

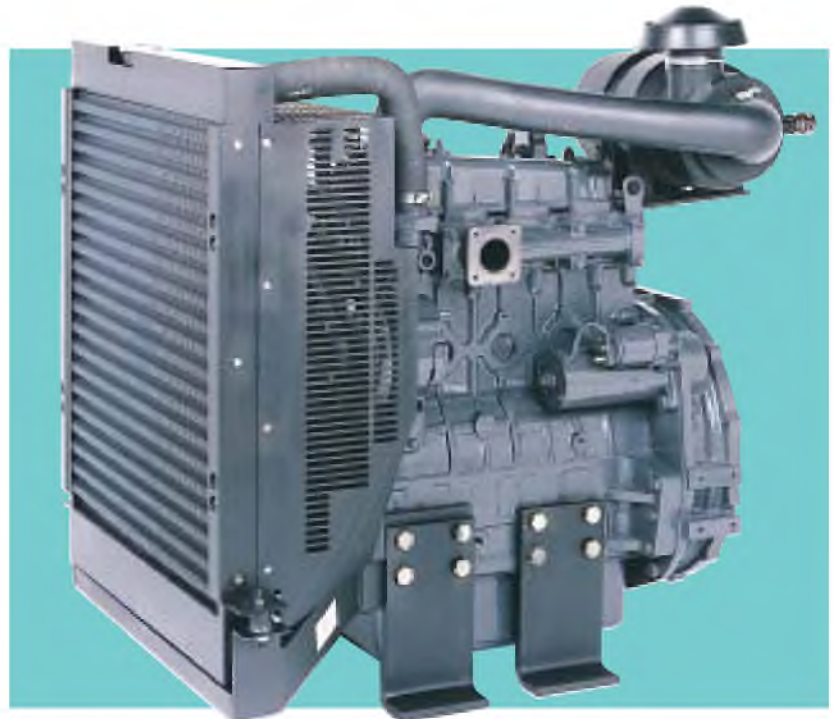
# 100 Series

# 104-19

Diesel Engine –  
Industrial Open Power Unit

31.7 kW / 42.5 bhp

The 104-19 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 104-19 meets all known current and planned off-highway emissions legislation – worldwide.



## 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.

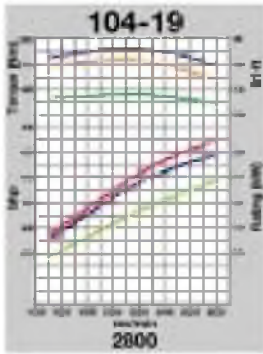
## Designed to Fit

- **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)	31.7	2800	29.2	2800
Power Output (bhp)	42.5	2800	39.2	2800
Peak Torque (Nm)	116.0	2200	110.0	2200
Peak Torque (lbf/ft)	86.0	2200	81.0	2200



Gross Intermittent – SAE J1995  
 Net Intermittent – DIN 6271  
 Net Continuous – DIN 6271

## KEY

- Gross Intermittent Torque
- Net Intermittent Torque
- Net Continuous Torque
- Gross Intermittent Power
- Net Intermittent Power
- Net Continuous Power

## Standard Specification

- Flywheel Housings – SAE 4 Short  
 – SAE 4 Long
- Flywheel – SAE 7½ Light  
 – SAE 7½ Heavy
- 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 380 mm 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
- Radiator and piping
- Radiator screen
- Fan guard
- Engine mountings
- Air Filter
- Mounting feet
- Hoses and brackets

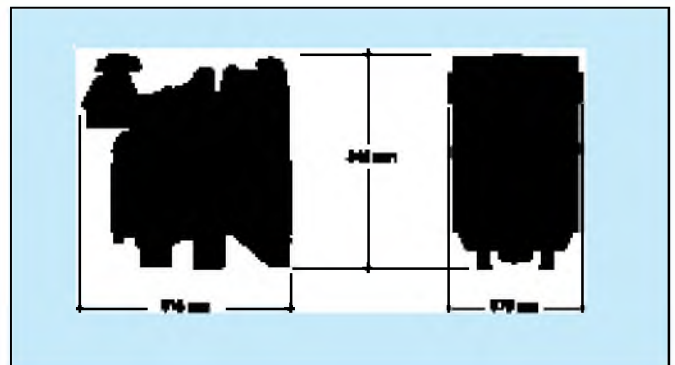
## Optional Equipment

- Workshop manual
- Parts book



## General Data

<b>Bore/Stroke</b>	84mm x 90mm
<b>Number of cylinders</b>	4 in-line vertical
<b>Cubic Capacity</b>	1995cc
<b>Cycle</b>	4-stroke
<b>Aspiration</b>	Natural
<b>Combustion System</b>	Indirect Injection with cassette type injection pump
<b>Compression Ratio</b>	22:1
<b>Firing Order</b>	1,3,4,2
<b>Rotation</b>	Clockwise, viewed from the front
<b>Governing</b>	Mechanical – all speed
<b>Cooling</b>	Liquid
<b>Total weight (dry)</b>	223 kg



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