

Architectural Specifications

HI-PRESSURE DOOR

TECHNICAL SPECIFICATIONS



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A large, stylized graphic of a yellow and orange door frame or structure, possibly representing a high-pressure door. The graphic is composed of several yellow and orange rectangular panels arranged in a complex, overlapping pattern. The year '2007' is printed in black on one of the yellow panels.

2007

HI-PRESSURE" DOOR TECHNICAL SPECIFICATIONS

The following material descriptions are based on the **HI-PRESSURE"** Door as manufactured by Precision Door Industries. This door system consists of several hinged steel sections that are mounted one on top of the other and are guided to a horizontal overhead position by way of a trolley type drive through a roller track system.

DOOR PANELS

1. Horizontal struts and intermediate stiles to be constructed of 2" x 2" x .188" H.S.S. tubing. End stiles to be constructed of 5" x 2" x 1-1/4" H.S.S. tubing. Maximum spacing of intermediate stiles is not to exceed 24" centre to centre.
2. Panel face shall be 18-gauge C.R. steel.
3. Where pressure differentials and door width conclude, one (1) high-pressure Abox-type= strut shall be mounted across the centre of each panel to minimize deflection.

HARDWARE

1. End strap hinges to be of 3-knuckle construction composed of 4-1/2" x 4-1/2" x 1/4" thick steel leaves, 5/8" O.D. x 11 gauge (cold-drawn seamless mechanical tubing) knuckles and a 3/8" diameter steel hinge pin with a grease fitting.
2. Intermediate strap hinges to be of 3-knuckle construction composed of 3" x 1-1/2" x 1/4" thick steel leaves, 5/8" O.D. x 11 gauge (cold-drawn seamless mechanical tubing) knuckles and a 3/8" diameter steel hinge pin with a grease fitting.
3. Rollers to consist of 3" O.D. x 11/16" thick solid steel wheel, 3/4" diameter x 7" LG cold-rolled shafts, 1-3/4" O.D. sealed bearing for trouble free operation.
4. Roller supports composed of 1/4" thick hot-rolled steel, 1-1/4" O.D. x .812" I.D. seamless mechanical tubing c/w grease nipple for ease of lubrication.
5. End angle brackets shall be constructed of 1/4" thick H.R. steel c/w 1/4" thick hot-rolled steel gussets for additional stability.
6. All hardware to be secured by 3/8" NC Grade 5 plated bolts and nuts throughout.

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ROLLER TRACK

1. Panels shall be guided by two (2) vertical and two (2) horizontal roller tracks.
2. Roller track shall be 3" roll-formed galvanized steel track with a minimum thickness of .109".
3. Vertical roller tracks shall be mounted on two (2) vertical track supports (C8 x 11.5 structural channel) and shall be further supported by a steel angle (1-1/2" x 2" x 3/16") positioned vertically against the curved edge of the track for additional stability. The vertical track support on the operator side shall come with a cut-out at the 5-foot level for ease of replacing the reversing edge.
4. Horizontal roller tracks having minimum 15" radius curve shall be mounted on C6 x 8.2 structural channel and shall be further supported by a steel angle (1-1/2" x 1-1/2" x 3/16") positioned horizontally under the track. Eight horizontal track hangers (2-1/2" x 2" x 3/16" @ 4' long) to be supplied per door.

COUNTERBALANCE SPRING ASSEMBLY

1. A counterbalance spring assembly shall be supplied for installation above the door opening to counterbalance the weight of the door.
2. The spring assembly shall consist of oil-tempered, helical torsion springs c/w 1-1/4" C-1045 precision ground shafting and shall be designed for a minimum life of 25,000 cycles.
3. Incorporated with the spring assembly are (I) two (2) cable drums having a normal diameter of 8-5/16" and a minimum load rating of 1100 lbs each and (ii) 1/4" galvanized cables which shall be used to transfer the weight of the door from the bottom corners of the lowest door panel to the cable drums.
4. Spring shafts shall be joined together by a 1-1/4" I.D. adjustable steel coupling. These shafts shall be supported above the opening at a minimum of six (6) locations by sealed, self-aligned bearings with cast iron 2-hole flange housings.

These locations consist of two (2) vertical track supports and a series of 1/4" thick steel support brackets. All self-aligning bearings used throughout the door system shall have a dynamic load rating of 5820 lbs (2641 kg) and a static load rating of 3400 (1571 kg).

