JEC

Jindra Energy Conversions Pty Ltd

Combi Air Conditioning & Refrigeration Unit

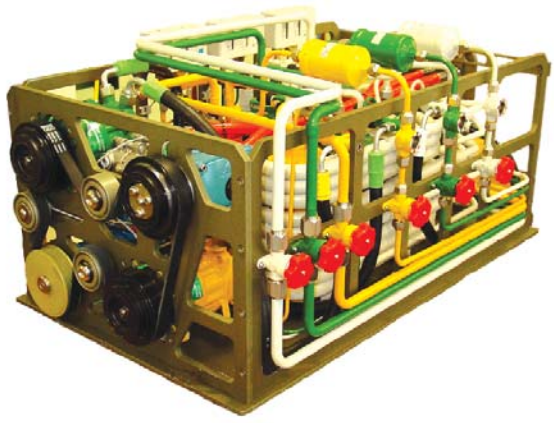
Designed and built to meet the needs of the marine environment, the JEC Marine Combi is a flexible system that will form the basis of a highly reliable air conditioning, refrigeration and desalination system.

Key Features

- Rugged construction for high vibration conditions;
- Corrosion protected construction for marine and severe industrial installations;
- Load management technology for high efficiency and minimum peak power needs.

Save on:

- Installation Costs
- Fuel
- Weight
- Space
- Genset Size
- Servicing Costs



Description

The JEC Combi is a water-cooled multiple condensing unit for use in the marine environment. It combines all the things you need to install in one neat, self-contained package for a boat in the 45 to 100 foot (14 – 30 m) range, where reliable refrigeration, air-conditioning and freezer needs have to be met. In the case of larger vessels, multiple Combi units can be used. It is capable of delivering 12 to 14kW of refrigeration power per condensor unit or up to 42 kW combined. The Combi unit is extremely compact, eliminating the duplication of motors and pumps inherent in individual installations.

Included is a high pressure pump with a capacity of 13 l/min, (3.5 US gpm) at pressures of up to 105 bar (1,500 psi). This pump is ideal for desalination and other high pressure saltwater needs, such as Deck Wash. The optional desalination unit produces up to 200 L/h, (53 gpm) or 4,800 L/day, (1,270 gpd) and is extremely compact due to its modular construction. The desalination unit components can be mounted separately, wherever space is available.

A single motor drives the two compressors and pump. Motor selection is determined by the power available on the boat, be it electric or hydraulic. Provision is made for either to be fitted. There is also provision to operate from an external compressor driven from the main engine or genset.

The Combi has been designed with service in mind. The compressors, liquid receivers and other components are standard refrigeration products but treated and coated for the marine environment. Heat exchanger technology is cleanable shell-in-tube marine condensor with pump down capacity.

JEC e-mail updates – For your free e-mail newsletter subscription and product updates visit www.energyconversions.com.au. Learn about new developments designed to enhance your boating experience as a builder or an owner.

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The frame of the Combi has been milled from solid marine grade aluminium, which is hard anodised and sealed with sodium dichromate and incorporates a drip tray and drain.

Installation and servicing is efficient with access to control valves, sight glasses and Johnson Control HP/LP pressure controls and filter/driers being from the one side. The unit can be optionally supplied with five aluminium mounting feet with dampening rubber inserts to reduce shock and vibration.

Specifications

Please note: specifications are subject to change without notice.

General:

- Three models to choose from:

  1. DC: 24-28V DC, 135A using 3.5kW brushless motor;

  2. AC: 110-240V AC, 50-60Hz using 400V DC brushless motor

  3. Hydraulic: 10kW precision built hydraulic motor;
- Combi Touch Screen Colour Display drives and allows for monitoring of all compressor clutches, raw water coolant volumes, desalination and deck wash pressures, all internal temperature and pressure settings and air conditioning capacity control. One Combi Display can control up to 20 Combi units with a single 3mm, 75 Ohm input/output co-axial cable;
- Firewall prevents damage to Combi electronic circuits from accidental high voltage inputs. Incorporates mini switchboard providing protection for all Combi-driven pumps and circuits, (approx 10 individual fuses);
- Optional Emergency Manual Override in case of electronic failure, allowing manual switch-over, bypassing all electronic systems;
- Three independent compressors can be dedicated to any combination of air conditioning and/or refrigeration;

Refrigeration:

- Refrigeration power of up to 47,000 BTU (14kW), using internal compressor;
- Additional refrigeration power of up to 47,000 BTU using external compressor mounted on propulsion engines or genset.

Air Conditioning:

- Capacity controlled air conditioning power up to 40,000 BTU (12kW), using internal compressor;
- Temperature and pressure sensors for monitoring air conditioning and refrigeration systems;
- Air volume control of air conditioning handlers;
- A range of compact, speed controlled, 24V DC operated evaporators are available, from 8,000 – 40,000 BTU. Evaporators can be run by gas or chillers. Alternatively, evaporators can be used for heating by circulating the vessel's hot water system or genset/propulsion engine coolant.

Desalination/High Pressure Deck Wash:

- High pressure pump delivers 13 L/min, (3.5 gpm), to 105 bar (1,500 psi), ideal for desalination and other high pressure saltwater needs, such as High Pressure Deck Wash, (with desired function selectable via switch). Pump output pressure is adjustable via Combi Display;
- Desalination option produces 180-200 L/hr, (53 gph) or 4,800 L/day, (1,270 gpd);
- High Pressure Deck Wash allows you to switch between salt and fresh water.

Dimensions:

Height: 550mm (21 ¾")
Length: 1085mm (42 ¾")
Width: 680mm (26 ¾")

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