



Diesel Engine - Marine Gen Set Power **4.4TW2GM**

93.6 kWm 1500 rev/min
106.8 kWm 1800 rev/min

Building upon Perkins and Sabre's proven reputation within the marine power generation industry, the newly introduced 4.4 Series range of Marine Gen-set engines now fit even closer to the needs of their customers'.

In the world of power generation success is greeted for those providing more for even less. Therefore with this new 4.4TW2GM unit, Perkins Sabre has engineered for its customers even higher levels of reliability, yet lowered the cost of ownership. And with six cylinder capability from a four cylinder package performance increases, but crucially, bare engine noise is lower than ever before.

Rapid starting and pick-up are naturally built in especially for cold operation, but where legislation or local markets demand an emissions capability, then the 4.4TW2GM satisfies US EPA Tier 2 standards.

4.4 Series see the match of technology to customer need. An inline 4 cylinder, 4.4 litre unit very quietly setting a new standard in prime power supply and standby for the marine power generation industry.

Economic Power

One side servicing and cast aluminium header tank for reduced service time and cost. Extended service intervals, including 500 hour (or 12 months) oil change period, and competitively priced parts provide low cost of ownership

Durable Power

Maximum cooling efficiency is provided by a gear driven water pump. Leak free operation is ensured by Viton crankshaft seals and sophisticated controlled swell joints, giving protection in the toughest conditions. Inserted valve seats, oil spray cooled pistons and compact plate cooler give enhanced engine life.

Reliable Power

Suitable for operation in ambient temperatures up to 50°C and sea waters up to 38°C. Fuelled starting aid for temperatures down to -15°C. Over 4,000 distributors and dealers in 160 countries offer full parts and service support. Approved by classification societies and marine authorities.

Engine Speed rev/min	Type of Operation	Typical Generator Output (net)		Engine Power Gross	
		kWe	kVA	kW	bhp
1500	Prime Power	84.2	105.3	93.6	125.5
	Standby (maximum)	92.7	115.9	103.0	138.0
1800	Prime Power	96.1	120.2	106.8	143.2
	Standby (maximum)	105.8	132.2	117.5	157.6

Note: All engine rating data based on operation under BS5514:1996, ISO 3046/1:1995 and DIN 6271 conditions.

Test Conditions Air temperature 25°C (80.6°F), barometric pressure 100 kPa (29.5 in Hg), relative humidity 30%, maximum exhaust back pressure 6 kPa, maximum inlet restriction 3 kPa.

For operation outside of these conditions please consult your Perkins or Sabre Engines contact. Performance tolerance quoted by Perkins is ±5%.

Electrical ratings assume a power factor of 0.8 and a generator efficiency of 90%.

Rating Definitions

Prime Power: Power available at variable load in lieu of main power network. An overload of 10% is permitted for one hour in every twelve hours of operation.

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

4.4TW2GM

Standard Engine Specification

Base engine with:-

- Water jacketed exhaust manifold
- Flat bottomed cast iron sump
- Wiring harness with 23 pin connector
- Electronic governor (control to ISO 8528 G3)
- Rotary fuel injection pump
- Spin on fuel oil filter and separator
- Spin on full flow lub oil filter with integral lubrication oil cooler on left side of engine
- Thermostatically controlled cooling water system
- Gear driven fresh water pump
- Air filter
- Closed engine breather system
- Deaeration header tank
- Users handbook

Optional Equipment

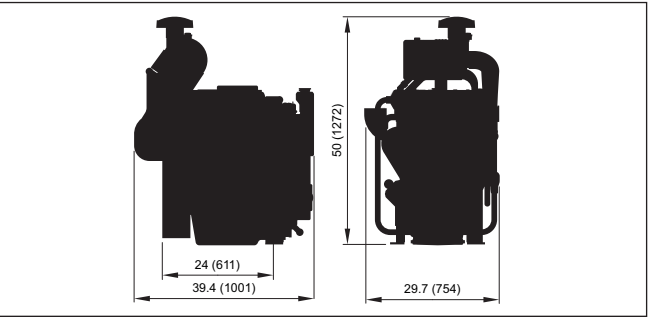
- Backend – SAE 3
- Engine mounting brackets
- Exhaust outlets – either dry with bellows and silencer or water injected
- 12 or 24 volt insulated electrics
- Heat exchanger or keel cooling with radiator cooled versions available
- PTO facility
- 5000 hours parts kit
- Tool kit
- Belt cover
- Classification Society certification



General Data

Number of Cylinders	4
Cylinder Arrangement	Vertical in-line
Cycle	4-stroke
Induction System	Turbocharged, air to water cooled
Combustion System	Direct injection
Cooling System	Fresh water heat exchanger or adapted for keel cooling
Displacement	4.4 litres
Bore & Stroke	105 mm (4.13 in) x 127.0 mm (5.0 in)
Compression Ratio	19:3
Direction of Rotation	Clockwise viewed from front
Firing order	1, 3, 4, 2
Total Lubrication Oil System Capacity	8.5 litres
Coolant Capacity (heat exchanger cooled)	15 litres
Total weight (dry)	495kg (1,091lbs)
Total weight (wet)	522kg (1,151lbs)

Typical Fuel Consumption				
rev/min	1500 rpm		1800 rpm	
	litre/hr	UKgall/hr	litre/hr	UKgall/hr
At 110% of power rating	26.2	5.76	31.2	6.9
At 100% of power rating	23.6	5.19	28.0	6.2
At 75% of power rating	17.8	3.92	21.1	4.6
At 50% of power rating	12.1	2.66	14.7	3.2



 **Perkins®**
Perkins Engines Company Limited

A Partnership
in Marine Power



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