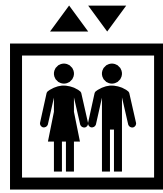


# ARISE

# ELEVATOR



## Planning Guide

Residential Elevators

ASME A17.1, PART V Section 5.3

April 24, 2020



American Access Industries & Services  
4120 Dr. Greaves Rd  
Grandview, MO 64030  
816 997 9320





## Introduction

This planning guide is designed to assist architects, contractors, homeowners, and elevator professionals in planning for a home elevator that meets the requirements of ASME A17.1 Part V Section 5.3

We strongly recommend you contact the codes authority having jurisdiction in the area(s) where the elevator will be installed. Become familiar with all requirements governing the installation and use of elevators in public residences. It is extremely important for you to know and adhere to all regulations concerning installation and use of elevators.

### **IMPORTANT NOTICE:**

This planning guide provides nominal dimensions and specifications useful for INITIAL planning of an elevator project. BEFORE beginning actual construction, be sure to receive application drawings customized with the specifications and dimensions for your specific project. Call 816 997 9320 to find a dealer in your area.

Elevator configurations and dimensions are in accordance with our interpretation of the standards set forth by ASME A17.1 Part V Section 5.3. Please consult American Access Industries and Services or an authorized dealer in your area for more specific information pertaining to your project, including any deviations between referenced standards and those of any local codes or laws. Always contact local codes authorities for any variation to standards.

This elevator requires 230 VAC, single phase 60 Hz circuit with ground. Fused 20-amp circuit for counterweighted chain drive. A separate 115 VAC, single phase 60 Hz circuit with ground fused 10 amp for light circuits.

### **Steps of planning for an Arise Home Elevator:**

1. Determine the customer’s intention for use.
2. Determine code requirements of site.
3. Determine installation parameters of site.
4. Determine the car type and hoistway size requirements.

### **Contents**

---

Equipment for Arise residential elevator.....	3-4
Hoistway size requirements .....	4-10
Hoistway construction notes.....	11
Guide rail backing constructions details.....	12
Rail reactions.....	13
Typical counterweighted chain drive area construction details.....	14
Optional construction details.....	14.
Services Access.....	15-16
Description of features.....	17-18



## EQUIPMENT FOR ARISE RESIDENTIAL ELEVATORS

This elevator meets the requirements of ASME A17.1 2010.  
Part V, Section 5.3 for residential elevators.

### General:

- Speed: 40 fpm (.20ms)
- Minimum pit depth 6"
- Maximum travel: 50'
- Rated load: 950 lbs. (430 kg) (750 and 700 lbs. available)
- Minimum overhead clearance 9'-0"

### Mechanical Equipment:

- 230 VAC, 60 Hz, 20-amp single phase power supply
- With ground (3 wires)
- Frequency controller variable speed geared machine
- Modular Dual 6 ¼ lb. T-rail system
- Sling Assembly

### Car and Appointments:

- 36" x 48" (12 sq. ft.) x 84" high car for pit unit.
- 36" x 48" (12 sq. ft.) x 80" high car for pitless unit.
- Wall panels available in 32 color options.
- White Ceiling
- White metal handrail
- Two recessed LED lights
- Unfinished plywood floor.

### Controls:

- Programmable Logic Controller (PLC) with digital signal processor
- Fully automatic operation
- Car operating panel with LED floor display/diagnostic display and call acknowledgment
- Hall stations with LED floor position /diagnostic display and call acknowledgment
- Automatic car lighting set to turn off at 10 minutes
- Run stop switch
- Emergency alarm button
- Hoistway wiring (hall stations/Interlocks)
- Uninterruptible power supply for lowering (elevator lowers to next floor) in case of power failure

### Options:

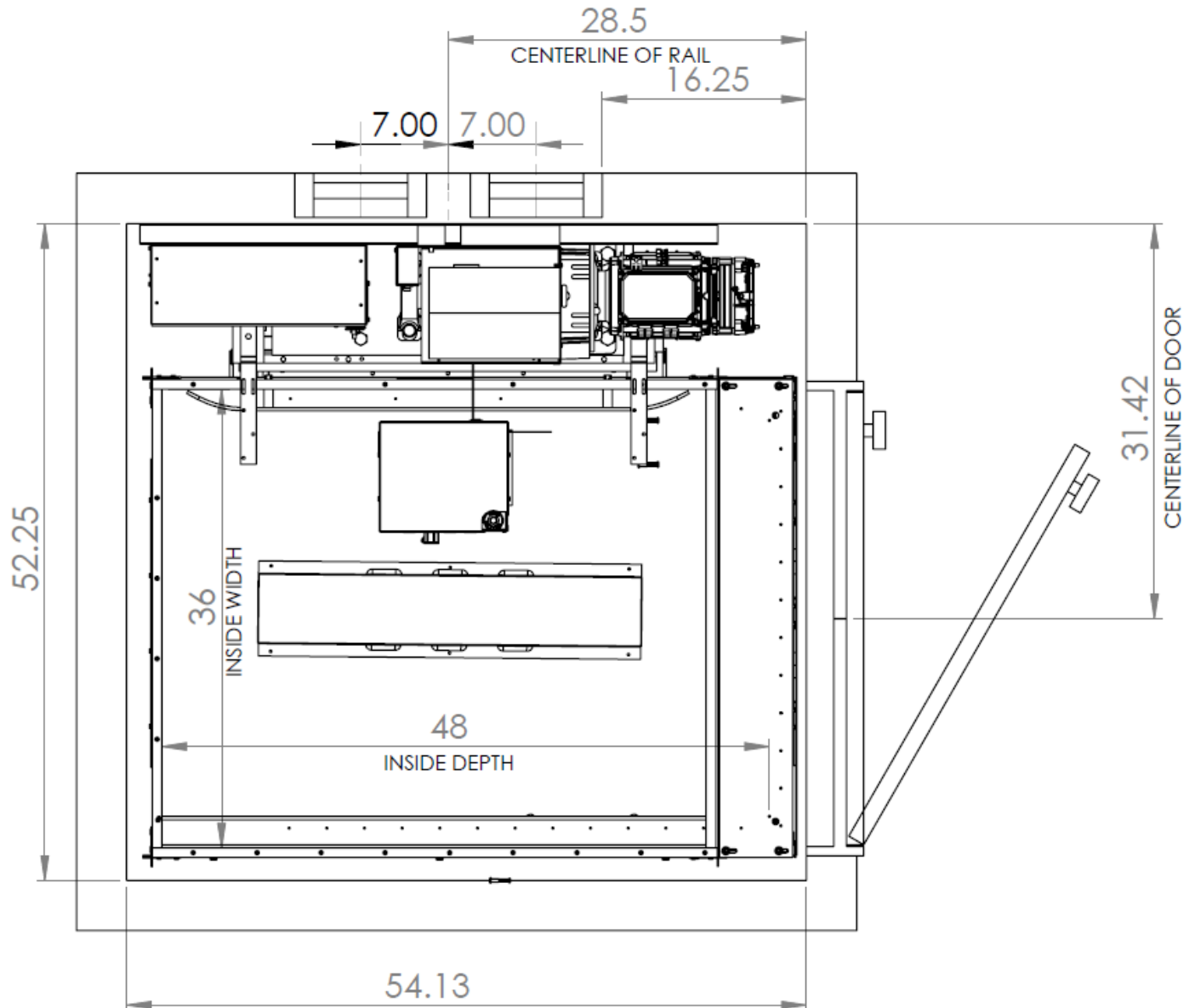
- Remote located electrical controller
- No pit required for Pitless option
- 32 Wall panel finish options
- Recessed telephone cabinet  
See available finishes at [access.com](http://access.com)
- Hall Stations and Car Operating Panel can be provided
- in brushed or polished stainless steel or brass finishes.
- Metal handrail can be matched to the car operating panel.
- Hall stations can be provided in brushed or polished
- Automatic hoistway door operator



