

# DOOSAN INFRACORE INDUSTRIAL ENGINE

## D34



| Intermittent rating<br>kW(HP) / rpm | Max. torque<br>N.m(kg.m) / rpm | Aftertreatment<br>System |
|-------------------------------------|--------------------------------|--------------------------|
| 54 (74) / 2400                      | 330 (33.7) / 1400              | DOC                      |
| 63 (85) / 2400                      | 325 (33.1) / 1600              | DOC + SCR                |
| 69 (92) / 2400                      | 350 (35.7) / 1600              |                          |
| 75 (100) / 2400                     | 375 (38.2) / 1600              |                          |
| 82 (110) / 2400                     | 430 (43.8) / 1400              |                          |
| 97 (130) / 2400                     | 500 (51.0) / 1400              |                          |

### ◎ MECHANICAL SYSTEM

- o Engine Model D34
- o Engine Type In-line 4 cycle Diesel,  
water cooled, Turbo-intercooler
- o Combustion type Direct injection
- o Cylinder Type Linerless
- o Number of cylinders 4
- o Bore x stroke 98 x 113 mm
- o Displacement 3.409 lit.
- o Compression ratio 17.0 : 1
- o Firing order 1-3-4-2
- o Dry weight 335 kg  
(w/o starter, alternator, aftertreatment)
- o Dimension (LxWxH)  
889.6x655.2x804.5mm(with DOC)  
875x655.2x804.5mm(with DOC/Fan Height 475mm)  
896.9x655.2x992mm(with DOC+SCR/ up to 110HP)  
896.9x695.9x1005.4mm(with DOC+SCR/over 110HP)
- o Rotation Counter clockwise viewed from Flywheel
- o Fly wheel housing SAE NO.3M(SAE J617)
- o Fly wheel Clutch 11 1/2"(SAE J620)
- o Number of teeth 125  
(Flywheel)

### ◎ ENGINEERING DATA

- o Water flow 114 liters/min @2,400 rpm (100HP)
- o 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)
- o Air flow 5,280 liter/min @2,400 rpm (100HP)
- o Exhaust gas temp. 750 °C ↓ @2,400 rpm
- o Max. permissible restrictions
  - Intake system 2.16 kPa clean filter  
6.23 kPa dirty filter

### ◎ FUEL SYSTEM

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

### ◎ LUBRICATION SYSTEM

- o Lub. Method Fully forced pressure feed type
- o Oil pump Gear type driven by crankshaft
- o Oil filter Full flow, cartridge type
- o Oil pan capacity High level 12.6 liters(except 130HI)  
Low level 6.0 liters(except 130HP)  
High level 14.3 liters(130HP)  
Low level 6.4 liters(130HP)
- o Angularity limit 35 deg all around
- o Lub. Oil 10W30 CJ-4  
(Refer to Operation Manual)
- o Maximum oil temp 135°C at main oil gallery
- o Lub oil pressure Idle Speed : Min 100 kPa

### ◎ COOLING SYSTEM

- o Cooling method Fresh water forced circulation
- o Water capacity Approx. 5.1 lit  
(engine only)
- o Water pump Centrifugal type driven by belt
- o Thermostat Wax – pellet type  
Opening temp. 82°C  
Full open temp. 97°C
- o Cooling fan Not Available
- o Water Temperature 110°C (max.)

### ◎ ELECTRICAL SYSTEM

- o Battery Charging 12V x 90A  
Alternator
- o Voltage regulator Built-in type IC regulator
- o Starting motor 12V x 2.7kW
- o Battery Voltage 12V

