

Bruno VPL-3300B Series

3-Gate Application - Design and Planning Guide



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Bruno VPL-3300B Series 3-Gate Application

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Planning Guide Purpose

Use this planning guide to gain details on incorporating a Bruno 3-Gate (also known as Toe-Guard) Vertical Platform Lift into a public building design. All Bruno commercial vertical platform lifts meet the following applicable codes and performance standards:

- ASME A18.1-2011 Section 2 (Public) Safety Standards for Platform Lifts and Stairway Chairlifts
- ASME A18.1-2014 Section 2 (Public) Safety Standards for Platform Lifts and Stairway Chairlifts
- CAN/CSA B355-09 (Public) Lifts for Persons with Physical Disabilities
- CAN/CSA B355-15 (Public) Lifts for Persons with Physical Disabilities
- CSA B44.1-11/ASME A17.5-2011 - Elevator and Escalator Electrical Equipment
- CSA B44.1-14/ASME A17.5-2014 - Elevator and Escalator Electrical Equipment
- CSA - National Electric Code
- NFPA 70 - National Electric Code

Vertical Platform Lift Definition

Vertical platform lifts (VPLs) are a cost-effective solution to make a church, school, office or other public building accessible for people using mobility devices. Sometimes called a wheelchair lift, a 3-Gate VPL provides code-compliant access up to 53".



3-Gate Vertical Platform Lift, access up to 53"

Benefits of Vertical Platform Lifts

Cost-Effective

Gain cost efficiencies by installing a vertical platform lift instead of a traditional elevator or long ramp system.

Compact

Ramps require 12" horizontal travel for every 1" vertical travel. For example, a 36" rise would require a 36' ramp. In addition to taking up significant space, ramps can be fatiguing. A vertical platform lift saves space and is automatically powered.

Meets USA ADA Requirements

Vertical platform lifts are acknowledged in the Americans with Disabilities Act (ADA) Accessibility Guidelines as a means to provide public building access. Bruno VPLs are designed in accordance with ASME A18.1 section 2.

Design Assistance

Need help on specifying the right VPL configuration? Bruno's commercial VPL architect support professionals can help design the right solution for your project.

Email: commercialvpl@bruno.com. Phone: 800.848.3056

General Information

Finishes

Bruno's commercial VPL standard finish is electrostatically applied with a baked powder coat finish in champagne color. Platform and landing gate parts are E-coated for an extra level of protection from the outdoor elements.

Indoor / Outdoor

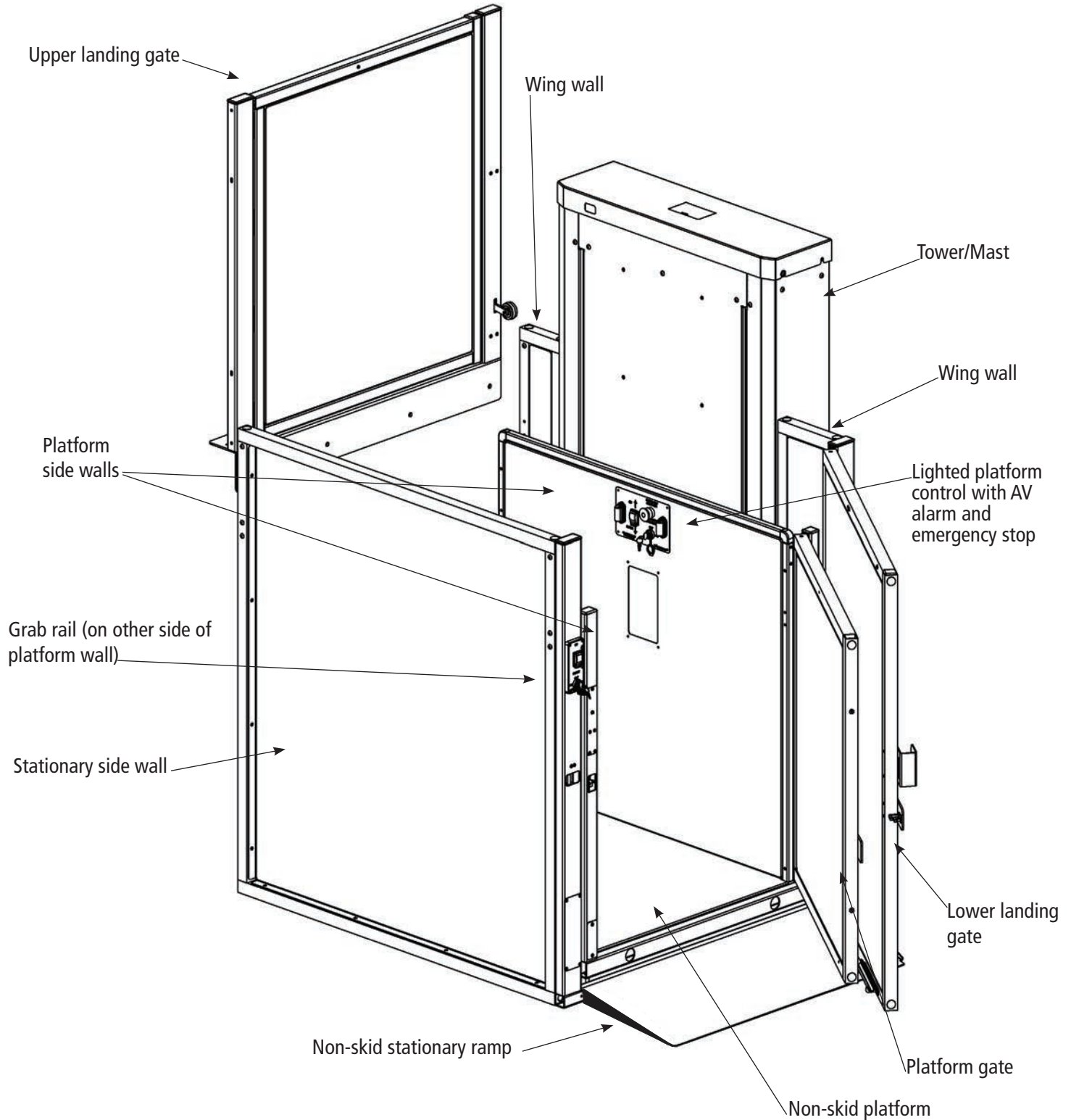
All Bruno VPLs are suitable for indoor and outdoor applications. Optional cold-weather package recommended if operating temperature is below 20° F/-7°C.

How It Works – 3-Gate

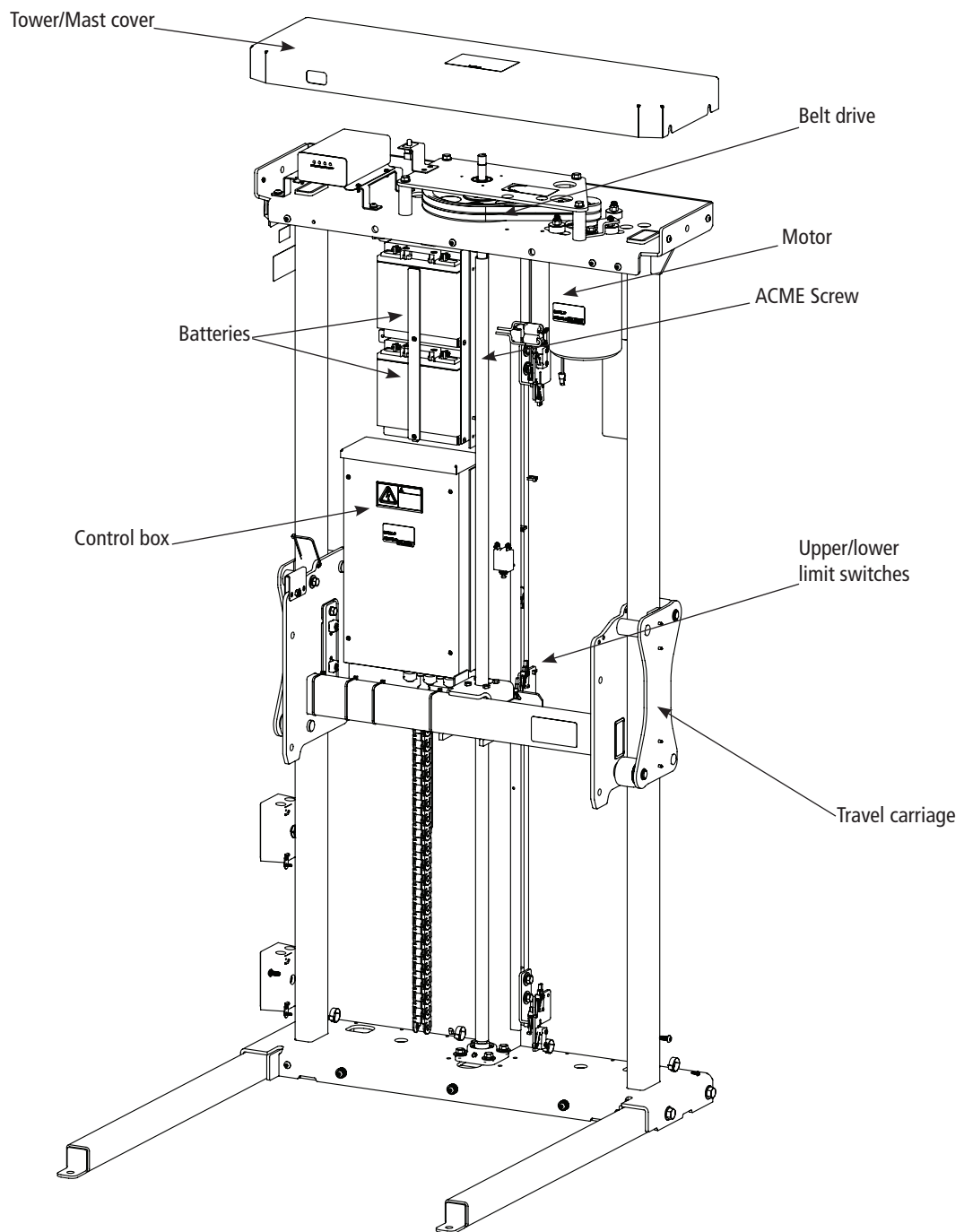
Bruno's 3-Gate, or Toe-guard, lower enclosure vertical platform lift provides a full barrier at the lower landing with no access under the lift for maximum safety. Access up to 53 inches. Bruno's 3-Gate VPL includes an ACME screw-driven system with

full-time battery operation, platform and lower landing gates, side and tower wing walls, and interlock gate system. A practical choice for ADA compliance, Bruno 3-Gate wheelchair lifts are Made-in-America.

3-Gate key components



ACME Screw Drive System (image shown is a "low rise" model)



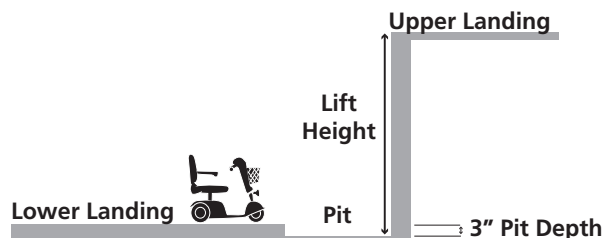
Power requirements: 120VAC, 3A, single phase, 60 Hz

Manual lowering tool: An optional manual hand crank is offered to lower the device. The manual lowering hand-wheel has a black plastic handle and slotted shape that engages a square key on the main screw drive.

Lift Heights and Floor-to-Floor Measuring

Lift height is defined as the distance from the lower landing where the lift will be placed to the upper landing. The lift can be installed with or without a pit. In a pit installation, the measurement is from the bottom of the pit to the upper landing. For a floor installation, the measurement is from the floor to the upper landing.

Pit installation = Pit to floor distance



Floor installation = Floor to floor distance



3-Gate Measures

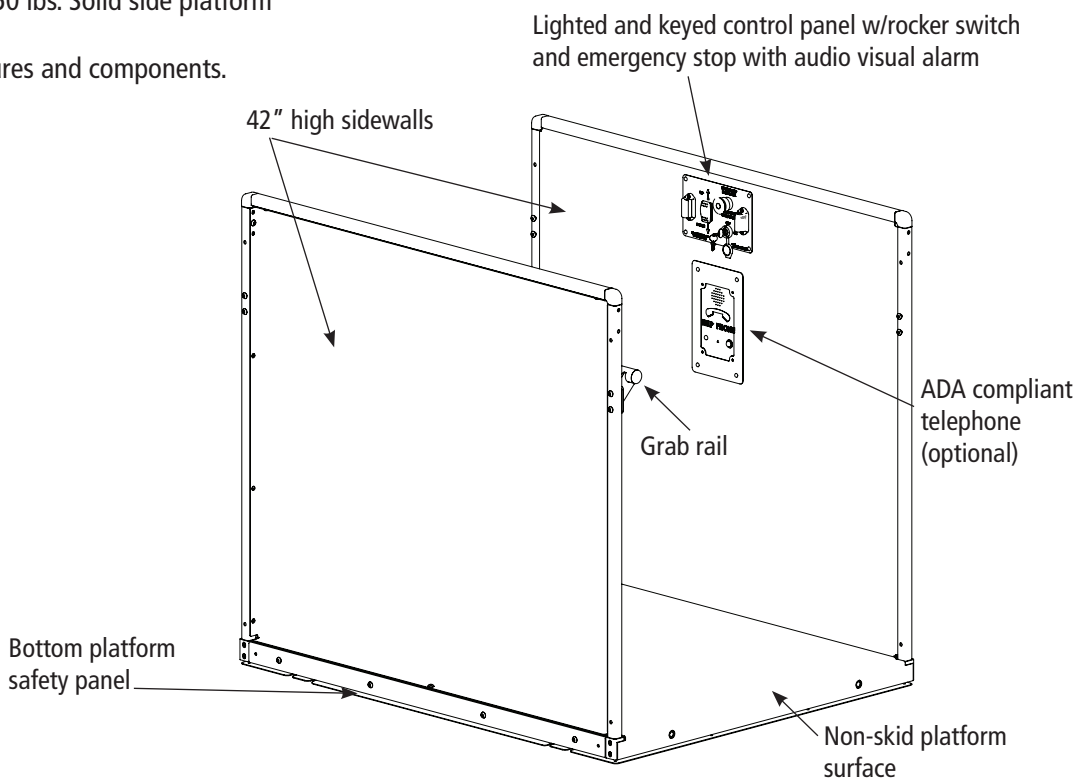
Model	Max Floor-to-Floor	Min Floor-to-Floor	Mast Height	Unit Weight
VPL-3353B	53"	11"	75-9/16"	1027"

Platforms

The rated load for the platform is 750 lbs. Solid side platform walls measure 42" high. See below for typical platform features and components.

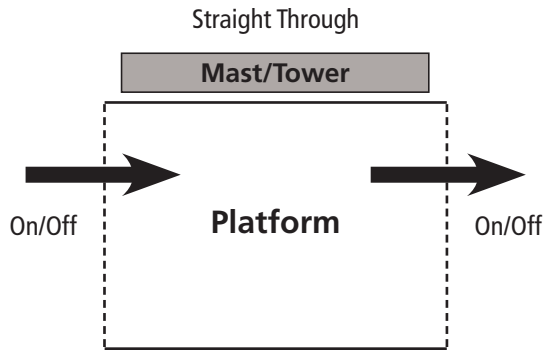
Platform Size Options:

- 36" x 54" – standard
- 36" x 48"
- 36" x 60"



Platform Configurations

The 3-Gate platform is designed in the most common configuration: Straight Through. See image below.



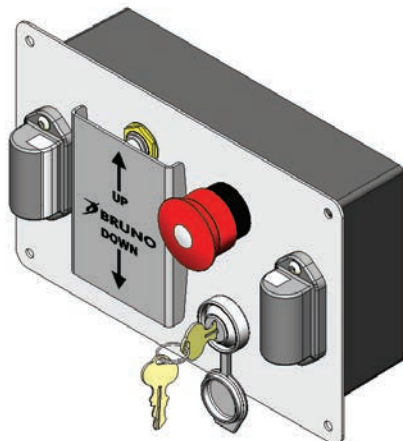
Number of Landings: 2-stop (upper and lower) are available.

Operating Controls

Platform Controls: All Bruno VPL-3300B Series lifts come standard with weather-protected, continuous pressure up and down rocker switch platform control. Optional paddle style control is available.



Rocker Switch Platform Control

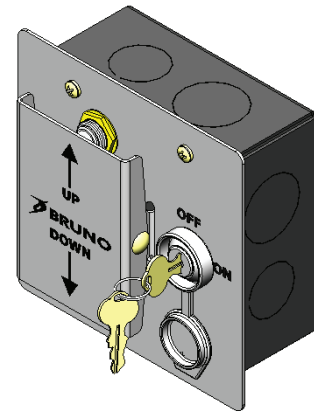


Paddle Platform Control

Call/Sends: Optional remote call/send controls come in rocker or paddle style and either flush or surface mount installation. Used on upper and lower landings.



Rocker / Surface mount

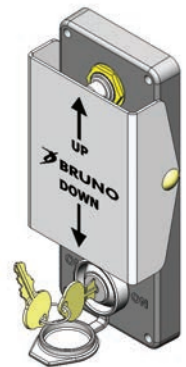


Paddle / Flush Mount

Upper Landing Controls: Optional upper landing gate controls are also available in rocker or paddle style control.



Rocker



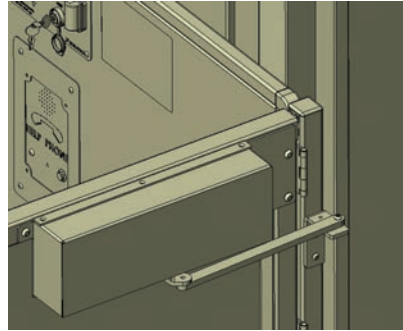
Paddle

Additional Options

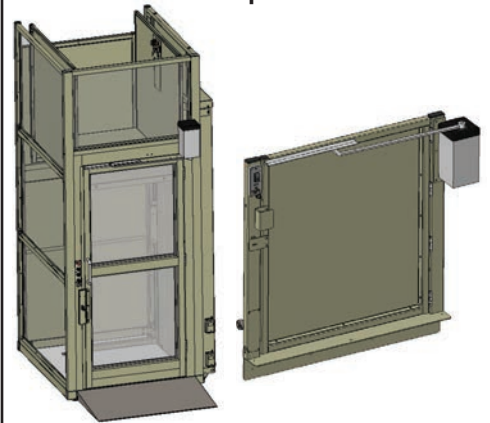
ADA Phone with Battery Backup



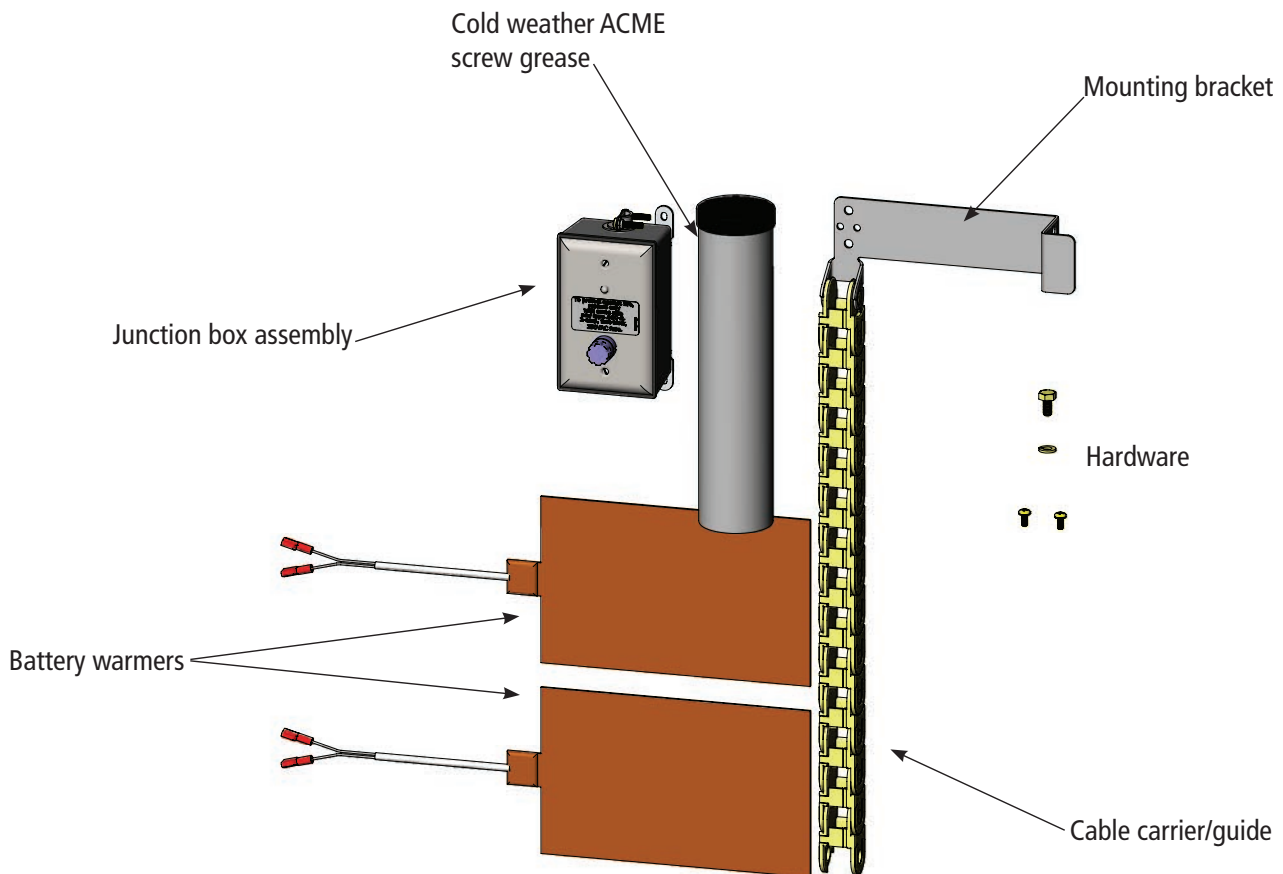
Platform Gate Operator



Doors and Upper Landing Gate Operator

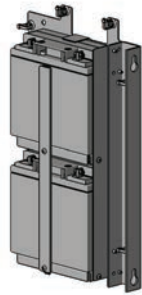


Cold weather package: recommended if operating temperature is below 20°F (-7°C)



Additional Options (cont.)

Battery Package Upgrade 34AH



34AH Batteries

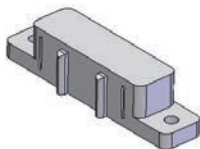
Pit Switch

Mounts near the underside of the platform and ensures safety of someone working beneath the platform.



Flood Sensor

The flood sensor is used to detect water near the bottom of the VPL. The sensor can be mounted anywhere below the lower limit switches. When water is detected, the platform will stop moving in either up or down direction.



Bruno Doors and Gates

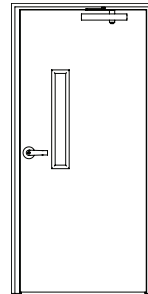
A door or a gate can be used at the upper landing for an Unenclosed VPL. Bruno offers multiple options.

A fire-safe steel door with window opening and steel frame is available in two sizes and comes equipped with an electric strike interlock system (ESI). Door has gray primer finish.

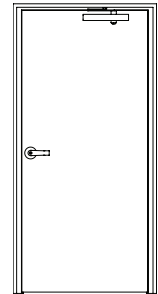
- 36" door (33" inside opening), 42" frame
- 46" door (43" inside opening), 52" frame

A non-fire-rated oak door, with a steel frame, is available in two sizes and comes equipped with an electric strike interlock system (ESI). Door is not finished (plain wood).

- 36" door (33" inside opening), 42" frame
- 46" door (43" inside opening), 52" frame



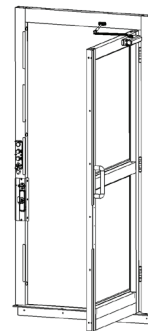
Steel door



Oak door

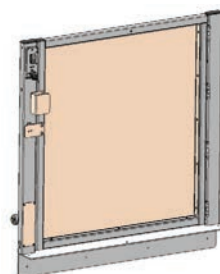
The aluminum door is non-fire rated and features a framed door with Plexiglas panels. It is equipped with an electric strike interlock system (ESI) and comes pre-hung in an aluminum frame. Door is painted champagne color. The height of the door is 80" and is available in two widths:

- 36" door (33-3/8" inside opening), 42" frame
- 45" door (42-3/8" inside opening), 51" frame

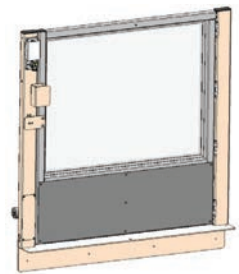


Optional upper landing gate includes Bruno electrical mechanical interlock (EMI) or optional electric strike interlock (ESI) which releases the gate when platform is at the upper landing. Electronic sensors stop the platform from operating unless the gate is closed. Rocker switch upper landing control comes mounted to the gate. Paddle switch and/or remote mount are optional. Available with steel or Plexiglas panels in two sizes:

- 36" W x 42" H
- 42" W x 42" H



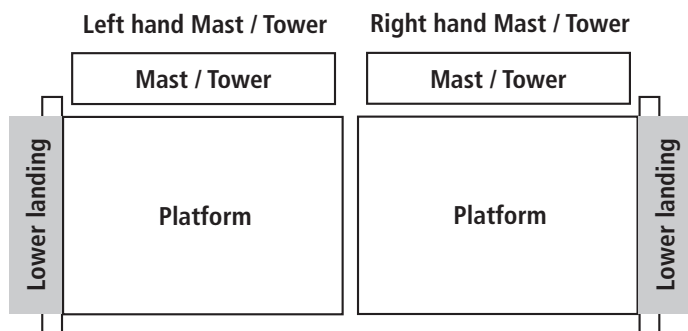
Steel panel, rocker switch



Plexiglas panel, paddle control

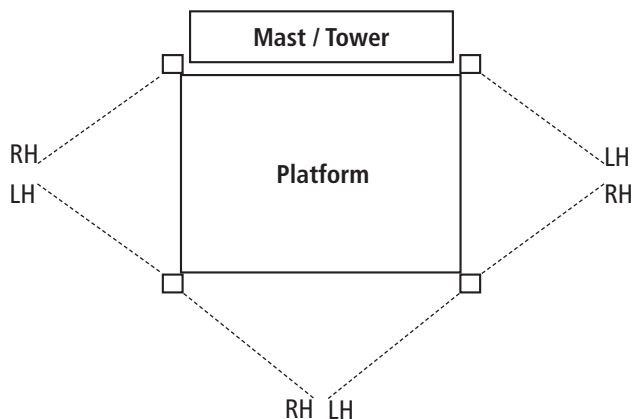
Hand of Mast / Tower

Hand of mast / tower is determined by the side the mast / tower is on when entering the lift at the lower landing. See below.



Gate and Door Swing Direction

Identify gate or door swing based on the direction the gate or door opens from the platform (see drawing below). For example, if a user's back is to the hinge and the right arm would be used to open the door or gate, it would require a right-hand swing.



Site Construction Details

Electrical Requirements:

Check applicable local codes for all electrical and wiring requirements. If it is determined that a GFI (Ground Fault Interrupter) outlet is required, use a GFI 120V, 15A, 60 Hz single phase circuit to operate the internal battery charger (charger draws 3A max.). National Electrical Code requires a GFI is used in all outdoor or wet environment applications.

Platform Pathway Requirements:

Ensure the platform pathway is clear of any electrical conduit and wire ways. Make sure no liquids, steam or gas piping discharge into the pathway, and there is sufficient headroom clearance (minimum of 80" – 2032 mm) throughout floor-to-floor travel. The area should be sufficiently lit.

Floor Recommendations:

A 4" (102 mm) thick, 3500 PSI minimum compressive strength, reinforced concrete slab is advised. Refer to technical drawings for minimum slab dimensions. If the temperature can fall below freezing, it is recommended that you insert an insulation sheet between the concrete slab and the compacted rock.

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 technical drawings for mounting hole locations. Follow selected concrete anchor manufacturer's guidelines and applicable codes.

Housing Attachment:

Lower landing walls must be secured to the house (fascia) with the brackets provided. Note: Housing must remain intact.

Top Landing Gate Attachment:

Refer to landing gate detail pages 17-18.

Space Requirements:

Refer to application specific drawings starting on page 11.

Platform-to-Top Landing Sill Clearance:

ASME code indicates the platform floor-to-sill clearance at the upper landing shall not be less than 3/8" (9.5 mm) nor exceed 3/4" (19 mm). Follow applicable local codes.

Fascia Wall Requirements:

ASME code indicates that fascia should be smooth and/or 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.

Application Specific Drawings

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ILS-01155 - Rev. 0 • Sheet 1 of 3

Enclosed Platform with 3-Gate (VPL-3353B) Straight through, no pit

Technical Data/Specifications

Rated load

- 750 lbs max

Input power source

- DC battery powered unit: 110-120 volt - 3 Amp 60 Hz battery charger

Drive

- DC battery powered unit: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty
Intermediate reduction: Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction
Final drive: 1" dia. ACME screw w/bronze nut and bronze safety back up nut

Motor controller

- DC battery powered unit: 24VDC relay control

Speed

- DC battery powered unit: 10 ft per minute maximum

For complete technical specifications, please see ILS-01100 "VPL-3300B Series Commercial Vertical Platform Lift Technical Specification."

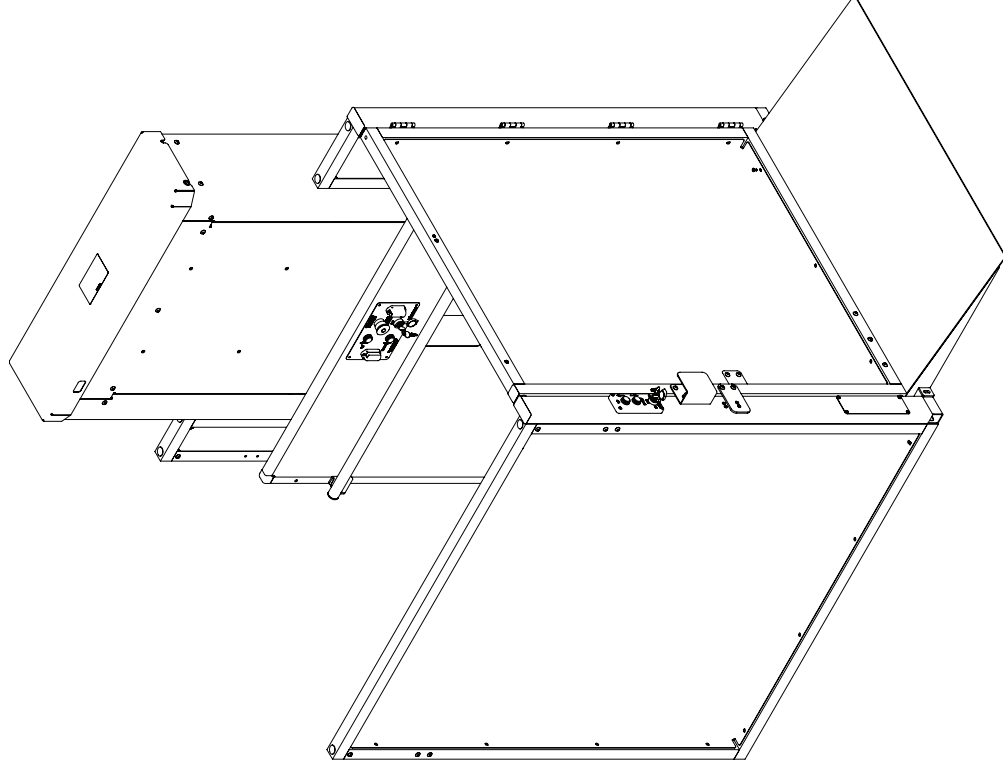
Performance Standards

USA Food & Drug Administration: Class II, 510(K) Exempt, File No. 890.3930 Product Code: PCE

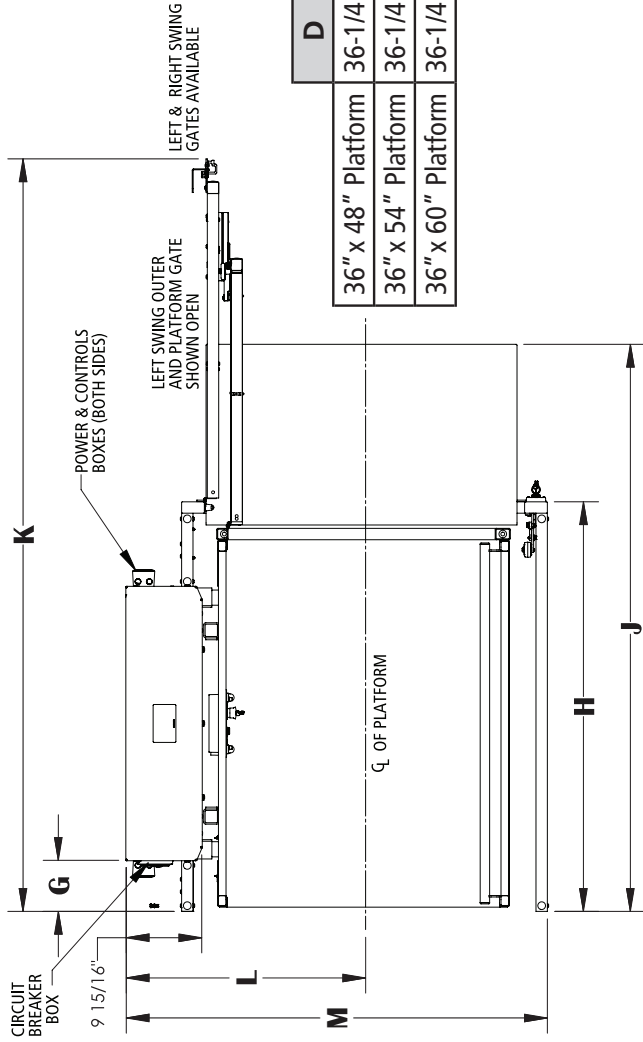
ASME A18.1-2014 (Section 2) Safety Standards for Platform Lifts and Stairway Chairlifts

