02-18-26
Rytec® Spiral® LH® Door

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. Motor type: AC drive, and variable speed with soft acceleration and braking. Mechanical release lever on side column allows door to be easily opened in the event of a 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 samples of door slat material.

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

1.06 MAINTENANCE DATA

A. Scheduled maintenance program available to include lubrication requirements and frequency, periodic adjustments required, scheduled maintenance suggested, manufacturer's data sheets, and equipment inter-connection diagrams.

1.07 REGULATORY REQUIREMENTS

A. Electrical components UL listed.

B. Electrical control panel NEMA approved.

1.08 QUALITY ASSURANCE

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

B. Specific door model used must have a proven track record of successful installations in similar applications of no less than 3 years. References to be provided upon request.

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.

1.01 WARRANTY

A. Five-year limited warranty on mechanical components, including motor assembly

B. Two-year limited warranty on electrical components

C. Two-year limited warranty on standard door panels, rollers, hinges and door tracks

PART 2 - PRODUCTS

2.01 PRODUCTS

A. Rytec Corporation Spiral® LH® door.

B. No substitutions permitted.

2.02 MATERIALS

A. Door Panel: Double-walled, aluminum slats are 6 inches high by minimum 13/16 inches thick. Integral rubber weatherseal between each of the panels. Door slats to be connected by hinge system to provide additional rigidity, support and security to door curtain. Door curtain does not require a tensioning system for additional wind/pressure resistance. Doors which require the use of a tensioning system for additional wind/pressure resistance will not be accepted.

B. Side Frames: Powder coated steel side frames with full height weatherseal on both sides to seal against door panel. "Intelligent" Advanced^3 Light Curtain System mounted directly in door line (to 6'0" above finished floor). Doors using an external coil cord will not be accepted.

Safety Systems: Door shall include Rytec SmartSurround® Advanced Detection and Alert system consisting of:

- Two sets of emitter and receiver light curtain strips with integrated multi-color high intensity LED lights. 16 high intensity amber/red LED lights per strip creating (4) four, 5-foot-long multifunction warning lights at each corner of the doorway. Lights and lenses shall be designed to allow for 180 degrees of visibility.
- LED strips shall be visible on right and left sides of door with door open or closed, both inside and out, and allow for a variety of animation such as cascading downward when door is closing as well as multiple flashing rates.
- Exterior units equipped with stainless steel cable jacketing for superior protection and long-lasting finish.
- SmartSurround profile size: L x W x D = 65.5" x 0.58" x 0.58" (1665mm x 14.5mm x 14.5mm); Outside set (field installed) projects less than ¾" from jamb of building.
- IP67 rating (dust/waterproof)
- CAN Bus communication and connection technology providing easy connection via quick-connect cables allows for extensive data and integration between SmartSurround system and System 4® door controller.
- 16 photo electric light beams with range up to 30ft. Beams shall sense when object has entered the SmartSurround protected area. SmartSurround and

System 4 controller software shall be integrated to allow for various specific reactions to obstructions as well as normal and abnormal traffic patterns or use.

C. Bottom Bar: Extruded aluminum bottom bar.

1. Optional: Electric reversing edge that reverses the door upon contacting an object.

D. Counterbalance: Up to six extension springs in each side column, depending on the size of the door. Springs assist the motor in opening the door. Mechanical release lever on side column allows door to be easily opened in the event of a power failure. Doors using torsion springs for counterbalance or doors with springs located within a barrel will not be accepted.

E. Drive system: Minimum 2 HP motor with variable speed AC drive which allows for soft acceleration and braking. Doors using a motor with a clutch or pump will not be accepted.

F. Travel Speed: Adjustable, through control box, and factory-set to open at 60 inches per second and close at 24 inches per second.

G. 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. All errors have a time and date stamp for reference.

H. Door to use 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 limit switches or doors that require tools to set the limits will not be accepted.

I. Door Track: Spiral LH track design features no metal-to-metal contact which results in ultra-quiet, low maintenance operation and eliminates wear on panel slats. Overhead tracks roll back and travel horizontally to accommodate limited headroom of as little as 11”. Doors that roll up on a barrel or whose track design allows metal-to-metal contact will not be accepted.

J. Wind load: Door testing indicates the door is capable of withstanding winds up to 127 mph (20 psf).

K. Required Maintenance: No lubrication of any kind required anywhere on the door or its components. Minimum estimated life expectancy of any component on door to be no less than approximately 200,000 cycles.

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 door(s), if necessary, for proper operation.

3.04 CLEANING

A. Clean door and components.

END OF SECTION