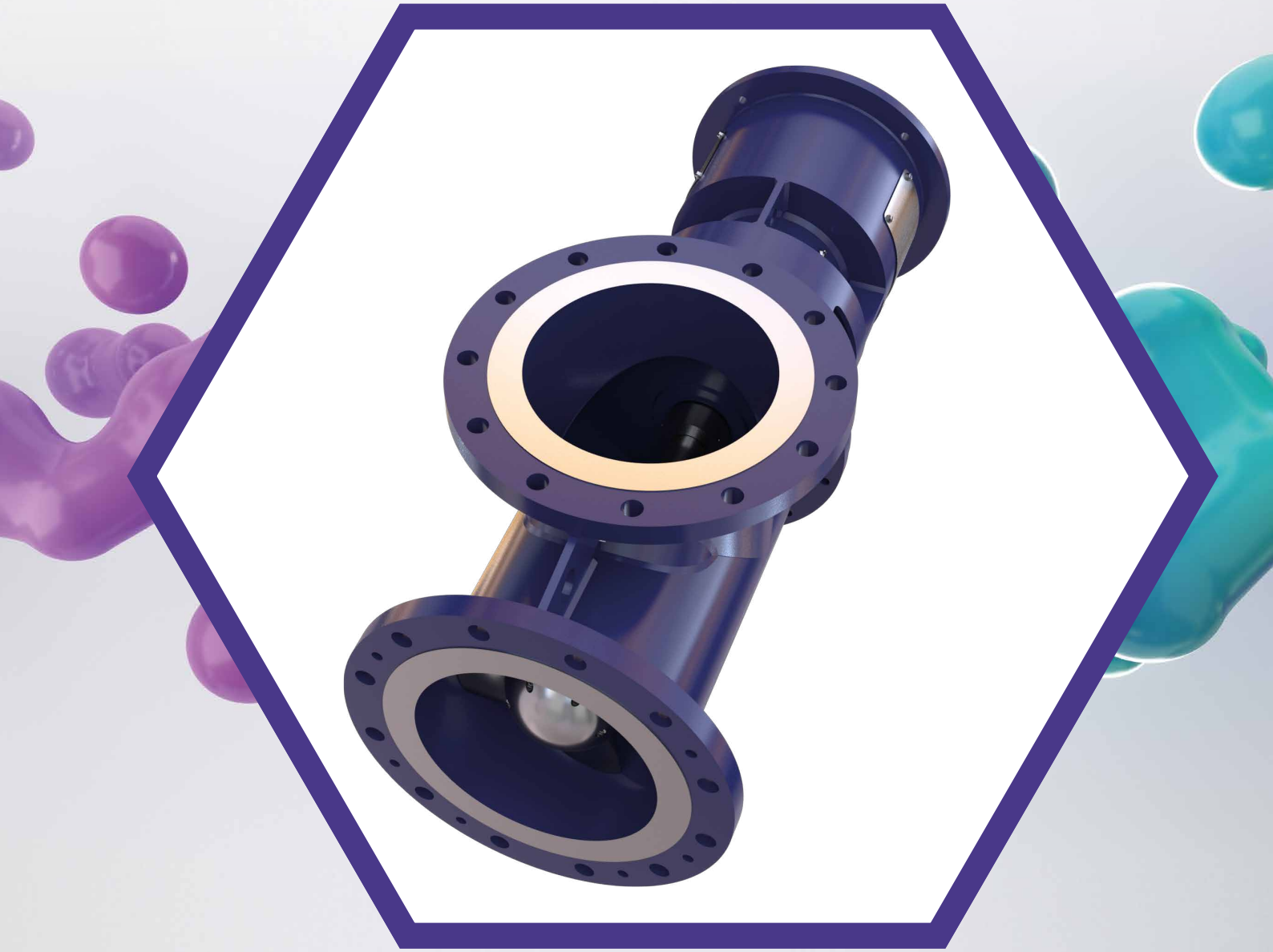
RHEINHÜTTE PUMPEN

An ITT Brand

RPROPF

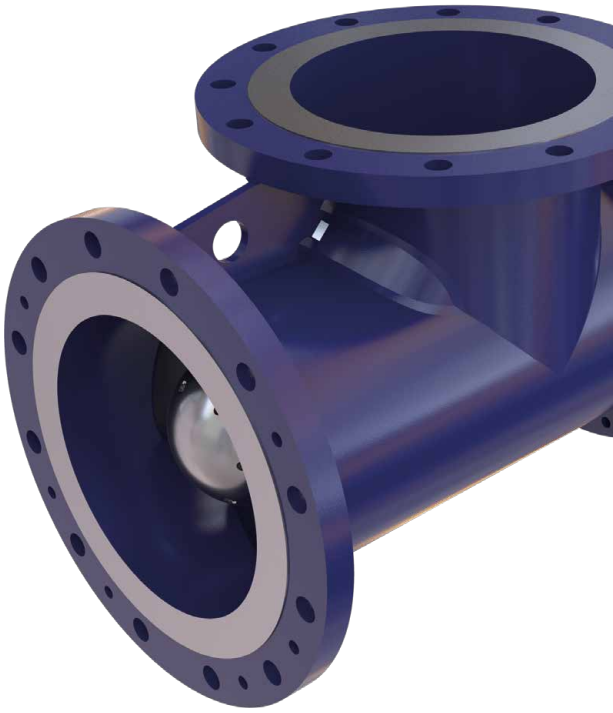
Horizontal metal pump



The RPROPF

Propeller Circulating Pump

The propeller circulation pump, with a flanged motor connected through a resilient coupling, is suspended in the pipeline. There is no need for a reinforced structure or additional frame stiffening with this mode of construction. This T-piece casing version has the advantage of a back pull out design. The whole rotor can thus be removed to the rear as a quick-change unit, whilst the casing can remain in the piping. Propeller circulation pumps of the R PROP range, in a pipe bend or T-piece casing version, are designed for large flow rates at the same time as low delivery heads, and thanks to the specially developed blades can achieve optimal NPSH figures at a high efficiency



