



VERTICAL EXPRESS



ELEVATOR PLANNING GUIDE

OUR COMMITMENT TO CUSTOMERS

At Vertical Express, our products safely keep you on the move. We are your best source for elevators, elevator modernizations, components and parts. Our elevators feature the latest in technology and are some of the most reliable and efficient on the market.

Vertical Express is a subsidiary of thyssenkrupp Elevator. Vertical Express sells and distributes non-proprietary elevator systems, products, components, equipment and parts that are manufactured by thyssenkrupp Elevator to independent elevator companies throughout North America.





HYDRAULIC ELEVATORS

Hydraulic elevators deliver an economical, comfortable and reliable way to move people. Since 1937, our hydraulic elevator system has been the standard for quality and reliability. Our hydraulic elevators can be configured to meet your building specifications and are customizable with a variety of interior cab and fixture designs.

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HYDRAULIC

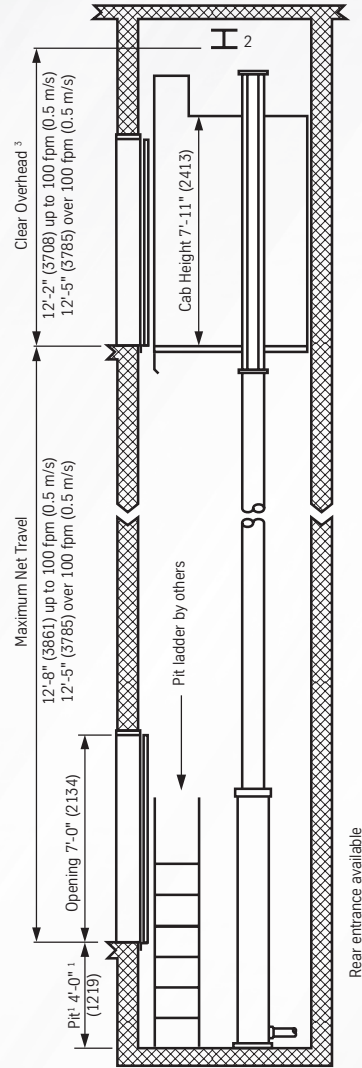
Holeless Twinpost and Telescopic Passenger Elevator Hoistway Section Views

Vertical Express offers a full line of holeless hydraulic elevators in a wide variety of sizes and speeds.

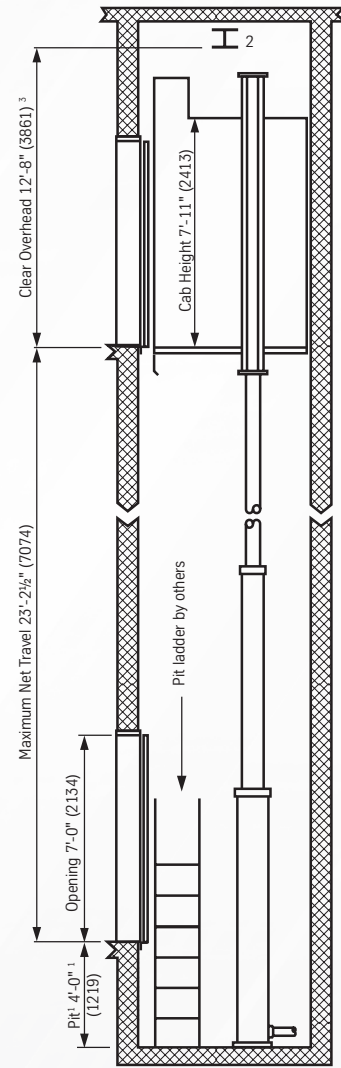
With our three-stage telescoping holeless jacks, your elevators reach heights never before offered on any Vertical Express holeless model. In fact, the 3-stage telescoping jack allows travel up to 20 feet higher than previous product offerings.

Contact your Vertical Express representative for assistance in determining your exact elevator needs.

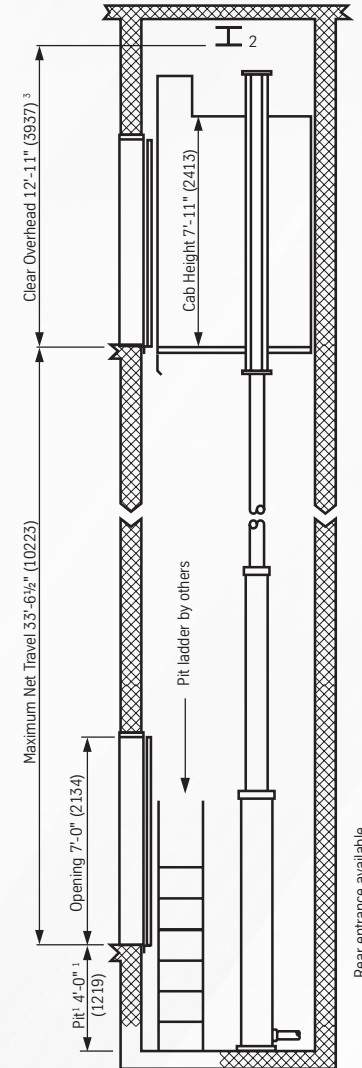
TWINPOST HOLELESS



TWINPOST TELESCOPIC (2-STAGE)



TWINPOST TELESCOPIC (3-STAGE)



NOTE: All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

7'-4" clear ceiling height.

- 1 Pit: 5'-2" in Ontario.
- 2 Safety beam required per OSHA 1926.502, provided and installed by others, as directed by Vertical Express. Clear overhead is shown to the bottom of the safety beam.
- 3 Maximum 2'-0" (610) allowed in overhead. If safety beams (by others) are used, they must not encroach into required clear overhead dimensions.

Additional Travel: Pit and / or overhead³ must be increased 1" (25) for every 1" (25) of net travel over 12'-8" (3861) [13'-10" (4216) in Ontario] up to 18'-11" (5766) at 100 fpm (0.5 m/s) or less. Pit must be increased 1" (25) for every 1" (25) of net travel over 12'-5" (3785) [13'-7" (4140) in Ontario] up to 18'-8" (5690) above 100 fpm (0.5 m/s).

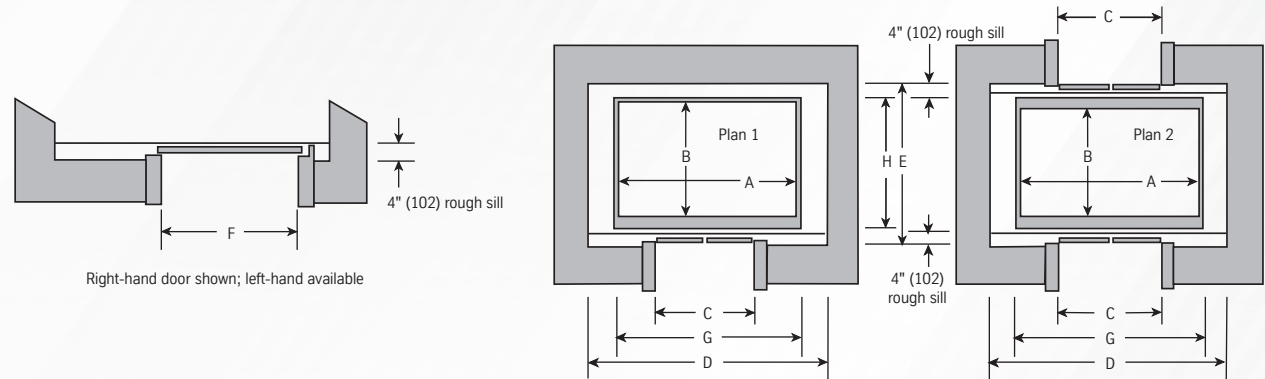
Additional Travel: Pit and / or overhead³ depth increases 1" (25) for every 2" (51) increase over 23'-2½" (7074) net travel [25'-6½" (7785) in Ontario] up to 28'-6" (8686) net travel.

Additional Travel: Pit and / or overhead³ depth increases 1" (25) for every 3" (77) increase over 33'-6½" (10223) net travel [37'-0½" (11290) in Ontario] up to 48'-3½" (14719). Add 4" (102) additional hoistway width for a 3-stage telescopic-jack application.

HYDRAULIC

Low- and Mid-Rise Holeless Passenger Elevators

Holeless models are available with maximum net travel of 33'-6½", based on standard pits and overheads. Additional travel is possible by increasing the pit and overhead (maximum pit is 8'-0").



