



Specialist for Pumping Technology

INNOVATION
EFFICIENCY
QUALITY



**Vertical
Sump Pumps**

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

Ruhrpumpen is an innovative and efficient centrifugal pump technology company and offers operators of Pump Systems, a wide range of quality products. Ruhrpumpen is committed to global excellence with a complete range of Pumps, Fire Pump packages and related products, such as Decoking Systems and Tools to support the core markets, namely Oil & Gas, Petrochemical, Power, Heavy Industry applications, Mining and Water services. The broad product line complies with the most demanding quality specifications and go beyond stringent industry standards such as API, ANSI, Hydraulic Institute, Underwriter's Laboratories, Factory Mutual and ISO 9001.

Sump pumps are vertically suspended single casing pumps with separated discharge, semi open or enclosed impeller designed for wet pit applications. They are designed to provide dependable, economical drainage service on medium capacity installations in commercial buildings and general industrial applications. Sump pumps can be built according API 610 latest edition, type VS4.

Ruhrpumpen manufactures sump pumps for clean water applications (model VSP) sump pumps for water with solids (model VSP Non-Clog) and sump pumps for chemicals and petrochemicals (model VSP Chem).

Sump Pumps



The VSP is a sump pump with a semi open impeller, designed for clean water, and the VSP Non-Clog is a solids handling sump pump with an enclosed impeller, designed to handle water with solids as big as 4" of diameter. Standard construction for both types of pumps is Cast Iron.

Ruhrpumpen has 28 different sizes of Clean Water Sump Pumps, and 18 sizes of Solid Handling Sump Pumps, but with the engineering experience from Ruhrpumpen, any other size and material can be manufactured according to your necessities.

