



# ROBOT PUMPS



## RW - VORTEX PUMPS

# RW - Vortex Pumps

## Sewage and Waste Water

By design, Robot vortex pumps are most reliable. The impeller runs freely in the volute and does not require any adjustments. This completely eliminates the risk for jamming and low performance resulting from faulty impeller adjustments and wear. Long time constant high performance and trouble free operation is thus guaranteed and maintenance reduced to an absolute minimum.

## Features

### Non-clog design

The recessed vortex impeller leaves a wide unobstructed passage through the volute in which a strong vortex is created that carries most of the solids. Blockages are hardly possible, even when pumping fibrous materials, as these materials are thrown away from the radial blade edges and cannot hook onto the impeller.

### Larger solids - heavy sludges

The strong vortex is not confined to the volute, but also spreads to the surrounding water. Heavy and large solids are not left behind, but pumped out, even at low flow conditions. This will keep sumps cleaner and greatly reduces cost for manual cleaning of the sump. Heavy sludges are stirred into a pumpable mixture.

### Low wear - constant performance

Natural low wear is experienced in vortex pumps as most solids pass in front of the impeller without even touching it. Wear will only have limited effect on performance, resulting in constant high performance over a long period. As wear will be evenly spread over the impeller, vibration levels will remain low too.

### Low maintenance - no adjustments

The absence of narrow clearances eliminates jamming problems and avoids sudden drops in performance and efficiency, due to wear or faulty adjustments. No re-adjustments are required to maintain efficiencies and performance at design level. This ensures reliable and trouble free operation with minimum maintenance and cost.

### Free choice of solids size

The Robot series of vortex pumps is available with a wide selection of solids sizes over a broad range. Solids size is therefore not predicted by pump type and flow, but only by the specific requirements for your application even for the smallest pumps.

## Design Features

**Motor:** class F (155°C/311°F).

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

**Shaft:** stainless steel.

**Shaft sealing:** two independent mechanical seals, running in oil. At the pump side silicon carbide runs on silicon carbide, at the motor side carbon on ceramic. Oil housing with flexible rubber bellows.

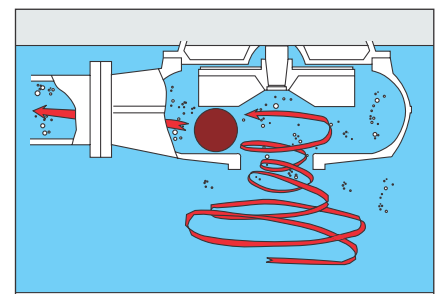
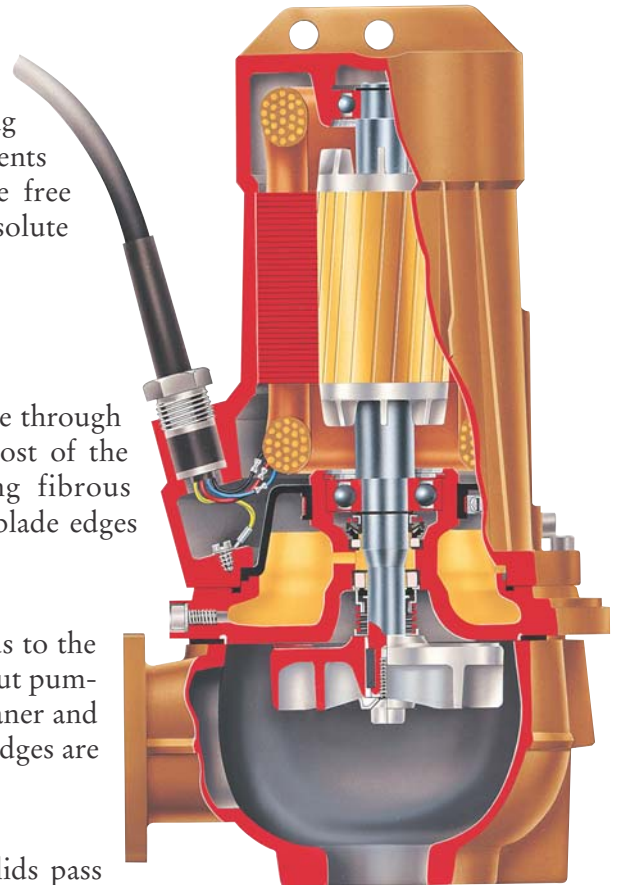
**Back vanes:** prevent solids entering the seal area and reduce the pressure on the seals, for longer seal life.

**Impeller:** virtually clog-free impeller with wide unobstructed passage in front.

**No adjustments required:** no jamming, constant high performance over a long period.

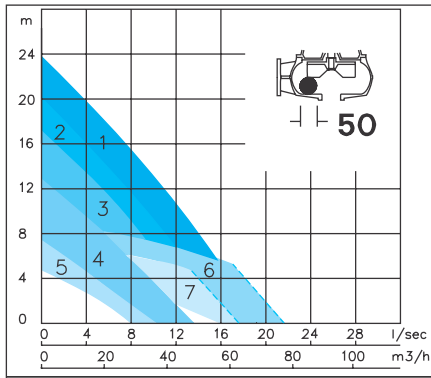
**Bolts & nuts:** stainless steel.

**Parts:** widely interchangeable. Reduces stock requirements and enables the construction of custom tailored pumps.



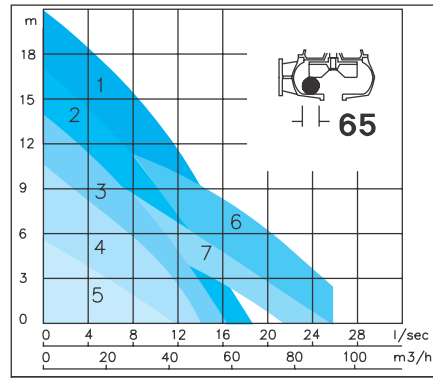
# Characteristics

## RW20 series



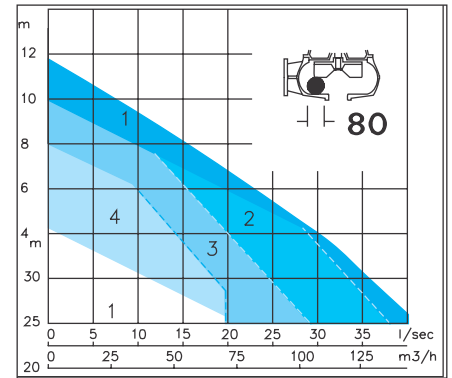
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW2110BH	4.0	2900	50	425	270
2	RW2110BE	2.6	2900	50	425	270
3	RW2110BD	2.2	2900	50	425	270
4	RW2110BB	1.5	2900	50	425	270
5	RW2110DA	0.65	1450	50	400	270
6	RW2112DD	2.2	1450	65	460	265
7	RW2112DC	1.5	1450	65	460	265

## RW20 series



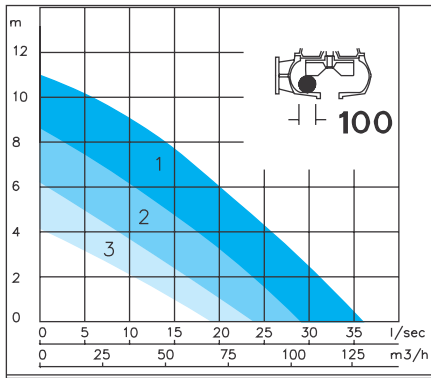
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW2120BH	4.0	2900	65	460	265
2	RW2120BE	2.6	2900	65	460	265
3	RW2120BD	2.2	2900	65	460	265
4	RW2120BB	1.5	2900	65	460	265
5	RW2120DA	0.65	1450	65	435	265
6	RW2122DG	3.5	1450	65	475	335
7	RW2122DD	2.2	1450	65	475	335

## RW20 series



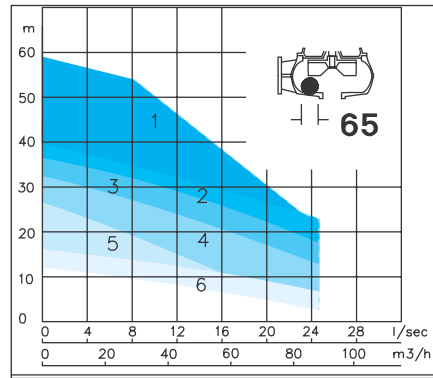
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW2131DG	3.5	1450	100	515	410
2	RW2130DG	3.5	1450	100	480	297
3	RW2130DD	2.2	1450	100	480	297
4	RW2130DC	1.5	1450	100	480	297

## RW20 series



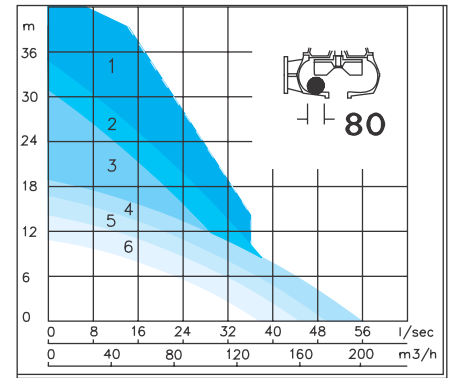
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW2140DG	3.5	1450	100	515	410
2	RW2140DD	2.2	1450	100	515	410
3	RW2140DC	1.5	1450	100	515	410

## RW40 series



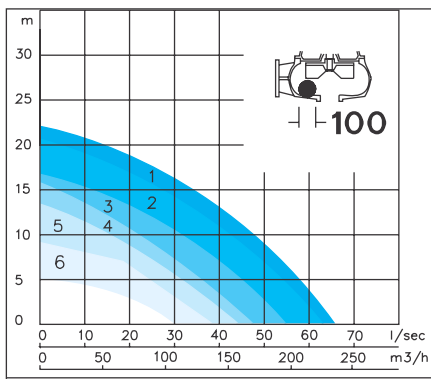
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW4020BZ	13	2900	65	635	335
2	RW4021BZ	13	2900	65	635	335
3	RW4020BR	9	2900	65	635	335
4	RW4021BR	9	2900	65	570	335
5	RW4021BJ	5	2900	65	570	335
6	RW4020DJ	5	1450	65	505	335

## RW40 series



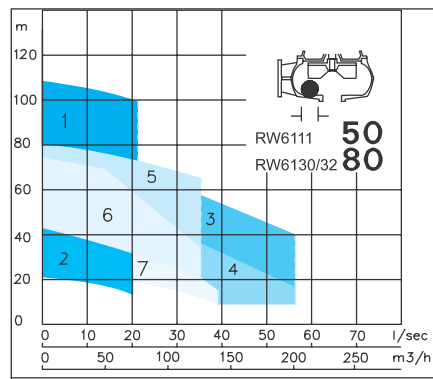
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW4033BZ	13	2900	100	600	400
2	RW4032BZ	13	2900	100	600	400
3	RW4032BR	9	2900	100	600	400
4	RW4030DO	7.5	1450	100	552	410
5	RW4030DL	6	1450	100	552	410
6	RW4030DJ	5	1450	100	552	410

## RW40 series



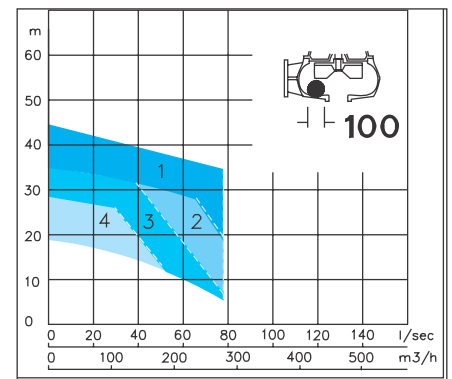
Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW4041DZ	13	1450	100	715	475
2	RW4041DU	10.5	1450	100	715	475
3	RW4041DO	7.5	1450	100	650	475
4	RW4040DL	6	1450	100	610	410
5	RW4040DJ	5	1450	100	610	410
6	RW4040FE	2.4	960	100	610	410

