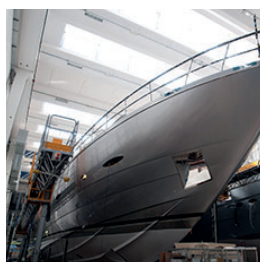
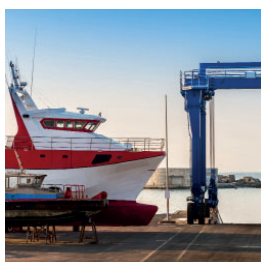
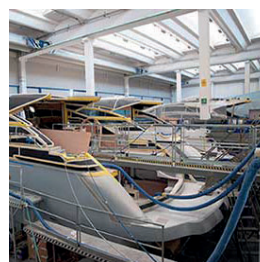
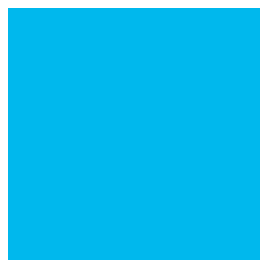
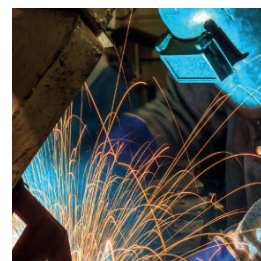




ENVIRONMENTAL
CLIMATE CONTROL
EQUIPMENT
& SOLUTIONS



SHIPBUILDING INDUSTRY



www.ett-hvac.com

Ventilation | Air extraction

Energy recovery | Heating

ETT, the air handling expert

ENERGIE TRANSFERT THERMIQUE is recognised in the shipbuilding industry as a specialist in the design and manufacture of air handling systems. **ETT** stands out with its wide range of **services** (consulting, optimisation, auditing, training, etc.). Forging close partnerships with customers is central to our strategy.

Based at the western tip of France, our 18000 m² factory (with 16000 m² dedicated to manufacturing), is certified **ISO 9001** and **ISO 14001**.

With more than 300 employees, ETT is present all over France in 8 regional offices and across the world thanks to its network of agents and distributors.

Bolstered by its Research and Development Department, ETT chose to place innovation and respect for the environment at the heart of its development strategy.



1979

Creation of Energie Transfert Thermique

2001

Expansion and new organisation:

8,000 m² for Production, a new R&D Department

2004

1st delivery to DASSAULT

2007

ETT executives take over the company (LMBO)

2008

1st delivery to AIRBUS (more than 160 units today)

Since 2015

Eurovent Certification
for the rooftop range



2018

AFAQ ISO 14001 certification - no.

QUAL/2010/37694.2

AFAQ ISO 9001 certification - no. QUAL/1994/2016e

2020

RCS Evaluation: Corporate Social Responsibility

ETT supports the shipbuilding industry



The shipbuilding industry has come a long way since the ancient times. It has undergone major changes, especially in the 15th century and during the industrial revolution (mechanisation, welding, building larger and heavier ships).

The **shipbuilding and ship-repair industry** involves specialised **technologies and know-how** and is also known for its remarkable capacity to adapt and innovate.

French shipbuilding companies specialise in the most complex units: cruise liners and other passenger vessels, research and other specialized vessels. French shipyards implement ecodesign principles.

To best meet the needs of the shipbuilding industry, **ETT has developed a market-driven strategy** based on innovation and respect for the environment.

ETT provides custom solutions for all types of shipyards, for new facilities as well as renovation projects. As a response to the challenges of these demanding economic times, **our solutions focus on total cost reduction** considering all aspects: acquisition cost, installation and commissioning costs, operating costs (energy consumption and maintenance costs).

ETT's smart communication system, **ETT SysCom**, includes a **monitoring tool** perfectly suited for the shipbuilding and marine industry: myETTvision. It allows you to control your installation easily and effectively **for optimum operating cost management**.



The air handling expert for
facilities with specific pollution



20-year guarantee
against corrosion
frame - casing

Air handling essential features

ETT, IMPROVED THERMAL AND ACOUSTIC COMFORT

We developed specialised units to ensure optimal comfort and working conditions in workshops and other facilities with specific pollution issues.

Energy savings

Heat pumps are an efficient, economical and environmentally friendly solution for heating and air conditioning in shipbuilding facilities.

They offer optimum performance with low energy consumption.

Acoustic comfort

Environmental noise reduction is essential to ensure workers' comfort. We offer self-contained units specifically designed to meet these particular acoustic requirements.

