



DELTA

Straight Inclined Platform Lift

PLANNING GUIDE

Applicable Codes:

ASME A17.1

ASME A18.1

CAN/CSA B355

CAN/CSA B613

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Purpose of This Guide

This guide assists architects, contractors, and lift professionals to incorporate the DELTA Straight Inclined Platform Lift into a residential or public building design. The design and manufacture of the DELTA Inclined Platform Lift meets the requirements of the following codes and standards:

- ASME A18.1-2003 Section 3 (Public)
- ASME A18.1-2005 Section 3 (Public)
- ASME A18.1-2008 Section 3 (Public)
- ASME A18.1-2003 Sections 5 and 6 (Private)
- ASME A18.1-2005 Sections 5 and 6 (Private)
- ASME A18.1-2008 Sections 5 and 6 (Private)
- ASME A17.1-2000 Section 20
- ASME A17.1-2000 Section 21
- CAN/CSA B355 S1-02 (Public)
- CAN/CSA-B355-09 (Public)
- CAN/CSA B613-2000 (Private)

We recommend that you contact your local authority having jurisdiction to ensure that you adhere to all local rules and regulations pertaining to inclined platform lifts.

IMPORTANT: This Planning Guide provides nominal dimensions and specifications useful for the initial planning of an inclined platform lift project. **Dimensions and specifications are subject to change without notice due to continually evolving code and product applications.**

Before beginning actual construction, please consult Savaria Corporation or the authorized Savaria dealer in your area to ensure you receive your site-specific installation drawings with the dimensions and specifications for your project.

Visit our website for the most recent drawings and dimensions.

How to Use This Guide

- 1 Determine your client's intended use of the lift.
- 2 Determine the local code requirements.
- 3 Determine the site installation parameters.
- 4 Plan for electrical requirements.

History

February 6, 2012 – Initial release

February 14, 2012 – Corrected codes above

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Description of the lift

The DELTA Straight Inclined Platform Lift is an accessibility device used to provide access over straight-run stairs in commercial or public settings.

The lift will transport a passenger either sitting in a wheelchair or on an optional folding seat.

The unit travels along the rail at a comfortable speed of 20 feet per minute (0.1 metres per second) up and down the stairway.

The DELTA is easy to operate using the on-board pendant control buttons. When the lift is not in use, it can be parked and folded up allowing access to the stairs.

The lift is suitable for indoor use, and can be factory-built for left- or right-side rail installations.

Features and benefits

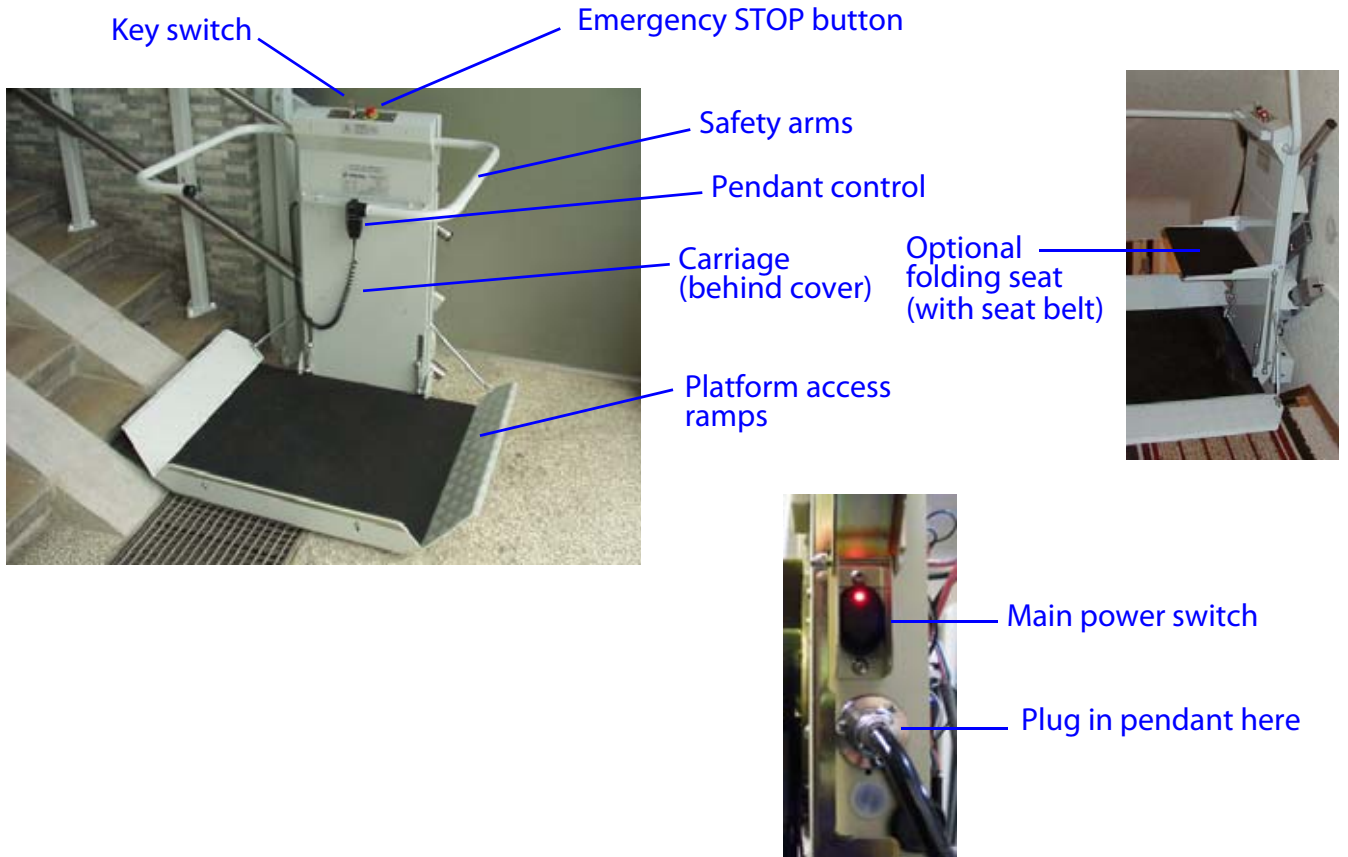
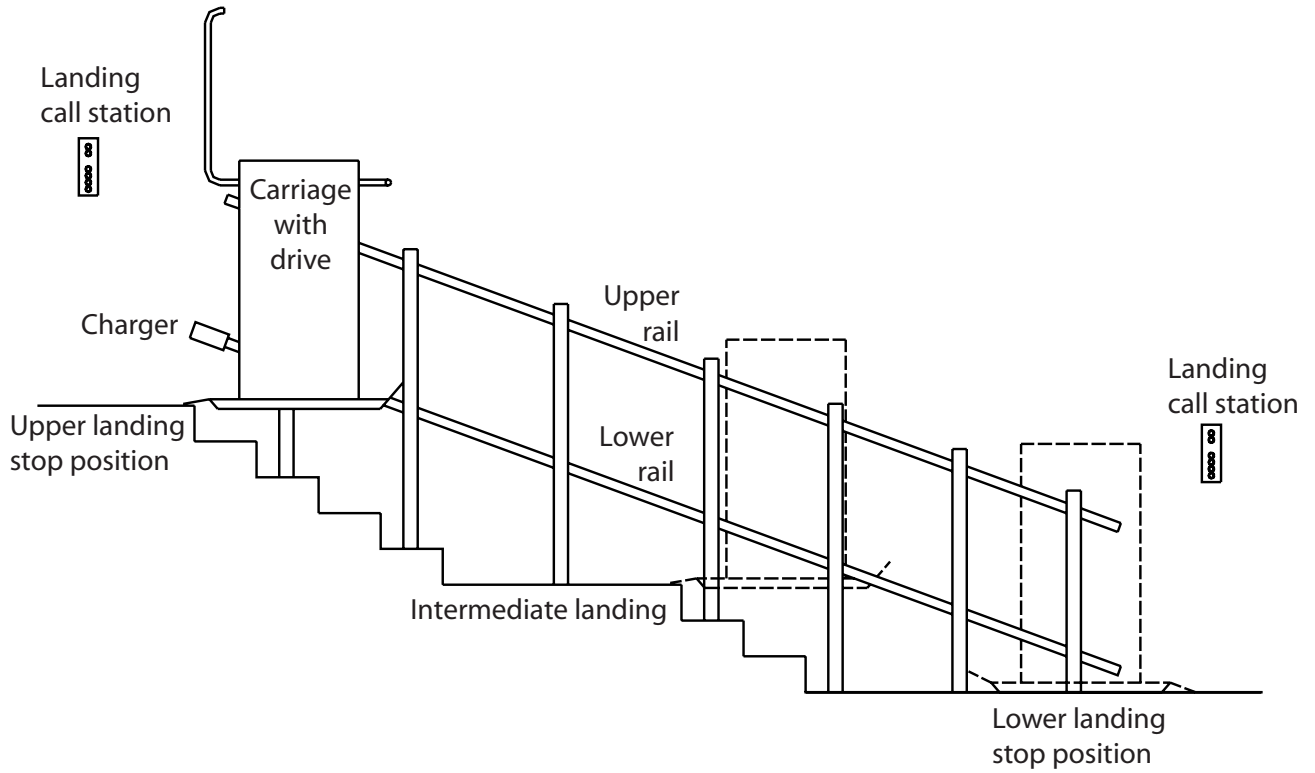
- Major building renovations are usually not required as the DELTA is installed on a modular guide rail system that follows along an existing stairway. The rails will be securely fastened to a supporting wall, the stairs, or both.
- The space-saving design of the platform and the rail system allows the platform to fit into narrow staircases.
- The lift can be parked at the top or bottom of the staircase.
- The drive unit for the lift is part of the carriage assembly.
- A robust platform motor operates folding and unfolding of the platform, arms and ramps.

Specifications of the lift

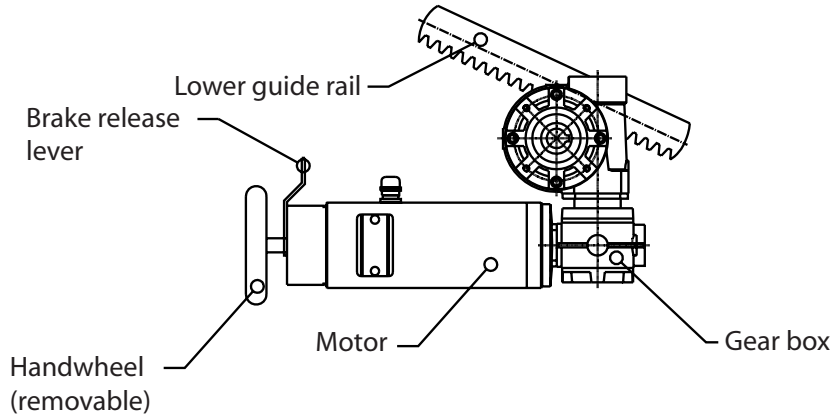
DELTA Specifications

Specification	Data
Maximum load	550 lb (250 kg)
Gradient	Constant, 15° to 45°
Capacity	One person in wheelchair or sitting on the optional seat; seat capacity is 330 lb (150 kg)
Platform sizes	30.5" x 49.25" (775mm x 1250 mm) 27" x 36" (685 mm x 914 mm) 28.5" x 44" (724 mm x 1117 mm) 36" x 48" (914 mm x 1220 mm) – Not Available for Public Canada
Travel speed	20 feet/minute (0.1 metres/second)
Travel direction	Forward/backward
Temperature	32 °F to 104 °F (0 °C to 40 °C)
Humidity	Maximum 70% Not for use in bathrooms or swimming pool areas
Noise	Less than 70 db
Power supply	24V DC (battery system); 230V AC for charger
Motor	0.66 hp (0.5 kW)
Pendant control buttons	Two constant-pressure directional buttons to move the lift up or down the stairway and an emergency STOP button to stop the lift in an emergency
Remote call station buttons	Used to call/send the lift and fold/unfold the platform (if automatic)
Platform control panel	Emergency STOP button to bring the lift to an immediate stop Key switch to enable use of the pendant control buttons
Standard features	Pendant control buttons (on platform) Constant-pressure type buttons Manual lowering capability (using handwheel) Safety arms Manual folding platform (fold/unfold platform by hand) Limit switches No machine room required Emergency stop button
Safety features	Edge sensors Underpan sensors Safety brake Safety arms Platform ramps Emergency stop button Limit switches Manual operation (using handwheel)

Lift components



Drive unit

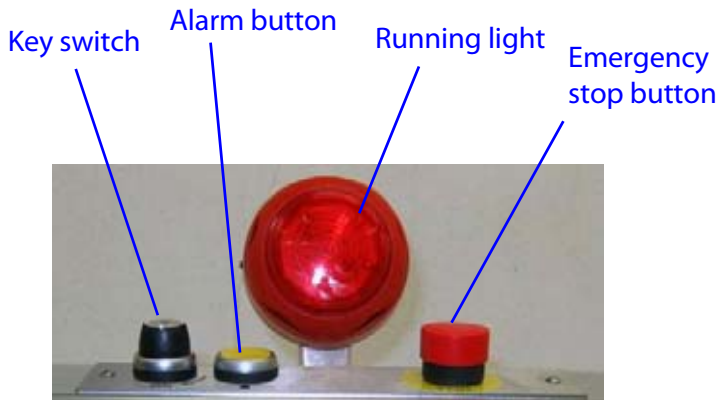


Lift controls



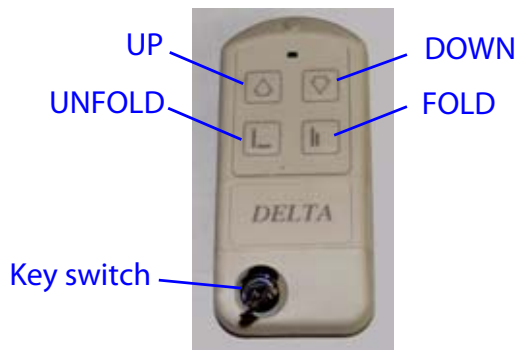
The on-board, hand-held pendant has constant-pressure **UP/DOWN** buttons allowing you to move the platform up or down the stairway. There is also a red emergency **STOP** button.

PLATFORM PENDANT



PLATFORM CONTROL PANEL

Key switch – use to activate/de-activate the platform pendant controls
Alarm button (if equipped) – use in an emergency to sound an audible alarm
Emergency STOP button – use in an emergency to stop the lift
Running light - flashes to indicate the unit is in use

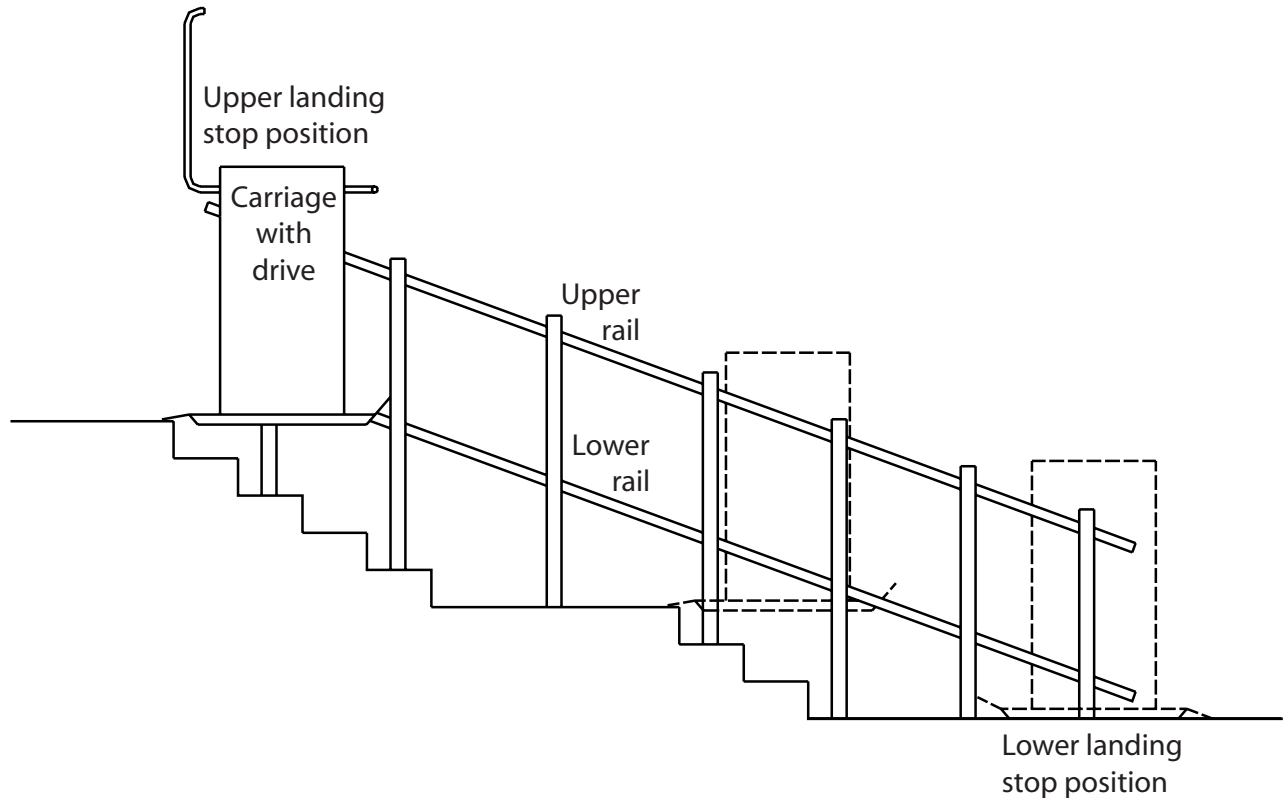


CALL STATION

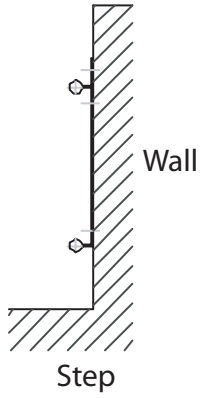
UP/DOWN buttons – use to call the lift to the required landing
FOLD/UNFOLD buttons – use to fold or unfold the platform and raise or lower the ramps
KEY SWITCH (optional) – use to activate/de-activate the call station controls

Guide rails

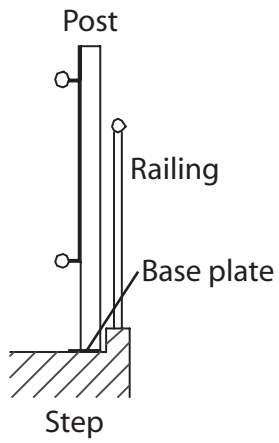
The lift travels up and down the stairway along two guide rails – an upper rail and a lower rail. The mounting location of the rails depends on the platform size and the angle of the stairs.



