

MARINE HVAC/R SOLUTIONS

UNIT COOLER

Engineered for Marine Performance.

Stainless Steel – Air Conditioning Type

Single Discharge
DX and Water Coil



CIG BLUSOLUTIONS CO., LTD.

ADVANCING SUSTAINABILITY

1/1 Moo 7 Bangkoowad Rd., Bangkoowad, A. Muang, Pathumthani, 12000 Thailand.
TEL.: (66) 092-463-2366, (66) 0-2976-5290 | E-MAIL : contact@cigblusolutions.com

www.cigblusolutions.com

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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



CIG BluSolutions Co., Ltd.
care@cigblusolutions.com | +66 (0) 92 463 2366 | +66 (0) 2976 5290

UNIT COOLER

Stainless Steel – Air Conditioning Type

Quiet operation. Energy saving. Durable. High efficiency.

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

- **Customized Design for Navy Applications:** Tailored solutions engineered to meet demanding naval requirements.
- **Selection Program Support:** Design by Selection Program support ARI 410
- **Certified Pressure Vessel (UL):** Pressure vessels are UL-certified, ensuring compliance with strict safety and performance standards.
- **ISO 9001 & RoHS Certified Factory:** Manufactured under internationally recognized quality and environmental standards.
- **High-Quality Components:** Ensuring maximum reliability in harsh marine conditions.
- **Factory-Assembled and Tested:** Each unit undergoes rigorous testing in accordance with international standards.
- **Closed-Cell Insulation:** Free from toxic substances such as hydrogen cyanide, carcinogenic nitrosamines, and ozone-depleting CFCs.

Evaporator Coil

- Designed to maximize utilization of the available cross-sectional area for each UCL size, delivering a compact and efficient unit design.
- Seamless, inner-grooved copper tubes enhance heat transfer performance.
- Corrugated aluminum fins with anti-corrosion coating, or optional copper fins, mechanically expanded and securely bonded to tubes.
- Coil casing and end plates constructed from durable stainless steel.
- Copper headers equipped with threaded male pipe connections, including a drain plug and air vent as standard.
- Factory pressure-tested at 350 PSIG (2400 KPa) and designed for a maximum operating pressure of 380 PSIG (2620 KPa).
- Coil capacity, water pressure drop, and selection procedures comply with ARI Standard 410.
- Standard coil design ensures face velocity remains below 500 FPM (2.5 m/s).

Model Nomenclature



Casing

Stainless Steel (GRADE 304) corrosion resistance. Design for easier maintenance.

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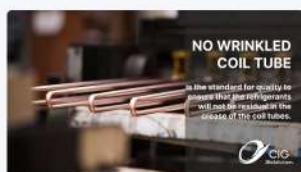
MARINE HVAC/R SOLUTIONS



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	
	Bare 1,000 hour SWAAT
	P-413 1,000 hour SWAAT
	P-413 + Inpaint 1,000 hour SWAAT



UNIT COOLER

Stainless Steel – Air Conditioning Type

Quiet operation. Energy saving. Durable. High efficiency.

Design for Navy Applications

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

Stainless Steel (Grade 304) Unit Cooler for air-conditioned rooms is easy to operate, clean up, and maintain. Suitable for industrial rooms where there is a problem with the amount of dust that will clog the coil easily. Both **DX coil** and **Water Coil** models are available.



Easy to Service



Swing open-close door for cleaning and maintenance easily

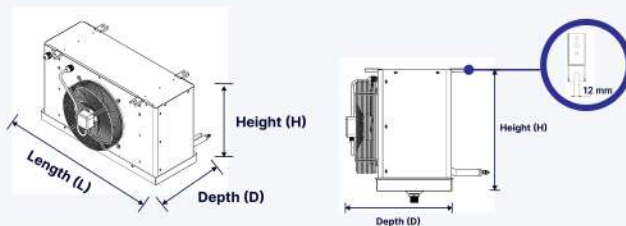
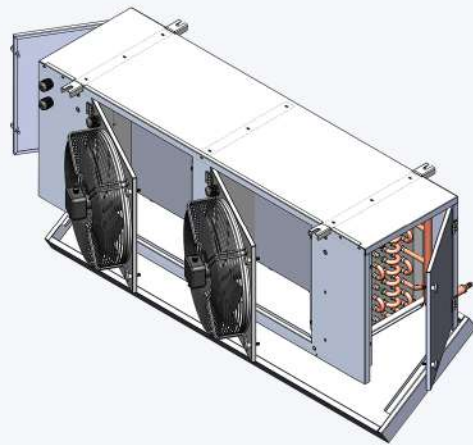
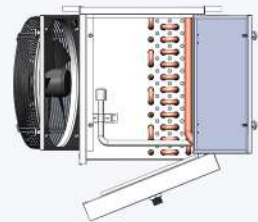


Figure 1

Condensation Protection

- Double Layers Drain Tray with 13 mm insulation



Fan

- External Rotor Motor Axial Fan
- Deliver cool air more efficiently.
- There are several fan options from 1-4 fans.
The blade sizes start from 300 mm to 500 mm.

