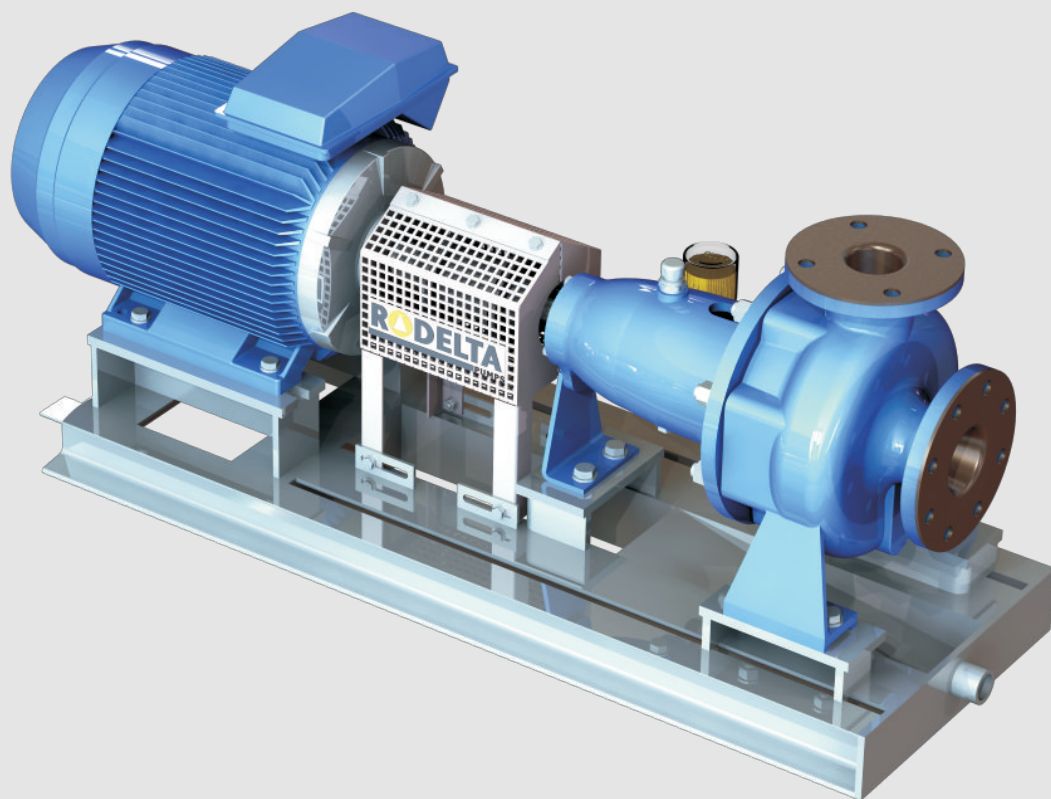




► The power of proven technology

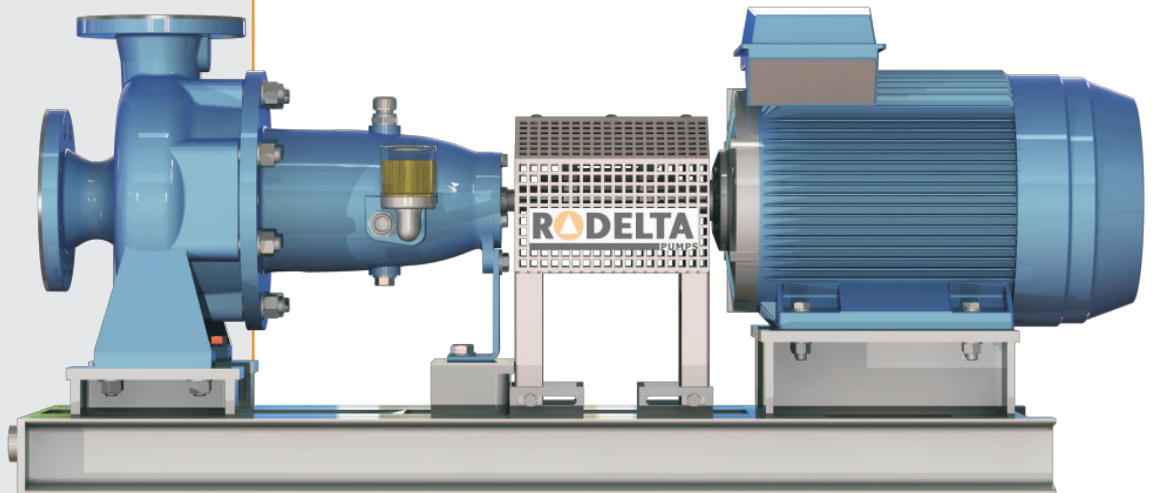
FN



End suction overhang pump  
With open impeller  
Type viscous fluid pumps

## General design description

The FN series of pumps consists of single stage pumps with a vortex impeller, which prevents the flow of liquid from being impaired by Solids.

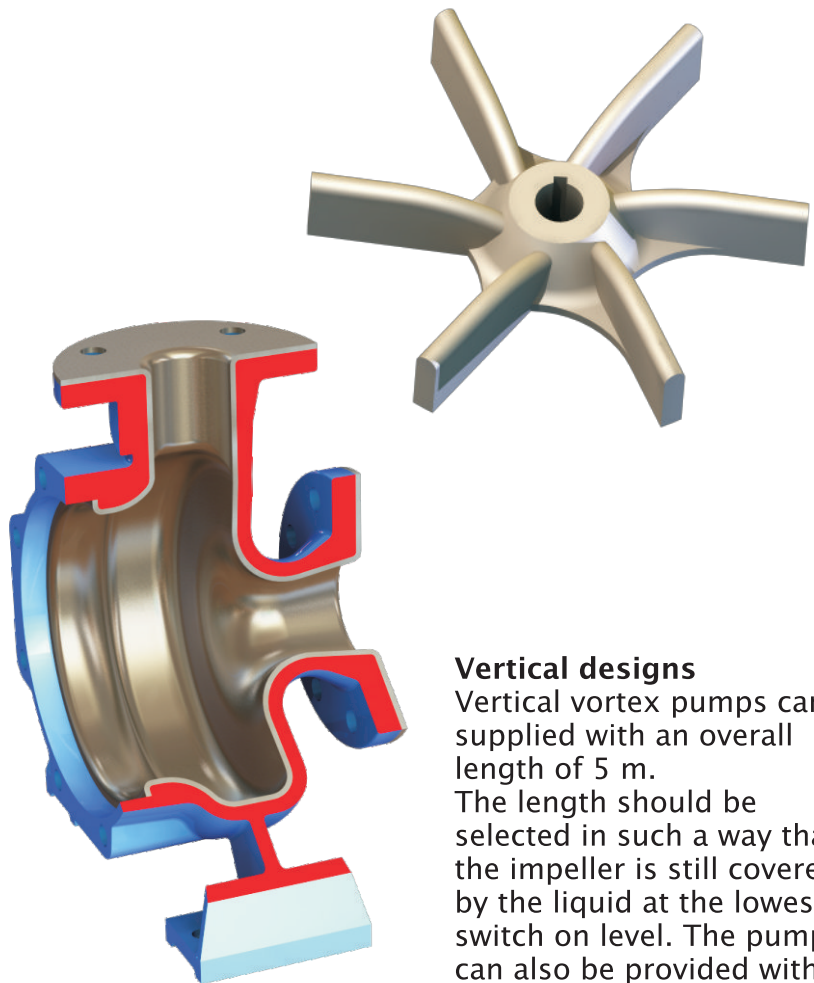


### Design

The pumps, which are designed according to the unit construction principle, consist of only three major components, namely the casing with cover, the vortex impeller and the bearing pedestal with shaft.

### Casing

The casing is provided with a large regular passageway which facilitates unrestricted flow without sudden change of direction. The limited amount of contact between the medium and the casing walls means that wearing plates and sealing rings are not required. A seal ring with seal liquid connections prevents air and contaminations from entering the sealing area. If required, a mechanical seal can be assembled.



### Vertical designs

Vertical vortex pumps can be supplied with an overall length of 5 m. The length should be selected in such a way that the impeller is still covered by the liquid at the lowest switch on level. The pump can also be provided with an suction pipe.

## Applications



➤ Pulp, paper and board mills



➤ Sugar and starch industry



➤ Industrial waste water plants



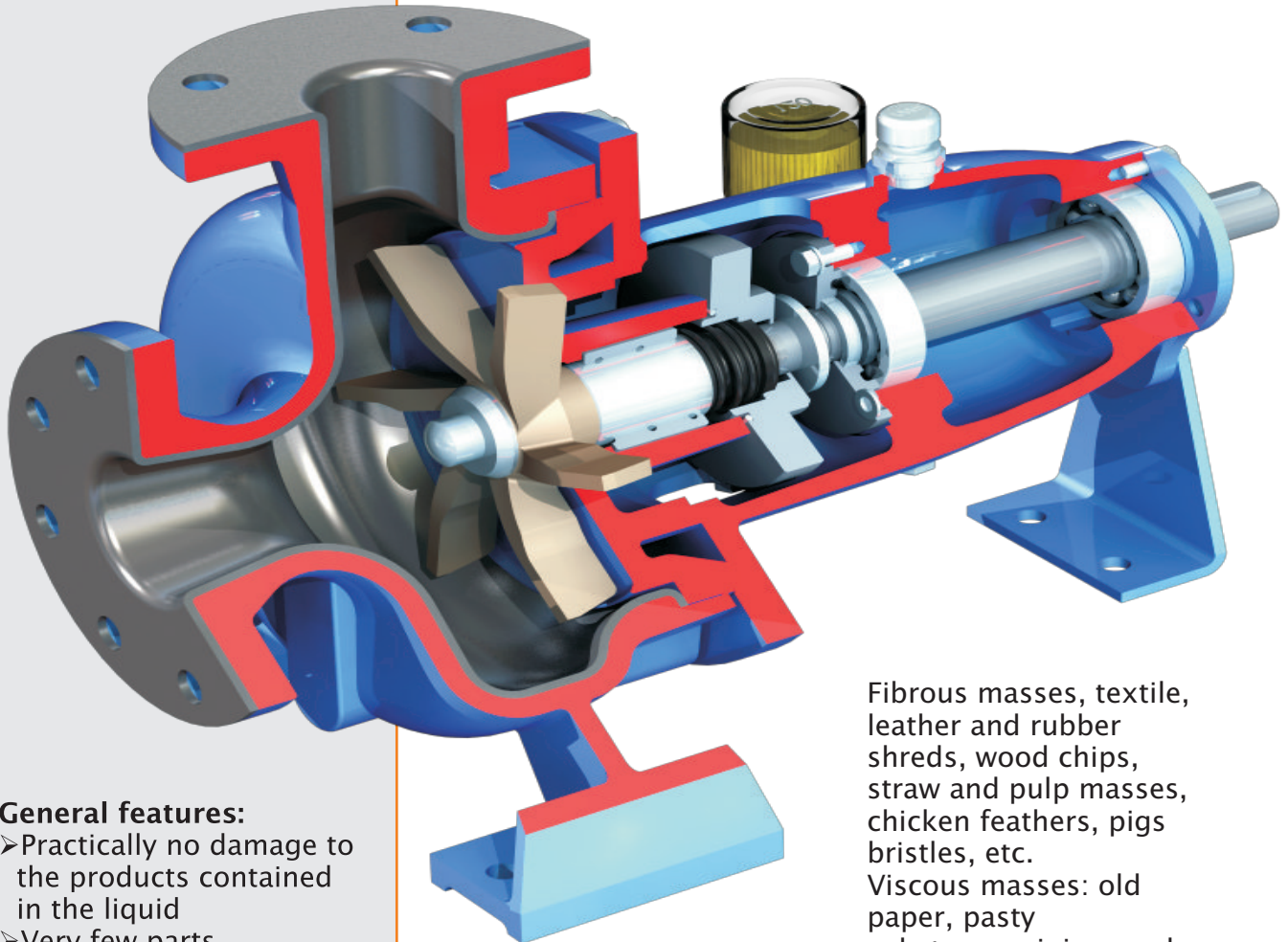
## Features and benefits

### Application

Vortex pumps are especially suitable for the transport of liquids having mixtures of a brittle, fibrous or erosive character in the chemical, food and semi luxury industries.

They offer an expedient solution for the handling of so called difficult liquids, such as those containing:

Waste products: any kind of municipal or industrial effluent



### General features:

- Practically no damage to the products contained in the liquid
- Very few parts susceptible to wear, consequently low maintenance costs
- Standard replacement parts available ex stock

### Capacity range

The overall capacity range provides for discharge rates up to 550 m<sup>3</sup>/h and delivery heads up to about 70 m.

The temperature of the liquid may vary between - 20 °C and + 170 °C.

Fibrous masses, textile, leather and rubber shreds, wood chips, straw and pulp masses, chicken feathers, pigs bristles, etc.

Viscous masses: old paper, pasty substances, juices and starch

Erosive materials, sand, gravel, coal

Vulnerable products: vegetables, fish, crystals, etc.

### Special executions

Especially for duties in which large solid content are involved, FN range of pumps can be provided with a rubber lining.

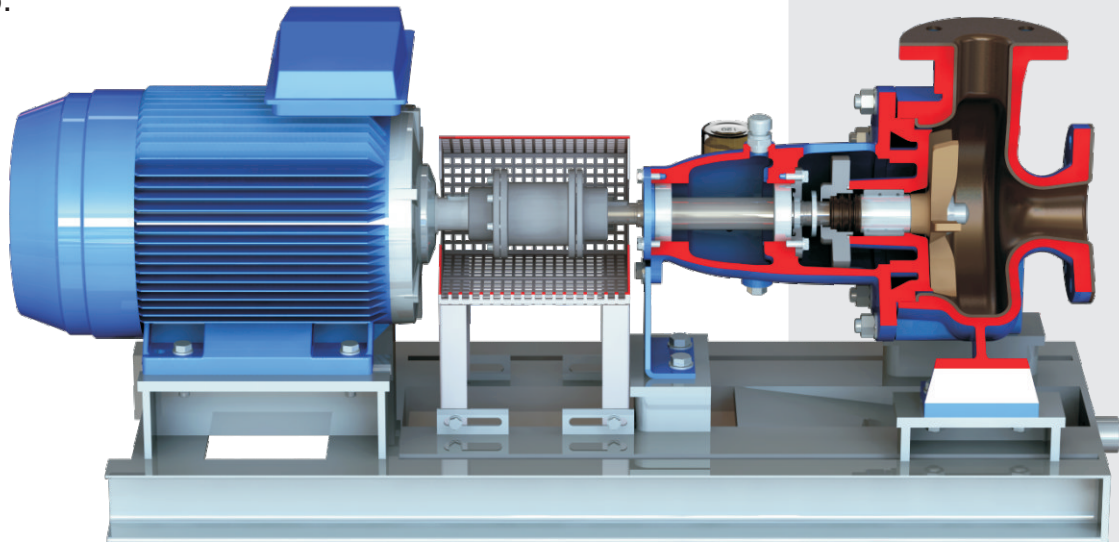
### **Torque flow**

The open impeller with streamlined hub cannot be blocked up. There is no underpressure behind the impeller, and so solids entrained with the liquid cannot be deposited in this area. Due to the large clearances employed, there is no danger of sizing up.

Normal wear of the impeller has practically no detrimental effect on the discharge rate and delivery head of the pump.

### **Mode of operation**

The vortex impeller produces turbulence in the casing which extends into the suction pipe. As a result of this, a strong suction effect is imparted on the liquid solid mixture. The centrifugal force caused by the turbulence, transports the solids to the delivery branch within almost one single revolution.



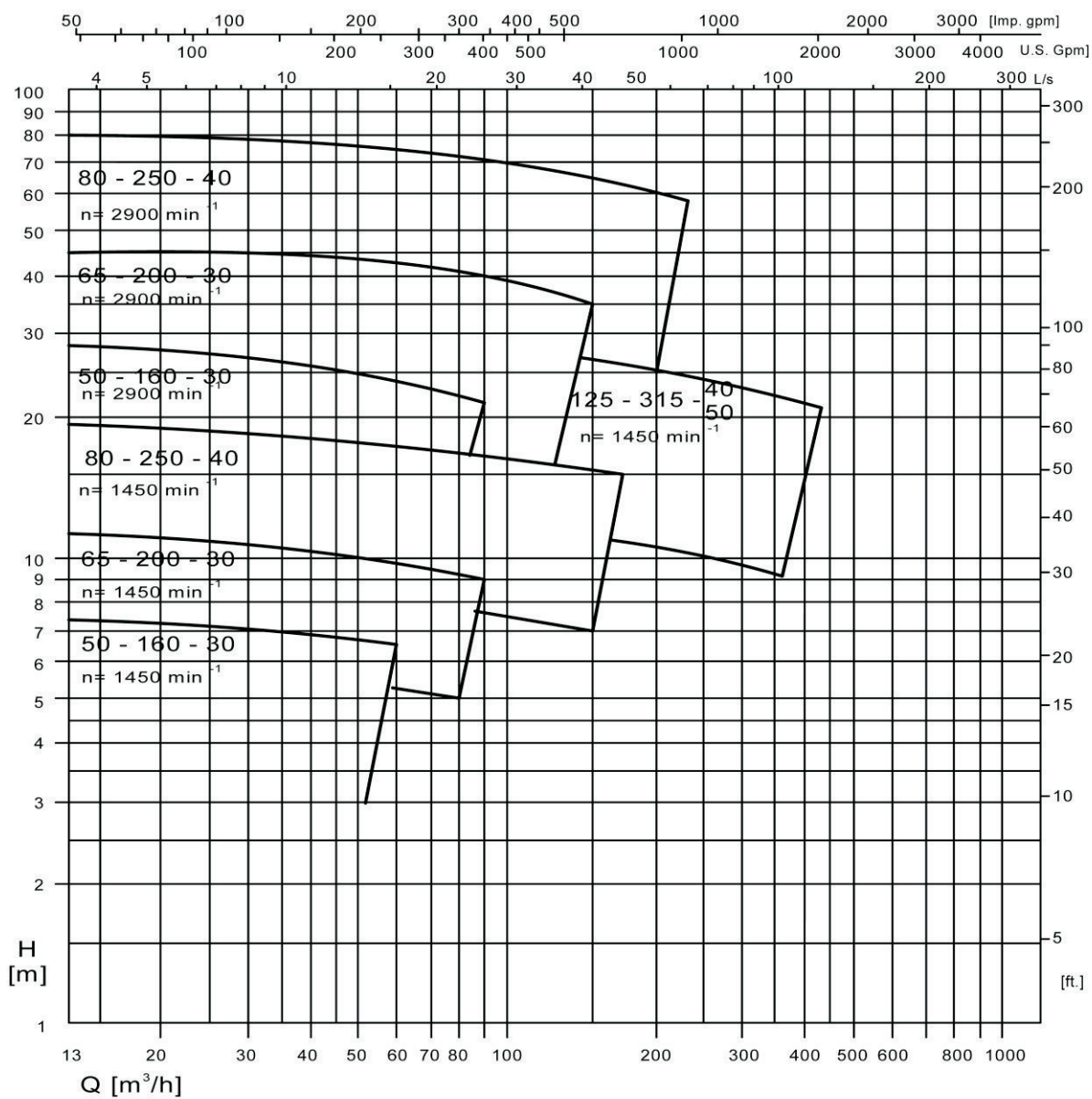
### **Bearing pedestal**

The pump shaft is seated in two robust, grease lubricated ball bearings, and protected in the sealing area by means of a replaceable shaft sleeve. The bearing space is hermetically sealed with V-shaped rings.

The bearing pedestal and impeller can be removed as an integral unit in the direction of the drive side. As a consequence of this, the pump can remain in situation, and there is no need to disconnecting the pipework.

The patented shape of the casing walls enable a high percentage of the solids to be carried with air or gas. Since the medium being handled does not flow through but along the open disc impeller, blockage is completely ruled out. The solids entrained with the liquid have hardly any contact with the impeller and are also not damaged in any other way.

# Curves

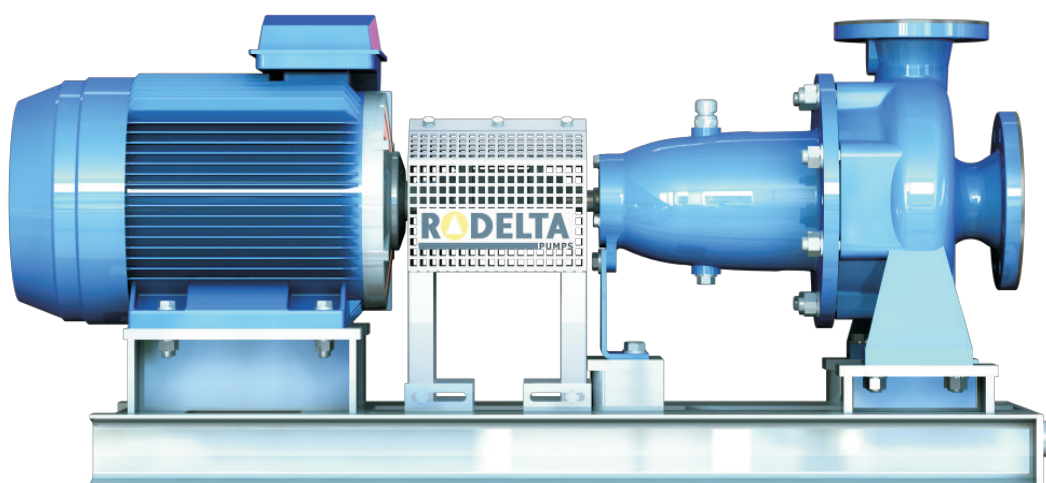


## Materials

The pumps are available in the following standard materials:

|                            | <b>Class of Material</b>     |                              |
|----------------------------|------------------------------|------------------------------|
| <u>Component</u>           | <u>Material</u>              | <u>Material</u>              |
| Casing                     | Cast iron                    | CrNiMo cast steel            |
| Impeller                   | Cast iron                    | CrNiMo steel                 |
| Cover                      | Cast iron                    | CrNiMo steel                 |
| Shaft                      | CrNiMo steel                 | CrNiMo steel                 |
| Shaft protection<br>Sleeve | CrNiMo steel<br>Hard chromed | CrNiMo steel<br>Hard chromed |
| Bearing support            | Cast iron                    | Cast iron                    |

Other materials available upon request





### **Rodelta Pumps International B.V.**

- ▲ Enschedesestraat 234
- ▲ 7553 CM Hengelo
- ▲ PO Box 650, 7550 AR Hengelo
- ▲ The Netherlands
- ▲ Phone: +31(0)742455200
- ▲ Fax: +31(0)742455201
- ▲ E-mail: [info@rodelta.com](mailto:info@rodelta.com)
- ▲ Internet: [www.rodelta.com](http://www.rodelta.com)