

# CANTON ELEVATOR, INC.

## SPECIFICATIONS FOR ONE HYDRAULIC PASSENGER ELEVATOR – TRADESMAN

**CHOICE IS LISTED IN BRACKETS [] CHOOSE ONE**

**OPTIONAL EQUIPMENT IS LISTED BY PARAGRAPH MARKED OPT. USE AS REQUIRED**

### PART 1 – GENERAL

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| <p>1.01 <b>WORK INCLUDED:</b> Furnish all materials, labor, equipment and services required for the complete installation of the oil hydraulic passenger elevator as specified herein.</p> <p>1.02 <b>WORK NOT INCLUDED:</b> The following items shall be furnished by other trades, under other sections of the specifications.</p> <ol style="list-style-type: none"><li>1. A clear hoistway of the dimensions shown, plumb to within 1".</li><li>2. Venting of hoistway as required by code.</li><li>3. A dry pit, reinforced to sustain vertical loads as shown.</li><li>4. For hole type installations: A 30" square hole is to be left in the pit floor and is to be grouted in by others after jack unit is installed.</li><li>5. A pit ladder for each elevator of non-combustible material, constructed and installed in accordance with code, and extending from pit floor to 48" above sill of lowest hoistway door.</li><li>6. Adequate supports for guide rail brackets, to support horizontal loads as shown. Support locations must not exceed spacing as required by code, and as shown. When maximum spacing is exceeded, rail reinforcement, or additional supports must be provided at purchaser's expense.</li><li>7. Guide rail support locations must be steel, brick, concrete, or filled concrete block. If inserts are furnished, these are to be installed by others, in locations shown, as walls are erected. If rail brackets are attached to steel beams, fireproofing is to be applied AFTER rail brackets are installed.</li><li>8. Projections or recesses in the hoistway of 4" or more, on sides not used for loading or unloading, shall be beveled at an angle not less than 75 degrees from the horizontal.</li><li>9. A hoist beam, hook, or eyebolt shall be furnished at the top of the hoistway, located on centerline of car</li></ol> | <p>and guides - designed to lift load required.</p> <ol style="list-style-type: none"><li>10. Entrance walls accepting passenger type entrances are to be erected (or rough opening as shown filled in) after door frames and sills are installed.</li><li>11. A suitable sill support and recess as shown, full width of the hoistway, grouted by others after door sills are installed.</li><li>12. Required sleeves in hoistway wall, or any trenching and filling, for oil line and wiring duct for each elevator, as shown.</li><li>13. Any cutting and patching of building construction required to install signal fixtures, or other elevator apparatus, and any repairs, grouting, patching, or painting made necessary by same.</li><li>14. Barricades as may be required during construction to meet code requirements.</li><li>15. A machine room properly lighted and ventilated per code requirements with temperature maintained between 65 and 95 degrees. Door of size to permit access for hydraulic machine, to be self-closing and locking, but openable from inside without key.</li><li>16. A fused disconnect switch for each elevator, of ample capacity, with wiring to the elevator motor starter control. Disconnecting means shall disconnect the normal power supply as well as emergency supply, when provided.</li><li>17. Light and switch in elevator room, with switch located adjacent to access door. Convenience outlet in machine room.</li><li>18. Light, switch and convenience outlet in elevator pit, light switch accessible from lower landing opening. Install light to clear elevator car.</li><li>19. Suitable 110V service connected to terminals in elevator controller for car light service (elevator contractors option).</li></ol> |
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20. Heat, and product of combustion sensors located in each elevator lobby with necessary wiring to elevator control panel, when fire service is specified.
21. Telephone instrument in elevator car, and wiring from building source to elevator control panel.
22. Furnishing of any special intercom, paging, or television systems, including wiring from building source to elevator control panel.
23. Necessary power for installing, erecting, and testing, without charge.
24. Any features or equipment required, but not specifically specified as being furnished by elevator contractor.
25. A safe and dry space to store elevator equipment and tools before and during construction.
26. Floor covering in elevator cab.

1.03 **CODES:** This work shall be done in accordance with the requirements of the National Electrical Code and the latest American Standard Safety Code for Elevators, Dumbwaiters and Escalators, including all revisions and authorized changes in effect on date of this specification and all local codes which govern the requirements of this installation.

