

# **INCLINATOR ELEVETTE®**

**MACHINE ROOMLESS OVERHEAD CABLE DRUM**

## **Planning Guide**

**MACHINE ROOMLESS OVERHEAD CABLE DRUM  
1000 lb. (453 Kg)**

**KOCH ELEVATOR**

**775-323-8822**

**775-247-8820**

**AMERICA'S MOST CUSTOMIZABLE ELEVATOR**

**INCLINATOR**  
COMPANY OF AMERICA



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For drawings, and other information go to [www.inclinotor.com/drawings-home-elevator](http://www.inclinotor.com/drawings-home-elevator).



# Introduction

It started over 90 years ago with a passion to help an ailing friend access his multi-level home. Now, almost a century later, the Inclinor craftsmanship can be found in more North American homes today than any other brand. We want to use our heritage of service to enhance each stage of your building or remodeling experience and to help you create a uniquely personalized elevator for your home.

Of all the stages, none is quite as exciting as the initial design phase. It's where you begin to imagine the possibilities of something that's uniquely yours. A home is personalized by the components you choose to fit your needs.

Our Planning Guide is designed to simplify and assist architects, contractors, home owners and dealers in planning for a home elevator that meets or exceeds the requirements of ASME A17.1-2013 and CSA B44-13.

We recommend you contact an authorized dealer in the area where the elevator will be installed. They will be knowledgeable about local codes and restrictions. Become familiar with all requirements governing the installation and use of elevators. It is extremely important for you to know and adhere to all regulations concerning installation.

This Planning Guide provides nominal dimensions and specifications useful for the *initial* planning of an elevator project. Before beginning actual construction, be sure to contact a local authorized dealer and obtain approval drawings customized with specifications and dimensions for your specific project. Call 1-800-343-9007 to find a local dealer or visit our website, [www.inclinor.com](http://www.inclinor.com). Inclinor elevators manufactured and installed under the proper parameters are warranted for 2 years. We assume no liability for equipment not installed in compliance with national, state, and local codes.

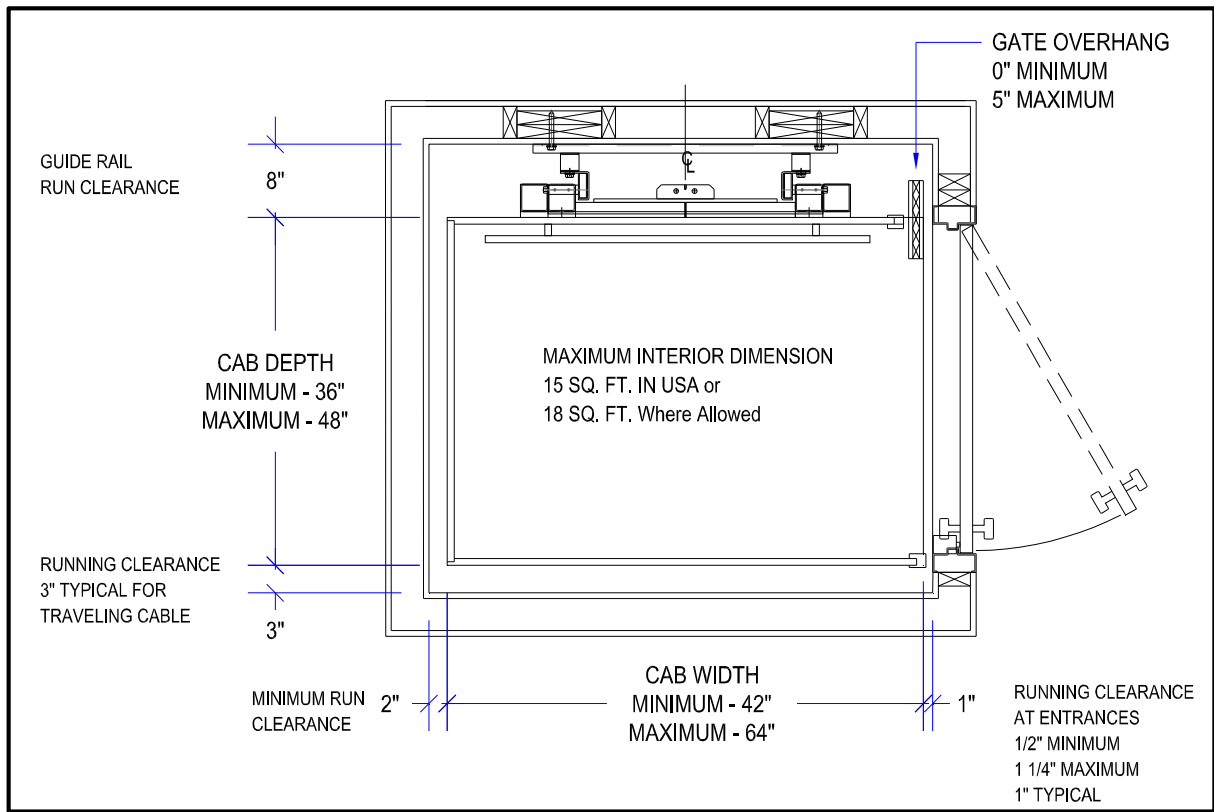


# **Steps of planning for an Inclinor MRL Overhead Cable Drum Elevator**

1. Locate local dealer and together determine the following:
  - a. Select a drive system, cab type and design specifications
  - b. Address national, state and local code requirements
  - c. Determine installation parameters of site
2. Obtain approval drawings before building hoistway, doorways, pit, and any other construction related to the elevator
3. Coordinate with dealer to order and install the elevator



# Hoistway Layout



<b>MINIMUM Hoistway Size FOR OH Cable Drum</b>					
<b>MRL OH Cable Drum Gate Type</b>	<b>CAB GATE CODE</b>				
	<b>1 or 2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
	<b>C x D</b>	<b>C x D</b>	<b>C x D</b>	<b>C x D</b>	<b>C x D</b>
Collapsible Gate	45 x 45	47 x 45	47 x 45	47 x 45	47 x 45
Accordion Gate (no Operator)	45 x 45	47 x 45	47 x 51	47 x 51	47 x 45
Accordion Gate + Operator	45 x 45	47 x 46	47 x 51	47 x 51	47 x 51

- Note:
1. Cab Frame is centered on cab.
  2. C = Shaft Depth (out from support wall)
  3. D = Shaft Width (parallel to support wall)



# Hoistway Layout

The following specs are to be provided by the General Contractor (GC), except as noted, prior to Elevator Contractor (EC) installing the elevator equipment.

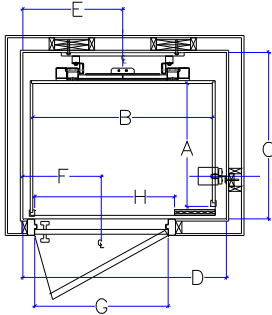
1. Enclosed, plumb and square hoistway with smooth interior surfaces. Include for fascias or furring of hoistway interior.
2. Doors, frames and door hardware.
3. Finish openings as per elevator contractor's shop drawings.
4. Hoistway door security: All hoistway doors require door locking devices (provided by Inclinator) as well as a door handle and a latch set. All doors must be swing type (single hinge). Solid core doors are recommended.
5. Unfinished/Un-installed door: EC may prefer a minimum of one hoistway door and associated framing be left unfinished to accommodate elevator installation and prevent possible damage to door/framing. Preferably at the lowest floor.



# Hoistway Layout

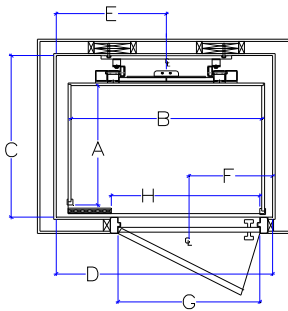
The following data is for typical industry size elevators.

Any size cab is available in ¼" increments to dimensions **A** and **C** or **B** and **D** within the maximum and minimum dimensions shown in the diagram on page 6 not to exceed 15 SQ. FT. or 18 SQ. FT. where allowed.



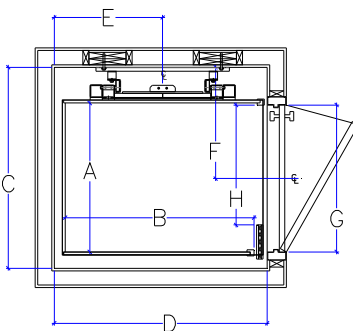
## CODE 1

CODE 1	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	35.75"	48.50"	47.0"	55.00"	27.00"	21.25"	36"	UP TO 38"
	38" x 60"	35.75"	58.50"	47.0"	65.00"	32.00"	21.25"	36"	UP TO 44"
	42" x 48"	39.75"	46.50"	51.0"	53.00"	26.00"	21.25"	36"	UP TO 36"
	42" x 54"	39.75"	52.50"	51.0"	59.00"	29.00"	21.25"	36"	UP TO 44"



## CODE 2

CODE 2	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	35.75"	48.50"	47.0"	55.00"	28.00"	21.25"	36"	UP TO 38"
	38" x 60"	35.75"	58.50"	47.0"	65.00"	33.00"	21.25"	36"	UP TO 44"
	42" x 48"	39.75"	46.50"	51.0"	53.00"	27.00"	21.25"	36"	UP TO 36"
	42" x 54"	39.75"	52.50"	51.0"	59.00"	30.00"	21.25"	36"	UP TO 44"



## CODE 3

CODE 3	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.75"	49.0"	53.00"	27.00"	25.25"	32"	UP TO 30"
	38" x 60"	36.50"	57.75"	49.0"	63.00"	32.00"	25.25"	32"	UP TO 30"
	42" x 48"	40.50"	45.75"	53.0"	51.00"	26.00"	27.25"	36"	UP TO 34"
	42" x 54"	40.50"	51.75"	53.0"	57.00"	29.00"	27.25"	36"	UP TO 34"



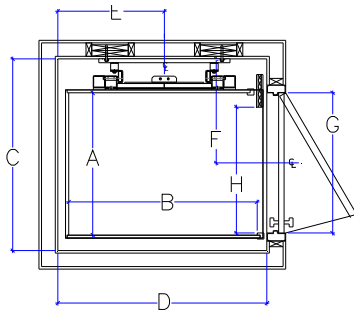


# Hoistway Layout

The following data is for typical industry size elevators.

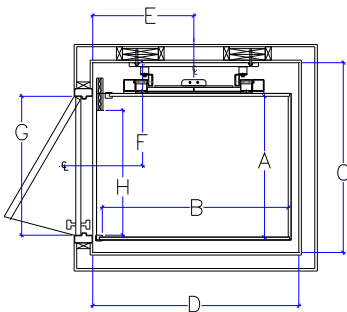
Any size cab is available in ¼" increments to dimensions **A** and **C** or **B** and **D** within the maximum and minimum dimensions shown in the diagram on page 6 not to exceed 15 SQ. FT. or 18 SQ. FT. where allowed.

## CODE 4



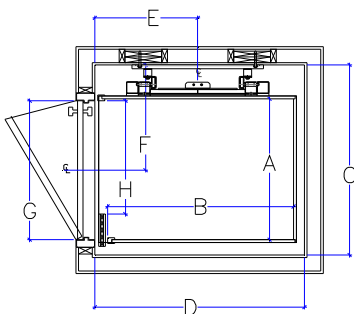
CODE 4	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.75"	49.0"	53.00"	27.00"	28.75"	32"	UP TO 32"
	38" x 60"	36.50"	57.75"	49.0"	63.00"	32.00"	28.75"	32"	UP TO 32"
	42" x 48"	40.50"	45.75"	53.0"	51.00"	26.00"	30.75"	36"	UP TO 36"
	42" x 54"	40.50"	51.75"	53.0"	57.00"	29.00"	30.75"	36"	UP TO 36"

## CODE 5



CODE 5	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.75"	49.0"	53.00"	26.00"	28.75"	32"	UP TO 32"
	38" x 60"	36.50"	57.75"	49.0"	63.00"	31.00"	28.75"	32"	UP TO 32"
	42" x 48"	40.50"	45.75"	53.0"	51.00"	25.00"	30.75"	36"	UP TO 36"
	42" x 54"	40.50"	51.75"	53.0"	57.00"	28.00"	30.75"	36"	UP TO 36"

## CODE 6



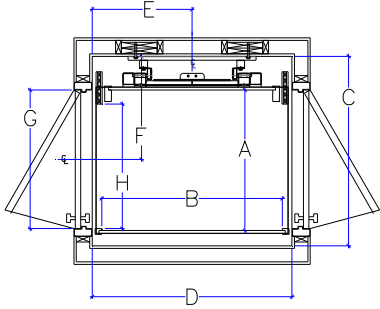
CODE 6	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.75"	49.0"	53.00"	26.00"	25.25"	32"	UP TO 30"
	38" x 60"	36.50"	57.75"	49.0"	63.00"	31.00"	25.25"	32"	UP TO 30"
	42" x 48"	40.50"	45.75"	53.0"	51.00"	25.00"	27.25"	36"	UP TO 34"
	42" x 54"	40.50"	51.75"	53.0"	57.00"	28.00"	27.25"	36"	UP TO 34"



# Hoistway Layout

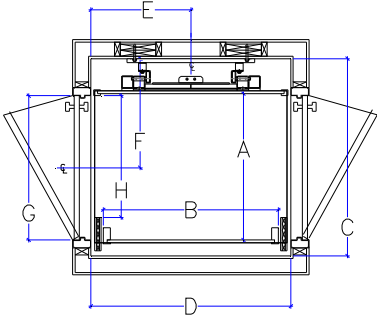
Additional configurations available. Consult your dealer or Inclinator for alternate options.

Any size cab is available in 1/4" increments to dimensions **A** and **C** or **B** and **D** within the maximum and minimum dimensions shown in the diagram on page 6 not to exceed 15 SQ. FT. or 18 SQ. FT. where allowed.



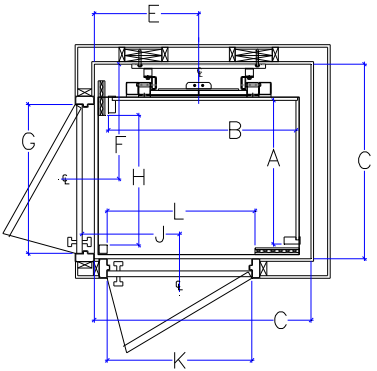
## CODE 4,5

CODE	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.00"	49.0"	52.00"	26.00"	28.75"	32"	UP TO 32"
	38" x 60"	36.50"	57.00"	49.0"	62.00"	31.00"	28.75"	32"	UP TO 32"
	42" x 48"	40.50"	45.00"	53.0"	50.00"	25.00"	30.75"	36"	UP TO 36"
	42" x 54"	40.50"	51.00"	53.0"	56.00"	28.00"	30.75"	36"	UP TO 36"



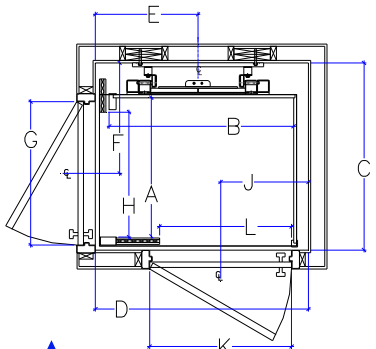
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CODE	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	DOOR SIZE	CLEAR OPENING
	38" x 50"	36.50"	47.00"	49.0"	52.00"	26.00"	25.25"	32"	UP TO 30"
	38" x 60"	36.50"	57.00"	49.0"	62.00"	31.00"	25.25"	32"	UP TO 30"
	42" x 48"	40.50"	45.00"	53.0"	50.00"	25.00"	27.25"	36"	UP TO 34"
	42" x 54"	40.50"	51.00"	53.0"	56.00"	28.00"	27.25"	36"	UP TO 34"



## CODE 5,1

CODE	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H	J	K	L
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	ADJ. DOOR	CLEAR OPENING	CENTER OF DOOR	OPP. DOOR	CLEAR OPENING
	38" x 50"	35.75"	47.75"	47.0"	54.00"	26.00"	28.75"	32"	UP TO 32"	21.25"	36"	UP TO 36"
	38" x 60"	35.75"	57.75"	47.0"	64.00"	31.00"	28.75"	32"	UP TO 32"	21.25"	36"	UP TO 36"
	42" x 48"	39.75"	45.75"	51.0"	52.00"	25.00"	30.75"	36"	UP TO 36"	21.25"	36"	UP TO 44"
	42" x 54"	39.75"	51.75"	51.0"	58.00"	28.00"	30.75"	36"	UP TO 36"	21.25"	36"	UP TO 44"



## CODE 5,2

CODE	CAR SIZE (O.D.)	A	B	C	D	E	F	G	H	J	K	L
		CAB DEPTH (I.D.)	CAR WIDTH (I.D.)	SHAFT DEPTH	SHAFT WIDTH	CENTER OF RAIL	CENTER OF DOOR	ADJ. DOOR	CLEAR OPENING	CENTER OF DOOR	OPP. DOOR	CLEAR OPENING
	38" x 50"	35.75"	47.75"	47.0"	54.00"	26.00"	28.75"	32"	UP TO 32"	22.25"	36"	UP TO 36"
	38" x 60"	35.75"	57.75"	47.0"	64.00"	31.00"	28.75"	32"	UP TO 32"	22.25"	36"	UP TO 36"
	42" x 48"	39.75"	45.75"	51.0"	52.00"	25.00"	30.75"	36"	UP TO 36"	22.25"	36"	UP TO 44"
	42" x 54"	39.75"	51.75"	51.0"	58.00"	28.00"	30.75"	36"	UP TO 36"	22.25"	36"	UP TO 44"



# Hoistway Specifications

The following specs are to be provided by the General Contractor (GC), except as noted, prior to Elevator Contractor (EC) installing the elevator equipment.

1. **Environmental requirements** for hoistway:
  - a. Temperature should be maintained between 40<sup>0</sup> F to 120<sup>0</sup> F. (4<sup>0</sup>C to 49<sup>0</sup>C)
  - b. Should not be exposed to the elements.
  
2. **Pit Requirements:**
  - a. Substantial level pit floor slab to support 4,000 lbs. impact load.
  - b. Waterproof pit minimum 8" below lowest floor level, unless buffer springs are required then minimum 12" pit required.
  
