

403D-11 Industrial Diesel Engine

13.7-21 kW (18.4-28.2 hp) @ 2200-3400 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 3 cylinder 403-11 model is one of Perkins smallest engines, combining performance, low operating costs and an ultra-compact package. From a packaging point of view, the 403-11 is the ideal engine for small industrial applications. Its simple, robust mechanical fuel system makes it easy to install and maintain.

A very quiet unit offering ultra-compact power with the benefits you can experience from other products in the range.

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



Specifications

Power Rating		
Minimum power	14.7 kW	19.7 hp
Maximum power	21 kW	28.2 hp
Rated speed	2200-3400 rpm	
Maximum torque	70.2 Nm @ 2300 rpm	51.8 lb-ft @ 2300 rpm

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

General		
Number of cylinders	3 inline	
Bore	77 mm	3 in
Stroke	81 mm	3.2 in
Displacement	1.1 litres	69 cubic in
Aspiration	Naturally aspirated	
Cycle	4 stroke	
Compression ratio	23:1	
Combustion system	Indirect injection	
Rotation (from flywheel end)	Anti-clockwise	
Cooling system	Liquid	



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Total coolant capacity	1.9 litres	0.5 US gal
Total lubricating capacity	4.9 litres	1.3 US gal

Engine Dimensions*		
Length	491 mm	19.3 in
Width	400 mm	15.7 in
Height	576 mm	22.7 in
Dry weight	87 kg	191 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 of 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

- 12 volt alternator
- 12 volt starter motor
- Electronic Shut Off Solenoid (ESOS)

Cooling system

- Coolant pump belt driven
- Coolant temperature switch
- Cooling fan

Flywheel and flywheel housing

Fuel system

- Fuel injection pump
- Split element fuel filter

General

- Cast iron engine block
- Glow plug starting aid
- Cold start capability to -20°C (-4°F) (aided)

Oil system

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

Power take-off

- SAE A-A PTO



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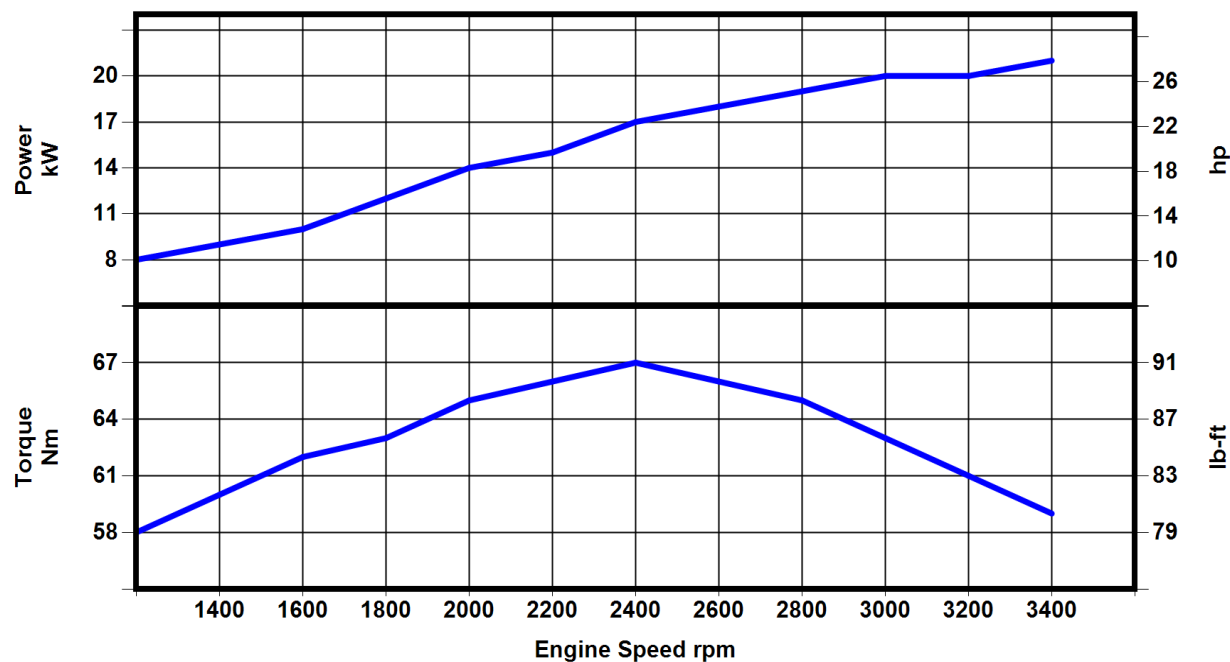


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400 Series 403D-11 INDUSTRIAL ENGINE

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

13.5-21.0 kW / 18.1-28.2 hp



Power kW	Power hp	Rated Speed (rpm)	Torque Nm	Torque lb-ft	Speed (rpm)	Rating Type
13.5	18.1	2200	63.4	85.9	2000	Industrial C intermittent rating
14.5	19.4	2200	66.8	90.5	2100	Industrial C intermittent rating
16.0	21.5	2400	66.8	90.5	2100	Industrial C intermittent rating
17.0	22.8	2800	63.4	85.9	2000	Industrial C intermittent rating
17.5	23.5	3000	63.4	85.9	2000	Industrial C intermittent rating
17.5	23.5	2600	66.8	90.5	2100	Industrial C intermittent rating
18.5	24.8	2800	66.9	90.6	2100	Industrial C intermittent rating
19.5	26.1	3000	66.9	90.6	2100	Industrial C intermittent rating
21.0	28.2	3400	67.0	90.8	2400	Industrial C intermittent rating

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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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