



**KelairPumps**

# PumpAction..... Issue 61 June 09

## Case Study

### Viking pump solves difficult abrasive application

Sales Engineer Frank Molinaro (VIC)

Kelair pumps was approached by a major carpet manufacturing company in Victoria to assist them in finding a solution for pumping a very abrasive product.

The product was bitumen containing up to 60% fly ash. Not only is the product abrasive, it is highly viscous with a product viscosity of



50000cps. To maintain this viscosity the product had to be kept at 165°C. The customer was using a non-Kelair brand gear pump that had 3" ports, standard bronze bushes, hard-



ened steel internal components and was running at 130RPM.

With this pump construction the idler pins were only lasting two weeks (see photos). This was totally unacceptable to the customer and we set about finding an adequate solution.

In consultation with Viking pumps and the customer we offered Viking pump model VP-K224-STSGR2S.

This pump was selected to meet the following application criteria:

1. As the actual product is highly abrasive we selected a pump that runs at 90RPM. As this is significantly lower than 135RPM it will reduce the wear effects of the product which means that the pump could run longer before failure.
2. Further, to ensure the internal components of the pump lasted longer, we upgraded the material specs so the pump had a tungsten carbide idler pin, tungsten carbide idler bush and silicon carbide bracket bush.
3. As the product viscosity is 50000cps, to ensure that adequate amounts of product enter the pump, we offered it with enlarged 4" ports.
4. To ensure the product's temperature is maintained at 165°C, the pump comes complete with heating jacket on the bracket and casing.
5. To minimise paperwork modification the pump was selected to have an integral pressure relief valve (PRV). Note, the PRV is non-



jacketed and will be heat-traced by the customer to ensure the product is kept at 165°C, if the PRV is activated

6. To fit into limited space footprint, the pump will have a shortened base plate with the motor part of the geared motor mounted vertically.

The customer was sold on the pump and the reasoning behind why this pump was selected. As a result the customer has purchased 1-off pump, complete with base plate and geared motor and 1-off bareshaft pump as a back up.

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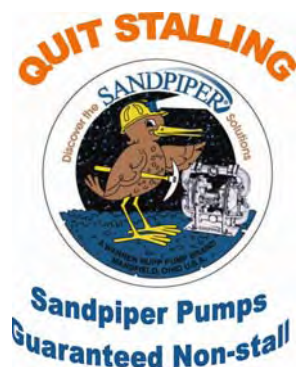
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## Case Study

### Viking pump provides relief to mining company

Sales Engineer Michael Waters (TAS)

A large Australia-wide company involved in the mining industry came to us with an enquiry for a diesel transfer pump with a maximum flow of 90LPM and an estimated head of 3 bar.

After providing a quotation, a Viking HL475M general purpose gear pump with relief valve was ordered, with the pump direct-mounted to a 1.5kW, 4-pole motor.

The compactness, low weight and simplicity of mounting of Viking's line of close-coupled pumps make them ideal for direct connecting to other pieces of equipment.

The positive, smooth delivery of these pumps makes them the preferred option for many types of applications including filtering, circulating, transferring, lubricating or booster service.

All pumps are available with rotor bore to fit the shaft of a standard motor or other piece of equipment, with bores furnished in  $\frac{5}{8}$ " and  $\frac{7}{8}$ ". By using a full length key between drive shaft and rotor bore, rigid and positive alignment of pump and drive shaft is assured.

The five sizes of 475M pumps are equipped with opposite ports and only two casing sizes are used for all five pumps. The two smaller pumps use one casing and the three larger pumps use the other.

All five pumps are built to accept an integral relief valve that mounts on top of the casing to keep the overall pump size to a minimum and are available with either mechanical seal (suitable for 100 PSI pressure) or a lip seal (suitable for 50 PSI); with no modification of parts required to convert from one seal to the other.



SERIES 75 and 475 Pumps with "M" Drive "H", "HJ" and "HL" size pumps.

#### Sandpiper Features and Benefits

- Non-stalling guarantee
- Cross-drilled technology, to eliminate stalling
- ESADS (Externally Serviceable Air Distribution System, allowing repair of pump without removing from pipeline)
- Fully-bolted design provides a positive seal and reduces the incidence of leaks
- Lubrication-free, eliminates requirement for lubricators, reducing initial cost and maintenance cost

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