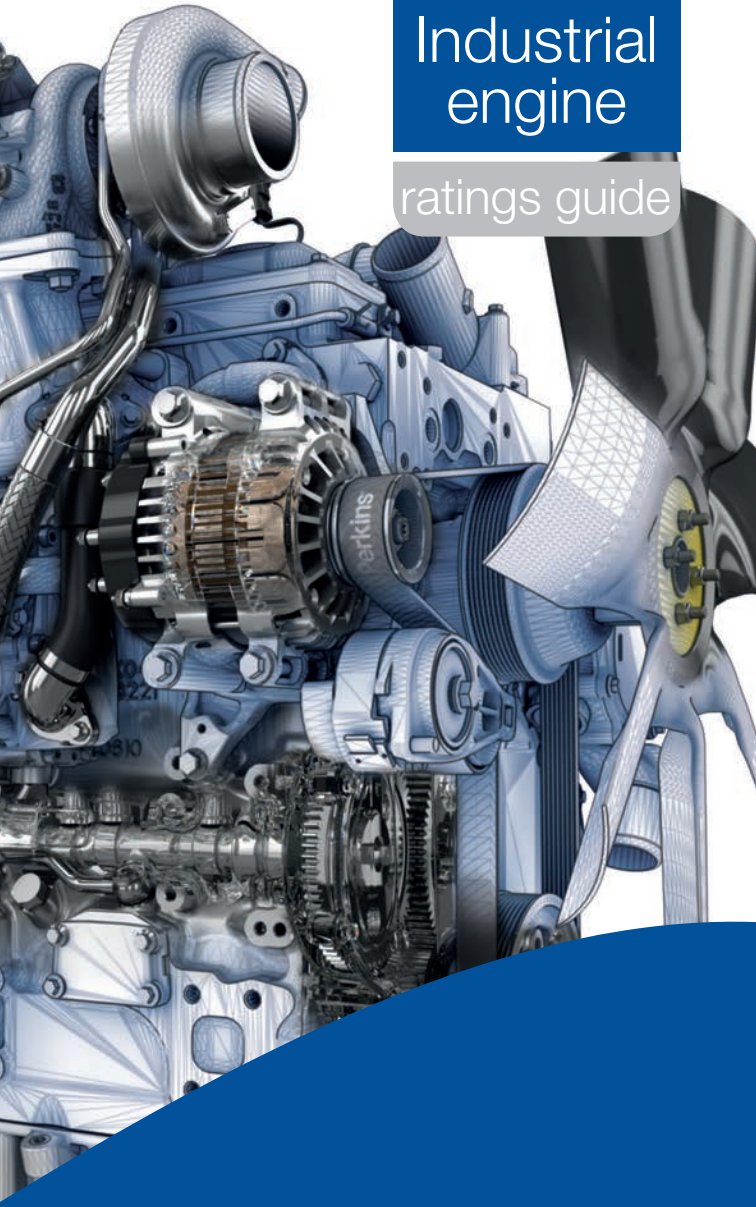
Industrial engine

ratings guide



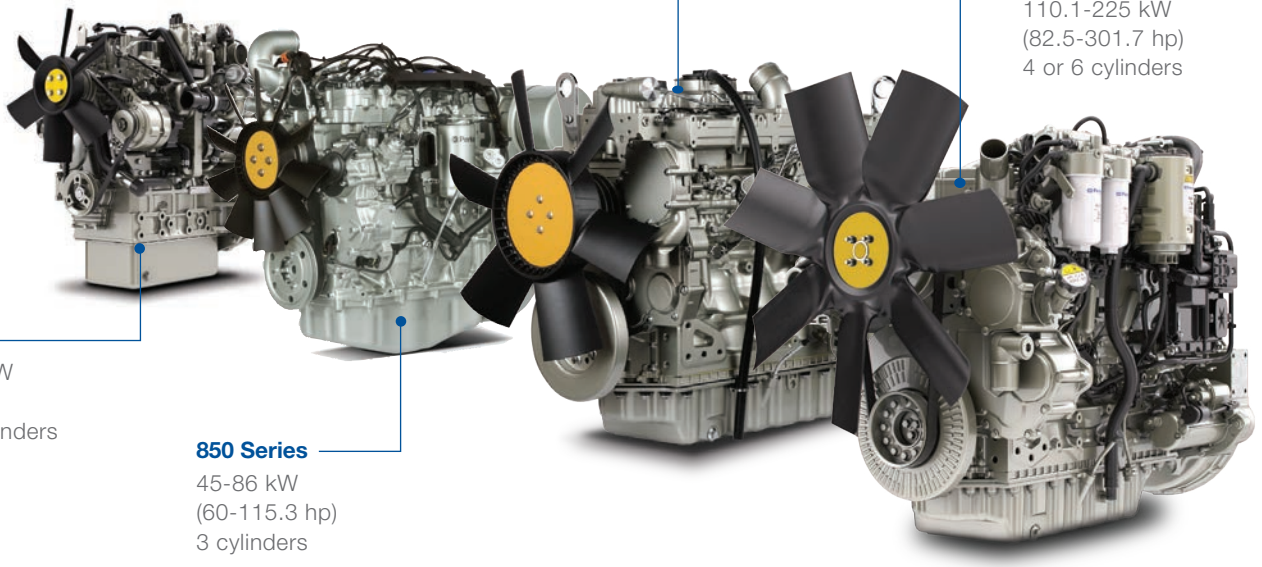
Choose your perfect
power solution

Perkins®

THE HEART OF EVERY GREAT MACHINE

Contents

Industrial Engine Product Range



1100 Series
36.9-205 kW
(49.5-275 hp)
3, 4 or 6 cylinders

1200 Series
110.1-225 kW
(82.5-301.7 hp)
4 or 6 cylinders

400 Series
10.2-49.2 kW
(13.7-66 hp)
2, 3 or 4 cylinders

850 Series
45-86 kW
(60-115.3 hp)
3 cylinders

powering ...

- Access Platforms
- Snow Groomers
- Grape Harvesters
- Skid Steer Loaders
- Forklifts
- Wheeled Loaders
- Harvesters
- Trenchers
- Rollers
- Sugarcane Harvesters
- Mini Wheeled Loaders
- Dozers
- Air Compressors
- Material Handlers
- Welders
- Back Hoe Handlers
- Forest Machines
- Excavators
- Tractors
- Crop Sprayers
- Pavers
- Mini Excavators
- Screeners
- Cotton Pickers
- Irrigation Pumps
- Telehandlers
- Motor Graders
- Combine Harvesters
- Lighting Towers
- Rock Drills
- Mowers
- Auxilliary Power
- Crushers
- Airport Baggage Trucks
- Tree Shakers

Diesel Engine Rating Definitions

IND-A (Continuous)

Continuous heavy-duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling.

IND-B

For service where power and/or speed are cyclic (time at full load not to exceed 80%).

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%).

IND-D

For service where maximum power is required for periodic overloads (time at full load not to exceed 5% of the duty cycle).

IND-E

For service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

Additional ratings are available for specific customer requirements. Consult your Perkins distributor. Engine rating obtained and presented in accordance with ISO3046/1.

Rating Conditions

Diesel Engines - up to 7.1 litre

All rating conditions 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 40 CFR Part 1065 and EU Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

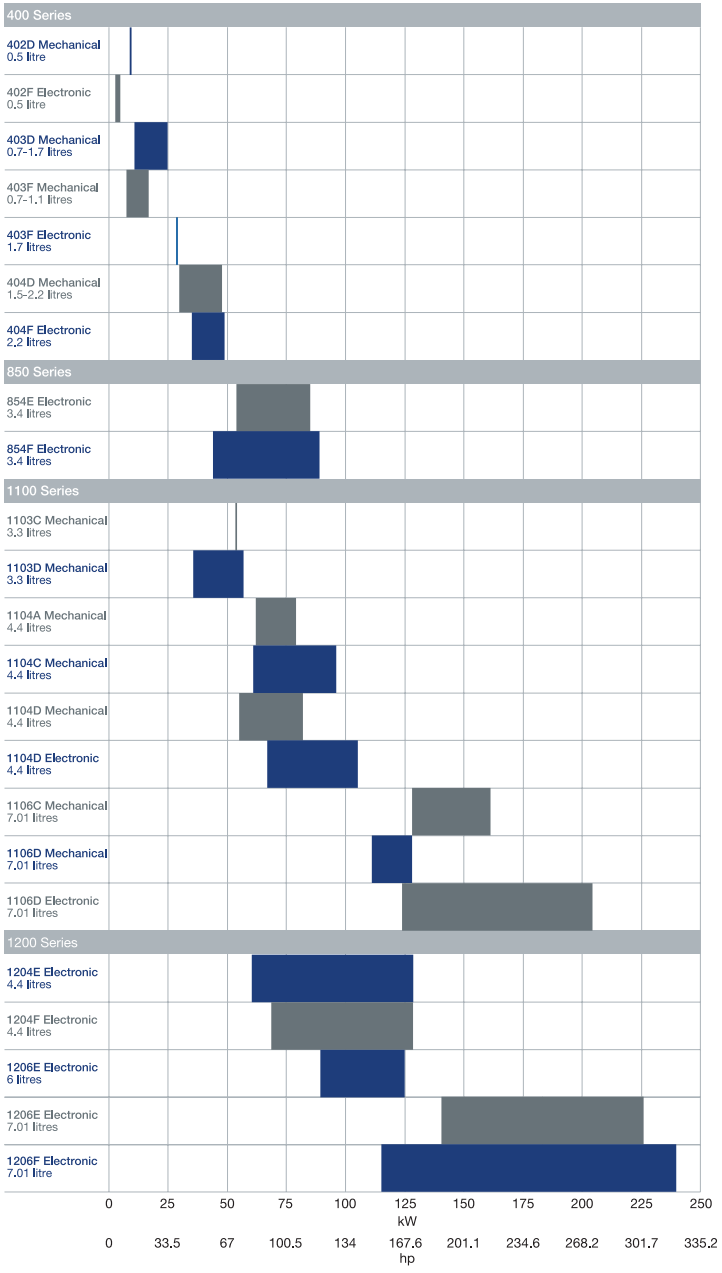
Sulphur Diesel Definition

Industrial technology requires Ultra Low Sulphur Diesel Fuel (ULSD, 15 ppm sulphur), in addition to ultra low sulphur diesel oils, for use In Tier 4 Interim / Final Stage IIIB / Stage IV engines. These cleaner fuels and oils will help reduce ash and maintain service intervals. In addition, B20 biodiesel capability adds even greater sustainability where desired or required.

