

# 400 Series

## 404D-22

### Compact Industrial and Construction Power

38 kW/51 bhp @ 3000 rev/min



The Perkins 400D range has been developed in consultation with our marketplace. This 2.2 litre, 4 cylinder engine complements the exciting 400 Series product line-up, offering customers a choice of compact, lightweight power units whilst maintaining all the customer benefits they can experience from other products in the range.

#### Ultra-compact power

- Up to 38 kW from an engine envelope of 0.22m<sup>3</sup>
- Coolant temperature of 112°C allows reduction in radiator size

#### Clean and quiet

- A 3 dBA improvement in bore engine noise
- Noise levels have been kept to a minimum
- Subjective harshness has been carefully controlled making the engine sound even quieter
- Choice of noise reducing fan option

#### Durable power

- Product design and process improvements enhance both engine reliability and durability
- An improved governor and new compliance testing deliver reliability of 6,000 hours
- A standard 2 year warranty demonstrates our confidence in durability and reliability

#### Low operating costs

- Approved for operation on biodiesel\* concentrations of up to 20%
- Oil and filter changes are 500 hours, dependent on load factor
- Engine durability and reliability, the warranty offering, and ease of installation combine to drive down the cost of ownership

#### Product support

- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips, covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Perkins actively pursues product support excellence by insisting our distribution network invest in their territory to provide you with a consistent quality of support across the globe
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts giving 100% reassurance that you receive the very best in terms of quality for lowest possible cost... wherever your Perkins powered machine is operating in the world

The 400 Series engine family continues to set new standards in the compact engine market. Developed alongside customers to fulfil their needs in the construction, materials handling, agricultural/turf, gen set and compressor markets, it has become another class leading diesel range from Perkins.

Built to the most demanding standards, the 400D engines meet all the requirements of the off-highway emissions legislation for Stage IIIB, Tier 4 Interim and MLIT Step 4 (see 'Perkins Emissions Statement' on page 2).

Long 500 hour service intervals, a two year standard warranty, low noise and harshness, and a wide range of options make the 400 Series range the complete solution for compact power needs.

The 404D-22 is a very quiet 2.2 litre unit delivering improved performance and reduced operating costs in a small, efficient package ideal for a range of off-highway applications.

Performance Data	Gross (ISO/TR 14396)	Speed (rev/min)
Power Output (kW)	38.0	3000
Power Output (bhp)	51.0	3000
Peak Torque (Nm)	143.0	1800
Peak Torque (lbf ft)	105.5	1800

\*Subject to conformance with ASTM D6751 and EN14214.

# 400 Series

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### Engine Specification

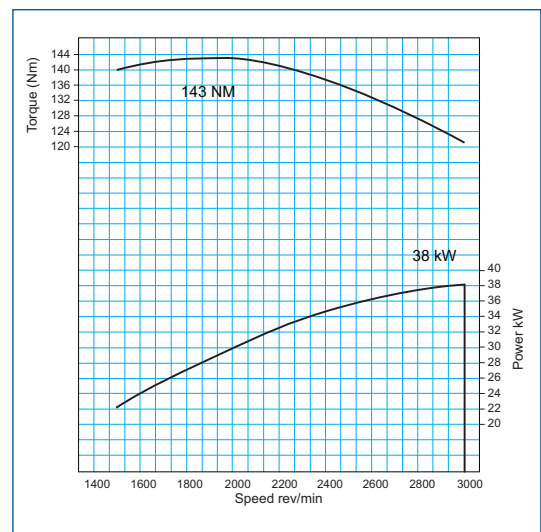
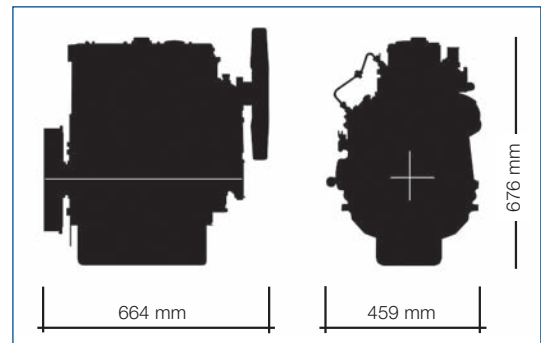
- Cast iron engine block
- Flywheel and flywheel housing
- CTD fuel injection pump
- Spin on fuel filter
- Glow plug starting aid
- Lub oil sump
- Spin on lub oil filter
- Inlet manifold
- Cast iron exhaust manifold – side outlet
- Coolant pump belt driven
- Choice of cooling fans
- Starter motor 12 volt and 24 volt
- Alternator 12 volt and 24 volt
- ESOS (Electric shut-off solenoid)
- Lub oil pressure switch
- Coolant temperature switch
- SAE A PTO
- High and low fan positions
- Electronic controlled governing as an option

### Option Groups

A selection of optional items is available to enable the customer to prepare a specification precisely matched to their needs.

### Emissions Statement

- **Variable Speed:** Industrial and IOPU engines: Certified against the requirements of EU Stage IIIB (Directives 97/68/EC, as last amended, and 2005/26/EC, as last amended); and US EPA Tier 4 Interim (40CFR Parts 1039. (NOTE Tier 4 Final will start in 2013 model year for 19-56 kW engines).
- **Constant Speed Engines** for use in Industrial, IOPU and ElectropaK applications: Certified against the requirements of EU Stage IIIA (Directives 97/68/EC, as last amended, for mobile applications); and US EPA Tier 4 Interim (40CFR Parts 60 for stationary applications and 40CFR Part 1039 for mobile applications).



Note: lower speed ratings cannot be read from this curve.

### General Data

Number of cylinders	4 in-line
Bore and stroke	84 x 100 mm
Displacement	2.2 litres
Aspiration	Naturally aspirated
Cycle	4 stroke
Combustion system	Indirect injection
Compression ratio	23.3:1
Rotation	Anti-clockwise
viewed on flywheel	
Cooling system	Liquid
Total lubrication capacity	10.6 litres
Total coolant capacity	3.6 litres
Dimensions	Length 664 mm
	Width 459 mm
	Height 725 mm
Dry weight	184 kg

Final weight and dimensions will depend on completed specification.



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