Drain Tray

- Designed to enhance water drainage efficiency.
- Prevents condensation build-up and ensures reliable operation in marine environments.

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MARINE HVAC/R SOLUTIONS

DX Coil

Fin space 3.175 mm

Technical Data							
Model		UCL-SG-3013-24-(N/H)-1-SUS-DX	UCL-SG-3513-36-(N/H)-1-SUS-DX	UCL-SG-3023-48-(N/H)-1-SUS-DX	UCL-SG-3523-72-(N/H)-1-SUS-DX	UCL-SG-4513-84-(N/H)-1-SUS-DX	
NOMINAL COOLING CAPACITY	BTU	24,000	36,000	48,000	72,000	84,000	
AIR INLET TEMP.	°C	25					
EVAPORATING TEMP.	°C	5					
CONDENSING TEMP.	°C	45					
REFRIGERANT		R410a					
AIR FLOW	CMH	1,150	1,880	2,300	3,760	3,800	
AIR THROW	m	12					
COIL SET							
MATERIAL		CORRUGATED ALUMINUM FIN WITH PLAIN COPPER TUBE (8FPI)					
TUBE SIZE	inch	1/2					
FAN SET							
FAN TYPE		Axial Fan Motor					
DIAMETER	mm	300	350	300	350	450	
QUANTITY		1	1	2	2	1	
FAN MOTOR							
POWER SUPPLY		V / Ph / Hz					
		230 / 1 / 50					
MOTOR CURRENT	A	0.38	0.68	0.76	1.36	0.58	
MOTOR POWER	W	90	138	180	276	250	
SPEED	RPM	1370	1370	1370	1370	1380	
QUANTITY		1	1	2	2	1	
CASING SET							
MATERIAL		STAINLESS (GRADE 304)					
CONNECTION							
INLET	Inch	5/8					
OUTLET	Inch	7/8					
DRAIN	Inch	3/4					
CONNECTION							
DIMENSION	LENGTH	mm	735	795	1125	1245	1130
	HEIGHT	mm	360	360	360	360	360
	DEPTH	mm	455	455	455	455	595
WEIGHT	kg	39	41	58	62	73	



Figure 1



Figure 2



Figure 3



Figure 4

UNIT COOLER

Stainless Steel – Air Conditioning Type

DX

Fin space 3.175 mm



Design for Navy Applications

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

Technical Data						
Model		UCL-SG-4023-96-(N/H)-1-SUS-DX	UCL-SG-4033-120-(N/H)-1-SUS-DX	UCL-SG-4523-150-(N/H)-1-SUS-DX	UCL-SG-4043-180-(N/H)-1-SUS-DX	UCL-SG-4533-240-(N/H)-1-SUS-DX
NOMINAL COOLING CAPACITY	BTU	96,000	120,000	150,000	180,000	240,000
AIR INLET TEMP.	°C	25				
EVAPORATING TEMP.	°C	5				
CONDENSING TEMP.	°C	45				
REFRIGERANT		R410a				
AIR FLOW	CMH	5,000	7,500	7,700	10,000	11,550
AIR THROW	m	12				
COIL SET						
MATERIAL		CORRUGATED ALUMINUM FIN WITH PLAIN COPPER TUBE (8FPI)				
TUBE SIZE	inch	1/2				
FAN SET						
FAN TYPE		Axial Fan Motor				
DIAMETER	mm	400	400	450	400	450
QUANTITY		2	3	2	4	3
FAN MOTOR						
POWER SUPPLY	V / Ph / Hz	230 / 1 / 50				
MOTOR CURRENT	A	1.62	2.43	1.16	3.24	1.74
MOTOR POWER	W	360	540	500	720	750
SPEED	RPM	1350	1350	1380	1350	1380
QUANTITY		2	3	2	4	3
CASING SET						
MATERIAL		STAINLESS (GRADE 304)				
CONNECTION						
INLET	Inch	5/8	7/8	7/8	1-1/8	1-1/8
OUTLET	Inch	7/8	1-1/8	1-1/8	1-3/8	1-1/8
DRAIN	Inch	3/4				
CONNECTION						
DIMENSION	LENGTH	mm	1345	1845	1915	2345
	HEIGHT	mm	360	360	360	360
	DEPTH	mm	525	525	595	525
WEIGHT	kg	84	112	118	164	182



