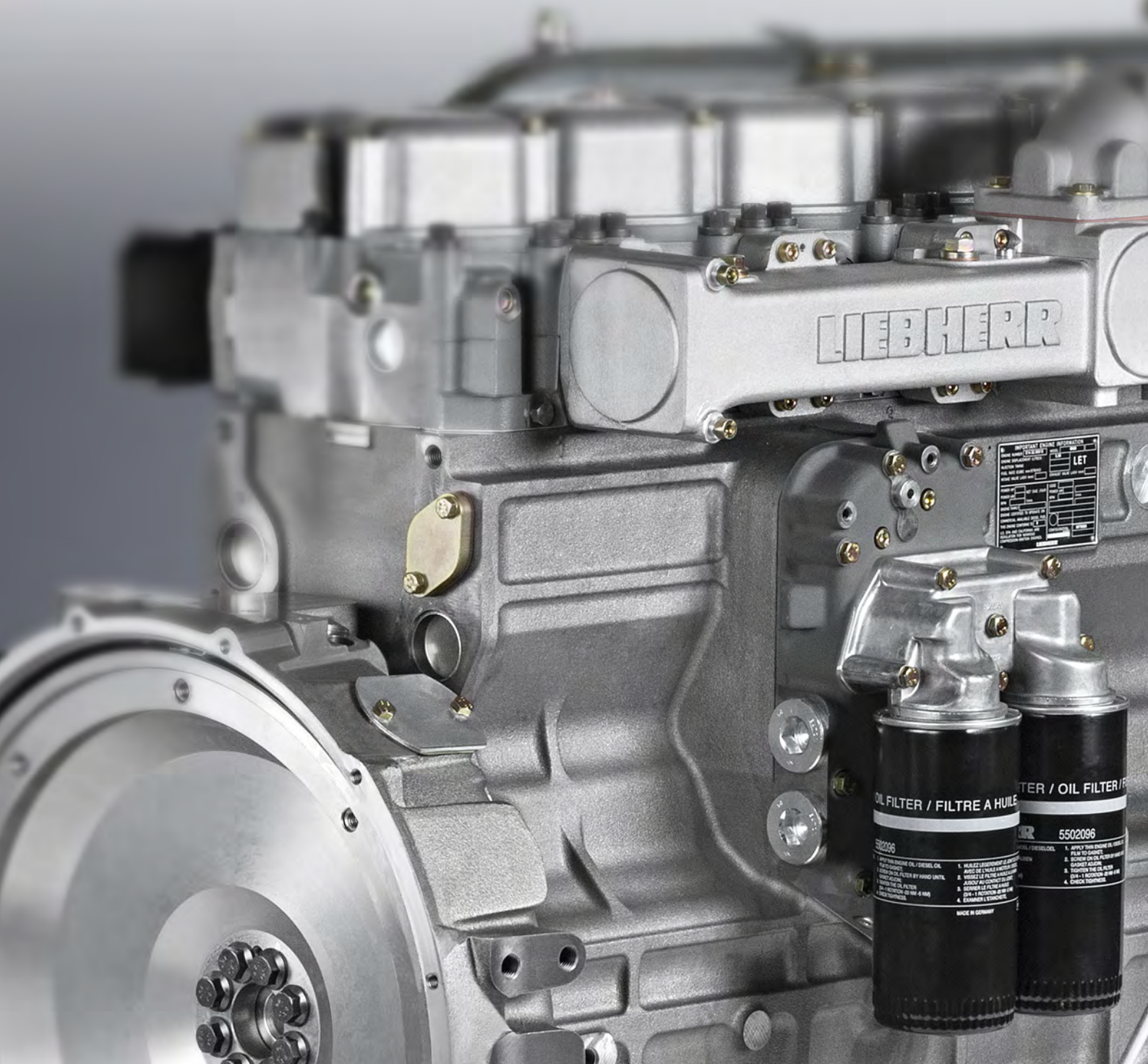


Base version gas engines by Liebherr

Reliable, robust
and versatile



LIEBHERR

Base version gas engines - the "all-rounders" by Liebherr

Liebherr base version gas engines are produced at the plant at Ettlingen, Germany. They are designed for stationary applications, such as combined heat and power units and biogas plants. The base version gas engines are based on the tried-and-tested Liebherr diesel engines and therefore cover a broad spectrum ranging from 4-cylinder in-line engines to 8-cylinder V engines. The spectrum ranges from 60 kW to 254 kW of mechanical power for 50 Hz applications. Reliability, robustness and reduced life-cycle operating costs are the success factors that ensure a high degree of economy. The mature technology allows reliable continuous operation of these engines with industrial waste gases (landfill gas, sewage gas), natural gas, biogas and special gases. Their modularly adjustable compression ratio (10:1 to 12.5:1) allows them to be individually and optimally configured for the gas quality concerned. This allows for a broad choice of combustion gases and at the same time improves the efficiency of the engine.

