

C13 ENT

375 kW @ 2100 rpm - 2140 Nm @ 1400 rpm

| | | |
|--|------------------|-------------------------|
| Technical code | | F3BE9687A*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 ² | 1,05 |
| Standard flywheel inertia | kgm ² | 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 ³ /h) | 2040 (1740) |
| Turbocharging pressure at full load/rated speed | kPa(bar) | 195 (1,95) |
| Turbocharging air max temperature (engine inlet) | °C | 50 (at 25°C amb.) |
| Heat rejected to intercooler at maximum power | kJ/s(kcal/h) | 87 (74.800) |
| 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 | 510 |
| Exhaust flow at max output | kg/h | 2120 |

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 ³ /h | 29 |
| Heat to reject by heat exchanger at max power | kJ/s(kcal/h) | 178 (153.000) |
| 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 |
|---------|---|----|

| | | |
|---|-------------------------|------------------------------------|
| Maximum rating | kW(HP) | 375 (510) |
| 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 ² | 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.