



### Control Panel

The gen-set control panel was designed to include, in one single panel, the switches, control devices and the protection devices. The components are the following :

- Engine cut-off module for automatic stop of engine in case of high water temperature, low oil pressure, high alternator temperature.
- Hour-meter.
- Start-stop button.
- Breaker for protection against of overload or short circuit.
- Thermal switch for D.C. electric circuit.

### Engine

- Easy access in case of maintenance to the feeding system and lubrication, of the sea/water pump and the air filter.
- Safety stop in case of low oil pressure.
- Safety stop in case high water/exhaust gas temperature.
- Oil and fuel filters of easy access.

### Alternator

- Synchronous, 4 poles, brush less self-excited, electronic voltage regulator (AVR).
- Rotor and stator coated with epoxy resin against external agents.
- Rotor dynamically balanced.
- Insulation class H.

### Soundproof cabin

A new project engineering design with a structure of a draw piece of aluminum supporting, painted aluminum panels type 5754 of high resistance to external agents.

Good accessibility inside canopy, makes maintenance services more easy.

### Engine

50 Hz

Model	Yanmar 4TNV88
Type	Diesel 4 stroke
Cylinders (nr.)	4
Cylinder block material	Cast iron
Bore (mm - in.)	88 - 3,46
Stroke (mm - in.)	90 - 3,54
Displacement (cc - cu.in.)	2190 - 133,6
Power (hp)	24,1
Rated rpm	1500
Combustion system	Indirect
Engine head material	Cast iron
Speed governor	Centrifugal mechanical
Lubrication system	Forced
Oil sump capacity (L - qt.)	5,8 - 6,1
Engine stop system	Stop solenoid
Fuel pump	Electric
Fuel pump discharge (cm - in.)	80 - 31,5
Full load consumption (L/h - gal/h)	5,6 - 1,5
Starting battery (Ah-V)	80 - 12
Battery charger (Ah-V)	40 - 12
Starter (kW-V)	1,2 - 12
Max. inclination	30°
Water pump flow (L/min - gal/min)	25 - 6,6

### Alternator

50 Hz

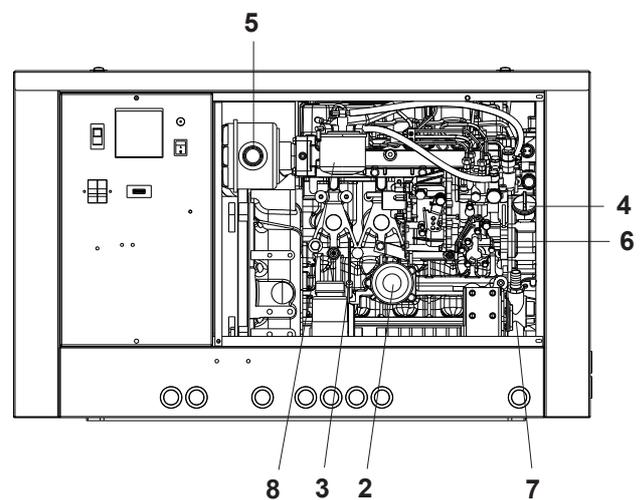
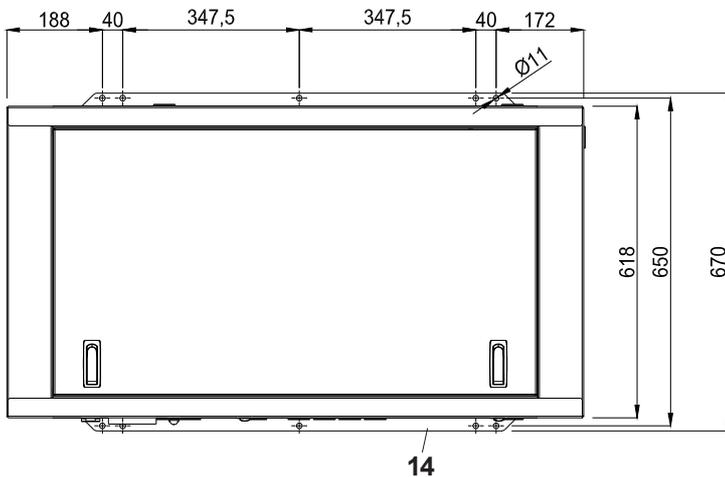
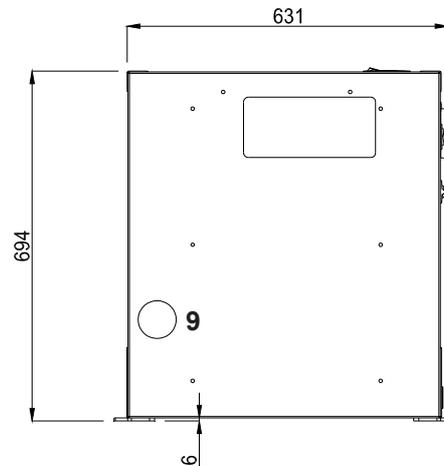
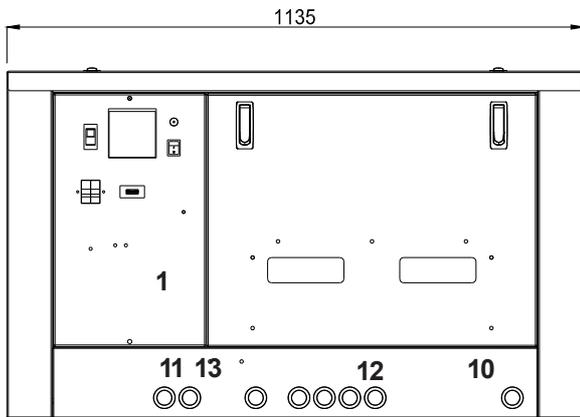
Type	Synchronous, 4-poles, self-excited
Cooling	Air
Voltage (V)	400
Frequency (Hz)	50
Current (A)	27,7
Max. power (kVA)	19,2
Continuous power (kVA)	17,4
Power factor ( cos $\phi$ )	0,8
Insulating class	H
Voltage stability	$\pm 2\%$
Frequency stability	$\pm 5\%$

### Cooling system

The cooling of the engine is based on a closed inner flow of coolant. The system is based on a cupronickel heat exchanger seawater/coolant type, where the thermal exchange occurs between coolant and seawater. Two separate pumps contribute to the flow of the coolant and the sea water.

50 Hz

Dimensions (Leng. x Width x Height)	1135 x 631 x 694 mm 44,7 x 24,8 x 27,3 in.	(with canopy)
Weight	400 kg , 880 lb	(with canopy)
Noise power level	52 dBA @ 7mt	



- 1 - Control panel
- 2 - Engine oil filter cartridge
- 3 - Oil dipstick
- 4 - Engine oil cap
- 5 - Air filter
- 6 - Closed circuit water pump
- 7 - Seawater pump

- 8 - Fuel filter
- 9 - Seawater exhaust connection (Ø 50mm)
- 10 - Seawater inlet (Ø 16mm)
- 11 - Battery connection
- 12 - Fuel tank connection (Ø 8mm)
- 13 - Electric cables outlet
- 14 - Fixing stirrups

## FITTINGS

- EXHAUST COMPONENTS KIT
- SIPHON BREAK
- WATER-GAS SEPARATOR KIT
- STARTING REMOTE CONTROL PANEL WITH INSTRUMENTS

*This drawing is only a reference and is not indicated for the installation. For more information, you may contact your local dealer or **mase generators S.p.A.***

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Dealer: