

# SPECIFICATIONS

## RENAISSANCE - Residential Elevator

### Part 1 - General

#### 1.1 SCOPE

##### 1.1.1

To furnish all labor, materials and equipment necessary or required to fully complete the installation of the elevator as indicated on the Drawings and Specifications. This suggested specification is intended to cover the complete installation of the Federal Panorama or Renaissance Residential Elevator.

##### 1.1.2

The Elevator Contractor shall report in writing to the General Contractor/Consultant any defects of surfaces or work prepared by other trades which may affect the quality or dimensions of work.

##### 1.1.3

Elevator Contractor shall do all work related to the elevator from the main power disconnect to the finished installation of elevator and accessories except for the items listed in **PART 2 – PREPARATORY WORK BY OTHERS.**

#### 1.2 SYSTEM DESCRIPTION

The elevator assembly shall consist of a power unit, car, guide system, 1:2 cable hydraulic lifting device, hoistway doors\* car doors, control system, signals and alarms, electrical wiring, and parts and accessories necessary to provide required performance, operation and safety requirements.

\*Applicable to 2-speed and 3-speed hoistway doors only

#### 1.3 QUALITY ASSURANCE

##### 1.3.1 Requirements of the Regulatory Agencies

a) Fabricate and install work in compliance with all applicable jurisdictional authorities.

##### 1.3.2 Subcontractor Qualifications

a) Execute work of this specification only by a contractor/company who has adequate product and public liability insurance in excess of ten (10) million dollars.

b) Skilled tradesmen must be employees of the contractor and perform the work on a timely basis. Employees must be trained by the manufacturer and be supervised by the elevator contractor.

c) Employ fully trained and licensed mechanics who are regularly employed in this field.

##### 1.3.3 Substitutions

No substitutions will be considered.

##### 1.3.4

Measurements:

General Contractor to confirm all hoistway measurements and plumb-ness as per Elevator Contractor shop drawings.

## Part 2 - Preparatory Work by Others

### 2.1

The following preparatory work not included under this contract, but supplied and/or installed by other to accommodate/receive the elevator:

#### 2.1.1

Machine room to meet applicable Codes and Standards. (Sleeves from machine room to hoistway in the case of remote machine room).

#### 2.1.2

Permanent power to operate the elevator to be provided to a lockable Fused/Cartridge Type Disconnect Switch with auxiliary contact/switch for emergency battery lowering. Refer to architectural drawings for permanent power specifications and location of disconnect switch.

#### 2.1.3

Provide 110 VAC lighting supply and disconnect. Refer to Shop Drawings for permanent power specifications and location of disconnect switch.

#### 2.1.4

Provide an enclosed, plumb and square hoistway with smooth interior surfaces. Include for fascias or furring of hoistway interior where applicable.

#### 2.1.5

Provide hall doors\*, frames, and door hardware.

\*not applicable to 2-speed and 3-speed hoistway doors

#### 2.1.6

Provide a dry pit reinforced to support the loads as indicated on the Shop Drawings. Pit floor to have a smooth trowel finish free of hollows or bumps.

#### 2.1.7

Provide adequate support for guide rail fastenings.

#### 2.1.8

Provide pit water proofing or sump pump, if required (see elevator contractor for location).

#### 2.1.9

Provide a 203 mm (8") minimum pit depth. This could vary depending on cab height, cab door type and capacity chosen by client.

#### 2.1.10

Provide a 2438mm (96") minimum overhead (distance from floor at upper level to underside of roof). This could vary depending on cab height, cab door type and capacity chosen by client.

#### 2.1.11

Front entrance partition walls are to be constructed after elevator is installed or when 2-speed or 3-speed door frames are in place. If front walls are poured concrete bearing walls, rough openings are to be provided to accept entrance frame and filled in after frames are set. Entrance frames are not designed to support overhead wall loads. Suitable supports for these loads must be provided (this is applicable to elevators with 2-speed or 3-speed doors only).



**2.1.12**

Barricades or guards shall be provided by others outside of every opening to the hoistway to protect other trades, building occupants or visitors as per the Occupational Health and Safety Act (OSHA). These guards and barricades to be erected, maintained and removed by others.

**2.1.13**

Necessary electric power for light, tools, hoists, etc., during installation as well as electric current for starting, testing and adjusting the elevator.

**2.1.14**

Flooring to be supplied and installed by Flooring Contractor after elevator is installed

**2.1.15**

A solid core wood door (swing type) and frame that protects entrance into the hoistway to be supplied and installed by Owner/Agent at each landing located as per Federal Elevator instructions.

**2.1.16**

Lockable, fused disconnects wired to the elevator controller.

**2.1.17**

Any cutting, patching, and painting of walls, floors, or partitions together with finish painting of entrance doors and frames (this painting is applicable to elevators with 2-speed or 3-speed doors only).

**2.1.18**

Locate the machine room switch on the lock jamb side of the machine room door along with the elevator and light disconnects where practical.



## Part 3 - Submittals

### 3.1 PRESENTATION DRAWINGS

The Shop Drawings shall show a complete layout of the elevator equipment detailing dimensions, clearances and location of machinery. Including, but not limited to, the following:

#### 3.1.1

Drawings showing the dimensions including plans, elevations, and sections to show equipment locations.

#### 3.1.2

Load and reaction drawings shall be provided by the elevator manufacturer and detailed on drawings.

#### 3.1.3

- a) Submit copies of shop drawings for the client to review.
- b) Do not commence work until approved shop drawings have been returned, and all finishes have been confirmed.



## Part 4 - Product Data

### 4.1 MANUFACTURER/PRODUCT

The elevator shall be the **RENAISSANCE** Residential Elevator manufactured by **Federal Elevator Systems Inc.**; 1090 Lorimar Drive, Mississauga, ON, Canada L5S 2A1. Tel: (905)458-4015 Fax: (905)670-0017  
[sales@federalev.com](mailto:sales@federalev.com). [www.federalev.com](http://www.federalev.com)

- a) Hole-less Roped Hydraulic
- b) Rated Load: 454 kg. (1000 lbs) [1400 lbs available]
- c) Rated Speed: 0.18m/s (36 fpm).

#### (Optional Selections)

**0.20 m/s (40 fpm)**

**0.25 m/s (50 fpm)**

- d) Cab Configurations (Based on a manual Accordion Door):  
[Select one of the following]

#### Type A (Enter/exit same side):

|                  |                  |                  |                   |                    |                   |
|------------------|------------------|------------------|-------------------|--------------------|-------------------|
| 36" X 48"        | 36" X 54"        | 36" X 60"        | 40" X 54"         | 42" X 60"          | 48" X 60"         |
| (915mm X 1220mm) | (915mm X 1375mm) | (915mm X 1525mm) | (1015mm X 1375mm) | (1065mm X 1525 mm) | (1220mm X 1525mm) |

#### Type B (Enter/exit front/rear):

|                  |                  |                  |                   |                    |                   |
|------------------|------------------|------------------|-------------------|--------------------|-------------------|
| 36" X 48"        | 36" X 54"        | 36" X 60"        | 40" X 54"         | 42" X 60"          | 48" X 60"         |
| (915mm X 1220mm) | (915mm X 1375mm) | (915mm X 1525mm) | (1015mm X 1375mm) | (1065mm X 1525 mm) | (1220mm X 1525mm) |

#### Type C or D (90° enter/exit):

|                   |                    |                   |                   |
|-------------------|--------------------|-------------------|-------------------|
| 40" X 48"         | 40" X 54"          | 42" X 60"         | 48" X 60"         |
| (1015mm X 1219mm) | (1016mm X 1372 mm) | (1067mm X 1524mm) | (1219mm X 1524mm) |

#### Type E (Enter/exit same side):

|                  |                  |                  |                   |                    |                   |
|------------------|------------------|------------------|-------------------|--------------------|-------------------|
| 36" X 48"        | 36" X 54"        | 36" X 60"        | 40" X 54"         | 42" X 60"          | 48" X 60"         |
| (915mm X 1220mm) | (915mm X 1375mm) | (915mm X 1525mm) | (1015mm X 1375mm) | (1065mm X 1525 mm) | (1220mm X 1525mm) |

#### TYPE T (Please contact Federal Elevator)

- e) Hoistway size: Refer to Shop Drawings
- f) Operation: Single Automatic Push Button
- g) Car Operating Panel: Car operating panel shall consist of one (1) illuminated button for each landing, an emergency stop button, alarm button, door open button (if applicable) and a light switch mounted on a brushed stainless-steel panel.

#### (Optional Selections)

**Bushed Antique Bronze #4**  
**Bright Brass**

- h) Hall Call Stations: Illuminated Type, stainless-steel #4 Cover plates

#### (Optional Selections)

**Bushed Antique Bronze #4**  
**Bright Brass**  
**Hall Call Station with DPI (Digital Position Indicator)**



- i) Hoistway Entrance Type:
  - Swing Door by Others (Standard)**
  - 2-speed Cab Door**
  - 3-speed Cab Door**

j) Cab Entrance Type: Wood Veneer 3 Vision Manual Accordion Cab Gate (Standard)

**(Optional Selections)**

**Automatic Bifold Gate, stainless-steel Finish**

**Vinyl Accordion Gate (Various Finishes available)**

**Smoked/ Clear Vision Accordion Gate (Various Finishes available)**

**Clear Full Vision Clad Anodized Accordion Gate**

**Perforated Aluminum Accordion Gate (Various Finishes available)**

**Automatic Accordion Gate**

**Manual Scissor Gate (Various Finishes available)**

**2-Speed Automatic Cab Gates Prime Coat (Ready to accept paint by others)**

**2-Speed Automatic Cab Gates stainless-steel #4**

**3-Speed Automatic Cab Gates Prime Coat (Ready to accept paint by others)**

**3-Speed Automatic Cab Gates stainless-steel #4**

k) Cab Gate Operation: Manual (standard) or Automatic (option)

l) Travel Distance: Refer to Shop Drawings [Maximum 6 inline]

m) Stops: Refer to Shop Drawings

n) Openings: Refer to Shop Drawings

o) Power Supply: 220 VAC, 1 Phase, 60 Hertz, 30A (based on a 3-horsepower motor)

p) Lighting Supply: 110 VAC, 1 Phase, 15 Amps

q) Jack Type: 1:2 Cable Hydraulic

r) Pump Type: "Super Hush" Dry Pump Type

s) Power Unit Control Valve – 4 coil valve

t) Car Controller Type: Non-Proprietary Programmable Logic Control (PLC)

u) Levelling Device:

i) The elevator shall be provided with a 2-way leveling device which will maintain the car within 13mm (½") of the landing, by magnetic sensor.

ii) Leveling device shall be located in a position to be inaccessible to unauthorized persons.

## **4.2**

### **TELEPHONE**

#### **4.2.1**

A Stainless-Steel telephone box with door on a hinge is provided. A jack line can be provided inside the telephone box. Owner is responsible for arranging with their provider to make the line live (A separate phone line to the elevator controller shall be provided by others and located in the elevator machine room under another section of the specifications).



### 4.3 CAR CAB CONFIGURATION

#### 4.3.1 Architectural Features:

- a) Side Walls: Flat ½" Unfinished water resistant MDF, Flat ½" Unfinished Oak Veneer or Flat ½" Unfinished Maple Veneer.

**(Optional Selection)**

**Unfinished Bamboo Veneer Wide Light**  
**Unfinished Bamboo Veneer Narrow Light**  
**Unfinished Bamboo Veneer Wide Caramel**  
**Unfinished Bamboo Veneer Narrow Caramel**  
**Unfinished Cherry Veneer**  
**Unfinished Walnut Veneer**  
**Unfinished Mahogany Veneer**  
**Oyster Plastic Laminate**  
**Antique White Plastic Laminate**  
**Fog Grey Plastic Laminate**  
**Hard Rock Maple Plastic Laminate**  
**Acajou Mahogany Plastic Laminate**  
**Select Cherry Plastic Laminate**  
**Village Oak Plastic Laminate**  
**Glossy – Various colours, speak to a representative for more information**

- b) Ceiling: Non-removable 19mm (3/4") Unfinished Oak Veneer, Unfinished Maple Veneer, unfinished oak veneer panel

**(Optional Selection)**

**Unfinished Bamboo Veneer Wide Light**  
**Unfinished Bamboo Veneer Narrow Light**  
**Unfinished Bamboo Veneer Wide Caramel**  
**Unfinished Bamboo Veneer Narrow Caramel**  
**Unfinished Cherry Veneer**  
**Unfinished Walnut Veneer**  
**Unfinished Mahogany Veneer**  
**Oyster Plastic Laminate**  
**Antique White Plastic Laminate**  
**Fog Grey Plastic Laminate**  
**Hard Rock Maple Plastic Laminate**  
**Acajou Mahogany Plastic Laminate**  
**Select Cherry Plastic Laminate**  
**Village Oak Plastic Laminate**  
**Glossy – Various colours, speak to a representative for more information**

- c) Front Return – Material to match walls (Standard) or stainless-steel (Upgrade)

### 4.4

#### PLATFORM

The car platform is fabricated to withstand capacity.