Hydraulic Elevators for Low- and Mid-Rise Buildings: Holeless Passenger Elevators

| Capacity | | Clear Inside Width (A) | Clear Inside Depth (B) | Center-Opening Car Door Width (C) | Hoistway Width (D) ¹ | Hoistway Depth (E) | Single-Speed Car Door Width (F) | Platform Width (G) | Platform Depth (H) |
|------------------------------------|--------|------------------------|------------------------|-----------------------------------|---------------------------------|--------------------|---------------------------------|--------------------|--------------------|
| 2100 lb. (953 kg) | PLAN 1 | 5'-8" (1727) | 4'-3" (1295) | N/A ² | 7'-4" (2235) | 5'-9" (1753) | 3'-0" (914) | 6'-0" (1829) | 5'-1" (1550) |
| | PLAN 2 | 5'-8" (1727) | 4'-3½" (1308) | N/A ² | 7'-4" (2235) | 6'-8¾" (2051) | 3'-0" (914) | 6'-0" (1829) | 5'-8¼" (1734) |
| 2500 lb. (1134 kg) | PLAN 1 | 6'-8" (2032) | 4'-3" (1295) | 3'-6" (1067) | 8'-4" (2540) | 5'-9" (1753) | 3'-6" (1067) | 7'-0" (2134) | 5'-1" (1550) |
| | PLAN 2 | 6'-8" (2032) | 4'-3½" (1308) | 3'-6" (1067) | 8'-4" (2540) | 6'-8¾" (2051) | 3'-6" (1067) | 7'-0" (2134) | 5'-8¼" (1734) |
| 3000 lb. (1361 kg) | PLAN 1 | 6'-8" (2032) | 4'-9" (1448) | 3'-6" (1067) | 8'-4" (2540) | 6'-3" (1905) | 3'-6" (1067) | 7'-0" (2134) | 5'-7" (1702) |
| | PLAN 2 | 6'-8" (2032) | 4'-9½" (1460) | 3'-6" (1067) | 8'-4" (2540) | 7'-2¾" (2203) | 3'-6" (1067) | 7'-0" (2134) | 6'-2¼" (1886) |
| 3500 lb. ³ (1588 kg) | PLAN 1 | 6'-8" (2032) | 5'-5" (1651) | 3'-6" (1067) | 8'-4" (2540) | 6'-11" (2108) | 3'-6" (1067) | 7'-0" (2134) | 6'-3" (1905) |
| | PLAN 2 | 6'-8" (2032) | 5'-5½" (1664) | 3'-6" (1067) | 8'-4" (2540) | 7'-10¾" (2407) | 3'-6" (1067) | 7'-0" (2134) | 6'-10¼" (2089) |
| 4000 lb. ³ (1814 kg) | PLAN 1 | 7'-8" (2337) | 5'-5" (1651) | 4'-0" (1219) | 9'-4" (2845) | 6'-11" (2108) | 3'-6" (1067) | 8'-0" (2438) | 6'-3" (1905) |
| | PLAN 2 | 7'-8" (2337) | 5'-5½" (1664) | 4'-0" (1219) | 9'-4" (2845) | 7'-10¾" (2407) | 3'-6" (1067) | 8'-0" (2438) | 6'-10¼" (2089) |

NOTE: Plan 1 is front-door opening, Plan 2 is front- and rear-door opening.

For multiple elevators, add 4" (102) for a divider beam between hoistways.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

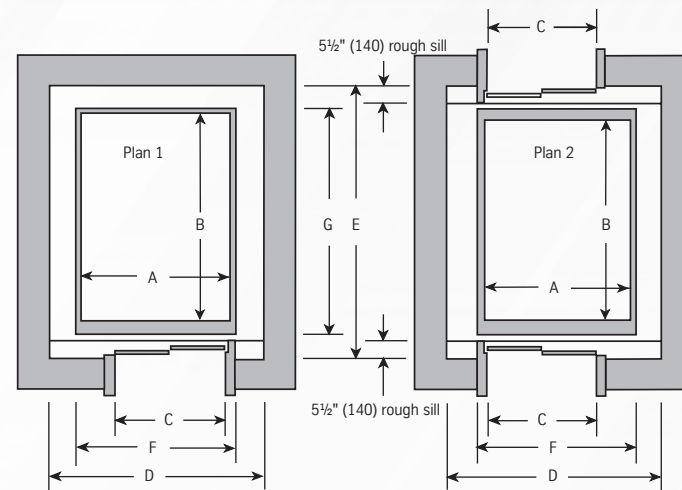
- 1 Add 4" (102) additional hoistway width for a 3-stage telescopic-jack application.
- 2 Center-opening doors not available on this model, see "F" dimensions.
- 3 To meet the requirements of IBC code for 84" stretchers, a 4'-0" center-opening (for 4000 lb. capacity only) or 3'-6" side-opening (for 3500 lb. or 4000 lb. capacity) door is required.
- 4 Speeds and travel limitations may vary depending upon specific job.

| | Available Speeds ⁴ | | | | |
|-------------------------------|-------------------------------|--------------------|---------------------|---------------------|---------------------|
| | 80 fpm 0.4 m/s | 100 fpm 0.5 m/s | 110 fpm 0.55 m/s | 125 fpm 0.65 m/s | 150 fpm 0.75 m/s |
| TWINPOST HOLELESS | ● | | ● | | ● |
| TWINPOST TELESCOPIC (2-STAGE) | ● | | ● | | ● |
| TWINPOST TELESCOPIC (3-STAGE) | ● | ● | | ● | ● |

HYDRAULIC

Holeless Passenger Elevators for Patient Care Facilities

The 4500 and 5000 lb. models offer economical, dependable service to hospitals, nursing homes and other buildings that require combination service / passenger elevators where drilling a jack hole is not desirable. The 5000H is now the standard size elevator that meets AIA requirements for hospitals.



Two-speed doors; both left and right hand available

Hydraulic Elevators for Patient Care Facilities: Holeless Passenger Elevators

| Capacity | | Clear Inside Width (A) | Clear Inside Depth (B) | Car Door Width (C) | Optional Car Door Width (C) | Hoistway Width (D) ¹ | Optional Hoistway Width (D) ³ | Hoistway Depth (E) | Platform Width (F) | Platform Depth (G) |
|------------------------|--------|------------------------|------------------------|--------------------|-----------------------------|---------------------------------|--|--------------------|--------------------|--------------------|
| 4500 lb. (2021 kg) | PLAN 1 | 5'-8" (1727) | 7'-9½" (2375) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 9'-6½" (2908) | 6'-0" (1829) | 8'-9" (2667) |
| | PLAN 2 | 5'-8" (1727) | 7'-10" (2388) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-9¼" (3283) | 6'-0" (1829) | 9'-5¾" (2889) |
| 5000 lb. (2268 kg) | PLAN 1 | 5'-8" (1727) | 8'-5" (2565) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-2" (3099) | 6'-0" (1829) | 9'-4½" (2858) |
| | PLAN 2 | 5'-8" (1727) | 8'-5½" (2578) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 11'-4¾" (3473) | 6'-0" (1829) | 10'-1¼" (3080) |
| 5000H lb. (2268 kg) | PLAN 1 | 5'-8" (1727) | 9'-0" (2743) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-9" (3277) | 6'-0" (1829) | 9'-11½" (3035) |
| | PLAN 2 | 5'-8" (1727) | 9'-0½" (2756) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 11'-11¾" (3651) | 6'-0" (1829) | 10'-8¼" (3258) |

NOTE: Plan 1 is front-door opening, Plan 2 is front-and rear-door opening.

For multiple elevators, add 4" (102) for a divider beam between hoistways.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

- 1 Add 4" (102) additional hoistway width for a 3-stage telescopic-jack application.
- 2 Speeds and travel limitations may vary depending upon specific job.
- 3 Required with 4'-6" (1372) doors. Add 2" (51) additional hoistway width for a 3-stage telescopic-jack application.

