

SA HIPPO IN BIG DEMAND FOR USA COAL MINES

Due to President Donald Trump insisting that USA international companies, such as General Motors, bring their manufacturing activities back to the USA it is expected that a shortage of electrical power would be experienced.

Several USA coal mines that have been closed for the last 20 years, most of which are presently flooded in order to evaluate the quality of the coal these mines all the water will have to be pumped out before any of these closed coal mines would have to be brought back into production to provide in the increased demand in power.

After the mines are evaluated and the coal graded the mines able to deliver a satisfactory grade of coal will then supply coal to the power stations located closest to these mines. Even though the power stations had been mothballed and/or de-commissioned they are mostly in a good condition and could be re-opened within a period of 3 years.

At present there are 830 coal mines to be evaluated and the potential exists to export pumps to a number of these coal mine. Several enquiries had been received recently about the supply of flameproof submersible pumps that can operate at a duty of 650 feet (approximately 200 meters) where acidic liquids have to be pumped and where methane gas is present.

Due to the major increase in volume of liquids that have to be pumped from underground in coal mines directly to surface HAZLETON PUMPS® has successfully designed and manufactured the world's first High-Volume; High-Head; Medium/High Voltage Flameproof Submersible Slurry Pump® manufactured from Duplex Stainless-Steel. This pump has specialized protective features to ensure that the stator winding would never burn out due to either overheating or the failure of the mechanical seals.

The HIPPO Flameproof Medium/High Voltage Submersible Slurry pump®, manufactured by HAZLETON PUMPS® in South Africa, is still regarded as the world leader when pumping acidic liquids containing solids at high heads and high volumes and has been exported to the major mining countries.

Based on the successful operation of the flameproof pumps delivered to the Houston refineries and manufactured to comply with the IEC 60097/1: 2005 Flameproof specifications as well as that the HIPPO Flameproof, Medium Voltage, submersible pump® had been developed to pump heads of 300 meters high and it is therefore able to supply pumps according to these USA requirements. Due to the numerous enquiries received from the USA, HAZLETON PUMPS® will have a permanent representative from South Africa situated in Niagara to service both the USA and Canadian markets.



The HIPPO High Volume; High Head; Medium/High Voltage Flameproof Submersible Slurry Pump®

- Additional Protection to eliminate electrical flashes inside electrical enclosures.

To increase the reliability of the HIPPO Flameproof Submersible Slurry Pumps®, specific safety controls have been designed to protect the submersible slurry pump's electrical stator winding from ever burning out.

The elimination of an electrical flash inside the pump enclosure, when using medium/high voltage equipment such - as submersible pumps in areas where flammable gasses might be present, is ensured by installing the essential additional protection as required and developed by HAZLETON PUMPS®.

The pump enclosure will be under vacuum pressure monitored by means of a pressure transmitter. In the event of the enclosure leaking, the vacuum created will be lost and the pressure transmitter will cause an indicator light to be activated to confirm the loss of vacuum. The enclosure could then be isolated, resealed, re-vacuumed and returned to operation. This invention has been patented as well as trademarked.

