



Hill PHOENIX
REFRIGERATION SYSTEMS

Second Nature[®] Compact Chiller

SNCC

*Leading the Way in Secondary
Coolant Refrigeration Systems*



SECOND NATURE MEDIUM TEMP COMPACT CHILLER MODULES

Second Nature® Compact Chiller is a new Hill PHOENIX® refrigeration technology that offers significant sustainability benefits when compared to conventional refrigeration technologies. Now available for medium temperature applications, SNCC is the most environmentally-friendly system available in the industry today.

SNCC utilizes a unique heat exchanger technology that allows engineers to design a typical medium temperature supermarket system with a refrigerant charge of well under 200 pounds; the lowest refrigeration charge of any commercial refrigeration system on the market. As a result, food retailer operations now have the opportunity to achieve a sustainable zero leak rate. This new Second Nature secondary coolant system is comprised of multiple compact chiller modules. Each module is a standalone refrigeration system and is completely factory-assembled, charged and run-tested prior to delivery.

Each SNCC module includes a compressor; expansion valve and a multi-channel heat exchanger. The multi-channel heat exchanger combines three different functions into one unit. The heat exchanger works as an evaporator; condenser and sub-cooler. Each module holds less than 12 lbs of HFC refrigerant and all traditional oil management system components have been eliminated.

The Second Nature Compact Chiller system is an assembly of multiple compact chiller modules that create a complete secondary coolant refrigeration system. The modules are connected in parallel on the fluid side of both the condenser and evaporators. Chilled fluid from the evaporators is circulated to display cases and walk-in coolers providing high quality refrigeration for food preservation. The heat of rejection is removed from the condensers through a warm fluid loop which is circulated to a fluid cooler outside.

If your company is pursuing innovative sustainability initiatives that lead to a smaller carbon footprint, Second Nature Compact Chiller is a technology answer that warrants evaluation.



A few of the many SNCC benefits

- Reduction in HFC charge; as much as 90%
- Zero Leak™ potential.
- Reliable and trouble-free operation due to simplicity of design.
- Reduced risk of refrigeration outages due to increased dependability of multiple modules; each module is typically less than 10% of total load.
- Simplified installation due to pre-charged, factory run-tested modules.
- Small multiple steps of capacity offer potential energy savings and precise temperature control.
- Additional energy savings available through the ability to operate at low condensing temperatures.
- Lower maintenance costs; reduced system complexity, including no traditional oil management system components.
- Ideal for variable speed pumping systems.

SNCC Advantages

- Lowest carbon footprint medium temperature system available.
- Easily qualifies for GreenChill Gold Certification.
- No oil circulation issues.
- No compressor failures due to floodback.
- No field-related installation of HFC refrigerants.

SNCC addresses environmental concerns

- Significantly reduced refrigerant leaks, helping you avoid excessive maintenance costs:
 - Expect less than 5 pounds of refrigerant loss on an annual basis with SNCC compared to the average 400 pounds for a typical direct expansion system.
- Increase environmental leadership image in your marketing area with carbon footprint reduction - sustainability advantage:
 - Expect an average reduction in carbon footprint for your medium temperature refrigeration system of 7,500 tons over a ten-year period.



About Hill PHOENIX

Hill PHOENIX is continuously evaluating refrigeration systems that offer our customers alternatives to traditional direct expansion systems that typically use large amounts of HFC refrigerants. The release of our new Second Nature Compact Chiller technology is just one example of our commitment to furthering the development and commercial viability of environmentally-friendly refrigeration systems.

Ask your Hill PHOENIX representative how you can utilize a Second Nature Compact Chiller system in your next project.





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709 Sigman Road, Conyers, GA 30013

770-285-3100 phone • 770-285-3071 fax

website: www.hillphoenix.com

e-mail: marketing-refrigerationsystems@hillphoenix.com

