

VRD

Sump pump for polluted liquids



SOUTHERN PUMPS
SOUTH AFRICA (PTY) LTD

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VRD submersible pumps are used for pumping up liquids containing solid particles from a low-lying, fluctuating, liquid level and where the motor has to be placed above the highest liquid level. The pump is one of Johnson Pump's solutions for pumping contaminated liquids.

The VRD is a range of submersion pumps with a channel impeller or a half-open centrifugal impeller, suitable for pumping contaminated liquids.

The pump casing and the inlet section are located permanently below the surface of the liquid so the pump is always ready for operation.

Each size can be supplied in various submersion depths.

Depending on the pump length it is supplied with an intermediate bearing.

The pump is driven by a standard IEC flange motor. The power is transmitted through a flexible coupling.



VRD



Pump characteristics

- Suitable for a wide range of duties
- Inspection cover on pump casing
- Easy maintenance
- Compact, space saving construction
- Suction strainer optional

Pumps in places that other pumps cannot reach...

■ General industry

The VRD pump is very useful in places difficult to access and where trouble free operation and fast priming are important, such as drain water and leakage water pump down below in pumping stations.



■ Utility buildings

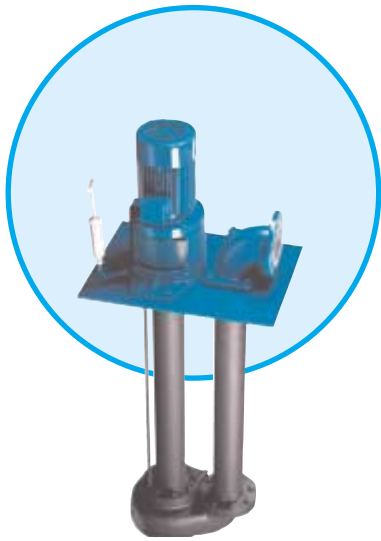
VRD pumps are used in public buildings where the toilets are often located below the level of the municipal sewer system, making it necessary to pump up the waste water.



■ Drainage systems

In drainage systems located at such low levels that discharge by natural means is impossible a concrete pit with a VRD is the solution.





Dry part

Electric motor

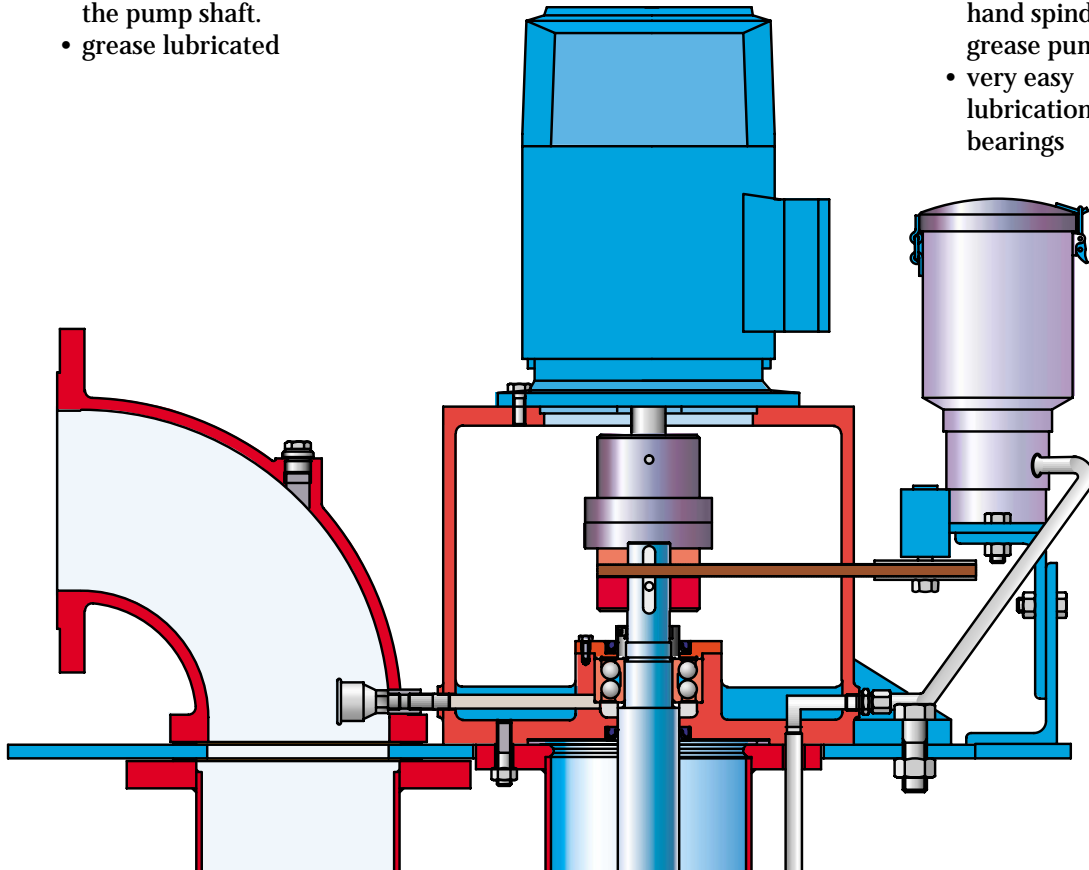
- standard IEC flange motor
- mounted on lantern piece
- accurate alignment by means of centering rim
- *no need for extensive re-alignment of pump and motor on site*