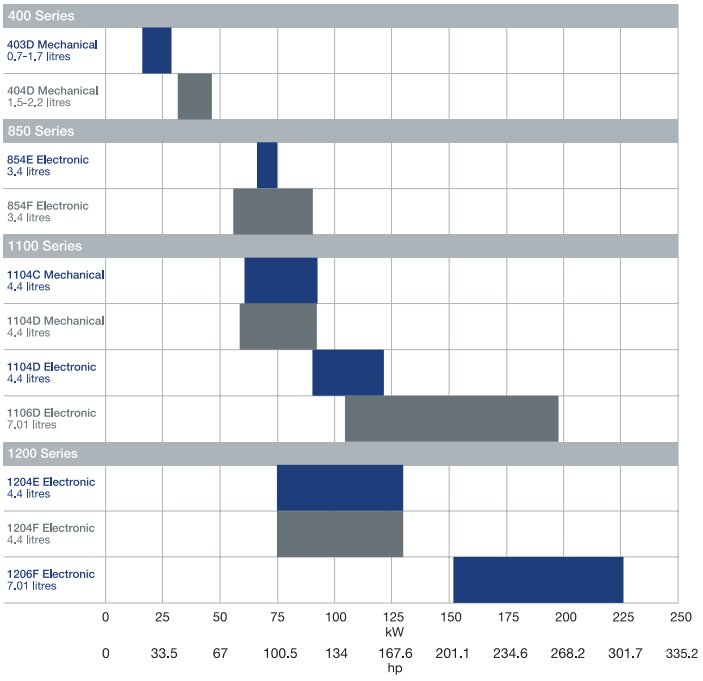
Abbreviations

ATAAC	Air to air aftercooled
hp	brake horsepower
CFR	Code of Federal Regulations
dB(A)	decibel(A filter)
EC	European Commission
EPA	Environmental Protection Agency
EU	European Union
in	inches
IOPU	Industrial Open Power Unit
ISO	International Organisation for Standardisation
lbf·ft	pound-force foot
kg	kilograms
kW	kilowatts
mm	millimetres
NA	naturally aspirated
Nm	newton meter
NOx	oxides of nitrogen
pm	particulate matter
T	turbocharged
TA	turbocharged aftercooled

Industrial Engine Ratings



IOPU Engine Ratings



Customer Benefits

Industrial product range

The Perkins® diesel engine product range for industrial markets is designed to satisfy all worldwide markets and emissions standards. The range comprises:

- 400 Series — 2, 3 and 4 cylinder
- 850 Series — 4 cylinder
- 1100 Series — 3, 4, and 6 cylinders
- 1200 Series — 4, and 6 cylinders

Industrial Open Power Units (IOPUs)

- Perkins industrial power units offer the benefits of an industrial engine, with the convenience of a cost-effective cooling and filtration solution. This minimises machine development time and costs, and enables applications to be powered with ease.
- The units come complete with fuel system, air cleaner and radiator.
- Options are provided to customers through a choice of fan, alternator, front PTO and air compressor.
- Control panels are also available for 850 and 1200 Series IOPUs.

Industry-leading flexibility

- World-class integration programme that reduces customer's development time and costs.
- Huge range of options give flexibility in configuration, range and fit to perfectly match customer applications.
- Engines that deliver more power in a smaller package. Frees up space for aftertreatment systems and enables customers to develop smaller, more agile machines.

Dependable power

- Technology fitted to deliver the application's optimum performance and compliance with required emissions levels.
- High power density combined with excellent torque delivers the power when and where it's needed.
- Fuel systems have excellent tolerance to different fuel qualities around the world.
- Competitive 500 hour service intervals and two-year warranties.

Lifetime of low cost

- Engine design and development based on common platform theme reduces changeover costs.
- Simple installation.
- Exceptional fuel economy.
- Service-free components and minimal maintenance reduce downtime.

Local support, global coverage

- Global distributor network provides local support to our customers.
- Expert product knowledge, genuine parts, advanced diagnostic technology to keep your engine in peak condition.
- Extended Service Contracts – protect and plan the cost of ownership.
- Remanufactured parts reduce cost and downtime.
- Regional manufacturing facilities in United Kingdom, North America, Brazil, China and India.
- Parts distribution centres in United Kingdom and Singapore.

403F-07
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke..... 67 x 72 mm (2.6 x 2.8 in)
Displacement .....0.76 litres (46.5 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 3.05 litres (0.8 US gal)
Total coolant capacity ..... 1.2 litres (0.3 US gal)
Dimensions
- Length.....480 mm (18.9 in)
- Width .....371 mm (14.6 in)
- Height .....528 mm (20.8 in)

Dry weight .....71 kg (156.5 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
8.8	11.8	2200	39.9 (29.4) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power
- 95% component commonality to reduce inventory costs
- High residual value
- Introduction of electronic governor for electronic machine integration

Industrial and IOPU Engines: Certified against the requirements of US EPA Tier 4 Final (40 CFR Part 1039). Less than 19 kW, EU certification not required.

Highly Regulated

403F-11
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke..... 77 x 81 mm (3.0 x 3.2 in)
Displacement .....1.13 litres (69 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 4.4 litres (1.1 US gal)
Total coolant capacity ..... 1.9 litres (0.5 US gal)
Dimensions
- Length.....491 mm (19.3 in)
- Width .....400 mm (15.7 in)
- Height .....576 mm (22.6 in)

Dry weight .....87 kg (191 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
14.1	19.0	2200	61.0 (45.0) @ 2200
18.4	24.7	2800	64.6 (47.6) @ 2600

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power
- 95% component commonality to reduce inventory costs
- High residual value
- Introduction of electronic governor for electronic machine integration

Industrial and IOPU Engines: Certified against the requirements of US EPA Tier 4 Final (40 CFR Part 1039). Less than 19 kW, EU certification not required.

403F-E17T
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke..... 84 mm x 90 mm (3.3 in x 3.5 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 from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 3.6 litres (0.9 US gal)
Total coolant capacity ..... 2.8 litres (0.7 US gal)
Dimensions
- Length.....640 mm (25.2 in)
- Width .....545 mm (21.4 in)
- Height .....692 mm (27.2 in)

Dry weight ..... 190 kg (419 lb)

Final weight and dimensions will depend on completed specification

Ratings

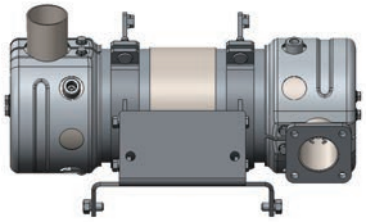
'C' Rating		Speed rpm	Torque Nm (lbf·ft) @ rpm	
kW	hp			
30.0	40.2	2800	125.0	92.2

Customer Benefits

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

Designed to meet 2013 EPA (US) Tier 4 Final and MLIT Step 4 (Japan) emissions requirements

403F-E
Aftertreatment



Aftertreatment		
Length	Diameter of Can	Weight
408 mm (16.0 in)	155 mm (6.1 in)	5.8 kg (12.8 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment

- DOC - Diesel Oxidation Catalyst

Customer Benefits

- 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
- On or off engine installation options provide OEM with simple and flexible solutions for many applications
- Service-free operation

404F-E22T
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 4.2 litres (1.1 US gal)
Dimensions
- Length including fan.....723 mm (28.4 in)
- Width.....545 mm (21.4 in)
- Height.....720 mm (28.3 in)

Dry weight .....230 kg (507 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Torque Nm (lbf·ft) @ rpm	
kW	hp			
36.4	48.8	2800	165.0	121.7

Customer Benefits

- Easy maintenance and serviceability
- Improved oil consumption
- Regeneration free aftertreatment system eliminates downtime
- 500 hour service interval
- Two year warranty as standard

Designed to meet U.S.EPA Tier 4 Final and Japan 2014 (Tier 4 Final)emissions requirements

404F-E22TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 4.2 litres (1.1 US gal)
Dimensions
- Length .....723 mm (28.4 in)
- Width.....545 mm (21.4 in)
- Height.....720 mm (28.3 in)

Dry weight .....230 kg (507 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Torque Nm (lbf·ft) @ rpm	
kW	hp			
50.0	467.0	2800	208	153.4

Customer Benefits

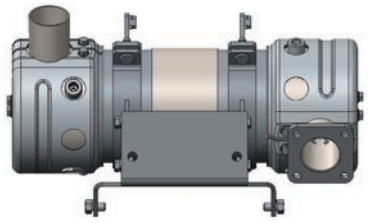
- Easy maintenance and serviceability
- Improved oil consumption
- Regeneration free aftertreatment system eliminates downtime
- 500 hour service interval
- Two year warranty as standard

Designed to meet 2013 EU Stage IIIB, U.S.EPA Tier 4 Final and Japan 2014 (Tier 4 Final) emissions requirements

Highly Regulated

404F-E

Aftertreatment



Aftertreatment		
Length	Diameter of Can	Weight
408 mm (16.0 in)	155 mm (6.1 in)	5.8 kg (12.8 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment

- DOC - Diesel Oxidation Catalyst

Customer Benefits

- 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
- On or off engine installation options provide OEM with simple and flexible solutions for many applications
- Service-free operation

854E-E34TA

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....99 x 110 mm (3.9 x 4.3 in)
Displacement .....3.4 litres (207.5 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity.....6 litres (1.6 US gal) engine only
Dimensions - side turbo
- Length.....747.5 mm (29.4 in)
- Width .....662 mm (26.0 in)
- Height .....822 mm (32.3 in)

Dimensions - top turbo
- Length.....747.5 mm (29.4 in)
- Width .....660.0 mm (26.0 in)
- Height .....830.0 mm (32.7 in)

Dry weight .....270 kg (595.2 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	Engine Ratings kW	Engine Ratings hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
C	55.0	74.0	2200	424 (312.7) @ 1200
C	63.0	84.5	2200	354 (261.1) @ 1400
C	66.0	88.5	2500	344 (254.0) @ 1400
C	66.0	88.5	2200	370 (272.9) @ 1400
C	70.0	94.0	2200	395 (291.3) @ 1400
C	75.0	100.6	2200	420 (309.7) @ 1400
C	75.0	100.6	2500	390 (287.6) @ 1500
D	83.0	111.3	2200	450 (331.9) @ 1400
D	86.0	115.3	2500	420 (309.8) @ 1600

Customer Benefits

- Class-leading package size
- Extensive choice of options
- Installation flexibility
- Engine mounted aftertreatment available
- Service-free top end for reduced maintenance
- Poly-vee belts for 3,000 hour service intervals

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) emissions requirements

Highly Regulated

854E-E34TA

Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....99 x 110 mm (3.9 x 4.3 in)
Displacement .....3.4 litres (207.5 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity..... 16 litres (4.2 US gal)
Dimensions - engine mounted aftertreatment, axially along head
- Length.....1252 mm (49.3 in)
- Width .....705 mm (27.7 in)
- Height .....1033 mm (40.7 in)

Dimensions - engine mounted aftertreatment, transverse across flywheel housing
- Length.....1252 mm (49.3 in)
- Width .....705 mm (27.7 in)
- Height .....957 mm (37.6 in)

Dry weight .....407 kg (897 lb)

Final weight and dimensions will depend on completed specification

Ratings

kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
Intermittent 'C' Ratings			
66	88.5	2200	370 (272.9) @ 1400
Continuous			
75	100.6	2200	420 (310.0) @ 1400

Customer Benefits

- Engine-mounted DPF
- Can be factory installed without DPF
- Sound improvement over Tier 3/Stage IIIA engine
- Increased power
- Compact package
- Extensive choice of options
- Installation flexibility
- Maintenance-free valve adjustment
- Poly-vee belts for 3,000 service intervals

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) emissions requirements

854F-E34T
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....99 x 110 mm (3.9 x 4.3 in)
Displacement .....3.4 litres (207.5 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity engine only ..... 6 litres (1.6 US gal)
Dimensions - side turbo
- Length.....747.5 mm (29.4 in)
- Width .....662 mm (26.0 in)
- Height .....822 mm (32.3 in)

Dimensions - top turbo
- Length.....747.5 mm (29.4 in)
- Width .....660 mm (26.0 in)
- Height .....830 mm (32.7 in)

Dry weight .....275 kg (606.3 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
45.0	60.3	2200	243 (179.2) @ 1400
47.0	63.0	2500	245 (180.7) @ 1400
50.0	67.0	2200	272 (200.6) @ 1400
55.4	74.3	2200	318 (234.5) @ 1400
55.4	74.3	2500	291 (214.6) @ 1600

Customer Benefits

- Class-leading package size
- Extensive choice of options
- Installation flexibility
- Engine mounted aftertreatment available
- Service-free top end for reduced maintenance
- Poly-vee belts for 3,000 hour service intervals

Designed to meet 2013 EPA (US) Tier 4 Final, EU Stage IIIB (Europe) emissions requirements

Highly Regulated

854F-E34T
Power Unit

Specifications

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 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity..... 16 litres (4.2 US gal)
Dimensions - engine mounted aftertreatment, axially along head
- Length.....1252 mm (49.3 in)
- Width .....705 mm (27.7 in)
- Height .....1033 mm (40.7 in)

Dimensions - engine mounted aftertreatment, transverse across flywheel housing
- Length.....1242 mm (48.3 in)
- Width .....705 mm (27.7 in)
- Height .....957 mm (37.6 in)

Dry weight .....407 kg (897 lb)

Final weight and dimensions will depend on completed specification

Ratings

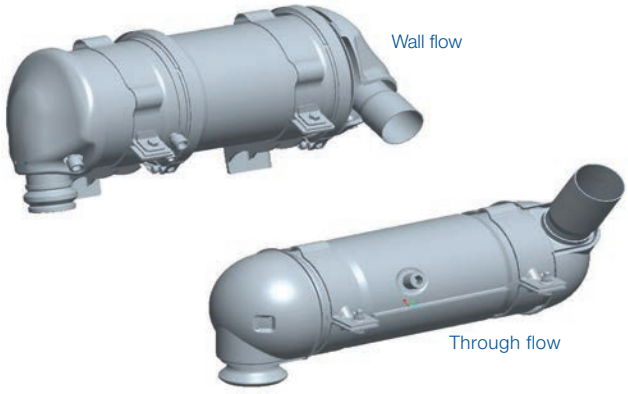
'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
55.4	74.3	2200	318 (234.5) @ 1400

Customer Benefits

- Engine-mounted DPF
- Can be factory installed without DPF
- Sound improvement over Tier 3/Stage IIIA engine
- Increased power
- Compact package
- Extensive choice of options
- Installation flexibility
- Maintenance-free valve adjustment
- Poly-vee belts for 3,000 service intervals

Designed to meet 2012 EU Stage IIIB (Europe), EPA Tier 4 Final (US) emission requirements.

854
Aftertreatment



	Length	Diameter of Can	Weight
Wall flow	541 mm (21.3 in)	180 mm (7.1 in)	20 kg (44 lb)
Through flow	509 mm (20 in)	149 mm (5.8 in)	14 kg (30.8 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment

- DOC - Diesel Oxidation Catalyst - silicon carbide material and uses a through flow principle; the gases pass straight through the device rather than through the walls
- DPF - Diesel Particulate Filter - for particulate reduction Perkins is offering customer flexibility by having two options for our customers:
  - A silicon carbide wall flow DPF. This porous ceramic material is highly efficient at removing particulate matter - 90% as a minimum - and often much higher
  - A service-free, through flow diesel particulate filter (not suitable for Switzerland)
  - Incorporating low temperature regeneration with oxy-exotherm back-up

Customer Benefits

- The Diesel Particulate Filter (DPF) technology chosen performs through the whole work cycle of the engine thus allowing it to work efficiently
- 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
- Multiple off and on engine installation options provide OEM with simple and flexible solutions for many applications
- Minimum 3,000 hour DPF ash service intervals

854F-E34TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....99 x 110 mm (3.9 x 4.3 in)
Displacement .....3.4 litres (207.5 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 6 litres (1.6 US gal)
Dimensions - side turbo
- Length.....739.5 mm (29.1 in)
- Width .....623 mm (24.5 in)
- Height .....805.5 mm (31.7 in)

Dry weight .....270 kg (595.2 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
C	63	84	2200	354 (261.0) @ 1400
C	66	89	2500	370 (272.9) @ 1400
C	70	94	2200	395 (291.3) @ 1400
C	75	101	2200	430 (317.1) @ 1400
C	75	101	2500	430 (317.1) @ 1400
D	83	111	2200	460 (339.3) @ 1400
D	86	115	2500	475 (350.3) @ 1400
D	90	121	2200	490 (361.4) @ 1600

Customer Benefits

- Class-leading package size
- Extensive choice of options
- Installation flexibility
- Engine mounted aftertreatment available
- Service-free top end for reduced maintenance
- Poly-vee belts for 3,000 hour service intervals

Designed to meet 2014 EU Stage IV (Europe) and 2015 EPA Tier 4 Final (US) emissions requirements

854F-E34TA
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....99 x 110 mm (3.9 x 4.3 in)
Displacement .....3.4 litres (207.5 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity engine only .....16 litres (4.2 US gals)
Dimensions
- Length.....1166 mm (46.0 in)
- Width .....694 mm (27.3 in)
- Height .....957 mm (37.6 in)

Dry weight .....407 kg (897 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
C	75	101	2200	430 (317) @ 1400
D	86	115	2500	475 (350) @ 1400
D	90	121	2200	490 (361) @ 1400

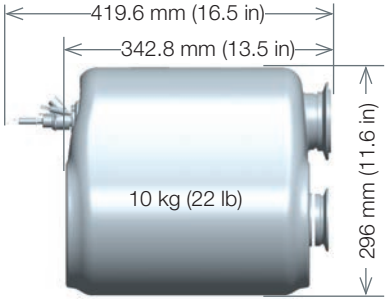
Customer Benefits

- Excellent fuel consumption
- Hydraulic tappets allow service-free top end
- Multi-vee belts for longer service intervals
- 500 hour oil change intervals

Designed to meet EU Stage IV and U.S. EPA Tier 4 Final, emissions requirements

854
Aftertreatment

DOC and Mixer



SCR

Length	Diameter of Can	Weight
568 mm (22.3 in)	251 mm (9.8 in)	20 kg (44 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment

- DOC - Diesel Oxidation Catalyst
- SCR - Selective Catalytic Reduction supplied with a range of inlet and outlet options
- SCR Auxiliaries - A range of tanks and heated lines are available

Customer Benefits

- The DOC/SCR technology provides customer's with as compact as possible aftertreatment solution
- Using our advanced research and development techniques we have perfectly matched the aftertreatment to the engine. The DOC/SCR is invisible to the operator whilst the machine is being used
- Multiple on engine mounting positions for DOC/Mixer. Flexibility of remote mounting of SCR can in various orientations
- Aftertreatment is designed to be service free for the life of the engine

1204E-E44TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke..... 105 x 127 mm (4.13 x 5.0 in)
Displacement .....4.4 litres (268.5 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle..... 4 stroke
Combustion system..... Direct injection
Compression ratio 16.5:1
Rotation..... Anti-clockwise viewed from flywheel
Cooling system..... Liquid
Total lubricating capacity.....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity .....10.8 litres (2.85 US gal)
Dimensions
- Length ..... 845.1 mm (33.3 in)
- Width..... 772.4 mm (30.4 in)
- Height..... 848.2 mm (33.4 in)

Dry weight ..... 400 kg (881.8 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
C	61.5	82.5	2200	347 (256.0) @ 1400
B	65.9	88.4	2200	370 (273.0) @ 1400
B	70.0	93.9	2200	400 (295.0) @ 1400
C	74.5	99.9	2200	450 (332.0) @ 1400
C	82.0	110.0	2200	450 (332.0) @ 1400
B	85.9	115.2	2200	480 (354.0) @ 1400
B	91.0	122.0	2200	500 (368.8) @ 1400
B	92.5	124.0	2200	530 (391.0) @ 1400
C	98.0	131.4	2200	500 (368.8) @ 1400
C	102.1	137.0	2200	560 (413.0) @ 1400
C	106.0	142.1	2200	560 (413.0) @ 1400
C	110.1	147.6	2200	560 (413.0) @ 1400

Customer Benefits

- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) and MLIT Step 4 emissions requirements

Highly Regulated

1204E-E44TA
Power Unit

Specifications

Number of cylinders .....4 vertical in-line
Bore and stroke .....105 x 127 mm (4.13 x 5 in)
Displacement .....4.4 litres (268.5 cubic in)
Aspiration 1204E-E44TA.....Turbocharged aftercooled
Cycle .....4 stroke
Combustion system .....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system ..... Liquid
Total lubricating capacity.....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity ..... 10.8 litres (2.85 US gal)
Dimensions (including radiator and aftertreatment)
- Length.....1433 mm (56.4 in)
- Width .....820 mm (32.3 in)
- Height .....1126 mm (44.3 in) <82 kW
- Height .....1150 mm (45.3 in) >82 kW

Dry weight ..... 650 kg (1433 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	Power		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
	kW	hp		
C	74.5	99.9	2200	450 (332.0) @ 1400
C	82.0	110.0	2200	450 (332.0) @ 1400
B	92.5	124.0	2200	530 (391.0) @ 1400
C	102.1	137.0	2200	560 (413.0) @ 1400
C	110.1	147.6	2200	560 (413.0) @ 1400

Customer Benefits

- Engine-mounted DPF
- Can be factory installed without DPF
- Sound improvement over Tier 3/Stage IIIA engine
- Increased power
- Compact package
- Extensive choice of options
- Installation flexibility
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

1204E-E44TTA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke..... 105 x 127 mm (4.13 x 5.0 in)
Displacement ..... 4.4 litres (268.5 cubic in)
Aspiration 1204E-E44TTA ..... Series turbocharged aftercooled
Cycle.....4 stroke
Combustion system..... Direct injection
Compression ratio 16.5:1
Rotation..... Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity .....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity ..... 10.8 litres (2.85 US gal)
Dimensions
- Length.....845.1 mm (33.3 in)
- Width .....741.6 mm (29.1 in)
- Height .....867.6 mm (34.1 in)

Dry weight .....420 kg (926 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
B	105.1	141.0	2200	650 (479.4) @ 1400
B	112.0	150.0	2200	650 (479.4) @ 1400
C	117.0	157.0	2200	683 (503.8) @ 1400
C	129.4	173.5	2200	750 (553.2) @ 1400

Customer Benefits

- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbochargers with smart wastegate for increased performance

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) and MLIT Step 4 (Japan) emissions requirements

Highly Regulated

1204E-E44TTA
Power Unit

Specifications

Number of cylinders .....4 vertical in-line
Bore and stroke .....105 x 127 mm (4.13 x 5 in)
Displacement .....4.4 litres (268.5 cubic in)
Aspiration 1204E-E44TTA.....Series turbocharged aftercooled
Cycle .....4 stroke
Combustion system .....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system .....Liquid
Total lubricating capacity.....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity..... 10.8 litres (2.85 US gal)
Dimensions (including radiator and aftertreatment)
- Length.....1433 mm (56.4 in)
- Width .....795 mm (31.3 in)
- Height .....1150 mm (45.3)

Dry weight .....700 kg (1543.2 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	Power		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
	kW	hp		
C	117.0	157.0	2200	683 (503.8) @ 1400
C	129.4	173.5	2200	750 (553.2) @ 1400

Customer Benefits

- Engine-mounted DPF
- Can be factory installed without DPF
- Sound improvement over Tier 3/Stage IIIA engine
- Increased power
- Compact package
- Extensive choice of options
- Installation flexibility
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbocharger for increased performance

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) and MLIT Step 4 (Japan) emissions requirements

1204E
Aftertreatment

	≤ 82 kW (110 hp)		> 82 kW (110 hp)	
Length	802.5 mm	(31.6 in)	828 mm	(32.6 in)
Width	365 mm	(14.3 in)	365 mm	(14.3 in)
Height	279 mm	(11 in)	300.5 mm	(11.8 in)
Diameter	244.9 mm	(9.6 in)	270.3 mm	(10.6 in)
Weight	34 kg	(75 lb)	37 kg	(81.6 lb)

Excludes inlet and outlet connections.
Final weight and dimensions will depend on completed specification

Aftertreatment Module

- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter supplied, with a range of inlet and outlet options
- No ash service requirement, low temperature regeneration
- 3" flex pipe kits available with a variety of elbow options for turbocharger connection

Customer Benefits

- The DPF technology chosen is a wall flow filter configuration. This enables the engine to be optimised for superior performance and low fuel consumption
- 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 regeneration is invisible to the operator
- Remote and engine-mounted installation options provide OEM flexibility for many applications
- Aftertreatment designed to be service-free (minimum 8,000 hours)

1204F-E44TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke..... 105 x 127 mm (4.13 x 5.0 in)
Displacement ..... 4.4 litres (268.5 cubic in)
Aspiration ..... Turbocharged aftercooled
Cycle ..... 4 stroke
Combustion system .....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity .....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity..... 10.8 litres (2.85 US gal)
Dimensions
- Length.....845.1 mm (33.3 in)
- Width ..... 772.4 mm (30.4 in)
- Height .....848.2 mm (33.4 in)

Dry weight ..... 400 kg (882 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
C	70.0	93.9	2200	450 (331.9) @ 1400
C	74.4	99.8	2200	450 (331.9) @ 1400
C	82.0	109.9	2200	450 (331.9) @ 1400
B	85.9	115.2	2200	500 (368.7) @ 1400
B	91.0	122.0	2200	500 (368.7) @ 1400
B	92.6	124.2	2200	530 (390.9) @ 1400
C	97.9	131.3	2200	530 (368.7) @ 1400
C	102.1	136.9	2200	560 (413.0) @ 1400
C	106.0	142.1	2200	560 (413.0) @ 1400
C	110.1	147.6	2200	560 (413.0) @ 1400

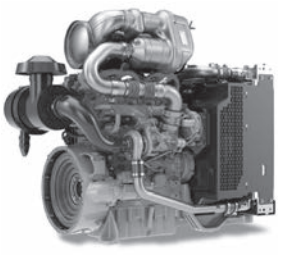
Customer Benefits

- Fuel consumption optimised to match operating cycles of equipment
- Compact package
- Extensive choice of options
- Installation flexibility
- Service-free aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2015 EPA (US) Tier 4 Final, EU Stage IV (Europe) and MLIT 2014 (Japan) regulations

1204F-E44TA

Power Unit



Specifications

Number of cylinders ..... 4 in-line
Bore and stroke .....105 x 127 mm (4.13 x 5 in)
Displacement .....4.4 litres (268.5 cubic in)
Aspiration 1204F-E44TA.....Turbocharged aftercooled
Cycle .....4 stroke
Combustion system .....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system ..... Liquid
Total lubricating capacity.....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity ..... 10.8 litres (2.85 US gal)
Dimensions (including aftertreatment)
- Length..... 1433 mm (56.4 in)
- Width ..... 819 mm (32.2 in)
- Height ..... 1215 mm (47.8 in)

Dry weight ..... 670 kg (1477 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed (rpm)	Torque Nm (lb·ft) @ rpm
C	74.5	99.9	2200	450 (332.0) @1400
C	82.0	110.0	2200	450 (332.0) @1400
B	92.5	124.0	2200	530 (391.0) @1400
C	102.1	137.0	2200	560 (413.0) @1400
C	110.1	147.6	2200	560 (413.0) @1400

Customer Benefits

- Fuel consumption optimised to match operating cycles of equipment
- Compact package
- Extensive choice of options
- Installation flexibility
- Service-free aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2015 EPA (US) Tier 4 Final, EU Stage IV (Europe) and MLIT 2014 (Japan) regulations

Highly Regulated

1204F-E44TTA

Industrial Engine

Specifications

Number of cylinders .....4 in-line
Bore and stroke .....105 x 127 mm (4.13 x 5.0 in)
Displacement ..... 4.4 litres (268.5 cubic in)
Aspiration ..... Series turbocharged aftercooled
Cycle ..... 4 stroke
Combustion system ..... Direct injection
Compression ratio 16.5:1
Rotation .....Anti-clockwise viewed from flywheel
Cooling system .....Liquid
Total lubricating capacity ..... 5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity .....10.8 litres (2.85 US gal)
Dimensions
- Length.....845.1 mm (33.3 in)
- Width .....741.6 mm (29.1 in)
- Height .....867.6 mm (34.1 in)

Dry weight .....420 kg (926 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
C	105.0	140.8	2200	630 (464.6) @ 1400
C	112.0	150.2	2200	650 (479.4) @ 1400
C	117.0	156.9	2200	683 (503.7) @ 1400
C	129.4	173.5	2200	750 (553.1) @ 1400

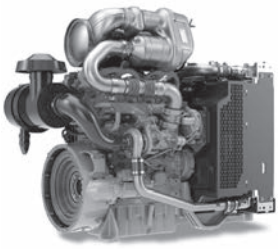
Customer Benefits

- Fuel consumption optimised to match operating cycles of equipment
- Compact package
- Extensive choice of options
- Installation flexibility
- Service-free aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbochargers with smart wastegate for increased performance
- DOC/SCR aftertreatment fitted as standard; DPF option available

Designed to meet 2015 EPA (US) Tier 4 Final, EU Stage IV (Europe) and MLIT 2014 (Japan) regulations

1204F-E44TTA

Power Unit



Specifications

Number of cylinders ..... 4 in-line
Bore and stroke .....105 x 127 mm (4.13 x 5 in)
Displacement .....4.4 litres (268.5 cubic in)
Aspiration 1204F-E44TTA.....Series turbocharged aftercooled
Cycle .....4 stroke
Combustion system .....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system .....Liquid
Total lubricating capacity.....5.2-13.5 litres (1.37-3.57 US gal)
Total coolant capacity ..... 10.8 litres (2.85 US gal)
Dimensions (including aftertreatment)
Length.....1455 mm (57.2 in)
Width .....870 mm (34.2 in)
Height .....1280 mm (50.3 in)
Dry weight .....700 kg (1543 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed (rpm)	Torque Nm (lb·ft) @ rpm
C	117.0	157.0	2200	683 (503.8) @1400
C	129.4	173.5	2200	750 (553.2) @1400

Customer Benefits

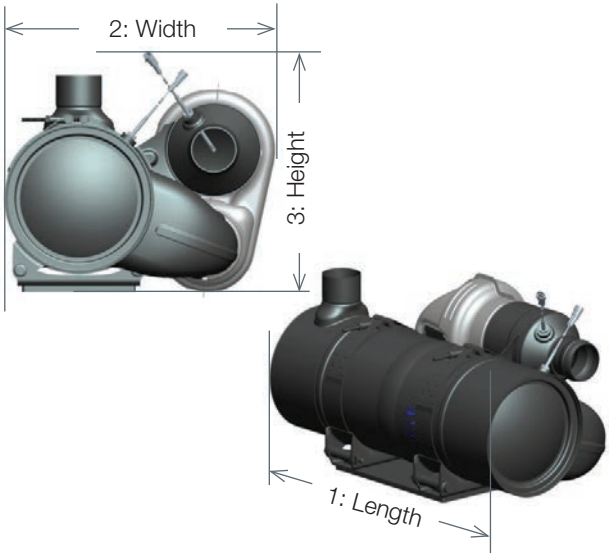
- Fuel consumption optimised to match operating cycles of equipment
- Compact package
- Extensive choice of options
- Installation flexibility
- Service-free aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbochargers with smart wastegate for increased performance

Designed to meet 2015 EPA (US) Tier 4 Final, EU Stage IV (Europe) and MLIT 2014 (Japan) regulations

1204F

Aftertreatment

DOC/SCR



DOC/SCR		≤ 92.6 kW (124.2 hp)		> 92.6 kW (124.2 hp)	
1	Length	647 mm	(25.4 in)	675 mm	(26.5 in)
2	Width	453 mm	(17.8 in)	478 mm	(18.8 in)
3	Height	372 mm	(14.6 in)	390 mm	(15.3 in)
	Weight	40 kg	(88 lb)	45 kg	(99 lb)

Final weight and dimensions will depend on completed specification.
Aftertreatment module factory fitted to engine as standard.