CSA B355-15 Lifts for Persons with Physical Disabilities

CSA B44.1-14/ASME-A17.5-2014 Elevator and Escalator Equipment

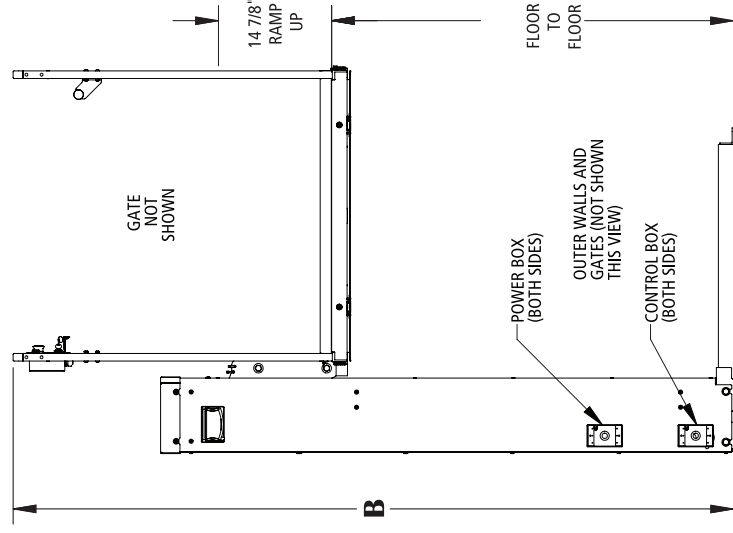
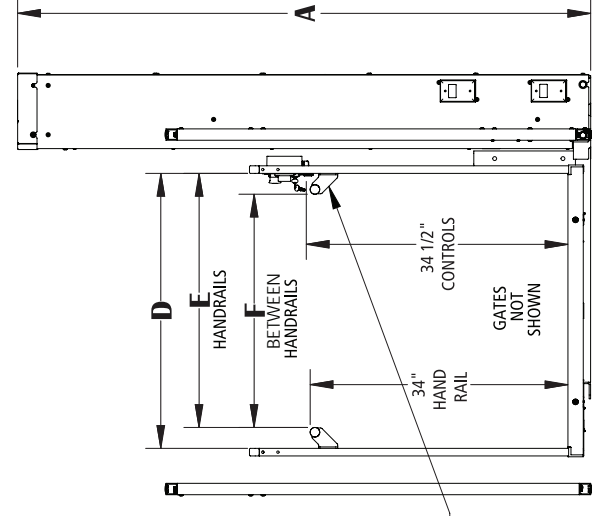
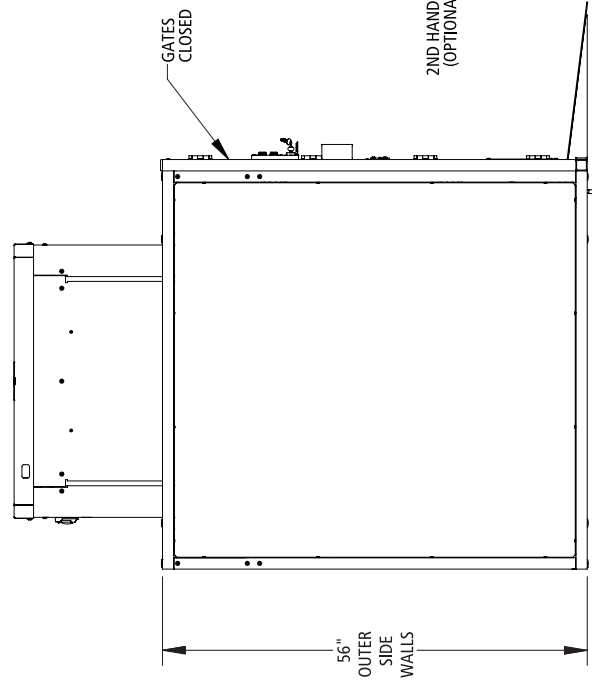


Enclosed Platform with 3-Gate (VPL-3353B) Straight through, no pit



	A	B	C MIN	C MAX
VPL-3353B	75-9/16"	95"	11"	53"

	D	E	F	G	H	J	K	L	M
36" x 48" Platform	36-1/4"	33-1/2"	30-3/4"	6-11/16"	54"	74-13/16"	99-3/16"	31-9/16"	55-1/2"
36" x 54" Platform	36-1/4"	33-1/2"	30-3/4"	9-11/16"	60"	80-13/16"	105-3/16"	31-9/16"	55-1/2"
36" x 60" Platform	36-1/4"	33-1/2"	30-3/4"	12-11/16"	66"	86-13/16"	111-3/16"	31-9/16"	55-1/2"



Anchor point locations/slab detail Enclosed Platform with 3-Gate (VPL-3353B) Straight through, no pit

Technical Data/Specifications

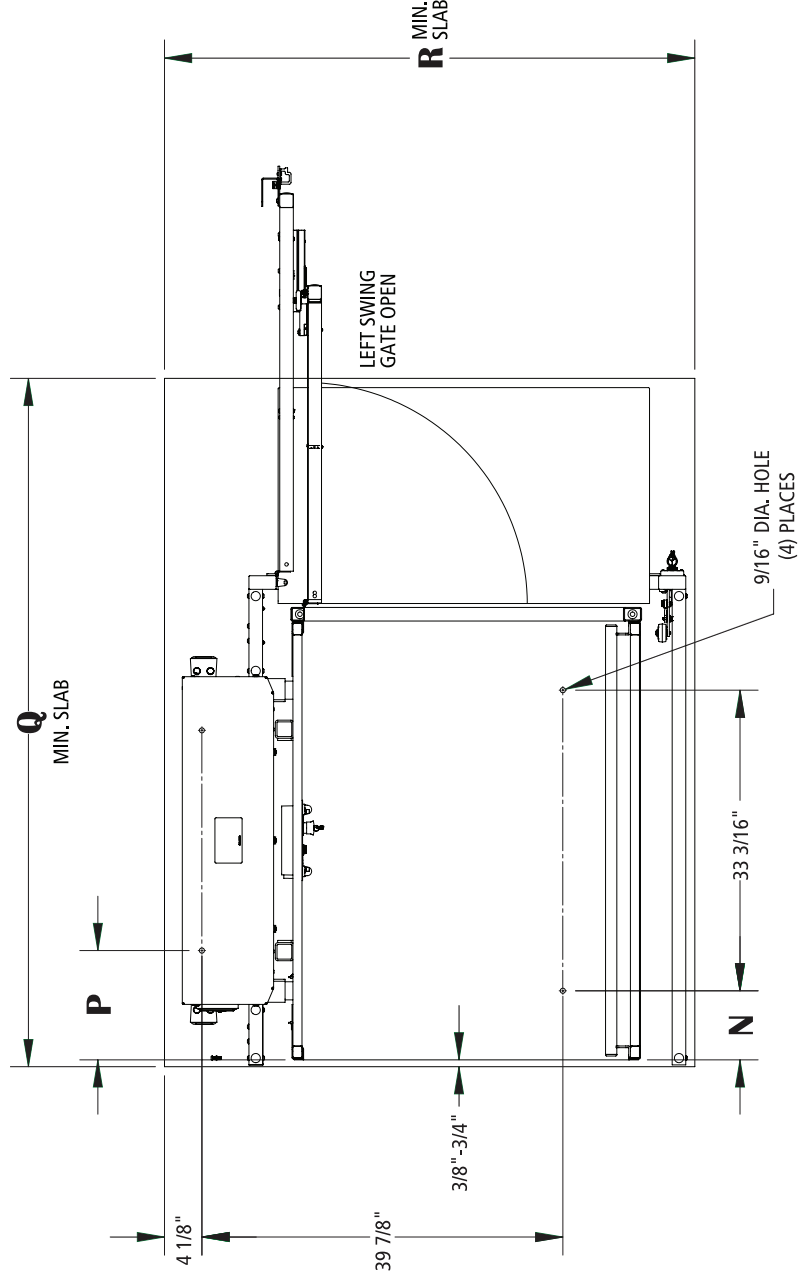
Floor Attachment

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. Follow selected concrete anchor manufacturers guidelines and applicable codes.

Floor Requirements

4" thick 3500 PSI minimum compressive strength, reinforced concrete slab

	N	P	Q	R
36" x 48" Platform	7-5/8"	12-1/16"	76"	58-9/16"
36" x 54" Platform	10-5/8"	15-1/16"	82"	58-9/16"
36" x 60" Platform	13-5/8"	18-1/16"	88"	58-9/16"



Application Specific Drawings

Enclosed Platform with 3-Gate (VPL-3353B) Straight through, with pit

Technical Data/Specifications

Rated load

- 750 lbs max

Input power source

- DC battery powered unit: 110-120 volt - 3 Amp 60 Hz battery charger

Drive

- DC battery powered unit: 1/2 hp motor, 1750 rpm, 24 VDC, continuous duty
 Intermediate reduction: Dual 4L style Poly-V belts and pulleys, 3.94:1 pulley reduction
 Final drive: 1" dia. ACME screw w/bronze nut and bronze safety back up nut

Motor controller

- DC battery powered unit: 24 VDC relay control

Speed

- DC battery powered unit: 10 ft per minute maximum

For complete technical specifications, please see ILS-01100 "VPL-3300B Series Commercial Vertical Platform Lift Technical Specification."