Bearing construction

- double-row angular-contact ball-bearing for the pump shaft.
- grease lubricated

Lubrication

- built-on automatic grease pump or hand spindle grease pump
- very easy lubrication of the bearings



Discharge connection

- bolted above the baseplate
- threaded 2" or 2 1/2" or flanges according to DIN 2532 PN10

Baseplate

- standard rectangular base plate
- bottom side has anti-corrosion protection

and *benefits*

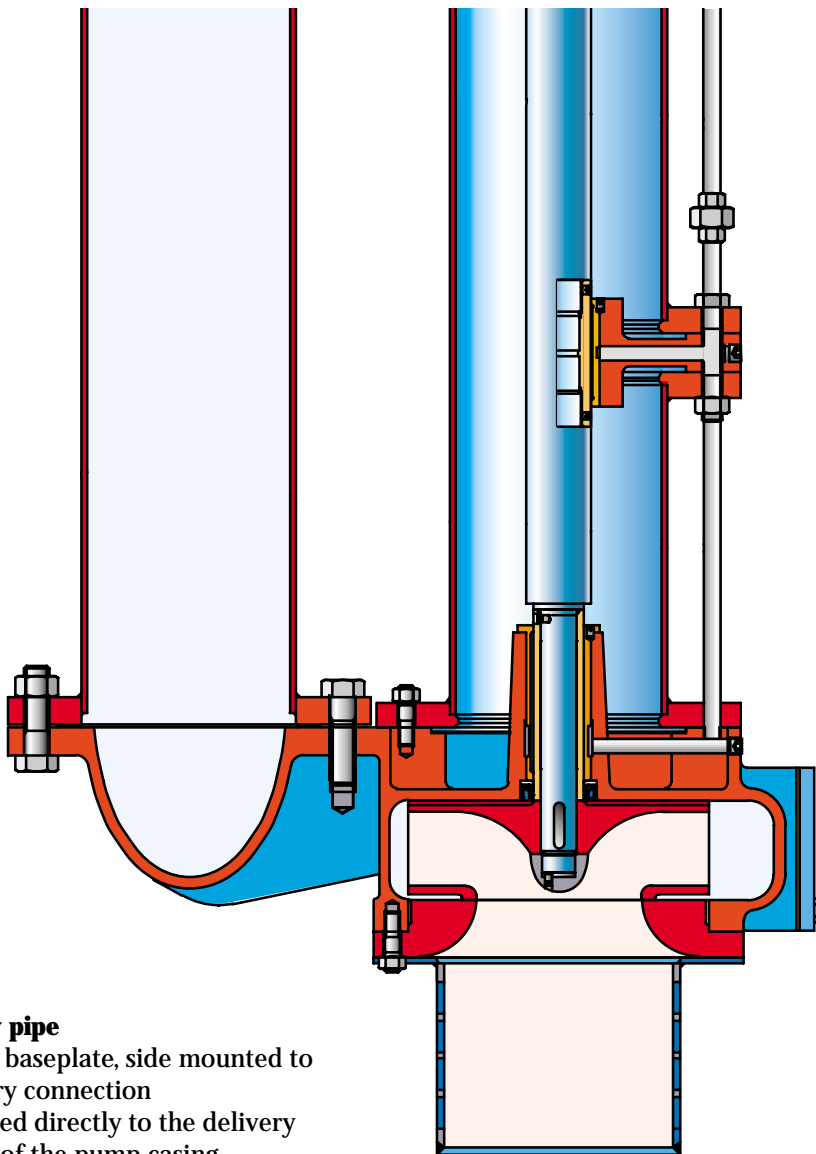
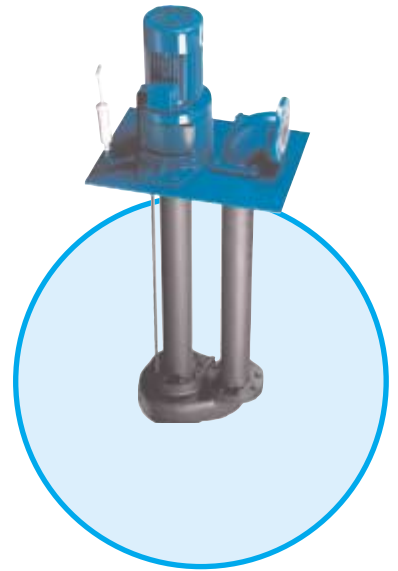
Submersible part

Column pipe

- situated below the baseplate
- consisting of one or two parts.
- connects the pump casing with the baseplate
- externally coated
- *protected against corrosion*
- *protects the shaft*
- *supports the intermediate bearings if applicable*

Slide bearings

- pump shaft provided with slide bearing (depending on length of column pipe)
- slide bearing for pump shaft end in pump casing
- *provided with grease lubrication*



Pump casing

- inspection and cleaning cover
- contains slide bearing for pump shaft
- *easy removal of possible obstructions without disassembling the entire pump*
- *rigid construction*

Impeller

- non clogging impeller
- impeller is permanently submerged into the liquid
- *no chance of interruption of operation*
- *always ready for use*
- *no extra costs for priming facilities*

Delivery pipe

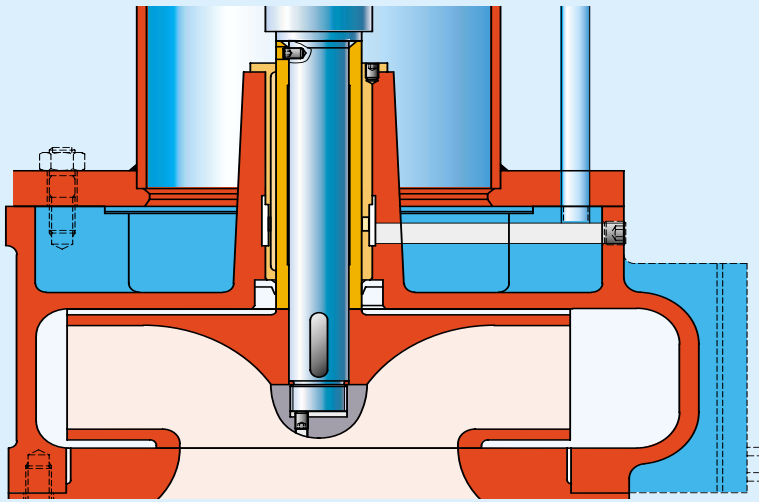
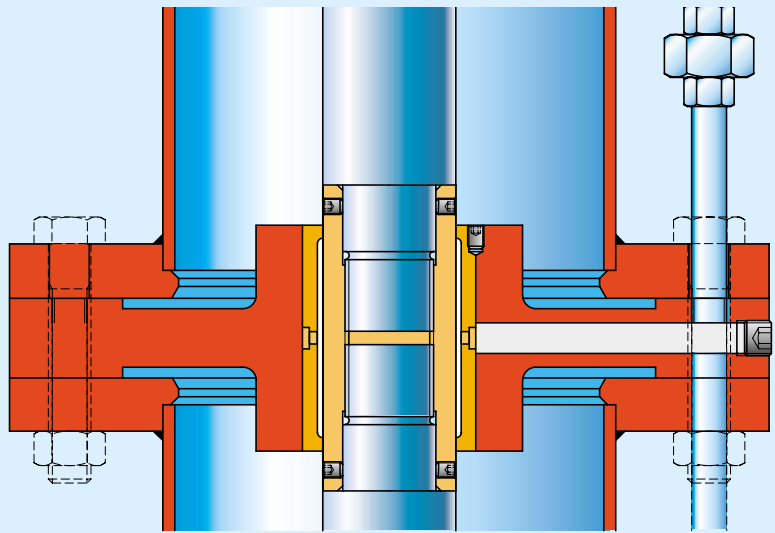
- on the baseplate, side mounted to delivery connection
- mounted directly to the delivery flange of the pump casing
- coated
- *protected against corrosion*

