falcon
Active Speed Door

- **High speed Industrial Roller Shutter Door with optional Active Laser Guarding**

• Speed (adjustable)	0.6 - 1.8m/s
• Typical Open/ Close Time	<3 seconds
• Motor	SEW Motor
• Inverter Options:	Allen Bradley, SEW or Lasermet
• Safety:	PLc Bump Switch Safe edge Photocell (Customer control) Active Guarding

The Falcon Active Speed Door is an industrial door which is ideal for manufacturing and laser processing applications as well as for indoor industrial and outdoor logistics that have frequent high-speed traffic.

The Falcon Speed Door is:-

- FAST
- Highly efficient, Insulated and Secure
- And can be supplied with the “Laser Jailer” Active Laser Guarding system

Laser Jailer

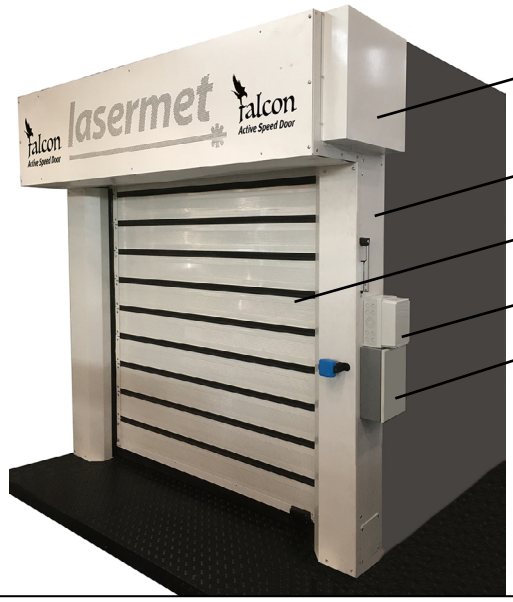
For laser processing applications the door has an active laser guarding system attached to it comprising of flexible circuits which are monitored by the laser interlock controller. If a laser strikes the guarding system covering the door the laser is switched off virtually immediately.
The laser is interlocked so that it is only enabled when the door is closed.

High Speed Industrial Roller Shutter Door with Active Laser Guarding “Laser Jailer” option

Front view of the Falcon Door

lasermet
laser safety solutions

Major components



Electronic control system

Door track

The Falcon Active Speed Door uses an alloy guide bearing track that ensures high-speed opening and closing operations of the door. The minimal friction between the door track and the door ensures minimal operational noise.

Motors and Inverters

A number of options are available for the inverters and motors including Allen Bradley, SEW or Lasermet.

Controller

The control box is equipped with a screen that provides the user with status information and technical parameters at any time. The system can also store all the operational and maintenance data.

Service of commonly used parts

No.	Item	Service
1	Middle Seal	3 years
2	Side Seal	2 years
3	Spring	50,000 times
4	Spring Strip	80,000 times
5	Safety Edge	If damaged
6	Relay	50,000 hours
7	Power supply	70,000 hours

Test Results

The standard door has been rigorously tested by Lasermet.

7 days for 24 hours a day TESTING CYCLE
2 cycles per minute
2 x 60 seconds = 120 per hour
120 x 24 = 2880 per day
2880 x 7 = 20,160 cycles

8 HOUR TESTING CYCLE
2 x 60 seconds = 120 per hour
120 x 8 = 960 per day
960 x 5 = 4,800 cycles
No breakdowns occurred during this period.

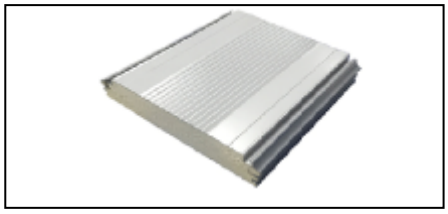
Overview

The Falcon Active Speed Door is an industrial door that combines the features of high efficiency, insulation, energy saving, security, resistance, and environmental protection with the optional active laser safety guarding system - Laser Jailer.