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OVERHEAD TROLLEY ASSEMBLY

1. The door system shall incorporate a trolley with a lift-arm attached to the top panel to raise and lower the door.
2. The trolley shall ride within a trolley track and powered through a #50 ANSI roller chain utilizing #50 sprockets throughout.
3. The trolley track shall be constructed from 2-1/2" x 2" x 3/16" steel angle, 3/16" x 2" FB spreaders and c/w four (4) 1-1/4" I.D. sealed, self-aligning pillow block bearings.
4. The trolley lift arm shall be composed of 2" x 1-1/2" FB and have two (2) 5/16" x 1" steel FB stiffeners and c/w steel bushing for ease of movement.
5. A 1-1/4" diameter C-1045 jackshaft shall transmit the power from the operator side of the opening to the trolley over the centre line of the opening. The jackshaft shall be supported at four locations by sealed, self-aligning bearings.

FINISH

All metal shall be prime-coated and factory finished in the manufacturer s standard colour.

ELECTRIC OPERATION

1. Operators shall be CSA/UL-approved, Model RCGH, extra heavy-duty gear head type c/w pre-wired, number-coded control panels.
2. Motor to be T.E.F.C, high starting torque, C-faced mount, hoist-type operating through an enclosed 80mm worm gear reducer.
3. Motor and sprocketing to be of a capacity to operate the door at a maximum speed of 12" (305mm) per second.
4. Operator shall be equipped with rotary screw limit switches to control open and close door positions as well as a solenoid operator drum brake system c/w 360 external compressing brake shoe to stop and hold the door in any position.
5. Operator shall be equipped with a built-in emergency manual chain hoist with a floor level disconnect device. A built-in electrical interlock shall prevent motor operation while the emergency manual chain hoist is in use.

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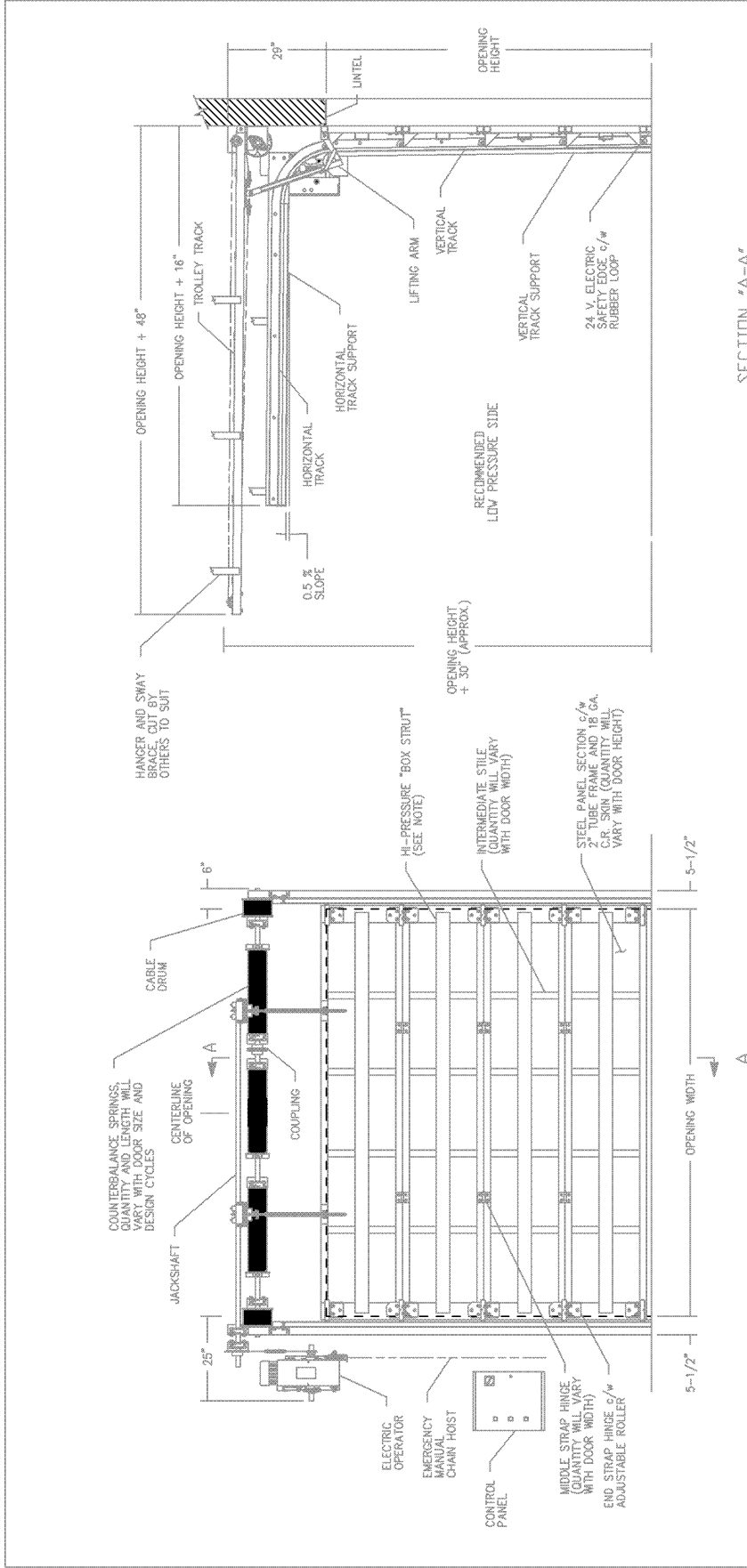
CONTROL PANEL

