

Case Study

NextPharma Logistics: Solution for ambitious 3° temperature stability target with heat pumps and HVLS fans (MonsterFans)



NextPharma
LOGISTICS

The company

For more than 30 years, NextPharma offers storage space and logistics services for pharmaceutical goods, ensuring the proper temperature stability, ventilation and humidity.

As one of the leading companies in pharmaceutical logistics, NextPharma Logistics serves 86 customers in the D-A-CH region and has recorded over 95 million packages shipped to date. The company recently moved into a new logistics centre, not far from Dortmund airport.

With good motorway connections, the BENELUX business will also be served from here in the future. In an area of 7,900 square metres, temperature-sensitive goods, such as pharmaceuticals for human and veterinary medicine, are stored in accordance with the GDP guidelines (Good Distribution Practice of Medical Products for Human Use) in a temperature range between +15 °C to +25 °C.



The task

For sensitive and perishable products, the room temperature is the critical variable in the storage process and one of the greatest challenges posed to the heating and air-conditioning technology in new buildings. In the case of pharmaceuticals, the client defined a target temperature of a minimum of 19 °C and a maximum of 23 °C, evenly distributed over the entire storage area. The difference between the lowest temperature measured and the highest temperature determined at the same time may only be 3 °C – quite a climatic challenge with a building height of around 11 metres.

The implementation

Air-to-air heat pumps installed on the roof are to take over the cooling and heating tasks and distribute them in the room by means of air ducts. In order to avoid temperature stratification under the building roof and cold zones in the rows of shelves or peripheral areas, 13 HVLS fans from the MonsterFans series ensure uniform mixing of the room air. 17 Panasonic air-to-air heat pumps were installed. The PACi heat pumps combine high-quality technology and economic aspects in equal measure. The cold or heat is distributed via 20-metre-long textile air ducts.

The conclusion

In addition to the planning and design, Schwank took over the complete installation of the heat pumps and HVLS fans as well as their electrical connection. The air conditioning units distribute the air via textile hoses, while the HVLS fans ensure the even distribution of the room temperature and dehumidification of the air. In addition to maintaining uniform temperature distribution, this results in significant energy savings of approx. 30 %. The heat pumps are controlled by a central control panel that is connected to the building management system.

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