Performance

- Broad power spectrum from 60 kW to 254 kW (for 50 Hz applications)
- Modularly adjustable compression ratio of 10:1 to 12.5:1 for more efficient gas combustion
- Individual and unrestricted planning of the complete system and engine periphery due to intelligent basic and system components

Quality and reliability

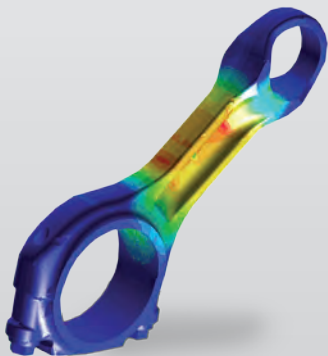
- Maximum reliability due to extremely robust construction and precise production
- Quality assurance with processes certified to DIN EN ISO 9001:2008 for consistently high product quality
- Proven, mature engine technology due to more than 20 years of operational experience

Economy

- Low life-cycle operating costs due to less maintenance and wear resistant components
- High level of economy due to optimised service life and high mechanical efficiency
- Resource-saving operation due to combustion of special gases such as landfill gas and sewage gas instead of fossil fuels

Maintenance and service

- High availability of spare parts due to worldwide spare parts management system
- Simple to service due to easy access to all components



Analysis using the finite element method

With the finite element method (FEM), the ideal strength can be achieved through optimal material distribution and improved geometry. Parts which are subject to particularly high levels of stress, such as the con rods, pistons or cylinder head, are examined using this method in order to provide a long service life.



Product overview



Engine	G924		G926		G9408		
Configuration	4 in-line		6 in-line		8 in V-arrangement		
Capacity	dm ³	6.64	9.96	17.18			
Bore	mm	122	122	135			
Stroke	mm	142	142	150			
Weight	kg	740	930	1,270			
Dimensions (LxWxH)	cm	1,040 x 740 x 1,170		1,350 x 740 x 1,170		1,368 x 980 x 1,072	
Rated speed	rpm	1,500*		1,500*		1,500*	
Flywheel housing	SAE1/SAE2		SAE1/SAE2		SAE1/SAE2		
Name	G924NA	G924Ti	G926NA	G926Ti	G9408NA	G9408Ti	
Typ of engine	Naturally aspirated engine	Turbo with intercooler	Naturally aspirated engine	Turbo with intercooler	Naturally aspirated engine	Turbo with intercooler	
Rated power (mech.)	kW	59.8	98.1	90.1	147.6	154.7	254.2
Max. eff. medium pressure	bar	7.21	11.81	7.24	11.86	7.21	11.81
Mechanical efficiency	%	34	37	34	37	34	37

*For 60 Hz networks, the rated speed has to be increased to 1,800 rpm, which also means an increase in rated power.

Fast Spare parts availability

The worldwide spare parts management system and our own warehouses mean that spare parts are available quickly and simply all around the world.



Certification to DIN EN ISO 9001:2008

The base version gas engines are manufactured with production processes certified to DIN EN ISO 9001:2008. In conjunction with the latest production methods, the process faults and costs have been reduced and at the same time a consistently high level of product quality is guaranteed.

Liebherr-Component Technologies

Liebherr-Component Technologies AG, based in Bulle, Switzerland, is responsible for all activities of the components division of the Liebherr group. The companies and business areas belonging to this division are specialised in the development, design, manufacture and reconditioning of high-performance components in the field of mechanical, hydraulic and electrical drives and control technology. The sale of components to customers outside the Liebherr group of companies is managed centrally by Liebherr-Components AG in Nussbaumen, Switzerland.

Many Years of Experience

Liebherr has decades of experience in the manufacture of high-quality components used in cranes and construction machines, in the mining industry, maritime applications, wind turbines, in vehicle technology or in aerospace and transportation technology.

The Right Solution for Every Need

A high degree of vertical integration and the use of flexible, state-of-the-art production systems allow Liebherr to offer its customers tailor-made solutions. Liebherr is your partner for joint success – from the product idea to development, manufacture and first installation right through to series production. For the various components of the drivetrain, Liebherr also offers remanufacturing in various degrees in a dedicated factory.

System Solutions from a Single Source

Components from Liebherr are perfectly matched to each other with regard to operation. Depending on the requirement, individual components from the wide product range can be expanded through to the complete drivetrain. This results in impressive system solutions which can be integrated into a variety of applications.

Highest Quality Standards and Long Service Life

All components meet the very highest demands for functional reliability and durability, even under extreme loads and harsh conditions. Elaborate quality management and extensive analysis and test procedures are practised throughout the entire development and production process, guaranteeing reliability and long component service life.

www.liebherr.com



Biberach/Riss (Germany): large diameter bearings, gearboxes, rope winches, switchgear, electronics, electrical machines



Bulle (Switzerland): diesel engines, gas engines, splitter boxes, axial piston units, injection systems



Kirchdorf (Germany): hydraulic cylinders



Lindau (Germany): electronics, power electronics



Ettlingen (Germany): remanufactured components



Monterrey (Mexico): large diameter bearings



Dalian (China): gearboxes

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