# DOOSAN INFRACORE INDUSTRIAL ENGINE

## D34

### 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 (w/o starter, alternator, aftertreatment)
- **Dimension (LxWxH)**:
  - 889.6x655.2x804.5mm (with DOC)
  - 875x655.2x804.5mm (with DOC/Fan Height 475mm)
  - 896.9x695.9x1005.4mm (with DOC+SCR/over 110HP)
- **Rotation**: Counter clockwise viewed from Flywheel
- **Flywheel housing**: SAE NO.3M (SAE J617)
- **Flywheel**: Clutch 11 1/2" (SAE J620)
- **Number of teeth**: 125 (Flywheel)

### 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**:
  - Low level: 6.0 liters (except 130HP)
  - High level: 12.6 liters (except 130HP)
  - High level: 14.3 liters (130HP)
- **Angularity limit**: 35 deg all around
- **Lub. Oil**: 10W30 CJ-4 (Refer to Operation Manual)
- **Maximum oil temp**: 135 °C at main oil gallery
- **Lub oil pressure**: Idle Speed : Min 100 kPa

### COOLING SYSTEM
- **Cooling method**: Fresh water forced circulation
- **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

### 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

### 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)
- **Air flow**: 5,280 liter/min @2,400 rpm (100HP)
- **Exhaust gas temp.**: 750 °C ↓ @2,400 rpm
- **Max. permissible restrictions**:
  - Intake system: 2.16 kPa clean filter
  - Exhaust gas temp. 750 °C ↓ @2,400 rpm

### 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>
</tr>
</thead>
<tbody>
<tr>
<td>54 (74) / 2400</td>
<td>330 (33.7) / 1400</td>
<td>DOC</td>
</tr>
<tr>
<td>63 (85) / 2400</td>
<td>325 (33.1) / 1600</td>
<td>DOC + SCR</td>
</tr>
<tr>
<td>69 (92) / 2400</td>
<td>350 (35.7) / 1600</td>
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</tr>
<tr>
<td>75 (100) / 2400</td>
<td>375 (38.2) / 1600</td>
<td></td>
</tr>
<tr>
<td>82 (110) / 2400</td>
<td>430 (43.8) / 1400</td>
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</tr>
<tr>
<td>97 (130) / 2400</td>
<td>500 (51.0) / 1400</td>
<td></td>
</tr>
</tbody>
</table>
Exhaust system
- 20 kPa max. (DOC only version)
- 30 kPa max. (DOC+SCR version)

Battery Capacity
- 100 Ah, 950CCA

Starting Aid
- Air heater

VALVE SYSTEM
o Type
- Over head valve

o Number of valve
- Intake 2, exhaust 2 per cylinder

o Valve lashes
- Intake 0.4mm
- Exhaust 0.45mm

54KW (74HP)

63KW (85HP)

69KW (92HP)

75KW (100HP)
82KW (110HP)

97KW (130HP)

**Dimension (LxWxH)**

-D34_74HP_DOC only

889.6x655.2x804.5mm (with DOC)

-D34_74HP_DOC only (Fan Heigh option_475mm)

875x655.2x804.5mm (with DOC/Fan Height 475mm)
◆ 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 : 30th, June, 2016

※ Specifications are subject to change without prior notice