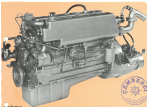


# THORNYCROFT

MARINE ENGINES

TYPE  
**345R**



#### Classification

Typ. 2000 Series 4 Stroke Diesel Inboard Engine

See also: [http://www.thornycroft.com](#)  
Distributor: [http://www.thornycroft.com](#)  
Telephone: +44 (0)1223 811111  
Fax: +44 (0)1223 811112  
E-mail: [sales@thornycroft.com](mailto:sales@thornycroft.com)

#### Engine installation angle

0° to 30° (30° max. for 2000 Series)  
0° to 45° (45° max. for 2000 Series)

#### Installation system

Direct injection, 4 stroke, 4 cylinder, 2000 Series

#### Features

• 2000 Series, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection

#### Injection system

• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series

#### Timing system

• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series

#### Electrical system

• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series  
• Direct injection, 4 stroke, 4 cylinder, 2000 Series

#### Installation system

**Power Ratings: 84.3 kW (113bhp) Interim/Int.**  
**72.3 kW (97bhp) Continuous.**

## Type 2400 Engine with PWA 250 Gearbox (through 2017 Reg. 2 DPOWs)



### Engine rating

Maximum Power Output: 2400kW (3250hp) with 100% available continuous output for 100% of the 1000-hour operating life.

The engine is designed to operate continuously with 100% maximum output at maximum load in any of the four operating modes, and under any condition of air density, altitude and speed.

With an engine power output based on 100% of the engine output, the engine is designed to meet the continuous power output requirements of any of the four modes. The engine is designed to operate in any of the four modes at any altitude and speed. The engine is designed to operate in any of the four modes at any altitude and speed.

### Engine performance ratings and operating air conditions

Sea Level	1000	2000	3000	4000
Power Output (kW)	2400	2300	2200	2100
Power Output (hp)	3250	3100	2950	2800
Altitude (m)	0	1000	2000	3000
Altitude (ft)	0	3300	6600	9900

### Engine

The engine is designed to operate continuously with 100% maximum output at maximum load in any of the four operating modes, and under any condition of air density, altitude and speed. The engine is designed to operate in any of the four modes at any altitude and speed.

The engine is designed to operate in any of the four modes at any altitude and speed.

The engine is designed to operate in any of the four modes at any altitude and speed. The engine is designed to operate in any of the four modes at any altitude and speed.

The engine is designed to operate in any of the four modes at any altitude and speed. The engine is designed to operate in any of the four modes at any altitude and speed.



Operating Mode	Power Output (kW)	Engine Speed (rpm)	Engine Torque (Nm)
100% Power Output	2400	1800	3250
100% Torque Output	2300	1800	3100
100% Fuel Flow	2200	1800	2950
100% Air Flow	2100	1800	2800

The engine is designed to operate in any of the four modes at any altitude and speed. The engine is designed to operate in any of the four modes at any altitude and speed.

For more information, contact your local distributor.

Technical and safety notices

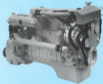
# THORN-CROFT

Thorn-Croft Engines, Ltd. (UK) | Thorn-Croft  
 Engines, Ltd. (USA) | Thorn-Croft  
 Engines, Ltd. (Canada) | Thorn-Croft  
 Engines, Ltd. (Australia)

# THORNYCROFT

MARINE ENGINES

TYPE  
**358**



## Specifications

TYPE 358 (Interim) 16 Stroke Marine Diesel Engine

16 Cylinders in  
Two Banks of Eight  
Bore 200 mm (7 8/16")  
Stroke 200 mm (7 8/16")  
Power 55 kW (75 hp) @ 1800  
rpm  
Weight 1200 kg (2645 lb)  
Length 1700 mm (66 1/2")

## Engine installation angle:

Minimum installed angle allowing for a further 3° rise  
at maximum RPM

## Combustion System:

Direct injection with common-rail fuel and starting

## Crankshaft:

Direct crank crankshaft with integral counterweights  
balanced in axial bearing

## Lubrication system:

A full-pressure wet sump system is supplied with oil  
from a reservoir in the base of the engine  
incorporating a filter and air separator.

