

HYBRID LIFT DESIGN GUIDE

ASME A18.1



WELCOME

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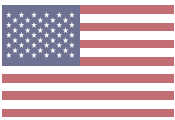
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ABOUT

CIBES SYMMETRY

Our company was founded in 2008, by an entrepreneurial group of people, driven by the vision of elevating life across the US. Today, Symmetry has become a household name for elevators in North America, with high rankings on the Forbes List for Best Home Elevators.

In 2022, we joined forces with global Swedish elevator manufacturer Cibes Lift Group and became Cibes Symmetry. Together, we offer you close to a century of consolidated knowledge, combining Swedish innovation and design with US craftsmanship and expertise. Our wide range of ADA and ASME compliant elevating solutions is manufactured in the US and in Sweden and distributed through our nationwide network of authorized dealers.



We provide beautifully crafted, expertly engineered accessibility related products across America. We market our residential elevators, home and commercial lifts, and low-rise commercial elevators through an exclusive network of carefully chosen Cibes Symmetry Partners.

Please note that this guide is for planning purposes only, applies exclusively to national code and should not be used for construction. Prior to construction, please contact your local Cibes Symmetry representative and request a job-specific set of plans to ensure that you obtain the accurate dimensions and requirements for your project.

Your representative will also assist you to identify resources to ensure that your project plans will comply with the applicable state and local codes and the permitting authorities.

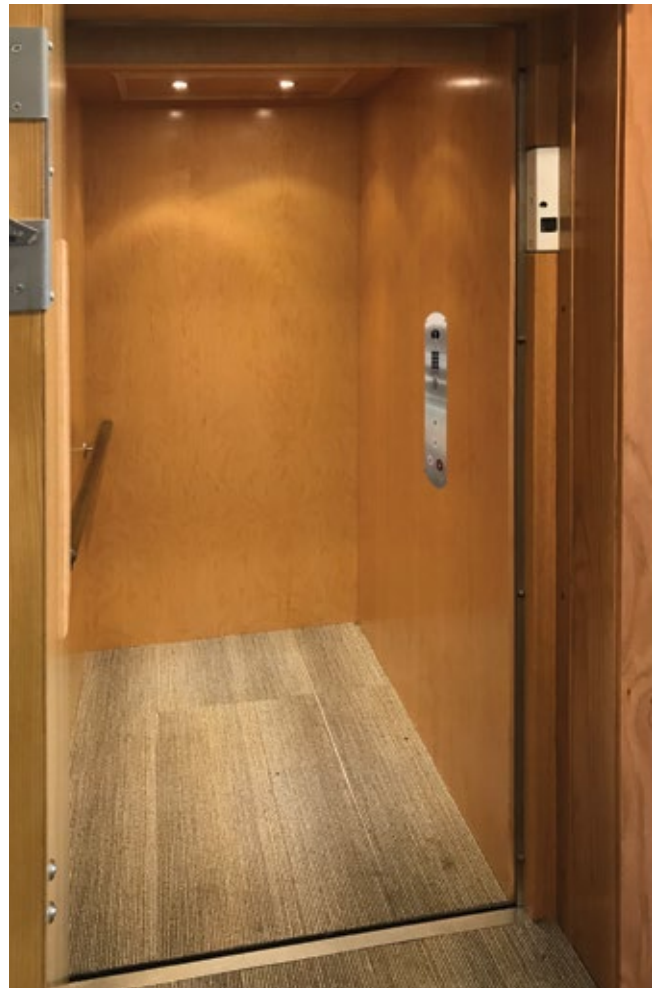
HYBRID LIFT OVERVIEW

WHAT IS A HYBRID LIFT?

For commercial use, Cibes Symmetry platform lifts eliminate the barrier that stairs can cause for people with limited mobility. A cost-effective solution, platform lifts create convenient access without compromising architectural character.

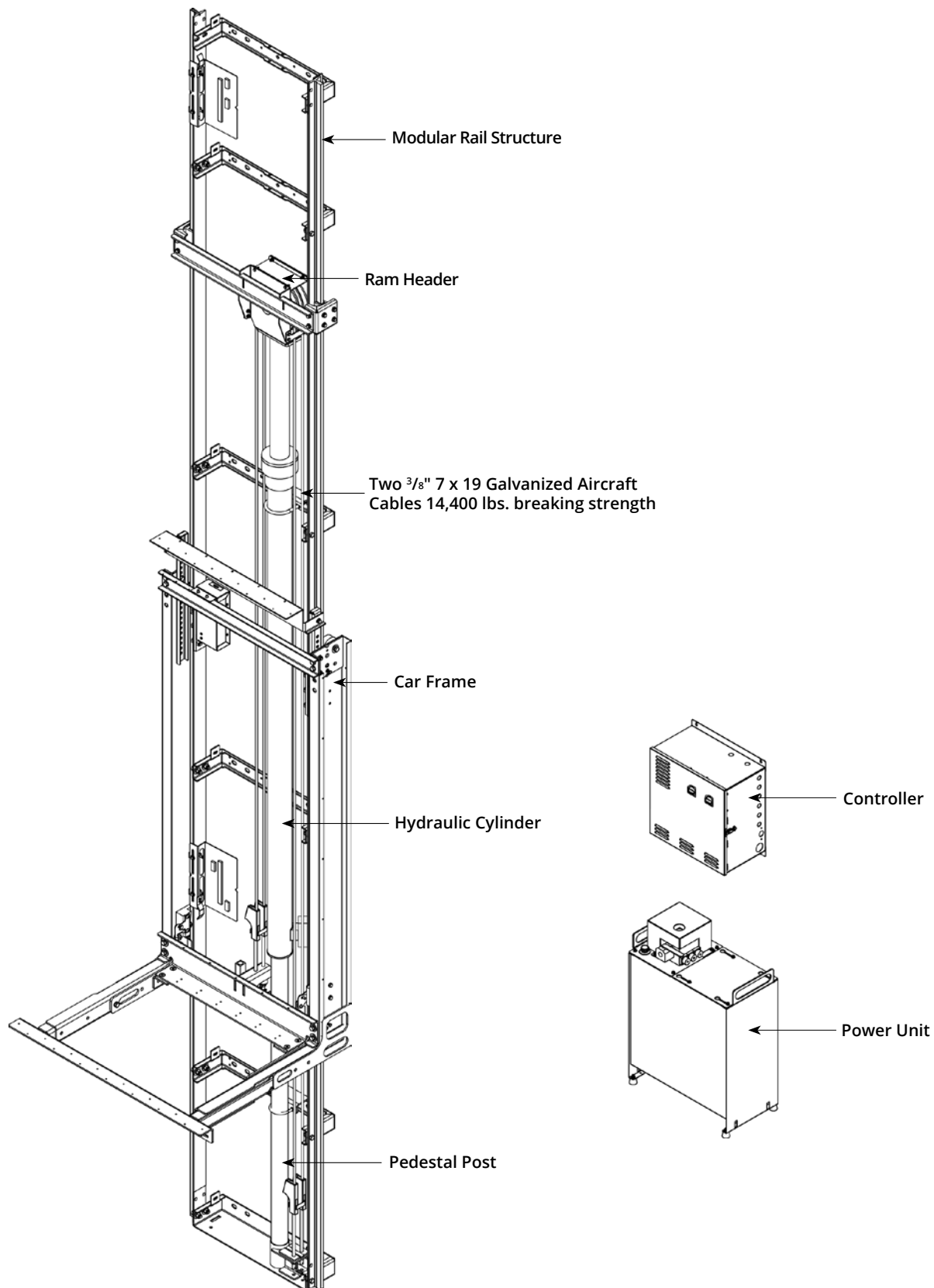
The Symmetry Hybrid Lift looks and feels like an elevator, but operates like a vertical platform lift. Available in many different sizes and configurations, Symmetry's Hybrid Lift features include full height platform walls, a non-load bearing ceiling, and a wide variety of optional features and finishes. Customize the doors and platform walls to match the style and decor of your commercial facility.

A Hybrid Lift features full-size platform walls. The platform walls can be built from wood or metal and customized to your personal preferences. Like an elevator, the Hybrid Lift also features handrails and fixtures, such as car operating panels and hall stations, available in a variety of materials and designs. Cibes Symmetry also offers the flexibility to select doors that perfectly accent the decor.



COMPONENT IDENTIFICATION

HYBRID LIFT



COMMON SPECIFICATIONS FOR HYBRID LIFT

Standard Features	
Travel	Maximum of 14' 0" (minimum 12" between stops)
Speed	30 fpm
Rated Capacity	750-1,000 lbs.
Pit Depth	6" minimum (8" preferred)
Stops	Two
Opening	Same Side
Overhead	94" minimum
Warranty	Three-year limited parts
Standard Features	
- Motor controller supply disconnects (located in controller) - Platform light supply disconnects (located in controller) - Pit stop switch - Top stop switch - Emergency stop switch and alarm - Battery backup emergency lights and alarm - Electromechanical hoistway door locking devices (doors by others)	
Controls	
- Programmable Logic Controller (PLC) - Hold-to-run operation - S.M.A.R.T. system (Self-Monitoring Alert Response Technology)* - Car Operating Panels (COP) with LED floor position indicator** - Hall stations with call button and LED floor position indicator** • Automatic platform lighting • Uninterruptible Power Supply (UPS) for emergency lowering in the event of a power failure*	
Platform Features	
- Platform sizes up to 18 square feet - 7' 0" interior wall height - Birch or Red Oak unfinished flat veneer interior walls - Brushed Stainless Steel handrail - Non-load bearing ceiling - Unfinished plywood floorboard (flooring by others) - Two energy-saving recessed LED lights with Black trim rings	

Equipment
- Modular 6 1/4 lb. T-rail structure - Car frame assembly - 208/230 VAC, 60Hz, 30 amp single-phase power supply for motor controller - 120 VAC, 60Hz, 15 amp, single-phase power supply - Roped Hydraulic Drive system with submersed power unit
Optional Features
- Stops: up to six - Custom interior wall heights - Wall Panel: Steel Panels, Wood Panels - Shaker, Recessed or Raised with matching ceiling - Four recessed LED lights with Black, White, Polished Brass, Brushed Nickel or Bronze trim rings - Factory-finished platform walls - Fixtures, including COPs, hall stations and handrails available in: - Polished or Blackened Stainless Steel - Brushed, Polished or Oil-Rubbed Solid Brass - Powder-coated Steel - ADA phone - Custom wood interiors - Buffer springs (require minimum of 7" 1/4" pit depth) - Key switch for COP and/or hall stations - Fire retardant on platform enclosure (required for units installed in fire-rated shafts) - Egg crate ceiling - Symmetry Locking Device (SLD) - Extended warranty - Fire rated steel landing doors - Power door operators
Enter/Exit Configurations
• Same Side standard • Straight-Through • 90°

*Denotes exclusive features

**Standard finish is Brushed Stainless Steel, but multiple finishes available

AVAILABLE WOOD PANEL OPTIONS



Flat Panel (Standard)



Shaker Panel



Recessed Panel



Raised Panel

TECHNICAL SPECIFICATIONS

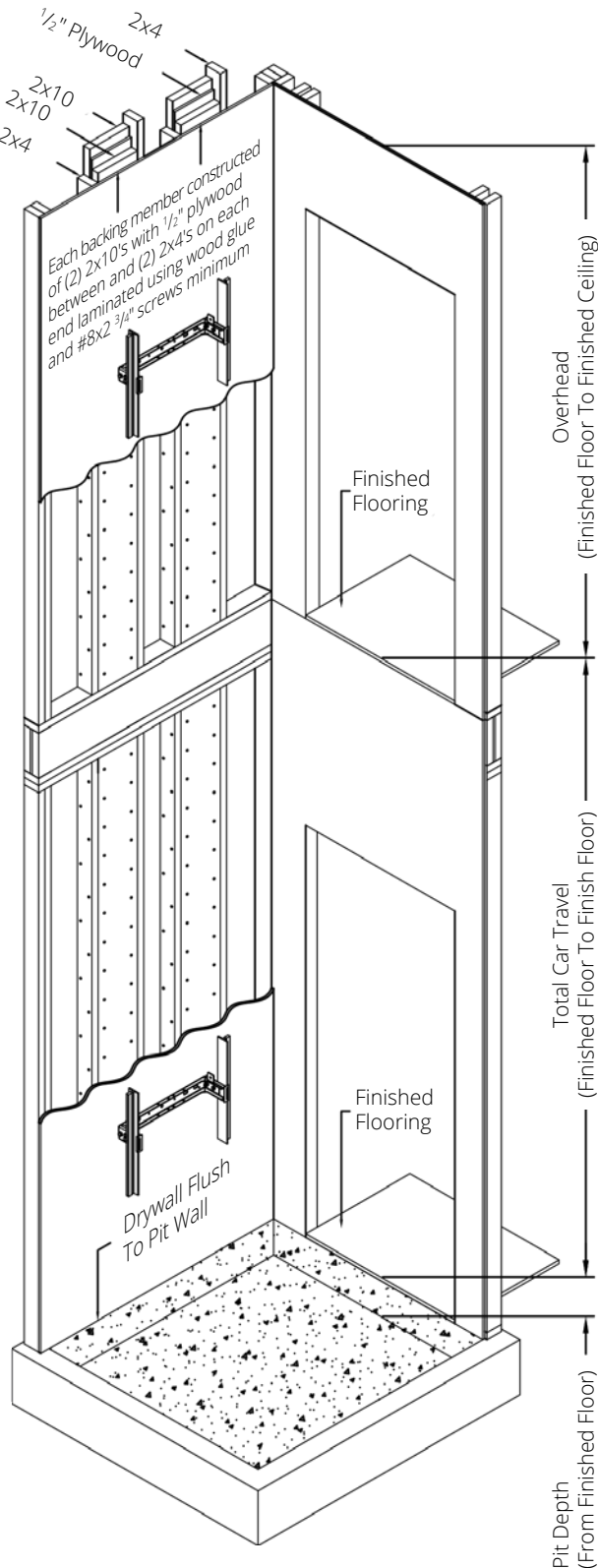
GENERAL APPLICATION RULES

These rules have been developed as a guideline and are based on the information supplied in ICC A117.1 and ASME A18.1. Please consult your local authority having jurisdiction regarding local codes and regulations.

Platforms	
36" x 52"	Minimum clear space on platform for most applications in new construction
36" x 48"	Minimum clear space on platform for existing construction (for A117.1 code year 2017 and prior)
42" x 60"	Minimum clear space on platform for 90° exits from an entry point in new construction
36" x 60"	Minimum clear space on platform for 90° exits in existing construction (for A117.1 code year 2017 and prior)
Doors	
32"	Minimum clear opening for a door accessing the lift from the narrow side.
42"	Minimum clear opening for a door accessing the lift from the wide side
- All doors require a minimum 18 inch latch side clearance. A greater distance may need to be provided as described in ICC A117.1 - Power operated doors are required in applications that are not straight-through, depending on approval and layout. This includes all applications servicing more than two landings - Doors must have 79 inches of clear inside height - Doors must be installed flush to the interior of the hoistway	
Pits	
- The minimum depth of a pit will be 6 inches (8 inches preferred) from the top of the finished floor to the highest point in the pit - Provide a pit floor capable of withstanding the impact load of 5,277 lbs. and the static load of 2,552 lbs - A light fixture, light switch, and GFCI duplex receptacle (provided by others) are required to comply with ASME A18.1 when the pit depth is greater than 6 inches. See code for full requirements	
Running Clearances	
- The running clearance on a side of the lift that will be used to enter/exit the lift must be $\frac{3}{8}$ inch minimum to $\frac{3}{4}$ inch maximum - The running clearance on a non-opening side of the platform must be 2 inches minimum	
Rail Backing & General Hoistway	
- Provide adequate rail backing per drawings. For vertical spans between floor systems that exceed 10 feet, please consult a structural engineer. The wall must be capable of supporting the static roller/rail loads without deflecting more than $\frac{1}{8}$ inch - The hoistway must be constructed square and plumb within $\frac{1}{8}$ inch tolerance throughout - The hoistway must be free of any obstructions not related to the operation of the lift. (i.e. sprinklers, pipes, ducts, etc.) - The structure of the hoistway must allow for installation of a chain hoist to transfer materials during installation	
Overhead	
Provide a minimum overhead of 94 inches for a 7'0" interior platform wall height	

HOISTWAY

TYPICAL RAIL BACKING CONSTRUCTION



Each backing member constructed of (2) 2x10's with 1/2 inch plywood between and (2) 2x4's, one on each side, all laminated together using a structural wood adhesive and a sufficient size and number of construction screws.