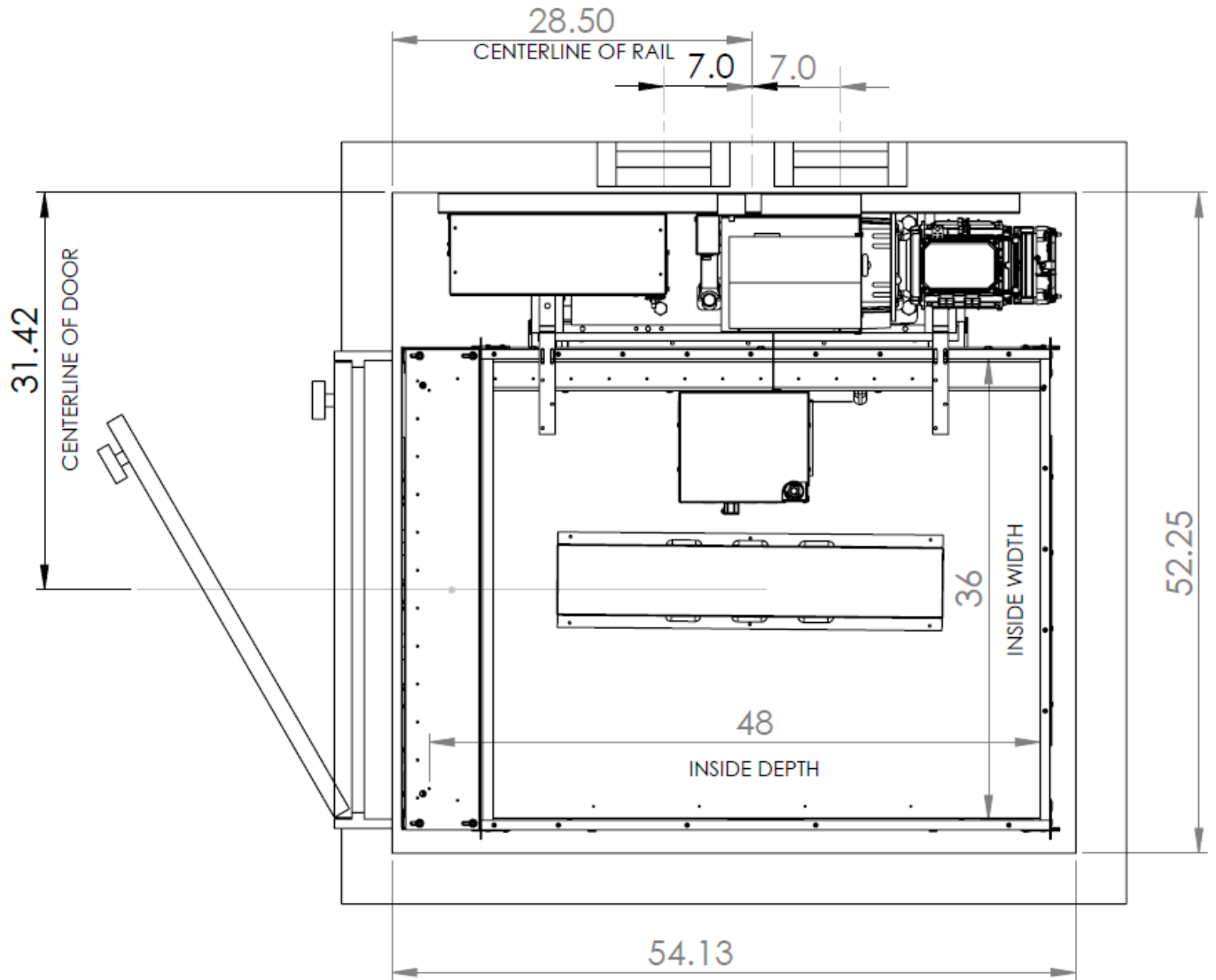
**Safety Devices:**

- Slack chain safety device
- Service switch for car light circuit
- Service switch for elevator controller and drive
- Final limits (1 upper, 1 lower)
- Pit switch
- Car top switch
- Battery backup emergency light and alarm
- Car gate safety switch
- Electromechanical interlocks (for doors by others)

