

GPLUS ELEVATOR PRODUCT DESIGN DOCUMENT

GPLUS ELEVATOR

“ELEVATING YOUR LIFE – WHERE INNOVATION MEETS ACCESSIBILITY.”

GPlus Elevator is a leading innovator in the elevator industry, dedicated to providing cutting-edge vertical transportation solutions that combine functionality, safety, and elegance. Our company specializes in designing and manufacturing elevators that cater to a wide range of needs.

We are committed to bringing versatile and efficient elevator solutions to your home, enhancing quality of life with each installation. Regardless of your home's age, size, or architectural style, we have an elevator solution that will meet your needs. Experience the transformational impact of vertical mobility with GPlus Elevator.

Our Airis model combines elegance and functionality, providing a smooth and spacious ride that enhances accessibility in any home.

“Elevating Your Life - Where Innovation Meets Accessibility.”

GPlus elevators are designed not just to transport people but to significantly enhance their quality of life by providing innovative, reliable, and accessible solutions.

Elevating Your Life:

"Elevating" not only refers to the literal function of elevators—lifting people between different levels in a building—but also signifies an enhancement in quality of life. Our elevators enable customers to enjoy greater ease, comfort, and convenience in their daily routines, ultimately enhancing their overall quality of life.

Innovation: we are committed to cutting-edge technology and modern design in the elevator industry. Our elevators incorporate the latest advancements, whether in safety features, energy efficiency, or aesthetic appeal, setting them apart from conventional options in the market.

Accessibility: The importance of ensuring that all individuals, including those with mobility challenges (such as the elderly or disabled), can easily navigate their living or working spaces.

Elevators Installed Anywhere in Your Home

We offer flexible installation options to meet the varied needs of homeowners, whether you're looking to integrate an elevator inside your home or outside. Our versatile solutions are designed to fit seamlessly into both old and new residences, providing convenience and accessibility for everyone.

Interior and Exterior Installations:

Inside the Home: Installing an elevator inside your home can enhance accessibility and add a touch of luxury to your living space. Our designs are tailored to blend with your home's interior aesthetics, ensuring that the installation complements your existing décor. Whether you're retrofitting an older home or incorporating an elevator into a new build, our team has the expertise to execute the installation flawlessly.

Outside the Home: For homes with limited interior space or unique architectural constraints, an exterior elevator can be a practical and stylish solution. Exterior installations are designed to withstand environmental elements while providing smooth and easy access to different levels of your home.

With or Without a Shaft:

With Shaft: Elevators with a constructed shaft are ideal for homeowners who prioritize structural integration and enhanced safety.

Without Shaft: For existing homes where constructing a shaft might be challenging, or to preserve interior space, shaftless elevators offer a convenient alternative. These models are designed to require minimal structural modifications while still delivering reliable performance and safety.

Suitable for Old and New Homes:

New Homes: If you are in the process of designing or building a new home, planning your elevator installation from the start allows for maximum flexibility in design and integration into your architectural plans.

Old Homes: Retrofitting an elevator into an older home can significantly improve accessibility and add value. Our team specializes in creating solutions that minimize disruption to your existing structure while providing the modern conveniences you desire.

Geared Traction Machine (Drum Type)

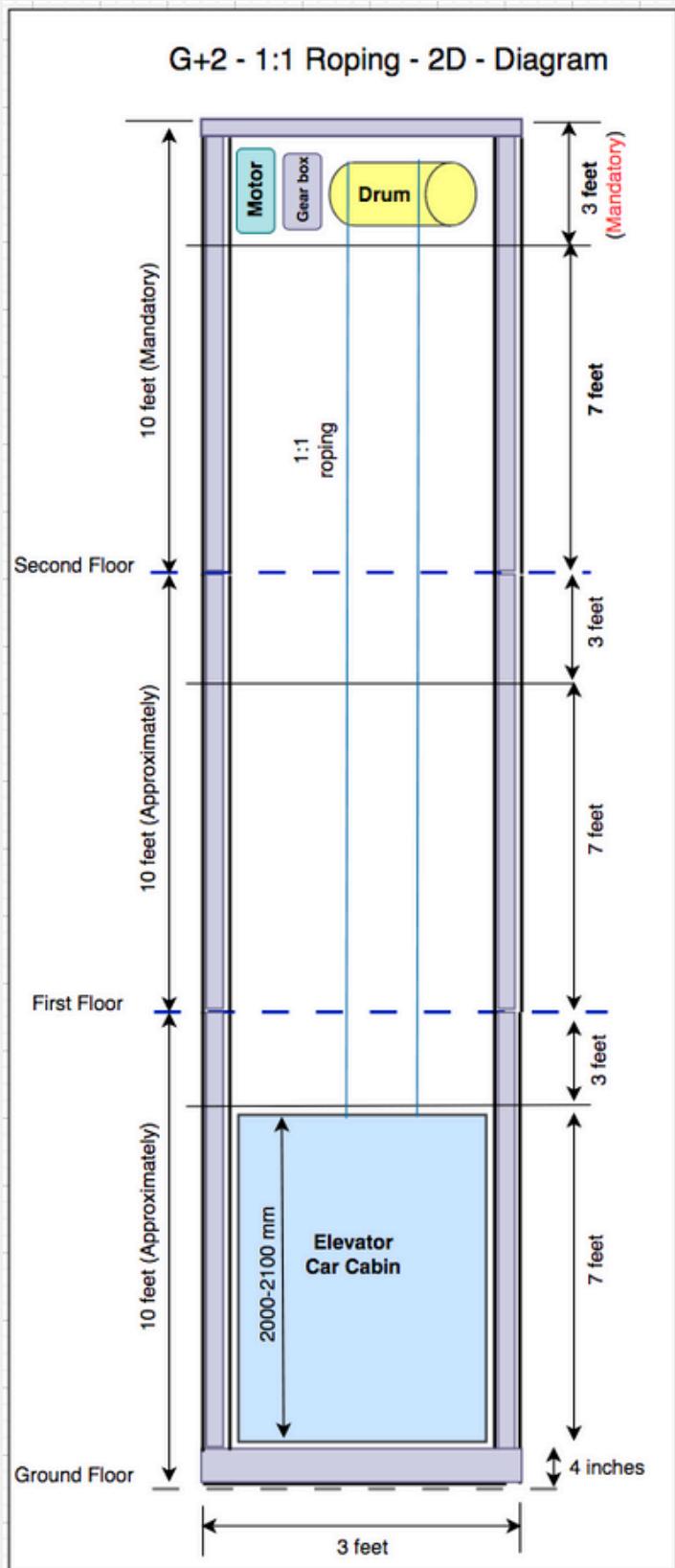
A geared traction machine is a type of elevator drive system that uses gears to transmit power from the motor to the sheave (pulley) that lifts and lowers the elevator car.



