



Kelair Pumps Australia Pty Ltd

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Case Study

Sales Engineer Rudi Jahrig (QLD)

Sandpiper trouble free in fumed silica transfer

A resin manufacturer on Brisbane's south side had to add fumed silica into a mixing vessel. As many as ten bags had to be added into a 2 ½ metre-tall blending tank where the contents would be unloaded through the open manhole.

This material is being used as a thickening agent for certain resin products. Although the bags contain only 5 kilos of powder, they are very large due to the low specific gravity of the fumed silica.

Adding the fumed silica posed the following problems for the customer:

- The bags were difficult to manoeuvre up the vertical ladder.
- The emptying of the bags took a long time through the manhole.
- A lot of powder was wasted and the operator was exposed to the fine particles.

The customer looked into numerous possibilities to solve the problem, but equipment such as a complicated vacuum system was just too expensive.

Visiting the plant and listening to the problems, Kelair's engineer suggested a 2" Sandpiper air-operated double diaphragm pump.



The set-up involved a 2" aluminium Sandpiper pump fitted with Buna-N diaphragm, valve balls and valve seats.

A non-collapsible plastic hose was connected to the suction end and discharge of the pump.

The suction hose was fitted with a 1.2 metre long plastic pipe which could be inserted through a small opening in the bag.

The discharge hose was attached to the outlet of the pump in order to convey the powder to the top of the blending tank, which was fitted with a camlock fitting.

The diaphragm pump has been in service for more than two years on the dry powder application, with the following results:

- The emptying of a 5 kilo bag takes less than 45 seconds.
- The waste is close to zero.
- The operator is working on the ground and exposure to the silica is absolute minimum.

Over the past two years the pump has been completely trouble-free and has not required any spare parts.

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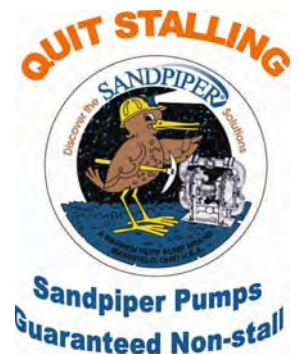
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Product News

Sales Engineer Myro Bratkovic (QLD)

Sandpiper features & 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

Warren Rupp has recently announced the evolution of its Sandpiper 50mm heavy duty flap valve pump (commonly known as the HDF2) to Design Level 6.

The engineers at Warren Rupp have applied upgrades to the valve seat area of the HDF2 pump.

These changes include the introduction of a heavy duty flap valve seat in stainless steel now fitted with an integral “o-ring” type seal. This new configuration replaces a stamped flat stainless steel seat that required two separate gaskets on each seat. The pump suction and discharge elbows are now also fixed to the chambers by hex head screws, replacing stud bolts and nuts.

So what is the benefit to the user for these modifications to the HDF2 pump?

By changing to an engineered seat with integral o-ring fitted means that the pump can be overhauled without the need to break and replace gaskets. This evolution means that at each flap check valve on the pump, one item now replaces 3 separate components – one seat and two gaskets.

Replacing the studs and nuts with hex head screws means that the number of these hardware components has been halved.

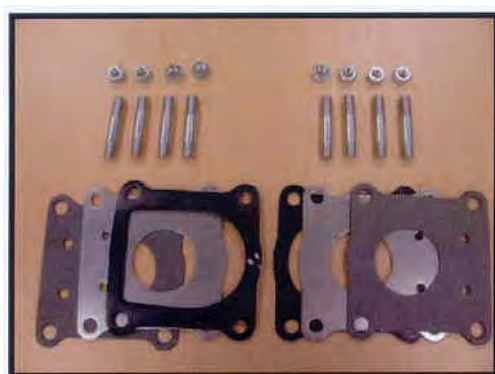
The real benefit to the user is that the change to the new heavy duty flap valve will result in longer pump

life and reduced operating cost due to there being fewer replacement parts, lower maintenance costs and reduced downtime.

What’s more, any existing older model SA2 and HDF2 design level 5 pumps can be upgraded by simply installing the new design flap valve seat assembly.

The seats are available with o-ring materials in Buna-N, EPDM, Viton and Neoprene to handle many different applications and liquids.

For details and advice on these latest Sandpiper pump upgrades, contact Kelair.



Before picture
Higher number of parts



After picture
Fewer number of parts