

Precision Door Drive, LLC.

SPECIFICATION

PNEUMATIC ELECTRIC DOOR OPERATOR

- 1) **Drive System:** Designed to move powered leaf at a minimum speed of 45 feet per minute at zero wind load conditions, operable at full speed to and including a maximum wind load of eight (8) pounds per square foot.
- 2) **Drive Unit:** Externally mounted and fully vertically self-adjusting. The drive unit shall allow for one and one half (1 1/2) inches of vertical movement to follow the contour of the floor without loss of tire traction. Supplied with all necessary roller chain (#60 roller chain minimum required), sprockets and mounting hardware.
- 3) **Gearbox:** Unitized high torque, efficient right angle helical-bevel gearbox or a bevel gearbox to allow for back driving with no damage to the gearbox shall be provided. To have low backlash and low vibration
- 4) **Motor:** Single speed, squirrel cage totally enclosed fan cooled motor. High performance gear-motor, low noise with integral holding brake. Of sufficient size to operate at no more than 75 percent of rated capacity. Motor shell conforming to IP55 and meets efficiency class EFF2 standards.
- 5) **Drive Base:** To be vertically adjustable to tighten the drive chain from the gearbox to the pneumatic wheel and be design to rigidly support drive components without deflection or torsional rotation under operating loads.
- 6) **Control Panel Enclosure:** Control panels shall be NEMA 12 or better.
- 7) **Control Panel:** Control panels are to be pre-wired to receive 240v or 480v ACV.
Supplied with-
 - Main lockable disconnect switch
 - 24v DC power supply for the control circuit
 - Circuit breakers
 - Numbered terminal blocks
 - Timers and relays
 - NEMA 12 or better enclosure

Controls must meet UL 508A, 508, File No. E61997: Type 4 and Type 12. NEMA/EEMAC Type 4 and Type 12. CSA File No. LR42186 Type 4 and Type 12 VDE 1P66. IEC 60529, IP66.

- 8) **Variable Frequency Drive:** When required, (VFD) shall produce an adjustable-frequency, adjustable-voltage, Pulse Width Modulated (PWM) single-phase, 120v/240v sine wave output when powered from a single-phase, 120v/240v 60Hz input. The drive shall be suitable for use with NEMA Design B, AC induction motors with a 1.15 service factor. Alternate adjustable frequency drives techniques other than PWM technology will not be considered. Drives shall be designed, constructed, and tested in accordance with NEMA, UL, NEC, and IEEE standards. Drives and all supplied options shall be UL approved and listed according to UL 508. Drives shall be solid state, electronic and programmable for time and value of motor speeds and shall maintain constant torque characteristics over the motor speed range. Drives shall be factory wired, with overload and under voltage protection, equipped with electrical interlocks and with transformers and relays for control circuits, all enclosed in a NEMA 4X, wet location enclosure with a disconnect switch, capable of being locked in the OFF/OPEN position. Power voltage shall be 120v/240v, single-phase and control voltage shall be 24v DC
- 9) **Magnetic Reversing Starters:** When required, 240v or 480v VAC, 60 Hz. three-phase input with adjustable thermal overload protection.
- 10) **Limit Switches:** Polarized reflex sensors which have both a light source and detector in the same unit. The sensors feature visible red sources to aid in alignment of the sensor with its retro-reflector. Supplied with mounting bracket, fasteners, low voltage wire and cord grip.
- 11) **Warning System:** A horn with a volume of not less than 90db shall be provided. They are to be installed on the powered leaf of the door system. The warning system will activate for three (3) second before movement of the doors and will sound while doors are being operated. Supplied with mounting bracket, fasteners, low voltage wire and cord grip.
- 12) **Warning Strobe:** An amber Xenon strobe (40 candelas) warning light device to be installed on the powered leaf and shall automatically signal movement of the powered leaf and shall continuously strobe while door is being operated and run on 24v DC.
- 13) **Electrical Interlock Switch:** When required, provide each personnel door with an electrical interlock switch to prevent motor operation of the hangar doors. An identified indication light (yellow) located on the main control panel will be lit if the personnel door is open or ajar. Supplied with mounting bracket, fasteners, low voltage wire and cord grip.
- 14) **Toe Guard:** To be provided around the pneumatic tire and meet O.S.H.A. standards for safety.
- 15) **Tire:** To be a highway, class C, pneumatic 21.4 inch diameter, 4 plies.
- 16) **Push-button Stations:** When required an interior station shall be NEMA 12, exterior stations to be NEMA 4X. Supplied with mounting bracket, fasteners, low voltage wire and cord grip.
- 17) **Push-buttons:** To be constant pressure type, mushroom head, NEMA 4X.
- 18) **Electrical Service:** To be 120v/240v single phase power or 240v or 480v ACV three-phase power

- 19) **Electrical Feed:** When required an overhead feed rail system (Trolley Duct) or a festoon or drape, 14 gage minimum wire from door leaf to door leaf, will be used to bring power to the drive door leaf.
- 20) **Draped or Festoon Overhead Power Cable:** To be a multi-conductor cable for tray and control applications, with **exposed run** (open wiring) approval.
- For flexible control and tray cable to meet UL/AWM/CAS/CE AWM style 20886
 - (UL) Type MTW or DP-1 Class 1 Div. 2 , per NEC Art 336, 392, 501 C(UL) TC
 - CIC FT4 UL 1277, Oil Res II, RoHS.
 - Compliant with **NEPA 79** requirements and flexible design with Nylon for crush impact resistance.
 - Cord grips for direct attachment to the supply at one end and the drive unit service outlet at the other.
- 21) **Leading Edge Stopping Device:** When required, provide manufacturer's leading edge stopping device. To stop leading doors upon encountering an obstacle.
- 22) **Warranty:** Provide installation with a certificate of Limited Warranty.

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Precision Door Drive

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