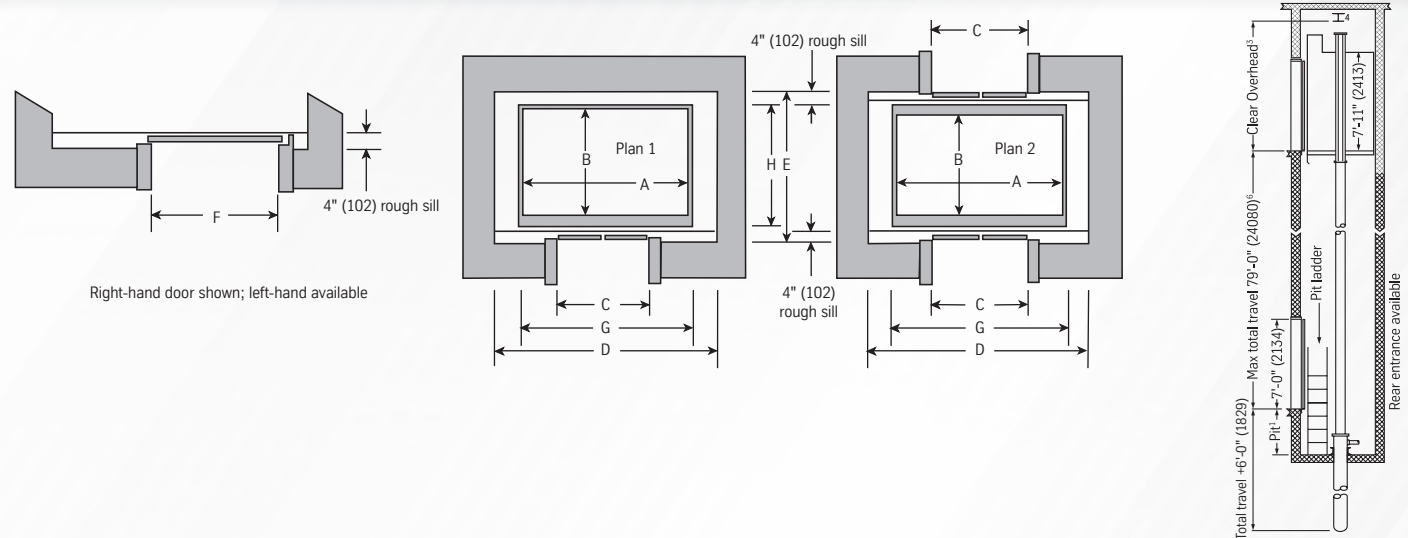
Available Speeds²

| | 80 fpm 0.4 m/s | 100 fpm 0.5 m/s | 110 fpm 0.55 m/s | 125 fpm 0.65 m/s | 150 fpm 0.75 m/s |
|--------------------------------------|-------------------|--------------------|---------------------|---------------------|---------------------|
| TWINPOST HOLELESS | ● | | ● | | ● |
| TWINPOST TELESCOPIC (2-STAGE) | ● | | ● | | ● |
| TWINPOST TELESCOPIC (3-STAGE) | ● | ● | | ● | ● |

HYDRAULIC

Low- and Mid-Rise Holed Passenger Elevators

Vertical Express offers a 4000 lb. model to meet stretcher requirements of the 2006 International Building Code. This model allows a stretcher or wheelchair to be rolled into the elevator, turned 90° and then rolled out.



Hydraulic Elevators for Low- and Mid-Rise Buildings: Holed Passenger Elevators

| Capacity | | Clear Inside Width (A) | Clear Inside Depth (B) | Center-Opening Car Door Width (C) | Hoistway Width (D) | Hoistway Depth (E) | Single-Speed Car Door Width (F) | Platform Width (G) | Platform Depth (H) |
|------------------------------------|--------|------------------------|------------------------|-----------------------------------|--------------------|--------------------|---------------------------------|--------------------|--------------------|
| 2100 lb. (953 kg) | PLAN 1 | 5'-8" (1727) | 4'-3" (1295) | N/A ² | 7'-4" (2235) | 5'-9" (1753) | 3'-0" (914) | 6'-0" (1829) | 5'-1" (1550) |
| | PLAN 2 | 5'-8" (1727) | 4'-3½" (1308) | N/A ² | 7'-4" (2235) | 6'-8¾" (2051) | 3'-0" (914) | 6'-0" (1829) | 5'-8¼" (1734) |
| 2500 lb. (1134 kg) | PLAN 1 | 6'-8" (2032) | 4'-3" (1295) | 3'-6" (1067) | 8'-4" (2540) | 5'-9" (1753) | 3'-6" (1067) | 7'-0" (2134) | 5'-1" (1550) |
| | PLAN 2 | 6'-8" (2032) | 4'-3½" (1308) | 3'-6" (1067) | 8'-4" (2540) | 6'-8¾" (2051) | 3'-6" (1067) | 7'-0" (2134) | 5'-8¼" (1734) |
| 3000 lb. (1361 kg) | PLAN 1 | 6'-8" (2032) | 4'-9" (1448) | 3'-6" (1067) | 8'-4" (2540) | 6'-3" (1905) | 3'-6" (1067) | 7'-0" (2134) | 5'-7" (1702) |
| | PLAN 2 | 6'-8" (2032) | 4'-9½" (1460) | 3'-6" (1067) | 8'-4" (2540) | 7'-2¾" (2203) | 3'-6" (1067) | 7'-0" (2134) | 6'-2¼" (1886) |
| 3500 lb. ⁵ (1588 kg) | PLAN 1 | 6'-8" (2032) | 5'-5" (1651) | 3'-6" (1067) | 8'-4" (2540) | 6'-11" (2108) | 3'-6" (1067) | 7'-0" (2134) | 6'-3" (1905) |
| | PLAN 2 | 6'-8" (2032) | 5'-5½" (1664) | 3'-6" (1067) | 8'-4" (2540) | 7'-10¾" (2407) | 3'-6" (1067) | 7'-0" (2134) | 6'-10¼" (2089) |
| 4000 lb. ⁵ (1814 kg) | PLAN 1 | 7'-8" (2337) | 5'-5" (1651) | 4'-0" (1219) | 9'-4" (2845) | 6'-11" (2108) | 3'-6" (1067) | 8'-0" (2438) | 6'-3" (1905) |
| | PLAN 2 | 7'-8" (2337) | 5'-5½" (1664) | 4'-0" (1219) | 9'-4" (2845) | 7'-10¾" (2407) | 3'-6" (1067) | 8'-0" (2438) | 6'-10¼" (2089) |

| Available Speeds ⁷ | | | | | |
|-------------------------------|--------------------|---------------------|---------------------|--------------------|------------------|
| 80 fpm 0.4 m/s | 100 fpm 0.5 m/s | 125 fpm 0.65 m/s | 150 fpm 0.75 m/s | 175 fpm 0.9 m/s | 200 fpm 1 m/s |
| ● | ● | ● | ● | ● | ● |

NOTE: Plan 1 is front-door opening, Plan 2 is front and rear-door opening.

For multiple elevators, add 4" (102) for a divider beam between hoistways.

If safety beams (by others) are used, they must not encroach into required clear overhead dimensions.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

- 1 Pit: 4'-0" (1219), 5'-2" (1575) in Ontario.
- 2 Center-opening doors not available on this model. See "F" dimensions.
- 3 12'-0" (3658) up to 100 fpm (.5 m/s), 12'-3" (3734) over 100 fpm (.5 m/s). If rule 2.14.1.7.1 of the ASME A17.1 safety code applies, and car top railing is required, then clear overhead requirements become 12'-5" up to 100 fpm (3786 up to 0.5 m/s) and 12'-8" over 100 fpm (3862 over 0.5 m/s).

4 Safety beam required per OSHA 1926.502, provided and installed by others, as directed by Vertical Express. Clear overhead is shown to the bottom of the safety beam.

5 To meet the requirements of IBC code for 84" stretchers, a 4'-0" center-opening (for 4000 lb. capacity only) or 3'-6" side-opening (for 3500 lb. or 4000 lb. capacity) door is required. 3500 Plan 2 door must be diagonally opposite.

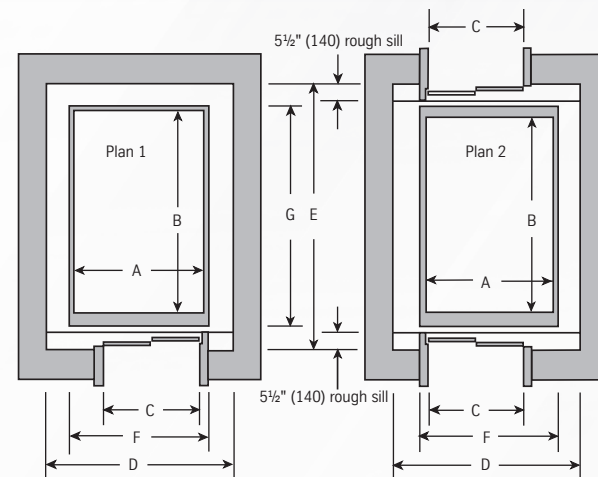
6 Travel limitations vary depending on model.

7 Speeds limitations may vary depending upon specific job.

HYDRAULIC

Holed Passenger Elevators for Patient Care Facilities

Our hospital-sized applications offer economical, dependable service to any patient care facility or other building that requires more platform area to transport gurneys or equipment. We have designed several pre-engineered plans to meet the specific needs of these projects.



