

# ROTAMAC

## ROTAMAC RSP , RSPU Self-Priming, Solids-Handling Trash Pumps

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## The ROTAMAC RSP and RSPU Superior Solid Handling and Easy to Maintain

Designed for economical, trouble-free operation, the superior solids handling capabilities of the RSP and RSPU Series pumps make them ideally suited for a variety of applications.

The large volute design allows automatic repriming without the need for suction or discharge check valves. Available in discharge sizes of two, three, four, six, eight, ten and twelve inches, this line of self-priming pumps boasts capacities to 1280 cubic meter per hour and heads to 62 meters for higher head applications. RSP pumps four inch and larger are engineered to allow up to three inch diameter spherical solids to pass through any critical area.

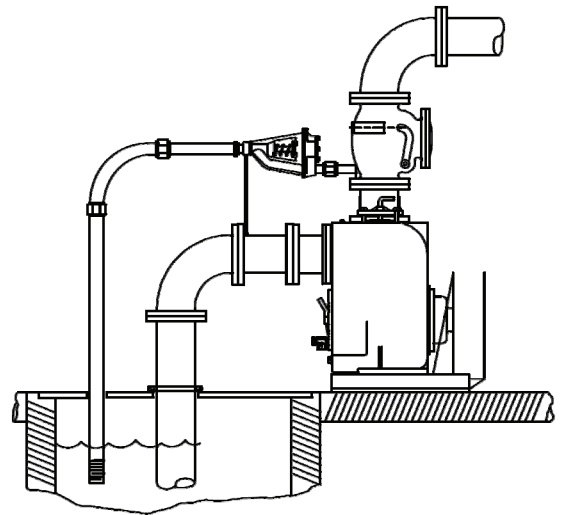
All are designed with ease of service in mind. Because they are self-priming, they can be mounted above the liquid being pumped, with only the suction line down in the liquid, maximum suction lift up to 7.6 m, depending on pump model and pump speed.

Should service or maintenance be required, it can be easily performed using common hand tools without disconnecting piping. The impeller, seal, wear plate and flap valve can all be accessed through the coverplate opening for inspection or service. If a clog does occur, it can be eliminated quickly and easily by opening the cover plate, removing the clog, and returning the pump to normal operation, all in just a few minutes' time.

All pumps can be coupled to a standard IEC or NEMA motor, which means there's no waiting for special motors.



Example of use : Self-priming pump, discharge sizes three inches in stainless steel 304 material for wastewater.  
Rated point 70 m<sup>3</sup>/h - 20 m - 1800 rpm - 11 kW



### ADVANTAGES

- Two-vane and semi-open solids handling.
- Pump out vanes on impeller shroud reduce foreign material build-up behind impeller and reduce pressure on seal and bearings.
- Removable cover plate provides quick and easy access to pump interior without disconnecting piping.
- Exclusive floating, self-aligning, oil lubricated mechanical
- Available in a variety of materials for corrosives applications.

### WORKING CONDITION

- Pumping temperature up to 70 deg C
- Maximum permissible pressure: up to 5 barG for standard version, RSP and up to 8 bar G for higher head applications, RSPU
- Flow rate: 8 to 1250 m<sup>3</sup>/h
- TDH: 4 to 62 m
- Frequency 50/60 Hz

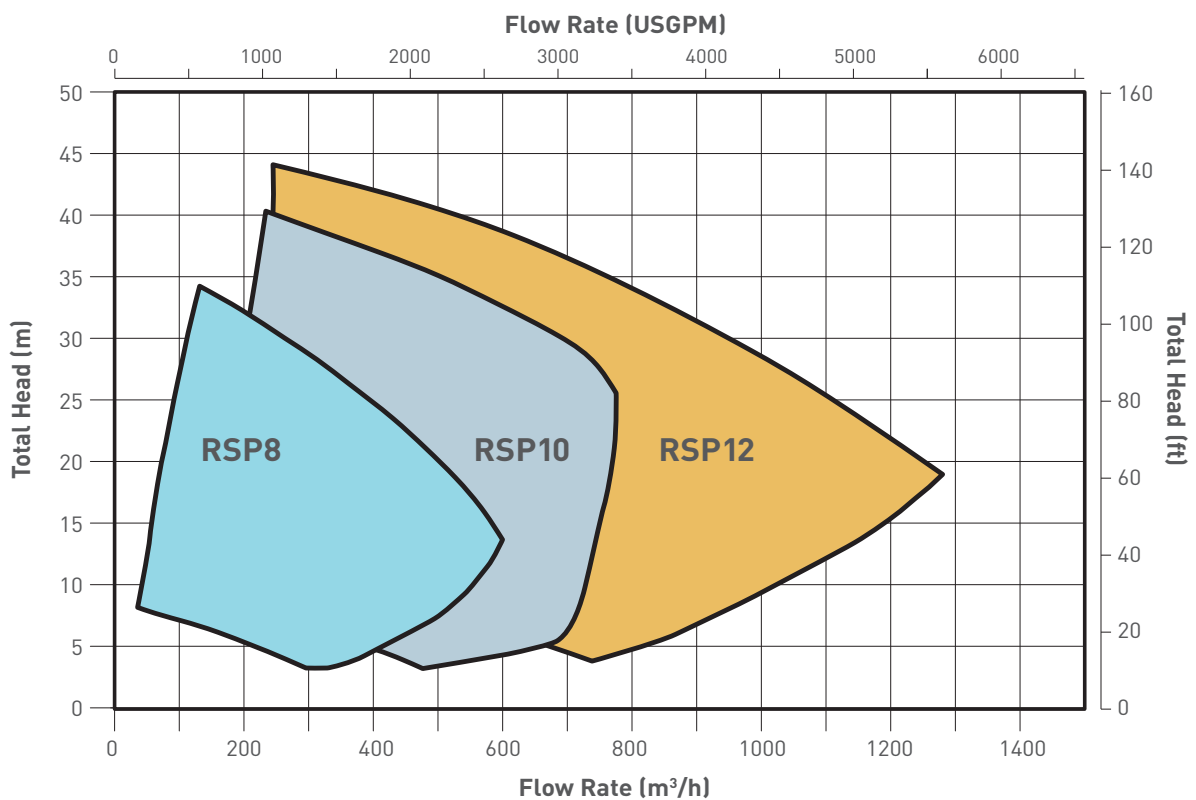