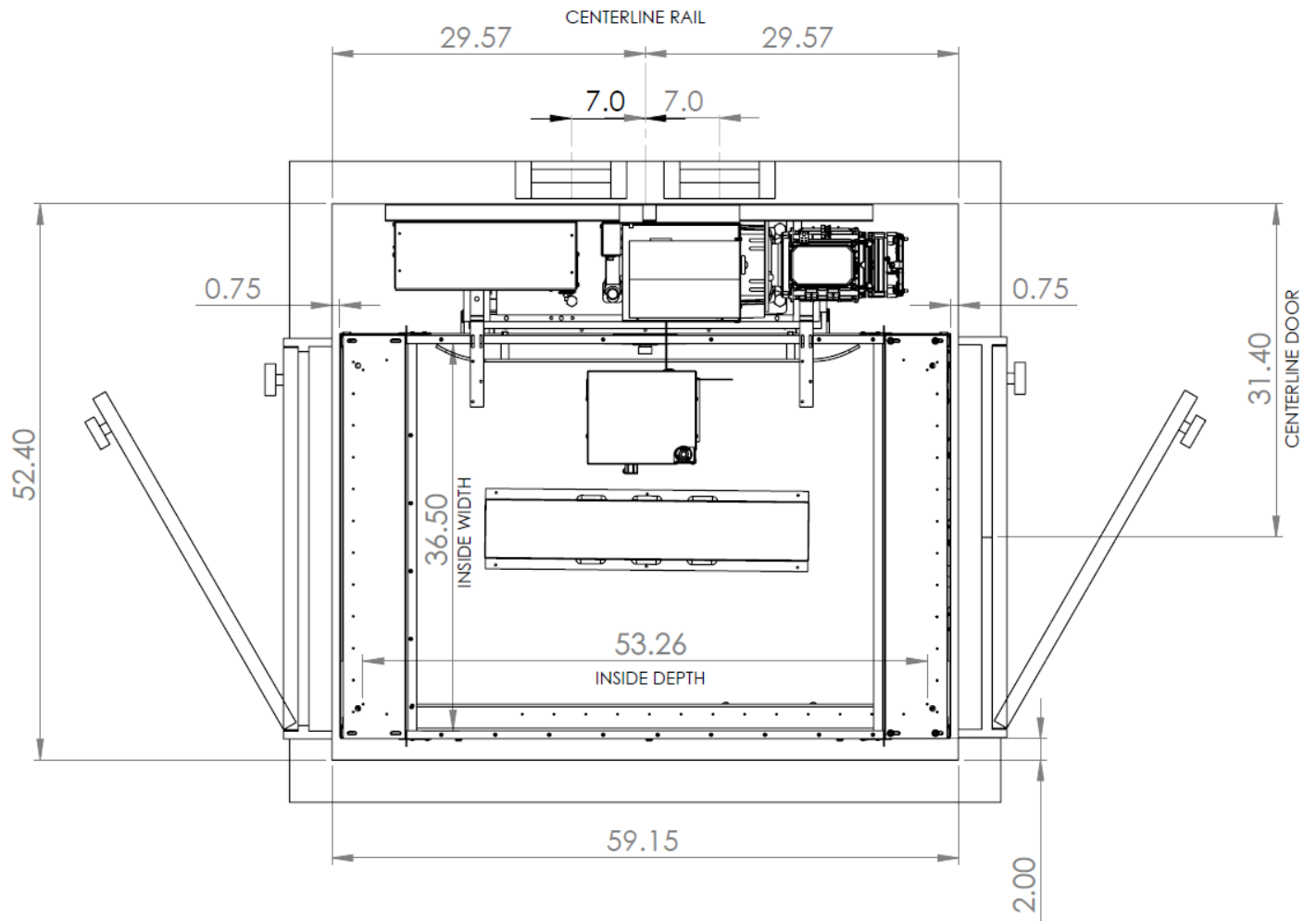
**Cab Configurations  
Type 1R PIT**



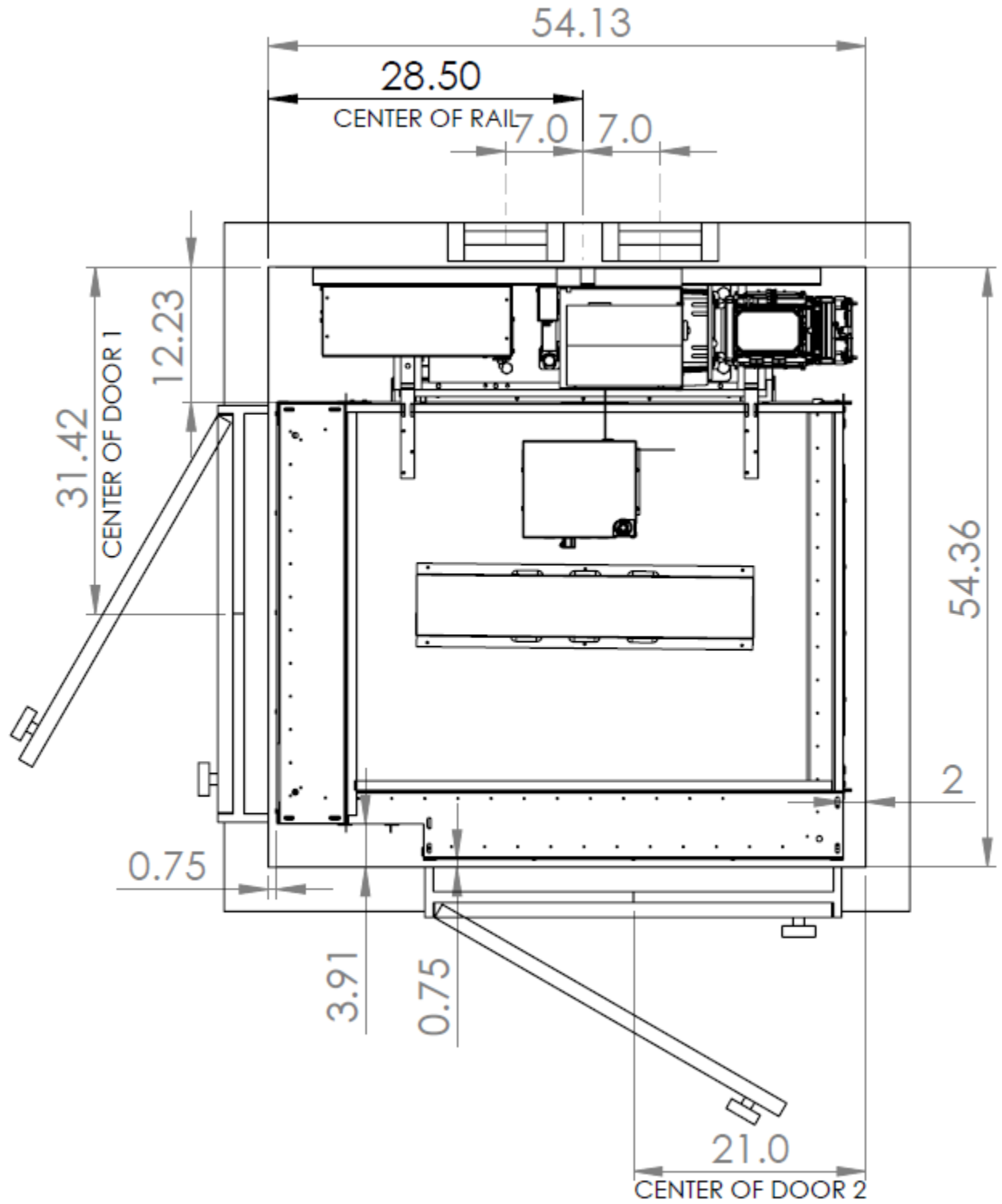
**Type 1L PIT**



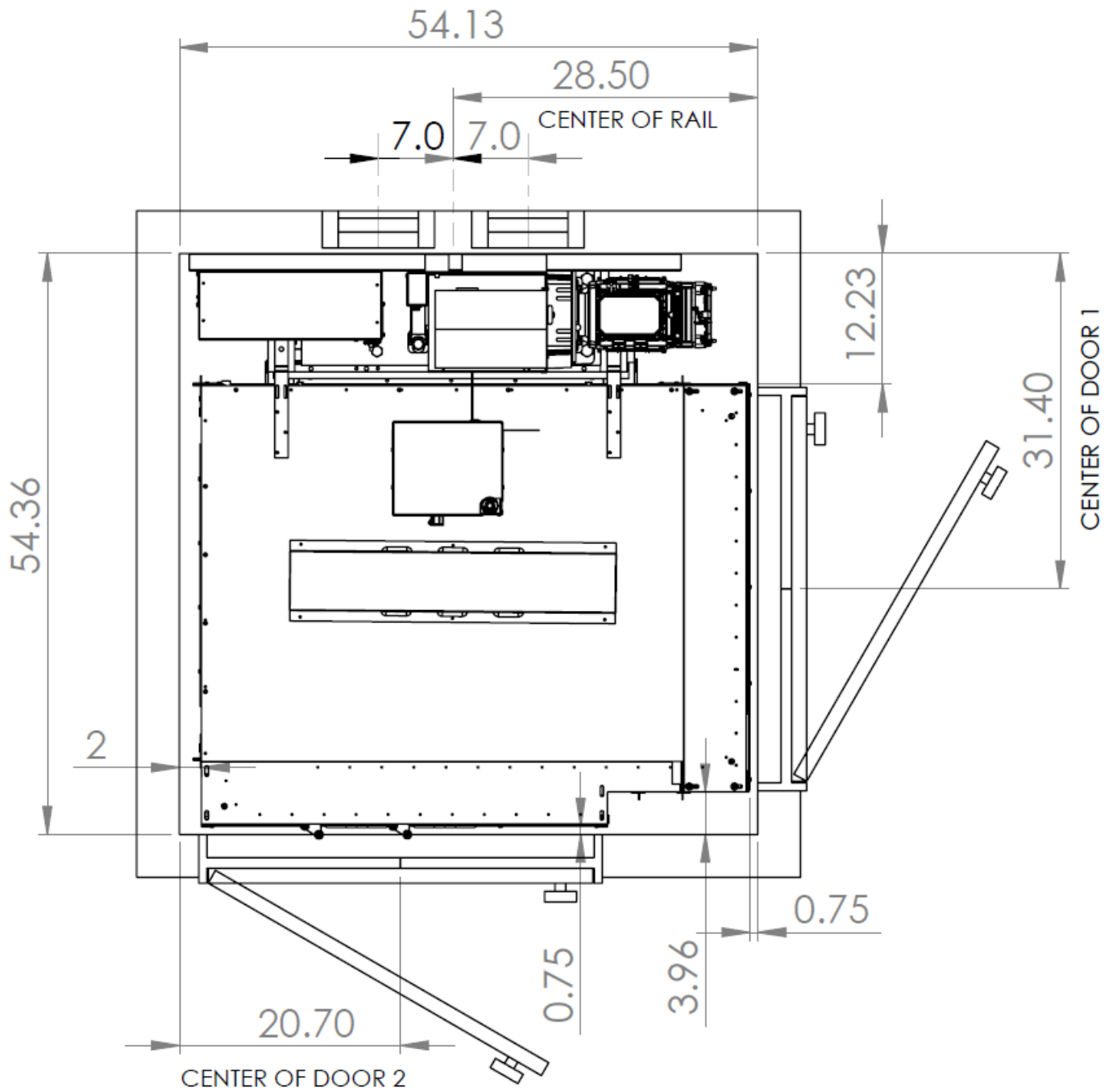
### Type 2 PIT



**Type 3 PIT**

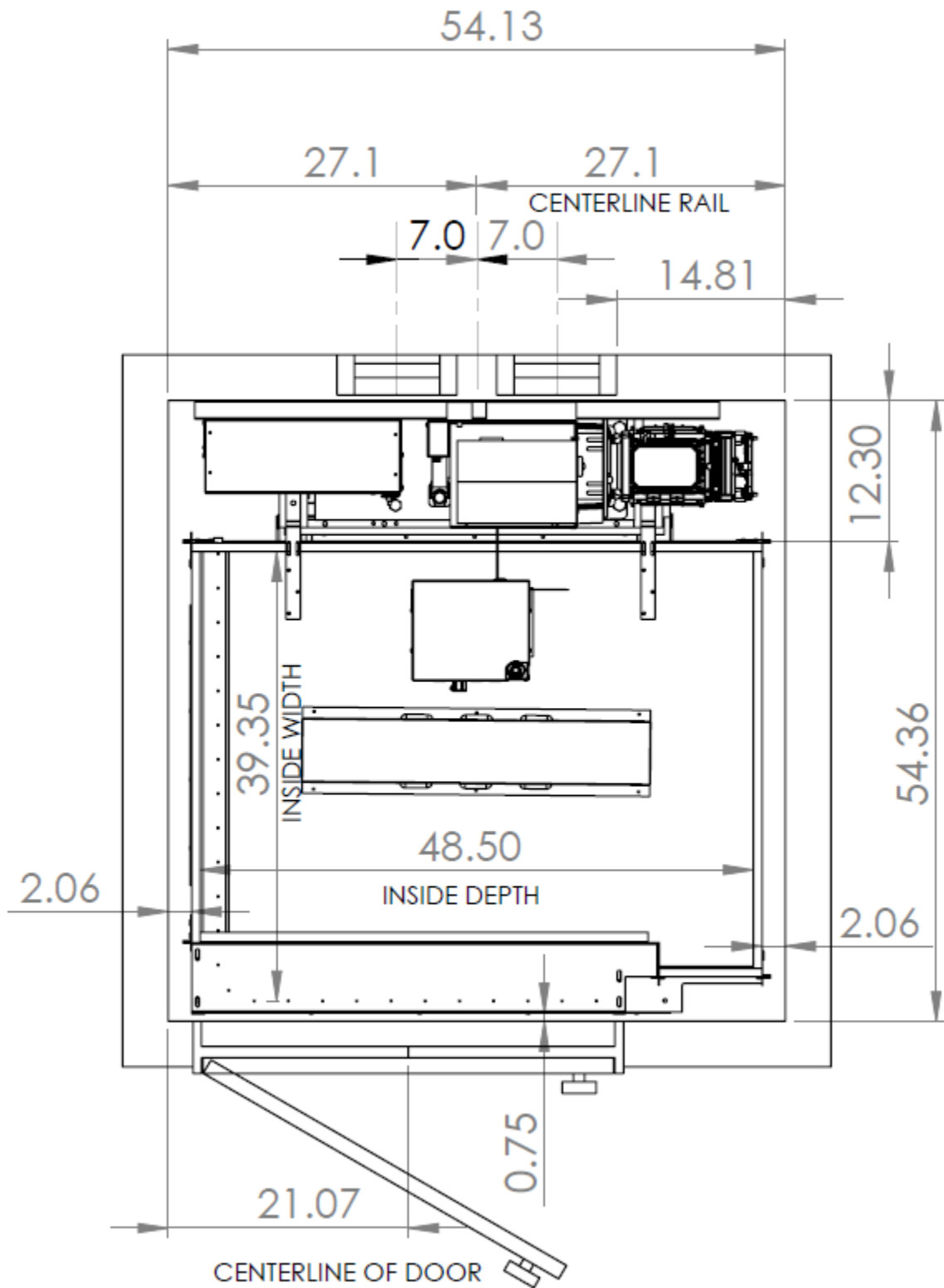


**Type 4 PIT**

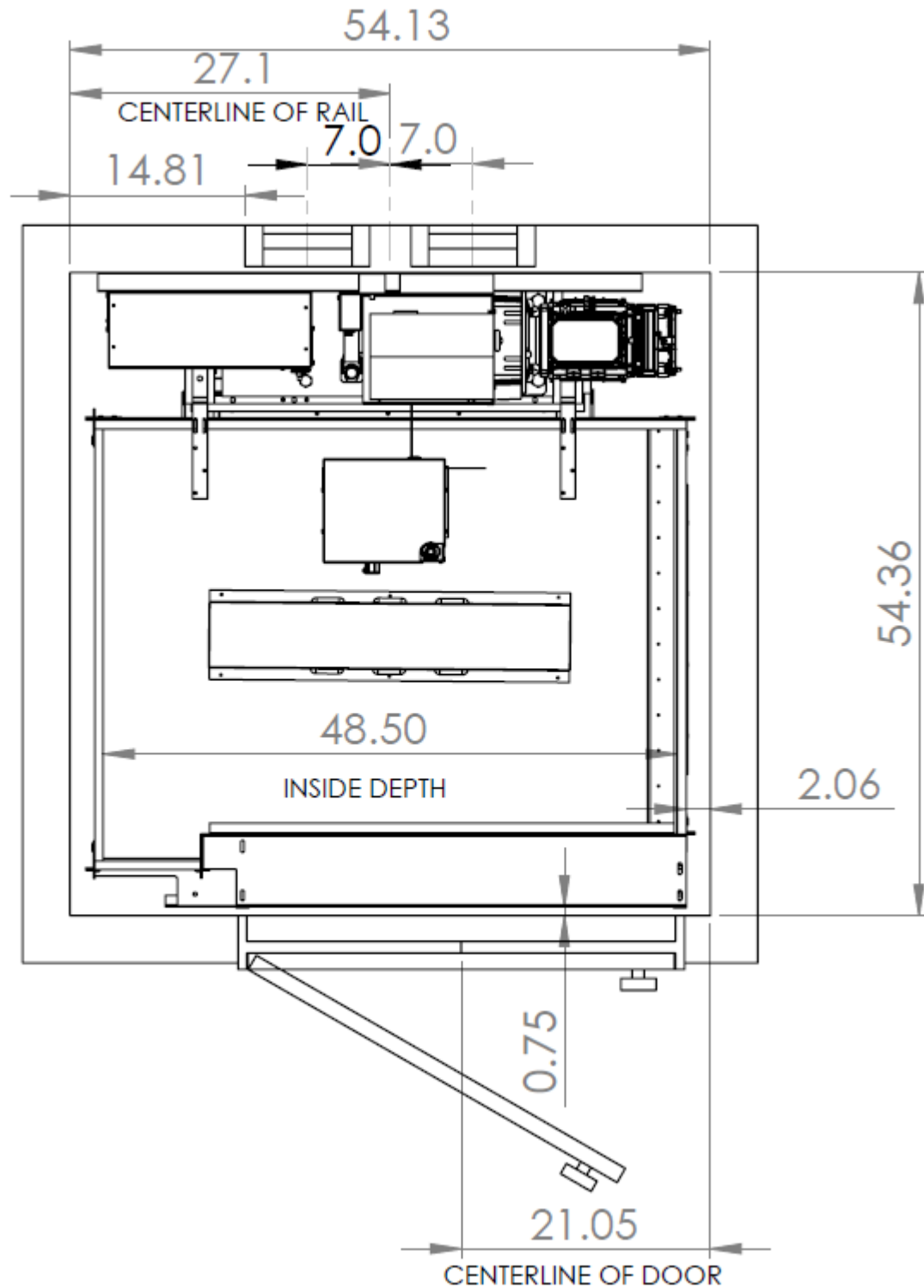




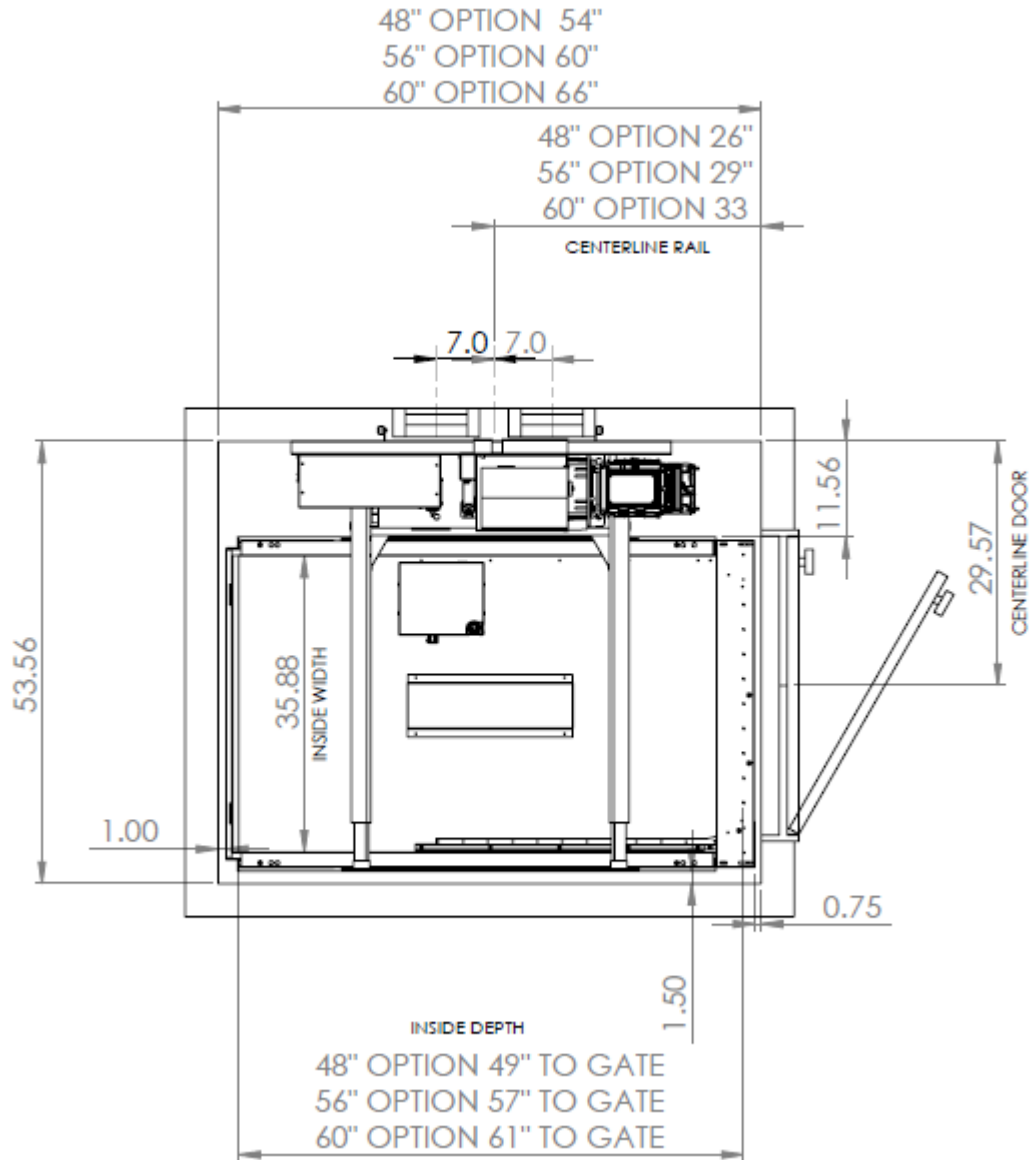
### Type 5L PIT



**Type 5R PIT**



**Type 1 PITLESS  
1R SHOWN 1L OPPOSITE**

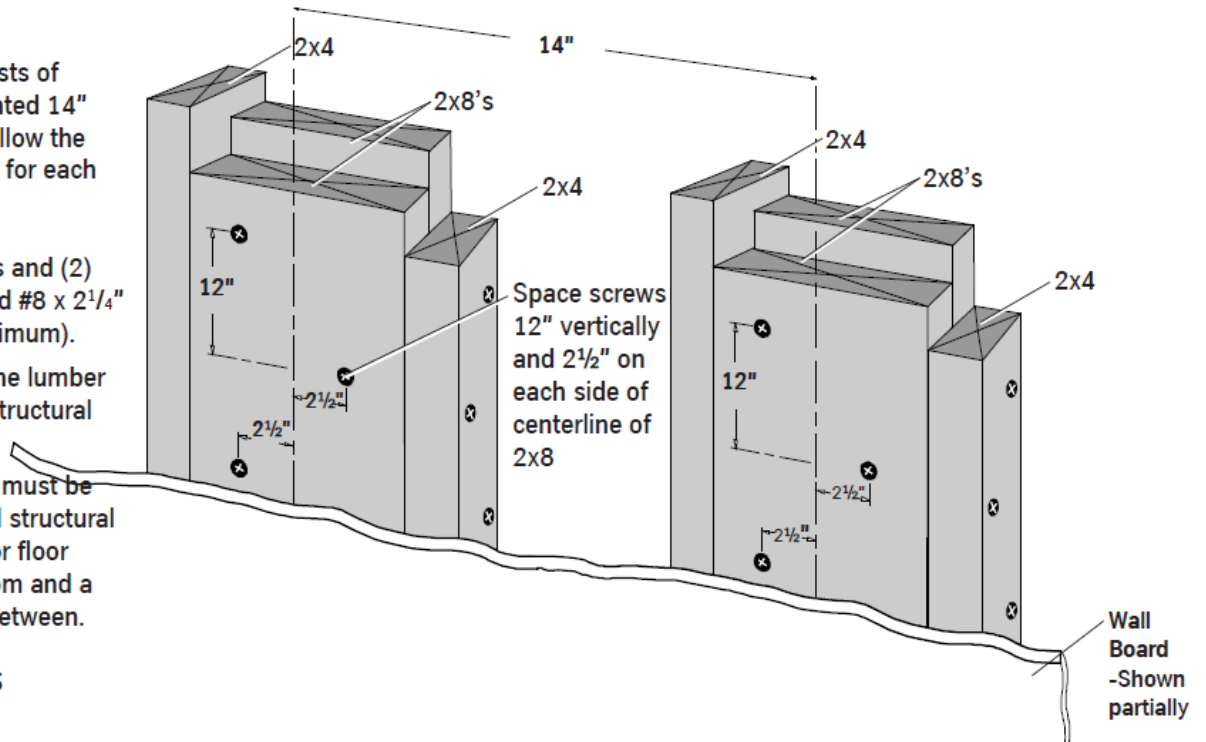


## Hoistway Construction Notes

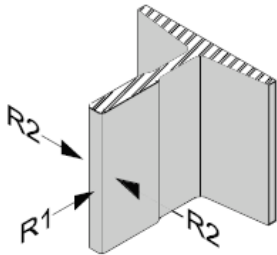
- Also see Drive Unit Area Construction Details on pages 12 and 13.
- A load bearing wall is required to sustain rail reactions.
- See Rail Reactions on Guide Rail Backing Construction below.
- All points of the pit floor must be a minimum of 6” below the lower landing finished floor for the pitted unit.
- Pit floor construction should withstand a 3200 lb. impact load.
- Hoistway sizes reflect running and access clearances only. Consult your local authority to assure compliance with state and local codes.
- Minimum overhead clearance is 9’-0” above the top landing finished floor.
- Due to limited clearances, it is imperative that the walls are square and plumb throughout the hoistway. The finished hoistway must be within ¼” tolerance from top to bottom.
- Hoistway door provided by others. We recommend a 3’-0” x 6’-8” door.
- Hoistway is required to be free of all pipes, wiring and obstructions not related to the operation of the elevator.
- Service access hatch is required in the controller/drive assembly area. See page 14 for recommended location.
- Building structure must provide for a means of a chain hoist for hoisting elevator materials to the top of the hoistway during installation.
- Controller location must have the temperature maintained from 32 to 104 degrees Fahrenheit.

## Guide Rail Backing Construction Details:

- Rail backing consists of two (2) rails, mounted 14" apart at center. Follow the instructions below for each separate rail.
- Laminate (2) 2x8's and (2) 2x4's with glue and #8 x 2 1/4" wood screws (minimum).
- Overlap joints of the lumber as necessary for structural rigidity.
- Guide rail backing must be tied to a horizontal structural member (header or floor plate) at top, bottom and a maximum of 10' between.



## Rail Reactions



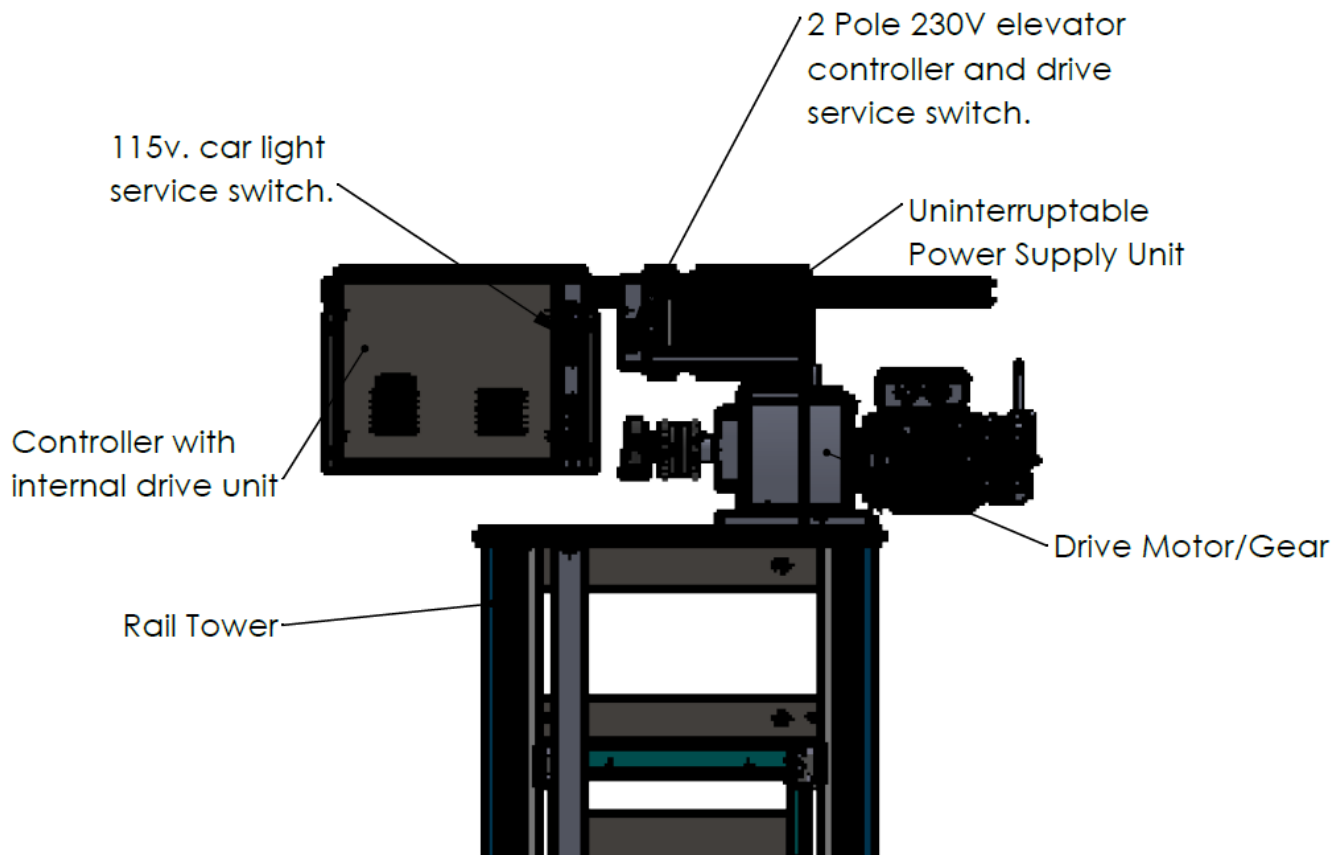
R1 = 177 LBF.

R2 = 351 LBF.

Rail reactions are for static loading and do not include safety factors. Applicable safety factors must be considered in hoistway design.

Wall attachment pull-out force is 265 LBF. per fastener.

## Typical Drive Unit Area Construction Details:

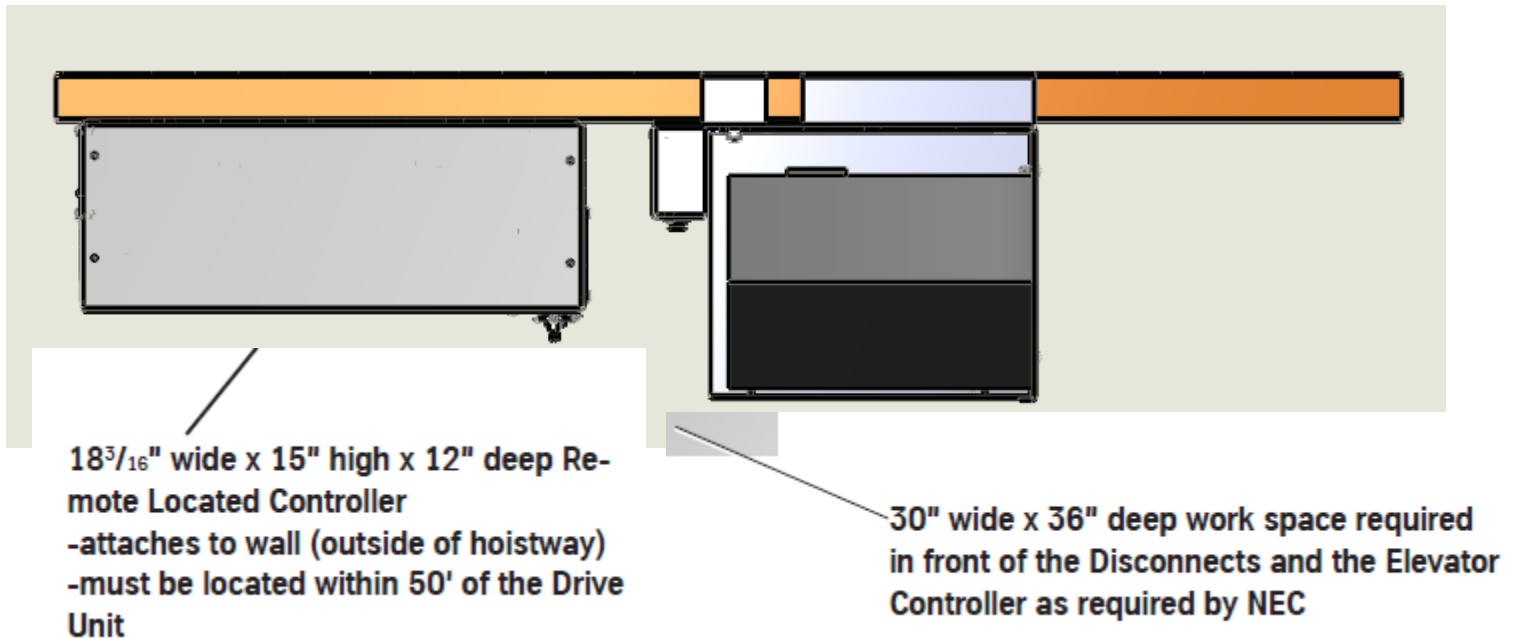


Note: The elevator controller and uninterruptible power supply can be installed in a remote machine room for easier access. Please choose this option on the order form if this is desired.

### Construction Notes:

- Minimum overhead clearance is 9'-0" above the top landing finished floor.
- See approval drawing for location of light, light switch, receptacle, incoming electrical circuits, and telephone jack to avoid interference with elevator equipment.

## Requirements for Counterweighted Chain Drive Remote Located Electrical Controller:



## Plan View of Controller Area.

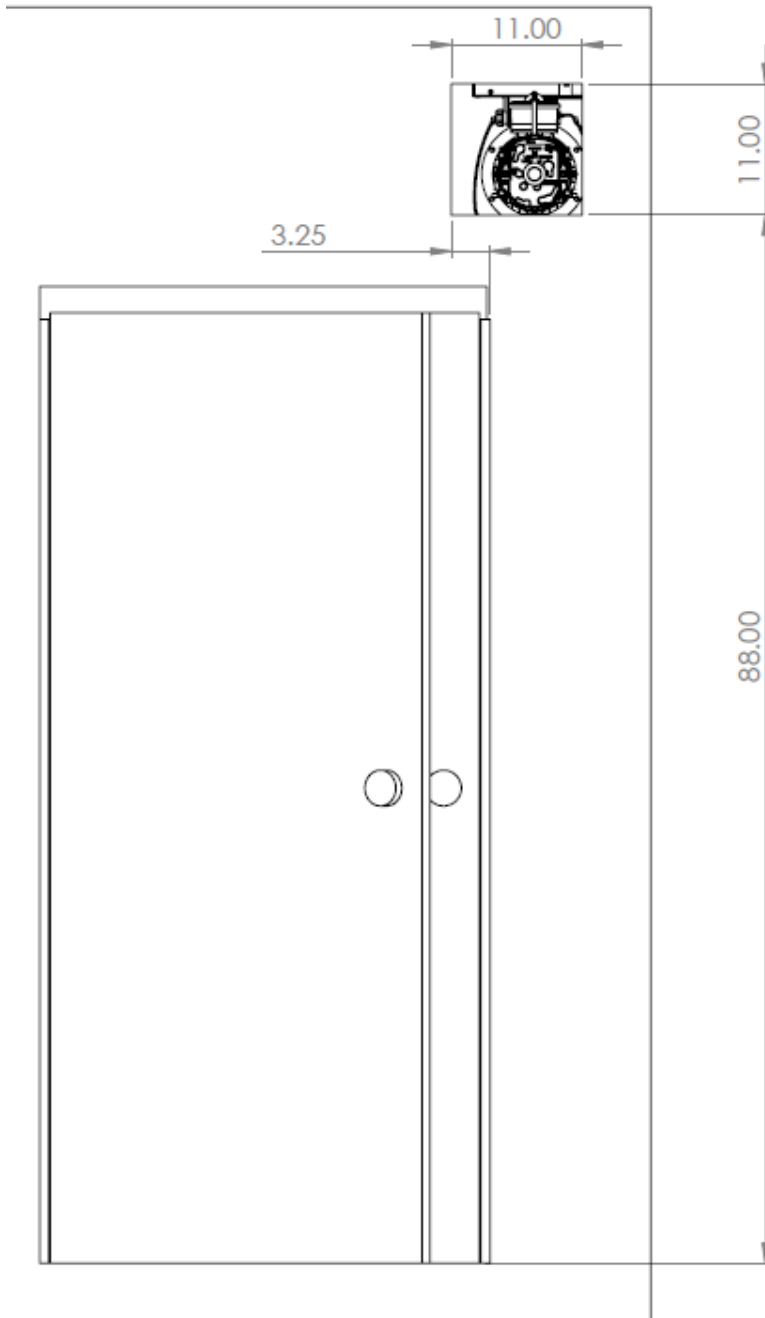
### Power Requirements:

- Dedicated 230-volt, single phase, 20-amp circuit with ground (3wires) from lockable disconnect or non-G.F. I circuit breaker.
- Dedicated 115-volt, 15-amp circuit from lockable fused disconnect for car lights.
- Telephone circuit.

## Manual Lowering Access Hatch

When motor hand is reversed access will be on opposite wall.

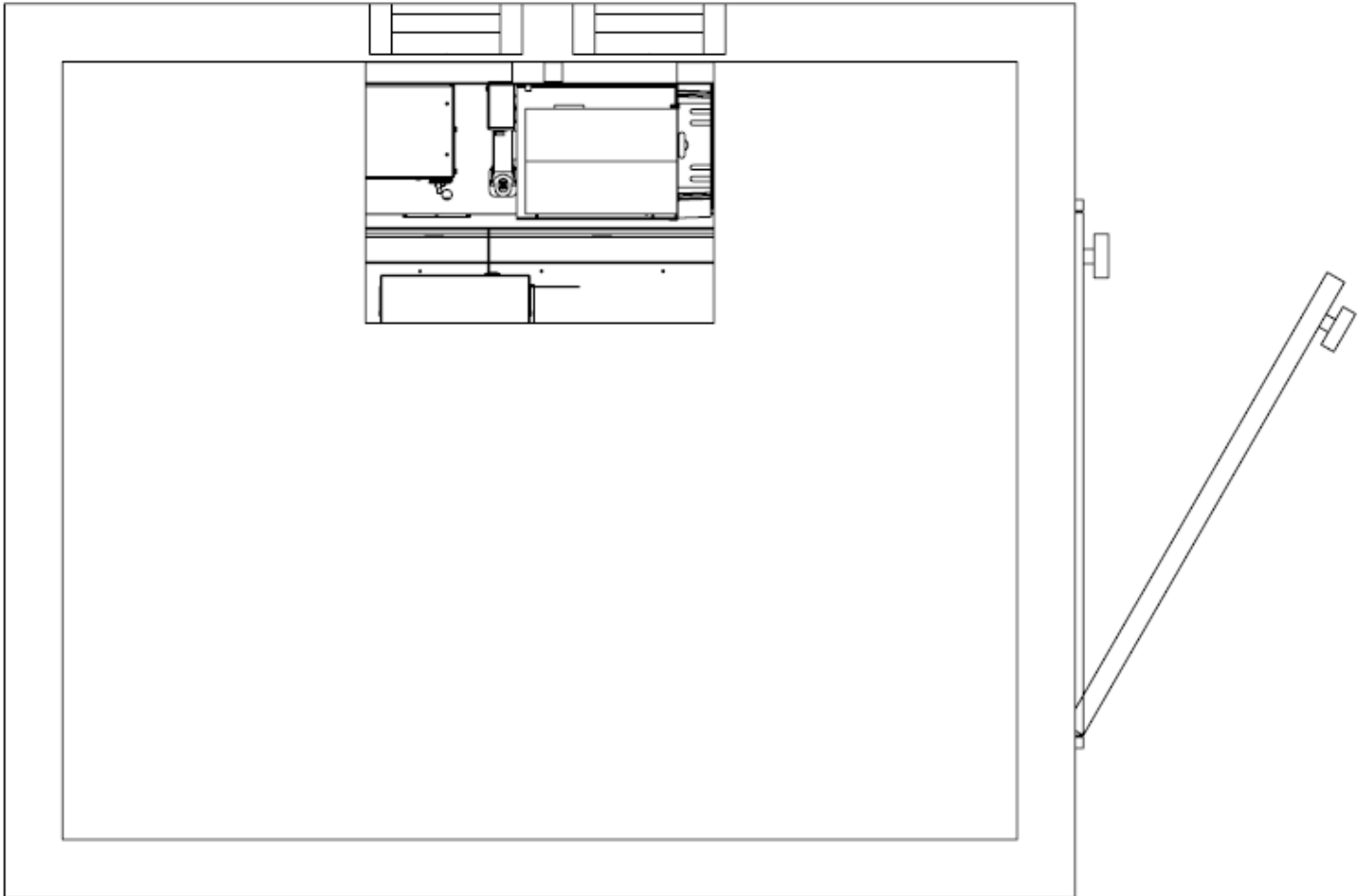
For Type 5 cabs access must be in ceiling.



