

VZ Chiller series Water cooled Inverter chiller

for Marine



The highest peak in chiller technology





SOLUTION

Why choose EWWD-VZ chiller series for marine?

1 Top class efficiency: Full Load Efficiency up to 5.09* - SEER up to 9.08**

New generation Daikin inverter single screw compressors

Importance of part load efficiency Power consumption significantly reduced at part loads where the machine will run for 97% of the operation hours (Eurovent load profile)





Why choose an inverter chiller?

- > -25% energy consumption
- > -25% CO₂ emissions
- > -25% running costs
- > Return on investment < 2 years vs non-inverter chiller



Why are we better than others?

> Full inverter capacity control down to 20% > No inefficient mechanical unloading slides





Optimized for cold sea water temperature and low lift operation



- > Flooded type technology allowing maximizing unit performances



Condenser specifically designed for Marine application thanks to:

- Copper Nickel tubes and tube sheets cladding in Cu-Ni 90-10;
- Ceramic coating on water heads;
- Cathodic protection with sacrificial anodes. >



Pressure drops reduced by half

- > meaning 1°C lower condensing temperature
- > + 3.5 % efficiency

$\mathbf{\nabla}$ Oil designed for extreme pitching and rolling operation:

- Oil injection for high reliability
- Angle of inclination (degrees):
- . Athwartships: ±15 static; ±22 dynamic
- . Fore and aft: ±5 static; ±7.5 dynamic

* Referred to Marine operating conditions CW: 12/6°C, SW: 32/36°C ** Referred to EUROVENT conditions according EN14511



2 Compact unit

> Small footprint, ideal for replacement projects



1. New single pass condenser technology

- . High heat exchange performances thanks to Special cross-flow design
- . Low water pressure drops < 30 kPa

2. New integrated oil separator technology

- . Low oil carry over
- . Low refrigerant pressure drops

3 Future readiness: Choose for today's best solution and be ready for the future!

R-134a refrigerant, still today the best possible choice:

- > Still most efficient refrigerant. > Availability in high quantitates
- and at competitive prices.
- > No phase out planned in F-gas Regulation.
- > Classified as non flammable



Oil separator ··· ·····Condenser

All VZ units are 'new refrigerant ready!'

Possibility to retrofit them in the future with lower GWP refrigerants.

VZ Marine solutions



VZ Marine is fitted with a set of solutions in order to be compliant to Marine regulations [i.e. Lloyd's, DNV-GL, BV, RINA, ecc...]:

- > Special cross-flow condenser specifically designed to operate in pitch and roll conditions;
- > Oil reservoir to ensure proper oil return, in pitch and roll operation;
- Accelerometers activating dedicated EEXV control specifically designed for marine applications;

In addition to the above mentioned features, further customization is feasible in order to meet every customer needs:

- Power supply flexibility
- > Frequency (Hz): 50 60
- > Halogen free cables and insulation;

> Cu-Ni condenser tubes to operate with

- > Most common marine power supply 690V/60Hz, 690V/50Hz, 440V/60Hz, and others...
- > IT-system for the Inverter;

sea water application

- > Holding charge for long term storage necessities before operation
- > Marine certification for heat exchangers
- (i.e. DNVGL, Lloyd's, RINA, Bureau Veritas, ecc...);
- > Heat exchangers suitability for Marine thanks to Marine water box, hinged covers, flanged water connections.
- > Heat pump application

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The highest peak in chiller technology



Test stand capabilities

> 11 MW capacity test stand AHRI approved

> Voltage (V): 380 - 400 - 460 - 480 - 690

Please contact the sales representative for assistance.

Why choose Daikin?

Daikin is Europe's leading manufacturer and global n°1 of highly energy-efficient heating, cooling, ventilation and refrigeration solutions for residential, commercial and industrial applications.

Why choose Daikin Marine chillers?

- > Wide and flexible marine chiller portfolio
- Worldwide experience in chiller design and manufacturing
- > The highest efficiency for marine installations
- > Quality and reliability
- > Worldwide Service teams at disposal



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