

Maximum new possibilities!



Diesel-hydraulic locomotive
LEGIOS GENERAL

Powerful Start into a New Dimension



LEGIOS GENERAL Locomotive

The new LEGIOS GENERAL locomotive, manufactured by LEGIOS a.s. under the licence by VOITH, represents new standards for diesel-hydraulic locomotives. It combines all advantages of diesel-hydraulics, such as reliability, long service life, easy maintenance and enormous power. The LEGIOS GENERAL locomotive has mainly been designed for cross-border traffic and can be supplied with various combinations of respective national safeguarding packages. Thanks to its large tank volume, its independence from overhead wires and vehicle speeds from 120 km/h to 160 km/h, it is suitable for both heavy goods traffic and supra-regional passenger traffic. The medium-speed diesel engine with 12 cylinders, highly reliable components and the self-supporting locomotive structure provided with two end cabs make this locomotive a robust multi-talent for the rails all over the world.

The medium-speed diesel engine of the LEGIOS GENERAL locomotive with 12 cylinders, highly reliable Voith Turbo components and the self-supporting locomotive structure with two end cabs make this mainline locomotive a robust multi-talent for the rails.



Performance and Power, New Possibilities for Your Economical Operation

The LEGIOS GENERAL locomotive is ideally suited for the customers who, due to their operating programs, require high tractive efforts combined with high drive powers.

The basic characteristics of the LEGIOS GENERAL locomotive are two end cabs, the self-supporting locomotive structure and the associated high tractive effort per wheelset.

Design Advantages:

- Up to 10,000 l tank volume
- Integration of up to 4 national packages and ETCS control systems
- Robust medium- or high-speed engines
- TurboSplit transmission with bogie-selective activation
- Up to 2 500 kW hydrodynamic braking power
- Failure management
- Intelligent cooling output control
- Crash-resistant locomotive body design
- Adherence to TSI CR Noise standards
- Simplified, effective diagnosis with intervention possibility

Benefits:

- Wide travelling range
- Cross-border traffic
- Efficient development of tractive effort
- Cost effective due to hydro-dynamic brake
- Continued operation in the event of electronic failure
- Can be operated without external sources
- Maximum protection of a driver in the event of a collision
- Environmentally friendly and modern locomotive
- Increased reliability and availability

The LEGIOS GENERAL locomotive, Technical Forwardness

Technical Data

Length over buffers	23 200 mm
Mass	126–135 t
Maximum speed	120 km/h
Riding dynamics approved for	160 km/h
Fuel tank volume	10,000 l
Diesel engine output	2 750 kW at 1 000 min ⁻¹
Power transmission	hydrodynamic
Minimum curve radius	80 m
Practical starting tractive effort at $\mu = 0,33$	408 kN
Emission limits:	
– noise	TSI CR Noise
– exhaust gases	UIC II/EU Stage IIIA

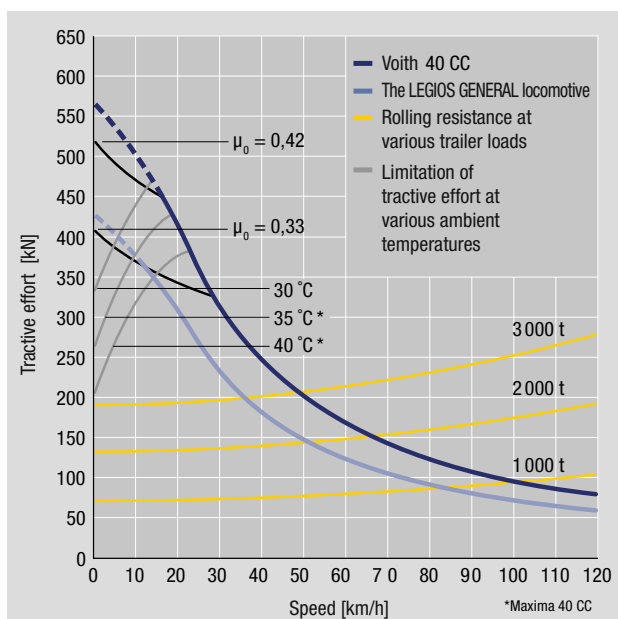


Maximum Possibilities

As a locomotive that does not depend on overhead wires, it opens up for its operator additional transport and operating opportunities in the upper power range. It can move trains with a high tractive effort, without the need for locomotive changes on non-electrified track sections, and irrespective of electric systems barriers. This pays off not only on medium-demanding hilly routes where high drive powers are required, but also in the cross-border traffic, where thanks to the LEGIOS GENERAL locomotive you may dismiss technologically complex and expensive multisystem locomotives.

Tractive effort curve of the LEGIOS GENERAL locomotive

Limitation of tractive effort at various ambient temperatures



(The graph adopted from VOITH TURBO)

Its Strength? There Are Plenty!

As a diesel-hydraulic locomotive, it attracts attention thanks to its very good efficiency, reliability and significantly improved availability, while having a long service life. This ensures high economy and low maintenance costs that can be calculated across the entire life cycle. We guarantee a long-term availability of spare parts for at least 30 years! Various types of the TurboSplit transmission allow bogie-independent control. The bogie-selective anti-wheel-spin device of the locomotive enables maximum utilization of the adhesion value and increases its tractive effort. The entire driveline has been designed for an adhesion value of $\mu = 0.42$. In certain applications this allows an increase of the traction characteristics at the take-off.

LEGIOS a.s. – The new name of the notable European producer of locomotives and wagons – the original company LOSTR – that has a tradition and history of over 130 years. With the new name the company expresses its modernization and economic growth in the segment of the manufacture, repair and servicing of wagons and locomotives.

LEGIOS a.s.
www.legios.eu