



4050 South 500 West, Salt Lake City, UT 84123 • (801) 261-8980 • FAX (801) 261-1612

## **ARCHITECTURAL SPECIFICATION**

### **Twintour Automatic Revolving Door**

#### **DIVISION 8 – DOORS AND WINDOWS**

#### **SECTION 08470 – REVOLVING DOORS**

##### **PART I – GENERAL**

###### **1.01 SECTION INCLUDES**

- A. This section covers the furnishing and installation of a complete Twin Two Wing Automatic Revolving Door System. Provide complete system that has been fabricated and tested for proper operation at the factory. It includes curved side walls, canopy, ceiling, door wings, hardware, glass, drive system, sensor system and emergency collapsing mechanism as required for installation.

###### **1.02 RELATED SECTIONS**

- A. Section 07915 - Sealants, Caulking and Seals
- B. Section 08400 - Entrances and Storefronts
- C. Section 08710 - Door Hardware
- D. Section 08810 - Glass and Glazing
- E. Section 09600 - Flooring
- F. Section 16123 - Electrical Supply and Termination

###### **1.03 QUALITY ASSURANCE**

- A. Manufacturer shall be a company specializing in the supply of automatic revolving doors with a minimum of 10 years experience.
- B. Installer shall supply a factory-trained supervisor during installation of the door.

###### **1.04 SUBMITTALS**

- A. Submit project specific shop drawings and finish samples.
- B. Indicate pertinent dimensions, general construction, component connections and locations, anchorage methods and locations.

###### **1.05 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials to job site in manufacturer's packaging undamaged, complete with installation instructions.
- B. Store off ground, under cover, protected from weather and construction activities.

###### **1.06 PROJECT/SITE CONDITIONS**

- A. Revolving doors install on finished floor only. Floor must be dead level at any point within the footprint of the revolving door.

###### **1.07 WARRANTY**

Boon Edam warrants its products against defects in material and workmanship for a period of one (1) year from the date of substantial completion or one and one half (1 ½) years from date of shipment. This warranty excludes glass breakage, normal wear on finishes or damage that occurs due to abuse, misuse or acts of God.

## **PART II – PRODUCTS**

### **2.01 MANUFACTURER**

Twintour Automatic Revolving Door System as manufactured by:  
Boon Edam, Inc., 4050 South 500 West, Salt Lake City, Utah 84123.  
(801) 261-8980 Fax: (801) 261-1612 Homepage: www.boonedam.com

### **2.02 DOOR CONSTRUCTION**

- A. Curved Side Walls and Canopy: Shall have a standard outside diameter of 8'-3", 10'-0" or 12'-0" and be manufactured from twelve (12) extruded aluminum posts, six (6) 12" high one-piece extruded aluminum canopies and six (6) extruded aluminum bottom rails.
- B. Door Wings: Four doors as designed and manufactured of 1 3/4" wide aluminum extrusions and reinforced with internal aluminum door corners for strength. Door wings must utilize removable horsehair weather stripping on three sides. Doors must be capable of folding forward or backward allowing for emergency egress.
- C. Ceiling: Shall be fabricated of formed aluminum sheet in a pie-shaped configuration. Each section must be secured in position and removed only by authorized personnel.

### **2.03 EQUIPMENT**

- A. Drive Assembly: Two (2) synchronized overhead drive assemblies each with one 1/4 HP AC motor attached to the internal structural framing. The door shall be powered by a 208-230 VAC, 1-phase service. The motors shall utilize an internal angle encoder for constant monitoring of door position and a Frequency Controller to provide for the following characteristics:
  - 1. Adjustment of rotation speed through a digital setting
  - 2. Constant regulation of rotation speed
  - 3. Adjustment of startup/run torque through a digital setting
  - 4. Adjustment of stopping distance through a digital setting to minimize force required to stop doorThe two drive systems shall be electronically synchronized together so that the two rotating doorsets work in unison with one another
- B. Braking Assembly: Positive braking and stopping, shall be performed by DC dynamic braking incorporated within the drive system. Other auxiliary disc brakes are not considered to be equal.
- C. Controls: Microprocessor-based electronics utilizing a 2000-step Programmable Logic Controller (PLC) with the following characteristics:
  - 1. RAM & ROM memory
  - 2. Self-diagnostics for quick detection of problem source
  - 3. Visual display of problem source
- D. Emergency Collapsing Mechanism: Precision-engineered door hangers and disks to allow the door wings to be collapsed, or folded and stored in a bookfold position. Hangers and disks are finished in black and provide tension to hold the door wings in position when the electric locking is released. The wings shall be capable of being collapsed, or folded outward under pressure on the outer stile not to exceed 130 pounds.
- E. Electric Locking (Optional): A fail-safe electromagnetic shaft and wing lock mechanism with a (2) position post-mounted key switch to activate locking. When engaged, the electric locking will prevent rotation or collapsing of the door wings. Electric locking is disengaged by loss of power or signal from building/fire/smoke alarm (Requires a (4) wire system, 208V 1- Phase, 60Hz, 20A, service from above, by others).
- F. Two-Point Recessed Locks (Optional): Two (2) standard concealed two point recessed locks with removable, Profile style keyed cylinders that lock into the ceiling and floor on the two interior door wings.
- G. Lights: Provide (4) 12V 20W Halogen lamps, 4 3/4" diameter lights to be recessed into ceiling. (110V power service required from above by others.)

