VEI-N

Diesel engine D 2842 LE20x
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:	Bosch in-line pump with integrated, electromagnetic actuator
Generator:	Bosch three-phase generator with rectifier and transistorized governor, 28 V, 35 A
Starter motor:	Bosch solenoid-operated starter, typ KB, 24 V, 6.6 kW

Bore :	128 mm
Stroke :	142 mm
Volume :	21.927 l
Compression ratio:	15.5:1

Starter battery capacity	180 Ah (24V)
Filling capacities:	
Engine lube oil for	
- oil sump standard (min./max.)	24 / 32 l
- oil sump shallow (min./max.)	22 / 30 l
- oil sump only for LE 202 (min./max.)	40 / 90 l

Cooling water temperatur	LE 201/202	LE 203
- under normal conditions	90 °C	100 °C
- short period under extreme conditions	95 °C	105 °C
- before start of full load (min.)	40 °C	40 °C

Inertia moments (SI-Unit):	
- engine and vibration damper	1.316 kgm^2
- flywheel for	
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:	
- engine cooling water ab	23 l
- cooling water for radiator with pipe system abt.	75 l

Steady-state speed accuracy (speed droop)	
- electronical governor	0 - 8 %

Negative pressure at air filter outlet, max. permissible (in a new condition/ after	30 / 60 hPa

Exhaust gas back pressure max. permissible	60 hPa

Diesel engine D 2842 LE20x
Technical Data
(Fuel-optimised version)

		LE202 (COP)	LE201 (PRP)	LE203 (LTP)
speed	rpm	**1500**	**1500**	**1500**
ISO net brake fuel stop rating	kW	491	597	633
Mean effective pressure	bar	17.9	21.8	23.1
Torque	Nm	3126	3801	4030
ISO Standard rating [1]	kW	446	543	575
Mean effective pressure	bar	16.3	19.8	21
Torque	Nm	2839	3457	3661
Mean piston velocity	m/s	7.1	7.1	7.1
Specific fuel consumption [1]				
100% load	g/kWh	195	195	196
75% load	g/kWh	196	193	193
50% load	g/kWh	200	196	196
Lube oil consumpt. max.	g/h	430	530	560
Air for combustion	m³/h	1945	2285	2395
Exhaust gas heat [2]	KW	313	391	417
Exhaust gas temp. after turbocharger [2]	°C	490	515	525
Exhaust gas mass flow	kg/h	2345	2760	2890
Exhaust gas vol. flow [2]	m³/h	5125	6250	6615
Jacket water heat [2]	kW	192	233	251
Minimum cooling water circulation	l/min	700	700	700
Intercooler heat rate	kW	49	78	89
Intercooler heat temp. before cooler	°C	127	155	165
Residual energy (radiation, etc.)	kW	47	48	48
Cooling air requirements for fan-cooled radiator	m³/h	28500	40500	43000
Power input for fan	kW	14	14	14
Noise pressure level at 1 m distance (incl. fan)	dB(A)	104	104	104
Weight including cooling system (dry)	kg	1530	1770	1770

[1] The nominal ratings and the specific fuel consumption are based on DIN ISO 3046/1, reference cond according to 298 K (25° Celsius) air temperature, 100 kPa (1000 mbar) air pressure, 60 % relativ humidity; deratings for site conditions to be taken into account. Definition of engine application to IS

[2] Data are for engine with non-cooled exhaust manifold.

The power-related data are relative to ISO standard rating.

Technical data are subject to alterations.

		LE202 (COP)	LE201 (PRP)	LE203 (LTP)
speed	rpm	**1500**	**1500**	**1500**
ISO net brake fuel stop rating	kW	491	597	633
Mean effective pressure	bar	17.9	21.8	23.1
Torque	Nm	3126	3801	4030
ISO Standard rating [1])	kW	446	543	575
Mean effective pressure	bar	16.3	19.8	21
Torque	Nm	2839	3457	3661
Mean piston velocity	m/s	7.1	7.1	7.1
Specific fuel consumption [1])				
100% load	g/kWh	206	208	204
75% load	g/kWh	203	200	196
50% load	g/kWh	204	200	196
Lube oil consumpt. max.	g/h	460	565	585
Air for combustion	m³/h	2205	2520	2590
Exhaust gas heat [2])	KW	380	453	461
Exhaust gas temp. after turbocharger [2])	°C	520	540	535
Exhaust gas mass flow	kg/h	2655	3045	3125
Exhaust gas vol. flow [2])	m³/h	6045	7010	7255
Jacket water heat [2])	kW	211	267	263
Minimum cooling water circulation	l/min	700	700	700
Intercooler heat rate	kW	70	102	106
Intercooler heat temp. before cooler	°C	148	174	176
Residual energy (radiation, etc.)	kW	47	48	48
Cooling air requirements for fan-cooled radiator	m³/h	28500	40500	43000
Power input for fan	kW	14	14	14
Noise pressure level at 1 m distance (incl. fan)	dB(A)	104	104	104
Weight including cooling system (dry)	kg	1530	1770	1770

[1]) The nominal ratings and the specific fuel consumption are based on DIN ISO 3046/1, reference cond according to 298 K (25° Celsius) air temperature, 100 kPa (1000 mbar) air pressure, 60 % relative humidity; deratings for site conditions to be taken into account. Definition of engine application to ISC

[2]) Data are for engine with non-cooled exhaust manifold.

