THE FIRST
AIR CONDITIONER
ADVANCED
BRUSHLESS
DC INVERTER
IN THE MARINE
MARKET
Inverter Brushless DC Technology

This technology is used to control the speed of the compressor motor to allow continuously regulated temperature; by contrast traditional air conditioners regulate temperature by using a compressor that is periodically either working at maximum capacity or completely switched off. The inverter air conditioner is equipped with a variable frequency driven brushless DC compressor that incorporates an adjustable electrical inverter to control the speed of the motor and thus the compressor and cooling output. Eliminating stop-start cycles considerably increases the energy efficiency, extends the life of components and eliminates sharp fluctuations on water temperature and power supply.

By using the Inverter Brushless DC Air conditioner it is possible to reduce on board the size of power generator.

Energy saving (-45% in average electrical energy consumption)

After the water temperature approaches the set temperature, Inverter Control adjusts to low capacity operation to maintain this temperature. Variable capacity operation together with brushless DC motor higher efficiency make inverter air conditioning more energy-saving than non-inverter models, which must repeatedly start or stop their compressors to maintain the water temperature.

In term of Seasonal Efficiency Ratio, the average reduction in electrical energy consumption is 45%, compared to the equivalent traditional air conditioner.

Smooth starting (No peak current at start)

Starting ramp is set at very low frequency (20 Hz) allowing very low starting torque and starting current, far below the nominal value. The max starting current is 2 A, while for the equivalent traditional air conditioner the max starting current is 60-70 A, even with soft starting devices.

Comfortable

Inverter air conditioning finely adjust capacity according to changes in the air-conditioning load and the difference between the water temperature and set temperature is very small. These give much higher comfort levels than with non-inverter air conditioners. Thanks to brushless DC motors and sound shields the operation noise is very low.

Variable Capacity Operation (ECO function)

Inverter air conditioning is able to vary its operating capacity. Non-inverter air conditioners can only operate at a fixed capacity. ECO function is available on inverter air conditioning, to further reduce power supply whenever other electrical appliances are being used in the same time.

Reliable

Brushless DC motor together with variable capacity operation allow a much longer compressor lifetime than non-inverter models, which must repeatedly start or stop their compressors during operation stressing motor coils.

Easy installation

Very small overall dimensions, no need of drain (thanks to thermal insulation) and possibility to install the display controller in different positions.

Comply with EMC Directive

The equipment comply with the Electromagnetic Compatibility (EMC) Directive 2004/108/EC.

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Leader in refrigeration plant for boating

Frigomar has a leader position in the field of the marine refrigeration, HVAC systems and ice maker production.

The industry level gained in the last years has consolidated the position of the company on both the domestic and foreign market. Innovation, technology research and after sale service are the foundation of Frigomar since 40 years.

The company has grown up and thanks to the accurate choose of raw materials and the high competence of its staff, Frigomar is able to offer a wide range of standard and custom made high quality products.

Numbers

- 40 workers
- 4000sqm of offices, warehouse and production plant
- Direct service from Montecarlo to Livorno
- Worldwide delivery service
- Over 1500 different items in the following fields:
  - Air Conditioning Systems
  - Refrigerating Systems
  - Ice Makers
**AIR CONDITIONING SYSTEMS**

**MODULAR CHILLER 410 SERIES**

The 410 SERIES units are indoor water-cooled chillers and heat pumps. They are designed to have the highest performances in the smallest space and offer great energy saving and reliable cooling and heating.

The 410 SERIES units’ extremely compact design is ideal for easy replacement and new constructions. Sound shield covering allows great noise reduction. All the cold parts are thermally insulated and installation is much easier with no need of drain.

**FANCOILS**

- Air Output Canalization: Up To 1.5m
- Air Output Canalization: Up To 3m

**THERMOSTATS**

- Controls Panels For Fancoil

**AIR ACCESSORIES**

- Fresh Air Make-Up Units
- Ice Makers
- Custom Design and Production: ice maker units for cold room internal installation - compact ice makers

**MARINE REFRIGERATING SYSTEMS**

**DESIGN AND CUSTOM MADE PRODUCTION OF:**

- compressor units
- condensers
- evaporators
- complete refrigerating systems
- custom made fridge / freezers
- standard fridge / freezers
- custom made and standard wine coolers
- fridge - freezer cold rooms

**MAIN FEATURES:**

- volume available up to 10m³
- stainless steel aisi 316 finish
- any shape and sizes
- various external layout available
- stainless steel customized fittings

**CUSTOM MADE FRIDGES FREEZERS**

Let us know the sizes and your requirements and you can have your custom refrigerators-cold stores

**MODULAR COLD STORES**

Custom made modular fridge/freezer cold rooms. The most complete and easy installation solution to arrange the storeroom and garbage zone of the yacht. Full possibilities to choose the internal and external layout, include shape and dimensions.

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