## RW60 series



Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW6111JL	48	2900	100	940	545
2	RW6111LD	16	2900	100	800	545
3	RW6132JL	48	2900	100	975	540
4	RW6132JG	29	2900	100	900	540
5	RW6130JL	48	2900	100	950	540
6	RW6130JG	29	2900	100	900	545
7	RW6130JE	20	2900	100	815	540

## RW60 series



Nr	Model	Motor [kW]	Speed [min <sup>-1</sup> ]	Outlet [mm]	Height [mm]	Width [mm]
1	RW6141LL	48	1450	100/150	985	540
2	RW6141LI	34	1450	100/150	910	540
3	RW6141LF	22	1450	100/150	850	540
4	RW6141LD	16	1450	100	850	540

## Options available

	Versions			
	1-phase	Explosion proof	Stainless steel	Cooling-system
RW2110	●	●	●	
RW2112		●	●	
RW2120	●	●	●	
RW2122		●	●	
RW2130		●		
RW2131		●	●	
RW2140		●	●	
RW4020		●	●	●
RW4021		●	●	●
RW4030		●	●	●
RW4032		●		●
RW4033		●		●
RW4040		●	●	●
RW4041		●	●	●
RW6111		●		●
RW6130		●		●
RW6132		●		●
RW6141		●		●

## Options

**Single phase motors:** for the smaller models.

**Explosion motors:** certified to European standards EN50014/18/19, II 2 G EEx de IIB T4, and to American FMRC standard, class I, division I, groups C&D T4.

### Cooling jacket:

for continuous dry running at full load, with internal water circulation or for external water supply. Available for larger pumps. Seal flushing is optional.

**Seal leak monitor:** detects water ingress in both motor- and oil housing.

**Thermostats:** standard for all explosion proof pumps and units with cooling system and optional for all other pumps.

**Special materials:** many components or complete pumps are available in non standard materials like bronze, stainless steel, hardened sg cast iron etc.

## 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

**RoboSel®**

Upon request we have our in house developed program **RoboSel®** available. A handy tool for fast and easy friction loss calculations and alternative system dimensioning. With **RoboSel®** it is easy to select the best suitable pump for your specific application..

**ROBOSEL® 5.0**  
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Windows 95  
Windows 98  
Windows NT

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### Pumps for dry installation



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

## Typical applications

### Sewage

Sewage treatment plants, sewage pumping stations, shopping malls, hotels, restaurants, high rise buildings.

Raw unscreened sewage, sewage by-pass, liquid manure, heavy-, gassy-, primary- and digester sludge circulations.

### Food processing

Food and sugar factories, abattoir's, canneries, breweries, fish industry, dairies.

Food and food waste, vegetables and potatoe waste, slaughter waste, bagasse, chicken feathers, wash water.

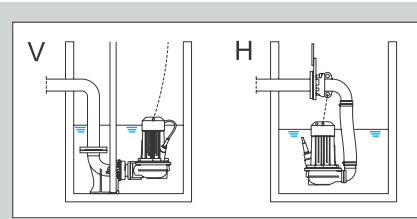
### General industry

Construction, car industry, paper mills, steel works, chemical industry, fertiliser factories, rubber and textile industry.

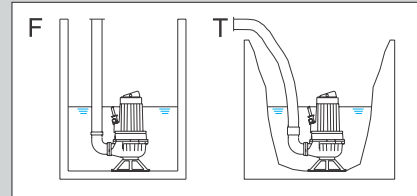
Corrosive media, paper pulp, process water, viscous liquids, latex, cellulose, coal washing water, bilge cleaning.



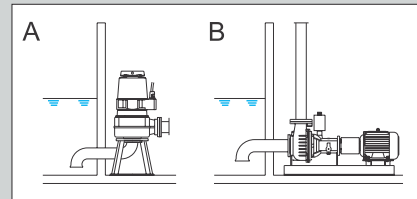
## Options available



Pumps are available for permanent fixed installation, using the guide rail coupling V or the header coupling HK, that is installed above the water level.



All pumps can be delivered for semi permanent free-standing installation F with stand and discharge adapter or for transportable use T with non-overloading impeller.



Pumps with cooling system can be used in permanent dry flood-proof immersible installation A. For conventional dry installation B refer to the BW series brochure.

