SULZER

CASE STUDY

Blockage frequency drops from two per week to zero per year

The Kaimai Range is a mountain range in the North Island of New Zealand. It separates the Waikato in the west from the Bay of Plenty in the east. The area has a population of around 30’000. In a retirement village, Kaimai Valley Services had a pump station that was blocked with soft solids (rags, etc.) on average 1-2 times per week. The installed pumps were 150 mm submersible units.

"We are very happy with how this went. The installation was easy with Sulzer's adapter bracket and we are very pleased with the fact that there have been no blockages to date, 35 months after the installation."

Scott Collinge, Wastewater Engineer, Kaimai Valley Services Pty Ltd.

The challenge

- High blockage frequency of existing equipment. The frequency of soft blockage cost the end user at least NZD 400 per week.
- The customer was skeptical of new products due to an entrenched competitor, even though the competitors offered no solution.
- Improperly designed station, with inflow dropping directly on top of one of the pumps.

The solution

Sulzer's distributor in New Zealand offered Kaimai Valley Services a free 100 day trial of a Sulzer submersible sewage pump type ABS XFP 100E-CB1 PE60/4. The pump was installed in April 2013 and has not blocked to date. Compared to 1 - 2 blockages per week of the previous equipment, this is a great improvement. The XFP100E is one of Sulzer's best-selling municipal sewage hydraulic pumps in the Australian and New Zealand markets. It offers a wide range of performance and unmatched blockage resistance. Available in 4 kW, 6 kW and 9 kW versions, it is the workhorse of the range.

Customer benefit

- The solution is 100% effective. The blockages have stopped completely with no compromise required.
- The installation was very simple. The atmosphere inside an operational sewage pump station is extremely poisonous and corrosive. The ability to install Sulzer pumps on competitor pedestals is no mere marketing device. Replacing a pump without needing to enter the well and change the mounting arrangement offers a huge time, cost and – most importantly – occupational health and safety benefit to the customer.
- The customer's blockage clearance costs have dropped to zero.
- At approximately NZD 400 per blockage clearance, the new pumps paid for themselves in a matter of months.
- The customer has reduced the chance of overflow, which has environmental and regulatory benefits. This is particularly important in this case, as the location is a popular tourist area bordering the Kaimai Mamaku National Park.

View from the top of the well. Particularly arduous as the inflow falls directly on top of the pump.

The Sulzer difference

- 100% blockage performance improvement of the pump station means saving time and money and reducing environmental risks.
- Significant savings throughout lifetime means saving money and reducing the carbon footprint.
- Sulzer's extensive research and development means no compromise between efficient impeller design and ensuring exceptional blockage resistance.
- At Sulzer, sales are based on real solutions, not just brochures and presentations. Trials are offered where needed.

The XFP100E has a class-leading solids throughlet of 80 mm, whilst maintaining a hydraulic efficiency of ~70%. The PE60/4 IE3 Premium Efficiency motor completes the package at 91%.

Product data

Sulzer submersible sewage pump type ABS XFP 100E-CB1 PE60/4, 6 kW, 100 mm complete with a 150 mm adapter bracket and a 150-100 mm reducer for standard municipal dual pump station.

The pump station is a duty-stand-by system. The duty point is 31 l/s at 12 m. Sulzer was able to select a pump with a best efficiency point very close to this, ensuring trouble-free operation. It can be seen from the performance curve that the pump will run as efficiently as possible in this installation.

Submersible sewage pump type ABS XFP	
Model	XFP100E-CB1.3
Motor	PE60/4 Premium Efficiency 6 kW 4 pole unit
Impeller	Contrablock Plus, single vane
Flow	31 l/s
Head	12 m
Efficiency	69.50%

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