Aftertreatment

- DOC – Diesel Oxidation Catalyst
- SCR - Selective Catalytic Reduction
- 3 inch flex pipe kits available with a variety of elbow options for turbocharger connection
- SCR Auxiliaries - A range of tanks and heated lines are available

Technology

The DOC/SCR technology provides customers with as compact as possible aftertreatment solution

Power

Using our advanced research and development techniques, we have perfectly matched both aftertreatment systems to the engine. The engine performance has then been optimised to give the application maximum productivity with both aftertreament options being invisible to the machine operator whilst in use

Mounting

Remote and engine mounted installation options provide customers with flexibility for many applications

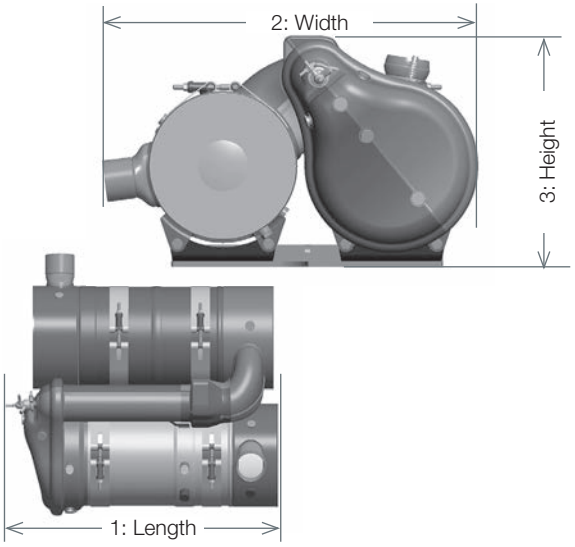
Service

Aftertreatment system is designed to be service-free

1204F

Aftertreatment

DPF/SCR



DPF/SCR		TTA product only	
1	Length	722 mm	(28.4 in)
2	Width	695 mm	(21.1 in)
3	Height	430 mm	(16.9 in)
	Weight	80 kg	(176 lb)

Aftertreatment

- DOC – Diesel Oxidation Catalyst
- SCR - Selective Catalytic Reduction
- DPF – Diesel Particulate Filter option available
- 3 inch flex pipe kits available with a variety of elbow options for turbocharger connection
- SCR Auxiliaries - A range of tanks and heated lines are available

Technology

The DOC/SCR technology provides customers with as compact as possible aftertreatment solution. DPF/SCR option is available for use on higher power machines

Power

Using our advanced research and development techniques, we have perfectly matched both aftertreatment systems to the engine. The engine performance has then been optimised to give the application maximum productivity with both aftertreament options being invisible to the machine operator whilst in use

Mounting

Remote installation options provide customers with flexibility for many applications

Service

Aftertreatment system is designed to be service-free

Highly Regulated

1206E-E66TA

Industrial Engine

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke.....105 x 127 mm (4.13 x 5.0 in)
Displacement .....6.6 litres (402.8 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 13.7 litres (3.6 US gal)
Dimensions
Length.....1063.7 mm (41.9 in)
Width .....753 mm (29.6 in)
Height .....907 mm (35.7 in)
Dry weight .....695 kg (1532 lb)
(bare engine + coolant and lub oil)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
C	89.0	119.3	2200	545 (402.0) @ 1400
C	116.5	156.2	2200	683 (503.8) @ 1400
C	129.4	173.5	2200	825 (608.5) @ 1400

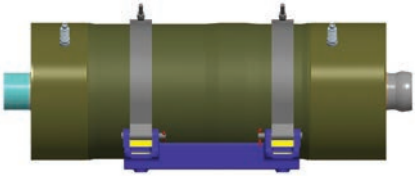
Customer Benefits

- Increased torque over Tier 3/ Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) and MLIT Step 4 (Japan) emissions requirements

1206E-E66TA

Aftertreatment



Length	852.7 mm	(33.6 in)
Width	364.6 mm	(14.3 in)
Height	352.0 mm	(13.9 in)
Diameter	283.0 mm	(11.1 in)
Weight	40 kg	(88.1 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment module shipped as separate part to be assembled by customer.

Aftertreatment Module

- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter supplied, with a range of inlet and outlet options
- No ash service requirement, low temperature regeneration
- 3" flex pipe kits available with a variety of elbow options for turbocharger connection

Customer Benefits

- The DPF technology chosen is a wall flow filter configuration.

  This enables the engine to be optimised for superior performance and low fuel consumption
- 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 regeneration is invisible to the operator
- Remote and engine-mounted installation options provide OEM Flexibility for many applications
- Aftertreatment designed to be service-free (minimum 8,000 hours)

1206E-E70TTA

Industrial Engine

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke..... 105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Series turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Dimensions
- Length.....1063.7 mm (41.9 in)
- Width .....820.2 mm (32.3 in)
- Height .....907 mm (35.7 in)

Dry weight ..... 715 kg (1576 lb)
(includes electrics and backend)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
B	140.0	187.7	2200	890 (656.4) @ 1400
B	151.0	202.5	2200	922 (680.0) @ 1400
B	158.5	212.5	2200	973 (717.6) @ 1400
B	168.0	225.3	2200	1028 (758.2) @ 1400
B	176.5	236.7	2200	1086 (801.0) @ 1400
C	186.5	250.1	2200	1142 (842.2) @ 1400
C	205.0	275.0	2200	1257 (927.1) @ 1400
C	225.0	301.7	2200	1257 (927.1) @ 1400

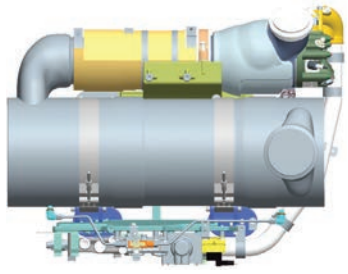
Customer Benefits

- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2012 EPA (US) Tier 4 Interim, EU Stage IIIB (Europe) and MLIT Step 4 (Japan) emissions requirements

1206E-E70TTA

Aftertreatment



	≤172 kW		≥172 kW	
Length	918.7 mm	(36.2 in)	918.7 mm	(36.2 in)
Width	714.4 mm	(28.1 in)	714.4 mm	(28.1 in)
Height	618.5 mm	(24.3 in)	643.9 mm	(25.3 in)
Diameter	287.0 mm	(11.3 in)	337.8 mm	(13.3 in)
Weight	124 kg	(273.4 lb)	134 kg	(295.4 lb)

Final weight and dimensions will depend on completed specification

Aftertreatment module shipped as separate part to be assembled by customer.

Aftertreatment Module

- High Temperature Regeneration System
- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter and regeneration system supplied, with a range of inlet and outlet options
- 3" flex pipe connection kit with rotatable elbow for 60° and 90° RS inlet flexibility

Customer Benefits

- The DPF technology chosen is a wall flow filter configuration.

  This enables the engine to be optimised for superior performance and low fuel consumption
- 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 in normal operation, the regeneration is invisible to the operator
- Flexible regeneration options maximise uptime
- Remote installation options provide OEM flexibility for many applications
- 5,000 hour DPF ash service interval
- Available in 12 or 24 volt systems

Highly Regulated

1206F-E70TA

Industrial Engine

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke..... 105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle .....4 stroke
Combustion system.....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system..... Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Dimensions
- Length.....1063.7 mm (41.9 in)
- Width .....753 mm (29.6 in)
- Height .....907 mm (35.7 in)

Dry weight .....715 kg (1576 lb)
(includes electrics and backend)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
B	116.0	156.0	2200	755 (557.0) @ 1400
B	129.0	173.0	2200	842 (621.0) @ 1400
C	151.0	202.0	2200	870 (642.0) @ 1400

Customer Benefits

- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals

Designed to meet 2014 EPA (US) Tier 4 Final, EU Stage IV (Europe) emissions requirements

1206F-E70TTA
Industrial Engine

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke..... 105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Series turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Dimensions (including electrics and backend)
- Length.....1063.7 mm (41.9 in)
- Width .....820.2 mm (32.3 in)
- Height .....907 mm (35.7 in)

Dry weight .....715 kg (1576 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating Type	kW	hp	Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
B	151.0	202.0	2200	983 (725.0) @ 1400
B	168.0	225.0	2200	1092 (805.0) @ 1400
C	186.0	249.0	2200	1214 (895.0) @ 1400
C	205.0	275.0	2200	1257 (927.0) @ 1400
C	225.0	301.7	2200	1274 (940.0) @ 1400
D	225.0	301.7	2200	1282 (945.0) @ 1400

Customer Benefits

- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbochargers with smart wastegate available for increased performance

Designed to meet 2014 EPA (US) Tier 4 Final, EU Stage IV (Europe) emissions requirements

Highly Regulated

1206F-E70TTA
Power Unit

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke..... 105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Series turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4 US gal)
Dimensions (including electrics and backend)
- Length.....1769 mm (69.6 in)
- Width .....916 mm (36.0 in)
- Height .....1461 mm (57.5 in)

Dry weight .....1087 kg (2396 lb)

Final weight and dimensions will depend on completed specification

Ratings

Power		Speed rpm	Torque Nm (lbf·ft)	Speed rpm	Rating Type
kW	hp				
151.0	202.0	2200	922 (680)	1400	B
168.0	225.0	2200	1028 (758)	1400	B
186.0	249.0	2200	1142 (842)	1400	C
205.0	275.0	2200	1257 (927)	1400	C
225.0	301.7	2200	1274 (939)	1400	C