Strainer

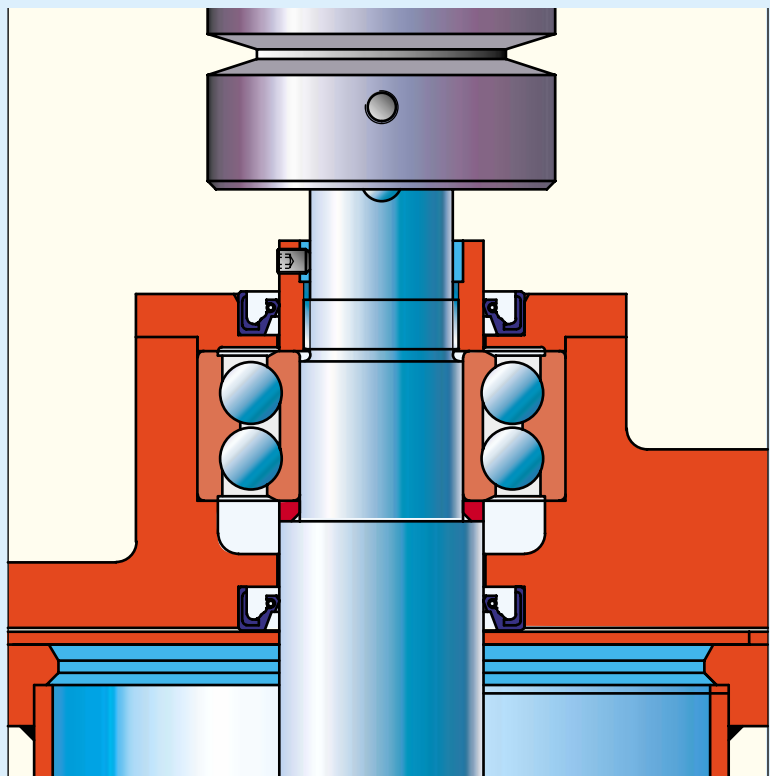
- optional suction strainer
- *prevents large particles from entering the pump*

Bearing

- For long column pipes the 'wet part' pump shaft is provided with a grease lubricated slide bearing. A special water resistant grease is used for greasing the slide bearings since they operate directly in the liquid.



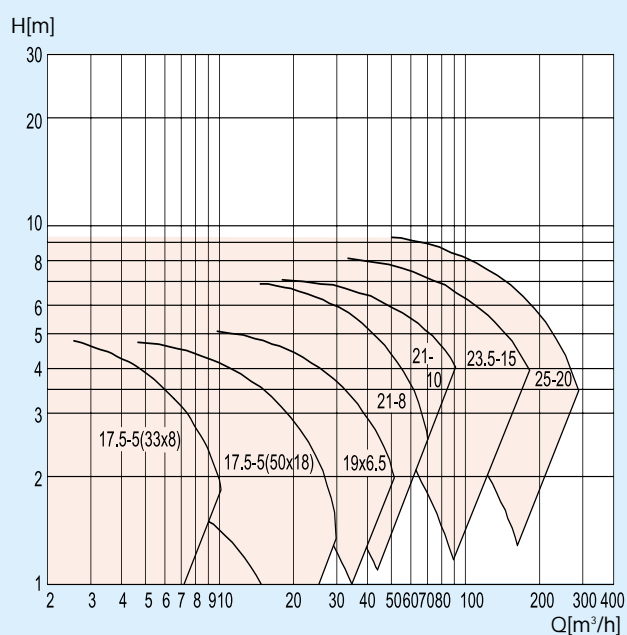
- The 'dry' part pump shaft is provided with a grease lubricated double-row angular-contact ball-bearing.
- At the location of the shaft passage the shaft is provided with an oil baffle.