3. **Overhead Requirements:**

ELEVATOR SPEED = 30 ft/min			
DOOR HEIGHT	INSIDE CAB HEIGHT	OVERALL CAB HEIGHT	MINIMUM OVERHEAD REQUIREMENT
6' - 8"	80"	7' - 0"	8' - 6"
7' - 0"	84"	7' - 4"	8' - 10"
8' - 0"	92"	8' - 0"	9' - 6"
8' - 0"	96"	8' - 4"	9' - 10"

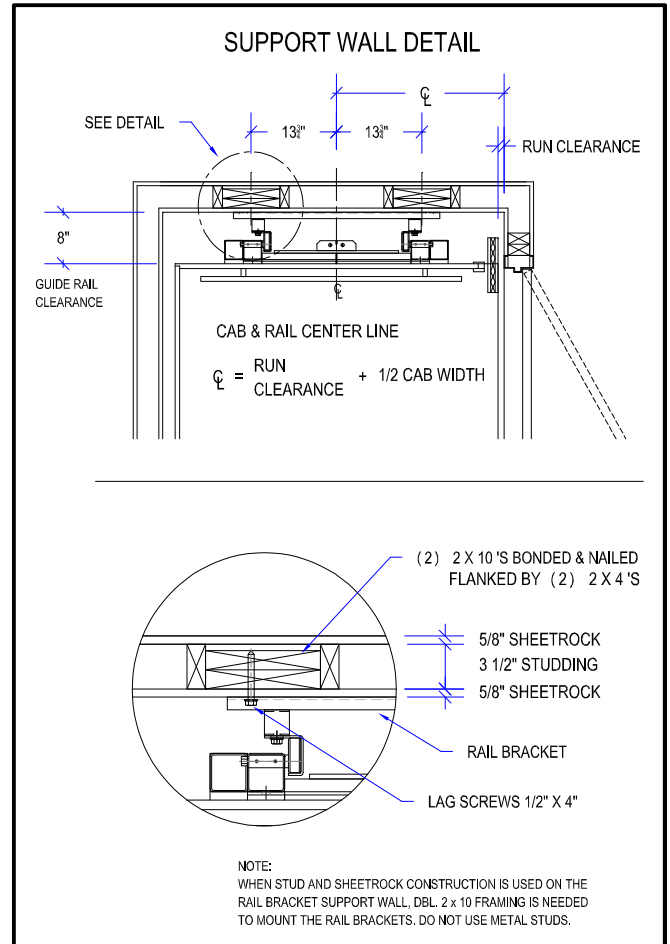
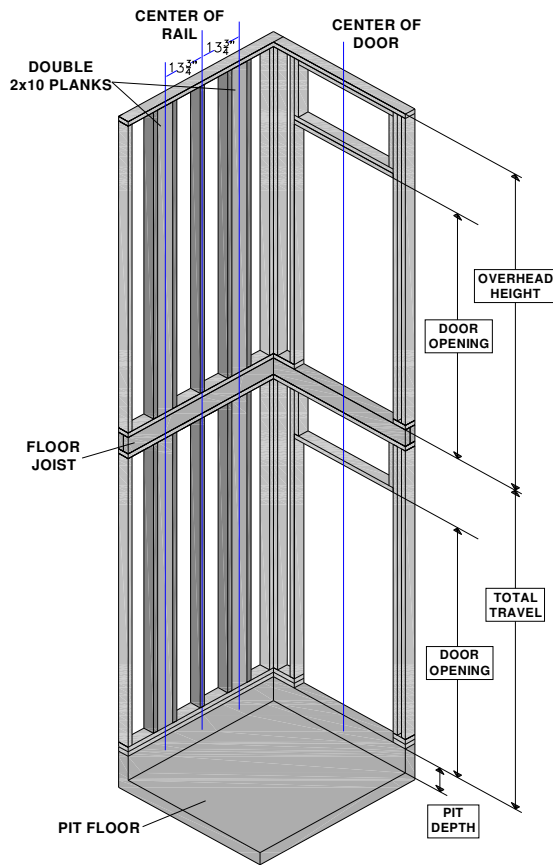
ELEVATOR SPEED = 40 ft/min			
DOOR HEIGHT	INSIDE CAB HEIGHT	OVERALL CAB HEIGHT	MINIMUM OVERHEAD REQUIREMENT
6' - 8"	80"	7' - 0"	8' - 9"
7' - 0"	84"	7' - 4"	9' - 1"
8' - 0"	92"	8' - 0"	9' - 9"
8' - 0"	96"	8' - 4"	10' - 1"

- a. If minimum Overhead is not possible, consult Inclinator, or EC, about possible solutions.
  
4. **Rail Support Wall Requirements:**
  - a. The support wall consists of a double 2" x 10" bonded & nailed planking that is then constructed within a typical wood 2" x 4" studded wall. These double 2" x 10" planks are oriented and mounted perpendicular to the standard wall construction, all of these must be installed plumb and straight.
  - b. The custom formed dual rail system assembly provided by Inclinator is to be mounted to the double stud planking plumb and straight along the vertical plane.
  - c. The rail brackets are secured to the double 2" x 10" planking with 1/2" x 4" lag bolts, see drawing details.
  - d. All studs in the rail support wall must be of wood, typical steel studs are prohibited and cannot be used in the rail support wall.
  - e. See page 13 for alternate mounting / construction options.
  
5. **ASME 17.1 Part 5.3:** Hoistway to be constructed in accordance with this code and all local codes. It is the responsibility of the GC and the EC to comply with all appropriate codes.

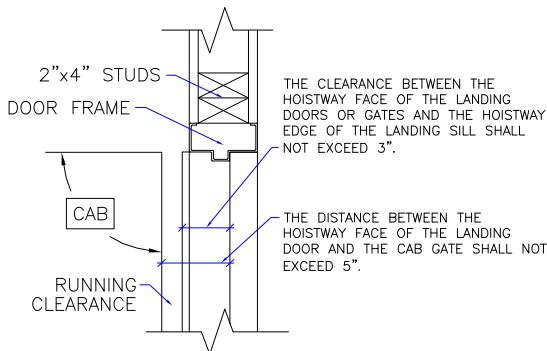


# Typical Hoistway Construction

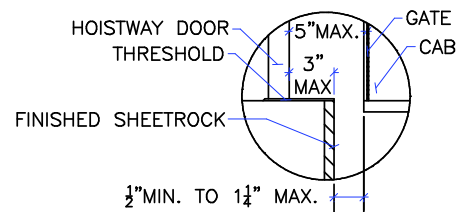
(See page 12 for alternate hoistway construction)



## 5-3 RULE / DOOR FRAME DETAILS



NOTE:  
\* FRAMING ON DOOR SIDE OF HOISTWAY MUST BE OF 2x4 CONSTRUCTION TO APPLY TO 5-3 RULE OF ANSI 17.1 CODE.



DOOR SILLS TO BE INSTALLED BY GC AFTER THE LIFT SUPPLIER HAS INSTALLED A RUNNING PLATFORM. SILL MUST BE BROUGHT OUT TO NOT LESS THAN 1/2" AND NOT MORE THAN 1 1/4" TO THE RUNNING PLATFORM WHILE MAINTAINING A DISTANCE OF 3" FROM THE HOISTWAY FACE OF THE LANDING DOOR (OR GATE) TO THE HOISTWAY EDGE OF THE LANDING SILL.

