



Specialist for Pumping Technology



ST / STV

Single stage, end suction, solids handling pumps with two-channel impeller in horizontal and vertical configurations

For more than 60 years the name Ruhrpumpen has been synonymous worldwide with innovation and reliability for pumping technology

The Ruhrpumpen type ST with its variants is a horizontal centrifugal pump with non-clogging and non-stringing two-channel impeller in pot design for dry installation and universal use, suitable for pumping sewage with coarse solid matter and fibrous content without upstream screen. It is also available in vertical installation.

Sewage Pump Design

Pump Casing

The radial split volute casing is specially designed for pumping sewage and equipped with large flow areas and large clearances between impeller and the rounded volute cutwater.

The casing is built in process design with axial suction nozzle, tangential discharge nozzle heading upward (end/top) and a cleaning opening near the pump discharge.

The suction side is equipped with a replaceable wear ring and anti-rotation ribs in the gap in front of the impeller, which ensures effective prevention of erosion.

The casing cover is utilised as wear plate in the area of back shroud blades of the impeller and provides the connection with the bearing bracket. Where the shaft passes through, the casing cover is designed to house the shaft seal.

Impeller

The single entry, enclosed impeller is a two-channel type in pot design with large passage areas, impeller vanes without distinct entrance edges and an impeller hub which is arranged outside the flow path. Together with the special shape of the impeller channels, this ensures non-clogging and non-stringing operation.

The impeller is equipped with back shroud blades for axial thrust compensation and protection against intrusion of particles into the area of the shaft seal.

On the suction side, the impeller and wear ring form the radial sealing clearance.

Shaft Sealing

The standard design is equipped with a maintenance free mechanical seal with wear resistant silicon carbide faces, where the dissipation of frictional heat to the pumped medium is ensured by a special shape of the sealing chamber.

Bearings

The pump shaft is supported by amply dimensioned grease lubricated anti friction bearings. High load angular ball bearings are equipped with lubricators.

The stable bearing bracket is fixed to the base plate by a rigid support.

Design Variants

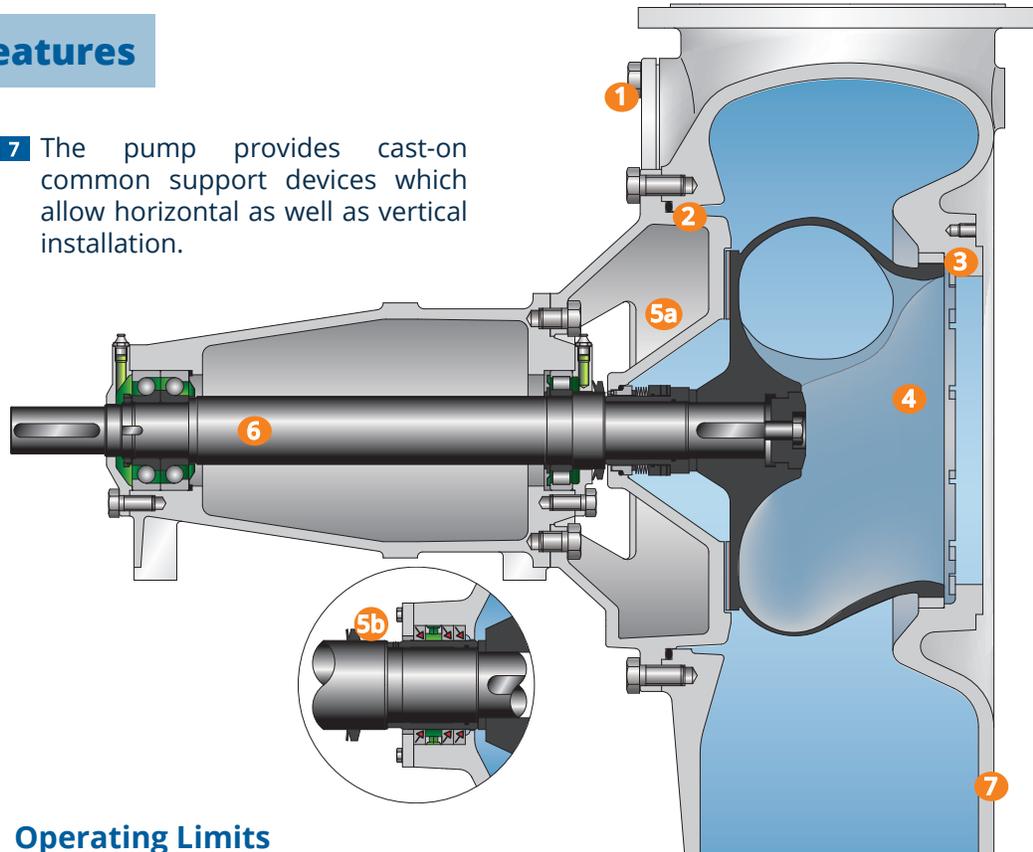
The ST line is available in the following design variants:

- **ST** horizontal pump with bearing bracket, for direct drive with electric motor via flexible coupling or via V-belt drive, e.g. with pick-a-back mounted electric motor.
- **STV** vertical pump with bearing bracket, for direct drive with electric motor via flexible coupling. Support of the motor via pump casing and motor stool or installation on a separate floor.
- **ST-bloc** horizontal pump in compact design, for direct coupling with electric motor.
- **STV-bloc** vertical pump in compact design, for direct coupling with electric motor.

