



# Conquest CGAX and CXAX

**Air-cooled chillers and air-to-water heat pumps,  
R410A or **low GWP R454B** refrigerant**

JUNE 2022

- Trane introduces **CONQUEST**
- The best value chiller and heat pump on the market...

..... for a superior customer experience

- Top class efficiency
- Two refrigerant choices – **R454B** or **R410A**
- Lowest sound levels
- Highest quality of finish
- Smart and versatile
- ... and legendary Trane reliability!





**CGAX:** Air-cooled Scroll Chillers

**CXAX:** Air-to-water Scroll Heat Pumps

40-165 kW



# Innovative Design



## Sustainability

- ✓ Microchannel condenser coils for reduced refrigerant charge
- ✓ R454B refrigerant - lowest GWP value option to replace R410A - offering 78% GWP decrease
- ✓ R454B units deliver up to 6% higher cooling/heating efficiency compared to R410A

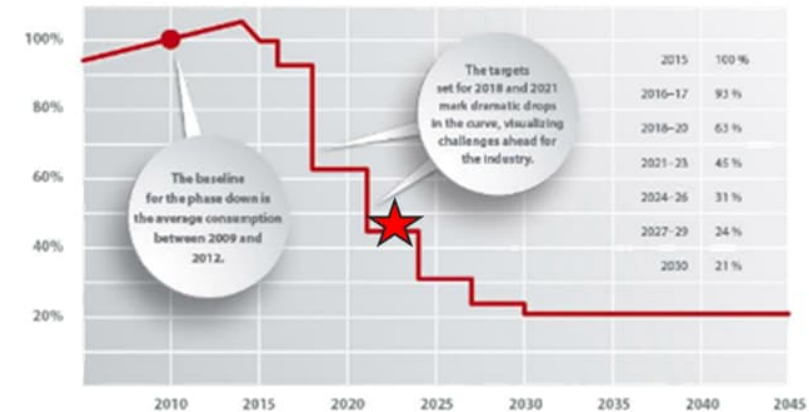


## New Low-GWP Refrigerant ! R454B

R410A under regulatory pressure (F-Gas Regulation),  
due to its relatively high GWP value

