

FOUR-FOLD DOOR

ARCHITECTURAL SPECIFICATIONS VERTICAL BI-FOLD

JULY 2026



MATERIALS

- A. Steel Tube = ASTM A513 and ASTM A500/A500M
- B. Steel Sheets = Steel Sheets of commercial quality, complying with ASTM A1011/A1011M hot rolled steel sheet
- C. Hardware = Manufacturer's standard components
- D. Fasteners = Zinc coated steel

DOOR FRAME

- A. Construction = Door framing shall be minimum 14 gauge structural steel tubing with 14 gauge steel sheet on the exterior and interior faces. Sheeting shall be formed on the vertical edges with no visible welds on the interior or exterior panel 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 that interfere with the installation of various parts shall be ground smooth and flush.
- B. Surface Mounted Tube Frame = Supply pre-hung tube frame system constructed of minimum 6x4x1/4 tube steel designed to anchor to masonry wall construction or weld to steel structure. All hinges, track supports and operator supports shall be factory attached.
- C. Factory Finish = All exposed steel shall be finished with manufacturer's standard primer and top coat color selected by owner.
- D. Operating hardware = Hardware shall include guide tracks and brackets, trolleys, center guides, not less than 3 pairs of jamb and center hinges per opening, and all bolts, nuts, fasteners necessary to complete the installation and operation. Jamb and center hinges shall have corrosion resistant PTFE radial & thrust bearings requiring no lubrication. All hinge pins shall be minimum 3/4" diameter hardened steel.
- E. Weatherstripping = Material shall be adjustable and readily replaceable and provide a substantially weathertight seal. Weatherstripping at the center shall be neoprene bulb seal filled with compressible foam. Weatherstripping at the sill shall include a neoprene bulb seal attached with an aluminum retainer.
- F. Perimeter Weatherstripping = Provide jamb and head weatherstripping of neoprene bulb seal.
- G. Vision Panels = Provide 1" insulated glass panels of the size and shape and location as noted on the drawings

OPERATOR

- A. Each door shall be operated by an overhead header mounted electric screw drive unit designed for high cycle operation. Operator consists of an electric motor, gear reducer, and screw drive slide assembly. The door shall be operated with connecting rods attached to the screw drive assembly and outer door leaf. The connecting rods shall be a positive drive, keeping the door under firm control at all times. The connecting rods shall be fitted with spherical bearings.
- B. Operator shall be instantly reversible, open and close rapidly and start and stop gradually. Operator shall be adjustable to allow door to fully clear the opening. Operator shall automatically lock the door in the closed position. Operator shall be equipped with disengaging mechanism to allow manual operation of door.
- C. Operator shall include bellow covers to protect the screw drive assembly
- D. Electric motor shall be of sufficient size to operate the door under normal operating conditions at no more than 75% of rated capacity. The motor shall be 208/230/460VAC, 3 Phase 60 hertz operation, specify on order.
- E. Electric controls = controls shall be furnished by door manufacturer and be complete for each door and built to the latest NEMA standards. Electrical shall be 208/230/460VAC, 3 phase, specify on order.
 - 1. Controls shall include a programmable logic controller with digital message display. Controller shall include programmable close timers and programmable inputs and outputs.
 - 2. Motor starters shall be magnetic reversing, factory wired with overload and under voltage protection and equipped with mechanical interlocks. All control components shall be enclosed in one enclosure with a wiring diagram.
 - 3. If incoming voltage is single phase, control panel shall include a variable frequency drive to convert to 3 phase for the motor.
 - 4. Enclosures shall be NEMA 4 with disconnect switch.
 - 5. Push buttons shall have (1) momentary pressure three button push button station marked open, close & stop and be mounted to control panel enclosure.
 - 6. Limit switches shall be provided to stop the travel of the door in its fully open or fully closed position.
 - 7. Safety edges= provide electric safety edges on leading edge of doors to reverse door upon contact with obstruction.
 - 8. Photo eyes = provide exterior jamb mounted thru-beam photo eyes, NEMA 4 rated
 - 9. Wiring = Door manufacturer shall supply controls and components only. Electrician shall install controls and furnish and install conduit and wiring for power and control wiring.

Options (Available Upon Request)

- A. Remote Control
- B. Presence Sensor
- C. 6 foot Photo Eye Light Curtain
- D. Timer Activated Loop Detectors
- E. Warning Horn/Strobe

INSTALLATION

- A. Install vertical bi-fold metal doors in strict accordance with the approved drawings by qualified door installers. All door openings shall be completely prepared by the general contractor prior to the installation of the door. Permanent or temporary electric wiring shall be brought to the door opening before installation is started and shall be completed while installation is ongoing so as not to delay the inspection test.
- B. Doors shall be set plumb, level, and square, and with all parts properly fastened and mounted. All moving parts shall be tested and adjusted prior to completing the installation.

ADJUSTING AND CLEANING

- A. Inspection of the doors test cycling will be made by the installer in the presence of the general contractor or architect as soon as the installation is complete. Any defects noted will be corrected. After door installation approval, 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 finished surfaces to match factory-applied finish.