06-01-23
Plexline®
Model PL5000

SECTION 083000
HIGH-SPEED ROLLING DOORS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. High-speed roll up doors.

B. Wiring from electric circuit disconnect to operator to control station.

1.02 RELATED SECTIONS

A. None

1.03 REFERENCES

A. NEMA – National Electrical Manufacturers Association.

B. LED – Light Emitting Diode.

1.04 SYSTEM DESCRIPTION

A. Electrical Motor operated unit with manual override in case of power failure.

1.05 SUBMITTALS

A. Submit the following:

1. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations and installation details.

2. Product Data: Provide general construction, component connections and details, and electrical equipment, operation instructions and information.

3. Samples: Submit color samples of door panels for selection by owner.

4. Manufacturer's Installation: Indicate installation sequence and procedures, adjustment and alignment procedures.

1.06 MAINTENANCE DATA

A. Recommended preventive maintenance program to be included indicating lubrication requirements and frequency, periodic adjustments required, scheduled maintenance suggested, manufacturer data sheets, and equipment interconnection diagrams.

1.07 REGULATORY REQUIREMENTS

A. Electrical components UL listed.

B. Electrical enclosure NEMA approved.

1.08 QUALITY ASSURANCE

A. Furnish high-speed roll doors and all components and accessories by one manufacturer.

1.09 FIELD MEASUREMENTS

A. Verify field measurements are as indicated on shop drawings.

1.10 COORDINATION

A. Coordinate the work with installation of electric power and locations and sizes of conduit.

1.11 WARRANTY

A. Two-year limited warranty on materials and workmanship.

PART 2 – PRODUCTS

2.01 PRODUCTS

A. Rytec Corporation Model PL5000.

B. No substitutions permitted.

2.02 MATERIALS

A. Door Panel: 32 oz. replaceable vinyl panel sections connected by two integral extruded panel-connecting ribs. Standard full-width, replaceable, vision panel constructed of 2mm PVC.

B. Side Frames: Smooth fiberglass composite construction with front, and rear, full-height brush seals. Hollow chase way allows for additional wiring and optional counterweights. Two sets of thru-beam photo eyes standard.

C. Bottom Bar: Break-Away™ bottom bar consisting of a one-piece extruded aluminum member that releases in either direction without damage to the door. Dual cut-off switches shut off motor when bottom bar is impacted. Dual, pneumatic, soft auto-reversing edge below bottom bar. No exposed junction box on bottom bar. Vinyl loop hugs contour of floor for tight seal. Break-away and reversing edge signal is carried to the door controller via radio frequency. Doors using coil cord to transmit signal will not be accepted.

D. Reset System: When bottom bar and door panel are separated from side frames, they can be reset by moving bottom bar to the front side of door frame and pushing a button on the face of the control box. Doors that require bottom bar and panel to be manually reset will not be accepted.

E. Drive System: Three phase, variable-speed AC Drive provides soft acceleration and deceleration. Independent opening and closing speeds provide flexibility to meet any application. Motors using a clutch or brake to start or stop door movement will not be accepted.

F. Travel Speed: Adjustable at control box level. Factory-set to open at 50 inches per second and close at 21 inches per second.

F. Electrical Controls

1. Rytec controller housed in a UL/cUL Listed NEMA 4X-rated enclosure with factory set parameters.
2. Parameter changes and all door configurations can be made from the face of the control box, no exposure to high voltage. Control panels that require opening of the control box and reaching inside to make parameter changes will not be accepted.
3. Controls include a variable speed AC drive system capable of infinitely variable speed control in both directions.
4. Programmable inputs and outputs accommodate special control applications (traffic lights, horns, actuation devices, timing sequences, etc.) without the need for additional electrical components.

5. Self-diagnostic scrolling two-line vacuum fluorescent display provides expanded informational messages for straightforward installation, control adjustments and error reporting.
6. Complete history of door, at least two years, is logged and encrypted onto a USB flash drive. All errors have a time and date stamp for reference. Control panels not logging up to two years of door history will not be accepted.

G. Door to use absolute rotary encoder to regulate door travel limits. Limits to be adjustable, without the use of tools, from floor level at the control panel. Doors using mechanical limits switches, or doors that require tools or access to the operator in order to adjust limits, will not be accepted.

H. Roll & Motor Cover (optional): Rounded ABS plastic sections, supported by a 304 stainless steel spreader, to shroud roll drum. One-piece ABS plastic motor cover to completely encase motor and attach to roll cover for streamlined finish.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that opening sizes, tolerances, and conditions are acceptable.

3.02 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

C. Fit and align assembly including hardware; level to plumb to provide smooth operation.

D. Coordinate installation of electrical service. Complete wiring from disconnect to unit components.

3.03 ADJUSTING

A. Adjust door and operating assemblies.

B. Test and adjust doors, if necessary, for proper operation.

3.04 CLEANING

A. Clean door and components.

END OF SECTION