

# **FLEXI-LIFT**®

LIMITED USE/LIMITED APPLICATION ELEVATOR

## **Planning Guide**

for Limited Use/Limited Application Elevator  
ASME A17.1-2000 Part 5.2

Effective March 9, 2004

A ThyssenKrupp  
Elevator company

**Access Industries**



**ThyssenKrupp**

**Introduction**

This Planning Guide is designed to assist architects, contractors, building owners and elevator professionals in planning for a FLEXI-LIFT Elevator that meets the requirements of ASME A17.1-2000 Part 5.2.

This unique elevator is designed to help solve accessibility problems in commercial buildings and meet state and national codes covering the Limited Use/Limited Application (LULA) elevators.

We strongly recommend you contact the codes authority having jurisdiction in the area(s) where the equipment will be installed. Become familiar with all requirements governing the installation and use of elevators in public and private buildings. It is extremely important for you to know and adhere to all regulations concerning installation and use of elevators.

**IMPORTANT NOTICE:**

This Planning Guide provides nominal dimensions and specifications useful for INITIAL planning of an elevator project. BEFORE beginning actual construction, be sure to receive application drawings customized with specifications and dimensions for your specific project.

Elevator configurations and dimensions are in accordance with Access Industries' interpretation of the standards set forth by ASME A17.1-2000 Part 5.2. Please consult Access Industries or the FLEXI-LIFT dealer in your area for more specific information pertaining to your project, including any deviation between referenced standards and those of any local codes or laws.

The dimensions and specifications in this Planning Guide are subject to constant change (without notice) due to product enhancements and continually evolving codes and product applications.

**Steps of planning for a Flexi-Lift Limited Use/Limited Application Elevator from Access Industries:**

1. Determine customer's intention for use.
2. Determine code requirements of site.
3. Determine installation parameters of site.
4. Determine the car type from the hoistway requirement pages.
5. Determine the interior size of the car.
6. Use the appropriate chart to determine the hoistway requirements.
7. Use page 5 to plan for machine room and electrical requirements.
8. Use page 6 to plan for hoistway door requirements.

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## STANDARD EQUIPMENT FOR LU/LA COMPLIANCE

This elevator, Model FX-25, meets the requirements of ASME A17.1-2000 Part 5.2 for a Limited Use/Limited Application Elevator.

### Mechanical Equipment:

- 1:2 roped hydraulic single stage cylinder with line rupture valve
- 3.5 hp submersible motor with two speed valve assembly
- 208/230V, 60 Hz, 50 amp single phase power supply
- 8 lb. T-rail system
- Four 3/8" diameter wire rope cables
- Sling assembly
- Forged rope sockets

### Car and Appointments:

- Car sized to your application
- Interior metal panels
- White, solid ceiling panel
- Unfinished fire rated wood floor with metal pan
- Dual recessed car lights
- Telephone jack (telephone by others)
- Toeguard on entrance

### Car and Hoistway Doors

- Fully automatic, side opening sliding car door:  
36" x 84" door with two side opening sections with electric contacts. Door is equipped with a Variable Voltage Variable Frequency (VVVF) door operator with adjustable opening and closing speeds and adjustable re-opening system. Primer finish (paintable). Door includes toeguard and rubber trim.
- Fully automatic, side opening, sliding hoistway doors:  
36" x 84" doors with side opening sections in a steel frame, with electromechanical locks. Door carries a 1 1/2 hour fire rating. Door and frame have a primer finish (paintable). Door includes toeguard and rubber trim.

### Controls:

- Programmable Logic Controller (PLC) prewired to the travel cable
- Stainless steel control operating panel
- Automatic car and two landing controls with illuminated buttons and Braille tags
- Battery backup emergency light and alarm
- Automatic homing to lowest floor with adjustable timing
- Illuminated alarm switch
- Keyed car light switch
- Keyed car emergency stop switch
- Car top inspection station

### Safety Devices:

- Automatic battery powered and manual emergency lowering devices
- Upper and lower terminal limits
- Overspeed governor
- Manual reset slack rope safety
- Dual direction leveling
- Anti-creep device
- Overtravel safety pads
- Pit switch
- Maintenance stop blocks (set of two)
- Pit clearance device
- Minimum pressure switch
- Auxiliary door interlocks
- Pump run timer

### General:

- Rated load: 1400 lbs. (635 kg.)
- Speed: 25 fpm (.13ms)
- Data plates, capacity tags and rope tags
- Minimum pit depth: 14"
- Presentation drawings

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## OPTIONAL EQUIPMENT

### Car:

- Car Interior Panels
  - Metal (Taupe, Sable Brown, Pearl Gray or Ivory powder coated finish)
  - Laminate (applied over metal panels)
  - Wood (applied over metal panels)

### Car Appointments:

- Car mounted digital floor indicator
- Arrival and passing signal
- Handrail
  - Stainless steel finish
  - Bronze finish
- Recessed telephone cabinet (telephone by others)
  - Stainless steel finish
  - Bronze finish
- ADA compliant phone
- Electronic eye obstruction sensors at car entrance (one per entrance)

### Controls:

- Keyed car control switch
- Keyed landing control switch
- Motion detector for car lights (in place of keyed car light switch)
- Bronze control panel (in place of stainless steel)

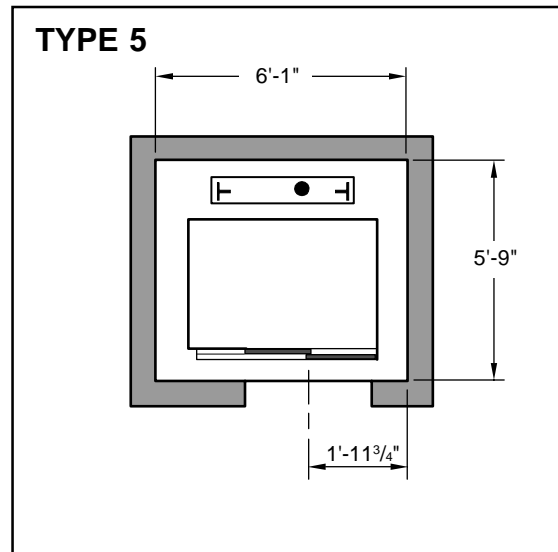
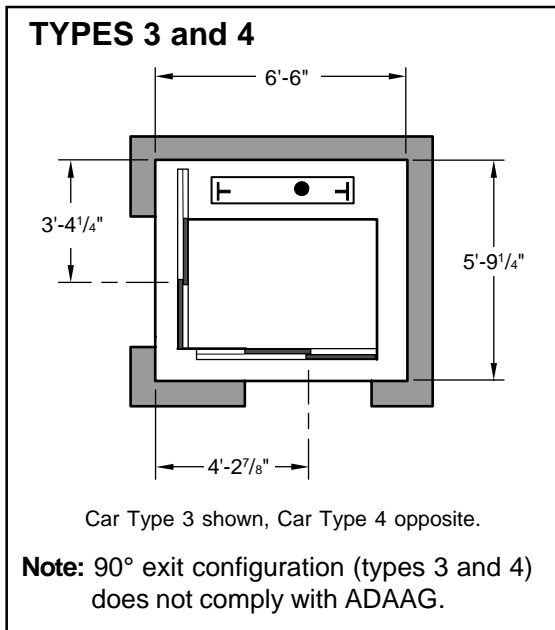
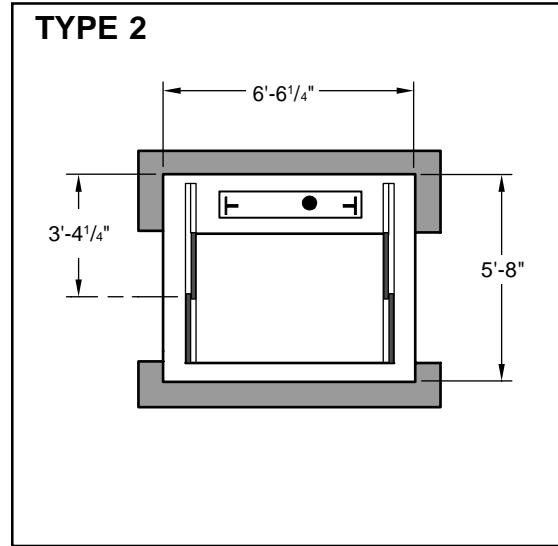
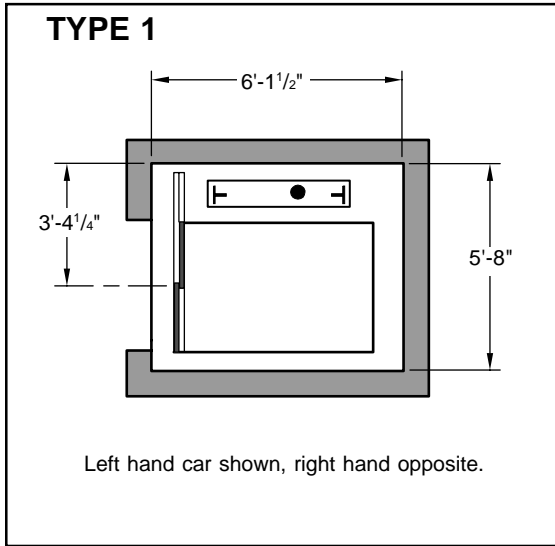
### Miscellaneous:

- Tank heater
- Additional maintenance stop blocks (set of two)
- Hall lanterns with chime
- Phase 1 fire service
- Buffer springs and stands (minimum 24" pit)

## HOISTWAY REQUIREMENTS

The charts shown below illustrate the standard car size of 42"x60". Custom sizes are available from 42" to 54" wide by 42" to 60" long in 2" increments (18 sq. ft. maximum). Consult Access Industries for hoistway details.

**Note:** To comply with ADAAG, the minimum car size for existing buildings is 36" x 54" and for new construction is 42" x 54".

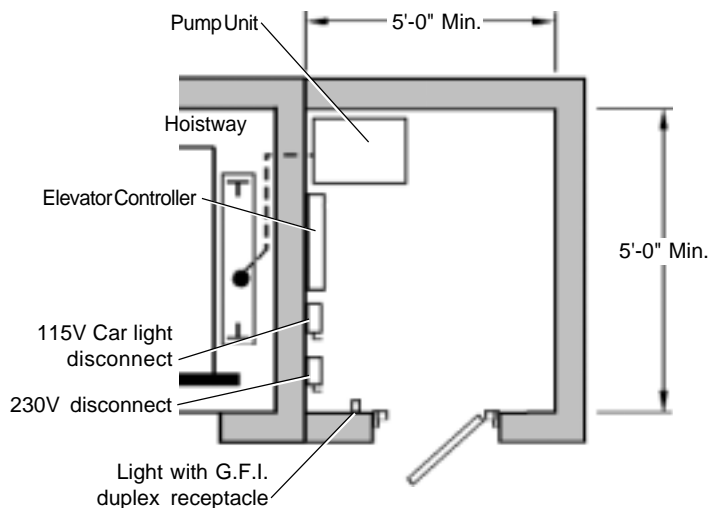


**Note:** Add 1 1/2" to width and depth for laminate and wood interior car panels.

### Hoistway Notes:

- A load bearing wall is required to sustain rail reactions. See page 6 for rail reactions.
- Hoistway pit floor construction should consist of an 8" concrete slab poured on a natural or compacted soil with a minimum allowable bearing pressure of 1.0 KSF. The minimum compressive strength of the concrete at 28 days must be no less than 3000 PSI. #5 reinforcing steel (grade 60) must be placed at the bottom of the slab in 2 traverse directions and at a spacing of 12".
- Hoistway pit floor must resist a dynamic force of 6400 lbs.
- 10'-7" overhead clearance required above the top landing floor.
- 14" minimum pit. (A Pit Clearance Device is provided to attain required 36" refuge space).
- Hoistway sizes reflect running and access clearances only. Consult your local authority to assure compliance with state and local codes.
- Hoistway is required to be free of all pipes, wiring and obstructions not related to the operation of the elevator.

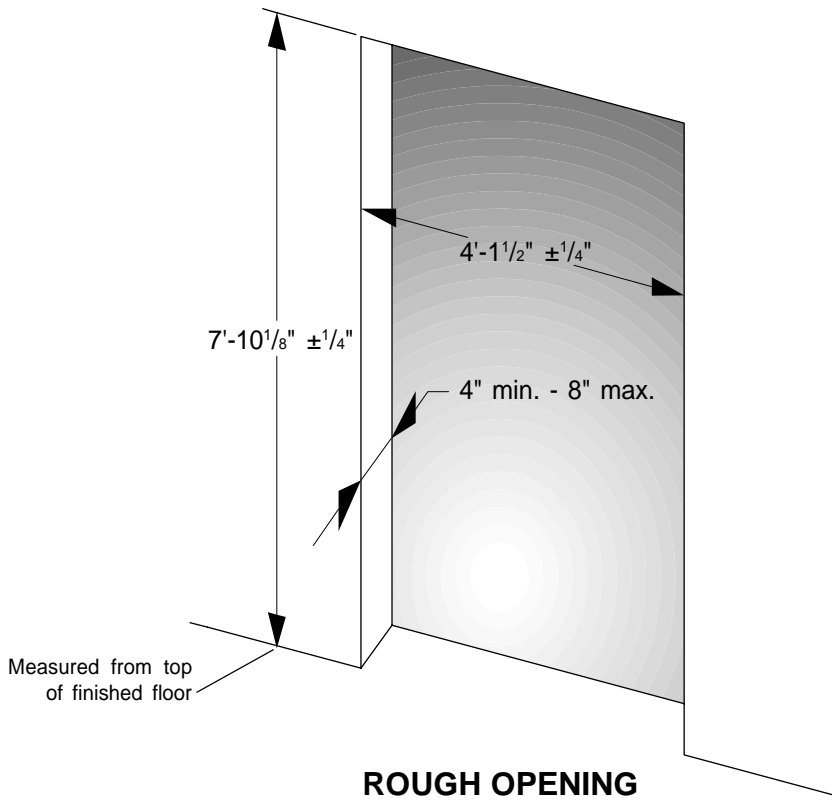
## TYPICAL MACHINE ROOM LAYOUT



### Notes:

- A convenience outlet, 115 VAC 15 AMP single phase with G.F.I. shall be located next to the light switch in the machine room. Provided and installed by others.
- Provide lockable, in open position, fused disconnect switches or circuit breaker located adjacent to the elevator controller. Fusing must be selectively coordinated. Fuse 208/230 VAC for 50 AMP service, fuse 115 VAC for 15 AMP service for car light. (Must comply with applicable codes.) The electrical circuit provided shall be 50 AMP, 230VAC single phase, dedicated circuit with equipment ground. The circuit shall terminate on the line side terminal lugs of the disconnect. The electrical circuit is provided and installed by others. Disconnect switch to have Auxiliary normally open interlock switch. Interlock equal to Square D EK-300-Z.
- 30" wide x 36" deep work space required in front of the Disconnects and the Elevator Controller.
- Machine room lighting shall be a minimum of 10 foot candles at working surfaces. The switch for the light must be within 18" of the strike side of the machine room door. The light must be guarded to prevent accidental breakage or contact with the hot bulb. The switch, light, wiring, and guard are provided and installed by others.
- A telephone line circuit is to be provided and installed by others. This circuit shall be brought to the telephone circuit junction box in the machine room to the controller in conduit. This circuit must be connected to an outside line or a 24 hour central exchange.
- The elevator controller is 20" wide x 24" high x 7" deep and attaches to wall.
- Machine room must be built in accordance with elevator manufacturer and applicable building codes and regulations. Adequate ventilation is required to maintain a temperature of 50° to 100°F for output of 3600 BTU per hour.
- Machine room access door must be self closing, self locking, key locked and have a spring return latch. Consult local building codes for door construction. The door and hardware are provided and installed by others.
- Machine room is required to be free of all pipes, wiring and obstructions not related to the operation of the elevator.

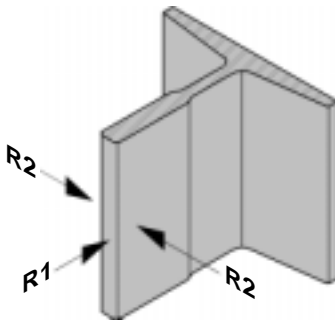
**FULLY AUTOMATIC, SIDE OPENING, SLIDING CAR AND HOISTWAY DOOR**



**Notes:**

1. See hoistway requirements for the location of the door centerline.
2. Door panels and frame are primed for painting.

**RAIL REACTIONS**



**R1** = 171 LBF.

**R2** = 419 LBF.

Rail reactions do not include safety factors. Applicable safety factors must be considered in hoistway design.

# FLEXI-LIFT ELEVATOR SPECIFICATIONS FOR PART 5.2 COMPLIANCE

## SECTION 14200

### LIMITED USE/LIMITED APPLICATION ELEVATORS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. The product described herein, manufactured by Access Industries, is an elevator designed and dimensioned to provide Limited Use/Limited Application (LULA) lift capacity to suit individual building requirements for use by persons with disabilities.

##### 1.02 REFERENCES

- A. Elevator shall be designed, manufactured and installed in accordance with the following standards:
1. American National Standards Institute (ANSI).
  2. American Society of Mechanical Engineers (ASME).
  3. National Electrical Code (NEC).
  4. American Society for Testing Materials (ASTM).
  5. American Welding Society (AWS).

##### 1.03 SYSTEM DESCRIPTION

- A. 3.5 hp submersed motor and pump with two-speed valve assembly; Programmable logic controller with collective operation; 1:2 roped hydraulic single stage cylinder with line rupture valve.
- B. Number of Stops: (specify:) Two to five.
- C. Car Configuration: (specify:) straight-thru, 90° side exit or enter/exit same side.
- D. Maximum Travel: (specify:) Up to 25'.
- E. Rated Load: (specify:) 1400 lbs.
- F. Rated Speed: 25 fpm.
- G. Car Size:
1. 42" x 60" platform.
  2. 80" high ceiling.
- H. Car Walls: (specify:) Metal panels (taupe, sable brown, pearl gray or ivory powder coated finish), laminate panels (light oak, dark oak, champagne or white), wood veneer panels or raised wood panels.
- I. Car Ceiling: White panel.
- J. Car Lighting: Two recessed lights.
- K. Operating Features:
1. Car Operating Panel: (specify:) Brushed stainless steel or brushed bronze panel with illuminated automatic controls, keyed light switch, emergency stop switch and alarm button.
  2. Hall Stations: (specify:) Brushed stainless steel or brushed bronze panel with illuminated button and (specify option:) key lock provided at each landing.
  3. Car Door(s): Fully automatic, side opening, sliding car door with electromechanical interlocks, obstruction sensor, and automatic re-open system.
  4. Hoistway Doors: 1-1/2 hour fire rated fully automatic side opening, sliding hoistway doors with two side opening panels in steel frame with electromechanical interlocks.
  5. Handrail: (specify:) Stainless steel or bronze.
  6. Pit Switch and car top run/stop switch.
  7. Car top inspection station with UP and DOWN test switches, emergency stop, light outlet and battery backup emergency light and alarm with illuminated alarm switch in car.
  8. Automatic homing to the lowest floor.
  9. Slack rope safety.
  10. Anti-creep device.
  11. Overspeed governor.
  12. Dual direction leveling.

13. Upper and lower terminal limit.
14. Pump run timer.
15. Pit clearance device.
16. Automatic battery powered and manual emergency lowering control devices.
17. Minimum pressure switch.
18. Maintenance stop blocks.
19. (specify option:) Phase 1 fire service.
20. (specify option:) Hall lanterns with chime.
21. (specify option:) Recessed telephone cabinet (brushed stainless steel or brushed bronze).
22. (specify option:) Buffer springs (requires 24" pit).
23. (specify option:) Tank heater.

##### 1.04 QUALITY ASSURANCE

- A. Manufacturer: Provide elevator manufactured by a firm with a minimum of 10 years experience in fabrication of elevators equivalent to those specified.
- B. All designs, clearances, workmanship and material, unless specifically accepted, shall be in accordance with all codes having legal jurisdiction.
- C. All load ratings and safety factors shall meet or exceed those specified by all governing agencies with jurisdiction and shall be certified by a professional engineer.
- D. Elevator shall be subject to applicable state, local and city approval prior to installation and subject to inspection after installation. Determination of and adherence to these regulations is the responsibility of the elevator contractor.
- E. Welders certified in accordance with requirements of AWS D1.1 shall perform all welding of all parts.
- F. Substitutions: No substitutions permitted.

##### 1.05 WARRANTY

- A. Warranty: Manufacturer shall warrant component parts of the Flexi-Lift® elevator for a period of 1 year after installation.

##### 1.06 MAINTENANCE

- A. The Flexi-Lift® elevator must be maintained in accordance with manufacturer's instructions.

#### PART 2 PRODUCT

##### 2.01 MANUFACTURER

- A. Provide the Flexi-Lift® home elevator manufactured by Access Industries.
1. Contact: 4001 E. 138<sup>th</sup> Street, Grandview, MO; Telephone: 800-925-3100; Fax: 816-763-4467; Email: archassist@accessind.com; Web site: <http://www.accessind.com>

##### 2.02 MATERIAL

- A. Guide Rail: Dual 8 lbs. machined steel T-rail system.
- B. Wire Rope: Four 3/8" diameter 8 x 19 ga. special traction steel cables with forged rope sockets.
- C. Sling: Structural and formed steel plates with guide rollers.
- D. Platform Floor: Unfinished plywood flooring.

##### 2.03 FINISHES

- A. Components shall be prepared with 1)alkaline detergent wash, 2)clear water rinse, 3)iron phosphate coating, 4)clear water rinse and finished with electrostatically applied and baked thermostatic powder coat finish for indoor or outdoor use. Standard color is ivory.

(continued on next page)

2.04 ELECTRICAL SYSTEMS

- A. The electrical contractors shall provide:
  1. 230 VAC, 50 amp, 60 Hz, single phase power source in the machine area with manually operated fused line disconnect.
  2. 115 VAC, single phase, 15 amp, 60 Hz, single phase power source with manually operated fused line disconnect for car lighting and a light outlet inside the hoistway.
  3. Telephone circuit in the machine area.

**PART 3 EXECUTION**

3.01 ACCEPTABLE INSTALLERS

- A. Installers shall be experienced in performing work of this section who have specialized in work comparable to that required for this project.
- B. Installers shall be certified and trained by the manufacturer.

3.02 EXAMINATION

- A. Use field dimensions and approved manufacturer's shop drawings to examine substrates, supports and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

3.03 INSTALLATION

- A. The Flexi-Lift® elevator shall be installed in accordance with manufacturer's instructions and as specified and approved by architect.

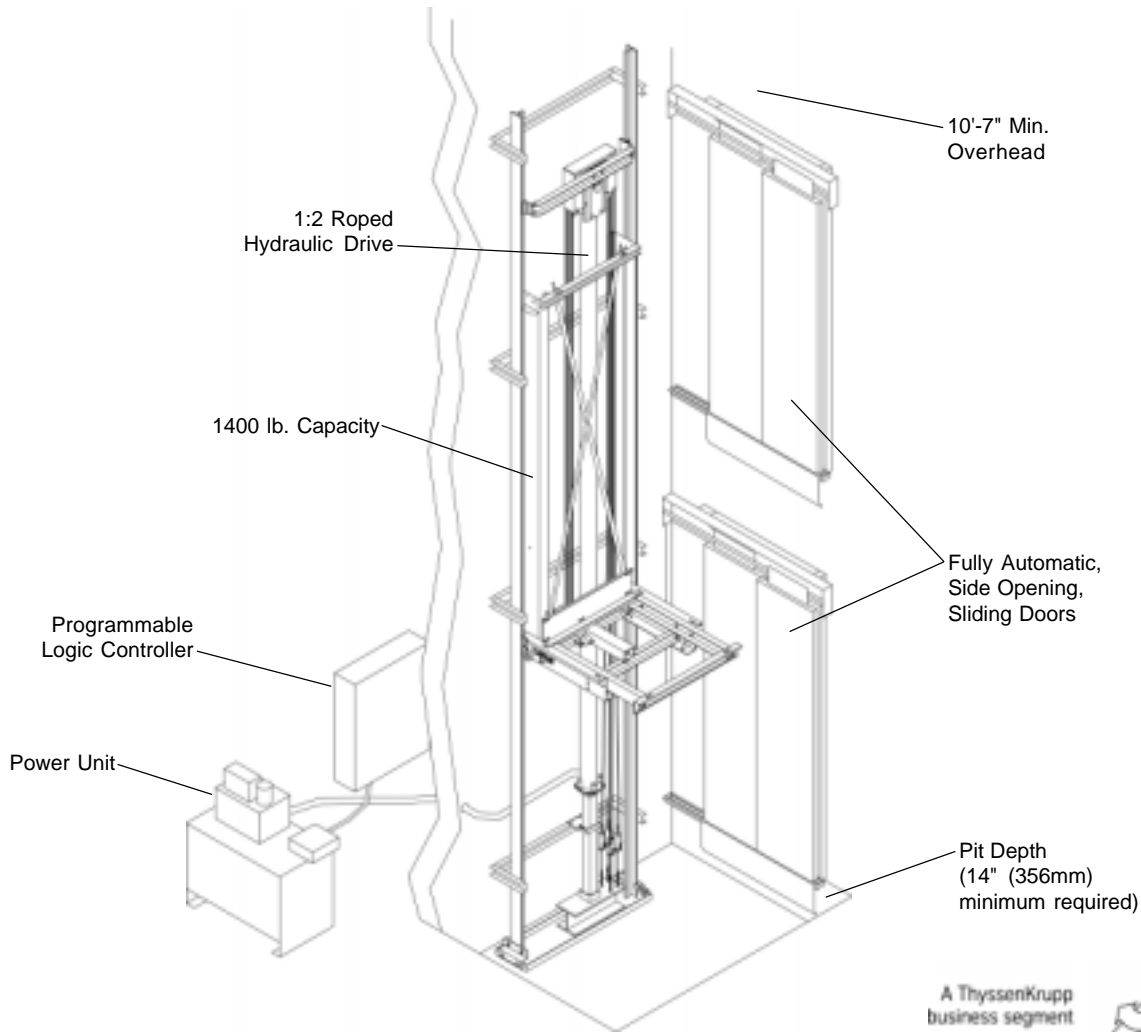
3.04 DEMONSTRATION

- A. The elevator contractor shall make a final check of the elevator's operation with the Owner or Owner's representative present prior to turning the elevator over for use. The elevator contractor shall determine that operating and safety devices are functioning properly.

END OF SECTION

**Notes:** Intent of specification is to broadly outline equipment required but does not cover details of design and construction.

Dimensions and specifications are subject to constant change and continually evolving codes and product applications. For additional technical information, contact Access Industries at (800) 925-3100 or [www.accessind.com](http://www.accessind.com).



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