

C87 Tier4b / StageIV

Engine Performance Data Sheet



Industrial Market

Number Cylinders: 6
Displacement: 8.7 L

Aspiration: Turbocharged Charge Air Cooled
Fuel System: Bosch HPCR

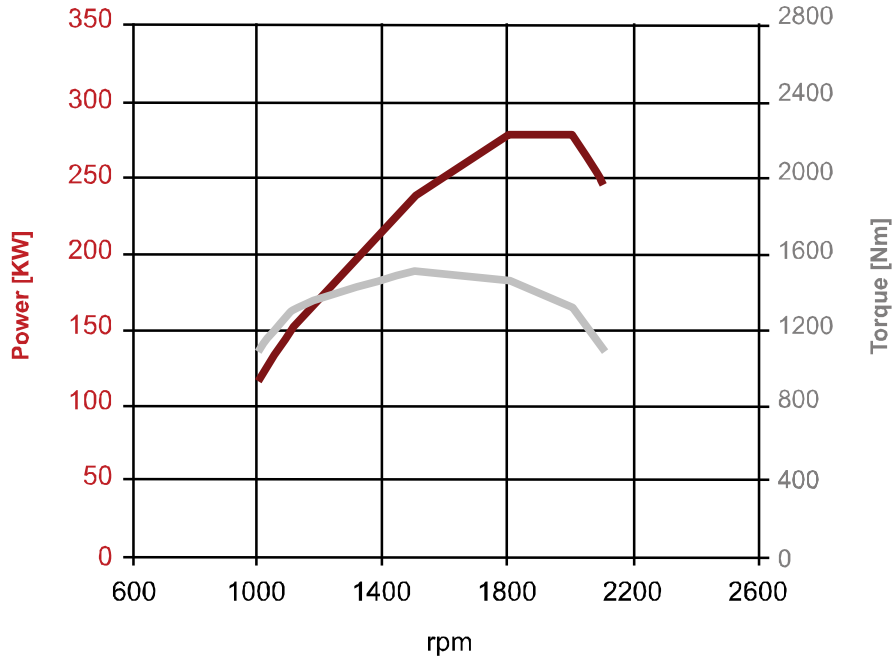
Second Release - Revision: 1.0
Data : 31/03/2015

Power : 245 kW @ 2100 rpm

Torque : 1510 Nm @ 1500 rpm

Status for curves and data: Approved

Tolerance on values: ± 5% (N/A for Alpha/Beta/Preliminary Engines)

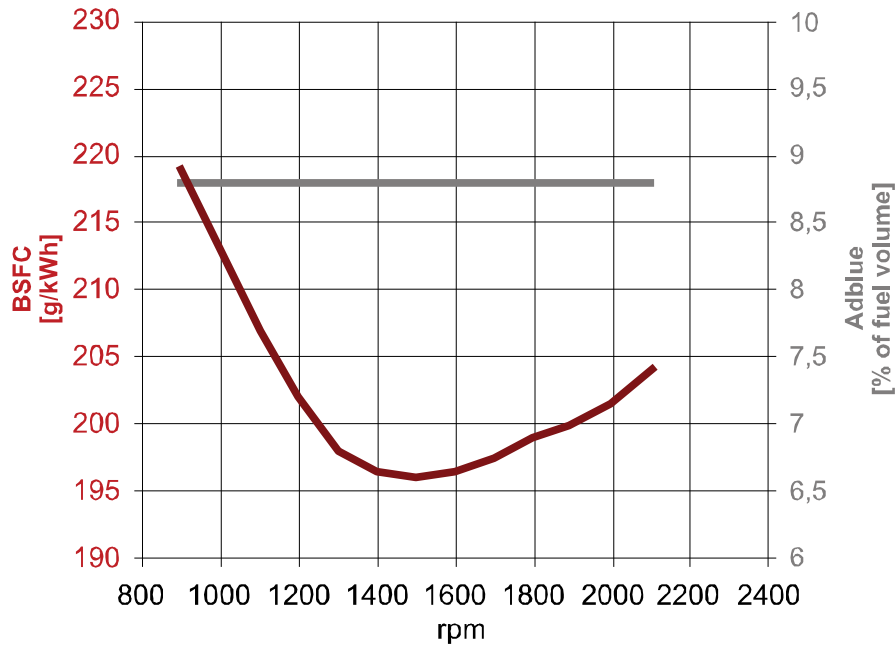


rpm	Power Output (kW)	Torque Output (Nm)
1000	115	1101
1100	150	1299
1200	170	1353
1300	191	1405
1400	214	1458
1500	237	1510
1600	250	1493
1700	263	1476
1800	275	1459
1900	275	1398
2000	275	1313
2100	245	1114

Engine Performance data

Rated Power (*)	kW (CV)	245
Rated speed	rpm	2100
Specific Power (rated)	kW/l	28.1
Max Power (peak)	kW (CV)	275
Power speed (peak)	rpm	from 1800 to 2000
Specific Power (peak)	kW/l	31.6
BMEP @max Power	bar	16.1
Mean Piston Speed	m/s	9.5
Max Torque	Nm	1510
Max Torque speed	rpm	1500
Specific Torque	Nm/l	173.4
BMEP @ max Torque	bar	21.8
Torque rise	%	35.5
Torque @ 1000 rpm	Nm	1101
Max no load governor speed	rpm	2110±50
Nominal idling speed	rpm	600±100
Best Point BSFC	g/kWh	203
Oil consumption @ rated speed	g/kWh	0.10
Engine brake power @ rated speed	kW	42.8
Engine brake power in over speed	kW	91.2 @ 3000 rpm

BSFC



Lubrication System

Min oil pressure @ low idle (engine oil temp at 120°C)	kPa (bar)	60
Min oil pressure @ rated speed (engine oil temp at 120°C)	kPa (bar)	250
Max oil pressure @ rated speed (engine oil temp at 120°C)	kPa (bar)	600

Cooling System

Maximum coolant temperature (engine out) with 100 kPa pressure cap	°C	106
Engine out coolant to ambient @ rated speed	delta °C	na
Engine out coolant to ambient @ torque speed	delta °C	na
Charge air cooler outlet to ambient @ max rpm - CAC dT	delta °C	25
Maximum Air intake Manifold Temperature	°C	75-90

Engine Noise

Full load @ Rated Speed (top rating)	dBA	96
No load @ Low Idle	dBA	82.1

Maximum Rating Performance Data (*)

		Rated speed	Max power	Peak Torque
Power output	kW	245	275	237
Torque	Nm	1114	1313	1510
Speed	rpm	2100	2000	1500
Ambient Temperature	°C	20	20	20
Frictional torque	Nm	145.0	185.4	170.4
Fuel Flow	g/s	13.9	15.3	12.9
Fuel consumption (BSFC)	g/kWh	204	201	196
AdBlue consumption	% fuel Volume	8.8	8.8	8.8
Charge Air Flow	g/s	410	400	290
Exhaust Gas Flow	g/s	424	415.3	302.9
Boost Pressure (compressor outlet)	kPa	180	190	140
Temperature after HP-Compressor	°C	na	na	na
Boost Temperature (includes EGR effect)	°C	175	180	170
Exhaust Gas Temp between HP-TC	°C	na	na	na
Exhaust Gas Temp (after TC)	°C	420	450	510
Power LP-CAC (engine water)	kW	na	na	na
Total Water cooling power of engine	kW	107	110.0	95.0
Total Pump water flow	l/s	5	4.8	4
Radiator Coolant Flow (**)	l/min	na	na	na
LP-CAC water flow (for $\Delta T=6^{\circ}C$)	l/s	na	na	na
Power of HP CAC	kW	na	na	na
Total CAC power (air to air)	kW	55.1	56.9	40

- (*) Power at flywheel according dir. 97/68 EC (w/o fan), after 50 hours of run-in, tolerance $\pm 3\%$, fuel EN 590; Test according ISO 3046/1, turbo air inlet temperature $25^{\circ}C$, atmospheric pressure 100 kPa, humidity 30 % - According also to DIN 6271, BS 5514, SAE J1349. All data is based on the engine operating with fuel system, water pump, lubricating oil pump with inlet and exhaust restriction at or below Datasheet limits. Accessory loads assumed at 20 N-m across from idle to rated rpm. Fan duty cycle must be lower than 20% Radiator Coolant Flow is approximately 5% less with a continuously deaerating system. Coolant: 50/50 - Ethylene Glycol/Water by volume.
- (**) Radiator Coolant Flow is approximately 5% less with a continuously deaerating system. Coolant: 50/50 - Ethylene Glycol/Water by volume.

All data is subject to change without notice

Revision	Description	Date
33	First document release	31/01/2014
34		28/02/2014
35		31/03/2014
37		30/04/2014
38		30/06/2014
38.1		31/07/2014
39		30/09/2014
1.0		31/03/2015