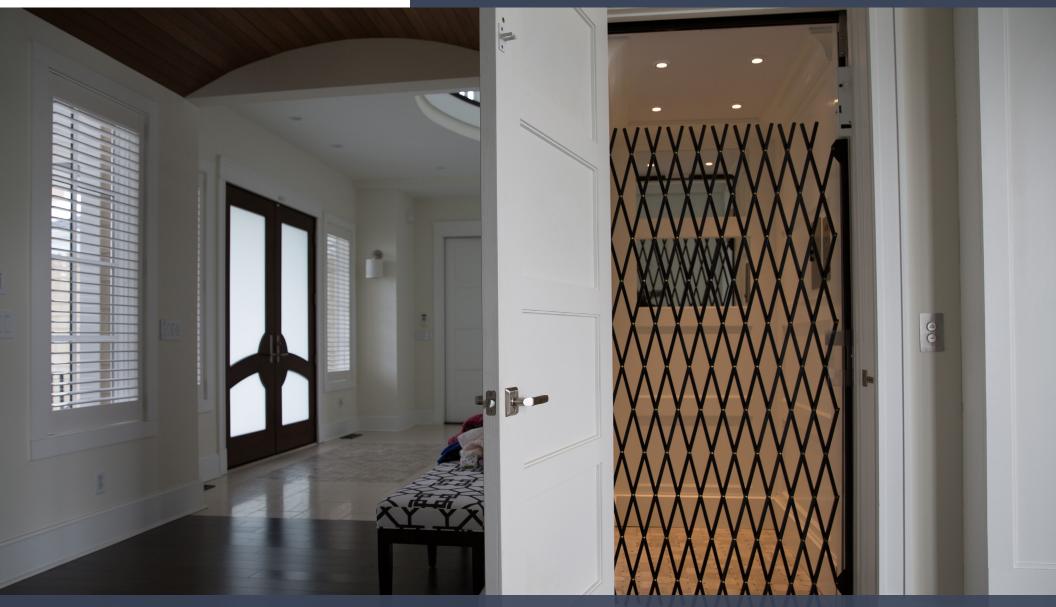


DEMelevating.com 27685 Rockawalkin Ridge Rd Salisbury, MD 21801

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DEMELEVATING.COM



RESIDENTIAL PRODUCT PLANNING GUIDE

INTRODUCTION

DEM Elevating Equipment

DEM Elevating Equipment is a family-owned and operated elevator manufacturing company based in Salisbury, Maryland. DEM EE began in the early 2000s but has roots dating back to the 1930s.

We specialize in group 1 equipment and offer a wide range of elevator parts and components, including power units, cabs, doors, entrances, pit ladders, and car-top railings (to name a few). Our continued commitment to providing the best quality products has made us one of the largest, independent, non-proprietary elevator equipment manufacturers in the United States.

Our overall goal is to provide quality products and responsive customer service tailored to meet the individual needs of our valued customers. We confidently affirm that we are large enough to solve any elevator problems and can assist on custom projects while providing personal care that is the backbone of our family-owned business.

We attribute years of success to our highly skilled employees, both in the office and on our shop floor. We take pride in promoting safety, quality, and value. We welcome the opportunity to work with you on any and all of your vertical transportation needs and are proud to manufacture our equipment in the USA with 100% certified welders and skilled tradesmen.

info@demelevating.com

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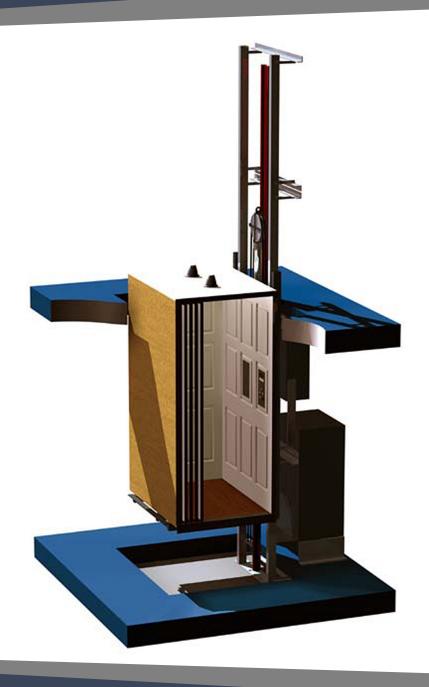
EQUIPMENT OVERVIEW

EQUIPMENT

- 1:2 Roped hydraulic drive
- (2) 3/8" diameter hoist cables
- 1-Stage hydraulic piston & cylinder w/self-adjusting seal
- Heavy duty cantilevered designed car sling w/roller guide shoes
- 8 lb/ft steel tee guide rail system
- 220 volt single phase power supply
- Vibration free submersible pump/motor assembly (3 or 5 HP motor)
- 2-Speed control valve and constant down speed regulation

SAFETY DEVICES

- Type "A" instantaneous broken rope car safety
- Pipe rupture valve
- Upper and lower terminal limit switches
- Top final limit switch
- Slack cable switch
- Emergency car lighting in cab
- Emergency stop switch in cab
- Emergency push button alarm in cab
- Automatic car re-leveling device
- Battery lowering device
- Emergency manual lowering valve
- Emergency telephone in cab
- Solid panel cab doors with approved safety switch
- Approved electro mechanical hoistway door interlocks
- Rubber impact bumper below elevator car
- UL and/or CSA certified electrical and hydraulic devices
- Manufactured in accordance with ASME A17.1 safety code



EQUIPMENT OVERVIEW

CONTROLS/PUSH BUTTON FIXTURES

- Automatic pushbutton control
- Microprocessor based control system w/battery back up
- Light-up push buttons in car and hall
- Digital floor position indicator in car
- Automatic in car light
- Automatic indicator light time-out feature
- Automatic "Home Park" feature to designated floor
- "Car Here" indicators in hall
- Low oil protection timer circuit

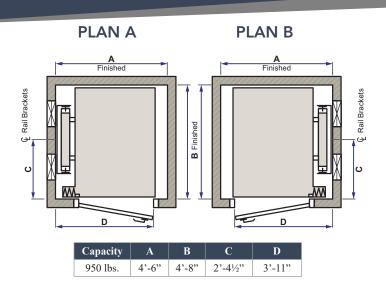
CAB FINISHES & ACCESSORIES

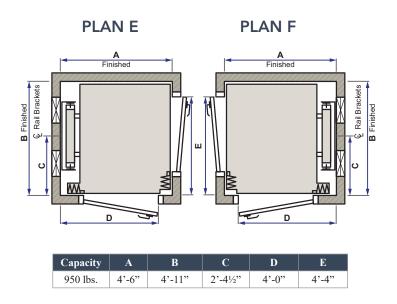
- Cabs available in a wide variety of plastic laminate choices and other options
- Solid panel accordion cab door available in a wide variety of vinyl laminate choices. Lexan & Aluminum also available.
- 36" x 48" x 80" high clear interior cab size with a variety of cab opening configurations
- Brushed stainless steel cab control panel. Other options available.
- Brushed stainless steel handrail on one side wall. Other options available.

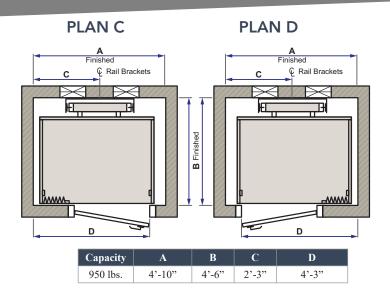
CHARACTERISTICS

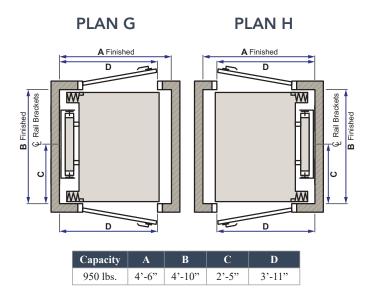
- Up to 950 lb capacity
- 40 FPM nominal car speed
- Up to 6 stops with 50 feet of floor to floor travel
- Minimum pit depth of 10 inches required (12" recommended)
- Minimum overhead clearance of 8'-0"required (9'-6" recommended)
- Up to 15 square feet interiors cab sizes available (12 ft standard)

HOISTWAY REQUIREMENTS

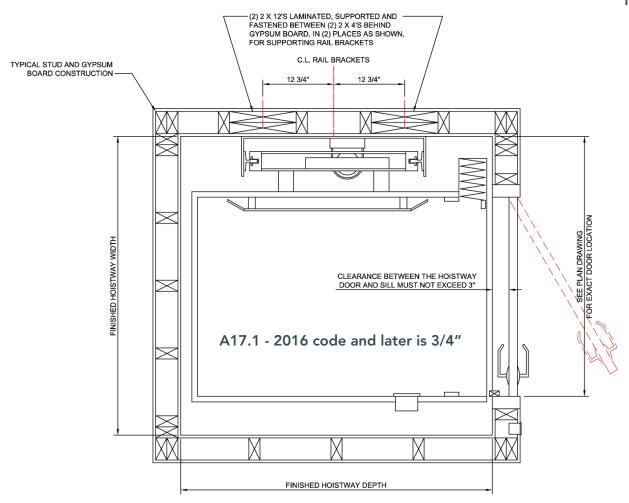








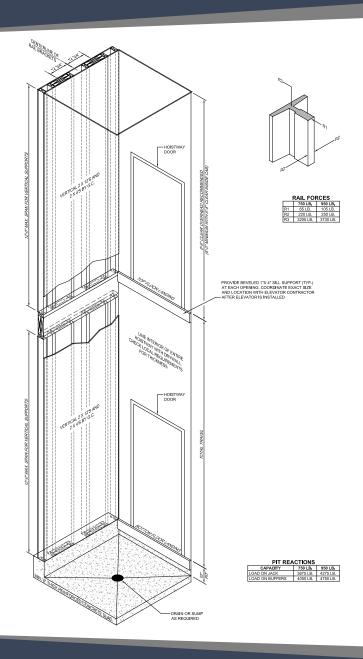
HOISTWAY RECOMMENDATION



Notes:

- Provide a legally constructed and enclosed machine room, adequately lighted, and conditioned to maintain temperature between 65° to 95° Fahrenheit, relative humidity is not to exceed 95% non-condensing.
- Machine room must be of adequate size to provide clearances around and between equipment as required by code.
- Provide a fused disconnect switch for each elevator in the machine room, located in a position based on local code and within sight of elevator equipment, and arranged to be locked in the off position. Not lockable in the ON position.
- Provide 110 VAC service for elevator light and accessories connected to the car light service terminal on the elevator controller. A single disconnecting means for the car light and accessories shall be located in the machine room and arranged to be locked in the open position.
- Provide light, switch and 110 VAC GFI outlet in the machine room, with switch located adjacent to the machine room door.
- Only elevator related equipment is allowed in machine room.

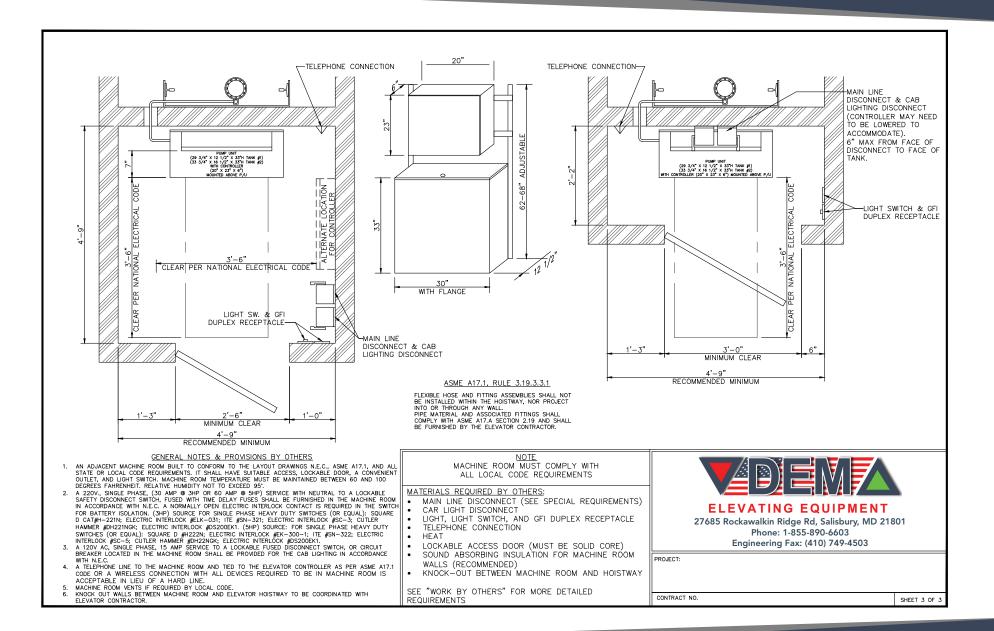
HOISTWAY RECOMMENDATION



Minimum Requirements for Hydraulic Elevators

- 1. 52" x 56" clear inside hoistway dimensions when using an accordion style solid gate.
- 2. 10" minimum pit built to withstand a 3,900 lb load.
- 3. 96" clear hoistway overheard for 6'-8" cab.
- 4. 11" minimum return on rail side wall. If this cannot be obtained, contact office for approval.
- 5. If masonry construction, rail wall needs to have inserts.
- 6. Rail side blocking for wood frame hoistways must be two 2 x 12's sandwiched together, running vertically the entire length of the hoistway 12 3/4" on the center of either side of the rail bracket centerline. (Please see rail wall structural drawing.) Build same as a header.
- 7. Any travel distances over 28'-0" will incur a special order charge for larger piston travel. (Add approximately one month to the standard delivery time.)
- 8. Machine room to be located adjacent to rail wall on first floor.
- 9. Remote machine rooms to be approved by the office and are an upcharge.
- 10. Machine room to be 48" x 48" or large enough to accommodate pump controller without restricting access, and as per code. 7' Minimum headroom recommended.

MINIMUM MACHINE ROOM



Part 1: General

1.1 Description of Work

To furnish all labor and materials required to cover a complete installation of (one) roped hydraulic residential elevator. The elevator is to be installed in a first class workmanlike manner in accordance with the specification and drawings provided.

1.2 Work By Others

The following preparatory work to accommodate the elevator installation C. Electrical Requirements is to be done by others and is part of work of other sections.

A. Hoistway

- 1. A finished plumb hoistway of proper size and construction conforming to ASME A17.1 all applicable building codes, and the elevator layout drawings.
- 2. Adequate supports shall be provided for fastening rail brackets as indicated on the layout drawings. Supports must withstand rail forces indicated.
- 3. A poured pit conforming to all applicable codes, ASME A17.1, and to the dimensions indicated on the layout drawings must be provided. guaranteed dry and level from wall to wall.
- 4. Knock-out in walls between the machine room and elevator hoistway for routing hydraulic and electrical lines and for hall buttons shall be coordinated with the elevator contractor.
- 5. All wall patching, painting, and grouting by others.
- 6. Hoistway doors, frames, entrances, sills, and associated framing to be provided and installed by purchaser or general contractor.
- B. Machine Room
- 1. An adjacent machine room built to conform to the layout drawings, NFPA

- 70, ASME A17.1, and all applicable building code requirements. It shall have suitable access, a lockable door, a convenience outlet, and light switch. Machine room temperature must be maintained between 60 and 100 degrees. Relative humidity not to exceed 95%.
- 2. A telephone line to the machine room and tied into the elevator controller as per ANSI/AMSE A17.1 code.
- 3. Machine room vents as required by local Code.

- 1. A 220 VAC, single phase service, with neutral, to a lockable safety disconnect switch, fused with time delay fuses shall be furnished in the machine room in accordance with NFPA 70. A normally open electric interlock contact is required in the switch for battery isolation.
- 2. A 120 VAC, single phase, 15 AMP service to a lockable disconnect switch, or circuit breaker, located in the machine room shall be provided for the cab lighting in accordance with NFPA

1.3 Quality Assurance

The elevator shall be designed, manufactured, installed, and inspected in The pit must be designed for the impact load indicated and must be accordance with ANSI/ASME A17.1standards and all applicable regulations of federal, state, and local agencies having jurisdiction.

A. References

70.

- 1. American National Standards Institute (ANSI)
- 2. American Society of Mechanical Engineers (AMSE)
- 3. National Electric Code (NFPA 70)
- 4. CSA B44.1/ASME A17.1, elevator and escalator electrical equipment requirements.

B. Qualifications

The installation shall be performed by a company with no less than (5) years of successful experience in the assembly and erection of similar type elevators and who has adequate product liability insurance.

C. Regulatory Requirements

The elevator installer shall verify requirements of the local authority having jurisdiction and shall obtain and pay for necessary municipal and state permits and inspections as required, and make tests as called for by the regulations of such authorities.

Part 2: Submittal

Part 2: Submittal

2.1 Product Data

Submit manufacturer literature including product data, cab design, color charts, signal fixtures and specification.

2.2 Layout Drawings

Layout drawings shall be submitted showing the general arrangement of the elevator equipment including dimensions, clearances, location of machine equipment, and all loads and reactions imposed on pit and building structure.

Part 3: Products

3.1 Manufacturer

The roped hydraulic residential elevator shall be manufactured by DEM, 27685 Rockawalkin Ridge Road, Salisbury, MD 21801. U.S. Toll

Free 1-800-787-0436 or Fax 410-341-7505 3.2 Characteristics

Type: Roped 2:1 Hydraulic

Capacity: 950 lbs. Car Speed: 40 FPM Operation: SAPB/Single Button Collective

Travel:

Number of Stops: Number of Openings:

Inside Car Dimensions: 36" x 48" x 80" high Power Supply: 220 Volt,

single phase, 60 Hz. Cab Design:

Push Button Faceplate and Handrail Finish:

3.3. Equipment

A. Operations

Operation of the elevator shall be single automatic push button or single button collective (field programmable); momentary pressure on any button will call or send the elevator to the corresponding landing providing all doors are closed.

1. Battery Lowering: In the event of a

Power failure, the elevator shall automatically descend to the next landing, and can proceed to the bottom landing while monitoring all safety circuits If the elevator is equipped with a power car door(s) option, the car door(s) shall open and close automatically. Batteries are to have an automatic charging system.

- shall automatically transfer to battery power.
- 3. Home park Feature: The elevator shall automatically return to a field of programmable designated landing after one minute without use. (per preference)
- 4. Automatic two-way leveling: the Leveling device shall automatically stop and maintain the car within ½ inch of the landing regardless of An automatic shut off valve at the cylinder inlet shall be provided to stop change in load
- 5. Low oil control: A low oil control feature shall be provided designed to automatically cause an up travel car to descend to the lowest terminal if the elevator should fail to reach a landing in a predetermined time or if the system does not have a sufficient reservoir of oil.

B. Control Systems

A microprocessor based control system certified and labels to the requirements of CAN/CSA-B44.1/AMSE A17.1 shall be provided. It shall include a motor starter with a potential relay, motor overload device, an uninterrupted power supply with battery charging circuit, and external relay redundancy circuits to prevent dangerous conditions as a result of H. Guide Rails a single contact failure. All circuits shall be fuse protected.

All to be enclosed in a single NEMA 1cabinet.

C. Hydraulic Power Unit

The hydraulic power unit shall include a submersible motor, rotary screw type pump, two-speed control valve and oil reservoir with an oil level gauge. The control valve shall include safety check valve, up and down acceleration, deceleration, leveling and soft stop adjustments, pressure relief valve, manual lowering valve, constant down speed regulation, pressure gauge with shutoff, negative pressure switch and manual shutoff valve all mounted and enclosed in a compact unit assembly with a key lockable cover.

D. Plunger and Cylinder

The cylinder shall be constructed of steel pipe with a steel bulk plate 2. Emergency car lighting: In the event of a power failure, the car lights welded to the lower end and a cylinder head welded to the upper end which houses the self adjusting packing bearings wiper, are bleeder, and leach line hose. The plunger shall be manufactured from accurately ground and polished tubing fitted with a steel stop ring welded to the bottom to prevent the plunger form leaving the cylinder in the up direction.

E. Pipe Rupture Valve

and hold the elevator in the event of a main oil line failure or if the elevator should over speed in the down direction.

F. Car Frame and Platform

The car frame shall be fabricated from structural and formed steel members, welded and bolted construction, of the cantilevered design.

G. Car Suspension

The elevator car frame shall be suspended by (2) 3/8" diameter, 6 x19, traction steel cables. The cables shall dead end to the pit steel on one end, pass a "U" groove sheave, and attach to the car safety device with approved type wedge sockets.

The car guide rails shall consist of (2) machined steel "tee" sections, no less than 8 lb. per foot, securely fastened to the hoistway structure with steel brackets. All rail end sections shall be tongue & grove type joined with steel splice plates.

I. Car Operating Panel

Car operating panel shall consist of metal lens call push button with red LED halo lighting for each landing, an alarm button, emergency stop button, light switch, and a digital car position indicator with car direction arrows all mounted onto a brushed stainless steel faceplate (brass optional) Digital C.P.I. shall be field programmable. Phone build into panel.

J. Landing Controls

Landing controls stations shall consist of a metal lens cal button and a "car here" indicator with red LED halo lighting mounted onto a brushed stainless steel faceplate (brass optional).

K. Hoistway Doors

The general contractor or owner is to furnish (elevator contractor may opt to furnish) and install hoistway doors, frames, hinges, and passage sets at each landing. The type and installation of the doors and frames must

comply with ASME A17.1, all state and local codes and as per manufacturer's layout drawings.

L. Car Door(s)

The car door(s) shall be solid panel construction accordion type folding door(s) that prevent a person's hands or feet from extending through openings. Finish shall be vinyl laminate chosen from the manufacturer's standards color selection (hardwood, visifold, and alumifold optional). Car poor shall be equipped with a positive contact switch to prevent elevator operation with the car door(s) open (power car door(s) optional). M. Car Enclosure

The cab walls shall be constructed of ¾" minimum substrates faced with plastic laminate or wood veneers with wood trim accents as selected from the manufacturer's standard designs. A brushed stainless steel handrail (brass optional) shall be located on one wall. A telephone shall be furnished in the elevator cab for emergency communication. Cab ceiling shall be a minimum of ¾" thick substrate with at least a (2) bulb light fixture as selected from the manufacturer's standard ceiling designs. Finished flooring covering is to be furnished by others.

N. Electrical Wiring

All wiring and electoral materials shall conform to NFPA 70 and with all applicable codes. Insulated wiring shall have flame retardant and moisture proof outer covering and shall be run in conduit or electrical wire ways as required. Traveling cables shall be flexible and suitable suspended to relieve strain.

Part 4: EXECUTION

4.1 Fxamination

Elevator installer shall verify dimensions of hoistway, pit, machine room, and inspect condition of supports and structure prior to installation.

4.2 Installation

The elevator shall be installed in accordance with the manufacturer's instructions and shall conform to ASME A17.1 and all state and local code requirements.

4.3 Operating Instructions

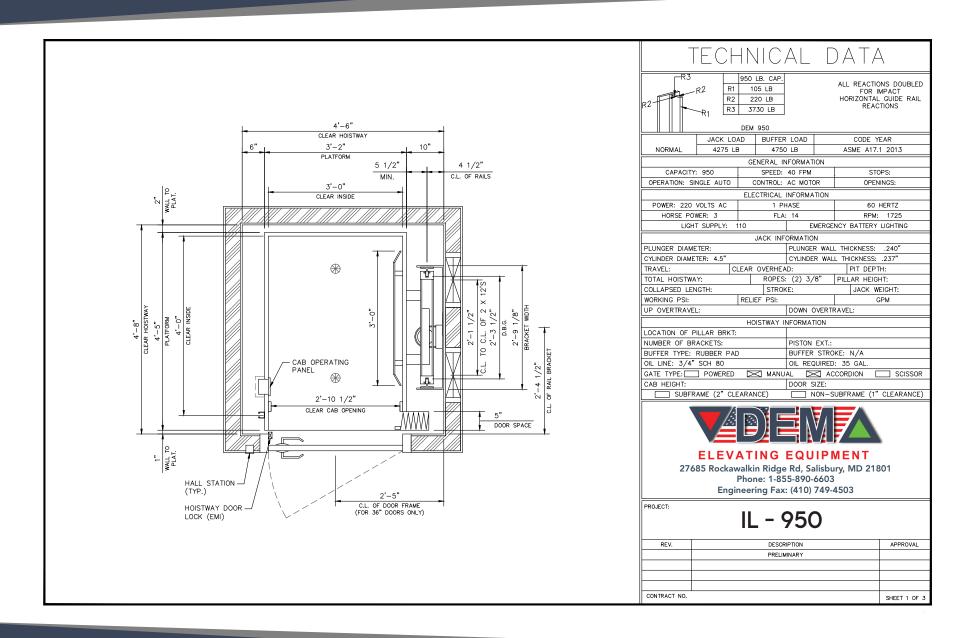
Upon completion of the installation, the owner shall be instructed on the elevator's operation, safety precautions, and maintenance requirements. The owner will be supplied with an owner's manual to retain for reference. 4.4 Maintenance

The elevator shall be maintained in accordance with the manufacturer's recommendations and all applicable codes

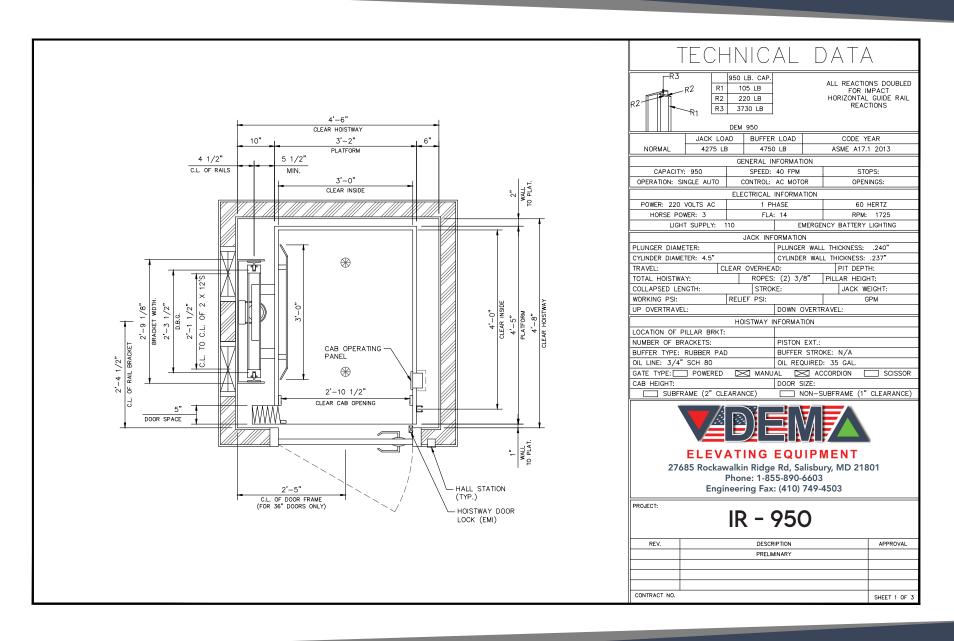
4.5 Warranty

The elevator shall have a (1) year limited parts warranty.

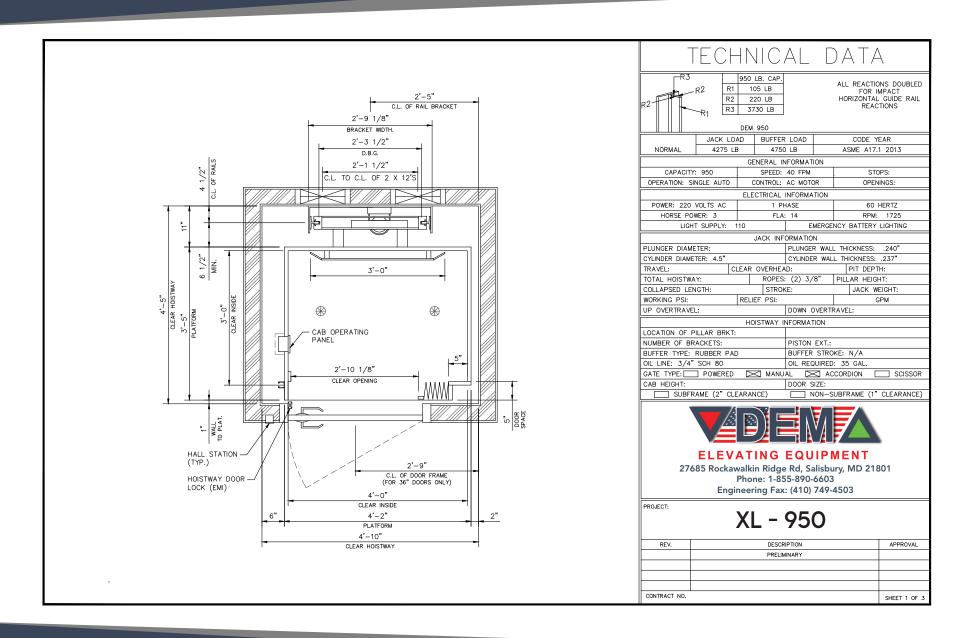
IN LINE OPENING IL-950



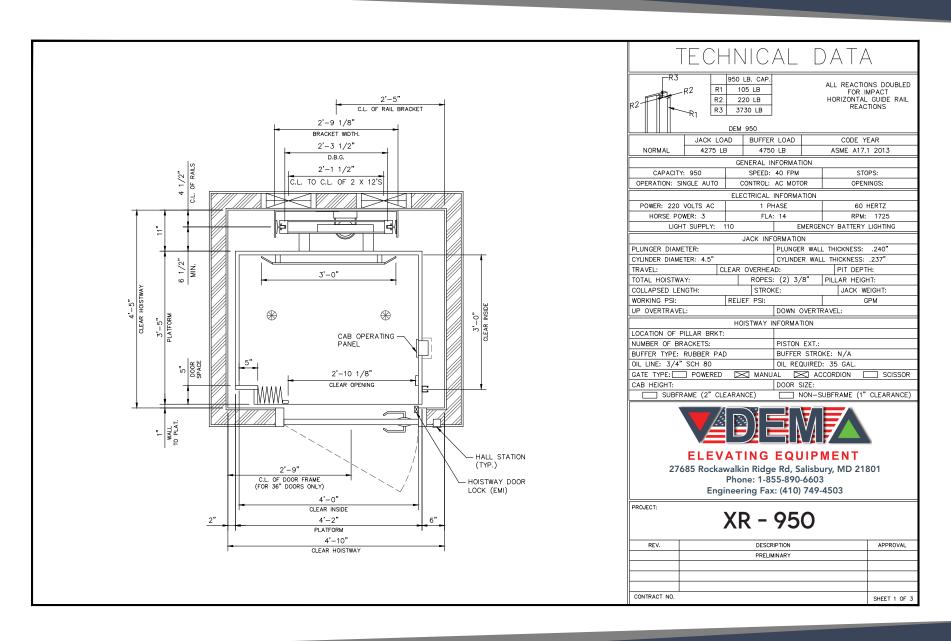
IN LINE OPENING IR-950



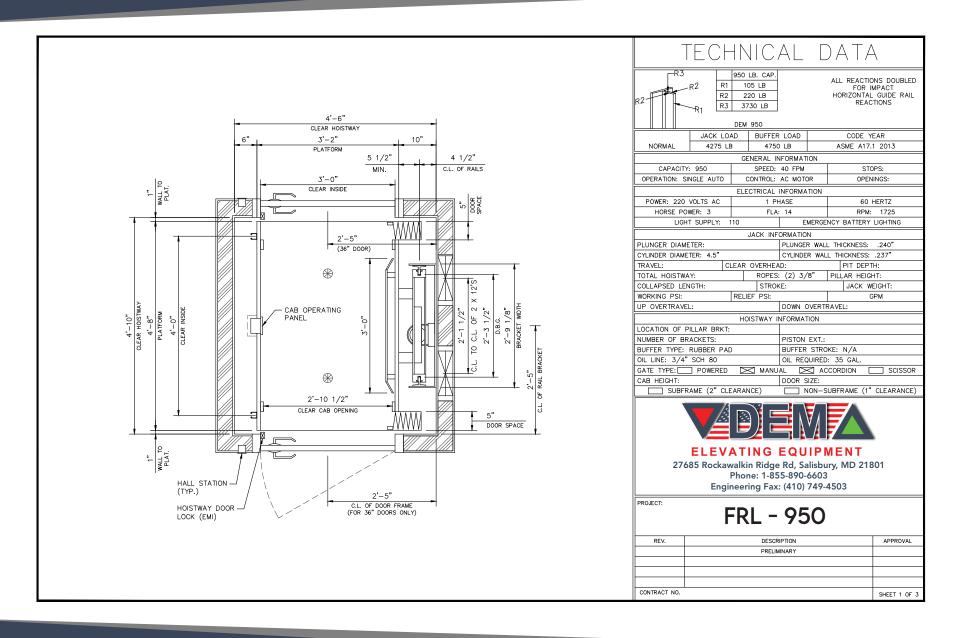
IN LINE OPENING XL-950



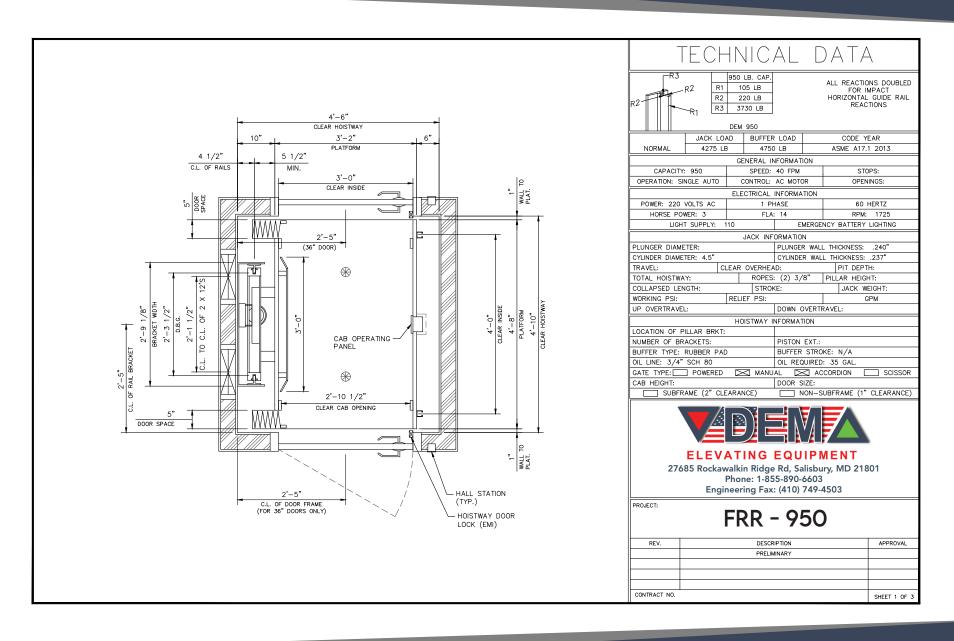
IN LINE OPENING XR-950



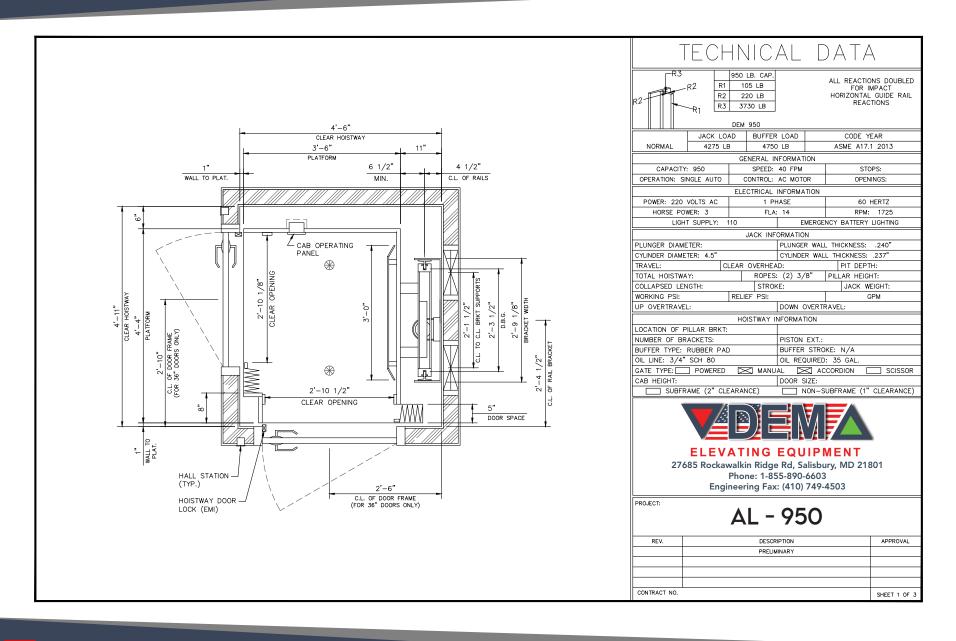
FRONT & REAR FRL-950



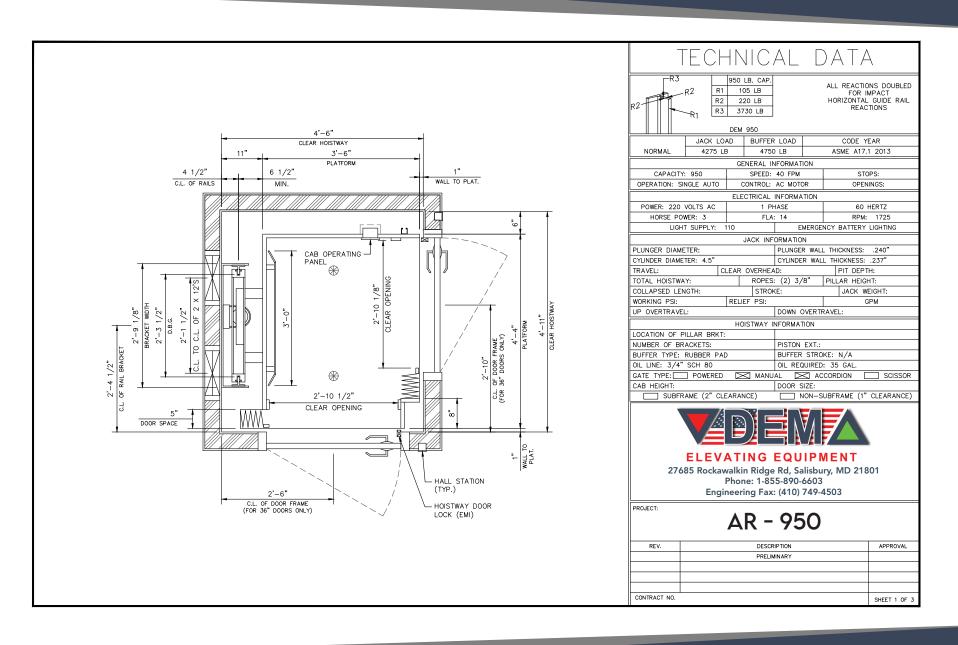
FRONT & REAR FRR-950



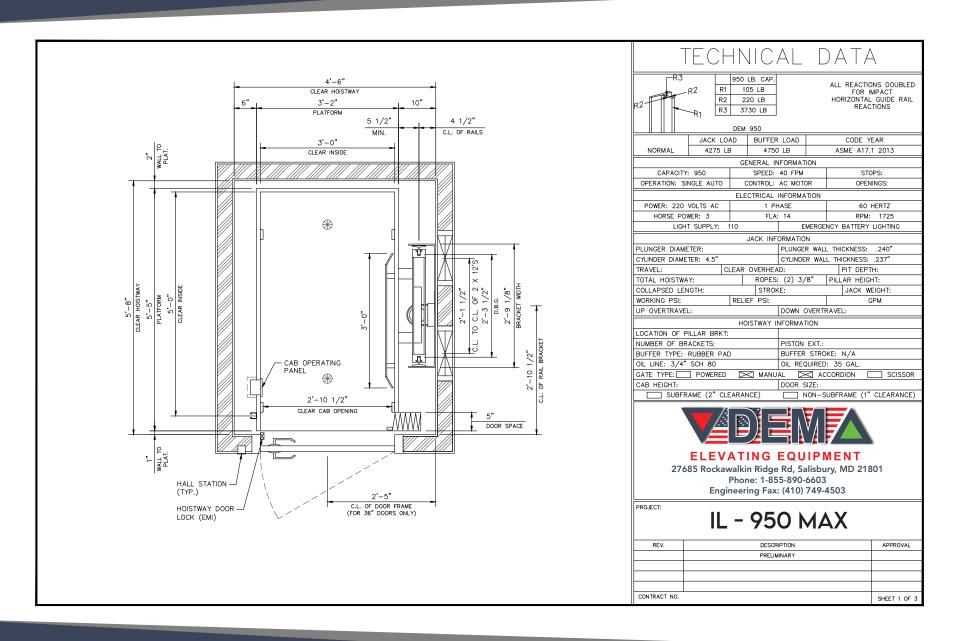
ADJACENT OPENING AL-950



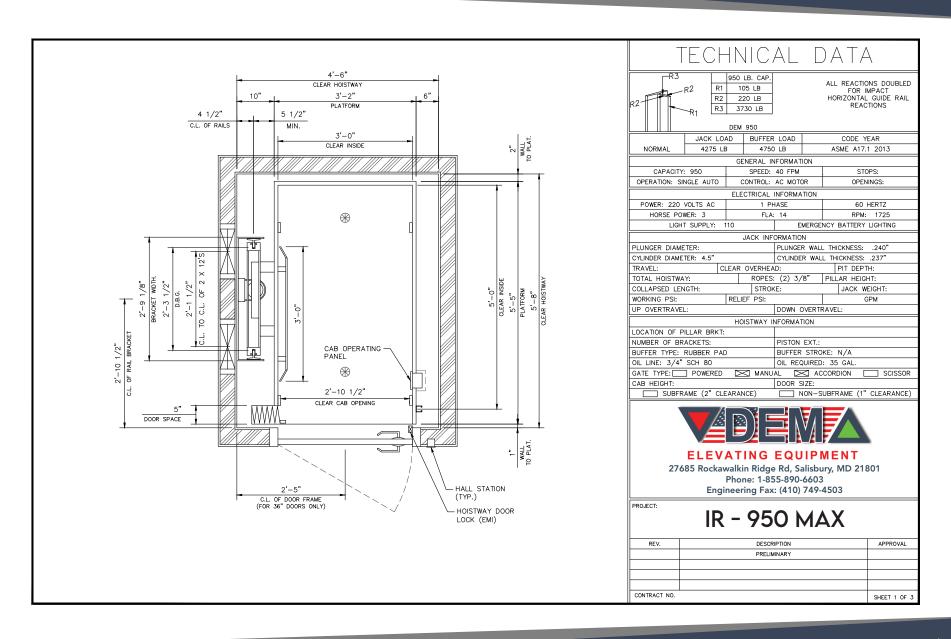
ADJACENT OPENING AR-950



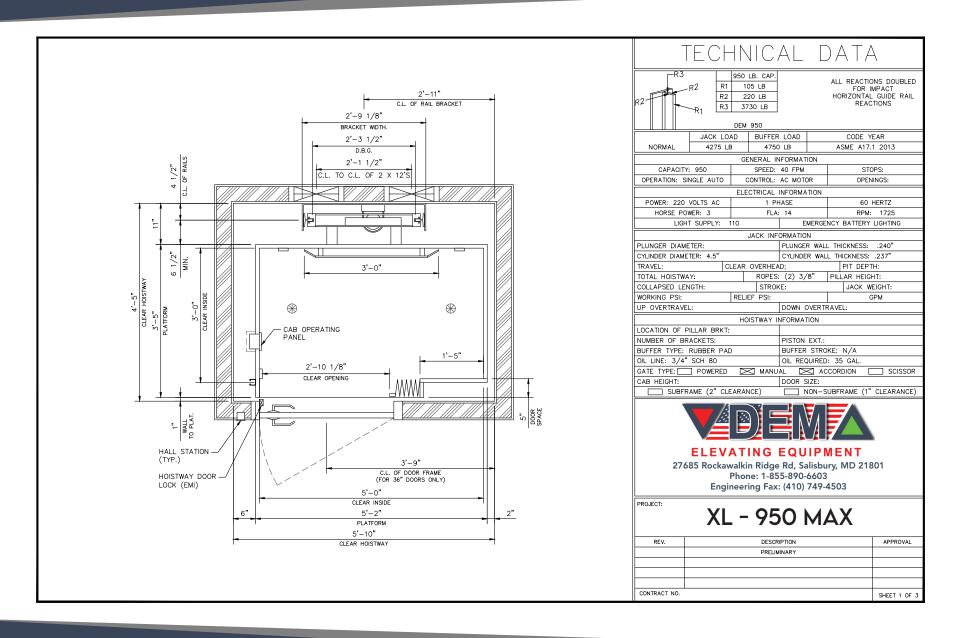
IN LINE OPENING IL-950 MAX



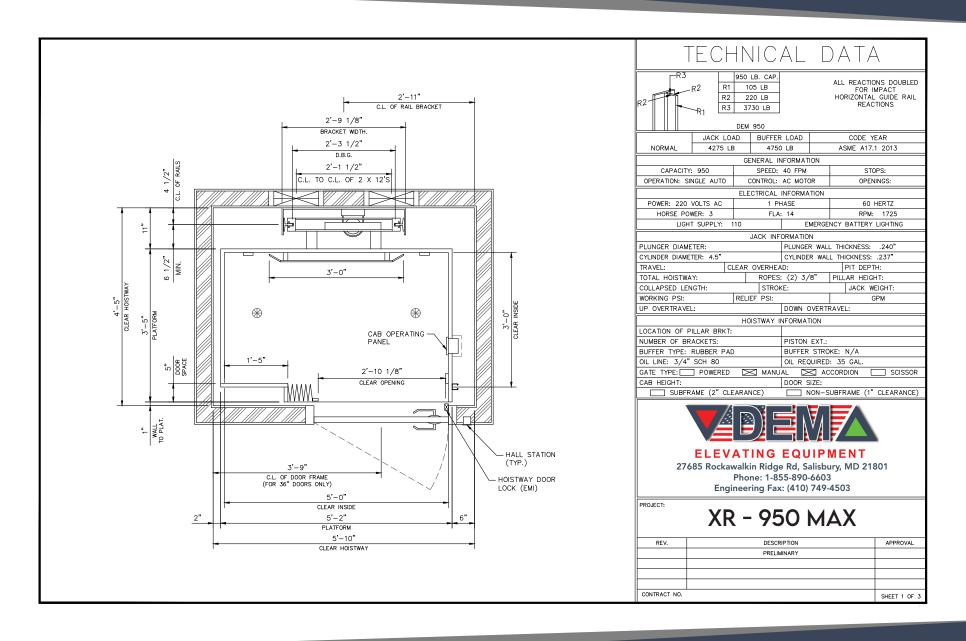
IN LINE OPENING IR-950 MAX



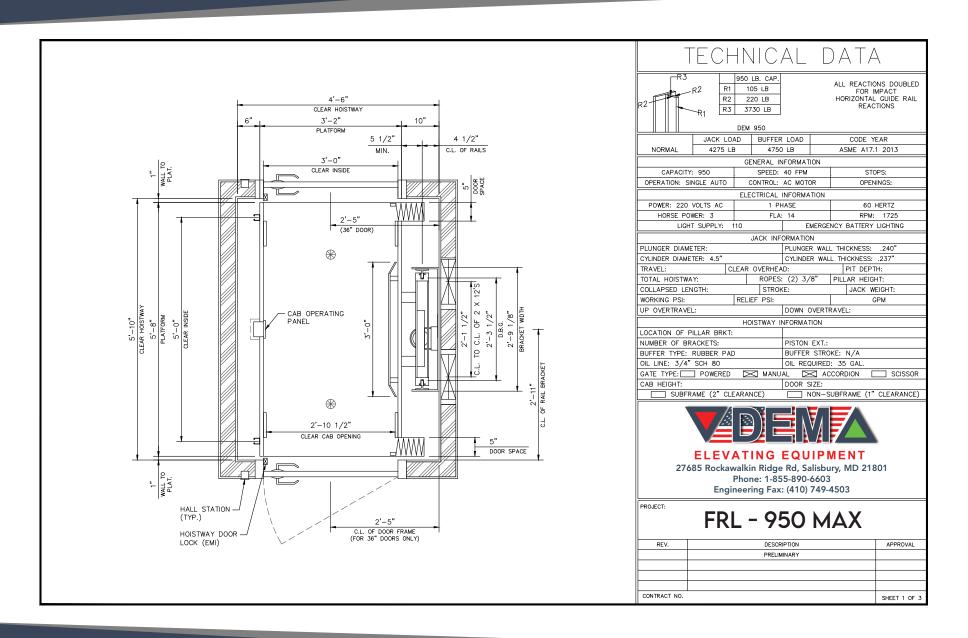
IN LINE OPENING XL-950 MAX



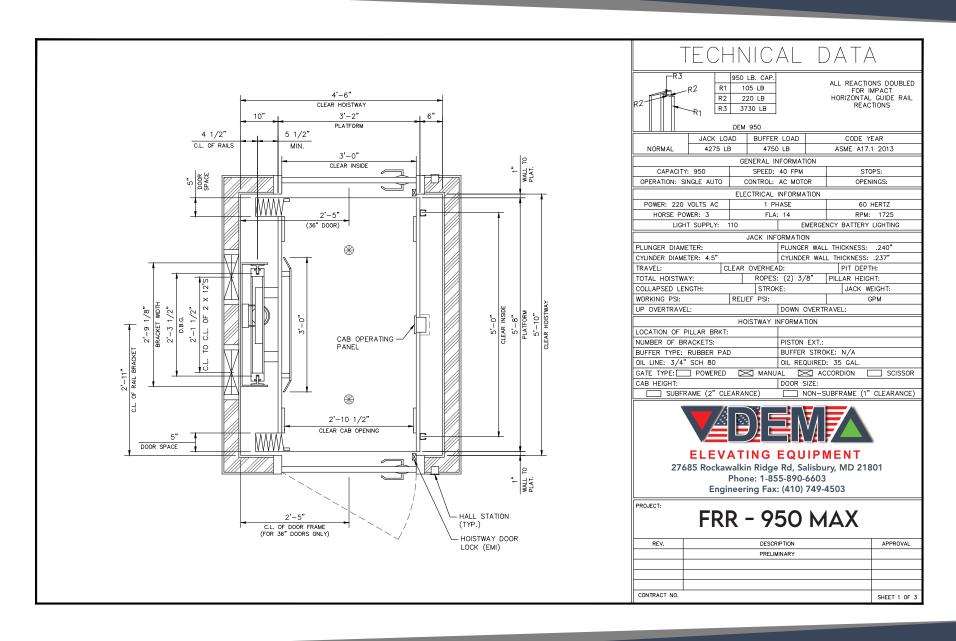
IN LINE OPENING XR-950 MAX



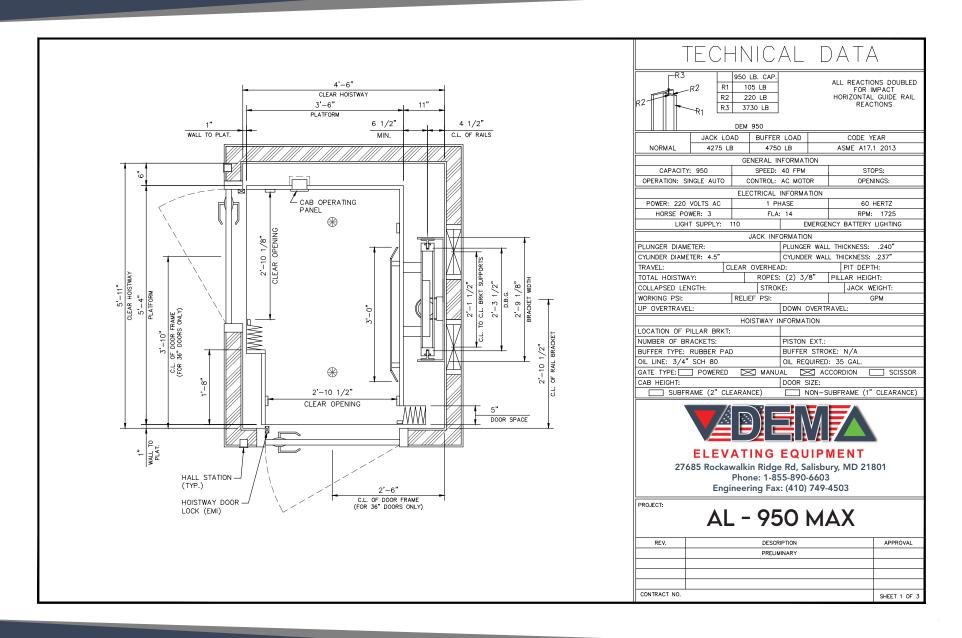
FRONT & REAR FRL-950 MAX



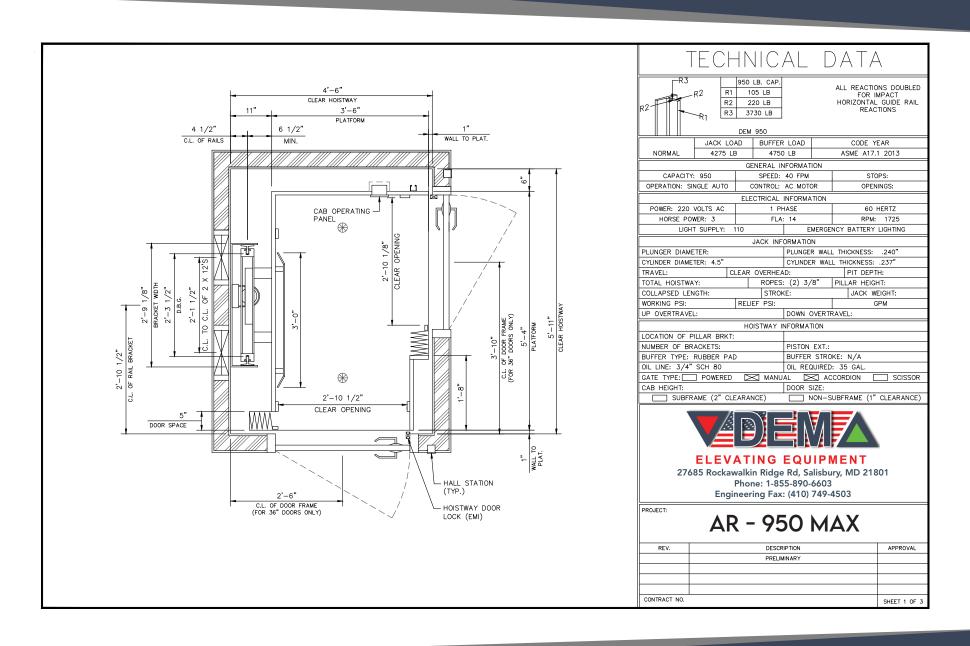
FRONT & REAR FRR-950 MAX



ADJACENT OPENING AL-950 MAX



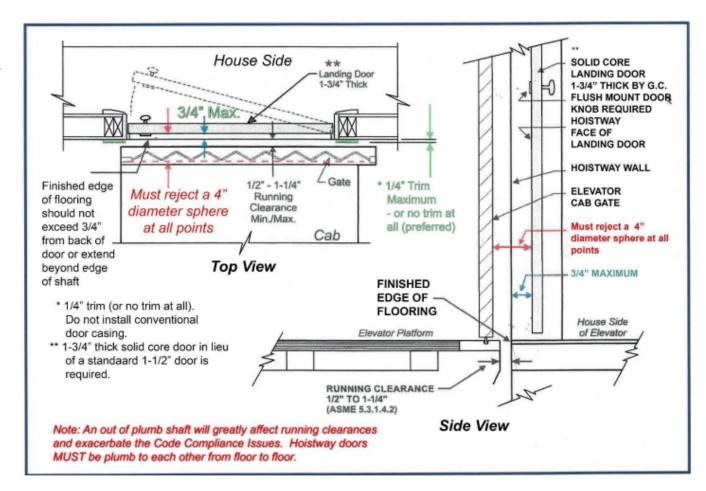
ADJACENT OPENING AR-950 MAX



HOME ELEVATOR 3/4" X 4"

DEM installs a fully code complainant elevator per the ASME ANSI A17.1 National Safety Code for Elevators - Section 5.3 Private Residences Elevators, Rule 5.3.1.4.2. of the elevator safety code states that the provided hoistway must meet the below clearance requirements within a private residence state:

- The clearance between the hoistway face of the hoistway doors and the hoistway edge of the landing sill shall not exceed 3/4" (0.75 in).
- The distance between the hoistway face of the landing door and the car door or gate shall not exceed 4" (inches).



DEM EE elevators can be found in projects with the below partners:











































DEMELEVATING.COM

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Phone: 1-855-890-6603

Fax: 410-341-7505