Liebherr Common Rail solutions for commercial vehicles and machinery for on- and off-highway applications
Flexible system solutions
for up to 2,500 bar system pressure

Liebherr offers complete Common Rail System solutions in a modular design for medium- and heavy-duty engines of commercial vehicles and machines in the on- and off-highway sector. The flexibly combinable injection components are designed for system pressures from 1,800 to 2,500 bar. Combined as system solutions, power ranges up to approximately 600 kW are achieved. Permanently leak-free injectors with minimal control rates combined with high pump efficiencies produce an efficient hydraulic system with above-average low fuel consumption. The Liebherr engine control unit ensures optimum injection control.

### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>System pressure</td>
<td>250 – 2,500 bar</td>
</tr>
<tr>
<td>Engine power/displacement</td>
<td>~ 95 kW/cyl</td>
</tr>
<tr>
<td>Number of injections</td>
<td>5 – 7</td>
</tr>
<tr>
<td>Hydraulic flow rate</td>
<td>400 – 1,300 ml/30 sec</td>
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<tr>
<td>Nozzle diameter</td>
<td>7 mm</td>
</tr>
<tr>
<td>Max. hydraulic flow (pump)</td>
<td>265 l/h</td>
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<tr>
<td>Control leakage/injector</td>
<td>&lt; 15 ml/min</td>
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</table>
Modular design
Thanks to intelligent design and flexible connections, the modular individual components can be easily combined and adapted to specific engine designs. Different design variants, variable drive flanges and individual interfaces make Liebherr’s Common Rail Systems so flexible.

Precision parts produced in-house
Liebherr manufactures a major part of the functional micro-precision parts in-house. The high degree of vertical integration and the corresponding technical expertise allow us to flexibly respond to customer-specific special requirements for fuel injection.

Stable performance
All injection components are specially designed for highly dynamic loads in on- and off-highway vehicles. Liebherr covers the entire validation program in-house, from the development phase on the test bench to the final application on the field and implies the use of dirty and alternative fuels.

Engineering competence
Experts define the specific functionalities and requirements for the injection, diagnostics and correction process for each customer and carry out appropriate validations. In this regard, they draw on decades of experience in the development and production of diesel engines.

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**Injector LI1**
- System pressure: 250 – 2,500 bar
- Nozzle diameter: 7 mm
- Hydraulic flow rate: 400 – 1,200 ml / 30 sec

**Injector LI2**
- System pressure: 250 – 2,500 bar
- Nozzle diameter: 7 mm
- Hydraulic flow rate: 600 – 1,300 ml / 30 sec

**High pressure pump LP7.2**
- System pressure: 250 – 2,500 bar
- Max. hydraulic flow: 265 l / h
- Rated pump speed: 3,500 rpm

**High pressure pump LP9.2**
- System pressure: 2,200 bar
- Max. hydraulic flow: 220 l / h
- Rated pump speed: 3,750 rpm

**Engine Control Unit ECU3**
- Supported emission standards: Euro V / Euro VI / EPA Tier 4f / EU Stage IV / EU Stage V
- Supported engines: Diesel engines / mobile gas engines (NG)
- Number of supported cylinders: 6
Liebherr Components

From A to Z – the components division of the Liebherr Group offers a broad range of solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contact persons for all product lines are available to our customers at Liebherr- Components AG and the regional sales and distribution branches.

Liebherr is your partner for joint success: from the product idea to development, manufacture and commissioning right through to customer service solutions like remanufacturing.

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