

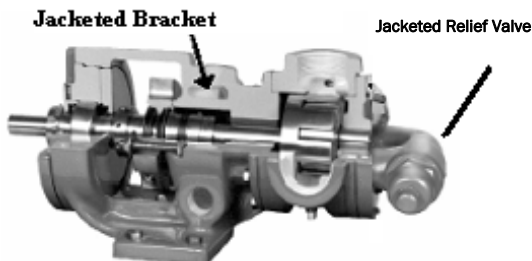
Case Study

Viking jacketed pumps cover bitumen transfer

Sales Engineer Anthony Sidawi (NSW)

A major bitumen company in Sydney contacted Kelair regarding the transfer of bitumen in their process.

The viscosity of bitumen varies widely with type and temperature, normally handled in the 25 to 200 deg C range at which viscosity is usually in the 50 to 3000 Cp.



For pumping bitumen, Kelair usually offers cast iron pumps constructed with bronze bushing and packed gland shaft seal. Steel rotors are used

when viscosity is high.

Kelair also offers jacketed pumps. These pumps provide a cavity, or a jacket, on the external wall of the pump through which steam or heat transfer liquid can be passed to control the temperature of the fluid in the pump. The heat transfer medium flows in a closed loop back to the boiler or heater.

Applications include melting ambient temperature solids which solidify in the pump when it cools, and maintaining precise temperature control in the process. Kelair usually offers bitumen pumps with jacketed bearing housing and jacketed pressure relief valve.

For this specific tank loading pump application, the pump had 28m of suction line, so NPSH was very critical. After detailed calculation, the NPSH available was 2.8m so a 6" Viking internal gear pump running at 165 rpm was selected. The NPSH required by the pump is 1.3m.

The client was impressed with the attention to detail by Kelair's staff in selecting the right pump for the application, so he purchased five units.

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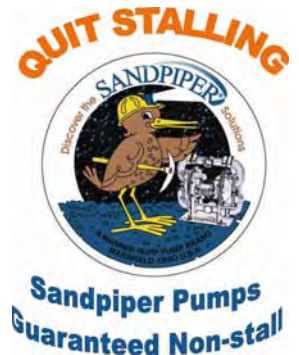
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Case Study

Variable-speed pressure systems perfect in Perth

Sales Engineer Michael Charnley (WA)

Kelair's Perth office was approached by a consulting engineer to assist in designing a cooling and lubricating system for a glass cutting business.

The plant machinery would require a clean water system and a recycled water system. Each system had to be able to supply between one to seven machines with water while maintaining a constant pressure without fluctuation of more than +/-5% of the set pressure (450kPa).

The design included water supply for future expansion of the business and the pumps had to be sized to supply up to twelve machines.

After use in the machine the water is to

be collected in a sump so a pump would be required to transfer the glass-laden water to a recycling plant for re-use.

For the recycled water a Kelair Triplex variable-speed pressure system was se-



lected. The system consists of three vertical multistage pumps each fitted with a Hydrovar speed controller and pressure transducer. The three Hydrovars are in-

terconnected to provide smooth operation across a wide flow range.

The pumps are supplied mounted on to a single base with stainless steel inlet and outlet manifolds, valves and a control panel.

For the clean water a similar Kelair dual variable-speed pressure system was selected and set up in a similar fashion.

The Kelair Hydrovar speed controllers are very easy to adjust in the field. They do not require specialised equipment to change speed flow or pressure so this means the client can gradually grow the plant without expensive commissioning visits. The Hydrovars are also lockable to prevent unauthorised adjustments.