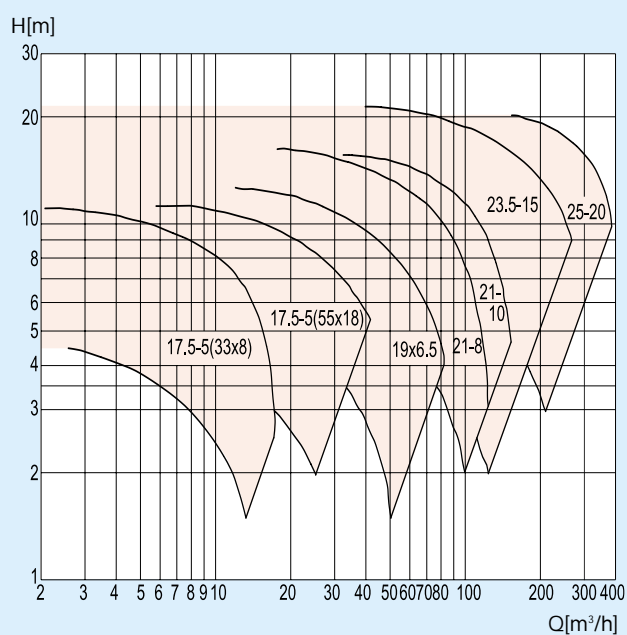
Technical data

Max. capacity	400 m ³ /h
Max. head	45 m
Max. viscosity	110 mm ² /s
Max. immersion depth	3,73 m
Max. speed	1800 rpm

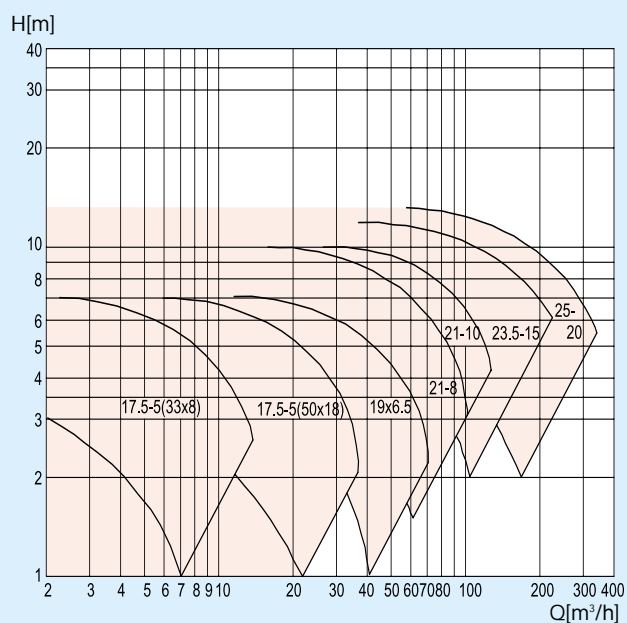
Performance overview



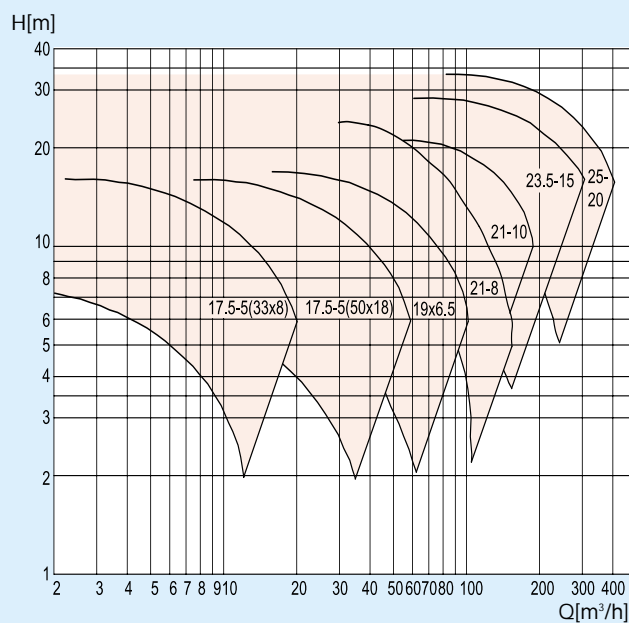
1000 rpm



1500 rpm



1200 rpm



1800 rpm

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