

Keeping your cool when the heat is on

Many industrial environments are chilled to significantly below the ambient climatic temperature and high speed shutter doors are the best way to maintain a clear division between inside and out. Louise Nurse, Sales and Marketing Manager for sara LBS (Loading Bay Solutions), says there is more to such installations than meets the eye.

There are a number of industries, food manufacturing and specialist logistics amongst them, that generally require low temperatures. Further, they often need even colder spaces or chillers for specific processes, such as the production of ice cream and storage of frozen ready meals.

Refrigerating a chiller to its required low temperature and keeping it within set thermal tolerances can be a significant expense. Furthermore, if the temperature in the interface zones were allowed to rise it could compromise the products or processes, perhaps creating food safety hazards, disrupting low temperature processes or upsetting chilled storage arrangements. Thus there is a desire to minimise heat losses at doors, loading bays and other interface areas.

With chillers there may be a requirement for frequent entry by personnel or perhaps forklift trucks or even by road vehicles for loading. Installing a high speed roller shutter door is likely to effectively meet the twin requirements of maintaining temperature levels while allowing fast, easy and efficient access.

sara LBS has a wide range of high speed doors that are appropriate for such installations. Any door will provide a physical barrier to prevent mixing of warm and cooled air, but sara LBS offers many options that are also designed to provide thermal insulation to minimise heat transfer through the material of the door. Further, almost invariably doors used in chillers or other temperature controlled applications are fitted with high speed automatic drives so that the amount of time they are open is minimised.

Often chillers use a two-door solution, a main door which is opened at the beginning of the working day and remains so until the end of the shift, plus a secondary high speed door or curtain that is generally kept closed but which opens quickly and easily to allow entry and egress as required. An alternative is a strip curtain which is easily pushed aside to allow access.

It is notable that chillers are usually fitted internally with white wall cladding to meet hygiene requirements. If the door providers are involved at the design stage of a chiller project they will most likely advise the use of a steel 'goalpost' door frame within the cladding. This will be strong, rigid, long lasting and allow the door to seal at the side and top edges thus maximising retention of cooled air. The steel could be stainless, but more commonly is galvanised as it will be very well protected from corrosive agents by the cladding.

However, as the fixings pass through the cladding, it is recommended that stainless steel or nylon threaded rods are used and that these are capped with plastic or stainless nuts. sara LBS is also able to provide covers for the drive components and other accessories related to the door.

For the high speed door to be an effective barrier against heat transfer it needs to be in the closed position as much as possible. High speed actuation is therefore recommended; sara LBS offers the fastest doors on the market, with opening speeds of up to 3.2m/s. Such speeds could cause shock loads leading to excessive wear and tear and a reduced working life, however sara LBS overcomes this by optimally profiling acceleration and deceleration rates to provide a smooth, gentle movement.

To open the door sara LBS recommends one of three options, a pull cord type operating switch positioned conveniently for users such as fork lift truck drivers, or one of two automatic options, radar or induction loop. The best choice depends on the details of each application and sara LBS is always happy to make an assessment and recommendation.

There are a number of other options that sara LBS is able to offer for chiller and cool environment installations. A popular one is dual height opening, so that the door is not opened fully unless necessary to allow passage of a tall item. If temperature control is really critical, sara LBS recommends the use of a battery powered back-up so that the door can continue to be operated in the event of a power failure. Loading bays can be designed with high speed doors at both ends which are synchronised so that they are never open simultaneously.

Other options include a curtain tensioning system, a door line photocell, emergency stop safety contact edge, fall-down protection, and integration with a traffic light control system. Loading bays can be designed with high speed doors at both ends.

Photo Captions:-

Pic 1:- Often chillers use a two-door solution, a main door which is opened at the beginning of the working day and remains so until the end of the shift.

Pic 2:- For the high speed door to be an effective barrier against heat transfer it needs to be in the closed position as much as possible. High speed actuation is therefore recommended; sara LBS offers the fastest doors on the market, with opening speeds of up to 3.2m/s.

About sara LBS

sara Loading Bay Specialists supplies, installs and maintains loading bay systems, high speed doors and industrial doors. It has provided high quality product solutions and outstanding customer service since it was founded 30 years ago and this remains its sole focus.



Product Solutions

sara LBS's range of high quality products includes its complete loading bay packages (including scissor lifts, ramps and dock levellers), 'Sprint' range of rapid roll, high speed doors for internal and external use, insulated sectional overhead doors and roller shutter doors. It has extensive sector expertise and provides total packages that are tailored to meet all its customer's needs. Specialist sectors include food and beverage, pharmaceutical, automotive, manufacturing, logistics and distribution.

Maintenance & Repair

Sara LBS provides nationwide 24/7 service cover and rapid response times for all loading bay systems, dock shelters, high speed doors and industrial doors using its specialist engineers based across the country. It works with end users to extend the safe working lifetime of their doors and equipment by providing both preventative maintenance packages and standard and emergency repairs.

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