Design features

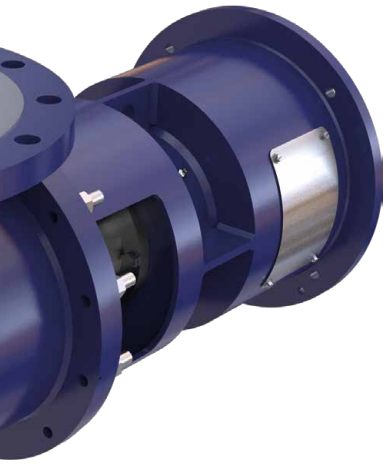
- Design: horizontal, single-stage
- Casing: welded
- Bearing lubrication: grease lubrication
- Installation versions: suspended in pipeline
- Ambient temperature:
  -20 °C to +60 °C (-4 °F to +140 °F)
- Solid content limit value: approx. 35 %

Options

- Flushing in different versions
- Temperature and vibration monitoring
- Equipment health monitoring with i-Alert®3
- Flange connections according to international standards
- Thermosyphon system
- Quench system
- Storage and priming tank
- Pump accessories

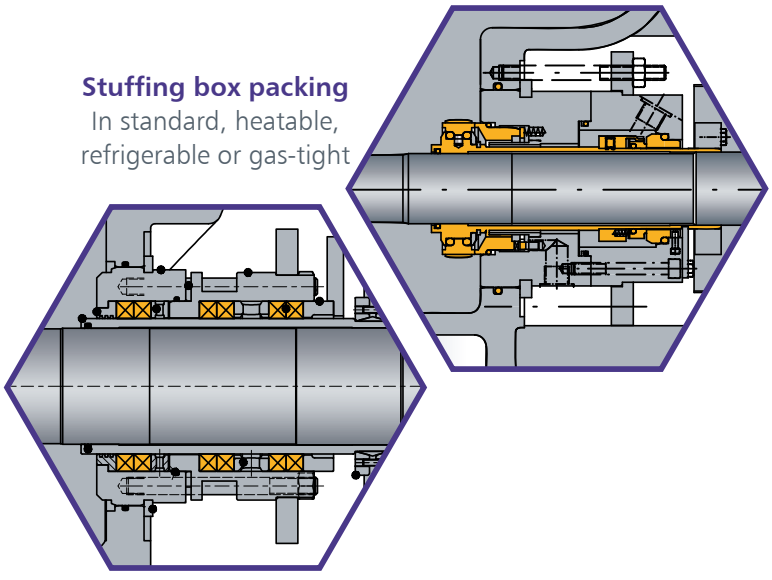
Technical data

	RPROPF
Size DN	200 to 500
Q_{max} m^3/h (gpm)	3.000 (13209)
H_{max} m (ft)	6,5 (21)
Temperature °C (°F)	-20 to +150 (-4 to +302)
Standards	ISO 5199
Flange motor design	Standard
Propeller impeller	Standard
Seal	Stuffing box packing, Mechanical seal



