



Diesel engine D 2862 LE231 Preliminary Technical Data

23.05.2017

General technical data

Engine type	four-stroke, direct-injection
Cylinders	12 cylinder in V-form, wet replaceable cylinder liners
Aspiration	turbocharger, intercooler
Cooling	water circulation by centrifugal pump on engine
Lubrication	force-feed lubrication by gear pump, lubricating oil cooler in cooling water circuit of engine
Injection	Common Rail System 1800 bar, Type EDC7 C32
Generator	three-phase generator 28V /120A
Starter motor	starter 105P70 24V / 7 kW
Bore	[mm] 128
Stroke	[mm] 157
Swept volume	[l] 24,2
Compression ratio	[-] 17,0:1
Starter battery capacity	[Ah] 180 (24V)
Direction of rotation looking on flywheel	[-] counter clockwise

Inertia moments (SI-Unit)

Engine and vibration damper single bearing	[kgm ²] 1,745
Engine and vibration damper double bearing	[kgm ²] 1,875
Flywheel	[kgm ²] 5,52

Filling capacities

Oil sump standard (min./max.)	[l] 70 / 90
Engine coolant	[l] 54
Radiator with piping	[l] 63

Boundary conditions air intake, exhaust and coolant

Suction pressure air filter outlet "new" (max.)	[hPa] 30
Suction pressure air filter outlet "used" (max.)	[hPa] 60
Exhaust gas back pressure (max.)	[hPa] 60
Coolant temperatur before start of full load (min.)	[°C] 40

Fuel pressure

Supply to engine	[bar abs.] 0,65 - 1,0
Return to fuel tank, max.	[bar abs.] 1,2

Steady-state speed accuracy (speed droop)

Electronical governor	[%] 0 - 8
-----------------------	-----------



Diesel engine D 2862 LE231 Preliminary Technical Data

23.05.2017

Application		PRP		ESP	
		b _e -optimized		b _e -optimized	
Speed	1/min	1500	1800	1500	1800
ISO net brake fuel stop rating IFN					
Mechanical power output	[kW]	880	920	880	920
Mean effective pressure	[bar]	29,0	25,3	29,0	25,3
Torque	[Nm]	5602	4881	5602	4881
ISO-Standard rating ICXN¹					
Mechanical power output	[kW]	800	836	880	920
Mean effective pressure	[bar]	26,4	23,0	29,0	25,3
Torque	[Nm]	5093	4435	5602	4881
Mean piston velocity	[m/s]	7,85	9,42	7,85	9,42
Exhaust emission level					
EU 97/68 EG Stage 2 (without certification)	[-]				
TA-Luft 86 from 25% ISO-Standard rating ICXN ¹	[-]	yes	yes	yes	yes
Specific fuel and oil consumption¹					
110% Load (= ISO net brake fuel stop rating IFN)	[g/kWh]	188	196	---	---
100% Load	[g/kWh]	188	194	188	196
90% Load	[g/kWh]	188	194	188	194
75% Load	[g/kWh]	189	194	188	194
50% Load	[g/kWh]	192	198	191	197
Lube oil consumption (average)	[g/h]	280	334	352	447
Lube oil consumption (max.)	[g/h]	670	770	840	1100
Air for combustion and charge air²					
Volume flow	[m ³ /h]	2910	3347	3030	3456
Intercooler heat rate	[kW]	120	149	133	165
Charge air temperature before intercooler	[°C]	182	186	193	199
Exhaust²					
Heat (correlation T ₂ = 25°C)	[kW]	469	522	509	583
Heat (correlation T ₂ = 180°C)	[kW]	321	349	352	404
Temperatur after turbo charger	[°C]	514	494	530	530
Mass flow	[kg/h]	3565	4074	3716	4211
Volume flow	[m ³ /h]	7620	8511	8071	9148
Volume flow (standard conditions)	[m ³ N/h]	3124	3660	3309	3934
Jacket water					
Heat ²	[kW]				
Volume flow (min) ²	[l/min]	715	775	715	775
Max. temp. at ISO-Standard rating ³	[°C]	90	90	95	95
Max. temp. at ISO net brake fuel stop rating ³	[°C]	100	100	105	105
Min. temperature before start of full load	[°C]	40	40	40	40
Residual energy²					
Radiation, etc.	[kW]	130	160	176	211



Diesel engine D 2862 LE231 Preliminary Technical Data

23.05.2017

Application		PRP		ESP	
		b _e -optimized		b _e -optimized	
Speed	1/min	1500	1800	1500	1800

Radiator and fan (back-pressure 2mbar)

Air consumption	[m ³ /h]	63000	77000	63000	77000
Power input for fan	[kW]	30	53	30	53
Radiator designed up to (Air temperature at radiator inlet)	[°C]	48	48	45	45

Sound power level including fan

Exhaust outlet noise	[dB(A)]	126,1	129,1	128,3	129,8
----------------------	---------	-------	-------	-------	-------

Sound pressure level at 1 m distance

Engine surface noise	[dB(A)]	100,5	101,4	101,8	103,4
Air intake noise	[dB(A)]	90,3	92,4	92,1	94,3
Fan noise front	[dB(A)]	100,1	102,2	101,9	102,4
Total noise without exhaust outlet	[dB(A)]	104,2	105,2	105,1	106,8

Load acceptance⁴

From rated speed without load (n-7%) G3	[%]	49	61	44	55
From rated speed without load (n-10%) G2	[%]	52	66	47	60
Performance class acc. ISO 8528-5:2005					

Load acceptance relates to the ISO-Standard rating of the specific engine model at an jacket water temperature of at least 80°C.

Weight (dry)

Engine	[kg]	1950	1950	1950	1950
Radiator	[kg]	290	290	290	290

¹ Engine performance according DIN ISO 3046/1. Load deration due to ambient temperature and altidute has to be taken into account. Power definitions according to ISO 8528-1.

² Performance data always relate to the "ISO-Standard rating". Air temperature 298K (25°C) and air pressure 100 kPa (1000 mbar)

³ Based on an ambient and air intake temperature of 45°C