements as specified for the Ship from various agencies, such as LRS (Lloyds Register of Shipping), DNV (Det Norske Veritas), GL (Germanischer Lloyd), BV (Bureau Veritas), ABS (American Bureau of Shipping), IRS (Indian Register of Shipping), RINA (Registro Italiano Navale), ClassNK (Nippon Kaiji Kyokai), etc.



#### INTERNATIONAL QUALITY

Roto Pumps is a leading positive displacement pump manufacturer with over 45 years of experience of designing, manufacturing, testing, supplying of pumps and parts. Continuous investments in in-house manufacturing facilities for critical components ensure 100% control over quality and customer satisfaction. Roto Pumps manufacturing units are certified for conformance with the ISO 9001-2008 Quality Surveillance Systems. All the Roto products are in compliance to CE Directives and can also offer products with ATEX Compliance.

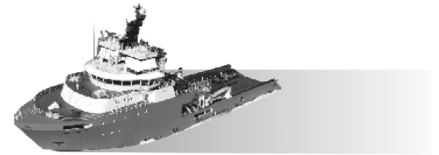


#### NAVY & COAST GUARD

Roto has acquired in depth knowledge of Naval pumping applications, specifications and applicable standards. Roto products meet the stringent requirements pertaining to shock, vibrations, noise, space, weight and non-magnetic executions.

Roto is well placed to deliver products with high quality and reliability to shipyards and defense contractors for various Naval Authorities and Coast Guards.

Pumps are manufactured and tested to following NATO standards such as MIL STD 167 1 (Mechanical Vibrations), MIL STD 740 1 (Airborne Sound), MIL STD 740 2 (Structure Borne Vibrations), MIL S 901 D (Shock Test), Amagnetic Executions, etc.



## PROGRESSIVE CAVITY PUMPS

Roto's Progressive Cavity Pumps are designed for continuous and intermittent duties and are suitable to perform efficiently even for the most difficult fluid handling applications in the Marine industry. These pumps are compact and are designed for small to very large capacities and pressures. Roto also offers pump with equal walled stators which are very compact as they are capable of generating 12 bar pressure per stage.

These pumps are available in close coupled as well as in conventional bare shaft designs. The pumps are provided with thermal dry running protection device as an option. The pumps are available in horizontal as well as vertical execution with electric or hydraulic drive.



RE SERIES



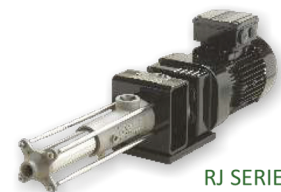
RD/RM/RE SERIES



MC SERIES



DC SERIES



RJ SERIES

### PERFORMANCE DATA

Capacities	: Upto 420 M <sup>3</sup> /hr (1850 GPM)
Pressures	: Upto 48 Bar (696 PSI)
Temperature	: Upto 150°C (302° F)
Viscosity	: Upto 30,000 cSt

### MATERIAL OF CONSTRUCTION

Housing Components	: Cast Iron, Cast Steel, Cast Stainless Steel, Fabricated Steel and Stainless Steel
Stator	: Natural, Nitrile (Perbunan), High Nitrile, EPDM, Chloro-Sulphonated, Fluoroelastomer
Rotor	: Case Hardened Steel, Alloy Steel HCP, Stainless Steel UP/HCP
Coupling Rod	: Alloy Steel, Stainless Steel
Shaft	: Alloy Steel HCP, Stainless Steel UP/HCP, Shaft Sleeve Optional
Special Material	: Other Exotic options including Alloy 20, Hastelloy, Duplex, Super Duplex, Bronze

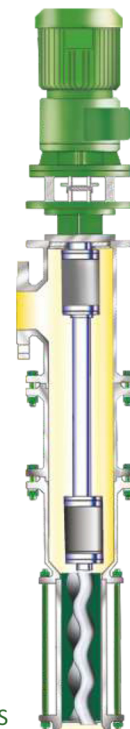
### APPLICATIONS

#### Engine Room Pumping

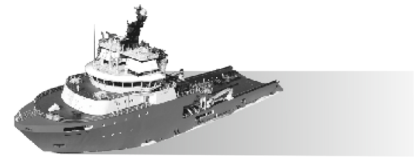
Bilge  
Black & Grey Water  
Dirty Oil  
Oily Bilge  
Sewage  
Sludg

#### Cargo Pumping

Brine  
Mud  
ORO (Offshore Recovered Oil)

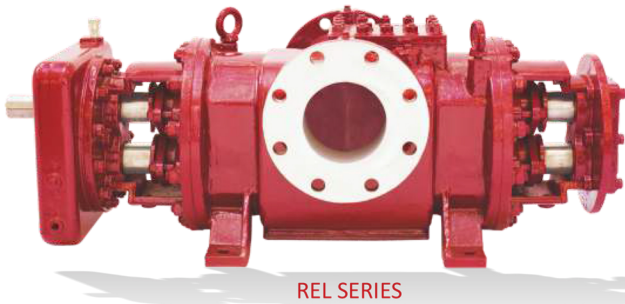


VM SERIES

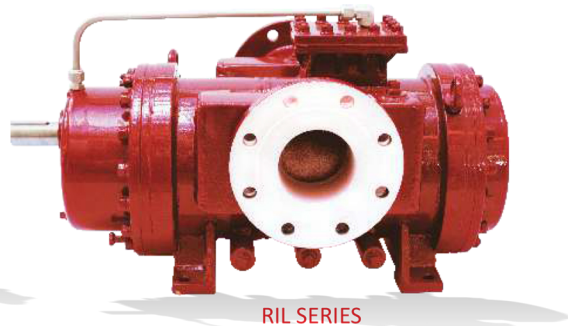


## TWIN SCREW PUMPS

Roto's Twin Screw Pumps are available with and without renewable liners and are having in line suction and discharge branches. These pumps can be configured both in internal and external bearing designs to suit liquid characteristics with the options for sump heating. External bearing pumps can be completely steam jacketed or made suitable for steam / electric tracing. Twin Screw Pumps are available in both horizontal and vertical executions. All pumps are conforming to ATEX directives. These Pumps are available with gland packing or mechanical seal. They are offered with built-in safety relief valve which are designed for 100% bypass.



REL SERIES



RIL SERIES

### PERFORMANCE DATA

Capacities	: upto 941 M <sup>3</sup> /hr (4143 GPM)
Pressures	: upto 40 Bar (580 PSI)
Temperature	: upto 350°C (662° F)
Viscosity	: upto 100,000 cSt



RSL SERIES

### MATERIAL OF CONSTRUCTION

Housing Components	: Cast Iron, Cast Steel, Cast Stainless Steel
Liner	: Cast Iron, Cast Stainless Steel, Bronze
Screws	: Alloy Steel, Nitrided Steel & Stainless Steel
Timing Gears	: EN36 / EN 24
Gear Box	: Cast Iron, Aluminium

### APPLICATIONS

#### Engine Room Pumping

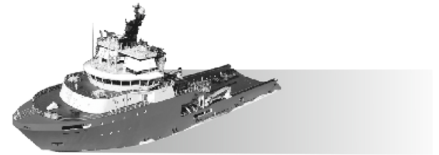
Heavy Fuel Oil  
Hydraulic Oil  
Main Engine Lube Oil  
Marine Diesel Oil

#### Cargo Pumping

AVCAT Fuel      Glycol  
Asphalt          Lubricating Oil  
Ballast Water    Methanol  
Bilge              Molasses  
Bitumen          Pitch  
Cargo Water     Stripping  
Chemicals        Thermal Oil  
Fuel Oil          Vegetable Oil



VEL SERIES



## ACCESSORIES

### DRY RUNNING PROTECTION DEVICE FOR PROGRESSIVE CAVITY PUMPS

Dry running occurs due to absence of liquid between rotor and stator. Due to this abnormal heat is generated resulting in capsizing of rotor. This causes immediate damage to the stator and can lead to damage of other vital components. PT-100 RTD is installed in the stator. This sensor continuously measures the stator temperature and trips the pump during dry running.