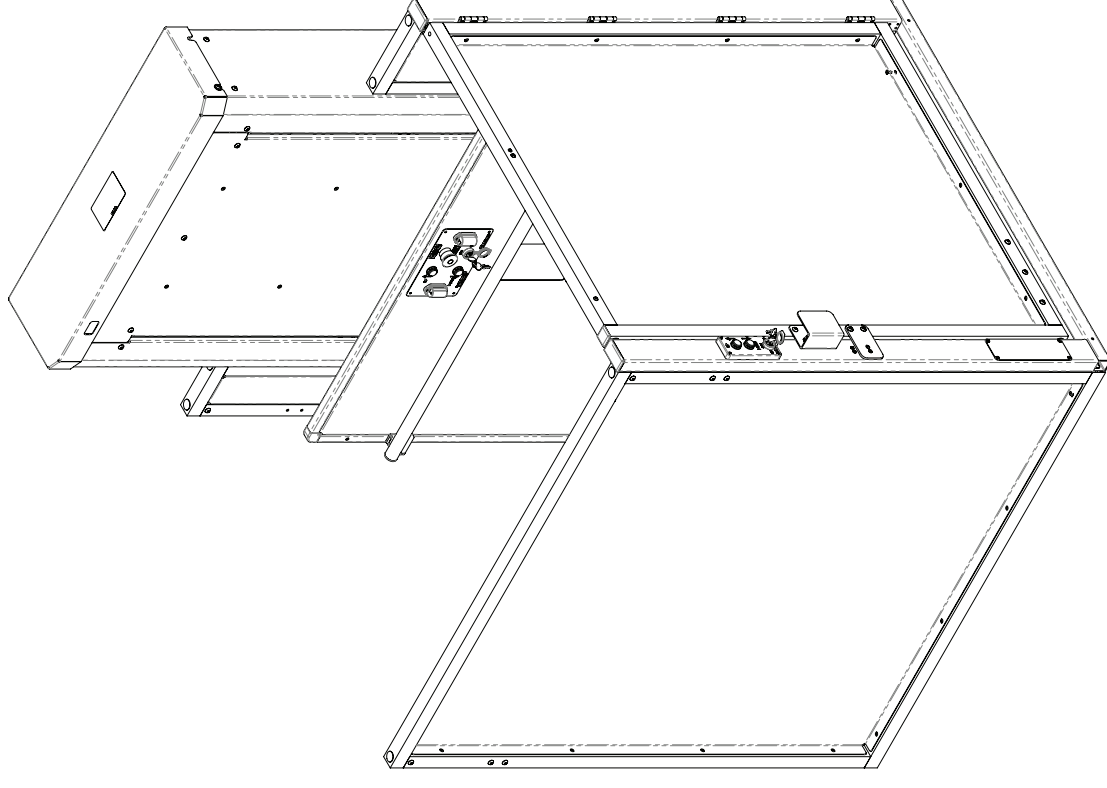
Performance Standards

USA Food & Drug Administration: Class II, 510(K) Exempt, File No. 890.3930 Product Code: PCE

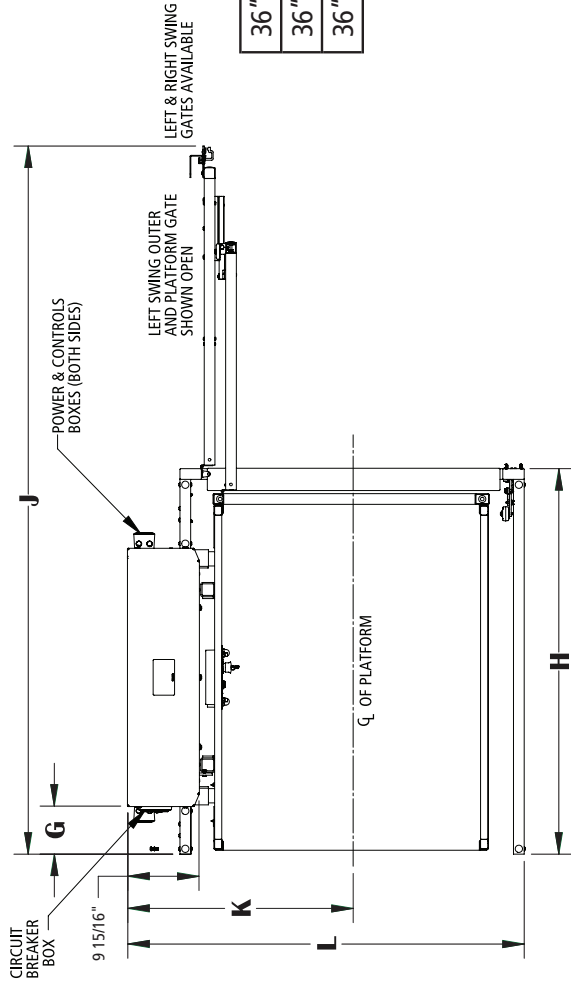
ASME A18.1-2014 (Section 2) Safety Standards for Platform Lifts and Stairway Chairlifts

CSA B355-15 Lifts for Persons with Physical Disabilities

CSA B44.1-14/ASME-A17.5-2014 Elevator and Escalator Equipment

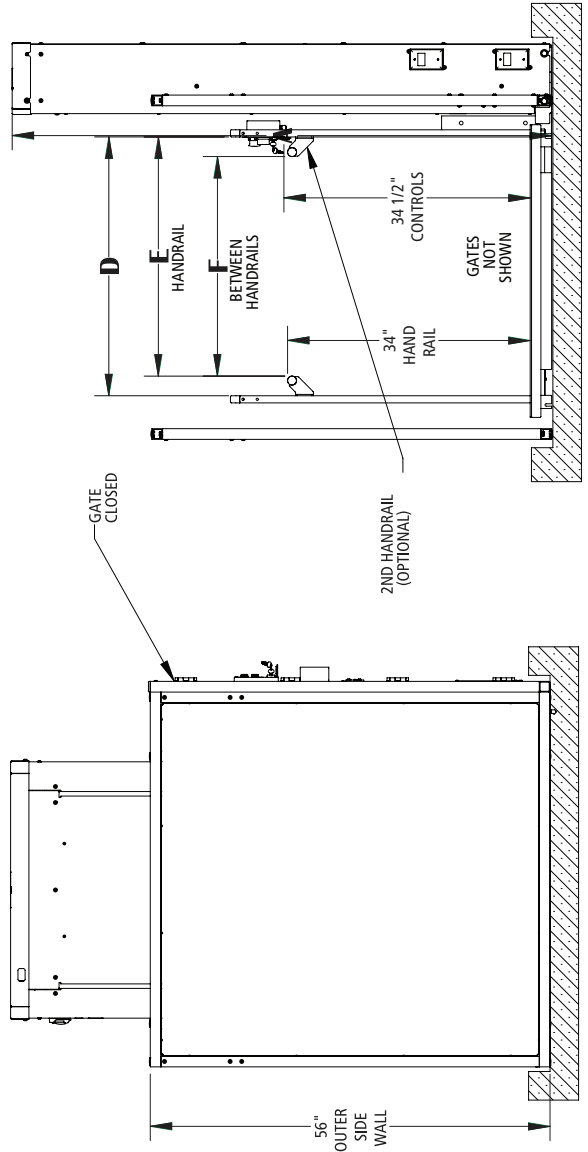
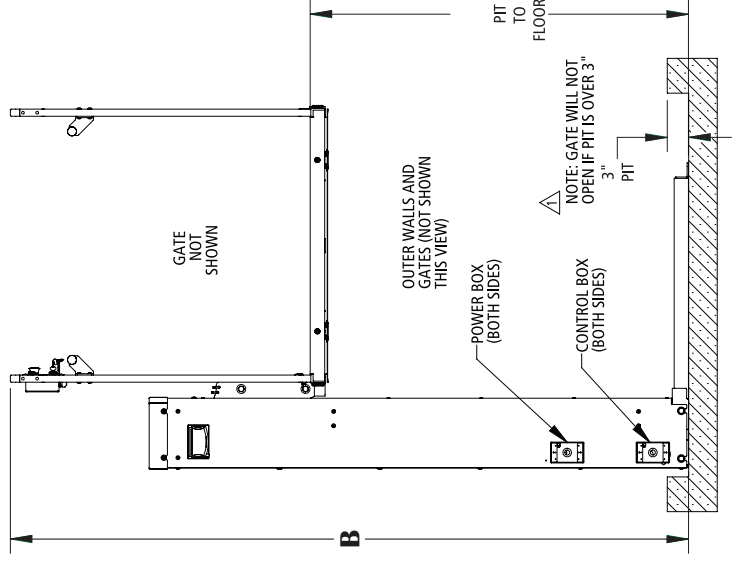


Enclosed Platform with 3-Gate (VPL-3353B) Straight through, with pit



	A	B	C MIN	C MAX
VPL-3353B	75-9/16"	95"	11"	53"

	D	E	F	G	H	K	L
36" x 48" Platform	36-1/4"	33-1/2"	30-3/4"	6-11/16"	54"	99-3/16"	55-1/2"
36" x 54" Platform	36-1/4"	33-1/2"	30-3/4"	9-11/16"	60"	105-3/16"	55-1/2"
36" x 60" Platform	36-1/4"	33-1/2"	30-3/4"	12-11/16"	66"	111-3/16"	55-1/2"



NOTES: 1) SEE ILS-00938 FOR LANDING GATE DETAIL/ALIGNMENT

Anchor point locations/pit detail Enclosed Platform with 3-Gate (VPL-3353B) Straight through, with pit

Technical Data/Specifications

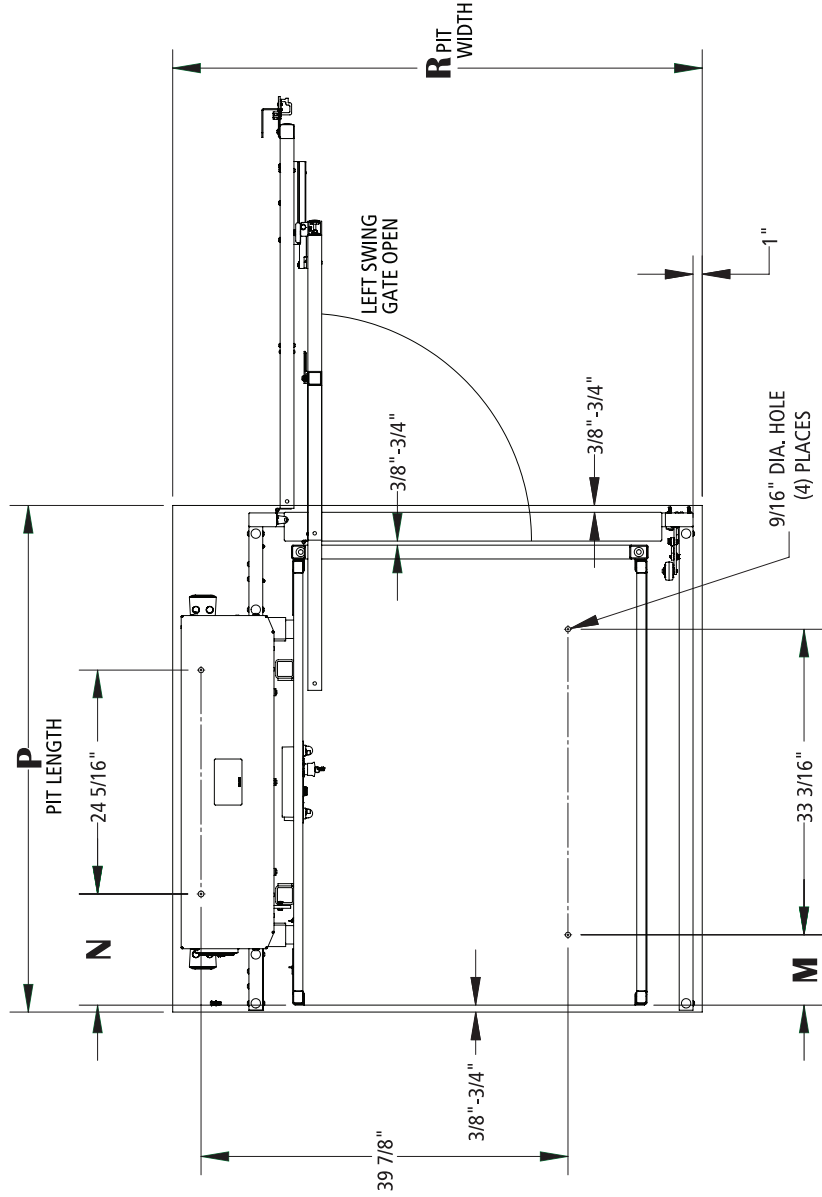
Floor Attachment

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. Follow selected concrete anchor manufactures guidelines and applicable codes.

