

SA Hippo Expands The Vortex Slurry Sump Pump Range

One of the biggest challenges at coal processing plants is that the sump pumps can get blocked by large solids and the whole processing plant will then get flooded to such an extent that either the plant has to be shut down or the blocked pumps have to be removed in order to be unblocked or replaced.

HAZLETON PUMPS observed the problem and realized that a sump pump capable of pumping slurries containing large solids of up to at least 75mm, at a variable inflow rate without the possibility of the pump being blocked, would be required.

Utilising the “Vortex” concept with a “recess impeller design”, a vertical spindle sump pump with the capability of pumping coal slurry containing solids of up to 100mm in diameter was designed, developed and manufactured.

Keeping the total cost of ownership in mind the vertical spindle sump pump is economically manufactured utilizing a column pipe design where an adjustable bearing housing is inserted into the column pipe on top with the motor bracket and the volute casing at the bottom of the column pipe.

The first HIPPO Vortex Slurry Sump Pump that was designed and developed delivered to New Vaal Collieries in February 1994 and due to the success of this pump design, the HIPPO Vortex Vertical Spindle Slurry Sumps have been successfully installed at other coal processing plants – the latest being at the Sasol’s Coal Processing Plant at Twistdraai Colliery in Secunda.

Continuous enquiries from customers for sump pumps capable of handling larger solids as well as pumping at higher heads and volumes led to HAZLETON PUMPS expanding the *HIPPO* Vortex Slurry Sump Pump range now capable to pump solids of up to 150mm in diameter with a flow rate of 200 l/s and a head of 50 meters.

Vertical Spindle Vortex Sump Pump Design Features

High Efficient Electrical Motor

HRC Coupling allows for easy motor change and Impeller adjustment

Top adjustment of bearing housing to maintain hydraulic performance and efficiency

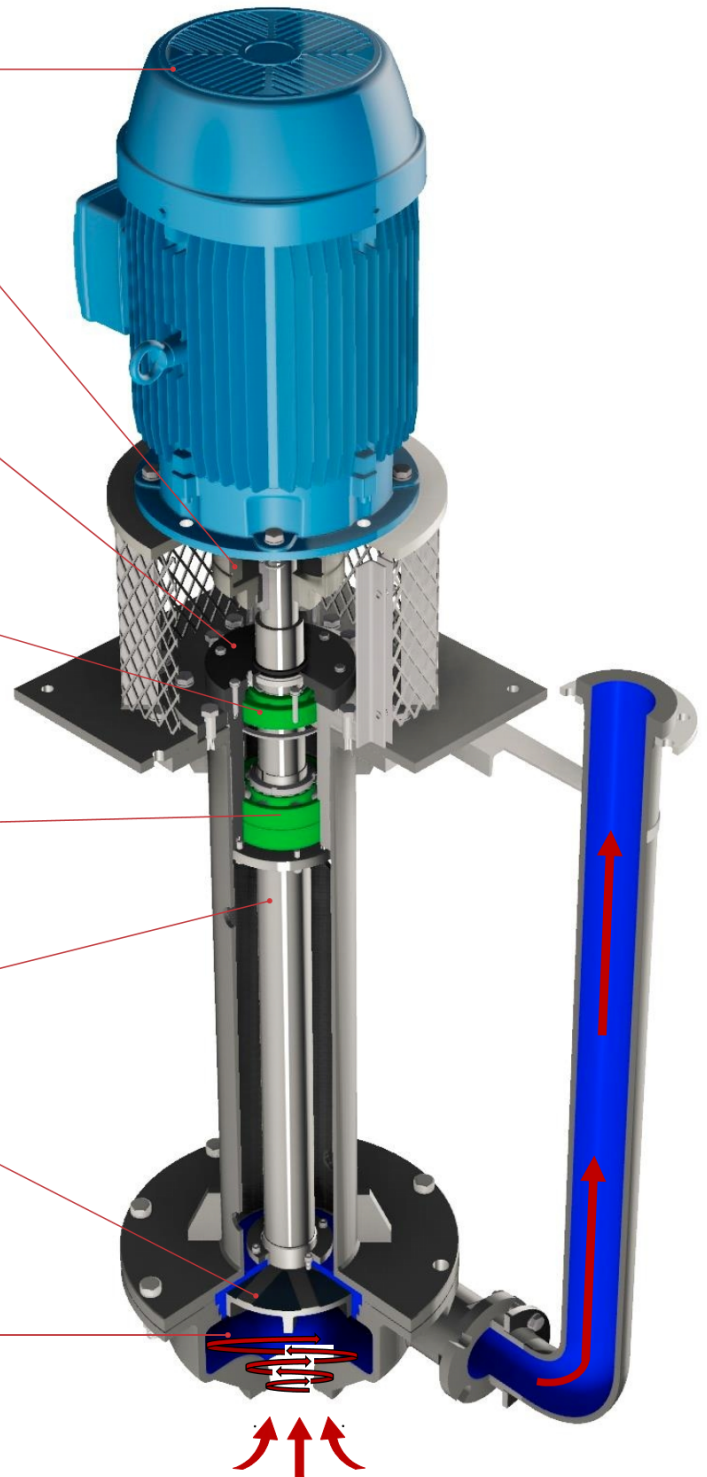
Conservatively sized floating radial bearing

