

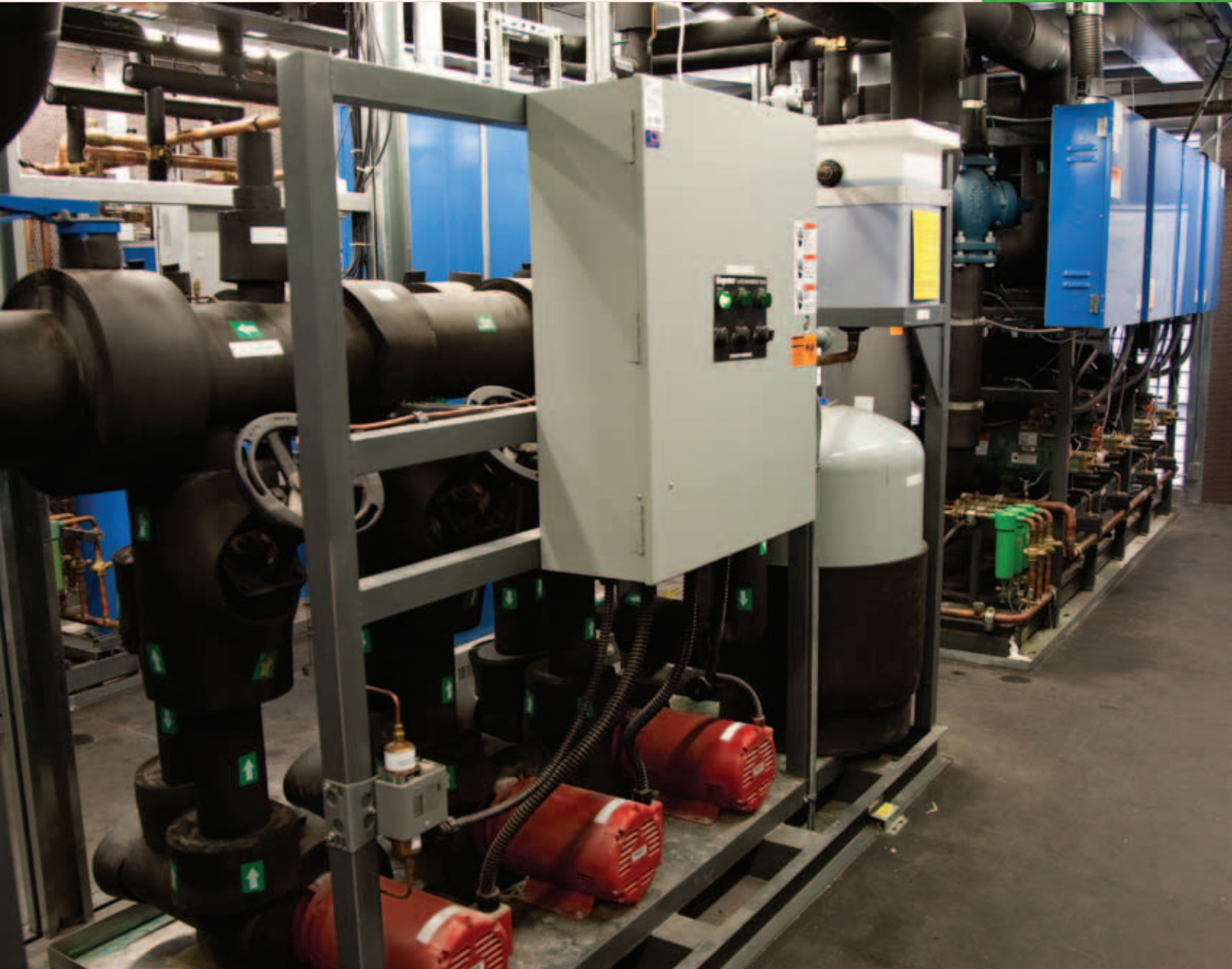


Hill PHOENIX
REFRIGERATION SYSTEMS

Second Nature[®] Medium Temp

SNMT

*Leading the Way in Secondary
Coolant Refrigeration Systems*



Second Nature Medium Temperature (SNMT) is an advanced refrigeration technology pioneered by Hill PHOENIX® that offers significant sustainability benefits when compared to conventional refrigeration technologies. It is the most environmentally friendly medium temperature refrigeration system available in the industry today. Hill PHOENIX is the leader in sustainable, advanced refrigeration technologies with more than 600 installations since the mid-1990's.

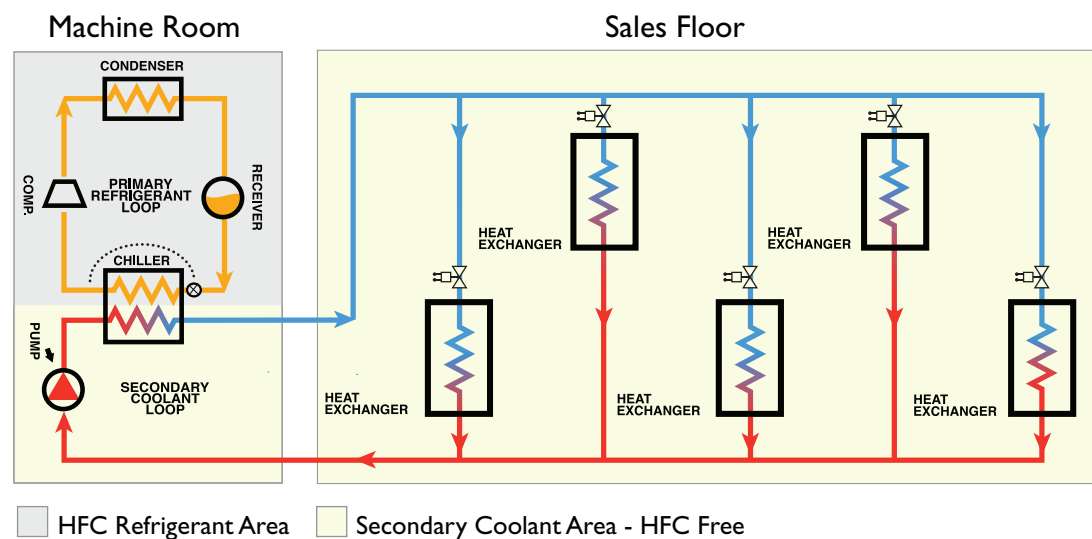
SNMT systems utilize inhibited glycols as the heat transfer fluid. These glycol products have proven over time to have excellent material compatibility allowing the use of alternate piping materials, including Georg Fischer ABS pipe.

An energy-efficient system, SNMT forms the backbone of our Second Nature low charge, low leak rate refrigeration systems. And since HFC refrigerant is confined to the primary system located in the machine room, the total

refrigerant charge and the potential for leaks are greatly reduced. SNMT systems allow for significant reductions in the amounts of copper and HFC refrigerants required, providing sustainability benefits that will pay dividends throughout the life of the system.

Heat is absorbed in the display cases through fully flooded coils specifically designed for SNMT system operation. The glycol is pumped from the cases and coolers through a low pressure piping network back to the machine room. This is the point where the heat is transferred through chiller heat exchangers from the secondary system to the primary HFC system.

If your company is pursuing innovative sustainability initiatives that lead to a smaller carbon footprint, Second Nature MT systems will suit your needs.



A Few of the SNMT benefits

Enhanced Refrigerant Management

- 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

Second Nature® MT Systems help you achieve lower installation, operating and maintenance costs as well as energy performance competitive with traditional direct expansion systems.



Installation of SNMT Rack (left) and SNPS with Variable Speed Control option (Right) in Mechanical Room



View of Dual Plate Chillers on SNMT Rack

Improved Food Quality

- Stable coolant temperatures provide optimal product integrity
- Solves the traditional peaks and valleys of high pressure DX systems for greater product temperature stability
- Ensures less product shock and shrinkage

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

Second Nature Pump Stations (SNPS)

An important component to a Second Nature MT system is the pump station. Hill PHOENIX manufactures pump stations in a variety of configurations. The most popular is a pump station with two pumps and associated secondary fluid components such as air separator, expansion tank and fill tank. Also available are pump stations with integral chiller heat exchangers. This option allows SNMT systems to be incorporated into existing Direct Expansion (DX) systems for remodel applications and allows for flexibility in machine



room layouts in new store design. Also available from Hill PHOENIX are smaller pump stations with integral heat exchangers to be utilized with a DX system and a single line-up of Second Nature technology display cases such as Coolgenix™ products. Another option is a patent pending variable speed control system for SNMT pumps that was developed specifically for supermarket applications. The SNPS variable speed control option (VSD) has been proven to provide SNMT system energy savings of greater than 10% over non-VSD pump control.

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





Hill PHOENIX[®]

REFRIGERATION SYSTEMS

709 Sigman Road, Conyers, GA 30013

770-285-3100 phone • 770-285-3071 fax

website: www.hillphoenix.com

e-mail: marketing-refrigerationsystems@hillphoenix.com