Mechanism: In a drum elevator, a hoisting drum is used to wind or unwind the steel cable that lifts and lowers the elevator car. The cable is attached to the elevator car and loops over the drum.

Operation: When the drum rotates in one direction, the cable is wound up, lifting the car; when it rotates in the opposite direction, the cable unwinds, lowering the car.

G+2 - 1:1 Roping Requirements



G+2 elevator system layout with specific measurements.

1. Structure:

- Floors: Indicates a three-story building (Ground, First, and Second Floor).
- Elevator Cabin Dimensions: The elevator cabin is likely specified to have dimensions 2000 mm - 2100 mm (approximately 6.6 feet) height.

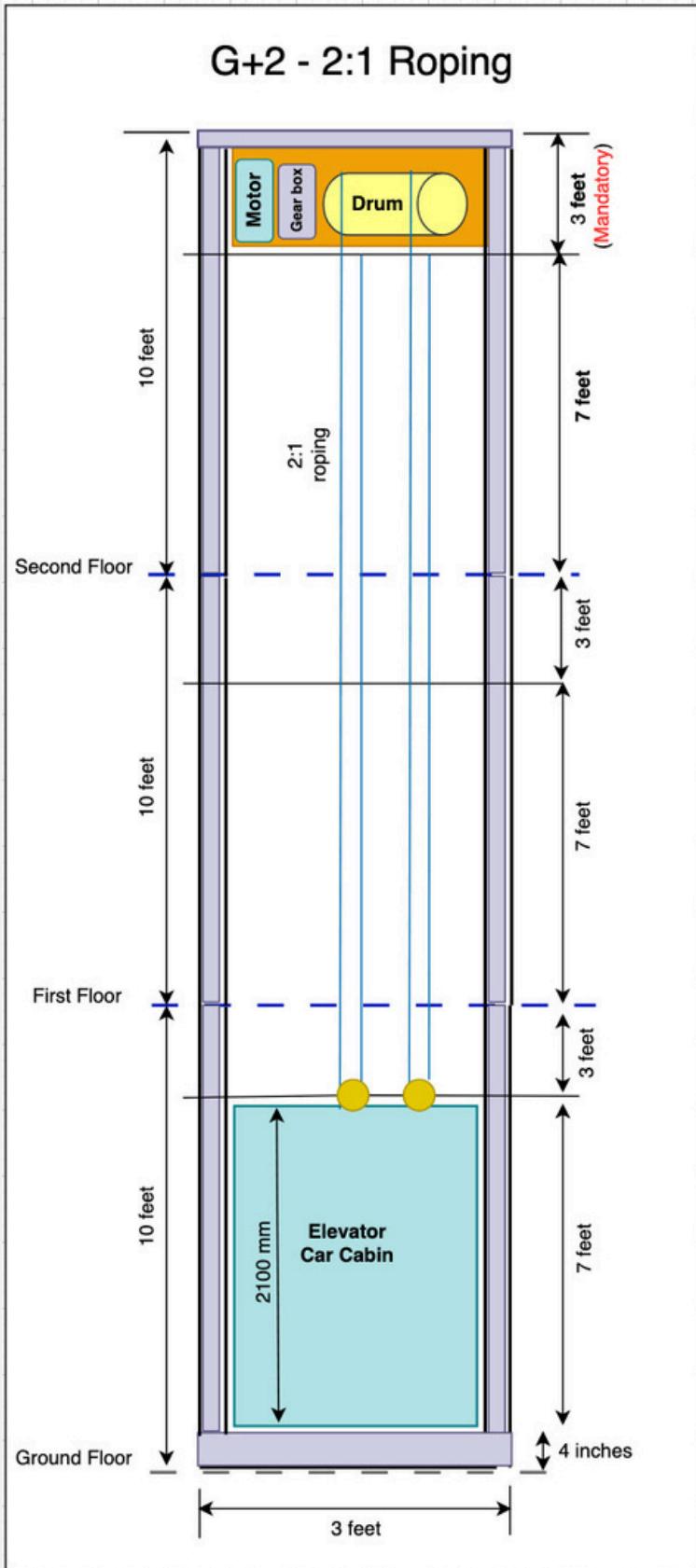
2. Schematic Details:

- Roping Ratio: 1:1 indicates the type of pulley system being used for the elevator.
- Motor and Gear Location: Shows where the motor and gear drum are positioned, usually at the top of the shaft.

3. Clearances:

- Height Specifications: Indications for clearances on each floor level (e.g., 10 feet for the upper levels and specific measurements for the ground floor).

G+2 - 2:1 Roping Requirements



G+2 elevator system layout with specific measurements.

1. Structure:

- Floors: Indicates a three-story building (Ground, First, and Second Floor).
- Elevator Cabin Dimensions: The elevator cabin is likely specified to have dimensions 2000 mm - 2100 mm (approximately 6.6 feet) height.

2. Schematic Details:

- Roping Ratio: 2:1 indicates the type of pulley system being used for the elevator.
- Motor and Gear Location: Shows where the motor and gear drum are positioned, usually at the top of the shaft.

3. Clearances:

- Height Specifications: Indications for clearances on each floor level (e.g., 10 feet for the upper levels and specific measurements for the ground floor).

Motors

We use IE2 2.2kW 3 HP Motor or 3.7kW 5 HP motors. An IE2 motor refers to an electric motor that meets the International Electrotechnical Commission (IEC) efficiency standards and is categorized as "high efficiency". IE2 motor is a reliable and energy-efficient, providing significant advantages in energy savings and operational efficiency. Its higher efficiency rating makes it a favorable choice for elevators looking to optimize performance while reducing environmental impact.



Specifications:

Motor Type:	IE2 Induction Motor
Power Rating:	2.2kW / 3HP or 3.7 kW / 5 HP
Speed:	1440 RPM
Duty Type:	S1 (Continuous duty)
Mounting Type:	Flange Mounted
Brake Type:	DC Brake
Brake Voltage:	190 Volts DC
Frequency:	50 Hz
Connection Diagram:	star or delta connections

Why we choose Crompton Greaves?

Legacy of Innovation: With over **80 years** of experience, Crompton Greaves has consistently introduced innovative products and solutions in electric motors, transformers, and energy management systems, helping set industry standards.

Global Presence: The company has established a strong international footprint, exporting products to over 100 countries, showcasing its global reach and commitment to providing quality solutions worldwide.

Energy Efficiency: Crompton Greaves motors are designed for optimal energy efficiency, often complying with international efficiency standards like IE2, IE3, and IE4. This not only helps in reducing energy consumption but also aligns with the growing demand for sustainable practices.

Strong Customer Support: With a dedicated team of professionals and a customer-centric approach, Crompton Greaves provides excellent support services and maintenance.