MAIN FEATURES

- Variable speed compressor
- Acoustic insulation
- Free Cooling

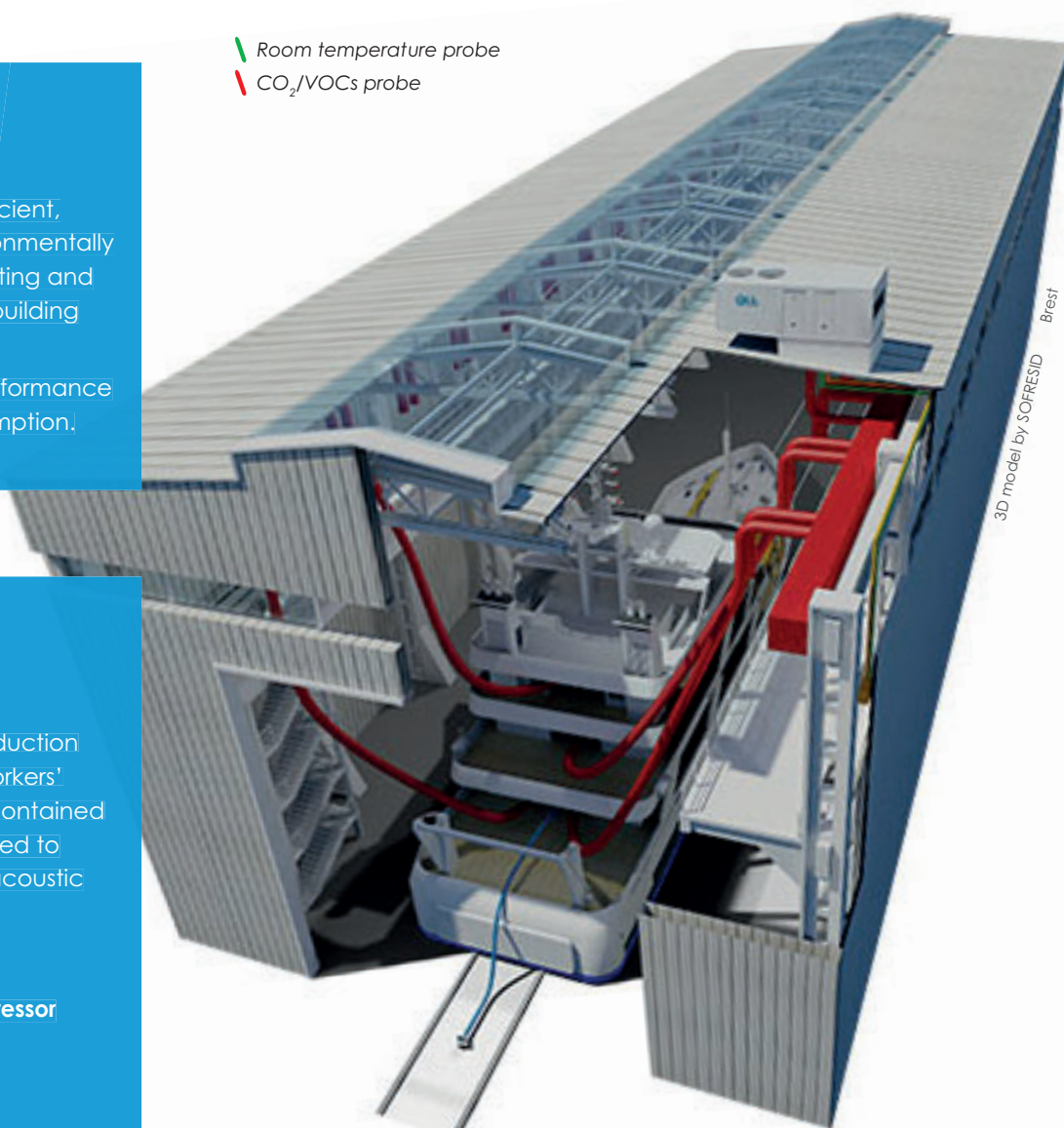
ETT goes the extra mile...

Bespoke units

Dimensions and capacity specially adapted to the requirements of your project (SRV, Variable Cooling System).

Optional internet-based communication system (myETTvision)

Room temperature probe
CO₂/VOCs probe



Automatic adjustment of hygienic fresh air intake based on occupancy and pollution level.

ETT solutions offer temperature management regardless of building occupancy levels (humidity management is also available as an option).

Installation

ETT units can be installed either outdoor (on the rooftop or at ground level) or indoor (in a technical room).

ETT Services

Our team will guide you every step of the way, from commissioning to operational support.

Technological solutions specially adapted to the constraints of workshops

**MADE IN
FRANCE**

**100%
recyclable
aluminium**

ett
ISO 9001

ETT SysCom: Communication/Control Supervision

ETT SysCom ensures **precise and
reliable control** of the equipment
for optimised **energy efficiency**.



Bolstered by its **Research and Development Department**, ETT builds on **innovation, respect for the environment** and **energy efficiency**.

To address current challenges and help you reduce your energy bill, our approach focuses on improving thermal efficiency while reducing operating costs.

ETT solutions combine energy recovery and thermodynamic systems to achieve coefficients of performance (COPs) of 10 or higher.

Our standards go beyond existing norms to provide the best comfort level.

ETT units include a precise temperature control system to ensure thermal comfort and carefully selected and perfectly sized high-tech components for optimised acoustic comfort.

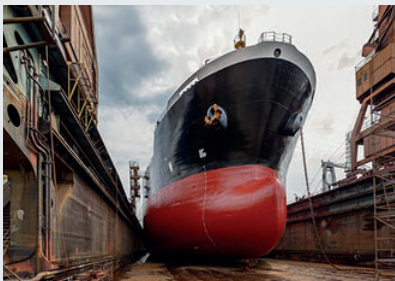
ETT solutions offer unparalleled energy efficiency and air quality for shipbuilding facilities.

ETT is strongly committed to customer satisfaction. To this end, we have built up a comprehensive network of professionals to provide every customer with a **dedicated contact person** according to his project and requirements.

We undertake to help you:

- maintain optimum air quality;
- ensure the best possible acoustic comfort;
- reduce energy consumption;
- meet environmental constraints.





to ensure the success of your project



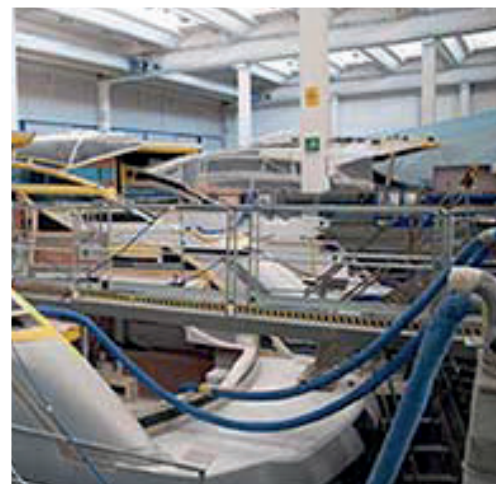
Opting for ETT means opting for an expert partner in air handling solutions for shipbuilding facilities. Our teams will guide you every step of the way, from project study to operating support.

Beyond acoustic and thermal comfort, ETT offers comprehensive solutions including products and services specially adapted to the requirements of the shipbuilding industry, such as our supervision system, **myETTvision**. This tool allows you to reduce your energy bill through energy consumption monitoring.



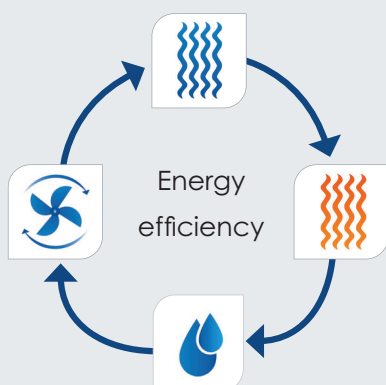
In 86% of cases, excessive energy use in HVAC systems is due to incorrect or inappropriate configuration.

ETT supports you from project study to operation and offers **service contracts, auditing, spare parts and users' training modules.**



Technological solutions specially adapted to the constraints of workshops

4 technologies
to address all the
challenges



1 Cooling

Air conditioning available when needed.

2 Ventilation

Air flow adapted to occupants' needs thanks to innovative technology.

3 Heating

Energy recovery for optimised consumption.

4 Dehumidification

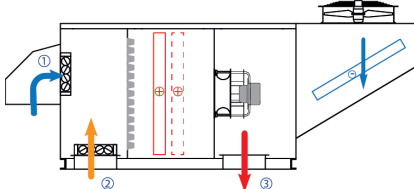
Dehumidification using thermodynamics

Single flow

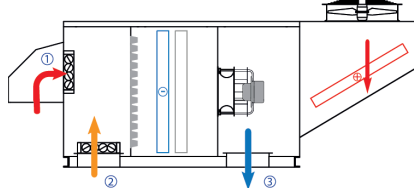
ULTI+ R32

Single flow
heat pump

Outdoor installation



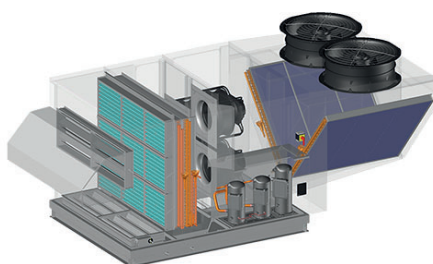
HEATING MODE



COOLING MODE

Solution designed for air quality and temperature control

- Performance optimisation:
- Seasonal efficiency
- Easier flow rate adjustment during commissioning
- ISO Coarse 65% (G4) + ISO ePM1 50% (F7) filters without fibreglass
- Motor speed reduction in partial load or in neutral zone

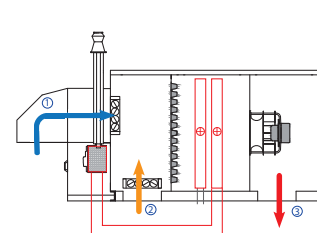


Single flow + boiler(s)

CTA CH CC+

Air handling unit
coupled with one or several

Outdoor installation

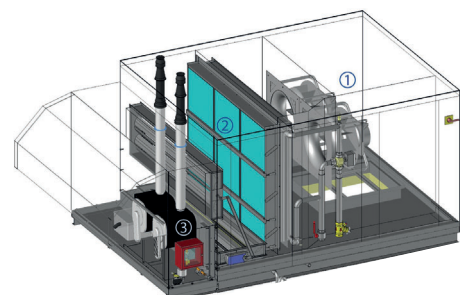


HEATING MODE WITH BOILER

1 FRESH AIR 2 RETURN AIR

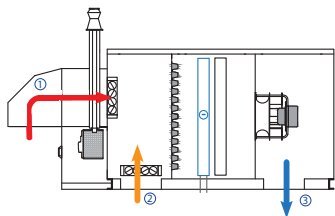
Solution designed for fresh air

- Operation with all fresh air or recirculated air during vacancy periods
- Standard unit up to 30,000 m³/h or bespoke unit up to 120,000 m³/h





condensing boiler(s)



COOLING MODE

3 SUPPLY AIR 4 EXHAUST AIR

quality control

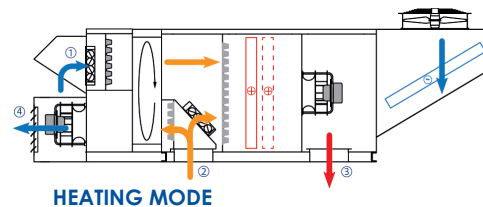
- High efficiency thanks to the condensing boiler
- Optional additional hot water coil (with energy recovery) and/or chilled water coil

Double flow

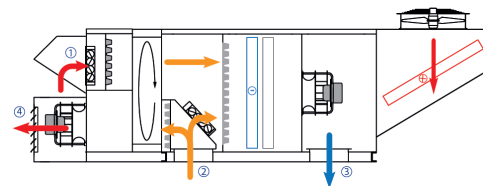
ULTI+ R32 DX

Extraction and recovery module.

Indoor or outdoor installation



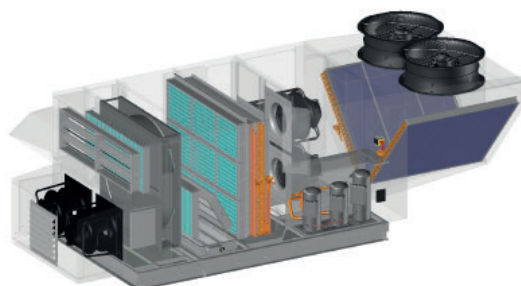
HEATING MODE



COOLING MODE

Solution for air extraction and energy recovery

- Rotary heat exchanger (min. 70% efficiency)
- Fresh air modulation from 20 to 50% of maximum flow rate
- Separate electrical board
- Easy maintenance

