



# 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!



# CONQUEST

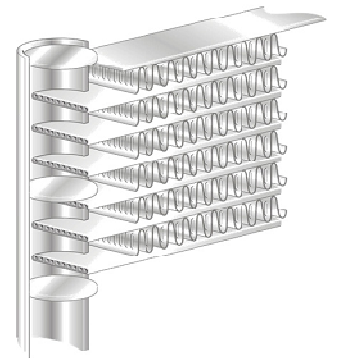
**CGAX:** Air-cooled Scroll Chillers  
**CXAX:** Air-to-water Scroll Heat Pumps  
40-165 kW



# Innovative Design

High Performance AC fans  
or  
AC fans with VFD ( low  
ambient air option )

Microchannel  
condenser coils (on CGAX)



High Performance  
Heat Exchanger



Adaptive  
Frequency™ Drive



## 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

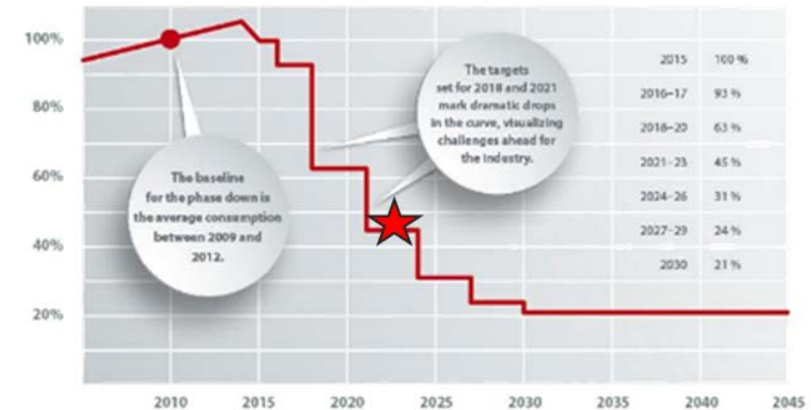


## New Low-GWP Refrigerant ! R454B

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

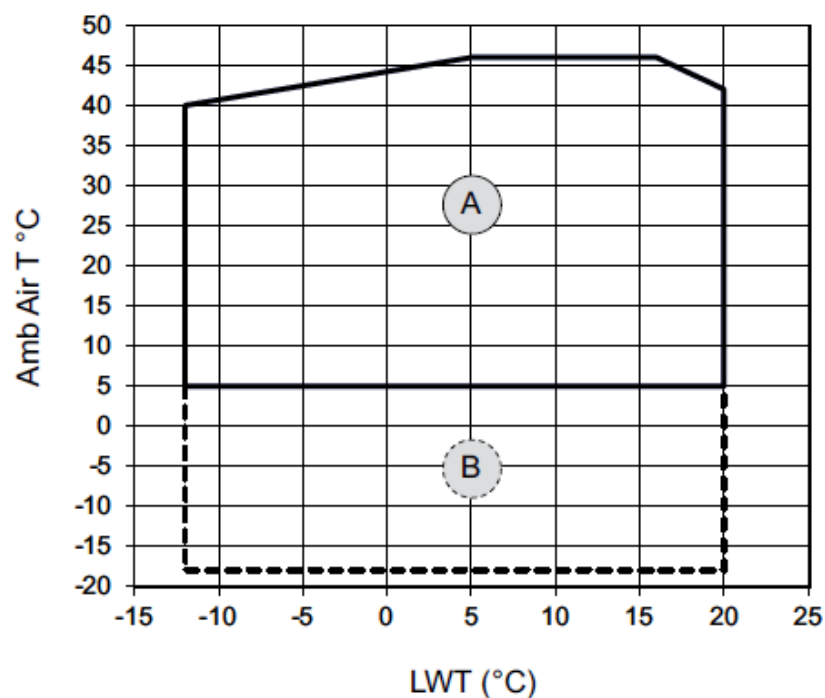


# Operating Maps



## 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

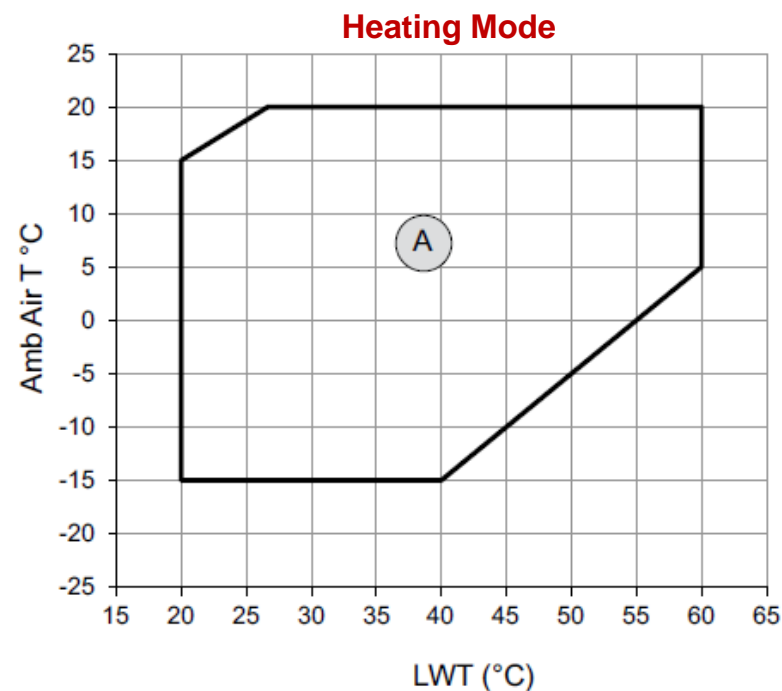
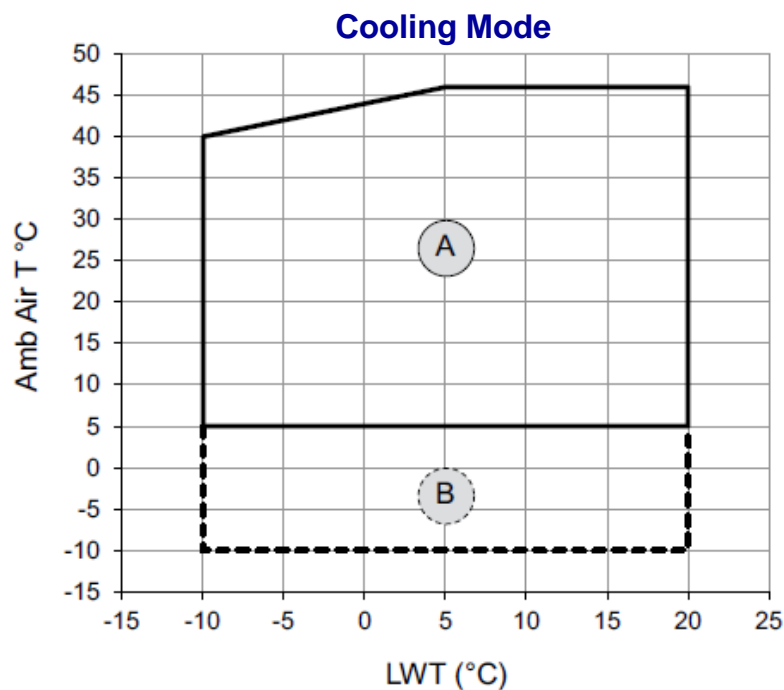