Figure 1



Figure 2



Figure 3



Figure 4

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MARINE HVAC/R SOLUTIONS

Water Coil

Fin space 3.175 mm

Technical Data						
Model		UCL-SG-3013-24-(N/H)-1-SUS-WC	UCL-SG-3513-36-(N/H)-1-SUS-WC	UCL-SG-3023-48-(N/H)-1-SUS-WC	UCL-SG-3523-72-(N/H)-1-SUS-WC	UCL-SG-4513-84-(N/H)-1-SUS-WC
NOMINAL COOLING CAPACITY	BTU	24,000	36,000	48,000	72,000	84,000
AIR INLET TEMP.	°C	25				
WATER INLET TEMP.	°C	12				
WATER OUTLET TEMP.	°C	7				
WATER FLOW RATE	m³/h	1.2	1.8	2.4	3.8	4.2
TOTAL PRESSURE DROP	KPA	62.12	25.8	48.58	51.26	72.89
AIR FLOW	CMH	1,125	1,700	2,250	3,400	3,650
AIR THROW	m	12				
COIL SET						
MATERIAL		CORRUGATED ALUMINUM FIN WITH PLAIN COPPER TUBE (8FPI)				
TUBE SIZE	inch	1/2				
FAN SET						
FAN TYPE		Axial Fan Motor				
DIAMETER	mm	300	350	300	350	450
QUANTITY		1	1	2	2	1
FAN MOTOR						
POWER SUPPLY	V / Ph / Hz	230 / 1 / 50				
MOTOR CURRENT	A	0.38	0.68	0.76	1.36	0.58
MOTOR POWER	W	90	138	90	138	250
SPEED	RPM	1370	1370	1370	1370	1380
QUANTITY		1	1	2	2	1
CASING SET						
MATERIAL		STAINLESS (GRADE 304)				
CONNECTION						
INLET	Inch	1-1/8		1-3/8		1-5/8
OUTLET	Inch	1-1/8		1-3/8		1-5/8
DRAIN	Inch	3/4				
CONNECTION						
DIMENSION	LENGTH	mm	735	795	1125	1245
	HEIGHT	mm	360	360	360	360
	DEPTH	mm	455	455	455	595
WEIGHT	kg	39	44	59	68	80



Figure 1



Figure 2



Figure 3



Figure 4

UNIT COOLER

Stainless Steel – Air Conditioning Type

WC

Fin space 3.175 mm



Design for Navy Applications

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

Technical Data						
Model		UCL-SG-4023-96-(N/H)-1-SUS-WC	UCL-SG-4033-120-(N/H)-1-SUS-WC	UCL-SG-4523-150-(N/H)-1-SUS-WC	UCL-SG-4043-180-(N/H)-1-SUS-WC	UCL-SG-4533-240-(N/H)-1-SUS-WC
NOMINAL COOLING CAPACITY	BTU	96,000	120,000	150,000	180,000	240,000
AIR INLET TEMP.	°C	25				
WATER INLET TEMP.	°C	12				
WATER OUTLET TEMP.	°C	7				
WATER FLOW RATE	m³/h	4.9	7.0	9.7	8.5	12.8
TOTAL PRESSURE DROP	KPA	64.65	25.42	57.87	63.18	84.08
AIR FLOW	CMH	4,300	6,450	7,300	8,600	10,950
AIR THROW	m	12				
COIL SET						
MATERIAL		CORRUGATED ALUMINUM FIN WITH PLAIN COPPER TUBE (8FPI)				
TUBE SIZE	inch	1/2				
FAN SET						
FAN TYPE		Axial Fan Motor				
DIAMETER	mm	400	400	450	400	450
QUANTITY		2	3	2	4	3
FAN MOTOR						
POWER SUPPLY	V / Ph / Hz	230 / 1 / 50				
MOTOR CURRENT	A	1.62	2.43	1.16	3.24	1.74
MOTOR POWER	W	180	180	250	180	250
SPEED	RPM	1350	1350	1380	1350	1380
QUANTITY		2	3	2	4	3
CASING SET						
MATERIAL		STAINLESS (GRADE 304)				
CONNECTION						
INLET	Inch	1-5/8	2-1/8	2-1/8	2-1/8	2-5/8
OUTLET	Inch	1-5/8	2-1/8	2-1/8	2-1/8	2-5/8
DRAIN	Inch	3/4				
CONNECTION						
DIMENSION	LENGTH	mm	1345	1845	1915	2345
	HEIGHT	mm	360	360	360	360
	DEPTH	mm	525	525	595	525
WEIGHT	kg	84	112	118	164	182



Figure 1



Figure 2



Figure 3



Figure 4

HERESITE[®]

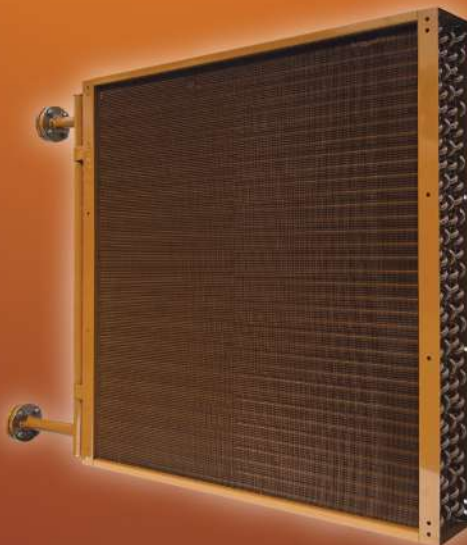
PROTECTIVE COATINGS, LLC

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



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.

บริษัท ซีไอจี บลูโซลูชันส์ จำกัด

Customer Hotline: +66 (0) 92 463 2366 TEL: +66 (0) 92 463 2366

E-mail: care@cigblusolutions.com | www.cigblusolutions.com