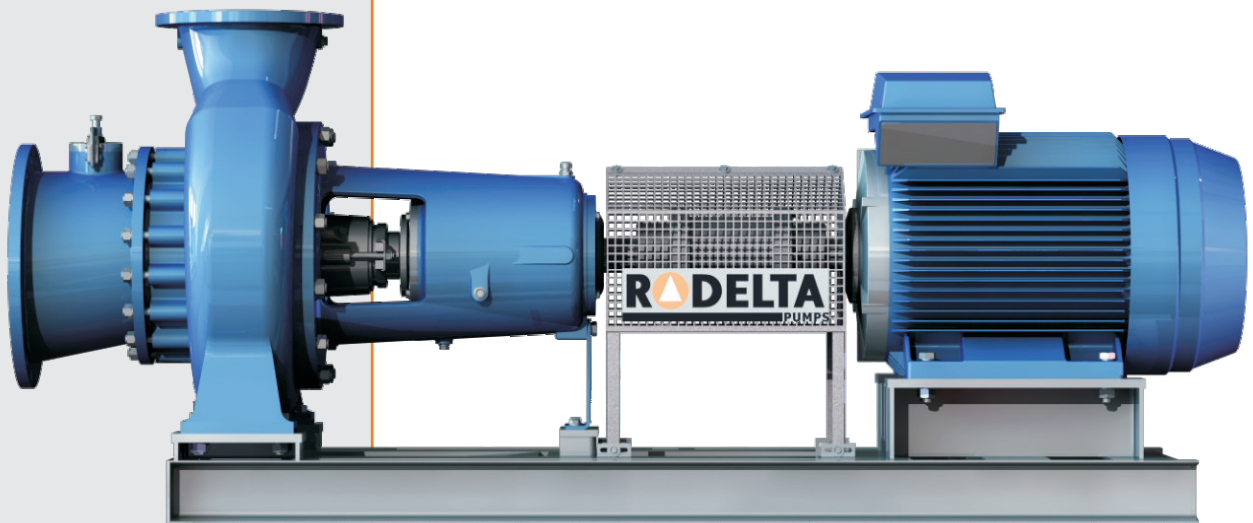


ES



**End suction overhang pump with open impeller
Type viscous fluid pumps**

General design description

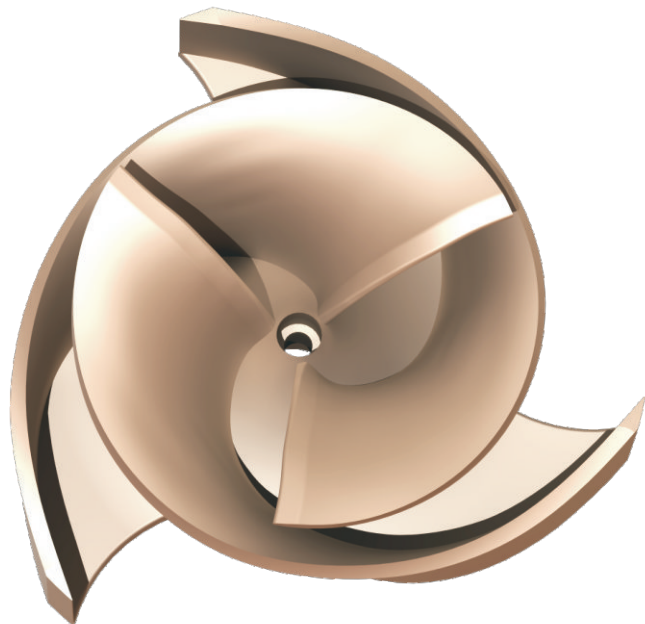


Design

The casing, with delivery branch radial upwards and axial inlet, rests on strong integrally cast feet. Pipe forces are therefore transmitted straight onto the foundation, without stressing the pump rotor.

A renewable wear plate protects the casing on the inlet side against erosive containments. The wear plate on the rear side (casing cover) forms one piece with the stuffing box casing. The inlet branch has a generously dimensioned hand hole for cleaning purposes.

The special open impeller has helical vanes far extended into inlet for the handling of liquids with high solids densities. The impeller is fixed on the shaft by means of a thread, ensuring a permanent fit under arduous intermittent operation.



Applications



➤ Pulp, paper and board mills



➤ Sugar and starch industry



➤ Industrial waste water plants



Features and benefits

Application

For the handling of waste water, pulp and liquids with a high air or gas content.