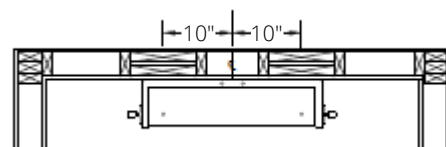
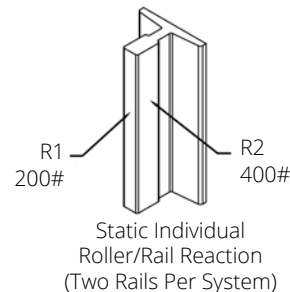
The assumptions made relative to the standard backing arrangement are a maximum span of 10', an approximate minimum wood modulus of elasticity of 1.9×10^6 psi, and the inclusion of the stiffening effect from the elevator's composite steel rail/wood backer structure as a function of the rail bracket spacing.

For best results, we recommend utilizing LVL (Laminated Veneer Lumber) for the 2x10's to achieve consistent and adequate mechanical properties and dimensions. Additionally, if using construction/framing lumber instead of LVL's, MSR 2400 (machine stress rated) specifications for the 2x10's and MSR 2100 specifications on the 2x4's are optional but not required. (These optional specifications implicitly apply the higher lab tested wood modulus requirements).

As a reference guideline for screw size and number, in our lab testing we used approximately 8.5 screws per foot of a #10 size construction screw, which provided adequate results.

The specified loads are based on the worst-case load condition of 1000# capacity and 925# car and frame weight and a 60 inch cantilever car.

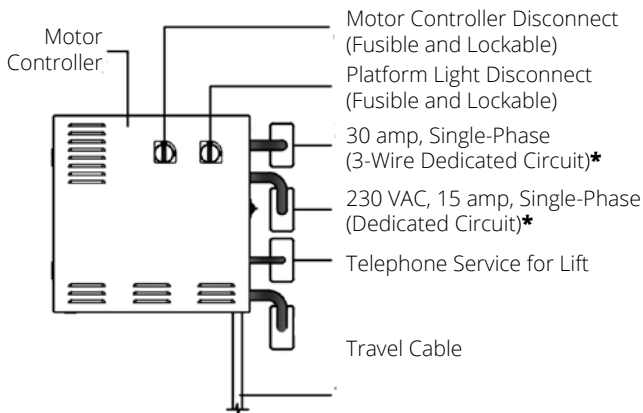
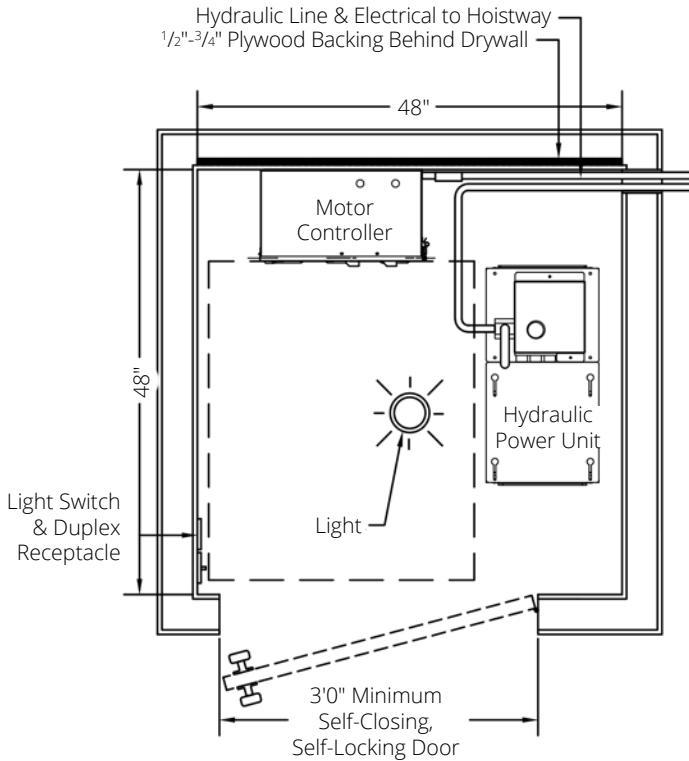
If the backer span exceeds 10 feet or if the backing construction and/or materials are not as specified, please contact a structural engineer. The backing members should be able to withstand the roller loads without deflecting more than 1/8 inch.



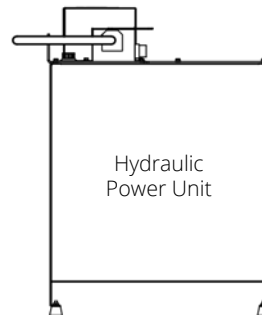
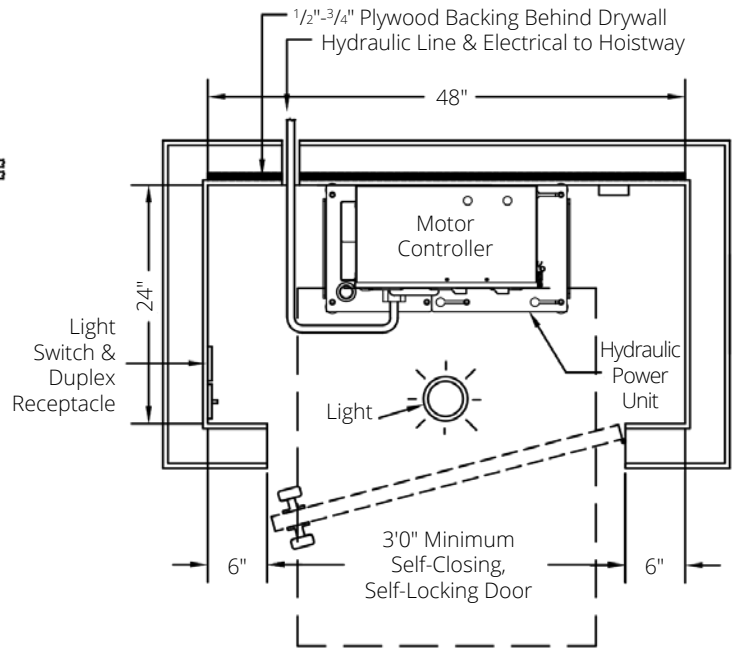
Typical Framework with Drywall Construction

HYDRAULIC DRIVE MACHINE ROOMS

STANDARD MACHINE ROOM



COMPACT MACHINE ROOM



Motor Controller
Standard-20"W x 18"H x 10"D
Alternate-22"W x 30"H x 8"D

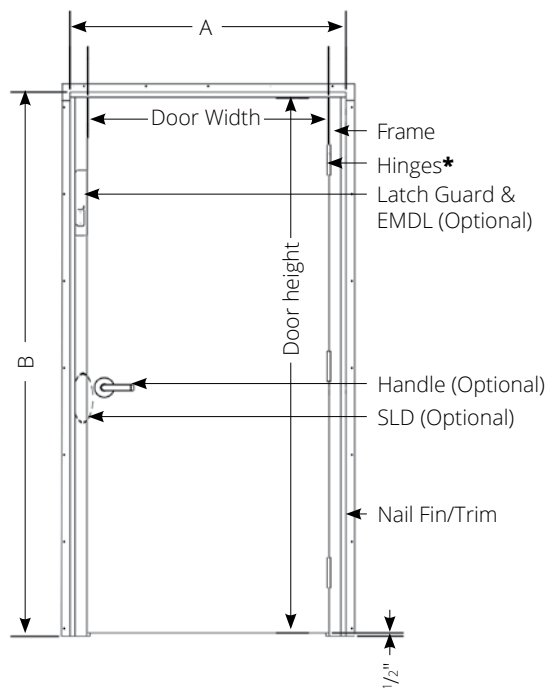
Hydraulic Power Unit
24 1/4" W x 33 1/2" H x 12 3/4" D

NOTES:

- 1) The vertical platform lift machine room location and layout must meet the code requirements defined by the local authority having jurisdiction
- 2) 30" wide x 36" deep clear working space in front of the motor controller as required by National Electrical Code (NFPA 70)
- 3) The light switch must be located on the strike side of the machine room door
- 4) The hydraulic power unit must be located within 40'0" of the cylinder
- 5) The machine room must be free of all equipment not related to the lift
- 6) The machine/control room temperature must be maintained between 50°F and 80°F

*Feeding breaker must not be a GFCI/AFCI

DOORS AND FRAME



Flush Door with Symmetry Locking Device (SLD)
(Door provided by others)



Flush Door with EMDL and Latch Guard



SLD Lock Plate



SLD Lock Body



Latch Guard (Exterior View)
(Door provided by others)



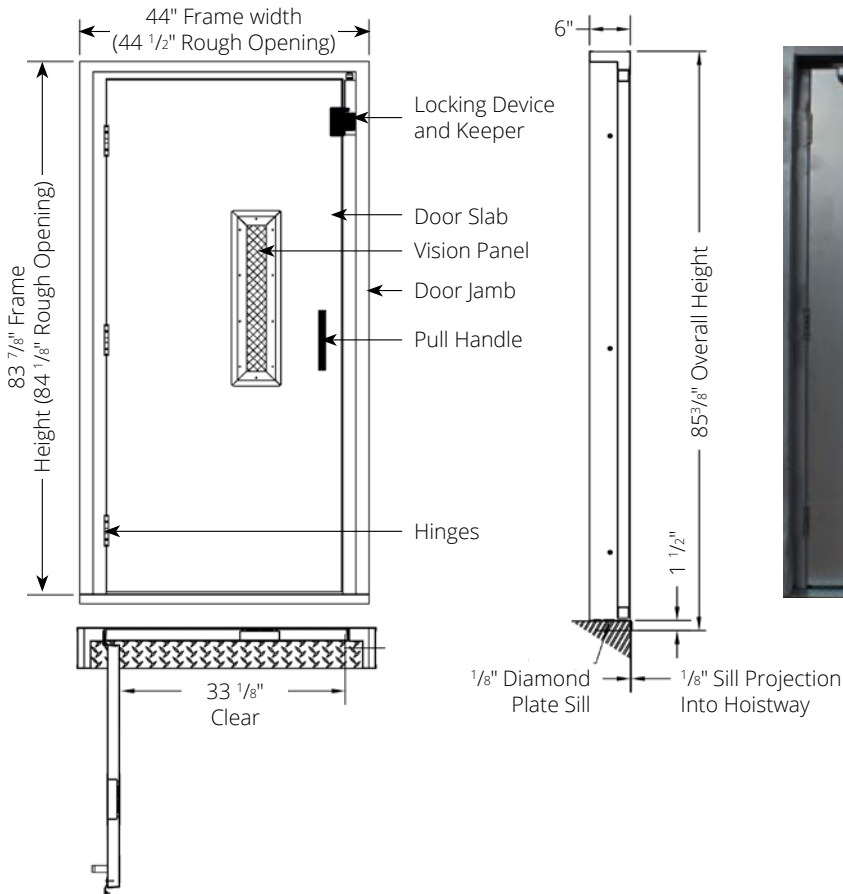
Electro-Mechanical Interlock (EMDL)

36" Wide x 80" Tall Door				
	Frame Size		Rough Opening	
Lock	A	B	A	B
EMDL	41 1/4"	81 3/8" **	42 1/4"	81 7/8" **
SLD	38 1/4"	81 3/8"	39 1/4"	81 7/8"
36" Wide x 95" Tall Door				
Lock	A	B	A	B
EMDL	41 1/4"	96 3/8" **	42 1/4"	96 7/8" **
SLD	38 1/4"	96 3/8"	39 1/4"	96 7/8"

- NOTES:**
- 1) The door/frame is suitable for installation in masonry or wood frame construction
 - 2) The door/frame is installed with the door flush to the inside of the hoistway
 - 3) The interior hoistway wall should be finished up to the rough opening
 - 4) Available as a frame only or complete door with frame
- *Hinges provided only with complete door package*
- **The Frame/ Rough Opening height increases for an EMDL frame w/closer (headed)*

(B-LABEL)

1 1/2 HOUR FIRE-RATED FLUSH DOOR



NOTES:

- 1) RH shown LH opposite
- 2) Door suitable for installation in masonry or wood frame construction
- 3) Install door frame body flush with the inside of the hoistway
- 4) Distance between the door sill and the platform must be between 3/8"-3/4"
- 5) Delay action door closer or power door operator required for code compliance
- 6) For wood frame construction, drywall is to be finished up to the door frame



