

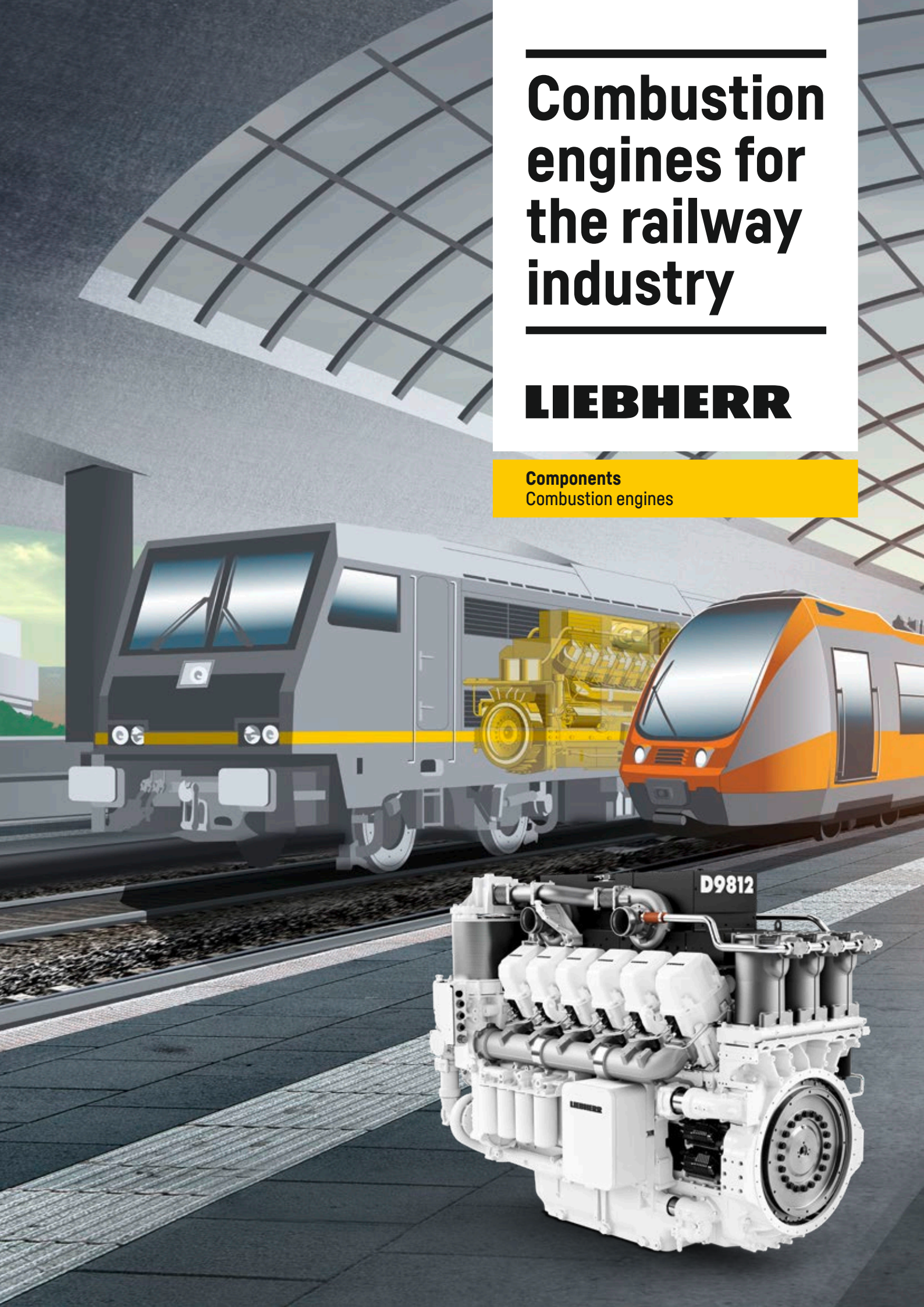
---

# Combustion engines for the railway industry

---

**LIEBHERR**

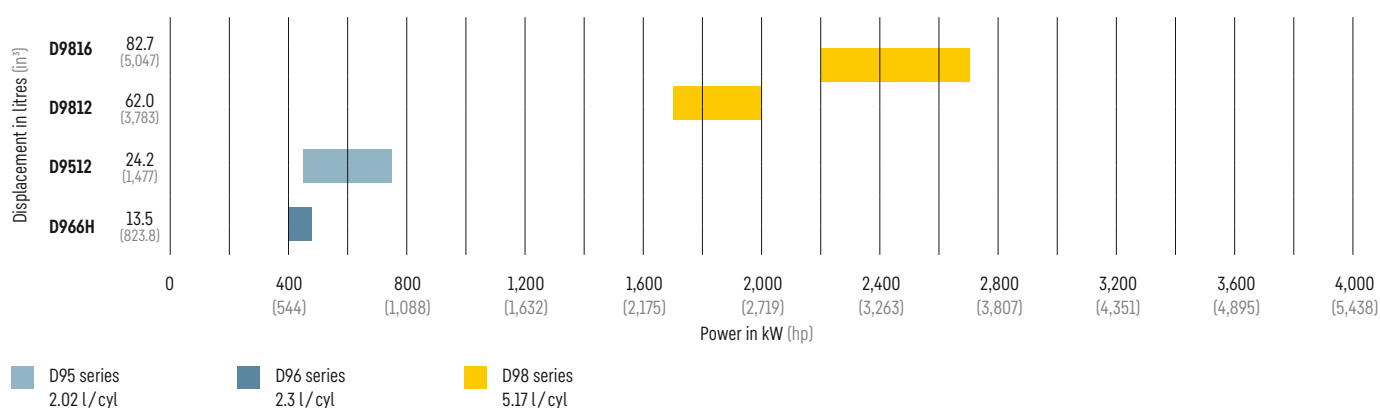
Components  
Combustion engines



# Combustion engines portfolio for the railway industry

Since the first engine came off the production line in 1985, Liebherr has considerably improved its engines portfolio, currently covering a power range from 130 to 4,290 kW in various applications. Besides having provided combustion engines for different purposes over the past decades, Liebherr has now developed a new set of engines specifically designed to meet the requirements of the railway industry and covering a power range from 400 up to 2,700 kW.

## Power range



## Modularity

Thanks to their modular design, Liebherr combustion engines can easily be adapted to the different applications of the railway industry.

## High performance and uptime

Always committed to meeting highest quality standards, Liebherr has developed the D95, D96 and D98 engines to achieve uncompromising performance and efficiency, resulting in more uptime for our customers.

## Low operating costs

Reduced fuel consumption and high reliability result in low total operating costs.

## On track for the future

All Liebherr engines are now available in an HVO version\*. Development is currently in progress to release an H2 version of some engines.