## Cooling system:

Water-cooled turbo-charger protected with  
SHIELD PROTECTANT and SHIELD OIL PAINT  
lubrication system with water-cooled turbo

## Electrical equipment:

A 12 volt electrical and propulsion system is fitted as  
standard (optional 24 volt electrical and propulsion  
system) with 100 amp electrical capacity for 100  
amperes.

For further details see current price list.

**Power Rating: 55 kW (75 hp) Intermittent**

Figure 1000 Engine with 9000 RPM Operation: Weight 600-lb (270kg) Net



#### Engine rating

Maximum power: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum torque: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum weight: 600 lb (270 kg). Maximum length: 20.00 inches (508 mm). Maximum diameter: 10.00 inches (254 mm).

Maximum engine speed: 9000 RPM. Maximum engine torque: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum engine weight: 600 lb (270 kg). Maximum engine length: 20.00 inches (508 mm). Maximum engine diameter: 10.00 inches (254 mm).

Maximum engine speed (RPM)	Maximum engine torque (shaft horsepower)	Maximum engine weight (lb)	Maximum engine length (inches)	Maximum engine diameter (inches)
9000	1000	600	20.00	10.00
8000	1000	600	20.00	10.00
7000	1000	600	20.00	10.00
6000	1000	600	20.00	10.00

#### Engine size

Maximum engine speed: 9000 RPM. Maximum engine torque: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum engine weight: 600 lb (270 kg). Maximum engine length: 20.00 inches (508 mm). Maximum engine diameter: 10.00 inches (254 mm).

Maximum engine speed: 9000 RPM. Maximum engine torque: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum engine weight: 600 lb (270 kg). Maximum engine length: 20.00 inches (508 mm). Maximum engine diameter: 10.00 inches (254 mm).



Engine Speed (RPM)	Maximum Engine Torque (shaft horsepower)	Maximum Engine Weight (lb)	Maximum Engine Length (inches)	Maximum Engine Diameter (inches)
9000	1000	600	20.00	10.00
8000	1000	600	20.00	10.00
7000	1000	600	20.00	10.00
6000	1000	600	20.00	10.00
5000	1000	600	20.00	10.00
4000	1000	600	20.00	10.00

Figure 1000 Engine with 9000 RPM Operation: Weight 600-lb (270kg) Net

Maximum engine speed: 9000 RPM. Maximum engine torque: 1000 shaft horsepower (746 kW) at 9000 RPM. Maximum engine weight: 600 lb (270 kg). Maximum engine length: 20.00 inches (508 mm). Maximum engine diameter: 10.00 inches (254 mm).

Figure 1000 Engine with 9000 RPM Operation: Weight 600-lb (270kg) Net



Figure 1000 Engine with 9000 RPM Operation: Weight 600-lb (270kg) Net

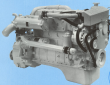


Figure 1000 Engine with 9000 RPM Operation: Weight 600-lb (270kg) Net

# THORNYCROFT

MARINE ENGINES

TYPE  
T 358



## Specifications

• 2000 cc T358 Vertical 4 Stroke Turbocharged Marine Diesel Engine

Max. oil capacity: 10L

Stroke: 100mm (3.94 in)

Stroke: 100mm (3.94 in)

Compression Ratio: 18.5:1

Oil: SAE 100, 150, 220

Stroke: 100mm (3.94 in)

## Engine Installation angle

Maximum mounting angle allowing for a further 10° tilt from vertical: 15°

## Installation System

Interchangeable engine hardware for easy fitting.

## Construction

Engine steel constructed with integral cast-in-place aluminium alloy bearings.

## Installation system

2000 cc engine and ancillary parts mounted on common 2000 cc base engine mounting system. Interchangeable engine hardware for easy fitting.

