



# **ROBOT PUMPS**



## **RV - HEAVY DUTY SLURRY PUMPS**

# RV - Slurry Pumps

Heavy Duty

The Robot RV range of totally submersible pumps has been designed for the most difficult pumping applications where traditional drainage pumps are not enough.

## Features

### Unique concept

The combination of thoroughly-tested slurry pumps wear parts and purpose-built fully submersible electric motor makes the RV heavy duty slurry pump concept unique in its class.

### Low pressure seal

The mechanical shaft sealing is never exposed to the pump pressure, since the connection between the motor and the pump casing is open. Leakage from the pump casing is controlled by efficient sealing-vanes on the back of the impeller.

### Leakage monitor

The oil-chamber between the seals provides a buffer against the surrounding medium, and it is fitted with a leakage monitor to warn against water penetration. The motor is also fitted with temperature monitors and a leakage probe for the stator housing.

### Simple monitoring

The temperature and leaking monitors can be connected to a simple control-box or to an existing monitoring system.

### Wear parts

The heavy built pump components are identical to those used in the Svedala Vertical slurry pumps, and are designed for highly abrasive tasks. The wear parts are stocked in SHR, which is a high- chrome/nickel alloy casting, with a hardness in excess of 550 HB, or coated in natural rubber or polyurethane. Other options are available for special applications

### Motor size

The pump size and motor specification can be selected to suit the job. The minimum information required for proper selection is:

- capacity
- fluid density and description of any contaminants
- total discharge head, or a description of the pipe system.

### Design Features

**Motor:** class F (155°F).

**Bearings:** heavy duty, greased for life.

**Shaft:** stainless steel.

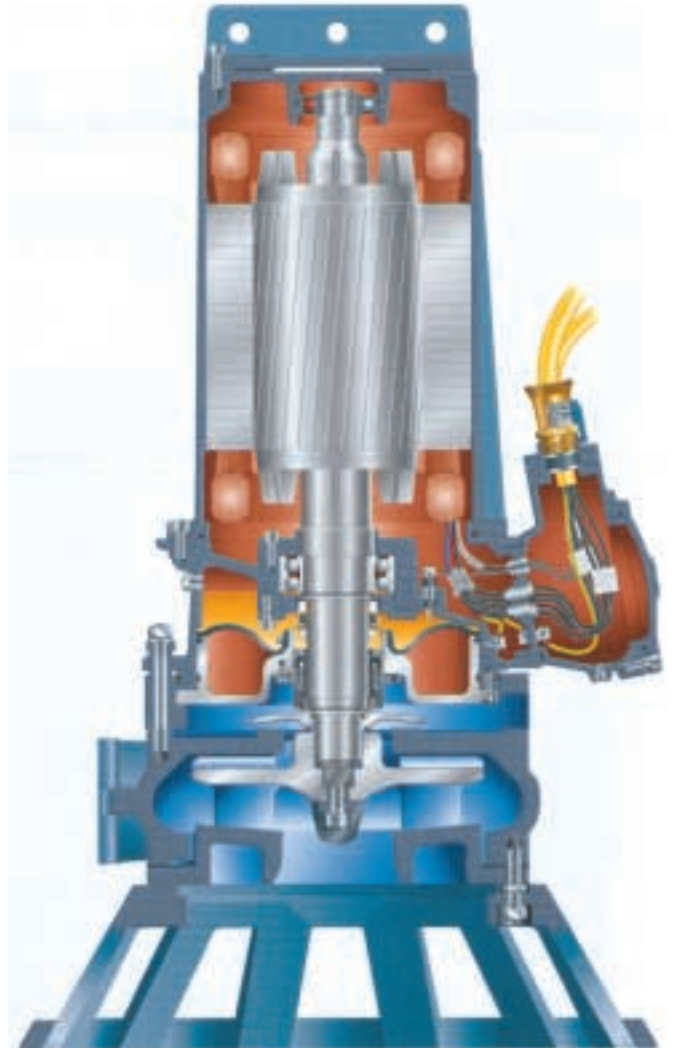
**Oil housing:** with flexible rubber bellows.

**Shaft sealing:** two independant mechanical seals, running in biologically degradable oil.

At the pump side tungsten carbide, at the motor side carbon on ceramic.

**Expeller disc:** assembled on the pump shaft behind the impeller to protect the outer seal.

**Bolts & Nuts:** stainless steel.



### Options

**Flameproof motors:** certified to European standards EN 50014/18/19 (BS 5501), class EEx de IIB T3 or T4, and to American FMRC standard, class 1, division 1, groups C&D T4.

**Cooling jacket:** for continious dry running at full load. (External water supply required).

**Discharge bend:** Wear resistance rubber lined bend.

**Suction stainer:** to prevent oversize particles from clogging of the impeller.

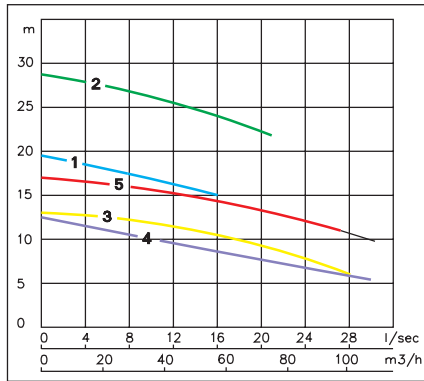
**Spray ramp:** for sand dredging.

**Volteges:** Motors are available for 400V 50Hz and 440V 60 Hz. Other voltages upon the request.

# Characteristics

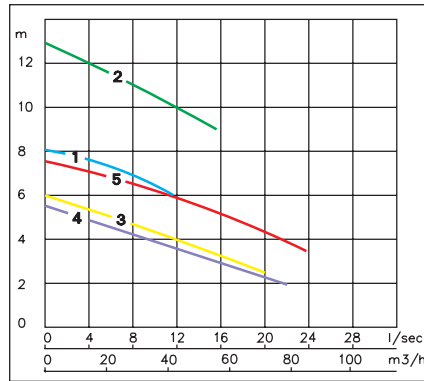
RV40 series

1450 min<sup>-1</sup>



| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV4020 | 50             | 65           | 6-12       | 376    | 896    |
| 2  | RV4021 | 50             | 65           | 7.5-12     | 376    | 932    |
| 3  | RV4030 | 80             | 100          | 6-12       | 664    | 997    |
| 4  | RV4031 | 80             | 100          | 6-12       | 664    | 997    |
| 5  | RV4032 | 80             | 100          | 7.5-12     | 664    | 997    |

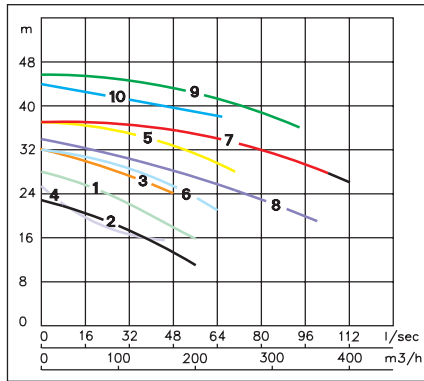
960 min<sup>-1</sup>



| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV4020 | 50             | 65           | 4          | 376    | 896    |
| 2  | RV4021 | 50             | 65           | 4          | 376    | 932    |
| 3  | RV4030 | 80             | 100          | 4          | 664    | 997    |
| 4  | RV4031 | 80             | 100          | 4          | 664    | 997    |
| 5  | RV4032 | 80             | 100          | 4          | 664    | 997    |

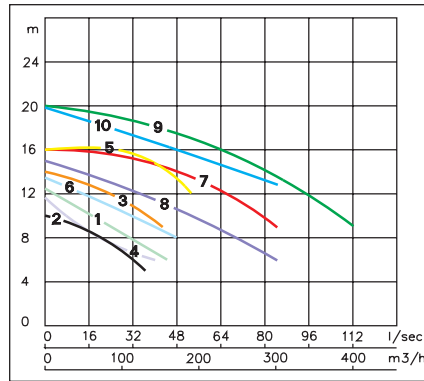
RV60 series

1450 min<sup>-1</sup>

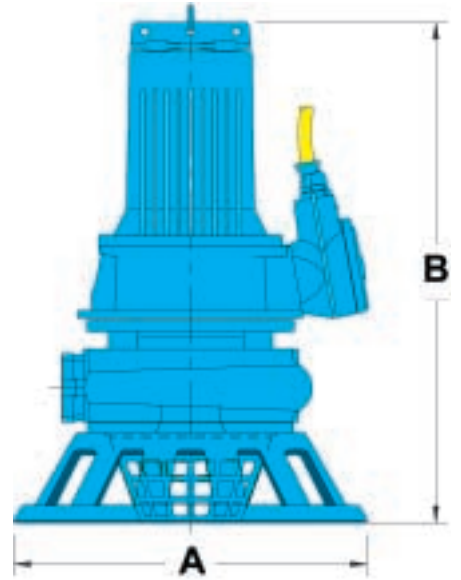


| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV6040 | 100            | 125          | 16-48      | 740    | 1197   |
| 2  | RV6041 | 100            | 125          | 16-48      | 740    | 1197   |
| 3  | RV6042 | 100            | 125          | 16-48      | 740    | 1197   |
| 4  | RV6043 | 100            | 125          | 16-48      | 740    | 1197   |
| 5  | RV6044 | 100            | 125          | 22-48      | 740    | 1197   |
| 6  | RV6045 | 100            | 125          | 22-48      | 740    | 1197   |
| 7  | RV6060 | 150            | 165          | 48         | 824    | 1262   |
| 8  | RV6061 | 150            | 165          | 48         | 824    | 1262   |
| 9  | RV6062 | 150            | 165          | 48         | 824    | 1262   |
| 10 | RV6063 | 150            | 165          | 48         | 824    | 1262   |

960 min<sup>-1</sup>

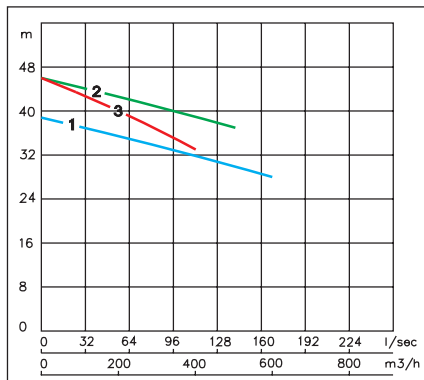


| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV6040 | 100            | 125          | 9-26       | 740    | 1197   |
| 2  | RV6041 | 100            | 125          | 9-26       | 740    | 1197   |
| 3  | RV6042 | 100            | 125          | 9-26       | 740    | 1197   |
| 4  | RV6043 | 100            | 125          | 9-26       | 740    | 1197   |
| 5  | RV6044 | 100            | 125          | 9-26       | 740    | 1197   |
| 6  | RV6045 | 100            | 125          | 9-26       | 740    | 1197   |
| 7  | RV6060 | 150            | 165          | 20-26      | 824    | 1262   |
| 8  | RV6061 | 150            | 165          | 20-26      | 824    | 1262   |
| 9  | RV6062 | 150            | 165          | 20-26      | 824    | 1262   |
| 10 | RV6063 | 150            | 165          | 20-26      | 824    | 1262   |



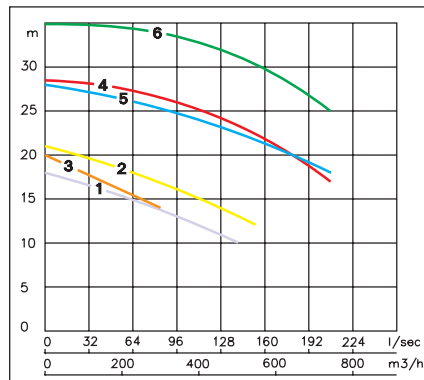
RV80 series

1450 min<sup>-1</sup>



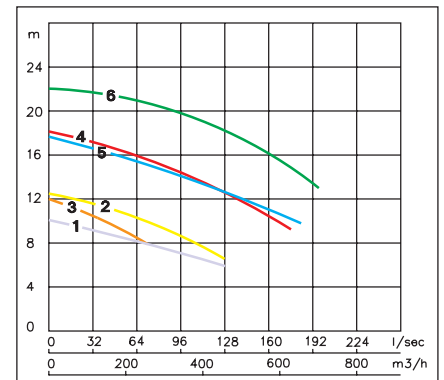
| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV8060 | 150            | 165          | 60-100     | 824    | 1487   |
| 2  | RV8061 | 150            | 165          | 60-100     | 824    | 1487   |
| 3  | RV8062 | 150            | 165          | 60-100     | 824    | 1487   |

960 min<sup>-1</sup>



| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV8060 | 150            | 165          | 45-60      | 824    | 1487   |
| 2  | RV8061 | 150            | 165          | 45-60      | 824    | 1487   |
| 3  | RV8062 | 150            | 165          | 45-60      | 824    | 1487   |
| 4  | RV8080 | 200            | 250          | 45-60      | 1020   | 1590   |
| 5  | RV8081 | 200            | 250          | 45-60      | 1020   | 1590   |
| 6  | RV8082 | 200            | 250          | 45-60      | 1020   | 1590   |

750 min<sup>-1</sup>



| Nr | Model  | Discharge [mm] | Suction [mm] | Power [kW] | A [mm] | B [mm] |
|----|--------|----------------|--------------|------------|--------|--------|
| 1  | RV8060 | 150            | 165          | 26-50      | 824    | 1487   |
| 2  | RV8061 | 150            | 165          | 26-50      | 824    | 1487   |
| 3  | RV8062 | 150            | 165          | 26-50      | 824    | 1487   |
| 4  | RV8080 | 200            | 250          | 26-50      | 1020   | 1590   |
| 5  | RV8081 | 200            | 250          | 26-50      | 1020   | 1590   |
| 6  | RV8082 | 200            | 250          | 26-50      | 1020   | 1590   |

## Options available

|        | Impeller type |        |        | Wear part materials |            |
|--------|---------------|--------|--------|---------------------|------------|
|        | Semi-open     | Closed | Vortex | Metal               | Elastomers |
| RV4020 | ●             |        |        | ●                   | ●          |
| RV4021 | ●             |        |        | ●                   | ●          |
| RV4030 |               | ●      |        | ●                   | ●          |
| RV4031 | ●             |        |        | ●                   | ●          |
| RV4032 | ●             |        |        | ●                   |            |
| RV6040 |               | ●      |        | ●                   | ●          |
| RV6041 | ●             |        |        | ●                   | ●          |
| RV6042 |               | ●      |        |                     | ●          |
| RV6043 |               |        | ●      | ●                   |            |
| RV6044 |               | ●      |        | ●                   |            |
| RV6045 | ●             |        |        | ●                   | ●          |
| RV6060 |               | ●      |        | ●                   | ●          |
| RV6061 | ●             |        |        | ●                   | ●          |
| RV6062 |               | ●      |        | ●                   | ●          |
| RV6063 | ●             |        |        | ●                   |            |
| RV8060 |               |        | ●      | ●                   |            |
| RV8061 |               |        | ●      | ●                   |            |
| RV8062 | ●             |        |        | ●                   |            |
| RV8080 |               | ●      |        | ●                   | ●          |
| RV8081 | ●             |        |        | ●                   | ●          |
| RV8082 |               | ●      |        | ●                   |            |

The RV pumps are supplied in three basic models, Type 1, 2 & 3.

### Type 1

Semi-open impeller and pump casing with spray holes. Part of the pressurized liquid is directed towards the bottom of the sump. This not only agitates solids in the sump but also de-aerates the pump to prevent air-blocking.

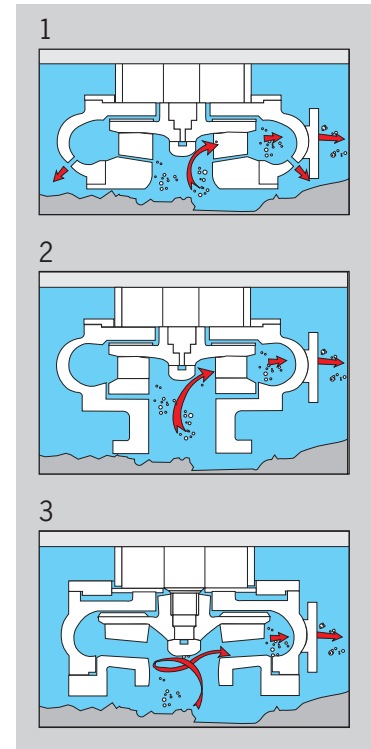
### Type 2

Closed impeller and casing without sprayholes for maximum performance and high heads.

### Type 3

Vortex impeller for nonclog pumping of fibrous and coarse solids. Can be equipped with casing with or without spray holes.

## Impeller types



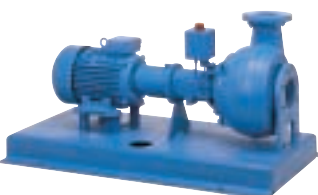
## Products from Robot Pumps B.V.:

### Submersible pumps

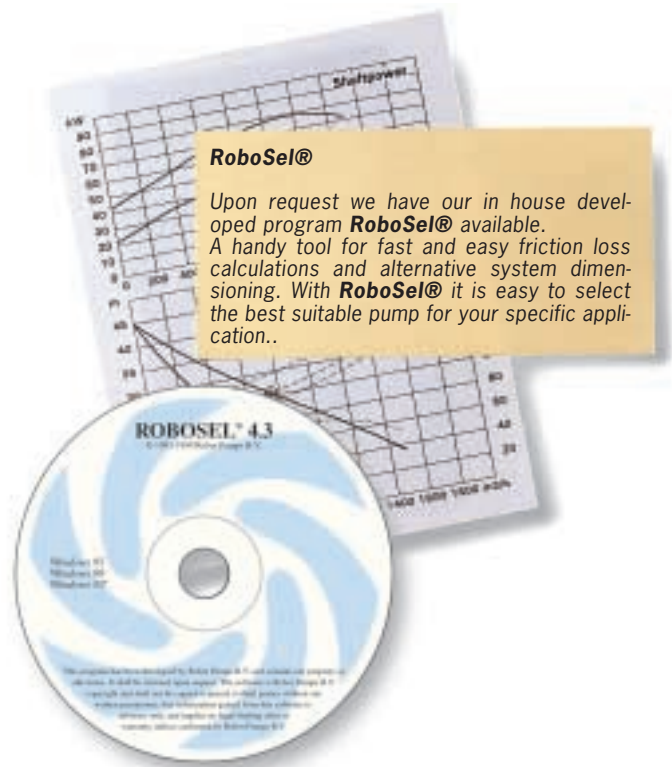


- RW Vortex Pumps
- RT Turbotex Pumps
- RS Grinder Pumps
- RC Channel Pumps
- RD Slurry Pumps
- RV Heavy Duty Slurry Pumps

### Pumps for dry installation



- BW Vortex Pumps
- BT Turbotex Pumps
- BD Slurry Pumps



## Typical applications

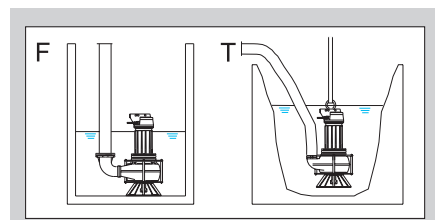
The pumps are designed for pumping abrasive suspensions such as pulp, slurries, mill scale, industrial effluents and drainage from mine galleries and tunnels.

The pumps are commonly used in sand dredging and floor cleaning applications.

Customers for Robot RV heavy duty slurry systems include the mining industry, steelwork and the construction industry, but it can be used wherever there is a need to pump abrasive suspensions.

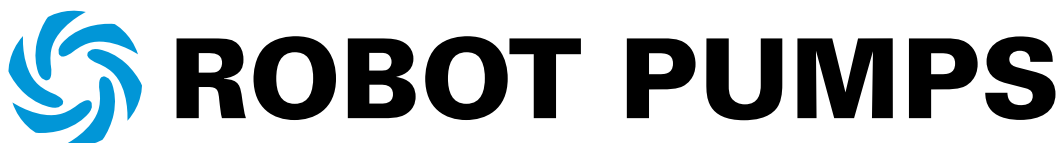
Continuous operation is recommended, especially when pumping coarse and fast settling solid particles.

## Installation options



All pumps can be delivered for semi permanent free-standing "F", with stand and discharge bend or suspended. "T" intended for connection of flexible material handling house.





**Robot Pumps B.V.**

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