



Diesel engine D 2676 LE2xx Technical Data

page 1
12.12.15

General technical data

Engine type	four-stroke, direct-injection	
Cylinders	6 cylinder in line, 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 / 80A with W terminal, driven by power band	
Starter motor	Starter 90P55 24V / 5,5kW	
Bore	[mm]	126
Stroke	[mm]	166
Swept volume	[l]	12,42
Compression ratio	[-]	15,5:1
Starter battery capacity	[Ah]	143 (24V)

Inertia moments (SI-Unit)

Engine and vibration damper	[kgm ²]	3,746
Flywheel	[kgm ²]	2,375

Filling capacities

Oil sump standard (min./max.)	[l]	34 / 40
Engine cooling water abt. + Radiator	[l]	58

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	[°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
-----------------------	-----	-------

Engine model D2676LE		221		221		223		231	241
Application		COP		PRP / LTP		ESP		PRP-Nox	Opt.
Speed	1/min	1500	1800	1500	1800	1500	1800	1500	1800

ISO net brake fuel stop rating IFN

Mechanical power output	[kW]	290	347	396	415	440	415	396	415
Mean effective pressure	[bar]	18,7	18,6	25,5	22,3	28,3	22,3	25,5	22,3
Torque	[Nm]	1846	1841	2521	2200	2801	2200	2521	2200

ISO-Standard rating ICXN¹

Mechanical power output	[kW]	264	315	360	377	440	415	360	377
Mean effective pressure	[bar]	17	16,9	23,2	20,2	28,3	22,3	23,2	20,2
Torque	[Nm]	1681	1671	2292	2000	2801	2200	2292	2000
Mean piston velocity	[m/s]	8,3	9,96	8,30	9,96	8,30	9,96	8,30	9,96

Exhaust emission level

EU 97/68 EG Stage 2	[-]							yes	yes
TA-Luft 86 from 25% ISO-Standard rating ICXN	[-]	ja	ja	yes	yes				

Specific fuel and oil consumption¹

110% Load (= ISO net brake fuel stop rating IFN)	[g/kWh]								
100% Load	[g/kWh]	196	206	196	206	193	199	201	205
75% Load	[g/kWh]	196	206	196	205	191	200	218	232
50% Load	[g/kWh]	203	214	199	210	192	205	223	241
Lube oil consumption (average)	[g/h]	55	59	60	64	68	64	60	64
Lube oil consumption (max.)	[g/h]	110	118	120	128	136	128	120	128

Air for combustion and charge air²

Volume flow	[m ³ /h]	1326	1643	1530	1748	1630	1733	1556	1693
Intercooler heat rate	[kW]	73	95	82	101	96	100	85	100
Charge air temperature before intercooler	[°C]	170	191	207	214	225	221	211	208

Exhaust²

Heat (correlation T ₂ = 25°C)	[kW]	165	197	225	235	260	260	235	235
Temperature after turbo charger	[°C]	383	401	465	458	500	470	487	460
Mass flow	[kg/h]	1622	1998	1850	2115	1980	2100	1880	2050
Volume flow	[m ³ /h]	1961	3800	4037	4300	4240	4340	3970	4180
Volume flow (standard conditions)	[m ³ N/h]	1345	1680	1630	1852	1742	1855	1663	1821

Jacket water

Heat ²	[kW]	93	118	127	141	150	153	130	145
Volume flow (min) ²	[l/min]	515	625	515	625	515	625	515	625
Max. temp. at ISO-Standard rating ³	[°C]	95	95	95	95	100	100	95	95
Max. temp. at ISO net brake fuel stop rating ³	[°C]	100	100	100	100	105	105	100	100
Min. temperature before start of full load	[°C]	40	40	40	40	40	40	40	40

Residual energy²

Radiation, etc.	[kW]	26	35	36	42	62	56	40	45
-----------------	------	----	----	----	----	----	----	----	----

Engine model D2676LE		221		221		223		231	241
Application		COP		PRP / LTP		ESP		PRP-Nox	Opt.
Speed	1/min	1500	1800	1500	1800	1500	1800	1500	1800

Radiator and fan (back-pressure 2mbar)

Air consumption	[m ³ /h]	15840	20015	15840	20015	15840	20015	15840	20015
Power input for fan	[kW]	10	16,5	10	16,5	10	16,5	10	16,5
Radiator designed up to (Air temperature at radiator inlet)	[°C]	50	48	47	45	45	45	45	45

Sound power level including fan

Engine surface noise	[dB(A)]	110	114	110	114	111	114	110	114
Air intake noise	[dB(A)]	113	114	113	114	110	114	113	114
Exhaust outlet noise	[dB(A)]	124	125	124	125	125	127	124	125

Sound pressure level at 1 m distance including fan

Front	[dB(A)]	99	101	99	101	101	99	99	101
Right	[dB(A)]	93	100	93	100	96	100	93	100
Left	[dB(A)]	96	99	96	99	96	100	96	99

Load acceptance

Sudden power increase (n-10%) ⁴	[%]	80	90	60	75	50	65	60	75
Sudden power increase absolute	[%]	95	97	70	80	55	70	70	80
Performance class acc. ISO 8528-5:2005	[-]	G3	G3	G3	G3	G3	G3	G3	G3

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]			1003	1003	1003	1003	1003	1003
Radiator	[kg]			162	162	162	162	162	162

¹ 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.

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

⁴ Based on a max. speed undershoot of 10% of rated speed.