1. Wall-mounted control panel unit includes: Allen-Bradley integral reversing starter, overload and control relays, fused disconnect, panel-mounted open/close/stop pushbuttons and two (2) WP-1 pull cords for remote operation. The control panel and pull cords are to EEMAC/NEMA-4 Standards.

REVERSING EDGE

1. An electrically controlled, flexible, emergency door stopping device shall be comprised of two (2) aluminum foil contact strips mounted on a live foam rubber base.

It shall cause the door to stop its downward motion upon contact with an obstacle. These components shall be enclosed in a weatherproof, heavy-duty reinforced P.V.C. covering.
6. This reversing edge shall also serve as a sealing device between the base of the door and the floor. It shall be designed to compensate for uneven thresholds up to an edge-to-edge difference of 2" (51mm).

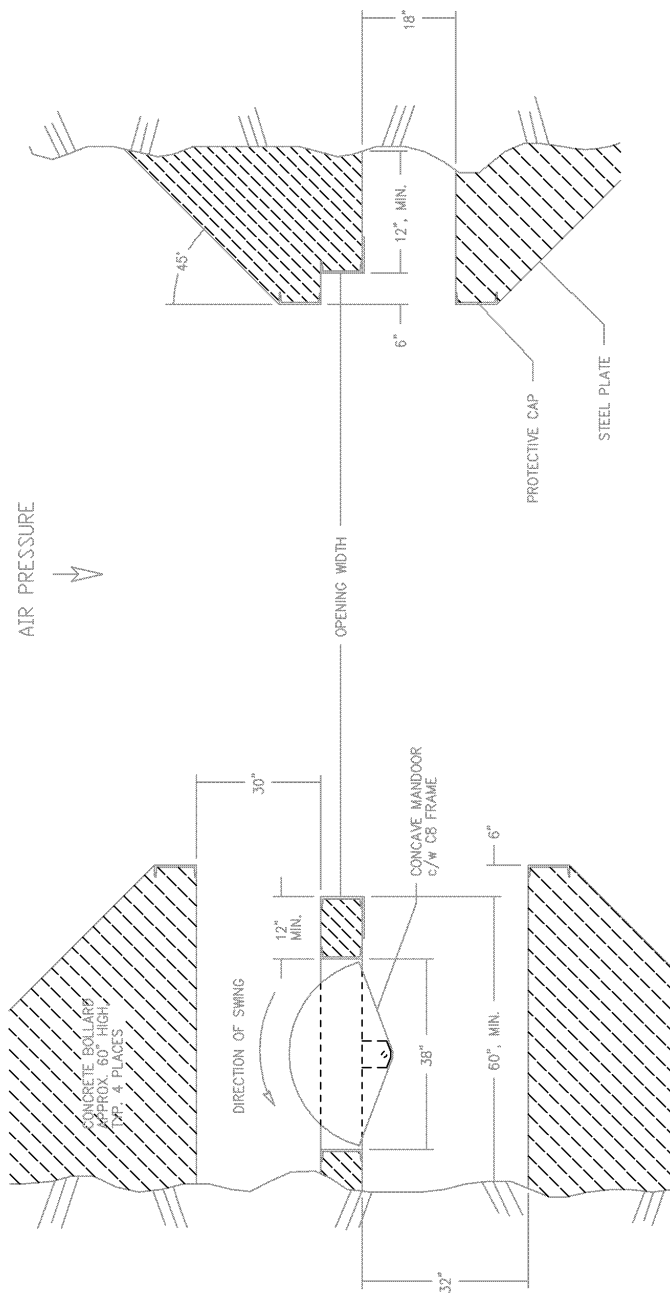


NOTE: BOX STRUTS REQUIRED IF: PRESSURE (in W/G) x OPENING WIDTH θ (ft.) EXCEEDS 225,000. CUSTOMER TO SPECIFY DESIGN PRESSURE.

