Güntner Penthouse Cooler

NH₃, CO₂, HFC
Pump operation
Direct expansion

20 – 200 kW

The intelligent solution for state-of-the-art cold stores!
Robust industrial design
- Thermal expansion of refrigerant-carrying tubes without contact to casing prevents leakages and increases the service life of the heat exchanger
- Robust casing made of galvanized steel with feet* for mounting and connection for air duct
- Easy to mount due to feet* for increased corrosion protection
- Stainless steel tubes*

Application-specific benefits for your application
- Large refrigerating capacity per unit
- High reliability and efficiency
- No space for footprint required in storage room
- All components suitable for any type of cold store
- Max. utilisation of storage space
- No blocking of space for pallets
- No obstructing parts hindering operation of conveyor systems
- No damage to air coolers by forklift trucks
- No fender protection required
- No service personnel in storage rooms, consequently no hindrance of goods movement
- Good accessibility for inspection and maintenance
- Low air circulation rate possible

Well-thought-through construction
- Casing made of galvanized steel
- Feet* for mounting
- Frame for air duct connection
- Tip positioning for optimum airflow characteristics
- Connections in air direction right or left

Efficient fans
- Maintenance free axial fans
- Diameter: 720 to 900 mm
- 1 to 4 fans
- For different external pressures
- Suitable for the use with speed controllers
- Low external pressure drops with short air ducts
- Two speeds possible* 

Precisely directed airflow
- Short discharge duct**
- Prevention of short-circuiting of air
- Variable air flow direction
- Air duct system***
- For even air distribution
- For difficult storage space conditions
- Various possibilities for use
- Arrangement of penthouse on one side with discharge duct***
- Arrangement of penthouse on one side with free down discharge
- Arrangement of penthouse in centre with dual discharge

Defrost
- Hot gas for coil and tray without piping*
- piping of hot gas between coil and tray with check valve*
- Electrical heating for coil and tray*
- Defrost flap with heated frame and sensors for flap position “open” and “closed”*  

Intelligent solution for state-of-the-art cold stores

Robust efficiency for cold stores

Efficient fans

Precisely directed airflow

Defrost

Wet-though construction

Know-how emanating from experience

For cooling of refrigerated warehouses, different warehouse types and logistics concepts with diversified requirements concerning refrigeration systems exist. Mostly the conveyor system determines the type of the cold store used.

These are classical cold stores with fixed racks, where the pallets are transported by forklift trucks, but also movable shelving systems with half-automatic conveyor systems or high rise stores of up to 40 m with fully automatic conveyor systems exist.

Consequently the possibilities for the arrangements of the air coolers and the type of air routing are highly diversified.

We take all these aspects into consideration and improve our experience and technics for optimally satisfying your demands concerning type of cold store, storage temperature or type of goods to be refrigerated.

Ask us and use our know-how for finding the air cooler optimally suitable for your type of cold store.
Intelligent flexibility for various cold store types

Cold stores are constructed in ever larger dimensions. Today high-rise stores with automatic conveyor systems have a height of 30 to 40 m. With these large dimensions and the automatic storage technology requirements to selection and arrangement of air coolers are changing.

With the penthouse coolers Güntner offers an intelligent solution that can be adapted flexibly for various cold store types and installation situations. This concept is highly accepted in the USA and is now also used in Europe more and more. Now also you can benefit from the penthouse cooler’s advantages!

The unit is installed easily and quickly on the roof, and in the cold store the maximum storage space can be used, because the cooler does not take up any space for pallets. Optimum air routing or required air throw is achieved with the air ducts. With the units’ easy accessibility, also for inspection and maintenance, the workflow in the cold store is not hindered.

With our experience and your information concerning the application conditions, we can find the best possible solution for your individual application. In any case,

**Flexibility for all applications**
- Individual adaptation to architecture
- For all standard refrigerants
- Different material combinations
- Large power spectrum from 20 to 200 kW
- Different external pressures for air duct systems

**At a glance:**
**What does the Penthouse Cooler offer?**

- Suitable for various types of cold stores
- Installation outside the storage room
- Directed airflow direction with connection of short air duct
- No danger of collision with conveyor devices
- No hindrance of workflow in storage room due to maintenance work
- With down air discharge also suitable for cold air lake principle
- Maximum utilisation of storage space

**High mounting and service friendliness**
- Simple introduction of unit on the roof
- Subsequent exchange of units possible
- Good accessibility for inspection and maintenance
- Large inspection cover facilitates inspection or exchange of fans without demounting the air duct system

**Overview Technical Data Penthouse Cooler**

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>NH₃, CO₂, HFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power spectrum in kW</td>
<td>20 to 200</td>
</tr>
<tr>
<td>Air volume in m³/h</td>
<td>15,000 to 120,000</td>
</tr>
<tr>
<td>Number of fans</td>
<td>1 / 2 / 3 / 4</td>
</tr>
<tr>
<td>Fan diameter in mm</td>
<td>710 / 800 / 900</td>
</tr>
<tr>
<td>Fin spacing in mm</td>
<td>4 / 7 / 10 / 12</td>
</tr>
<tr>
<td>Quality standard</td>
<td>ISO 9001</td>
</tr>
</tbody>
</table>
Efficient solution with various benefits

The penthouse cooler offers a large range of benefits that have a positive influence on operating costs and workflow.

Quick and easy installation

With the penthouse solution the units are simply lifted to the roof with a crane. Subsequent unit exchange is possible without structural changes. The piping can be laid on the roof and the valve stations can be installed outside the cold rooms, so that they are easily accessible for inspection and maintenance. With the units and the piping outside the cold store, they cannot be damaged by conveying devices and if the refrigerant ammonia is used, a high safety standard is ensured.

100 % utilisation of space

The air coolers are installed on the roof of the cold store in a penthouse. So the stacking height in the cold store can be utilised to its maximum. There even may be cases where it is possible to decrease the building height with the same storage capacity, because less free space below the ceiling is required for duct installation than with ceiling mounted coolers. For high rise stores the penthouse coolers can also be installed on the narrow side of the storage house. The cooled air is then blown downwards and spreads as cold air lake on the floor of the cold store. With this kind of airflow routing an even temperature distribution can be achieved in the cold store, also with low air circulation rate and a small fan power.

High mounting and service friendliness

Good accessibility for inspection and maintenance saves times and costs. In the penthouse, the air coolers are easily accessible, so that maintenance work can be carried out in a safe work environment without special working platforms.

The workflow in the cold store is not hindered.
Our expertise is your advantage!

Application advice
Our specialists are your contact partners waiting to help you. They will advise you in detail and configure the best unit for your application case in accordance with your requirements, or develop a complete concept for a ready-to-operate solution straight away.

Fans
We use high efficiency, directly-driven, brand name fans for continuous control. Balanced in two planes with a balancing quality Q 6.3 they comply with DIN ISO 1940 Part 1. The fans are maintenance-free and extremely long-life.

Leak-safety
The proven Güntner floating coil system relieves the fluid-carrying heat exchanger tubes, without any contact with enclosure parts (end plate/separater plate). The heat exchanger is on a floating bearing, and is therefore protected against leaks.

Sound
The extensive test runs in our internal test laboratory enable the optimum fans to be selected for the sound requirements of your application – starting with configuration with the Güntner Product Calculator.

Control
Güntner Controls is an independent department which has been delivering efficient and top quality controllers and switch cabinets for many years now. Our experts work out project-specific solutions for you for the highest demands in all areas. We have an individual switch cabinet solution for all your applications – regardless of whether it involves AC or EC fans. We control everything!

Service After Sales
Our Service After Sales department supports our customers with problems and questions they may have. If there are any doubts at all, a colleague is quickly on-site to take care of your issues and interests directly there with you. Our employees are not only refrigeration technology experts – they are also qualified in many other specific areas, e.g. as certified welders for different tube wall strengths and materials.

If interested, please contact our Sales department:
sales@guentner.de