CURSOR

C78 ENT

FOR INDUSTRIAL APPLICATIONS
6 CYLINDER IN-LINE - DIESEL CYCLE
220 kW (295 hp) @ 2200 rpm
1250 Nm (922 lb.ft) @ 1200 rpm
## Technical code
- **F2BE0687**
  - **B3..**

## Thermodynamic cycle
- **Aspiration**: Diesel 4 stroke - DI
- **Configuration**: TAA

## Thermodynamics
- **Bore x Stroke**: 115 X 125 (4.53 X 4.92)
- **Total displacement**: 7.8 (476)
- **Valves per cylinder**: 4
- **Cooling**: liquid
- **Direction of rotation (viewed facing flywheel)**: CCW
- **Compression ratio**: 16 : 1
- **Rotation mass moment of inertia (without flywheel)**: 0.30 (7.12)
- **Standard flywheel inertia**: 1.93 (45.80)

### Air induction
- **Max suggested intake restriction with clean air filter**: 3.5 (14)
- **Max allowable restriction with dirty air filter**: 6.0 (24)
- **Air requirement for combustion at 100% load/rated speed**: 1280 (2822)
- **Turbocharging pressure at full load/rated speed**: 160 (23.2)
- **Turbocharging air max temperature (engine inlet)**: 50 (122) @ 77°F amb.
- **Heat rejected to intercooler at maximum power**: 38.5 (2191)
- **Intercooler system max pressure drop**: 10 (40.1)

### Exhaust system
- **Max allowable backpressure**: 10 (2.95)
- **Max exhaust temperature at full load/rated speed**: 510 (950)
- **Exhaust flow at max output**: 1330 (2932)

### Lubrication system
- **Minimum oil pressure at idle**: 150 (21.75)
- **Max oil temperature at full load/rated speed**: 120 (248)
- **Engine angularity limits continuous operation**:
  - max front up and front down: 17
  - max left hand and right hand: 17
- **Total system capacity including pipes, filters etc.**: 28 (29.6)

### Cooling system
- **Coolant capacity (engine only)**: 15 (16)
- **Water pump flow at rated speed**: 21.5 (94.7)
- **Heat rejected to coolant at max power**: 110.8 (6307)
- **Thermostat (operating range)**: 83 to 95 (181 to 203)
- **Cooling liquid max temperature**: 105 (221)
- **Min/max pressure in the cooling circuit system**: 30/160 (4.35/23.2)
- **Radiator max pressure drop**: 35 (5)

### Fuel system
- **Injection system**: Electronic Unit Injection (E.U.I.)
- **Fuel inlet max restriction**: 30 (120.3)
- **Fuel inlet max temperature**: 40 (104) @ 77°F amb.

### Electrical system
- **Voltage**: 24
C78 ENT FOR INDUSTRIAL APPLICATIONS

Maximum rating * 
 kW(hp) 220 (295) 200 (268) 176 (236)
At speed rpm 2200 2200 2100
Maximum torque Nm (lb. ft) 1250 (921.9) 1150 (848.1) 1050 (774.4)
At speed rpm 1200 1200 1200
Maximum no load governed speed rpm 2400
Minimum idle speed rpm 600
Mean piston speed at rated rpm m/s (ft./s) 9.2 (30.2) 9.2 (30.2) 8.8 (28.9)
BMEP at max torque kg/cm² (psi) 20.51 (291.92) 18.87 (268.57) 17.23 (245.21)
Available certifications EPA Tier 2 - EC 97/68 Phase 2
BSFC g/kWh (lb/hp h) @ rpm 206 (0.338) @ 1500
Noise at rated power (ISO 3744) dB(A) 94
Minimum starting temperature without aids °C (°F) -15 (+5)
Oil and oil filter maintenance interval for replacement hours 600
Dry weight (standard configuration) kg (lb) 675 (1488)

FOR INFORMATION ON THE AVAILABLE RATINGS NOT LISTED IN THIS DOCUMENT PLEASE CONTACT THE IVECO MOTORS 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.

L = 1175 mm (46.3 in)
W = 932 mm (36.7 in)
H = 1038 mm (40.9 in)
Standard configuration

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flywheel housing SAE</td>
<td>1</td>
</tr>
<tr>
<td>Flywheel diameter in.</td>
<td>14</td>
</tr>
<tr>
<td>Intake manifold location</td>
<td>right side / forward inlet</td>
</tr>
<tr>
<td>Exhaust manifold / turbocharger orientation</td>
<td>left side / backward outlet</td>
</tr>
<tr>
<td>Turbocharger</td>
<td>waste gate controlled</td>
</tr>
<tr>
<td>Turbocharger location</td>
<td>left side</td>
</tr>
<tr>
<td>Fan drive ratio</td>
<td>1.03 : 1</td>
</tr>
<tr>
<td>Distance from fan to crankshaft center mm (in.)</td>
<td>250 (9.84)</td>
</tr>
<tr>
<td>Fuel filter</td>
<td>1 - right side</td>
</tr>
<tr>
<td>Fuel prefilter included, supplied loose</td>
<td></td>
</tr>
<tr>
<td>Fuel pump</td>
<td>included</td>
</tr>
<tr>
<td>Oil filter</td>
<td>1 - left side</td>
</tr>
<tr>
<td>Oil sump</td>
<td>sheet steel / front sump</td>
</tr>
<tr>
<td>Oil vapors blow-by-circuit</td>
<td>close crankcase ventilation</td>
</tr>
<tr>
<td>Oil heat exchanger</td>
<td>built in the crankcase</td>
</tr>
<tr>
<td>Oil filter</td>
<td>on valve cover</td>
</tr>
<tr>
<td>Exhaust mounting flange</td>
<td>included</td>
</tr>
<tr>
<td>Wiring harness</td>
<td>interface wiring loom with accessories</td>
</tr>
<tr>
<td>Power take off (PTO)</td>
<td>optional</td>
</tr>
<tr>
<td>PTO transmission ratio</td>
<td>1.13 : 1</td>
</tr>
<tr>
<td>PTO maximum available torque</td>
<td>120 Nm (88.5 lb ft)</td>
</tr>
<tr>
<td>Painting color grey RAL 7021</td>
<td></td>
</tr>
</tbody>
</table>

Not included in the standard configuration

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

IVECO MOTORS 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 IVECO MOTORS SALES NETWORK.