



Up to 90 % CO₂ emissions reduction

HVO-ready

**Customer
service**

**Personal.
Competent.
Reliable.**



Find your local
service partner

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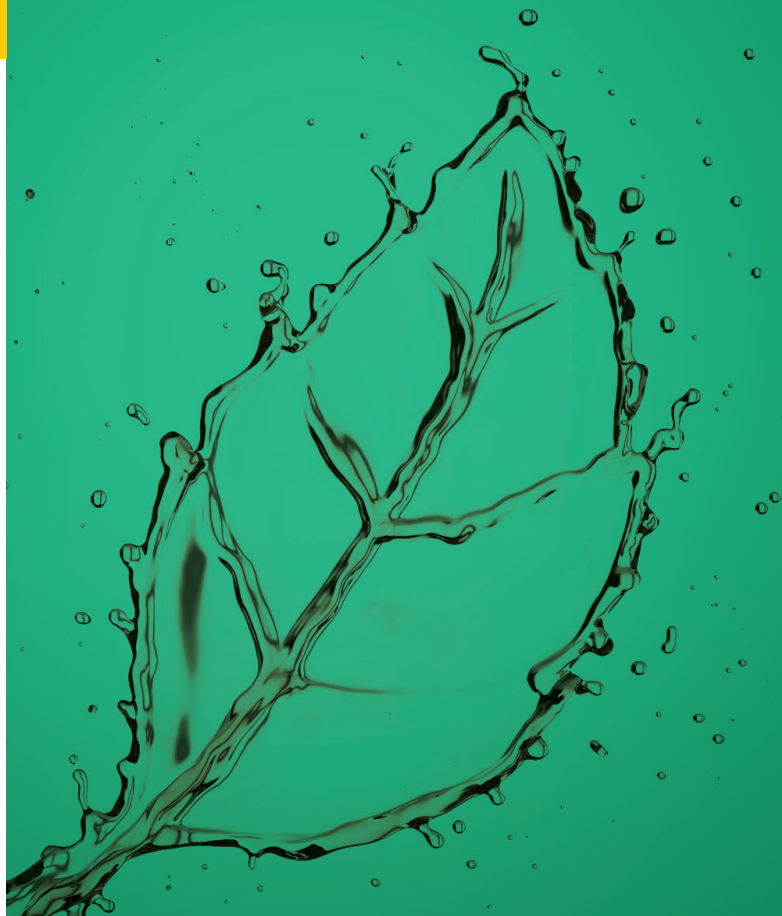
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HVO_Flyer_105x210mm_EN_3

HVO fuel

Fuel from hydrogenated vegetable oils
for emission-free operation

LIEBHERR

Liebherr-MCCtec Rostock GmbH



What is HVO?

Raw materials Vegetable and animal oils and fats from the food industry (ideally waste such as used cooking oil and fat residues)

Difference to diesel Lower density and lower emissions

Use In pure form (100 % HVO) or mixed in any ratio with diesel

Standard EN 15940 (synthetic fuel)

HVO fuels, which comply with standard EN 15940 with a base of hydrogenated vegetable oils, can make a valuable contribution to reducing global emissions of greenhouse gases.

HVO vs. biodiesel

	HVO	Biodiesel*
Raw materials	Primarily vegetable and animal oils and fats (ideally waste)	Primarily rape seed oil, vegetable oils, animal fats
Production process	Hydrogenation	Esterification
Chemical composition	Chemically pure fuel	Ester-based
Target	Both fuels are made from organic/renewable biomass. Target: replace fossil fuels	

* Your engine may require a modification. Please contact Liebherr Customer Service for more details.

Engine approvals

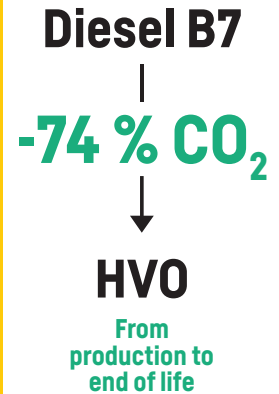
All the diesel engines we install have been tested in detail by the manufacturers. Furthermore, our cranes have undergone extensive testing and trials with customers in the field and at our test department using pure HVO (100 %).

Our fleet of machines equipped with Liebherr engines is HVO-ready.

The benefits

Highlight

CO₂ emissions from port equipment, ship and offshore cranes that have been permanently operated with HVO instead of diesel throughout their entire service life, i.e. from start of production to end of life, are **reduced by 74 %***.



- No modifications are required
- Good compatibility with all engine components
- HVO can be mixed with fossil diesel in any ratio for use in conventional internal combustion engines
- Even older Liebherr machines in global fleets can be operated on an essentially climate-neutral basis using HVO
- Very good low temperature resistance (down to at least -20 °C)
- Reduced use of Adblue® (around -10 %)
- Reduction in soot development
- Lower emissions of nitrogen oxides (around -11 %) and particulates

* To achieve the maximum possible CO₂ reduction, the machines must be powered permanently using pure HVO. The CO₂ reduction falls when only low quantities of HVO are added to the fuel mix.