Performance range

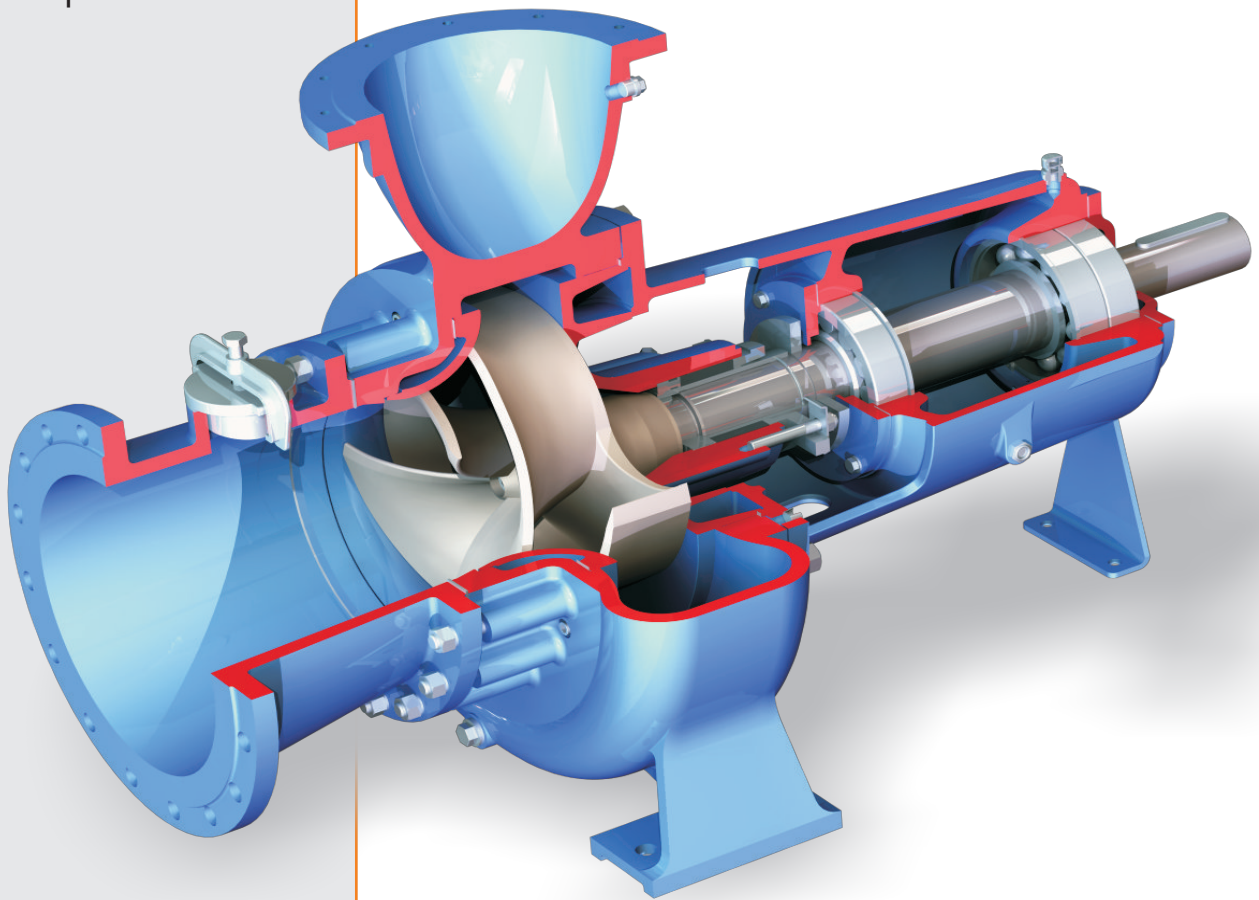
Covers discharge rates up to 3000 m³/h (13000 US gpm) and delivery heads up to 80 meters.

Pressure and temperature range

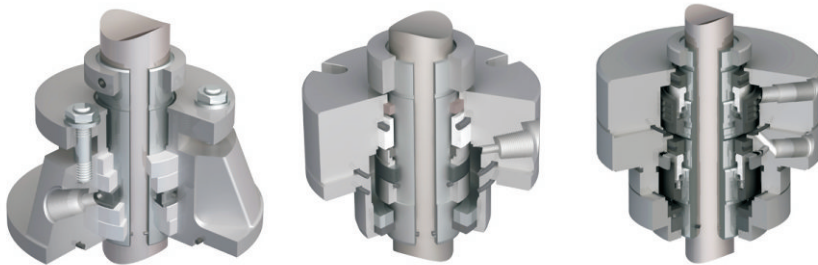
The max. operating pressure is 10 bar and the permissible temperature of 100 ° C.

Features

- High efficiency for low energy consumption (86%)
- Special open impeller for solid densities of up to 10%
- (Dry state) and air inclusions up to 6%
- With special casing tongue for applications where liquids having a gas content in excess of 6% are involved
- Renewable wear plate to protect the casing against erosive containments

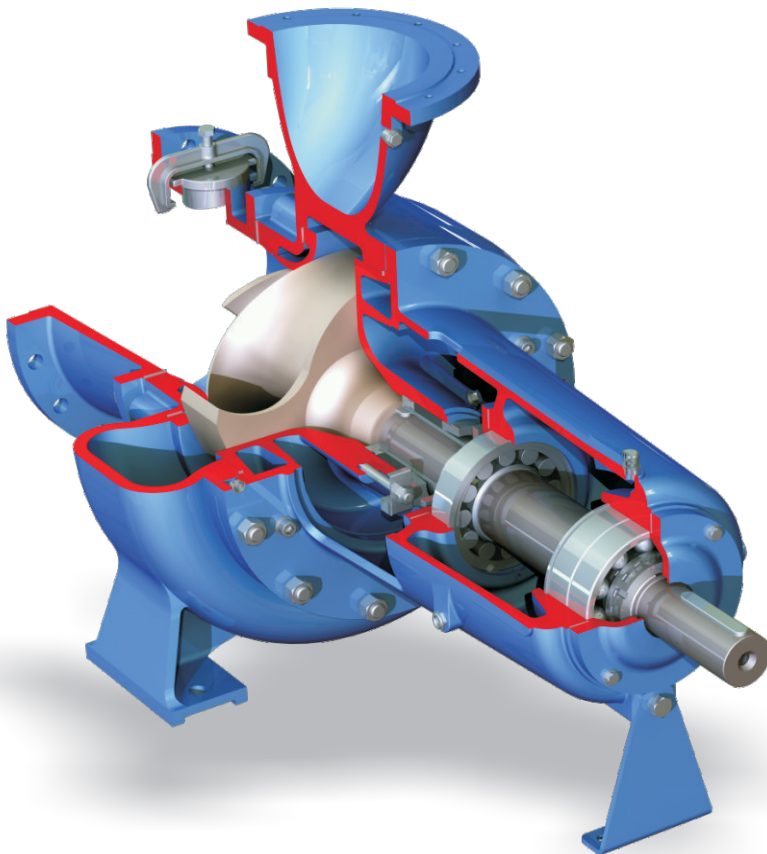


- Back-pull-out design (process design)
- Steep Q-H curve for good controllability
- Favourable NPSH value
- No reduction in the delivery head or efficiency with greater solid densities



Shaft sealing

Various shaft sealing arrangements stuffing boxes and mechanical seals are available depending on the application. A stuffing box with soft packing is the standard execution for normal operation conditions. The shaft is protected by a replaceable sleeve.



Bearings

The radial ball-and roller bearings are placed in a bearing support provided with a rugged supporting piece for vibration free operation. The axial thrust to be compensated by the bearings is relatively small due to the special impeller geometry.

The bearings are grease lubricated and the bearing covers on each side are provided with a grease nipple. In addition a lip seal ring in each covers protects the bearing against spray water.

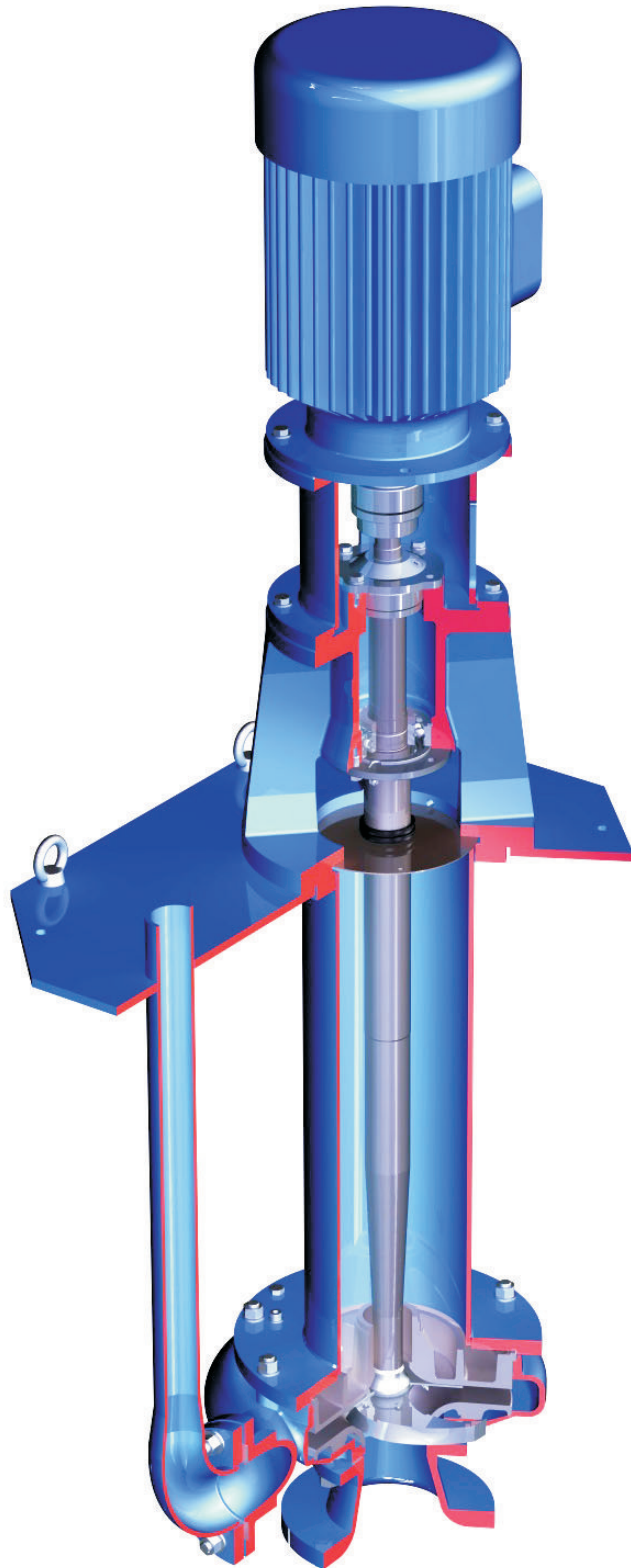
Connecting flanges

According to din 2532 PN 10

**Vertical submersible pump,
type TCE/TBE.**

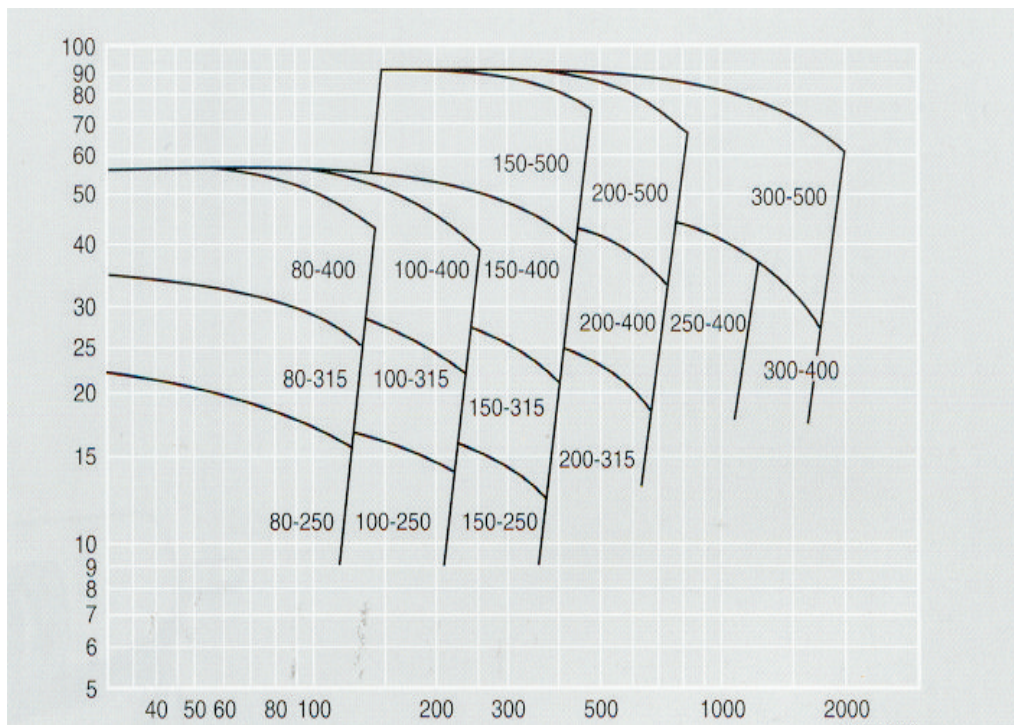
This cantilever submersible pump is designed as a variant (impeller "E") and equipped with the hydraulic of the slurry pump, type ES. As a result of this, it exhibits the same hydraulic characteristics.

