

GENESIS ENCLOSURE

DESIGN AND PLANNING GUIDE



Vertical Platform Lift and Enclosure for lifting heights up to 14 feet

Please note:

Dimensions provided in this Guide are for **REFERENCE ONLY** and should not be used for site preparation or construction.

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What is a Vertical Platform Lift?

The Genesis Vertical Platform Lift is a cost effective way to transport a passenger in a wheelchair, or someone who has difficulty using stairs. The Genesis vertical platform lift provides a code compliant access solution for lifting heights of up to 4343mm (171") (check the regulations for your jurisdiction). With a variety of platform configurations, the Genesis is available as a 2 or 3 stop unit that can be operated independently or by an attendant. The Genesis is suitable for indoor or outdoor use and is available in a multitude of different colors and finishes so that it blends into any setting.

Why a Vertical Platform Lift?

Cost-effective

A vertical lift is more cost-effective than an elevator and does not require a machine room to house the electrical and mechanical components. In applications where usage is limited to people who have difficulty using stairs, a vertical lift may be the most appropriate solution.

Blends with Environment

A vertical lift is an attractive space saving alternative to a lengthy or winding ramp. Adjacent to stairs or in an area complimentary to your building, these lifts can be finished to compliment the aesthetics of the site.

Meets ADA Requirements (USA)

Vertical platform lifts are recognized in the ADA Accessibility Guidelines as a means to provide public building access.

Design Assistance

With over 25 years of experience, Garaventa has the expertise to overcome almost any design challenge you face. Please call our Design Hot Line with your accessibility challenge.

1-800-663-6556 or +1-604-594-0422

Finishes

The standard finish is electrostatically applied and baked powder coat finish in Satin Grey for the steel panels and champagne anodized aluminum extrusions for the framework. As an option, these components can be painted from the large selection of RAL colors (a global paint color system). Alternatively, the Genesis enclosure can be supplied with 5mm (3/16") bronze tinted or clear Plexiglas panels or 6mm (1/4") laminated glass panels (supplied by others).

As an option Garaventa Lift also offers Graphic Imaging and Exotic Finishes. Exotic finishes include brass and stainless effects created with special paint. Textured and speckled paint can be applied to the panels and extrusions. The panels can also be supplied with wood finishes, Formica, architectural metals or any material not exceeding 13mm (1/2") in thickness.

Outdoor Applications

When located in a shaftway that is not climate-controlled, the Genesis can be modified to ensure durability and reliable performance. Included in the outdoor package are: hot dipped galvanized base, primed mezzanine brackets, sealed electrical box, rubber boots on switches and stainless steel fasteners. Additional protection may be required in extreme environments.

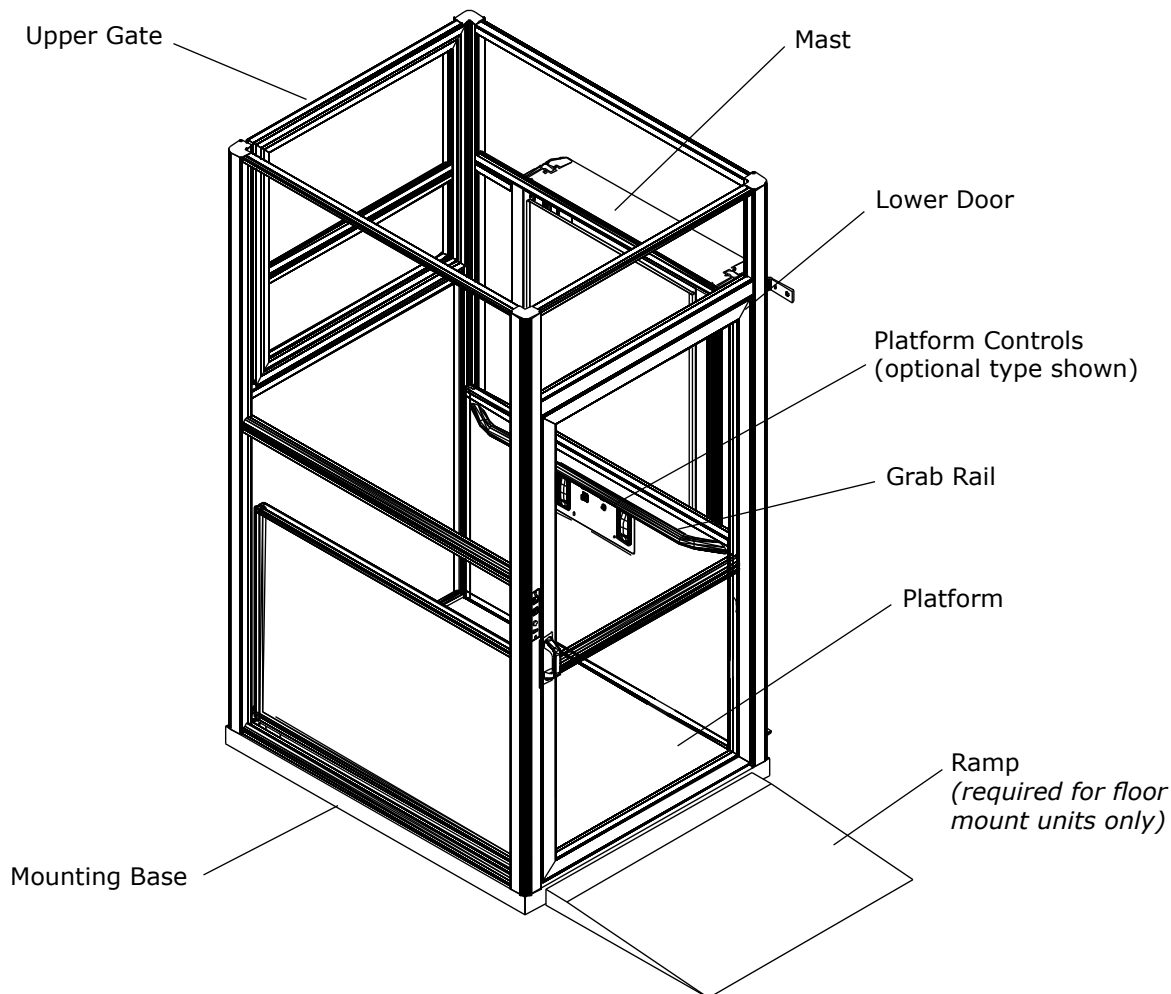
How it Works

The Genesis vertical lift is offered in a variety of configurations and styles for different accessibility challenges. All versions of the Genesis vertical lift operate in the same manner and consists of a complete drive system, a platform with side walls, doors with an interlock system and call stations.

The mast houses the electrical and mechanical components that raise and lower the cantilevered

platform. The doors or gates cannot be opened unless the platform is at an appropriate landing. The platform is called to the landing by using the call stations located at each landing. Once at a landing, the door interlock is released and the door can be opened.

The Genesis vertical lift can be used to provide accessibility either indoors or outdoors and can be installed directly on the floor or in a 76mm (3") deep pit.



Enclosure Model with Standard Straight-Through Configuration

Enclosure Model vs. Shaftway Model

The Genesis is available in two styles, the Enclosure Model and the Shaftway Model. This Design and Planning Guide describes the Enclosure Model. It consists of a factory supplied mast, platform, doors and factory manufactured walls that enclose the lift.

The Shaftway Model consists of a mast, platform and doors. The walls enclosing the lift are built by others using dimensions provided by Garaventa Lift. For detailed planning information on the Genesis Shaftway, please refer to the Genesis Shaftway Design and Planning Guide.

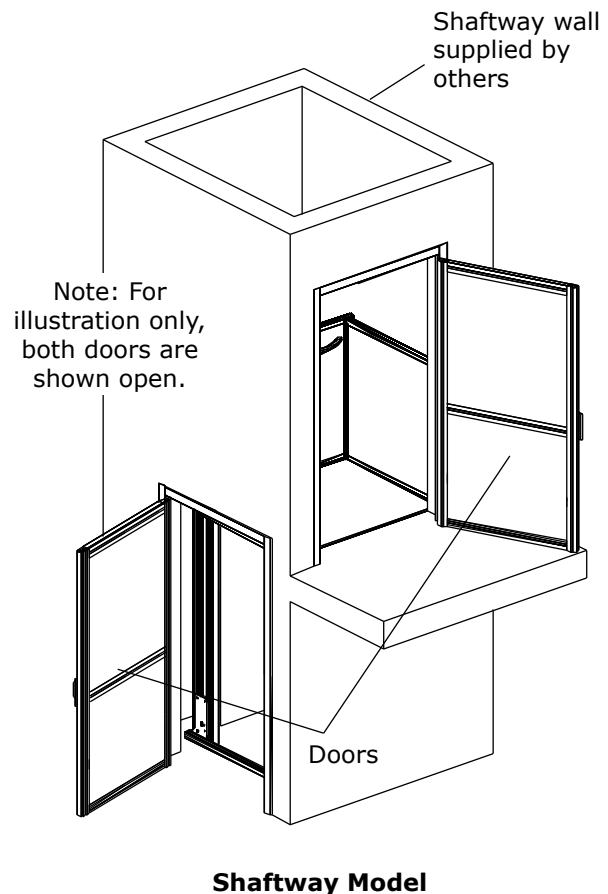
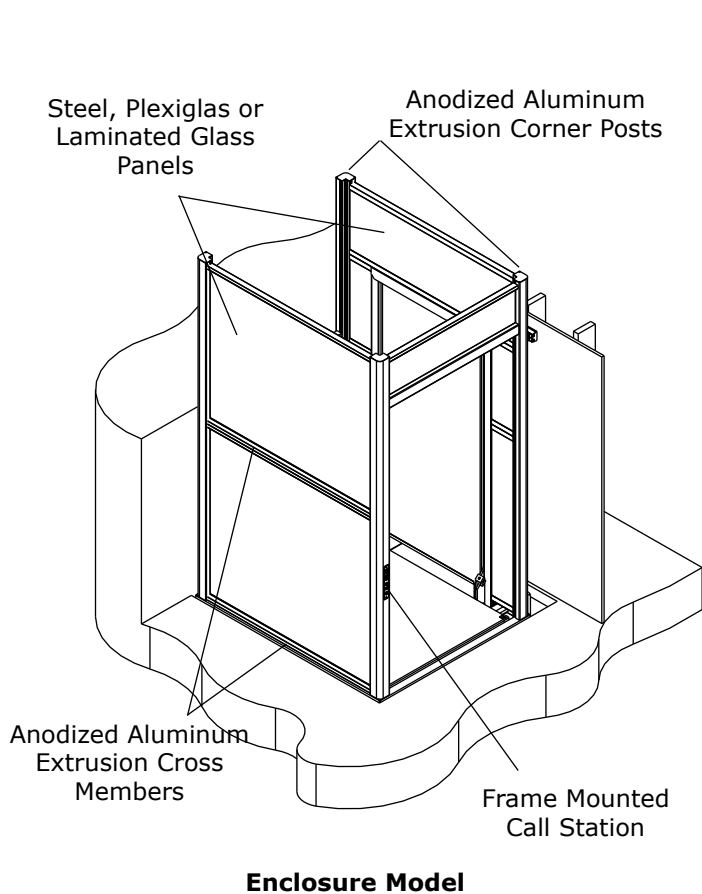
Enclosure Model

The enclosure frame is constructed of champagne color anodized aluminum extrusions. The attractive contoured corner posts allow the fasteners to be hidden and the vertical etched lines enhance the appearance of the lift. Horizontal cross members are fitted into the

corner posts, securing the enclosure panels. The panels come in a choice of 16 gauge painted galvanized mild steel, 5mm (3/16") bronze tinted or clear Plexiglas or 6mm (1/4") laminated glass (by others). The Enclosure model is available in a number of optional finishes.

Shaftway Model (Hoistway Style)

The Genesis Shaftway unit is designed to fit the essential lift components within your shaftway walls. The Genesis Shaftway Model can have either aluminum frame doors/gates, fire rated steel doors, or the doors can be supplied by others. All styles of doors/gates have interlocks integrated with our control system. Refer to the Genesis Shaftway Design and Planning Guide for more information.



Lifting Heights and Mast Sizes

The mast size required for a particular site is determined by the vertical travel required between the upper and lower landings. When the site is measured, **the lift height "H" is always defined as the distance from the lower landing (pit or floor) where the lift will sit to the upper landing floor** as shown in the diagram below. If the lift is to be mounted directly on the surface of the lower landing and an entry ramp is used, then "H" equals the elevation change

between the upper and lower landings. If the lift is pit mounted, then the measurement "H" is 76mm (3") greater than the elevation change between landings. This measurement is crucial for your custom designed lift. Be certain the height you provide is accurate. We recommend using the "as built" dimension.

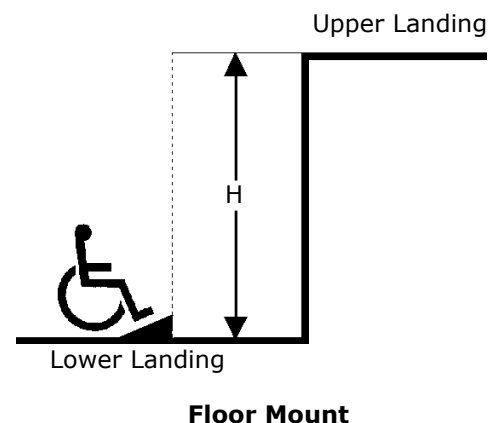
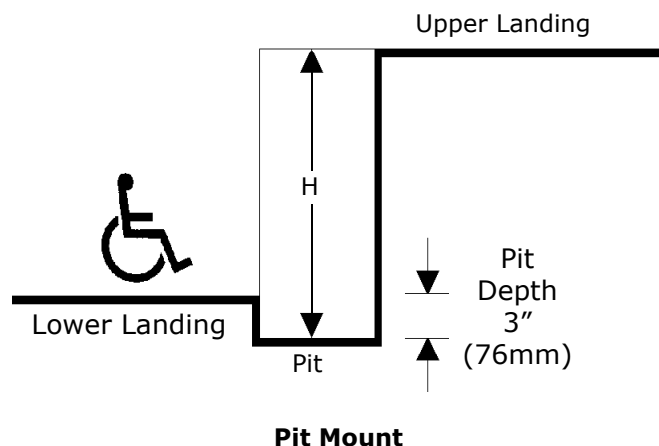
The width of the mast is 998mm (39 1/4") for all mast heights.

Based on the measured value of "H" the drive mast is selected as follows:

Mast Size	Max. "H" Value	Mast Structure Height	Mast Tieback Height
GVL - 42	1143mm (45")	1737mm (68 3/8")	1572mm (61 7/8")
GVL - 60	1600mm (63")	2194mm (86 3/8")	2029mm (79 7/8")
GVL - 72	1905mm (75")	2498mm (98 3/8")	2333mm (91 7/8")
GVL - 96	2515mm (99")	3108mm (122 3/8")	2943mm (115 7/8")
GVL - 120	3124mm (123")	3718mm (146 3/8")	3553mm (139 7/8")
GVL - 144	3734mm (147")	4327mm (170 3/8")	4162mm (163 7/8")
GVL - 168*	4343mm (171")*	4937mm (194 3/8")*	4772mm (187 7/8")

*Hydraulic drive only and Split Mast standard with this height.

Two stop lift in a pit and floor mount application. An optional three stop unit is also available.



Leadscrew Drive System

Single-phase 2 HP motor attached to a 1" ACME screw, the platform travels at 3 meters (10 ft.) per minute.

Mains Power Requirement:

North America

120 VAC single phase on a dedicated 20 amp circuit.

International

208 - 240 VAC single phase on a dedicated 16 amp circuit.

Electrical Disconnect (optional)

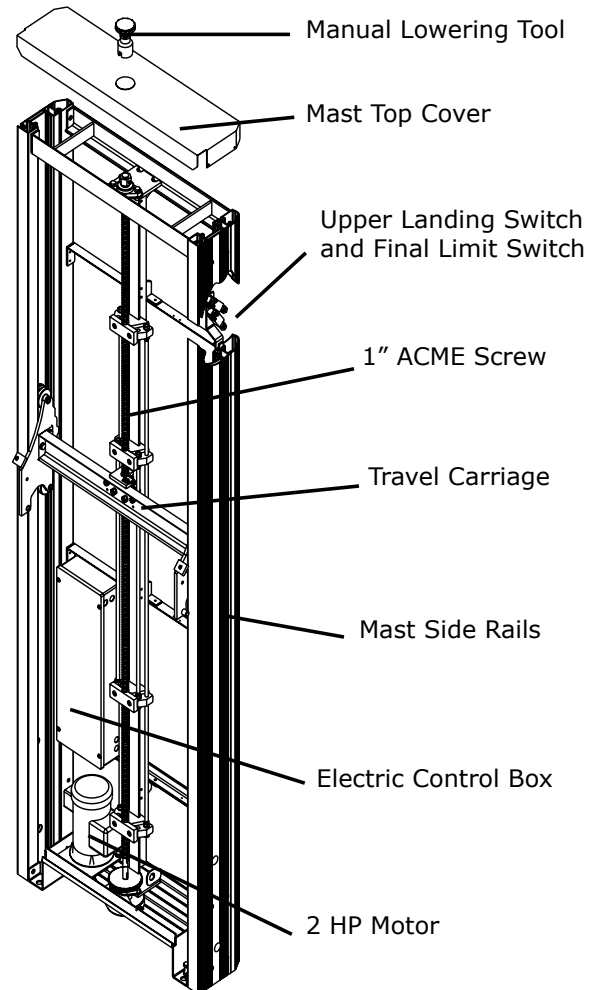
An electrical disconnect is supplied with the lift for both safety reasons and customer convenience. This disconnect shuts off the mains power and the 24V battery lowering system to the lift. For the Enclosure Model, the disconnect is located on the side of the mast closest to the lower landing door. For the Shaftway Model, the disconnect is located on the outside of the shaftway walls in a location determined by local code requirements.

Manual Lowering Handwheel (Lead Screw Model Only - standard)

The manual lowering handwheel has a black plastic handle and slotted shaft that engages a crosspin on the main drive screw.

Battery Powered Emergency Lowering (Lead Screw Model Only - optional)

The Genesis Leadscrew Model can be supplied with an optional battery-powered emergency lowering system which is automatically activated in the event of a power failure. Using the down directional control, the battery powered emergency lowering system lowers the platform at a speed of approximately 0.3m/min. (1 ft/min.).



Hydraulic Drive System

Single-phase (2.2 KW), 24VDC hydraulic motor. Continuous mains power and auxiliary power system. The lift connects directly to the building power. The power is reduced to 24 VC to operate the control system and drive the motor. The lift is equipped with an auxiliary power system that enables the lift to operate if mains power is lost. The platform travels between landings at 5.2 meters (17ft.) per minute. ***Required for heavy use lifts or lifts equipped with a Fan and Ventilation System.**

Mains Power Requirement:

North America - 120 VAC single phase on a dedicated 15 amp circuit.

International - 208 - 240 VAC single phase on a dedicated 16 amp circuit.

Full Time Battery Operation (optional)

For very low use applications and basic units, full time battery operation is appropriate.

Electrical Disconnect (optional)

An electrical disconnect is supplied with the lift for both safety reasons and customer convenience. This disconnect shuts off the mains power and the 24V battery back-up system to the lift.

The Enclosure Model disconnect is on the side of the mast closest to the lower landing door.

Manual Lowering

(Hydraulic Model Only - standard)

The manual emergency lowering device consists of a pull knob mounted in a box on the side of the mast. When used, the platform is gently lowered to the landing.

Split Mast (Hydraulic Drive Only - optional)

For installation sites where it would be difficult to place the drive mast into position as a single piece, the split mast option is available for GVL-120 and GVL-144. GVL-168 Hydraulic Models are supplied standard with a split mast.

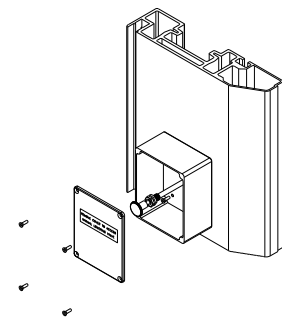
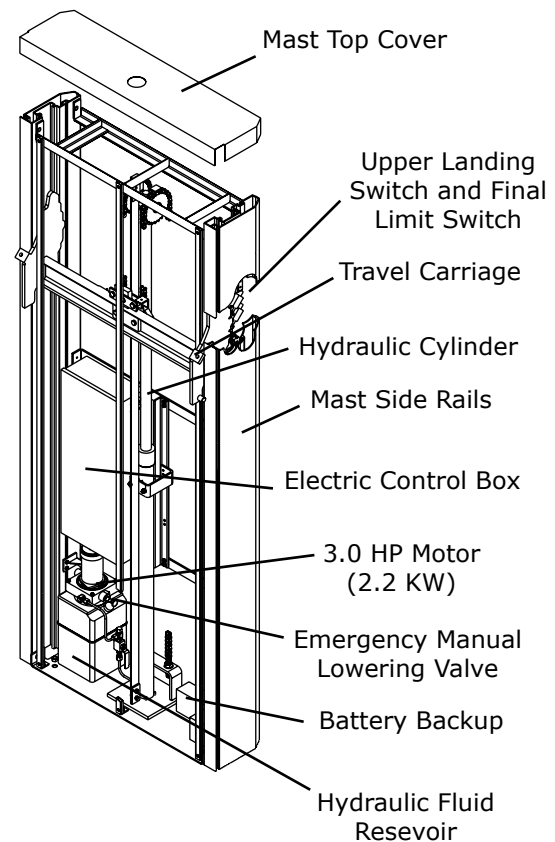
Remote Drive Cabinet

(Hydraulic Drive Only - optional)

For the ultimate in quiet operation, the drive system can be located up to 3 meters (10 feet) away in a remote drive cabinet.

Mast Heater (Hydraulic Drive Only - optional)

For outside installations where cold temperatures are a concern, a mast heater can be installed to protect hydraulic fluid from freezing.



Platforms

The platform is rated for a load of 340 kg. (750 lbs.) and has 1100 mm (43") high side walls. The side wall in front of the mast includes a grab rail and platform controls.

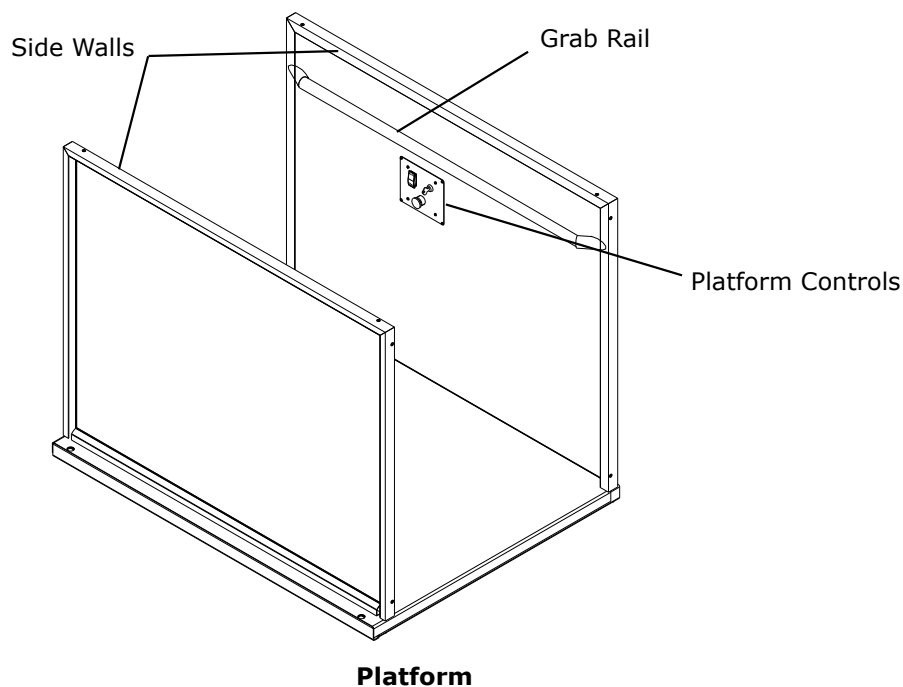
Standard sizes are typically code-compliant for straight through commercial applications. Larger sizes may be required for other on/off configurations or to facilitate ease of use.

Enclosure Platforms

The Genesis Enclosure Model has 3 platform sizes to meet your requirements:

- Standard
- Mid-Size
- Large

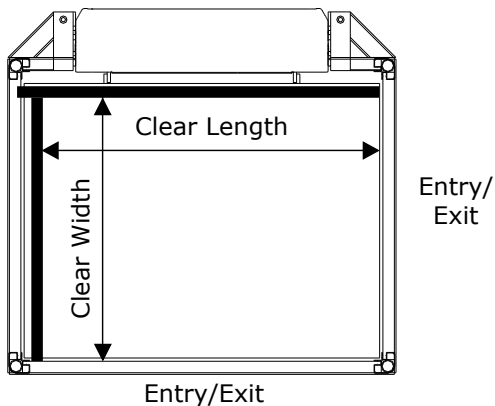
Exact platform dimensions will vary depending upon the model and configuration. For Enclosure Model platform dimensions, see page 18.



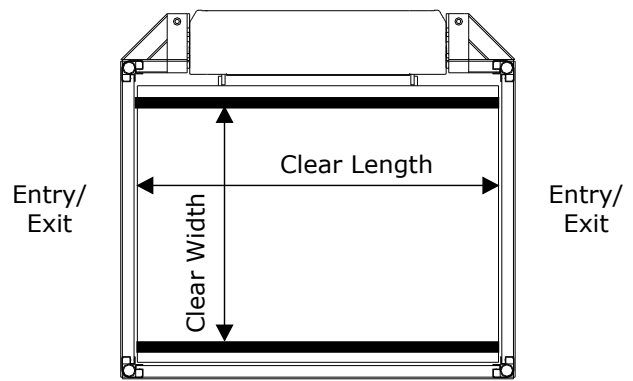
Platform Configurations

Entry/Exit Configurations

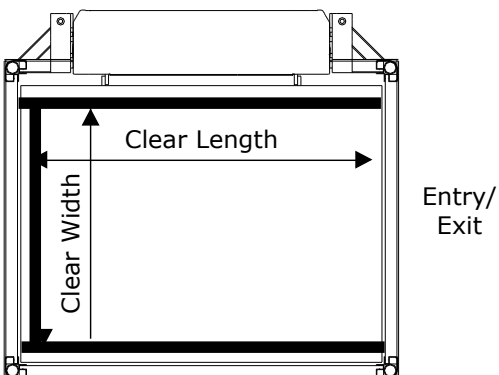
The Genesis is available in various entry/exit configurations. The lift can be supplied as a straight through (180°), a 90° (left or right exit) or an on/off same side (360°) lift configuration.



90° Configuration



Straight Through (180°) Configuration



On/Off Same Side (360°) Configuration
(must have a lift height of 2253mm (88 3/4")
or greater)

Operating Controls

Rocker Style Switches (standard)

The Genesis vertical lift comes equipped standard with rugged indoor/outdoor constant pressure switches, rated to IP 6.7. The platform control panel comes standard with an Illuminated Audible Emergency Stop Switch. All controls can be fitted with an optional AEMA key switch.

Push Button Control Package

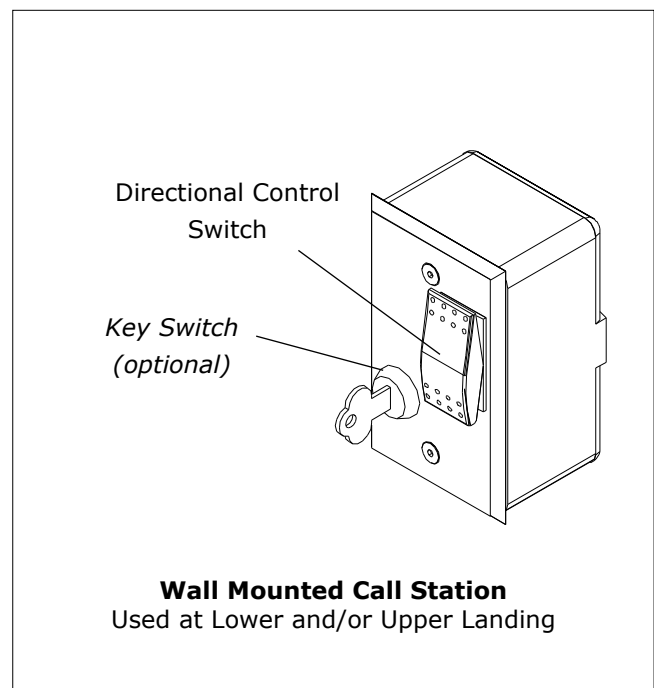
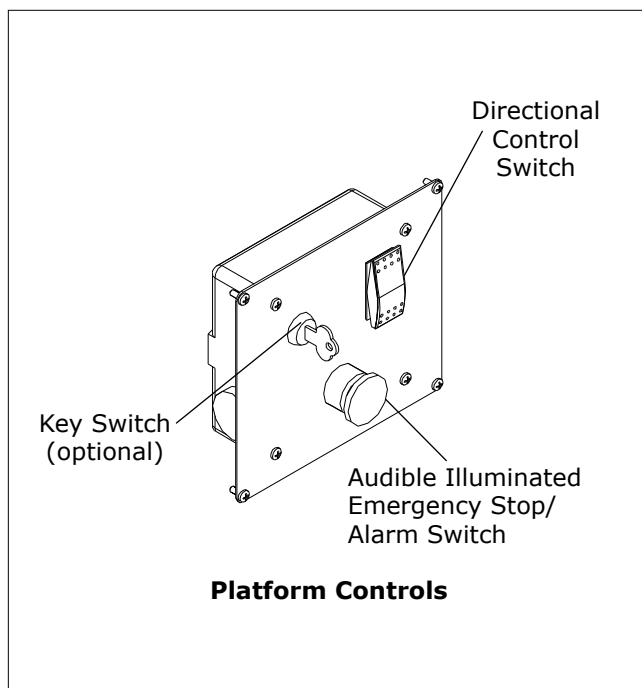
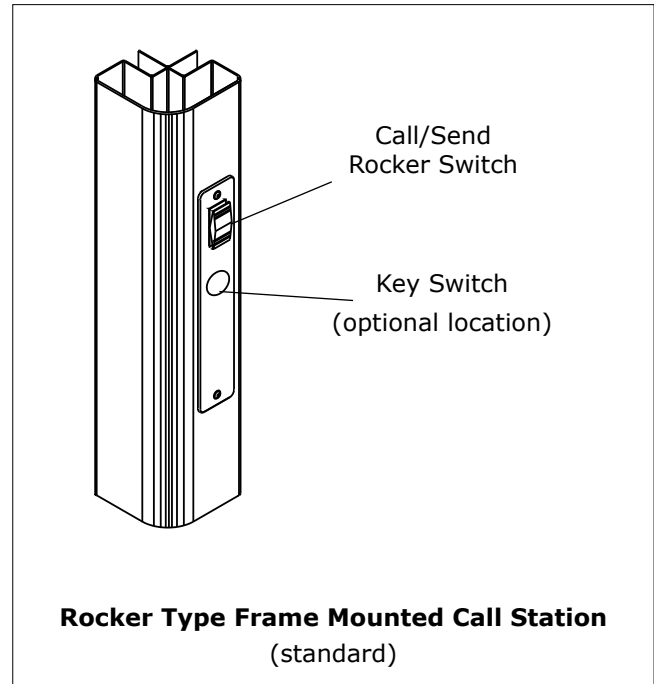
The Push Button Control Package includes illuminated constant pressure directional control switches and platform courtesy lighting. The illuminated push button directional controls also feature tactile directional buttons and braille symbols. Platform courtesy lighting remains illuminated for the duration of platform travel and for 10 seconds after the platform arrives at the landing.

Keyed Call Station and Platform Controls (optional)

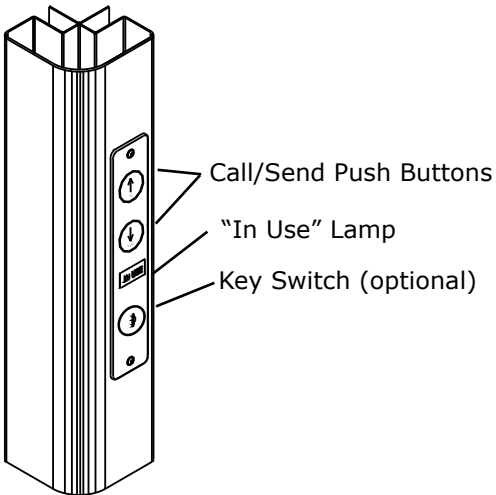
To prevent the use of the lift by unauthorized personnel, the call stations and platform controls can be set up for keyed operation.

Shaftway Frame Mounted Call Stations: Fire Rated Doors

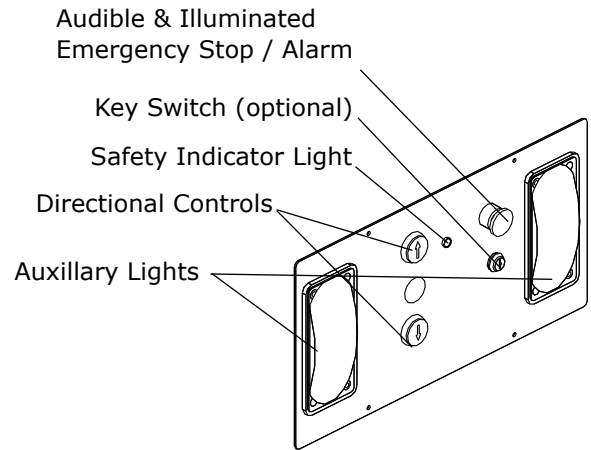
When a fire rated door is used the call stations are usually mounted in the steel frame of the door, similar to the Garaventa style door call stations. Can be ordered with optional wall mount call stations.



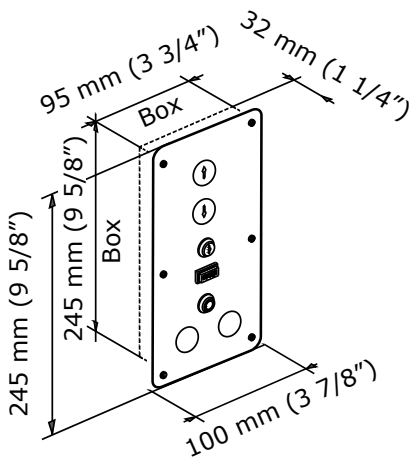
Operating Controls (Continued)



**Push Button Type Frame Mounted
Call Station (Optional)**



**Push Button Style Platform
Controls (Optional)**



**Call Station Face Plate Installed on Wall Mount
Conduit Box (Optional)**

*Surface Mount Call Station Dimension
250mm (9 3/4") x 100mm (3 7/8") x 23mm (7/8")
For dimensional purposes. Not exactly as shown.

Optional Features

Autodial Telephone

In locations where the lift cannot be easily monitored or as required by code in certain jurisdictions, an autodial telephone can be installed on the platform. The Autodial telephone allows the lift user to make contact with pre-programmed help numbers with the push of a button.

Plexiglas Dome (optional)

For outdoor applications, a bronze tinted Plexiglas dome is recommended. It is fastened to the top of the enclosure. This dome comes standard with a drip rail for rain and condensation.

Sloped Roof

For directional water run off or for installations where a dome would not be appropriate (i.e. against a building), the lift can be equipped with a sloped steel roof.

Fan and Ventilation System (optional) (with Dome or Sloped Roof Only)*

The fan and ventilation system consists of two exhaust fans, a thermostatic control and a 12 VDC battery backup. The dual fans circulate and

completely replace the air in the enclosure every minute when the inside enclosure temperature exceeds 85°F. The Fan and Ventilation System is in accordance with ASME A18.1 code requirements.
*Requires Continuous Mains Power.

Note: Codes require a fan and ventilation system for an enclosure lift exposed to direct sunlight fitted with Plexiglas panels and a solid roof.

Garaventa PDO - Power Door Operator

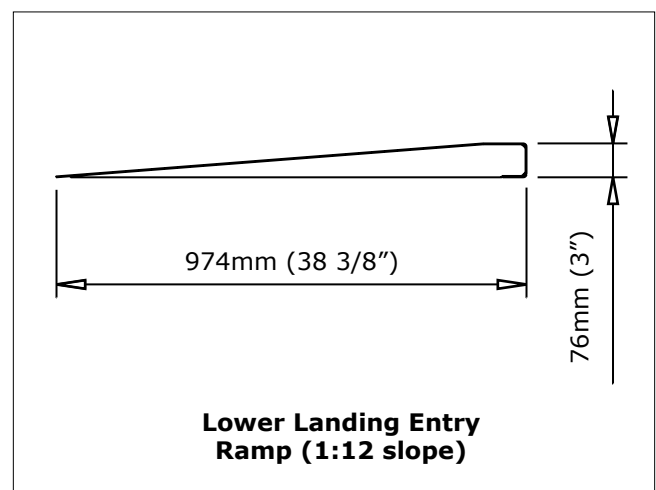
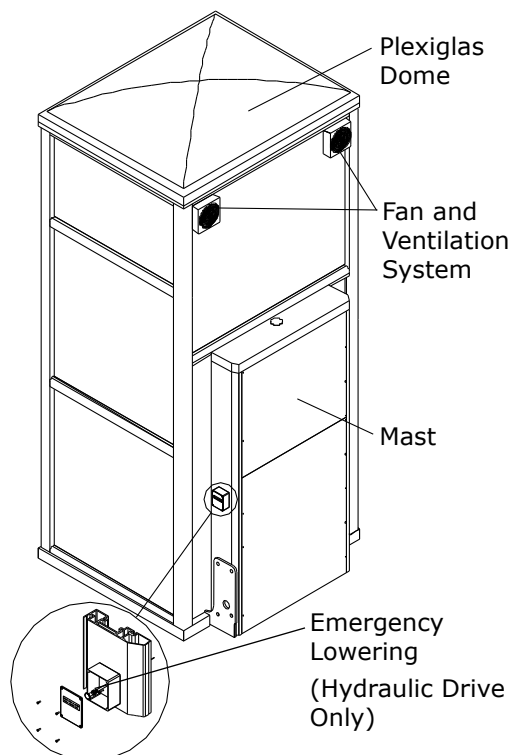
The Garaventa Power Door Operator (PDO) allows for automatic door opening and closing. The PDO is obstruction sensing and is clutched which provides a high level of safety and enhances the usability of the lift. The Garaventa PDO is suitable for use on Garaventa aluminum framed 36", 42", and 44" doors and gates.

Arrival Gong and Digital Floor Display

Required by code in some parts of Europe, the platform mounted arrival Gong and Digital Floor Display enhance lift usability by providing audio and visual lift location information.

Ramps (optional)

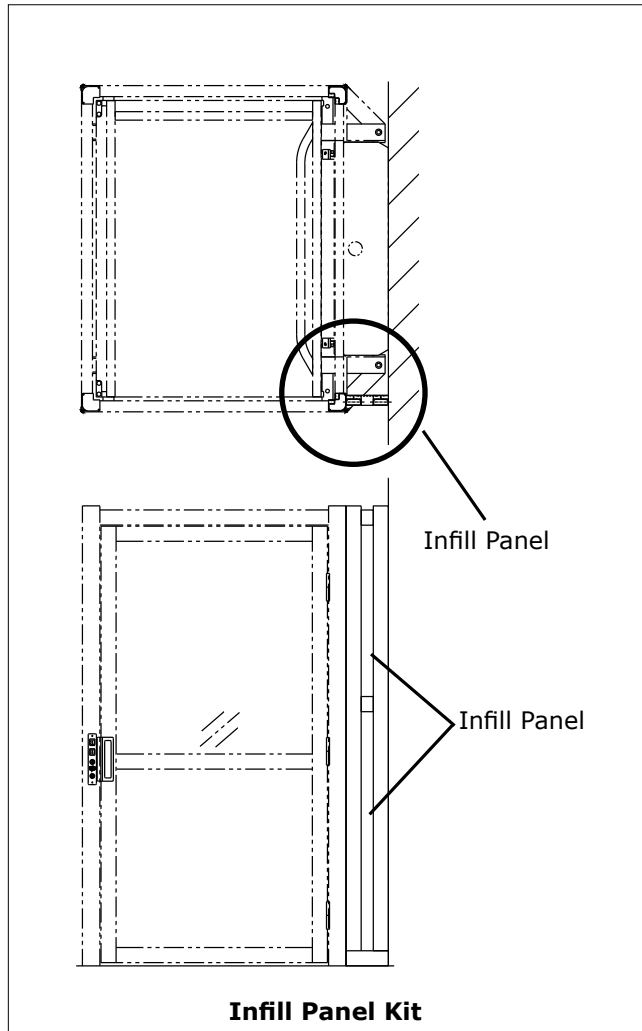
A ramp is used when a 76mm (3") deep pit cannot be provided. Six ramps are available for the Genesis, depending on the available space at landings. The ramps are available in slopes of 1:10 and 1:12. Both slopes are available in widths of 1069mm (42"), 1225mm (48 1/4") or 1375mm (54 1/8"). It is recommended that you use a Power Door Operator and a wall mount call station at landings where a ramp is used.



Optional Features (Continued)

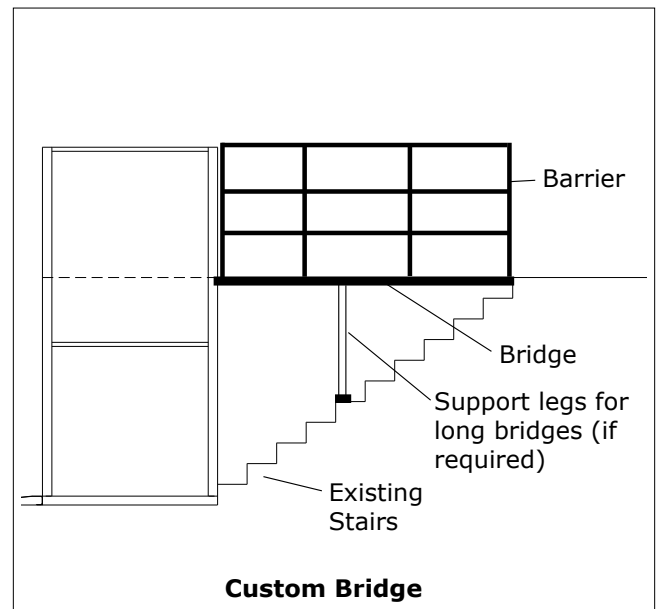
Infill Panel Kits (Optional)

Custom infill panel kits are available to close in the open space between the enclosure corner post and the building wall, next to the mast. The panel kit will enhance the overall appearance of the Genesis. The panel kit includes a custom frame and panels to fill the area.

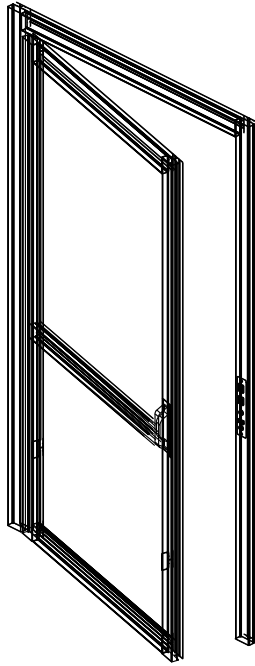


Bridges (optional)

A custom bridge can be supplied for situations where a space must be crossed in order to use the lift. Please contact your Garaventa Lift representative to discuss these custom fabricated bridges and barrier options.



Garaventa Style Doors & Gates



The Enclosure model utilizes Garaventa style doors and/or gates. These non-fire rated doors and gates are prehung in a Champagne colored anodized aluminum extrusion frame. The doors and gates are constructed of matching aluminum extrusions with a powder coated 16 gauge galvanized steel kickplate and an upper panel (powder coated 16 gauge galvanized steel, bronze or clear Plexiglas, or laminated glass). Garaventa doors are equipped with an offset "D" handle. Custom finishes are also available as an option, please refer to page 4. The door height is 2032mm (80") and the gate height is 1070mm (42 1/8") and are both available in 3 widths:

- 905mm (35 5/8")
- 1046mm (41 1/8")
- 1109mm (43 5/8") (for wide side 90° configurations)

Refer to page 18 for door swing projections.

Door Locks

Garaventa Mechanical Interlock (standard on Genesis Enclosure Model)

The Garaventa Mechanical Interlock is the standard lock used for two stop enclosure lifts that are equipped with Garaventa doors and gates. Activated by the movement of the platform, the lock is monitored by the safety circuit to ensure the door or gate is properly locked. If the door or gate is not properly locked the lift will only be able to travel 50mm (2") out of the landing.

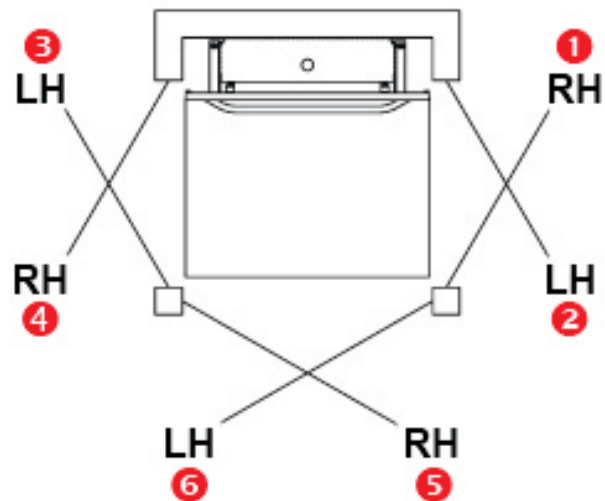
Powerlock 2000 (CSA Certified) (standard on Genesis Shaftway Model equipped with Garaventa Door/Gates)

The Powerlock 2000 is optional for Genesis Enclosure lifts. It is a 24 VDC interlock that is monitored by the safety circuit to ensure that the Garaventa door/gate is properly secured when the platform is away from the landing.

Locks by Others

Garaventa lifts can be configured to accept interlocks or strikes by others, typically found in fire doors. Consult your local Garaventa representative for more information.

Door Swings



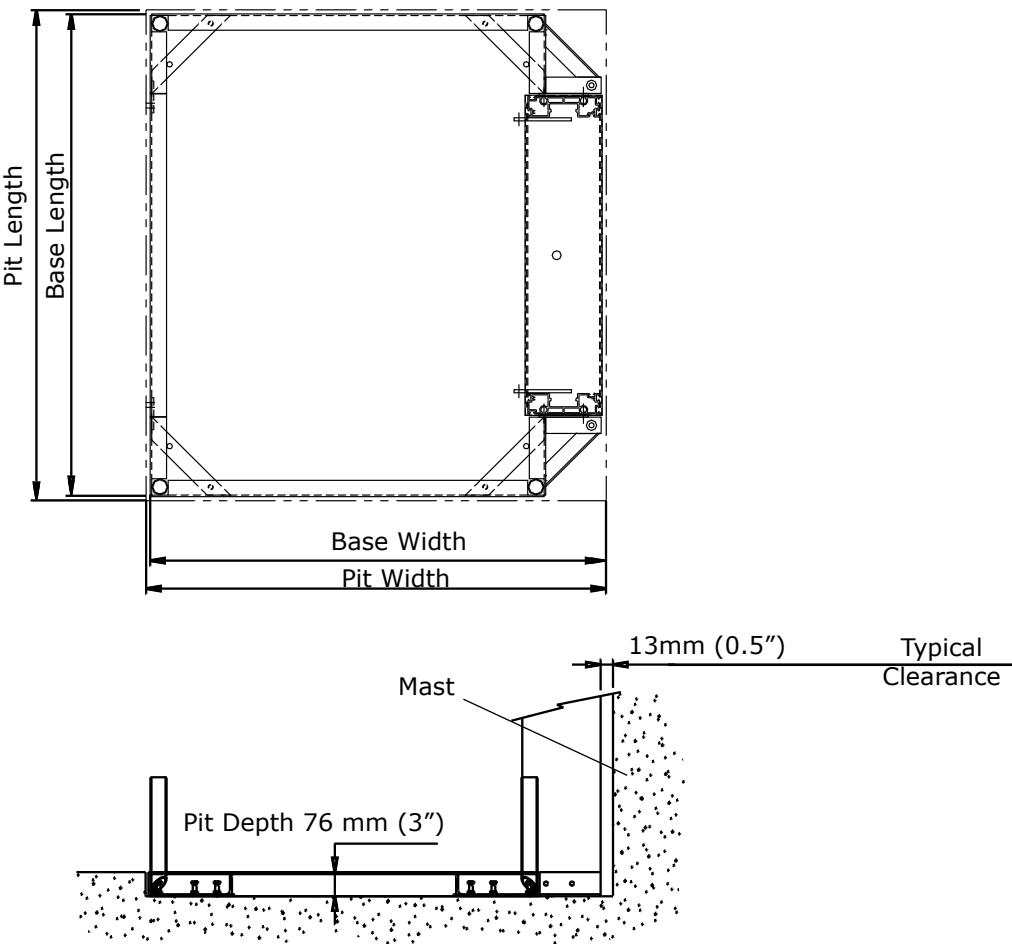
Gate Positions & Swing Options

Base and Pit Dimensions

(For Leadscrew or Hydraulic Drive System)

Platform Size	Base Width	Base Length	Pit Width	Pit Length
Standard	1399mm (55 1/8")	1505mm (59 1/4")	1427mm (56 1/8")	1530mm (60 1/4")
Mid-Size	1399mm (55 1/8")	1656mm (65 1/8")	1427mm (56 1/8")	1681mm (66 1/8")
Large	1551mm (61 1/8")	1656mm (65 1/8")	1579mm (62 1/8")	1681mm (66 1/8")

- Add 38mm (1 1/2") to pit width if a mast tie-back rail is used.



Enclosure Base and Pit Dimensions

Dimensions are provided for reference only. Submittal drawing dimensions should be used for site preparation and construction.

Platform Clearances

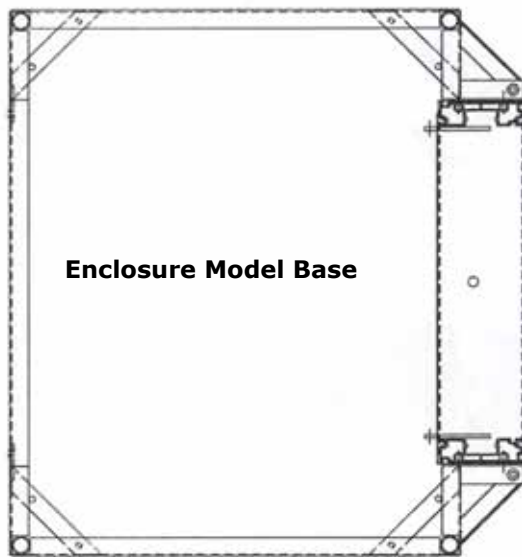
Configuration	Platform Size	Platform Clear Width	Platform Clear Length	Net Usable Area
Straight Through (180°) Entry/ Exit	Standard	947mm (37 1/4")	1370mm (53 7/8")	1.30sq. m. (13.95 sq. ft.)
	Mid-Size	947mm (37 1/4")	1520mm (59 7/8")	1.44sq. m. (15.50 sq. ft.)
	Large	1099mm (43 1/4")	1520mm (59 7/8")	1.67sq. m. (17.98 sq. ft.)
90° Entry/Exit	Standard	1017mm (40")	1295mm (51")	1.28sq. m. (14.17 sq. ft.)
	Mid-Size	1017mm (40")	1446mm (56 7/8")	1.32sq. m. (15.83 sq. ft.)
	Large	1155mm (45 1/2")	1446mm (56 7/8")	1.47sq. m. (18.0 sq. ft.)
360° On/Off Same Side (entry/exit adjacent to mast)	Standard	947mm (37 1/4")	1295mm (51")	1.69sq. m. (13.20 sq. ft.)
	Mid-Size	947mm (37 1/4")	1446mm (56 7/8")	1.23sq. m. (14.74 sq. ft.)
	Large	1099mm (43 1/4")	1446mm (56 7/8")	1.37sq. m. (17.11 sq. ft.)
360° On/Off Same Side (entry/exit opposite to mast)	Standard	1017mm (40")	1220mm (48")	1.24sq. m. (13.36 sq. ft.)
	Mid-Size	1017mm (40")	1372mm (54")	1.40sq. m. (15.02 sq. ft.)
	Large	1169mm (46")	1372mm (54")	1.60sq. m. (17.27 sq. ft.)

Door Swing Projections

Door Width	Projection
36"	982 mm (38-5/8")
42"	1123 mm (44-1/4")
44"	1162 mm (45-3/4")

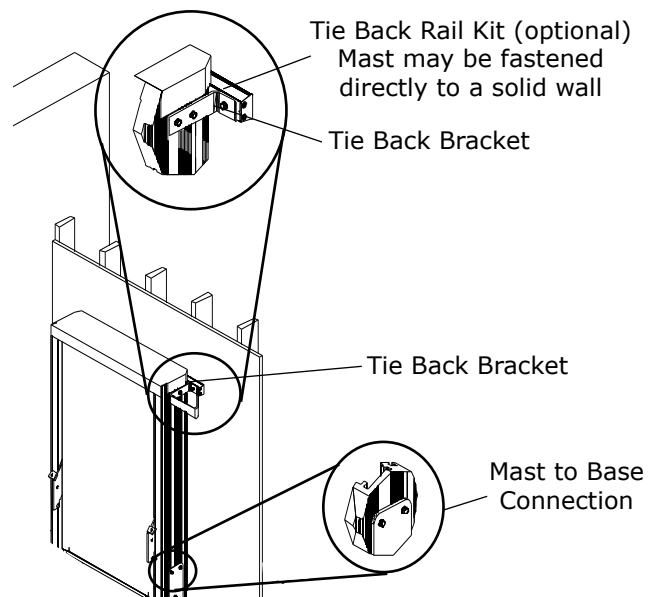
Base Attachment

All Genesis lift bases are fastened to the floor/pit at the lower landing. It is recommended that the floor is a level concrete surface rated for 3500 PSI with a minimum thickness of 102mm (4"). If the floor surface does not meet these specifications, it must be able to withstand the loads shown on the loading diagram.



