



- PROJECT: AVANTE 2200
- SHIPYARD: NAVANTIA S.A.
- SYSTEM: EL.EQ.COOLING



PROJECT: AVANTE 2200

SHIPYARD:



**SYSTEM: ELECTRONIC EQUIPMENT
COOLING SYSTEM**

UNIT COOLER UCO-CEE00001

REF.: D-MO6924-002

REV	DESCRIPTION	DATE	ISSUED BY	CHECKED BY	APPROVED BY
A	For information / and comments	10/07/2020	MMQ	AMF	MRH
B	Updated according to comments	18/08/2020	MMQ	AMF	MRH
C	Updated dimensions	28/09/2020	MMQ	AMF	MRH
D	Updated	01/10/2020	MMQ	AMF	MRH
E	Updated heater	02/12/2020	MMQ	AMF	MRH

CAUTION



Before carrying out any operation on the machines of the HVAC System, please read this installation and operation manual carefully.

Installation and maintenance must be carried out only by qualified personnel that is familiar with the provisions of law and local regulations and has been trained properly or has experience with this type of equipment.

WARNING



Avoid installing the HVAC System equipment in a place that could be dangerous during maintenance operations, such as (but not only) platforms without railings or areas not complying with the clearance requirements.



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1. TECHNICAL SPECIFICATION

1.1 Unit type

Unit cooler consists of single speed motor fan, air filter, inlet grill and outlet plenum duct connection, thermal and acoustic insulation, chilled water cooling coil and electric heater. The unit draws air from the inlet through air filters, the fan, the cooling coil, an electric heater and finally discharges the air to the supply duct.

The unit cooler for Millennium Gun ISO Mount will cool or heat the outside air autonomously (by its control panel) depending on the outside condition and supply it to cool/heat and pressurize the Millennium Gun ISO Mount at 20°C and ≤52% HR.

The unit cooler is installed on an exposed deck, and withstand and operate uninterruptedly under marine ambient and weather.

<u>TAG</u>	<u>MODEL</u>	<u>MAKER</u>	<u>SERVICE</u>	<u>SPECIAL FEATURE</u>	<u>FRONT (mm)</u>	<u>DEPTH (mm)</u>	<u>HEIGHT (mm)</u>	<u>WEIGHT (kg)</u>	<u>AIRFLOW (m³/h)</u>	<u>HEATING POWER (kW)</u>	<u>COOLING POWER (kW)</u>	<u>CHILLED WATER FLOW RATE (nominal) (m³/h)</u>
UCO-CEE00001	UC 52 SPECIAL RADAR	FRIZONIA	MILLENIUM GUN	RIGHT CONNECTION	1430	1080	450	125	290	2 (2-steps 1+1)	9,2	1,24

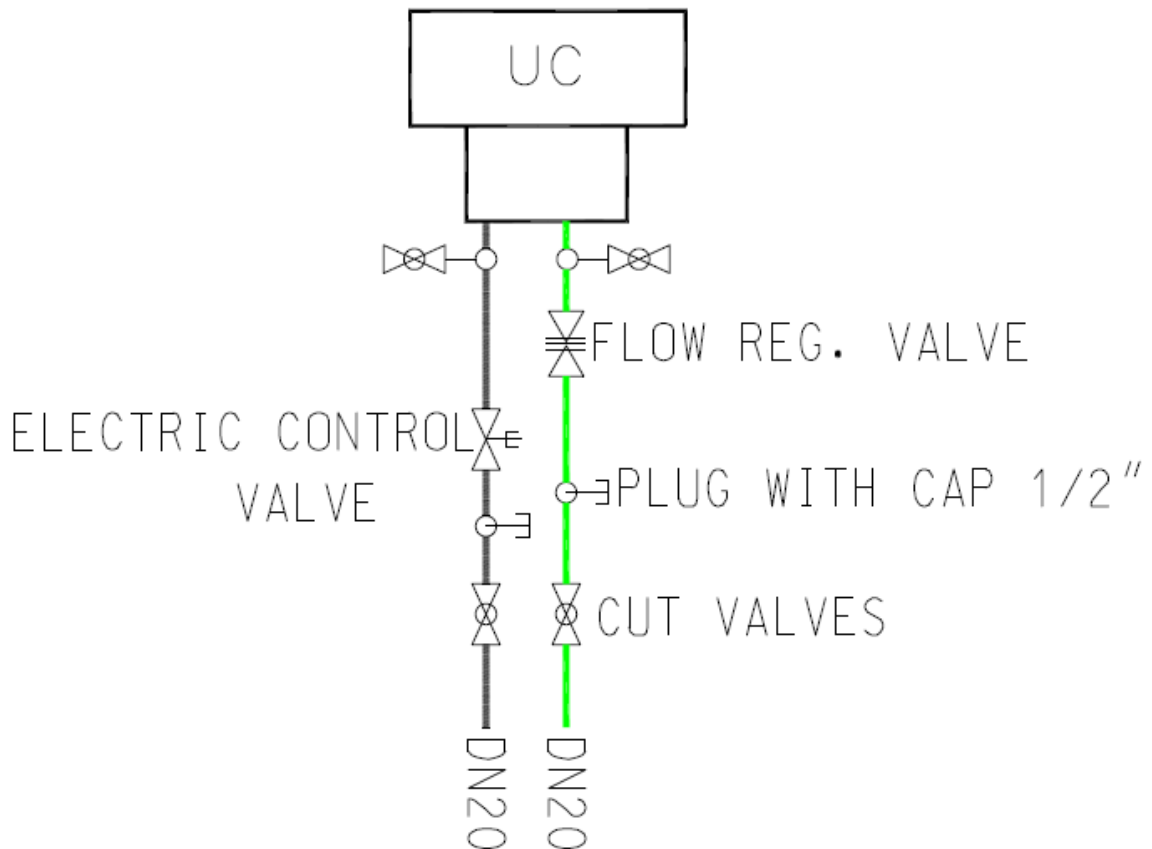
<u>TAG DESCRIPTION</u>	<u>TAG</u>	<u>VOLTAGE</u>	<u>MOTOR POWER (kW)</u>	<u>MOTOR INTENSITY (A)</u>	<u>EC FAN MODEL</u>	<u>RPM FAN</u>	<u>COIL MODEL</u>	<u>CHILLED WATER CONNECTION</u>	<u>AIR FILTER TYPE</u>	<u>COMPONENTS IP *</u>
Unit cooler	UCO-CEE00001	3x440V/60	0,09	0,74	R 125 G.3BK	3910	538C 7T 440L 5F 4c	DN20	G3 type 450 x 280 (blanket type)	Motor: IP44 Heater box: IP44 Junction box: IP56

