Rotary Loading System
RLS 800/1500
The Liebherr RLS Rotary Loading System
Liebherr offers a wide range of automation systems supporting modern high-efficiency production environments. Our solutions not only reduce production costs but are also able to quickly respond to fluctuating production volumes. Liebherr automation systems are designed for cost-effectiveness, ease of use, quality and reliability in combination with a high degree of flexibility.

For pallet handling systems, Liebherr offers the RLS rotary loading system as a supplement to the linear PHS. It is the ideal solution for an economical entry into high-efficiency machining via pallet handling.

**Economy**
A basis for cost-effective machining is optimizing the feeding of parts in and out of the machining center. Hand-loaded or semi-automatic machines are limited, while the Liebherr RLS rotary loading systems normally enable spindle efficiencies above 90%. With the introduction of lights out production, the need for manpower is reduced. In essence, we are allowing the investment to pay for itself quickly.

**Flexibility**
With its modular design, the Liebherr RLS rotary loading system offers a high degree of flexibility. It offers a versatile platform that can be configured to a variety of machine setups for different requirements.

**User-Friendly**
The proven Soflex PCS cell controller is user-friendly and offers integrated order planning. Further, it is completely open for expansion. In the basic version, NC program and tool management remain on the machine, while the cell controller manages pallets and order planning. This allows operators to continue working in a familiar machine environment. Short commissioning time, high acceptance and fast production start-up are the results.

**Quality and Reliability**
Quality is the top priority for Liebherr. When producing our products, every stage is monitored ensuring world-class products with the highest reliability and service life. The quality management system of the entire production process at Liebherr-Verzahntechnik GmbH is certified in accordance with DIN EN ISO 9001:2008. In addition, our product development benefit from the Liebherr group’s diversity and many years of in-house experience with state of the art manufacturing technologies.
Manufacturing with innovative APPs

The RLS rotary loading system has a cell control system, which enables intuitive operation and a wide range of useful functions for productive operation.

**Control system**
The control system is the key link between the operator, the automation and the connected machines and equipment. The intuitive shop floor (user) interface with function-oriented APPs on a touch display reduces the training effort. Alternatively, the mouse-based control center (user) interface is available for data preparation.

**Core system and expansion options**
The core system includes all necessary functions for a quick start into an automated production plant. Based on this, and depending on the application requirements, different function-oriented modules are available. The user can individually combine the standardised modules. The start constellation is not binding, modules can also be activated at a later time or specific function extensions can be integrated.
PCS cell control system
- Basic version for single-stage production
- Pallet management and status displays
- Priority control for production orders
- Memo and logbook functions
- Expandable at any time

Organizer – APP
- Organisation of production orders
- Create, lock, and release production orders
- Define order sequence
- Fine planning, production preview
- Calculation of resource requirements

Setup Station – APP
- Setup station operation
- Workpiece loading/unloading functions
- Workpiece status report scrap / good parts
- Clamping drawing, work instructions, inspection characteristics, etc. afferent to the respective status of the workpiece
Flexibilität
Flexibility is an increasingly important aspect to consider when investing in a new production system. With maintained flexibility, machining cells can remain competitive as requirements change. The RLS rotary loading system allows for cost-effective yet flexible manufacturing of a wide range of parts via pallet handling.

Modular System
The modular design of the RLS pallet system allows the cell to be adapted to changes in production requirements rapidly. The two sizes, RLS 800 and 1500, cover a wide range of applications. The modular system includes the following components:

- Rack module
- Setting station
- Lift module
- Rotary storage tower

Fit for the Future
If performance requirements change in future, the RLS is already prepared. A rotary storage tower and/or a second machine can be added at any time. Another significant advantage is the ability to integrate any machine contour with the RLS. All components are pre-configured for this.
Examples of Different Layouts
**Versatile**

Individual modules of the same size can be combined and configured into a system. Configurations can be made for single or dual machines. RST-rotary storage towers can be added to a cell for additional storage capacity. Storage capacity can thus be tailored to specific cell requirements at any time.

- Dual machine arrangement with two storage towers
- Basic version
- Basic version with storage tower
- Dual machine arrangement with storage tower
Technical Data
## Technical Data

<table>
<thead>
<tr>
<th></th>
<th>RLS 800</th>
<th>RLS 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport weight in kg</td>
<td>800</td>
<td>1,500</td>
</tr>
<tr>
<td>Height of workpiece including pallet</td>
<td>2 levels: 2 x 1.100, 2 x 700 + 1 x 1.100</td>
<td>2 x 1.400, 2 x 600 + 1 x 1.300</td>
</tr>
<tr>
<td>Werkstück-X in mm</td>
<td>600 800</td>
<td>900 1300</td>
</tr>
<tr>
<td>Anzahl Speicherplätze</td>
<td>2 levels: 16, 24</td>
<td>4 levels: 14, 21</td>
</tr>
<tr>
<td></td>
<td>3 levels: 24</td>
<td>2 x 700 + 1 x 1.100</td>
</tr>
<tr>
<td></td>
<td>3 levels with RST*: 22</td>
<td>2 x 600 + 1 x 1.300</td>
</tr>
<tr>
<td></td>
<td>3 levels with RST*: 33</td>
<td></td>
</tr>
<tr>
<td>Maximum height in mm</td>
<td>4,130</td>
<td></td>
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</tbody>
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*Rotary storage tower

### RLS 800: Ø 600 mm

### RLS 800: Ø 800 mm

### RLS 1500: Ø 900 mm

### RLS 1500: Ø 1,300 mm
Liebherr employs roughly 1200 staff in the area of machine tools and automation technology and has production facilities in Kempten and Ettlingen (Germany), Collegno (Italy), Saline (Michigan, USA) and Bangalore (India). They are supported by expert and reliable marketing and service specialists at a large number of locations worldwide.

With over sixty years of industrial experience, Liebherr is one of the world’s leading manufacturers of CNC gear cutting machines, gear cutting tools and automation systems. The company’s innovative products are the result of pioneering ideas, highly qualified staff and state-of-the-art manufacturing systems at each of their locations. They are characterised by economy, ease of use, quality and reliability in combination with a high degree of flexibility.