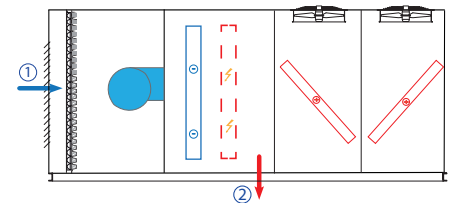


ACU on trailer

ACU 485

Air conditioning unit

Installation on trailer

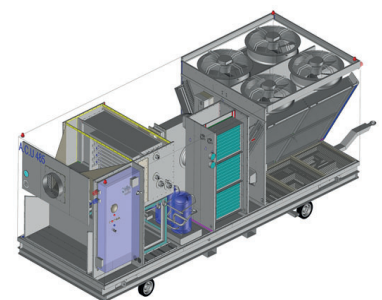


COOLING MODE

1 FRESH AIR 2 SUPPLY AIR

Mobile ventilation solution for ship under construction

- Installed on trailer (optional)
- Flexible ducts for supply air connection (available as an option)
- Non-reversible unit (as standard) with auxiliary electric heater. The unit can operate as a heat pump.
- High pressure fan for supply air to compensate pressure loss in high pressure duct
- Derived from a technology designed for the airport sector



our expertise for your project



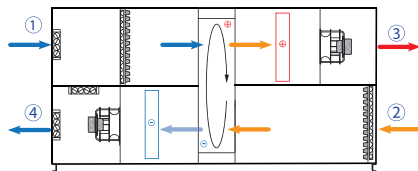
ATEX

ATEX EXHAUST UNIT

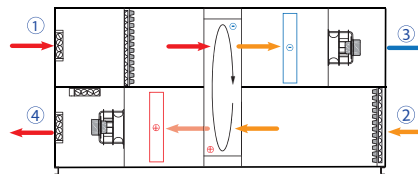
Polluted air removal
in explosive atmospheres



Indoor or outdoor installation



HEATING MODE

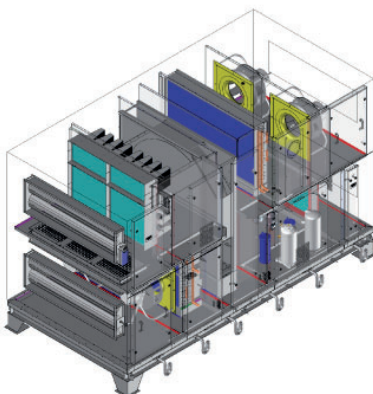


COOLING MODE

- 1 FRESH AIR
- 2 RETURN AIR
- 3 SUPPLY AIR
- 4 EXHAUST AIR

Ventilation and air conditioning solution for optimum air quality

- Operates as a reversible heat pump, mainly with all fresh air/all exhaust air with supply air temperature control
- Rotary heat exchanger for energy recovery, complemented by the thermodynamic system
- Auxiliary heating may be required in some cases

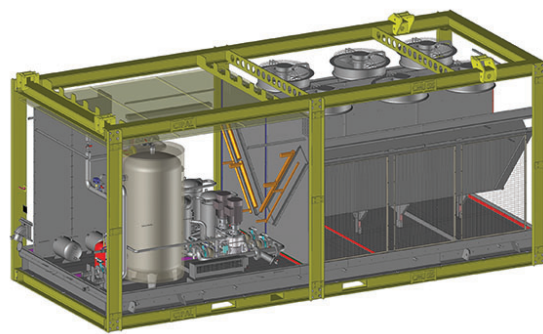


Thermodynamic hydraulic unit

WATER CHILLER

Chilled water production

Outdoor installation



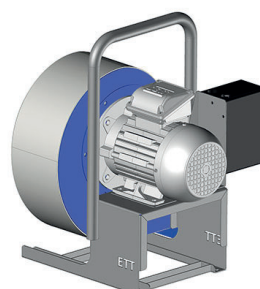
Ventilation accessory

PORTABLE FAN

For air supply
or extraction

Indoor or outdoor installation

- Wide range of air flow rates
- ATEX models



Your challenges

- **Energy savings**

Energy is one of the biggest cost items.

- **User comfort**

Users comfort and well-being strongly depends on indoor climate.

- **Building sustainability**

Excessive condensation can cause serious damage to the building.

- **Easy maintenance**

Reducing maintenance time maximises productivity.

ETT solutions

- **Heat recovery on exhaust air**

- **Dehumidification and air heating**

- **Humidity control** to ensure air quality and building durability

- **Custom units** to meet specific application requirements



ETT & **ecodesign**:

GREEN DESIGN involves DECONSTRUCTION: ETT units are 98% recyclable.

- **Aluminium: a good choice for the planet!**
 - Aluminium is endlessly 100% recyclable. Recycling covers over 30% of aluminium needs.
- **Low polluting ETT manufacturing process:**
 - Selective sorting, waste recovery, 60% of waste is recycled.
 - No paint on casings, no use of solvent.
 - ISO 14001 Certification (Environmental Management System).
- **Consumables: efficient waste management:**
 - Filtration: ETT includes **ecodesign** air filters (sorting frame - grille - media).



Reference: MARK-PLA_12-EN_D

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