**HVO ready**



**H2 in development**

\* Upon request

## Compliance to standards

Emissions:

Our engines are provided to comply with various emission standards, depending on the engine type. From stage IIIA to stage V.

## Railway specifications:

Depending on the engine type the following norms will be offered:

- RAMS (EN 50126-1 / EN 50126-2 / EN 50128 / EN 50129 / EN 50657)
- Structural & emission (IRS 60 623, IRS 60 624)
- Structural norm (EN12663)
- Fire protection (EN 45545)
- Electronics (EN 50121-3-2 / EN 50155)

## Customer service support

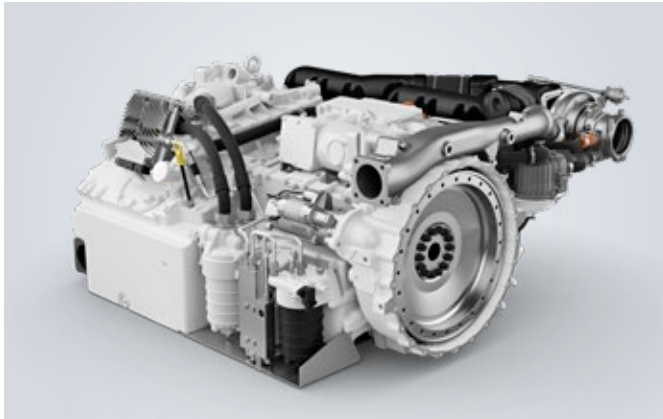
When required, customers are supported by experienced Liebherr service technicians worldwide in customer support operations as well as on-site training.

## Digital solutions for more uptime

Our engine condition monitoring solution and LiDIA diagnostic tool, together with long service intervals, further increase reliability and minimises engine down time.



# From 400 – 2,700 kW



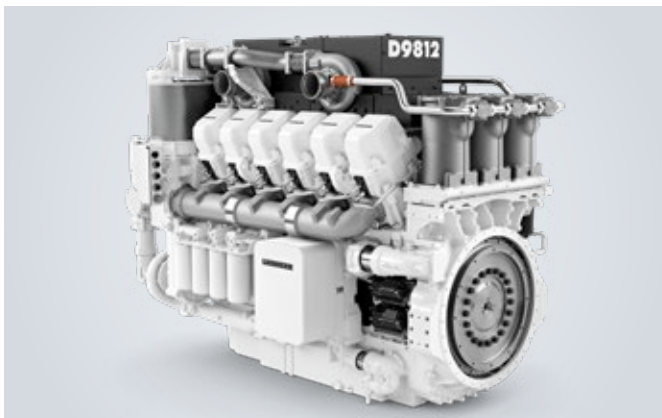
## D966H

Bore	mm (in)	135	5.3
Stroke	mm (in)	157	6.2
Displacement	l (in <sup>3</sup> )	13.5	823.8
Power rating *	kW (hp)	400 – 480	536 – 644
Rated speed	rpm (rpm)	1,800 – 2,100	1,800 – 2,100
Peak torque	Nm (lb-ft)	2,800 at 1,400 rpm	2,065 at 1,400 rpm
Dry weight	kg (lbs)	1,280	2,822
Dimensions (LxWxH)	mm (in)	1,369x1,362x692	53.9x53.6x27.2



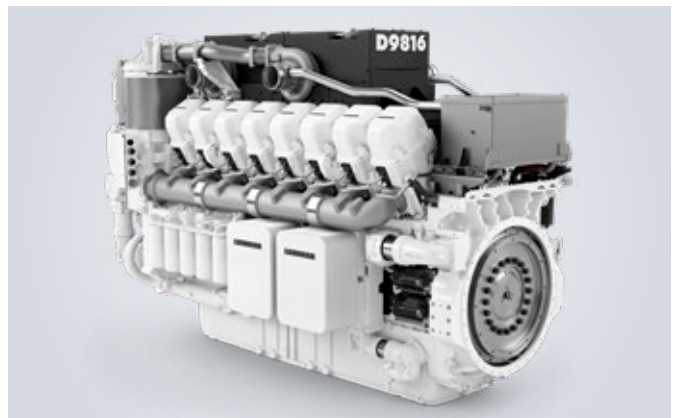
## D9512

Bore	mm (in)	128	5.04
Stroke	mm (in)	157	6.18
Displacement	l (in <sup>3</sup> )	24.2	1,477
Power rating	kW (hp)	565 – 750	758 – 1,006
Rated speed	rpm (rpm)	1,500 – 2,000	1,500 – 2,000
Peak torque	Nm (lb-ft)	4,774 at 1,500 rpm	3,521 at 1,500 rpm
Dry weight	kg (lbs)	2,150	4,740
Dimensions (LxWxH)	mm (in)	1,869x1,226x1,183	73.58x48.27x46.57



## D9812

Bore	mm (in)	175	6.9
Stroke	mm (in)	215	8.5
Displacement	l (in <sup>3</sup> )	62	3,783
Power rating **	kW (hp)	1,500 – 2,000	2,012 – 2,682
Rated speed	rpm (rpm)	1,800	1,800
Peak torque	Nm (lb-ft)	12,024 at 1,600 rpm	8,868 at 1,600 rpm
Dry weight	kg (lbs)	9,600	21,164
Dimensions (LxWxH)	mm (in)	2,661x1,753x2,126	104.8x69x83.7



## D9816

Bore	mm (in)	175	6.9
Stroke	mm (in)	215	8.5
Displacement	l (in <sup>3</sup> )	82.7	5,047
Power rating **	kW (hp)	2,200 – 2,700	2,950 – 3,621
Rated speed	rpm (rpm)	1,800	1,800
Peak torque	Nm (lb-ft)	16,114 at 1,600 rpm	11,885 at 1,600 rpm
Dry weight	kg (lbs)	11,900	26,235
Dimensions (LxWxH)	mm (in)	3,046x1,653x2,130	119.9x65.1x83.9

\* Lower power ratings upon request

\*\* Low power ratings upon request

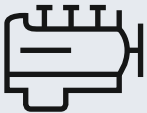
# Components

As a provider of a vast variety of products, the components product segment offers solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. Our state-of-the-art components and systems of the highest quality are designed and manufactured at ten production sites worldwide. Representatives from each of our product segments are available to our customers at

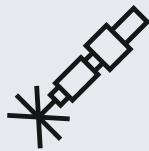
Liebherr-Components AG and the regional sales and distribution branches.

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

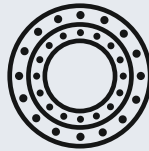
[components.liebherr.com](https://components.liebherr.com)



Engines



Fuel injection systems



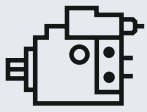
Slewing bearings



Gearboxes



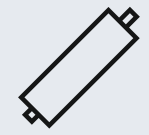
Winches



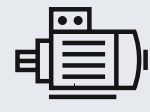
Hydraulic pumps and motors



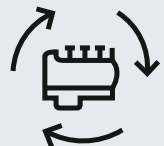
Hydraulic cylinders



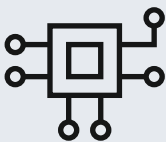
Piston accumulators



Electric machines



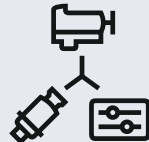
Remanufacturing



Industrial electronics



Electrical drive and control technology



Drive systems



Aerospace electronics



Fibre composite

# LIEBHERR

Liebherr-Components AG · Post box 222 · 5415 Nussbaumen, Switzerland  
+41 56 296 43 00 · [components@liebherr.com](mailto:components@liebherr.com) · [www.liebherr.com](http://www.liebherr.com)