* Unit cooler components installed inside protective casing, withstand and operate uninterruptedly on exposed deck.

1.2 Material specification

Unit part	Material
Basic casing with insulation	External painted sheet steel (aisi316L), insulated.
Cooling coil	Copper tube / Copper fins
Motor fan with housing	Galvanised sheet steel, painted casing, impeller in plastic.
Main drip pan	Stainless steel, insulated
Filter element	Filter fleece, synthetic

1.3 General schematic piping diagram



2. INSTALLATION



DANGER FROM ELECTRICAL CURRENT!

Ensure that the intended drilling area is free from electrical cables or pipes before drilling.



PERSONAL INJURY!

There is a risk of accidents due to parts dropping down. When installing the unit, wear a helmet, safety footwear and protective gloves. Installations should always be performed at least by two people.

NOTE:

You must ensure that no mechanical deformation or twisting occurs during installation of all models in all installation locations.

2.1 Unit installation



DAMAGE TO THE UNIT!

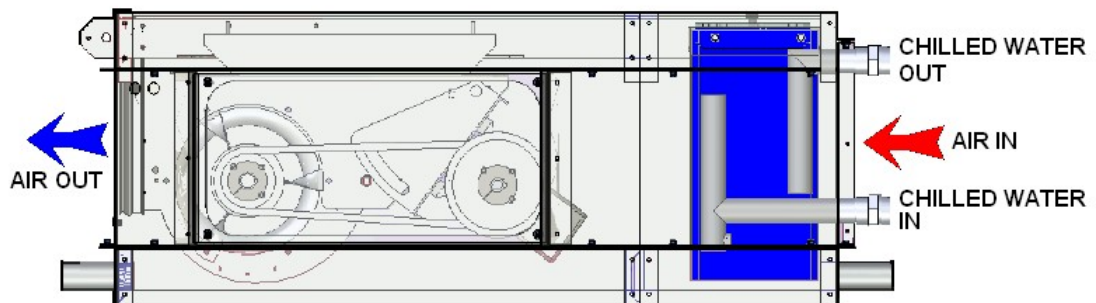
The installation must provide for an unobstructed flow of air to and from the unit during subsequent operation.

- Make sure that there is sufficient room for the valve installation.
- Attach the unit with screw connections.
- Use a spirit level for precise vertical and horizontal alignment of the unit.
- Tighten the screws.

2.2 Connecting the chilled water

Before the on-site piping and the unit chilled water connection is set up, the chilled water system should be shut off and secured against being opened unintentionally.

Connection to the pipe system is made by the pipe contractor. Cooling coils must always be connected in counter flow (supply and discharge pipes are marked) and so that the expansibility or own weight of the pipe system does not load the pipe connections of the coils. The connections of the cooling coils are designed as flanged pipes and so they must be secured to avoid distortion and damage to the internal pipe system of the coil.



Cooling coils are provided with drip pan with drain through the base frame for condensate extended through the access side. Clean cooling coils by flushing with water, and drip pan as well as drain must be kept clean to avoid formation of algae.

All on-site pipes for the cooling medium must be insulated against condensate formation.

When all connections have been completed, all screw connections should be tightened and checked that they are free of mechanical stress.



DAMAGE TO THE UNIT!

During fitting, the connection nut on the cooling coil should be countered using a suitable tool.

- At the beginning of the fitting procedure, remove the covers of the water inlet and outlet pipes.
- Fit the connections, ensuring they are free of mechanical stress.
- Make sure that there is sufficient room for the valve installation.
- Lead the pipes off at a right angle to the side or to the rear.
- Seal the connections.
- Screw on the connections.

2.3 Connecting the condensate drain

In order for the condensate to be drained off properly, the condensate drain by others must be connected to the drip pan.

- Connect a hose or a copper pipe on to the appropriate drip pan connector and seal it.
- When connecting the condensate drain to the wastewater system, observe the wastewater regulations.

This must drain freely into a drain via a water trap with a sufficient liquid head under the bottom of the casing. The height of the head must be greater than the partial vacuum prevailing at the cooling coil. The water trap must be filled with water before the equipment is put into operation. Water trap with closing ball can be also used. Check this water level regularly, particularly when the cooling operation starts.

2.4 Electrical connection



DANGER FROM ELECTRICAL CURRENT!

The electrical installation of the unit cooler unit must only be carried out by qualified electricians in observance of these operation manual and the regulations in force:

- National or local regulations, including safety regulations.
- Accident prevention regulations.
- Installation instructions.

The unit is supplied with a terminal box and the box contains a terminal strip.

