

MARINE HVAC/R SOLUTIONS

# FAN COIL UNIT

Engineered for Marine Performance.

**DUCT TYPE  
CHILLED WATER 1200 - 5000 CFM**



**CIG BLUSOLUTIONS CO., LTD.**

**ADVANCING SUSTAINABILITY**

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# MARINE HVAC/R SOLUTIONS



## Innovating for Marine & Heavy-Duty Applications

- Proven track record in naval HVAC/R projects and critical climate control solutions
- Custom-engineered systems built for durability and long-term reliability
- Compliance with international safety, environmental, and military-grade standards

## About CIG BluSolutions

### Engineering Excellence in HVAC/R Solutions

CIG BluSolutions is a trusted name in advanced HVAC/R technologies, delivering high-performance solutions for commercial, industrial, and specialized applications worldwide. With over 40 years of engineering expertise, we are committed to designing systems that excel in marine-grade environments and withstand the most demanding operational conditions.

## Advancing Sustainability

Our vision, "Advancing Sustainability", drives everything we do—from selecting eco-friendly materials to engineering energy-efficient designs. We continuously invest in innovative technologies that reduce environmental impact while maximizing performance and operational safety.

## Global Certifications

CIG BluSolutions products are manufactured under ISO 9001:2015 standards, ensuring strict quality control and compliance with UL, RoHS, and REACH certifications. Our dedication to sustainability is recognized by the EcoVadis Bronze Rating and Carbon Footprint Organization (CFO) certification.

- UL Certified for Maximum Capacity and Safety
- Carrier Q+ Level 3 Approved
- cURus Safety Compliance
- EcoVadis Sustainability Bronze Rating
- ISO 9001:2015 Certified
- Carbon Footprint Organization (CFO) Recognized
- REACH Compliant
- RoHS Certified
- Material Safety Data Sheet (MSDS) Compliant



# FAN COIL UNIT

## Design for Marine Applications

Engineered for Performance, Fire Safety, and Marine-Grade Reliability

### Experience & Expertise

- Over 40 Years of Engineering and Marine HVAC Expertise
- Proven track record in naval and heavy-duty applications
- Commitment to sustainable, eco-friendly engineering solutions



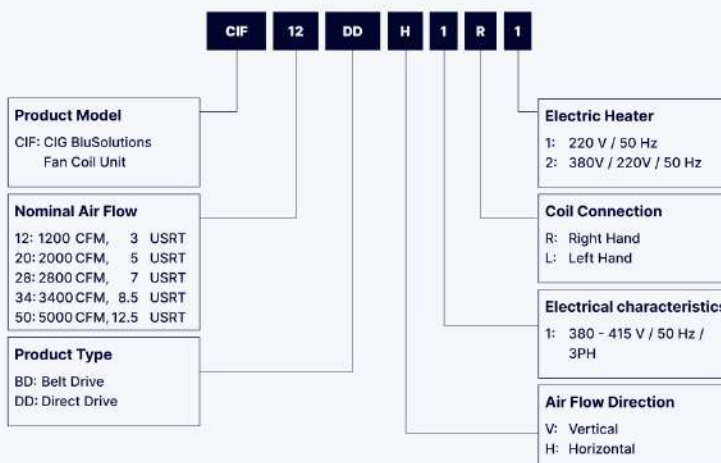
### Core Features

- **Marine-Optimized Design:** Customized for Navy and shipboard applications.
- **Engineered for Reliability:** Selection program supports ARI 410 standards.
- **Safety Assurance:** UL-certified pressure vessel meets rigorous safety and performance criteria.
- **Certified Manufacturing:** ISO 9001 production with RoHS compliance.
- **High-Quality Components:** Ensuring maximum reliability in harsh marine conditions.
- **Integrated Motor & Fan Assembly:** Direct-coupled centrifugal design for enhanced durability.
- **Factory-Assembled and Tested:** Verified under recognized international standards.

### Evaporator Coil

- Cooling coil designed to maximize the utilization of the available cross-sectional area for each FCU size, ensuring compact and competitive unit design.
- Copper tube use seamless copper tube inner grooved increase heat transfer capability
- Cooling fins use corrugated aluminum coated anti Corrosions or copper fin ( option ) bonded to the tubes through mechanical expansion
- Coil casing and coil plate shall be fabricated from stainless steel
- Copper headers come with threaded male pipe connections and include drain plug and air vent as standard
- Standard coils are pressure tested to 350 PSIG (2400 KPa), with a maximum design operating pressure of 380 PSIG (2620 KPa). Capacity, water pressure drop and selection procedure is designed in accordance to ARI Standard 410.
- Standard design for coil face velocity should be less than 500FPM (2.5m/s)

### Model Nomenclature



### Casing

- Steel casing single skin with powder coating / Stainless option
- Closed cell insulation inside is free from toxic substances including hydrogen cyanide, carcinogenic nitrosamines, and CFCs (chlorofluorocarbons) that deplete the Earth's ozone layer.

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## Maintenance & Quality Control

- **Easy Installation and Service:** – Designed for user-friendly access and maintenance.
- **Factory Airflow Testing:** – Each unit undergoes airflow performance verification.
- **Optional Special Performance Testing\*:**
  - Shock Test: MIL-STD-901D
  - Vibration Test: MIL-STD-167-1A
  - Noise Test: MIL-STD-740-1/2

*\* Equivalent to Navy standards. If official certification is required, testing costs must be covered by the purchaser.*



## Protect corrosion Evaporator Coil

In marine environments, salt-laden air accelerates coil corrosion, leading to refrigerant leakage and efficiency loss. Our factory-applied **HERESITE P-413** coating ensures long-term durability, rigorously tested under severe corrosion conditions.

With over 40 years of expertise and manufacturing experience, we proudly offer a reliable solution to combat corrosion and enhance the performance and durability of evaporator coils. Our coils are fully coated with a specialized protective material, ensuring that every surface is shielded against the harsh effects of salt-laden marine environments. This coating, combined with our advanced production technology, has been rigorously tested and proven effective under severe corrosion conditions. Certified test documentation is available to support this performance, giving you confidence in the long-term durability of our factory-produced evaporator coils.

**\*CIG BluSolutions is a HERESITE Certified Applicator – the only one in Southeast Asia.**



| SWAAT Results                                                                       |                                   |
|-------------------------------------------------------------------------------------|-----------------------------------|
|  | Base 1,000 hour SWAAT             |
|  | P-413 1,000 hour SWAAT            |
|  | P-413 + Neoprene 1,000 hour SWAAT |



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## Design for Navy Applications

Engineered for Performance, Fire Safety, and Marine-Grade Reliability

### Experience & Expertise

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### Technical Specifications

| Model                     | CIF12  | CIF20  | CIF28  | CIF34    | CIF50     |
|---------------------------|--------|--------|--------|----------|-----------|
| Cooling Capacity          | 3 USRT | 5 USRT | 7 USRT | 8.5 USRT | 12.5 USRT |
| Air Flow (CFM)            | 1200   | 2000   | 2800   | 3400     | 5000      |
| Motor (kW)x(Q'TY)         | 2.2×1  | 3.7×1  | 3.7×1  | 3.7×1    | 5.5×1     |
| EXT Static pressure (Pa)  | 500    | 500    | 500    | 500      | 500       |
| Water Flow Rate(GPM)      | 7.2    | 12     | 16.8   | 20.4     | 30v       |
| Chilled Water In (°C)     | 7      | 7      | 7      | 7        | 7         |
| Chilled Water Out (°C)    | 12     | 12     | 12     | 12       | 12        |
| Elec. Heating Option (kW) | 10     | 16     | 20     | 23       | 25        |
| Length (mm)               | 1117   | 1118   | 1294   | 1420     | 1420      |
| Width (mm)                | 710    | 811    | 940    | 940      | 1200      |
| Height (mm)               | 1500   | 1500   | 1500   | 1500     | 1500      |
| Weight (kg)               | 380    | 410    | 480    | 530      | 620       |
| Water inlet size (inch)   | 1 1/4  | 1 1/4  | 1 1/4  | 1 1/4    | 2         |
| Water outlet size (inch)  | 1 1/4  | 1 1/4  | 1 1/4  | 1 1/4    | 2         |
| Drain size (inch)         | 1      | 1      | 1      | 1        | 1         |

