

Industrial

U.S. EPA Tier 4 Final
29 kW / 39 hp

The Perkins® Syncro 1.7 litre engine is the newest member of the highly successful Perkins 400 Series range and has been designed to meet the latest set of emissions in North America.

This 3 cylinder engine offers our customers the ability to meet the latest emissions legislation with a compact package. Benefiting from a fully electronic fuel system, the engine further improves on the 400 Series reputation of excellent transient performance and low fuel consumption.

The engine is a 3 cylinder, 1.7 litre engine available in a turbocharged configuration. This compact package is capable of producing 29 kW (39 hp) and delivers excellent torque at low speeds, reduced owner and operating costs and extremely low noise and harshness.

Commonality with other engines in the range has been built into this new engine, allowing for minimum machine change and reduced development costs for our customers.

An extensive range of options is offered that make the 400 Series the complete solution for compact power needs.

Perkins have developed a reputation for designing and building reliable and durable engines suitable for the most demanding off-highway applications.



Emissions

U.S EPA Tier 4 Final.

Specification	403F-E17T	
Number of cylinders	3 vertical in-line	
Bore and stroke	84 x 100 mm	3.3 x 3.9 in
Displacement	1.7 litres	103.7 cubic in
Aspiration	Turbocharged	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	18:1	
Rotation	Anti-clockwise, viewed on flywheel	
Total lubricating capacity	3.6 litres	0.9 US gal
Cooling system	Liquid	
Total coolant capacity	2.8 litres	0.7 US gal

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Final weight and dimensions will depend on completed specification.

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 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

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Perkins®
SYNCRO

1.7 litre

Features and benefits

Reliable, quiet, and durable power

- World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life

Innovative design

- A simple, cost effective solution to meet highest regulated emissions
- Improved performance and reduced fuel consumption levels
- Flexibility in aftertreatment mounting
- Regeneration free aftertreatment robust in all conditions
- Turbocharged

Low cost of ownership

- Reduced oil consumption
- Easy maintenance and serviceability
- Improved fuel consumption
- Service-free aftertreatment system
- Regeneration-free aftertreatment system eliminates downtime
- 500 hour service intervals and two-year warranty as standard

Local support, global coverage

- Perkins recognise that the customer relationship is important to machine manufacturers and we can offer a range of flexible solutions to help provide appropriate support, either to the OEM's network or directly to the machine customer
- With highly trained Perkins distributors in thousands of communities in over 180 countries, you are never far away from expert product knowledge, genuine parts and a range of advanced diagnostic technology for keeping your engine in peak condition
- To find your local distributor: www.perkins.com/distributor

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Technical information

Core engine

- Multiple engine rating options
- Cast iron engine block
- SAE A PTO drive
- Flywheel and flywheel housing options
- Adapter plate
- Glow plug starting aid
- Cast iron exhaust manifold options
- Induction manifold options
- Engine mounting
- Block heater provision

Fuel system

- Electronic 2000 bar common rail fuel system
- Spin on fuel filter
- Simple pintle nozzle injectors

Electrics

- Starter motor 12 volts
- Alternator 12 volts, 85 amp
- Off engine mounted ECU

Air system

- Turbocharged
- Standard air cleaner

Cooling system

- Belt driven coolant pump
- Cooling fan options
- Fan drive options
- Coolant temperature switch

Lubrication system

- Oil sump options for various applications
- Spin on oil filter options
- Oil pressure switch

Control system

- Electronic control module
- Flexible and configurable software features and well supported SAE J1939 CAN bus enables highly integrated machines
- Wiring harness
- All connectors and wiring harness are waterproof and designed to withstand harsh off-highway environments
- Robust reliable sensors

Emissions control system

- Compact DOC only aftertreatment system

Options group

An extensive range of selectable options are available to enable you to prepare a specification precisely matched to your needs.

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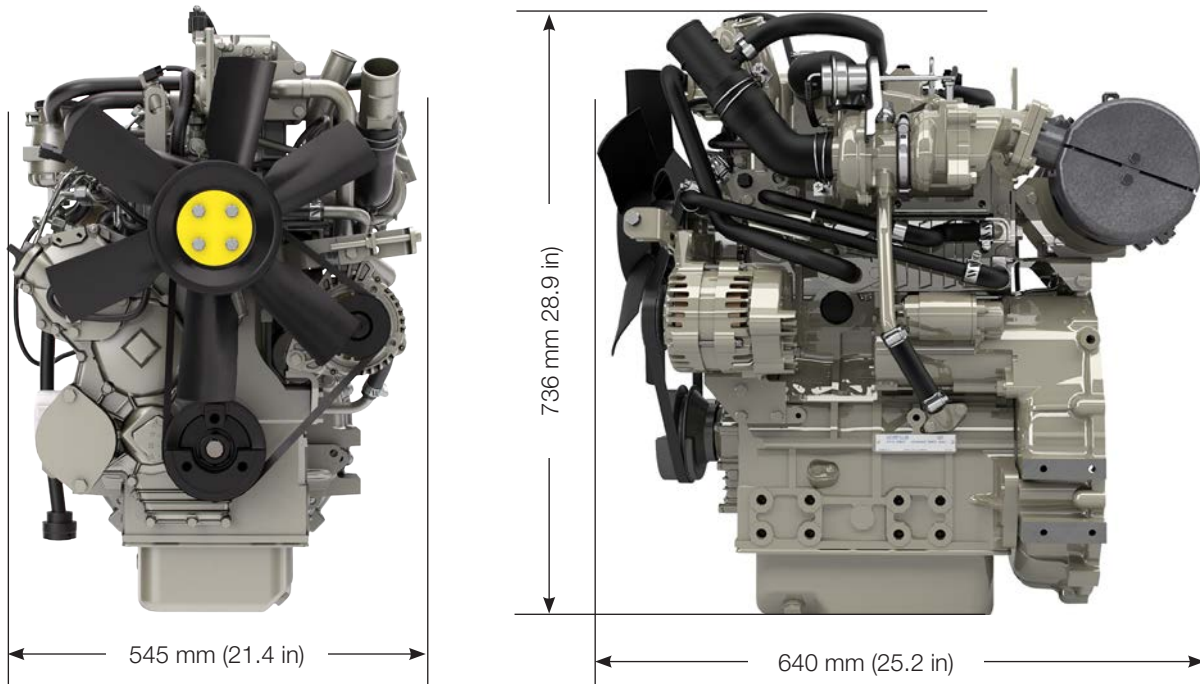
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Engine package weights and dimensions – based on rear mount

Length (including fan)	640 mm	25.2 in
Width	545 mm	21.4 in
Height	736 mm	28.9 in
Weight (dry)	190 kg	419 lb

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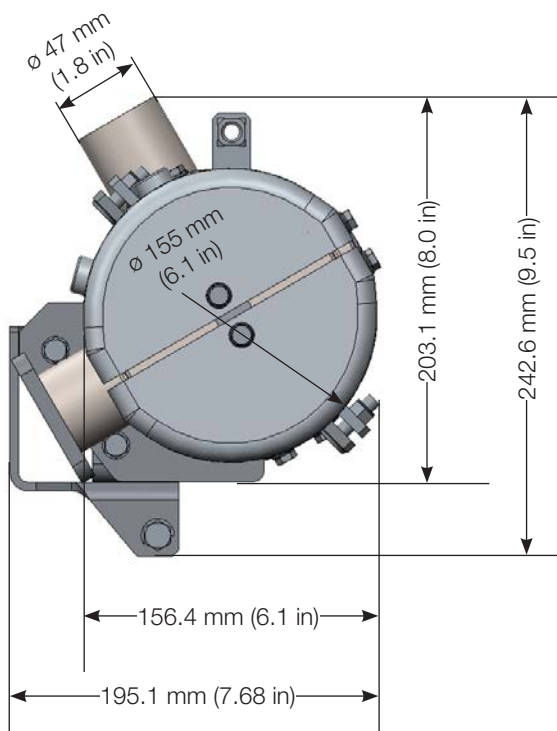
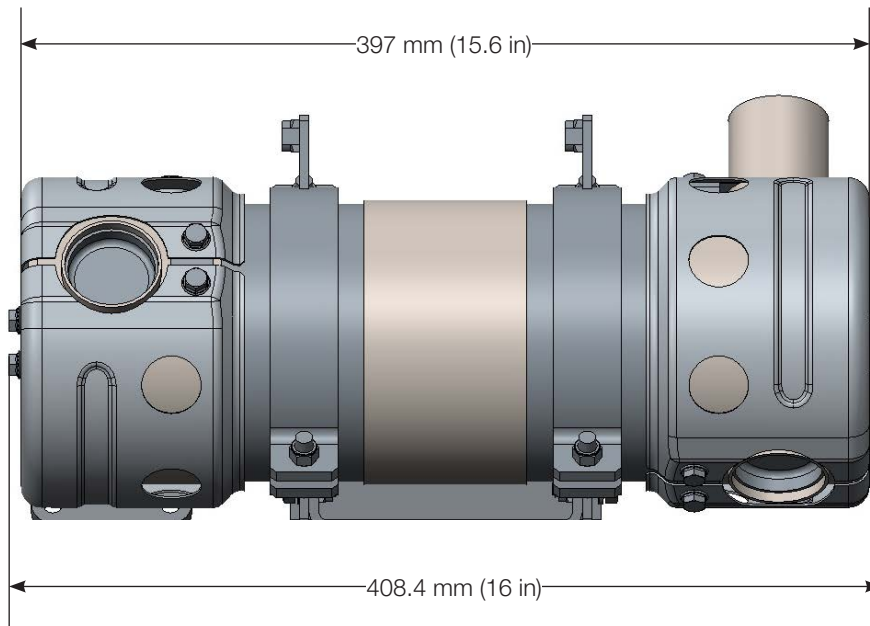
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Aftertreatment

DOC – Diesel Oxidation Catalyst.

Technology

The DOC technology provides customers with as compact as possible aftertreatment solution. The aftertreatment is regeneration-free, providing a seamless operation throughout the work cycle.

Power

Using our advanced research and development techniques, we have perfectly matched the aftertreatment system to the engine. Without the requirement for regeneration, the aftertreatment system eliminates any risk of downtime for maximum productivity.

Mounting

Multiple on or off engine installation options provide OEM with simple and flexible solutions for many applications.

Service

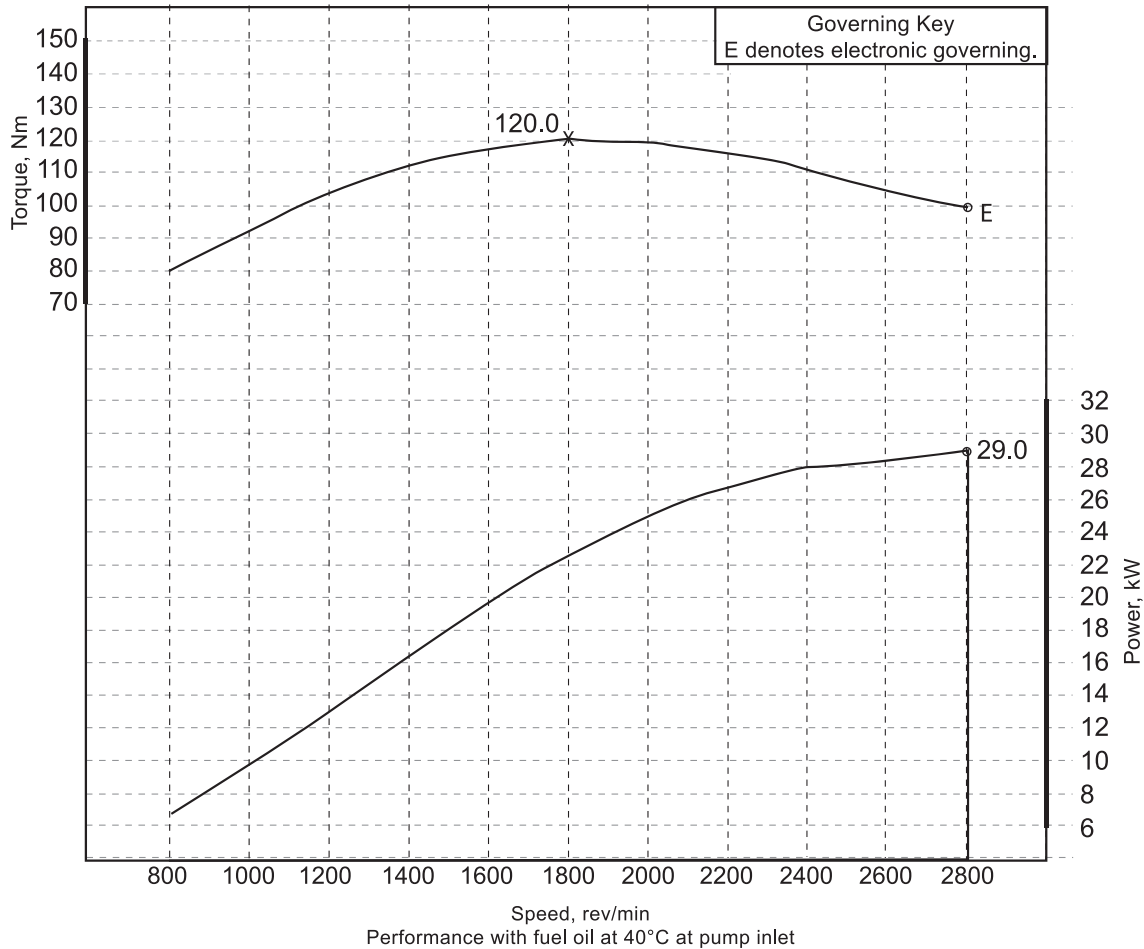
Service-free operation.

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Speed rpm	Power kW	Power hp	Torque Nm	Torque lbf-ft	Rating type
2800	29.0	39.0	125	88	C

Rating definitions and conditions

IND-C (Intermittent) 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%).

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

Rating Conditions for Diesel Engines – up to 7.1 litres are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in. Hg), with a vapour 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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