Customer Benefits

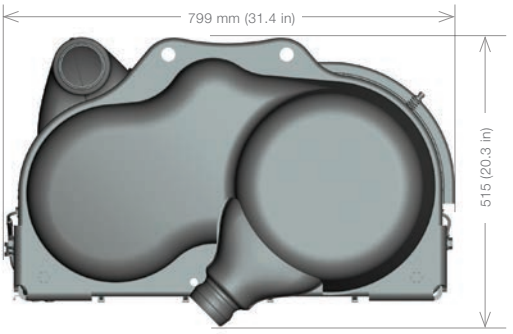
- Increased power and torque over Tier 3/Stage IIIA engine
- Compact package
- Extensive choice of options
- Installation flexibility
- Non-modular aftertreatment
- Maintenance-free valve adjustment
- Poly-vee belts for longer service intervals
- Series turbochargers with smart wastegate available for increased performance

Designed to meet 2014 EPA (US) Tier 4 Final, EU Stage IV (Europe) amd MLIT 2014 (Japan) regulations

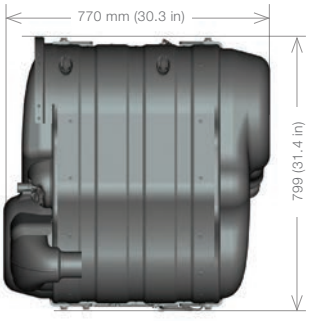
1206F-E70TA/TTA

Aftertreatment

Front view



Top view



Final weight and dimensions will depend on completed specification

Aftertreatment Module

- Passive Regeneration System
- DOC - Diesel Oxidation Catalyst
- DPF - Diesel Particulate Filter and regeneration system supplied, with a range of inlet and outlet options
- 3” flex pipe connection kit with rotatable elbow for 60° and 90° RS inlet flexibility

Customer Benefits

- The DPF technology chosen is a wall flow filter configuration. This enables the engine to be optimised for superior performance and low fuel consumption
- 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 in normal operation, the regeneration is invisible to the operator
- Remote and engine-mounted installation options provide OEM flexibility for many applications
- Aftertreatment designed to be service-free
- Available in 12 or 24 volt systems

402D-05
Industrial Engine

Specifications

Number of cylinders ..... 2 in-line
Bore and stroke.....67 x 72 mm (2.64 x 2.83 in)
Displacement .....0.51 litres (31 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 2.01 litres (0.5 US gal)
Total coolant capacity ..... 1.1 litres (0.3 US gal)
Dimensions
- Length.....407 mm (16.0 in)
- Width .....371 mm (14.6 in)
- Height .....523 mm (20.6 in)

Dry weight .....57 kg (126 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
kW	hp		
8.2	11.0	2800	29.7 (21.9) @ 2400
8.8	11.8	3000	29.7 (21.9) @ 2400
10.2	13.7	3600	29.7 (21.9) @ 2000

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim emissions requirements

403D-07
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....67 x 72 mm (2.64 x 2.83 in)
Displacement .....0.76 litres (46.4 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 3.05 litres (0.8 US gal)
Total coolant capacity ..... 1.2 litres (0.3 US gal)
Dimensions
- Length.....480 mm (18.9 in)
- Width .....371 mm (14.6 in)
- Height .....528 mm (20.8 in)

Dry weight .....71 kg (156.5 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
kW	hp		
12.2	16.4	2800	44.5 (32.8) @ 2200
13.2	17.7	3000	44.5 (32.8) @ 2200
15.3	20.5	3600	44.5 (32.8) @ 2200

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim emissions requirements

403D-11
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke..... 77 x 81 mm (3.0 x 3.2 in)
Displacement .....1.13 litres (69 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 4.9 litres (1.3 US gal)
Total coolant capacity ..... 1.9 litres (0.5 US gal)
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)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
14.7	19.7	2200*	66.8 (49.3) @ 1900
16.1	21.6	2400	66.9 (49.3) @ 2000
17.2	23.0	2600*	67.9 (50.0) @ 1800
18.5	24.8	2800*	67.9 (50.0) @ 1800
19.7	26.4	3000	66.8 (49.3) @ 1900
21.0	28.2	3400	70.2 (51.8) @ 2300
Derate			
13.7	18.4	2200	62.1 (45.8) @ 2000
16.8	22.5	2800	62.1 (45.8) @ 2000
17.7	23.7	3000	62.1 (45.8) @ 2100

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements
*Meets 2008 EPA (US) Tier 4 Interim emissions requirements

403D-11
Power Unit

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....77 x 81 mm (3.0 x 3.2 in)
Displacement .....1.13 litres (69 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 22.7:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 4.9 litres (1.3 US gal)
Total coolant capacity ..... 5.2 litres (1.4 US gal)
Dimensions
- Length.....777 mm (30.6 in)
- Width .....438 mm (17.2 in)
- Height .....729 mm (28.7 in)

Dry weight .....129 kg (284.4 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
Intermittent 'C' Ratings			
17.3	23.2	2800	64.6 (47.6) @ 2100
18.1	24.3	3000	64.6 (47.6) @ 2100
Continuous			
15.1	20.2	2800	56.2 (41.5) @ 2100
15.8	21.2	3000	56.2 (41.5) @ 2100

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

403D-15
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....84 x 90 mm (3.3 x 3.5 in)
Displacement .....1.496 litres (91 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 22.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 6 litres (1.6 US gal)
Total coolant capacity ..... 2.4 litres (0.6 US gal)
Dimensions
- Length.....572 mm (22.5 in)
- Width .....453 mm (17.8 in)
- Height .....643 mm (25.3 in)

Dry weight ..... 149 kg (328.5 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
20.7	27.8	2200	96.0 (70.8) @ 1800
22.3	29.9	2400	96.0 (70.8) @ 1800
23.4	31.4	2600	96.0 (70.8) @ 1800
24.4	32.7	2800	96.0 (70.8) @ 1800
25.1	33.7	3000	96.0 (70.8) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

403D-15
Power Unit

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....84 x 90 mm (3.3 x 3.5 in)
Displacement .....1.496 litres (91 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 22.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 6 litres (1.6 US gal)
Total coolant capacity ..... 6 litres (1.6 US gal)
Dimensions
- Length .....820 mm (32.3 in)
- Width.....497 mm (19.6 in)
- Height.....793 mm (31.2 in)

Dry weight ..... 197 kg (434 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
Intermittent 'C' Ratings			
23.9	32.1	2800	94.4 (69.6) @ 1800
24.2	32.5	3000	94.4 (69.6) @ 1800
Continuous			
20.8	27.9	2800	82.1 (60.6) @ 1800
21.1	28.3	3000	82.1 (60.6) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

403D-15T
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....84 x 90 mm (3.3 x 3.5 in)
Displacement .....1.496 litres (91 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 22.5:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 6 litres (1.6 US gal)
Total coolant capacity ..... 2.6 litres (0.7 US gal)
Dimensions
- Length.....572 mm (22.5 in)
- Width .....541 mm (21.3 in)
- Height .....643 mm (25.3 in)

Dry weight ..... 156.5 kg (345 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
kW	hp		
23.1	31.0	2200	111.9 (82.5) @ 1800
25.2	33.8	2400	111.9 (82.5) @ 1800
27.3	36.6	2600	111.9 (82.5) @ 1800
29.4	39.4	2800	114.9 (82.1) @ 1800
30.0	40.2	3000	105.0 (77.4) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

Lesser Regulated

403D-17
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....1.662 litres (101 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 6 litres (1.6 US gal)
Total coolant capacity ..... 2.5 litres (0.6 US gal)
Dimensions
- Length.....564 mm (22.2 in)
- Width .....453 mm (17.8 in)
- Height .....654 mm (25.7 in)

Dry weight ..... 160 kg (352.7 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf-ft) @ rpm
kW	hp		
23.6	31.6	2400	105.0 (77.4) @ 1800
26.1	35.0	2600	106.0 (78.1) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

404D-22
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke..... 84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 24.4:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 8.9 litres (2.3 US gal)
Dimensions
- Length.....661 mm (26.0 in)
- Width .....464 mm (18.3 in)
- Height .....676 mm (26.6 in)

Dry weight ..... 184 kg (406 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
31.0	41.6	2200	142.7 (105.2) @ 1800
34.1	45.7	2400	142.7 (105.2) @ 1800
35.7	47.9	2600	142.7 (105.2) @ 1800
37.3	50.0	2800	142.7 (105.2) @ 1800
38.0	51.0	3000	142.7 (105.2) @ 1800
Derate			
31.4	42.1	2600	142.9 (105.3) @ 1800
32.8	43.9	2800	130.0 (95.9) @ 1800
34.0	45.6	3000	130.0 (95.9) @ 1800
Balanced			
35.4	47.5	2600	142.9 (105.3) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

Lesser Regulated

404D-22
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 6.98 litres (1.8 US gal)
Dimensions
- Length.....946 mm (37.2 in)
- Width .....513 mm (20.2 in)
- Height .....854 mm (33.6 in)

Dry weight ..... 218 kg (480.6 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
Intermittent 'C' Ratings			
36.3	48.7	2800	140.6 (103.7) @ 1800
37.0	49.6	3000	140.6 (103.7) @ 1800
Continuous			
31.6	42.4	2800	122.3 (90.2) @ 1800
32.2	43.2	3000	122.3 (90.2) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

404D-22T
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 8.9 litres (2.3 US gal)
Dimensions
- Length.....662 mm (26.0 in)
- Width .....489 mm (19.3 in)
- Height .....698 mm (27.5 in)

Dry weight ..... 194 kg (427.7 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
39.8	53.3	2600	189.0 (139.4) @ 1800
43.0	57.7	2600	189.0 (139.4) @ 1800
44.7	60.0	2800	189.1 (139.5) @ 1800
45.5	61.0	3000	189.1 (139.5) @ 1800
Derate			
36.3	48.7	2800	154.0 (113.6) @ 1800
Balanced			
41.5	55.7	2600	185.0 (136.4) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

Lesser Regulated

404D-22T
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 6.98 litres (1.8 US gal)
Dimensions
- Length.....973 mm (38.3 in)
- Width .....590 mm (23.2 in)
- Height .....973 mm (38.3 in)

Dry weight ..... 228 kg (502.6 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
Intermittent 'C' Ratings			
44.7	59.9	2800	189.1 (139.4) @ 1800
Continuous			
31.6	42.4	2800	162.7 (120.0) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

404D-22TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 3.6 litres (1.0 US gal)
Dimensions
- Length.....662 mm (26.0 in)
- Width .....489 mm (19.3in)
- Height .....698 mm (27.5 in)

Dry weight .....194 kg (427.7 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
49.2	66.0	2800	208.4 (153.7) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