Floor Requirements

4" thick 3500 PSI minimum compressive strength, reinforced concrete slab

	M	N	P	R
36" x 48" Platform	7-5/8"	12-1/16"	54-3/4" - 55-1/2"	57" - 58"
36" x 54" Platform	10-5/8"	15-1/16"	59-3/4" - 61-1/2"	57" - 58"
36" x 60" Platform	13-5/8"	18-1/16"	65-3/4" - 66-1/2"	57" - 58"



UNITS WITH STRAIGHT THROUGH PLATFORM WITH 3 GATE
(PIT APPLICATION)

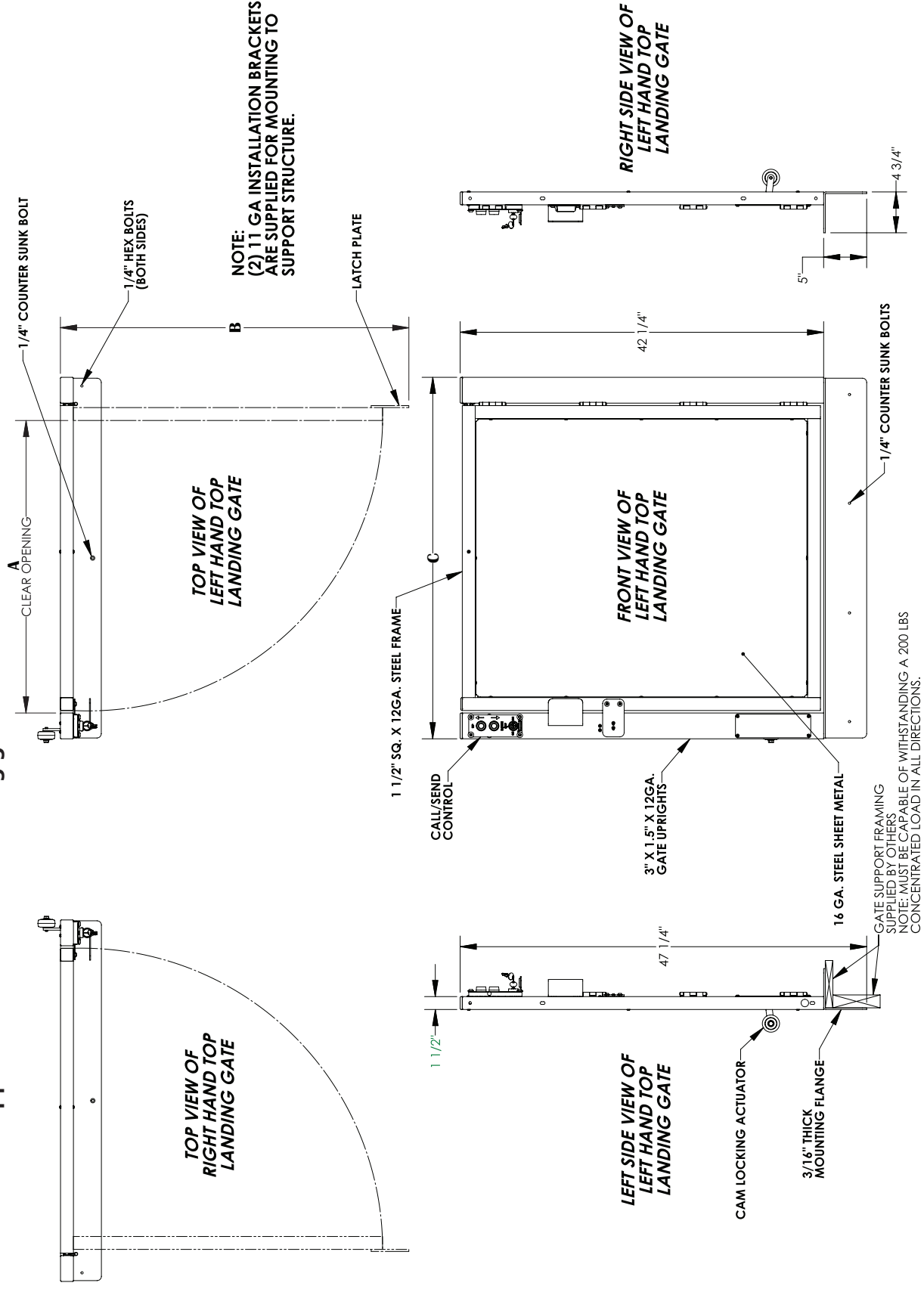
Landing Gate Detail

VPL-3300B Series

(Viewed at top landing)

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 ILS-00938 - Rev. 5 • Sheet 1 of 2

Note: All dimensions applicable for LH or RH landing gate



Landing Gate Detail

VPL-3300B Series Straight through Platform

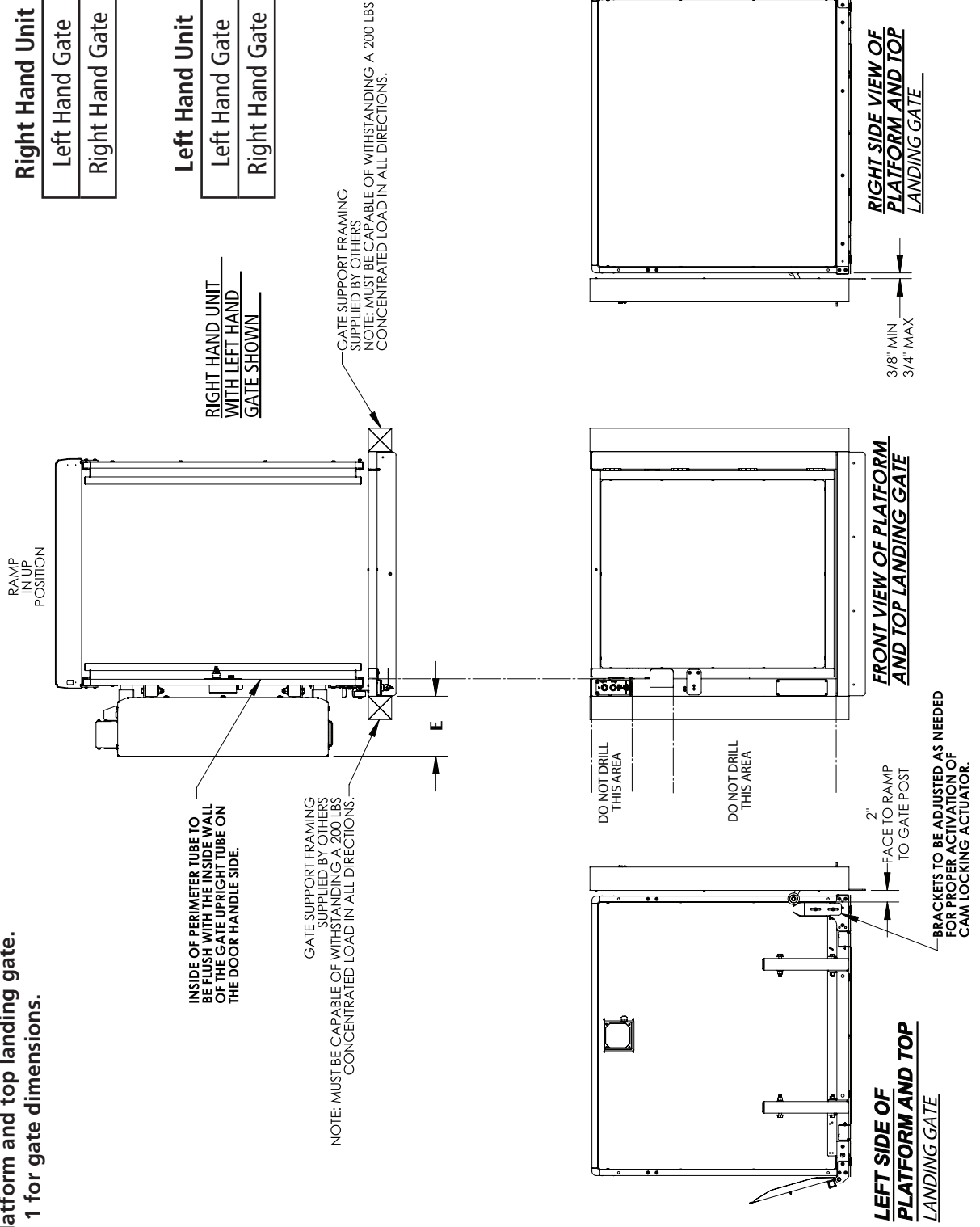
(Viewed at top landing)