**Perfect Fit for Comfort and Process Applications**



# 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



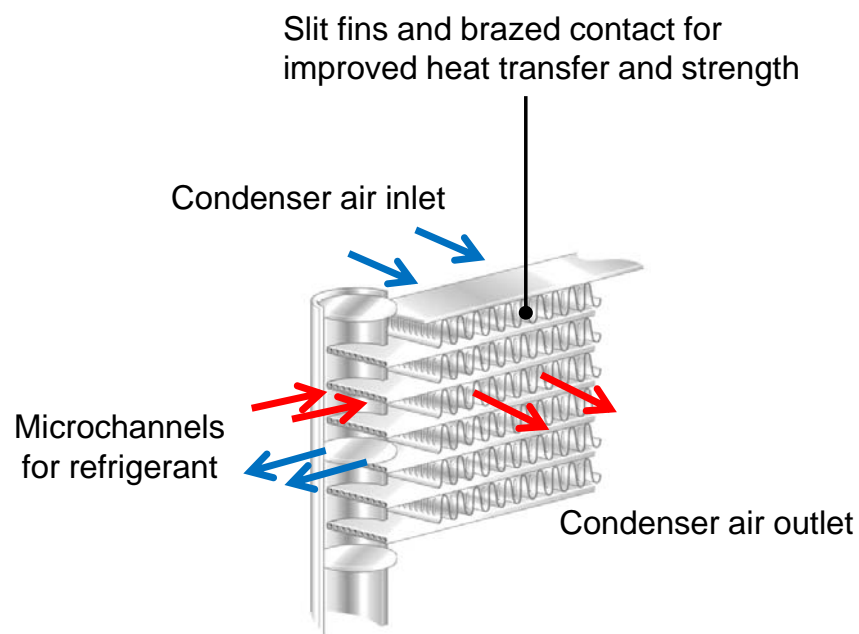
**LWT** = Leaving chilled or hot water temperature  
**A** = Standard operating map  
**B** = Low ambient air operating map, with **variable speed driven** AC fans

# 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

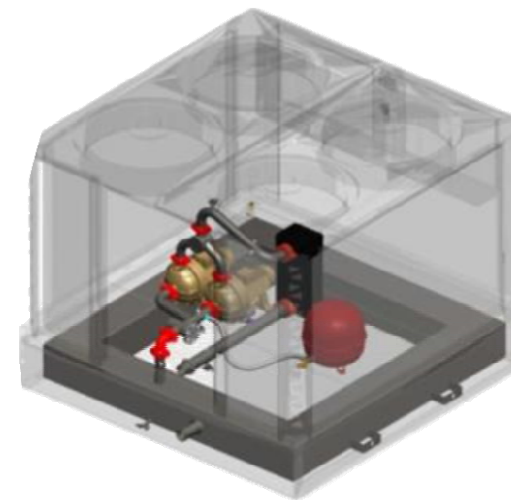


**Perfect Balance of Performance and Economy**

## Main Available Options

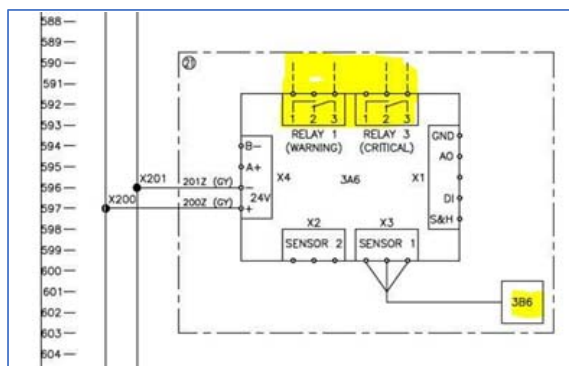
- Single or dual pump, standard or high head pressure
- Integrated water buffer tank
- Variable primary flow
- Partial Heat Recovery
- Two acoustic packages
- Variable speed driven AC fans
  - for low ambient air temperature operation
- Soft starter
- Epoxy coated aluminum fins (CXAX)
- E-coated microchannel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

