LEWA EcoPrime® LPLC

With integrated buffer in-line dilution.
Providing analytical performance at pilot and production scale and highly configurable, LEWA EcoPrime systems provide a complete low-pressure liquid chromatography solution with integrated buffer in-line dilution option.

LEWA EcoPrime is an advanced downstream solution designed to optimize biopharmaceutical pilot and production processes. Incorporating state-of-the-art fluid management technology, and proprietary flow path design, this new platform combines innovative hygienic metering pumps with digital LEWA intellidrive technology to deliver the industries’ highest accuracy. With the buffer in-line dilution (BID) option integrated on the same skid, LEWA EcoPrime can significantly reduce equipment and tankage footprint and capital expenditure.

With more than 10,000 LEWA pumps used on chromatography systems since the 1980s, LEWA is globally respected as a proven supplier of reliable downstream technology.

**Take your chromatography to the next level**

– For difficult separations which require precise peak separation, LEWA EcoPrime’s best-in-class gradient accuracy enables higher productivity while maintaining required purity.

– The broad flow range of each EcoPrime system allows the use of one system for several processes or multiple projects.

– Enhanced buffer in-line dilution enables use of concentrated buffers and significantly frees up more space in the production area.

– Excellent reproducibility across batches is achieved through the precision of the digital control technology of the system, piping design and pumps themselves.

– LEWA EcoPrime user adaptable software is designed specifically for the GMP manufacturing environment.

**Configuration in accordance with customer requirements**

From among 20 standard options, you can choose the functions that correspond exactly to your specific process requirements. By using the platform design, LEWA provides the consistency of a standard system along with the flexibility needed to satisfy your specific requirements.

### Options and Advantages

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<thead>
<tr>
<th>Options</th>
<th>Advantages</th>
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<tr>
<td>Third pump to expand BID capability, includes 2 inlets</td>
<td>Simultaneous buffer dilution is possible</td>
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<tr>
<td>Additional inlet valves for additional 3rd pump</td>
<td>Two additional inlets for more flexibility</td>
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<td>Pre-column analytics (pH and conductivity)</td>
<td>Provides pH and conductivity measurements</td>
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<td>Pressure control at the column outlet</td>
<td>Prevents outgassing in the column</td>
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<td>Flow meter for each pump</td>
<td>Flow meter for controlling and monitoring the flow rate</td>
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<td>Additional inlet valves for primary pumps</td>
<td>Adds 2 or 4 additional valves to accommodate more feed streams</td>
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<td>Bubble trap with level sensors and drain</td>
<td>Prevents air from entering at the column</td>
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<tr>
<td>Static mixer</td>
<td>Improves the mixing of different process fluids</td>
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<td>Pre-pump air sensors for all pumps</td>
<td>Detects air at the inlet of the pump</td>
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<td>Cleaning In Place (CIP) includes the inlet and outlet manifolds</td>
<td>Removable manifolds to facilitate cleaning the system</td>
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<td>Blow-down (includes regulator, filter and valves)</td>
<td>Enables blow down to dry the system</td>
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<tr>
<td>Additional outlet valves</td>
<td>Adds 2 or 6 more outlet valves to accommodate more fractions</td>
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<tr>
<td>Pre-column filter assembly</td>
<td>Removes particulates from incoming process fluids</td>
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<tr>
<td>Drainability</td>
<td>Facilitates fully draining the system</td>
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Additional options include a UPS connection, an additional PLC network card and DeltaV control options.
LEWA EcoPrime.
The advantages at a glance.

Increased accuracy and reproducibility leads to improved yield and purity

System design makes the difference in gradient performance

Analytical performance at pilot and production scale
The efficiency of LEWA EcoPrime achieves laboratory accuracy – on both the pilot scale and the production scale. The system enables high-precision gradients and provides accuracy and reproducibility with a flow deviation less than ±1%.

Increases product yield and purity
Increased product yield, better quality, fewer fractions and excellent reproducibility across batches – these are the advantages of the exclusive LEWA intellidrive pump technology with digital fluid control and a highly optimized piping design.

Broader flow range for maximum flexibility
The broad flow range of the systems makes it possible for customers to use a variety of column diameters on a single system. The system can take over the function of two conventional skids and one additional in-line dilution system and can be used effortlessly in process development and for pilot or production processes. The advanced design creates space in the production area and thereby reduces costs.

Individually configurable software
The architecture of LEWA EcoPrime software enables it to be individually adapted by the user. It is recipe driven with configurable sequences. It uses an intuitively designed HMI, standard batch reporting and a Historian for trending data.

Reducing investment and operating costs with integrated buffer in-line dilution
Using concentrated buffers, LEWA EcoPrime buffer in-line dilution (BID) option will significantly reduce tank footprint and free up space, lowering your operation expenses. Chromatography and buffer in-line dilution are integrated thus combining two unit operations into a single system.

Increased product yield, better quality, fewer fractions and excellent reproducibility across batches – these are the advantages of the exclusive LEWA intellidrive pump technology with digital fluid control and a highly optimized piping design.

LEWA EcoPrime LPLC.
Features for individual requirements.

We configure entirely according to your needs using 20 different options.
LEWA EcoPrime LPLC. Flow schematic for standard platform.
Built for the regulated environment.

Software and control system

The EcoPrime software is designed to be user-friendly and intuitive. The control software helps the user to easily navigate and manage process setup, execution and reporting. Operation is controlled by a recipe and supported by a library of predefined sequences for all standard functions. The system is controlled by a PLC with industrial PC-based HMI as an interface and data acquisition device. The software was developed for pilot and process GMP environments, and enables 21 CFR Part 11 compliance.

Standards and regulatory requirements

The design and construction of LEWA EcoPrime meets the following standards, ensuring a safe, ergonomic system capable of producing products within Food and Drug Administration guidelines:

- System designed for GMP operation and validation
- Audit trail to support CFR 21 part 11 compliance and performance/verifier traceability for GMP operations and compliance
- Materials and gaskets in accordance with USP Class VI
- Compliance with EHEDG regulations
- LEWA hygienic metering pumps are certified in accordance with the European Hygienic Engineering & Design Group (EHEDG)
- CE conformity

Introducing LEWA EcoPrime Twin

Building on the LEWA EcoPrime LPLC platform, LEWA is now introducing the most advanced and yet easy-to-use twin column system for continuous chromatography on the market. LEWA EcoPrime Twin was developed for use in the GMP environment and is based on the patented twin column technology for continuous chromatography from ChromaCon AG. LEWA and ChromaCon provide systems for next-generation continuous downstream processes — from laboratory scale to production scale. Ask your sales contact for more detailed information.

The user interface of LEWA EcoPrime was developed for GMP pilot and process environments.
Creating Fluid Solutions.
For more value created.

Creating Fluid Solutions.
Driven by our commitment, our trendsetting products and innovative technologies have set benchmarks for metering systems and diaphragm pumps for over 60 years. We solve complex tasks from a single source. This ranges from standard and customized system engineering, global project management, individual pump design and pretesting to commissioning and maintenance on site. Our consistent drive always to develop the best solutions for the customer provides you with a higher productivity and visible added value.