



Technical data sheet

Marine diesel engine

D2868LE431

18.03.2021

(Version 3)

Performance data ¹

Rated power	500	kW
Rated power	680	PS
Speed	1800	rpm
Bore/Stroke	128/157	mm
Displacement	16,16	liter
Rated torque	2653	Nm
Maximum torque	3000	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 ²

Specific fuel consumption ¹	205	g/kWh
Absolute fuel consumption ¹	122	l/h
Lowest fuel consumption ³	199	g/kWh

Engine description

Application	Main propulsion diesel for ships with fixed pitch propeller or variable pitch propeller
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 EDC17 control, fuel to DIN EN 590
Auxiliary PTO	PTO for hydraulic pump 16 cm ³ (180Nm), front-PTO by crank shaft extension
Alternator	Three-phase generator with rectifier and transistorized governor, 28V, 120A
Starting system	Solenoid-operated electric starter, 24V, 7.0kW
Service	Oil change interval 600 operating hours, average TBO 18.000 operating hours*
Classification	Engine according to classification requirements available => see MAN Marine Configurator

Exhaust status IMO Tier II

¹ Values at rated power

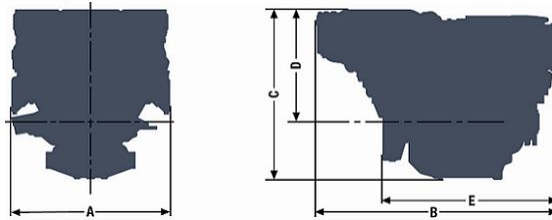
² Diesel fuel according to DIN EN 590 (tolerance +5% - ISO 3046)

³ Values on propeller curve

*TBO 18.000 operating hours for non or low particulate matters (PM) regulated jurisdictions (IMO, Canada, EU Stage IIIA)

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 ¹

Intake air temperature (max.)	45 °C
Intake air vacuum (min/max)	30/60 mbar
Intake air volume flow	2050 m ³ /h

Exhaust gas temperature	381 °C
Exhaust gas volume flow	4650 m ³ /h
Exhaust gas mass flow	2450 kg/h
Exhaust back pressure (min/max)	20/80 mbar

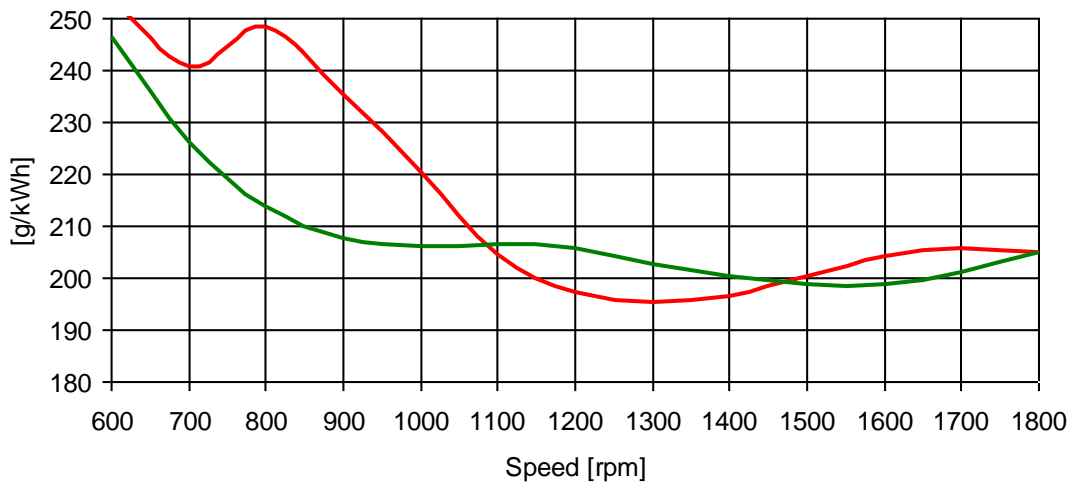
Heat balance ¹

Exhaust gas heat	270 kW
Cooling water heat	330 kW
Intercooler heat	100 kW
Radiation heat	29 kW

Noise emission (sound power) ¹

Engine surface noise (Lwa)	118,4 dB(A)
Free exhaust noise (Lwa)	117,2 dB(A)

Specific fuel consumption²



— 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 >

¹ Values at rated power

² Diesel fuel according to DIN EN 590 (tolerance +5% - ISO 3046)

³ Values on propeller curve

*TBO 18.000 operating hours for non or low particulate matters (PM) regulated jurisdictions (IMO, Canada, EU Stage IIIA)