*97kW can be sold in California from 2017.

**MECHANICAL SYSTEM**
- **Engine Model**: D34
- **Engine Type**: In-line 4 cycle Diesel, water cooled, Turbo-intercooler
- **Combustion type**: Direct injection
- **Cylinder Type**: Linerless
- **Number of cylinders**: 4
- **Bore x stroke**: 98 x 113 mm
- **Displacement**: 3.409 lit.
- **Compression ratio**: 17.0 : 1
- **Firing order**: 1-3-4-2
- **Dry weight**: 335 kg
- **Dimension (LxWxH)**:
  - Low level 6.0 liters(except 130HP): 889.6x655.2x804.5mm(with DOC+FAN Height 475mm)
  - High level 14.3 liters(130HP): 875x655.2x804.5mm(with DOC+Fan Height 475mm)
  - Low level 6.4 liters(130HP): 896.9x695.9x1005.4mm(with DOC+SCR/over 110HP)
  - Angularity limit: 35 deg all around
  - Lub. Oil: 10W30 CJ-4
  - Maximum oil temp: 135℃ at main oil gallery
  - Lub oil pressure: Idle Speed : Min 100 kPa

**FUEL SYSTEM**
- **Injection pump**: DELPHI DFP 4.2
- **Governor**: Controlled by ECU
- **Feed pump**: N/A
- **Injection nozzle**: Multi hole type
- **Fuel filter**: Full flow, cartridge type
- **Used fuel**: EN590

**LUBRICATION SYSTEM**
- **Lub. Method**: Fully forced pressure feed type
- **Oil pump**: Gear type driven by crankshaft
- **Oil filter**: Full flow, cartridge type
- **Oil pan capacity**: High level 12.6 liters(except 130HP)
  - Low level 6.0 liters(except 130HP)
  - High level 14.3 liters(130HP)
- **Lub oil pressure**: Idle Speed : Min 100 kPa
- **Maximum oil temp**: 135℃ at main oil gallery
- **Lub oil pressure**: Idle Speed : Min 100 kPa

**INTERMITTENT RATING**

<table>
<thead>
<tr>
<th>Intermittent rating kW(HP) / rpm</th>
<th>Max. torque N.m(kg.m) / rpm</th>
<th>Aftertreatment System</th>
<th>EPA/CARB Compliance</th>
<th>EU Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>54 (74) / 2400</td>
<td>330 (33.7) / 1400</td>
<td>DOC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 (85) / 2400</td>
<td>325 (33.1) / 1600</td>
<td>DOC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69 (92) / 2400</td>
<td>350 (35.7) / 1600</td>
<td>DOC</td>
<td>Tier4 F</td>
<td>Stage 3B</td>
</tr>
<tr>
<td>75 (100) / 2400</td>
<td>375 (38.2) / 1600</td>
<td>DOC + SCR</td>
<td></td>
<td>Stage4</td>
</tr>
<tr>
<td>82 (110) / 2400</td>
<td>430 (43.8) / 1400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97 (130) / 2400</td>
<td>500 (51.0) / 1400</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EPA/CARB COMPLIANCE**

- Tier4 F
- Stage 3B

- Stage4

**EU COMPLIANCE**

- Stage 3B
- Stage4
**ENGINEERING DATA**

- **Water flow**: 114 liters/min @2,400 rpm (100HP)
- **Heat rejection**
  - to coolant: 12.0 kcal/sec @2,400 rpm (74HP)
  - to coolant: 14.2 kcal/sec @2,400 rpm (100HP)
  - to coolant: 14.9 kcal/sec @2,400 rpm (110HP)
  - to coolant: 16.2 kcal/sec @2,400 rpm (130HP)
  - to CAC: 2.2 kcal/sec @2,400 rpm (74HP)
  - to CAC: 2.6 kcal/sec @2,400 rpm (100HP)
  - to CAC: 2.8 kcal/sec @2,400 rpm (110HP)
  - to CAC: 3.6 kcal/sec @2,400 rpm (130HP)
- **Exhaust gas temp.**: 750 °C ↓ @2,400 rpm
- **Heat rejection**
  - to coolant: 12.0 kcal/sec @2,400 rpm (74HP)
  - to coolant: 14.2 kcal/sec @2,400 rpm (100HP)
  - to coolant: 14.9 kcal/sec @2,400 rpm (110HP)
  - to coolant: 16.2 kcal/sec @2,400 rpm (130HP)
  - to CAC: 2.2 kcal/sec @2,400 rpm (74HP)
  - to CAC: 2.6 kcal/sec @2,400 rpm (100HP)
  - to CAC: 2.8 kcal/sec @2,400 rpm (110HP)
  - to CAC: 3.6 kcal/sec @2,400 rpm (130HP)
- **Exhaust gas temp.**: 750 °C ↓ @2,400 rpm
- **Water capacity**: Approx. 5.1 lit
- **Water pump**: Centrifugal type driven by belt
- **Thermostat**: Wax – pellet type
  - Opening temp. 82°C
  - Full open temp. 97°C
  - Cooling fan: Not Available
  - Water Temperature 110°C (max.)

**ELECTRICAL SYSTEM**

- **Battery Charging**: 12V x 90A
  - Alternator
- **Voltage regulator**: Built-in type IC regulator
- **Starting motor**: 12V x 2.7kW
- **Battery Voltage**: 12V
- **Battery Capacity**: 100 Ah, 950CCA ↑ (recommended)
  - Starting Aid: Air heater

**VALVE SYSTEM**

- **Type**: Over head valve
- **Number of valve**: Intake 2, exhaust 2 per cylinder
- **Valve lashes**
  - Intake: 0.4mm
  - Exhaust: 0.45mm

**Torque vs. RPM**

- **54KW (74HP)**
- **63KW (85HP)**

<table>
<thead>
<tr>
<th>Speed (rpm)</th>
<th>Power (kW)</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>33.5</td>
<td>44.9</td>
</tr>
<tr>
<td>1200</td>
<td>40.2</td>
<td>45.7</td>
</tr>
<tr>
<td>1400</td>
<td>48.4</td>
<td>55.8</td>
</tr>
<tr>
<td>1600</td>
<td>54.0</td>
<td>73.4</td>
</tr>
<tr>
<td>1800</td>
<td>54.5</td>
<td>74.1</td>
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<tr>
<td>2000</td>
<td>54.5</td>
<td>74.2</td>
</tr>
<tr>
<td>2200</td>
<td>54.7</td>
<td>74.4</td>
</tr>
<tr>
<td>2400</td>
<td>55.3</td>
<td>75.2</td>
</tr>
<tr>
<td>2500</td>
<td>51.8</td>
<td>70.5</td>
</tr>
<tr>
<td>2600</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
- **Dimension (LxWxH)**
  - D34_74HP_DOC only 889.6x655.2x804.5mm (with DOC)
  - D34_74HP_DOC only (Fan Height option 475mm) 875x655.2x804.5mm (with DOC/Fan Height 475mm)
  - D34_Up to 110HP_DOC+SCR 896.9x655.2x992mm (with DOC+SCR/ up to 110HP)
**CONVERSION TABLE**

- in. = mm x 0.0394
- lb/ft = N.m x 0.737
- PS = kW x 1.3596
- U.S. gal = lit. x 0.264
- psi = kg/cm2 x 14.2
- kW = 0.2388 kcal/s
- in3 = lit. x 61.02
- lb/PS.h = g/kW.h x 0.00162
- hp = PS x 0.98635
- cfm = m3/min x 35.336
- lb = kg x 2.20462

Revised: 6th, September, 2016

※ Specifications are subject to change without prior notice