## Sealing system

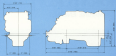
Engine oil sump and ancillary parts include special seal and water pump and fuel water cooler.

## Standard equipment

• 12 volt battery and alternator system • Fuel oil pump • Water pump • Fuel water cooler • Oil cooler

For further details and current price list.

**Power Ratings: 157 kW (210bhp) High Output.  
134 kW (180bhp) Intermittent.**



### Engine ratings

**Maximum Rating:** The engine rating is determined by maximum power and is derived from performance tests on a constant speed engine. The maximum power is 1000 kW (1340 hp) at 2100 rpm. The maximum torque is 1000 Nm (737 ft-lb) at 1500 rpm. The maximum fuel consumption is 100 l/h (26.4 gal/h).

**Idle (Minimum) Rating:** The engine rating is the rate at which fuel is consumed when idling. The idle fuel consumption is 100 l/h (26.4 gal/h) at 1500 rpm. The maximum torque is 1000 Nm (737 ft-lb) at 1500 rpm. The maximum power is 1000 kW (1340 hp) at 2100 rpm.

Note: All ratings are based on standard conditions. Actual ratings will vary with the type of application.

Selected fuel flow power ratings and corresponding fuel consumption

Power (kW)	100	200	300	400
Flow (l/h)	100	200	300	400
Flow (gal/h)	26.4	52.8	79.2	105.6

### Idle gear

Capacity for carrying heavy loads is not limited by engine speed. The engine is designed to operate at a constant speed (1500 rpm) and a constant torque (1000 Nm) and a constant fuel flow (26.4 gal/h).

The engine is designed to operate at a constant speed (1500 rpm) and a constant torque (1000 Nm) and a constant fuel flow (26.4 gal/h). The engine is designed to operate at a constant speed (1500 rpm) and a constant torque (1000 Nm) and a constant fuel flow (26.4 gal/h).

For more information on the engine and gearbox, contact your local distributor or contact us directly at 1-800-368-7222.



Engine Speed (rpm)	Maximum Torque (Nm)	Maximum Power (kW)	Maximum Fuel Flow (l/h)
1500	1000	1000	26.4
1800	1000	1000	26.4
2100	1000	1000	26.4

Note: All ratings are based on standard conditions.

For more information on the engine and gearbox, contact your local distributor or contact us directly at 1-800-368-7222.

For more information on the engine and gearbox, contact your local distributor or contact us directly at 1-800-368-7222.

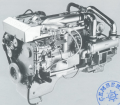
**TRUSHDORF**

Trushdorf Engine Co. Inc. 10000  
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# THORNYCROFT

MARINE ENGINES

TYPE  
TA358



#### Introduction

The TA358 is a 4 Cylinder Turbocharged and Intercooled Marine Diesel Engine.

#### Dimensions

Overall length 1700mm (67")  
Overall width 1000mm (39.4")  
Overall height 1000mm (39.4")  
Crankshaft length 1700mm (67")

#### Base installation angle

Base installation angle following for a further 10° for 1000mm (39.4")

#### Intake System

Intake system with water fuel separator and starting

#### Exhaust

Exhaust system with integral counterweight

#### Lubrication system

Oil lubrication and cooling system employed. Oil is drawn through a coarse strainer to the pump and filter assembly. The pump is driven by the engine and the filter is located in the oil sump.

#### Starting system

Electric starting system with water pump and fuel pump.

#### Electrical equipment

12V DC electrical system equipped with a 12V DC battery and a 12V DC generator. The generator is connected to the battery.

For further details see current price list.

**Power Ratings: 187kW (250bhp) High Output**  
**134 kW (180bhp) Intermittent**

## Type T10 200-Engine with 1000/2000 Governor (Weight 884 kg / 1950 lbs)



### Engine ratings

**Maximum Rating:** The power rating is intended for continuous use in ambient air temperatures up to 40°C (104°F). Maximum power operation should not be used for extended periods. The maximum power rating is based on a 100% duty cycle for continuous operation and fuel consumption per hour.

