



Diesel engine D 2842 LE20x Technical Data

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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:	Bosch in-line pump with integrated, electromagnetic actuator			
Generator:	Bosch three-phase generator with rectifier and transistorized governor, 28V, 80A			
Starter motor:	Bosch solenoid-operated starter, typ KB, 24 V, 6.6 kW			
Bore :	128 mm	Starter battery capacity	180 Ah (24V)	
Stroke :	142 mm	Engine lube oil for		
Volume :	21,927 l	- oil sump standard (min./max.)	24 / 32 l	
Compression ratio:	15,5:1	- oil sump shallow (min./max.)	22 / 30 l	
		- oil sump for automatic refilling (min./max.)		
Cooling water temp.	LE 211	LE 213	Inertia moments (SI-Unit):	
- under normal conditions	90 °C	100 °C	- engine and vibration damper	1,316 kgm ²
- short period under extreme conditions	95 °C	105 °C	- flywheel for	
- before start of full load (min.)	40 °C	40 °C	generator drive 1500 rpm (1-bearing)	2,412 kgm ²
			generator drive 1500 rpm (2-bearing)	4,120 kgm ²
			generator drive 1800 rpm	2,412 kgm ²
Filling capacities:			Steady-state speed accuracy (speed droop)	
- engine cooling water abt.	23 l		- electronical governor	0 - 8 %
- cooling water for radiator with pipe system abt.	75 l			
Negative pressure at air filter outlet, max. permissible (in a new condition/after usage)	30 / 60 hPa	Exhaust gas back pressure max. permissible	60 hPa	



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 (be-optimised version)

		LE211 (COP)	LE211 (PRP)	LE213 (LTP)
speed	1/min	1500	1500	1500
ISO-Standard ICXN ¹	kW	446	590	
ISO net brake fuel stop rating IFN ²	kW			702
Electrical output	kW _e	408	543	650
Genset rating net	kVA	510	680	810
Mean effective pressure (ICXN)	bar	16,27	21,5	
Mean effective pressure (IFN)	bar			25,6
Torque (ICXN)	Nm	2840	3705	
Torque (IFN)	Nm			4393
Mean piston velocity	m/s	7,1	7,1	7,1
Specific fuel consumption				
100% load	g/kWh	200	202	206
75% load	g/kWh	198	200	201
50% load	g/kWh	198	201	200
Lube oil consumpt. max.	g/h	450	585	710
Air for combustion	m ³ /h	1900	2370	2770
Exhaust gas heat	kW	380	496	608
Exhaust gas temp. after turbocharger	°C	532	570	590
Exhaust gas mass flow	kg/h	2290	2860	3350
Exhaust gas vol. flow	m ³ /h		6935	8315
Jacket water heat ²⁾	kW	200	235	260
Minimum cooling water circulation	l/min	700	700	700
Intercooler heat rate	kW	50	85	125
Intercooler heat temp. before cooler	°C	130	165	195
Residual energy (radiation, etc.)	kW	50	56	62
Cooling air requirements for	m ³ /h	35780	35780	35780
Power input for fan	kW	17	17	17
Noise pressure level at 1 m distance	dB(A)	106	106	106
Weight including cooling system (dry)	kg	1770	1770	1770

¹⁾ ISO standard rating ICXN: variable continuous power output, average 70% use of capacity, with 10% overload capability for technical purposes for one hour in twelve; fan output not taken into account.

²⁾ ISO fuel stop power IFN: 100% continuous power output for limited period without overload capability; must be available for 500 h/year or (300 h/year of this without interruption).

These ratings apply at an air temperature of 298 K (25 °C), an air pressure of 100 kPa (1000 mbar) 100 m above sea level and a relative humidity of 30%.

Other site conditions may result in reduced output.

Rating definition to ISO 3046/1

application definition LTP, PRP, COP to ISO 8528-1



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		LE211 (COP) 1800	LE211 (PRP) 1800	LE213 (LTP) 1800
speed	1/min			
ISO-Standard ICXN ¹	kW	530	695	
ISO net brake fuel stop rating IFN ²	kW			800
Electrical output	kW _e	477	633	735
Genset rating net	kVA	600	790	920
Mean effective pressure (ICXN)	bar	16,11	21,1	
Mean effective pressure (IFN)	bar			24,3
Torque (ICXN)	Nm	2812	3687	
Torque (IFN)	Nm			4244
Mean piston velocity	m/s	8,52	8,52	8,52
Specific fuel consumption				
100% load	g/kWh	202	205	213
75% load	g/kWh	200	201	202
50% load	g/kWh	200	205	203
Lube oil consumpt. max.	g/h	550	695	852
Air for combustion	m ³ /h	2400	2935	3395
Exhaust gas heat	kW	465	590	767
Exhaust gas temp. after turbocharger	°C	520	555	610
Exhaust gas mass flow	kg/h	2880	3545	4110
Exhaust gas vol. flow	m ³ /h		8425	10390
Jacket water heat ²⁾	kW	210	252	282
Minimum cooling water circulation	l/min	840	840	840
Intercooler heat rate	kW	75	120	168
Intercooler heat temp. before cooler	°C	145	180	210
Residual energy (radiation, etc.)	kW	55	67	74
Cooling air requirements for	m ³ /h	46010	46010	46010
Power input for fan	kW	28	28	28
Noise pressure level at 1 m distance (incl. fan)	dB(A)	108	108	108
Weight including cooling system (dry)	kg	1770	1770	1770

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