Gear box

The Altra Worm Gearbox with a premium cast iron casing is designed for high durability and performance in various industrial applications. The Premium Cast Iron Casing Altra Worm Gearbox with input and output hollow shafts is a reliable, efficient, and versatile solution for elevators. Worm gearboxes offer a combination of high torque, compact design, self-locking capabilities, and smooth operation, making them a preferred choice for elevators.



Specifications:

Manufacturer:	Premium(Altra)
Model:	ALM 110
Gear Ratio:	40:1 (40:1)
Frame Size:	Fr-100L
Input Shaft Type:	Hollow Shaft
Output Shaft Type:	Hollow Shaft
Lubrication Type:	Oil-filled
Ambient Temperature Range:	-10°C to 40°C
Protection Class:	IP55

Why Worm Gear box is better choice?

High Torque Output: Worm gearboxes are capable of providing a high torque output from a relatively compact assembly. The gear ratio can be designed to achieve significant reductions in speed while increasing torque, making them suitable for heavy-duty applications.

Compact Design: The unique setup of worm gears allows for a compact design, where the input and output shafts can be positioned at right angles. This space-saving design is advantageous in elevators with limited installation space.

Self-Locking Feature: One of the key advantages of worm gears is their self-locking property. When the worm is turned, the gear cannot turn the worm due to the angle of inclination of the threads, which prevents back driving. This feature is particularly useful in lifting applications and where load holding is essential.

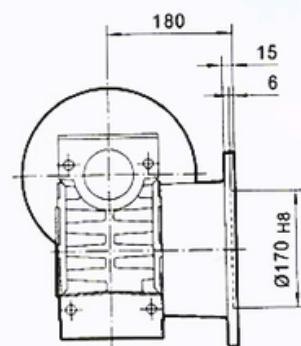
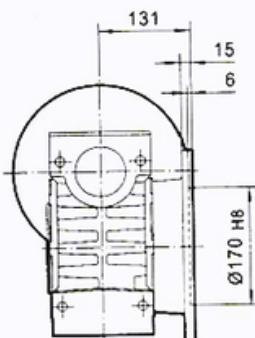
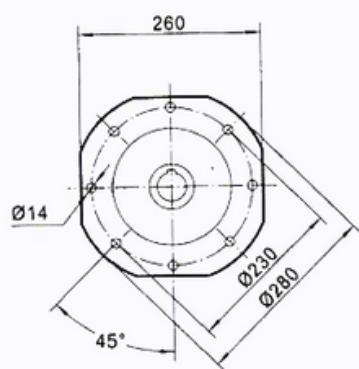
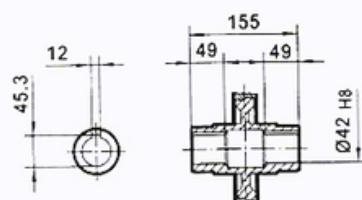
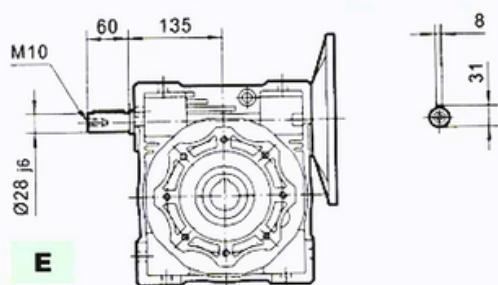
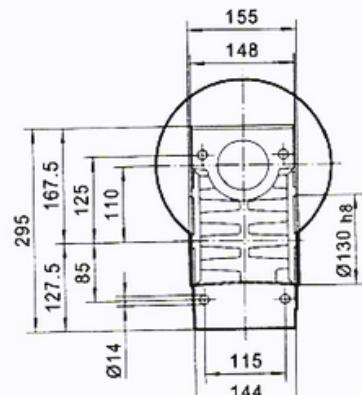
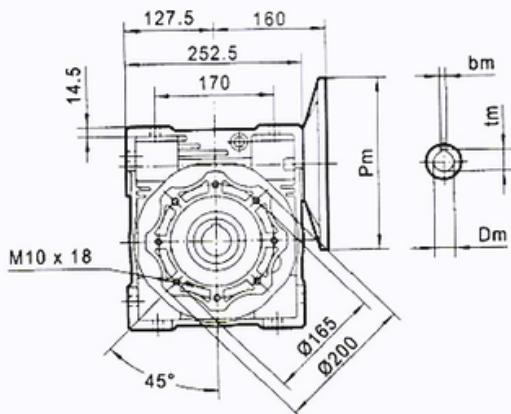
Smooth and Quiet Operation: Worm gearboxes typically operate with less noise and vibration compared to other gear types. Their design allows for smoother operation, which is desirable in applications requiring quiet performance.

Gear box ALM 110 Technical Specifications

OUTLINE DIMENSION SHEET



ALM110



FA

FB

Motor Frame	P _m	D _m E8	b _m	t _m
132B5	300	38	10	41.3
112B5	250	28	8	31.3
100B5	250	28	8	31.3
90B5	200	24	8	27.3
80B5	200	19	6	21.8

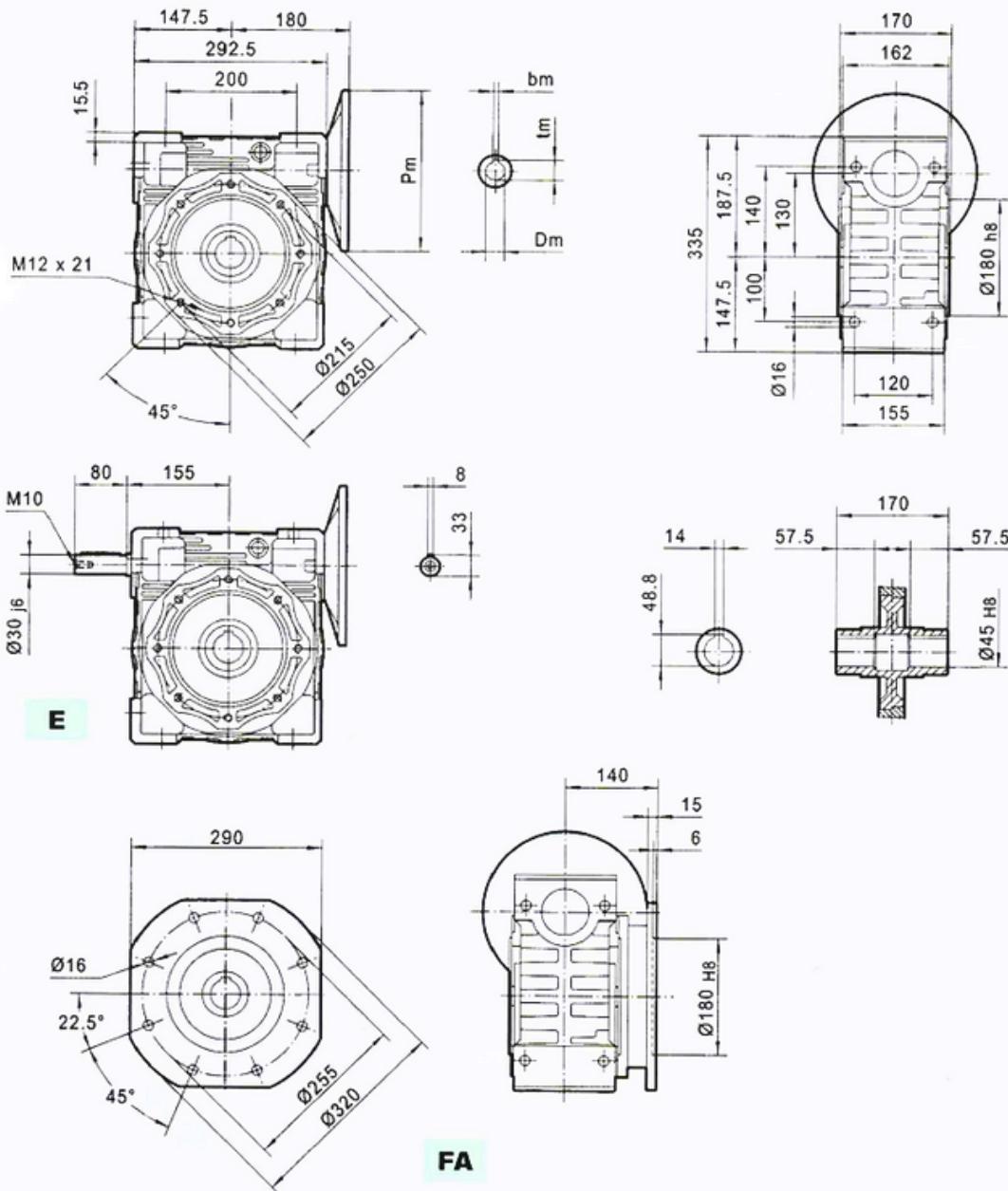
Weight without motor ≈ 35 kg

Gear box ALM 130 Technical Specifications



OUTLINE DIMENSION SHEET

ALM130



Motor Frame	P _m	D _m E8	b _m	t _m
132B5	300	38	10	41.3
112B5	250	28	8	31.3
100B5	250	28	8	31.3
90B5	200	24	8	27.3

Weight without motor ≈ 48 kg

Cabin Space

Our Unique design maximize cabin space while minimizing the footprint of the elevator shaft, establishing a new benchmark in the industry. This innovative approach allows for a more spacious and comfortable environment for passengers. With our commitment to innovation, we are proud to deliver elevator solutions that not only enhance accessibility but also elevate the overall user experience, making our elevators the ideal choice for modern architectural needs around the world.



Specifications:

Manufacturer:	GPlus Elevator
Model:	Airis
Measurements:	width * depth
Shaft Size (feet):	3 ' * 3 '
Shaft Size (mm):	900 * 900
Cabin Space(mm):	866 * 746
Shaft Size (mm):	1050 * 1050
Cabin Space(mm):	1016 * 896
Shaft Size (mm):	1200 * 1200
Cabin Space(mm):	1166 * 1046
Cabin Height (mm):	2000 to 2100

Why our cabin is best?

Our cabin design stands out due to its efficient use of space, modern aesthetics, advanced safety features, and commitment to user comfort and energy efficiency. With customizable options and robust technology integration, it meets the evolving needs of modern buildings and their occupants, making it the best choice for your elevator solutions.

1. Maximized Space Efficiency

Our cabin design optimizes available space, providing ample room for passengers without requiring excessive shaft space. This thoughtful configuration enhances both functionality and comfort.

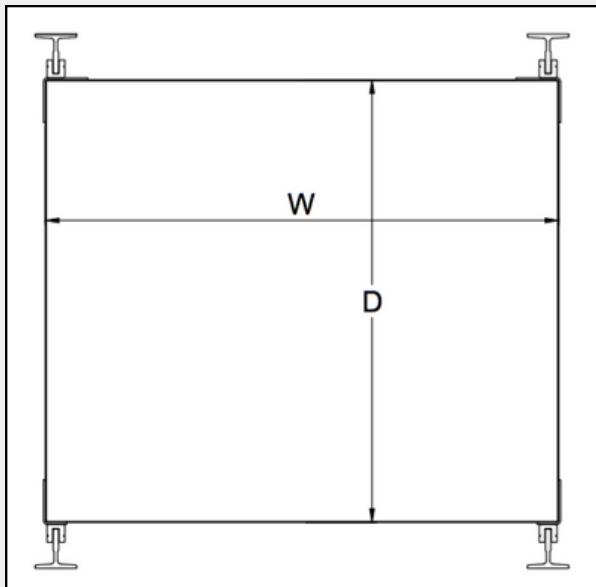
2. Stylish and Modern Aesthetics

The design features a sleek and contemporary look that complements modern architecture. High-quality materials and finishes contribute to an inviting atmosphere, enhancing the overall user experience.

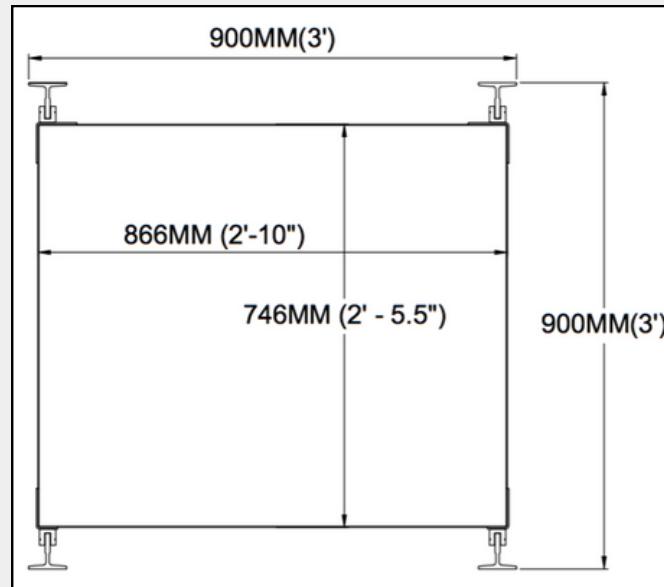
3. Ergonomic Layout

The cabin is designed with user comfort in mind, featuring an ergonomic layout that makes entering and exiting the elevator easy. Spacious dimensions accommodate mobility devices, ensuring accessibility for all.