The opening speed is up to 1.8m/s, making the product applicable for indoor industrial and outdoor logistics applications requiring frequent high-speed traffic. For laser processing applications using Laser Jailer, the door has an active laser guarding system attached to it comprising of flexible circuits which are monitored by the laser interlock controller. If a laser strikes the guarding system covering the door, the laser is switched off virtually immediately.

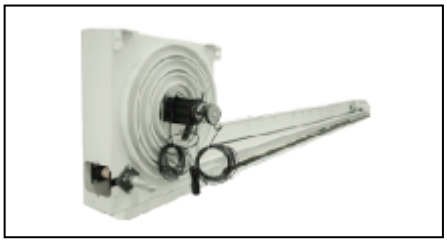
Door Panel

The Falcon Active Speed Door panel is of split assembly structure: composed of a broken bridge alloy door panel for heat insulation, multi-layer sealing strips, hinges for load bearing, and guide wheels. The bottom edge is configured with an extended flexible seal to close the gap between the door and the ground. The standard thickness of the door panel is 44mm and the surface is anodized. The interior is filled with industrial thermal insulating materials and the standard colour is grey.



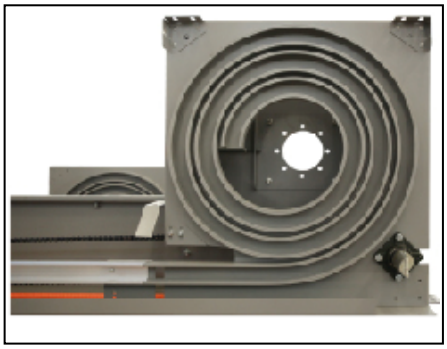
Track

The tracks of Falcon Active Speed Door are made from 0.5mm galvanized steel sheets and are equipped with a tension spring balancing system and chain transmission system for smooth and quiet operation. Guide wheel tracks are made from a high-quality alloy.
The nylon guide wheels minimise noise and provide long-life running performance. The side of the track system is equipped with sealing strips for effective dust screening, cold-air isolation, and pest control.

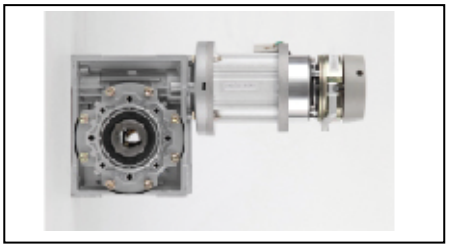


Spiral

The Falcon Active Speed Door uses a spiral, which can support the door panel. There is no contact between the spiral and door panel to ensure a better appearance and a long service life.



Electronic Control System



The main components of the electronic control system for the Door are the servo motor and the control box. The servo motor system can be located on the right or left side of the door and the motor can be integrated into the side frame of the door for smooth, quiet, and reliable operation.

Safety System

Infrared Safety Protection Sensor

A pair of infrared sensors is configured on both sides of the door frame. When there are obstacles under the door, the door will remain open. When there is an object passing through the dropping door, the door will move to the open position and will drop when there is no obstacle under it.

Resistance Rebound Device

When the door body is dropping and the object is in the blind zone of infrared protection, the door body will quickly rebound to the highest position once it hits the obstacle. This is to protect the objects or personnel underneath.

Options

1. For laser processing applications there is also an additional option for an observation window which is an active laser filter window – called Glaser Jailer. This window contains a circuit which is monitored by the laser interlock controller. If the laser strikes the window, it is switched off virtually immediately by the controller thereby preventing the escape of laser radiation outside of the enclosure.
2. PLd safety Rated Radar: for personnel detection.
3. PLc Safety Edge

Product Parameters

Maximum Size	W: 9000mm, H:8000mm
Open Speed	0.6m/s to 1.8m/s (adjustable)
Close Speed	0.6m/s to 1.8m/s (adjustable)
Standard Thickness of Door Panel	44mm
Finishing	RAL 2035
Working Voltage / Frequency	200 -440V / 14A / 50 – 60Hz
Service Life	> 500,000 times

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