Specification 2024-08-30-Rev2

DYNAMICROLL AIR Specifications
SECTION 08380 – High Speed Vertical Fabric Roll-up Doors

PART 1 – GENERAL

1.1 SUMMARY OF WORK
A. Division 01, as indexed, applies to this section.
B. Furnish and install all high-speed vertical fabric roll-up doors as shown on the drawings and specified herein.

1.2 ADMINISTRATIVE REQUIREMENTS
A. Coordination: Verify the work of the section with project doors for compliance with Contract Documents. Coordinate vertical fabric roll-up door's operating controls with activation devices and specified accessories.

1.3 RELATED SECTIONS
A. Electrical power source, power and control wiring, conduit and final connections to pre-wired control boxes, activators and similar devices as applicable.
B. Field Painting.
C. Door opening preparation.
D. Building pressurization and wind load balance and management.

1.4 QUALITY ASSURANCE
A. Installation shall be performed by factory trained and certified installers with a minimum of six months' experience installing high speed vertical fabric roll-up doors. Installer shall maintain a service center with parts inventory and maintenance personnel trained by the factory.
B. High speed vertical fabric roll-up doors shall be provided, each, as a complete unit including accessories and installation components.
C. Each high-speed vertical fabric roll-up door and all components necessary for a complete unit installation shall comply with the following codes and standards where applicable:
ASTM: American Society for Testing and Materials
NEMA: National Electrical Manufacturer's Association
UL: Underwriters Laboratories, Inc.
D. Manufacturer shall not fabricate this product without completed confirmation forms wherein all parties agree to required fabrication and production information.

1.5 SUBMITTALS
A. Refer to Section 01300 Shop Drawings and Submittals.
B. Provide shop drawings, for approval, that indicate opening size, minimum space requirements, fabric color and electrical, mechanical and activation options.
C. Shop Drawings: Indicate pertinent dimensioning, component profiles, and anchorage locations for verification of proper fit and mounting. Include the Manufacturer's Installation & Maintenance Manual-English.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Deliver fabricated doors and accessories to the jobsite in manufacturer's original, unopened package, complete with installation instructions.
B. Door identification shall be marked on the outside of each package or crate. Doors to be packaged for delivery in enclosed crate to provide protection during shipment, handling, and storage.
C. Store under protective cover and off the ground or floor.

1.7 COORDINATION

A. General Contractor and/or subcontractor shall coordinate the various trades affected by the work of this section. Assure accurate preparation of opening. Provide completed confirmation forms for fabrication. Supervise unloading and handling of materials.
B. Permanent power shall be in place and ready for final connection when doors are erected. Assure access to and proper clearance for motors, drums, control boxes, and headplates.
C. Assure proper electrical source voltages and amperes are in place prior to connection to door system.
D. Store all materials as indicated in Section 1.6 of this document. Replace damaged materials at no cost to the owner.

1.8 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard limited warranty.

1.9 MAINTENANCE

A. Manufacturer shall furnish operating and maintenance data for doors and accessories. Include instructions for operation, adjustment, maintenance – including cleaning and repair, product data for each component and unit to include maintenance schedules and parts lists.
B. Provide instructions and applicable demonstrations to designated personnel of the end user covering operation, adjustments and maintenance of doors. Furnish contact information on services of an authorized and qualified manufacturer's representative.

PART 2 – PRODUCTS

2.1 MANUFACTURER AND MODEL

A. Manufacturer and type: DynamicRoll Air vertical roll up door as manufactured by BMP Doors USA, Waynesboro, PA, (888) 822-3667, www.bmpdoors.us.
B. Products of other manufacturers demonstrating complete compliance with each of the unique patented features and performance criteria of the model specified will be considered for approval. Written requests for substitutions will be considered by the architect up to ten days prior to bid date.

2.2 MATERIALS

A. Door Panel: To be constructed of a reinforced PVC fabric at a minimum weight of 27 oz./yd. Door shall use spring loaded, dry, non-lubricated curtain retention technology with an opening speed up to 100"/second and closing speed of 32"/second.
B. Safe Door Panel: The fabric panel door shall be free of horizontal or vertical bars and/or stiffeners and be constructed of an appropriate weight and material thickness.
C. Size: Maximum dimension - 16' x 18'
D. Resistance to Wind Load: Uniform pressure (velocity pressure) acting inward (pressure) and outward (suction) of wind acting normal to plane of wall.
   1. Door size up to 9'10" x 9'10" (3 m): 14.6 psf. (700 Pa); Wind Load Class 3; 75.6 mph (121.6 km/h).
   2. Door widths up to 16'0" (4.9 m): 9.4 psf. (450 Pa); Wind Load Class 2; 60.6 mph (97.5 km/h).
E. Side Frames: Constructed of structural channels of galvanized steel, with articulating spring retention of the inner track. The door is equipped with dual integrated air curtain housed within the side frames blowing horizontally, which comes standard, and activates when the door is opened. Stainless Steel finish available as an option.
F. Side Frame Covers: Galvanized steel or stainless steel finish available as an option.
G. Drum and motor cover: Included in the complete assembly (optional finishes shown in section L).
H. Self-Reinserting: Door must release immediately upon impact from the side frames. After a break-away impact and upon activation, the door fabric panel shall re-insert itself into the side frames and assume the closed position without assistance. This self-reinserting feature must be fully operational in all stages of the door's opening and closing cycle irrespective of the driving direction of the impact device.
I. Seal: The seal of the door panel shall be accomplished by a spring loaded polyethylene inner track, and shall perfectly encapsulate the continuous retention tabs, thereby forming the inner side frame assembly. Side frames shall be free of wearable blade or brush type weather strip systems.

J. Electric Drive System
1. Motor shall be of design, type, size and capacity as determined by and furnished by door manufacturer to sufficiently operate the entire door assembly. Standard three phase 208-230VAC; 460VAC; 575VAC. Frequency: 50-60 Hz. Circuit breakers by others.
2. Standard motor shall be direct drive with worm gear reduction. IP54 shaft and gear driven assembly suitable for wash down environment. An optional frontal motor can be substituted to minimize side clearance requirements.
3. Motor operator shall incorporate soft start and stop technology, ramp acceleration and deceleration, and an absolute encoder for door positioning. Operators using mechanical components, including limit switches and clutches are not allowed. Upon power outage, motor is supplied with a manual crank to open and close door.
4. Electric control Panel, painted steel NEMA 4 with proprietary VFD Door controller, main disconnect and emergency stop button and push/button. All components and their configuration shall be U.L. listed. The front of the control panel shall have an emergency stop button and an open/close push button.
5. Wireless reversing edge to accommodate both lateral and bottom edge impact. The safety edge (916 mhz) shall reverse the door immediately upon impact and shall be located in the bottom bag of the door that transmits a signal to the receiver.

K. Infrared photocell detection: A thru-beam infrared photo detection system shall be installed in the side frames mounted in front and behind curtain panel to detect the presence of a pedestrian, vehicle or other obstacle. Upon activation, it shall open the door immediately and keep it open as long as the presence is detected. The standard mounting height for the photocell shall be 12” from finish floor. (Secondary photocell up to maximum of 24” from finish floor).

L. Options: (Complete list upon request)
1. Window: Individual 20 in. high, full width 20 in. high, Individual rounded corners 47 in. x 12 in., Full vertical vision with spacer every 78 in.
2. Standard Curtain Colors: White (RAL 9010), Yellow (RAL 1003), Orange (RAL 2004), Red (RAL 3002), Green (RAL 6026), Gray Hues (RAL 7037, RAL 7035), Blue (RAL 5002), Brown (RAL 8017), Black (RAL 9005) (Other colors available as a special order).
3. Finishes: Standard finishes for the DynamicRoll Air are Galvanized. Optional stainless steel, or powder coated finish.
4. Motor cover and drum hood – Available in galvanized steel, stainless steel or powder coated finish.
5. Egress: Provide a break-away egress feature in the center of the fabric door panel. No special tools needed to put the curtain back in service after use.
6. Logo: Provide a silk-screened logo on the face of the fabric door panel, multiple or single color (up to 36 Sq. ft.).
7. Supplementary infrared photocell placed at a pre-determined height above finish floor, type transmitter-receiver (the photocell is disabled before the bottom of the door panel arrives at the height of the supplementary photocell).
8. Control box: Stainless Steel with open push button and emergency stop. After unlocking the emergency stop.
9. Airlock Function: This can only be achieved between multiple BMP doors. Each door will have its own control box and opening commands. Either door will only open when the companion door is closed. Any two doors used in the airlock function do not accommodate equal control boxes. One is dependent on the other and programmed differently. During the submittal process the door and control box that takes priority must be designated.
10. Semi-automatic opening in case of power failure: This option requires the use of a UPS (Uninterruptible Power Supply) containing a battery that supplies sufficient power to activate the door. The UPS is placed between the power source and the control box. In case of power failure, the door remains closed, a voluntary opening command is necessary to open the door, which remains open during the power failure. The other option can be that the door opens automatically with loss of power and remains open until sufficient power is restored.
11. Infrared light curtain installed in the side frames mounted in front and behind curtain panel to up to 100 inches of vertical barrier to minimize the chance of the door closing onto personnel, product, or equipment. Upon activation, it shall open the door immediately and keep it open as long as the presence is detected.

12. Infrared photocell detection: A thru-beam infrared photo detection system shall be installed in the side frames mounted in front and behind curtain panel to detect the presence of a pedestrian, vehicle or other obstacle. Upon activation, it shall open the door immediately and keep it open as long as the presence is detected. The standard mounting height for the photocell shall be 12" from finish floor.
13. Over-roll safety sensor in header should an obstruction be in the doorway.
14. Manual opening option using a hand crank as the standard, a chain system, or a counterweight system.
15. Activation:
    a. Pull Cords
    b. Push Button
    c. Motion Sensors
    d. Presence Sensors
    e. Floor Loop (Magnetic Induction Loop)
    f. Radio Transmitter (Remote Control)
16. Traffic Lights/LED Light Bar System.

PART 3 – EXECUTION

3.1 PREPARATION BY GENERAL CONTRACTOR

A. Door openings shall be to the dimensions specified, plumb, level, and square.
B. Door openings and related work shall be as indicated on the approved BMP High Speed Door shop drawings and the project contract drawings and specifications prior to work performed under this scope of work.

3.2 INSPECTION

A. Inspect openings prepared for high-speed vertical fabric roll-up doors and surrounding conditions. Immediately notify the architect, in writing, of any unacceptable conditions.

3.3 INSTALLATION

A. Install doors in accordance with manufacturer's instructions for clearance and fastenings.
B. Adjust for smooth and efficient operation including stop and start limits, activation settings and safety mechanisms function. Verify that all operations are functional and meet the requirements of applicable codes and regulations.
C. Upon completion of the installation, general contractor shall protect the doors from damage and shall replace or repair subsequent damage in order that the doors are acceptable to the architect and owner at no additional cost to the owner.
D. Installation shall be performed by factory trained and certified installers.
E. Manufacturer's authorized representative shall demonstrate the operation of the doors.