### 4.5

#### CAR SLING



#### 4.5.1

Car sling shall be fabricated from steel members with reinforced bracing and added torsion bar to support the platform and cab.

#### 4.6

Guide shoes to be solid slipper type with polyurethane inserts.

#### 4.7

##### **GUIDES**

#### 4.7.1

Steel 8 lb/ft "T" guide rails and brackets shall be securely fastened to the building structure.

#### 4.7.2

Brackets shall securely hold the guides in a plumb and true position regardless of car loading.

#### 4.7.3

Guides shall be bolted through the hoistway enclosure with lag bolts. Subject to architects' alterations and approvals.

#### 4.8

##### **Supplementary Features:**

Lighting: two (2) or four (4) round LED potlights. The failure of one lamp shall not cause the remaining lamps to extinguish.

##### **(Optional Selection)**

**White Rim LED**

**Black Rim LED**

**Brown Rim LED**

**Chrome Rim LED**

**Bright Brass Rim LED**

**LUXE low profile stainless-steel Square**

**LUXE low profile white stainless-steel Square**

**LUXE low profile Black stainless-steel Square**

**LUXE low profile stainless-steel Round**

**LUXE low profile white stainless-steel Round**

**LUXE low profile Black Stainless-steel Round**

#### 4.8.1

Overall Clear Inside Height: 7' 0" (2134 mm) (standard). Other options available.

##### **(Optional Selections)**

**8' (96")**

**9' (108")**

#### 4.8.2

Handrail: One (1) located on control wall: 1 ½" round stainless-steel #4





#### **(Optional Selections)**

**Round Bright Brass**

**Round Antique Bronze**

**Flat stainless-steel 22" long**

**Flat stainless-steel 30" long**

**Round Crystal Filled**

#### **4.8.3**

##### **Other Control Features:**

- a) Door open button (Only Applicable to automatic doors)
- b) On/Off Switch
- c) Light On/Off Switch
- d) Alarm button

#### **4.8.4**

##### **EMERGENCY LIGHT**

The Car Operating Panel emergency lights shall automatically illuminate in the event of a main power failure. Power to the emergency light will be provided by the battery back-up system.

#### **4.8.5**

##### **NEGATIVE PRESSURE SWITCH**

In addition to the standard operating features of the hydraulic control valve, there shall be a pressure sensitive check valve that will activate when negative pressure is sensed in the hydraulic system. The check valve will close and stop the hydraulic jack from descending immediately on sensing negative pressure.

#### **4.8.6**

##### **EMERGENCY LOWERING**

the car shall be equipped with a battery powered light fixture, emergency lowering device and an alarm which can be actuated during normal building power supply failure. Battery will be rechargeable type with an automatic recharging system.

#### **4.8.7**

##### **DOOR INTERLOCKS**

A door interlock shall be provided at each door entrance, which will prevent operation of the elevator unless the hoistway door is closed and locked or prevent opening of the hoistway door from the landing unless the elevator car is within the landing zone.

#### **4.8.9**

##### **CYLINDER AND PLUNGER (JACK UNIT)**

- a) The cylinder shall be constructed of steel pipe of a sufficient thickness and suitable safety margin. The top of the cylinder shall be equipped with a cylinder head with an internal guide ring and self-adjusting packing.
- b) The plunger shall be constructed of a steel shaft of a proper diameter machined true and smooth. The plunger shall be provided with a stop electrically welded to the bottom to prevent the plunger from leaving the cylinder.

#### **4.8.10**

Safety device: A "slack/broken cable" safety device shall be supplied, which will stop and sustain the elevator and its rated load, if either of the hoisting cables becomes slack or breaks. The safety device shall be resettable by the operation of the elevator in the upward direction. A switch shall be mounted in such a position to sense the operation of the safety device, and will open the safety circuit to the controller to prevent operation of the elevator in either direction.



#### **4.8.11**

Ropes: Minimum two (2) 10mm aircraft cables. Ropes shall be fastened to the top of the cylinder jack stands, travel over the plunger sheave(s) and attach to the bottom of the elevator car frame.

#### **4.8.12**

##### **PUMPING UNIT**

- a) The motor shall be the dry type installed above the oil tank.
- b) The controller shall be integrally mounted on the power unit frame.
- c) Control circuitry to be Programmable Logic Controls and be located on the pump unit.
- d) The pump shall be super-hush screw type.
- e) Power Unit Control Valve – 4 coil valve

This valve shall incorporate the following features:

- (i) Simple Responsive Adjustment
- (ii) Temperature and Pressure Compensation
- (iii) Self Cleaning Pilot Line Filters
- (iv) Self Cleaning Main Line Filter (Z-T)
- (v) Built-in Turbulence Suppressors
- (vi) 70 HRc Rockwell Hardened Bore Surfaces
- (vii) 100% Continuous Duty Solenoids
- (viii) Adjustable pressure relief valve.
- (ix) Manually operating DOWN valve to lower elevator in an emergency.
- (x) Pressure gauge indicating in P.S.I. and Bars.
- (xi) Gate valve to isolate cylinder from pump unit.
- (xii) Negative pressure switch.

#### **4.8.13**

##### **CONTROLLER**

A microprocessor controller shall be provided, including necessary starting switches of adequate size together with all relays, switches and hardware required to accomplish the operation specified. Overload protection shall be provided to protect the motor against overloading.

#### **4.8.14**

##### **WIRING**

All wiring and electrical interconnections 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 wire-ways. Travelling cables shall be flexible and suitably suspended to relieve strain on individual conductors.

#### **4.8.15**

##### **PIT SWITCH**

An emergency stop switch shall be located in the pit.



## Part 5 - Execution

### 5.1 EXAMINATION

- a) All site dimensions shall be properly recorded and provided to Federal Elevator to ensure that tolerances and clearances have been maintained to meet local regulations.
- b) Confirmation of physical finished hoistway dimensions and machine room with all required electrical have been properly prepared with information and dimensions matching Shop Drawings and confirmed with Federal Elevator.



## Part 6 - Warranty

The entire elevator and all component parts shall carry a MANUFACTURER WARRANTY for a period of three (3) years\*. The warranty shall be for the replacement at no cost of defective parts but shall not include the labor costs required to replace the defective part/s. The warranty covers only materials that are defective for three (3) years\* after the delivery date. Federal Elevator will make good and/or replace, if necessary, any and all defects due to imperfect workmanship which may appear during the warranty period. These defects, and the repairs required, will be solely determined by Federal Elevator upon receiving at its place of business the piece deemed to be defective by the owner. This warranty does not cover damages caused by normal wear and tear, accident, fire, unauthorized alterations, vandalism, wilful damage, negligence, acts of God, or other like causes. This warranty shall be considered null and void unless the elevator is serviced properly and consistently by a registered elevator contractor in the province/state where the elevator is located. Such maintenance shall be performed in accordance with Federal Elevator's recommendations and the requirements of the Provinces or States acts and regulations.

### ATTENTION:

- **Elevator hoistways are restricted spaces and only trained elevator tradespeople should access them.**
- **Access to hoistway by untrained persons can lead to severe injury or death.**
- **Any modifications or additions to hoistway performed without Federal Elevator involvement after the elevator is turned over will result in the voiding of any current warranties.**

\* Warranty time period is only applicable to units purchased directly from Federal Elevator. Units purchased through one of our recognized Dealers will have a one (1) year warranty. The conditions will be the same as above but with a different time frame. Please contact local dealer company for specific details.



## Part 7 – Owner’s Instruction & Manual

After installation is complete, the elevator contractor shall instruct the owner or its agent in the proper use, operation and maintenance requirements of the elevator. Instructions shall also include emergency procedures, safety rules and precautions. The elevator contractor shall also supply the owner or its agent with an Owner’s Manual detailing the operating, safety, and maintenance procedures of the unit.