Two-speed doors; both left and right hand available

Hydraulic Elevators for Patient Care Facilities: Holed Passenger Elevators

| Capacity | | Clear Inside Width (A) | Clear Inside Depth (B) | Car Door Width (C) | Optional Car Door Width (C) | Hoistway Width (D) | Optional Hoistway Width (D) ¹ | Hoistway Depth (E) | Platform Width (F) | Platform Depth (G) |
|------------------------|--------|------------------------|------------------------|--------------------|-----------------------------|--------------------|--|--------------------|--------------------|--------------------|
| 4500 lb. (2021 kg) | PLAN 1 | 5'-8" (1727) | 7'-9½" (2375) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 9'-6½" (2908) | 6'-0" (1829) | 8'-9" (2667) |
| | PLAN 2 | 5'-8" (1727) | 7'-10" (2388) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-9¼" (3283) | 6'-0" (1829) | 9'-5¾" (2889) |
| 5000 lb. (2268 kg) | PLAN 1 | 5'-8" (1727) | 8'-5" (2565) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-2" (3099) | 6'-0" (1829) | 9'-4½" (2858) |
| | PLAN 2 | 5'-8" (1727) | 8'-5½" (2578) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 11'-4¾" (3473) | 6'-0" (1829) | 10'-1¼" (3080) |
| 5000H lb. (2268 kg) | PLAN 1 | 5'-8" (1727) | 9'-0" (2743) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 10'-9" (3277) | 6'-0" (1829) | 9'-11½" (3035) |
| | PLAN 2 | 5'-8" (1727) | 9'-0½" (2756) | 4'-0" (1219) | 4'-6" (1372) | 7'-4" (2235) | 8'-2" (2489) | 11'-11¾" (3651) | 6'-0" (1829) | 10'-8¼" (3258) |

NOTE: Plan 1 is front-door opening, Plan 2 is front- and rear-door opening.

For multiple elevators, add 4" (102) for a divider beam between hoistways.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from

the national codes. Consult your local Vertical Express representative for details.

In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

Required with 4'-6" (1372) doors.

Speeds and travel limitations may vary depending upon specific job.

1
2

Available Speeds²

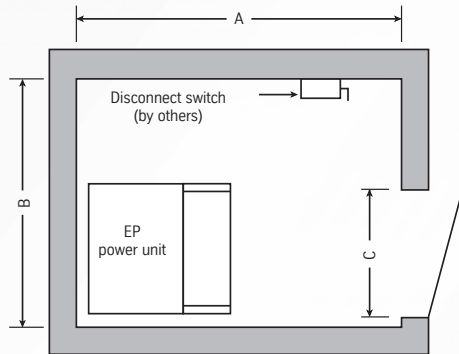
| 80 fpm 0.4 m/s | 100 fpm 0.5 m/s | 125 fpm 0.65 m/s | 150 fpm 0.75 m/s | 175 fpm 0.9 m/s | 200 fpm 1 m/s |
|-------------------|--------------------|---------------------|---------------------|--------------------|------------------|
| ● | ● | ● | ● | ● | ● |

HYDRAULIC

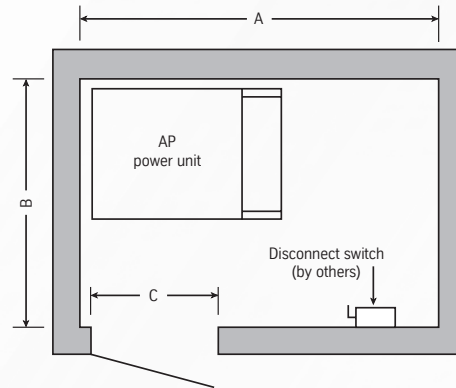
Machine Rooms

All Vertical Express hydraulic elevators come in a wide variety of speeds, capacities and travel heights. These options determine the size and horsepower of the power unit, which in turn determines the size of the machine room. The most desirable machine room location is on the lowest floor served, adjacent to the elevator hoistway. If necessary, it may be located remotely from the hoistway. To determine the correct power unit and machine room size and location, consult your Vertical Express representative.

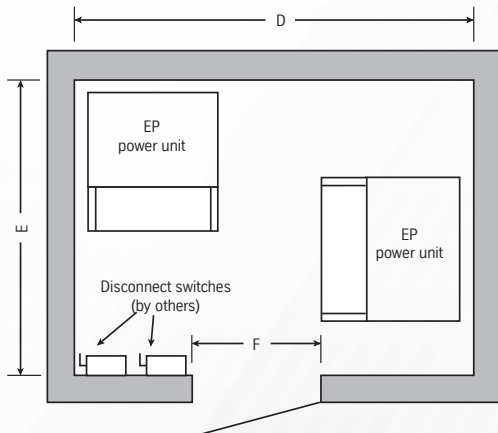
SINGLE CAR WITH EP UNIT



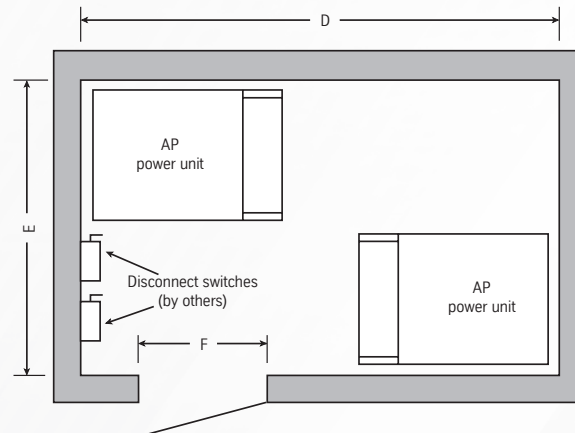
SINGLE CAR WITH AP UNIT



TWO CARS WITH EP UNITS



TWO CARS WITH AP UNITS



Single Car Machine Room Dimensions

| Power Unit | Depth (A) | Width (B) | Opening (C) ¹ |
|------------------|---------------|---------------|--------------------------|
| EP1 ² | 6'-5" (1956) | 6'-1" (1854) | 3'-6" (1067) |
| EP2 ² | 7'-2" (2184) | 7'-1½" (2172) | 4'-0" (1219) |
| AP1 ² | 7'-10" (2388) | 5'-6" (1676) | 3'-6" (1067) |
| AP2 ² | 9'-10" (2997) | 5'-6" (1676) | 4'-0" (1219) |

Two-Car Machine Room Dimensions

| Power Unit | Depth (D) | Width (E) | Opening (F) ¹ |
|------------------|----------------|----------------|--------------------------|
| EP1 ² | 9'-5" (2870) | 9'-5" (2870) | 3'-6" (1067) |
| EP2 ² | 10'-5½" (3188) | 10'-5½" (3188) | 4'-0" (1219) |
| AP1 ² | 10'-8" (3251) | 6'-6" (1981) | 3'-6" (1067) |
| AP2 ² | 14'-7" (4445) | 7'-0¾" (2153) | 4'-0" (1219) |

NOTE: EP power units are submersible and AP units are dry.

Dimensions may vary based on specific project requirements.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

- Minimum door width.
- EP1 units pump up to 190 gallons (719 L) per minute (Larger horsepower could require larger machine room — consult factory).
EP2 units pump from 215 gallons (815 L) to 260 gallons (984 L) per minute.
AP1 units pump up to 215 gallons (815 L) per minute.
AP2 units pump from 216 gallons (819 L) to 350 gallons (1327 L) per minute.

FREIGHT

Dependability: A Freight Elevator's Most Important Feature

Vertical Express manufactures freight elevators in all sizes, capacities and finishes to handle every factory, warehouse and industrial job in the most economical and efficient manner possible.

Vertical Express' freight applications include the following standard features:

- 14-gauge steel wall panels to full car height
- Solid metal 14-gauge top with safety exit
- Non-skid steel platform

- Vertical counter-balanced car gates of 10-gauge welded wire mesh, reinforced with bar stock (suitable for applications with manual door operation only). Manual gates include weight boxes of 11-gauge sheet steel with built-in guides and removable weight access panel

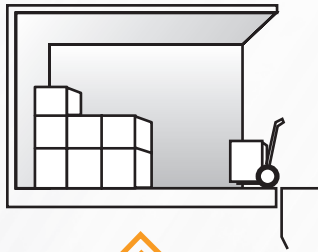
Our custom capabilities enable us to construct practically anything you require, including hardwood flooring, special gauge walls and ceilings and special paints. Manual freight entrances are by others as well as power freight gates and power entrances. We also offer vandal

resistant fixtures for added durability. Your Vertical Express representative will work with you to customize an elevator to meet the special demands of your project.

By integrating highly advanced digital technology, our I-CON® control system is ready to operate efficiently day in and day out, year after year. In our manufacturing facilities, components are tested after each stage of construction and then tested again as a complete unit before shipping. This insures consistent performance for years of dependable service.

CAPACITY AND LOADING REQUIREMENTS

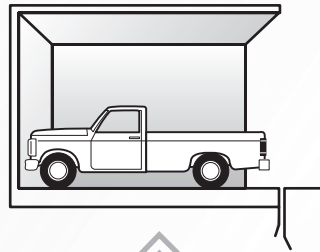
Your local Vertical Express representative will help you specify your elevator's size, capacity and speed for the most efficient and economical operation possible. All Vertical Express applications are designed and manufactured strictly in agreement with ANSI A17.1 and the Canadian Standards Association (CSA/CAN-B44-94) according to the loading classifications shown below.



CLASS A

General Freight Loading

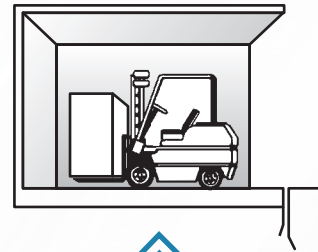
Where the load is distributed, the weight of any single piece is not more than ¼ the capacity of the elevator and the load is handled on and off the car platform manually or by means of hand trucks.



CLASS B

Motor Vehicle Loading

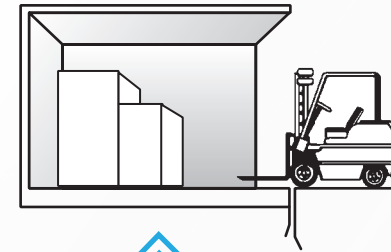
The freight elevator is used solely to carry trucks or passenger automobiles up to the rated capacity of the elevator.



CLASS C1^{1,2}

Industrial Truck Loading

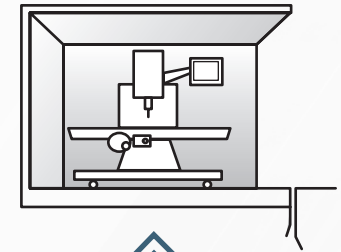
A four-wheeled vehicle may be used to load and unload the elevator. The combined weight of the vehicle and the load cannot exceed the rated capacity and may be rolled onto the platform as a single unit.



CLASS C2^{1,2}

Industrial Truck Loading

During loading and unloading, max load on the platform may be up to 150% of the rated capacity. This enables you to use a forklift to load a car with freight weighing up to the rated capacity.



CLASS C3¹

Other Forms of Industrial Truck Loading

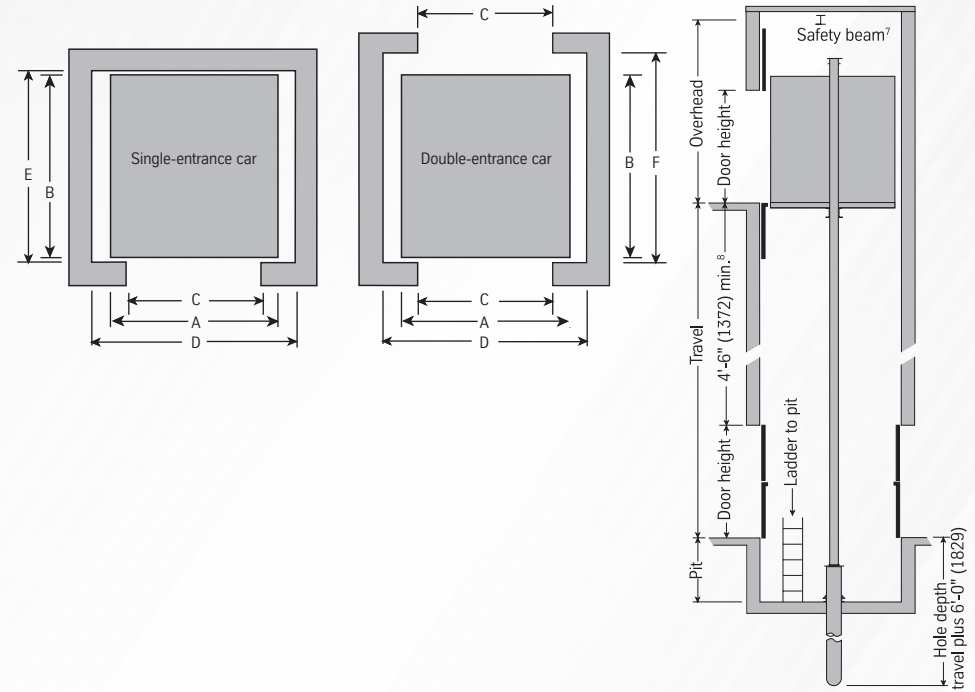
During the loading and unloading process, the rated capacity must never be exceeded.

¹ The capacity of the elevator shall be not less than the load (including any truck) to be carried and shall in no case be less than 50 lb./ft² (244.10 kg/m²) of the inside net platform area. The elevator shall be provided with two-way automatic leveling.

² For elevators with a capacity up to 20,000 lb. (9,072 kg), the car platform shall be designed for a loaded truck of weight equal to the capacity or for the actual weight of the truck to be used, whichever is greater. For elevators with a capacity exceeding 20,000 lb. (9,072 kg), the car platform shall be designed for a loaded truck of that weight or for the actual weight of the loaded truck to be used, whichever is greater.

FREIGHT

Hydraulic Freight Elevators



| Hydraulic Freight Elevators | | | | | | |
|-----------------------------|-----------------------|-----------------------|-------------------|------------------------------------|------------------------------------|------------------------------------|
| Capacity (lb. / kg) | Platform Width (A) | Platform Depth (B) | Door Width (C) | Hoistway Width (D) ¹ | Hoistway Depth (E) ² | Hoistway Depth (F) ³ |
| 2500 (1134) | 5'-4" (1626) | 7'-0" (2134) | 5'-0" (1524) | 7'-2" (2184) ⁴ | 7'-8" (2337) | 7'-11" (2413) |
| 4000 (1814) | 8'-4" (2540) | 10'-0" (3048) | 8'-0" (2438) | 10'-2" (3099) ⁵ | 10'-8" (3251) | 10'-11" (3327) |
| 5000 (2268) | 8'-4" (2540) | 10'-0" (3048) | 8'-0" (2438) | 10'-2" (3099) ⁵ | 10'-8" (3251) | 10'-11" (3327) |
| 6000 (2722) | 8'-4" (2540) | 10'-0" (3048) | 8'-0" (2438) | 10'-2" (3099) ⁵ | 10'-8" (3251) | 10'-11" (3327) |
| 8000 (3629) | 8'-4" (2540) | 12'-0" (3658) | 8'-0" (2438) | 10'-2" (3099) ⁵ | 12'-8" (3861) | 12'-11" (3937) |
| 10000 (4536) | 8'-4" (2540) | 14'-0" (4267) | 8'-0" (2438) | 10'-2" (3099) ⁵ | 14'-8" (4470) | 14'-11" (4547) |

NOTE: Ladder to pit and safety beam by others. If safety beams (by others) are used, they must not encroach into required clear overhead dimensions.

Dimensions shown are for power operated doors (by others) of the regular type with 8'-0" (2438) clear opening height and cab height.

All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

¹ Subtract 6" (152) if manual doors are used.

² Add 1 3/4" (44) if pass type doors are used.

³ Add 3 1/2" (89) if pass type doors are used.

⁴ For seismic conditions add 4" (102) for manual gates.

⁵ For seismic conditions add 4" (102) for power gates, add 6" (152) for manual gates.

⁶ Subtract 12" (305) if 7'-0" (2134) clear opening height doors and enclosure height are used.

⁷ Safety beam required per OSHA 1926.502, provided and installed by others, as directed by Vertical Express. Clear overhead is shown to the bottom of the safety beam.

⁸ 4'-6" (1372) min. for regular type door. 24" (610) min. spandrel for pass type door.

| Minimum Pit and Overhead Dimensions | | |
|-------------------------------------|--------------|-----------------------|
| Speed | Pit | Overhead ⁶ |
| 50 FPM (0.25 M/S) | 4'-6" (1372) | 14'-9" (4496) |
| 75 FPM (0.38 M/S) | 4'-6" (1372) | 14'-9" (4496) |
| 100 FPM (0.5 M/S) | 4'-6" (1372) | 14'-9" (4496) |

DESIGN WITH STYLE

CABS

You have a picture in your mind, and Vertical Express provides the options you need to fulfill your vision. In fact, we offer more standard options than any other elevator manufacturer. Ask our custom design staff to assist you in creating a cab that is uniquely yours.

ENTRANCES

Vertical Express offers a variety of entrances to meet your aesthetics and functionality needs. Center-opening and side-slide openings are available in several architectural metal and powder coat paint finishes to enhance the visual appeal of your lobby and hallways.

SIGNAL FIXTURES

Function and appearance are paramount in the design of all Vertical Express fixtures. The attention to detail and broad variety of fixture styles gives you flexibility to create a distinct and dependable elevator.





DESIGN WITH STYLE

Panel Design

Mix beauty and practicality with this decorative and durable cab. The panel design is constructed with a high-quality steel shell and vertical raised panels made with a core of urea-formaldehyde-free wood. Choose from a laminate or brushed stainless steel facing.



Panel Finish Options

| | | |
|--------------------------------|----------|--|
| Plastic Laminates ¹ | Woods | |
| | Solids | |
| | Patterns | |
| Brushed Stainless Steel | | |
| Muntz | | |

Reveal Finish Options

| | |
|-------------------------|--|
| Powder Coats | |
| Brushed Stainless Steel | |
| Muntz | |

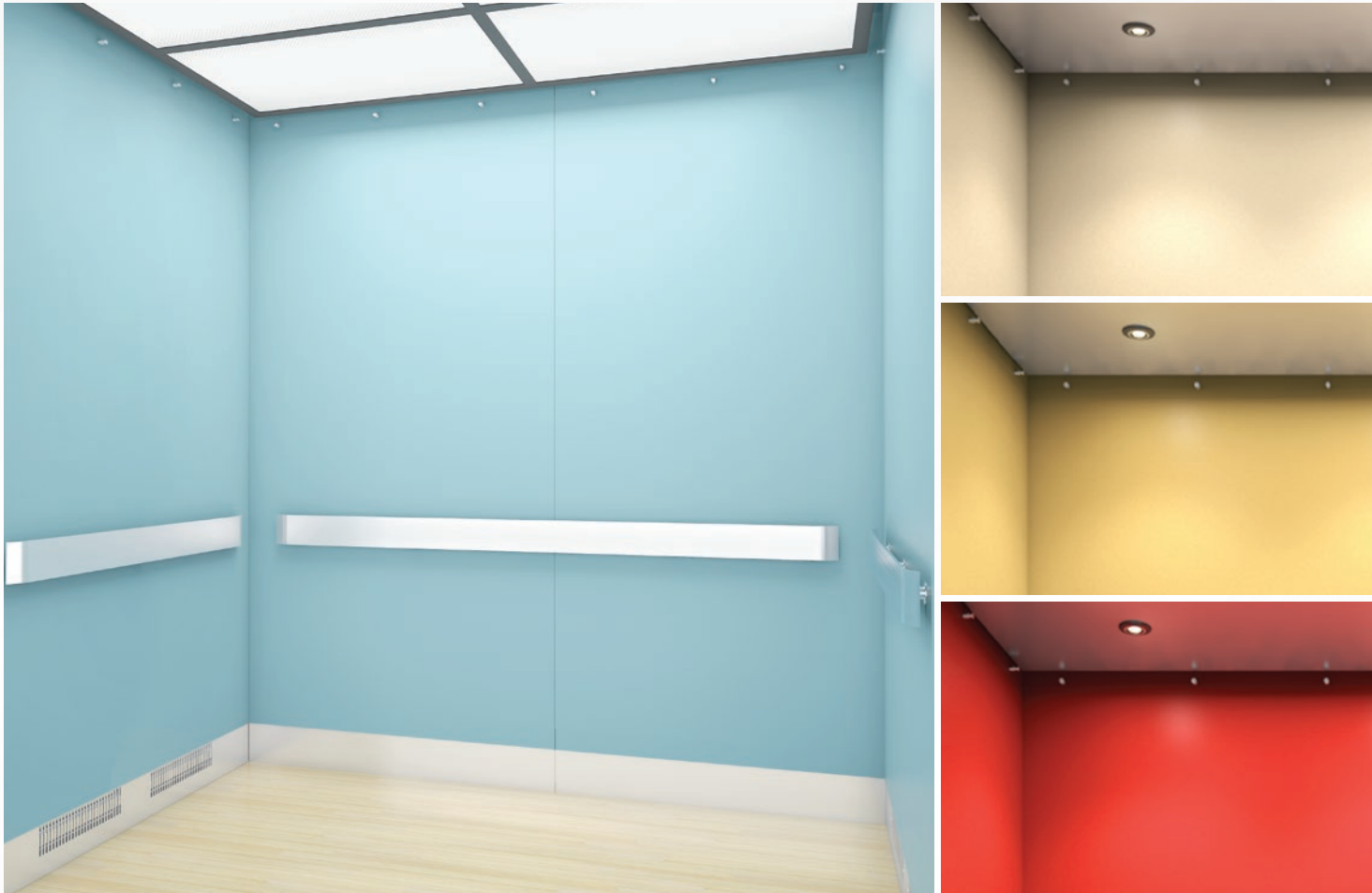
NOTE: Configurations shown above include standard and optional selections.

¹ Colors may vary. We recommend examining a laminate sample before making a selection.

DESIGN WITH STYLE

Steel Shell Design

Clean and modern flat cab interior designs convey quality. Our durable formed steel shell cab is available in a variety of powder coat color options or can be upgraded to brushed stainless steel.

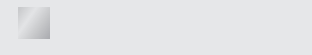


Shell Finish Options

Powder Coats¹



Brushed
Stainless Steel



NOTE: Configurations shown above include standard and optional selections.

1 Colors may vary. We recommend examining a laminate sample before making a selection.

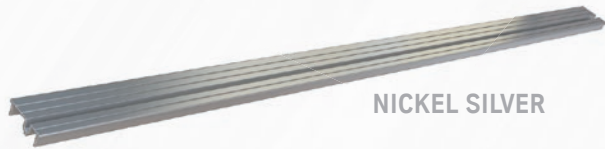
DESIGN WITH STYLE

Cab Accessories

SILLS



ALUMINUM¹



NICKEL SILVER



BRONZE

CEILING²



SUSPENDED¹

White translucent diffusers for LED lighting are available with ceiling frames in a powder coated or stainless steel finish.



PARTICLE BOARD DOWNLIGHT

Particle board downlight ceiling features LED lighting. Lights are mounted in your choice of plastic laminate, stainless steel or bronze ceiling panels.



METAL PAN DOWNLIGHT

Metal pan downlight ceiling features LED lighting. Lights are mounted in your choice of powder coated, stainless steel or bronze ceiling panels.

HANDRAILS



CYLINDRICAL¹

1½" cylindrical handrail is a continuous brushed stainless steel form with ends turned toward the wall. We also offer straight endcaps in lieu of the returned ends.³



FLAT BAR

Brushed stainless steel bar handrail is available in ¼" thickness and 2", 4" or 6" widths.

¹ Comes standard. Finishes may vary based on your project selections.

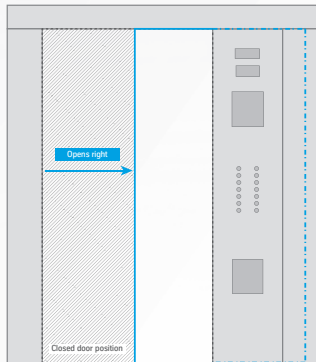
² Ceiling type options may vary depending on cab size.

³ Additional pricing required.

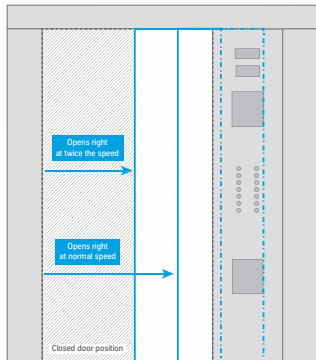
DESIGN WITH STYLE

Cab Accessories

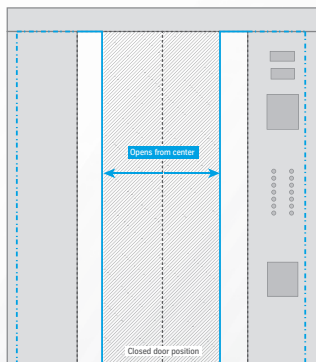
DOORS



ONE-SPEED DOOR
The most economical door offering, available with either right- or left-hand opening.