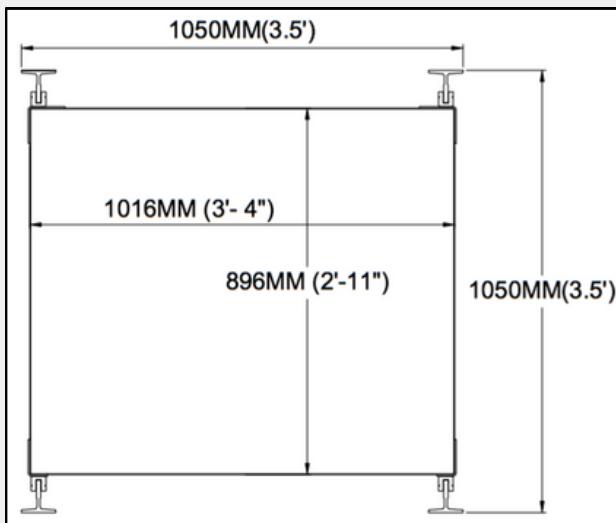
Cabin Dimensions



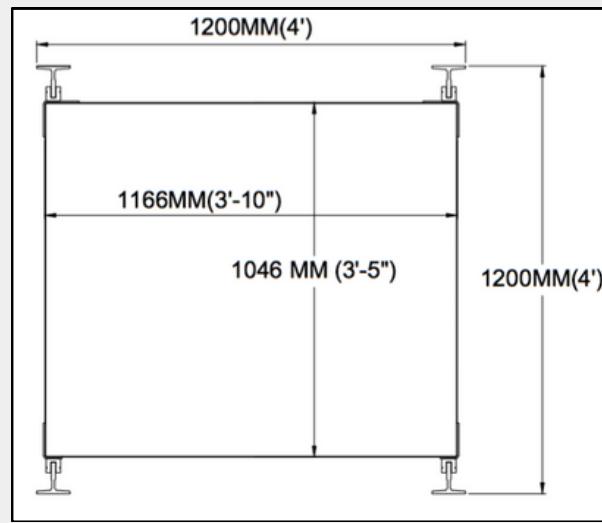
Width * Depth



900 mm * 900 mm



1050 mm * 1050 mm

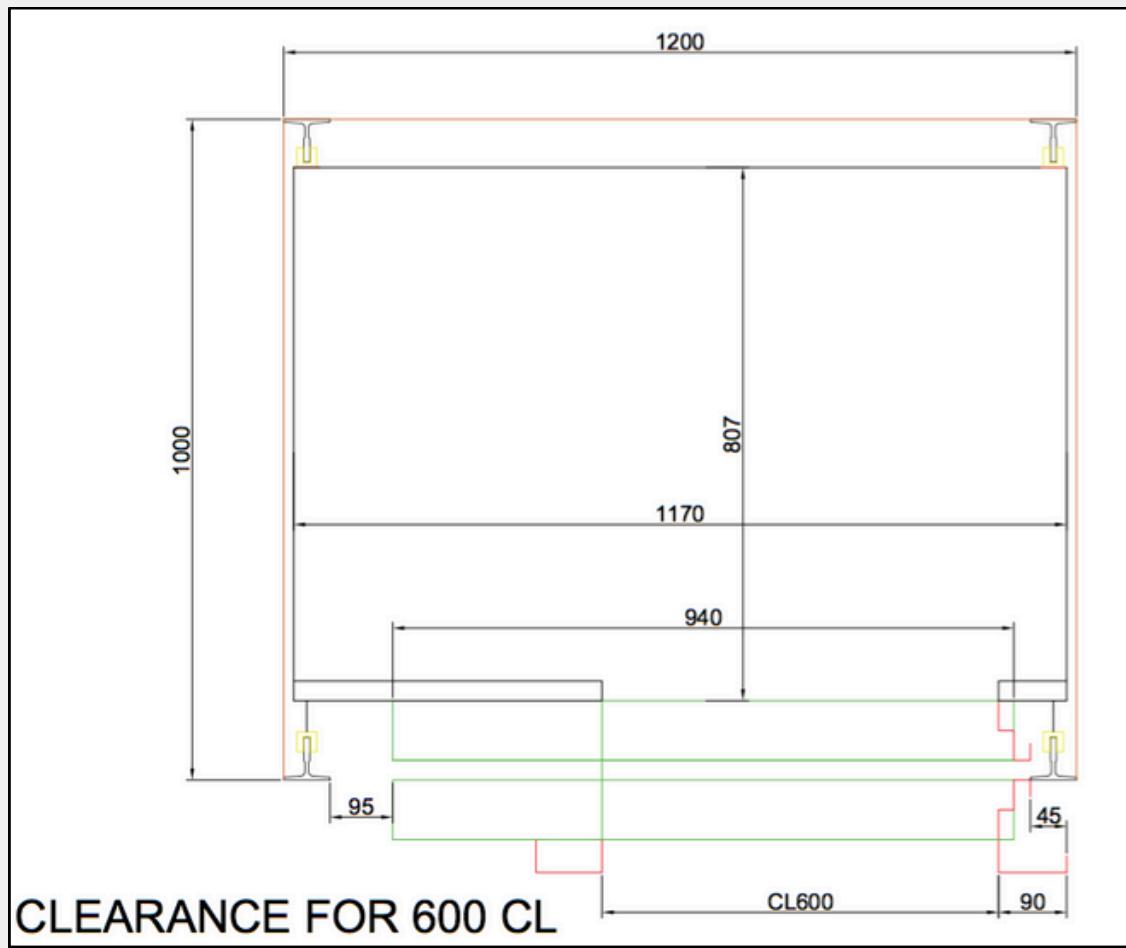
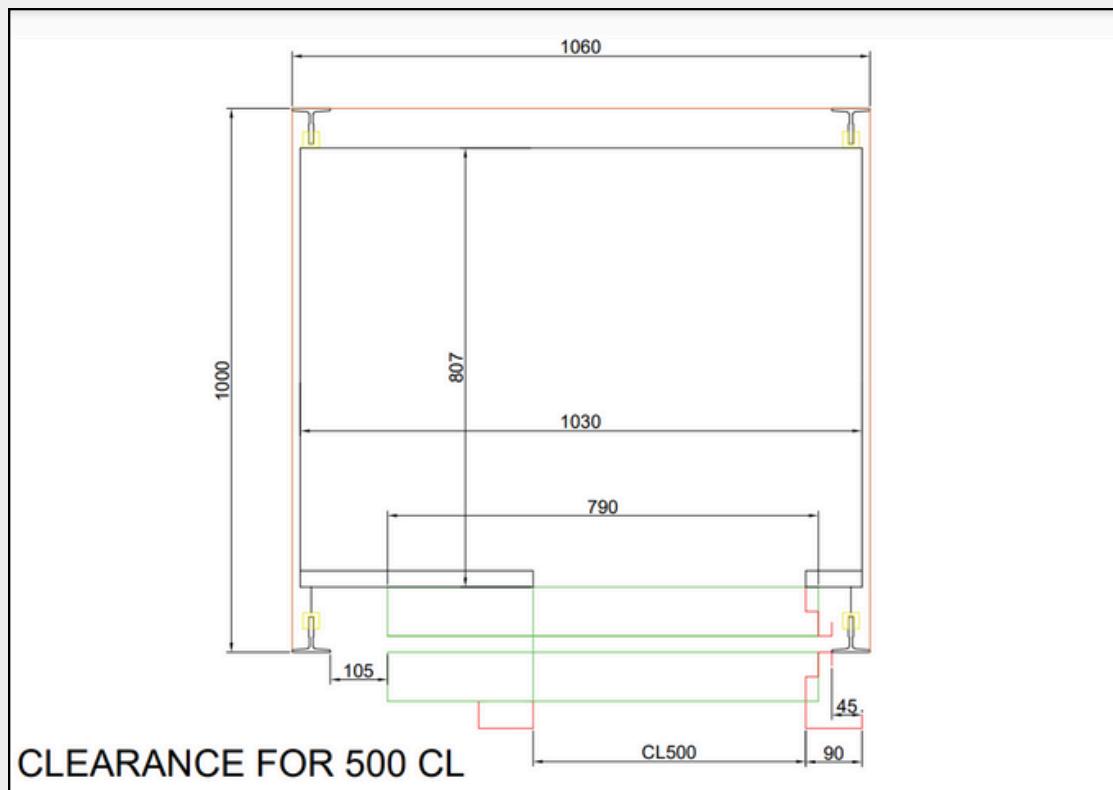