As is shown in the sectional view, the two bearings of the TCE are located above ground. In the case of the TBE, the lower bearing is arranged below ground level and thus facilitates greater submersion depths. In both cases, however, the bearings are never in contact with the medium being handled. Please ask for full documentation on the cantilever submersible pump, type TC/TB.



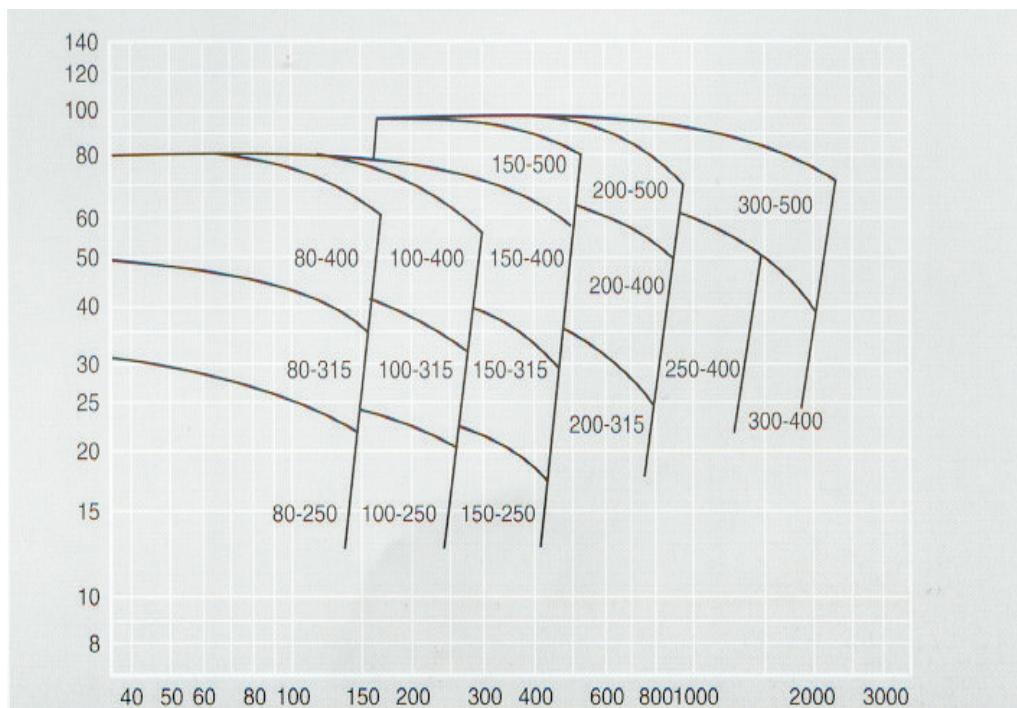
Curves

H(m)



Q

H(m)



Q

Materials

Material class Designation	1.8.A.5	1.8.8.5	1.8.C.5	8.8.5
Casing	GG 25	GG 25	GG 25	G—X6CrNiMo 18.10
Impeller	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5
Wear plate	GG 25	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5
Stuffing box Cover	GG 25	GG 25	G—X8CrNiMo 27.5	G—X8CrNiMo 27.5
Shaft	X35CrM0 17	X35CrM0 17	X35CrM0 17	X35CrM0 17
Shaft sleeve	X35CrM0 17	X35CrM0 17	X35CrM0 17	G—X6CrNiMo 18.10
Bearing support	GG20	GG20	GG20	GG20

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