SECTION "A-A"

| STANDARD SYSTEM INCLUDES: | | DOOR OPTIONS | CONTROL OPTIONS | ELECTRICAL SPECIFICATIONS |
|---|--|---|---|---|
| <input type="checkbox"/> 25 000 CYCLE C'BAL SPRINGS | <input type="checkbox"/> 50 000 CYCLE C'BAL SPRINGS | <input type="checkbox"/> FAILSAFE SAFETY EDGE | DOOR SPEED: 12 IPS | DOOR TYPE: HI-PRESSURE STEEL SECTIONAL, LEFT-HAND |
| <input type="checkbox"/> BOX STRUTS (IF REQUIRED) | <input type="checkbox"/> 100 000 CYCLE C'BAL SPRINGS | <input type="checkbox"/> LOOP DETECTOR | OPERATOR TYPE: ROCH | FEATURES: DOUBLE TROLLEY DESIGN, SINGLE SPRING SHAFT |
| <input type="checkbox"/> TWO (2) PULLCORDS | <input type="checkbox"/> PRE-FABRICATED FRAME | <input type="checkbox"/> MOTION DETECTOR | MOTOR SIZE: 2 HP | LIMITS: MAXIMUM DOOR WIDTH 16' 0", MAXIMUM DOOR HEIGHT 12' 0" |
| <input type="checkbox"/> FUSED DISCONNECT | <input type="checkbox"/> OTHER | <input type="checkbox"/> PHOTO CELL | VOLTS: _____ PHASE: _____ CYCLES: _____ | DATE DTR: NOVEMBER 30, 1993 FOR FRAME DETAILS: F-7731-WL |
| <input type="checkbox"/> PAINTED ORANGE | | <input type="checkbox"/> WIRELESS REMOVE | EEMAC (NEMA) STANDARD | DRN BY: J.CARR REL. DATE: FEB. 11, 1989 REV. NO.: C |
| | | <input type="checkbox"/> REMOTE PUSH BUTTON STN | CONTROL PANEL: 12 | ENR USE: _____ SERIAL NO.: _____ |
| | | <input type="checkbox"/> AUTOMATIC CLOSE | REMOTE PUSH BUTTON STN: _____ | DOOR SIZE: S-7731-WL |
| | | <input type="checkbox"/> ELECTRICAL INTERLOCK | | |

| PRECISION DOOR INDUSTRIES | |
|---------------------------|---|
| TITLE | SHOP DRAWING |
| DOOR TYPE | HI-PRESSURE STEEL SECTIONAL, LEFT-HAND |
| FEATURES | DOUBLE TROLLEY DESIGN, SINGLE SPRING SHAFT |
| LIMITS | MAXIMUM DOOR WIDTH 16' 0", MAXIMUM DOOR HEIGHT 12' 0" |
| DATE DTR | NOVEMBER 30, 1993 FOR FRAME DETAILS: F-7731-WL |
| DRN BY | J.CARR REL. DATE: FEB. 11, 1989 REV. NO.: C |
| ENR USE | _____ SERIAL NO.: _____ |
| DOOR SIZE | S-7731-WL |



NOTES:

- ALL FRAMING STEEL SUPPLIED BY OTHERS UNLESS SPECIFIED OTHERWISE.
- NOT ALL MOUNTING STEEL IS SHOWN. REFER TO FRAMING DETAIL.
- CLEARANCES ASSUME A LEFT-HAND OPERATED VEHICLE MANDOR WITH A MIN. OPENING HEIGHT OF 8 FEET AND A LEFT TO RIGHT MANDOR.

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| PRECISION DOOR INDUSTRIES | |
| TITLE BOLLARD DESIGN c/w 6" RECESS | |
| DATE DRN: APRIL 27, 1990 | 48 NO.: STANDARD |
| DRN BY: J.CARR | REV. DATE: AUG. 7, 1995 - B |
| HFSS or POST-DRIVE c/w CONCAVE MANDORR | |
| DWG NO. 90-B-148 | |