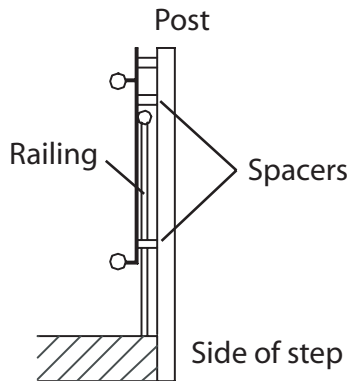
Guide rail mounting



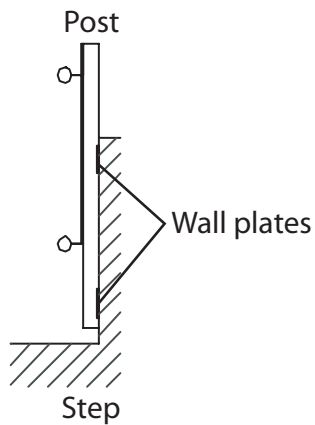
WALL MOUNTED



POST MOUNTED ON STEPS



POST MOUNTED ON SIDE OF STAIRS

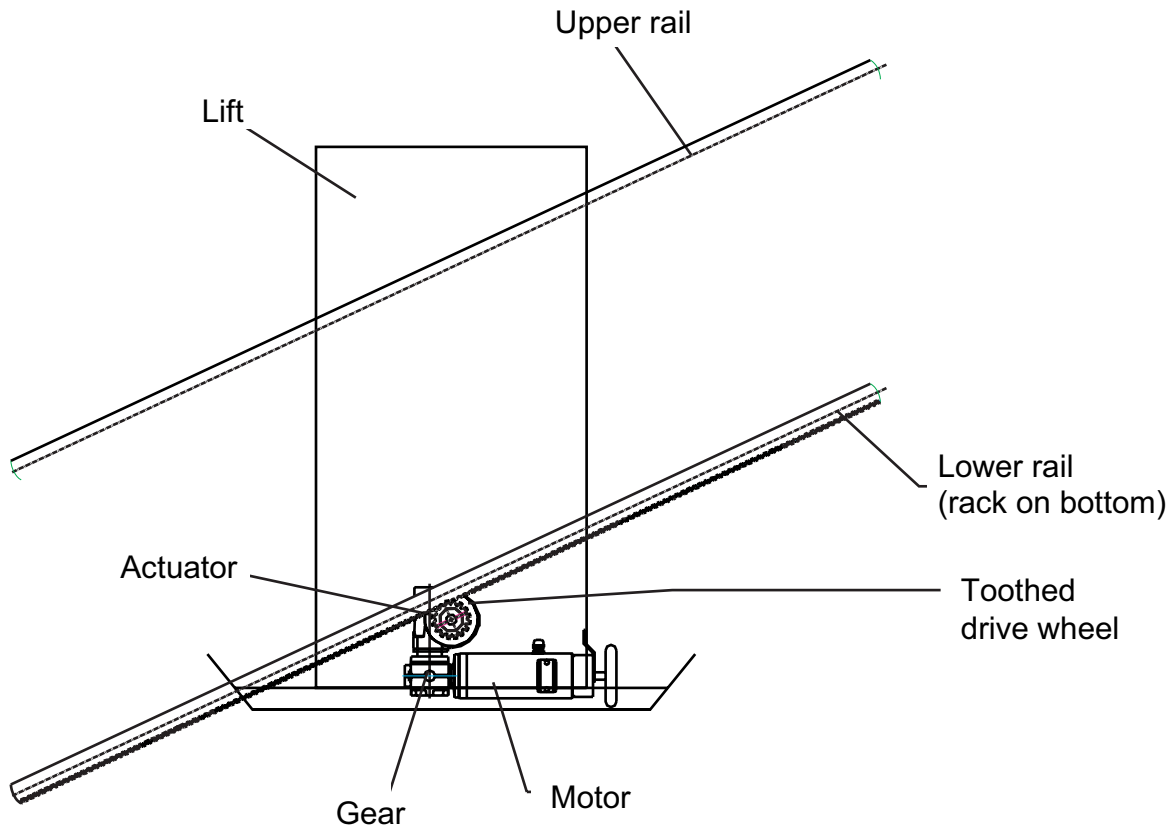


POST MOUNTED TO WALL

How the system works

The Delta carriage/platform assembly travels along a guide rail system that is custom designed for each site. This railway consists of an upper rail and a lower rail.

When the motor powers the drive system, the toothed drive wheel engages in the rack of the lower guide rail moving the lift up or down the stairs.



Safety features

Obstruction sensors

During travel, the edges of the platform ramp and the carriage of the lift are protected by sensors which stop the lift if it touches an obstacle.

There are also safety underpan sensors to detect an obstacle underneath the platform and carriage and stop the lift.

Safety arms and platform ramps

While in motion, the platform is protected by two safety arms. The platform is also protected by two platform side ramps which have the dual function of facilitating access to the lift at the floors (open position) and of retaining the wheelchair while the lift is in motion (safety position).

Before the lift leaves the floor, the safety arms must be down and the platform ramps must be up.

If the safety arms or platform ramps encounter an obstacle as they move into position, a microswitch is tripped, stopping the lift. You can drive away from the obstacle in the other direction in order to remove the obstacle.

Safety brake (overspeed)

The lift is equipped with a mechanical safety brake. It engages if a drive component fails, or if the normal downward travel speed is exceeded by a preset amount. Application of the brake slows the lift to a stop.

Limit switches

The upper and lower limit switches allow the lift to stop automatically in the correct landing position at the upper or lower end of the staircase. If the upper or lower limit switch fails, the additional final safety limit switch stops the unit.

Emergency STOP button

There is a red emergency STOP button located on the platform control panel and on the handheld pendant which can be pressed in an emergency to stop the lift.

Platform key switch

The key switch is located on the platform control panel and is used to activate/de-activate the platform pendant controls.

Manual lowering device

You can use a manual handwheel by inserting it on the motor shaft to bring the lift to the next landing in the event of a power failure.

Site verification

Stairway

Due to close running clearances, the Owner/Agent must ensure that the stairs (where provided) are level, plumb (+/-1/8" (3 mm)) and square and are in accordance with the dimensions specified on the site-specific plan drawings.

Minimum overhead clearance

The Owner/Agent must ensure the minimum overhead clearance is in compliance with codes.

Construction site

The Owner/Agent is responsible for all masonry, carpentry and drywall work as required, and for patching and finishing (including painting) all areas where walls/floors may need to be cut, drilled or altered in any way to permit the proper installation of the lift.

Dimensions

The Contractor/Customer must verify all dimensions on the site-specific plan drawings and report any discrepancies to our office immediately.

Installation

The equipment must be installed by a qualified technician in compliance with the codes identified on the front cover of this manual.

The conformity for access to the platform is the distributor's responsibility.

Electrical requirements

General

Electrical equipment and wiring to comply with Section 38 of CSA C22.1 (Canada) or Section 620 of NEC ANSI/NFPA 70 (USA).

Main power supply

110 VAC, single-phase 60 Hz, in a dedicated 15 amp circuit through a fused disconnect. The power will be supplied to a 24V DC battery charger.

Contractor/customer to provide two 14 AWG conductors and a ground conductor between the fused disconnect contact and the connection box.

Contractor/customer to provide an electrical connection box at the top end of the rails.

Lighting

Lighting must be a minimum of 100 Lux at the platform and landings and must have a switch and electrical GFCI outlet.

Emergency lighting of 2 Lux must be provided for a minimum of one hour on the platform along the travel route.

Structural details

Floor/support wall loads

A structural engineer must ensure that the building and stairway will safely support all loads imposed by the lift equipment. Adequate structural support must be provided at the top landing, bottom landing and throughout the supporting wall along the stairs.

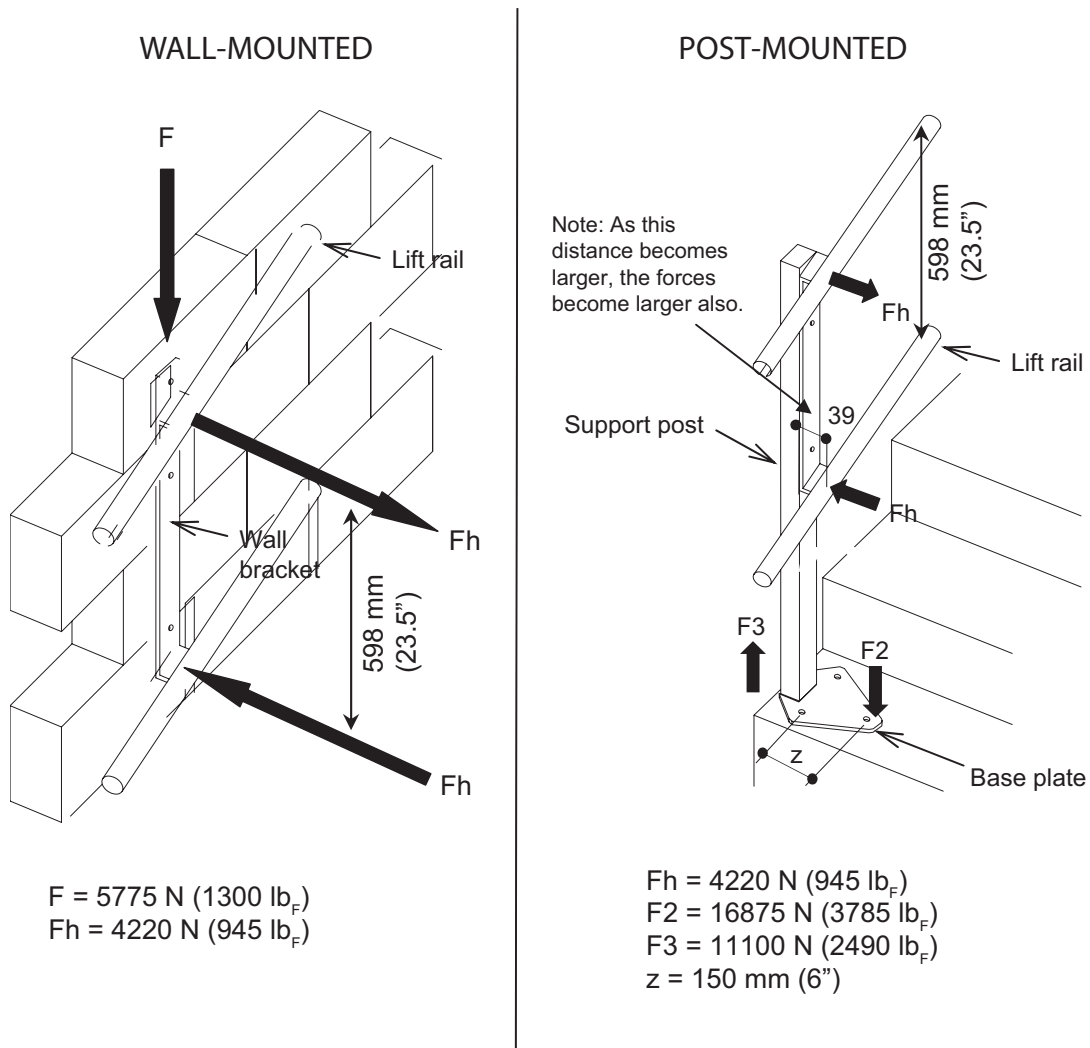
The pull-out force on the supporting wall will vary depending on the type of rail mounting used (wall brackets or support posts on the steps). The supporting wall must be able to support the pull-out force as identified in the support load diagram below.

All wood studs in the supporting wall must be anchored in the ceiling and the floor to meet the pull-out force requirements. Wood studs must be placed at 16" (404 mm) centres, solidly anchored in the floor and ceiling.

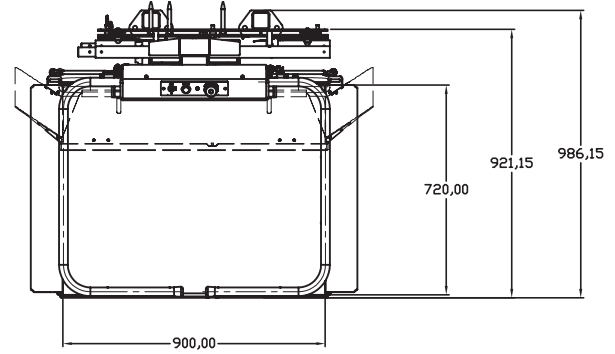
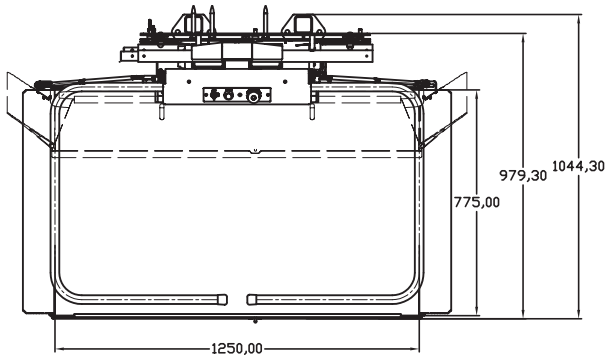
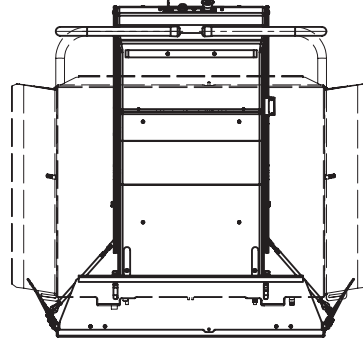
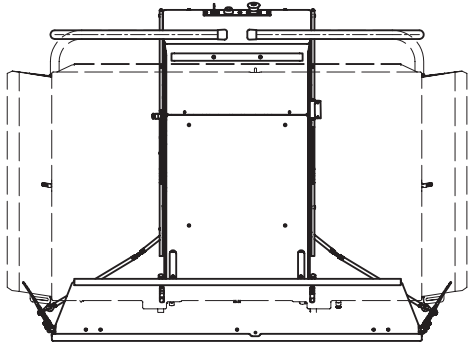
The floor load will vary depending on the type of rail mounting used (wall brackets or support posts on the steps). The floor must be able to support the loads identified in the support load diagram below.

Where required, the rail must be securely fastened to the structural support wall. Refer to the wall diagram and lag dimensions shown below.

Support load diagram

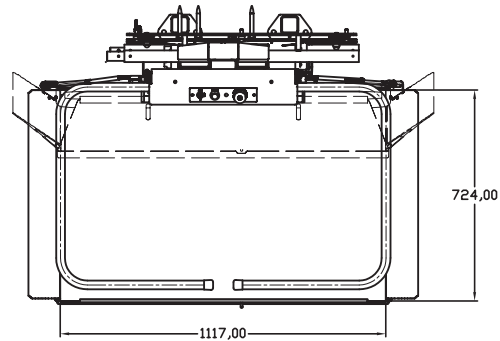
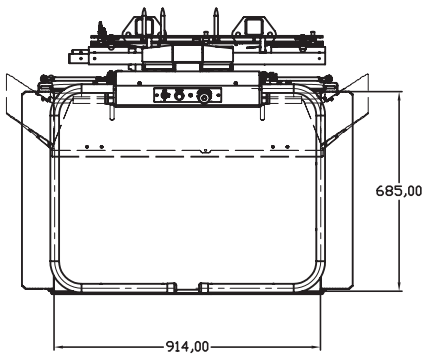
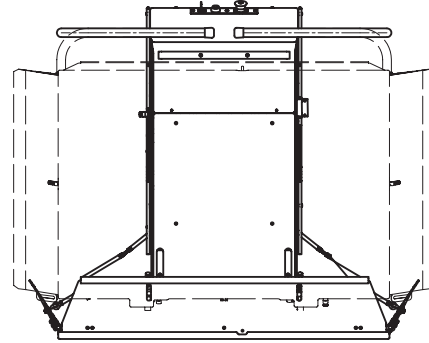
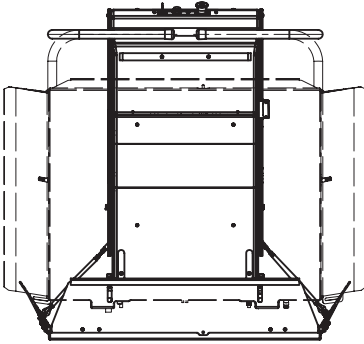


Platform dimensions



PLF_DELTA (775X1250)
STRAIGHT ENTRANCE

PLF_DELTA (720X900)
STRAIGHT ENTRANCE

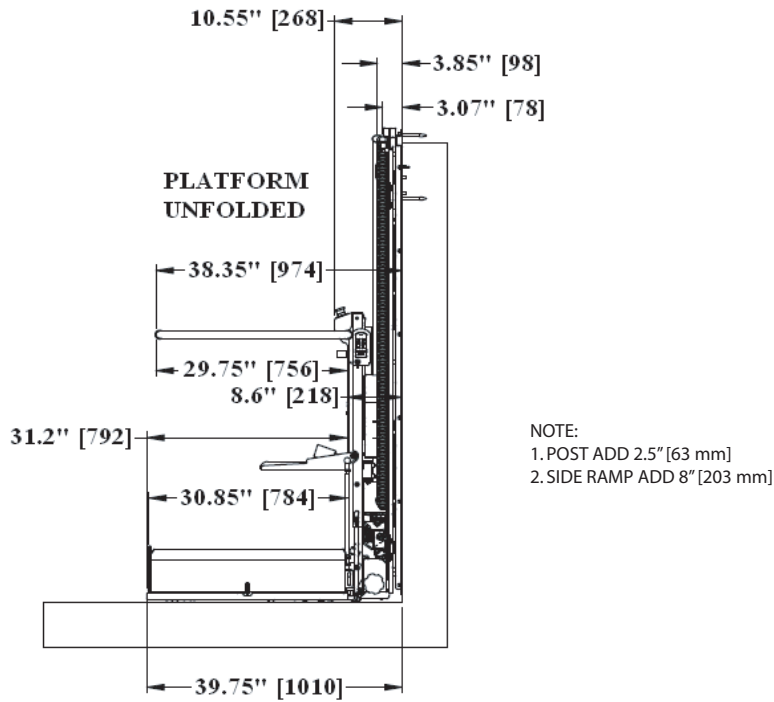


PLF_DELTA (685X914)
STRAIGHT ENTRANCE

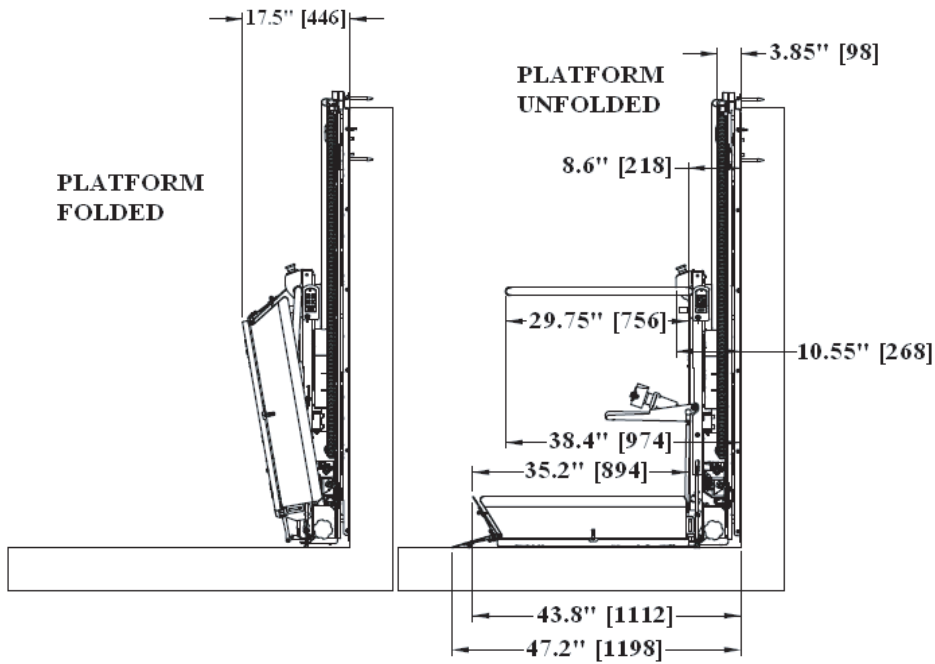
PLF_DELTA (724X1117)
STRAIGHT ENTRANCE

Platform 775 x 1250

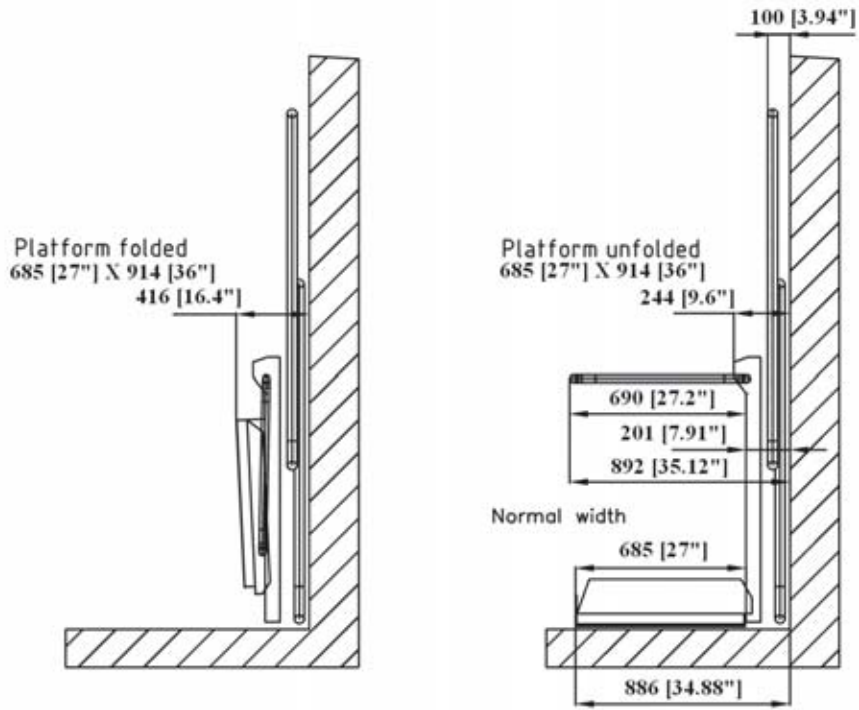
INLINE ACCESS PLATFORM (775 X 1250)