*\* Visit our Litweb for the Options Guide*



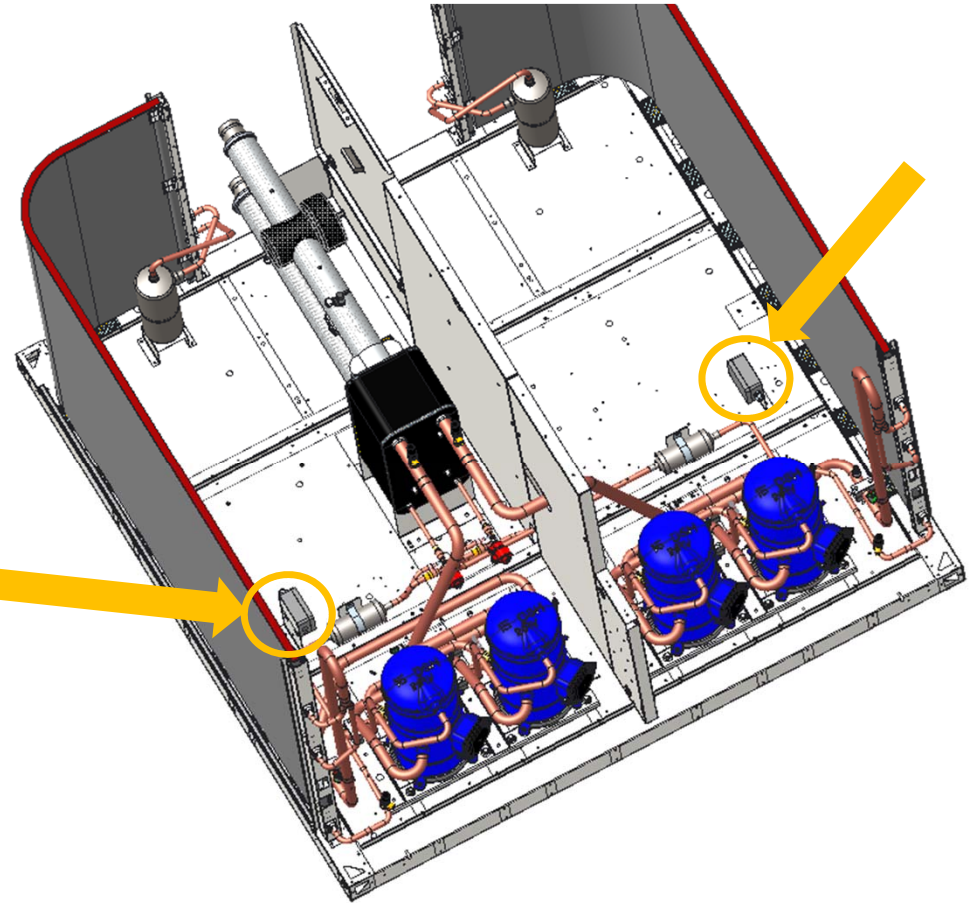
## One Special Option for R454B units

- **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 ?

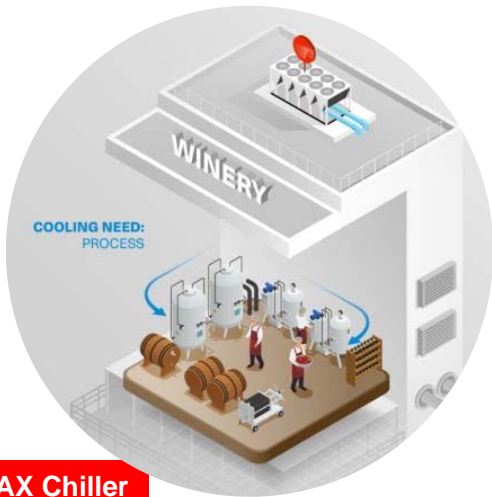


# Applications

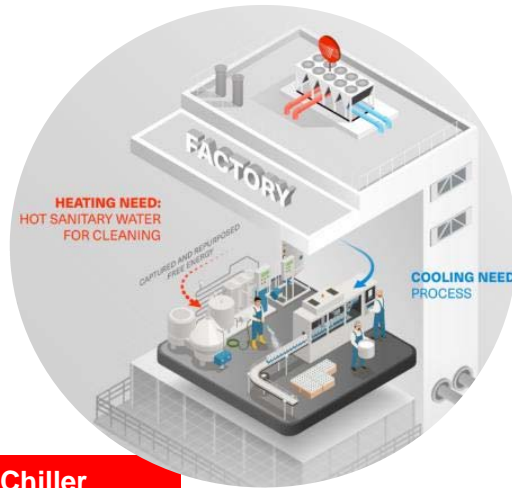




# Climate-friendly HVAC solutions to satisfy any permanent or temporary cooling and heating needs



**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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