850 Series 854F-E34T Industrial Open Power Unit

EU Stage IIIB, EPA Tier 4 Final
55.4 kW / 74 hp

Building on its already strong EU Stage IIB and EPA Tier 4 Final industrial range, Perkins is pleased to announce the continuing expansion of the 850 Series to include the new Industrial Open Power Units (IOPUs).

Perkins® IOPUs are industry leaders in flexibility, offering a wide choice of options to the customer. The whole unit has been built around the demands of our customers and as such offers a great package with a simple integration design.

The 854F-E34T is a turbocharged, air cooled, 3.4 litre, 4 cylinder unit capable of producing 55.4 kW (74 hp). Its high power density, combined with excellent torque, enables the machine manufacturers to select this engine where previously they may have used an engine of higher cubic capacity. This downsizing creates more space to package the new aftertreatment unit, resulting in minimal installation impact for our customers.

The IOPUs are designed to be productive and have a new range of power ratings to ensure the customer maximises their profitability.

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

Emissions

Designed to meet 2012 Europe EU Stage IIIB and U.S. EPA Tier 4 Final emission requirements.

Specification		
Number of cylinders	4 vertical in-line	
Bore and stroke	99 x 110 mm	3.9 x 4.3 in
Displacement	3.4 litres	207.5 in^3
Aspiration	Turbocharged	
Cycle	4 stroke	
Combustion system	Direct injection	
Compression ratio	17:1	
Rotation	Anti-clockwise, viewed on flywheel	
Cooling system	Liquid	
Total coolant capacity	16 litres	4.2 US gal

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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

- Leading-edge technology of the 850 Series provides significant improvements in power, torque, fuel consumption and response
- Turbocharging – single smart wastegated turbo systems
- Durable high pressure common rail technology
- Centrifugal service-free filter, closed circuit breathing system

Fuel economy

- Fuel consumption optimised to match operating cycles of a wide range of equipment and applications. No additional fluids or additives are required, which lowers operating costs

Low cost of ownership

- Excellent fuel consumption
- Hydraulic tappets allow service-free top end
- Multi-vee belts for longer service intervals
- 500 hour oil change intervals
- Service-free aftertreatment system
- Extended Service Contracts:
  - No surprises – Total protection from unexpected repair costs (parts, labour and travel)
  - Enjoy longer lasting product support from Perkins global network
  - Genuine Perkins parts ensure continued engine performance
  - Highly trained technicians carry out all repairs
  - Transferable coverage should you sell your machine

  Discover more: www.perkins.com/esc

Product support excellence

- 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 OEMs' network or directly to the machine customer
- Perkins' information systems enable our distributors to quickly diagnose engine faults and identify the right parts. The Perkins logistics operation is able to dispatch more than 45,000 different parts from stock, reaching the customer within 24 hours
- To find your local distributor: www.perkins.com/distributor

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Technical information

Air inlet

- Standard air cleaners

Control system

- Full electronic control system
- Fully integrated, engine-mounted engine control module
- All connectors and wiring looms waterproof and designed to withstand harsh off-highway environments
- Flexible and configurable software features and J1939 standard communications I/O

Standard emissions control equipment

- NRS – NOx Reduction System

Flywheels and flywheel housing

- SAE3 configuration

Fuel system

- Electronic high pressure common rail
- Engine-mounted fuel filters

Power take-off

- SAE A flange on left-hand side

Available options

- Balanced or unbalanced
- Pusher or puller fan
- Engine control panel
- Machine side wiring

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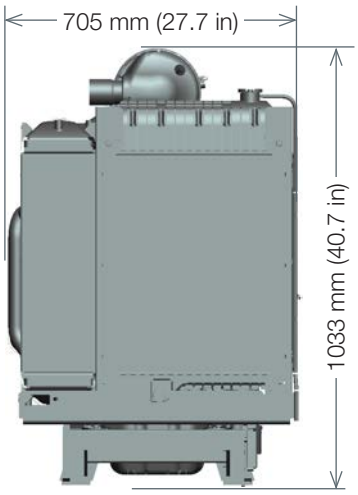
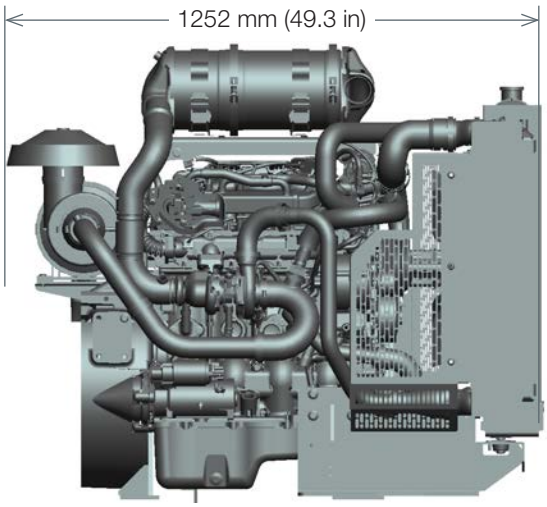
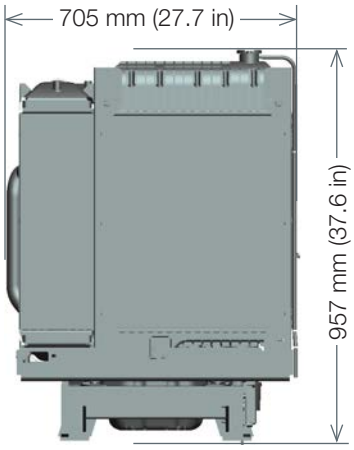
Engine mounted aftertreatment – axially along head

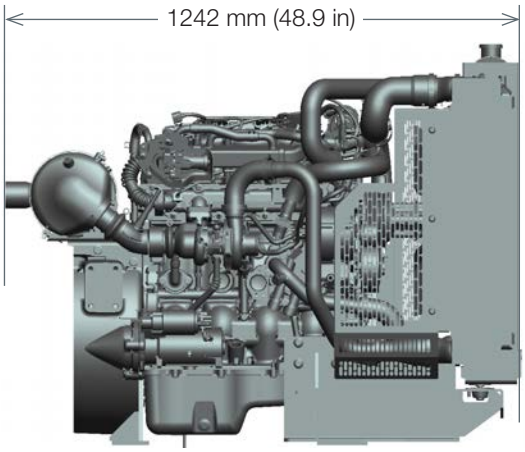




Engine package weights and dimensions		
Length	1252 mm	49.3 in
Width	705 mm	27.7 in
Height	1033 mm	40.7 in
Weight (dry)	407 kg	897 lb

Engine mounted aftertreatment – transverse across flywheel housing





Engine package weights and dimensions		
Length	1242 mm	48.9 in
Width	705 mm	27.7 in
Height	957 mm	37.6 in
Weight (dry)	407 kg	897 lb

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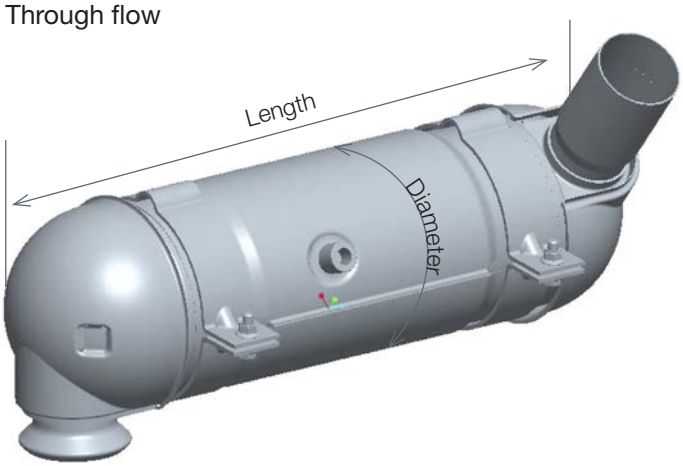
Through flow



	Aftertreatment weights and dimensions	
Length	509 mm	20 in
Diameter of can	149 mm	5.8 in
Weight	14 kg	30.8 lb

Aftertreatment

The diesel particulate filter on its own cannot remove all the legislated gases. Hydrocarbons, carbon monoxide and the ‘soluble organic fraction’ must also be managed. The Diesel Oxidation Catalyst (DOC) is a silicon carbide material but uses a through flow principle. The gases pass straight through the device rather than through the walls.

For particulate reduction, Perkins offers a service-free silicon-carbide through flow DPF for Tier 4 Final / Stage IV emissions compliance.

Technology

The Diesel Particulate Filter (DPF) technology chosen performs through the whole work cycle of the engine thus allowing it to work efficiently.

Power

Using our advanced research and development techniques, we have perfectly matched the aftertreatment to the engine. The engine performance has then been optimised to give the maximum power and the emissions module is invisible to the operator in most duty cycles.

Mounting

On engine installation options provide OEM with simple and flexible solutions for many applications.

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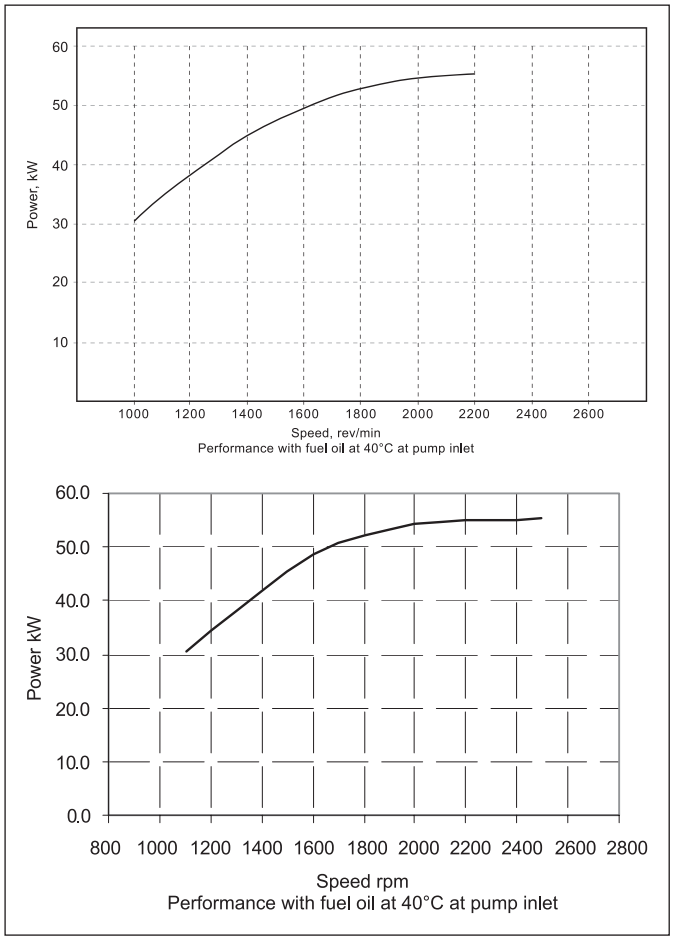

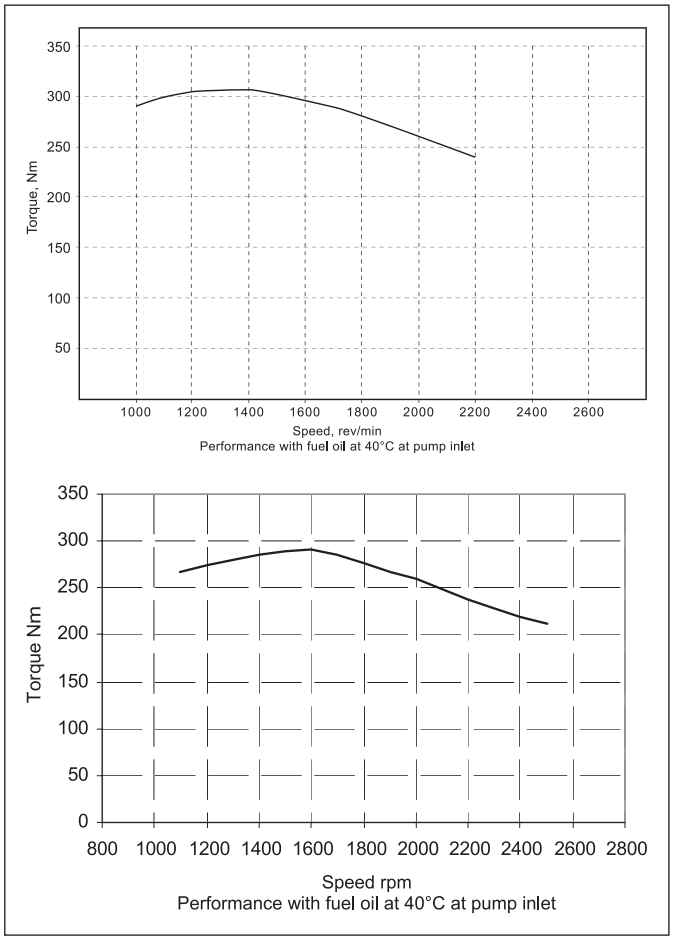

Speed rpm	Power kW	Power hp	Speed rpm	Torque Nm	Torque lb·ft
2200	55.4	74.3	1400	318	234.5

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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