

## Diesel Engine - Marine Gen Set Power **415GM**

**13.5 kWm 1500 rev/min**  
**16.2 kWm 1800 rev/min**

From the Perkins Sabre partnership, and based on the Perkins 400 Series which provides compact power from a robust family of 3 and 4 cylinder diesel engines, designed to meet today's uncompromising demands within the power generation industry.

The 415GM is a compact 3-cylinder naturally aspirated diesel engine. Its premium features provide economic and durable operation for prime duty, and is designed to comply with all proposed emission legislation.

### Compact, efficient power

A class-leading engine package coupled with an innovative, newly designed cooling pack provides optimum power density, making installation and transportation easier and cheaper. This package has been specially designed to hit the key power nodes required by the marine industry.

### Quiet, clean power

The 415GM has an exceptionally low noise signature making it the ideal choice for power generation in any environment. A high compression ratio also ensures clean rapid starting in all conditions. Design features ensure maximum cleanliness in terms of emissions throughout the engines operating life.

### Reliable power

Developed and tested using the latest engineering techniques this engine reliably provides power when you need it. Operating and maintenance costs are reduced through excellent fuel and oil economy whilst whole-life costs are enhanced by a 500 hour service interval and a 2 year warranty. Excellent service access further improves maintenance and support is provided by a worldwide network of 4000 distributors and dealers. Suitable for operation in ambient temperatures up to 50°C and sea water up to 38°C. Durable sea water cooling provided by gear driven water pump.

Engine Speed rev/min	Type of Operation	Typical Generator Output (net)		Engine Power Gross	
		kWe	kVA	kW	bhp
1500	Prime Power	11.1	13.8	12.3	16.5
	Standby (maximum)	12.2	15.2	13.5	18.1
1800	Prime Power	13.2	16.5	14.7	19.7
	Standby (maximum)	14.6	18.2	16.2	21.7

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1

**Derating may be required for conditions outside these; consult your Perkins Sabre contact**

Generator powers are typical and are based on typical alternator efficiencies of 90% and a power factor (cos.θ) of 0.8

**Fuel specification:** BS 2869: Part 2 1998 Class A2 or ASTM D975 D2

**Lubricating oil:** To API CH4/ACEA E5

#### Rating Definitions

**Prime Power:** Power available at variable load in lieu of a main power network. Overload of 10% is permitted for 1 hour in every 12 hours' operation

**Standby (maximum):** Power available at variable load in the event of a main power network failure. No overload is permitted

# 415GM

## Standard Engine Specification

### Air Inlet

Mounted air filters

### Fuel System

Electronically governed cassette type fuel injection pump  
Single element fuel filter

### Lubrication System

Wet steel sump with filler and dipstick  
Spin-on-full-flow lub oil filter

### Cooling System

Thermostatically-controlled system with belt driven circulating pump  
Fresh water heat exchanger cooled engine with gear driven self priming raw water pump and ceramic seals  
Fresh water cooled exhaust manifold incorporating header tank assembly

### Electrical Equipment

12 Volt starter motor and 12 Volt 55 Amp alternator with DC output

Oil pressure and coolant temperature switches  
Glow plug cold start aid and heater/starter switch

### Flywheel and Housing

1500/1800 rev/min  
High inertia flywheel to SAE J620 Size 7½ Heavy  
Flywheel housing SAE 4 Long

### Mountings

Front and rear mounting brackets

### Literature

User's handbook

### Optional Equipment

Keel cooling kit  
Onboard spares kit  
Factory test certificate  
90 amp 12 Volt alternator  
24 Volt starter motor and 24 Volt 60 amp alternator with DC output

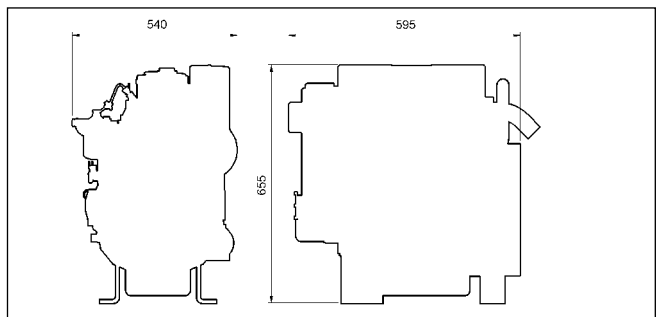


## General Data

<b>Number of Cylinders</b>	3
<b>Cylinder Arrangement</b>	Vertical in-line
<b>Cycle</b>	4 stroke
<b>Induction System</b>	Natural aspiration
<b>Combustion System</b>	Indirect injection
<b>Cooling System</b>	Water-cooled
<b>Bore &amp; Stroke</b>	84 x 90 mm
<b>Displacement</b>	1496cc
<b>Compression Ratio</b>	22.5:1
<b>Direction of Rotation</b>	Anti-clockwise viewed on flywheel
<b>Total Lubrication System Capacity</b>	6 litres
<b>Total Coolant Capacity</b>	8 litres
<b>Length</b>	595 mm
<b>Width</b>	540 mm
<b>Height</b>	655 mm
<b>Wet Weight (Engine)</b>	213 kg

## Fuel Consumption

Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
At Standby Rating	265	4.2	265	5.0
At Prime Power	260	3.7	261	4.5
At 75% Prime Power	265	2.8	269	3.4
At 50% Prime Power	298	2.1	302	2.6



Perkins Engines Company Limited

A Partnership  
in Marine Power



For more information regarding the product please contact:  
Sabre Engines Ltd  
Wimborne  
Dorset BH21 7PW  
England

Telephone +44 (0)1202 893720  
Facsimile +44 (0)1202 851700  
E-mail [post@sabre-engines.co.uk](mailto:post@sabre-engines.co.uk)  
Website [www.perkins-sabre.com](http://www.perkins-sabre.com)

All information in this leaflet is substantially correct at the time of printing but may be changed subsequently by the Company