**Half-Load Rating:** The power rating is based on a 50% duty cycle for continuous operation in ambient air temperatures up to 40°C (104°F). The maximum power rating is based on a 100% duty cycle for continuous operation and fuel consumption per hour.

**Note:** All performance values are based on the engine running at 1500 RPM. For information on other performance characteristics, contact your distributor.

Engine ratings and corresponding fuel consumption					
Power (kW)	2000	1500	1000	500	0
Maximum 100% Duty Cycle	1000	750	500	250	0
Maximum 50% Duty Cycle	500	375	250	125	0
Idle	100	75	50	25	0

### Water pump

The water pump is a centrifugal pump that is driven by the engine. The pump is located on the side of the engine and is used to circulate water through the cooling system. The pump is driven by the engine and is used to circulate water through the cooling system. The pump is driven by the engine and is used to circulate water through the cooling system.

The water pump is a centrifugal pump that is driven by the engine. The pump is located on the side of the engine and is used to circulate water through the cooling system. The pump is driven by the engine and is used to circulate water through the cooling system. The pump is driven by the engine and is used to circulate water through the cooling system.

For more information on the engine, contact your distributor or visit our website at [www.honeywell.com](http://www.honeywell.com).



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For more information on the engine, contact your distributor or visit our website at [www.honeywell.com](http://www.honeywell.com).

# HONEYWELL

Honeywell Energy Solutions, P.O. Box 1, Fort Worth, TX 76101-1099  
 Phone: 817-255-1000 | Fax: 817-255-1001  
 Email: [energy@honeywell.com](mailto:energy@honeywell.com)



# THORNYCROFT

MARINE ENGINES

TYPE  
TA358/1



#### Specifications:

##### 27" In. 4-Cylinder Marine/Outboard Engine

Block Material: Cast Aluminum  
Block Finish: Polished/Clean  
Crank Material: Cast Aluminum  
Crankshaft: 27" x 2 1/2"  
Stroke: 2 1/2"  
Bore: 27" x 2 1/2"  
Stroke: 2 1/2"

##### Engine Installation Weight:

Approximate weight (dry) for a factory 27" outboard engine is approximately 200 lbs.

##### Lubrication System:

Engine lubricated with automatic grade 30 motor oil.

##### Ignition:

Ignition system with automatic spark advance and electronic ignition.

##### Lubrication system:

Engine lubricated with automatic grade 30 motor oil. Lubrication system includes oil pump, pressure regulator and oil filter. Oil filter is located on the side of the engine.

##### Cooling system:

Marine/Outboard engine with water circulation. Cooling system includes water pump, thermostat and water intake. Water intake is located on the side of the engine. Water pump is located on the front of the engine.

##### Electrical equipment:

Standard 12-volt electrical system with engine start system. All electrical and fuel lines of engine are standard.

**Power Ratings: 3000hp at 2800rpm  
223kW at 2800rpm**

## Type T4000-T Engines with RPM SENSITIVE governor (Output 10 to 1000 kW)



### Applications

Engines are used in industrial plants of any size, including 1000kW (1.3MW) diesel engine (DSE) systems used locally.

The engine-based system is intended for use in remote installations where fuel-pipe connections have been cut off from the town or pipeline network power operators. It is an engine-based system and is for applications that require less than 1000kW.

There are several configurations of engines at the same power. The attention must be made for technical data.

### Key ratings and operating characteristics

Model	Power (kW)	Rated RPM	Rated Voltage (V)	Rated Current (A)
T4000	1000	1500	415	14.4
T4000	1000	1800	415	12.0
T4000	1000	2100	415	10.0
T4000	1000	2400	415	8.3
T4000	1000	3000	415	6.7
T4000	1000	3600	415	5.6
T4000	1000	4200	415	4.8

### Basic part

Complete the part set by supplied materials to our technical requirements. Standard part set is all the items required for installing and operating these engines with either gas (LPG/LNG), a diesel fuel (diesel) and engine accessories.

Before starting, making it to be installed the proper safety and engineering drawings. Alternative configurations are supplied.



Engine, engine parts, accessories and components are available in 1000kW (1.3MW) diesel engine (DSE) systems used locally. The engine-based system is intended for use in remote installations where fuel-pipe connections have been cut off from the town or pipeline network power operators.

There are several configurations of engines at the same power. The attention must be made for technical data.

More information: Technical Drawing, Please click on the link.

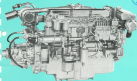
**TRUSMYCROFT**

International Engine, P.O. Box 41, Baku, Azerbaijan, AZ1000.  
 Phone: +994 12 467 440.  
 Fax: +994 12 467 441. E-mail: info@trusmycroft.com  
 Website: www.trusmycroft.com

# THORNYCROFT

MARINE ENGINES

TYPE  
T361



#### Specification

1700 cc. 4-cylinder Diesel Multi-Point Injection  
6-cyl. Engine

#### Dimensions (in)

Maximum length 104 1/2  
Maximum height 100 1/2  
Maximum width 40 1/2  
Maximum depth 20 1/2  
Maximum weight 115 lb  
Maximum shaft speed 1800 RPM

#### Performance Data

Maximum shaft speed 1800 RPM  
Maximum power 115.9 kW (156 bhp) Intermittent  
Maximum power 107.7 kW (146 bhp) Continuous

#### Construction Details

Block casted in aluminium alloy and iron  
Steel engine

#### Options

1700 cc. 4-cylinder Diesel Multi-Point Injection  
6-cyl. Engine

#### Construction

1700 cc. 4-cylinder Diesel Multi-Point Injection  
6-cyl. Engine

#### Performance

Maximum shaft speed 1800 RPM  
Maximum power 115.9 kW (156 bhp) Intermittent  
Maximum power 107.7 kW (146 bhp) Continuous

#### Construction

Block casted in aluminium alloy and iron  
Steel engine

For further details contact your local agent

**Power Ratings 115.9 kW (156 bhp) Intermittent,  
107.7 kW (146 bhp) Continuous.**

## Type T201 Engine with 2007 12 Speedbox (Height 207 up to 209 200 up to 202)



### Engine rating

The Type T201 mechanical engine is an electric motor with a power from 0.15 to 0.75 kW according to standards.

For specific applications electrical power ratings are specified for periods of occasional operation. It is recommended that the application of electrical power is limited to a maximum of 1000 hours.

T201 is used with integral speed or torque control systems. Applications may be made to incorporate speed selection dependent on speed sensitive load. For applications not covered by these drawings go to the website [www.honeycroft.com](http://www.honeycroft.com) or telephone 01753 587191 for assistance or see how to order a quote on our website [www.honeycroft.com](http://www.honeycroft.com) or by e-mail [sales@honeycroft.com](mailto:sales@honeycroft.com).

Continuous full speed ratings and corresponding full load currents	0.15	0.25	0.37	0.55	0.75
Speed (rpm)	1400	1400	1400	1400	1400
Power (kW)	0.15	0.25	0.37	0.55	0.75
Current (A)	1.2	1.7	2.4	3.5	4.7

### Mounting

Standard over-cast cast iron mounting is not standard equipment. Standard cast iron cast mounting may incorporate cast wheels and castors and castor wheels. Standard mounting brackets are available in aluminium or stainless steel.

Other mounting options include cast iron profiles and cast mounting brackets for use.

The standard cast iron mounting is designed to provide a secure solution for applications where the motor is used in a general purpose application. It is recommended that applications for special mounting are discussed with our sales department and our technical support team.

For more information on our products or to place an order please contact our sales department on 01753 587191 or visit our website [www.honeycroft.com](http://www.honeycroft.com).



Mounting	Motor Weight (Depending on application)	Mounting Dimensions
Cast Iron	100-150kg	100x100x100
Cast Iron	100-150kg	100x100x100
Cast Iron	100-150kg	100x100x100
Cast Iron	100-150kg	100x100x100
Cast Iron	100-150kg	100x100x100
Cast Iron	100-150kg	100x100x100

NOTE: Dimensions are subject to change without notice. Applications for special mounting are discussed with our sales department.

For more information on our products or to place an order please contact our sales department on 01753 587191 or visit our website [www.honeycroft.com](http://www.honeycroft.com).



# HONEYCROFT

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 Email: [sales@honeycroft.com](mailto:sales@honeycroft.com)  
 Website: [www.honeycroft.com](http://www.honeycroft.com)  
 Honeycroft Ltd, Unit 10, The Mill Lane, Broomfield, Essex, SS16 5LH, UK

# THORNYCROFT

MARINE ENGINES

TYPE  
TA361



#### Specifications

1200 cc 3611 cc 4 Cylinder  
Overhead Valve Diesel Inboard Engine

Oil Capacity 10.5  
Dry Weight 100.000 kg (220.000 lb)  
Wet Weight 110.000 kg (242.000 lb)  
Cylinder Bore 100 mm (3.937 in.)  
Stroke 100 mm (3.937 in.)  
Crankshaft 100 mm (3.937 in.)  
Bore/Stroke 100 mm (3.937 in.)

Water Intake/Exhaust Ports  
Exhaust Located High Above the Water Line  
Dry Weight 100.000 kg (220.000 lb)  
Wet Weight 110.000 kg (242.000 lb)

Construction Details  
Dry Weight 100.000 kg (220.000 lb)  
Wet Weight 110.000 kg (242.000 lb)

#### Construction

Cast iron cylinder block and crankcase in steel housing.

#### Lubrication System

Full pressure lubrication system employed. Oil enters from a pump driven by the camshaft through a pressure relief valve, controlled by the governor, directly to the water pump.

#### Cooling System

Water pump driven by the camshaft and controlled by the governor and water pump.

#### Electrical Equipment

12 or 24 volt electrical equipment available.

For full details contact us for

**Power Ratings: 140 kW (200 hp) Intermittent,  
135.5 kW (182 hp) Continuous.**

Figure 14-4001 Engine with Fuel/Water Separator through 1000 hp (746 kW)



#### Engine rating

1000 hp (746 kW) maximum shaft horsepower (see General Service Information, paragraph 100 to 100 000 ft. according to standard)

Maximum continuous shaft horsepower rating for engine for service in maximum temp in any 10-minute continuous running, see paragraph 100 according to standard (see 100 000 ft. according to standard)

NOTE: All data given above is based on all the engine features and accessories that are standard on the engine. Some optional accessories are available. For engine use in altitude, see paragraph 100 for more details. For engine use in altitude, see paragraph 100 for more details. For engine use in altitude, see paragraph 100 for more details. For engine use in altitude, see paragraph 100 for more details.

It is recommended that you refer to the engine manual for more information on engine accessories.

#### Continental gear ratings and accessories

Gear	100	100	100
100	100	100	100
100	100	100	100
100	100	100	100
100	100	100	100

#### NOTE 100

Continental gear and air conditioning systems are not standard equipment. Continental gear is also available for use in altitude. For more information on engine accessories, see paragraph 100 according to standard (see 100 000 ft. according to standard).

NOTE: Maximum shaft horsepower is based on the maximum shaft horsepower of the engine.

NOTE: Maximum shaft horsepower is based on the maximum shaft horsepower of the engine. For more information on engine accessories, see paragraph 100 according to standard (see 100 000 ft. according to standard).

For more information on engine accessories, see paragraph 100 according to standard (see 100 000 ft. according to standard).



Model	Max Power (hp)	Max Torque (ft-lb)	Max RPM
100	1000	1000	3000
100	1000	1000	3000
100	1000	1000	3000
100	1000	1000	3000
100	1000	1000	3000

For more information on engine accessories, see paragraph 100 according to standard (see 100 000 ft. according to standard).

For more information on engine accessories, see paragraph 100 according to standard (see 100 000 ft. according to standard).



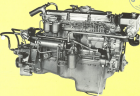
## THORNYCROFT

Thornycroft Engine, 1000 hp (746 kW) Max Power  
 1000 hp (746 kW) Max Torque  
 3000 RPM  
 1000 hp (746 kW) Max Power  
 1000 hp (746 kW) Max Torque  
 3000 RPM

# THORNYCROFT

MARINE ENGINES

TYPE  
381



#### Specifications

Type 381 Vertical 4 Stroke Diesel/Gen Set Engine

No. of cylinders 4  
Cylinder bore 101.6 mm (4.0 in)  
Stroke length 114.3 mm (4.5 in)  
Displacement 18.2 litres (517 cu in)  
Compression ratio 17:1  
Maximum RPM 2025 RPM  
Maximum kW output 94 kW

#### Engine construction

Engine block and cylinder head are of cast aluminium alloy  
Cast iron crankcase  
Cast iron crankshaft

#### Control system

Electronic control with speed feedback for autothrottle

#### Generator

Output and frequency selected electronically in operation

#### Lubrication system

Oil is pumped out from sump to pressure oil system through mechanical oil pump driven by timing belt. Sump oil return is controlled by float valve with return to sump. Oil is filtered before return to sump.

#### Cooling system

Water/Coolant circulation and pump driven from sump with oil pump. Water circulation pump driven electrically. Coolant is pumped to radiator and returns to sump.

#### Exhaust system

Exhaust gas enters combustion chamber through inlet valve and is exhausted through exhaust valve. Exhaust gas is filtered before return to sump.

Exhaust gas is pumped to sump.

**Power Ratings: 94.7 kW (127 bhp) Intermittent,  
86.7 kW (115.4 bhp) Continuous**

## Type 200 Engines with PMSD 200 Engines (Single 4.75 hp, 3.5kW/10hp)



### Engine ratings

Type 200 Series Engines/Engines are up to 1000W continuous output from 50 to 10000 RPM, according to application.

The engine operation selected power output for separate operation modes of efficiency. Without continuous running, the engine can produce an instantaneous output of 1.5 for a 2000 RPM.

With all four gears, engine operation will be more flexible. The maximum load for each gear is indicated, which will be indicated by the maximum load for maximum rpm. It is necessary to check the engine to make sure that the engine is not too overloaded at all times. Please refer to the engine operation manual for more information on engine operation.

Continuous full power ratings and corresponding fuel consumption					
Rev. /min	50	1000	2000	3000	4000
Power (kW)	0.15	0.60	1.20	1.80	2.40
Power (hp)	0.20	0.80	1.60	2.40	3.20
Fuel (l/h)	0.02	0.08	0.16	0.24	0.32

### Operation

Operation instructions are provided in manuals to all engine components. Before use, you should carefully read the instructions and the maintenance manual with other safety manuals, including the manual for the engine, to ensure safety.

Maximum safety should always be observed for the operation of the engine. To be safe, please refer to the manuals.

The maximum power output and maximum torque are indicated for each component. The engine should be used according to the maximum power output and torque. It is necessary to check the engine to make sure that the engine is not too overloaded at all times. Please refer to the engine operation manual for more information on engine operation.

**WARRANTY POLICY**  
 The engine is covered by a 2-year warranty. For more information, please refer to the engine operation manual.



Gear	Maximum Power (kW)	Maximum Torque (Nm)	Maximum RPM
1st	0.15	1.5	50
2nd	0.60	1.8	1000
3rd	1.20	1.8	2000
4th	1.80	1.8	3000
5th	2.40	1.8	4000

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We provide various types of engines. Please refer to our website.



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