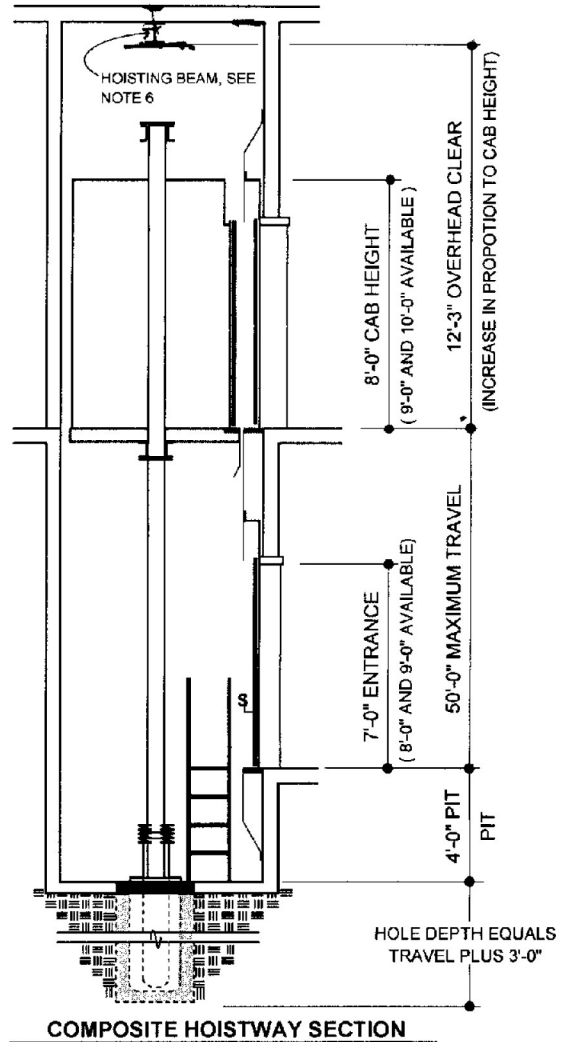
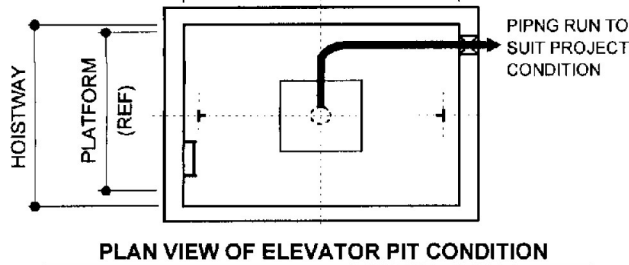
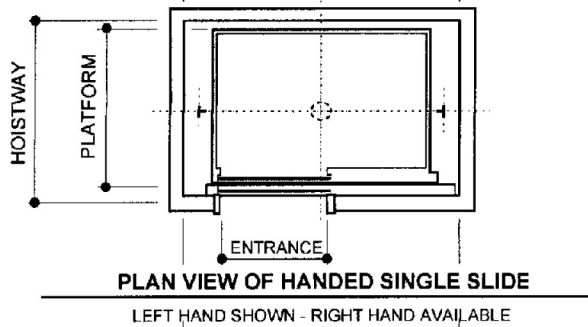
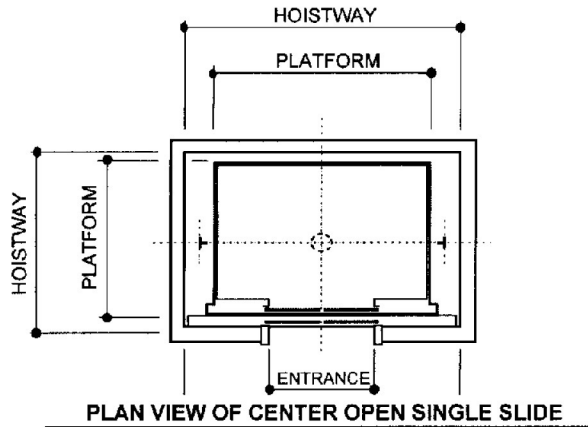




IDH - S - H1 HYDRAULIC ELEVATORS

FRONT ENTRANCE BOREHOLE ELEVATORS

STANDARD SPEEDS: 100, 125, AND 150 FPM



NOTES:

1. Complies with ASME A17.1 code. Confirm dimensions comply with local codes and standards.
2. Provide min. 4" wide divider beam between adjacent hoistways for rail support.
3. For 24" x 84" stretcher use 3500 lbs. min. capacity with handed door or 4000 lbs. with center open door.
4. For 24" x 76" stretcher use 2500 lbs. min. capacity with handed door or 3500 lbs. min. with center open door.
5. Dimensions shown for Seismic Zone 1 to 4. May reduce hoistway width 2" for Seismic Zone 0.
6. Provide hoisting beam capable of holding 5000 lb. load. Remove after installation if required.

