



# Diesel engines for rail vehicles

## Voith Rail Engine

Future emission standards and the demand for higher efficiency require rail engine development. The efficient and powerful Voith diesel engines are specifically developed to meet the newest requirements and are optimally suited for rail vehicles.

# Full power and highest efficiency

The Voith Rail Engine is the most advanced and efficient diesel engine of its class. Compared to other rail engines, it is characterized by reduced fuel consumption and a high power density. The emission treatment system developed by Voith ensures the engine meets the upcoming European emission regulations including the Stage V (valid in Europe as from 2021) regulation. Voith offers a horizontal and a vertical engine for diesel multiple units as well as locomotives in the output categories 400/450/480 kW.

## Voith Rail Engine I6H135 for railcars and special purpose vehicles

Powerful and efficient in the smallest installation space: The I6H diesel engine is a horizontal inline six-cylinder engine that shows its class in a wide range of applications. Together with Voith's exhaust aftertreatment system, the aggregates comply with the emission standards 2016-1628 (stage V) and 97/68 EC (stage IIIB) for rail applications. The emission aftertreatment systems, the motor architecture, the injection system and the engine control are perfectly harmonized. This results in optimum efficiency and lower fuel consumption.

## Voith Rail Engine I6V135 for locomotives, railcars and special purpose vehicles

Robust design for rail applications: based on the robust design of construction machinery engines the vertical version I6V and horizontal version are ideally suited to rail vehicles. Other designs for example with flat oil pan and auxiliary drives are realized upon customer request.

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Voith Rail Engine I6H135 – horizontal



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Voith Rail Engine I6V135 – vertical



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## Technical data

Engine	Vertical	Horizontal
Cylinder	6	6
Displacement [l]	13.5	13.5
Emission standard acc. 2016-1628 & 97/68 EC	Stage V & stage IIIB	Stage V & stage IIIB
Rated power [kW]	400 / 450 / 480	400 / 450 / 480
Rated speed [rpm]	2100	2100
Max. torque [Nm]	2400 / 2600 / 2800	2400 / 2600 / 2800
Broke/stroke [mm]	135 / 157	135 / 157
Compression ratio	17:1	17:1
Dry weight [kg]	1150	1200

All data preliminary

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## Configurations

	Configuration	Type of vehicle	Emmision standard	Power [kW]
I6H135-R5	Horizontal	Railcar	Stage V	400 / 450 / 480
I6H135-R3	Horizontal	Railcar	Stage IIIB	400 / 450 / 480
I6V135-R5	Vertical	Railcar	Stage V	400 / 450 / 480
I6V135-R3	Vertical	Railcar	Stage IIIB	400 / 450 / 480
I6V135-L5	Vertical	Locomotive	Stage V	400 / 450 / 480

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