

## Acid drops - a sweet solution from seepex.

Glanbia Plc is one of the largest milk processors in Ireland, manufacturing a range of dairy products from liquid milk to cheese.

The manufacturing plant in Ballyragget, Co. Kilkenny produces a range of powdered milk products, including casein.

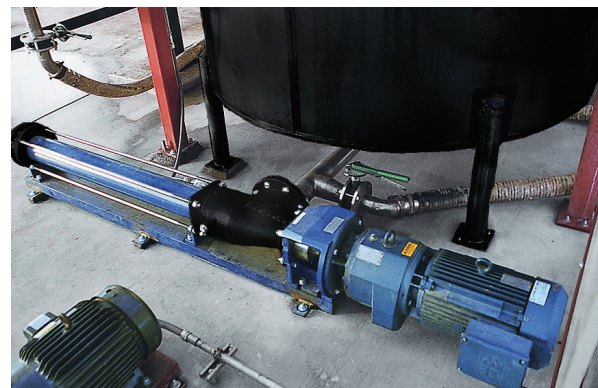
### **The starting situation**

The production process for casein involves dosing the liquid milk stream with a precisely controlled amount of dilute hydrochloric acid. Because of problems with their existing delivery systems Glanbia asked seepex to propose a solution.

### **The solution**

Based on previous successes in similar dairy production environments, seepex proposed that a seepex BN pump be specially adapted for dosing acid. As a result, all the internal metal parts such as the rotor, the coupling rod and mechanical seal casings were manufactured out of Hastalloy HC4, and the pump casing parts of special, Halar-coated cast iron. As to the elastomeric parts, these were manufactured out of EPDM, a elastomer proven to resist many aggressive liquids.

The seepex pump has now been installed close to the storage tanks and pumps the acid to a nozzle located in the milk pipework where it is injected into the milk stream. In this installation at Ballyragget the pump speed is varied by a frequency inverter and a probe in the milk stream measures the pH. This probe in turn sends a signal to the PLC, which in turn alerts the inverter controlling the speed and flow rate of the pump. Changes in the pH of the milk stream result in a corresponding change in pump speed, so providing a control loop that maintains a completely constant pH within the milk stream.



**Halar coated seepex pump  
underneath storage tank**

### The benefit

"We're really delighted with the seepex progressive cavity pumps" says John Moran of Glanbia. "The dosing works to more than 99 % accuracy and, compared with the more traditional type of metering pump – diaphragm, piston or peristaltic, the seepex pump is virtually pulsation free, which is important to us." Of equal importance was the fact that the seepex solution also required no expensive pulsation dampeners.

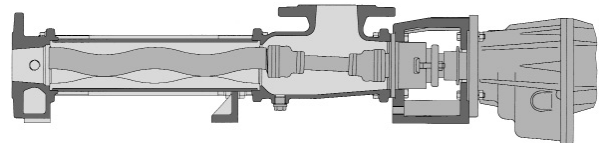
"Our pump runs for 24 hours a day during our main production season, right through from February to October, and it has never given us any problems" says John. "We are so pleased with it – and the cost savings – that we have just ordered a second pump from seepex ."

### Key Facts

- Metering accuracy  $\pm 1$  %
- Pulsation free operation
- Pump fitted with patented dry-run protection
- No pulsation dampeners

### Significant Cost Savings

- Low capital cost
- Low maintenance



### Installed Pump Type

- Range BN

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