

# C13 ENT

350 kW @ 2100 rpm - 2140 Nm @ 1400 rpm

Technical code	F3BE9687B*EXX	
Thermodynamic cycle	Diesel 4 strokes- D.I.	
Air intake	TAA	
Arrangement	6L	
Bore x Stroke	mm	135 x 150
Total displacement	L	12,88
Valves per cylinder	4	
Cooling	liquid	
Direction of rotation (viewed facing flywheel)	CCW	
Compression ratio	16,5 : 1	
Rotation mass moment of inertia (without flywheel)	kgm <sup>2</sup>	1,05
Standard flywheel inertia	kgm <sup>2</sup>	2,16

## AIR INDUCTION

Max suggested intake restriction with clean air filter	kPa(bar)	3,5 (0,035)
Max allowable restriction with dirty air filter	kPa(bar)	6,0 (0,060)
Air requirement for combustion at 100% load/rated speed	kg/h(m <sup>3</sup> /h)	2020 (1720)
Turbocharging pressure at full load/rated speed	kPa(bar)	190 (1,9)
Turbocharging air max temperature (engine inlet)	°C	50 (at 25°C amb.)
Heat rejected to intercooler at maximum power	kJ/s(kcal/h)	83 (71.400)
Intercooler system max pressure drop	kPa(bar)	10 (0,1)

## EXHAUST SYSTEM

Max allowable backpressure	kPa(bar)	10 (0,1)
Max exhaust temperature at full load/rated speed	°C	495
Exhaust flow at max output	kg/h	2090

## LUBRICATION SYSTEM

Minimum oil pressure at idle	kPa(bar)	200 (2)
Max oil pressure at idle	kPa(bar)	TBD
Max oil temperature at full load/rated speed	°C	120
Engine angularity limits continuous operation:		
max front up and front down	0/360	17
max left hand and right hand	0/360	17
Total system capacity including pipes, filters etc.	liters	35

## COOLING SYSTEM

Coolant capacity (engine only)	liters	19,5
Water pump flow at rated speed	m <sup>3</sup> /h	29
Heat to reject by heat exchanger at max power	kJ/s(kcal/h)	142 (122.100)
Thermostat (modulating range)	°C	84 ÷ 94
Cooling liquid max temperature	°C	106
Min/max inner pressure in the cooling circuit	kPa(bar)	30/160 (0,3/1,6)
External cooling system max pressure drop	kPa(bar)	35 (0,35)

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## FUEL SYSTEM

Injection system		Electronic Unit Injector
Gas oil max ir Gas oil max intake restriction	kPa(bar)	30 (0,3)
Gas oil max ir Gas oil max intake temperature	°C	40 (at 25°C amb.)

## ELECTRICAL SYSTEM

Voltage	V	24
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Maximum rating	kW(HP)	350 (476)
At speed	rpm	2100
Maximum torque	Nm(kgm)	2140 (218)
At speed	rpm	1400
Maximum no load governed speed at max rating	rpm	2300
Minimum idling speed	rpm	800
Mean piston speed at rated speed	m/s	9,5
BMEP at max torque	kg/cm <sup>2</sup>	21
Available certifications		CE 2004/26 Phase IIIA - EPA Tier 3
Specific fuel consumption at full load (best value)	g/kWh @ rpm	203 @ 1650
Oil consumption at max rating	(% of fuel consumption)	< 0,2
Noise at max rating (ISO 3744)	dBA	96
Minimum starting temperature without auxiliaries	°C	-15
Oil and oil filter maintenance interval for replacement	hours	600
Dry weight (standard configuration)	kg	1040

**FOR INFORMATION ON THE AVAILABLE RATINGS NOT LISTED IN THIS DOCUMENT PLEASE CONTACT THE FPT SALES NETWORK.**

\* **Power** at flywheel according to 97/68 EC (without fan), after 50 hours running, 3% tolerance, fuel Diesel EN 590

**Test conditions** : ISO 3046/1, 25 °C air temperature, 100 kPa atmospheric pressure, 30 % relative humidity - Applicable also to DIN 6271, BS 5514, SAE J1349 Standards.

## STANDARD CONFIGURATION

Flywheel housing	SAE	SAE 1 - aluminium
Flywheel size	inch	14
Intake manifold location		middle high/right side/front
Exhaust manifold location		middle high/left side/rear
Turbocharger		fixed geometry, wg controlled
Turbocharger location		middle/left side
Fan transmission ratio		1,37 : 1
Distance between fan - crankshaft centers	mm	x = 0 ; y = 225
Fuel filter	n°	single cartridge-right side
Fuel prefilter		included, supplied loose
Fuel pump		mechanical

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Oil filter	n°	double cartridge-left side
Oil sump		suspended sheet metal/front sump
Oil vapours blow-by circuit		ricirculated
Oil heat exchanger		incorporated in the block
Oil filler		on timing cover
Starting motor		24V - 5,5kW
Alternator		24V - 90A
Engine stop device		by ECU
Wiring harness		interface wiring with accessories kit
Power take off (optional) - transmission ratio		1,36 : 1
PTO maximum available torque	SAE A	150Nm (9 teeth- ANSI B92,1)
	SAE B	150Nm (13 teeth ANSI B92,1)
	SAE B	200Nm (grooved - DIN 5482)
Painting	color	grey

## NOT INCLUDED IN THE STANDARD CONFIGURATION

Battery - minimum capacity recommended	180Ah (24V)
Battery - minimum cold cranking capacity recommended	800A (24V)

**FPT OFFERS THE WIDEST AVAILABILITY OF ENGINE BUILD OPTIONS TO CUSTOMER SPECIFIC REQUIREMENTS WITHIN THE ENGINE SUPPLY.**

**TO FIND OUT MORE ABOUT THE CONFIGURATIONS AND ACCESSORIES WHICH ARE AVAILABLE, CONTACT THE FPT SALES NETWORK.**