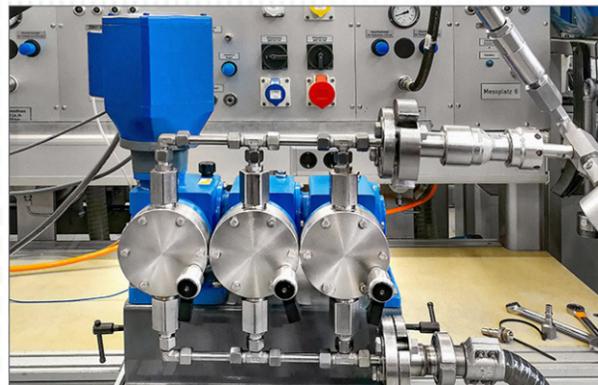


Further references
and applications:
www.nord.com/references



Precise metering
pump control



Energy-efficient
operation



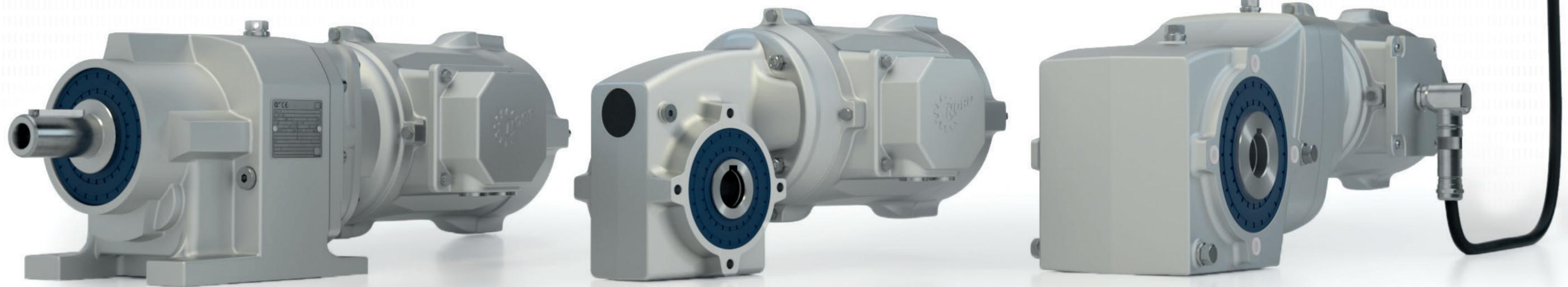
Hygienic
design

EN
Headquarters
Getriebebau NORD GmbH & Co. KG
Getriebebau-Nord-Str. 1
22941 Bargteheide, Deutschland
T: +49 45 32 / 289 0
F: +49 45 32 / 289 22 53
info@nord.com

Drive solutions for metering pumps

Case study: LEWA





Pumps

Metering pumps, process diaphragm pumps, odorising systems, customer-specific metering systems



Geared motors

Permanent magnet synchronous motor IE5+

Project requirements

Precise control, gentle conveying. The diaphragm metering pumps of LEWA's ecodos series are used in sensitive areas such as food or pharmaceutical industry, for example for adding additives in the pharmaceutical sector or flavour metering in food. One specific application is the addition of omega-3 oil to baby food. The ecodos series operates in the so-called low-pressure range, i.e. at a maximum discharge pressure of 20 bar, and with a flow rate of 16 to 1460 litres/hours. This requires pumps that not only allow precise control of the amount and time of addition, but also deliver the ingredients particularly gently.

Efficiency optimisation. Until now, LEWA had operated its diaphragm metering pumps with classic asynchronous motors or with servo drives including corresponding servo inverters, often combined with stroke adjustment. Classic asynchronous motors, however, are relatively inefficient outside the nominal speed range and therefore often had to be used in an overdimensioned form. Servo drives, on the other hand, are relatively expensive to purchase and need a servo inverter or a stroke adjustment.

Application solution

LEWA now also offers the ecodos pumps with IE5+ motors from NORD for wide-range control. The permanent magnet synchronous motors are either operated as stand-alone motors – i.e. directly flanged to the motor – or with a decentralised frequency inverter. IE5+ motors are cheaper to purchase than servo drives and make servo inverters and stroke adjustment superfluous.

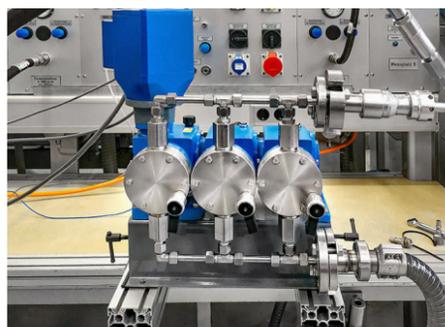
Much easier handling. The drive system with the IE5+ is much easier to handle and achieves high-precision metering over a very wide adjustment range. The NORD IE5+ has a constant torque that can be called up from motor speed 0 rpm (standstill) to the nominal motor speed. This ensures a particularly smooth system start-up, which protects the sensitive products LEWA customers work with in the food and pharmaceutical sectors.

Reduction of drive variants. The extreme control range and the short-term high overload capability of the IE5+ motors from NORD often make the use of several pumps for different flow rates superfluous for LEWA's customers, which results in a reduction of the drive variants in the overall system. This minimises administrative costs and streamlines production, logistics, storage and service processes. The outstanding 95 percent energy efficiency of the IE5+ motors adds to this.



LEWA's ecodos series

For its high-precision diaphragm pumps, LEWA GmbH uses efficient IE5+ motors from NORD DRIVESYSTEMS.



Customer profile

For 70 years, LEWA from Leonberg in Baden-Württemberg has specialised in pumps and plants for fluid metering. The world's leading manufacturer of metering and process diaphragm pumps produces individual, efficient system solutions for its customers. Areas of application are metering requirements, conveyance, mixing and odorising tasks – i.e. mixing of odour-intensive substances, especially with gases – in very different industries: from chemicals to mining.



The project at a glance

For the precise metering control, the high-efficiency IE5+ geared motor from NORD is used in the ecodos pumps.

- ▶ Powers from 0.35 to 3.7 kW
- ▶ Efficiency: 95 percent
- ▶ Variant reduction thanks to a wide control range and high overload capacity
- ▶ Fanless and easy-to-clean design