

» REPLACEMENT AOD SOLUTION (FOR CORROSIVE FLUIDS)

Tapflo UK offered a range of replacement Diaphragm Pumps in place of a competitor's pump that was not performing correctly for the customers.

We worked closely with one of our distributors, Crest Pumps, whose end-user was a Galvanising Plant. The end user's existing pumps were breaking down regularly, only lasting a couple of weeks before they needed to be replaced. This was due to a highly corrosive atmosphere. To ensure we could deliver the ideal solution to our customer, Tapflo followed standard procedure in order to specify a solution that met the end user's requirements.

Application Details:

Our end user will be pumping Flux (2 parts Ammonia Chloride, 1 Part Zinc Chloride), a highly corrosive fluid to any metal in the atmosphere. Flux is used as part of the pre-treatment of Steel before being hot dipped in Molten Zinc, for the galvanising process. Our pumps are being used as part of the filtration and dosing system for the Flux tank, with varying degrees of concentration of each chemical, therefore it was extremely important that there are no metallic external components on our pumps.

Additional application details:

- ✓ The Flux tank (Situated in the main building, approximately 5m away from where the filter unit will be installed) is set into the ground and the liquid level sits at approx. +500mm above ground level.
- ✓ Pumps will be installed in an enclosure outside of the main building.
- ✓ Pumps will have a 1m suction lift.
- ✓ Temperature is ambient.



Pump Solution:

Tapflo UK offered 4 Diaphragm Pumps, all T100s in HDPE, 3 featured a stroke sensor.

Pump A will have a 5m suction leg, however, this pipe will be flooded as the liquid level in the Flux tank is +500mm above the pipework running at ground level, but the pump will be installed in an enclosure outside of the building, at approximately +1.5m height, hence 1m suction lift.

- ✓ **Pump A** – Will pump Flux from Flux Tank to Flux Pre-Treat Tank – The Flux Pre-Treat Tank will be dosed with 3 elements from 3 x Dosing Pumps. Zinc Chloride,

Hydrogen Peroxide or Ammonia depending on pH makeup on Flux at this point.

- ✓ **Pump B** – Will act as a mixing pump for the Flux Pre-Treat – (handling Ammonia Chloride, Zinc Chloride and Hydrogen Peroxide)
- ✓ **Pump C** – Will draw the Flux-pre treat and pump it to Filter Press
- ✓ **Pump D** – Will draw filtered Flux and pump back to Flux Tank.

Features & Benefits:

These pump solutions were extremely specific to the customer's requirements for handling an aggressive process media, the result led to some of Tapflo's longest part codes!

Pump features included:

- ✓ **Stroke sensors** – made from non-metallic material and to be easily integrated to their PLC/HMI to ensure accurate controllability of the flux being pumped.
- ✓ **Fully plastic** – no metal parts on the pump exterior including nameplate and air intake adapter which were swapped to plastic counterparts
- ✓ **FESTP Muffler** – manufactured from foamed PE and reinforced with POM cage, this included PP extension as a FESTO Muffler has a larger diameter meaning it can't fit directly onto a T100 centre block exhaust.
- ✓ **PET/Viton air distributor**
- ✓ **Titanium pin screws, washers & nuts** – whilst this is a metallic part, titanium is the best option out of all other metals and will be fitted with plastic end caps.
- ✓ **Rubber feet with female thread** to be easily bolted onto the end user's skid frame.

As well as the above solution, the customer also received all the benefits associated with a Tapflo AODD Pump.

- ✓ Our plastic AODD Pump side housings are machined from solid block plastic (HDPE or PTFE) rather than mould pressed plastic, giving much greater product life and chemical resistance!
- ✓ All pumps have a no-nut, clean face, one-piece bonded diaphragm, offering double the life of the industry standard and no leak passage!
- ✓ Ease of maintenance; 70% less working parts than nearly all other pumps on the market – less time to repair = less downtime!
- ✓ 180° Versatile in/outlet, meaning you can rotate the connections to best suit pipework.

If your current pump solution isn't handling your application correctly, get in contact with a Tapflo expert to discuss making improvements to your existing system or replacing it with an efficient solution

