

Section 08490 — Dor-O-Matic 96K Series Automatic Sliding Door System

This section is based on the products of Dor-O-Matic, an Ingersoll-Rand business, located at:

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Dor-O-Matic is one of the most experienced manufacturers of automatic door equipment. This section covers only a part of their product line: The “96K Series” sliding doors with accompanying control components, including Dor-O-Matic’s “Safety Plus” motion control and safety package. See other sections for other automatic sliding door options as well as automatic swinging doors, automatic bi-folding doors, and ADA-compliant low-energy operators.

Part 1 General

1.1 Summary:

Furnishing and installing factory-manufactured quality automatic sliding door systems.

1.2 Related Work Specified in Other Sections

If aluminum doors and frames are not specified in this section, they may be specified in the following related sections.

- A. Section 07900 – Caulking
- B. Section 08400 – Entrances and Storefronts
- C. Section 08710 – Finish Hardware
- D. Section 08800 – Glazing
- E. Section 16120 – Electrical Supply and Termination

Verify electrical circuit capacity required for door and all its actuators and safeties.

F. Division 16 – Electrical: 115 VAC (15 amp circuit breaker, one per unit), single-phase wiring in conduit between operator enclosure and building power supply and 22-gauge low-voltage wiring between enclosure and actuators and safeties.

G. Division 16 – Electrical: 115 VAC (15 amp circuit breaker, one per unit), single-phase 22-gauge low-voltage wiring in conduit between operator enclosure and remote switch station.

1.3 References

- A. ANSI/BHMA A156.10 – American National Standard for Power-Operated Pedestrian Doors.
- B. UL 325 – Standard for Door, Drapery, Gate, Louver and Window Operators and Systems.

1.4 Submittals

- A. Product Data: Manufacturer's catalog data, detail sheets and specifications.
- B. Shop Drawings: Drawings prepared specifically for this project will show specific build to package dimensions and interface with other products.
- C. Operating and Maintenance Data: Operating and maintenance instructions, parts lists and wiring diagrams.

1.5 Quality Assurance

Installer Qualifications: Factory-trained with minimum 3 years experience.

1.6 Warranty

Standard one-year manufacturer's warranty on material.

Part 2 Products

2.1 Manufacturers

- A. Acceptable manufacturer: Provide products manufactured by Dor-O-Matic, an Ingersoll-Rand business.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 Doors and Frames

Automatic sliding doors will be provided in complete packages including doors, frames, operators and actuators. The standard finishes for sliding doors are dark bronze and clear anodized aluminum, but painted finishes are available. Consult the factory for details.

- A. Automatic Sliding Doors: Heavy-duty anodized extruded aluminum header and jambs, with interlocked sections and through-bolted rod connections; complete with doors, sidelights, optional transom and all hardware and accessories;

complying with ANSI/BHMA A156.10 and UL 325. All sliding door packages are provided with the following standard features:

1. Door Construction: Interlocked door sections with through-bolt rod construction. Standard bottom rail height is 5" (127 mm); top rail 3-1/2" (89 mm). Bottom rails must be one-piece construction and not stacked. All aluminum door extrusions shall be a minimum .125" wall thickness.
2. Locking: The active sliding door shall be provided with a key cylinder which includes a key cylinder on the exterior of the door and a thumbturn on the interior.
3. Glazing Stops: All door panels shall have 1/4" security glass stops as standard.
4. All doors will receive magnetic latches as standard and breakout sidelights will receive ball detent catches as standard. Doors shall not sag.
5. All active doors shall allow "breakout" to the full open position to provide instant egress at any point in the door's movement. All breakout doors will receive mechanical limit arms that will prevent them from swinging more than 90 degrees. Fixed panel doors will have spring arms to prevent swinging more than 90 degrees.
6. Door Suspension: Each active door shall incorporate two nylon rollers and two built-in anti-riser wheels.
7. Weather Seals: Meeting stile weather-stripping will include dual nylon pile. The overlapping stiles of doors and sidelights will receive single nylon pile weather-stripping. Adjustable nylon sweeps on the bottom of all the doors and single weather-stripping on the carrier and header contact surfaces will be included as standard.

Package Configuration: Delete one of the following functional descriptions.

8. Type: Bi-parting, two sliding leaves. (Narrow or medium stiles.)
9. Type: Single sliding, one sliding leaf. (Narrow or medium stiles.)

Package Layout: Delete one of the following two configurations.

10. Doors sliding on outside of fixed sidelights.
11. Doors sliding on inside of breakaway sidelights. The door system shall also include minimum security hooks that latch the swing out panels in the closed position when the sliding doors are in the fully closed position.

Package Finish: Delete all but one of the following three finishes. Dark bronze and natural anodizing are standard options — painted finishes are extra.

12. Finish: Dark bronze anodized.
13. Finish: Aluminum anodized.

14. Painted: Consult Factory

B. Header: Shall be 6" wide x 8" high and completely enclose the track, operator and belt drive. The track shall be a 1/2" (13 mm) wide roller track.

C. Aluminum Frame: All aluminum frame extrusions shall be 1-3/4" x 4-1/2" with a minimum .125" wall thickness. Transoms (if applicable) on bi-parting packages shall include one vertical transom tube.

Thresholds: Delete all but one of the three following options.

1. Surface top of floor-mounted threshold.
2. Recessed in the floor threshold.
3. No threshold.

D. Door Operators: Completely electromechanical, DC motor powered, with positive pulley and cog belt drive in both opening and closing cycles; comply with ANSI A156.10.

1. Provide a one-piece combination controller and transformer with a digitized keypad (pots not acceptable) that provides:
 - a. Test activation button to allow installers to activate the door without having to activate the sensors or push button.
 - b. Factory-default button that reverts all adjustments made during installation back to pre-set factory selections.
 - c. Must be ETL tested and meet UL 325 requirements.
2. Microprocessor controller to have the following minimum functions (door functions controlled by cam mechanisms or microswitches are not acceptable)
 - a. Adjustable opening and closing speed.
 - b. Auto-reverse on both open and close.
 - c. Adjustable back-check speed and position.
 - d. Adjustable latching speed and position.
 - e. Hold-open time adjustable from 2 to 30 seconds.
 - f. Adjustable sizing speed.
 - g. Built-in one-second delayed activation option.
 - h. Adjustable safety reverse: If an object is encountered during the closing cycle, re-open door; if an object is encountered during the opening cycle (in sidelight area), stop door and slowly reclose.

- i Adjustable reduced door opening from 50-75% to save on energy costs otherwise associated with the full and complete door opening range within extreme heat or cold environments.
 - j. Coordination with Dor-O-Matic electric locking.
 - k. Controller's digital keypad must shut off after 5 minutes of inactivity.
 - l. Controller shall provide additional security from unauthorized alternation of set programming through a two-button hold down feature. This feature must be activated for 3 full seconds to take affect.
3. Provide positive back-check and latching by preset forces that drive the door fully open and closed.
 4. "One-Way, Two-Way, Hold-Open and Off" Four-Position rotary switch provided as standard.
 5. Energy Conservation Rocker switch that reduces door opening width provided as standard. Size of energy-conservative opening is adjustable from 75% to 50% of full door opening.
 6. Service conditions: Satisfactory operation between -30 degrees F (-34 degrees C) and 160 degrees F (71 degrees C).
- E. Electric Locking. (Optional.) Electric lock must be part of a clutch driven motor system.

Delete the following if Electric Locks are not required —
 Electric Locks are used to secure the sliding doors from forcible entry.

1. Fail-Secure Electric Locking Package. (In case of power failure, doors remain locked.)
 - a. Day Operation: Normal operation using actuators.
 - b. Night Operation: Outside actuators will be deactivated; electric lock prevents forcible entry by positively locking sliding panels.
2. Fail-Safe Electric Locking Package. (In case of power failure, doors will unlock.)
 - a. Day Operation: Normal operation using actuators.
 - b. Night Operation: Outside actuators will be deactivated; electric lock prevents forcible entry by positively locking sliding panels.

Delete one of the following if not required. Specify what type of actuator is used for night operation of electric lock — e.g. card key, key switch, proximity card, etc.

- c. Outside Activation: In addition to the above, secure actuator _____ operates doors as in day operation; doors reclose and relock.

- d. Inside Activation - at door: Normal actuators active.
- e. Inside Activation - remote operation: In addition to above, remote station open/close switch operates electric lock and door; doors reclose and relock.

F. Battery Back-Up (Optional)

- 1. Battery back-up must be Dor-O-Matic Model BBU250.
- 2. Battery back-up must run for approximately 250 cycles after power fails or 2 hours minimum.
- 3. Doors must not close until all safety sensing devices have cleared.

2.3 Actuators and Sensors

A. Standard Safety shall include Dor-O-Matic's Safety Plus System which includes 2 dual safety presence/activation sensors and dual safety beams to provide interior and exterior presence and motion detection.

B. Motion Detector/Presence Sensor: Dor-O-Matic Supplied #86010-600 and beam system #86013-900.

- 1. Provide movement and threshold presence detection.
- 2. Individually adjustable pattern width and depth.
- 3. Housing: Black high-impact material.
- 4. Mounting: Flush against header/wall.
- 5. Operating unit: Adjustable for a "narrow" or "wide" traffic pattern.
- 6. Electronics: Unaffected by radio frequency interference, normal police, fire and ambulance frequencies and other two-way radio frequencies; designed to eliminate line noise and surge current, immune to most environmental disturbances such as wind, rain and snow.
- 7. Service conditions: Satisfactory operation between -30 degrees F (-34 degrees C) and 160 degrees F (71 degrees C); unaffected by humidity or moisture.
- 8. Push plates are also available as substitutes for motion detectors.

C. Standard safety beams for presence detection. Upon activation, the safety beams will be triggered to detect any presence in the automatic door opening. Only after the door opening is clear will the door(s) close.

D. All safety sensor zones and systems are in full compliance with ANSI 156.10 Standards.

E. Signs: Provide door signs complying with ANSI 156.10 and applicable codes.

Part 3 Execution

3.1 Examination

- A. Verify that door openings are ready for installation of automatic door equipment. Advise contractor of any adjustments needed to comply with approved "build to" drawings.
- B. Verify that electrical service is available, properly located and of proper type.

3.2 Installation

- A. Install in accordance with manufacturer's instructions; comply with ANSI A156.10.
- B. Verify that electrical connections are made correctly and with dedicated grounding.
- C. After numerous operations of the completed installation, make final door adjustments to ensure that the door system operates safely and properly.
 - 1. Supply Owner/Contractor with AAADM Certified Daily Safety Check.
 - 2. Supply Owner/Contractor with keys if required.
 - 3. Supply Owner/Contractor with Owner's Manuals.

End of Section