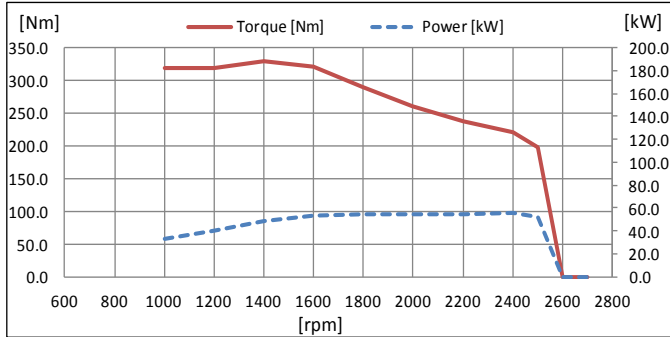
- Exhaust system 20 kPa max.(DOC only version)  
30 kPa max.(DOC+SCR version)

- o Battery Capacity 100 Ah, 950CCA ↑ (recommended)
- o Starting Aid Air heater

© VALVE SYSTEM

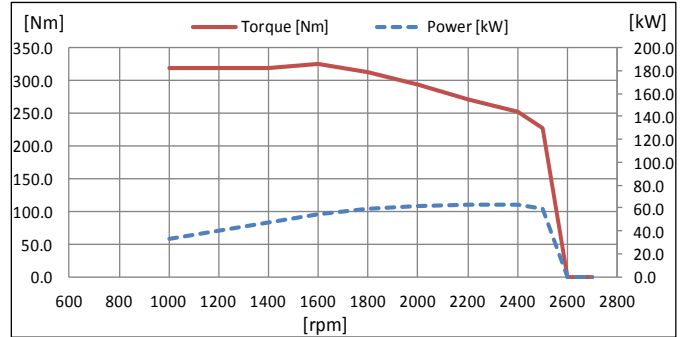
- o Type Over head valve
- o Number of valve Intake 2, exhaust 2 per cylinder
- o Valve lashes Intake 0.4mm  
(@ cold) Exhaust 0.45mm

**54KW(74HP)**



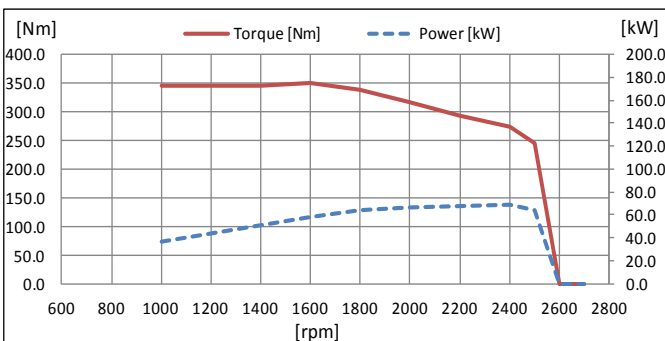
| speed | Power |      |      | Torque |      |
|-------|-------|------|------|--------|------|
|       | kW    | PS   | HP   | Nm     | kgm  |
| 1000  | 33.5  | 45.6 | 44.9 | 320.0  | 32.6 |
| 1200  | 40.2  | 54.7 | 53.9 | 320.0  | 32.6 |
| 1400  | 48.4  | 65.8 | 64.9 | 330.0  | 33.7 |
| 1600  | 54.0  | 73.4 | 72.4 | 322.0  | 32.8 |
| 1800  | 54.5  | 74.1 | 73.1 | 289.3  | 29.5 |
| 2000  | 54.6  | 74.2 | 73.2 | 260.7  | 26.6 |
| 2200  | 54.7  | 74.4 | 73.4 | 237.5  | 24.2 |
| 2400  | 55.3  | 75.2 | 74.1 | 220.0  | 22.4 |
| 2500  | 51.8  | 70.5 | 69.5 | 198.0  | 20.2 |
| 2600  | 0.0   | 0.0  | 0.0  | 0.0    | 0.0  |

**63KW(85HP)**



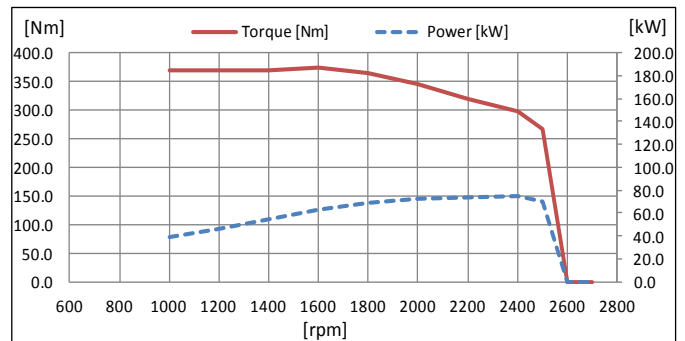
| speed | Power |      |      | Torque |      |
|-------|-------|------|------|--------|------|
|       | kW    | PS   | HP   | Nm     | kgm  |
| 1000  | 33.5  | 45.6 | 44.9 | 320.0  | 32.6 |
| 1200  | 40.2  | 54.7 | 53.9 | 320.0  | 32.6 |
| 1400  | 46.9  | 63.8 | 62.9 | 320.0  | 32.6 |
| 1600  | 54.5  | 74.0 | 73.0 | 325.0  | 33.1 |
| 1800  | 58.8  | 80.0 | 78.9 | 312.0  | 31.8 |
| 2000  | 61.8  | 84.0 | 82.9 | 295.0  | 30.1 |
| 2200  | 62.7  | 85.2 | 84.0 | 272.0  | 27.7 |
| 2400  | 63.4  | 86.2 | 85.0 | 252.3  | 25.7 |
| 2500  | 59.5  | 80.8 | 79.7 | 227.1  | 23.2 |
| 2600  | 0.0   | 0.0  | 0.0  | 0.0    | 0.0  |

**69KW(92HP)**



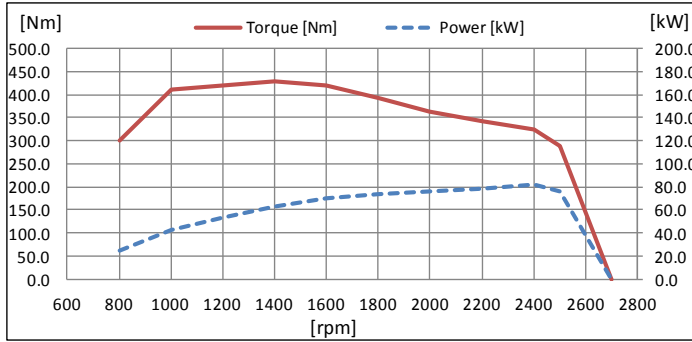
| speed | Power |      |      | Torque |      |
|-------|-------|------|------|--------|------|
|       | kW    | PS   | HP   | Nm     | kgm  |
| 1000  | 36.1  | 49.1 | 48.4 | 345.0  | 35.2 |
| 1200  | 43.4  | 58.9 | 58.1 | 345.0  | 35.2 |
| 1400  | 50.6  | 68.8 | 67.8 | 345.0  | 35.2 |
| 1600  | 58.6  | 79.7 | 78.6 | 350.0  | 35.7 |
| 1800  | 63.7  | 86.6 | 85.4 | 338.0  | 34.5 |
| 2000  | 66.6  | 90.6 | 89.3 | 318.0  | 32.4 |
| 2200  | 67.7  | 92.1 | 90.8 | 294.0  | 30.0 |
| 2400  | 68.6  | 93.3 | 92.0 | 273.1  | 27.8 |
| 2500  | 64.4  | 87.5 | 86.3 | 245.8  | 25.1 |
| 2600  | 0.0   | 0.0  | 0.0  | 0.0    | 0.0  |

**75KW(100HP)**

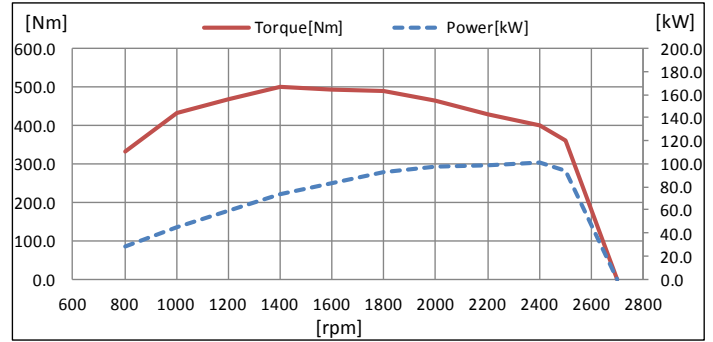


| speed | Power |       |       | Torque |      |
|-------|-------|-------|-------|--------|------|
|       | kW    | PS    | HP    | Nm     | kgm  |
| 1000  | 38.7  | 52.7  | 52.0  | 370.0  | 37.7 |
| 1200  | 46.5  | 63.2  | 62.4  | 370.0  | 37.7 |
| 1400  | 54.2  | 73.8  | 72.7  | 370.0  | 37.7 |
| 1600  | 62.8  | 85.4  | 84.3  | 375.0  | 38.2 |
| 1800  | 68.8  | 93.5  | 92.3  | 365.0  | 37.2 |
| 2000  | 72.3  | 98.2  | 96.9  | 345.0  | 35.2 |
| 2200  | 73.7  | 100.2 | 98.9  | 320.0  | 32.6 |
| 2400  | 74.6  | 101.5 | 100.1 | 297.0  | 30.3 |
| 2500  | 70.0  | 95.1  | 93.8  | 267.3  | 27.3 |
| 2600  | 0.0   | 0.0   | 0.0   | 0.0    | 0.0  |

### 82KW(110HP)



### 97KW(130HP)



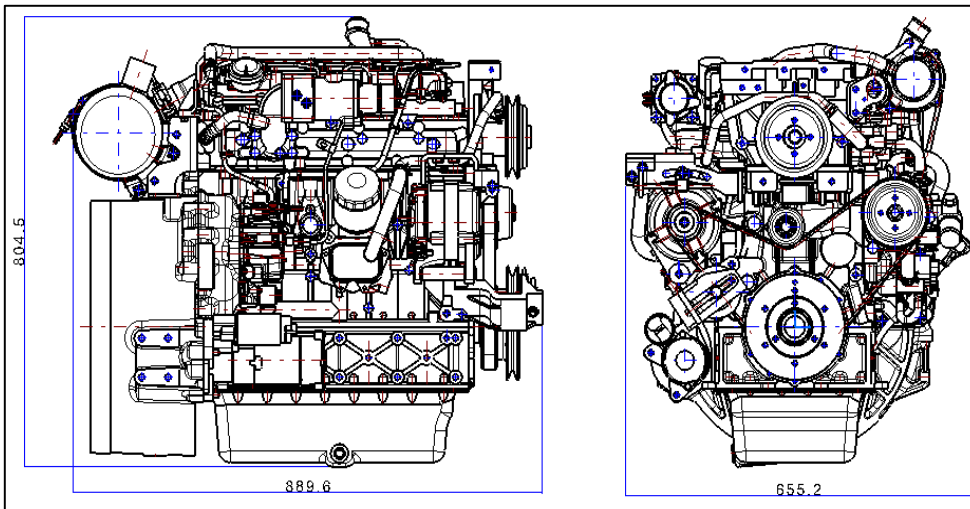
| speed | Power |       |       | Torque |      |
|-------|-------|-------|-------|--------|------|
|       | kW    | PS    | HP    | Nm     | kgm  |
| 800   | 25.1  | 34.2  | 33.7  | 300.0  | 30.6 |
| 1000  | 42.9  | 58.4  | 57.6  | 410.0  | 41.8 |
| 1200  | 52.8  | 71.8  | 70.8  | 420.0  | 42.8 |
| 1400  | 63.0  | 85.7  | 84.5  | 430.0  | 43.8 |
| 1600  | 70.4  | 95.8  | 94.5  | 420.4  | 42.9 |
| 1800  | 73.9  | 100.5 | 99.2  | 392.3  | 40.0 |
| 2000  | 76.3  | 103.7 | 102.3 | 364.1  | 37.1 |
| 2200  | 78.6  | 106.8 | 105.4 | 341.1  | 34.8 |
| 2400  | 81.9  | 111.4 | 109.9 | 326.0  | 33.2 |
| 2500  | 75.9  | 103.2 | 101.7 | 289.8  | 29.6 |
| 2700  | 0.0   | 0.0   | 0.0   | 0.0    | 0.0  |

| speed | Power |       |       | Torque |      |
|-------|-------|-------|-------|--------|------|
|       | kW    | PS    | HP    | Nm     | kgm  |
| 800   | 25.1  | 34.2  | 33.7  | 300.0  | 30.6 |
| 1000  | 42.9  | 58.4  | 57.6  | 410.0  | 41.8 |
| 1200  | 58.8  | 80.0  | 78.9  | 468.0  | 47.7 |
| 1400  | 73.3  | 99.7  | 98.3  | 500.0  | 51.0 |
| 1600  | 79.9  | 108.7 | 107.2 | 477.0  | 48.6 |
| 1800  | 85.6  | 116.4 | 114.8 | 454.0  | 46.3 |
| 2000  | 90.3  | 122.7 | 121.1 | 431.0  | 43.9 |
| 2200  | 94.2  | 128.1 | 126.4 | 409.0  | 41.7 |
| 2400  | 97.0  | 131.9 | 130.1 | 386.0  | 39.4 |
| 2500  | 69.9  | -     | 93.7  | 267.0  | 27.2 |
| 2700  | 0.0   | 0.0   | 0.0   | 0.0    | 0.0  |

### o Dimension (LxWxH)

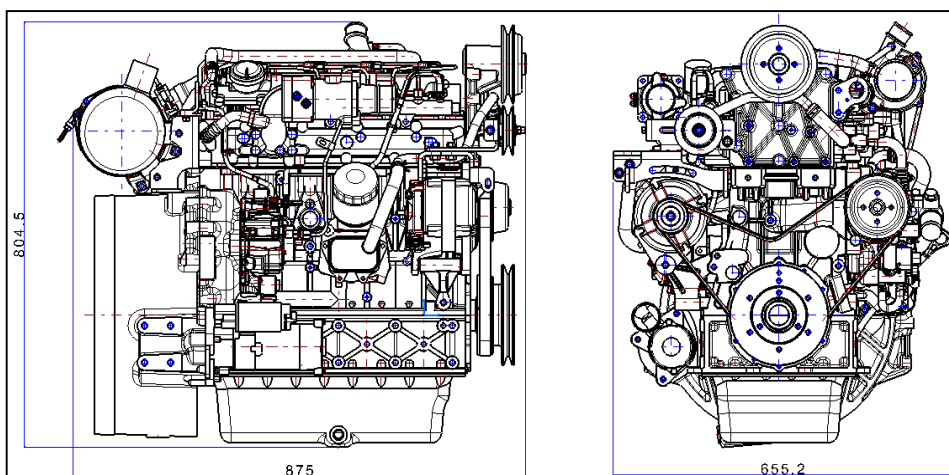
