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# Injecting efficiency

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Common rail solutions for  
high performance engines

**LIEBHERR**

Components  
Fuel Injection Equipment



# Efficiency in design and functionality

For high-performance engines in the off-highway segment, the injector platform LI2 offers a unique high nozzle flow in a compact design, enabling particularly high performance per cylinder. The injectors are combined with highperformance high pressure pumps, which deliver up to 970 l of fuel per hour and are particularly resistant due to their oil lubrication.

Intelligent designs enable the integration of the injection system into a wide variety of engine dimensions and space conditions in the engine. All components in the field of high-performance engines are certified according to common marine standards.



## Technical Data

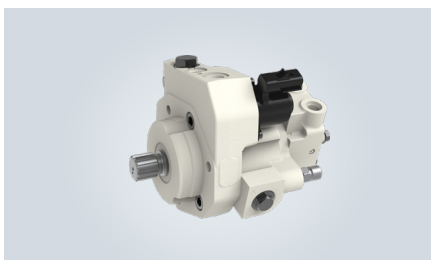
System pressure	up to 2,200 bar
Engine power	up to 180 kW/cyl
Number of injections	5
Hydraulic flow rate	up to 2,600 ml/30 sec
Nozzle diameter	7 or 9 mm
Max. hydraulic flow (pump)	up to 970 l/h
Control leakage / injector	< 15 – 30 ml / min





### Injector LI2

System pressure	2,200 bar
Nozzle diameter	7 and 9 mm
Hydraulic flow rate	600 - 2,600 ml/30 sec



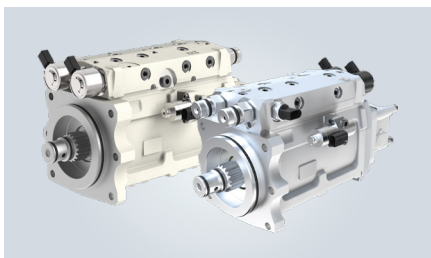
### High pressure pump LP9.2

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



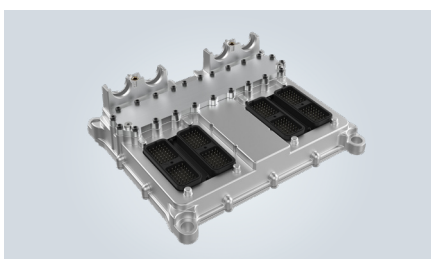
### High pressure pump LP11.2

System pressure	2,200 bar
Max. hydraulic flow	320 l/h
Rated pump speed	4,500 rpm



### High pressure pump LP11.5 / LP11.6

System pressure	2,200 bar
Max. hydraulic flow	810 l/h / 970 l/h
Rated pump speed	4,500 rpm



### Engine Control Unit ECU2-HD

Supported emission standards	Euro V/EPA Tier 4f/EU Stage IV/EU Stage V
Supported engines	Diesel engines / stationary gas engines (CNG)
Number of supported cylinders	12/24 (with two control units)



### Engine Control Unit ECU3

Supported emission standards	Euro V/Euro VI/EPA Tier 4f/EU Stage IV/ EU Stage V/IMO III
Supported engines	Diesel engines / mobile gas engines (NG)
Number of supported cylinders	6

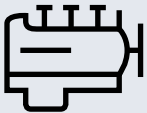
# Components

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

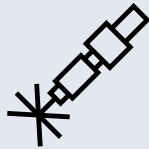
Liebherr-Components AG and the regional sales and distribution branches.

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

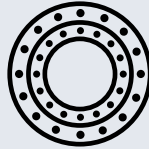
[components.liebherr.com](https://components.liebherr.com)



Engines



Fuel injection systems



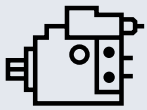
Slewing bearings



Gearboxes



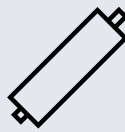
Winches



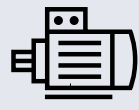
Hydraulic pumps  
and motors



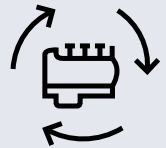
Hydraulic cylinders



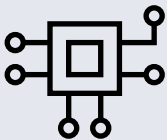
Piston accumulators



Electric machines



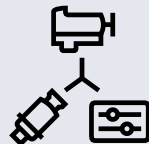
Remanufacturing



Industrial electronics



Electrical drive and  
control technology



Drive systems



Aerospace electronics



Fibre composite

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Subject to technical modifications.  
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