Mast Attachment

All Genesis masts must be fastened to structural support. The Genesis is supplied with adjustable tie back brackets. These brackets are fastened to the mast and installed into a load bearing support wall. This helps to stabilize the mast. Refer to the loading diagram for the loads that must be supported by the wall. Consult with a local professional engineer to determine structural suitability.

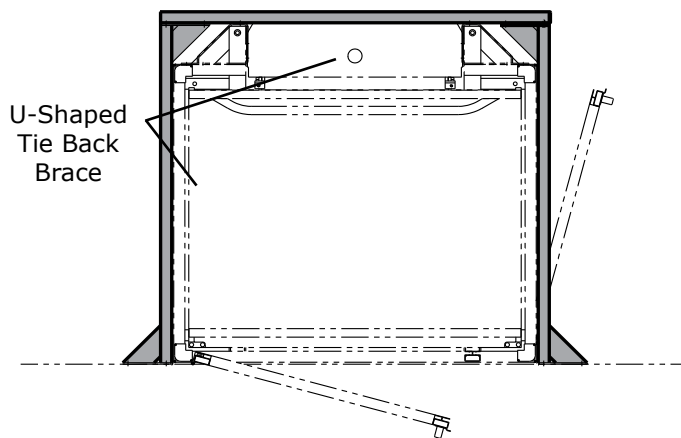


Mast Attachment Details

Mast Attachments (Continued)

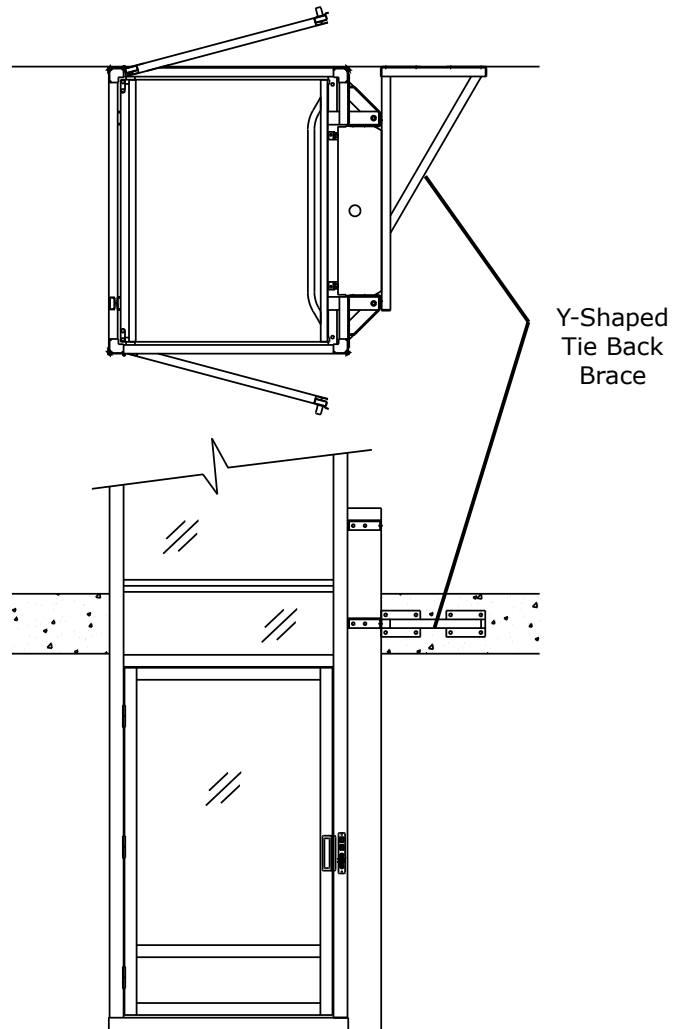
Mast Attachment Methods Y Brace and U Brace

When the adjustable mast tie back bracket cannot be used, mast stabilization can be achieved with the installation of a tie back bracket.



U-Shaped Tie Back Brace (Optional)

The U Brace wraps around the enclosure lift and is fastened to structural member at the upper landing.



Y-Shaped Tie-Back Brace (Optional)

Attached to the mast, the Y Brace forms a triangle of support when it is fastened to a structural member at the upper landing.

Lead Screw Drive System: Technical Reference

Platform Sizes:

- Standard
- Mid-size
- Large

For clear platform dimensions, please see page 18.

Rated Load:

340 kg (750 lbs), with a safety factor of 5

Drive System:

Mains Power:

120 VAC single phase on a dedicated 20 amp circuit. Outside N.A. 208-240 VAC single phase on a dedicated 16 amp circuit.

Drive Type: ACME screw (1" diameter)

Motor: 2 HP, AC Motor. Variable frequency control for smooth start and stop.

Speed:

3 meters (10 ft) per minute at full load

Operating Controls:

Keyed Controls: Keyswitch on call stations and platform controls (optional)

Directional Controls: Continuous pressure switches

Control Voltage: 24 VDC

Safety Features:

Safety Nut:

Safety nut automatically engages if drive nut fails. Platform falls less than 13mm (1/2") when safety nut engages. Engaging safety nut trips the safety circuit.

Door Interlocks:

Mechanical lock with electric contact prevents door from opening unless platform at landing.

Emergency Stop:

Stops platform travel and sounds audible alarm.

Emergency Operation:

Equipped standard with a manual lowering wheel. Optional battery powered lowering system available.

Finish:

Enclosure Frame & Mast Sides: Anodized aluminum

Sidewalls & Mast Cover: Baked powder finish on 16 gauge galvanized steel panels – Satin Grey

Doors: Baked powder finish on 16 gauge galvanized steel panels – Satin Grey or optional 5mm (3/16") thick clear or bronze tinted Plexiglas.

Optional Finishes: Extrusions and panels can be painted any color in the RAL chart.

Hydraulic Drive System: Technical Reference

Platform Sizes:

- Standard
- Mid-size
- Large

For clear platform dimensions, please see page 18.

Rated Load:

340 kg (750 lbs), with a safety factor of 5

Drive System:

Mains Power:

120 VAC single phase on a dedicated 15 amp circuit.
Outside N.A. - 208-240 VAC single phase on a dedicated 16 amp circuit.

Drive Type: Chained Hydraulic (Dual 5/8" ANSI 50 chains)

Standard Motor: 2.2 kW Motor 24V DC: Continuous mains power and auxiliary battery power

Optional Power Supply: 2.2 kW Motor: 24V DC from battery system, continuously charged by buildings mains power (suitable for low usage lifts only).

Speed:

5.2 meters (17 ft) per minute at full load

Operating Controls:

Keyed Controls: Keyswitch on call station and platform controls (optional)

Directional Controls: Continuous pressure switches

Control Voltage: 24 VDC

Safety Features:

Safety: Monitored slack chain device. Automatically engages if the drive chain slackens. Platform falls less than 13mm (1/2") when the slack chain safety device engages.

Door Interlocks:

Mechanical lock with electric contact prevents door from opening unless platform at landing.

Emergency Stop:

Stops platform travel, illuminates and sounds an audible alarm.

Emergency Operation:

Auxiliary Power System allows the lift to operate in the up and down directions.

Finish:

Enclosure Frame & Mast Sides: Anodized aluminum


Sidewalls & Mast Cover: Baked powder finish on 16 gauge galvanized steel panels – Satin Grey

Doors: Baked powder finish on 16 gauge galvanized steel panels – Satin Grey or optional 5mm (3/16") thick clear or bronze tinted Plexiglas.

Optional Finishes: Extrusions and panels can be painted in the large selection of colors from the RAL color chart.



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