***Trane offers a much more sustainable alternative...***

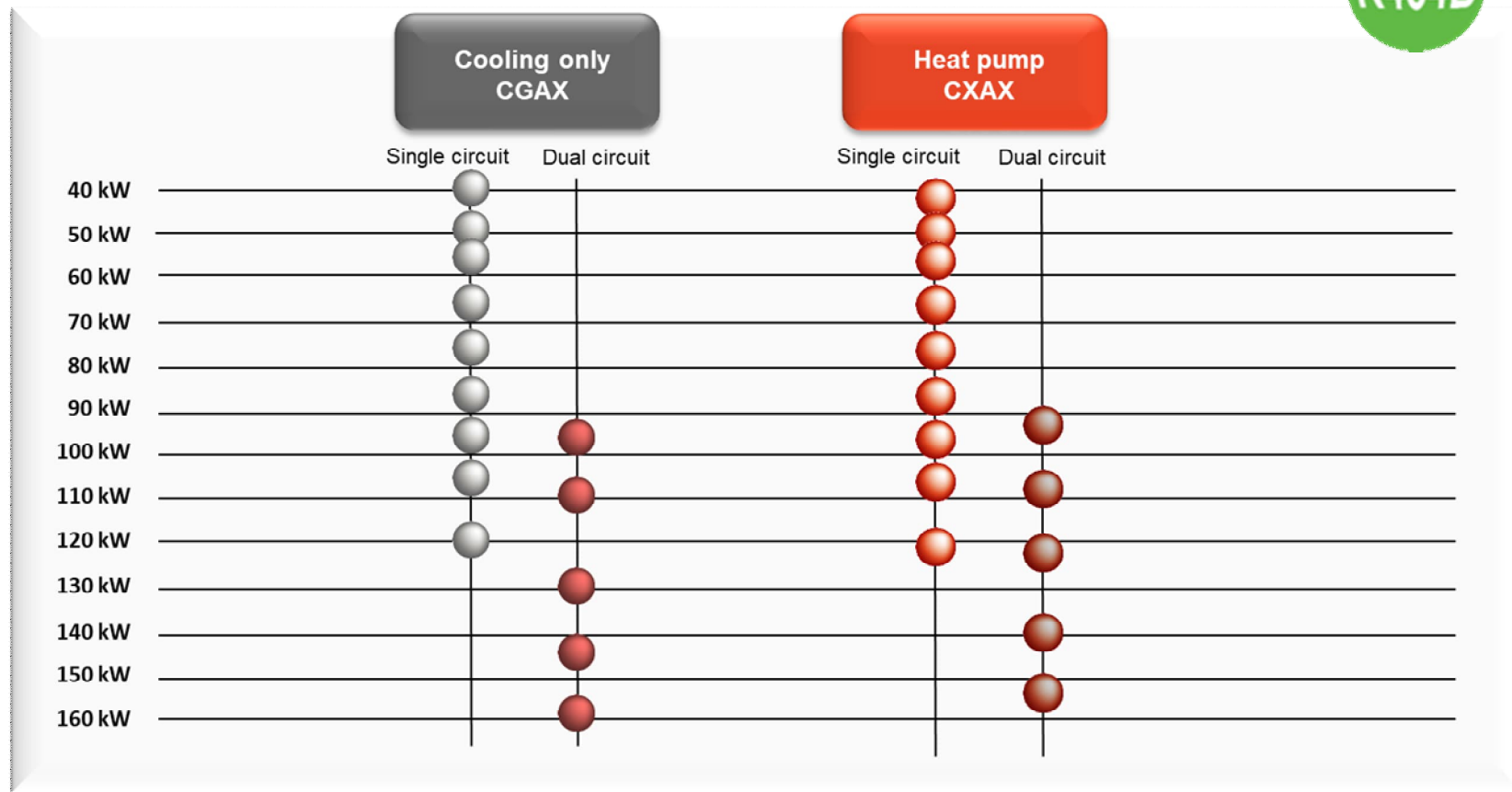
- **R454B** - HFO/HFC refrigerant blend with GWP of 467
  - ✓ Proven to be the best current option for new equipment where a low GWP refrigerant is required
  - ✓ 78% GWP reduction compared to R410A
  - ✓ 34% GWP reduction against **R32 !!!**
- Same Operating maps in heating and cooling
- Lower national taxes apply on the lowest GWP refrigerant



*F-Gas Regulation - fluorinated gases  
phase down steps till 2030*



# Conquest Capacity Range

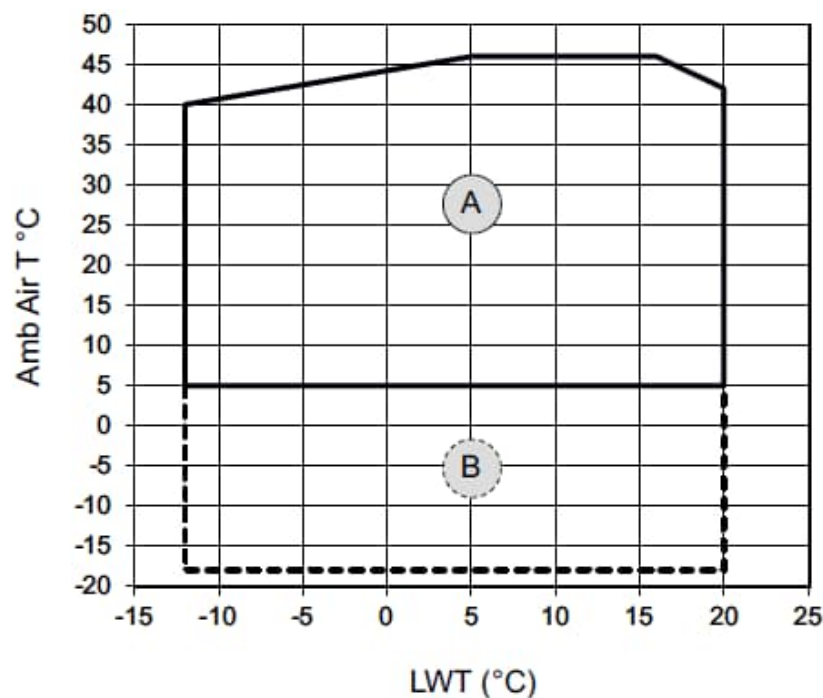


# Operating Maps



## CGAX Chiller - Operating Map

- Ambient air temperature from  $-18^{\circ}\text{C}$  up to  $+46^{\circ}\text{C}$
- Leaving water temperature from  $-12^{\circ}\text{C}$  up to  $+20^{\circ}\text{C}$
- Equal for R410A and low GWP R454B refrigerant