VSP Chem



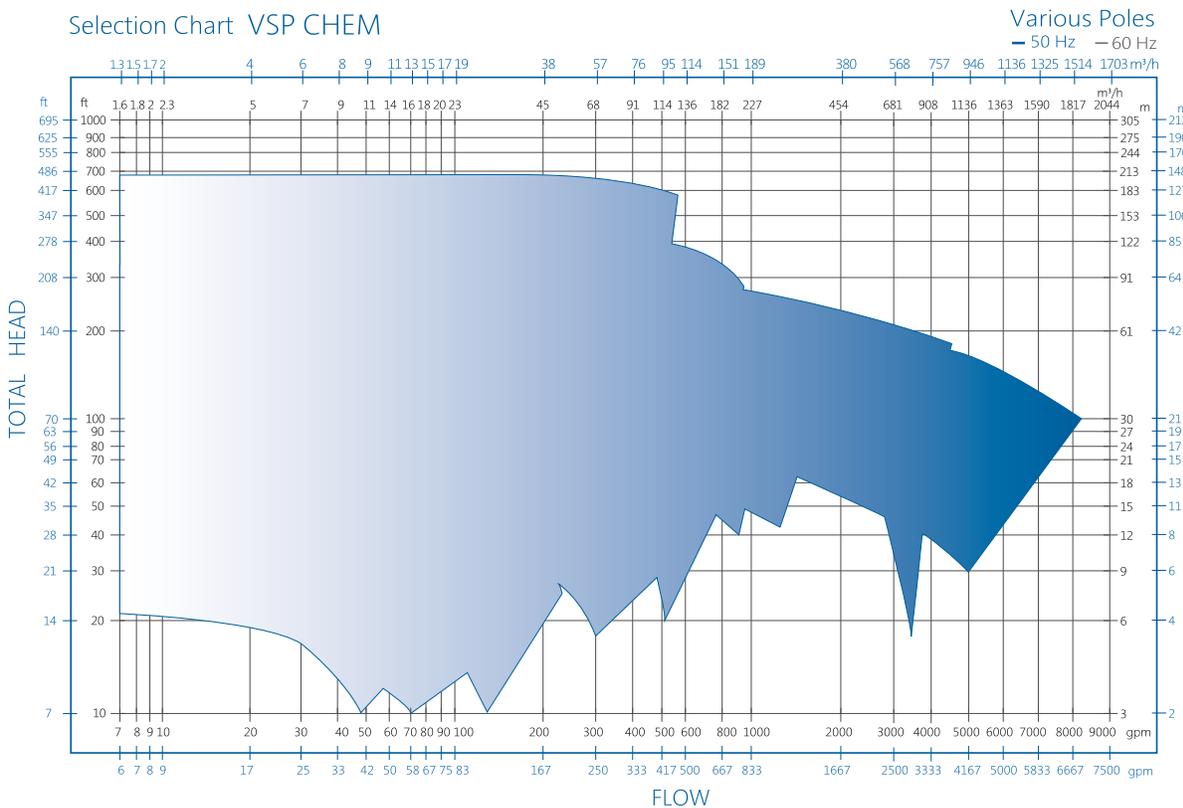
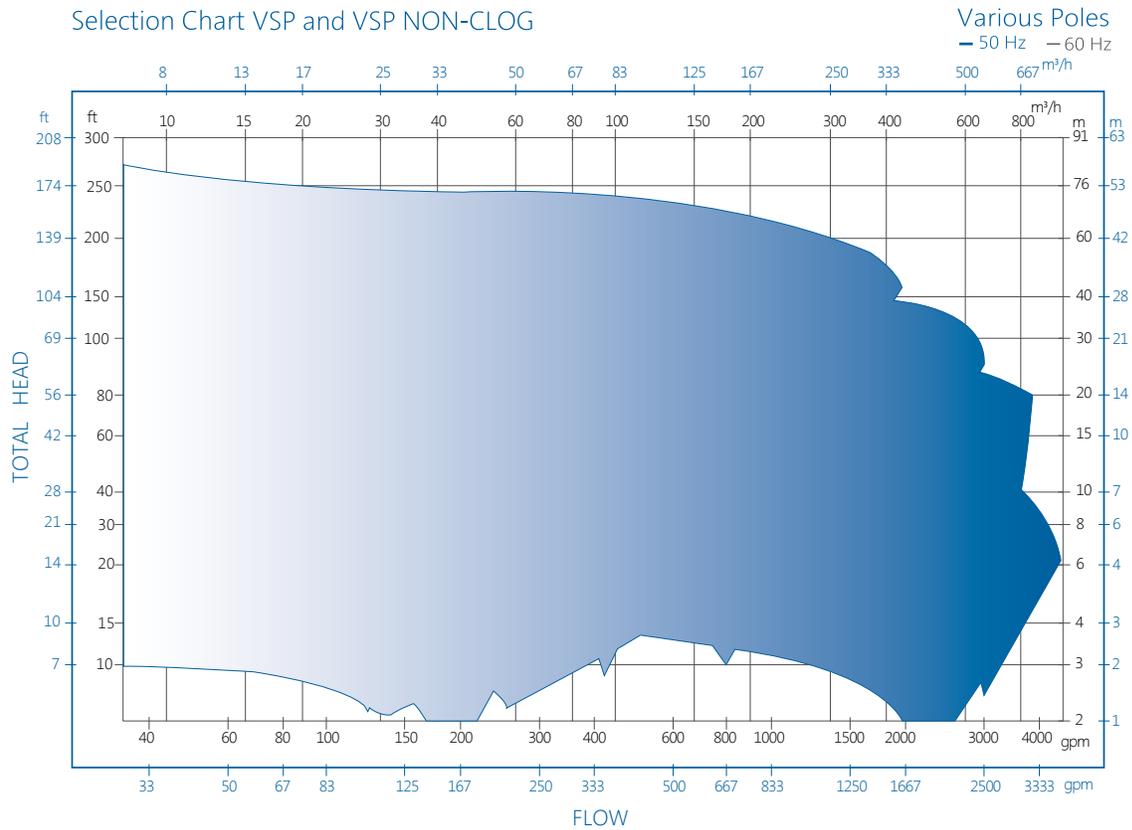
The VSP Chem is a chemical sump pump with a semi open impeller, designed for corrosive wet pit applications. This heavy duty pump can also be constructed with an API design upon request.

Ruhrpumpen manufactures a total of 19 standard sizes of the Chemical Sump Pump, but with our engineering experience; any other size and material can be manufactured according to your requirements.

BROAD APPLICATION RANGE

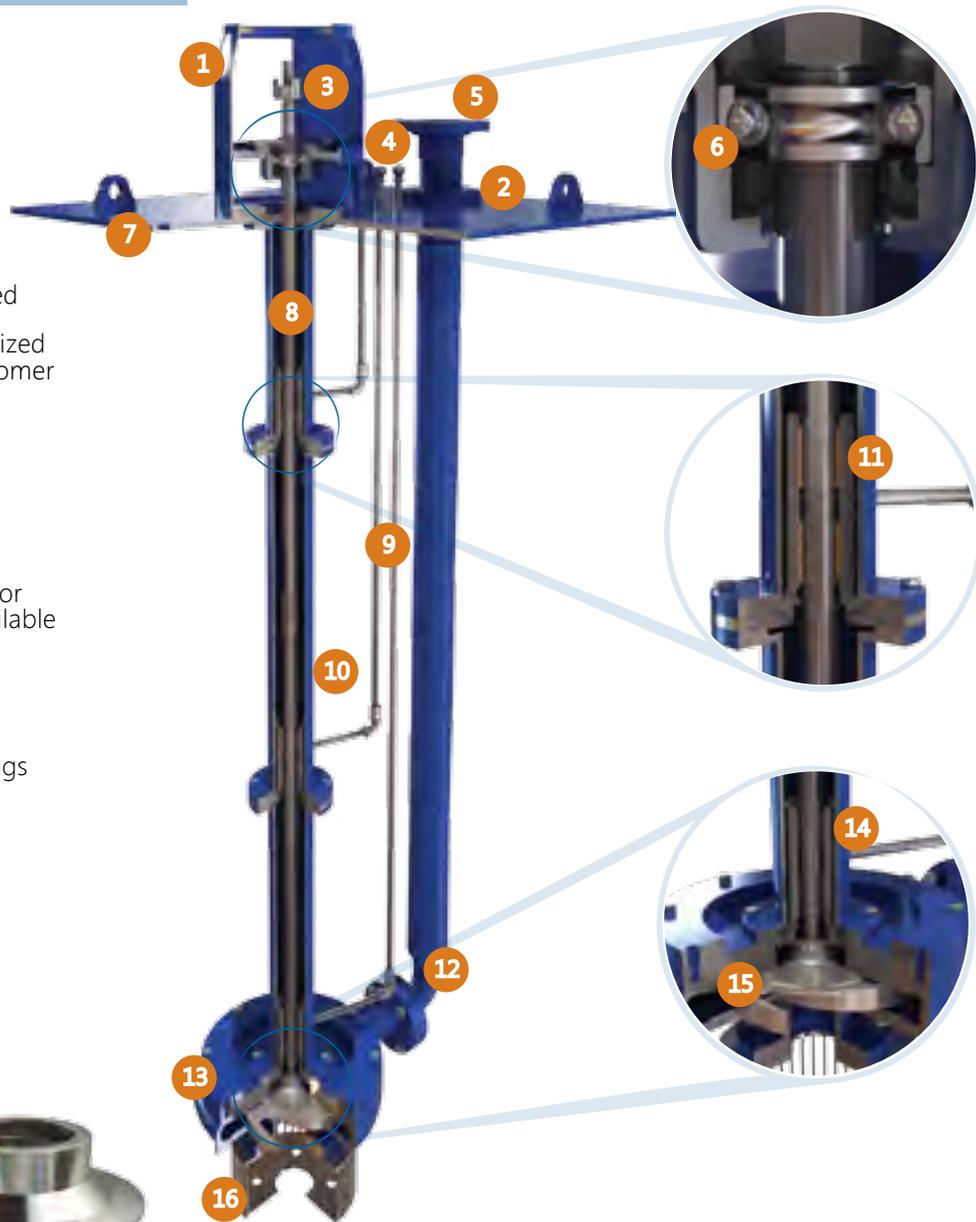
- Sump drainage
- Flood control
- Air wash systems
- Power plants
- Industrial processes
- Condensation control
- Pollution control
- Dewatering service
- Process plants
- Utility service
- Wet pit
- Water treatment
- Effluent
- Hydrocarbon processing
- General industry
- Automotive Solvents
- Polymers
- Plating and electroplating
- Pharmaceuticals
- Chemical / Petrochemical industry

Sump Pumps for Clean Water and Water with Solids



Cross Sectional Drawing VSP

- 1 Cast Iron frame motor support
- 2 Pipe nut
- 3 Flexible shaft coupling
- 4 Grease fitting
- 5 Discharge flange
- 6 Thrust ball bearing, grease lubricated
- 7 Standard mounting base or customized base available to meet specific customer requirements
- 8 416SS Shaft.
- 9 Lubrication tube
- 10 Carbon steel column
- 11 Grease lubricated bearing; product or external source lubrication also available
- 12 Discharge pipe
- 13 Cast iron casing
- 14 Bearing housing with bronze bearings
- 15 Cast iron semi-open impeller; other materials available
- 16 Steel basket strainer



VSP NON-CLOG

For solid handling processes, the VSP non-clog is available with an enclosed, accurately balanced, keyed impeller which is securely locked to the shaft for a smooth operation.

As a standard the impeller comes in cast iron but other materials are also available.



PERFORMANCE DATA VSP & VSP CHEM

Capacity	to 1,200 m ³ /h	(5,285 gpm)
Head	to 100 m	(328 ft)
Temperature	0 °C to 205 °C	(32 °F to 400 °F)
Pressure	40 bar	(to 580 psi)
Sump depth	to 6.1 m	(20 ft)
Solids	to 10.16 cm	(4 in)

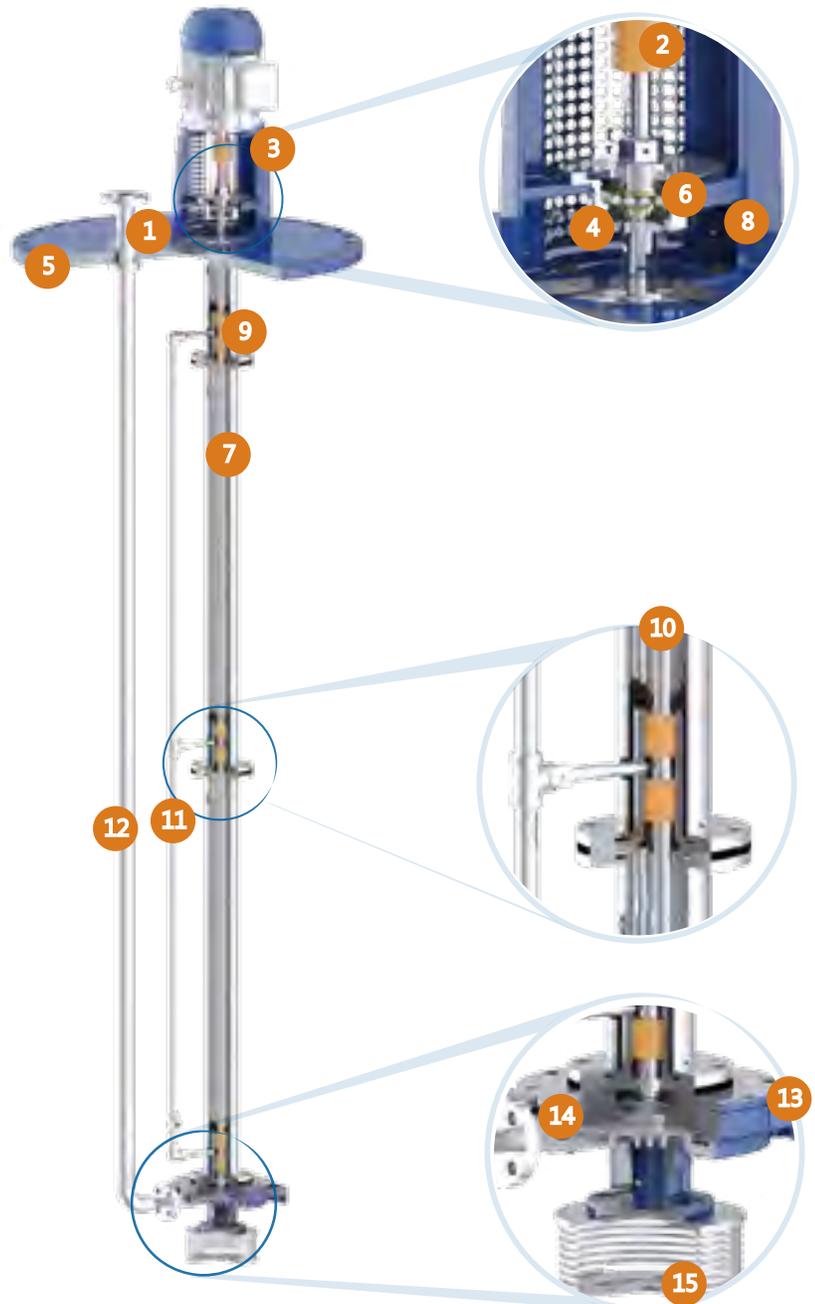
* The performance is not limited. For pump operations outside this range, please contact a Ruhrpumpen Representative.

DESCRIPTION AND STANDARD MATERIALS

- Single stage centrifugal sump pump
- Volute type case
- Cast iron motor support
- Flexible shaft coupling
- Steel cover plate
- Up to 20 ft sump depth
- 416SS Shaft
- Cast iron casing
- Cast iron Impeller, semi-open for VSP and enclosed for VSP NON-CLOG
- Steel basket strainer
- Grease lubricated line bearings with bronze bushing as standard
- These pumps require horizontal motor flange "C" to work in vertical position

Cross Sectional Drawing VSP CHEM

- 1 Discharge flange (as 150# standard / 300# optional available)
- 2 Flexible shaft coupling
- 3 Frame support motor
- 4 Mechanical seal (optional design)
- 5 Optional sole plate designs are available such as ANSI flange type or customized base specific to customer requirements.
- 6 Standard bearing arrangement
- 7 Column with materials according to the latest API - 610 version (optional design).
- 8 Bearing housing with guide bearings
- 9 Line bearings lubricated by pumped product. Grease or clean fluid from external source lubrication is also available.
- 10 Line shaft with materials according to the latest version of API - 610 (optional design)
- 11 Lubrication tube
- 12 Discharge pipe
- 13 Casing with materials according to the latest version of API - 610 Line shaft with materials according to the latest version of API - 610 (optional design).
- 14 Semi-open impeller with materials according to the latest version of API - 610 (optional design).
- 15 Steel basket strainer



DESCRIPTION AND STANDARD MATERIALS

- Designed to meet Hydraulic Institute Standards. API 610 latest edition compliance available with optional design features.
- Single stage vertical centrifugal pump
- Cast iron or cast steel motor support assembly
- 316SS or Alloy 20 column and discharge pipe
- Line shaft (316SS or Alloy 20)
- 316SS or Alloy 20 balanced, low NPSH semi-open impeller
- Bearing housing with bronze guide bearings (optional materials available)
- Many optional mechanical seal types available

- Labyrinth oil seal at bearing housing (optional design).
- Grease lubricated thrust bearing (standard) or oil lubricated thrust bearing (optional).

PERFORMANCE DATA

Capacity	to 2,317 m ³ /h	(10,200 gpm)
Head	to 160 m	(525 ft)
Temperature	0 °C to 205 °C	(32 °F to 400 °F)
Pressure	40 bar	(to 580 psi)
Sump depth	to 6.1 m	(20 ft)

* The performance is not limited. For pump operations outside this range, please contact Ruhrpumpen Sales.

Optional Features

Ruhrpumpen offers you a wide range of features to meet your specific requirements. Please contact us to help you choose the best feature for your pump application.

STEAM JACKET

Some fluids, such as molten sulphur, need to maintain a certain temperature in the pump and this is possible with the help of a steam jacket. The steam flows through the whole pump heating the fluid avoiding crystallization or any change in the operational conditions.

- Pressure of jacket: Up to 14 bar (200 psi)
- Materials: Available in all principal alloys according to API
- Vapor-proof construction
- Self-lubricating system inside the jacket to avoid solidification of the fluid in the bearings (in case the pump stops).



COLUMN BEARINGS

Specific applications require specific characteristics and Ruhrpumpen offers a range of column bearings. Optional fluted rubber with rigid shell, bronze, carbon and other special alloys are available. Petro-coke cartridge is also available.



GUIDE BEARING DESIGNS

FOR STANDARD DRAINAGE SERVICE

Noncorrosive liquids without abrasives or vapors

TOP



This is the standard cast iron column top closure.

INTERMEDIATE



This is the standard intermediate shaft guide bearing assembly with cast iron bushings and grease lubrication. Wich is normally used with settings over 6 feet.

BOTTOM



The picture shows the standard bottom shaft bearing assembly. The choker ring resists lubricant flushing by the liquid pumped.

FOR SPECIAL PUMPING SERVICES

When pumping abrasive, corrosive or hot liquids, a special arrangement for the shaft guide assemblies must be applied to meet the requirements of a particular installation

TOP



This design for noncorrosive vapors which can be contained by a grease-lubricated top column closure.



This design for hot or corrosive vapors can be contained by a stuffing box. It can also be fitted with inlet and outlet connections for pressurizing inside of the column with water, air or steam to keep abrasive or corrosive liquids out of the bearing assemblies.

BOTTOM



For slightly abrasive water where grease or clear water are not available for lubrication, this design with rubber bushing is ideal as a bottom shaft guide bearing assembly.

LEVEL MEASURING INSTRUMENTS AND CONTROLS

Ruhrpumpen can provide customers with a complete line of level measuring instruments, controls and starters for each Sump Pump to suit specific requirements.



Ultra Sonic Level Transmitter Designed for reliable continuous level measurement.

OPTIONS

- Multi-point level switch
- Liquid level electric switch for tanks
- Floating controls
- Magnetic float switches
- Vibrating level switches
- Ultrasonic Level Transmitter



RUHRPUMPEN PLANTS

-  USA, Tulsa & Orland
-  MEXICO, Monterrey
-  BRAZIL, Rio De Janeiro
-  ARGENTINA, Buenos Aires
-  GERMANY, Witten
-  EGYPT, Suez
-  INDIA, Chennai
-  CHINA, Changzhou
-  UK, Lancing

More Information:

