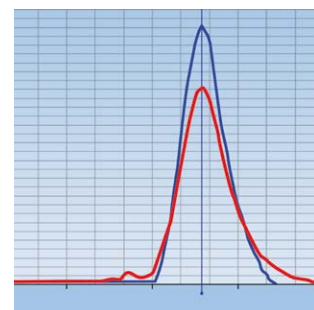
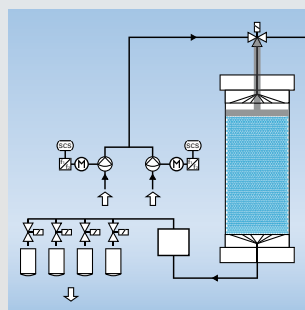
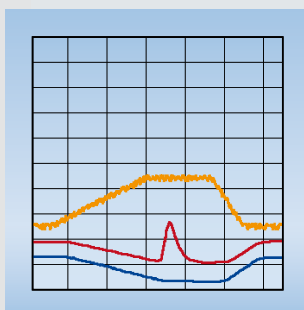


# LEWA EcoPrime®

The custom-designed  
 chromatography system



ASME  
 BPE-2009



- precise
- wide dynamic range
- minimum pulsation
- lowest holdup volume
- low shear to process biomolecules

# LEWA EcoPrime® – for liquid low-pressure process chromatography



LEWA EcoPrime® performing a purification in a cleanroom. The system can be used for pharmaceutical and biopharmaceutical applications, e.g. downstream processes of monoclonal antibodies, vaccines, recombinant proteins, and hormones

LEWA ecodos® hygienic pumps with LEWA intellidrive® technology

LEWA developed the first pulseless process pump for liquid chromatography in the 1970s. Since then LEWA has been a leader in pumps used for pilot and industrial process chromatography worldwide. In combination with the LEWA intellidrive technology LEWA EcoPrime brings low-pulsation flow and accuracy to modern chromatography as a unique feature.

LEWA EcoPrime was developed with years of experience working together with customers and OEM suppliers. LEWA has combined state-of-the-art functionalities into one unit: It can be a buffer dilution skid, or directly connected to a column – a chromatography system.

This system has an ideal design to enhance the purification process. Moreover it is able to bridge the gap between research & development, process development and production functions, because one single unit covers all the three stages. It combines all

process relevant accessories, ensures high reliability and it uses new flow technology that allows for self-cooling ventilation-free pump motors.

### The advantages of LEWA EcoPrime:

- Unrivalled accuracy
- Constant back pressure for increased precision
- Dynamic flow range 1:150
- Significant reduction in pulsation and holdup volume
- LEWA diaphragm metering pumps reduce shear on protein solutions
- Design conformity with all pharmaceutical requirements
- 0.5 to 99.5% step and linear gradient capability
- State-of-the-art instrumentation
- Advanced bubble trap design for optimal degasification
- Drainable
- CIP able, optional SIP capability
- Longer life of column media due to minimal pulsation

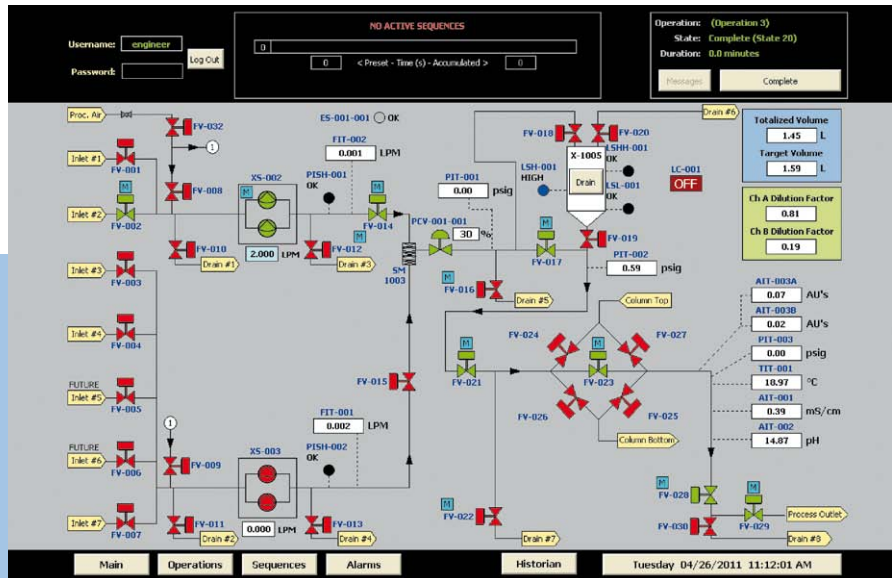


Bubble trap with level switches



Process monitoring & control sensors

# For specific requirements – systems with LEWA intellidrive® technology for your process



Main control screen – visualization and touch screen

## LEWA has four platforms to meet your downstream requirements.

LEWA EcoPrime	500	1000	2000	3000
Flow rate* min [l/min]	0.040	0.07	0.10	0.15
Flow rate* max [l/min]	5.64	10.95	19.65	33.1

\* These are typical flow ranges, measured at 10 barg, but they will vary due to design requirements.

Since production requirements may be different, LEWA can custom design a combination of pump types and flows to meet your requirements. The heart of LEWA EcoPrime is the pump technology. The LEWA intellidrive technology pump package was designed to enhance the performance and reproducibility of our pumps. The intelligent drive increases the precision of LEWA ecodos pumps to  $\pm 0.5\%$  and maximizes the pumps' flow range. LEWA's bubble trap design decreases the holdup volume while reducing the residence time of the gradient and samples. This allows better symmetry and reduces back mixing.

LEWA provides all documentation to show that the materials used to build the system are all traceable back to their original sources. Moreover all plastic materials are USP Class VI certified.

Regulatory authorities expect manufacturers of pharmaceuticals to qualify equipment before use in production. LEWA can provide you with validation documentation. Also, LEWA can perform the actual qualification of the system on-site.

### LEWA EcoPrime offers:

- Commercial and technical performance certainties
- IQ/OQ documentation and execution
- cGMP compliance from DQ, IQ/OQ to SAT until final acceptance
- In-house mechanical system design
- In-house process and automation engineering
- Compatible with all SCADA systems
- Audit trail to achieve CFR 21 part 11 compliance

The control of the skid will be divided into three main components: control modules, sequences and operation. The control modules set the parameters for flow, gradient, pH/conductivity and dilution. These modules are used in sequences.

### Sequences are methods which are designed for common chromatography processes such as:

- Water flush
- Buffer priming
- Equilibration
- Product loading
- Column wash
- Product elution
- Column sanitization
- Fractionation elution
- Fraction detection and collection

Ten operations can be stored and recalled. Each operation can contain up to twenty sequences.

Creating Fluid Solutions

**LEWA**  
pumps + systems

# LEWA proven services and technologies

## Germany / Headquarters

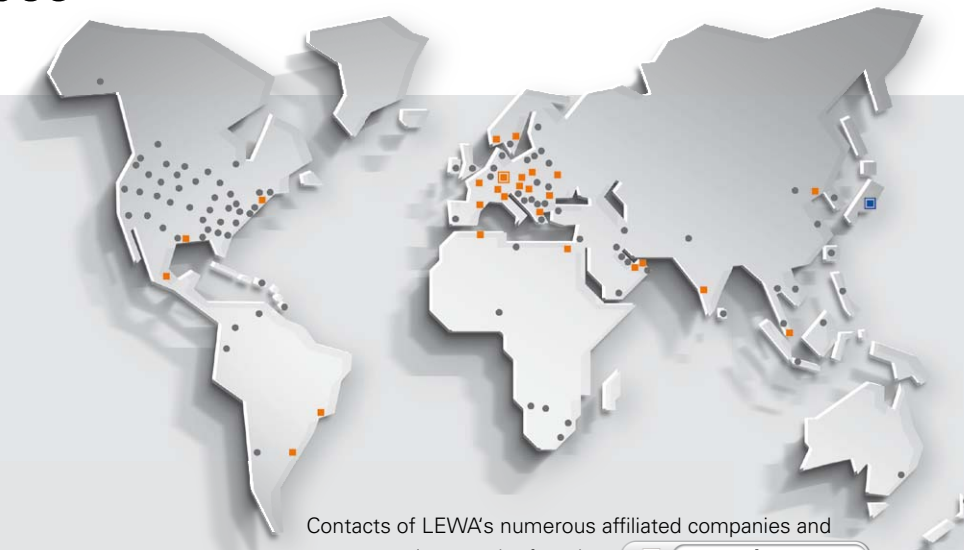
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Contacts of LEWA's numerous affiliated companies and representatives can be found on

[www.lewa.com](http://www.lewa.com)

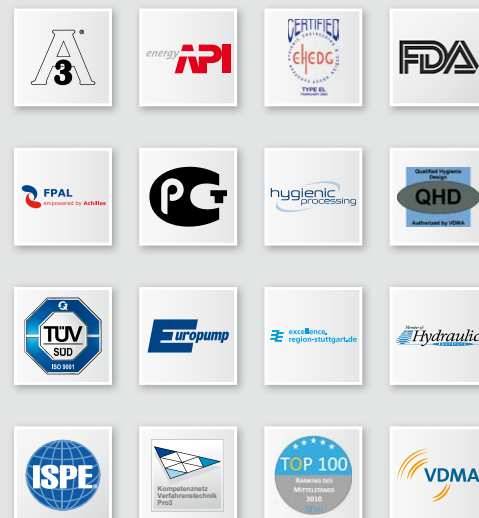


## Customized solutions for metering and process technology

For more than 50 years, LEWA has set the technical trends of metering pumps and systems. LEWA offers a single-source solution to handling complex metering and mixing tasks – ranging from individual pump configuration, basic and detailed system engineering and pretesting to onsite commissioning and maintenance services.

### Good causes to rely on:

- A solution for your special application: from process analysis to global service
- Highest process safety: individual pump configuration and state-of-the-art design
- International engineering and project competencies
- Highest reliability: developed for continuous operation
- Low lifetime costs: reduced energy consumption and low-wear design
- Compliance with international standards, e.g. API, ASME, GOST-R, FDA, EHEDG, 3A, TÜV
- Comprehensive reference list



## Areas of expertise:



Oil & Gas



Chemicals & Petrochemicals



Pharma & Biotech



Personal Care



Food & Beverages



Plastics



Cleaning & Detergents



Energy & Environment



Gas Odorization

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