

WILDEN AODD PUMPS OUT PERFORM YAMADA IN TITANIUM DIOXIDE PIGMENT MANUFACTURING

THE CHALLENGE

The customer manufactures Titanium Dioxide (TiO₂) pigments used to produce paint, plastics, sunscreen, cosmetics, and some foods. Nature does not yield TiO₂ in a usable form (e.g., rutile beach sand), so it must be refined into a uniform particle size using chloride and sulphate processes. These processes require AODD pumps because they can handle highly viscous and abrasive liquids. The customer was going to purchase a less expensive Yamada AODD pump, but our application expert made a case for why a Wilden AODD pump is a much better investment.

THE SOLUTION

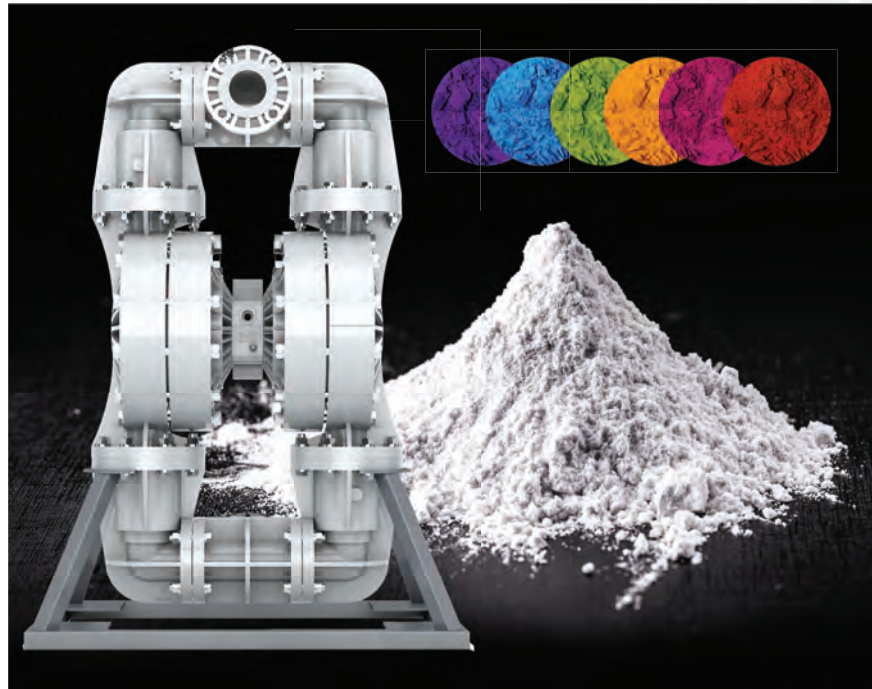
Our pump application expert Harry Webb met with the customer and outlined three areas of concern using the Yamada pump over the Wilden AODD Pump. After discussing and reviewing the following findings, the Customer's Engineering Team agreed that the Wilden AODD pump is the better choice for their application.

- 1. Pump Flow:** The Wilden pump has a higher flow rate with a greater efficiency translating to almost \$3,800 savings per pump per year, and a single Wilden pump can accommodate the customer's flow requirements better than two Yamada pumps.
- 2. Energy Savings:** The Wilden pump requires less energy and air consumption to run. With each pump running 24/7, we can show +/- \$2,500.00 air consumption yearly savings—meaning the Yamada pump consumes almost twice as much air as the Wilden.
- 3. Pump Parts:** Wilden has significantly fewer parts (6-8, depending on the type of the valve) than Yamada (60-80). Generally, in engineering, more parts to repair means more chances for error in re-assembly, and more costs for replacements and labour.

THE RESULTS

- ▶ Cost Savings
- ▶ Energy Savings
- ▶ Increased Efficiency

For more information on this solution or if you have a fluid handling challenge of your own - Contact a John Brooks Company Application Expert today!



CHEMICAL MANUFACTURING | PUMPING ABRASIVES WILDEN AODD PUMPS FOR ABRASIVE FLUID REFINEMENT

TECHNOLOGY UTILIZED

Wilden PS1500 Pro-Flo Shift Bolted Plastic AODD Pumps

- ▶ Max. Pressure: 100 psi (6.9 bar)
- ▶ Max. Flow Rate: 271 GPM (1,024 LPM)
- ▶ Max. Suction Lift: Dry – 17.5' (5.3m)
Wet – 28.4' (8.3m)
- ▶ Displacement Per Stroke: 1.42 gal (5.4 L)
- ▶ Reduced Air Consumption & Kilowatt Usage
- ▶ Large-Solids Passage
- ▶ High Suction Lift
- ▶ Bolted Construction for Superior Containment
- ▶ Ease of Operation and Maintenance

HOW THE AODD PUMP WORKS

- ⦿ An Air-Operated Double-Diaphragm pump (AODD) is a positive displacement (PD) pump. It works with two flexible diaphragms alternately fill and discharge two pumping chambers as they move. On opposite sides of the filling and discharging chambers, compressed air feeds into and vents from air chambers that create the pumping action.
- ⦿ The way these pumps operate also grants them the ability to self-prime, deadhead, and run dry with low shear. These characteristics enable them to quickly reach and maintain desired flow rates throughout an entire production run and withstand the abrasion of the shear-sensitive fluids.