To offer you its know-how built on over 35 years of experience, ETT has developed a strong organisational structure:

- Expert consulting to advise you on the optimum solution.
- Flexible design and production tools to meet our commitments on deadlines and products reliability.
- Continuous responsive support through a wide range of services provided by a network of qualified technicians.

Our “different” tailor-made solutions address the challenges of today’s demanding economic environment, that favours comprehensive solutions including all costs: purchase, installation, commissioning, energy consumption, etc. Your satisfaction is our priority.

Yves Millot, Chief Executive Officer.

Each project is different and UNIQUE

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We are perfectly aware that our success depends on our customers’ success. Our strong know-how, combined with a constant watch on technological developments, allows us to offer ever more efficient HVAC equipment, that meet the specific needs and constraints of our customers.

To ensure the success of every project (new installation or revamping), ETT draws on well-established assets:

**Engineering & Documentation**
- Dedicated Oil & Gas team within Project Department
- Dedicated project manager for each project
- Compliance checklist based on customer specifications
- Detailed 2D and 3D arrangement drawings
- Wiring diagrams
- Battery limits
- Inspection and Test Plans (ITP) for units and components
- Material certificates (2.1, 2.2, 3.1)
- Probe calibration certificates
- Welding books
- Schedules (orders, manufacturing, …)
- Additional documentation according to requirements
- Pipe and duct routing

**Factory Acceptance Tests (FAT)**
- Unit visual inspection
- Operational check according to Functional Analysis
- Tests as per EN 1886 standard
- Performance tests in our Climatic Chamber
- Units weighing on calibrated equipment
- Maintainability tests
- Sound level measurements

**Climatic Chamber**
- Dedicated facility with 200 kW cooling and heating capacity
- Room temperature range from + 2°C to + 45°C (+ 55°C for specific types of units)
- Computerised data logging system
- Measurements on water and air flow rates
- Units technical monitoring by the R&D team before delivery
- Test reports

**Specific On-site Operations**
- On-shore and off-shore site surveys
- Site refrigeration piping connection
- Commissioning technicians
- Dedicated team of after-sales engineers
- Commissioning and Capital Spare Parts

**Environment: Ecodesign involves deconstruction**

4 Objectives:
- Design: integrating deconstruction.
  ETT units are 98% recyclable (re-use and recycling rates based on ULTi+ 21).
- Production: reducing environmental impact.
  Aluminium is endlessly 100% recyclable (no pollutant, no paint, selective sorting).
- Operation: limiting final waste.
  ETT units include “ecodesign” air filters (selective sorting: frame - grille - media).
- Energy performance: building on innovation thanks to our integrated Research and Development Department.
ETT, priority to research & innovation

ETT closely monitors the technical and regulatory developments that will shape tomorrow’s HVAC systems. ETT builds its approach on the expertise of its Design Departments and expert engineers.

- Project & Studies Department
- Process Planning Department
- Electricity & Control Department

ETT’s technical services rely on the Research and Development Department to provide innovative technical solutions tested and validated in its climatic chamber.

ETT, the expertise to help you reduce your energy costs

Our commitments:

- Guarantee
  - 20-year anti-corrosion guarantee
  (frame and casing)

- Reliability
  - Use of premium components
  - Units tested at the factory prior to shipment

- Service contract
  - Auditing & installation optimisation
  - Guarantee extension
  - Refrigeration circuits tightness testing
  - Technical assistance/consulting

- Retrofit - Upgrade
  - Energy optimisation
  - Control system optimisation or replacement
  - Refrigeration circuit renovation or retrofit (R22 ban)
  - Unit transformation
  - Communication tools (BMS, web, etc.)

- Technical expertise
  - Full assessment of your HVAC units
  - Analysis and consulting services

- Training centre
  - Operation and maintenance training
  - Custom training
## Reminder of the ATEX directive

### IEC60079-0

#### CLASSIFICATION OF EQUIPMENT

<table>
<thead>
<tr>
<th>USAGE GROUP</th>
<th>EQUIPMENT GROUP</th>
<th>EPL = Equipment Protection Level</th>
<th>LEVEL OF PROTECTION</th>
<th>IF ATEX PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firedamp mines</td>
<td>I</td>
<td>M1 Maximum mine gas content</td>
<td>Very high</td>
<td>Powered up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M2 Below a certain value</td>
<td>High</td>
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<tr>
<td>Explosive gas atmospheres</td>
<td>IIA</td>
<td>A 1 G Very high</td>
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<td>B 2 G (1) High</td>
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<td></td>
<td></td>
<td>C 3 G Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive dust atmospheres</td>
<td>III</td>
<td>A 1 D Very high</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B 2 D (2) High</td>
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<tr>
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</tbody>
</table>

### DIRECTIVE 14/34/UE

#### CLASSIFICATION OF EQUIPMENT

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<th>CATEGORY</th>
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</table>

### ATEX marking

- **Gas**: \( \text{II 2G} \), \( \text{EX d IIB T4 Gb} \)
- **Dust**: \( \text{II 2G} \), \( \text{EX tb IIC T125° Db} \)

### Gas

- **Temperature classes**: \( \text{T1, T2, T3, T4, T5, T6} \)
- **Maximum surface temperature**: \( \text{450°C, 300°C, 200°C, 135°C, 100°C, 85°C} \)

### Dust

- **Temperature class**: \( \text{T 125 °C} \)
- **Maximum external surface temperature (motor)**: \( \text{125 °C} \)

### NOTA:

Foreign certifications such as CU TR 012/2011 on request

---

1: Methane

IIA: Propane

IIB: Ethylene

IIC: Hydrogen, Acetylene

IIIA: Combustible particles in suspension

IIIB: Non-conductive dust (electric resistivity > \( 10^3 \, \Omega \cdot \text{m} \))

IIIC: Conductive dust

---

**FA**: Foreign certifications such as CU TR 012/2011 on request
ETT units range

**ETT produces hundreds of aluminium rooftops per year.** This material has been used as standard by ETT for the last 40 years due to its excellent properties in terms of weight, resistance to corrosion and recyclability. However, in some areas, and especially in Oil & Gas applications where the atmosphere contains hydrogen sulfide, this material is not suitable anymore. Therefore, **ETT has developed a range of equipment in 316L stainless steel (1.4404),** relying on a team specifically dedicated to its design, manufacture and commissioning.

**ETT also has a solid experience in designing units for operation in hazardous areas.** Our equipment can be adapted to site specifications, from zone 2 to zone 1, and bear the ATEX marking. Equipment release only occurs after inspection by a third party. All ATEX/IECEx components come from well-known premium manufacturers.

All the units below can be designed for **voltages** of 690/460/400/220 V and **frequencies** of 50/60 Hz.

### Air Conditioning Rooftop Unit (PACU) - Standard range

**Suitable for non ATEX areas - For use on non critical shelters**

- Standard unit made of aluminium - **Stainless steel available as an option**
- Refrigerant: R134a or R410A
- From 1,500 to 38,000 m³/h rated air flow rate
- From 8 to 175 kW net cooling capacity (R410A)

**The unit features:**
- ETT communicating HPE+ control
- IE4 high performance free wheeling fan
- G4+F7 filtration without fibreglass
- ETT TANDEM Technology

### Air Conditioning Rooftop Unit (PACU)

**Suitable for non ATEX or ATEX areas - For use in zone 1 and zone 2**

**Technical specifications:**
- Unit made of aluminium or stainless steel
- Refrigerant: R134a or R410A
- From 1,500 to 30,000 m³/h rated air flow rate
- From 8 to 150 kW net cooling capacity
- Sand filter available as an option
- **Air Conditioning Unit (ACU)**
  - Suitable for **non ATEX areas**
  - Technical specifications:
    - Standard unit made of aluminium - **Stainless steel available as an option**
    - Refrigerant: R134a or R410A
    - From 1,500 to 15,000 m³/h rated air flow rate
    - From 8 to 70 kW net cooling capacities

- **Air-Cooled Condenser (ACC)**
  - Suitable for **non ATEX or ATEX areas**
  - Technical specifications:
    - Standard unit made of aluminium - **Stainless steel available as an option**
    - Refrigerant: R134a or R410A (hot water as cooling medium as well)
    - From 2,000 to 28,000 m³/h rated air flow rate
    - From 13 to 200 kW net heating capacity (R410A)
  - Available options:
    - Coils with specific treatment (heresite)
    - Emergency Switch

- **ATEX Pressurisation System**
  - Suitable for **ATEX areas**
  - Technical specifications:
    - Unit made of stainless steel as standard
    - From 200 to 2,000 m³/h rated air flow rate
Air Handling Unit (AHU)

Suitable for non ATEX or ATEX areas

Horizontal unit

Technical specifications:
- Standard unit made of aluminium - Stainless steel available as an option
- From 1,000 to 50,000 m³/h rated air flow rate
- Many components available, such as centrifugal fans, cooling coils, heating coils (electrical or hot water), droplet separators, sound absorbers, dampers)

Air Treatment Unit (ATU)

Suitable for non ATEX or ATEX areas

Vertical unit

Technical specifications:
- Standard unit made of aluminium - Stainless steel available as an option
- From 1,000 to 20,000 m³/h rated air flow rate
- Many components available, such as centrifugal fans, cooling coils, heating coils (electrical or hot water), droplet separators, sound absorbers, dampers)

Marine Cassette Unit

Suitable for non ATEX areas

Technical specifications:
- Standard unit made of aluminium - Stainless steel available as an option
- Refrigerant: R134a or R410A (chilled water as cooling medium as well)
- From 300 to 1,100 m³/h rated air flow rate
- From 2 to 8 kW net cooling capacity (R410A)
Air Cooled Condensing Unit (ACCU)

Suitable for non ATEX or ATEX areas

**Technical specifications:**
- Standard unit made of aluminium - Stainless steel available as an option
- Refrigerant: R134a or R410A
- From 15 to 150 kW net cooling capacity (R410A)

Water or Seawater Condensing Unit (WCCU / SCCU)

Suitable for non ATEX or ATEX areas

**Technical specifications:**
- Standard unit base frame made of aluminium – Stainless Steel base frame available as an option
- Refrigerant: R134a – R410A – R290
- Suitable for Seawater system(exchangers in Titanium) or Heating Water system (exchangers in Stainless Steel)
- Possibility to provide the unit with external casing
- Suitable for 690/460/400/220 V & 50/60HZ
- From 7 to 150 kW net cooling capacity
- With reciprocating or scroll compressors

Chiller Unit (CWU)

Suitable for non ATEX or ATEX areas

**Technical specifications:**
- Standard unit made of aluminium - Stainless steel available as an option
- Refrigerant: R134a or R410A
- From 15 to 200 kW net cooling capacity (R410A)
- Many components available, such as centrifugal fans or sound absorbers
- Suitable for low ambient temperatures
Examples of sites
ÉT - Document printed by an environmentally friendly printer using vegetable-based ink on PEFC paper created from sustainably-managed forests.

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Fax: +33 (0)2 98 48 09 12
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Référence : MARK-PLA.06.00-EN

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