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## ***Garaventa - the world's #1 choice in accessibility solutions.***

Garaventa has been dedicated to developing safe, reliable accessibility solutions since 1978 and is an industry leader throughout the world. Years of hard work and an uncompromising commitment to quality have enabled us to perfect the internationally renowned Garaventa Stair-Lift Inclined Platform Lift and Genesis Vertical Platform Lift product lines.

Our lifts are built with the end user in mind. Passenger comfort, simple-to-use operation and safety features allow people with limited mobility to operate the lifts independently or with assistance from an attendant.

Our expertise in providing accessibility solutions has enabled our design team to take on the most challenging access situations, and develop innovative solutions for schools, places of worship, offices, hotels, airports, subways and a wide range of public and private buildings around the world. Architects, building owner's and facility planners around the world, rely on Garaventa design expertise. We have built our business on service. Please contact us and let us help solve your access challenges.



©2002 Garaventa. As we are continuously improving our products, specifications outlined in this guide are subject to change without notice.

## ***What is an Unenclosed Vertical Lift?***

An unenclosed vertical platform lift easily transports passengers up and down short vertical distances, for applications such as stages and porches. The platform walls, platform gate and optional automatic ramp travel with the platform creating a safety barrier around the passengers. Available for indoor and outdoor applications, the **Garaventa Genesis OPAL Lift** is an attractive and cost-effective accessibility solution.

### **Why an Unenclosed Vertical Lift?**

#### **An Unenclosed Vertical Lift vs a Ramp**

An unenclosed vertical lift occupies less space than most ramps, and is easier to use by those individuals who have difficulty ascending ramps.

#### **Cost Effective with a Quick Delivery**

Lower equipment and installation costs compared to other types of accessibility equipment and in most cases, an unenclosed vertical lift can be delivered within a few weeks.

#### **Commercial or Home Installation**

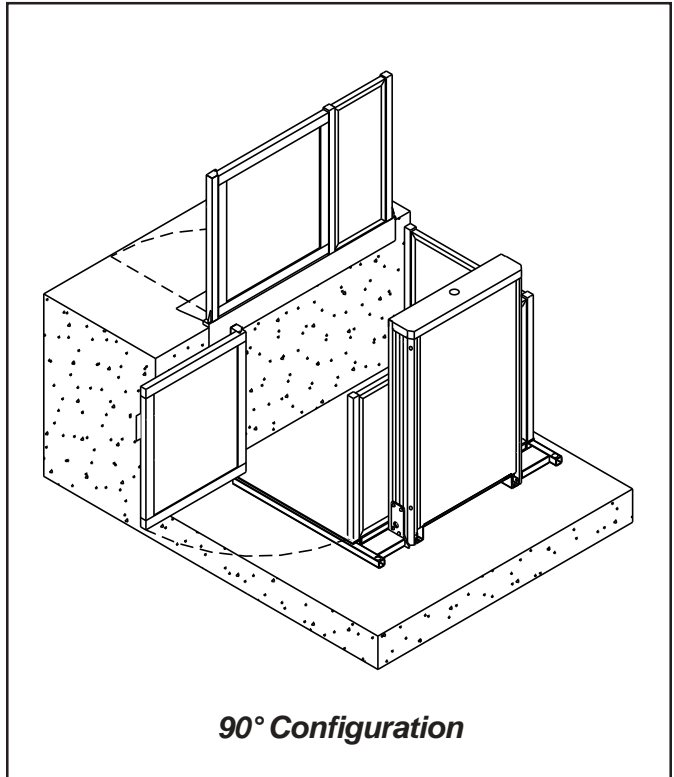
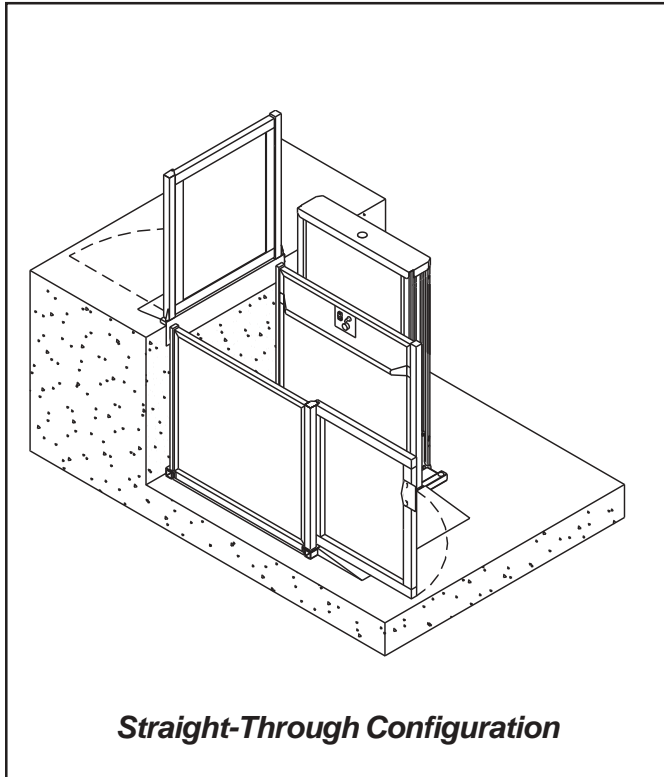
An unenclosed vertical lift requires little or no site modifications and is an ideal accessibility solution when space and costs are the primary concerns.

#### **Meets ADA Requirements**

Unenclosed vertical lifts are approved in the ADA Accessibility Guidelines as a means to provide unassisted entry and exit from buildings, service or recreational facilities.

## Design Versatility

The Garaventa Genesis OPAL vertical lift is suitable for short rise applications with **straight through** or **90°** entry/exit configurations, and can be used **indoors** or **outdoors**. Please call our Design Hot Line with your accessibility challenge.



## Applications Include

- Schools
- Churches
- Courthouses
- Commercial Buildings
- Theaters
- Historical Buildings
- Restaurants
- Residential
- Hospitals
- Any Many More

For a list of installations in your area please contact your local representative or call Garaventa Accessibility

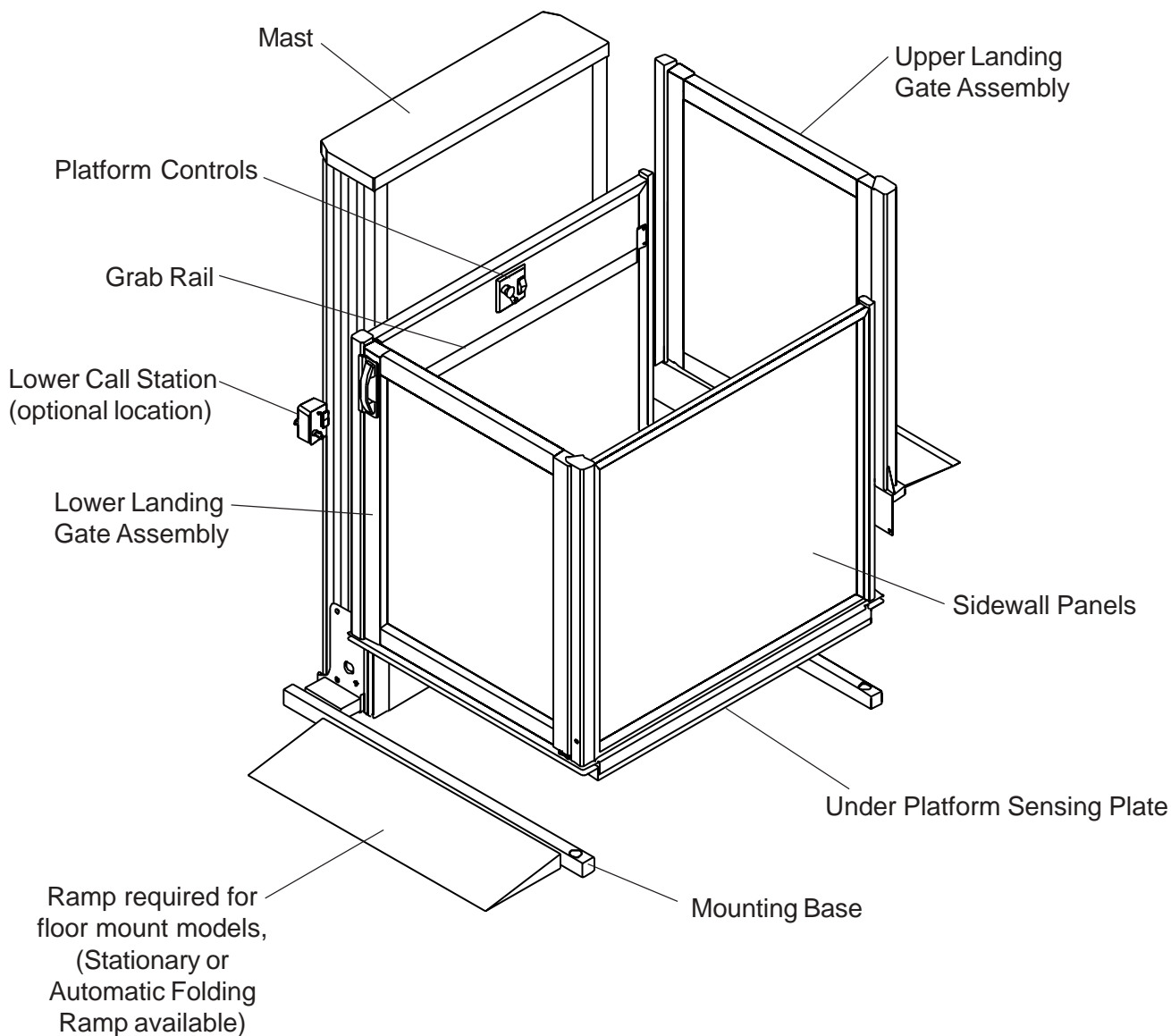
## Finishes

The Genesis OPAL consists of steel panels and frame work finished with electrostatically applied Satin Grey (fine textured) paint. The panels, gates and mast are framed with champagne anodized aluminum extrusions. As an option, these components can be painted from the large selection of RAL colors.

## Component Identification

The Genesis Vertical Platform Lift is offered in a variety of models for different accessibility challenges. This Design and Planning Guide applies to our freestanding unenclosed unit which we call the Genesis OPAL Model.

The Genesis OPAL consists of a complete vertical elevating system placed on the floor or in a 76mm (3") deep pit. It is constructed of a champagne colored, anodized aluminum extrusions and powder coated hollow structural steel (HSS) frame, a platform and 16 gauge powder coated panels.



### Standard Straight-Through Configuration

## Platforms

The Genesis OPAL has 3 platform sizes to meet your requirements.

### Standard

890 x 1220mm (35" x 48")

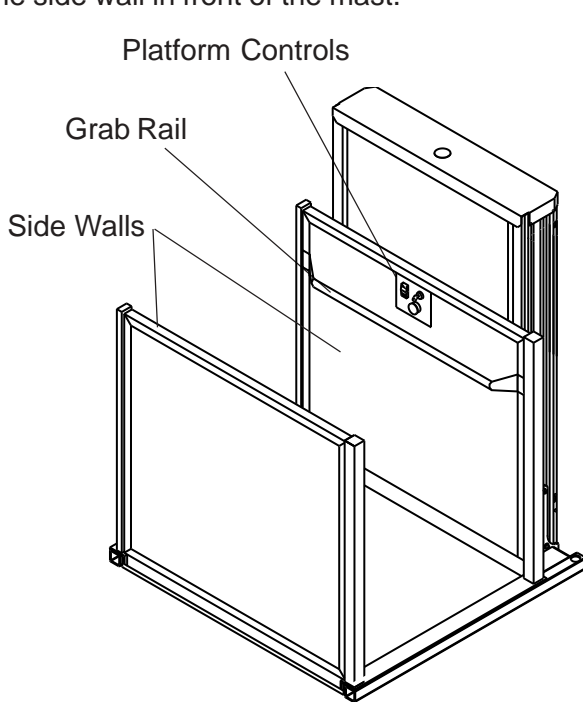
### Mid-Size

890 x 1372mm (35" x 54")

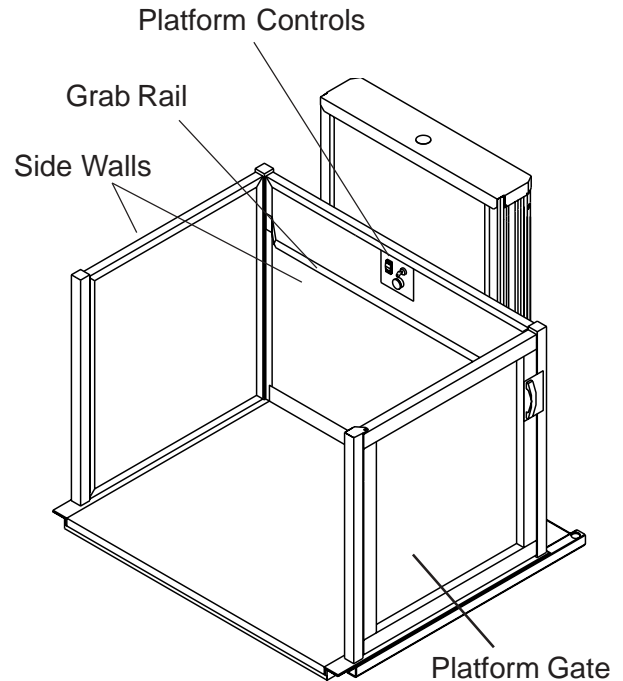
### Large

1067 x 1524mm (42" x 60")

All three of these platforms have a **rated load of 340 kg. (750 lbs.)** and have 1070 mm (42 1/8") high side walls. For the convenience of the passenger, a grab rail and the platform controls are mounted on the side wall in front of the mast.



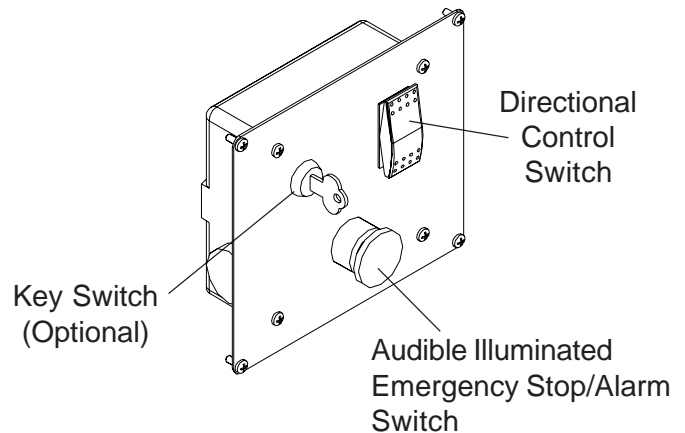
**Straight Through Platform**



**90° Platform**

## Platform Controls

The platform controls consist of a **Directional Control Switch**, an **Audible Illuminated Emergency Stop/Alarm Switch** and can be equipped with a **Key Switch** (optional).



**Platform Controls**

## Platform Clear Dimensions

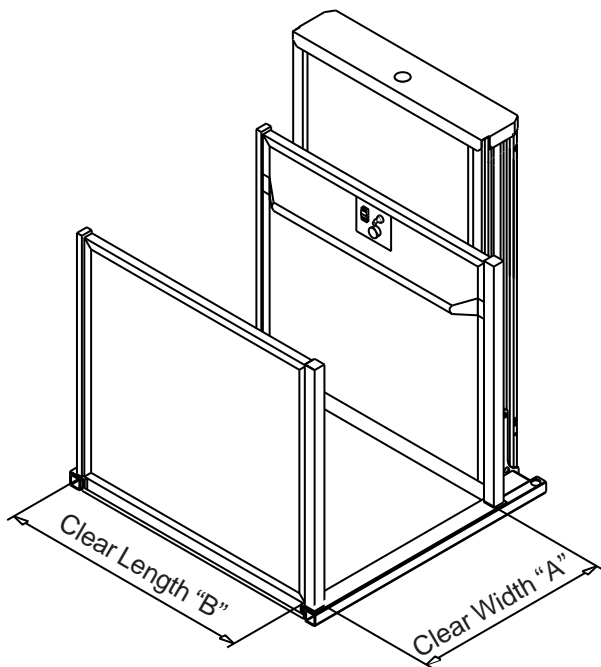
Clear inside dimensions vary depending on entry/exit configuration (placement of side walls) and platform size. Please refer to the chart below for the actual clear inside platform dimensions.

### Straight Through Configuration

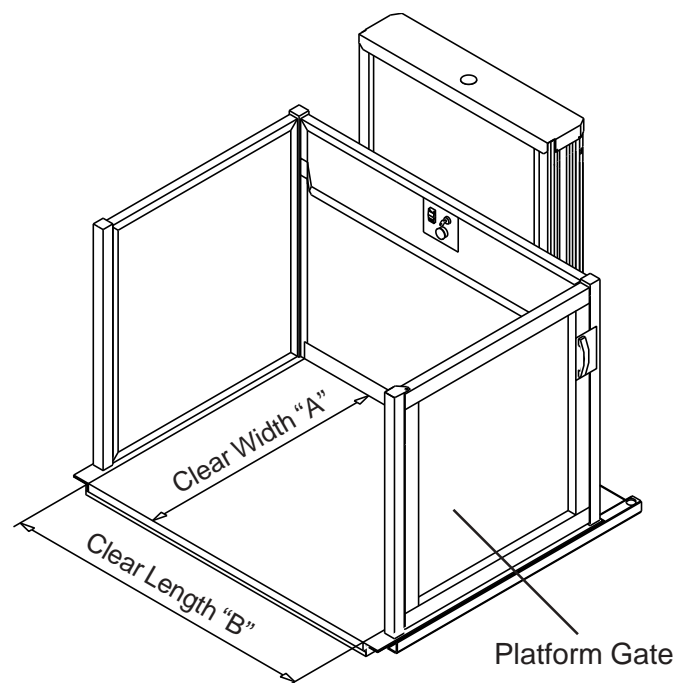
Platform Size	Clear Width "A"	Clear Length "B"	Net Usable Area
Standard	890mm (35")	1220mm (48")	1.08 sq. M (11.6 sq. ft.)
Mid-Size	890mm (35")	1372mm (54")	1.2 sq. M (13.1 sq. ft.)
Large	997mm (39 1/4")	1578mm (62 1/8")	1.5 sq. M (17.4 sq. ft.)

### 90° Configuration

Platform Size	Clear Width "A"	Clear Length "B"	Net Usable Area
Large	1067mm (42")	1524mm (60")	1.5 sq. M (17.5 sq. ft.)



**Straight Through Platform**



**90° Platform**

## ***Platform Safety Features***

### **Under Platform Sensing Plate**

A pressure sensitive plate is mounted under the platform to detect obstacles underneath the platform. The lift will automatically stop when the under-platform sensing plate encounters 4 lbs. of pressure. The platform may be driven upward to allow the obstruction to be removed.

### **Non Slip Surface**

For the safety of the passengers the steel platform decking is painted with a rough textured non-slip paint.

### **Grab Rail**

To aid with loading and unloading a 38mm (1 1/2") grab rail is located at 870mm (34 1/4") above the platform decking on the side wall in front of the mast.

### **Pit Switch**

For areas where local codes require a service pit switch, one can be located within an arm's reach at the bottom of the mast. The pit switch locks out the lift while a serviceman is working under the platform.



## Base Frame - Footprint and Pit/Runway Dimensions

### Straight Through Configuration

Platform Size	Footprint Width	Footprint Length	Pit Width	Pit Length
Standard	1277mm (50 1/4")	1270mm (50")	1342mm (52 3/4")	1308mm (51 1/2")
Mid-Size	1277mm (50 1/4")	1422mm (56")	1342mm (52 3/4")	1460mm (57 1/2")
Large	1433mm (56 1/2")	1628mm (64 1/8")	1498mm (59")	1666mm (65 5/8")

### 90° Configuration

Platform Size	Footprint Width	Footprint Length	Pit Width	Pit Length
Large	1433mm (56 1/2")	1628mm (64 1/8")	1452mm (57 1/8")	1712mm (67 3/8")

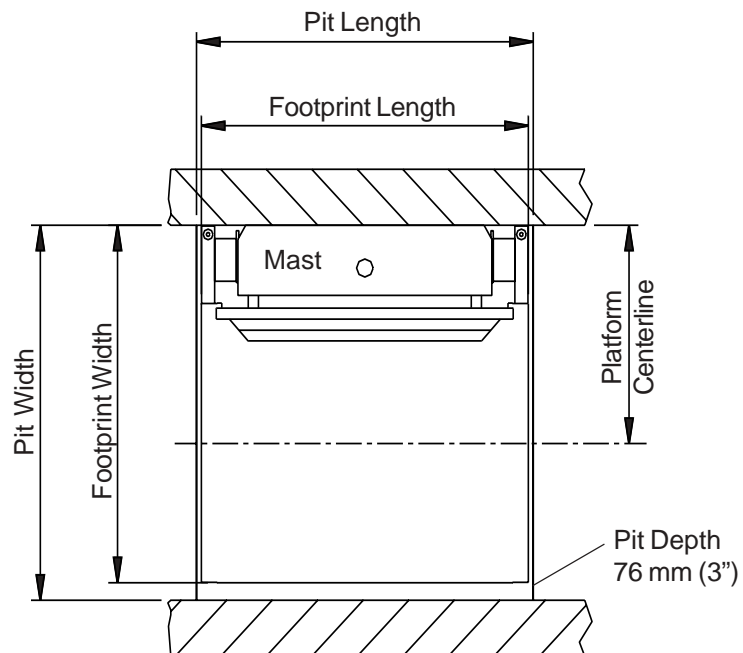
### Platform Centerline

Platform Size	Standard	Mid-Size	Large
Platform $\text{C}$	781mm (30 3/4")	781mm (30 3/4")	835mm (32 7/8")

**Note:** Footprint includes Platform, Mast and Base of Mast.

Pit/Runway dimensions include running clearances to adjacent walls. Mast is against the side of Pit/Runway wall. On non-entry/exit sides, we have added 65mm (2 1/2") for running clearance required by code. We have added 19mm (3/4") to each entry/exit side as required by code.

**Note:** If there are no adjacent walls planned, just add 25mm (1") to the Footprint Length and Footprint Width dimensions.



### Base Attachment

The base of the Genesis OPAL is fastened to the floor with lag screws. The floor or pit should be concrete and must be 3500 psi. reinforced, with a minimum 102 mm (4") thickness. If the floor is not concrete, then it must be able to withstand the loads shown on page 16.

## Mast Sizes

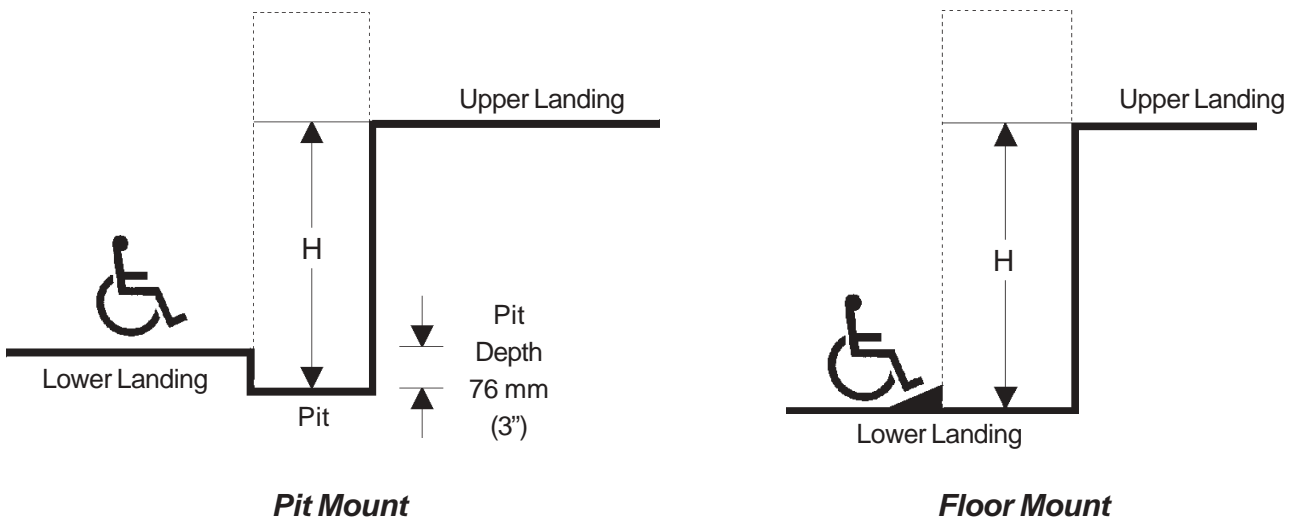
The mast size required for a particular site is determined by the vertical distance between the upper and lower landings.

When the site is measured, the lift height “H” is always defined as the distance from the lower finished floor or bottom of pit to the finished floor of the upper landing 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 (stationary or folding) 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 lift so be certain the height you provide is accurate.

Based on the measured value of “H” the drive mast is selected as follows;

Max. “H” Value	Mast Size	Max. Platform Travel	Mast Height
*1118mm (44”)	GVL - OP - 41	1042mm (41”)	1558mm (61 3/8”)
*1524mm (60”)	GVL - OP - 57	1448mm (57”)	1965mm (77 3/8”)

The width of the mast is 980mm (38 5/8”) and is standard for all mast heights.



\* Note: When an upper landing gate is used add 25mm (1”) to determine the maximum “H” value (see page 15 for details).

For public applications upper and lower landing gates are required, however for residential applications they may not be required.

**The Mast must be supported for 90° configurations and when the large platform is used.**

### **Leadscrew Drive System**

Driven by a single-phase motor attached to a 25mm (1") ACME screw, the OPAL travels between landings at 2.7 meters (9') per minute with a quiet and reliable 3/4 H.P. motor.

#### **Mains Power**

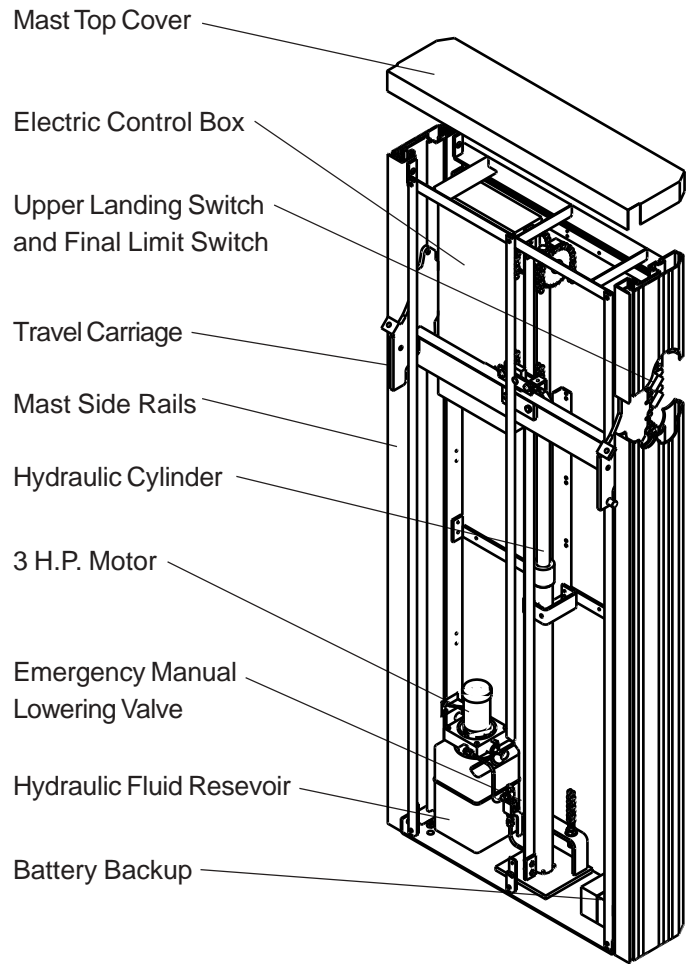
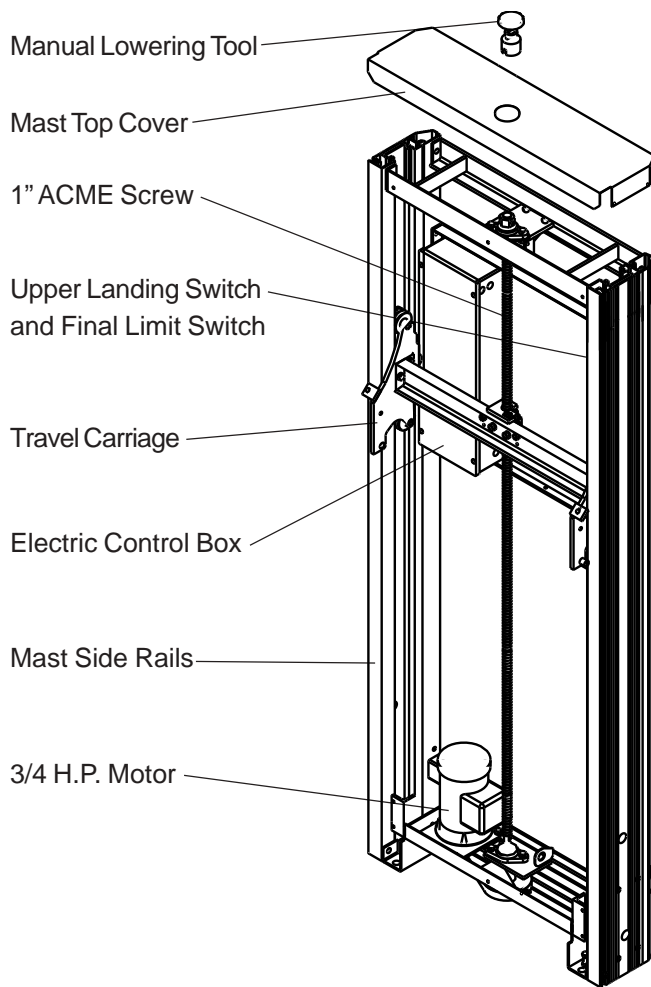
The mains power requirement is 120VAC, 50/60 HZ on a dedicated 20 Amp circuit.

### **Hydraulic Drive System**

Driven by a single phase powerful 2.2 KW (3 H.P.) 24VDC hydraulic motor, the OPAL travels between landings at a quick 5.2 meters (17') per minute.

#### **Mains Power**

The mains power requirement is 120VAC, 50/60 HZ on a dedicated 20 Amp circuit.



### **Electrical Disconnect**

(Optional)

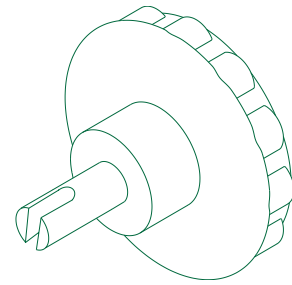
A code compliant electrical disconnect is available for both Leadscrew and Hydraulic models. The disconnect shuts off the mains power and the 24V battery operation (Hydraulic only). The disconnect can be shipped loose for wall installation or mounted on an accessible side of the lift mast.

## **Leadscrew Drive Features**

### **Manual Emergency Lowering Handwheel**

(Leadscrew Model Only - Optional)

The manual emergency lowering handwheel engages the main drive screw at the top of the mast. The manual emergency lowering handwheel is used to move the platform to the lower landing in the event of a power outage.



**Manual Emergency Lowering Handwheel**

## **Hydraulic Drive Features**

### **Manual Emergency Lowering**

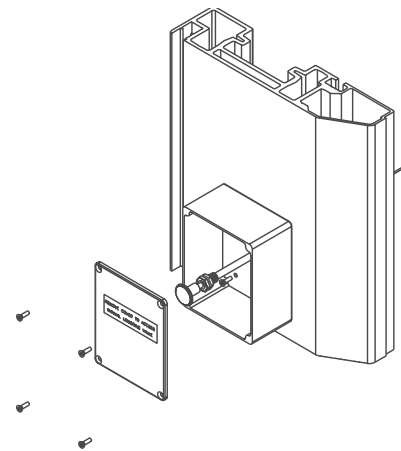
(Hydraulic Model Only - Standard)

This model of the Genesis OPAL is equipped with a manual emergency lowering device consisting of a pull knob mounted in a security box. When this device is used, the platform will gently move to the lower landing.

### **Auxiliary Power System**

(Hydraulic Model Only - Standard)

This model of the Genesis OPAL is equipped with an Auxiliary Power System that is automatically activated in the event of a power failure. Two 12 VDC batteries allow the user inside the lift to travel up or down using the platform at a speed of approximately 5.2m/min (17ft/min) (varies with the state of the battery charge).



**Manual Emergency Lowering Mounted on Mast Rail**

### **Shoring Pin**

(Hydraulic Model Only - Standard)

The shoring pin is inserted into the mast under the platform when work is being performed in the lower sections of the mast. The shoring pin prevents the platform from lowering accidentally due to loss of hydraulic pressure.

## Call Stations

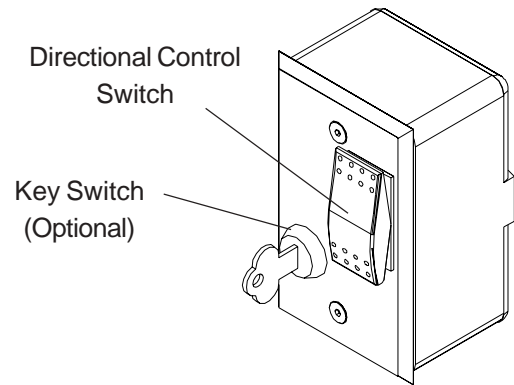
The call stations consist of up and down continuous pressure directional control switches and can be fitted with a key switch (optional). The platform is called to the landing by applying constant pressure to the appropriate directional switch. The platform will automatically stop when it has reached that landing.

### Lower Call Stations

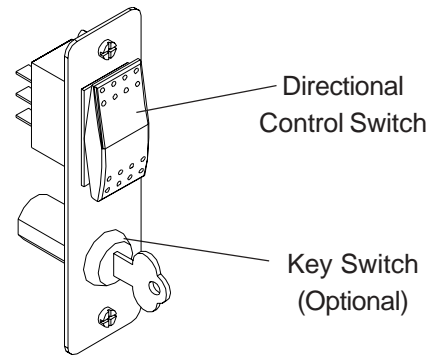
The lower call station is remotely mounted on a wall or on the back of the mast.

### Upper Call Stations

The upper call station can be mounted in the aluminum extrusion frame of the lift beside the upper gate or can be wall mounted.



**Wall Mounted Call Station  
Used at Lower and/or Upper Landing**



**Frame Mounted Call Station**

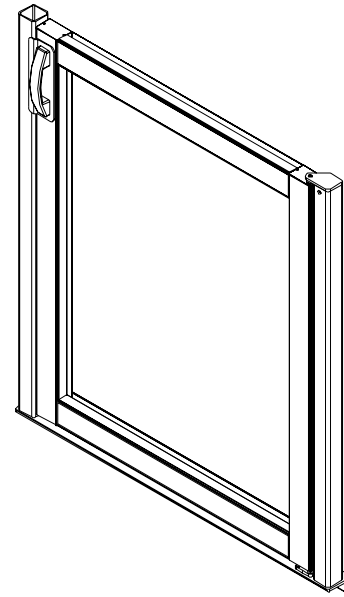
# Gates

The lower gate of the Genesis OPAL is mounted onto the platform deck and travels from landing to landing. The upper gate is fastened to the upper landing creating a safety barrier when the platform is not at the upper landing.

*On 90° configurations, the upper gate assembly consists of the wide gate plus a panel that extends the gate assembly to the full length of the platform.*

## Electro-Mechanical Interlock

The Genesis OPAL is equipped with a durable mechanical interlock system that is electrically monitored. When the platform is not at a landing the mechanical interlock will not allow the gate to be opened.



**Gate and Frame Assembly**

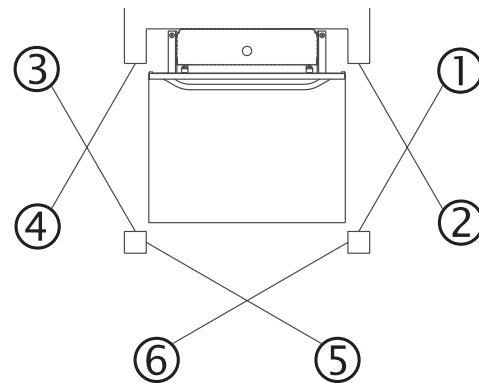
## Gate & Gate Assembly Dimensions

Platform Size	Gate Width	Platform Gate Frame Assembly Width	Upper Gate Frame Assembly Width
Standard	865mm (34")	915mm (39")	1035mm (40 3/4")
Mid-Size	865mm (34")	915mm (39")	1035mm (40 3/4")
Large	965mm (38")	1067mm (42")	1111mm (43 3/4")

*Note: All gates are 1067mm (42") in height.*

## Gate Positions & Swing Options

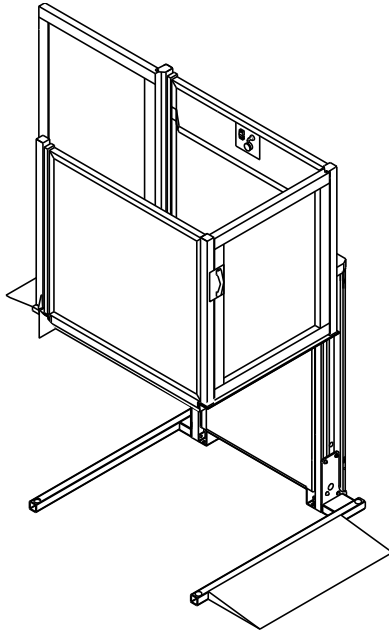
The Genesis OPAL is available in two entry/exit configurations. The lift can be supplied as a straight through (180°), or a 90° (left or right exit) lift configuration. With these entry/exit configurations the doors can be hinged on either side of the doorway. This enables the lift to be adapted to the surrounding areas and makes it easier for loading and off loading.



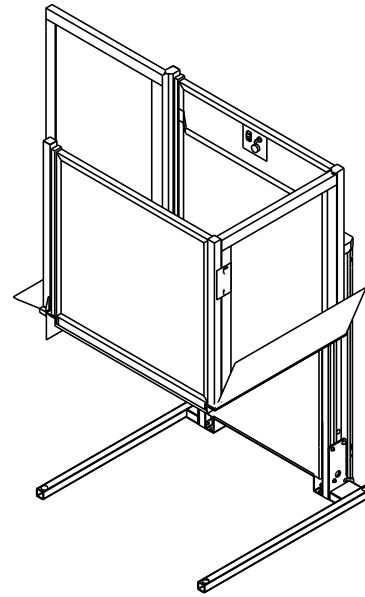
**Gate Positions & Swing Options**  
**Option 5 & 6 only available with**  
**90° upper landing**

## Ramps

Ramps are an alternative when a 76mm (3") deep pit cannot be provided. There are two styles of ramps to choose from. The first is a **Stationary Ramp** that is fixed to the lower landing. The second is an optional **Folding Ramp** that is attached to the platform assembly and travels with the platform. When the platform begins to travel upwards, the ramp folds up automatically clearing the lower landing.

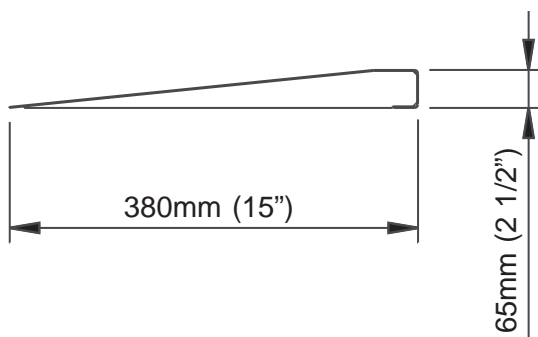


**Stationary Ramp**



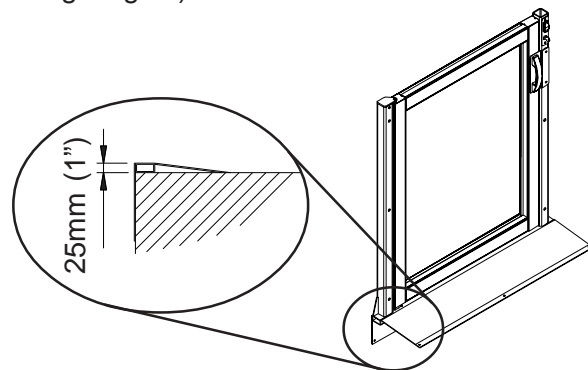
**Folding Ramp**

### Lower Landing Ramp Dimensions



### Upper Landing Sill Plate

The upper gate assembly is equipped with a 25mm (1") tall ramp sill plate. This hollow ramp allows the field wiring to the call station and the fastening of the gate assembly to be hidden. This 25mm (1") ramp must be factored into your lifting height (see page 10 for lifting heights).



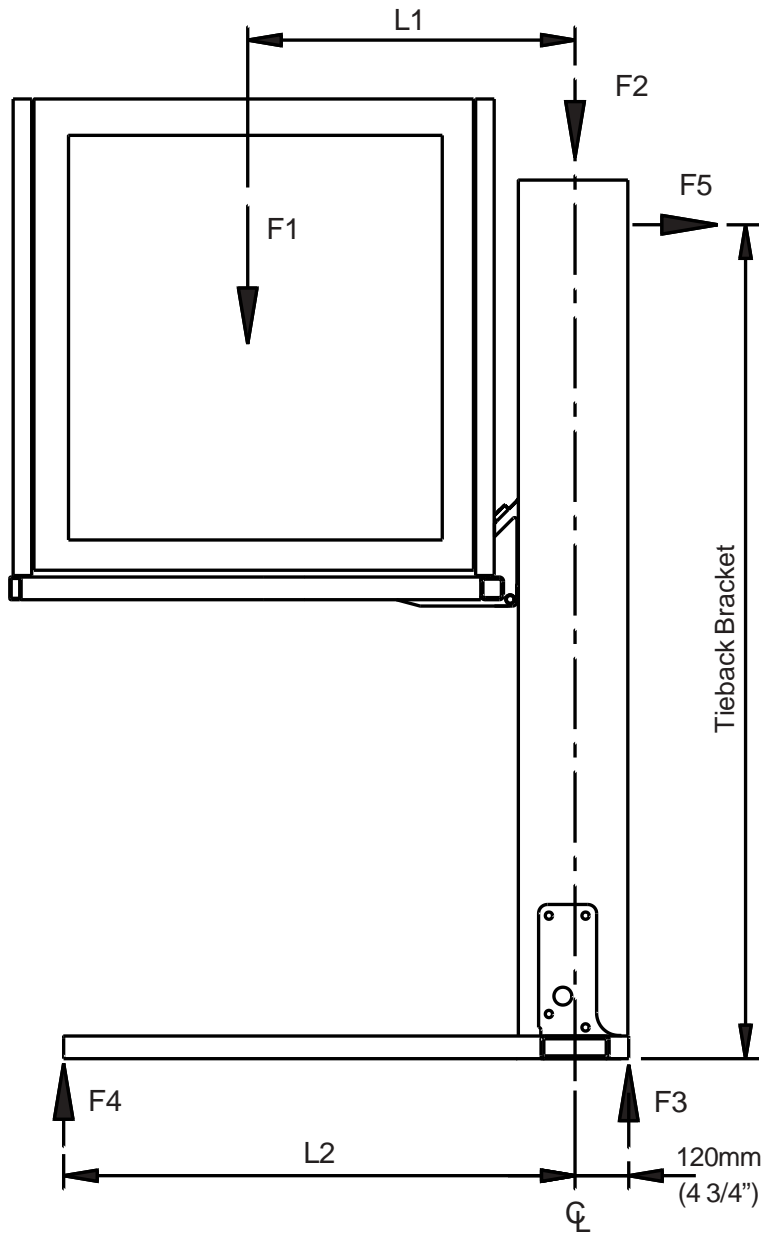
**Upper Landing Gate & Ramp**

# Loading Diagram

Platform Size	L1	L2
Standard	688 (27")	1145 (45")
Mid-Size	688 (27")	1145 (45")
Large	777 (30 5/8")	1145 (45")

Mast Size	Mast Height	Tieback Height
41	1559 (61 3/8")	1457 (57 3/8")
57	1965 (77 3/8")	1863 (73 3/8")

Note: Tiebacks are mandatory for Large platforms and for 90° configurations.



Forces	Description			Value
F1 = 1000 lbs.	Payload (Max.)			3335 N (750 lbs.)
	Car (Platform) Weight			1110 N (250 lbs.)
F2	Mast Weight	41 Mast	All Platform Sizes	777 N (175 lbs.)
		57 Mast	All Platform Sizes	955 N (215 lbs.)
F3	Floor Reaction	41 Mast	All Platform Sizes	4791 N (1079 lbs.)
		57 Mast	All Platform Sizes	4955 N (1116 lbs.)
F4	Floor Reaction	41 Mast	All Platform Sizes	426 N (96 lbs.)
		57 Mast	All Platform Sizes	440 N (99 lbs.)
F5	Tieback Bracket Reaction	41 Mast	Std & Mid Size Platforms	2087 N (470 lbs.)
		41 Mast	Large Platform	2367 N (533 lbs.)
		57 Mast	Std & Mid Size Platforms	1634 N (368 lbs.)
		57 Mast	Large Platform	1856 N (418 lbs.)





Garaventa Accessibility  
P.O. Box 1769, Blaine WA 98231-1769  
7505-134A Street, Surrey, B.C. Canada V3W 7B3  
Phone: 1+(604) 594-0422 Fax:1+(604) 594-9915  
Toll Free: 1-800-663-6556  
www.garaventa.ca email: productinfo@garaventa.ca

**GARAVENTA GENESIS OPAL VERTICAL LIFT  
UNENCLOSED MODEL DESIGN SPECIFICATIONS**

**IMPORTANT: PLEASE CONTACT GARAVENTA FOR DEALER ASSISTANCE IN  
DEVELOPING CURRENT AND LOCATION SPECIFIC DESIGN SPECIFICATIONS**

**VERTICAL LIFT DESIGN SPECIFICATIONS**

**PART 1 GENERAL**

**1.01 DESCRIPTION OF PRODUCT**

- A. The Genesis OPAL– manufactured by Garaventa Accessibility – is a vertical platform lift for indoor/ outdoor use consisting of a machine tower with a lifting platform, selected and dimensioned to provide building access for mobility impaired persons.

**1.02 QUALITY ASSURANCE**

- A. All load ratings and safety factors shall meet or exceed those specified in the local applicable elevator safety code and shall be certified by a professional engineer. Welders certified in accordance with requirements of CWBW47.1 shall execute all welding of parts. Design and installation shall be in compliance with applicable regulations of all governing agencies with jurisdiction.

**MANUFACTURER**

- A. Supplier with design personnel available to work with architects/contractors to adapt product to requirements of building and with not less than ten (10) years experience in design, fabrication, and installation of specialized equipment for mobility impaired persons.

**INSTALLER**

- A. Must be a contractor licensed to install equipment of this scope, with evidence of experience with this equipment. The installer must also employ competent personnel, maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of maintenance and call-back service without unreasonable loss of time in reaching the job site.

### **1.03 WARRANTY**

- A. Warranty: Manufacturer shall warrant the Genesis OPAL vertical lift materials and workmanship for one year following completion of the installation.
- B. Extended Warranty (optional): Manufacturer shall warrant the Genesis OPAL vertical lift materials and workmanship for up to two (2) additional years following completion of the installation and execution of a Preventive Maintenance Agreement.

### **1.04 MAINTENANCE**

- A. The cost of renewals or repairs caused by reason of negligence, misuse, or accidents beyond the control of the lift contractor shall not be the responsibility of the contractor.
- B. If call-back service is required between regular inspections, and is necessitated by defects, which are not covered by the warranty, this contractor will be reimbursed by the owner. Call-back service necessitated by defects, which are covered by the warranty, shall be provided without charge.

## **PART 2 PRODUCT**

**This section covers the supply and installation of one vertical platform lift system. (Optional equipment and selection items are underlined and are usually an extra cost.)**

### **2.01 MANUFACTURER/EQUIPMENT**

**MODEL TYPE:** Garaventa Genesis OPAL Vertical Lift, Unenclosed Model

- GPL 41 = 1042mm (41") Maximum Lift Height 44"
- GPL 57 = 1448mm (57") Maximum Lift Height 60"

\*\* Deduct one inch from maximum lift height if upper gate is to be used

**PLATFORM:**

- Standard 890mm x 1220mm (35" x 48") clear platform space
- Mid-Size (optional) 890mm x 1372mm (35" x 54") clear platform space
- Large (optional) 997mm x 1578mm (39 ¼" x 62") clear platform space
- Large (optional) 1067mm x 1524mm (42" x 60") clear platform space for 90° entry/exit configuration

Lift manufactured by Garaventa Accessibility distributed by \_\_\_\_\_  
configured as follows:

1. Machine Tower: Custom aluminum extrusion – anodized champagne finish.
2. Base Frame: Structural steel tubing.
3. Platform Side Wall Panels: 16 gauge galvanized steel sheet panels. Custom anodized aluminum extrusion tubing frame.
4. Platform and Access Ramp: 12 gauge formed, galvanized steel plates; slip resistant surfaces. The access ramp can be a stationary or an automatic folding ramp design.
5. Coatings/Surfacing: Finished in process consisting of alkaline detergent wash, clear water rinse, iron phosphate coating, clear water rinse, non-chromate rinse, and baked polyester electrostatically applied for indoor/outdoor use.

6. Outdoor Protection: Lift to include all modifications recommended by manufacturer for reliable performance in outdoor climate of project site. Note that in some extreme applications, an extreme weatherproofing package may be recommended.
7. Capacity: Maximum 340kg. (750lbs) operating load.
- |                              | <b>Leadscrew</b>  | <b>Hydraulic</b>  |
|------------------------------|---|---|
| 8. Drive Style:              | Self-lubricating acme drive nut and screw gear belt pulley with gearbelt.                       | Chain hydraulic drive.  |
| 9. Emergency Operation:      | Manual lowering device capable of raising or lowering the platform in event of a power failure. | (1) Manual emergency lowering device capable of lowering platform and (2) Auxiliary Power System capable of raising or lowering platform in event of power failure. |
| 10. Lifting Height (to suit) | Specify up to a 57" maximum   | Specify up to a 57" maximum   |
| 11. Travel Speed:            | 2.7 meters/minute (9 feet per minute)   | 5.2 meters/minute (17 feet per minute)  |
| 12. Motor:                   | 0.75 H.P Motor: 120 VAC, 60Hz., 8 amps, single phase with minimum 1750 RPM instant reverse      | 2.2 KW (3 HP) Motor: 120 VAC single phase, 60 Hz. @15 amps  |
- \*Lift shall stop automatically at upper and lower landings
13. Noise Level: Inside the car: 72Db (A)  
Outside: 65Db (A) (taken 1m away from the lift.)
- Inside the car: 67Db (A)  
Outside: 60Db (A) (taken 1m away from the lift.)
14. Panel Color: Satin Grey (fine texture) (Optional RAL colors are available from Manufacturer)
15. Platform Gate (optional) 1067mm (42") high, equipped with self closer  
Detached freestanding upper landing gate (optional) 1067mm (42") high, equipped with self closer
16. Side Wall Panels: 1070mm (42 1/8") on platform.
17. Safety Devices:
- a) Grounded electrical system with upper, lower, and final limit switches and 24VDC operating controls.
  - b) Non-slip platform and access ramp surfaces.
  - c) Security key switches on controls (optional).
  - d) Mechanical interlock with electrical switch, monitors the gate in the closed position to ensure that the latch is engaged.
  - e) **Leadscrew:** Integral safety nut assembly with safety switch.
  - or **Hydraulic:** Slack chain safety device.
  - f) Emergency stop switch shuts off power to lift and activates audio alarm.
  - g) Pit stop switch mounted on mast wall (optional).
  - h) Battery powered emergency alarm.
  - i) **Hydraulic:** Shoring device (standard).

## 2.02 APPLICABLE STANDARDS

- A. Lift shall be designed and manufactured in accordance with the following standards:
- 1) ASME A17.1 "Safety Code for Elevators and Escalators". Part XX (Commercial and Public Buildings) or ASME A18.1 "Safety Standard for Platform Lifts and Stairway Chairlifts."
  - 2) CSA-B355 "Lifts for Persons with Physical Disabilities."
  - 3) ANSI A117.1 "Providing Accessibility and Usability for Physically Handicapped People."
  - 4) NFPA No 70 National Electric Code.

- 5) CAN/CSA-B44.1-96/ASME A17.5 Electrical Code for Elevating Devices.

## 2.03 ELECTRICAL SYSTEMS

### WIRING:



- A. Electrical contractor shall provide electrical piping and wiring. Lift contractor will make final electrical connections.

### CONTROLS:

- A. 24 VDC constant pressure directional switch on platform and (optional) On/Off key switches at landings and on platform. Emergency stop on platform.

### GENESIS DATA LABEL:

The data label is typically found inside the mast on the backside of the electrical box cover.

<b>GENESIS OPAL VERTICAL LIFT</b>	
<b>MODEL:</b> GENESIS OPAL	 Built in accordance to: ASME A17.5 ASME A18.1b
<b>SERIAL #:</b> 20852	
<b>RATED SPEED:</b> 2.7M (9FT)/MIN	
<b>RATED LOAD:</b> 750 LBS (340 KG)	
<b>WEIGHT OF CAR:</b> 160 LBS (73 KG)	
<b>SUSPENSION &amp; SUPPORT MEANS:</b> LEADSCREW	
<b>DATE OF MANUFACTURE:</b> SEPT 12, 2002	
<b>MANUFACTURED BY:</b> GARAVENTA ACCESSIBILITY	
<b>VOLTAGE:</b> 120 VOLTS AC SINGLE PHASE	
<b>FULL LOAD CURRENT:</b> 8 AMPS	
14996	