



CBU control panel (Mod-Bus transmission Unit)

New design, latest technology, big display and soft touch buttons for quick menu navigation, start and stop procedure, IP54 protection grade. Very compact MASTER CBU 93x93mm (3.66x3.66 in). CBU has many functions for easy monitoring of the generator:

- ON/OFF/START/STOP/MENU controls.
- Digital hour-meter, Main voltage, Generator Battery voltage, external battery pack voltage, Frequency, Service time, Event list of last 10 alarms and time.
- 13 different alarms icons displayed.
- 485 Mod-Bus connector for monitoring generator by boat main control monitor.

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 epoxy resin coated 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. Of limited weight and easy accessibility to the inner cabin in case of maintenance services.

Engine	60 Hz
Model	YANMAR 3TNM88F-UGGE
Type	Diesel 4 stroke
Cylinders (nr.)	3
Cylinder block material	Cast iron
Bore (mm - in.)	88
Stroke (mm - in.)	90
Displacement (cc - cu.in.)	993
Power (hp)	20,4
Rated rpm	1800
Combustion system	Indirect
Engine head material	Cast iron
Speed governor	Centrifugal mechanical
Lubrication system	Forced
Oil sump capacity (L - qt.)	6,7
Engine stop system	Stop solenoid
Fuel pump	Electric
Fuel pump discharge (cm - in.)	70
Full load consumption (L/h - qt/h)	4,8 - 5,0
Starting battery (Ah-V)	45 - 12
Battery charger (Ah-V)	40 - 12
Starter (kW-V)	0,8 - 12
Max. inclination	30°
Water pump flow (L/min - gal/min)	24

Alternator	60 Hz
Type	Synchronous, 4-poles, self-excited
Cooling	Air
Voltage (V)	120 - 240
Frequency (Hz)	60
Current (A)	100,0 - 50,0
Max. power (kW)	12
Continuous power (kW)	11,5
Power factor (cos ϕ)	1
Insulating class	H
Voltage stability	$\pm 10\%$
Frequency stability	$\pm 5\%$

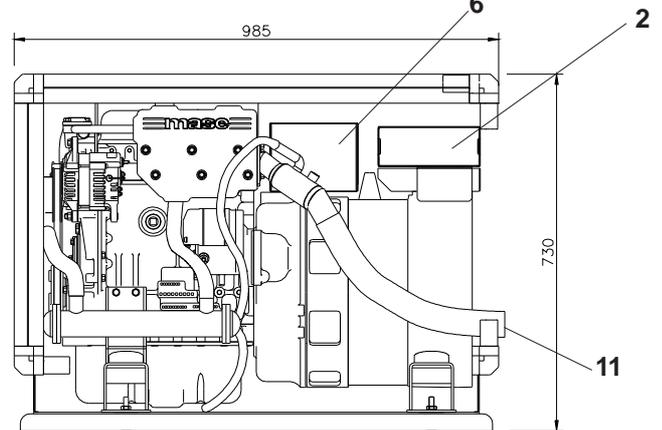
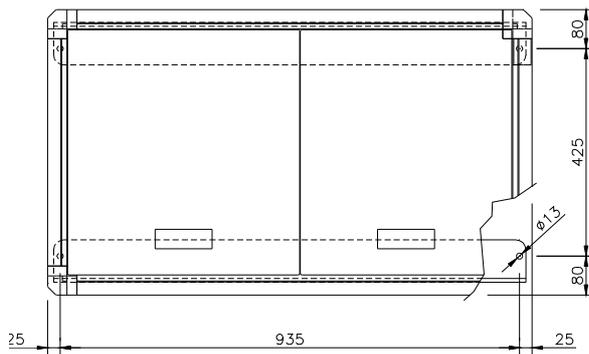
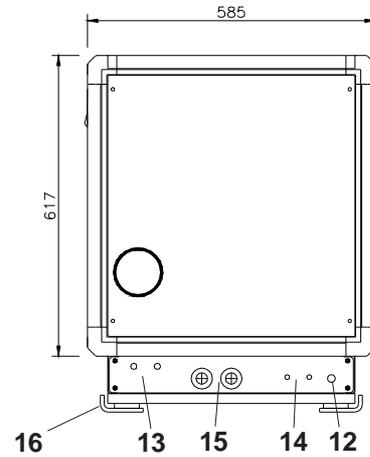
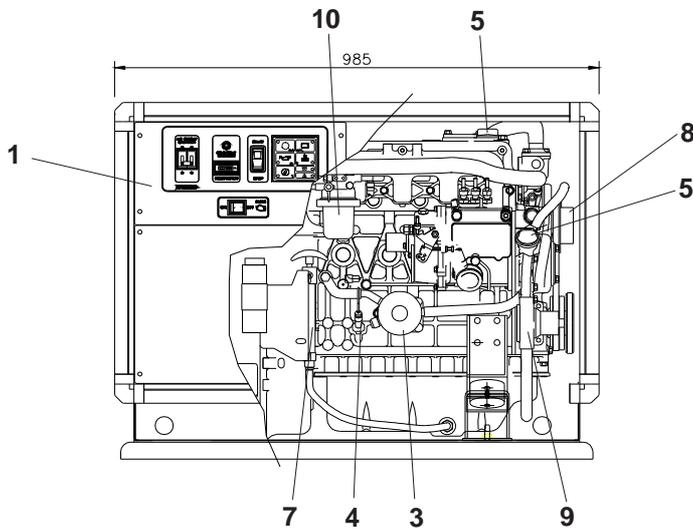
Cooling system

The cooling of the engine is based on a closed inner flow of coolant.

The system is based on a heat exchanger seawater/coolant type, of cupronickel, where the thermal exchange occurs between the two liquids.

Two separate pumps contribute to the flow of the coolant and the sea water. The cooling of the air inside the gen-set is obtained through a seawater/air heat exchanger. This provides the efficacious cooling of the alternator and the optimal temperature for the best performance and reliability of the gen-set despite its on board allocation and room temperature.

	60 Hz		
Dimensions (Leng. x Width x Height)	985 x 585 x 730	mm	
	38,8 x 23,0 x 28,7	in.	
Weight	344 - 758,39	kg - lb	
Noise level emission	50 dBA @ 7mt		



- 1- Control panel
- 2- Air / water exchanger
- 3 - Oil filter cartridge
- 4 - Oil dipstick
- 5 - Engine oil filler
- 6 - Air filter
- 7 - Oil drain pump
- 8 - Fresh water pump

- 9 - Sea water pump
- 10 - Fuel filter
- 11 - Exhaust manifold (ø 50mm)
- 12 - Sea water intake (ø 16mm)
- 13 - Battery connections
- 14 - Fuel tank connections (ø 8mm)
- 15 - Cable outlets
- 16 - Genset base brackets

FITTINGS (optional)

- EXHAUST COMPONENTS KIT
- SIPHON BREAK
- WATER-GAS SEPARATOR KIT
- STARTING REMOTE CONTROL PANEL WITH A SHIELD CONNECTING CABLE 10 Mt. (32.8 ft) LONG OR
- SLAVE CBU CONTROL PANEL WITH A SHIELD CONNECTING CABLE 10 Mt. (32.8 ft) LONG

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

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Dealer: