# CGAD

Scroll compressor chiller
20 to 150 tr

TRANE TECHNOLOGIES

# CGAD Air Cooled Chiller

**Advantages in many applications**
The CGAD scroll chiller eliminates concerns regarding machine performance in virtually any context.
With its highly reliable design, the chiller maintains operating efficiency and capacity in comfort applications, while also supporting sensitive industrial processes with precise temperature control.

**Energy Efficiency and Integrated Comfort System**
The automation of Trane chillers controls starting intelligently, optimizing energy efficiency of the equipment. Sophisticated software evaluates and determines the best alternative for lower power consumption.
If your design requires an interface to other systems, the Tracer Summit system is able to share data.
The open protocols of ASHRAE systems, BACnet, and MODBUS are used, among others available upon request.

**Smaller floor area.**
- The technology used in the fan blades provides low noise levels.
- Improved efficiency (kW/TR).
- Modern design.

The following models are available:

| | | |
|---|---|---|
| CGAD 020 | CGAD 025 | CGAD 030 |
| CGAD 040 | CGAD 050 | CGAD 060 |
| CGAD 070 | CGAD 080 | CGAD 090 |
| CGAD 100 | CGAD 120 | CGAD 150 |

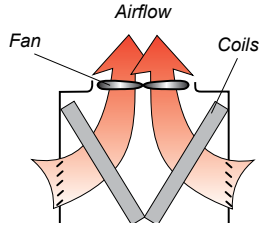
**Scroll Compressor**
All CGAD models are equipped with Scroll compressors, assembled on independent cooling circuits. Scroll compressors offer the following benefits:

- 5 to 10% higher efficiency compared to reciprocating compressors.
- Since they do not have valves, they are extremely resistant to liquid hammering.
- 64% fewer moving parts.
- Extremely smooth and quiet operation, comparable to a centrifugal compressor.
- Low torque variation, resulting in reduced vibration and noise and increased life of the motor.
- Electrical protection, mounted internally to the compressor, protects it against: sobrecarga máxima operacional, alta e baixa tensão e perdas da carga de refrigerante. The device is sensitive to current and heating. If a fault occurs, the three supply phases open.

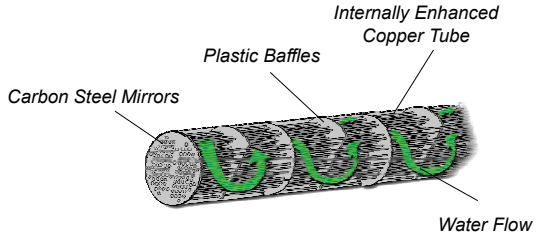
**Control/Supply Voltage**
All Trane CGAD Liquid Chillers are supplied with a 220 V control voltage, three-phase motors (3 F) and a standard frequency of 60 Hz. The supply voltage options are:

- 220 V
- 380 V
- 440 V

**Evaporators**
The CGAD chillers feature "Shell & Tube" type evaporators, designed according to ASME standards for pressure vessels without internal combustion and tested in the factory to 300 psig.




**Condensers**
The standard CGAD models are provided with aluminum blades or, optionally, with aluminum blades with yellow fin protection.
The air condensers are equipped with fans designed to improve heat exchange efficiency and provide lower noise.



**Refrigerant**
Standard models leave the factory with R-407C refrigerant.

**Coupling Connector**
Coupling connectors facilitate the connection of terminals and reduce interference. They allow connection of devices such as a temperature sensor, liquid level sensor, pressure transducer, and electronic expansion valve, among others.

**CH530**
**Microprocessor Controller**
The units are equipped with a CH530 microprocessor controller with the DynaView control module – a touch-sensitive LCD display which allows the user to access any information related to the configuration, operating mode, temperature, electrical data, pressures and diagnostics.

**CH530 Safety Controls**
The controller offers a high level of protection to your Chiller, constantly monitoring pressure, current, voltage and temperature variables of the evaporator and condenser. When one of these variables approaches a limit condition that could result in the unit being shutdown, the controller initiates a series of actions, such as the scaling of compressors and fans, in order to keep the equipment in operation. The controller will always optimize operation of the unit to achieve the highest level of energy efficiency.

**Optional Controls**
Trane also offers a wide range of controls for the specific applications of each installation. Consult your Sales Engineer.

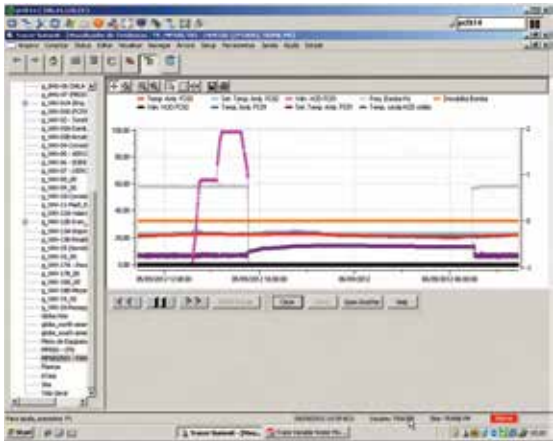
**Tracer Summit – Trane Integrated Comfort System (ICS)**
The Tracer Summit Building Management System with Chiller Control provides building automation and energy management functions through an independent control. The Chiller Control can monitor and control the entire installed system of coolers.

Applications available:
- Programmable timer.
- Demand limiter.
- Chiller sequencing.
- Process control language.
- Boolean processing.
- Environmental control.
- Reports and logs.
- Customized messages.
- Operation and maintenance time.
- Record of trends.
- PID control loop.

All these controls can be implemented from a remote location.
Using the Tracer system, the owner of a property or building can fully monitor the chiller since all monitoring and diagnostics information provided by the unit controller can be read on the Tracer system display.
The Tracer system can provide sequencing control for up to 25 units in the same system.
To implement these functions, the COMM 3 communication interface, building control unit (BCU) devices and Tracer Summit management software are necessary.

The automation of the Trane system generates the reports defined in the ASHRAE Guidelines.

**Keeping Operators Informed**
For efficient operation of chillers, it is crucial to ensure that operational personnel have instantaneous information on the status of equipment. Graphics with schematic drawings of the chillers, piping, pumps and towers clearly describe the chiller system, enabling building operators to easily monitor all conditions.



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