Lesser Regulated

404D-22TA
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....84 x 100 mm (3.3 x 3.9 in)
Displacement .....2.2 litres (135 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system..... Indirect injection
Compression ratio 23.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 10.6 litres (2.8 US gal)
Total coolant capacity ..... 11.7 litres (3.1 US gal)
Dimensions
- Length.....1050 mm (41.3 in)
- Width .....711 mm (28.0 in)
- Height .....997.5 mm (39.3 in)

Dry weight .....302 kg (665.8 lb)

Final weight and dimensions will depend on completed specification

Ratings

Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
Intermittent 'C' Ratings			
46.2	62.0	2800	195 (143.8) @ 1800
Continuous			
40.2	54.0	2800	169.7 (125.1) @ 1800

Customer Benefits

- Class-leading package size
- Extensive range of options
- Ultra compact size
- Easy routine servicing
- High power density
- Low installed costs
- 500 hour service interval
- Low fuel consumption
- Quiet and refined power

Meets 2008 EPA (US) Tier 4 Interim, EU Stage IIIA (Europe) emissions requirements

1103C-33T

Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....3.3 litres (202 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 4.43 litres (1.2 US gal)
Length.....546 mm (21.5 in)
Width .....586 mm (23.0 in)
Height .....826 mm (32.5 in)
Dry weight ..... 293 kg (646 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
55.0	74.0	2200	291 (215) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Designed for compact industrial and agricultural applications
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets EPA (US) Tier 2, EU Stage II emissions requirements

1103D-33

Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....3.3 litres (202 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 19.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 4.43 litres (1.2 US gal)
Length.....546 mm (21.5 in)
Width .....571 mm (22.5 in)
Height .....826 mm (32.5 in)
Dry weight ..... 264 kg (582 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
36.9	49.5	2200	196 (145) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Designed for compact industrial and agricultural applications
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets Stage IIIA emissions requirements

1103D-33TA
Industrial Engine

Specifications

Number of cylinders ..... 3 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....3.3 litres (202 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.23:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 4.43 litres (1.2 US gal)
Length.....546 mm (21.5 in)
Width .....586 mm (23.0 in)
Height .....826 mm (32.5 in)
Dry weight .....276 kg (608.5 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
58.0	77.8	2200	310 (228.6) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Designed for compact industrial and agricultural applications
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets Stage IIIA emissions requirements

1104A-44
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration ..... Naturally Aspirated
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 19.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 7 litres (1.9 US gal)
Length.....768 mm (30.2 in)
Width .....558 mm (22.0 in)
Height .....795 mm (31.2 in)
Dry weight .....357 kg (787 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
63.5	85.1	2200	293 (216) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

1104A-44T

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.23:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity..... 7 litres (1.9 US gal)
Length.....786 mm (30.9 in)
Width .....558 mm (37.3 in)
Height .....947 mm (31.2 in)
Dry weight .....372 kg (820.1 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
80.5	108.0	2200	404 (298) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

1104C-44

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 19.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity..... 7 litres (1.9 US gal)
Length.....663 mm (26.1 in)
Width .....470 mm (18.5 in)
Height .....812 mm (32.0 in)
Dry weight .....357 kg (787 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
64.0	85.8	2400	302 (226) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets EPA (US) Tier 2, EU Stage II emissions requirements

1104C-44

Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 19.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 8.4 litres (2.2 US gal)
Total coolant capacity ..... 15 litres (4.0 US gal)
Length.....1197 mm (45.7 in)
Width .....607 mm (24.5 in)
Height .....962 mm (37.9 in)
Dry weight .....475 kg (1047.2 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm(lbf·ft) @ rpm
64.0	85.8	2400	302 (226) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Cooling packs matched to meet the needs of high ambient temperature locations
- High quality oil and fuel filtration improves reliability and durability
- Simple plug and play installation requires minimal engineering, ideal for low volume / bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage II/EPA Tier 2 for non-road mobile machinery powered by variable speed engines

Lesser Regulated

1104C-44T

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 7 litres (1.9 US gal)
Length.....663 mm (26.1 in)
Width .....597 mm (23.5 in)
Height .....810 mm (32.0 in)
Dry weight .....372 kg (820.1 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
74.5	99.9	2300	415 (306) @ 1350

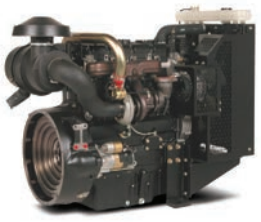
Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets EPA (US) Tier 2, EU Stage II emissions requirements

1104C-44T

Power Unit



Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 8.4 litres (2.2 US gal)
Total coolant capacity ..... 15 litres (4.0 US gal)
Length..... 1272 mm (50.0 in)
Width ..... 613 mm (24.1 in)
Height ..... 962 mm (37.9 in)
Dry weight ..... 485 kg (1069 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
74.5	99.9	2300	415 (306) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Cooling packs matched to meet the needs of high ambient temperature locations
- High quality oil and fuel filtration improves reliability and durability
- Simple plug and play installation requires minimal engineering, ideal for low volume / bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage II/EPA Tier 2 for non-road mobile machinery powered by variable speed engines

1104C-44TA

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 7 litres (1.9 US gal)
Length..... 663 mm (26.1 in)
Width ..... 620 mm (24.4 in)
Height ..... 810 mm (32.0 in)
Dry weight ..... 306 kg (674.6 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
97.0	130.1	2200	500 (369) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets EPA (US) Tier 2, EU Stage II emissions requirements

1104C-44TA

Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.3:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 7.4 litres (2.0 US gal)
Total coolant capacity ..... 12.6 litres (3.3 US gal)
Length..... 1259 mm (49.5 in)
Width ..... 721 mm (28.4 in)
Height ..... 996 mm (39.2 in)
Dry weight ..... 500 kg (1100 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
97.0	130.1	2200	500 (369) @ 1400

Customer Benefits

- Delivers more low speed
- Mechanical fuel injection for ease of service
- Cooling packs matched to meet the needs of high ambient temperature locations
- High quality oil and fuel filtration improves reliability and durability
- Simple plug and play installation requires minimal engineering, ideal for low volume / bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage II/EPA Tier 2 for non-road mobile machinery powered by variable speed engines

1104D-44

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Naturally aspirated
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total coolant capacity ..... 7 litres (1.9 US gal)
Length..... 663 mm (26.1 in)
Width ..... 470 mm (18.5 in)
Height ..... 810 mm (31.9 in)
Dry weight ..... 357 kg (787 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
56.0	75.0	2200	265 (195) @ 1700

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Meets EU Stage IIIA emissions requirements

1104D-44T
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....up to 11 litres* (3.0 US gal)
Total coolant capacity ..... 7 litres (1.9 US gal)
Length.....663 mm (26.1 in)
Width .....597 mm (23.5 in)
Height .....810 mm (31.9 in)
Dry weight .....306 kg (674.6 lb)

Final weight and dimensions will depend on completed specification

**Dependent on sump option and gradeability requirements*

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
74.5	99.9	2200	392 (289) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA and EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

Lesser Regulated

1104D-44T
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 8.4 litres (2.2 US gal)
Total coolant capacity ..... 15 litres (4.0 US gal)
Length.....1277 mm (50.2 in)
Width .....687 mm (27.0 in)
Height .....965 mm (38.0 in)
Dry weight .....536 kg (1181.6 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
74.5	99.9	2200	392 (289) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Large selection of standard build configurations
- Cooling packs matched to meet the needs of high ambient temperature locations
- High quality oil and fuel filtration improves reliability and durability
- Simple plug and play installation requires minimal engineering, ideal for low volume/bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA and EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

1104D-44TA
Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....up to 11 litres* (3.0 US gal)
Total coolant capacity ..... 7 litres (1.9 US gal)
Length.....663 mm (26.1 in)
Width .....620 mm (24.4 in)
Height .....775 mm (30.5 in)
Dry weight .....306 kg (674.6 lb)

Final weight and dimensions will depend on completed specification

**Dependent on sump option and gradeability requirements*

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
83.0	111.3	2200	418 (308) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Wide range of build options enabling better machine integration
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA/EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

Lesser Regulated

1104D-44TA
Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 7.9 litres (2.0 US gal)
Total coolant capacity ..... 17 litres (4.5 US gal)
Length.....1260 mm (49.6 in)
Width .....734 mm (28.9 in)
Height .....964 mm (38.0 in)
Dry weight .....567 kg (1250 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
83.0	111.3	2200	418 (308) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Large selection of standard build configurations
- Cooling packs matched to meet the needs of high ambient temperature locations
- High quality oil and fuel filtration improves reliability and durability
- Simple plug and play installation requires minimal engineering, ideal for low volume/bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA/EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

1104D-E44T

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....8 litres* (2.1 US gal)
Total coolant capacity ..... 7 litres (1.8 US gal)
Length.....631 mm (24.8 in)
Width .....647 mm (25.4 in)
Height .....823 mm (32.4 in)
Dry weight .....360 kg (794 lb)

Final weight and dimensions will depend on completed specification

**Dependent on sump option and gradeability requirements*

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
74.5	99.9	2200	420 (309.7) @ 1400

Customer Benefits

- Electronic fuel injection for improved engine control, delivering enhanced low speed torque and SFC
- Wide range of build options enabling better machine integration
- Low heat rejection enables a smaller cooling group and more compact installation
- Enhanced fuel filtration system provides excellent tolerance to variations in fuel quality
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA and EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

Lesser Regulated

1104D-E44TA

Industrial Engine

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....8 litres* (2.1 US gal)
Total coolant capacity ..... 7 litres (1.8 US gal)
Length.....631 mm (24.8 in)
Width .....626 mm (24.6 in)
Height .....958 mm (37.7 in)
Dry weight .....360 kg (794 lb)

Final weight and dimensions will depend on completed specification

**Dependent on sump option and gradeability requirements*

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
74.5	99.9	2200	441 (325.0) @ 1400
82.0	110.1	2200	486 (358.5) @ 1400
87.0	116.7	2200	516 (380.6) @ 1400
96.5	129.4	2200	516 (380.6) @ 1400
102.0	136.8	2200	536 (395.3) @ 1400
106.0	142.1	2200	558 (411.6) @ 1400

Customer Benefits

- Electronic fuel injection for improved engine control, delivering enhanced low speed torque and SFC
- Wide range of build options enabling better machine integration
- Low heat rejection enables a smaller cooling group and more compact installation
- Enhanced fuel filtration system provides excellent tolerance to variations in fuel quality
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA and EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

1104D-E44TA

Power Unit

Specifications

Number of cylinders ..... 4 in-line
Bore and stroke.....105 x 127 mm (4.1 x 5.0 in)
Displacement .....4.4 litres (269 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.2:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity..... 8.4 litres (2.2 US gal)
Total coolant capacity ..... 17 litres (4.5 US gal)
Length..... 1358 mm (53.4 in)
Width ..... 746 mm (29.4 in)
Height ..... 969 mm (38.1 in)
Dry weight ..... 594 kg (1309 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
96.5	129.4	2200	516 (380) @ 1400

Customer Benefits

- Electronic fuel injection for improved engine control, delivering enhanced low speed torque and SFC
- Large selection of standard build configurations
- Cooling packs matched to meet the needs of high ambient temperature locations
- Low heat rejection enables a smaller cooling group and more compact installation
- Enhanced fuel filtration system provides excellent tolerance to variations in fuel quality
- Simple plug and play installation requires minimal engineering, ideal for low volume/bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA/EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

1106C-70TA

Industrial Engine

Specifications

Number of cylinders ..... Vertical in-line 6 cylinder
Bore and stroke.....105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.2:1
Engine rotation .....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubrication capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Length..... 1074.3 mm (42.3 in)
Width ..... 721.1 mm (28.3 in)
Height ..... 823.9 mm (32.4 in)
Dry weight ..... 704 kg (1551 lb)

Final weight and dimensions will depend on completed specification.

