



CGAM air-cooled scroll chiller

Highly efficient, yet extremely quiet



Balancing energy efficiency and quiet operation

Energy efficiency, sound, reliability, controls and service are all vitally important to the effective operation of a building. Trane engineers know how important all these factors are to you—so we designed them all into our new 20-130 ton model CGAM chiller. Using the best elements of each design we created an extremely quiet and highly efficient chiller.

High efficiency and quiet operation

Most air-cooled chillers require you to choose between a highly-efficient unit or a low-noise unit. A quieter fan often produces less air flow, reducing efficiency. With the Trane CGAM chiller, we have designed these two very important benefits into one chiller.

Our design team compiled the best approaches from around the globe to optimize the CGAM chiller so that it meets global green initiatives and ASHRAE energy efficiency standards.

The Trane CGAM chiller is one of the most efficient air-cooled chillers, even among screw compressor equipment. Low sound levels are standard, with a 5–8db reduction compared to previous Trane air-cooled chiller models. And, with factory-installed attenuation, Trane further reduces sound levels—up to an additional 3db.

Reliability you can count on

Energy efficiency and quiet operation are increasingly critical. As a result, we perform extensive testing on the compressors and units, confirming their robust design and durability while ensuring our high standards for reliability.

Our testing includes:

- Extreme testing includes cold ambient starts, hot water starts and high ambient operation
- Compressor accelerated life cycle testing, including high pressure ratio, high load test, flooded starts/stops, start/stop testing and phase reversal



On-site test facility ensures reliability and performance verification



- Performance modeling and verification, both during design and for the life of the chiller
- FEA analysis confirms the unit structure can withstand shipping, rigging and operational activity
- Electrical testing with destructive testing for short circuit withstand rating

To minimize leaks, Trane improved the coil structure stability by strengthening the coil frame and changing the construction method. Now we use a single copper tube for two passes through the coil to reduce braze joints on one side of the coil, eliminating up to 60 joints. Furthermore, the new construction method ensures all coils are square, so the coil components are better aligned.

Factory installed reliability

We offer several factory-installed features that further reduce energy consumption, add redundancy for mission-critical operations and reduce jobsite installation time — when every day counts.

A factory-installed pump package, designed specifically for this unit, comes pre-wired and factory-tested. The dual pump setup provides built-in redundancy and the standard inverter delivers added pump energy savings.

With the factory-installed buffer tank, you can install the chiller in applications with less than a three minute water loop and still reliably maintain precise temperature control.

The flow switch and water strainer are also factory installed as standard, reducing jobsite installation requirements and ensuring reliable operation.



Trane reduces energy costs by incorporating an ice storage system design that uses ice made at night, when energy demand and cost are lowest, to cool the building during the day.

Low life cycle costs

Trane engineers, using some of the best analytic approaches and tools in the industry, can find ways to reduce your energy usage by optimizing energy efficiency and performance at every point within your system. We design systems tailored for your specific application. For example, using partial heat recovery, the heat rejected from the condenser while cooling the building can be redirected through a factory-installed heat exchanger on the chiller to provide heat for VAV reheat coils. This provides more efficient dehumidification in commercial buildings, or for pre-heating laundry or pool water in lodging applications.

Another energy saving strategy is making ice wherever energy costs are less expensive, and then using it for cooling during the day. Ice storage can be used in many applications including: K-12 schools, government jobs and industrial processes.

Air-cooled scroll chiller

Model CGAM (20-130 Ton)





- A Compressor**—facilitates full- and part-load efficiencies that exceed ASHRAE 90.1- 2004 by 6-8%
- B Fans**—quiet fan design is standard, 5-8 db lower than current models, with attenuation options for applications requiring ultra-quiet operation.
- C Integration**—pump package and buffer tank are pre-wired and tested in the factory.
- D Heat recovery**—can provide 140°F (60°C) water for use in dehumidification or other applications, such as pre-heating laundry or pool water.
- E Reliability**—water strainer and flow switch are factory installed in the most optimum location; increased coil structure strength and reduced brazed joints minimize leaks.
- F Controls**—CH530 improved fan staging logic for low ambient starting capability; Adaptive Controls™ are standard to maintain operation in adverse conditions.
- G Durability**—powder-coated components and optional coated coils minimize corrosion.
- H Serviceability**—major components are positioned for easy access. The unit structure is designed to rig pump up for easy seal changes.