-D34\_74HP\_DOC only

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



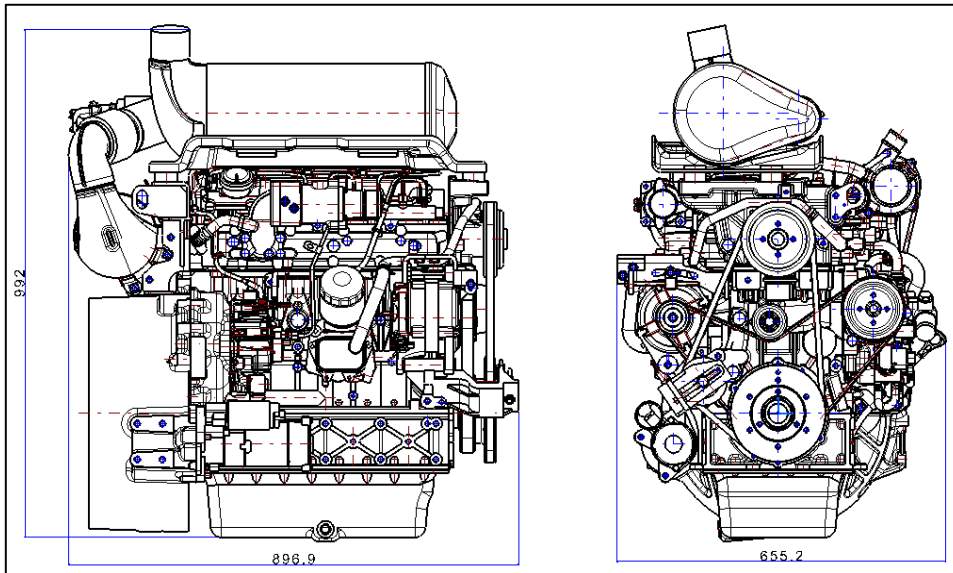
-D34\_74HP\_DOC only (Fan Height option\_475mm)

875x655.2x804.5mm(with DOC/Fan Height 475mm)



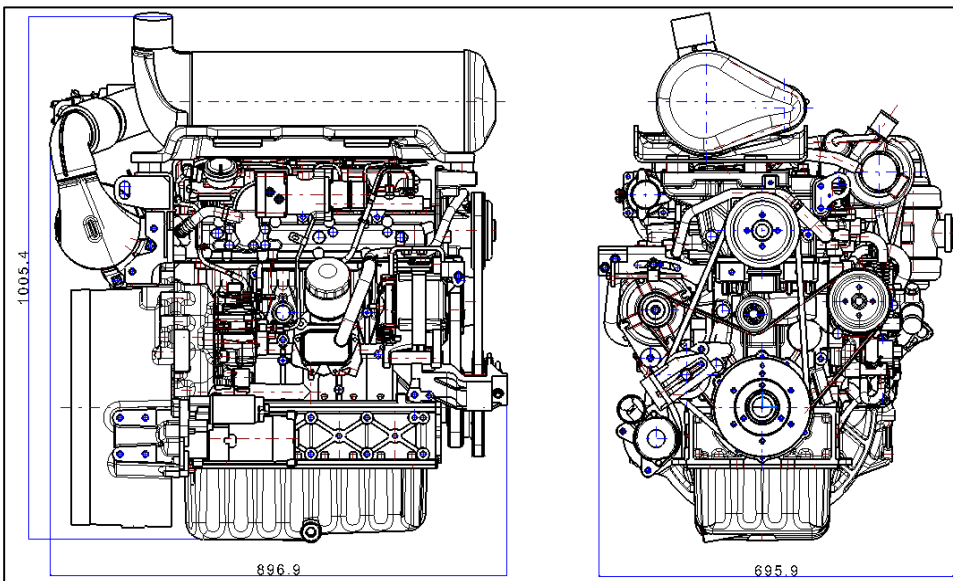
-D34\_Up to 110HP\_DOC+SCR

896.9x655.2x992mm(with DOC+SCR/ up to 110HP)



-D34\_Over 110HP\_DOC+SCR

896.9x695.9x1005.4mm(with DOC+SCR/over 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/cm<sup>2</sup> x 14.7    kW = 0.2388 kcal/s  
in<sup>3</sup> = lit. x 61.02    lb/PS.h = g/kW.h x 0.00162  
hp = PS x 0.98635    cfm = m<sup>3</sup>/min x 35.336  
lb = kg x 2.20462

Revised : 30th, June, 2016

※ Specifications are subject to change without prior notice