BOREHOLE DIRECT PLUNGER HOISTWAY DIMENSIONS							
CAPACITY LBS.	HOISTWAY		PLATFORM		INSIDE CLEAR		ENTRANCE
	Width	Depth	Width	Depth	Width	Depth	Width
2100	7' - 6"	5' - 10"	6' - 0"	5' - 1"	5' - 8"	4' - 3"	3' - 0"
2500	8' - 6"	5' - 10"	7' - 0"	5' - 1"	6' - 8"	4' - 3"	3' - 6"
3000	8' - 6"	6' - 3"	7' - 0"	5' - 6"	6' - 8"	4' - 8"	3' - 6"
3500	8' - 6"	6' - 11"	7' - 0"	6' - 2"	6' - 8"	5' - 4"	3' - 6"
4000	9' - 6"	6' - 11"	8' - 0"	6' - 2"	7' - 8"	5' - 4"	4' - 0"

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with the car, including a plunger-follower guide, if provided, shall strike any part of the pit or any equipment mounted therein.

3.4.1.6 Where the vertical clearance outside the refuge space is less than 600 mm (24 in.), that area shall be clearly marked on the pit floor. Markings shall not be required in the area under the apron and guiding means. The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes. In addition, a sign with the words "DANGER LOW CLEARANCE" shall be prominently posted on the hoistway enclosure and shall be visible from within the pit and at the entrance to the pit. The sign shall conform to ANSI Z535.2 or CAN/CSA-Z321, whichever is applicable (see Part 9). The sign shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face remain permanently and readily legible.

3.4.2 Minimum Bottom and Top Car Runby

3.4.2.1 Bottom Car Runby. The bottom car runby shall be

- (a) not less than 75 mm (3 in.) for operating speed(s) in the down direction up to 0.50 m/s (100 ft/min)
- (b) increased from 75 mm (3 in.) to 150 mm (6 in.) in proportion to the increase in operating speed(s) in the down direction from 0.50 m/s (100 ft/min) to 1 m/s (200 ft/min)
- (c) a minimum of 150 mm (6 in.) for operating speed(s) in the down direction exceeding 1 m/s (200 ft/min)

3.4.2.2 Car Top Minimum Runby. The top runby of the car shall be

- (a) not less than 75 mm (3 in.) for rated speeds up to 0.50 m/s (100 ft/min)
- (b) increased from 75 mm (3 in.) to 150 mm (6 in.) in proportion to the increase in rated speed from 0.50 m/s (100 ft/min) to 1 m/s (200 ft/min)
- (c) a minimum of 150 mm (6 in.) for rated speeds exceeding 1 m/s (200 ft/min)

3.4.3 Car Top and Bottom Maximum Runby

Neither the top nor the bottom runby of the car shall be more than 600 mm (24 in.).

3.4.4 Top Car Clearance

The top car clearance shall be not less than the sum of the following two items (see Nonmandatory Appendix G):

- (a) the top car runby
- (b) the height of the refuge space on top of the car (see 3.4.7) or the clearance required for equipment projecting above the car top or crosshead (see 3.4.5), whichever is greater

3.4.5 Equipment Projecting Above the Car Top

When the car reaches its maximum upward movement

- (a) all equipment attached to and projecting above the car top, other than equipment mentioned in 3.4.5(b) shall be at least 150 mm (6 in.) from striking any part of the overhead structure or any equipment located in the hoistway

- (b) guide-shoe assemblies or gate posts for vertically sliding gates shall not strike any part of the overhead structure

- (c) the car crosshead shall have a minimum of 300 mm (12 in.) vertical clearance to the horizontal plane described by the lowest point of the overhead structure (see 1.3)

3.4.6 Top Clearance and Bottom Runby of Counterweight

Where a counterweight is provided, the top clearance and the bottom runby of the counterweight shall conform to 3.4.6.1 and 3.4.6.2.

3.4.6.1 Top Clearance. The top clearance shall be not less than the sum of the following:

- (a) the bottom car runby
- (b) the stroke of the car buffers used
- (c) 150 mm (6 in.)

3.4.6.2 Bottom Runby. The bottom runby shall be not less than the sum of the following:

- (a) the distance the car can travel above its top terminal landing until the plunger strikes its mechanical stop
- (b) 150 mm (6 in.)

The minimum runby specified shall not be reduced by rope stretch (see 3.22.2 prohibiting counterweight buffers).

3.4.7 Refuge Space on Top of Car Enclosure

An unobstructed horizontal area of not less than 0.51 m² (5.49 ft²) shall be provided on top of the car enclosure for refuge space. It shall measure not less than 600 mm (24 in.) on any side. The area shall be permitted to include the space utilized for top emergency exit [see 2.14.1.5.1(f)]. The minimum vertical distance in the refuge area between the top of the car enclosure and the horizontal plane described by the lowest point of the overhead structure or other obstruction shall be not less than 1 100 mm (43 in.) when the car has reached its maximum upward movement.

3.4.8 Vertical Clearances With Underslung Car Frames

Where an underslung car frame is used, the clearances between the overhead car rope dead-end hitch, or overhead car sheave, and the portions of the car structure vertically below them, when the car floor is level with the top terminal landing, shall be not less than the following: