



SECTION 14 42 16

VERTICAL WHEELCHAIR LIFTS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Enclosed, self-contained vertical platform wheelchair lift.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Concrete shaftway and anchor placement.
- B. Section 04800 - Masonry Assemblies: Masonry shaftway and anchor placement.
- C. Section 06100 - Rough Carpentry: Blocking in framed construction for lift attachment.
- D. Section 09260 - Gypsum Board Assemblies: Gypsum board shaftway.
- E. Division 16 - Electrical: Dedicated telephone service and wiring connections.
- F. Division 16 - Electrical: Lighting and wiring connections at top of shaft.
- G. Division 16 - Electrical: Electrical power service and wiring connections.

1.3 REFERENCES

- A. ASME A17.1 - Safety Code for Elevators and Escalators.
- B. ASME A17.5 - Elevator and Escalator Electrical Equipment.
- C. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
- D. CSA B44 - Safety Code for Elevators and Escalators.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- G. NFPA 70 - National Electric Code.
- H. CSA - National Electric Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
 - 2. Include complete description of performance and operating characteristics.
 - 3. Show maximum and average power demands.
- C. Shop Drawings:
 - 1. Show typical details of assembly, erection and anchorage.
 - 2. Include wiring diagrams for power, control, and signal systems.
 - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.
- D. Selection Samples: For each finished product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finished product specified, two samples, minimum size 1-3/4" x 2-1/4" inches, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm with minimum 10 years experience in manufacturing of vertical platform lifts, with evidence of experience with similar installations of type specified.
- B. Installer Qualifications: Licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of maintenance and callback service without unreasonable loss of time in reaching project site.

1.6 REGULATORY REQUIREMENTS

- A. Provide platform lifts in compliance with:
 - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
 - 2. ASME A17.1 - Safety Code for Elevators and Escalators.
 - 3. ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 4. NFPA 70 - National Electric Code.
- B. Provide platform lifts in compliance with:
 - 1. CSA B355 - Lifts for Persons with Physical Disabilities.
 - 2. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 3. CSA - National Electric Code.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

- B. Store components off the ground in a dry covered area, protected from adverse weather conditions.

1.8 PROJECT CONDITIONS

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.

1.9 WARRANTY

- A. Warranty: Manufacturer shall warrant the wheelchair lift materials and workmanship for two years following completion of installation.
- B. Extended Warranty: Provide an extended manufacturer's warranty for the entire warranty period covering the wheelchair lift materials and workmanship for the following additional extended period beyond the initial two year warranty. Preventive Maintenance agreement required.
 - 1. Five additional years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada - 7505 134A St., Surrey, BC V3W 7B3. ASD. Toll Free: 800-663-6556. Tel: (604) 594-0422. Fax: (604) 594-9915. Email: productinfo@garaventlift.com.
- B. Web www.garaventlift.com
- C. Substitutions: Not permitted.
- D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ENCLOSED VERTICAL WHEELCHAIR LIFT

- A. Capacity: 750 lbs (340 kg) rated capacity.
- B. Mast Height:
 - 1. Model GVL-EN-42; 45 inches (1143 mm) maximum lifting height.
 - 2. Model GVL-EN-60; 63 inches (1600 mm) maximum lifting height.
 - 3. Model GVL-EN-72; 75 inches (1905 mm) maximum lifting height.
 - 4. Model GVL-EN-96; 99 inches (2515 mm) maximum lifting height.
 - 5. Model GVL-EN-120; 123 inches (3124 mm) maximum lifting height.
 - 6. Model GVL-EN-144; 147 inches (3734 mm) maximum lifting height.
 - 7. Model GVL-EN-168; 171 inches (4343 mm) maximum lifting height, using hydraulic drive, only.
- C. Nominal Clear Platform Dimensions:

1. Standard: 37-1/4 inches (947 mm) by 54 inches (1370 mm).
 2. Mid Size: 37-1/4 inches (947 mm) by 60 inches (1522 mm).
 3. Large: 43-1/4 inches (1099 mm) by 60 inches (1522 mm).
- D. Platform Configuration:
1. Straight Through Entry/Exit: Front and rear openings.
 2. 90 Degree Entry/Exit: Front and side openings.
 3. On/Off Same Side Entry/Exit: One front opening only.
- E. Landing Openings:
1. Lower Landing: Door.
 2. Intermediate Landing: Door.
 3. Upper Landing: Door.
 4. Upper Landing: Gate.
- F. Doors and Gates: Doors and gates shall be self closing type.
1. Door Height: Flush mount, 80 inches (2032 mm).
 2. Gate Height: Flush mount, 42-1/8 inches (1070 mm).
 3. Width: 42 inches (1067 mm).
 4. Door Construction: Aluminum frame with:
 - a. Panels of 16 gauge (1.5 mm) painted galvanized steel.
 - b. Panels of 3/16 inch (5 mm) clear Plexiglas with 16 gauge (1.5 mm) galvanized steel kick plate.
 - c. Panels of 3/16 inch (5 mm) bronze Plexiglas with 16 gauge (1.5 mm) galvanized steel kick plate.
 - d. Panels of 1/4 inch (6 mm) laminated safety glass with 16 gauge (1.5 mm) galvanized steel kick plate.
 - e. D-Handle Pull: 12 inch (305 mm) offset D-Handle.
 5. Power Door/Gate Operator: Automatically opens the door/gate when platform arrives at a landing. Will also open at landing by pressing call button.
 - a. ADA Compliant and obstruction sensitive.
 - b. Low voltage, 24 VDC with all wiring concealed.
 - c. Location:
 - 1) Lower Landing: Door.
 - 2) Intermediate Landing: Door.
 - 3) Upper landing: Door or Gate.
- G. Lift Components:
1. Machine Tower: Custom aluminum extrusion.
 2. Base Frame: Structural steel.
 3. Platform Side Wall Panels: 42-1/8 (1070 mm) inches high. 16 gauge (1.5 mm) galvanized steel sheet. Custom aluminum extrusion tubing frame.
 4. Enclosure Panels:
 - a. 16 gauge (1.5 mm) painted galvanized steel sheet.
 - b. 3/16 inch (5 mm) clear Plexiglas.

- c. 3/16 inch (5 mm) bronze Plexiglas.
 - d. 1/4 inch (6 mm) laminated safety glass.

- H. Enclosure Height Above Upper landing:
 - 1. Enclosure shall extend 42-1/8 inches (1070 mm) above the upper landing level
 - 2. Enclosure shall extend 83-3/4 inches (2127 mm) above the upper landing level.

- I. Infill Panel Kit: Provide 16 gauge (1.5 mm) galvanized panels and mounting hardware to cover void between side of enclosure, drive mast and adjacent wall at the following locations:
 - 1. Lower landing.
 - 2. Intermediate landing.
 - 3. Upper landing.

- J. Base Mounting and Access to Lift at Lower Landing:
 - 1. Floor Mount: Base of lift shall be mounted on the floor surface of the lower landing. For access onto the platform provide a ramp of 16 gauge (1.5 mm) galvanized steel sheet with a slip resistant surface.
 - 2. Pit Mount: Lift to be mounted in pit with dimensions to meet manufacturers requirements for the platform size specified. Pit construction shall be in accordance to Section 03300.

- K. Options:
 - 1. Enclosure Dome: Plexiglas type to cover top of lift enclosure.
 - 2. Ventilation System: Two exhaust fans, thermostatically controlled with a 12 VDC battery backup. Requires continuous mains power for Hydraulic Drive.
 - 3. Outdoor Protection: Lift shall include modifications recommended by manufacturer for reliable performance in outdoor climate of project site.

- L. Leadscrew Drive:
 - 1. Drive Type: Self-lubricating acme screw drive.
 - 2. Emergency Operation: Manual handwheel device to raise or lower platform.
 - 3. Battery Powered Emergency Lowering: Battery powered platform lowering device that automatically activates in the event of power failure. Allows passenger to drive platform downward to lower landing. Does not operate lift in up direction.
 - 4. Safety Devices:
 - a. Integral safety nut assembly with safety switch.
 - 5. Travel Speed: 10 fpm (3.0 m/minute).
 - 6. Motor: 2.0 hp (560 W).
 - 7. Power Supply:
 - a. 120 VAC single phase; 60 Hz on a dedicated 20 amp circuit.
 - b. 208/240 VAC, single phase; 50 Hz on a dedicated 16 amp circuit.

- M. Hydraulic Drive:
 - 1. Drive Type: Chain hydraulic.

2. Emergency Operation: Manual device to lower platform and use auxiliary battery power to raise or lower platform.
3. Safety Devices:
 - a. Slack chain safety device.
 - b. Shoring device.
4. Travel Speed: 17 fpm (5.2 m/minute).
5. Motor: 3.0 hp (2.2 kW); 24 volts DC.
6. Power Supply:
 - a. 120 VAC single phase; 60 Hz on a dedicated 15 amp circuit.
 - b. 208/240 VAC, single phase; 50 Hz on a dedicated 16 amp circuit.
 - c. Powered by building continuous mains converted to 24 VDC and equipped with auxiliary battery backup power system capable of running lift up and down for a minimum of 5 trips with rated load. Required for high use lifts and lifts equipped with a fan and ventilation system.
 - d. Powered by continuously charged battery system.

N. Platform Controls: 24 VDC control circuit with the following features.

1. Direction Control: Constant pressure rocker switch.
2. Direction Control: Illuminated tactile and constant pressure push buttons with dual platform courtesy lights and safety light.
3. Illuminated and audible emergency stop switch shuts off power to lift and activates audio alarm equipped with battery backup.
4. Keyless operation.
5. Keyed operation.
6. Emergency Telephone: Platform shall be equipped with ADA compliant autodialer telephone with a stainless steel faceplate. Telephone shall operate in the event of power failure. A telephone line shall be supplied to the lift site as specified under Division 16.
7. Arrival Gong and Digital Floor Display.

O. Call Station Controls: 24 VDC control circuit with the following features.

1. Direction Control: Constant pressure rocker switch.
2. Direction Control: Illuminated tactile and constant pressure push buttons with illuminated "In Use" indicator.
3. Keyless operation.
4. Keyed operation.
5. Call Station Mounting:
 - a. Lower:
 - 1) Frame mounted.
 - 2) Wall mounted surface.
 - 3) Wall mounted recessed.
 - b. Intermediate:
 - 1) Frame mounted.
 - 2) Wall mounted surface.
 - 3) Wall mounted recessed.

- c. Upper:
 - 1) Frame mounted.
 - 2) Wall mounted surface.
 - 3) Wall mounted recessed.
- P. Safety Devices and Features:
 - 1. Grounded electrical system with upper, lower, and final limit switches.
 - 2. Tamper resistant interlock to electrically monitor that the door is in the closed position and the lock is engaged before lift can move from landing.
 - 3. Pit stop switch mounted on mast wall.
 - 4. Electrical disconnect shall shut off power to the lift.
- Q. Finishes
 - 1. Aluminum Extrusions: Champagne anodized finish.
 - 2. Ferrous Components: Electrostatically applied baked powder finish, fine textured.
 - a. Color: Satin Grey, RAL 7030.
 - 3. Lift Finish: Baked powder coat finish, color as selected by the Architect from manufacturers optional RAL color chart.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify shaft and machine space are of correct size and within tolerances.
- C. Verify required landings and openings are of correct size and within tolerances.
- D. Verify electrical rough-in is at correct location.
- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install platform lifts in accordance with applicable regulatory requirements including ASME A 17.1, ASME A 18.1 and the manufacturer's instructions.
- B. Install platform lifts in accordance with applicable regulatory requirements including CSA B355, and manufacturer's instructions.

- C. Install system components and connect to building utilities.
- D. Accommodate equipment in space indicated.
- E. Startup equipment in accordance with manufacturer's instructions.
- F. Adjust for smooth operation.

3.4 FIELD QUALITY CONTROL

- A. Perform tests in compliance with ASME A 17.1 or A18.1 and as required by authorities having jurisdiction.
- B. Perform tests in compliance with CSA B355 and required by authorities having jurisdiction.
- C. Schedule tests with agencies and Architect, Owner, and Contractor present.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION