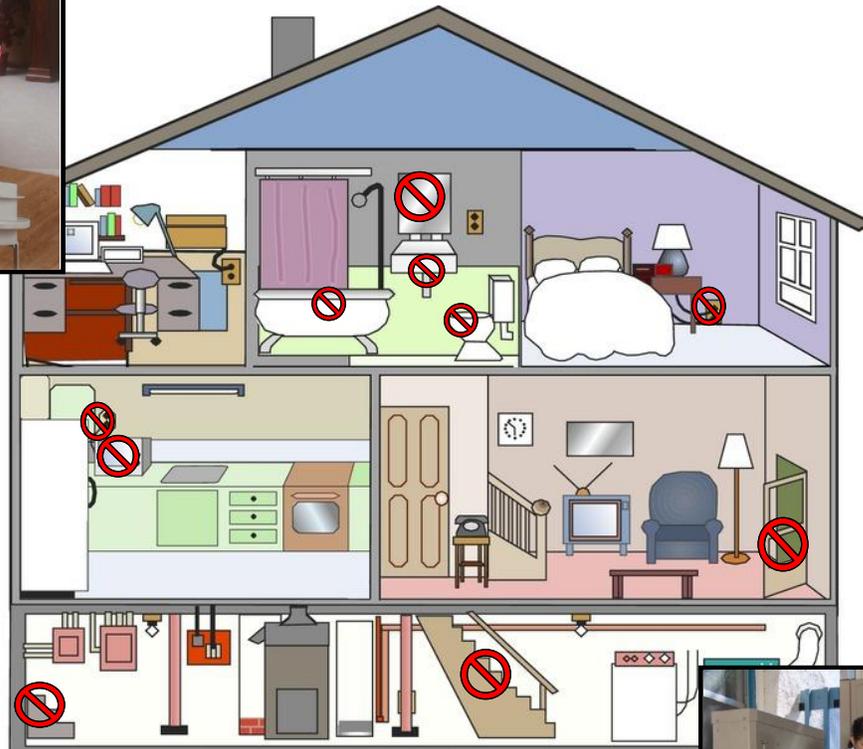


Guide to the Proper Evaluation of Stairlifts and Vertical Platform Lifts



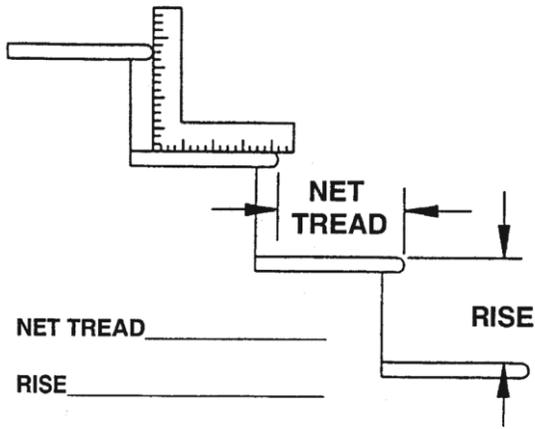
Presented to:
Canadian Seating & Mobility Conference
2008

CONTENTS

	Page
Stairlift Drawings	3
Curve Rail Terminology	4
Stairlift Questions & Answers	5-8
Vertical Porch Lift Drawings	9-10
Vertical Porch Lift Questions & Answers	11-12
Vertical Porch Lift Site Requirements	13

Straight Chair Lift Application Guide

Step 1: Determine Staircase Angle



RISE	NET TREAD						
	12"	11"	10"	9"	8"	7"	6"
6"	27	29	31	34	37	41	45
7"	30	33	35	38	41	45	
8"	34	36	39	42	45		
9"	37	39	42	45			
10"	40	42	45				
11"	43	45					
12"	45						

NOTE: ANGLES ABOVE ARE ROUNDED TO THE NEXT DEGREE. FOR ANGLES ABOVE 45 DEGREES, CONSULT BRUNO FOR SPECIAL ORDER DETAILS.

Step 2: Define Stairway Dimensions and Details

Stair tread material

Staircase width

(32" min. for standard unit)

Lower landing material

Obstructions

(ex. handrails, moldings)

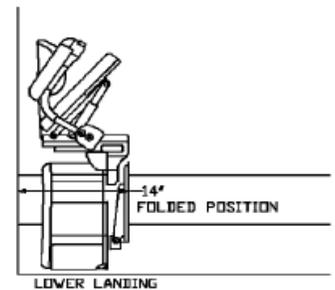
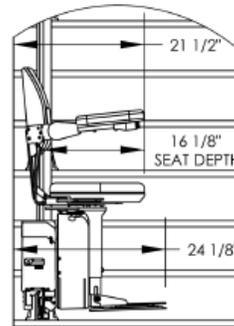
Upper landing material

Stairlift Profile Examples

Step 3: Specify Chair and Rail Details

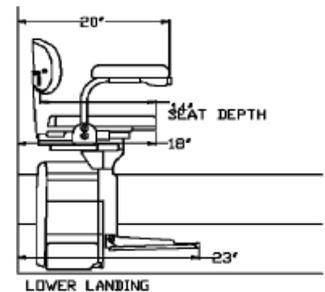
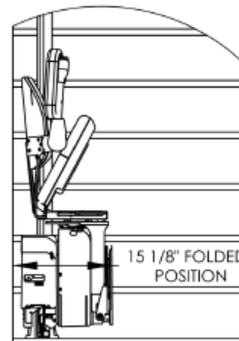
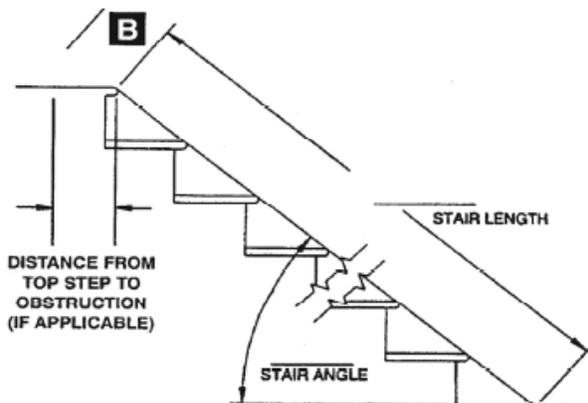
Hand (looking from bottom of stairs up):

Left Right



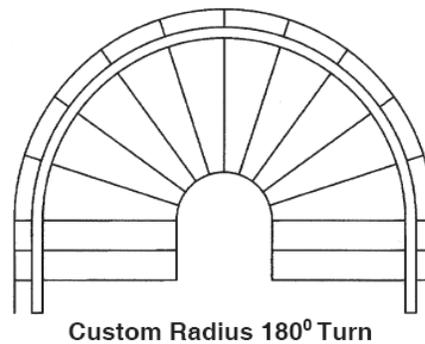
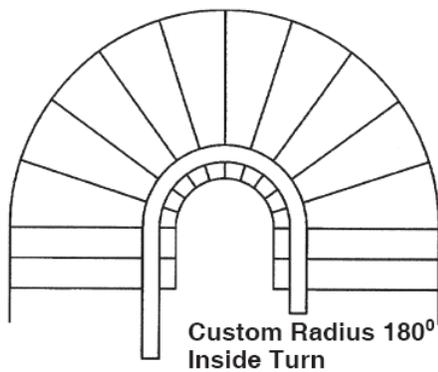
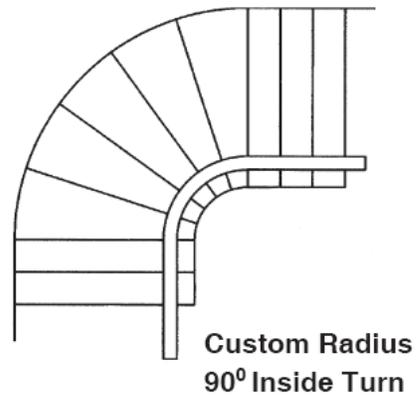
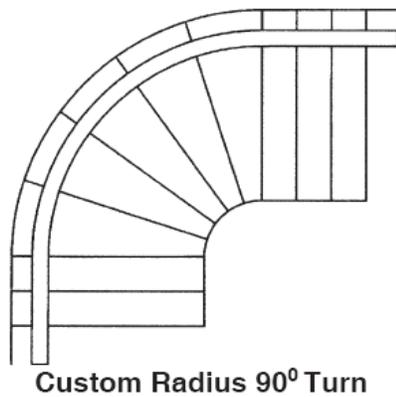
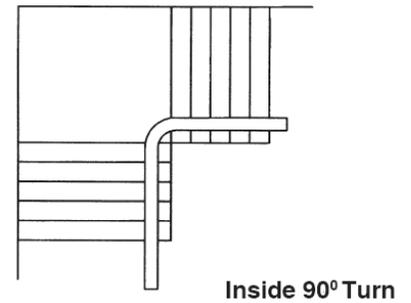
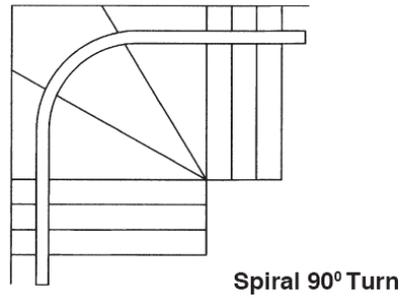
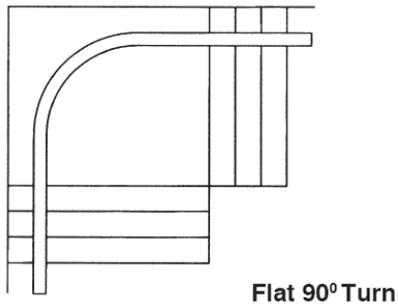
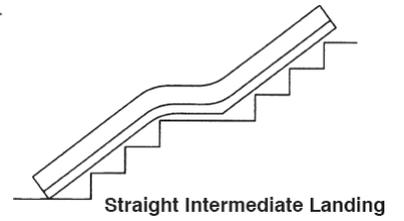
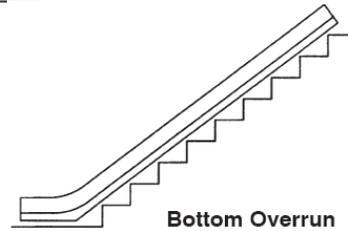
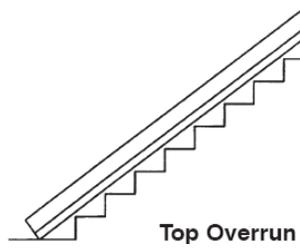
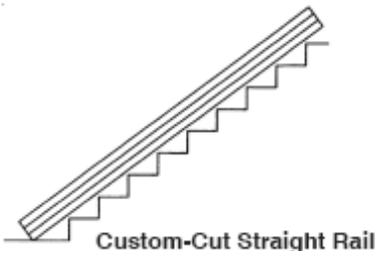
DIMENSIONS BASED ON 2 1/2" RAIL POSITION

Step 4: Determine Rail Length



DIMENSIONS BASED ON 2 1/2" RAIL POSITION

Curve Chair Lift Terminology



Frequently Asked Questions Regarding Stairlifts

What is a stairlift?

A stairlift is a mechanical device that moves a person (not in a wheelchair) up and down the steps. A stairlift is also commonly referred to as stairway lift, stairchair or stair glide. A stairlift has a chair mounted on a carriage that rides on track mounted to the staircase.

What type of individual uses a stairlift?

The stairlift is appropriate for any individual that has difficulty walking up and down stairs, but still has the ability to walk a short distance. A wheelchair user with the ability to transfer and adequate trunk stability might use a stairlift, but would require a wheelchair on each level of entry/exit. A typical stairlift user could suffer from any of the following:

MS	Stroke Survivors	Balance/Instability
Fatigue	Post Polio	Respiratory/Oxygen
Arthritis	Elderly	Joint Replacements
Heart Conditions	Surgery	Hip/Knee Replacement
Breathing Problems (Emphysema/asthma)		

What does a battery-powered stairlift mean?

A battery-powered stairlift is a stairlift that runs on batteries. The stairlift battery is charged by a battery charger that is plugged into a regular 110 electrical wall outlet. Units are typically charged when parked at the top and bottom of the rail.

Is a battery-powered stairlift better than one that is not?

All stairlifts have different standard features and costs will vary. If a client lives in an area where there are frequent power failures, the client will often choose the battery-powered unit. In addition, battery-operated units are typically quieter than AC units.

How much space is needed on the stairway, for the stairlift to be installed?

This space usually varies from each manufacturer. Dealers are required to know the specifications of each unit and compare with the client's physical stature and local codes. Stairways can be as narrow as 30 inches.

Can I install this product myself?

From a product liability standpoint, organizations such as AEMA and others never recommend that a consumer install a product themselves. Look for manufacturers that require their dealer network to attend sales/service installation training courses. Additional expense and personal injury can occur if the stairlift is not properly installed. Stairlifts are installed to prevent injury, not cause it.

Check warranty claim policies. Some manufactures void warranty for the self-installation of a product. Reputable dealers with previous experience and training in the sales/installation of product should be able to provide valuable information such as code restrictions, licensing requirements, labor policy, and sources of funding if available. Most funding agencies do not allow the self-installation of product such as stairlifts.

Look to the local installer to help you identify what products are reputable with good service histories. Typically in life you get what you pay for. How many times do you wish you spend a little more to get a lot more in quality?

Points to consider:

- Warranty claims may be denied if it is determined that an improper installation caused the fault on the unit.
- A certified dealer may have more influence on the manufacturer to work as your advocate to get the best customer service and satisfaction from the manufacturer over a single transaction.
- Check for a labor policy or if a service maintenance program is available. The value of these may pay for any cost difference in purchasing the product.

Should I purchase this type product direct from the internet?

Who is going to fix it when it's broke? In many cases internet providers will refer the consumer to a local dealer/installer to fix the product. Some dealers do not service product they do not sell for liability purposes. The consumer may pay up to twice the normal labor rate. Some dealers include a labor policy when purchasing the product.

What else can a local vendor offer you? Used, reconditioned or recycled equipment may be available. In addition, rental equipment or a buy-back program might be a possibility. All of these are value-added services to think about beyond just the initial transaction cost.

States such as Washington, Minnesota, Alabama, Michigan and Hawaii require permits/licensing for the residential installation of stairlifts. In addition, local municipalities such as the city of Chicago and Anchorage have local legislation requiring permits. Self-installation a stairlift in these States may result in fines and the removal of the product.

Most funding sources will not reimburse for products purchased through the internet without a client evaluation:

Veteran's Affairs, March of Dimes, WSIB, CMHC (HASI/RRAP programs), Indian Affairs Canada, MS Society, President's Choice Children's Charity, Easter Seals Canada, private insurance companies

Are there options available for customers that are heavier than 325 pounds or are width challenged?

North America is a growing nation and in many cases limited mobility can lead to increased weight gain. Some manufacturers do offer higher weight capacities. Bruno Independent Living Aids, Inc. does offer a stairlift with a 400 pound weight capacity and optional wider seats to accommodate many different body types.

Should stairlift manufactures have any accreditations?

Look for affiliations with organizations such as the National Association of Elevator Contractors (NAEC) and Accessibility Equipment Manufacturers Association (AEMA). Stairlift manufacturers/distributors registered with the Food & Drug Administration (FDA) in the U.S. have the obligation to provide after sale parts for that product for a minimum of seven years. Look for manufactures that promote compliance with FDA safety calculations and testing requirements.

Any product that plugs into a wall outlet should also carry a UL or CSA listing to ensure that it has been tested to minimum electrical requirements and safety.

How is the home affected by the installation of a stairlift?

Stairlifts typically install in the stair tread and not to the wall. Mounting brackets are attached to typically every other step to support the weight of the rider and unit. Most battery-operated stairlifts plug into a normal household outlet and the installer can find an outlet within six to seven feet of either the top or bottom of the steps. Some AC technology units would require by code a junction box and dedicated outlet to be installed on the steps.

What is the cost of a straight stairlift for a standard set of stairs?

This varies from unit to unit and from dealer to dealer. A budgetary figure for a straight set of 16 steps or less is less than \$4,000.00.

Can a stairlift be installed outside a home?

Most manufacturers offer an exterior package for outside installations. In some areas of North America that are prone to precipitation in the form of rain or snow, look for a cover that will protect the padded seat from moisture. Question the provider of the product as to what the differences of the product are to the standard indoor unit. Here are some important questions to ask:

- Is the paint on the unit an exterior grade powder coating process that would hold up better in an outdoor climate?
- Do they use stainless steel hardware?
- Does the unit come with a cover?
- What temperature is the unit rated for?

Why would a single curved rail stair lift be installed instead of two stair chairs?

A home may have more than one staircase in close proximity to one another or have a split entry in the case of a bi-level home. A dealer may recommend the less costly option of installing two straight rail units instead of a custom manufactured curved stairlift. This requires the client to exit one stairlift and transfer in the middle of the staircase or on the landing. While this option may be less expensive, it can be dangerous for a transfer to occur in the middle of a flight of steps. Making the long-term investment in a single curve may be the only safe option for the client.

What if there is a narrow hallway or a door that swings into the space at the bottom of the steps?

Many stair chair manufacturers offer what is referred to as a “flip-up rail option”. This means that the rail is actually hinged and can be stored in a folded position allowing clearance at the bottom of the steps.

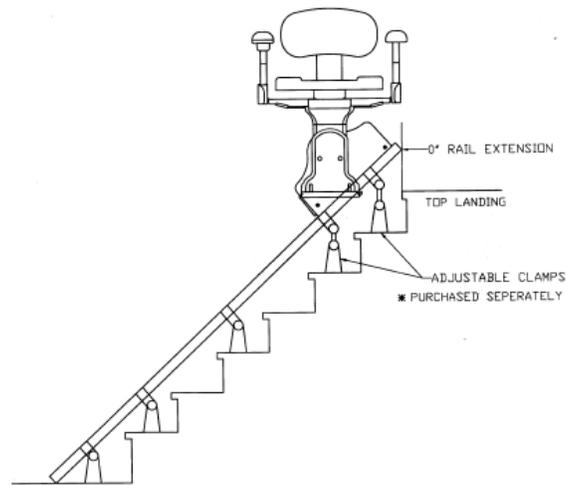
What safety features should be on a stairlift?

- **Seat belt-** Prevents falls off of the chair
- **Footrest safety plate-** Stops the unit in case object, foot, or ankle comes in-between the footrest and step nose
- **Seat swivel safety switch-** Unit does not operate if armrest controls or remotes are bumped while a transfer is occurring
- **Rail safety panels-** Protects damage to rail and carriage if obstruction is around rail

What solutions are available if there is a door at the top of the steps?

It is common to have doors at the top of steps leading to a basement. Some stairlift models with upright track styles will have little rail extension on the topside or unit can be installed

with a lower exit height. Another solution is to install adjustable clamping assemblies installed so that the angle of the rail would be increased, but a safe exit height would be maintained on top.



Vertical Platform Application Guide

Actual floor-to-floor lifting height:
(measured at job site)

Please check applicable boxes



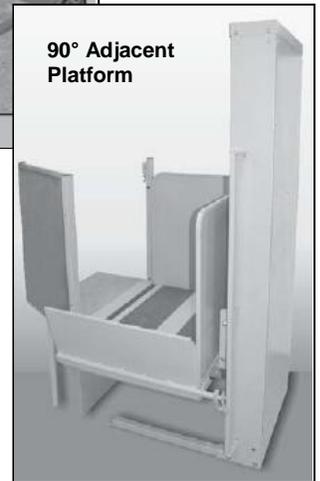
Left-hand unit



Right-hand unit



Platform Options



90° Adjacent Platform

Platform Option Examples

Select one:

- 34 in x 48 in (864 mm x 1219 mm) STANDARD
 - 34 in x 54 in (864 mm x 1372 mm)
 - 34 in x 60 in (864 mm x 1524 mm)
 - 90°/ADJACENT PLATFORM (48 in / 1219 mm long)
 - *90°/ADJACENT PLATFORM (54 in / 1372 mm long)
- *(54 in length recommended for 90° adjacent platform)

Platform Control Options

Select one:

- Push button controls with emergency stop
- Paddle control with emergency stop
- Push button controls with emergency stop and audio alarm
- Paddle control with emergency stop and audio alarm



Push Button

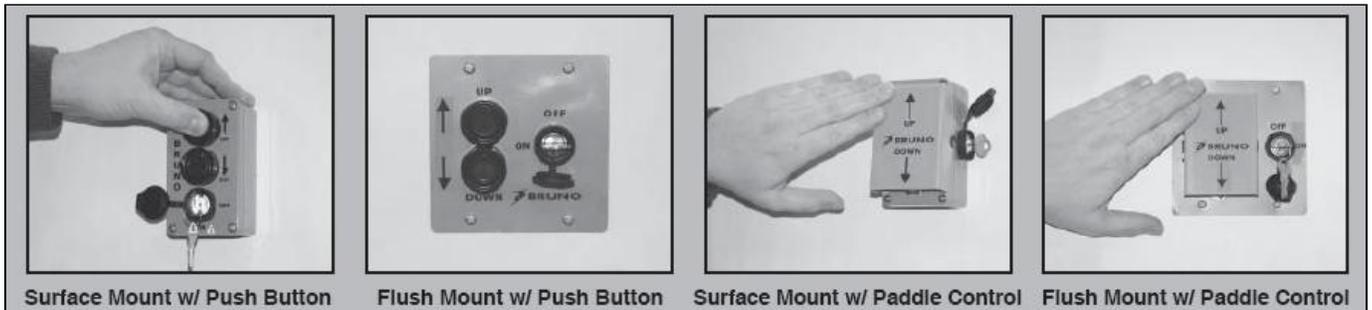


Paddle Controls

Landing Control Options

QTY

- Landing call/send surface mount with push button controls _____
- Landing call/send flush mount with push button controls _____
- Landing call/send surface mount with paddle control _____
- Landing call/send flush mount with paddle control _____



Surface Mount w/ Push Button

Flush Mount w/ Push Button

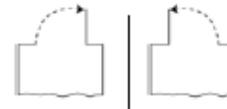
Surface Mount w/ Paddle Control

Flush Mount w/ Paddle Control

Gate and Interlock Options

Specify RIGHT or LEFT:

- Top landing gate with push button controls
- Top landing gate with paddle controls
- Electric strike interlock (gate to be built by dealer)
- Electric/mechanical "GAL" interlock (gate provided by dealer)
- Interlock wiring kit (neither interlock nor gate provided by manufacturer)



RIGHT	LEFT



Interlock wiring kit

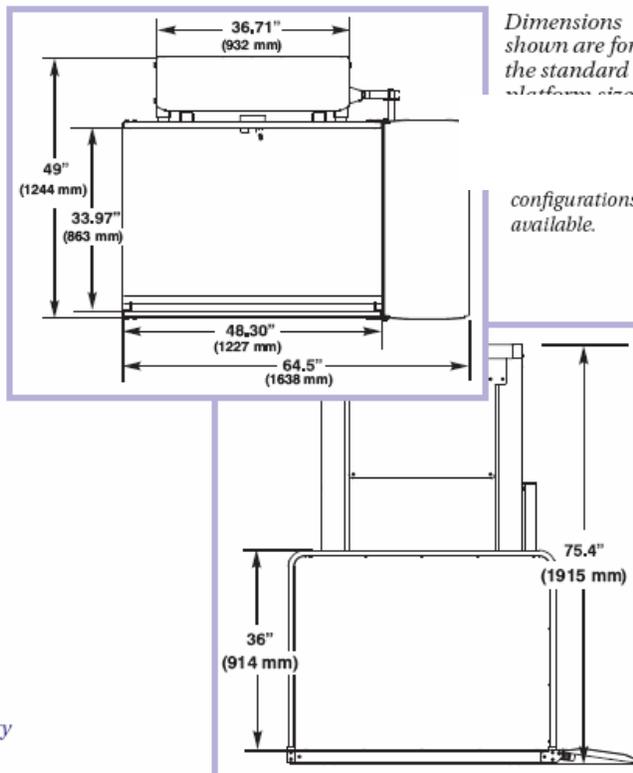


Electric Strike Interlock



Elec./Mech. "GAL" Interlock

Average VPL Size Layout



Frequently Asked Questions Regarding Vertical Platform Lifts (Porch Lifts)

What is a vertical platform lift (porch lift)?

A vertical platform lift or porch lift is a roll-on platform that moves someone in a vertical direction. It is not used on a stairway and can be installed indoors or outdoors.

What is the average vertical travel?

The brand used determines the maximum travel available. Manufacturers offer units that travel different heights. The amount of travel required is based on where the client wants to use the unit. Typical travel ranges from 3 inches to six feet.

What is the minimum vertical travel for a vertical platform lift?

Manufacturers offer units from 36 inches of vertical travel and up, but, a unit can be installed and set up to travel a shorter distance e.g. 24 inches if there is not space available for a ramp.

When would you use a vertical platform lift?

A vertical platform lift is recommended when access is required to more than one level in the home and a ramp would not be feasible. If the client is using a wheelchair for mobility, a stairlift is may not be appropriate. In addition, if space is limited it may not be feasible to install a ramp.

When do you specify a vertical platform lift instead of a ramp?

The industry usually accepts that if access is any more than 24 inches off grade, a vertical platform lift should be used. If a ramp is considered, the client's ability to wheel the wheelchair up a ramp is a factor. To have an acceptable grade for a ramp, it is recommended that the minimal grade be 1:12, with some municipalities, requiring 1:18. 1:12 means for every 1 inch of vertical travel, 12 inches of ramp is required. A 36-inch vertical lift would require by code, 36 feet of ramp.

Because the Building Code requires ramps to meet the Code specifications, many ramps become longer and therefore, more fatiguing for a client.

Can you put a vertical platform lift outside?

Yes, using a vertical platform lift for wheelchair access into a house is a common practice.

Can all vertical platform lifts be installed unsupported?

This is determined by the manufacturer. Some units less than 6 feet can be installed unsupported. It is generally accepted that any unit over 6 feet of travel must have the tower braced to a stationary wall in some way or be installed in a hoistway.

At what travel height are platform gates required?

If a unit is being used as a porch lift outside and the travel is over 4 feet, it is strongly recommended that gates on the platform be used on all openings. Gates are used for the safety of the client. If travel is over 6 feet and the unit is installed in a hoistway, doors with interlocks should be installed rather than platform gates.

Why are interlocks used on doors?

When a vertical platform lift is installed in a hoistway, doors with interlocks are used. The interlock is installed to prevent the door from being opened unless the platform has been called and is at the landing.

Are call/sends required when you purchase a vertical platform lift?

If the unit is to be used outside for access into the home it is recommended two call/sends be ordered. This means the unit can also be used by a second person that is not on the lift.



Is an under pan sensor or safety touch plate necessary under the platform?

Yes. A vertical platform lift used as a porch lift should never be installed without one. This plate is a safety feature and will cause a unit to stop in the down motion if it encounters any barrier e.g. snow, animals, toys, small children. It is a must for safety! Keep in mind that the client who is using a wheelchair cannot see what is under him or her when operating the unit. When a unit is installed in a hoistway, a safety touch plate is not necessary because the interlock on each door controls each stop. An under pan safety sensor is mandatory by code for an unenclosed application.



VPL Job Site Requirements

The following is a list of general job site requirements provided as a guide to help the installer. For a complete list of requirements check the installation site's applicable local codes.

Electrical Requirements:

VPL requires a dedicated GFI 120 Volt, 15 amp, 60 Hz single phase circuit to operate. Check applicable local codes for all electrical and wiring requirements.

Platform Pathway Requirements:

Make sure the pathway that the platform runs in is clear of any electrical conduit and wire ways, Make sure no liquids, steam or gas piping discharge into the pathway, and make sure that there is sufficient headroom clearance (minimum of 80") throughout floor to floor travel. Make sure the area is sufficiently lit.

Floor Requirements:

4" thick, 3500 PSI minimum compressive strength, reinforced concrete slab. Refer to manufacturers' technical drawing for minimum slab dimensions.

Floor Attachment:

VPL must be fastened to concrete slab using four (4) 1/2" (3/8" bolt) x minimum 2 1/2" long concrete anchors suitable for the environment. Refer to manufacturers' technical drawing for mounting hole locations. Follow selected concrete anchor manufacturers guidelines and applicable codes.

Housing Attachment:

None required. Can use 5/16-18 tapped holes on tower frame work to fasten the tower housing to a vertical wall for additional stability. Note: Housing must remain intact.

Top Gate Attachment:

Refer to VPL gate technical drawing

Space Requirements:

Refer to manufacturers' technical drawing.

Platform to Top Landing Sill Clearance:

ASME code indicates the platform floor-to-sill clearance at the upper landing shall not exceed 3/4 inch (19 mm). Follow applicable local codes.

Fascia Wall Requirements:

ASME code indicates that fascia should be smooth and non-perforated that guards the full length and width of the platform. The fascia shall be securely fastened from the upper landing sill down to the lower landing sill. It should also be able to withstand a 125 pound side load over any 4 inch square area. Follow applicable local codes.