## 2.04 SENSOR SYSTEM

- A. Motion Detectors: Two (2) motion detectors mounted to the canopy on each side of the door that will start the rotation of the door upon actuation. Detection pattern must be adjustable.
- B. T.R.S. (Top Rail Sensors): Active infrared sensors mounted to the top rail of each door wing that will detect presence in front of each door wing and stop the door immediately. Sensors must be adjustable for pattern size and distance from door wing.
- C. S.R.B. (Sensor Rail Bentwall): A multi-directional, closed-contact pressure sensitive switch contained within a black rubber profile mounted to the edge of each inbound endpost that will immediately stop the door's rotation if compressed.
- D. S.R.D. (Sensor Rail Doorwing): A multi-directional, closed-contact pressure sensitive switch contained within a black rubber profile mounted to the bottom rail of each door wing that will immediately stop the door's rotation if compressed.
- E. Handicap Button: Two (2) Handicap "Push to Slow" Buttons mounted on the inbound endposts that will reduce the rotating speed of the revolving door to approximately 1/2 the regular speed for approximately one revolution.
- F. Emergency Stop Button: Two (2) Emergency Stop Buttons mounted on the inbound endposts that will immediately stop the door when pressed.
- G. Key Switch: A key switch mounted on the interior endpost that will turn the door on/off.

## 2.05 HARDWARE/MATERIALS

- A. Tempered Glass: All flat glass in door wings shall be 1/4" clear tempered safety glass, all curved glass shall be 1/4" clear bent tempered safety glass. All glass shall meet ANSI standard Z 97.1.
- B. Laminated Glass (Optional): 7/16" clear curved laminated safety glass is available as an option. All glass shall meet ANSI standard Z 97.1.
- C. Aluminum Extrusions: All commercial grade extrusions shall be of aluminum alloy 6063-T6 per ASTM B-221.
- D. Aluminum Sheets: Shall meet ASTM B-209 and be of .063 minimum thickness.
- E. Weather Stripping: Genuine horsehair weather stripping on all required edges of door wings to provide a seal between door wings and drum that meets ASTM E-283.
- F. Bumpers: rigid, rubber-tipped bumper located on the top door rail of each door wing to prevent door wings from contacting one another when in the bookfold position.
- G. Glazing Seal: All glass to be sealed with push in glazing vinyl.
- H. Pivot: Floor mounted pivot under the center shaft to provide smooth rotation.
- I. Center Shaft: Extruded center shaft shall be of aluminum alloy 6061-T6 per ASTM B-221 with connections to the speed control and pivot.

## 2.04 FINISH

The following finishes are available for the enclosure walls, rotating door wings and ceiling.

- A. Anodized Coatings
  - 1. AAMA 611 Architectural Class 1 Clear anodized Type AA-M10C22 A41
  - 2. AAMA 611 Architectural Class 1 anodized Type AA-M10C22 A42: Light, Medium and Dark Bronze, Black and Champagne.
- B. Painted Coatings
  - 1. AAMA 2605 Superior Performing Organic Coatings (e.g.: Duranar, Fluropon; 70% Kynar Fluropolymers).
  - 2. AAMA 2604 High Performance Organic Coatings (e.g.: Powder Coating).
- C. Stainless Steel Clad Type 304
  - 1. #4 Brushed Satin
  - 2. #6 Brushed Satin Fine-Lined
  - 3. #8 Highly Polished (mirror finish)
- D. Bronze Clad Alloy #280 (Muntz Metal)
  - 1. #4 Brushed Satin
  - 2. #8 Highly Polished (mirror finish)

## **PART III – EXECUTION**

### **3.01 INSTALLATION**

- E. Inspection: Installer must examine the location and advise the Contractor of any site conditions unacceptable for proper installation of product. These conditions include but are not limited to the following:
  - 3. Door must be installed on finished floor.
  - 4. Finished floor must be dead level at any point within the footprint of the door.
  - 5. Power supply must be installed.Installation shall not begin until these unacceptable conditions are rectified.
- F. Erection: Install revolving doors in accordance with manufacturer's printed instructions. Set units level, plumb, and with uniform hairline joints. Anchor securely into place. Use only factory trained installers.
- G. Adjustment: Installer shall adjust door, hardware and sensors for smooth operation and proper performance.
- H. Instruction: A factory-trained installer shall demonstrate to the owner's maintenance crew the proper operation of the door and the necessary service requirements such as lubrication, cleaning, and inspection of components upon completion of installation.
- I. Cleaning: Clean metal and glass surfaces carefully after installation to remove excess caulk, dirt and labels.

**Boon Edam, Inc. reserves the right to change this specification at any time without notice.**