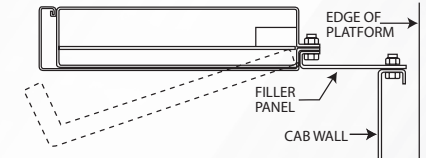


TWO-SPEED DOOR
Provides a wider opening without compromising door cycling time. Two doors move in the same direction, one sliding faster than the other. Available with either right- or left-hand opening.



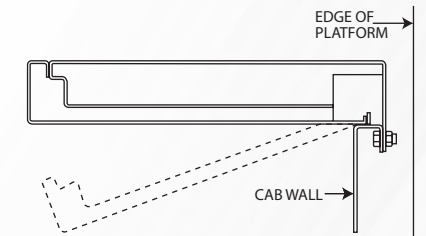
CENTER-OPENING DOOR
Permits the quickest entry and exit, improving elevator service while giving an attractive, symmetrical appearance.

FRONT RETURNS¹



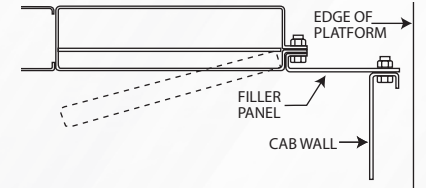
WRAP-AROUND

This return features a hinged car operating panel and separate filler panel.



FULL-WIDTH WRAP-AROUND

This return features a hinged car operating panel with integral column and filler panel. The swing extends from the cab opening to the cab wall.



COLUMN²

This return features a hinged car operating panel secured to the filler panel and aligned vertically with the column.

¹ Fronts include the car station, return panel, signal fixtures and transom. Return types come in brushed stainless steel.

² Comes standard.

DESIGN WITH STYLE

Signal Fixtures

Comply with all National Fire Service codes for the U.S. and Canada

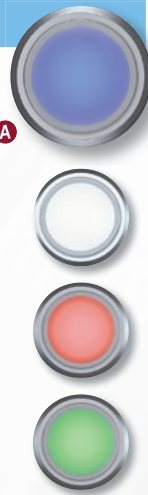
Braille plates feature highly durable, cast tactile markings that meet the most stringent requirements

Buttons available in white, red, green or blue LED illumination

TRADITIONAL T2¹

- Brushed or polished stainless steel finish
- Buttons feature white¹, red, green or blue LED light
- Position indicator displays car location with matrix of red LED-illuminated dots

- A** Push Button
- B** Car Operating Panel
- C** Intermediate Hall Station with Fire Service Devices*
- D** Intermediate Hall Station and Appendix H/O Signage
- E** Intermediate Hall Station
- F** Intermediate Hall Lantern (triangular)
- G** Terminal Hall Lantern (triangular)
- H** Combo Hall Lantern / Position Indicator



¹ Comes standard.

* Engraved instructions shown on "C" requires an additional charge. Applied label instructions come standard.

Code requirements may require additional devices.

DESIGN WITH STYLE

Signal Fixtures



VANDAL-RESISTANT

- Faceplates in brushed¹ or polished stainless steel
- Extra level of protection in challenging environments
- Buttons available in white, red green or blue LED lighting

- A** Car Operating Panel
- B** Intermediate Hall Station with Fire Service Devices*
- C** Terminal Hall Station and Appendix H/O Signage
- D** Intermediate Hall Station
- E** Terminal Hall Station with Fire Service Key Switch
- F** Combo Hall Lantern / Position Indicator (dot matrix)²
- G** Position Indicator with Directional Arrows
- H** Intermediate Hall Lantern (arrows)
- I** Terminal Hall Lantern (arrow)
- J** Push Button

¹ Comes standard.

² Dot matrix position indicator is not vandal-resistant.

* Engraved instructions shown on "B" requires an additional charge. Applied label instructions come standard.

Code requirements may require additional devices.

DOORS & ENTRANCES

Passenger Elevator Entrance Details

With Vertical Express entrances, you can choose from a wide variety of colors and finishes to complement your architectural style. In fact, you can create a custom look by mixing and matching the choices available to you. Our entrances meet ASME A17.1 Code requirements. They have been tested by Warnock Hersey and certified to comply with fire test requirements for masonry and drywall construction.

| Single-Speed Doors | | |
|--------------------|-------------------|-------------------|
| Capacity (lb.) | Clear Opening (A) | Rough Opening (B) |
| 2100 | 3'-0" (914) | 4'-3" (1295) |
| 2500 | 3'-6" (1067) | 4'-9" (1448) |
| 3000 | 3'-6" (1067) | 4'-9" (1448) |
| 3500 | 3'-6" (1067) | 4'-9" (1448) |
| 4000 | 3'-6" (1067) | 4'-9" (1448) |

| Center-Opening Doors | | |
|----------------------|-------------------|-------------------|
| Capacity (lb.) | Clear Opening (A) | Rough Opening (B) |
| 2100 | N/A | N/A |
| 2500 | 3'-6" (1067) | 4'-9" (1448) |
| 3000 | 3'-6" (1067) | 4'-9" (1448) |
| 3500 | 3'-6" (1067) | 4'-9" (1448) |
| 4000 | 4'-0" (1219) | 5'-3" (1600) |

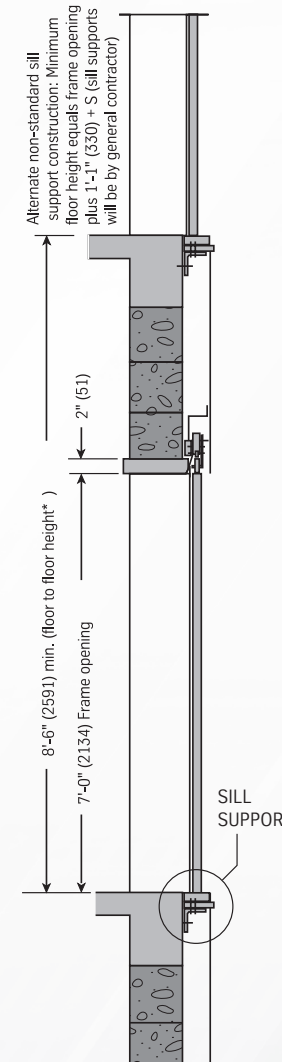
| Standard Two-Speed Doors | | |
|--------------------------|-------------------|-------------------|
| Capacity (lb.) | Clear Opening (A) | Rough Opening (B) |
| 4500 | 4'-0" (1219) | 5'-3" (1600) |
| 5000 | 4'-0" (1219) | 5'-3" (1600) |

| Optional Two-Speed Doors (4'-6" Wide) ² | | |
|--|-------------------|-------------------|
| Capacity (lb.) | Clear Opening (A) | Rough Opening (B) |
| 4500 | 4'-6" (1372) | 5'-9" (1753) |
| 5000 | 4'-6" (1372) | 5'-9" (1753) |

NOTE: All dimensions in parentheses are in millimeters unless otherwise indicated. Dimensional data shown here complies with the current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your local Vertical Express representative for details.

- For openings over 8'-0" (2438) consult factory.
- Requires wider hoistway, car top railing and special brackets on 4'-6" (1372) doors.

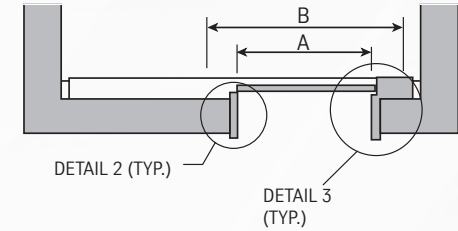
VERTICAL SECTION¹



DOOR ENTRANCE DETAILS

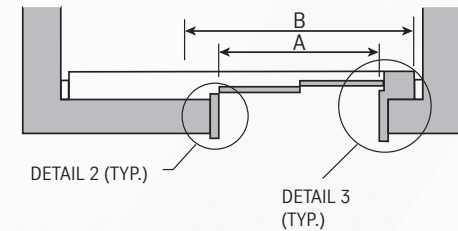
ONE-SPEED DOORS

The most economical door offering, available with either right- or left-hand opening.



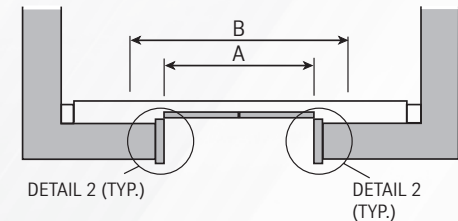
TWO-SPEED DOORS

Provides a wider opening without compromising door cycling time. Two doors move in the same direction, one sliding faster than the other. Available with either right- or left-hand opening.



CENTER-OPENING DOORS

Permits the quickest entry and exit, improving elevator service while giving an attractive, symmetrical appearance.