Characteristics & Design Features

- 1** A large cleaning opening near the discharge nozzle provides easy visual inspection and cleaning.
- 2** Back shroud blades on the impeller serve as axial thrust compensation and protection against intrusion of particles into the area of the shaft seal.
- 3** Replaceable wear ring and anti-rotation ribs in the gap in front of the impeller.
- 4** The two-channel impeller with large passage areas, without distinct entrance edges and an impeller hub which is arranged outside the flow path ensures non-clogging and non-stringing operation even when operated without upstream screen.
- 5a** Shaft sealing as standard by mechanical seal (SiC/SiC) with rubber bellows, metal bellows or product protected spring.
- 5b** Alternatively a special sewage sealing comprising of PTFE-coated sealing rings with grease lubrication is available.
- 6** Stable bearing bracket with grease lubricated anti friction bearings and lubricators. Alternatively the ST type is available in a compact design with the impeller directly mounted on the motor shaft. The axial and radial forces of the impeller will be borne by the appropriately dimensioned motor bearings.

- 7** The pump provides cast-on common support devices which allow horizontal as well as vertical installation.



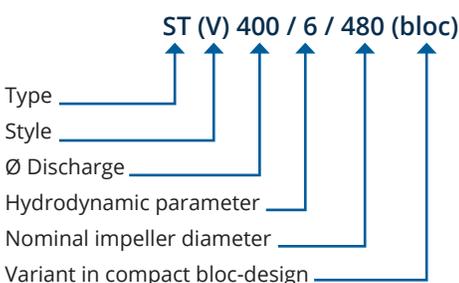
Operating Limits

Capacity	1,761 to 37,424 gpm 400 to 8,500 m ³ /h
Head	11 to 105 ft 3.5 to 32 m
Speed	up to 1,180 rpm up to 990 min ⁻¹
Discharge	12 to 28 in 300 to 700 mm
Free Passage	5 to 12 in 125 to 300 mm

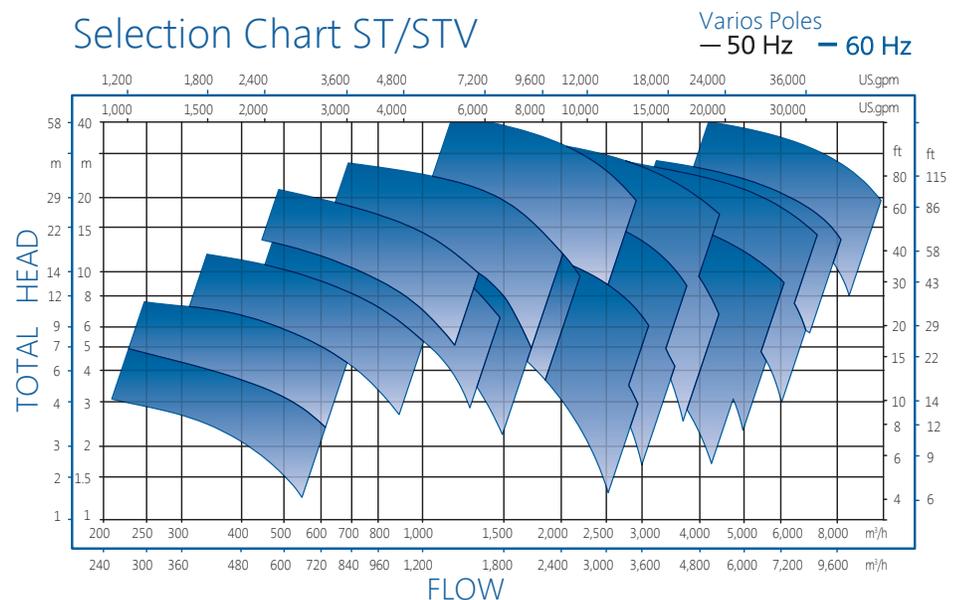
Application Range

- Wastewater disposal
- Raw sewage
- Activated sludge
- Mixed water

Pump Size Identifier



Selection Chart ST/STV



+65 years creating the pumping technology that moves our world

Ruhrpumpen is an innovative and efficient pump technology company that offers highly-engineered and standard pumping solutions for the oil & gas, power generation, industrial, water and chemical markets. We offer a broad range of centrifugal and reciprocating pumps that meet and exceed the requirements of the most demanding quality specifications and industry standards such as API, ANSI, UL, FM, ISO and Hydraulic Institute.

