

Commercial & Industrial Refrigeration Applications

Warehouse & Distribution Centers

Hill PHOENIX® Commercial/Industrial Refrigeration Systems offer an alternative to centralized systems for warehouse and distribution center applications.

Commercial/Industrial systems designed and produced by Hill PHOENIX have handled applications as big as one quarter of a million square feet. By taking what is essentially a large-scale distributed refrigeration system approach to projects requiring more than 800 tons of refrigeration-compared to centralized systems-Hill PHOENIX is able to:

- Reduce refrigerant charge
- Reduce piping and joints
- Reduce space required for large centralized systems

Multiple refrigeration mechanical centers placed on the roof of the facility in proximity to the specific loads to which they are connected have several advantages when compared to large-scale centralized systems.

By placing mechanical centers directly over their refrigeration loads, they provide the direct benefit of significantly reducing refrigerant charge.

Refrigerant management is greatly enhanced by the shorter piping runs required for each circuit in the system since the parallel racks to which they are connected are located on the roof directly overhead. Another advantage of situating pre-packaged units on the roof is that no room is required inside the facility for refrigeration.

Shorter piping runs mean fewer joints which in turn mean fewer leaks. Centralized systems, on the other hand, require extensive facility-wide piping that contain an order of magnitude more joints, all of which are subject to leaks.

The design of the system enables it to meet the requirements for both medium and low temperature refrigeration in a one million square foot facility using parallel racks producing less than 100 hp.





One Example

Hill PHOENIX has completed a number of commercial/industrial systems for one of its major North American customers. In one example, the customer required a quarter of a million square feet of refrigerated space for a warehouse/distribution center. The system Hill PHOENIX provided answered this need with a system that included:



- Four roof-mounted mechanical centers
- Fourteen parallel rack systems
- Hot gas suction heat exchangers

The system provided 105,000 square feet of freezers with 354 tons of low temperature refrigeration. Another 115,000 square feet of coolers was handled with 479 tons of medium temperature refrigeration. This is a notable accomplishment in a facility that overall encompasses the space equivalent to almost a dozen football fields.

Even as large as this system is, it by no means represents the extent of what this approach is limited to. Even larger facilities can be handled by this type of refrigeration while still at the same time maintaining all of the advantages mentioned above.

Hill PHOENIX provides industry-leading answers for large-scale commercial/industrial applications.

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