Angular Contact bearings mounted back-to-back restricting all axial movement should the pump be surging

Rugged cantilever Shaft. No submerged bearing or stuffing box

Vortex Induced Flow Impeller for Pumping of liquid containing Large Solids.

Volute Designed to accommodate large solid.



Materials of Constructions

Material

HIGHCHROME(28%HC)
CASTIRON(SG)
MEHANITE
STAINLESSSTEEL(316L)
DUPLEXSTAINLESSSTEEL(CD4MCU)

Specification

ASTMA532,ClassIITypeA/BS
ASTMA48,Class30
TypeCB3
ASTMA276&A314
ASTMA744



Photo of the **HIPPO** Vortex Slurry Submersible Pump before delivery to Twistdraai Colliery

HIPPO Vortex Slurry Submersible Pump Family of Curves

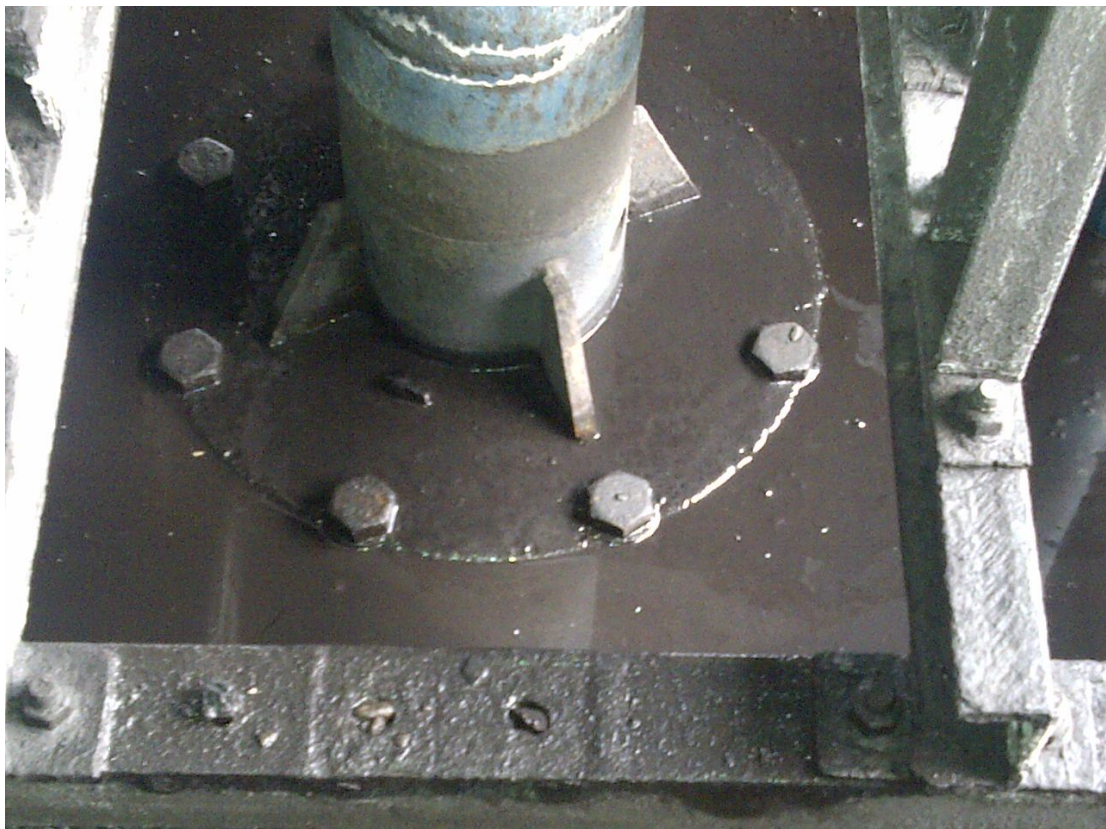
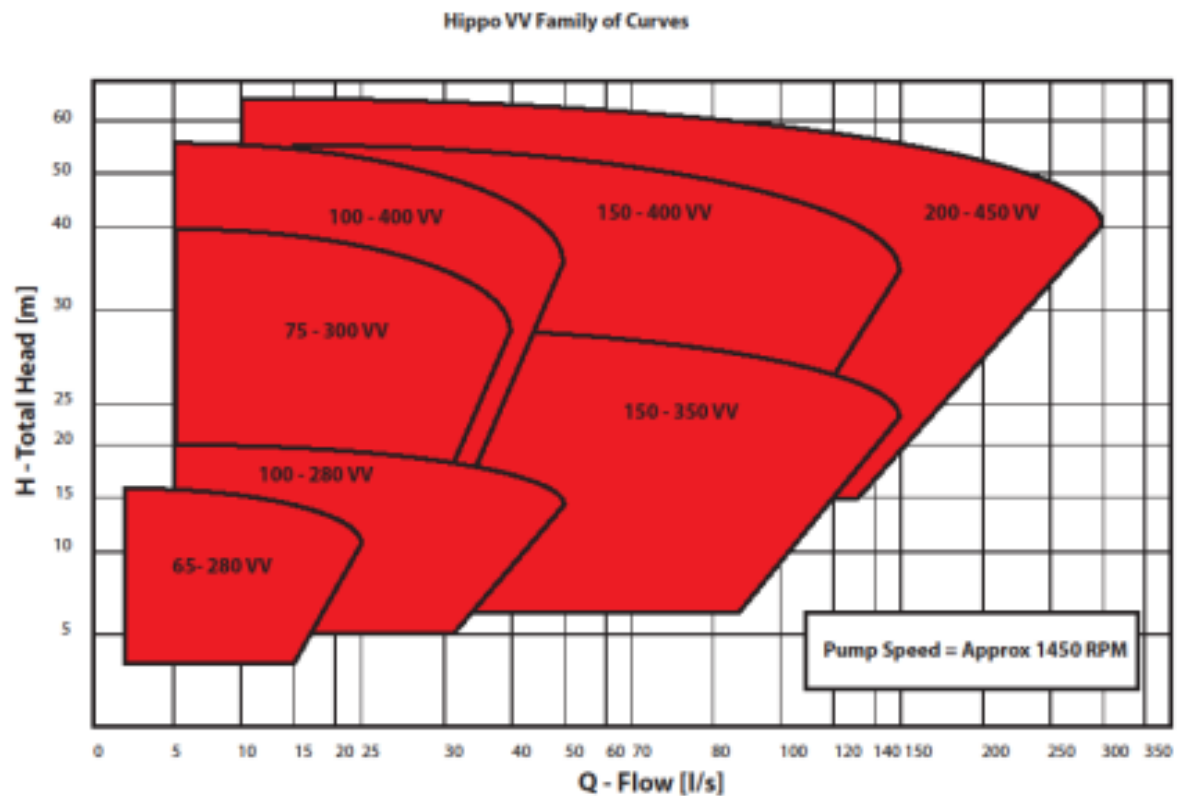


Photo of the **HIPPO** Vortex Slurry Submersible Pump in operation at Twistdraai Colliery