



Case Study: Why the right pump design is so vital when it comes to abrasive fluids!



Case Study Information

Customer	Highland Railways
Application	Portable Toilet Waste
Location	UK

Key Challenges

1. Ability to handle solid laden fluids
2. High suction lift required
3. Needed to fit in existing installation

Equipment Supplied:

2 x Horizontal Close Coupled Peristaltic Pump

Drive Details	0.75kW, 230v Single Phase, 50Hz electric, IP55, Variable speed
Flow	1495 l/h @ 29RPM
Discharge Pressure	8 bar
Connections	Stainless Steel AISI-316

Enquiry:

- ✓ Our customer was having difficulties with their current pumps that they were using to empty portable toilet waste. The main problem they were experiencing is that they kept getting clogged as they were struggling to handle wet wipes and therefore periodically failing to operate.

Not only were the pumps clogging resulting in unnecessary downtime and the toilets being temporarily out of use, maintenance costs in terms of engineer time and spare part costs to replace the damaged valves and seals were significantly increasing.

Solution:

- ✓ We supplied our customer with two close coupled peristaltic pumps. These are the ideal solution, thanks to their ability to handle large solids without blocking. As the inner hose is the only wearing part, unlike the existing pump design there are no valves to clog or seals to fail, which straight away helped to reduce their existing maintenance costs and likeliness of pump downtime.

As the pumps had to fit into an existing installation, they were required to lift the effluent around 6 metres, which is no problem for self priming peristaltic pumps. Thanks to our close relationship with the manufacturer, we were able to also get the inlet and outlet connections rotated upwards, so that the customer had little pipework changes to consider.

= A significant reduction in pump downtime and maintenance costs!



Some of the benefits of the FMP Peristaltic Pump supplied:

- ✓ Dry running capability without any damage
- ✓ Seal-less design
- ✓ Reversible rotation system
- ✓ Corrosion and abrasion resistant
- ✓ Available with leakage detector
- ✓ Available with integrated inverter
- ✓ Design pressure up to 8 bar
- ✓ Automatic stop
- ✓ Single hinged door closed with a single bolt to enable quick hose removal by a single person
- ✓ Automatic stop on over pressure
- ✓ Roller design ensures long life expectancy
- ✓ Drainage port at bottom of casing to ensure easy product removal
- ✓ Patented hose coupling design ensures zero leakage from hose connections
- ✓ Speed control ensures low flows can be accommodated ensuring waste is limited