LWT = Leaving chilled water temperature  
A = Standard operating map  
B = Low ambient air operating map, with variable speed driven AC fans

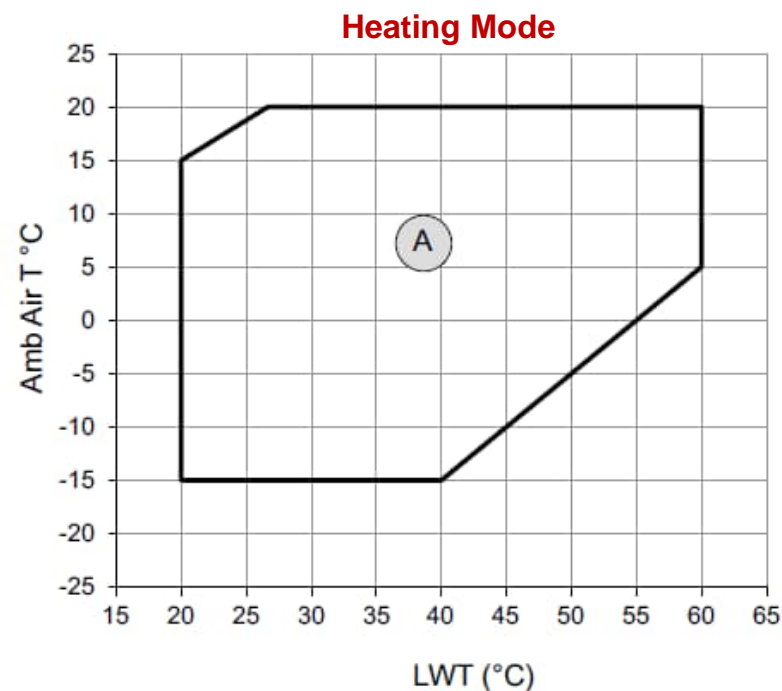
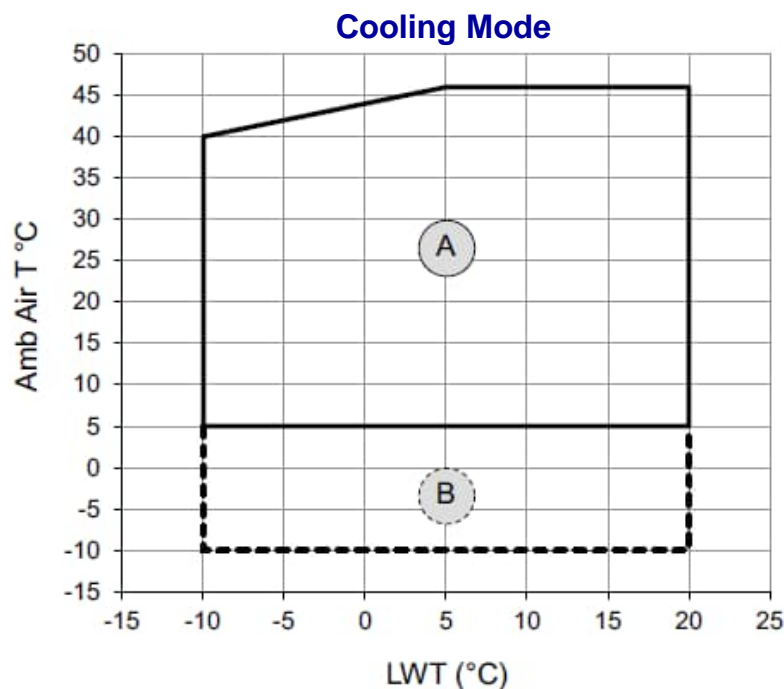


Perfect Fit for Comfort and Process Applications



## CXAX Heat Pump - Operating Map

- In heating mode **+45°C hot water** at -10°C ambient air temperature
- Maximum hot water temperature of **+60°C** above +5°C ambient air
- Equal for R410A and **low GWP R454B** refrigerant