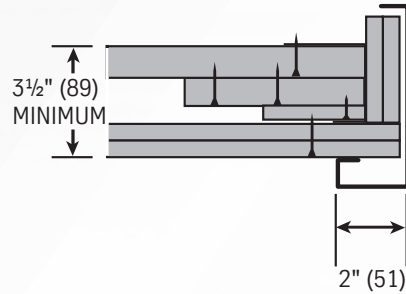


DOORS & ENTRANCES

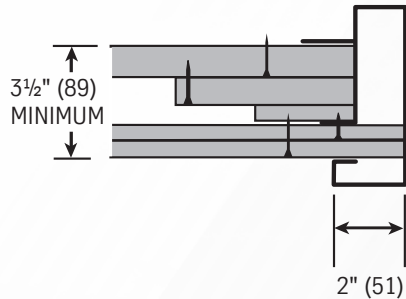
Passenger Elevator Entrance Details

DRYWALL CONSTRUCTION

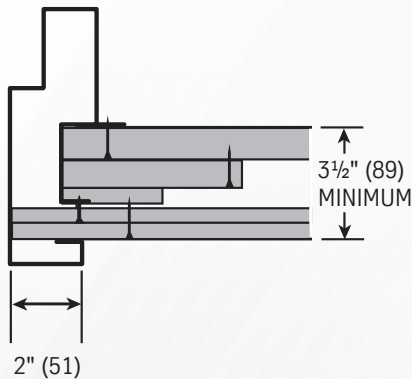
DETAIL 1



DETAIL 2

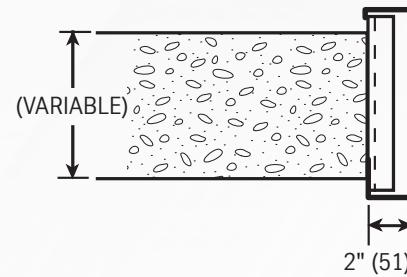


DETAIL 3

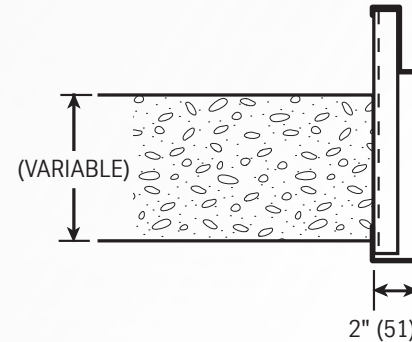


MASONRY CONSTRUCTION

DETAIL 1

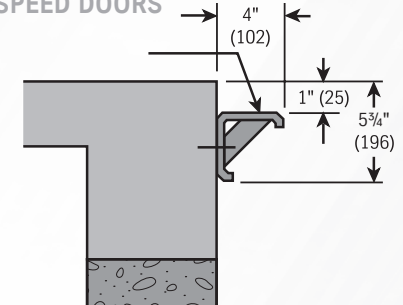


DETAIL 2

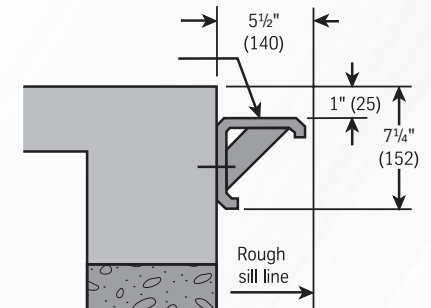


SILL SUPPORTS

CENTER-OPENING AND SINGLE-SPEED DOORS



TWO-SPEED DOORS



NOTE: Front walls should be left out until entrances are set in place or leave a minimum rough opening that is 15" (381) wider and 15" (381) higher than frame opening of doorway.

Space requirements based on actual frame opening sizes. When architectural finishes are applied to the entrance frame, consult your local Vertical Express office for increased space requirements.

These diagrams show wall thickness and construction detail required in order to supply a minimum 1 1/2 HR. Warnock Hersey Label on entrances. The dimension shown (3 1/2") is the minimum drywall thickness with no jamb mounted devices. Contact your local Vertical Express representative for additional details.

Hand of doors is the direction the doors open, determined by standing inside of the elevator car facing toward the doors.

PLANNING FOR PERFECTION

Our Modernizations

MODERNIZATION SPECIALISTS

Vertical Express maintains a staff whose only business is modernization. They are experienced in every type of system, including other manufacturers' elevators.

We work for you. Vertical Express recognizes your responsibilities to your tenants. We understand that inconvenience due to renovation must be held to a minimum for tenants and visitors alike. We know you have other obligations and we will work within your schedule and budget.

Our parts and components are the highest quality available. They are manufactured in our North American plant according to exacting standards, so you can expect durability and performance.



PLANNING FOR PERFECTION

Not Included in the Elevator Contract*

General contractor shall provide the following in accordance with the requirements of the Model Building Code and ANSI A17.1 Code. For specific rules, refer to ANSI A17.1, Section 300 for hydraulic elevators. State or local requirements must be used if more stringent.

1. Elevator safety beam to be provided at top of elevator shaft. Beam must be able to accommodate proper loads and clearances for elevator installation and operation.
2. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports and bracing including all setting templates and diagrams for placement.
3. Hatch walls require a minimum two hours of fire rating. Hoistway should be clear and plumb with variations not to exceed 1/2" at any point.
4. Elevator hoistways shall have barricades, as required.
5. Install bevel guards at 75° on all recesses, projections or setbacks over 2" (4" for A17.1 2000 areas) except for loading or unloading.
6. Provide rail bracket supports at pit, each floor and roof. For guide rail bracket supports, provide divider beams between hoistway at each floor and roof.
7. Pit floor shall be level and free of debris. Reinforce dry pit to sustain normal vertical forces from rails and buffers.
8. Where pit access is by means of the lowest hoistway entrance, a vertical ladder of non-combustible material extending 42" minimum (48" minimum for A17.1-2000 areas) shall be provided at the same height, above sill of access door or handgrips.
9. Machine room to be enclosed and protected.
10. Machine Room temperature must be maintained between 55° and 90° F.
11. If machine room is remote from the elevator hoistway, clear access must be available above the ceiling or metal/concrete raceways in floor for oil line and wiring duct from machine room.
12. Access to the machinery space and machine room must be in accordance with the governing authority or code.
13. Provide an 8" x 16" cutout through machine room wall, for oil line and wiring duct, coordinated with elevator contractor at the building site.
14. All wire and conduit should run remote from either the hoistways or the machine room.
15. When heat, smoke or combustion sensing devices are required, connect to elevator machine room terminals. Contacts on the sensors should be sized for 120 volt D.C.
16. Install and furnish finished flooring in elevator cab.
17. Finished floors and entrance walls are not to be constructed until after sills and door frames are in place. Consult elevator contractor for rough opening size. The general contractor shall supply the drywall framing so that the wall fire resistance rating is maintained, when drywall construction is used.
18. Where sheet rock or drywall construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with elevator contractor.
19. Before erection of rough walls and doors; erect hoistway sills, headers and frames. After rough walls are finished; erect fascias and toe guards. Set sill level and slightly above finished floor at landings.
20. To maintain legal fire rating (masonry construction), door frames are to be anchored to walls and properly grouted in place.
21. The elevator wall shall interface with the hoistway entrance assembly and be in strict compliance with the elevator contractor's requirements.
22. General Contractor shall fill and grout around entrances, as required.
23. Elevator sill supports shall be provided at each opening.
24. All walls and sill supports must be plumb where openings occur.
25. For applications with jack hole, free and clear access to the elevator pit area for the jack hole drilling rig is required.
26. Where jack hole is required, remove all spoils from jack hole drilling.
27. When not provided by elevator contractor, jack hole shall accommodate the jack unit. If required, the jack hole is to be provided in strict accordance with the elevator contractor's shop drawings.
28. Locate a light fixture and convenience outlet in pit with switch located adjacent to the access door.
29. A light switch and fused disconnect switch for each elevator should be located inside the machine room adjacent to the door, where practical, per the National Electrical Code (NFPA No. 70).
30. As indicated by elevator contractor, provide a light outlet for each elevator, in center of hoistway (or in the machine room).
31. For signal systems and power operated doors: provide ground and branch wiring circuits, including main line switch. For car light and fan: provide a feeder and branch wiring circuits, including main line switch.
32. Wall thickness may increase when fixtures are mounted in drywall. These requirements must be coordinated between the general contractor and the elevator contractor.
33. Provide supports, patching and recesses to accommodate hall button boxes, signal fixtures, etc.
34. Locate telephone and convenience outlet on control panel.

* Refer to elevator layout drawings for details of each requirement.



VERTICAL EXPRESS

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