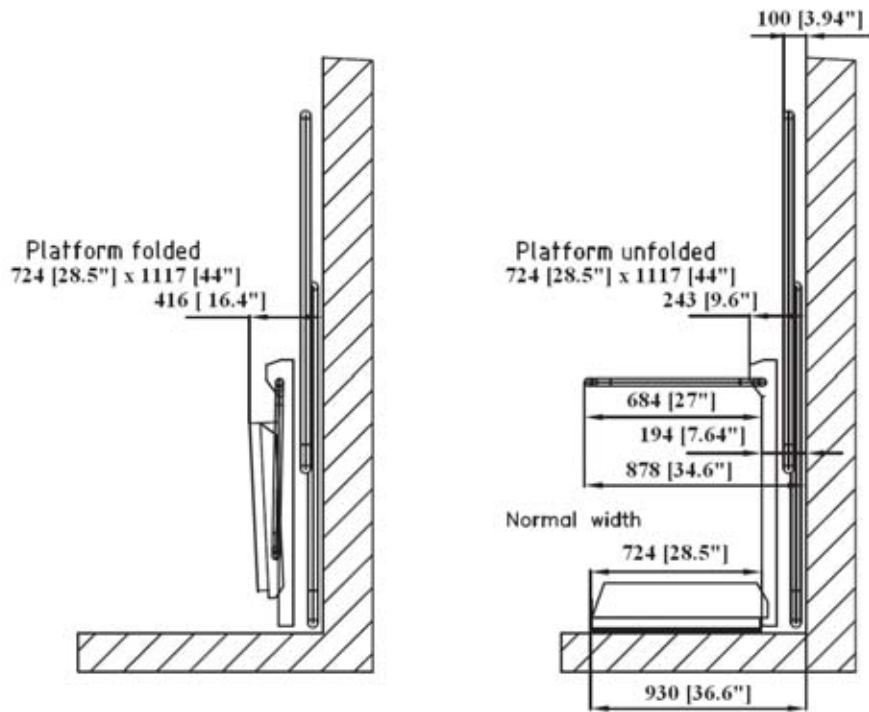
90 DEGREE ACCESS PLATFORM (775 X 1250)



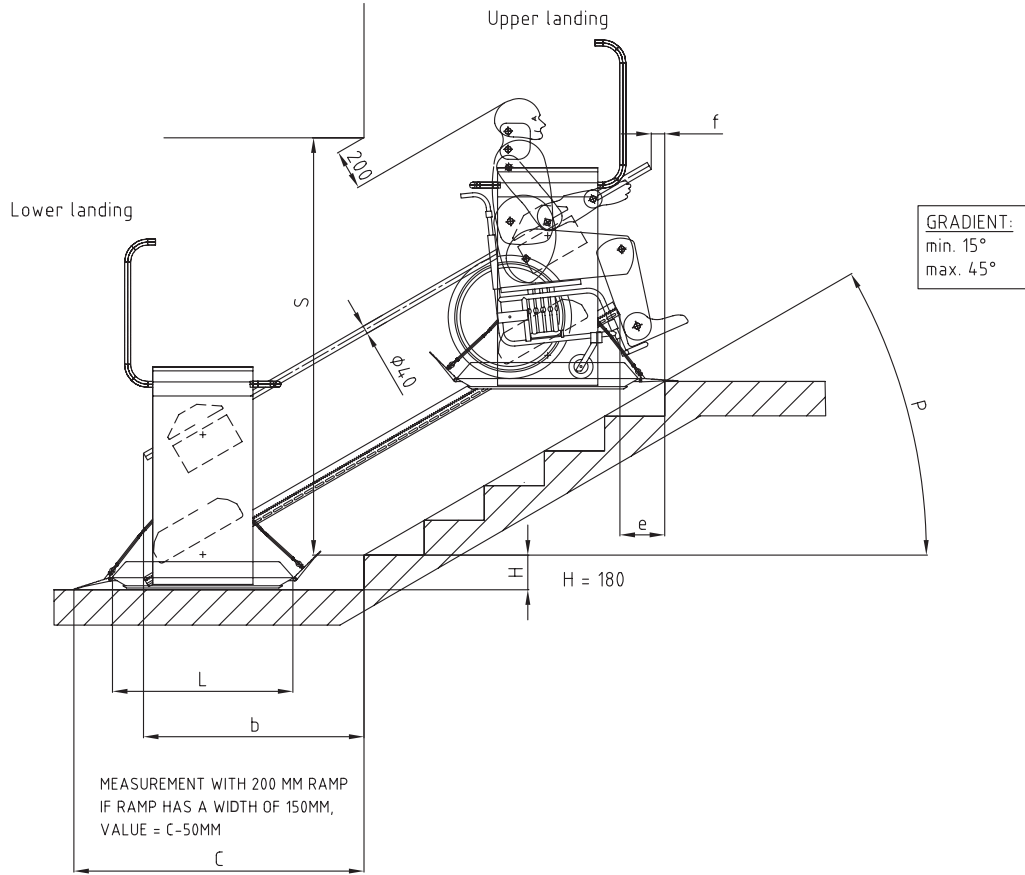
Platform 685 x 914



Platform 724 x 1117



Clearances



15°	1437	1757	-229	-45	1815	1612	2107	-440	-255	1910
20°	1255	1557	-220	-40	1885	1430	1907	-405	-220	2010
25°	1145	1455	-185	-15	1965	1320	1805	-400	-205	2105
30°	1070	1370	-175	-20	2050	1245	1720	-395	-210	2220
35°	990	1320	-185	-40	2150	1165	1670	-410	-225	2355
40°	965	1300	-185	-55	2265	1140	1650	-410	-235	2515
45°	930	1266	-230	-110	2400	1105	1616	-425	-260	2680
P	b	*c	e	f	S	b	*c	e	f	S
Gradient	L = 900					L = 1250				

L = 914

GRADIENT (P)	b	*c	e	f	S
15°	1444	1771	-239.22	-55.22	1820.6
20°	1262	1571	-225.88	-46.58	1889.9
25°	1152	1469	-193.4	-26.2	1969.2
30°	1077	1384	-182.7	-27.7	2053.5
35°	997	1334	-193.4	-20.4	2154.9
40°	972	1314	-199	-69	2274.8
45°	937	1280	-242.6	-122.6	2412.6

L = 1117

GRADIENT (P)	b	*c	e	f	S
15°	1545.5	1974	-366.584	-182.116	1880.74
20°	1363.5	1774	-329.456	-149.244	1962.12
25°	1253.5	1672	-317.54	-146.48	2046.48
30°	1178.5	1587	-307.22	-138.18	2142.86
35°	1098.5	1537	-322.22	41.5	2264.56
40°	1073.5	1517	-343.5	-192.44	2419.24
45°	1038.5	1483	-369.14	-228.08	2578.92

DELTA

Straight Inclined Platform Lift

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