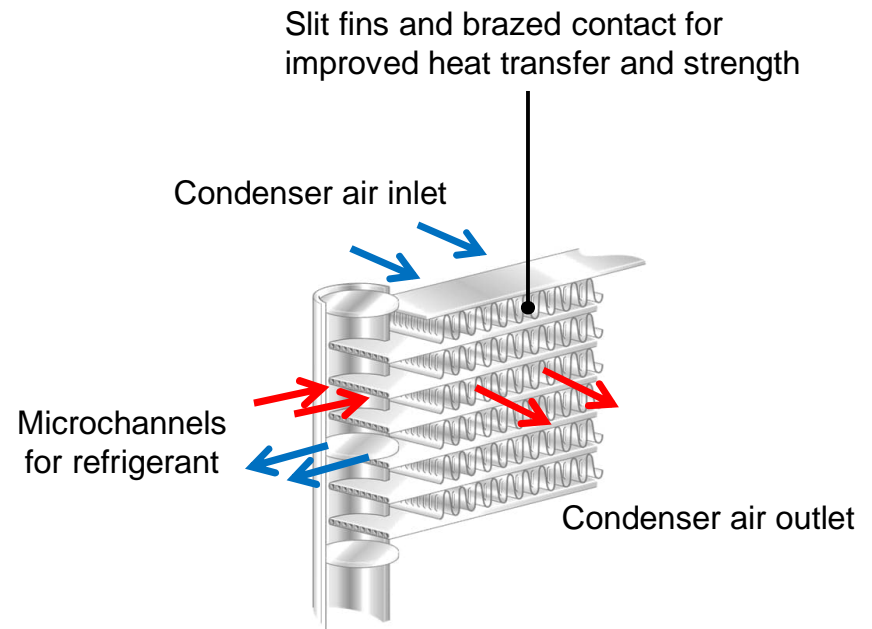
**LWT** = Leaving chilled or hot water temperature  
**A** = Standard operating map  
**B** = Low ambient air operating map, with **variable speed driven** AC fans

# Main Components



# Microchannel Condenser Coils

- Leading-edge coil design for increased corrosion resistance
- Longer life expectancy
- **Sustainability**
  - Increased chiller efficiency
  - Lower refrigerant charge
  - **R454B** or R410A suitable
- 10% overall unit weight reduction



Standard on all CGAX chillers



# Unit Controller

- User friendly LCD display with 6 navigation buttons
- Clear messages in 15 different languages
- EXV: Electronic Expansion Valve control
- Customer communication package:
  - external chilled water setpoint
  - external demand limit
  - analog capacity output
  - programmable relays
- Durable construction for outdoor use
- BACnet / Modbus / LonTalk interface
- pCOWeb / smartphone application

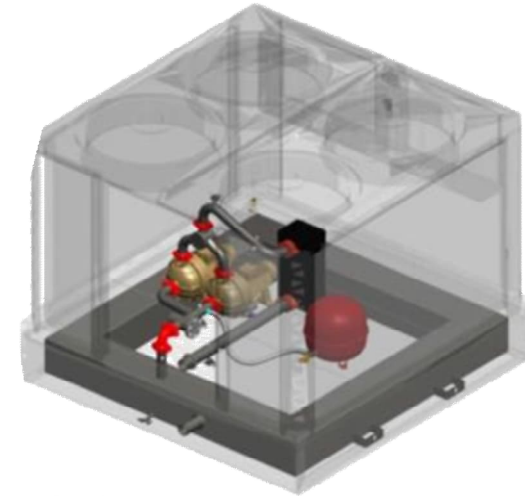


**Perfect Balance of Performance and Economy**

## Main Available Options

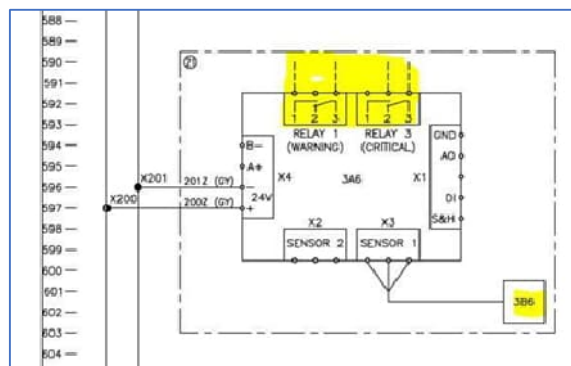
- Single or dual pump, standard or high head pressure
- Integrated water buffer tank
- Variable primary flow
- Partial Heat Recovery
- Two acoustic packages
- Variable speed driven AC fans
  - for low ambient air temperature operation
- Soft starter
- Epoxy coated aluminum fins (CXAX)
- E-coated microchannel coils (CGAX)
- ....and more\*

*\* Visit our Litweb for the Options Guide*



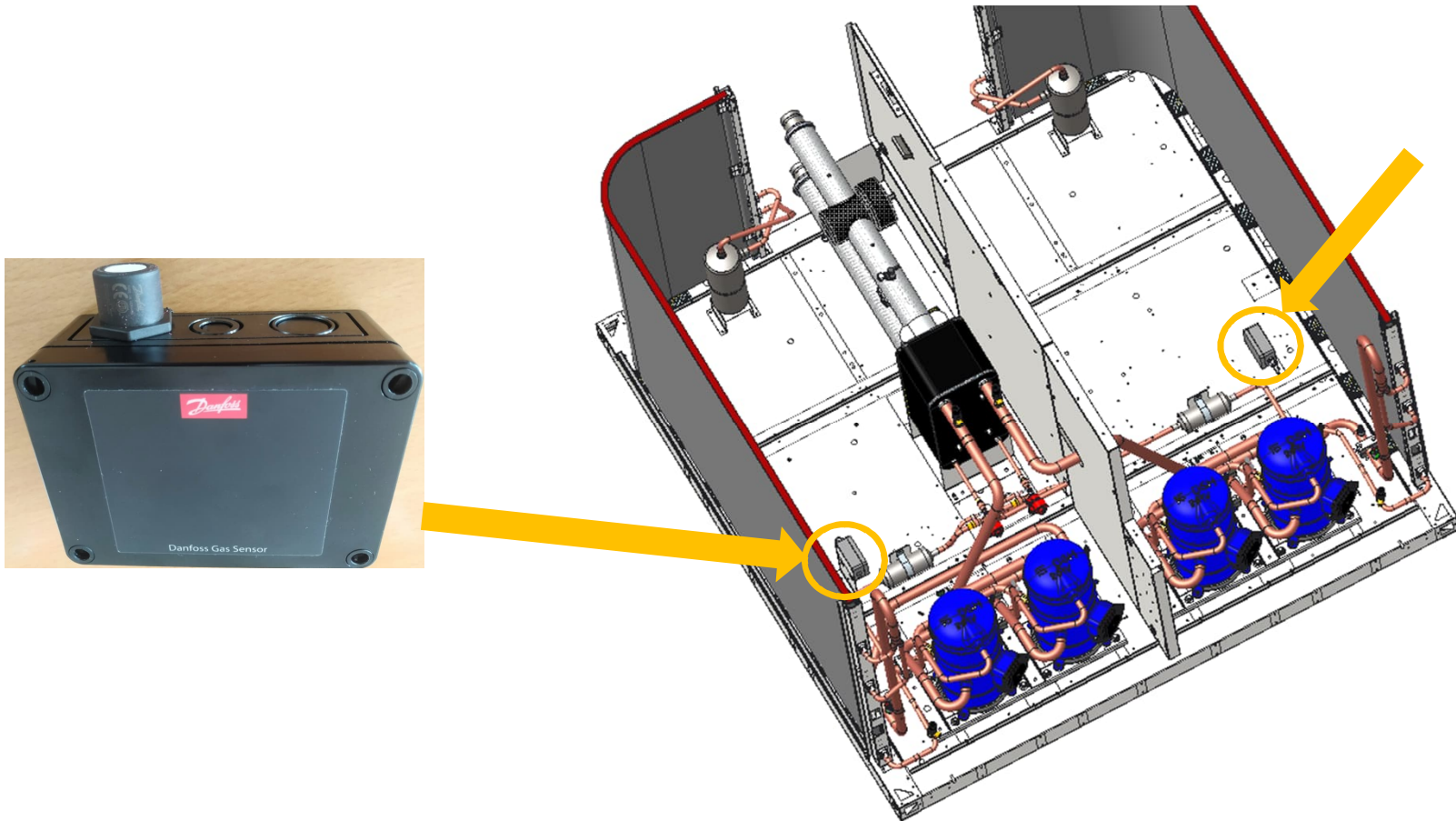
## One Special Option for R454B units

- **Refrigerant detector option**
  - Available only on **R454B** units
  - Factory installed and set according R454B critical thresholds
- **Two relays available:** Relay 1 for warning + Relay 3 for critical
  - When reaching warning / critical levels of R454B concentrations, customer has to shutdown the electrical power to the unit
  - Use a disconnect switch upstream from CGAX/CXAX, operated remotely, that will open electric circuit to the unit when there is a refrigerant leakage
  - Connection to relays on wiring diagrams: detector is identified as 3A6 and is on line 596/597



## Conquest Units with R454B

Where are the refrigerant gas detectors installed ?



# Applications



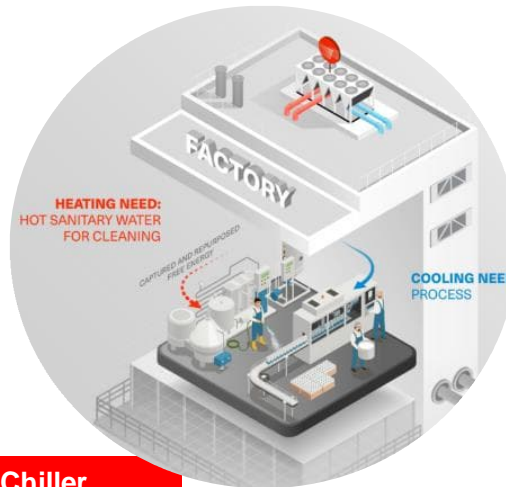


# Climate-friendly HVAC solutions to satisfy any permanent or temporary cooling and heating needs

Click for link to animation



CGAX Chiller



CGAX Chiller with heat recovery



CXAX Heat pump



Hospitality



Healthcare



Entertainment



Office buildings



Education

# Industries Using CGAX Process Chillers



- **Plastics:** To reduce cycle times in injection molding and blow molding by regulating temperatures
- **Food industry:** To cool any process such as chocolate manufacturing, vegetable processing, meat injectors etc...
- **Bakeries:** Use for the mixing process to allow longer mixing times which improves the final quality for any grade of flour
- **Pharmaceuticals:** The heat from emollient vats needs to go somewhere. Chilled water is used to reduce total manufacturing time, leading to cost savings
- **Printing industry:** Temperature regulation in presses and rollers which leads to reduction of stretching and bleeding.
