



## Diesel engine D 2862 LE22x Technical Data

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### General 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	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)

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

### Filling capacities

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

### Boundary conditions air intake, exhaust and coolant

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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

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

### Steady-state speed accuracy (speed droop)

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Electronical governor	[%] 0 - 8
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Engine model D2862LE	221		221		223		223		
Application	PRP / LTP		PRP / LTP		ESP		ESP		
Speed	b <sub>e</sub> -optimized		NO <sub>x</sub> -optimized		b <sub>e</sub> -optimized		NO <sub>x</sub> -optimized		
Speed	1/min	1500	1800	1500	1800	1500	1800 <sup>5</sup>	1500	1800 <sup>5</sup>

### ISO net brake fuel stop rating IFN

Mechanical power output	[kW]	770	920	770	920	880	1117	880	1117
Mean effective pressure	[bar]	25,4	25,3	25,4	25,3	29	30,7	29	30,7
Torque	[Nm]	4902	4880	4902	4880	5603	5926	5603	5603

### ISO-Standard rating ICXN<sup>1</sup>

Mechanical power output	[kW]	700	836	700	836	880	1117	880	1117
Mean effective pressure	[bar]	23,1	23	23,1	23	29	30,7	29	30,7
Torque	[Nm]	4457	4435	4457	4435	5603	5926	5603	5926
Mean piston velocity	[m/s]	7,85	9,42	7,85	9,42	7,85	9,42	7,85	9,42

### Exhaust emission level

EU 97/68 EG Stage 2 (without certification)	[-]			yes	yes			yes	yes
TA-Luft 86 from 25% ISO-Standard rating ICXN <sup>1</sup>	[-]	yes	yes			yes	yes		

### Specific fuel and oil consumption<sup>1</sup>

110% Load (= ISO net brake fuel stop rating IFN)	[g/kWh]	194	191	194	194	---	---	---	---
100% Load	[g/kWh]	194	191	197	198	193	190	193	193
90% Load	[g/kWh]	195	191	206	208	194	190	197	196
75% Load	[g/kWh]	196	192	215	216	195	191	216	212
50% Load	[g/kWh]	200	200	218	217	198	194	219	211
Lube oil consumption (average)	[g/h]	280	334	280	334	352	447	352	447
Lube oil consumption (max.)	[g/h]	670	770	670	770	840	1100	840	1100

### Air for combustion and charge air<sup>2</sup>

Volume flow	[m <sup>3</sup> /h]	2348	3278	2409	3430	2736	3952	2761	4021
Intercooler heat rate	[kW]	81	139	83	149	111	206	117	219
Charge air temperature before intercooler	[°C]	154	167	154	182	180	205	180	210

### Exhaust<sup>2</sup>

Heat (correlation T <sub>2</sub> = 25°C)	[kW]	457	513	472	557	554	667	559	688
Heat (correlation T <sub>2</sub> = 180°C)	[kW]	335	343	347	381	411	461	415	479
Temperatur after turbo charger	[°C]	606	492	609	516	627	527	627	535
Mass flow	[kg/h]	2709	3895	2805	3985	3155	4678	3233	4693
Volume flow	[m <sup>3</sup> /h]	6632	8210	6763	8580	7792	10240	7820	10410
Volume flow (standard conditions)	[m <sup>3</sup> N/h]	2719	3530	2773	3689	3195	4403	3206	4476

### Jacket water

Heat <sup>2</sup>	[kW]	271	270	295	289	321	355	322	317
Volume flow (min) <sup>2</sup>	[l/min]	715	775	715	775	715	775	715	775
Max. temp. at ISO-Standard rating <sup>3</sup>	[°C]	90	90	90	90	95	95	95	95
Max. temp. at ISO net brake fuel stop rating <sup>3</sup>	[°C]	100	100	100	100	105	105	105	105
Min. temperature before start of full load	[°C]	40	40	40	40	40	40	40	40

### Residual energy<sup>2</sup>

Radiation, etc.	[kW]	130	160	107	156	176	211	161	254
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Engine model D2676LE	221		221		223		223		
Application	PRP / LTP		PRP / LTP		ESP		ESP		
Speed	b <sub>e</sub> -optimized		NO <sub>x</sub> -optimized		b <sub>e</sub> -optimized		NO <sub>x</sub> -optimized		
Speed	1/min	1500	1800	1500	1800	1500	1800 <sup>5</sup>	1500	1800 <sup>5</sup>

### Radiator and fan (back-pressure 2mbar)

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

### Sound power level including fan

Exhaust outlet noise	[dB(A)]	126,1	129,1	126,1	129,1	128,3	129,8	128,3	129,8
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### Sound pressure level at 1 m distance

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

### Load acceptance<sup>4</sup>

From rated speed without load (n-7%) G3	[%]	50	54	50	54	40	40	40	40
From rated speed without load (n-10%) G2	[%]	54	55	54	55	43	41	43	41
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	1950	1950	1950	1950
Radiator	[kg]	290	290	290	290	290	290	290	290

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

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

<sup>3</sup> Based on an ambient and air intake temperature of 45°C

<sup>4</sup> Based on a max. speed undershoot of 10% of rated speed.

<sup>5</sup> Preliminary data