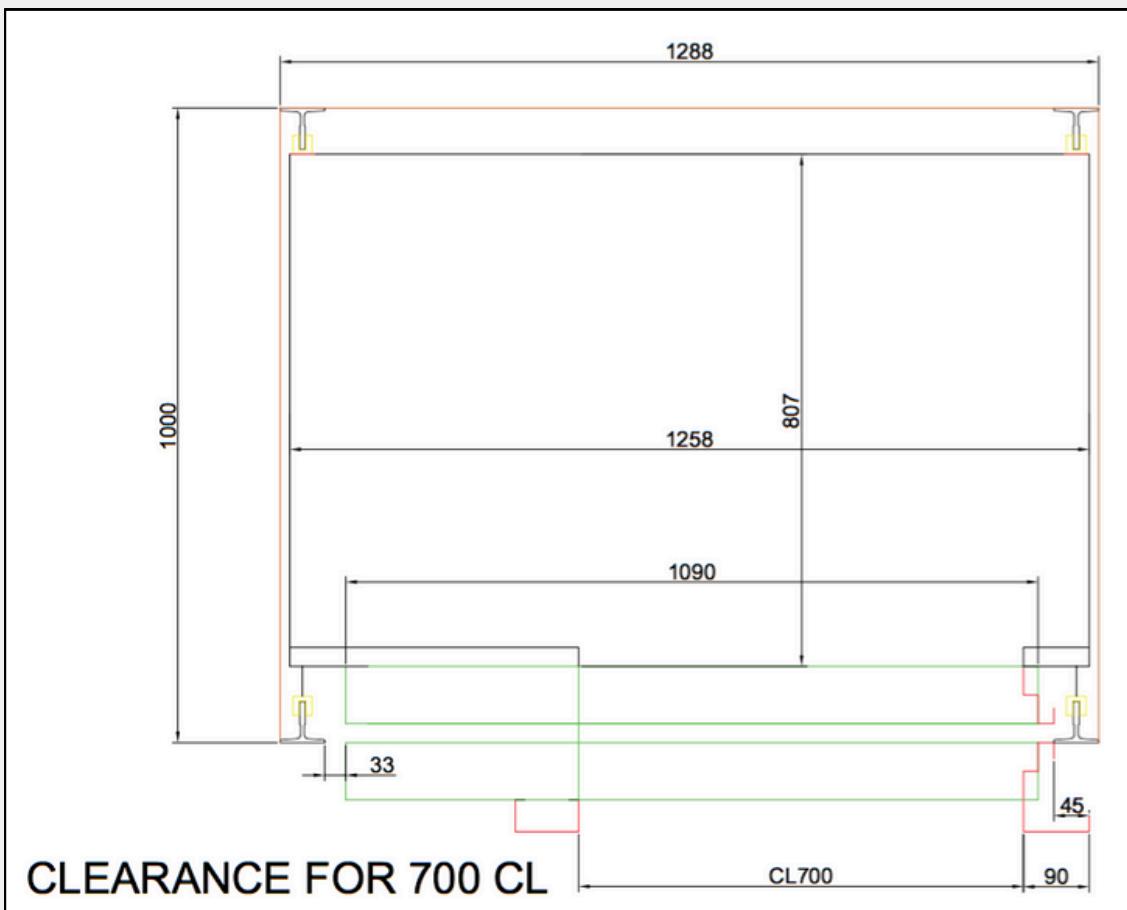
1200 mm * 1200 mm

Airis Model Cabin Measurements

LIFT SIZE	WIDTH (W)	DEPTH (D)
900MM X 900MM (3'X3')	866MM (2'-10")	746MM (2' - 5.5")
1050MM X 1050MM (3.5'X3.5')	1016MM (3'- 4")	896MM (2'-11")
1200MM X 1200MM (4'X4')	1166MM(3'-10")	1046 MM (3'-5")

