

# Water & Wastewater

## Drainage pumps in all stainless steel with channel impeller



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50Hz

# Drainage pumps

## in all stainless steel, with channel impeller

The submersible, high efficiency channel impeller pumps in all stainless steel are used for applications where chemical resistance is required in combination with some solids handling. The solids handling is much better than for traditional drainage pumps. These channel pumps are very suitable for applications in a.o. agricultural, composting and general industry. The base material is stainless steel AISI 316 or duplex stainless steel AISI 329.

### Unique features

- ▶ 3 Different hydraulic designs:  
Highest efficiencies, better solids handling, highest heads.
- ▶ Much wider solids handling up to 30 x 50 mm, compared with traditional drainage pumps.
- ▶ Available in all stainless steel AISI 316
- ▶ And in duplex stainless steel AISI 329, for increased durability in sea water and chloride based liquids
- ▶ High quality casted parts, not pressed stainless steel.
- ▶ Fully serviceable pumps
- ▶ Most models are available in certified explosion proof version
- ▶ Warm liquid versions available up to 80°C



### Hydraulic versions

#### Highest efficiencies:

The 3-bladed impeller combines highest efficiency with good free passage; 30x30 mm. Due to its symmetrical shape the triple channel impeller is less sensitive for vibrations due to wear.

#### Best solids handling:

The single leading edge of this impeller type proved to be much better for handling fibrous materials. In addition the free passage of 30x50 mm is much wider. The steep QH curve provides a stable output.

#### Highest heads:

The 6-bladed centrifugal impeller generates highest heads. These pumps come standard with a strainer with 8 mm openings. This is slightly smaller than the actual through let of the impeller.



## Construction materials

### Base material AISI 316 stainless steel

The base material for all parts is stainless steel AISI 316. This is an austenitic stainless steel that outperforms the cheaper AISI 304 material as often used in pumps.

### Base material AISI 329 duplex stainless steel

In the chemical process industries the use of duplex stainless steels is increasing rapidly. Duplex stainless steel is better resistant against pitting in chloride based environments and in saline and sea water. It is also better wear resistant than AISI 316. This material can also be used at lower pH's.

### Increase wear resistance

For applications where increased abrasion resistance is required the standard AISI 316 pump with impeller and wear liner in duplex is a good alternative. In more demanding applications it's possible to supply the volute/seal housing in duplex too.

### Bolts, nuts and shaft and related parts

The standard material is AISI 316. Upon order these parts are also available in AISI 329.

### Pump side shaft seal

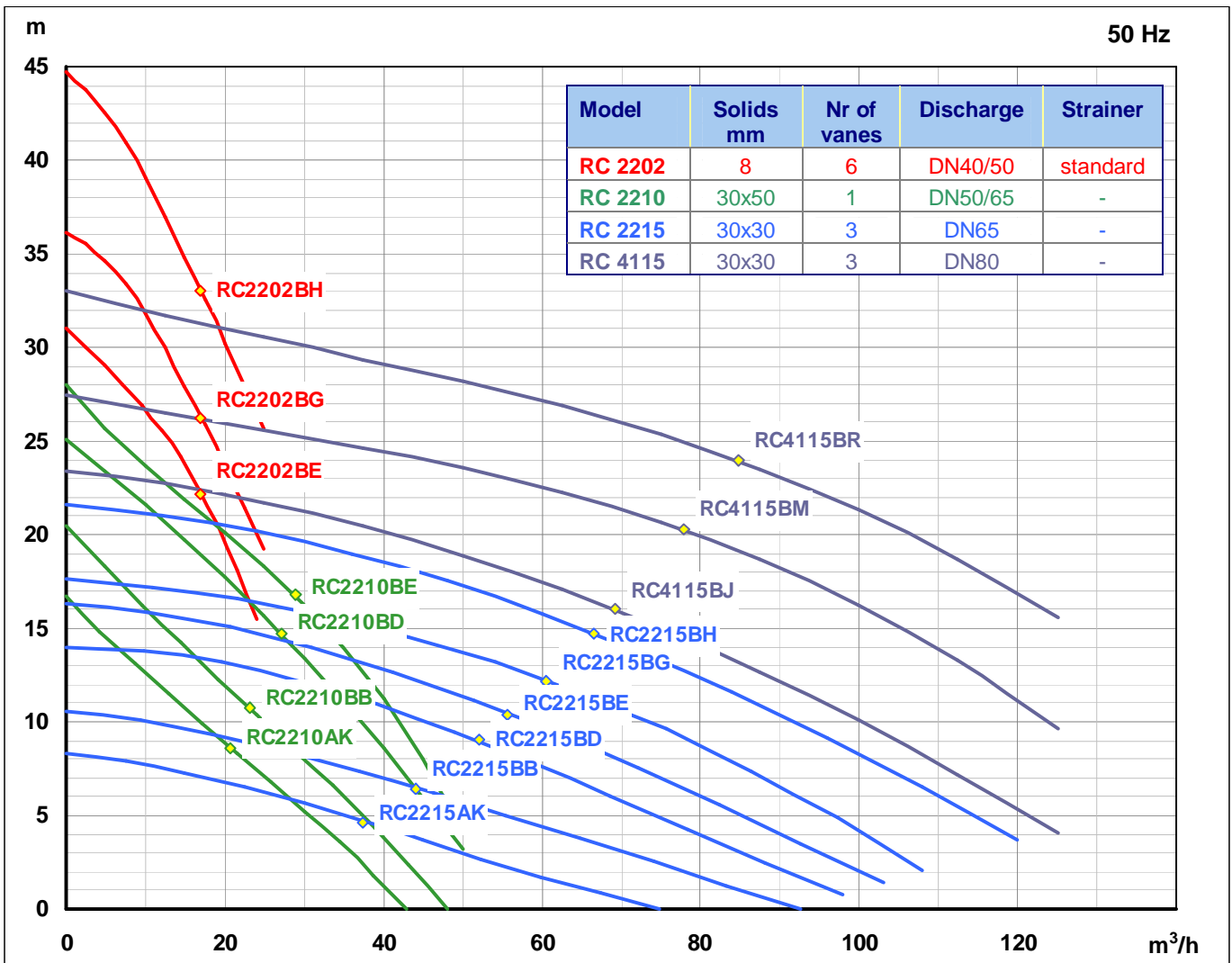
The mechanical seal is a rubber bellows type with seal faces from sintered silicon carbide. This material is better suitable for most chemicals. The rubber parts are in Viton (FPM) or optionally in EPDM or KALREZ. The metal parts are in AISI 316Ti.