Note: All dimensions applicable for LH or RH landing gate

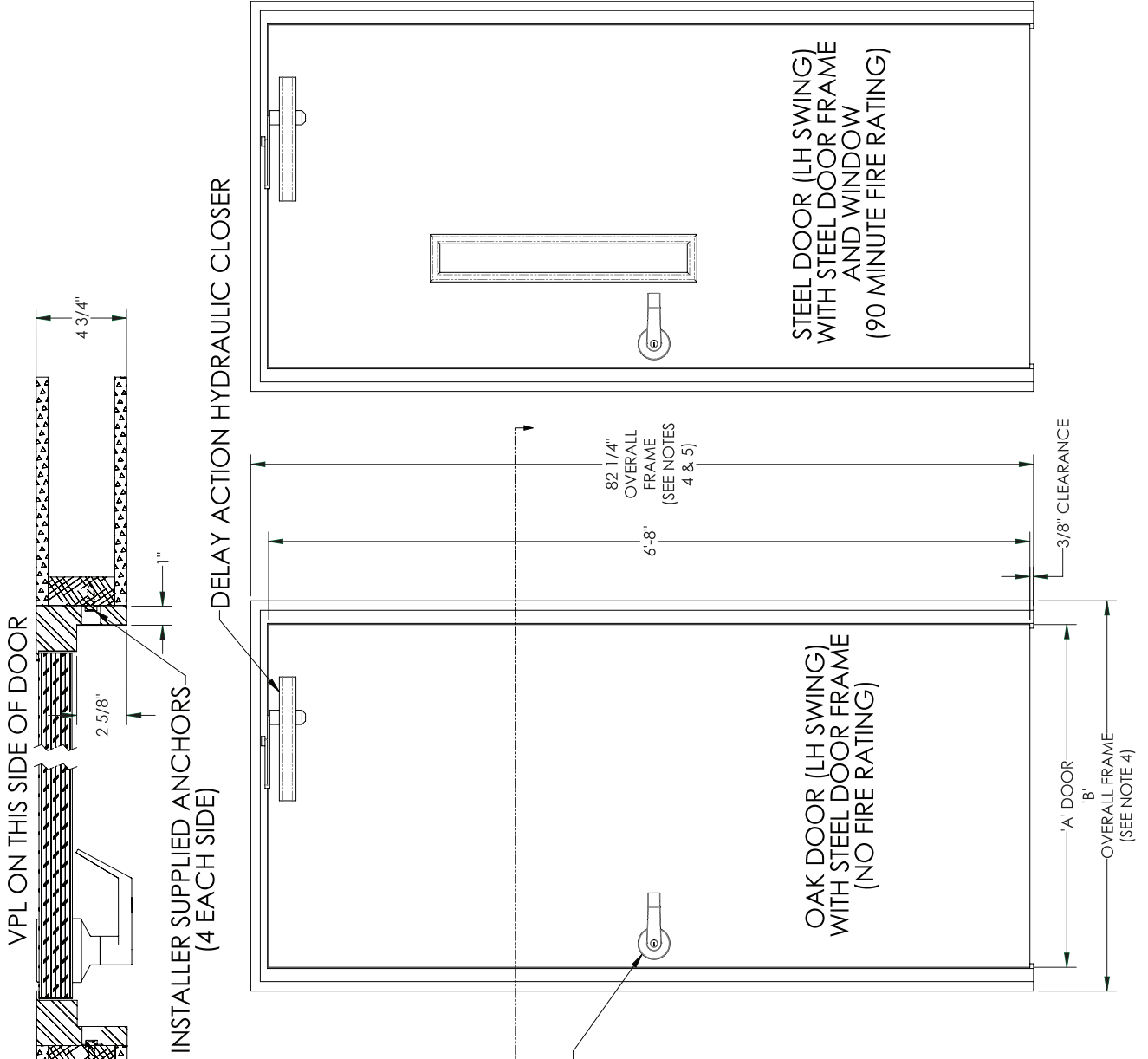
Top view of platform and top landing gate.
 Refer to sheet 1 for gate dimensions.

Right Hand Unit		E
Left Hand Gate	10-1/4"	
Right Hand Gate	8-1/2"	

Left Hand Unit		E
Left Hand Gate	8-1/2"	
Right Hand Gate	10-1/4"	



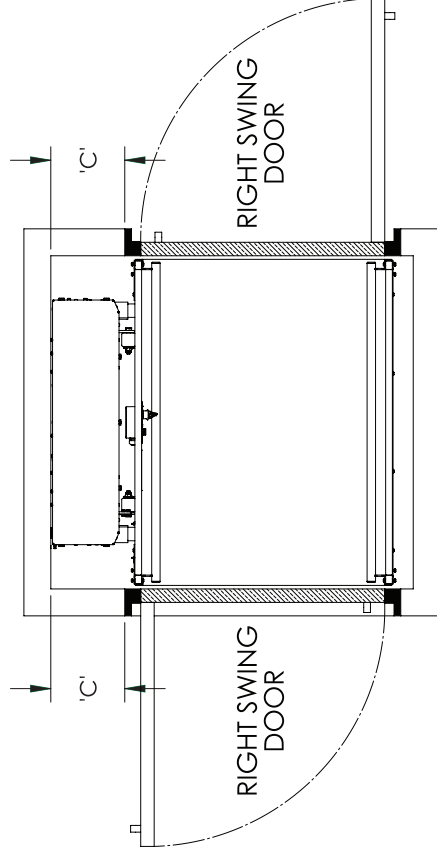
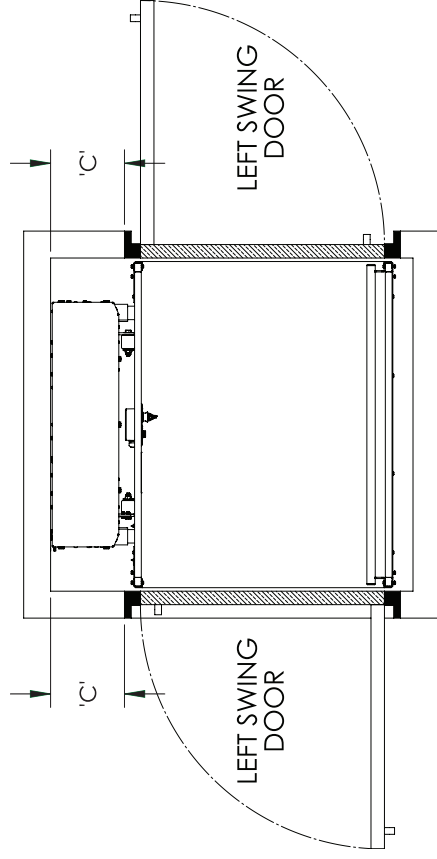
Flush mount door detail



- Notes:**
1. Door frame is shipped with tackplate sill which is removed during installation (use a hammer to remove).
 2. Finish:
 - A) Oak door is plain (not finished) and frame is gray primer finish.
 - B) Steel door and frame has a gray primer finish.
 3. If door is used with a fixed ramp, raise the door frame up the height of the fixed ramp. Please allow for this in the rough opening if needed. You will have to finish the bottom of the door frame as needed.
 4. Add 1/2" to overall frame dimensions to determine rough opening.

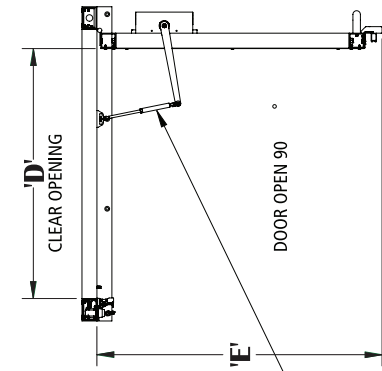
Part No.	Description	'A'	'B'
VPL-32236	Flush mount 36" Oak door (LH swing)	36"	42"
VPL-32237	Flush mount 36" Oak door (RH swing)	36"	42"
VPL-32238	Flush mount 36" Steel door (LH swing)	36"	42"
VPL-32239	Flush mount 36" Steel door (RH swing)	36"	42"
VPL-32272	Flush mount 46" Oak door (LH swing)	46"	52"
VPL-32273	Flush mount 46" Oak door (RH swing)	46"	52"
VPL-32274	Flush mount 46" Steel door (LH swing)	46"	52"
VPL-32275	Flush mount 46" Steel door (RH swing)	46"	52"

Flush mount door alignment Straight through platform - Plan views



Door Size	Door Location	Door Swing	LH Unit 'C'	RH Unit 'C'
36"	Lower landing	Left swing door	11"	9-3/4"
36"	Lower landing	Right swing door	9-3/4"	11"
36"	Upper landing	Left swing door	9-3/4"	11"
36"	Upper landing	Right swing door	11"	9-3/4"
46"	Lower landing	Left swing door	9"	7-3/4"
46"	Lower landing	Right swing door	7-3/4"	9"
46"	Upper landing	Left swing door	7-3/4"	9"
46"	Upper landing	Right swing door	9"	7-3/4"

Flush mount aluminum door detail - LH Swing

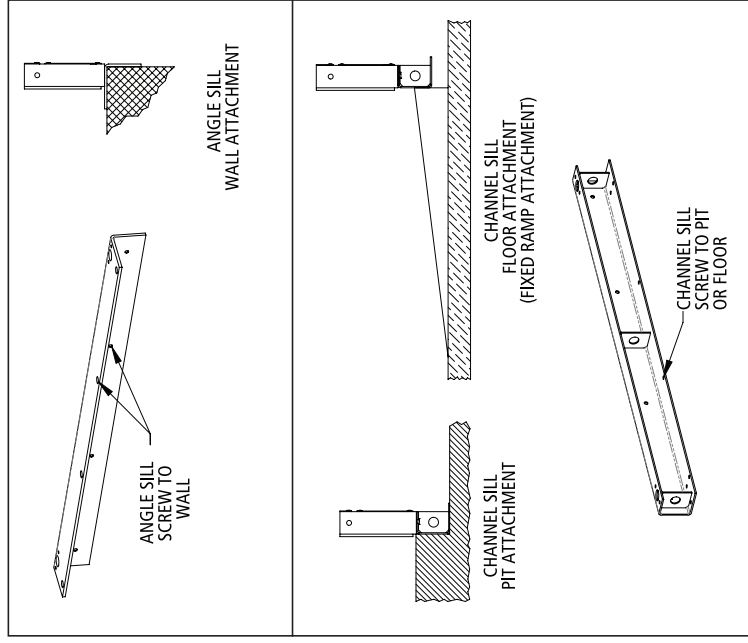
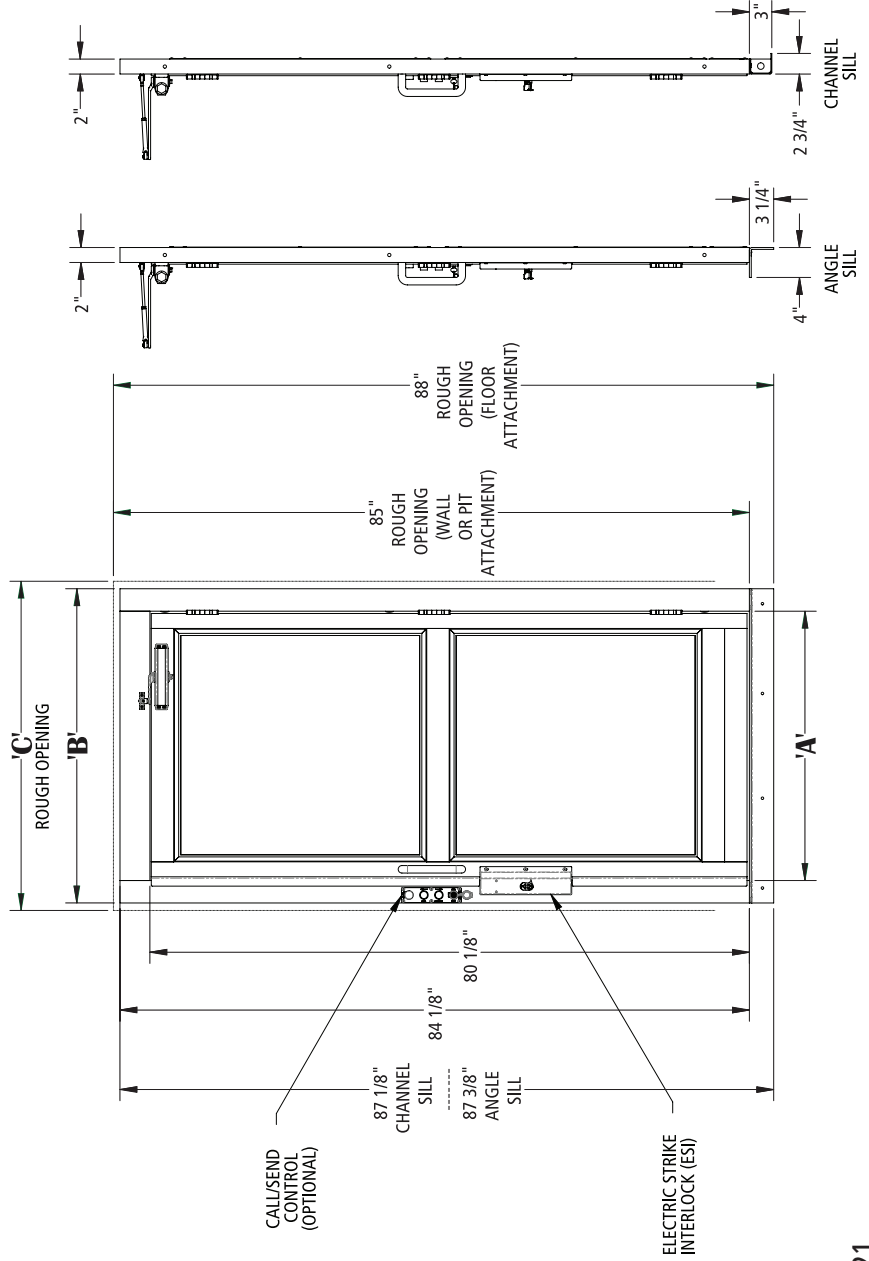