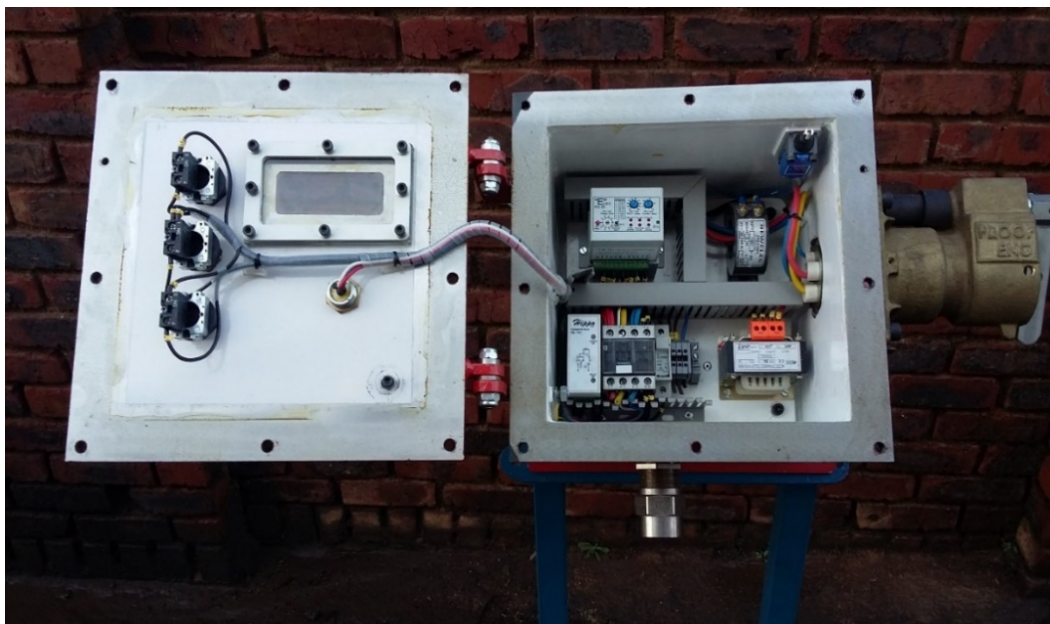
This device can also be fitted to all enclosures and equipment such as transformers and similar equipment. When such equipment should fail it could have an impact on the safety - in particular where it is installed in an explosive environment such as underground in coal mines where methane gas is present. By preventing the electric flash from igniting the atmosphere in the enclosure the damage that could be caused will be contained and no major explosion will occur. An example of the danger when a transformer explodes was illustrated when two employees at the TENKE copper mine in Democratic Republic of Congo suffered injuries in an electrical fire at the weekend of 15 – 16 July 2017 when the mine experienced an electrical short in a single transformer that supplies the SAG Mill at the Kwatebala plant, resulting in a localised fire.

Due to success of the safety controls used on the Flameproof Medium/High Voltage High Head; High Volume; Submersible Slurry Pump, all HIPPO Submersible Slurry pumps® are now fitted as a standard with these safety controls.

To protect flameproof submersible pumps, it is also essential to have a flameproof electrical control panel installed as close as possible to the pump. The control panel needs to firstly have overload protection, secondly a sensing device to measure when the mechanical seals have failed and thirdly a relay suited to the thermistors to prevent the electrical winding overheating.



HIPPO Flameproof Submersible Pump range control panel



The HIPPO Flameproof Submersible Electrical Control Panel showing the control relays

- HAZLETON PUMPS® guarantees no Electrical Winding Burn-out of HIPPO Pump Range®

Besides, being the world's safest flameproof submersible pump, the total cost of ownership is exceptional. Should the electrical stator winding fail and must be rewound, the total cost of the repair makes up at least 40% of the total cost of a new pump excluding the removal and installation costs.

With the safety controls being built into the electrical control panel as well as the pump, as supplied by HAZLETON PUMPS®, the company will guarantee that when the HIPPO Submersible Slurry Pump® fails, the winding will not have to be rewound.

The guarantee will only apply if the pump is operated using the appropriate control panel and should all the controls be in place and connected HAZLETON PUMPS® will carry the costs of rewinding the electric stator. The main reason for the failure on the electric winding of submersible pumps is due to the pumps running dry which causes the electrical winding to overheat and burn out and one of the unique features of the HIPPO Submersible Slurry Pumps® is that these pumps can run-dry indefinitely.

- The use of specific materials in the design, development and manufacture of the HIPPO Flameproof Submersible Pump Range®.

Coal Mine water is usually contaminated with acid and the pumps required for these applications need to be manufactured from specialised materials such as Duplex Stainless- Steels which are able to handle the erosion and corrosion as a result of the acidic liquids, containing solids, being pumped.

- Design, development and manufacture of the HIPPO Flameproof Submersible Pump Range® and Pumping Systems.

In order to move the HIPPO Flameproof Submersible Slurry pump® effectively around underground a Flameproof Submersible Pump System was developed. This system consists of a HIPPO Flameproof Submersible Slurry pump® mounted on a skip that can be moved around with a tractor to reach the various places where nuisance liquid is present that needs be removed.



The skid mounted HIPPO Flameproof Submersible Slurry Pump System®

In areas where a tractor cannot be utilised to move the skid mounted HIPPO Flameproof Submersible Slurry pump system a trolley mounted Flameproof Submersible Slurry pump system could be provided which can be moved around by hand.



The trolley mounted HIPPO Flameproof Submersible Slurry Pump System®



The skid mounted HIPPO Flameproof Submersible Slurry Pump System® in underground operation in a typical coal mine