

# 404D-22 Industrial Diesel Engine

31.4-38 kW (42-51 hp) @ 2200-3000 rpm

EU Stage IIIA/U.S. EPA Tier 4 Interim equivalent

The Perkins 400 Series is an extensive family of engines in the 0.5-2.2 litre range. The 4 cylinder 404-22 model sits at the top of the 400 Series engine range. It combines high performance, low operating costs and a compact package. The 404-22 is the ideal engine for a wide range of off-highway applications. It is offered with both indirect (IDI) and common rail fuel injection systems.

A very quiet 2.2 litre unit delivering improved performance and low operating costs in a small, efficient package.

Designed to meet EU Stage IIIA/U.S. EPA Tier 4 Interim equivalent emission standards.



## Specifications

Power Rating		
Minimum power	31 kW	41.6 hp
Maximum power	38 kW	51 hp
Rated speed	2200-3000 rpm	
Maximum torque	142.7 Nm @ 1800 rpm	105.2 lb-ft @ 1800 rpm

Emission Standards	
Emissions	EU Stage IIIA/U.S. EPA Tier 4 Interim equivalent

General		
Number of cylinders	4 inline	
Bore	84 mm	3.3 in
Stroke	100 mm	3.9 in
Displacement	2.2 litres	135 cubic in
Aspiration	Naturally aspirated	
Cycle	4 stroke	
Compression ratio	24.4:1	
Combustion system	Indirect injection	
Rotation (from flywheel end)	Anti-clockwise	
Cooling system	Liquid	

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Final weights and dimensions will depend on completed specification.

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Total coolant capacity	8.9 litres	2.3 US gal
Total lubricating capacity	10.6 litres	2.8 US gal

Engine Dimensions*		
Length	661 mm	26 in
Width	464 mm	18.3 in
Height	676 mm	26.6 in
Dry weight	184 kg	406 lb

Disclaimer		
*Final dimensions dependent on selected options	0	0

## Features and Benefits

### A lifetime of low cost

The 400 Series offers highly competitive performance and fuel economy. Through appropriate use of technology, these engines have been designed to be reliable and to offer low cost of ownership in the wide variety of markets they serve.

Across an extensive power band, the 400 Series range offers you the ability to configure a solution to your specific machine, territory and market requirements.

Overlapping power bands between models and an extensive range of options gives the opportunity to optimise performance and functionality, adding customer value to the application.

We provide one year warranties for constant speed engines and two year warranties for variable speed models as standard.

As a 400 Series end user, you also benefit from Perkins world class product support and service coverage that comes from being a full range power solutions provider.

### Compact design

The compact design of these engines makes them suitable for a range of applications, including skid steer loaders, mini excavators, wheel loaders, welders, lift platforms, lighting towers, small tractors, air compressors, turf care machinery and materials handling machinery.

Each of the six core engines in the 400 Series is configured for either Stage IIIA/Tier 4 Interim or Stage IIIB/Tier 4 Final emission standards, giving you flexibility depending on your market.

### Performance and refinement

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The 400 Series lineup gives you a seamless power range of 8.2-50 kW (11-67 hp) in 2, 3 and 4 cylinder models designed with a family look and feel. The range offers a wide variety of ratings and configurations that can be tailored to meet the most exacting needs.

The selective use of indirect and direct injection fuel systems enables Perkins to offer world-class engine refinement and low noise levels.

## Technical Information

### Air inlet system

- Cast iron exhaust manifold - side outlet
- Inlet manifold

### Control system

- Alternator 12 volt and 24 volt
- Electronic Shut Off Solenoid (ESOS)
- Starter motor 12 volt and 24 volt

### Cooling system

- Belt driven coolant pump
- Coolant temperature switch
- High and low cooling fan positions

### Flywheel and flywheel housing

### Fuel system

- CTD fuel injection pump
- Spin-on fuel filter

### General

- Cast iron engine block
- Glow plug starting aid

### Oil system

- Lubricating oil pressure switch
- Lubricating oil sump
- Spin-on lubricating oil filter

### Power take-off

- SAE A PTO

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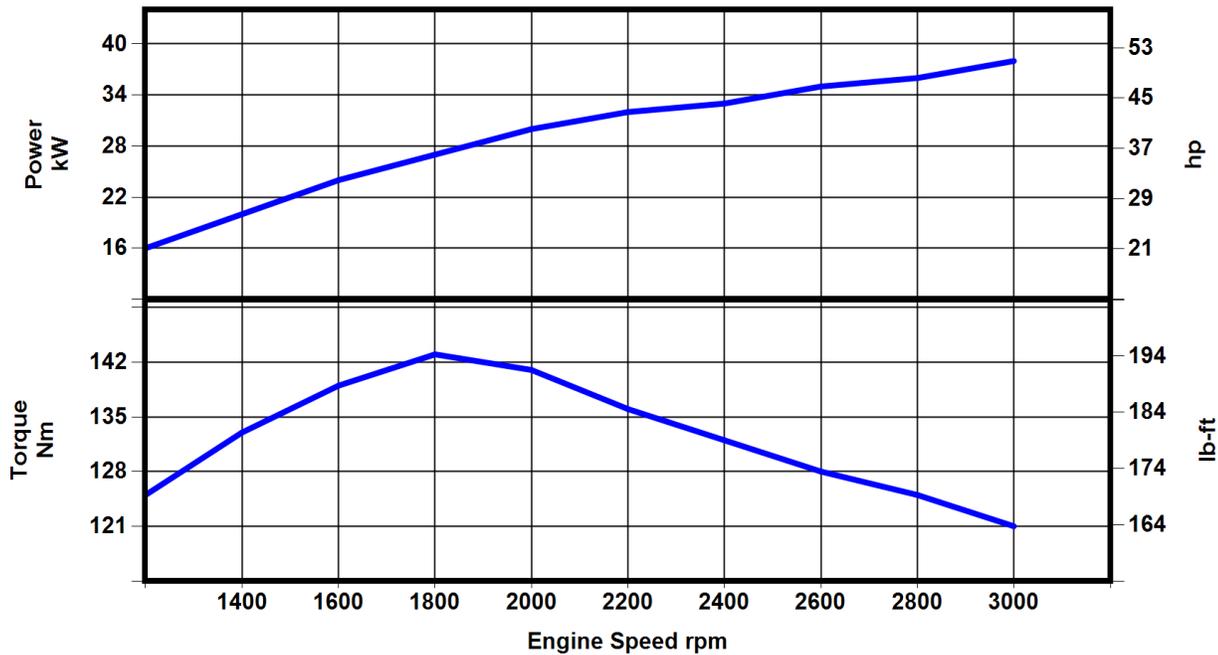
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# 400 Series 404D-22 INDUSTRIAL ENGINE

EU Stage IIIA/U.S. EPA Tier 4 Interim

31.0-38.0 kW / 41.6-51.0 hp



Power kW	Power hp	Rated Speed (rpm)	Torque Nm	Torque lb-ft	Speed (rpm)	Rating Type
31.0	41.6	2200	143	194	1800	Industrial C intermittent rating
31.5	42.2	2600	130	176	1800	Industrial C intermittent rating
33.0	44.3	2800	130	176	1800	Industrial C intermittent rating
34.0	45.6	2400	143	194	1800	Industrial C intermittent rating
35.4	47.5	2600	143	194	1800	Industrial C intermittent rating
35.5	47.6	2600	143	194	1800	Industrial C intermittent rating
36.5	48.9	2800	140	190	1800	Industrial C intermittent rating
37.5	50.3	2800	143	194	1800	Industrial C intermittent rating
38.0	51.0	3000	143	194	1800	Industrial C intermittent rating

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EU Stage IIIA/U.S. EPA Tier 4 Interim

31.0-38.0 kW / 41.6-51.0 hp

Rating Standard ISO 14396:2002

Additional ratings are available for specific customer requirements. Consult your Perkins distributor.

Unless otherwise specified, all stated data is for maximum rated speed and 100% load.

B rating performance data will be added upon availability

## Rating Definitions and Conditions

### IND-C (Intermittent) Rating

Is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Rating Conditions for Diesel Engines – up to 7.1 liters are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in. Hg), with a vapor pressure of 1 kPa (0.295 in Hg) and 25°C (77°F). Performance is measured using fuel to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

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