Auto Door clearance

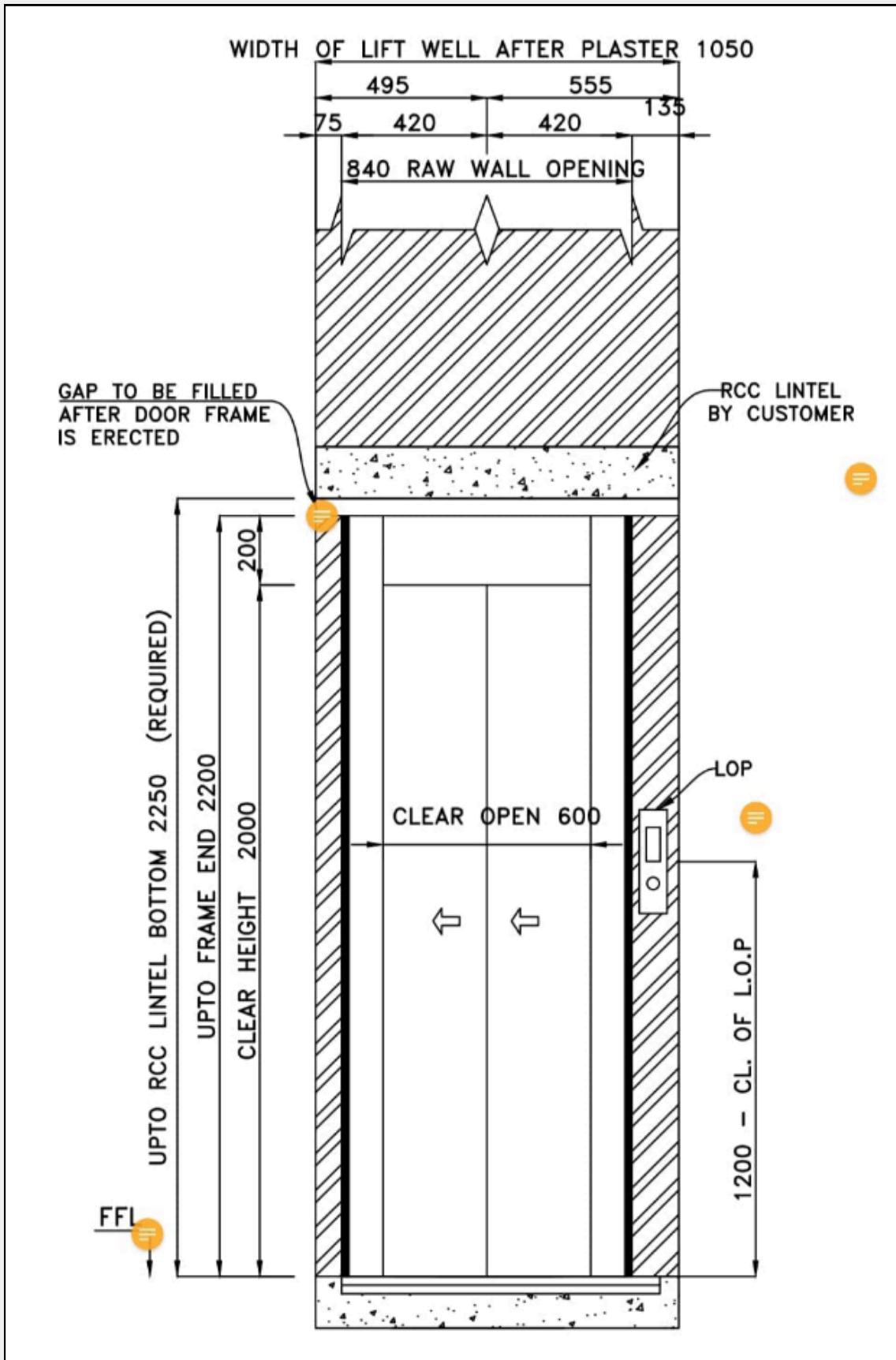




Airis Model All Auto Door's will be side openings.

Auto door clearance (mm)	Width Requirements (mm)	Width Requirements (feet)
500	1070 - 1100	3.6 - 3.9
600	1170	4.0
700	1270	4.3

Auto Door 600 mm LH Opening



Sliding Door Measurements



Sliding door is a type of door that opens horizontally by sliding along a track. It's often used in spaces where a hinged door might take up too much space or in areas where a modern aesthetic is desired.

Sliding doors can provide wide access openings, which is beneficial for moving large items or ensuring accessibility for all users.

Sliding doors do not require additional space to open, making them ideal for areas with limited room or in narrow spaces.

Airis Model Manual Sliding Door Measurements.

Shaft Size (mm) (W * D)	Elevator Door (mm) (W * H)	Cabin Door (mm) (W * H)
900 * 900	690 * 2000	710 * 2000
1050 * 1050	805 * 2000	828 * 2000
1200 * 1200	920 * 2000	946 * 2000

Swing Door Measurements



Swing door is a type of door that is mounted on hinges, allowing it to open and close by swinging away from or towards the door frame.

The combination of glass and mild steel or stainless steel gives the elevator a contemporary look that can seamlessly integrate into various architectural styles.

Half Vision doors feature a transparent upper panel that allows some visibility into the elevator cabin while maintaining privacy with a solid lower half. In contrast, full vision doors are entirely made of glass, providing unobstructed visibility, enhancing openness and modern aesthetics in elevator design.

Airis Model Manual Swing Door Measurements.

Shaft Size (feet)	Swing door clearance (mm)
3 * 3	600 mm
3.6 * 3.6	700 mm
4 * 4	800 mm

Core Cutting Requirements



Core cutting is a process used in construction and engineering to remove a cylindrical section of material from a larger structure. This is typically achieved with a specialized tool called a core drill, which uses a diamond-tipped or carbide-tipped drill bit to cut through tough materials like concrete, stone, asphalt, or metal.

Shaft Size (mm) (W * D)	Shaft Size (feet)	Core Cutting Size (feet)
900 * 900	3 * 3	3.2 * 3.2
1050 * 1050	3.6 * 3.6	3.8 * 3.8
1200 * 1200	4.0 * 4.0	4.2 * 4.2

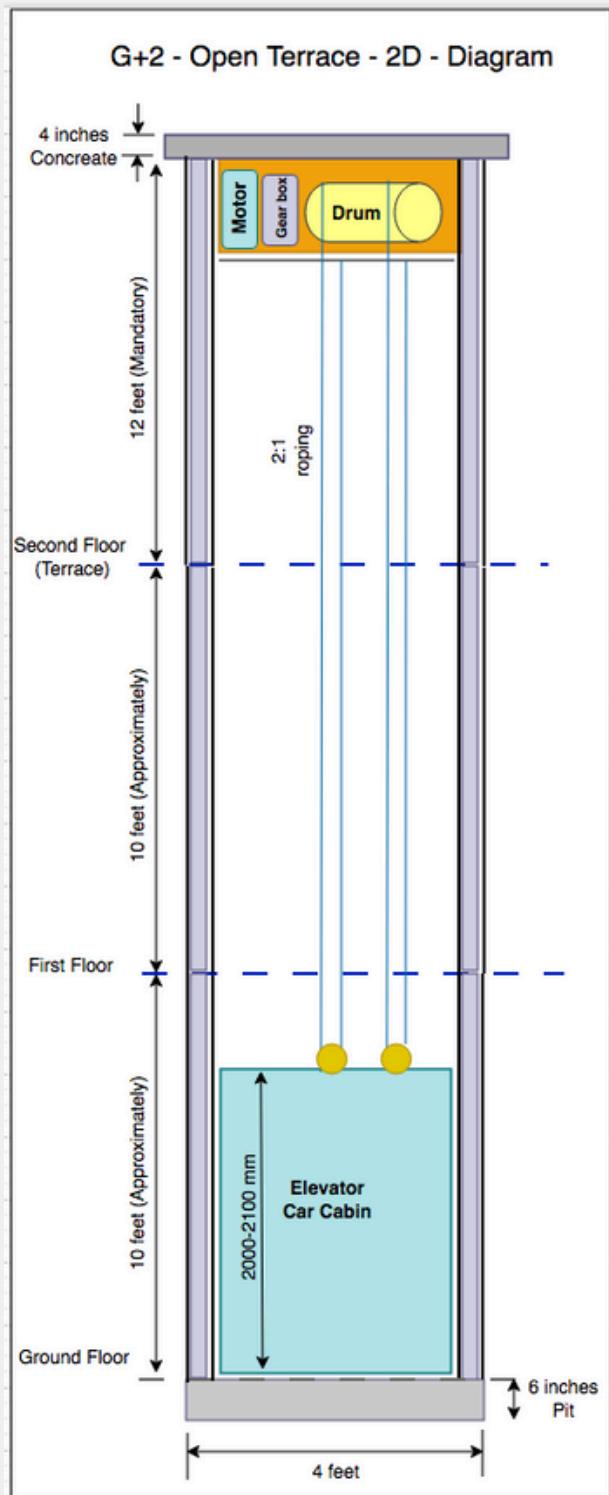
Open Terrace Elevator Room Requirements



A structure made of bricks or hollow blocks can be constructed on an open terrace, reaching a height of 12 or 13 feet. A steel gate with a lock should be installed at the front to facilitate access for services and maintenance.