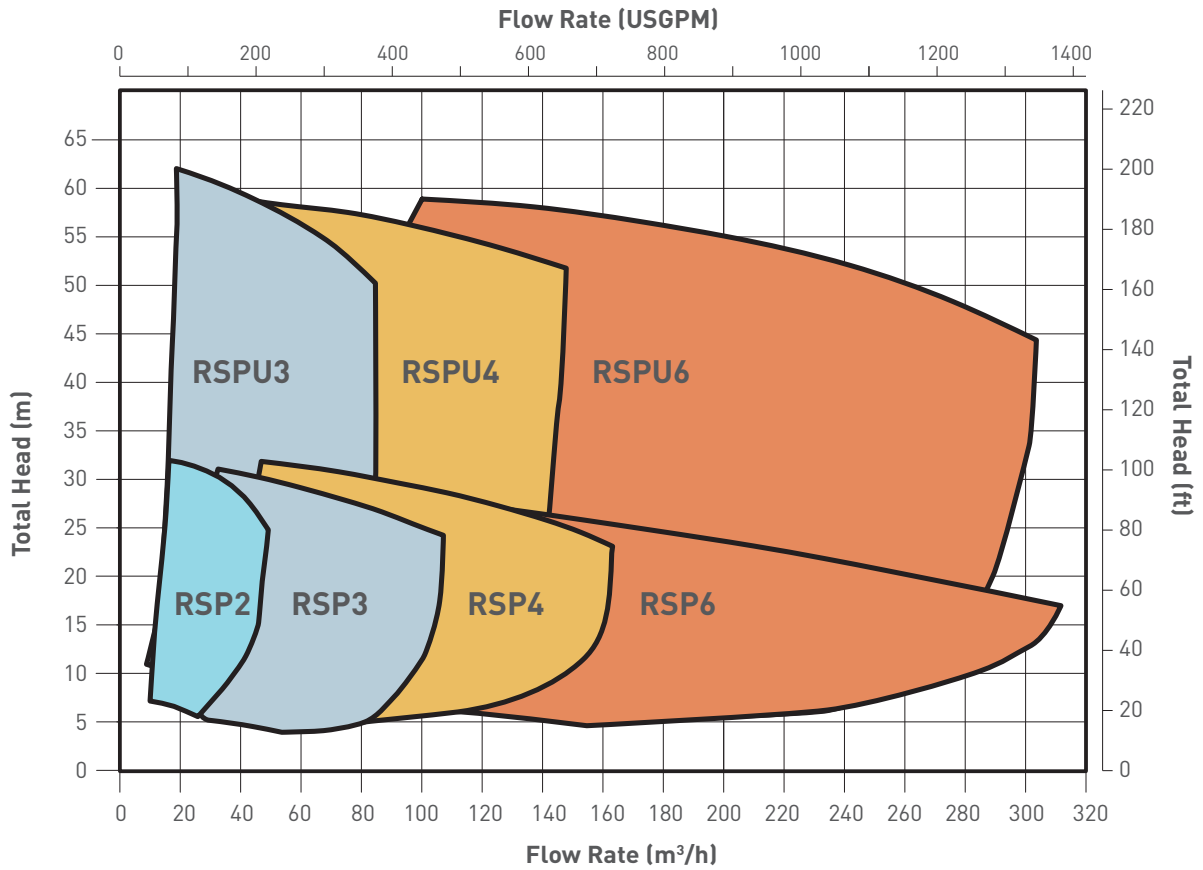
### MATERIAL AND CONSTRUCTION

- Pump casing & impeller: cast iron, ductile iron, 304 / 316 / duplex stainless steel, hastelloy C276
- Shaft: high tensile steel, 304 / 316 stainless steel, depend on casing material
- Shaft seal: floating, self-aligning ,single mechanical seal, 316 stainless steel sleeve
- O-ring: nitrile (Buna, NBR) or FKM

# RSP and RSPU Series, Self-Priming Pumps

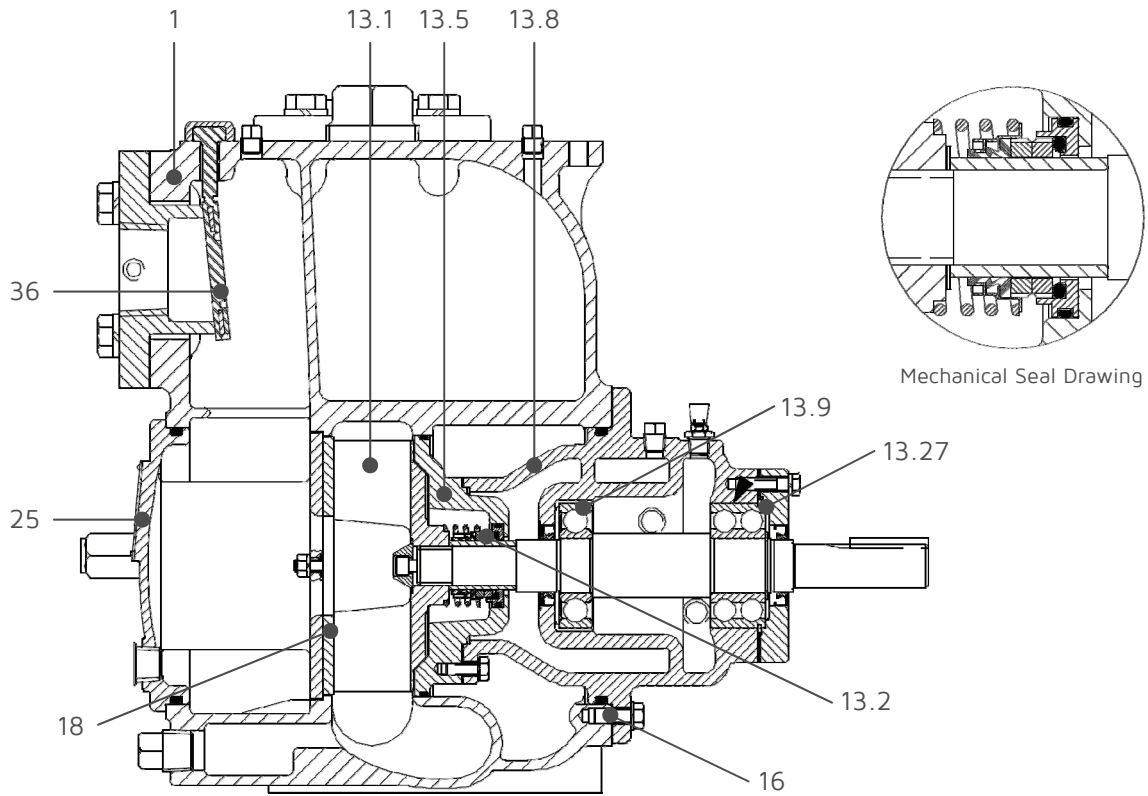
## Selection Charts

Curves on this page are for guidance only.  
Refer to the performance curves on each model.



## PUMP SECTIONAL DRAWING AND PARTS LIST

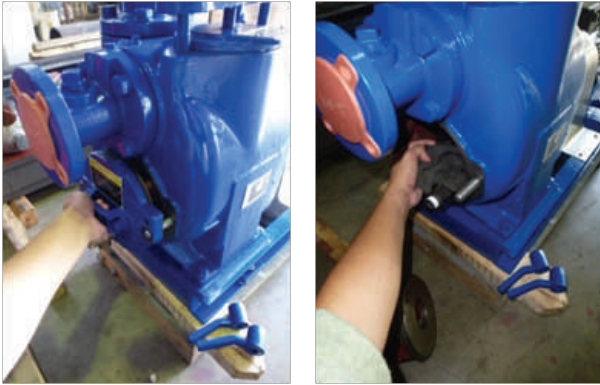
Pump construction is a little different depending on size



Item no.	Part name	Materials / Construction
1	Casing	cast iron, ductile iron, 304 / 316 / duplex stainless steel, hastelloy C276
13.1	Impeller	ductile iron, carbon steel, 304 / 316 / duplex stainless steel, hastelloy C276
13.2	Seal assembly	floating, self-aligning, single mechanical seal with stationary and rotating face of silicon carbide or tungsten titanium carbide
13.5	Seal plate	ductile iron, carbon steel, 304 / 316 / duplex stainless steel, hastelloy C276
13.8	Bearing housing	cast iron, ductile iron, 304 / 316 / duplex stainless steel, hastelloy C276
13.9	Inboard bearing	single row ball
13.16	Impeller shaft	high tensile steel, 304 / 316 stainless steel
13.27	Outboard bearing	double row angular contact
16	Rotating assembly adjusting shims set	steel
18	Wear plate	ductile iron, carbon steel, 304 / 316 / duplex stainless steel, hastelloy C276
25	Cover plate	cast iron, ductile iron, 304 / 316 / duplex stainless steel, hastelloy C276
36	Suction check valve	neoprene, FKM

# RSP and RSPU Series, Self-Priming Pumps

## Economical Operation and Easy to Service



### EASILY REMOVABLE COVERPLATE

The removable coverplate (25) with easy-grip handle and pusher bolt capability provides quick and easy access to the pump interior (not available on 10" & 12" models).

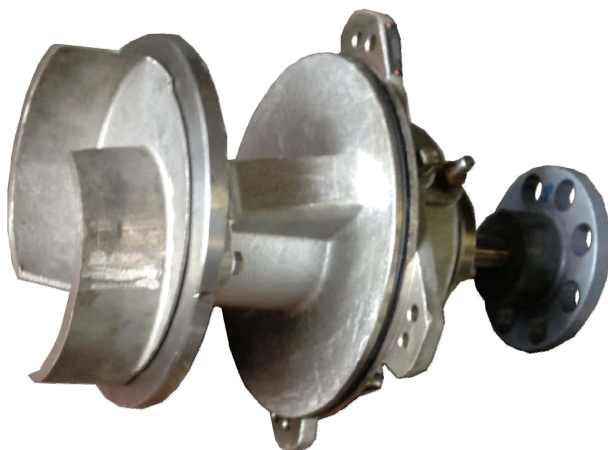
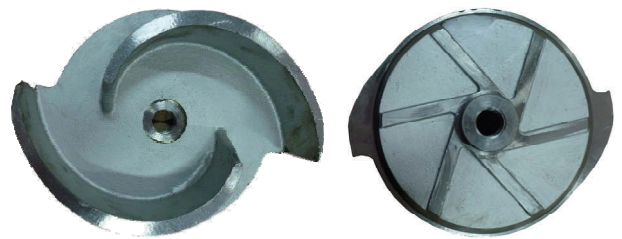
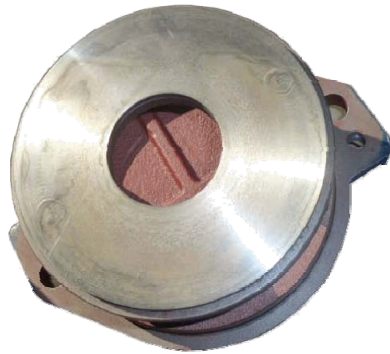
Removable cover plate provides quick and easy access to pump interior without disconnecting piping. Clogs can be removed and pump returned to service in minutes.

### EASILY ACCESSIBLE AND SERVICE WEAR PLATE

The wear plate (18) is easily accessible and may be serviced by removing the back cover assembly (25).

### SOLIDS-HANDLING IMPELLER

Two-vane, ductile iron, semi-open solids handling impeller (13.1) handles up to 3" (76.2 mm) diameter solids, depending on pump model. Pump out vanes on the impeller shroud reduce foreign material buildup behind the impeller and reduce pressure on seal and bearings. Multi-vane impellers are available for higher head applications with limited solids. Optional materials include: carbon steel, 304/316/ duplex stainless steel and hastelloy C276.



### REMOVABLE ROTATING ASSEMBLY

The entire rotating assembly can be removed without disturbing the pump volute or piping. Pusher bolt holes are provided to assist with removal. This allows for quick and easy inspection of pump shaft or bearings, installation of a spare rotating assembly, resulting in less downtime.

### ROTATING ASSEMBLY ADJUSTING SHIMS

A clearance between the impeller and the wear plate can be adjusted by add or remove impeller adjusting shims (16) as required.

# ROTAMAC

- Standardized End Suction Pumps  
EN733/DIN24255, ISO2858/ISO5199  
ASME B73.1, API610
- Split Casing Double Suction Pumps
- Solid Handling Pumps  
Slurry/Vortex/Semi-open/Open/Non clog
- High Pressure Multi-Stage Pumps
- Self-Priming Pumps
- Submersible Pumps
- Close Coupled Pumps
- Vertical Multi-Stage / Immersible Pumps
- Vertical Sump Pumps
- Vertical Turbine Pumps
- Mixed / Axial Flow Pumps
- Liquid Ring Vacuum Pumps
- Chemical Process Plastic Pumps
- Fire Fighting Pump Packages (NFPA20)
- Booster Pump Packages
- Trailer Mounted Pumps

436 Soi On-Nuch 39, Sukhumvit Rd.,  
Suanluang, Bangkok 10250 - Thailand

T : +66 2721 3860

F : +66 2721 3869

E : sales@energytechnology.co.th

www.energytechnology.co.th

ROTAMAC can help relieve the stresses and reduce the life cycle costs associated with the most important aspects of plant operation.

Dedicated to delivering the highest quality support, ROTAMAC services and solutions integrates hydraulic, mechanical and materials engineering knowledge with creative solutions to improve equipment reliability and system performance, reduce energy consumption and improve the safety and environmental impact of operations.

## Pump Services and Repair



## Capabilities Overview

### Design

- Equipment Selection and Optimization
- Material Selection
- System Design
- System Optimization

### Start-up

- Equipment Installation
- Laser Alignment
- Commissioning and Running test
- Operator Training
- On-site Project Supervision
- On-site Troubleshooting

### Operation and Maintenance

- Equipment Inspection
- Repair & Overhaul
- Advanced Diagnostics
- Service Maintenance Contracts