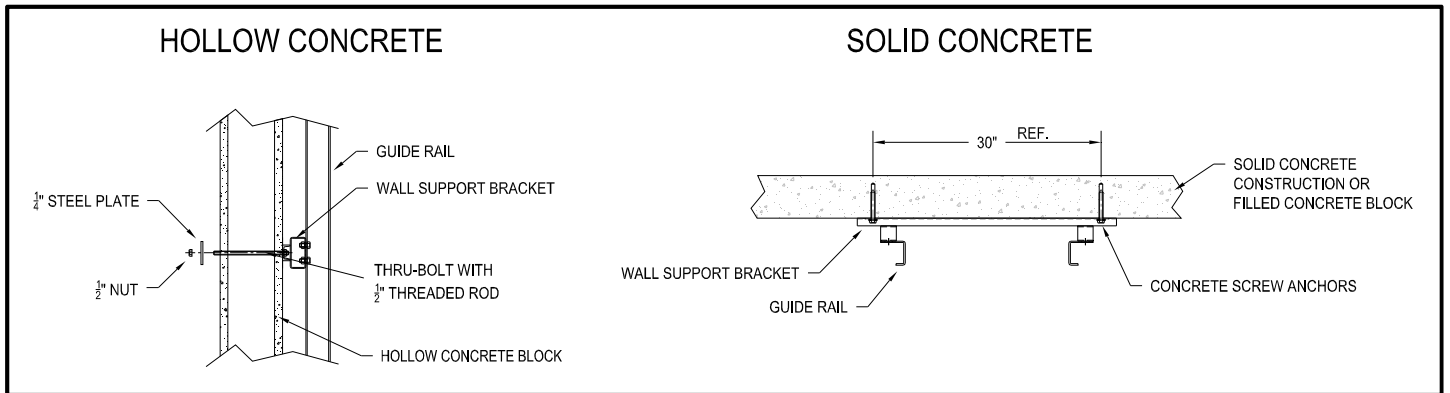


# Alternate Hoistway Construction

The following recommendations are for hoistways constructed of concrete or hollow concrete block.

When mounting to a solid concrete wall or solid filled concrete block use (2) concrete screw anchors with a minimum ultimate strength in tension of 3000 lbs (i.e. Redhead LDT – Large Diameter Tapcon) per a mounting bracket.

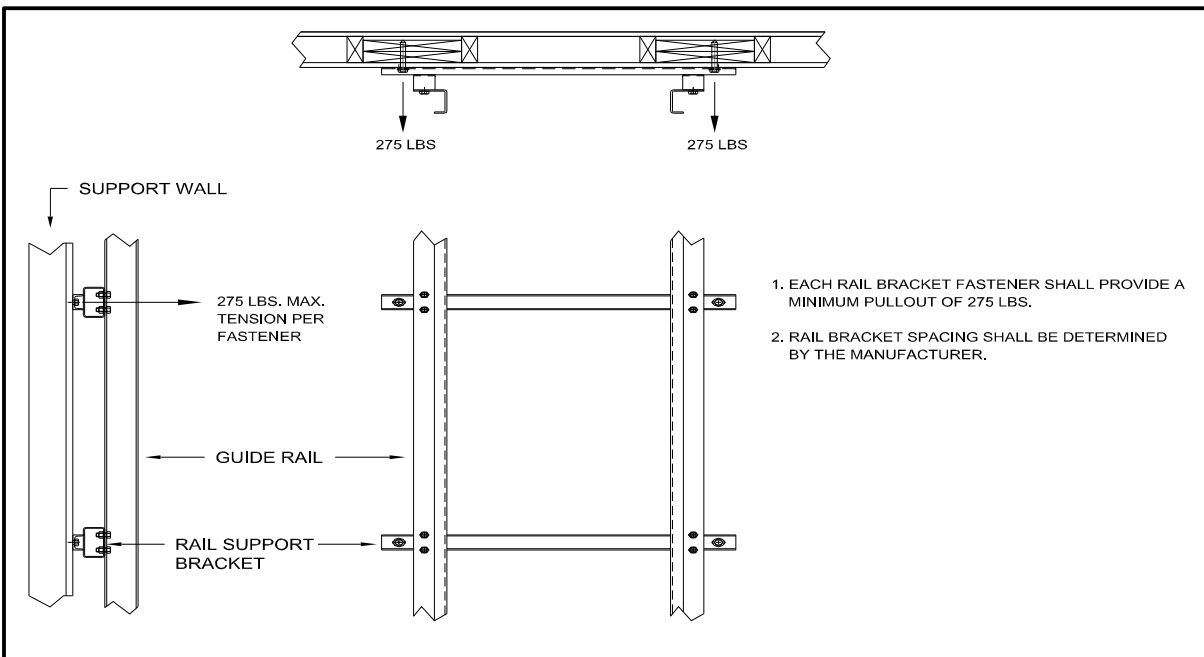
When mounting to hollow concrete block it is best to use 1/2" threaded rod and thru-bolt the brackets to the wall. 1/4" Steel plate should be used on the back side of the wall for additional strength.



