



APPLICATION NOTE

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This application note provides an overview of the successful use of magnetically coupled gear pumps in the metering of chemicals applied to feed products in the feed and milling industries.

THE INDUSTRY

A bio-security and milling efficiency solution company in the animal feed industry provides mould control for feed products and also optimizes the efficiency of milling and feed pelleting processes. Chemicals are applied to feed products in both granular and liquid forms. When applied in proper dosage, chemical additives are used to prevent mould spore germination, to prevent mould spore growth, to bind harmful toxins in feed, to reduce milling process losses, to optimize the efficiency of feed pelleting processes and to make milling safer. These process improvements have proven effective for even the most modern mills - those that were considered efficient prior to development of this solution.

THE APPLICATION

Mould growth in animal feed deteriorates the nutrient quality of feed and causes other adverse health and performance effects for animals. In order to achieve process improvements, the proper dosage of chemical additives must be applied to animal feed products with high efficiency and precision. Metering with gear pumps provides for precision and accuracy in the application of chemicals. Precise dosing of additives is also applied to the drinking water provided to animals in order to reduce the presence of harmful toxins.

THE PUMP SOLUTION

External gear pumps, equipped with appropriate drives and controls, operating within a closed-loop feed back system, are able to meet the precision and accuracy requirements needed for reliable and robust performance. *Liquiflo* and *Micropump GJ Series* magnetically coupled gear pumps are used to treat feed products, under controlled volume flow rates, using a uniquely patented process. The magnetically coupled seal-less gear pumps are direct coupled to inverter rated A/C motors or permanent magnet DC motors for precise speed control.

FEATURE	ADVANTAGE	BENEFIT
External gear pump design	<ul style="list-style-type: none"> • Smooth, pulse-free flow • Simple to service and maintain • Accurate, pulse-less output 	<ul style="list-style-type: none"> • Easy to monitor, easy to control • Reduced downtime and less production lost • Consistent application of chemical additives to animal feed -product quality assured
Magnetic coupling	<ul style="list-style-type: none"> • Containment of the pumped fluid • No rotating seals to fail • Leak free pumping 	<ul style="list-style-type: none"> • Reduced chemical and environmental hazards – no leakage in the plant • Extended pump operation between servicing means reduced downtime • No cross contamination of the pumped fluid
Inverter controlled AC motors and permanent magnet DC motors	<ul style="list-style-type: none"> • Motor output speed can be easily adjusted 	<ul style="list-style-type: none"> • Chemical dose can be adjusted automatically