PORTABLE CHILLERS

CGD SERIES

Air-Cooled & Water-Cooled

- *5 - 15 Ton Models*
- *Digital Scroll Compressor Technology*
- *20°F - 80°F Fluid Temperatures*
- *R410A Non Ozone Depleting Refrigerant*
- *Steel Frame & Lift-Off Cabinetry*
- *Stainless Steel Brazed Plate Evaporator*

Control instrument for portable chillers with Digital Scroll Compressors.

TempTek CGD Series portable chiller with new Copeland Scroll Digital technology provides precision temperature control from an economically affordable and reliable unit.

Perfect for applications such as

- All Plastics Applications
- Medical Applications
- Extraction / Cannabis Applications
- Beverage / Brewing Applications

CGD Chiller Control Instrument

- Graphical LCD Display
- Intuitive Navigation Six Menus Deep
- Main Screen Display of To Process Temperature, Setpoint and Output
- Setpoint Selection via Main Display or Setpoints Menu
- Soft Key Buttons for Intuitive Navigation
- Soft Key Buttons for Power On and Off
- Plain Language Error Reporting
- Machine Status Indication via Outputs Display
- Capacity Control Indication via Outputs Display
- Digital Refrigerant Pressure Display
- Digital Water Pressure Display
- Alarm Output with Audible Signal
- Industry 4.0 Ready ... Modbus RTU or SPI Communication Included
- Modbus TCP Communication Optional
- High Water Temperature Shut Down Feature

SPECIFICATIONS

MODEL	CAPACITY[1] TONS	STYLE	PUMP HP	PUMP FLOW	PUMP PRESSURE	TANK CAPACITY	DIMENSIONS (H x W x D)	FLA[2] @460/3/60	AVAILABLE VOLTAGES
CGD-5A	5	Air-Cooled	2	12 gpm	52 psi	25 gallons	60” x 34” x 45”	17.5	230 / 460 / 575
CGD-5W	5	Water-Cooled	2	12 gpm	52 psi	25 gallons	40” x 34” x 45”	15	230 / 460 / 575
CGD-10A	9.8	Air-Cooled	2	24 gpm	48 psi	25 gallons	60” x 34” x 56”	30	230 / 460 / 575
CGD-10W	10	Water-Cooled	2	24 gpm	48 psi	25 gallons	40” x 34” x 56”	25	230 / 460 / 575
CGD-15A	14.5	Air-Cooled	3	36 gpm	55 psi	65 gallons	65” x 58” x 64”	43.8	230 / 460 / 575
CGD-15W	15	Water-Cooled	3	36 gpm	55 psi	65 gallons	57” x 34” x 80”	38.5	230 / 460 / 575

Notes:
1. Tons capacity at 50°F LWT and 95°F ambient (air-cooled models), 85°F condening water (water-cooled models).

HOW IT WORKS...

The Copeland Scroll Digital™ compressor controlled by the advanced microprocessor control instrument uses a simple and effective method to modulate chiller capacity from 20 - 100 %, giving unparalleled energy efficient performance in the modulation field.

The scroll compressor uses a simple concept first patented in 1905 and has been deployed in industrial process chillers and air conditioning systems for many years. Scroll compressors provide a very smooth compression process and have fewer moving parts compared with traditional reciprocating compressors.

The Copeland Scroll Digital™ compressor improves on the basic scroll design by having axial and radial compliance, which allows the fixed scroll to move in both the axial and radial directions by very small amounts. This ensures that the fixed and orbiting scrolls are always loaded together with the optimal force, thereby maximizing efficiency.

Compliance helps to protect the compressor from damage by debris or liquid. A compressor is designed to only compress gas. Having debris and/or liquid in the compression cycle will damage the compressor. Compliance (the ability of the scrolls to separate axially and radially) allows unexpected debris or liquid to be safely discharged.

The Copeland Scroll Digital™ compressor uses axial compliance as its basic principle, but takes it further by controlling the separation of the scrolls.

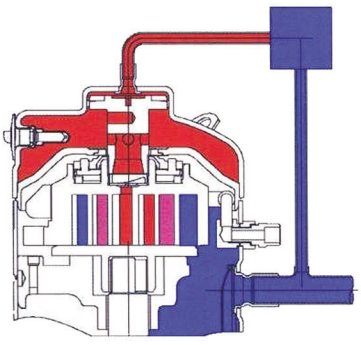
The microprocessor control instrument controls the axial separation of the scrolls by using a solenoid valve and a bypass connection between the discharge chamber and the intake gas. The scrolls are designed so that the upper scroll can separate from the bottom scroll by 1 mm vertically.

The Copeland Scroll Digital™ operates in two stages - the loaded state, when the solenoid valve is normally closed and unloaded state, when the solenoid valve is open. During the loaded state, the compressor operates like a standard Scroll and delivers full capacity and mass flow. During the unloaded state, there is no capacity and no mass flow through the compressor.

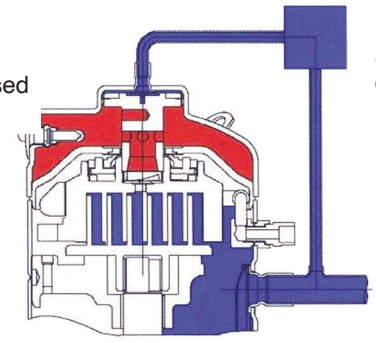
By controlling the amount of time that the compressor is in the loaded and unloaded state, the control instrument can effectively and efficiently modulate the chiller capacity from 20 to 100% while maintaining temperature stability.

Since there is no compression when the compressor is in the ‘unloaded state’ far less energy is consumed. Testing shows that compressor energy is reduced by approximately 8% when running at 75% capacity, 12% when running at 50% capacity and 18% when running at 25% capacity as compared to traditional portable chillers that use hot gas bypass for capacity modulation.

Additionally, compressor starts and stops are reduced providing longer compressor life while providing stable cooling fluid temperatures.



Solenoid Valve Closed



Solenoid Valve Open

Loaded
Scroll engaged -- full compression

Unloaded
Scroll separated -- no compression

Typical digital scroll compressor.

For More Information ... call 317-887-6352

Since 1989 ... PRICE & PERFORMANCE .... for the LONG TERM !

525 East Stop 18 Road Greenwood, IN 46142 317-887-6352 fax: 317-881-1277 Web site: www.Temptek.com Email: sales@Temptek.com