

## 100 Series

## 104-22

### Compact Industrial and Construction Power

37kW / 50bhp

The 104-22 is built to exceed today's demanding market needs. Class leading performance, reliability and durability, mean cost-effective power - whatever the application. One of the cleanest and quietest engines in its power range, the 104-22 meets all known current and planned off-highway emissions legislation - worldwide.

Chosen by end users for exceptional mid range performance. This 2.2 litre engine delivers the response and higher level of productivity demanded of today's equipment.



#### Technologically Advanced

- Cassette type fuel injection pump for reduced noise
- Forged chrome molybdenum steel crankshaft - for high strength
- Plateau honed cylinder bores - for superior oil control
- Three piece helically cut timing gears - for lower weight and noise
- Tunnel block design - for high strength and low noise

#### Powerful Solutions

- **With the Perkins 100 Series, less quite literally means more** - less weight, less servicing, lower emissions, lower fuel consumption and a smaller package size. For machine designers, this means fewer design constraints and the ability to translate ambitious machine concepts into reality.

#### Clean Emissions

- **Highly efficient combustion** is achieved through our indirect fuel injection system, with optimised pre-combustion swirl chambers. This same efficiency makes the 100 Series capable of exceeding all known applicable off-highway emissions standards worldwide.

#### Designed to Fit

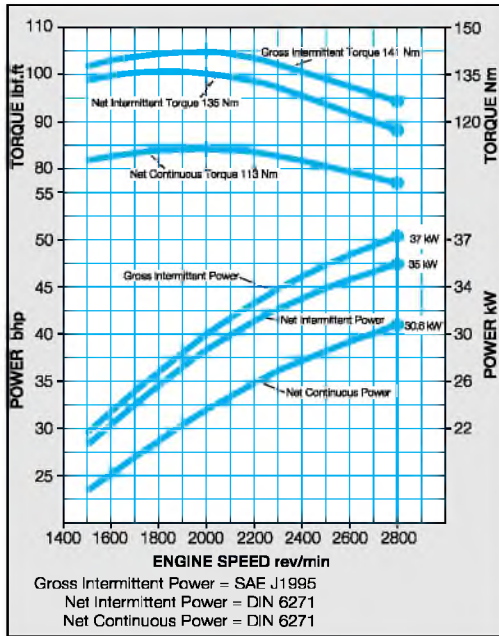
- **Providing a comprehensive commercial solution to our customer's needs** in terms of lead time and cost stability has led to the expansion of manufacture to Europe.

The purpose built facility in Peterborough sets new standards in engine production efficiency. The broadened manufacturing base enables a faster and innovative response to changing market requirements.

#### Refined Performance

- **Inherently quiet**, the water-cooled multi-cylinder, IDI 100 Series provides far more than just class-leading noise levels. Features such as the exceptionally rigid crankshaft assembly, the helical three gear timing train and the integral fuel injection pump, combine to produce low vibration and sound frequency. This tuning of the entire engine, simplifies installations thereby reducing cost, while maximising operating comfort and efficiency.

Performance Data	Gross Intermittent SAE J1995	Speed rev/min	Net Intermittent DIN 6271	Speed rev/min
Power Output kW	37	2800	35	2800
Power Output bhp	50	2800	47	2800
Peak Torque Nm	141	2000	136	2000
Peak Torque lbf/ft	104	2000	100	2000



## Standard Specification

### Option Groups

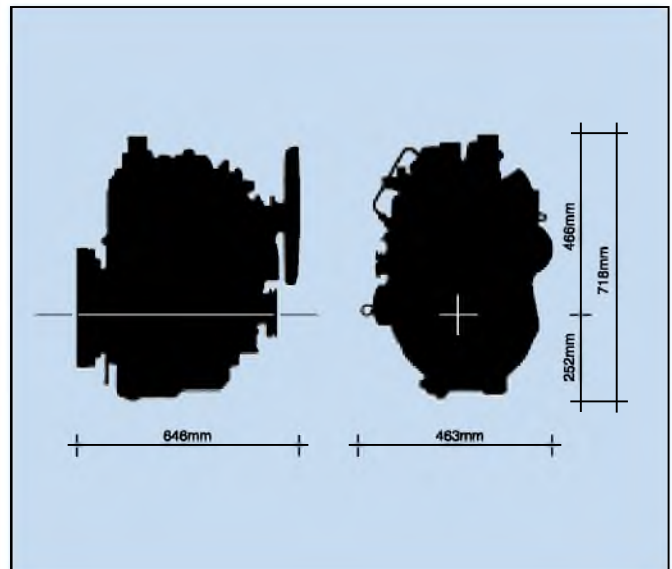
- Backplate
- Flatface flywheel
- Starter motor, 12 volt, 2.0 kW
- Lub oil sump, side and bottom drain
- Lub oil filler, top cover
- Lub oil filter, spin on type
- Dipstick, short type
- Front end drive pulley complete with PTO fixing holes
- Coolant pump
- Puller fan 390mm diameter
- Alternator, 12 volt, 55 amp
- Induction manifold, top inlet
- Exhaust manifold, side outlet
- Fuel filter, spin on type
- Fuel lift pump, mechanical
- Glow plug starting aids
- ESOS (electrical shut off solenoid), energised to run
- Lub oil pressure switch
- Coolant temperature switch
- Provision for 3rd PTO

## Optional Equipment

- Workshop manual
- Parts book

## General Data

<b>Bore/Stroke</b>	84mm (3.31 in) x 100mm (3.93 in)
<b>No of Cylinders</b>	4 in-line vertical
<b>Cubic Capacity</b>	2.2 litres (134 cu.in)
<b>Cycle</b>	4 stroke
<b>Aspiration</b>	Natural
<b>Combustion System</b>	Indirect injection with cassette type injection pump
<b>Compression Ratio</b>	22.0:1
<b>Firing Order</b>	1.3.4.2
<b>Rotation</b>	Clockwise, viewed from front
<b>Governing</b>	Mechanical - all speed
<b>Cooling</b>	Liquid
<b>Weight (dry)</b>	184 kg (406 lbs)



**Perkins Engines Company Limited**

Peterborough PE1 5NA UK  
 Telephone +44 (0)1733 583000  
 Fax +44 (0)1733 582240

All information in this document is substantially correct at the time of printing but may be altered subsequently by the company.