DOOR CLOSER PROVIDED (REMOVED BY INSTALLER IF INSTALLING A DOOR OPENER)

Description	'A'	'B'	'C'	'D'	'E'
Flush mount 36" aluminum door	36"	42"	44"	33-3/8"	38-1/8"
Flush mount 45" aluminum door	45"	51"	53"	42-3/8"	47-1/8"

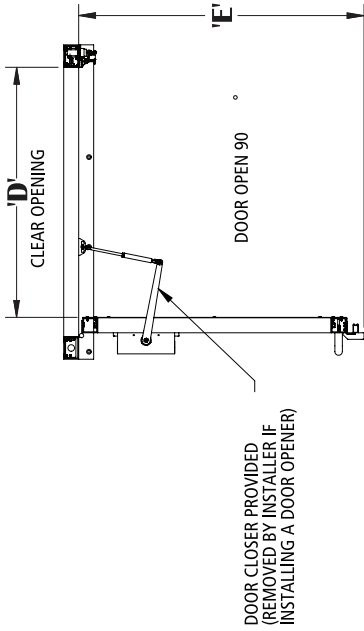
Notes:

1. Two pieces of vertical frame trim is included. Trim can be used as needed when installing the door.
2. Dealer to supply mounting hardware (i.e. screws, anchors).
3. Panel insert material is either clear acrylic or bronze acrylic. Panels are shipped with a protective paper to be removed by installer



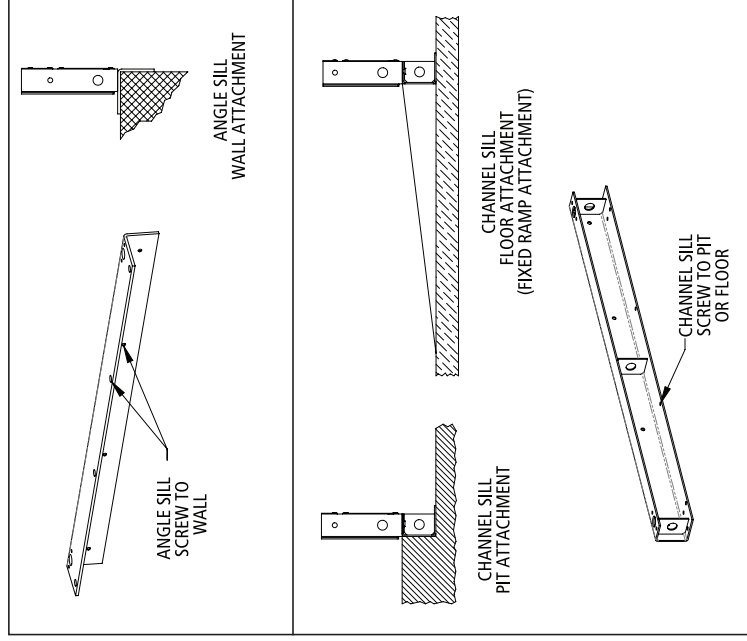
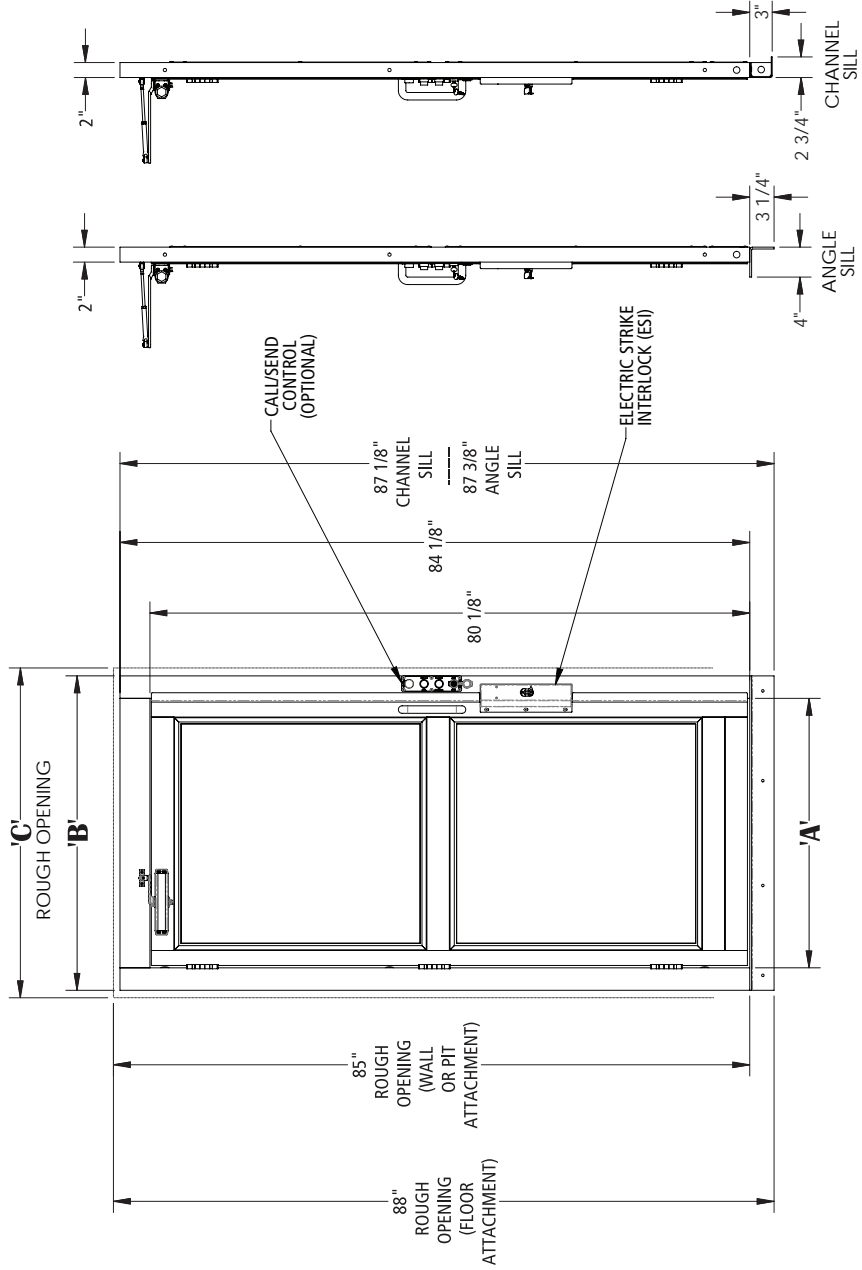
Flush mount aluminum door detail - RH Swing

Description	'A'	'B'	'C'	'D'	'E'
Flush mount 36" aluminum door	36"	42"	44"	33-3/8"	38-1/8"
Flush mount 45" aluminum door	45"	51"	53"	42-3/8"	47-1/8"

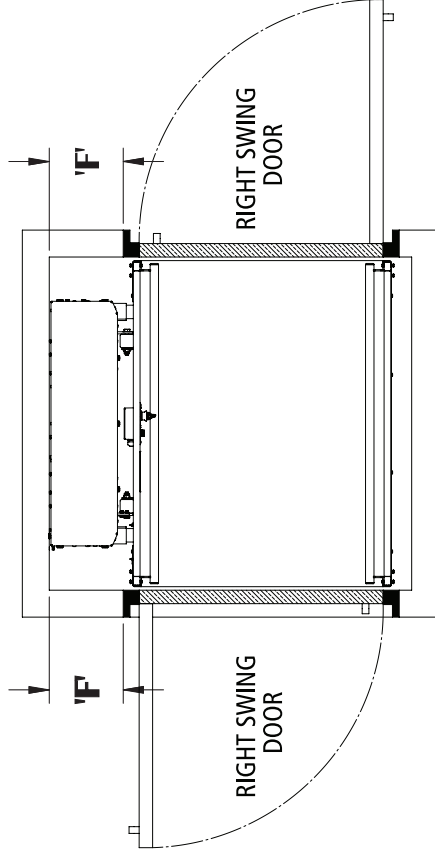
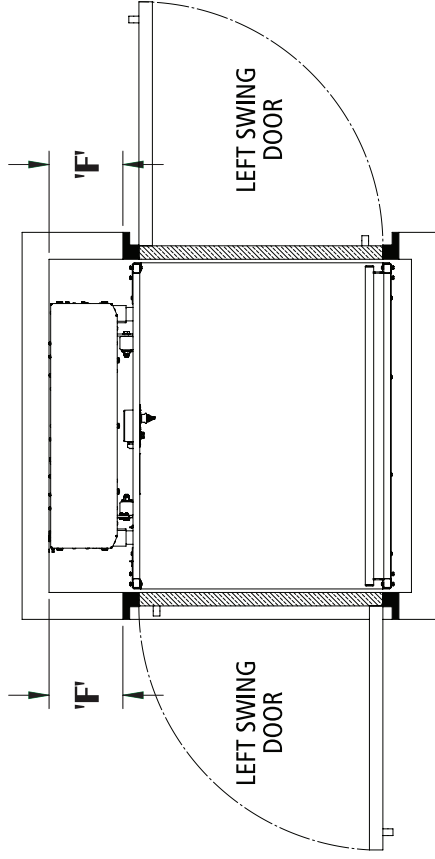


Notes:

1. Two pieces of vertical frame trim is included. Trim can be used as needed when installing the door.
2. Dealer to supply mounting hardware (i.e. screws, anchors).
3. Panel insert material is either clear acrylic or bronze acrylic. Panels are shipped with a protective paper to be removed by installer



Flush mount aluminum door alignment Straight through platform - plan views



Door Size	Door Location	Door Swing	LH Unit 'F'	RH Unit 'F'
36"	Lower landing	Left swing door	11-5/8"	9-1/8"
36"	Lower landing	Right swing door	9-1/8"	11-5/8"
36"	Upper landing	Left swing door	9-1/8"	11-5/8"
36"	Upper landing	Right swing door	11-5/8"	9-1/8"
45"	Lower landing	Left swing door	10-1/8"	7-5/8"
45"	Lower landing	Right swing door	7-5/8"	10-1/8"
45"	Upper landing	Left swing door	7-5/8"	10-1/8"
45"	Upper landing	Right swing door	10-1/8"	7-5/8"



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