

Multilift RESIDENTIAL

VERTICAL PLATFORM LIFT

PLANNING GUIDE

Applicable Codes: ASME A17.1 ASME A18.1

> Part No. 000736 25-m08-2020

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Purpose of this guide

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

- ASME A18.1-2003 Section 5 (Private)
- ASME A18.1-2005 Section 5 (Private)
- ASME A18.1-2008 Section 5 (Private)
- ASME A18.1-2011 Section 5 (Private)
- ASME A18.1-2014 Section 5 (Private)
- ASME A18.1-2017 Section 5 (Private)
- ASME A17.1-1996 Section 21 (Private)

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

IMPORTANT NOTICE

This Planning Guide provides nominal dimensions and specifications useful for the initial planning of a vertical 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 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 (www.savaria.com) for the most recent Multilift 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** Determine the cab type and hoistway size requirements.
- **5** Plan for electrical requirements.

History

December 10, 2010 - Initial release of new format

January 21, 2011 - Added Mobile Multilift drawing on pg. 24

February 24, 2011 - Added information for automatic access ramp to "Features" in Specifications table on pg. 6

June 1, 2011 - Updated all drawings to reflect current design

October 18, 2012 - Added enclosure drawings - pg. 22 to 26; Added 3-gate drawing - pg 27

October 25, 2012 - Added enclosure to cab types in specifications table on pg. 6; Revised list of drawings (removed 42" width) - pg. 13; Revised enclosure drawings (removed 42" width) - pg. 22 to 26

April 25, 2013 - Correct power supply amperage from 20A to 15A in specifications table on pg. 6 July 8, 2013 - Added Noise Level to specifications table on pg. 6

December 5, 2013 - Added 42x48, 42x54 and 42x60 cab sizes to specifications table on pg. 6; added 42x48, 42x54 and 42x60 cab sizes to list of drawings on page 12 and a NOTE that the 42" wide cab sizes are not self-supporting and need wall mounting; added new drawings on pages 14, 16, 18, 20, 22, 24, 26 and 28 December 17, 2013 - Added "must be a dedicated electrical line" to power supply specification in table on pg. 6

March 13, 2014 - Revised "Features" in Specifications table on pg. 6 November 5, 2014 - Revised Applicable Codes on pg. 3 December 11, 2014 - Changed title to reflect RESIDENTIAL and revised codes on page 3 January 20, 2015 - Added 2014 code in section above September 24, 2015 - Added Daily Cycle to specifications table on page 6 March 7, 2016 - Removed copyright from cover page; Savaria Corporation back to Savaria Concord Lifts, Inc. March 28, 2016 - Revised Power supply spec in table on page 6 February 16, 2017 - Revised temperature spec in specs table on page 6 February 26, 2018 - Removed pages 41 to 43 September 27, 2018 - Added ASME 18.1-2017 to code list above January 8, 2019 - Added spec for distance between 2 landings on page 6 May 6, 2020 - Added Savaria Link option to specs table on page 6 and provisions by others on page 41 January 15, 2020 - Added Load Calculations on page 11

August 25, 2020 - Added mobile drawings on pages 40 and 41

Description

The Multilift Vertical Platform Lift is designed to provide easy access from one landing to another. The versatile design of this lift can be adapted to most architectural requirements and its rugged construction allows for outdoor or indoor use. It is an ideal deck lift for home use and is also approved for certain commercial accessibility projects as well. The Multilift, with its ACME screw drive system, provides safe and reliable operation.

Lift components

The Multilift consists of a tower and a platform as shown in Figure 1.

Figure 1: Typical lift, outdoor, unenclosed, no platform gate



Number	Description	Number	Description
1	Front tower panel	7	Tower
2	Car operating panel (C.O.P.)	8	Non-skid platform
3	Side guard panel	9	Automatic access ramp
4	Safety underpan sensors	10	Access ramp channel
5	Self support base	11	Manual lowering device
6	Tower cover	-	-

Drive tower components The Multilift drive tower components are shown in Figure 2.

Figure 2: Drive tower



Number	Description	Number	Description
1	Motor	10	Battery (optional)
2	Main pulley	11	Battery tray
3	V strap	12	Pulley
4	Controller box	13	Limit switches (may vary)
5	Acme screw	14	Unistrut
6	Left roller guide	15	Access ramp channel
7	Lower bearing	16	Right roller guide
8	Lower bearing plate	17	Cam assembly
9	Self support base	18	Carriage assembly

Specifications

Multilift specifications

Applications	Residential (indoor/outdoor); commercial (U.S.A.)
Load capacity	750 lb (340 kg)
Maximum travel distance	48" (1219 mm); optionally 72" (1829 mm)
Levels serviced	2
Distance between 2 landings	8″ (203 mm) minimum
Travel speed	8 ft/min (0.04 m/s)
Temperature	-20 °F to +122 °F (-29 °C to +50 °C)
Noise level (for typical installation)	65.9 dBA (up direction); 65.0 dBA (down direction)
	Measured at a height of 1m, distance of 1m, in front of the motor with all panels on
Daily cycle	Normal: 10; Heavy: 25; Excessive: 40
	Maximum starts in 1 hour on standard installation: 10
	Type 2 (onclosed and upperclosed hoistway):
	• 34" x 48" (863 mm x 1219 mm)
	• 34" x 54" (863 mm x 1371 mm)
	• 34" x 60" (863 mm x 1524 mm)
	• 35" x 47" (889 mm x 1194 mm)
	• 35″ x 53″ (889 mm x 1346 mm)
	• 35" x 59" (889 mm x 1499 mm)
	• $36'' \times 48'' (914 \text{ mm} \times 1219 \text{ mm})$
	• 36″ x 54″ (914 mm x 1371 mm)
	• 36" x 60" (914 mm x 1524 mm)
Cab types/sizes	Type 3/4 with platform gate (unenclosed hoistway): $36'' \times 47''$ (914 mm x 1194 mm)
	• 36" x 53" (914 mm x 1346 mm)
	• 36" x 59" (914 mm x 1499 mm)
	All enclosure -Type 2, Type 3, Type 3 with 45" opening, Type 4, Type 4 with 45" opening
	• 36" x 54" (914 mm x 1371 mm)
	• 36″ x 60″ (914 mm x 1524 mm)
	Type 2, 3, or 4 (with/without platform gate and with enclosure)
	• 42" x 48" (1067 mm x 1219 mm) • 42" x 54" (1067 mm x 1371 mm)
	• 42″ x 60″ (1067 mm x 1524 mm)
	NOTE that the 42" wide cab units are not self-supporting and need wall mounting.
Side guard panels	42 1/8" (1070 mm) side guard panels on platform
Cab access	Front/rear access - standard (platform Type 2)
	90 degree access - optional (platform Type 3 and 4)
Power supply	120 VAC, 20 A, 60 Hz, single phase (must be a dedicated electrical line)
Drive system	Acme screw and back-up nut
Drive system	Optional 1 hp, 24-volt battery model available
Control system	Electronic-free relay logic controller
Finish	Beige electrostatic powder coat paint on all steel surfaces and vacuum-formed plastics
	Call/send stations at landings
	Continuous-pressure type buttons
	Operating control buttons on platform
	Emergency manual lowering/raising device
reatures	Low-voitage controis
	Non-skid platform surface
	Automatic access ramp (16"); field reversible to suit installation needs
	Emergency stop button
Options	Savaria Link remote monitoring

Site construction details

The self-supporting base must be able to support at least 3000 lb (13.3 kN) per Figure 3 and must be anchored to a concrete slab (or floor) per Figure 4. Make sure the slab (floor) surface is level.

Figure 3: Floor loading diagram



Figure 4: Anchor points



Figure 5 illustrates the site construction details for a typical outdoor application.

Figure 5: Sample unenclosed outdoor application



Outdoor applications need a strong and stable surface that will not move throughout the years. For this reason, it is essential, when the temperature can get below the freezing point, to insert an insulate sheet between the concrete slab and the compaction rock. Figure 6 illustrates the concrete slab detail for a typical outdoor application.

Figure 6: Concrete slab detail



Landing gate/door details

Landing gate/door details are specific to each job site. Be sure to refer to your site-specific installation drawings.

There are two options that can be used when preparing for installation of the gate (or door with sill angle). Figure 7 illustrates the two options for a gate. Refer to the Installation Guide for details on installing the landing gate or door.

- Option 1 Notch out the landing so that the gate angle bracket (or door sill angle) is flush with the vertical landing surface.
- Option 2 Install a 1/4" fascia panel to fill in the gap in the vertical landing surface from underneath the gate angle bracket (or door sill angle) down to the floor/ground. If your site has a hoistway or pit, be sure to add 1/4" to those dimensions to account for the 1/4" fascia panel.

Figure 7: Options used when installing a gate



Notch out landing to install gate

Install fascia panel for gate

Commercial requirements

Following are the requirements for commercial applications.

ASME A17.1: An enclosure or hoistway is required (see Figure 8 below).

Figure 8: Hoistway requirements



ASME A17.1/A18.1: The items listed below are required.

- Grab bar (hand rail)
- Emergency light on platform
- Controller redundancy
- Emergency stop/alarm
- Platform gate or hoistway
- Top landing gate
- Disconnect (provided by others)
- Door locks

CSA: The Multilift is not approved for commercial use in Canada.

Load calculations

				S	SAVARIA Multili	ft							
	Vertical Platform Lift Anchoring Loads (worst case scenario)												
3	36x60" Platform, Screw Drive, Hoistway Application No Safety Factor												
Lift Model (inches)	MAX Tower Weight T (lbs)	-	MAX Car Weight CAR (lbs)	n/a	Pit Load P (lbs)	Estimated Impact Load R3 (lbs)							
48	500		400	750	N/A	N/A	1650	3000					
60 650 400 750 N/A N/A 1800 3000													
72	650		400	750	N/A	N/A	1800	3000					

N.B.

Calculations do not include forces due to wind, seismic loading, any environmental loading and forces due to acceleration. Calculations are assuming that the unit is self supported.

A minimum Safety Factor of 4 is recommended; check local code requirements or building special requirements.

The average standard cab weight is 350 lbs; the values vary accordingly.

If the building doesn't allow bracket mounting spacing of 36", R2 needs to be increased accordingly.

The Impact Load is not "necessary" if the lift is installed properly and maintained according to the manufacturer's recommendation If the unit is ordered with base legs, the Pit Load related to cab weight and capacity will be spread on the footprint.

			Vertical Pla	atform Lift A	nchoring Loads	(worst case scenario)		
3	36x60" Plat	form, Screw	Drive, Hois		No Safet	y Factor		
Lift Model (inches)	MAX Tower Weight T (lbs)	MAX Enclosure Weight T (lbs)	MAX Car Weight CAR (lbs)	MAX Capacity CAP (lbs)	Anchor on the wall for tall travel	MAX Wall Support Loads per mounting points (double the values = per bracket) R2 (lbs)	Pit Load P (lbs)	Estimated Impact Load R3 (lbs)
48	500	625	400	750			2275	3000
60	650	675	400	750	102	472	2475	3000
72	650	725	400	750	102	472	2525	3000



Cab types

Type 2 cab (standard)

For type 2 cabs, entry and exit are available from both ends of the platform.

Figure 9: Type 2



Type 3 and 4 cab (optional)

For type 3 and 4 cabs, entry and exit are available from one end and one side of the platform.

Figure 10: Type 3 and 4



Drawings

The next several pages provide various Multilift drawings. Always refer to your installation drawings for details specific to your site.

• Elevation and plan view drawings (for the different cab types and sizes)

•Type 2, enclosed hoistway, 34" x 48", 34" x 54", 34" x 60" •Type 3, enclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 4, enclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 2, unenclosed hoistway, 34" x 48", 34" x 54", 34" x 60" •Type 3, unenclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 4, unenclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 2 with platform gate, unenclosed hoistway, 36" x 48", 36" x 54", 36" x 60" •Type 3 with platform gate, unenclosed hoistway, 36" x 47", 36" x 53", 36" x 59" •Type 4 with platform gate, unenclosed hoistway, 36" x 47", 36" x 53", 36" x 59" •Type 2 without platform gate – 42" x 48", 42" x 54", 42" x 60" •Type 3 without platform gate – 42" x 48", 42" x 54", 42" x 60" •Type 4 without platform gate – 42" x 48", 42" x 54", 42" x 60" •Type 2 with platform gate – 42" x 54", 42" x 60" •Type 3 (42" B side opening) with platform gate – 42" x 60" •Type 4 with platform gate – 42" x 54", 42" x 60" •Type 2, enclosure, 36" x 48", 36" x 54", 36" x 60" •Type 3, enclosure, 36" x 48", 36" x 54", 36" x 60" •Type 3 (45" opening), enclosure, 36" x 48", 36" x 54", 36" x 60" •Type 4, enclosure, 36" x 48", 36" x 54", 36" x 60" •Type 4 (45" opening), enclosure, 36" x 48", 36" x 54", 36" x 60" •Type 2, enclosure, 42" x 48", 42" x 54", 42" x 60" •Type 3, enclosure, 42" x 48", 42" x 54", 42" x 60" •Type 4, enclosure, 42" x 48", 42" x 54", 42" x 60" •Type 2, three gates, 36" x 48", 36" x 54", 36" x 60" Two sample landing gate layout drawings are provided

•42" x 36" auto left-hand gate

•42" x 36" manual left-hand gate

Mobile Multilift drawings

Note: For specifications on other landing gates and doors, go to our website www.savaria.com, select the "architects and builders" tab at the top of the page and then select "Doors and Gates" from the menu on the left-hand side of the page.

The link is as follows: http://www.savaria.com/architects/drawings/doors-gates/index.php.





2642









Figure 13: Elevation and plan view - type 4, enclosed hoistway, 35" cab

16

80 104

2032 2642

1219 (48") 1829 (72")





Inches **Mast Height** with 2" CAP ш mm mm (Inches) Max.Travel ш

mm 864 864

80

2032 2642

1219 (48")

1829 (72")

Figure 14: Elevation and plan view - type 2, unenclosed hoistway, 34" cab



18









Figure 17: Elevation and plan view - type 2 with platform gate, unenclosed hoistway, 36" cab



Figure 18: Elevation and plan view - type 3 with platform gate, unenclosed hoistway, 36" cab

104

2642

1829 (72")



Figure 19: Elevation and plan view - type 4 with platform gate, unenclosed hoistway, 36" cab

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TABLE 2- HOISTWAY DIMENSION

CLEAR IN	ISIDE CAB	CLEAR IN	SIDE CAB		4		В	(c	D DOOR CENTER LIN	
WIE	отн	LEN	GTH	FINISHED RU	NWAY WIDTH	Y WIDTH FINISHED RUNWAY LENGTH		TOWER CENTER LINE		(IN CASE OF 42" DOOR)	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1511	59 1/2	1248	49 1/8	624	24 9/16	864	34
1067	42	1372	54	1511	59 1/2	1400	55 1/8	700	27 9/16	864	34
1067	42	1524	60	1511	59 1/2	1553	61 1/8	776	30 9/16	864	34



TABLE 1 - MAST HEIGHT

E	F Mast Height					
Max.Travel	with 2" CAP					
mm (Inches)	mm	Inches				
1219 (48")	2032	80				
1829 (72")	2642	104				



39 9/16' IF LENGTH = 60'

										D	
CLEAR IN	SIDE CAB	CLEAR IN	SIDE CAB	/	4	В		C		DOOR CENTER LINE	
WID	DTH	LEN	GTH	FINISHED RU	FINISHED RUNWAY WIDTH		FINISHED RUNWAY LENGTH		NTER LINE	(IN CASE OF 42" DOOR)	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1518	59 3/4	1354	53 5/16	624	24 9/16	864	34
1067	42	1372	54	1518	59 3/4	1507	59 5/16	700	27 9/16	864	34
1067	42	1524	60	1518	59 3/4	1659	65 5/16	776	30 9/16	864	34



CLEAR IN WID	SIDE CAB	CLEAR IN	SIDE CAB GTH	FINISHED RU	A NWAY WIDTH	FINISHED RUN	B WAY LENGTH	(TOWER CE	C NTER LINE	DOOR CE (IN CASE OF) NTER LINE 42" DOOR)
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1518	59 3/4	1354	53 5/16	624	24 9/16	864	34
1067	42	1372	54	1518	59 3/4	1507	59 5/16	700	27 9/16	864	34
1067	42	1524	60	1518	59 3/4	1659	65 5/16	776	30 9/16	864	34



TABLE 1 - MAST HEIGHT

E Max.Travel	F Mast Height with 2'' CAP				
mm (Inches)	mm	Inches			
1219 (48")	2032	80			
1829 (72")	2642	104			

TOP VIEW TYPE-2



TABLE 2- HOISTWAY DIMENSION

CLEAR IN	ISIDE CAB	CLEAR IN	SIDE CAB		4	E	3	(c	DOOR CE	D ENTER LINE	
WIE	отн	LEN	GTH	FINISHED RU	NWAY WIDTH	H FINISHED RUNWAY LENGTH		TOWER CENTER LINE		(IN CASE OF 42" DOOR)		
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	
1067	42	1219	48	1518	59 3/4	1292	50 7/8	624	26 5/16	864	34	
1067	42	1372	54	1518	59 3/4	1445	56 7/8	700	29 5/16	864	34	
1067	42	1524	60	1518	59 3/4	1597	62 7/8	776	32 5/16	864	34	



TABLE 2- HDISTWAY DIMENSION

	ISIDE CAB	CLEAR IN	SIDE CAB GTH	FINISHED RU	A NWAY WIDTH		B	(TOWER CE		DOOR CE	D INTER LINE F 42" DOOR)
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1518	59 3/4	1397	55	624	26 1/4	864	34
1067	42	1372	54	1518	59 3/4	1549	61	700	29 1/4	864	34
1067	42	1524	60	1518	59 3/4	1702	67	776	32 1/4	864	34





TABLE 2- HOISTWAY DIMENSION

CLEAR INSIDE CAB		CLEAR INSIDE CAB		Α		в		с		D DOOR CENTER LINE	
WID	DTH	LEN	GTH	FINISHED RU	NWAY WIDTH	FINISHED RUN	WAY LENGTH	TOWER CE	NTER LINE	(IN CASE OF	42" DOOR)
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1518	59 3/4	1397	55	624	26 1/4	864	34
1067	42	1372	54	1518	59 3/4	1549	61	700	29 1/4	864	34
1067	42	1524	60	1518	59 3/4	1702	67	776	32 1/4	864	34





Figure 27: Elevation and plan view - type 3, enclosure, 36" cab

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Figure 28: Elevation and plan view - type 3 (45" opening), enclosure, 36" cab FINISHED RUNWAY WIDTH (PIT VIDTH) FDRCES (DODR CENTER LINE) ۵ ENTRANCE 14mm [9/16"] - RUNNING CLEARANCE 76mm [3"] R



(IN CASE OF 36" DOOR)

FINISHED RUNWAY LENGTH

Inches

mm 88

7 1/16 1/16

Inches 58 3/8 64 3/8 70 3/8

Inches 67 1/16 /16 57

mm 1449 1449 1449

Inches

Inches ဗ္ဗုဗ္ဗ

LENGTH 1219 372 1524

WDTH 914 914 914

28

887 764 840

1483 1788

31 3/4 31 3/4

ន



32

Figure 30: Elevation and plan view - type 4 (45" opening), enclosure, 36" cab



8

8



TABLE 2 - ENCLOSURE DIMENSION

								[)			
CLEAR INSIDE CAB		CLEAR INSIDE CAB		A		В		С		DOOR CENTER LINE		
WI	WDTH		LENGTH		FINISHED RUNWAY WIDTH		FINISHED RUNWAY LENGTH		TOWER CENTER LINE		(IN CASE OF 36" DOOR)	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	
1067	42	1219	48	1589	62 9/16	1376	54 3/16	687	27 1/16	883	34 3/4	
1067	42	1372	54	1589	62 9/16	1529	60 3/16	764	30 1/16	883	34 3/4	
1067	42	1524	60	1589	62 9/16	1681	66 3/16	840	33 1/16	883	34 3/4	





	1010 ACR 0									[)
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C TOWER CENTER LINE		DOOR CENTER LINE (IN CASE OF 36" DOOR)	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1602	63 1/16	1483	58 3/8	687	27 1/16	883	34 3/4
1067	42	1372	54	1602	63 1/16	1635	64 3/8	764	30 1/16	883	34 3/4
1067	42	1524	60	1602	63 1/16	1788	70 3/8	840	33 1/16	883	34 3/4

Figure 33: Elevation and plan view – type 4 enclosure, 42" cab

ELEVATION VIEW TYPE-4



CLEAR INSIDE CAB WIDTH		INSIDE CAB CLEAR INSIDE CAB		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C TOWER CENTER LINE		D DOOR CENTER LINE (IN CASE OF 36" DOOR)	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1067	42	1219	48	1602	63 1/16	1483	58 3/8	687	27 1/16	883	34 3/4
1067	42	1372	54	1602	63 1/16	1635	64 3/8	764	30 1/16	883	34 3/4
1067	42	1524	60	1802	63 1/16	1788	70 3/8	840	33 1/16	883	34 3/4



TABLE 1- MAST HEIGHT

HEIGHT		Inches	48	
WALL	Ū	ш	1219	
HEIGHT	~	Inches	90 1/8	
GATE	-	шш	2289	
HEIGHT		Inches	78	
TOWER		шш	1981	
	INAVEL	mm (inches)	1219 (48")	





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Figure 37: Mobile Multilift RH





Provisions by others



ALL INFORMATION IS SUBJECT TO CHANGE. PLEASE REFERENCE DUR ON-LINE DRAWINGS AT www.savaria.com FOR THE MOST RECENT UPDATES



Provisions by others - Savaria Link option

If you have the Savaria Link <u>Ethernet</u> remote monitoring option, ensure that you have an Ethernet connection with Internet capability in the vicinity of the unit's controller.

If you have the Savaria Link <u>Wireless</u> remote monitoring option, ensure that you have a wireless signal with Internet capability in the vicinity of the unit's controller.

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