- **Other applications:** Ice skating rinks, laser cutting machines, boat / airplane manufacturing, composite manufacturers, etc...

# Peace of Mind



## Peace of Mind

**We are original equipment manufacturer for 100+ years !**

- Trane design from A to Z
- Proven design with proven high quality components

### **Rigorous manufacturing and testings**

- Lean manufacturing process
- Product quality plan: 7 working stations including 15 control check points

### **High market standard in product quality and finishing**

- Industrial design: solid and modern !
- Special care to paint quality, wiring and tubing arrangement



**Trane experts at your service: we provide a wide range of Service solutions ensuring the most reliable and cost-effective performance ..... from day one through the complete life cycle of your Conquest installation**

## Third Party Testing: Recognition of Quality



### CE compliance

- EU Ecodesign compliance
- Pressure Equipment Directive (PED) 97/23/CE
- Machinery Directive (MD) 2006/42/CE
- Low Voltage Directive (LV) 2006/95/CE
- Electromagnetic Compatibility Directive (EMC) 2004/108/CE
- Electrical Machinery Safety Standard EN 60204-1
- Electromagnetic Emission and Immunity Standard EN 61800-3 category C3

### Quality Insurance processes

- ISO 9001
- ISO 14001

### 3<sup>rd</sup> Party certifications

- Eurovent Certified for units up to 1,500 kW

***Guaranteed performance of your investment***

# Sustainable and innovative cooling and heating

Equipment – Rental – Services - Controls



Visit [www.trane.eu](http://www.trane.eu)





# CGAX and CXAX

Designed for cooling and heating needs

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