Machine Roomless Specifications

Division 14205
Advantage Home Elevator
Residential Elevator (MRL) Machine Room Less

Part 1 GENERAL

1.01 SECTION INCLUDES
- A. Residential elevator with variable frequency speed control geared machine with counter weight chain drive.

1.02 WORK INCLUDED
- A. Furnish all labor, materials and equipment necessary to assemble and install a residential elevator complete with rail sections, drive motor, controller, weight frame, weights, sling, tape landing system, plug & play wiring and controls required for proper operation, platform and cab.

1.03 WORK BY OTHERS
- A. Construct a hoistway of the proper size for the car size specified complete with structure and reinforcements necessary to support the elevator.
  1. Hoistway size: See manufacturer's drawings for size required for the cab size specified.
  2. Hoistway shall be plumb vertically with maximum deviation of ¼" in 20 feet.
  3. Attach vertical members in hoistway per manufacturer's recommendations to a load bearing wall that is able to handle the stress of the rail loads.
  4. Pit Construction: Pit depth is 8" preferred, minimum is 6", below finished floor level of the lowest landing. The pit floor must be of sufficient strength as to withstand a minimum 3400 pound impact.
  5. Provide a lockable service door of adequate size (18" x 24" minimum) for access to hoistway drive equipment.

- B. ELECTRICAL
  1. Provide a dedicated line, 230 volt, 1 phase, 60 Hz, for main power supply; The main line supply shall consist of L1 (hot), L2 (hot), dedicated neutral and ground installed through a lockable fused disconnect with an interlock auxiliary contact kit.
  2. Provide a dedicated line, 115 volt, 1 phase, 60 HZ, for cab lighting; The car light supply shall consist of hot, neutral and ground installed through a lockable fused disconnect or circuit breaker.
  3. Provide telephone line to controller.
  4. Provide a system to maintain hoistway temperature between 50 and 90 degrees Fahrenheit.

1.04 REFERENCES
- A. American Society of Mechanical Engineers (ASME) publication: ASME A.17.1 / CSA - B44 "Safety Codes for Elevators and Escalators", Section 5.3.
- B. National Fire Protection Association (NFPA) publication: NFPA 70 National Electrical Code.

1.05 PROJECT REQUIREMENTS
- A. Total travel: _____ (50'-0" maximum) lowest level to top level.
- B. Stops:_____ (4 maximum)
- C. Load Capacity: _____ (950 Lbs. or 750 Lbs.)
- D. Speed: _____ (40 Feet per minute nominal)
- E. Pit Depth: _____ (6" minimum, 8" preferred)
- F. Overhead: _____ (9'-2" minimum based on 7'-0 cab height)

1.06 SUBMITTALS:
- A. Shall be in accordance with Section 01300 Submittals.
- B. Shall include manufacturer's product data and requirements.
- C. Shop drawings showing:
  1. Field requirements
  2. Hoistway dimensions
  3. Cab elevations and cab and gate finishes
  4. Fixture Elevations and finishes

1.07 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer's Qualifications: Company whose primary business is the manufacturing of residential and commercial elevator systems and components. Company shall have a written quality assurance program in affect.
   2. Installer Qualifications: Installer must be approved by manufacturer and be experienced in assembly and erection of residential elevators. Installer must be trained for the specific equipment being installed.

B. Regulatory Requirements: The manufacture and installation shall be in accordance with all Federal, State and Local Codes and Ordinances. The installer shall be responsible for verifying and complying with the requirements of the local authority having Jurisdiction and all local codes.

1.08 DELIVERY, HANDELING AND STORAGE

A. All material shall be packaged to protect from damage during shipping and handling. Material shall be immediately inspected upon delivery. Material shall be kept in a clean and dry environment until installed. Cab panels shall be stored to prevent warpage or bowing.

1.09 WARRANTY

A. Elevator shall be provided with a 2 year limited manufacturers parts warranty.

1.10 MAINTENANCE

A. Maintenance of elevator and components shall be done by a qualified elevator technician. Service shall not exceed 12 month intervals.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer: Elevator shall be Model "MRL" as provided by Advantage Home Elevator, division of Elevator Equipment Corporation.

B. Substitutions: No substitutions shall be considered unless written request outlining all features have been submitted and approved by Architect at least 10 days prior to bid date.

2.02 COMPONENTS

A. Modular rail system: Consisting of two 6 ¼ lb. tee rails factory welded to 11 gauge channels complete with steel mounting plates, splice plates, shims and zinc plated hardware. Modular rail system shall be in maximum 10 foot sections and shall act as counterweight guide system.

B. Drive and Controller system
   1. U.L. Listed, field programmable micro-processor with a variable frequency speed drive controller with onboard diagnostic, fault log, run counter, and automatic floor homing. Controller shall send fault flash codes to the hall stations to diagnose operational faults.
   2. Geared machine with counterweight chain drive.
   3. 3 H.P. motor with electromechanical brake and manual release.
   4. Uninterruptible power supply (UPS) for lowering in case of power failure. UPS shall also power an emergency light in the cab and power an emergency alarm. The UPS shall have an automatic recharging system.
   5. Provide tape selector landing system with 3" wide steel tape and magnets. Selector box shall be accessible from behind the car operating panel.
   6. Provide two upper and one lower final limits.
   7. Motor, controller and landing system shall be factory tested prior to shipment.

C. Sling and Platform
   1. Shall be designed to carry car and specified capacity.
   2. Sling shall be factory painted.
   3. Sling shall be provided with a slack chain safety device to mechanically activate and stop the downward travel due to a slack chain. This safety is also equipped with a switch, when activated, interrupts the drive circuit of the controller.
   4. Sling shall be provided with four UHV guide shoes.

5. Provide a platform toe guard at each cab entrance.
6. Platform shall have a removable subfloor that will accept a ¼" to ¾" finish floor. Finish floor by others.

D. Wiring
1. Provide traveling cable for electrical lights, telephone and controls in car.
2. Provide Cat-5 "Plug & Play" connection wiring from controller to hall stations and interlocks. All wiring shall be insulated, flame retardant, and moisture proof copper wiring installed in flexible aluminum conduit.

E. Hoistway Door
1. 3'-0" wide x 6'-8" high minimum
2. Elevator Contractor or Owner shall provide and install hoistway doors, frames and hardware. The type and installation of frames shall comply with ASME A.17.1/CSA - B44, all state and local codes and per manufacturer's approved shop drawings.
3. Hoistway doors shall have U.L. Listed electro-mechanical door interlocks which locks hoistway door when cab is not present and interrupts electrical power when door is not closed. The door shall remain locked when the cab is not in the landing zone.

F. Cab
1. Nominal inside dimensions shall be (choose one) 36" x 48"; 40" x 54"; 36" x 60"; or up to 15 sq. ft. and shall be ____ high. (80" thru 96") 84" standard.
2. Cab enclosure shall be securely attached to sling and platform. The walls and ceiling shall be minimum ¾" thick. The platform shall be made of 1" thick AC plywood. Style and finish shall be as marked below:
Walls and Ceiling:

____ Flat wall panels (standard):

____ Antique White ____ Black
____ Desert Glow ____ White
____ First Light ____ Natural Oak
____ Brunette Pinstripe ____ Harvest Cherry
____ Autumn Glow ____ English Oak

____ Unfinished hardwood veneer panels:

____ Birch (std) ____ Oak (std)
____ Maple (std) ____ Cherry (opt)
____ Mahogany (opt) ____ Alder (opt)
____ Hickory (opt) ____ Walnut (opt)

____ Optional upgrade unfinished recessed wall panels: (choose species from veneers above)

____ Optional upgrade unfinished raised wall panels: (choose species from veneers above)

____ Optional Thermofoil inset designer paneling:
____ Kasei Maple ____ Sakura Cherry
____ Mahogany ____ Sienna Wild Apple

3. Gate shall be accordion type with a normally opened mechanical switch to indicate that the gate is closed. Type and color shall be as marked below:
Car gate type:
____ Accordion solid panels (std)
____ Accordion gate with 2 clear panels
____ Accordion gate with all clear panels
Car gate color:
____ Antique White (std) ____ White (std) ____ Black (std) ____ Cherry (std) ____ Light Oak (std)
____ Walnut (std) ____ Birch (std) ____ Chalk (std) ____ Dark Oak (std) ____ Mahogany (std)
____ Automatic gate operator (opt): Qty: ____
____ Automatic door operator (opt): Qty: ____
4. Handrail: Provide one mounted on cab wall. Handrail shall be a 1 ½" diameter metal with return to wall ends or a straight ½" x 3" wood to match cab finish.
5. Telephone: Provide one surface mounted white phone.
____ Optional recessed phone box.
6. Car Operating Panel (COP): Provide one momentary pressure dual LED illuminated button for each landing, emergency stop switch, alarm button and car light switch.
7. Hall Stations: At each hoistway door, provide one hall station with dual LED and Car Here light.

8. Fixture Finishes: Finish for COP, hall station, metal handrail and phone box if specified shall be: (choose one)
   ____ Brushed Stainless Steel (std)
   ____ Brushed Brass (std)
   ____ Oil Rubbed Brass (opt)
   ____ Mirror Stainless Steel (opt)
   ____ Mirror Brass (opt)
   ____ Flat Fixtures (opt)
9. Cab Lighting: Provide two recessed MR-16
   halogen overhead light fixtures with satin trim rings. Lights shall turn on automatically when car is in use and turn off with a timer circuit.

2.02 ACCESSORIES (optional)

A. Pocketed gates.
B. Scissor gates.
C. Car and/or hall station key switch.
D. Automatic car gate operator and with kinetic energy break-away device and COP Door Open Button.
E. Automatic hoistway door operators.

Consult factory for items not listed.

PART 3 EXECUTION

3.01 INSTALLATION

A. Inspect the hoistway and determine if the hoistway meets the manufacturer's requirements for clearances and plumbness.
B. All components shall be assembled and erected in strict compliance with manufacturer's printed instructions and applicable codes.
C. All wiring shall be in accordance with the wiring diagram furnished by the manufacturer, NEC, and local electrical codes.

3.02 FIELD QUALITY CONTROL

A. Static/Running Load Test: All load rating and safety factors shall meet or exceed those specified in ASME A17.1/CSA-B44.

3.03 ADJUSTING

A. Elevator Contractor shall test the elevator to assure proper operation under all conditions of use. Make proper adjustments and review operating components for proper operation.

3.04 OWNER INSTRUCTIONS

A. Elevator Contractor shall provide the owner or owner's representative with proper operation instructions prior to releasing elevator for use.

FOR FURTHER INFORMATION AND DETAILS, PLEASE CONTACT ADVANTAGE HOME ELEVATOR 888-877-4762 OR CONTACT US THRU:

WWW.ADVANTAGEHOMEELEVATOR.COM

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