



# Technical data sheet

18.05.2016  
(Version 2)

## Marine diesel engine D2868LE431 ()

### Performance data <sup>1</sup>

Rated power	500	kW
Rated power	680	PS
Speed	1800	rpm
Bore	128	mm
Stroke	157	mm
Displacement	16,16	liter
Rated torque	2653	Nm
Maximum torque	2985	Nm
at speed	1100-1600	rpm
Compression ratio [ε]	19,0	:1
Mean effective pressure	20,63	bar
Mean piston speed	9,42	m/s



The engine illustrated may not entirely be identical to production standard engine

### Consumption data <sup>1</sup>

Specific fuel consumption <sup>2</sup>	206	g/kWh
Absolute fuel consumption <sup>2</sup>	123	l/h
Lowest fuel consumption <sup>3</sup>	199	g/kWh

### Engine description

Operation profile	unlimited operating hours per year at a maximum of 100 % of time at full load
Construction	four-stroke marine diesel engine, direct injection, SAE 1 flywheel housing
Cylinders	8 cylinders in V-arrangement, single cylinder heads with wet replaceable cylinder liners
Air system	single-stage turbocharger with charge air intercooler and wastegate
Cooling system	seawater cooled by rubber impeller pump or two-circuit-cooling system for hull cooling
Oil system	force-feed lubrication by gear pump, lubricating oil cooler in cooling water circuit of the engine
Fuel system	Common Rail injection system with high pressure pump and EDC control, fuel to DIN EN 590
Auxiliary PTO	PTO for hydraulic pump 16 cm <sup>3</sup> (180Nm), front-PTO by crank shaft extension
Alternator	three-phase generator with rectifier and transistorized governor, 28 V, 120 A
Starting system	solenoid-operated electric starter, 24 V, 7.0 kW
Service	oil change interval 600 operating hours, average TBO 18.000 operating hours
Classification	BV, DNV, GL

**Exhaust status** IMO Tier II, RCD 94/25/EC, 97/68/EC

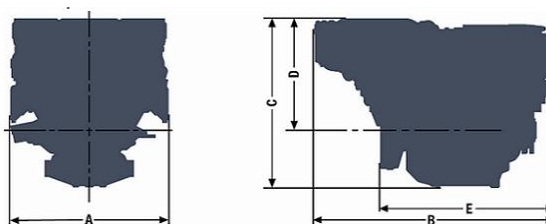
<sup>1</sup> values at rated power

<sup>2</sup> Tolerance +5% according to ISO 3046, diesel fuel to DIN EN 590

<sup>3</sup> values on propeller curve

## D2868LE431 ( )

A - overall width.....	1153 mm
B - overall length.....	1745 mm
C - overall height.....	1177 mm
D - above crank shaft....	765 mm
E - length to flywheel....	1243 mm
Engine weight (dry).....	1780 kg



### Combustion parameters <sup>1</sup>

Intake air temperature (max.)	45 °C
Intake air vacuum (min/max)	30/60 mbar
Intake air volume flow	2070 m <sup>3</sup> /h

Exhaust gas temperature	395 °C
Exhaust gas volume flow	4630 m <sup>3</sup> /h
Exhaust gas mass flow	2365 kg/h
Exhaust back pressure (min/max)	20/80 mbar

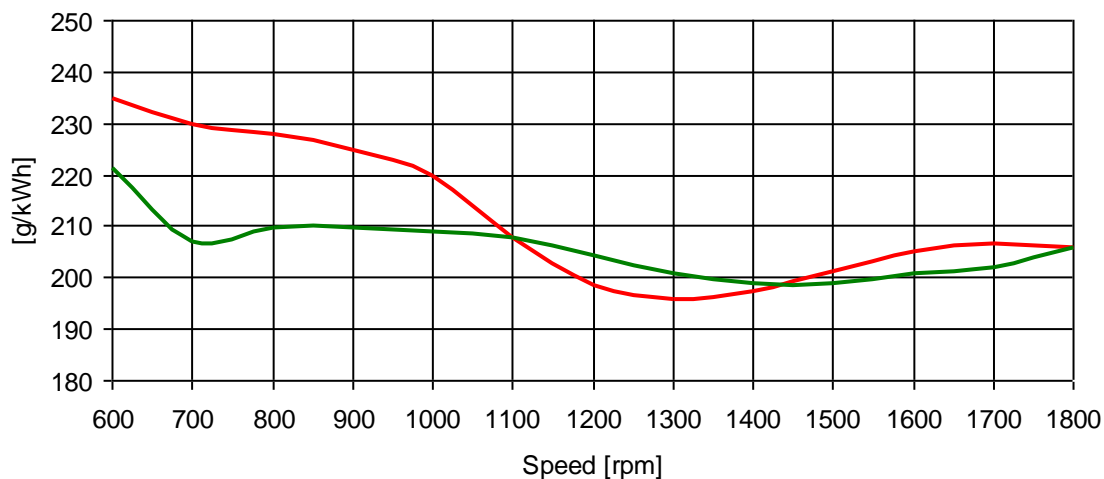
### Heat balance <sup>1</sup>

Exhaust gas heat	252 kW
Cooling water heat	350 kW
Intercooler heat	100 kW
Radiation heat	29 kW

### Noise emission <sup>1</sup>

Engine surface noise (Lwa)	100,3 dB(A)
Free exhaust noise (Lwa)	108,6 dB(A)

### Specific fuel consumption<sup>2</sup>



— full load curve — propeller curve

< The rated power is based on reference conditions according to ISO 3046-1 (2002) >

< Intake air temperature, max. 45°C | sea water temperature, max. 32°C >

< Barometric pressure 1000 mbar | air humidity 60% >

< Exponent for propeller curve 3 >

**< Engine specifications are subjected to change without prior notice >**

<sup>1</sup> values at rated power

<sup>2</sup> Tolerance +5% according to ISO 3046, diesel fuel to DIN EN 590

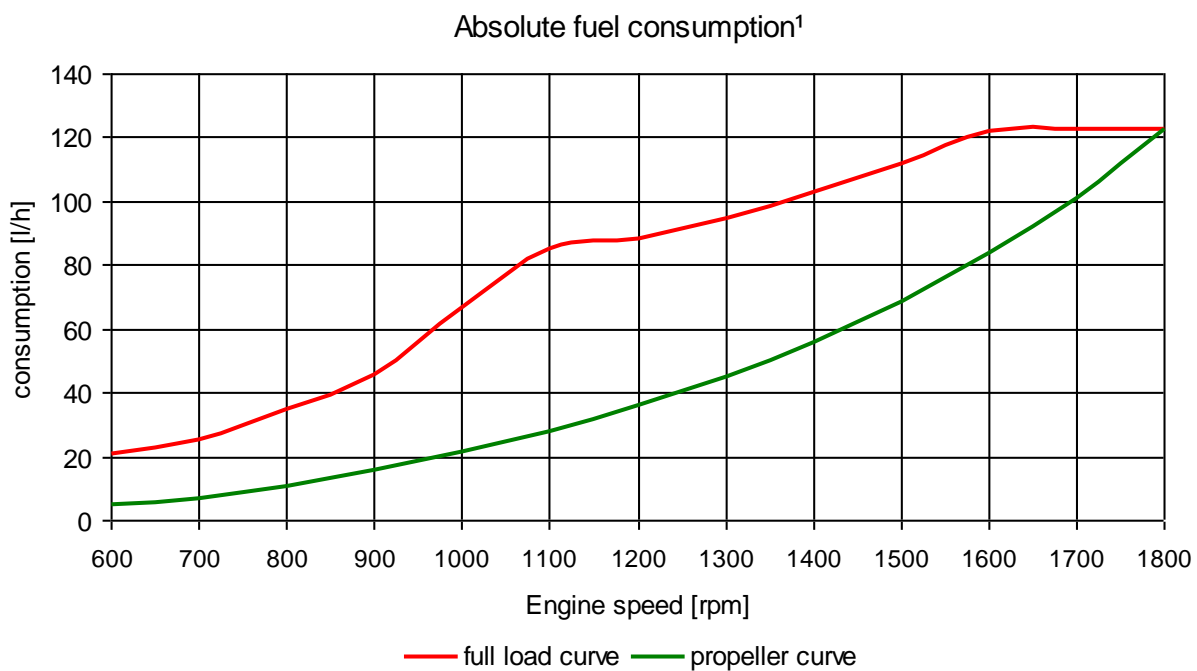
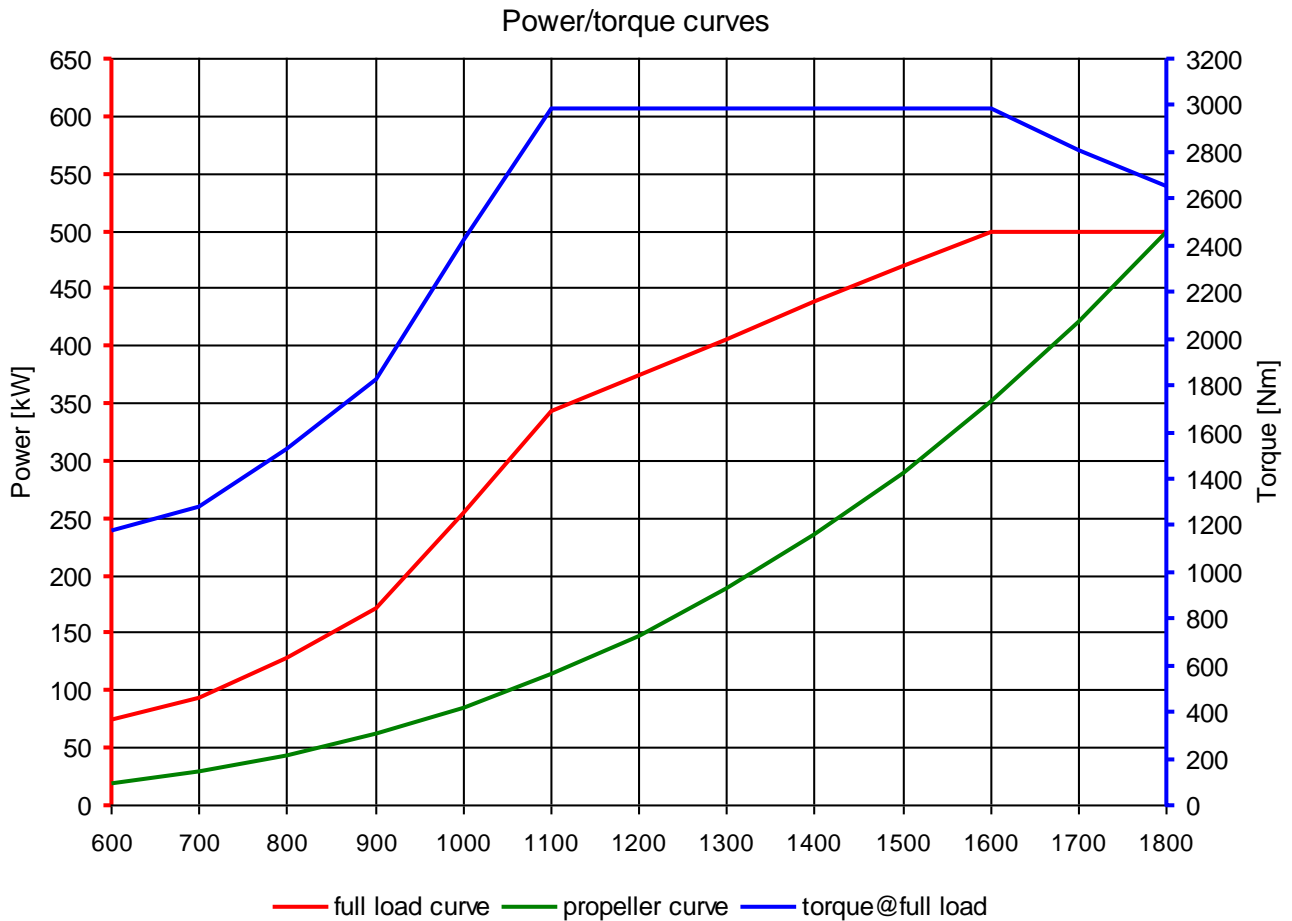
<sup>3</sup> values on propeller curve



# Engine curves

18.05.2016  
(Version 2)

D2868LE431 (500kW@1800rpm) ()



< The rated power is based on reference conditions according to DIN ISO 3046-1 (2002) >

< Exponent for propeller curve 3 >

< Engine specifications are subjected to change without notice >

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