Mechanical seal
Single-acting, double-acting and stationary versions

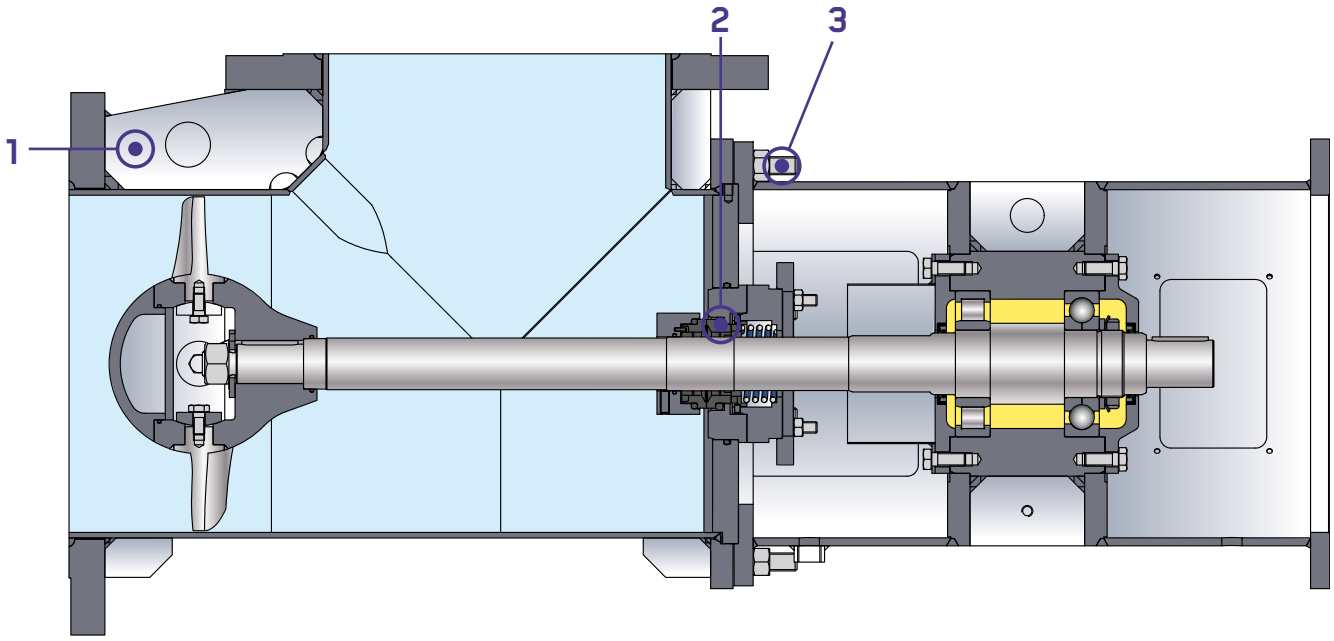
Stuffing box packing
In standard, heatable, refrigerable or gas-tight



Applications

- Brine
- Crystallization plant
- Fertilizers
- Flue gas scrubber
- Paper pulp
- Phosphoric acid
- Seawater
- Titanium dioxide

Main features



1 The T-piece casing is designed as a simple, conical and optimized T-piece available. Customer-specific solutions are also possible. The casings provide the following advantages: Quick change design

- Due to the close coupled build there is no longer a V-belt drive as a source of trouble
- Favourable construction with no need for reinforcement
- Easily maintained
- Compact dimensions
- Suspended in the pipeline
- Axial thrust balanced by 4-point mounting

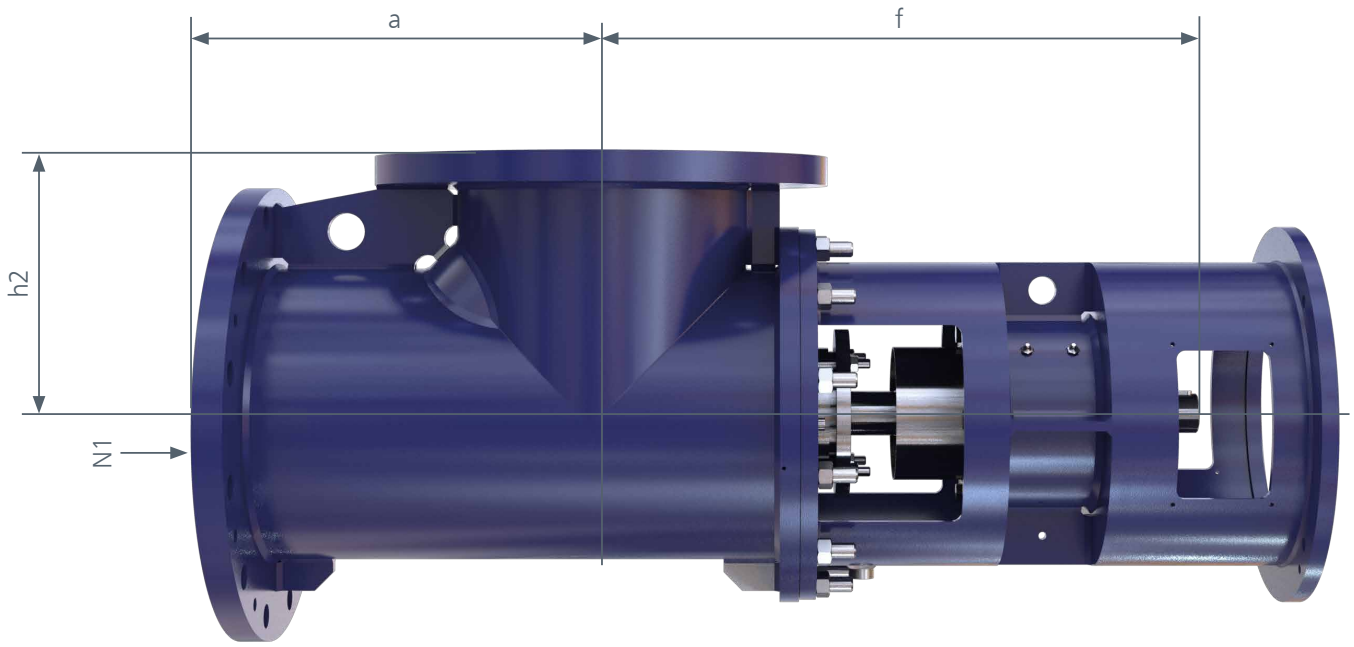
2 Sealing variants: Single or double stuffing boxes with operating and at-rest sealing or stationary mechanical seal with quench or double acting mechanical seal.

3 All shaft sealing variants are in cartridge design (no adjustment necessary).The fixing system of the cartridge unit allows its replacement without dismantling the bearing bracket. The shaft sealing systems are interchangeable without any design changes to the pump casing.

The drawings essentially correspond to the execution. We reserve the right to make design changes.

Pumps & installation dimensions

Design with optimized T-casing



Size	Pump dimensions			Flange dimensions	
	a	f	h_2	N1	N2
200	225	255	225	200	200
250	325	650	250	250	250
300	375	635	275	300	300
400	450	935	425	400	400
500	525	1010	500	500	500

N2 = Pressure flange

All dimensions are shown in millimetres.

Metal materials

The range of metallic materials includes a wide range of very different types of material which are distinguished mainly by their alloy composition, their structure and their manufacturing process. This gives each material its characteristic properties and allows an optimal material to be selected to suit the application.

1.4539

Fully austenitic special stainless steel with a high molybdenum and copper content and high resistance to pitting, stress corrosion and intercrystalline corrosion. This material is one of the super duplex steels. It can be used with crude phosphoric acid, containing solids at up to 100 °C (212 °F), hot sea water, many solutions containing chloride, FGD suspensions and sulphuric acid at all concentrations at low temperatures. The material also has good general weldability.

1.4541

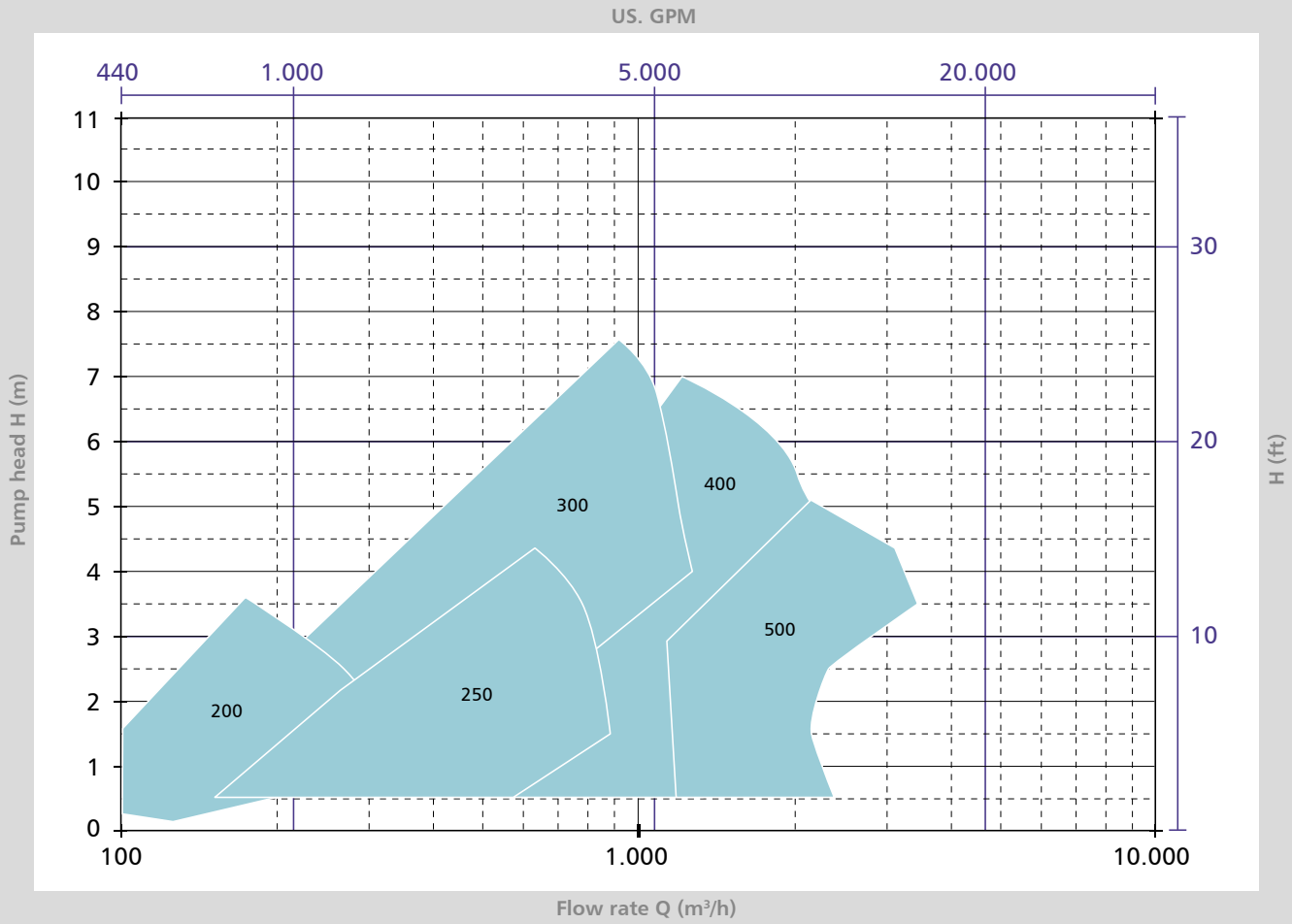
High-quality, molybdenum-free material, which is suitable for applications such as pumping nitrate salt solutions, media containing nitric acid with medium concentration, as well as organic nitrogen compounds such as amino acids. The material also has good general weldability.

1.4571

Fully austenitic chromium nickel molybdenum steels with a good general resistance to corrosion. These materials are suitable for pumping almost all organic liquids, caustic soda, pure phosphoric acid, organic acids, chloride-free salt solutions and many other media where product purity is important. The material also has good general weldability.

Capacity ranges

RPROPF : 50 Hz



200 : n = 500-1500/min
250 : n = 500-1500/min
300 : n = 500-1500/min
400 : n = 500-1200/min
500 : n = 500-740/min

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