

Looking at air curtains

Chris Prentice, area sales manager at JS Air Curtains, looks at the benefits of using air curtains in cold stores.



With the continuous need for cold store businesses to cut costs while maintaining productivity, a correctly selected air curtain can help a cold store operator to achieve this.

Energy saving

Air curtains can greatly reduce the energy loss of a cold store by keeping the chilled air in and warm air out with the door open and in use. Temperature recordings can show an increase of between 4°C and 10°C every time a cold store door is opened. This can be improved to 1°C with an air curtain, which results in reducing heat loss by up to 90%. An air curtain can be mounted horizontally across the top of a doorway or vertically to the side of the entrance and should be positioned as close to the opening as possible. This will create an air barrier across a doorway and provide an effective seal between two temperature zones, whilst allowing unhindered access and vision into the cold store.

As the air curtain keeps the chilled air inside the cold store, the load on refrigeration equipment is reduced along with the associated energy consumption and carbon footprint. As the cooling equipment does not need to work as hard, its overall operational lifetime is increased.

Increase profits

By reducing hot spots near the entrance a more consistent temperature is maintained which prevents product spoilage from pallets placed near the doorway. This, in turn, increases the useable space in a cold store leading to a more profitable operation.

Air curtains enable cold store doors to remain open allowing people and vehicles unhindered access. This improves the speed of operations around the cold store as forklift operators do not need to dismount from the cab, push a button to open a roller-shutter door and get back in the cab before driving through.

The positioning of air curtains means drivers are less likely to damage the units and because air curtains do not have the same wear and tear as roller-shutter doors, money is saved on expensive repair bills.

For people who are working in external areas close to the cold store, an air curtain will increase their comfort and productivity level, as cold air leakage by the door is greatly reduced when it is open.

Safety

Air curtain systems also improve safety around the entrance as they remove the need for plastic

slats or fast acting roller-shutter doors, enabling people to clearly see if anyone or anything is exiting or entering the cold store.

Also, the misting that occurs as warm air floods into a cold store is greatly reduced along with any ice build-up on the floor near the entrance, both of which can lead to potential accidents.

Hygiene

As well as reducing unwanted hot air infiltration, air curtains are also very effective at discouraging pests such as rats, mice or flying insects from entering a doorway and for keeping out dust, smoke and fumes.

An air curtain will help to maintain the temperature in the cold store to the specific levels required to keep products in an ideal environment.

This is especially critical in the food sector where quality control and precise temperature controls are vital.

So, in conclusion, an efficient and correctly installed air curtain in cold stores will provide a quick return on investment with savings made on energy bills, reduction on product spoilage and workers who are safer and happier. All welcome benefits for any cold store operator.

Munters