

# Specification for Traction Passenger Elevators

## Part 1 General

### 1.01 Description

A. This specification is intended to cover the complete furnishing and installing of one traction passenger elevator as manufactured by Minnesota Elevator, Incorporated or approved equal. All work shall be performed in a professional manner and is to include all work and material in accordance with the drawings and as specified herein. In all cases where a device or part of the equipment is herein referred to in the singular number, it is intended that such reference shall apply to as many such devices as are required to complete the installation.

### 1.02 Work not included

A. To complete this installation, the following items must be performed or furnished by other than the elevator contractor in accordance with governing codes:

1. A properly framed and enclosed legal hoistway, including venting as required by the governing code or authority. Temperature in hoistway to be maintained between 40° F. and 90° F.
2. Suitable machine room with legal access and ventilation, with concrete floor. Temperature in machine room to be maintained between 55° F. and 90° F.
3. Adequate rail bracket supports, bracket spacing as required by governing code. Separator beams and machine beams where required.
4. Dry pit reinforced to sustain normal vertical forces from rails where required and impact loads from buffer.
5. Adequate support for sill angle across full width of hoistway at each landing. Vertical surfaces of entrance sill supports to be plumb, one above the other, and square with the hoistway. Finished floor and grout, if required, between door frames to sill line.
6. Hoistway walls are to be designed and constructed in accordance with the required fire rating including where penetrated by elevator fixture boxes and to include adequate fastening to hoistway entrance assemblies. Front entrance walls are not to be constructed until after door frames and sills are in place.
7. Any cutting, including cutouts to accommodate hall signal fixtures, patching and painting of walls, floors or partition is together with finish painting of doors and frames.

8. Mechanical requirements as follows:

a. Machine room venting.

9. Electrical requirements as follows:

a. All electric power for lights, tools, hoists, etc. during erection as well as electric current for starting, testing and adjusting the elevator.

b. A fused disconnect switch for each elevator per the National Electrical Code with feeder or branch wiring to controller. Size by elevator contractor.

c. A 120 volt, AC, 15 amp, single phase power supply with fused SPST disconnect switch for each elevator, with feeder wiring to each controller for car lights.

d. Suitable light and convenience outlets in machine room with light switches located within 18 inches of lock jamb side of machine room door.

e. Convenience outlet and light fixture in pit with switch located adjacent to the access door.

10. Guarding and protecting the hoistway during construction. The protection of the hoistway shall include solid panels surrounding each hoistway opening at each floor, a minimum of 48 inches high. Hoistway guards to be erected, maintained and removed by others.

11. Sills, struts, headers, hanger covers, and frames will be erected by vendor and set in proper relation to the car guide rails. Such erection is to be accomplished prior to construction of rough walls which is the purchaser's responsibility. Door panels will be installed by vendor after the wall erection is completed.

### 1.03 Quality

A. All work shall be performed in accordance with (the edition adopted by the governing authority as of the date bids are taken) of the American National Standard Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks (ASME A17.1), the National Electrical Code and/or such State and local codes as may be applicable.

### 1.04 Submittals

A. Shop Drawings: The elevator contractor shall prepare drawings showing the general arrangement of the elevator equipment and cab. These drawings shall be approved and the hoistway size guaranteed before proceeding with fabrication and installation of the elevator.

### 1.05 Permits taxes and licenses

A. All applicable sales and use taxes, permit fees and licenses, of the date bids are taken, shall be paid for by the elevator contractor.

### 1.06 Warranty

A. Minnesota Elevator, Inc. products are guaranteed for 24 months from the date of shipment from our plant against any manufacturing defects in material and workmanship, which may develop in service for which they were intended or recommended.

#### 1.07 Maintenance

A. A quality maintenance service consisting of regular examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of three (3) months after the elevator has been turned over for the customer's use. All work shall be performed by competent employees during regular working hours of regular working days and shall include emergency 24 hour callback service. This callback service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.

