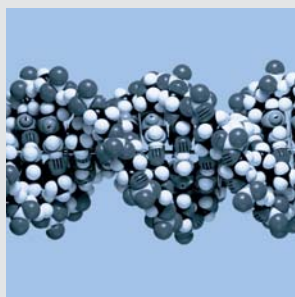


# LEWA hygienic

Diaphragm metering pumps  
for hygienic applications



- **Pharmaceutical**
- **Biotechnology**
- **Personal Care**



# For the highest demands concerning the cleanliness: LEWA hygienic



Specifically for the pharmaceutical market:  
Polypropylene pump heads



Hygienic design guarantees process  
integrity: LEWA ecodos made of  
stainless steel



For medium to high pressures:  
LEWA ecoflow M900

## **LEWA ecodos polypropylene:** **Cost-effective plastic pumps for low pressures.**

Economical but still meeting all hygienic requirements, a series of plastics with high chemical resistance:

- Reliable and efficient series for low operating pressures
- Excellent chemical resistance
- Polypropylene pump heads with excellent surface quality
- Up to 60°C (140°F), designed to be CIP
- EPDM\* or FFPM\* seals
- According to standard regulations (EHEDG, QHD)
- All wetted materials tested for FDA conformity and meeting USP class 6 requirements
- Valves seats made of low wear PEEK\*

## **LEWA ecodos stainless steel:** **The field-proven stainless steel pumps for standard applications.**

This high-quality metal series is corrosion proof and enables easy surface cleaning.

- Material 1.4435 (316L)
- Wetted parts  
Ra < 0.5µm, electro-polished
- Designed to be CIP
- Designed to be SIP up to 150°C (300°F)

## **LEWA ecoflow M900:** **Extremely safe pump heads for high pressures and all types of fluids.**

Universal and high-performance series with hydraulically actuated diaphragm and Diaphragm Protection System (DPS).

- Version for medium and high operating pressures
- Material 1.4435 (316L)
- Wetted parts  
Ra < 0.5µm, electro-polished
- Designed to be CIP
- Designed to be SIP up to 150°C (300 °F)
- Large modular system system, adaptable to any application

\*EPDM (Ethylene Propylene Diene Monomer): Highly elastic elastomer with excellent temperature resistance

FFPM (Perfluoroelastomer): Elastomer highly resistant to chemicals with excellent temperature resistance

PEEK (Polyether Ether Ketone): High-strength plastic with high alternating bending strength and excellent temperature resistance



# For numerous applications: From engineering to documentation



The pharmaceutical industry:  
LEWA diaphragm pumps in hygienic design  
meet the high demands of the pharmaceutical  
industry for extruding tablets.



The biopharmaceutical industry:  
LEWA Diaphragm pumps and metering systems  
in up and downstream areas, for continuous sterile  
filling processes.



The cosmetics industry:  
LEWA diaphragm pumps with a hygienic  
design guarantee excellent cleaning for  
the production of personal care products.

## **LEWA hygienic for sterile processes**

LEWA hygienic metering pumps meet all aseptic and sterile demands reliably and efficiently. They are hermetically tight and offer zero leakage with absolutely no shaft connection to the product area, thus ensuring contamination-free metering – over long periods of time. This applies to the pharmaceutical & life science as well as the cosmetics & personal care sector. Hygienic pumps can also be used as multiplex pumps, e.g. for recipe metering, i.e. various pumps can be assembled side by side on a single drive shaft.

- Precise metering
- Hermetically sealed
- High operational safety
- Minimum dead spaces
- Optimised operating chamber
- Gentle, low shear handling of fluids
- Reliable, economical, low maintenance
- Designed to be CIP/SIP

## **We not only provide the perfect pump, but also the right documentation:**

- Performance tests and pressure tests
- 3.1 certificates for all wetted materials, also for plastic parts and gaskets
- Surface roughness certificates

## **The hygienic series covers numerous application areas:**

- Continuous, proportional blending of sensitive, expensive fluids
- Exact addition of fluids in the chromatography process
- Metering of sensitive liquids, such as enzymes, vitamins or flavours
- Aseptic transfer of proteins and cells, e.g. micro-organisms or blood
- Addition of additives, such as colourants, toxic chemicals, etc.
- Injection of fluids for extrusion or spray mechanisms for the production of active ingredients and tablets
- Filtration and ultra filtration

## **These LEWA pumps comply with standard regulations for hygienic installations:**

- Materials with FDA conformity
- Materials tested to meet USP class 6 requirements
- Design with 3A conformity
- EHEDG tested
- ASME-BPE conformity



# For complete safety: LEWA technology

## **Optimised hygiene valves:**

### **For perfect cleaning**

The minimum dead space sealing provided by the gaskets of the valves ensures optimum cleaning. The gaskets are fully chambered and cannot migrate to the product area. In short: The design of all valve components is optimized to offer minimum flow resistance and to remain sterile.

## **Aseptic pipe line connections:**

### **For quick changeovers**

Common pharmaceutical process connections guarantee simple disassembly for inspections, ease of maintenance and simple installation.

## **Patented 4-layer safety diaphragm:**

### **Hermetically tight**

It consists of 2 working diaphragms, 1 monitoring diaphragm and 1 pressure-resistant safety diaphragm. With its dry running capabilities, the diaphragm prevents fluid from escaping, i.e. contamination of fluids with drive unit oil is not possible.

## **Longer diaphragm service life; more than 16,000 operating hours**

LEWA ecodos safety diaphragms have a service life of more than 16,000 operating hours, i.e. two years of continuous operation. Therefore, the warranty period for diaphragms is two years.

## **Smooth surfaces:**

### **For simple cleaning**

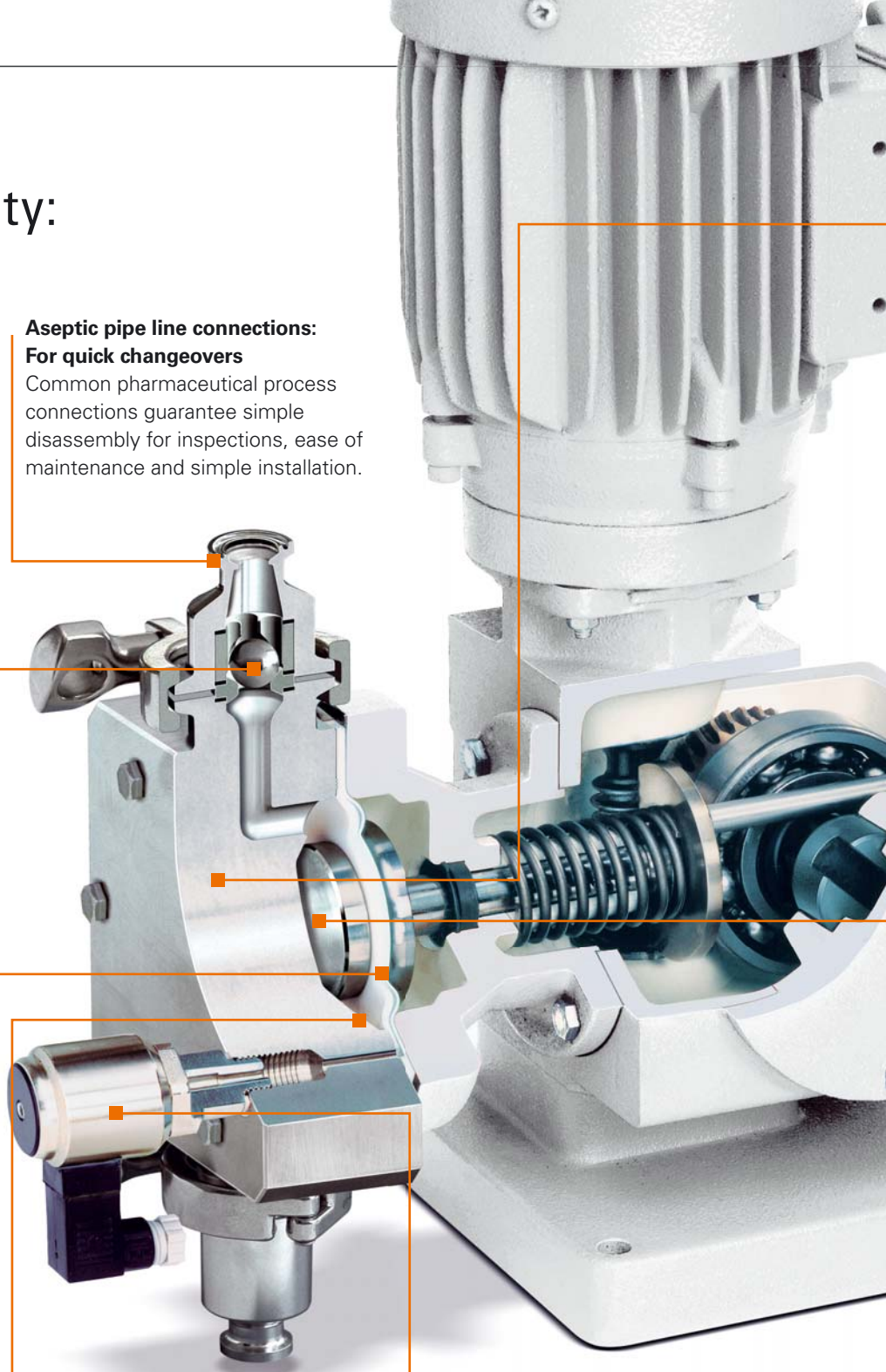
The pump head has a chrome-nickel steel 1.4435 (316L) construction with a delta ferrite content of < 1%. The wetted surfaces are mechanically polished and electropolished to achieve a surface roughness of less than 0.5 µm. The plastic version is injection moulded and also achieves roughness values of less than Ra 0.5 µm due to the highly polished tools used.

## **Diaphragm monitoring system:**

### **For reliable status display**

The standard diaphragm monitoring system immediately and reliably indicates a damaged diaphragm. Nevertheless, the pump can still be operated to ensure production is completed without risks. Signalling occurs via a pressure switch, pressure gauge and contact pressure gauge.

Photo: LEWA ecodos hygienic









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