



V-SERIES: V100-600 SPECS
Vertical Lift Door Systems

CONSULT MANUFACTURER FOR ADDITIONAL OPTIONS OR MODIFICATIONS

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. Provide vertical lift door including all necessary components, unless otherwise specified. The door, when fully open, shall provide minimum unobstructed opening xx wide and xx high.
- B. Includes the door section (s), side tracks, overhead mounted drive assembly, side rollers or guides, counterweight system, counterweight material, cables, sheaves, related hardware, electric operator and controls, weatherstripping, installation, tests and operating instructions.
- C. Work by others includes exterior and interior sheeting, insulation, electric power supply to each door and field wiring between operator, control panel, push button station and limit switches, counterweight material and finish paint.
- D. Operation of vertical lift doors includes overhead mounted (or floor mounted) electro-mechanical operators with counterweight.

1.2 DESIGN CRITERIA

- A. Doors shall be designed to withstand external horizontal wind loads of 25 pounds per square foot in the closed position and designed to operate in a maximum wind load of 5 psf.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification sections.
- B. Product Data for each type of product specified consisting of manufacturer's technical Product Data and installation instructions for each type of door required, including data substantiating that products comply with requirements.
- C. Submittal Drawings showing fabrication and installation of vertical lift doors including plans, elevations, sections, details of components, hardware, operating mechanism and attachments to the other units of work. Include wiring diagrams and coordination with electrical trade.

1.4 DELIVERY, STORAGE AND PLANNING

- A. Store delivered materials and equipment in dry locations with adequate ventilation, free from dust and water, so as to permit access for inspection and handling.
- B. Handle materials carefully to prevent damage.

1.5 WARRANTY

- A. The door manufacturer shall provide a written guarantee against all defects in material and workmanship for a period of three (3) years from the date of acceptance.
- B. (Option) A five (5) year warranty.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Door Engineering and Manufacturing LLC, 400 Cherry Street, Kasota, Minnesota 56050, 800-959-1352. Substitutions permitted subject to compliance with specified criteria and prior architect approval.

2.2 MATERIALS

- A. Structural Steel: ASTM A36/A36M
- B. Steel Sheets: Steel sheets of commercial quality, complying with ASTM A366/A366M cold-rolled steel sheet, or A569/A569M hot-rolled steel sheet.
- C. Hardware: Manufacturer's standard components
- D. Fasteners: Zinc-coated steel.

2.3 VERTICAL LIFT DOORS

- A. Construction: Door framing shall be structural steel tube with 16-gauge minimum flat sheet steel on the exterior and interior faces. All frames and framing members shall be true to dimension and square in all directions and no door shall be bowed, warped, or out of line in the vertical or horizontal plane of the door opening by more than 1/8 inch in 20 feet. Exposed welds and welds which interfere with the installation of various parts shall be ground smooth and flush.
- B. Door Finish: Manufacturer's standard, factory-applied primer paint.
- C. Hardware: Hardware shall include wire rope to be wirecore, 6x37; steel sheaves with roller bearings. Interior doors with minimal wind load shall have rub blocks. Exterior doors shall have side rollers. Counterweight material shall be steel plate.
- D. Weatherstripping: Material shall be adjustable and readily replaceable and provide a substantially weather-tight installation and shall be 1/16" cloth insert neoprene wrapped around a resilient foam core.

2.4 ELECTRO-MECHANICAL OPERATOR

- A. Each vertical lift door shall be operated by an overhead mounted (or floor mounted) electro-mechanical drive unit. Operator consists of an electric motor, gear reducer and multiple groove drive sheaves mounted on the counterweight tower. Operator shall have an override to provide manual operation with a chain pull or hand crank.
- B. Electric motor shall be of sufficient size to operate doors under normal operating conditions at no more than 75 percent of rated capacity. The motor shall be wound for three phase 208, 230/460 VAC., 60 Hertz operation.
- C. Electric Controls: Controls shall be furnished by the door manufacturer and shall be complete for each door, and built in accordance with the latest NEMA standards. Control circuits shall not exceed a nominal 110 volts.

- 1. Controls shall include variable frequency drive to ramp to door speed up and down during its travel.

2. Enclosures shall be NEMA 4 with disconnect switch.
 3. Pushbuttons for each door shall have one three-button pushbutton station marked "OPEN", "CLOSE" and "STOP". "CLOSE" button shall require constant pressure so that removing pressure from the button shall stop the movement of the door. "OPEN" and "STOP" buttons to be momentary contacts. Push button enclosure shall be in NEMA 4 enclosure.
 4. Limit switches shall be provided to stop the travel of the door in its fully open or fully closed position. They shall be mounted on the side track and actuated by cams on the door.
- D. Safety Edges: Provide electric safety edge on the leading edge of the door to stop the door upon contact with obstruction.
 - E. Photo Eyes: Provide NEMA 4x rated thru-beam photo eyes.
 - F. Wiring: Door manufacturer shall supply controls only. Electrical contractor shall install controls and furnish and install conduits and wiring for jobsite power and control wiring.

PART 3 – EXECUTION

3.1 PAINTING

- A. Clean all surfaces after fabrication. Steel surfaces painted with manufacturer's structural primer.

3.2 INSTALLATION

- B. Install vertical lift doors in strict accordance with the approved drawings by qualified door erection crews. All door openings shall be completely prepared by the general contractor prior to the installation of the doors. Permanent or temporary electric wiring shall be brought to the door opening before installation is started and shall be completed so as not to delay the inspection test.
- C. Door shall be set plumb, level and square, and with all parts properly fastened, mounted, etc. All moving parts shall be tested and adjusted and left in good operating condition.

3.3 ADJUSTING AND CLEANING

- A. Inspection of the doors and complete operating test will be made by the installer in the presence of the general contractor or architect as soon as the erection is complete. Any defects noted shall be corrected. After door approval in the above test, the general contractor must assume the responsibility for any damage or rough handling of the doors during construction until the building is turned over to the owner and final inspection is made.
- B. Clean surfaces and repaint abraded or damaged primed surfaces to match factory-applied finish.

END OF SECTION