## Elastomers

Both the AISI 316 and AISI 329 pumps come standard with Viton (FPM) elastomers. As an alternative Teflon coated or EPDM O-rings can be supplied.

## Cables

The SubCab cable, specially developed for underwater use, is with an outer sheet from oil resistant and flame retardant chlorinated polyethylene. Upon demand a HCR (heat and chemical resistant) cable in Fluor ethylene propylene is available. The most widely used option is a flexible stainless steel protection sheath in AISI 316Ti that hermetically seals the cable from the medium.



## Material standards comparison

Stainless steel comparison	AISI / SAE	International	German	ASTM
Stainless steel	AISI 316	X5CrNiMo 17-12-2	1.4401	CF8M
Duplex stainless steel	AISI 329	X3CrNiMoN 27-5-2	1.4460	CD4MCu
Metal parts for shaft seal and cable protection	AISI 316Ti	X6CrNiMoTi 17-12-2	1.4571	

## Applications

- ▶ Leachate collecting ponds
- ▶ Composting facilities
- ▶ Silage fodders production
- ▶ Sea water desalination plants
- ▶ Sea water, water intakes, fish farms
- ▶ Food & dairy industry: cleaning agents
- ▶ Breweries, canneries
- ▶ Power & nuclear power plants
- ▶ Off shore industry
- ▶ Paper, pulp & cellulose production plants
- ▶ Tunnel cleaning agents
- ▶ Agriculture, fertilizers
- ▶ Dye factories / Textile industry
- ▶ Chemical / petrochemical / pharmaceutical plants: drainage applications, emergency collecting pits

## Warm liquid versions

In basic version the pumps are suitable for 40°C liquid temperatures. Upon demand warm liquid versions are available for temperatures up to 80°C.

## Explosion proof

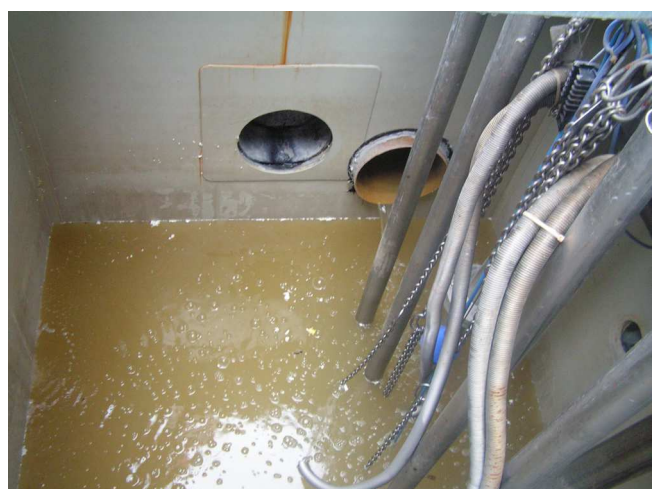
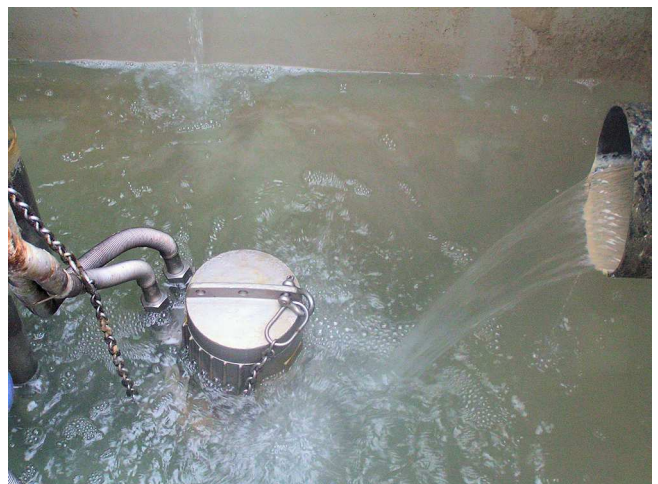
Many models are available in ATEX or FM certified explosion proof version.

## Installation options

All pumps are with integral support feet. With one of the many threaded and hose adapters they are suitable for transportable or semi-permanent freestanding installation. For permanent installations we have our guide rail type quick release couplings in AISI 316 and AISI 329.

## Stainless steel pumps for waste water

For waste water applications and applications where larger solids handling is required our series vortex pumps or grinder pumps are the better choice. Both are in stainless steel AISI 316 and AISI 329.



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