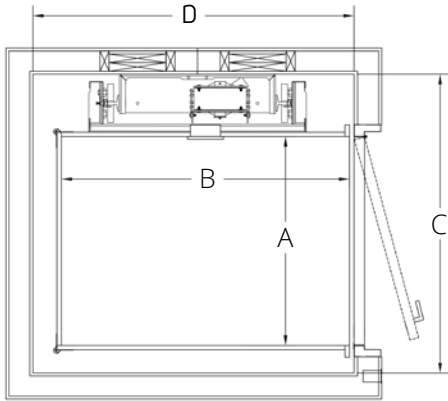
POWER DOOR OPERATOR

STANDARD FEATURES

- In all enter/exit same side or some 90° applications, the doors are required to have an automatic door operator
- Indoor or outdoor use with cover
- Automatic reopen/reclose upon contact with an obstruction
- Opening/closing time: Approximately 8 seconds
- Adjustable hold open time
- Capable of manual pull to open
- Low-energy operator
- Power-open
- Spring-close
- Self-monitoring microprocessor-based control

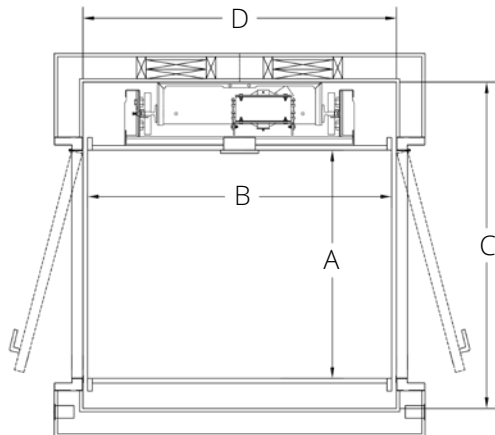
SIZES AND DIMENSIONS CONFIGURATIONS

SAME SIDE



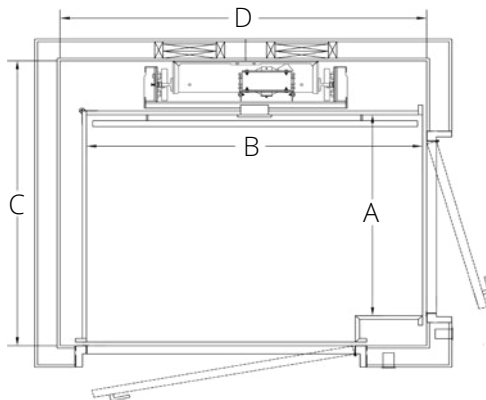
Clear Platform Width A	Clear Platform Length B	Finished Hoistway Width C	Finished Hoistway Length D
36"	48"	50 1/2"	52"
36"	54"	50 1/2"	58"
36"	60"	50 1/2"	64"
42"	60"	56 1/2"	64"
40"	54"	54 1/2"	58"

STRAIGHT-THROUGH



Clear Platform Width A	Clear Platform Length B	Finished Hoistway Width C	Finished Hoistway Length D
36"	48"	50 1/2"	49 1/2"
36"	54"	50 1/2"	55 1/2"
36"	60"	50 1/2"	61 1/2"
42"	60"	56 1/2"	61 1/2"
40"	54"	54 1/2"	55 1/2"

90°



Clear Platform Width A	Clear Platform Length B	Finished Hoistway Width C	Finished Hoistway Length D
36"	60"	53 1/2"	64 1/2"
42"	60"	59 1/2"	64 1/2"

NOTE:

In a 90° Exit Configuration 36" x 60" is only available for code years prior to 2009

Please note that this guide is for planning purposes only, applies exclusively to national code and should not be used for construction. Prior to construction, please contact your local Cibes Symmetry representative and request a job-specific set of Hybrid Lift plans to ensure that you obtain the accurate dimensions and requirements for your project.

Your representative will also assist you to identify resources to ensure that your project plans will comply with the applicable state and local codes and the permitting authorities.

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CONTACT US

cibessymmetry.com

10000 N Galena Rd Peoria IL 61615

877-375-1428