# HERESITE<sup>®</sup>

PROTECTIVE COATINGS, LLC

World Class Phenolic Epoxy Coating

OVER **980** TEST RESULTS

## Over 20 Different Tests

- Salt Spray (ASTM B117) : 20,000 hours
- ISO 12944-6 high durability C5-M
- ISO 12944-6 high durability C5-1
- SWAAT (ASTM G85 A3; acidified synthetic seawater) : 1,000 hours
- ISO 12944-9 offshore cyclic weathering (4,200 hours; formerly ISO 20340)
- Humidity (ASTM D4585; Cleveland Condensing) : 2,000 hours



**HERESITE  
P-413**



### Resist to corrosion

The most extensive test data set with 980 chemical test results



### Superior Protection

Pass ASTM B-117: 20,000+ hours and other 20 different tests.



### Long Lasting

The Coating Film provides Class 5H-6H hardness with flexibility and adhesive ability under extreme temperature tests.



### Meets FDA 175.300

for indirect food contact  
Compatible with a food processing line

## Premium benefits of coating with the CIG Certified Applicator.

- We pass the readiness of the production process assessment from **HERESITE**.
- We prepare and train our employees by **HERESITE** standards.
- We inspect the quality of the coating before delivery.
- We are the only **HERESITE Certified Applicator** in the Southeast Asia region.



**Rest assured that your HVACR protection is the same quality as the coating made by HERESITE USA.**

### ASTM B117

Salt Spray Test:  
20,000+ hrs

### ASTM G85

Modified Salt Spray  
Test: 1000 hrs  
using pressurize coil.

### ISO-12944-9 (Previously ISO20340)

- Cyclic test
- Test run on 4,200 hrs
- 1 test cycle is a combination of
  - 72 hrs UV
  - 72 hrs of salt spray
  - 24 hrs of freezing

Days  
1-3

UV/Condensation  
ISO-11507



Days  
4-6

Salt Spray  
ISO-9227



Day  
7

Low - Temp.  
Exposure at  
(-20 ± 2) °C



### ISO-12944-6

Corrosion protection  
of steel structures by  
protective paint  
systems

Passed: C5-M (Marine)  
and C5-I (Industrial)  
with High durability



**D-COAT™**

Reduce your maintenance costs with a special coating that upgrades your coil to be a self-cleaning coil.

**SELF  
CLEANING**

NSF P1 Registration plus FDA  
antimicrobial approval

=

**SUPER  
HYDROPHOBIC**



MAXIMUM PROTECTION WITH  
**D-COAT | D-COAT UV**  
SUPER HYDROPHOBIC  
SURFACE

UNCOATED  
SURFACE

HYDROPHOBIC  
SURFACE



Dust resistance



Corrosion  
Protection



Reduce  
maintenance costs



Anti Fungi  
& Microbial

## Full Corrosion Protection For HVAC/R Equipment

D-COAT™ treatment series are designed for use on commercial air conditioning coils, refrigeration, industrial coils, transportations and other air conditioning equipment; coils, fins, tubes and all internal metal surfaces.

These products can be installed on units before installation or on previously installed field units with equal success.

D-COAT™ HVAC/R protective treatments retard corrosion on the non-ferrous metal fins and tubes, thus, extending the life of the equipment asset and helping to maintain good airflow efficiencies.

D-COAT UV™ offers UV protection which helps the coating to last longer. Best for outdoor units to preserve the performance and longevity of the coils.



www.cigblusolutions.com



Line OA @CIGCare



**CIG BLUSOLUTIONS CO., LTD.**

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