

Type A - Low Energy & Powered Operators and Accessories

Low Energy Swing Doors -Definition

Low energy systems incorporate features that enable elderly, frail or disabled users to gain access through swing doors with ease and are generally intended for internal use only.

Low energy swing doors can be defined easily as those with kinetic energy levels not exceeding 1.6J at any point in their travel during normal operation (see table 1 - Kinetic Energy Levels BS 7036: Part 1 1996).

Assuming the above criterion is met then doors fitted with Relcross automatic door operators can be classified as low energy swing doors (as detailed in BS 7036: Part 4 1996) if:

- they have a "power assisted" operation in which the initiating signal is provided by the action of pushing, pulling or touching the door leaf or handle. This is commonly referred to as the 'Push & Go' facility and is normally a user-defined feature set via on-board dip switches.
- the initiating signal is provided by manual or automatic* activation devices as those described briefly on page 6 opposite.

*See also notes below.

Low energy swing doors are not fitted with safety devices generally, since the kinetic energy levels present at the leading edge of the door leaf on both the opening and closing arcs are not considered to be dangerous. Installing low energy swing doors without safety devices should be considered only where a suitable hazard analysis and risk assessment audit has taken account of the profile of the traffic using the doors. In other words, where the risk to elderly, frail and disabled traffic is deemed to be low.



Powered Doors -Definition

Automated swing doors specified for fast moving simultaneous two-way traffic operation give rise to increased risks to users and should be given special consideration. The introduction of automatic activation devices such as microwave motion sensors (or detectors), designed to ease traffic flow, often necessitate the introduction of additional safety devices at the door.

Powered doors can be defined easily as those doors falling outside the scope of those described in the section headed Low Energy Swing Doors, i.e. those with kinetic energy levels exceeding 1.6J.

Installation & Commissioning

CONTROLS

AUTOMATICS

In accordance with BS 7036: Part 1 1996 all automatic door systems (whether low energy or powered systems) should be installed by authorized technicians. Relcross has a network of partners, authorized to install, maintain and repair our equipment in accordance with our exacting recommendations and the recommendations of BS 7036: parts 1, 3 & 4 1996.



Limitation of Leaf Forces for Low Energy Swing Doors

Since it is unrealistic to expect installers to calculate kinetic energy levels at installation or during commissioning, the 'compliance' process is simplified using minimum opening and minimum closing times where the door width and leaf mass is known. (see table C.1 Limitation of Leaf Forces BS 7036: Part 4 1996).

For example - a 900mm wide door leaf @ 44 kilos must have a minimum opening time and a minimum closing time of 4.5 seconds to conform to the kinetic energy recommendations for low energy swing door operators.

Similarly, for powered door systems, an alternative table of minimum opening and closing times is available in part 3 of the standard.

As an additional check, although not specifically detailed in BS 7036, a force gauge can be used to establish the closing moment or torque (Nm) at a height of 1000mm.

See also, Relcross publication -Hardware for the Real World, Issue No. 1, February 2006.