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
112	150	1200	687 (507) @ 1200
129	172	1400	733 (540) @ 1400
137	183	1400	725 (534) @ 1400
145	194	1400	775 (571) @ 1400
162	217	1400	900 (664) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Wide range of build options enabling better machine integration
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage II / U.S. EPA Tier 2

1106D-70TA

Industrial Engine

Specifications

Number of cylinders ..... Vertical in-line 6 cylinder
Bore and stroke.....105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.5:1
Engine rotation .....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubrication capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Length.....1074.3 mm (42.3 in)
Width .....721.1 mm (28.3 in)
Height .....823.9 mm (32.4 in)
Dry weight ..... 704 kg (1551 lb)

Final weight and dimensions will depend on completed specification.

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
112	150.1	2200	672 (495) @ 1100
118	158.2	2000	692 (510) @ 1200
129	173.0	2000	900 (663) @ 1400

Customer Benefits

- Mechanical fuel injection for ease of service
- Wide range of build options enabling better machine integration
- High quality oil and fuel filtration improves reliability and durability
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage III / U.S. EPA Tier 3

1106D-E70TA

Industrial Engine

Specifications

Number of cylinders ..... 6 in-line
Bore and stroke.....105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.8:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Liquid
Total lubricating capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4 US gal)
Length.....1050 mm (36.5 in)
Width .....668 mm (26.2 in)
Height .....817 mm (32.2 in)
Dry weight ..... 506 kg (1115 lb)

Final weight and dimensions will depend on completed specification

Ratings

'C' Rating		Speed rpm	Maximum Torque Nm (lbf·ft) @ rpm
kW	hp		
116.5	156.2	2200	706 (520.7) @ 1400
129.0	173.9	2200	800 (590.0) @ 1400
129.0	173.9	2500	840 (619.0) @ 1400
151.0	202.5	2200	922 (680.0) @ 1400
159.0	213.0	2200	975 (719.0) @ 1400
168.0	225.3	2200	1028 (758.2) @ 1400
186.0	249.4	2200	1050 (774.4) @ 1400
205.0	275.0	2200	1050 (774.4) @ 1400

Customer Benefits

- Electronic fuel injection for improved engine control, delivering enhanced low speeed torque and SFC
- Wide range of build options enabling better machine integration
- Low heat rejection enables a smaller cooling group and more compact installation
- Enhanced fuel filtration system provides excellent tolerance to variations in fuel quality
- Common installation across 1100 machine range
- Class-leading envelope size for best packaging solution
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA/EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

1106D-E70TA

Power Unit

Specifications

Number of cylinders ..... Vertical in-line 6 cylinder
Bore and stroke.....105 x 135 mm (4.13 x 5.3 in)
Displacement .....7.01 litres (427.7 cubic in)
Aspiration .....Turbocharged aftercooled
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 16.8:1
Engine rotation .....Anti-clockwise viewed from flywheel
Cooling system..... Liquid
Total lubrication capacity.....13-16 litres (3.4-4.2 US gal)
Total coolant capacity ..... 15.2 litres (4.0 US gal)
Length..... 1728 mm (68 in)
Width ..... 788 mm (31 in)
Height ..... 1140 mm (44.9 in)
Dry weight ..... 788 kg (1737 lb)

Final weight and dimensions will depend on completed specification.

Ratings

'C' Rating		Speed rpm	Maximum Torque
kW	hp		Nm (lbf·ft) @ rpm
116.5	156.2	2200	706 (520.7) @ 1400
129.0	173.9	2500	840 (619.0) @ 1400
151.0	202.5	2200	922 (680.0) @ 1400
168.0	225.3	2200	1028 (758.2) @ 1400
186.0	249.4	2200	1050 (774.4) @ 1400
205.0	275.0	2200	1050 (774.4) @ 1400

Customer Benefits

- Electronic fuel injection for improved engine control, delivering enhanced low speed torque and SFC
- Large selection of standard build configurations
- Cooling packs matched to meet the needs of high ambient temperature locations
- Low heat rejection enables a smaller cooling group and more compact installation
- Enhanced fuel filtration system provides excellent tolerance to variations in fuel quality
- Simple plug and play installation requires minimal engineering, ideal for low volume/bespoke applications
- Noise optimised for operator comfort and reduced machine noise attenuation

Complies with EU Stage IIIA/EPA Tier 3 for non-road mobile machinery powered by variable speed engines (EPA 40 CFR Part 89 Tier 3)

Accessories

Engine Control Panels

The installation of Perkins Industrial Open Power Units (IOPUs) is even easier for our customers because they no longer need to source the engine control panels separately.

This small, lightweight and easy-to-use engine control panel can be ordered at the same time as the IOPU. It is a cost-effective component that is entirely compatible with the engine models listed and is fully covered by Perkins' warranty system.

The rugged engine control panel allows the operator to start and stop the engine, control engine speed, enable or disable regeneration, and monitor vital engine information and diagnostics by using a graphical LCD display.

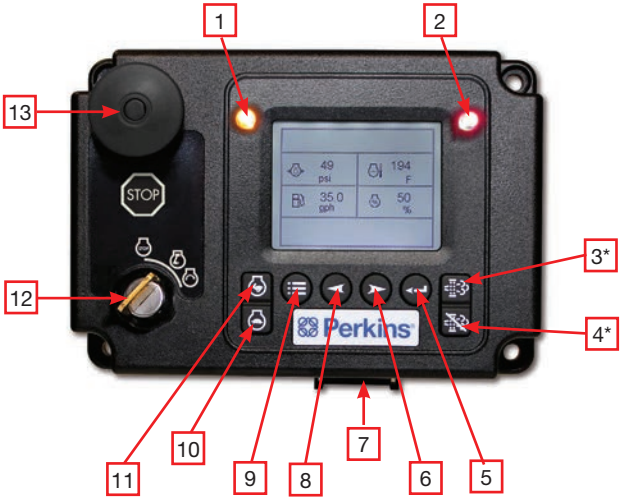
Control Panel Dimensions

Depth ..... 76 mm (3.0 in)
Width ..... 233 mm (9.2 in)
Height ..... 163 mm (6.4 in)
Weight ..... 1.7 kg (3.7 lb)

Engine Control Panel

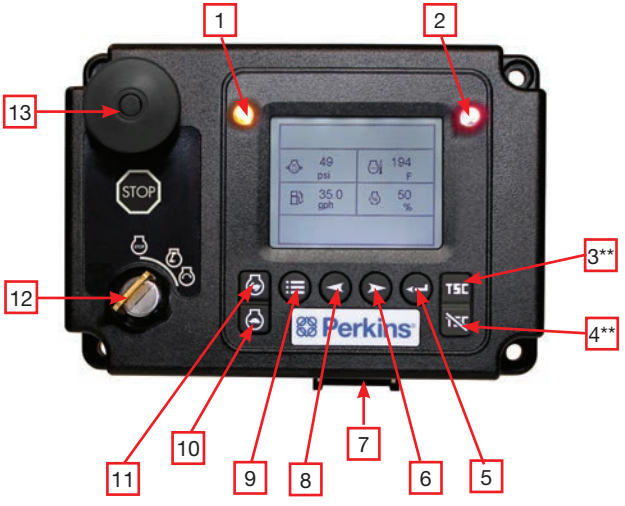
Perkins Part Number: 380-3669. Available for IOPU Models:

- MK, ML 1204E-E44TTA and 1204E-E44TA
- JR 854F-E34T
- JS, JT 854E-E34TA
- BK 1206E-E66TA
- BL 1206E-E70TTA



Perkins Part Number: 4470531. Available for IOPU Models:

- MT 1204F-E44TTA and 1204F-E44TA
- BN 1206F-E70TA and 1206F-E70TTA



Engine Control Panel

1. Yellow Fault/Warning Lamp: Indicates when a warning is present via CAN communications.
2. Red Fault/Shutdown Lamp: Indicates when a shutdown is present via CAN communications.

3*. Request Regeneration Button: This button allows the operator to send a regeneration request to engine to perform an active regeneration.

4*. Inhibit Regeneration Button: This button allows the operator to send a message to the engine to inhibit the engine from performing an active regeneration.

3**. TSC Off: This button disables the TSC functionality.

4**. TSC On: This button enables the use of TSC.

5. Enter Button: This button allows the operator to select settings within the setting screen for adjustability and saving.
6. Arrow Right Button: This button allows the operator to scroll though faults on gauge screens and settings once in the setting screen.
7. IOPU Panel Connector: Connects the IOPU Panel to the engine harness.
8. Arrow Left Button: This button allows the operator to scroll though faults on gauge screens and settings once in the setting screen.
9. Home Button: This button allows the operator to toggle through screens and exit the settings of the display without saving changes.
10. Throttle Decrease Button: This button allows the operator to throttle engine down via CAN communication utilising TSC1 capabilities. Takes operator to Desired Engine Speed Screen when pressed. (Decrement “Bump” = 25rpm, default adjustable; Ramp Down “Hold” = 200rpm, default adjustable).
11. Throttle Increase Button: This button allows the operator to throttle engine up via CAN communication utilising TSC1 capabilities. Takes operator to Desired Engine Speed Screen when pressed. (Increment “Bump” = 25rpm, default adjustable; Ramp Up “Hold” = 200rpm, default adjustable).
12. Key Switch: Operator initiated cranking of engine via turning the key to crank state.
13. Remote Stop Switch: Operator initiated switch. Push to shutdown engine. Pull to enable cranking via key switch.

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