



Mono® NOV Meets Chemical Challenge

Specially designed hygienic industrial progressing cavity pumps are successfully delivering toxic, shear sensitive crystalline slurry at a chemical manufacturing plant in the U.K.

Fine Organics Ltd required pumps to transfer a hazardous isopropyl alcohol slurry from a reactor vessel to a centrifuge during processing of an intermediate for a pharmaceutical customer. Key requirements were safety, maintenance of the structure of the crystals held in suspension, and high abrasion resistance.

Normally Mono would take a sample for examination by chemists at its own laboratories prior to recommending pump design and materials, but due to the toxic nature of the product, which contains methylene dichloride and a sensitising compound, the necessary trials had to be carried out at the customer's site.

The two pumps chosen from Mono's industrial range feature 316 stainless steel bodies and rotating parts, and chlorosulphonated PE rubber stators. Designed for the customer who wants the best option for a progressing cavity pump the industrial range offers a streamlined design which facilitates product flow and reduces the risk of contamination.

To limit abrasion as much as possible, Mono recommended two-stage pumps, which are run at speeds of under 200rpm. The gentle, non-pulsating action of the progressing cavity pumps

ensures that the structure of the crystals suspended in the product remain intact.

The pumps incorporate self-draining end covers to prevent product retention and specially designed hygienic double mechanical seals, located under the suction inlet to ensure effective and thorough cleaning. Because of the highly flammable nature of the product, flameproof motors were specified.

Like all industrial pumps, the two used by Fine Organics feature Mono's unique Flexishaft, which provides a single component link between the rotary motion of the drive shaft and the eccentric motion of the helical rotor. The reduced number of moving parts in the drive train eliminates wear and makes lubrication unnecessary, reducing the risk of product contamination. The simplicity of the Flexishaft drive, and consequently the pump design, means that the pumps are easily dismantled and assembled when routine maintenance is required.

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| Pump: | 2 off industrial progressing cavity pumps |
| Product: | IPA with traces of Methylene Dichloride and water |
| Capacity: | 6m³/h |
| Pressure: | Nominal |
| Pump Speed: | 50 - 250 rpm |
| Drive: | Fixed speed gearbox |
| Prime Mover: | 2.2 kW motor |



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Mono® NOV

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