

# Case Study: Paint and Powder Coating Manufacturer



## ENQUIRY

Castle Pumps received an enquiry from an industrial paint and powder coating manufacturer looking for a pump to transfer a mixture of recycled oils and flammable solvents. The application involves pumping the fluid from a 70,000litre waste tank into separate IBCs that are shipped off for the fluid to be refined. Once recycled, the solution comes back and is pumped into a second 70,000 litre tank on site. This is then used to clean down used drums and containers to remove any paint and coating residue remaining in them. After use, it is pumped back into original waste tank and so the cycle continues.

As the solvent/oil mix is constantly being reused, the process that this corrosive fluid pump helps to deliver saves the company thousands of pounds each year. The customer expressed the importance of a reliable pump to ensure there is no downtime or delay in the supply of the recycled solution.

## KEY CHALLENGES

1. Flammable nature of the solvents
2. Potential debris content
3. Reliability of pump due to importance of process



## EQUIPMENT SUPPLIED

### Debem Boxer 100 AODD Pump

Max Flow	150lpm
Max Pressure	8 bar
Fluid	Mix of oils and flammable solvents
Body	AISI 316
Diaphragm	Hytrel & PTFE
Balls	PTFE
Ball Seats	AISI 316
Outlet	1" F BSP
ATEX Rating	Zone 1 Certified

## SOLUTION

After talking through the performance requirements with the customer, one of the first things our technical sales engineer did was confirm that there was air supply on site. Air operated diaphragm pumps are ideal for industrial applications involving process fluids and chemicals due to the various material options they can be constructed of and their ability to handle varying viscosities and solids that this waste fluid is likely to contain. Secondly, its seal-less design makes it ideal for handling hazardous fluids like the solvents this customer needed to pump, as it reduces the chance of fluid leaking out due to wear.



We specified a Boxer 100 AODD pump in stainless steel with PTFE balls and seats for compatibility with the solvents contained in the MSDS sheet provided by the customer. To ensure safety pumping the flammable solvent mixture, we supplied this model ATEX certified to Zone 1.

One of the greatest benefits of the Debem AODD pumps we supply is . They are made with long life diaphragms designed for more than 50 million cycles and have a lot fewer internal wearing parts to maintain compared to equivalent air operated diaphragm pump models. This was a particularly attractive feature to the customer given the regular use of the pump.



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