



M87 & M93 Product Datasheet

(*1 all configurations are customizable)

	Manual door (M87 93 M)	Electric door (M87 93 E)
Type of Door	<p>Side hung bi-folding door available with any combination of 1 or 2 leaves folding to the left, right or both sides (i.e. 1+1, 0+2, 2+0, 2+2). Leaves mount on the inside of the opening and fold inwards at 90°.</p> <p>Configuration Options Include:</p> <ul style="list-style-type: none"> M8793M – 0101 (1+1 Leaves) M8793M – 0002 (0+2 Leaves) M8793M – 0200 (2+0 Leaves) M8793M – 0202 (2+2 Leaves) M8793M – 0102 (1+2 Leaves) M8793M – 0201 (2+1 Leaves) 	<p>Side hung fast acting bi-folding door available with 2 leaves folding to the left, right or both sides, 2+0, 0+2 or 2+2. Leaves mount on the inside of the opening and fold inwards at 90°.</p> <p>Configuration Options Include:</p> <ul style="list-style-type: none"> M8793E – 0200 (2+0 Leaves) M8793E – 0002 (0+2 Leaves) M8793E – 0202 (2+2 Leaves)

Leaf Configuration	Model #	Manual	Electric	Max. Width	Max. Height	Max. SF
2+0 0+2	M8793M0200 M8793E0200 M8793M0002 M8793E0002	√	√	8'	20'	162 sf <i>(without customization)</i>
2+2	M8793M0202 M8793E0202	√	√	18'	20'	324 sf <i>(without customization)</i>
				Max. Width for Odd Leaf Configurations		
				up to 10' high	up to 12' high	up to 14' high
2+1 1+2	M8793M0201 M8793M0102	√	*2	12'	10'	9'
0+2 2+0	M8793M0002 M8793M0200	√	*2	13'	12'	12'
1+1	M8793M0101	√	X	16'	15'	14'

M8793 Door Size Configuration Chart

(table 1)

- 1) All sizes & configurations are customizable. Product data sheet is provided as most common configurations available. Please inquire within.
- 2) The Side of the opening with multiple panels can be configured for electric operation.



M87 & 93 Standard Details

Manually Door (M8793M)

Electrical Door (M8793E)

Technical Details

Max width 18' ⁽¹⁾
 Max height 20' ⁽¹⁾
 Panel thickness 3"
 Panel R-Value 2.5 – 12.2 ⁽²⁾
 Sideroom required 8"
 Headroom required 6"
 Weight 4lb/ft²

Max width 18' ⁽¹⁾
 Max height 20' ⁽¹⁾
 Panel thickness 3"
 Panel R-Value 2.5 – 12.2 ⁽²⁾
 Sideroom required 8"
 Headroom required 16"
 Weight 4lb/ft²
 Power supply 120VAC, 208VAC, 208/230 VAC, 480VAC

Performance

Performance Design in accordance with ASCE 7-16

- Forces for Manual Operation – Pass
- Operating Forces – Pass
- Watertightness – Class 2 (50pa)
- Air Permeability – Class 2
- Durability of Performance – Pass (110,000 continuous cycles in 60 days)
- Life expectancy – more than 20 years

Panel Construction

Panels are constructed from 3" thick tubular steel of minimum 11ga thick wall. The frame is covered on both sides with 14g thick galvanised steel sheets and pressure injected with CFC-free polyurethane foam to form an extremely strong, rigid, flat panel.

Seals

Flexible rubber seals are fitted to all edges of the door, and between door leaves. All seals are purpose-designed EPDM extrusions, which press into, and blend seamlessly with the door panels. Each seal provides full finger trap safeguarding, and protection against weather, dust and sand.

Top Track and Guide Rollers

The top guide track is a galvanised steel channel mounted back to the surround frame with 2g pressed steel brackets. Top guide rollers are nylon guide wheels running on steel shafts mounted within black aluminium extrusions.

Doors fitted with >40% area of glazing to be fitted with 4-wheel pendant trollies and support track in lieu of top guide rollers and guide track.

Jamb Hinges

The weight of each door half is supported by two pairs of jamb hinges. Each pair of hinges is manufactured to a low tolerance from laser cut, fabricated, and machined bright steel. An M24 vertical adjustment screw, 5/8" hinge pin, and an Igus bush complete the assembly, and provide simple, accurate setting during installation, and a low-maintenance, heavy-duty, low-friction component.

Intermediate Hinges

Apex hinge pairs are machined from solid aluminium extrusions, fitted with sealed for life Igus bushes and Ø 5/8" stainless steel hinge pins. A concealed peg ensures that the hinge pins cannot be removed from the outside. Hinges are finished in black polyester powder coat to RAL 9005(M).

- 1) Windload is calculated using ATC Hazard by Location based upon applicable risk category.
- 2) Energy coefficient is variable based upon the glass type, quantity and configuration.

M87 & 93 Standard Details and Available Options

Manually door (M8793M)

Electrical door (M8793E)

Finish

Standard

Factory applied polyurethane industrial finish, applied after fabrication covering all exposed steel with epoxy primer and polyurethane finish system in color as selected by client from the RALK7 Index or Sherwin Williams Indexes of color options. All hardware is standard black finish.

Option 1

Factory applied powder-coat, applied after fabrication covering all exposed steel with baked on industrial powder coat system in color as selected by client from the RALK7 Index or Sherwin Williams Indexes of color options. All hardware is standard black finish.

Vision Panels

Standard - None fitted.

Option 1

Insulated Tempered Safety Glass configured in ¼ x ½ ¼ to the opening size. LOWE & Tint options available upon request.

Option 2

Impact Resistance Glass configured in ½ x ½ x ½ to the opening size. LOWE & Tint options available upon request.

Wicket Door

Standard - None fitted.

Option 1

Lever fixture. Wicket door opens outwards. Hardware comprise of a 1" low-profile anodised aluminium lever handles, cylinder with internal thumbturn, 1½ pairs of stainless steel butt hinges and a hidden door limiting stay. 3" high step with 1½" wide aluminium threshold strip.

Locking / Handles

Standard

A drop bolt and a black thermoplastic easy-grip pull handle are fitted internally between each pair of leaves.

Option

A bottom guide pin engages in a cast aluminium floor shoe fitted to the threshold, holding the leading edge(s) firm.

Option

A top and bottom espagnolette shoot bolt operated via an internal, non-lockable lever handle is fitted.

Standard

A black thermoplastic easy-grip pull handle is fitted internally between each pair of leaves. An electro hydraulic lock within the drive motor automatically holds the door in the closed position. A lever fitting at low level allows for the motor to be disengaged allowing the door to be opened manually.

Option

A bottom guide pin engages with a cast aluminium floor shoe fitted to the threshold, and holds the leading edge firm. A black thermoplastic easy-grip pull handle is fitted internally.

Option

A lever operated floor bolt is fitted internally between pairs of leaves and is electrically interlocked.



M87 & 93 Standard Details and Available Options

Manual door (M8793M)

Electrical door (M8793E)

Threshold Plate

Standard
No threshold supplied.

Option
A 6" x 1/4" thick extruded aluminium plate with 30° chamfered edge and anti-slip grooves fixes directly to the floor to form a water bar, presents a level surface for the door to seal against, minimises bottom seal wear as the door folds, and provides a solid location point for floor bolts.

Surround Frame

Standard
Surface Mounted - 8" x 4" x 7g tubular profile frame for mounting to the surface around the opening. Finished to match panels as specified in finishes section.

Option
Jamb Mounted – 8" x 4" x 7g tubular profile mounted within the opening. Finished to match panels as specified in finishes section.

Option
No frame supplied.

Drive System

Standard
A center mount gear driven operator with control arms connected to panels (1) & (4) and synchronized control panel. A push button control with Open / Stop / Close is supplied. Includes a low-level manual release lever.

Option
A low-profile, panel affixed, dual operator system mounted internally at the top of each leading edge leaf. A control panel controls both door halves simultaneously. A push button control with Open / Stop / Close is supplied. Includes a low-level manual release lever.

Control Logic

Standard
TS971 Proprietary Control Panel design specifically to work with the center mount gear driven operator. Control panel is mounted within an NEMA(4) enclosure with 12 function logics, and advanced programming for custom tuning.

Option - FAAC E455D control panel mounted within an IP55 plastic enclosure sized 9 1/2" x 5 1/2" with 12 function logics, and advanced programming for custom tuning, controls both door halves. Controller is used for Low-Profile Drive System Option.

Option – Programmable Logic Control (PLC) with 42 I/O's programmed via a lid mounted HMI touch screen. The steel cabinet is sized 24" W x 24" H, is IP66 rated and is lockable. Open, Close and Emergency Stop buttons and Fault Reset button are mounted on the lid. The board provides variable speed opening and closing, slow-down on opening and closing, door-status displays, inputs for safety edges, photocells, induction loops, proximity sensors, storm bolts, wicket door and the manual release handle, and outputs for traffic lights and an AV alarm. Several spare 24V DC input and output are also provided as standard for integration with external HVAC, Fire Alarms signals, Turn-out systems and Building Management systems. Option for remote connectivity via Wi-Fi for door status monitoring, fault finding and service counter.



M87 & 93 Standard Details and Available Options

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Additional Controls

Push Button – Additional Open / Close / Stop push button units.

Keyswitch – Sprung return keyswitch in separate enclosure for operation of the door by keyholders only. For interior or exterior use.

Digi-key – Stainless steel code lock for operation of the door by authorized persons only. For interior or exterior use.

Radio Control – 868MHz radio control system for remote operation of the door from a vehicle or control room. Additional transmitters available for multiple users.

Presence Sensor – Optional additional presence sensors mounted at high level, which will open the door on detection approaching traffic, or close the door on detection of retreating traffic. Use of microwave technology, the sensor is adjustable so as to ignore pedestrians, or parallel traffic.

Safety Features

Safety Edges

A full height wireless safety edge is mounted within each leading edge seal of the door. An impact on the edge during closing will automatically stop and re-open the door. Safety edges are continuously monitored so the door cannot close automatically in the event of damage or failure of the edge.

Photocells

Commercial send / receive photocell fitted across the opening. The receiver unit is fitted with a long-life battery to avoid hard wiring. Photocells can be fitted for closing safety, opening safety, or a combination of opening and closing. If a closing safety beam is broken during the closing cycle, the door will automatically stop and re-open. If an opening safety beam is broken during the opening cycle, the door will automatically stop.

Presence Sensor (Standard on All E Series Doors)

Infrared presence detection sensors are fitted to the inside face of the trailing edge leaf to each door preventing the door impacting / crushing a person or object during movement. Additional detectors as an option may be fitted externally above the center of the opening to prevent the door impacting / crushing a person or object during movement. In the event of any detection during door movement, the door will stop.

Warning Horn & Strobe

A red and green 24V DC LED traffic light unit is fitted. The unit is sized 14½" x 7½" with 24 LEDs to each light, and is intended to be mounted directly on the inside face of the door or onto a traffic light post. Sequence of operation is Red light on when door closed or part closed, Green light on when door fully open. A pair of 24Vdc limit switches is supplied to monitor the fully open position.