The power-related data are relative to ISO standard rating.

		LE202 (COP)	LE201 (PRP)	LE203 (LTP)
speed	rpm	**1800**	**1800**	**1800**
ISO net brake fuel stop rating	kW	587	682	718
Mean effective pressure	bar	17.8	20.7	21.8
Torque	Nm	3114	3618	3809
ISO Standard rating [1]	kW	534	620	653
Mean effective pressure	bar	16.2	18.9	19.9
Torque	Nm	2833	3289	3464
Mean piston velocity	m/s	8.52	8.52	8.52
Specific fuel consumption [1]				
100% load	g/kWh	199	202	203
75% load	g/kWh	200	199	198
50% load	g/kWh	208	203	202
Lube oil consumpt. max.	g/h	530	625	660
Air for combustion	m³/h	2445	2695	2780
Exhaust gas heat [2]	KW	403	472	500
Exhaust gas temp. after turbocharger [2]	°C	500	530	540
Exhaust gas mass flow	kg/h	2945	3255	3360
Exhaust gas vol. flow [2]	m³/h	6540	7470	7840
Jacket water heat [2]	kW	232	277	301
Minimum cooling water circulation	l/min	840	840	840
Intercooler heat rate	kW	75	102	113
Intercooler heat temp. before cooler	°C	144	166	175
Residual energy (radiation, etc.)	kW	60	61	61
Cooling air requirements for fan-cooled radiator	m³/h	37000	50700	51000
Power input for fan	kW	24	24	24
Noise pressure level at 1 m distance (incl. fan)	dB(A)	106	106	106
Weight including cooling system (dry)	kg	1530	1770	1770

[1] The nominal ratings and the specific fuel consumption are based on DIN ISO 3046/1, reference condition according to 298 K (25° Celsius) air temperature, 100 kPa (1000 mbar) air pressure, 60 % relative air humidity; deratings for site conditions to be taken into account. Definition of engine application to ISO 85

[2] Data are for engine with non-cooled exhaust manifold.

The power-related data are relative to ISO standard rating.

		LE202 (COP)	LE201 (PRP)	LE203 (LTP)
speed	rpm	**1800**	**1800**	**1800**
ISO net brake fuel stop rating	kW	587	682	718
Mean effective pressure	bar	17.8	20.7	21.8
Torque	Nm	3114	3618	3809
ISO Standard rating [1]	kW	534	620	653
Mean effective pressure	bar	16.2	18.9	19.9
Torque	Nm	2833	3289	3464
Mean piston velocity	m/s	8.52	8.52	8.52
Specific fuel consumption [1]				
100% load	g/kWh	206	211	210
75% load	g/kWh	203	203	203
50% load	g/kWh	206	203	204
Lube oil consumpt. max.	g/h	550	655	685
Air for combustion	m³/h	2655	2900	2900
Exhaust gas heat [2]	KW	453	532	529
Exhaust gas temp. after turbocharger [2]	°C	515	550	545
Exhaust gas mass flow	kg/h	3195	3505	3505
Exhaust gas vol. flow [2]	m³/h	7245	8270	8240
Jacket water heat [2]	kW	248	306	306
Minimum cooling water circulation	l/min	840	840	840
Intercooler heat rate	kW	94	124	122
Intercooler heat temp. before cooler	°C	159	181	179
Residual energy (radiation, etc.)	kW	60	61	61
Cooling air requirements for fan-cooled radiator	m³/h	37000	50700	51000
Power input for fan	kW	24	24	24
Noise pressure level at 1 m distance (incl. fan)	dB(A)	106	106	106
Weight including cooling system (dry)	kg	1530	1770	1770

[1] The nominal ratings and the specific fuel consumption are based on DIN ISO 3046/1, reference condition according to 298 K (25° Celsius) air temperature, 100 kPa (1000 mbar) air pressure, 60 % relative air humidity; deratings for site conditions to be taken into account. Definition of engine application to ISO 85

[2] Data are for engine with non-cooled exhaust manifold.

The power-related data are relative to ISO standard rating.