



Mining - Case Study



Case Study Information

Customer	Mining Company
Location	Egypt

Equipment Supplied:

4 x 3" Air Operated Diaphragm Pump

Application	Bulk Lube Oil Transfer
Fluid	15wW/40 Engine Oil, 30W Hydraulic Oil & 50W Transmission Oil
Flow	600-800 Litres/min
Head	5m
Pump Casing	Aluminium
Diaphragm	Nitrile

4 x Horizontal Triple Screw Pump - Azcue BT-HM Range

Application	Bulk Lube Oil Transfer Pump
Fluid	15wW/40 Engine Oil, 30W Hydraulic Oil & 50W Transmission Oil
Viscosity	75-380 cSt
Flow	4.5m ³ /h
Total Head	1 bar
NPSHr	3m
Power	2.2 kW
Voltage	380V-III
Frequency	50Hz
RPM	2900
Pump Casing	Ductile Cast Iron
C. Spindle	Nitride Steel

Enquiry:

- ✓ An existing mining customer of Castle Pumps was upgrading their bulk lube oil offloading system and required four electrically driven pumps and four air driven pumps. They were unloading a combination of 15wW/40 Engine oil, 30W Hydraulic Oil and 50W Transmission Oil for their onsite machinery. The oils would be unloaded from 20,000 litre trucks to their bulk lube oil tanks. They required lube oil pumps that could transfer the various viscosity oils in a quick and reliable manner.

Solution:

- ✓ We selected electrically driven screw pumps and air operated diaphragm pumps for this application. From experience, we knew that our range of triple screw pumps could easily handle the varying viscosity oils while maintaining a consistent flow rate and pressure. These pumps are fitted with built in safety valves to protect the screw pump against any increases in pressure, this provided a reliable solution that would ensure the transfer operation ran efficiently.
- ✓ The 3" diaphragm pumps consisted of an aluminium casing and nitrile diaphragms and could achieve a flow rate of between 600 and 800 l/min. The flow rate is easily adjusted by controlling the rate of air flow into the pump from the compressor. These AODD pumps can self-prime and are able to handle oils of varying viscosities; they can also be run dry in instances where no fluid is entering the pump.
- ✓ This project is a prime of example of where Castle Pumps has provided various types of pumps into one package to ensure the customer has one point of contact for their pumping requirements.