Shaft Size (mm) (W * D)	Shaft Size (feet)	Terrace Shaft Size (feet)
900 * 900	3 * 3	3.6 * 3.6
1050 * 1050	3.6 * 3.6	4 * 4
1200 * 1200	4.0 * 4.0	4.6 * 4.6

Open Terrace Elevator Room Diagram



A structure made of bricks or hollow blocks can be constructed on an open terrace, reaching a height of 12 or 13 feet. A steel gate with a lock should be installed at the front to facilitate access for services and maintenance.

If the customer provides a pit for the elevator installation, it must be at least 6 inches deep. Additionally, a minimum of 4 inches of concrete is required on the top of the terrace for proper installation and stability..

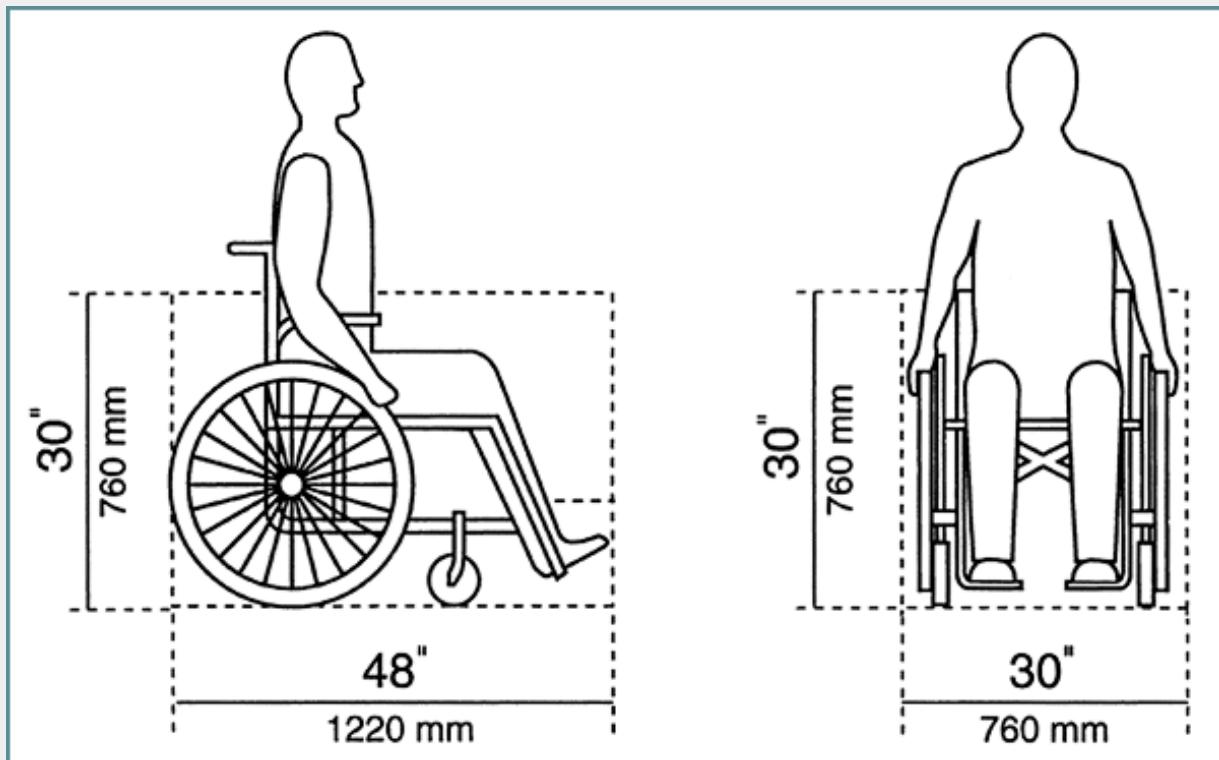
Terrace Motor Room Requirements



A structure made of bricks or hollow blocks can be constructed on an open terrace, reaching a height of 4 or 5 feet. Core Cutting should be carried out from the shaft size, leaving a one-foot margin on all sides. A steel gate with a lock should be installed at the front to facilitate access for services and maintenance.

Shaft Size (mm) (W * D)	Shaft Size (feet)	Terrace Shaft Size (feet)
900 * 900	3 * 3	3.6 * 3.6
1050 * 1050	3.6 * 3.6	4 * 4
1200 * 1200	4.0 * 4.0	4.6 * 4.6

Wheel Chair Requirements - Standard



A structure made of bricks or hollow blocks can be constructed on an open terrace, reaching a height of 11 to 12 feet. A steel gate with a lock should be installed at the front to facilitate access for services and maintenance.

Shaft Size (mm) (W * D)	Shaft Size (feet)	Core Cutting Size (feet)
900 * 900	3 * 3	3.6 * 3.6
1050 * 1050	3.6 * 3.6	4 * 4
1200 * 1200	4.0 * 4.0	4.6 * 4.6

Wheel Chair Requirements - Smallest

Product Parameters	
External L*W*H 102*65*85cm	Foldable width 24cm
Front wheel height 20cm	Rear wheel height 58cm
Seat height 47cm	Seat depth 40cm
Back height 40cm	N.W./G.W. 14KG/15.5KG
Carton L*W*H 92.5*22*87cm	

Shaft Size (mm) (W * D)	Shaft Size (feet)	Core Cutting Size (feet)
900 * 900	3 * 3	3.6 * 3.6
1050 * 1050	3.6 * 3.6	4 * 4
1200 * 1200	4.0 * 4.0	4.6 * 4.6

Electrical Requirements

A home elevator, there are several electrical requirements to consider:

1. Power Supply:

- Typically needs a dedicated 220-240V single-phase or 380-415V three-phase power supply, depending on the model.

2. Circuit Breaker:

- An appropriately rated circuit breaker is essential for safety and to prevent overloading.

3. Grounding:

- Proper grounding is crucial to ensure safety and prevent electrical faults.

4. Dedicated Circuit:

- The elevator should be on a dedicated circuit to avoid interference from other household appliances.

5. Backup Power:

- Consider installing an Uninterruptible Power Supply (UPS) or generator to keep the elevator operational during power outages.