#### 1.08 Job conditions

A. Temporary Use of Elevator: Should any elevator be required for use before final completion, others shall provide without expense to elevator contractor, if required, temporary car enclosures, requisite guards or other protection for elevator hoistway openings, main line switch with wiring, necessary power, signaling devices, lights in car and elevator operators together with any other special labor or equipment needed to permit this temporary usage. The elevator contractor shall be reimbursed for any labor and materials which is not part of the permanent elevator installation and which is required to provide temporary elevator service. In addition, the elevator contractor's temporary acceptance form shall be executed before any elevator is placed in temporary service, and the cost of power and operation, maintenance or the equipment and rehabilitation of equipment shall be paid for by others.

## Part 2 Products

#### 2.01 Elevator Equipment

A. Description of equipment:

1. Capacity: \_\_\_\_\_ lbs.
2. Speed: \_\_\_\_\_ FPM
3. Operation: Simplex Selective/Collective
4. Car Platform Size: \_\_\_\_'-\_\_\_\_" wide by \_\_\_\_'-\_\_\_\_" deep

5. Clear Hoistway Size: \_\_\_\_'-\_\_\_\_" wide by \_\_\_\_'-\_\_\_\_" deep
6. Pit depth \_\_\_\_\_
7. Overhead \_\_\_\_\_
8. Travel (verify): \_\_\_\_'-\_\_\_\_"
9. Power Supply: \_\_\_\_\_ VAC (verify), 3 phase, 60 cycle
10. Stops: \_\_\_\_\_
11. Openings front \_\_\_\_\_
12. Openings rear \_\_\_\_\_

#### B. Rails

Steel elevator guide rails shall be furnished to guide the car, erected plumb and securely fastened to the building structure.

#### C. Wiring

All wiring and electrical connections shall comply with the governing codes. Insulated wiring shall have flame retardant and moisture-proof outer covering, and shall be run in conduit tubing or electrical wireways. Traveling cables shall be flexible and suspended to relieve strain on individual conductors.

#### D. Leveling device

The elevator shall be provided with an automatic leveling device which will bring the car to a stop within 1/4" of the landing level regardless of load or direction of travel. Landing level will be maintained within the leveling zone irrespective of the hoistway doors being open or closed.

#### E. Pit switch

An emergency stop switch shall be located in the pit.

F. Controller: Non-proprietary, microprocessor, AC, variable voltage, variable frequency.

#### G. Machine Location

Overhead \_\_\_\_\_

Basement \_\_\_\_\_

Adjacent at top landing \_\_\_\_\_

#### H. Motor

AC traction hoisting motor as manufactured by Reuland or Approved equal. AC motor sized to accommodate rated car speed and capacity.

I. Machine

Hollister-Whitney geared traction machine.

J. Ropes

Provide 8x19 traction steel cables of sufficient quantity for application. One (1) 8x19 traction steel governor cable.

K. Platform

The car platform shall be of steel construction with a fire rated plywood subflooring. Steel, code compliant, toe guard. Diagonal braces from toe guard bottom to platform stringers.

L. Car frame

A suitable car frame fabricated from formed or structural steel members shall be provided with adequate bracing to support the platform and car enclosure. Spring or oil buffers as specified by code to stop car. Guides shall be mounted on top and bottom of the car frame to engage the guide rails.

M. Counter-weight rails

Steel elevator guide rails shall be furnished to guide the counterweight, erected plumb and securely fastened to the building structure.

N. Safety, governor

Properly sized safeties and governor for ascending car protection to meet code requirements will be supplied.

2.02 Car and hall fixture

A. Car operating panel

1. Tilt-car operating panel shall be furnished inside the cab. Panel will contain a bank of mechanical illuminated buttons marked to correspond to the landings served, an emergency stop button, digital car PI, door open and door close buttons.
2. The emergency call button shall be connected to a bell that serves as an emergency signal. Switches for lights and fan shall also be located in the car operating panel.
3. Car operating panel shall contain all necessary operating components, buttons, and switches as required by ASME A.17.

B. ADA compliant phone included in the car operating panel. Necessary wires shall be included in the car traveling cable. Connections to the building service system shall be furnished by owner.

C. Phase II fire operating instructions are to be displayed according to code on the car operating panel.

D. Elevator number, "No Smoking", and capacity in pounds are to be on an inlaid plate

on the car operating panel.

E. Top and bottom access switches included in hall stations.

F. Car lantern provided for each cab opening.

G. Hall stations:

1. When a call is registered by momentary pressure on a landing button, that button shall become illuminated and remain illuminated until the call is answered.
2. The designated fire return floor shall include a fireman's emergency key switch that meets state and local requirements.

H. Phase I fire instructions are to be engraved or silk screened on the designated fire return hall station faceplate.

I. Handicap markings

1. Braille plates shall be furnished for car buttons, car controls, and hoistway entrance jams in compliance with NEII and ADA handicap requirements.
2. Car Braille plates are to be flush mounted and permanently attached.

J. Audible signal

An audible signal shall sound in the car to tell a passenger that the car is stopping at the floor served by the elevator.

## 2.03 Car Enclosure

A. Canopy: 14 gauge steel, powder coated.

B. An emergency exit will be provided as required by code.

C. Ceiling:

1. Drop ceiling, translucent eggcrate or Lexan diffuser panels in aluminum frame, Fluorescent lighting.
2. Downlight ceiling, #4 Stainless Steel, LED lighting.

D. Front Return Wall(s): 16 gauge #4 Stainless Steel.

E. Transom: 16 gauge #4 Stainless Steel.

F. Car Door(s): #4 Stainless Steel clad.

G. Car Sill(s): Aluminum.

H. Ventilation: Two-speed exhaust fan in car canopy controlled by key switch in car operating panel.

I. Side Walls and Rear Wall:

1. 16 gauge #4 stainless steel
2. 16 gauge Steel, powder coated
3. laminate panel
4. removable raised laminate panel with powder coated reveals

J. Handrail(s): #4 Stainless Steel ½"x 1 ½"

K. Infrared curtain unit (ICU) door protection.

L. Accessories:

Pad & buttons

## 2.04 Entrances

A. Passenger type hoistway entrances with UL label, hollow metal, horizontal sliding doors will be provided.

B. Hoistway Doors: \_\_\_\_\_'-\_\_\_\_\_ " wide by \_\_\_\_\_'-\_\_\_\_\_ " high.

C. Door(s): #4 Stainless Steel or Powder coat steel.

D. Frame finish: 16 ga, #4 Stainless Steel or Powder coat steel.

E. Entrance Columns: 16 gauge #4 Stainless Steel.

F. Car Sill(s): Aluminum.

G. Entrance type and clear opening size will be in accordance with data at the beginning of this proposal.

H. Entrances will include unit frames, flush design door panels, sight guards, dust covers, and necessary hardware.

I. Fascia, hanger covers, toe guards, dust covers, and structural members will be fabricated and finished in accordance with vendor standards.

## Part 3 Execution

### 3.01 Inspection

A. Prior to beginning the installation of elevator equipment, examine the following and verify that no irregularities are existing that would affect quality or execution of work as specified.

B. Hoistway condition:

1. Hoistway size and plumbness
2. Sill pockets
3. Sill supports

C. Do not proceed with installation until previous work conforms to project requirements.

### 3.02 Installation

A. Install the elevator in accordance with accepted manufacturer's directions and ANSI A17.1.

B. Install machine room equipment with clearances, hoists or other means for each maintenance.

C. Install items so that they may be removed by portable hoists or other means for maintenance.

### 3.03 Field quality control

A. Provide all personnel, equipment and instruments required for inspection and testing.

B. Have acceptance inspection as required by local authority performed by enforcing agency.

### 3.04 Adjust and clean

A. Adjustments

Adjust brackets, controllers, leveling switches, generators, limit switches, stopping switches and safety governors to operate to within accepted design tolerances.

Adjust car leveling devices so car stops within 1/4" of finished floor.

Lubricate all equipment in accordance with accepted manufacturer's instructions.

B. Clean Up

Removal from hoistway surfaces all loose materials and filings resulting from this work.

Clean machine room floor of dirt, oil and grease.

Remove crating and packing materials from premises.

End of section