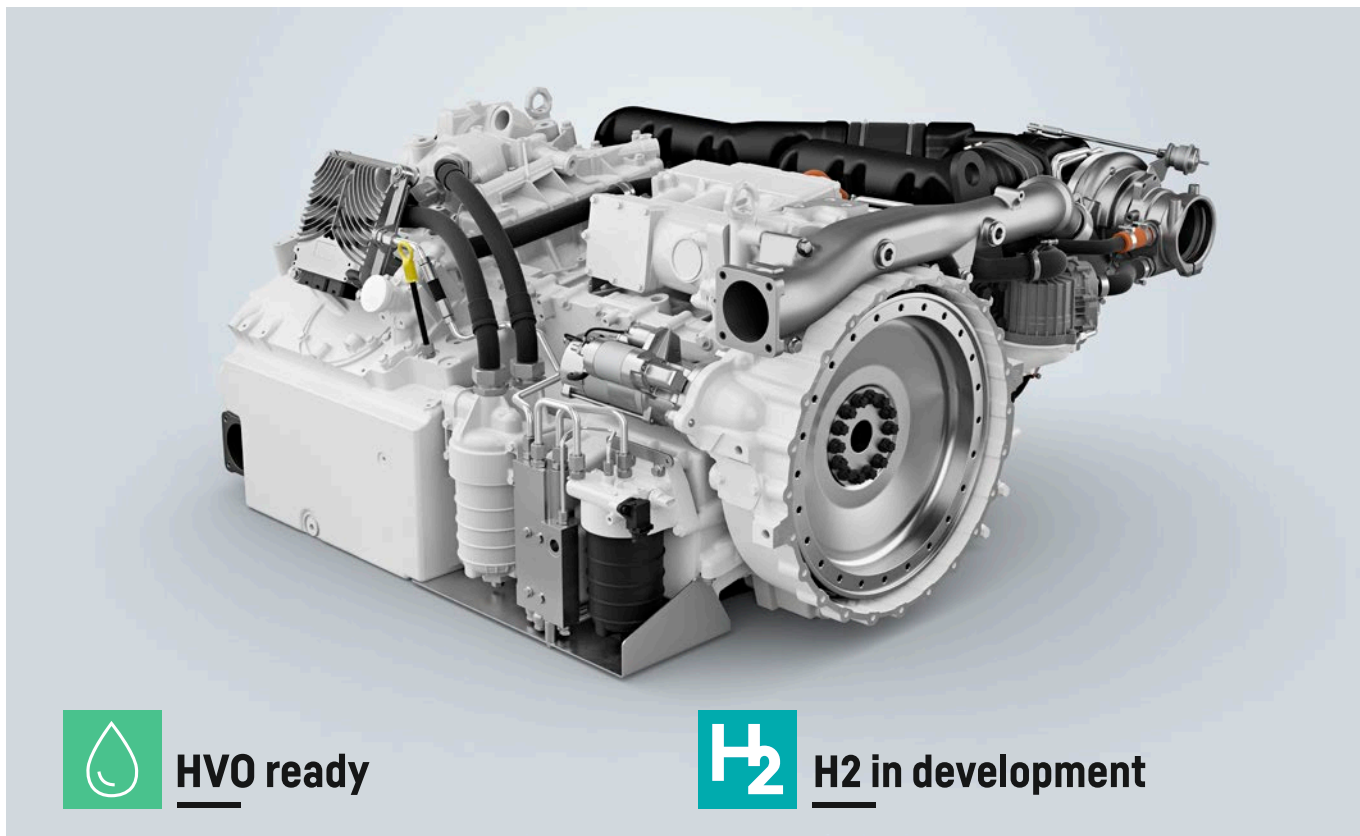


# D966H engine for the railway industry

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**HVO** ready



**H2** in development

Liebherr's D966H is a very compact 13.5 liters flat 6-cylinder diesel engine. Its solid and robust design makes it a perfect fit for the railway industry.

This engine comes with an integrated closed crankcase ventilation system, water-cooled turbocharger, fuel fine filter, ultrafine fiber oil filter as well as a grid heater system.

Our engine condition monitoring solution and LiDIA diagnostic tool, together with a long life service further extend reliability and minimize engine down time.

#### **Features:**

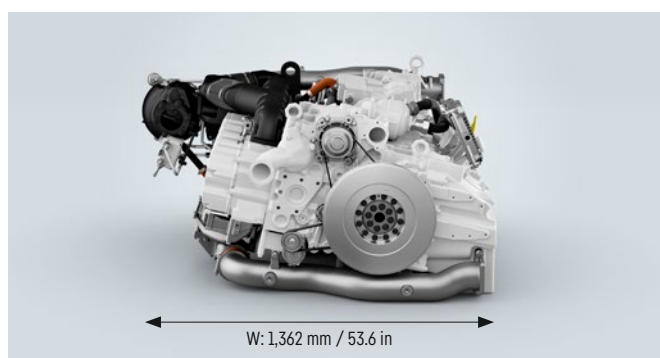
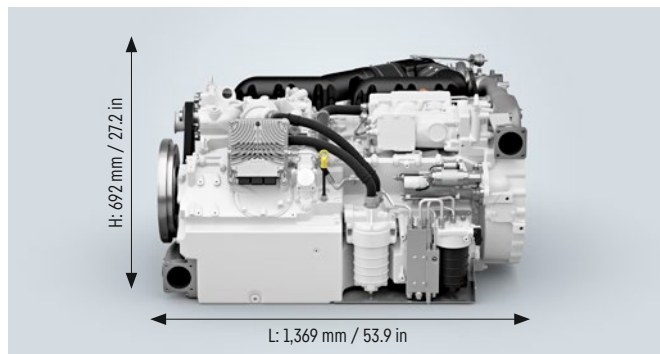
- Robust and highly efficient
- Low total cost of ownership
- Longer service intervals thanks to an automatic poly-V-belt
- All-weather operation capability thanks to grid heater system for startability at low temperatures
- Long oil change interval
- Maintenance-free crankcase ventilation system
- Compact integration of the charged air piping for easy charge air cooler installation

**LIEBHERR**

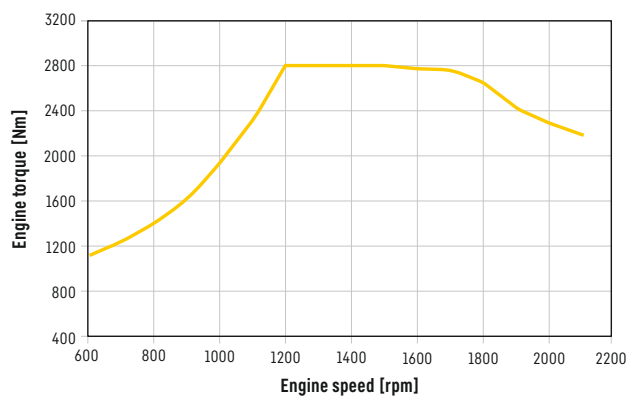
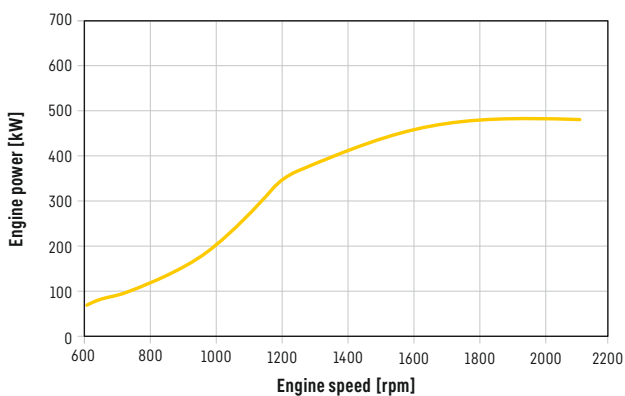
# Product features and technical data

## D966H\*

|                               |                                       |                                       |
|-------------------------------|---------------------------------------|---------------------------------------|
| Country of manufacture        | Switzerland                           |                                       |
| Configuration                 | 6 cylinders in-line horizontal engine |                                       |
| Aspiration                    | Turbocharger                          |                                       |
| Fuel injection control system | High Pressure Common Rail             |                                       |
| Bore                          | mm (in)                               | 135 (5.3)                             |
| Stroke                        | mm (in)                               | 157 (6.2)                             |
| Displacement                  | L (in <sup>3</sup> )                  | 13.5 (988,6)                          |
| Compression ratio             | 16.5 : 1                              |                                       |
| Power rating                  | kW (hp)                               | 400-480 (536-644)                     |
| Rated speed                   | rpm                                   | 1,800-2,100                           |
| Peak torque                   | Nm (lb-ft)                            | 2,800 @ 1,400 rpm (2,065 @ 1,400 rpm) |
| Fuel consumption              | g/kWh                                 | 188 @ 1,200 rpm<br>201 @ 1,800 rpm    |
| Fuel consumption              | L/h                                   | 67 @ 1,200 rpm<br>115 @ 1,800 rpm     |
| Coolant capacity              | L                                     | 25.5                                  |
| Lubricant capacity            | L                                     | 56                                    |
| Maximum tilt angle            | +/- 20° long. +/- 7° trans            |                                       |
| Estimated dry weight          | kg (lbs)                              | 1,280 (2,822)                         |



## Engine power and torque curves\*



\* Tolerance at nominal power and nominal torque declaration are according to standard ECE-R.24/ISO 9249.

Tolerance at nominal specific fuel consumption declaration are valid for diesel fuel fullfilling standard DIN EN 590 with a min of LHV 42780 kJ/kg.

# Product specifications and options

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## Product specifications

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Engine Control Unit: Liebherr ECU3 on engine block

Flywheel housing SAE1

Water outlet and inlet connections with V-clamp connection interface

Single-stage water-cooled turbocharger

Integrated centrifugal water pump

Integrated closed crankcase ventilation system

Suction and main oil pump into the sump to improve lubrication reliability

Automatic poly-V-belt tensioner for longer service intervals

Grid heater system for startability at low temperatures

Ultrafine fiber oil filter

Fuel fine filter on engine

1 x Starter 24 V - 6.5 kW

## Optional specifications

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Air compressor upon request

Engine-mounted thermostat upon request

Several flywheel configurations upon request

Lower power ratings down to 290 kW upon request

Hydrogenated vegetable oil (HVO) approval upon request

LiDIA diagnostic tool upon request

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