



Diesel Engine - Marine Gen Set Power **422GM**

20.2 kWm 1500 rev/min
24.2 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 2, 3 and 4 cylinder diesel engines, designed to meet today's uncompromising demands within the power generation industry.

The 422GM is a compact 4-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 422GM 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	16.6	20.7	18.4	24.7
	Standby (maximum)	18.2	22.8	20.24	27.1
1800	Prime Power	19.8	24.8	22.0	29.5
	Standby (maximum)	21.8	27.2	24.2	32.5

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 2859: 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

422GM

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 7 1/2 Heavy

Flywheel housing SAE 4 Long

Mountings

Front and rear mounting brackets

Literature

User's handbook

Optional Equipment

Keel cooling kit

Onboard spares kit

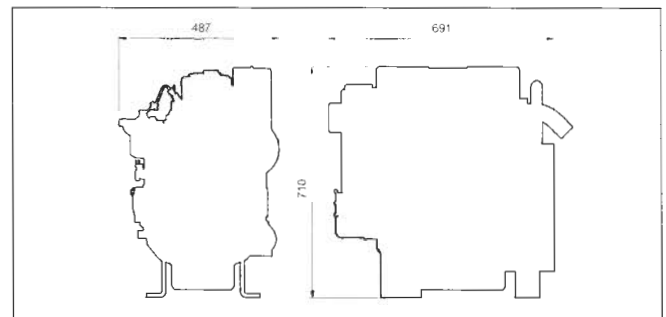
Factory test certificate



General Data

Number of Cylinders	4
Cylinder Arrangement	Vertical in-line
Cycle	4 stroke
Induction System	Natural aspiration
Combustion System	Indirect injection
Cooling System	Water-cooled
Bore & Stroke	84 x 100mm
Displacement	2216cc
Compression Ratio	23.3:1
Direction of Rotation	Anti-clockwise viewed on flywheel
Total Lubrication System Capacity	10.6 litres
Total Coolant Capacity	9 litres
Length	684 mm
Width	487 mm
Height	710 mm
Wet Weight (Engine)	258 kg

Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
At Standby Rating	254	6.2	252	7.3
At Prime Power	243	5.4	245	6.4
At 75% Prime Power	243	4.0	247	4.8
At 50% Prime Power	265	2.9	269	3.5



Perkins Engines Company Limited

A Partnership
in Marine Power



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