Hillphoenix
A DOVER COMPANY

Fresh thinking.
Responsible solutions.

Refrigeration Systems

Second Nature Compact Chiller

The most environmentally friendly medium temperature refrigeration system available in the industry today.

SNCC

Second Nature® Compact Chiller utilizes a unique heat exchanger technology that allows engineers to design a typical medium temp 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 zero leak rate.

SNCC is comprised of multiple compact chiller modules. Each module is a standalone refrigeration system that includes a compressor, expansion valve and a multi-channel heat exchanger. The multi-channel 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.

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.

SECOND NATURE®

Second Nature Compact Chiller secondary coolant system is comprised of multiple compact chiller modules. 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. The heat of rejection is removed from the condensers through a warm fluid loop which is circulated to a fluid cooler outside.

SNCC Benefits

- Reduces initial refrigerant charge by 60-90% as well as required oil charge
- Reduces refrigerant leakage rates due to refrigerant pipe reduction
- Significant reduction in costs associated with refrigerant leaks
- Avoid costly refrigerant retrofits that also impact sales floor activity
- Helps your store achieve GreenChill certification

Simplified Installation and Maintenance

- Allows the use of alternative piping materials such as ABS, Victaulic and water-grade copper for installation savings
- Eliminates the use of thermal expansion valves and EPR valves
- No high pressure leak testing or evacuation required in secondary piping
- Eliminates oil return issues and costly refrigeration practices like traps and risers
- Eliminates need for leak detection in walk-ins as required by many building codes
- Extends compressor life by eliminating excessive liquid flood-back common with direct expansion systems
- Low pressure system (55 psi) is less prone to leaks, minimizing a major maintenance issue
- Simplified and centrally located primary system provides easier maintenance

Energy and Performance

- Can use a variety of primary refrigerants to optimize environmental and energy performance
- Evaporator close-coupled with compressor system eliminates refrigerant, suction line pressure drop and higher suction superheat typical in direct expansion systems
- Compressor unit operates with low return gas temperatures resulting in system efficiency improvement
- Eliminates inefficiencies associated with improper setting of thermostatic expansion valves
- Variable speed pumping reduces energy on pumps and compressor system during reduced load conditions
- Electronic expansion valves on chiller heat exchangers along with short liquid lines allow you to take full advantage of lower head pressures

Intertek Intertek

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Conyers, GA 30013
844.654.2275
hillphoenix.com