

Architectural Specifications

# OPPOSING SWING STEEL TECHNICAL SPECIFICATIONS



Precision Door Industries.

3057 Kingsway  
Sudbury, Ontario  
P3B 2G5

TEL: (705) 560-8705  
FAX: (705) 524-1303  
TOLL FREE: 1-800-641-7893  
WWW.PRECISIONDOOR.CA



2007

## **OPPOSING SWING STEEL TECHNICAL SPECIFICATIONS**

The following material descriptions are based on the Opposing Swing Steel Door as manufactured by Precision Door Industries.

This door system consists of two (2) door panels powered by a single drive system, a combination which allows counteracting forces produced by the pressure differential to minimize the power requirements.

### **DOOR PANELS**

1. The panel framework shall consist of 2" x 4" x .188" (50mm x 100mm x 5mm) thick H.S.S. with the exception of the hinge stile and the top strut which are constructed of 4" x 4" x .250" (100mm x 100mm x 6mm) H.S.S.
2. The door panel frame shall be covered with a metal skin constructed of 18 gauge (1.2mm) cold rolled steel.
3. The door skin, rails and braces are to be welded construction of sufficient integral strength to withstand a maximum constant pressure of 2.0 kPa (8" water gauge).

### **CONNECTING ARMS** (Drive Side/Free Side)

1. The arms shall be constructed of 4" x 4" x .250" (100mm x 100mm x 6mm) thick H.S.S. tubing, welded together with connecting plates of a minimum thickness of 3/8" (10mm).
2. The drive side arm shall be bolted to the drive side panel with 2-13NC hex head cap screws. The free side arm shall be bolted to the free side panel with 2-13NC hex head cap screws. Bolts shall extend through the entire panel and shall be secured with lock washers and hex nuts.

### **HINGES**

1. Extra heavy-duty two-leaf T-hinges (two per panel) shall be bolted to the panels using four (4) 2-13NC hex head cap screws. Bolts are to extend through the entire panel and shall be secured with lock washers and hex nuts.
2. The panel side leaf shall be gusseted with two (2) 1/4" (6mm) thick steel plates to provide additional strength and stability. The hinging portion of the leaf shall be constructed of 1-5/8" O.D. x 1-1/8" I.D. (41mm x 28mm) cold-drawn mechanical tubing welded to the leaf and complete with flanged cylindrical bearings inserted into either end to minimize friction.

## **OPPOSING SWING STEEL TECHNICAL SPECIFICATIONS**

### **HINGES** (cont=d)

3. The jamb side leaf shall have two (2) 2-1/2" O.D. x 7/8" I.D. (65mm x 22mm) cold-drawn mechanical tube sections welded to the top and bottom of the leaf to provide stability for the panel side leaf.
4. The two (2) leaves shall be connected using a 7/8" (22mm) diameter, cold-rolled steel hinge pin.

### **THE RODD ASSEMBLY**

1. The tie rod body shall consist of a 3-1/2" (90mm) diameter x .250" (6mm) wall thickness steel tube.
2. The tie rod ends shall be constructed of 3/4" (19mm) thick steel plates welded to the tie rod body and drilled and tapped 3/4-16NF to accept spherical rod eyes.
3. The tie rod assembly shall be connected to the drive and free side arms using 3/4" (19mm) diameter pivot pins.

### **ACTUATOR MOUNTING BRACKET**

1. A 10" x 8" x 2" (250mm x 200mm x 13mm) thick steel mounting bracket shall be provided for attaching the blind end of the pneumatic actuator to the door frame. This bracket shall be field-welded to the framing steel during installation and will attach to the blind end of the pneumatic actuator using a 1" diameter steel pin.

### **DOORSEALS**

1. An aluminum retainer with a 2" (50mm) long brush seal shall be affixed to the top of both door panels and a 3" (38mm) long brush seal shall be affixed to the hinged side of both door panels.
2. The bottom seal of both door panels shall consist of a 1/4" thick x 8" wide (6mm x 200mm) wiper made of flame-retardant MSHA-approved rubber material.

### **FINISH**

All metal surfaces shall be solvent-cleaned prior to priming and painting.

PRIMECOAT: Enamel Shop Primer applied to a minimum thickness of 1.0 mil.  
INTERMEDIATE COAT: Colour: Safety Orange, fast-dry enamel applied to a minimum thickness of 1.0 mil.  
FINISH COAT: Colour: Safety Orange, fast-dry enamel applied to a minimum thickness of 1.0 mil.

## **OPPOSING SWING STEEL TECHNICAL SPECIFICATIONS**

### **CONTROL PANEL**

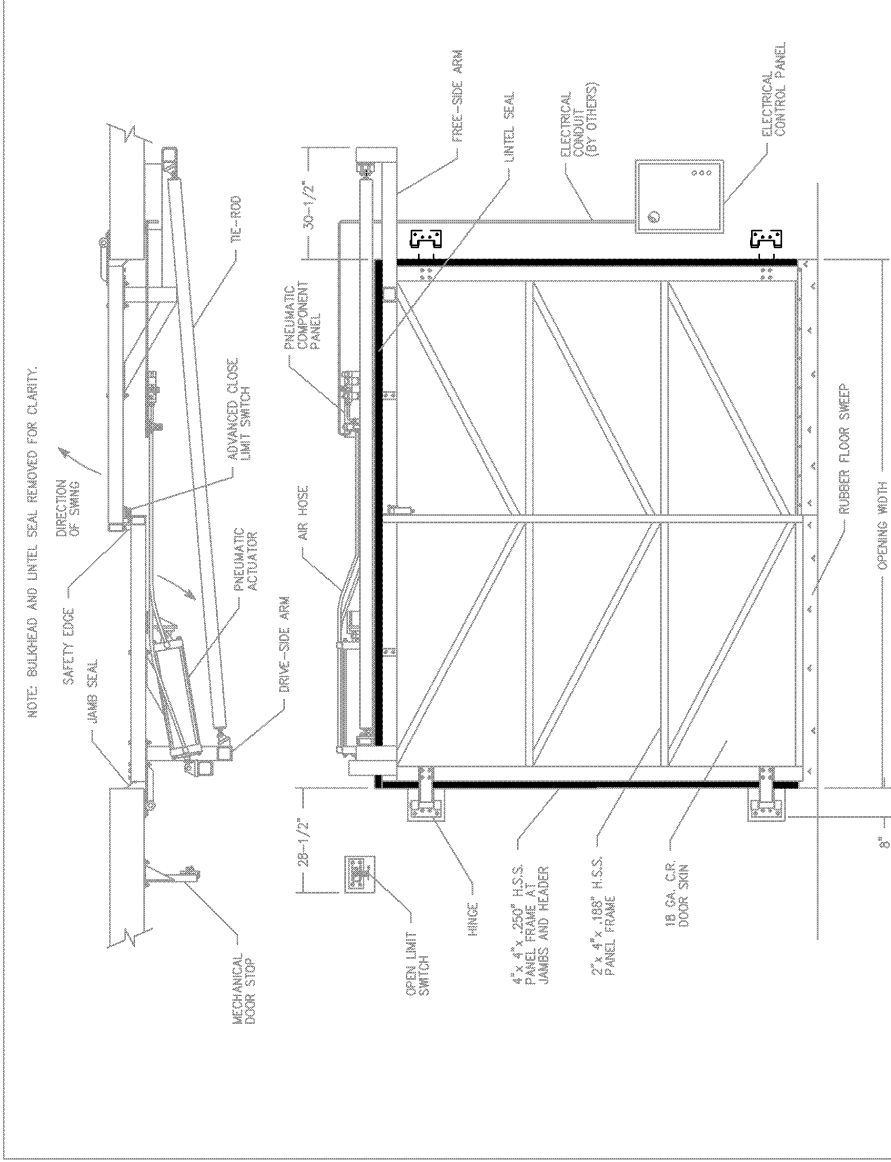
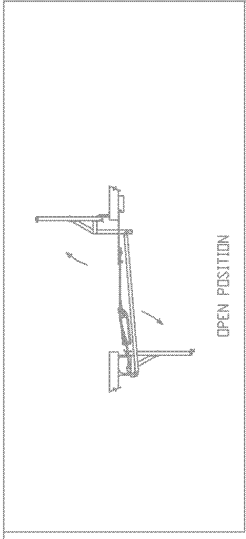
1. A separate pre-wired, number coded, 20" x 24" x 8" (500mm x 610mm x 200mm) wall-mounted control panel shall be provided complete with fused disconnect. Components shall include 120V control circuit and applicable transformers and relays, 24V reversing edge circuit and an Allen-Bradley 3-button (open/close/stop) pushbutton station in panel door. Exterior-mounted Allen-Bradley open/close limits and two (2) WP-1 pullcords shall also be supplied. All electrical components to EEMAC/NEMA-12 Standards.

### **PNEUMATIC ACTUATOR**

1. A pneumatic actuator of sufficient bore and stroke to operate the door system in 2.0 kPa (8" water gauge) shall be provided. This actuator shall be attached to the wall bracket and drive side arm with 1" (25mm) pivot pins.
2. A 3-position, double solenoid directional control valve c/w two (2) integral flow controls shall be connected to a filter/regulator/lubricator assembly and shall be mounted on a 1/4" (6mm) thick steel backing plate.

### **REVERSING EDGE**

1. The reversing edge shall be a flexible, 24V, Fail-Safe emergency door-stopping device comprised of two (2) aluminum foil contact strips mounted on a foam rubber base. These components shall be enclosed in a weather-proof, 1/16" (1.5mm) thick, PVC covering. Upon contact with an obstacle, reversing edge shall cause the door to stop its motion.
2. The reversing edge shall also serve as a sealing device between the inside edges of the door panels and is designed to compensate for uneven assembly up to and edge-to-edge difference of 2" (51mm).



NOTE: BULLHEAD AND LINTEL SEAL REMOVED FOR CLARITY.

|                           |  |
|---------------------------|--|
| PRECISION DOOR INDUSTRIES |  |
| TITLE                     | SHOP DRAWING   |
| DOOR TYPE                 | OPPOSING SWING, STEEL DOOR                                 |
| FEATURES                  | STANDARD CONFIGURATION, PNEUMATIC OPERATION                |
| LIMITINGS                 | MAX. WIDTH 15'0", MAX. HEIGHT 10'0", MAX. PRESSURE 6" W/G. |
| DATE DRN                  | MAY 13, 1994   |
| DRN BY                    | J.CARR   |
| REV. DATE                 | JAN. 27, 1995  |
| REV. NO.                  | B  |
| DOOR SIZE                 | S-9900-DL  |

|                        |   |
|------------------------|---|
| CONTROL SPECIFICATIONS | PNEUMATIC ACTUATOR: <input type="checkbox"/> 6" BORE <input type="checkbox"/> 8" BORE |
|                        | POWER SUPPLY: 90 PSI AIR PRESSURE AND 120 VOLTS, SINGLE PHASE, 60 CYCLES              |
|                        | EEMAC (NEMA) STANDARD   |
|                        | CONTROL PANEL: _____  |
|                        | REMOTE PUSH BUTTON STN: _____   |

|                   |   |
|-------------------|---|
| OPTIONAL CONTROLS | <input type="checkbox"/> AUTOMATIC CLOSE        |
|                   | <input type="checkbox"/> LOOP DETECTOR          |
|                   | <input type="checkbox"/> MOTION DETECTOR        |
|                   | <input type="checkbox"/> PHOTO CELL             |
|                   | <input type="checkbox"/> WIRELESS REMOTE        |
|                   | <input type="checkbox"/> REMOTE PUSH BUTTON STN |

|                            |   |
|----------------------------|---|
| STANDARD PACKAGE INCLUDES: | — TWO (2) PULLCORDS                             |
|                            | — EEMAC (NEMA) 12 CONTROL PANEL                 |
|                            | — FUSED DISCONNECT                              |
|                            | — TWO (2) FAILSAFE SAFETY EDGES                 |
|                            | — PNEUMATIC DIRECTIONAL VALVE                   |
|                            | — FILTER/REGULATOR/LUBRICATOR c/w SHUT-OFF      |
|                            | — PIPE FITTINGS AND AIR HOSE (LESS SUPPLY LINE) |
|                            | — AUXILIARY CONTACTS FOR AIRLOCK                |