PT-100 RTD

### LEVEL SWITCH

Vibrating fork type universal level switch is independent of the mounting position it detects reliably with millimeter accuracy level. The instrument can be used in vessels as empty or full detector, as approved overflow protection, dry run protection or pump protection. The position of the switching point is determined through the tube extension. This offers high reliability and security in a wide application range.



### GUAGES AND TRANSMITTERS

Diaphragm type pressure gauge & transmitter is ideal for fluids which are viscous or containing solid particles. The Diaphragm is directly welded and there are no cavities or hidden ports where the process fluid can enter and clog the systems. Transmitters are meant for remote reading and are available for both safe and hazardous area.

#### Other available Guages & Transmitters :

- Pressure Guages • Vacuum Guages • Temperature Guages • Differential Pressure Guages
- Transmitters • Absolute Pressure Guages • Electrical Temperature Guages, etc.



### BULK HEAD PENETRATION

The shaft transmissions can be mounted horizontally & vertically at the bulk head or the deck. It is Independent of direction of the rotation and is gas tight. The torque transmission from the motor on to the pump occurs through the installation of rotating flexible coupling.



## THE PREFERRED CHOICE OF OEM'S

Roto provides complete pumping solutions including detailed engineering, customization and technical support to various marine OEM's for ensuring successful performance of their equipments.



Roto Pump feeding oily water on OWS



Roto Pump feeding dirty oil for incineration



## PUMP PACKAGES

Roto designs pumps and custom build pump packages to fit your marine duty applications. Our pump basket includes Fire Pumps (Ship Board use and Special Monitor Pumps), Bilge and Ballast Pumps, Fuel Oil Transfer Pumps, Lube Oil Pumps, Potable Water Pressure Sets, Sewage Transfer Pumps, Cooling Water Pumps, De-watering Pumps, Cargo Transfer Pumps, Oil, Water, Fuel.

## GEAR PUMPS

Capacities	: upto 200 M <sup>3</sup> /hr (880 GPM)
Pressures	: upto 11Bar (160 PSI)
Temperature	: upto 110°C (230° F)
Viscosity	: upto 100,000 cSt

### MATERIAL OF CONSTRUCTION

Housing Components	: Iron, Steel, Stainless Steel, High Alloys
Gears	: Hardened Steel, Stainless Steel
Bushing	: Carbon, Bronze
Shaft Seal	: Packing, Lip Seal, Mechanical Seal



## TRIPLE SCREW PUMPS

Capacities	: upto 170 M <sup>3</sup> /hr (748 GPM)
Pressures	: upto 40 Bar (580 PSI)
Temperature	: upto 125°C (257° F)
Viscosity	: upto 100,000 cSt

### MATERIAL OF CONSTRUCTION

Housing	: Cast Iron, Cast Steel
Liner	: Cast Iron, Bronze
Screws	: Hardened Steel
Shaft Seal	: Mechanical Seal



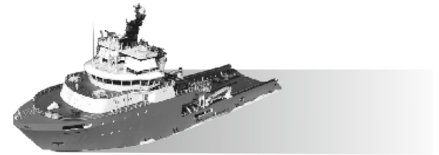
## EJECTORS

Ejectors are meant to create a vacuum in the system which enables stripping conditions

### MATERIAL OF CONSTRUCTION

Body	: Bronze
Nozzle	: Stainless Steel





## CENTRIFUGAL PUMPS

### END SUCTION CENTRIFUGAL PUMPS



Capacities : upto 3500 M<sup>3</sup>/hr (15,410 GPM)  
 Pressures : upto 11 Bar (160 PSI)  
 Temperature : upto 110°C (230° F)

### MULTIPUMP UNIT BOOSTER



Capacities : upto 240 M<sup>3</sup>/hr (1056 GPM)  
 Pressures : upto 8 Bar (116 PSI)  
 Temperature : upto 110°C (230° F)

### PUMP WITH SELF PRIMING UNIT



Capacities : 500 M<sup>3</sup>/hr (2201 GPM)  
 Pressures : upto 10 Bar (145 PSI)  
 Temperature : upto 110°C (230° F)

### VERTICAL STAINLESS STEEL PUMP



Capacities : 110 M<sup>3</sup>/hr (484 GPM)  
 Pressures : upto 17 Bar (246 PSI)  
 Temperature : upto 110°C (230° F)

### VERTICAL SPLIT CASE DOUBLE SUCTION PUMP



Capacities : 3500 M<sup>3</sup>/hr (15,410 GPM)  
 Pressures : upto 20 Bar (290 PSI)  
 Temperature : upto 110°C (230° F)

### MONO-BLOCK PUMP



Capacities : 450 M<sup>3</sup>/hr (1981 GPM)  
 Pressures : upto 10 Bar (145 PSI)  
 Temperature : upto 110°C (230° F)

### MATERIAL OF CONSTRUCTION

Volute Casing & Discharge Cover : Carbon Steel, Stainless Steel or Bronze  
 Impeller : Stainless Steel or Bronze Cast  
 Wear Ring : Optional Stainless Steel or Bronze Cast  
 Pump Shaft : Cr. Steel or Stainless Steel  
 Plug-in Coupling : Ductile Iron Motor  
 Adapter : Grey Cast Iron (optional Stainless Steel or Bronze Cast)  
 Mechanical seal : Mechanical Seal and other types of Mechanical Seals

## AFTER SALES SUPPORT

Roto Pumps are designed for high performances. In any unforeseen event should your Roto Pump need a repair, our qualified service engineers will ensure your service and maintenance requirements are met promptly. We have a healthy inventory of spares of all our pumps with our well spread distributor and dealer network. This minimises your downtime. We can also organise an on-site visit by Roto Service Engineers, would any need arise.



Corporate Office & Export Warehouse



Roto Manufacturing Plant



Manchester Office & Warehouse



Melbourne Office & Warehouse



## ROTO PUMPS LTD.

### Marketing Head Office

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Subsidiaries and JVs  
Germany • Singapore • South Africa • USA

[www.rotopumps.com](http://www.rotopumps.com)

### Infrastructure

Roto has strong roots in manufacturing engineering and has over the years been able to develop efficient manufacturing processes both in the field of metal cutting and rubber processing.

The present manufacturing infrastructure comprises of a facility spread over 20,000 sq.mt and deploys all modern machine tools. It has created multiple assembly sections in terms of pump sizes to meet the growing demand for its products.

The testing infrastructure comprises of both water and oil test bed facilities. The testing facility is equipped to comply with VDMA and API 676 standard. The facility can test pumps with capacity upto 1000 m<sup>3</sup>/hr and has power available upto 500KW.

### Marketing & Distribution Network

Roto has rich experience of 45 years of moving fluids positively; this caption has been realized by Roto not only in words but also in spirits. Customer Satisfaction has been one of the strongest ideologies at Roto.

While Roto enjoys a market leadership position in India, it has also been able to establish its overseas marketing offices and warehouses in Australia and United Kingdom to cater to the large European Market. It has also established prominent distributors all over Europe, Middle East, South East, Far East and North & South America.

### Quality Certifications and Registrations

Roto is known for conducting its business with integrity; for delivering high-quality pumps on time and within budget; and for our unwavering commitment to safety, health, and the environment. Our identity is derived from our people, processes and technology.

Roto's manufacturing units are certified for conformance to the ISO 9001-2008 quality surveillance systems. More recently, we have been accredited with ATEX Certifications. We are also in the process upgrading to ISO 14001 and OHSAS 18001 (Occupation Health and Safety Environment)

### Research and Development

Roto enjoys the legacy of being amongst the leading Progressive Cavity Pump manufacturers and processes deep & sound designing capabilities, which has been developed over the last 4.5 decades. R & D activity within Roto has led to the launch of numerous new products with some of the most distinguished features, high degree of reliability & immaculate product performance.

Roto has a battery of licenses of 3D designing software such as solid works and also deploys advanced software for flow analysis, mechanical strength and cost optimisation.