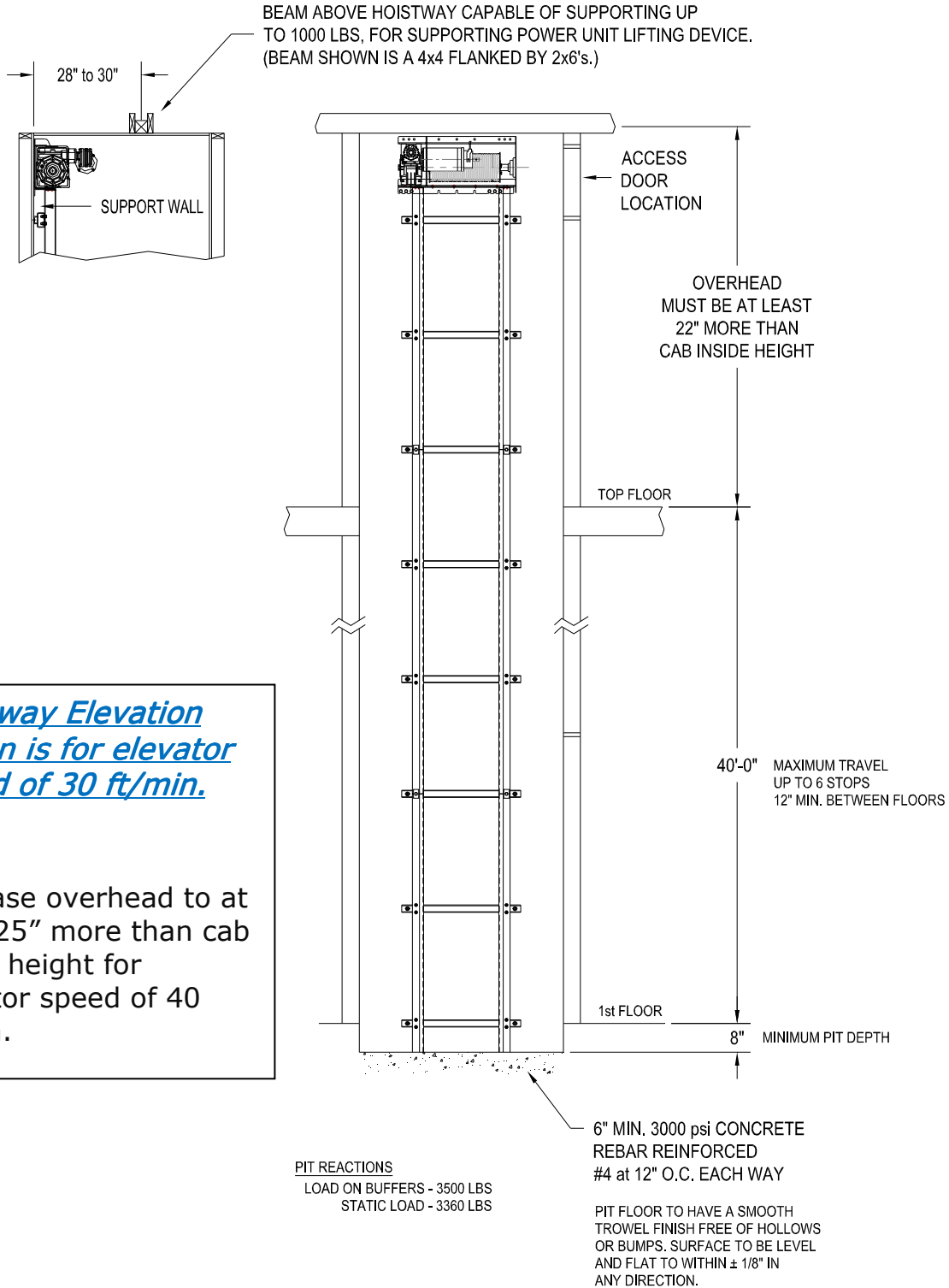
NOTE: All mounting points should meet or exceed the minimum pull out force for all rail reactions.

NOTE: Follow the anchor manufacturer's recommendations for type and size of drill bit to be used.

## Rail Reactions



# Hoistway Elevation / Pit Specifications

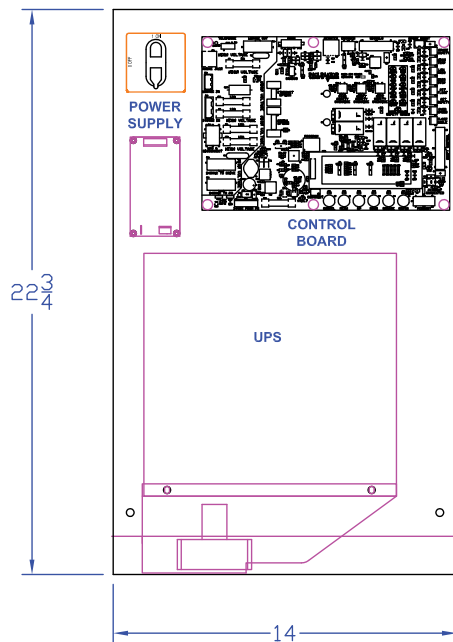


*Hoistway Elevation shown is for elevator speed of 30 ft/min.*

Increase overhead to at least 25" more than cab inside height for elevator speed of 40 ft/min.

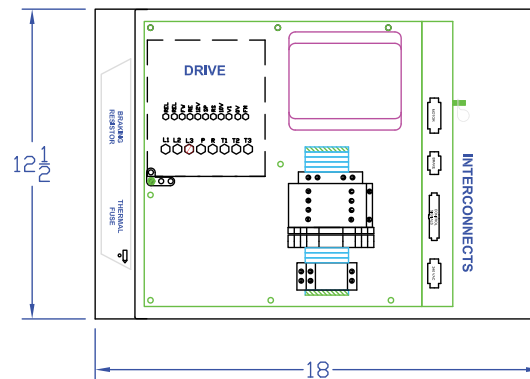


## Controller Space



### CPU/ CONTROLLER

(14"W × 22 $\frac{3}{4}$ "H × 4"D)



### MOTOR CONTROL

(18"W × 12 $\frac{1}{2}$ "H × 8"D)

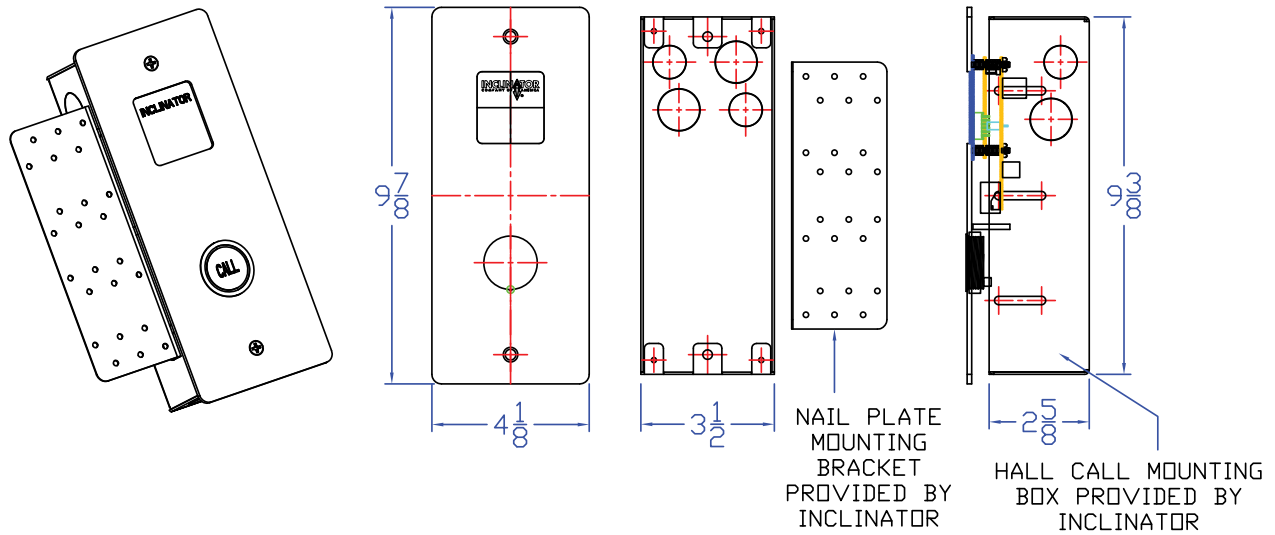
**NOTE:** The CPU/Controller and Motor Control is recommended to be mounted in the same location. However, up to 40' controller cables are available if needed.

1. Permanent 230 volt, single phase, 30 amp dedicated supply and disconnect by others to operate the elevator.
2. 120 volt lighting supply and disconnect by others.
3. Telephone connection: Code requires a telephone connection. An analog phone land line terminated to RJ11 phone jack is required for connection to the controller. Dealer to supply standard RJ11 modular cable to connect from phone jack to controller. Inclinator does not recommend VOIP (Voice over IP) phone line due to possible inaccessibility of phone service during utility power failure.
4. CPU/Controller and Motor Control should be mounted in a temperature controlled environment between 40°F to 120°F (4°C to 49°C).
5. CPU/Controller and Motor Control should not be exposed to outdoor elements.
6. Typical wiring distance from the Motor Control to the gearbox is 10'. Longer motor cables up to 50' are available. See wiring diagram on page 17 for more information.
7. N.E.C. regulations require a minimum of 30"x36" clear unobstructed floor space in front of the controller. N.E.C regulations also state the floor to ceiling height of the control space should be 6'-6" high.
8. If mounting the CPU/Controller or Motor Control inside the hoistway they should be located in such a way that they can be inspected and maintained without full body entry into the hoistway.

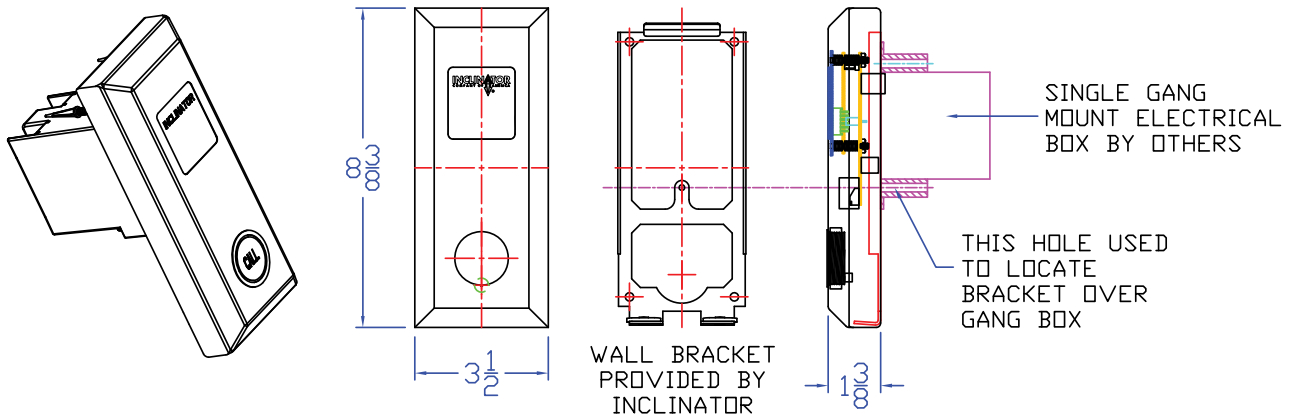


# Hall Call Stations

## FLUSH MOUNT HALL CALL STATION



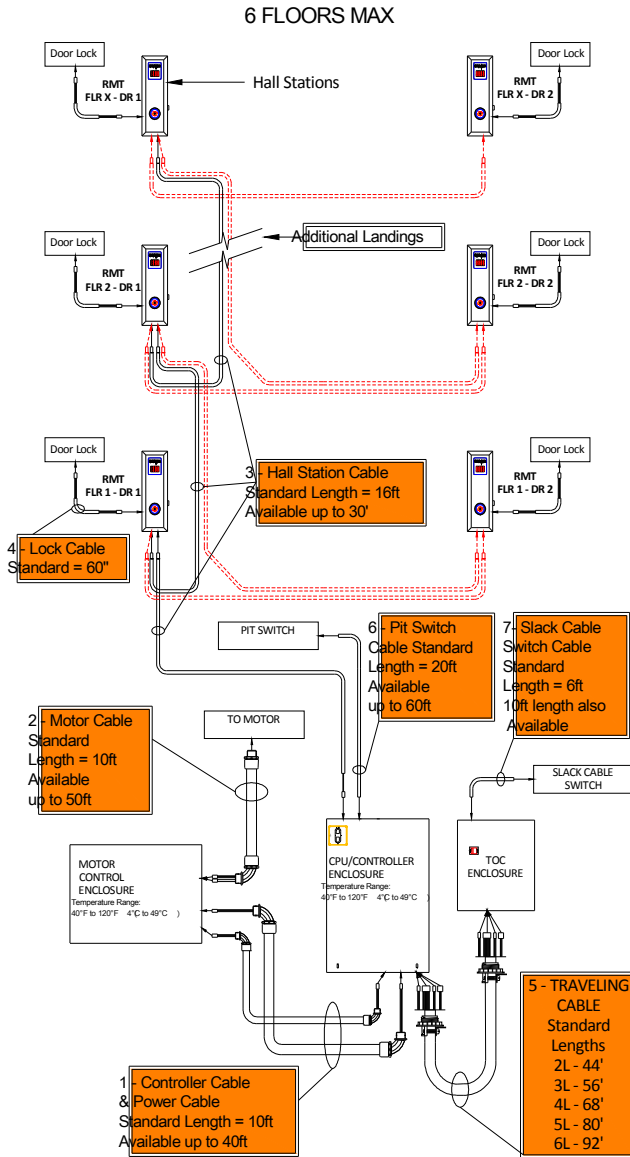
## RAISED MOUNT HALL CALL STATION



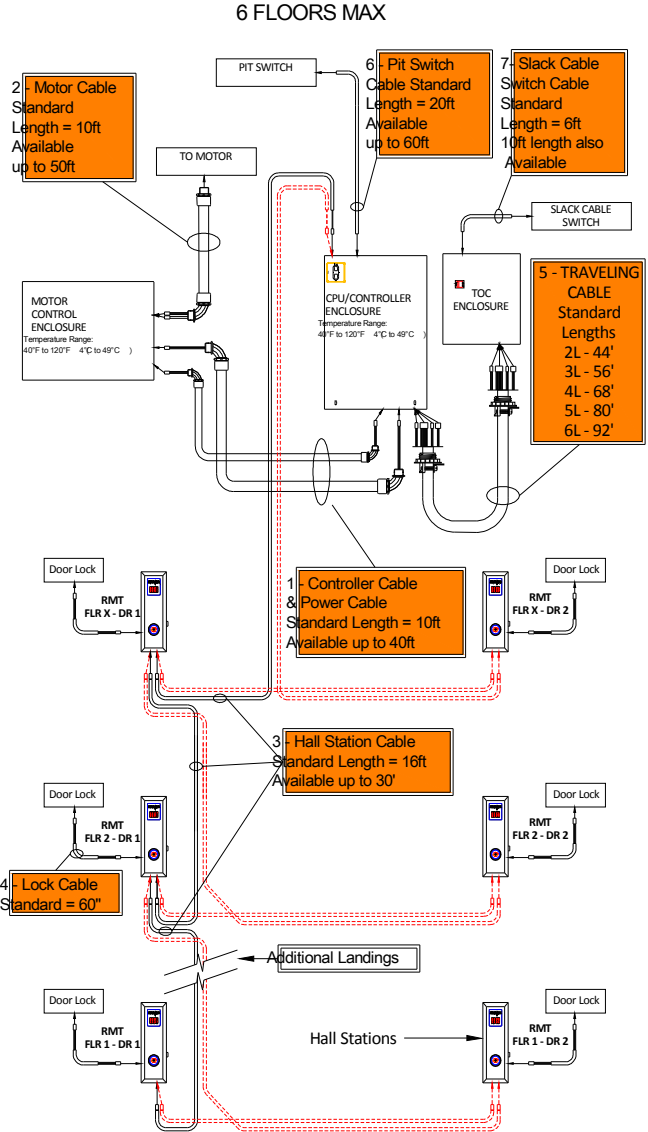


# UC601 Cable Lengths and Components

## STANDARD MOUNT



## ATTIC MOUNT



Cable lengths shown are standard based on number of landings ordered. Inclinator offers additional cable length options to meet non-standard installations. Please see order form for additional information on longer cable lengths



## Warranty

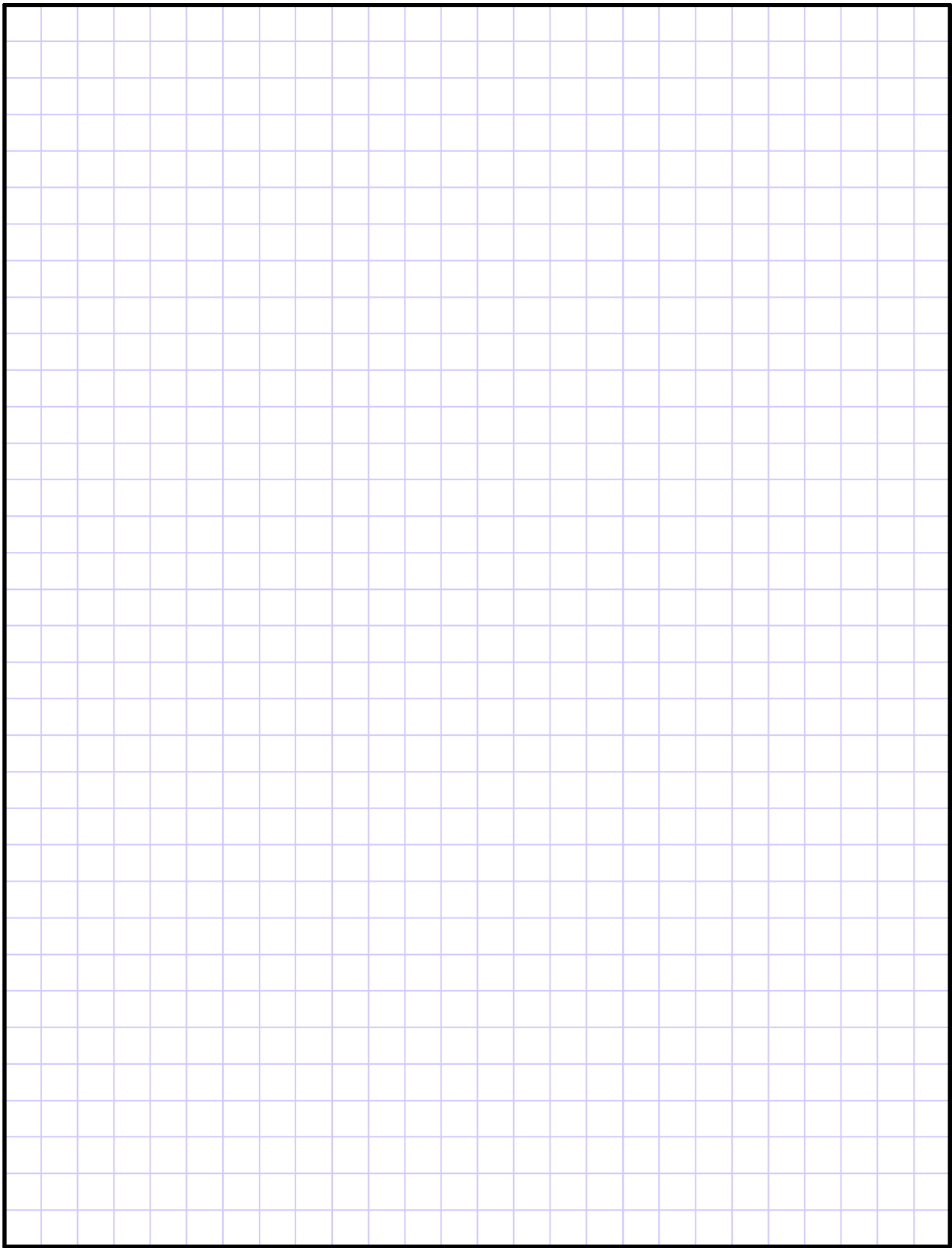
This warranty and all implied warranties including the implied warranties of merchantability and fitness for a particular purpose, for this product are limited to a period of two years from the time this product is first installed.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

The manufacturer is not responsible for consequential damages resulting from the use of this product, including labor charges for removal and reinstallation of parts. The manufacturer's liability for any damages resulting from use of this product or breach of this or any implied warranties is limited solely to parts, repair or replacement in accordance with the terms set forth above and these are the exclusive remedies available to purchasers of this product.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.





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