DOOSAN INFRACORE INDUSTRIAL ENGINE
D18

<table>
<thead>
<tr>
<th>Intermittent rating kW(HP) / rpm</th>
<th>Max. torque N.m(kg.m) / rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.6(33) / 2400</td>
<td>110(11.2) / 1600</td>
</tr>
<tr>
<td>36.6(49) / 2800</td>
<td>165(16.8) / 1800</td>
</tr>
</tbody>
</table>

◎ MECHANICAL SYSTEM
- Engine Model: D18
- Engine Type: In-line 3 cycle Diesel, water cooled, Turbo-intercooler
- Combustion type: Direct injection
- Cylinder Type: Linerless
- Number of cylinders: 3
- Bore x stroke: 90 x 94 mm
- Displacement: 1.794 lit.
- Compression ratio: 17.0 : 1
- Firing order: 1-2-3
- Dry weight: 198 kg (w/o starter, alternator, aftertreatment)
- Dimension(LxWxH): 740.4 x 566.7 x 769.9 mm (with DOC)
- Rotation: Counter clockwise viewed from Flywheel
- Fly wheel housing: SAE NO.4M (SAE J617)
- Fly wheel: Clutch 10”(SAE J620)
- Number of teeth: 104

◎ ENGINEERING DATA
- Water flow: 120 liters/min @2,800 rpm (49HP)
- Heat rejection
  - .to coolant: 7.8 kcal/sec @2,800 rpm (49HP)
  - .to coolant: 5.4 kcal/sec @2,400 rpm (33HP)
  - .to CAC: 1.3 kcal/sec @2,800 rpm (49HP)
  - .to CAC: 0.8 kcal/sec @2,400 rpm (33HP)
- Air flow: 3,426 liter/min @2,800 rpm (49HP)
- Exhaust gas temp.: 750 °C @2,800 rpm
- Max. permissible restrictions
  - .Intake system: 2.16 kPa clean filter
  - .Exhaust system: 6.23 kPa dirty filter
  - .Exhaust system: 15 kPa max.

◎ VALVE SYSTEM
- Type: Over head valve
- Number of valve: Intake 2, exhaust 2 per cylinder
- Valve lashes: Intake 0.4mm
  (@ cold) Exhaust 0.45mm

◎ FUEL SYSTEM
- Injection pump: DELPHI DFP 4.4
- 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 6.31iters
- Lub. Oil: Low level 2.8 liters
- 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. 3.3 lit
  (engine only)
- Water pump: Centrifugal type driven by belt
- Thermostat: Wax – pellet type
  Opening temp. 82°C
  Full open temp. 97°C
- Cooling fan: -
- 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: Glow plug
24.6KW(33HP)

![Graph of 24.6KW(33HP)]

36.6KW(49HP)

![Graph of 36.6KW(49HP)]

<table>
<thead>
<tr>
<th>Speed (rpm)</th>
<th>kW</th>
<th>PS</th>
<th>HP</th>
<th>Nm</th>
<th>kgm</th>
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<td>1200</td>
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<td>18.1</td>
<td>17.9</td>
<td>106.0</td>
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- Dimension (LxWxH) 740.4 x 566.7 x 769.9 mm (with DOC)

◆ 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 14.2233
- 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.*