1.04 **PERMITS, TESTS AND INSPECTIONS:** The Elevator Contractor shall furnish at his expense, all necessary State Inspections and permits pertaining to the elevator, elevator installation and functioning, and make such tests as are required by the regulations of such authorities. Tests shall be made in the presence of the authorized representatives of such authorities.

## PART 2-MATERIALS

### 2.01 GENERAL DATA.

- A. **Type:** Oil Hydraulic Passenger Elevator.
- B. **Jack Unit Location:** [In-Ground – Holed] [Dual Jack Holeless]
- C. **Quantity:** [Specify Quantity]
- D. **Capacity:** [2000#] [2500#]
- E. **Speed:** [100 FPM Avg.] [125 FPM Avg.]
- F. **Travel:** [Specify travel distance] Floor to Floor.

### G. **No. of Landings and Openings Served:**

H. **Car Platform:**  
[6'-0" x 5'-1"] (For 2000# Capacity).  
[7'-0" x 5'-1"] (For 2500# Capacity).

I. **Operation:** Simplex Selective Collective.

J. **Entrance Type:** Single Slide.

K. **Opening Size:**  
[3'-0" x 7'-0"] (For 2000# Capacity)  
[3'-6" x 7'-0"] (For 2500# Capacity)

L. **Power Supply:** [208] [220] [240] [440] [460] [480] [575] Volt, 3 Phase, 60 HZ. A.C.

M. **Machine Room:** Elevator equipment room shall be located at the lower landing adjacent to the hoistway.

## 2.02 HOISTWAY EQUIPMENT

### A. **Guide Rails**

1. Standard steel tee section.
2. Rail support brackets.
  - a. Spaced no more than 14'-0" apart.
  - b. Forged clips and suitable fastenings.

### B. **Car Guide Shoes**

1. Slide and swivel type.
  - a. Replaceable oilless insert.
  - b. Adjustable.

### C. **Car Frame and Platform**

1. Side post construction of structural and formed steel shapes.
2. Platform
  - a. Structural and formed steel framing.
  - b. Double layer plywood flooring.
  - c. Fireproofed on underside.

### D. **Buffers**

1. Spring type.

### E. **Wiring**

1. Car top inspection station with work light and alarm bell.
2. Pit stop switch.

3. Hatch wireway duct with direct mounted adjustable terminal switches.
4. Traveling cable and hatch wire to be continuous from car or hatch to machine room. No hatch junction box.
5. Phone cable from car to controller.
6. Leveling, floor, and intermediate floor slow down switches on car top for ease of adjustment.

**F. Jack Unit  
(Specify as below for in-ground holed type)**

1. Direct plunger type – under car.
2. Wrap cylinder with corrosion protective materials.
3. Integral mounting/support plate with leveling bolts.
4. Oil collection groove and drain connection in head assembly.
5. Jack hole by elevator contractor.

**Specify as below for holeless type)**

1. Dual jack units – Located on each side of car.
2. Oil collection groove and drain connection in head assembly.
3. Partial jack holes, if required, by elevator contractor.

**G. Supply Piping and Fittings**

1. Shut Off Valve.

**2.03 MACHINE ROOM EQUIPMENT**

**A. Power Unit**

1. Electro – Hydraulic.
2. Self contained – all components inside tank.
3. Motor – submersible type, especially designed for hydraulic elevator duty.
  - a. Built in thermal contact to signal over heat condition.
4. Pump – Positive Displacement Type.
5. Direct Drive Coupling.
6. Oil Control Unit – Single Unit Valve Assembly.
  - a. Up Start.
  - b. Relief Valve.
  - c. Check Valve.
  - d. Up/Down Leveling.
  - e. Main Down Valve.
    1. Manual Lowering Device.
  - f. Integral Pressure Gauge.
7. Sound Isolation.
  - a. Between motor frame and tank.
  - b. Isolation pads under power unit.

8. Silencer Device built into power unit.
9. Oil level indicator.
  - a. Minimum 10 gal. Reserve.

**B. Motor Starter**

1. [Across the Line] [Wye-Delta] Starting. (Note: 2500# capacity holeless and 2500## capacity 3 Indg. Holed type – with 30 H.P. motor, are always Wye-Delta.)
2. Provided in enclosure mounted on front of power unit.
  - a. Motor leads prewired.
3. Overload contacts.

**C. Controller**

1. Microprocessor type.
  - a. With on-board diagnostic devices. **Do not provide controller that requires special “hand help” or attached diagnostic devices to trouble shoot.**
2. Provided in enclosure mounted on front of power unit.
  - a. Valve coils prewired.
3. Low oil control. Car to lower & shut down after pre-set time.

- OPT (Number) Provide Reverse Phase Relay.  
 OPT (Number) Provide UL Label on Controller.  
 OPT (Number) Include Battery Emergency Lowering Unit.

**2.04 SIGNAL FIXTURES**

**A. Car Operating Panel**

1. Illuminated push buttons.
2. Stop switch as required.
3. Door open/Door close push buttons.
4. Keyed car light and fan switch.
5. Alarm bell push button.
6. Independent service key switch.
7. Telephone cabinet with hinged door.
8. Emergency light (and emergency bell provision).
9. Handicap symbols – tactile.
10. #4 stainless steel cover – applied type.

**B. Hall Operating Stations**

1. Illuminated pushbuttons.
2. 1/2 Gong
  - a. One gong to indicate car to travel “up” and two gongs to indicate car to travel “down.”
3. #4 stainless steel cover.

**C. Car Direction Indicator**

1. Located in elevator cab strike jamb.
2. 1/2 Gong.
  - a. One gong to indicate car to travel “up” and two gongs to indicate car to travel “down.”
3. #4 stainless steel cover

OR

**C1. Hall Lanterns and Gongs**

1. Located above door opening at each floor.
2. 1/2 Gong.
  - a. One gong to indicate car to travel “up” and two gongs to indicate car to travel “down.”
3. #4 stainless steel cover.

**D. Car Position Indicator – (Always included for (3) landing elevator or optional for (2) landing).**

1. Located in transom over car door.
2. Floor passing signal (3 stop only).
3. #4 stainless steel cover.

**OPT (Letter) Hall Position Indicator**

1. Located over door at [main floor] [all floors].
2. #4 stainless steel cover.

**OPT (Letter) Firefighters Service Phase I & II**

1. Keyed fire switch, light and call cancel button in car operating panel.
2. Keyed fire switch in main floor hall station.
3. Fire service buzzer in car top station.

**OPT (Letter) Access Switches**

1. Keyed access switches at terminal landings.
2. Keyed inspection switch in car operating panel.
3. #4 stainless steel covers.
4. Down travel limit switch in hatch.

**OPT (Letter) Mass EMT Service**

1. Keyed hall call switch at egress floor.
2. Keyed switch on car panel.
3. Staff of Life symbols on door jamb at egress floor.

**2.05 HOISTWAY ENTRANCES**

**A. Frames**

1. Square Profile.

2. Bolted construction.
3. 14 gauge steel – for up to [10” block] [6 ¾” drywall] hatch wall.
4. [“Off-White” prime enamel] [Standard Enamel color] [#4 Stainless Steel] finish.
5. Tactile handicap jamb plates.

**B. Door Panels**

1. 16 gauge hollow metal.
2. [“Off-White” prime enamel] [Standard Enamel color] [#4 Stainless Steel] finish.
3. Adjustable door gibs.

**C. Aluminum Sills**

**D. UL Labeled Entrances**

**E. Fascia, Toe Guards, Struts, Dust Covers as Required.**

**2.06 DOOR OPERATION**

- A. **D.C. Operation.**
- B. **Doors normally park closed.**
- C. **Retractable safety edge.**
- D. **Dual beam photo eye protection.**
  1. Integral cutout switches.
- E. **Adjustable door time.**

**OPT (Letter) Door Nudging**

1. Slow speed closing.
2. Door closing buzzer.

**2.07 ELEVATOR CAB**

**A. Walls: [Wood Core] [Steel Shell with applied Wood Core Panels faced with Plastic Laminate with Enamel Reveals].**

1. (If wood core) Faced with plastic laminate on car side. [Light Wood] [Dark Wood] [Manufacturer’s standard mica selection] finish.
2. Fireproofed on hatch side.

**B. Return: [Wood Core] [Steel with Standard Enamel finish] [#4 Stainless Steel].**

1. If wood core) [Faced with Plastic Laminate] [Faced with #4 Stainless Steel].

**C. Car Doors]**

1. [Faced on car side with Plastic Laminate with #4 Stainless Steel binder angle on leading edge.] [Faced on car side with #4 Stainless Steel] [Standard Enamel color selection].

**D. Base**

1. #4 stainless steel – 4” high.

**E. Canopy**

- 1. 12 gauge steel.
- 2. Painted white.
- 3. Escape hatch.

**F. Ceiling**

- 1. [Plastic Eggcrate] [Aluminum Eggcrate] [Lumasite].
- 2. Fluorescent lighting above.

**G. Handrail**

- 1. 3/8 x 2 #4 stainless steel – [Rear] [3 sides].

**H. Entrance columns & transom**

- 1. #4 stainless steel

**I. Exhaust Fan**

- 1. Single speed
- 2. Aluminum grill

OPT (Letter) [Pad Hooks Only] [Pads & Hooks] on side & rear walls.

OPT (Letter) Applied wood core panels faced with standard plastic laminate selection and standard plastic laminate reveals.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

**A. General**

- 1. Install each elevator in accordance with accepted manufacturer's directions and ANSI A17.1 and all applicable codes.
- 2. Install machine room equipment with clearance complying with ANSI A17.1.
- 3. Install items so that they may be removed by portable hoists or other means for ease of maintenance.

**B. Guide Rails**

- 1. Install rails continuously for full height of hoistway with no gap at joints.
- 2. Align rails vertically within a tolerance of 1/32".

**C. Entrances**

- 1. Align within tolerance of 1/32".

**D. Power Unit**

- 1. Fill system with oil as per pump manufacturers recommendations.

**E. Jack Unit**

- 1. Install plumb & true.

- 2. If units are wrapped with corrosion protective material, install and patch as required.

**F. Jack Hole** – Note: Use this section only for in-ground holed or for holeless requiring partial holes.

- 1. Sink jack hole of sufficient size and depth.
- 2. Install auxiliary casing as required.
- 3. After installing jack, backfill with clean sand to a level necessary to maintain rigidity.

3.02

**FIELD QUALITY CONTROL**

- A. Provide all personnel, equipment and instruments required for inspection and testing.
- B. Have acceptance inspection required by local authority performed by enforcing agency.
- C. In addition to inspections and tests required by local or state authority, perform all applicable inspections and tests required by Part X, ANSI A17.1.

**3.03 ADJUST AND CLEAN**

**A. Adjustments**

- 1. Adjust all equipment to operate to within accepted design tolerances.
- 2. Adjust all leveling devices so car stops within plus or minus 1/4" of finished floor.
- 3. Lubricate all equipment in accordance with accepted manufacturer's instructions.

**B. Painting**

- 1. Paint all exposed metal work, furnished for installation, except wearing surfaces, with high grade rust preventative paint.
- 2. Touch up factory applied paint surfaces as required.

**C. Clean-Up**

- 1. Remove from hoistway surfaces all loose materials and filing resulting from this work.
- 2. Clean machine room floor of dirt, oil and grease.
- 3. Remove crating and packing materials from premises.

**PART 4 -MAINTENANCE & GUARANTEE**

4.01 **GUARANTEE** The Elevator contractor shall guarantee that the materials and workmanship of the apparatus installed by him under this specification are new and first-class in every respect, and that he will make good any defects not due to ordinary wear and tear or improper use of car, which may develop within one year from date of completion.

- 4.02 **MAINTENANCE:** This contractor shall provide three (3) months full contract service beginning at the date of Final Acceptance of each elevator. Service to be provided on a monthly basis during regular working hours of regular working days except that emergency minor adjustment callback service shall be available 24 hours a day, 7 days a week.
- 4.03 **TEMPORARY SERVICE:** The elevator shall not be used for temporary service or for any other purposes prior to completion and acceptance by the Purchaser.