- This is the recommended location of the access hatch.
- Construction of the access hatch and door is by others.
- Access hatch must be self-closing and lockable.



## Top Service Hatch



18" x 24" minimum hatch opening above the controller and drive assemblies.

This is the recommended location of the Top Service Hatch. If Sufficient attic space is not available, access through a wall must be provided. Wall Access cannot be through the rail wall.

Construction of access hatch and door is by others.

Door needs to be self-closing and lockable.

## Description of Features:

### Car Operating Panel



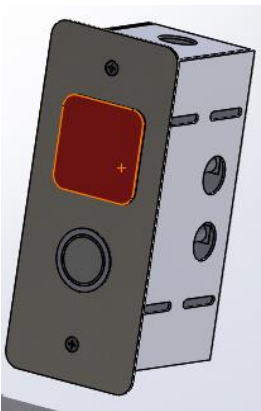
Used to control the elevator from inside the car.

- Automatic car controls; buttons illuminate when call is registered.
- LED floor position display with system diagnostics that alerts the user of complications that the control system may see.
- Run stop Switch.
- Emergency alarm switch. Battery powered during power failure.
- Battery backup emergency light, integrated into the COP panel, illuminates during power failure.
- In case of power failure, elevator continues and stops at the next lower landing if going down or stops traveling up and reverses down to the next lowest floor. Elevator may be called down to each consecutive floor while in power failure mode.

Elevator returns to normal services when power is restored.

- Standard brushed stainless-steel finish. Also available in polished stainless steel and brushed or polished brass.

### Hall Stations



Used to call the elevator to your floor.

- Automatic control.
- LED floor position display with system diagnostics that alert the user of complications that the control system may see.
- One provided for each floor level. Additional hall stations available for more than one opening per floor level.
- Standard brushed stainless-steel finish. Also available in polished stainless steel and brushed or polished brass.

## Recessed Telephone Cabinet(optional)



Conceals standard telephone

- Standard Brushed stainless steel. Also, available in polished stainless steel, and brushed or polished brass.
- Telephone circuit is required to be provided in the area of the elevator controller.
- If the telephone cabinet is not selected on the order form, a telephone is provided for surface mounting inside the car.

## Elevator Controller



Controls the electrical operation of the elevator.

- Located in the top of the hoistway.
- Programmable Logic Controller (PLC) with digital signal processor allows for Soft Start and Soft Stop technology.
- Includes uninterruptible power supply (UPS) for lowering during power failure.
- Includes run/stop switch, automatic/remote switch and plug for construction/inspection pendant control.
- Can be located in a remote machine room for areas that do not allow the electrical controller to be located inside the hoistway.

## Hoistway Door Interlock



Locks the hoistway door when the car is not at each landing.

- Surface mounted electromechanical interlock.
- Can be opened with special key from outside the hoistway in case of emergency or for servicing.

## Car Lights



Two recessed LED car lights provided.

- Provided with white bezel.
- Automatically turns on when gate or door is opened and turns off 15 minutes after the elevator is used.
- Light timer is adjustable
- Separate battery backup emergency light is integrated in the car operating panel that will illuminate during power failure.

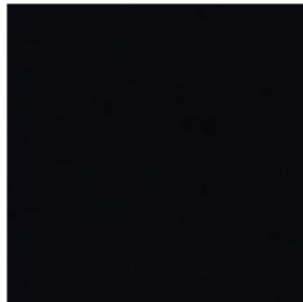
## Wall Panel Material

We offer several colors of wall panels. With White being our standard color All made from Thermally Fused Laminates.

Charcoal SF237



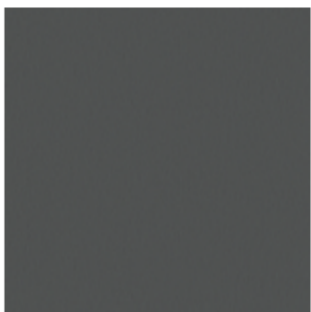
Black BLK100



New! Natural Linen AF232 Folkstone SF208



Pewter Frost AF200



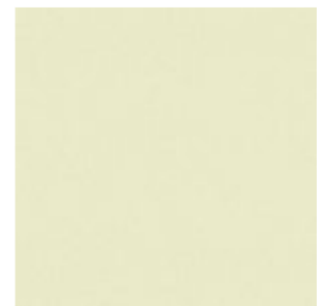
Ashen SF232



Aria WF340



Opal SF204



Autumn Glow WF101



Verismo WF202



White



Talas Cherry WF310



Concrete Groovz WF393



New! Toasted Oak WF447



Sandalwood WF357



New! Seared Oak WF448



Palomino WF435



Diva WF375



Stromboli WF397



Alabaster WF432



New! Charred Oak WF446



Licorice Groovz WF392



Hardrock Maple WF275



New! Chique WF442



# ARISE

New! Sahalie Pine WF445



New! Luxent WF443



New! Ginger WF440



Gibraltar WF434



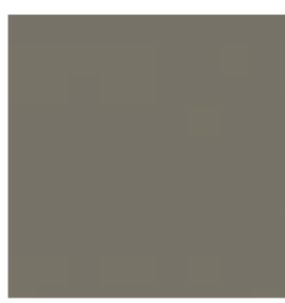
Linear Ash WF368



Argento WF433



Fossil SF233



## Safety Devices

- The elevator slows to a smooth stop.
  - Terminal limits. Stops the elevator if it overruns the normal limits at the top or bottom landing.
  - Pit Switch and car top switch. Disables elevator for servicing purposes.
  - Interlocks. Hoistway door remain locked when the car is not that floor and prevents the elevator from running until all doors are closed.
- Slack chain device. In the unlikely event that a drive chain would slacken or break, the device locks the car onto the t-rails preventing the car from falling.
- Car run stop switch. Located on the car operating panel. Manual switch disables elevator from inside the car.
- Optional Max feature. Disables the elevator if a hoistway door is opened when the car is between floors or when a door is opened at any floor the car is not located at.
  - Remote located pendant and access port plug.