SECTION 084229.33
SWINGING AUTOMATIC ENTRANCES

IN-GROUND, AUTOMATIC SWING DOOR OPERATOR CONVERTER
ADAPTED TO NABCO GT-500 AUTOMATIC OPERATOR

PART 1-GENERAL

1.01 DESCRIPTION

A. This section describes the requirements for furnishing and installing the in-ground converter for the following automatic swing door operator types.

1. Handicap speed, barrier free, swing door operators meeting ANSI A156.19. Electro-mechanical and electro-hydraulic types.
2. Full speed, swing door operators meeting ANSI A156.10. Electro-mechanical and electro-hydraulic types requiring full safety systems.

B. RELATED SECTIONS

1. Automatic Door Operators as specified in Section 087113.
2. Exterior aluminum entrance doors as specified in Section 084113.
3. Hollow metal doors as specified in Section 081113.
4. Door hardware as specified in Section 087100.
5. Electrical connections (high and low volt) as specified in Section 260513, 260519, and 260523.

1.02 SUBMITTALS

A. Product Data: Furnish manufacturer's product data and standard details including fabrication, finishing, hardware, operators (specific to manufactured unit being converted), accessories, and other components of the work. Include rough-in diagrams, wiring diagrams, parts lists, and maintenance instructions.

B. Shop Drawings: Furnish shop drawings for fabrication and installation. Show anchors, cement casings, hardware, and other components not shown in manufacturer's instructions.

C. Templates and Diagrams: Furnish templates, diagrams, block-out dimensions, and other data to fabricators and installers of related work for coordination of operators with doors, frames, hardware, electrical, and other work.

1.03 REGULATORY

A. Compliant with UL 50 (USA) and CSA C22.2 No. 94.1 (Canada) complete with testing documentation and certification by Nationally Recognized Testing Laboratory (NRTL).

B. NRTL Listing #E113101 attached to each converter system at interior and exterior in method directed by NRTL.

C. Converter system protected by the following US Patents and patents pending:
   1. United States Patent #US6,176,044 B1
   2. United States Patent #US8,091,283 B2
   3. United States Patent #US8,375,636 B2
   4. United States Patent #US8,434,266 A2
   5. United States Patent #US8,434,268 A1
   6. Unites States Patent Pending #13/741,828

1.04 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Provide converters produced by OPCON USA, LP. Converter is UL and CSA Listed as noted in 1.03A; and holding United States Patent numbers noted in 1.03C.

B. Installer's Qualifications: An authorized OPCON technician that is also authorized by the automatic door operator manufacturer. Installer shall have not less than 3 years automatic door installation experience.

C. Automatic Door Operator Converter shall not impede door operator compliance with ANSI A156.19 (low energy type) or ANSI A156.10 (full speed type).

PART 2-PRODUCTS

2.01 APPROVED MANUFACTURER

A.

OPCON USA, LP
www.opconusa.com
PO Box 308
Carlsbad, CA 92018
Tel: 888-936-7266 Fax: 760-720-9653
E-mail: sales@opconusa.com

B. Operator Manufacturer shall be:

Nabco Entrances, Inc; Muskego, WI www.nabcoentrances.com
GT-500 Electro-Mechanical Swing Door Operator

2.02 OPERATOR CONVERTER FOR AUTOMATIC SWING DOORS

A. Converter: Manufacturer's specialized unit to adapt specified automatic swing door operator to underground use. The converter shall be mounted beneath the door leaf and jamb area (within standard threshold dimensions) utilizing typical ¾", 2 ¾" or 3 ¾" pivot setbacks; or slide arm on butt hung or offset hung doors. Reference shop drawings and templates for offset hung, center hung, or butt hung applications. Heavy-duty pivot/spindle shall incorporate 1200 pound rated, sealed thrust bearings in 1" steel bearing plate. Bottom door arm (push or pull type) shall mount within bottom rail of swing door. Drive transfer between converter and operator shall be manufacturer's standard chain drive with tensioner. Direct shaft drive and belt drive available for some door operators.

1. Converter shall not impede manual operation of swing door.
2. Converter shall not impede ANSI compliance of operator.
3. Converter shall not impede operation of automatic door operator.
6. Converter shall adapt to the following manufacturer's equipment:
    i. Nabco/Gyrotech Series GT-500 Electro-mechanical

C. Converter Cement Case (lower section) shall be sheet steel (ASTM-A-570 Grade A) formed and riveted type with galvanized coating (A568/A568M). Cement Case (cover) shall be ¼" minimum thickness aluminum plate and attached to lower section with machine screws into stainless steel nut certs. Cement Case Assembly shall incorporate a stamped profile, vinyl gasket at the perimeter of the cement case cover (foam gaskets, field installed & field cut to size are not acceptable). A pressed-in shaft seal as a water and moisture seal is factory installed (field installed, main shaft seals are not acceptable). Cover must be readily removable for servicing internal components and the seal system must be re-usable for a minimum of 100 opening/closings without changing seals. Unit accommodates threshold floors, stone floors, and other flooring conditions.

1. Cement case shall be encased below grade as detailed on shop drawings, utilizing (quick-set or pour-stone or equal) setting cement. A minimum 3/8" of setting cement shall be placed at all exterior vertical surfaces and along the entire bottom surface. Allow setting cement to cure as required by cement product manufacturer prior to installing door leaf.

2. Cement case shall be field bored to accept liquid-tight conduit connections for electric power service and signal wires. Opcon furnished and red painted liquid tight fittings are the only acceptable penetration fitting into the cement case that will maintain the watertight UL rating.. The cover may never be penetrated. Conduit, conduit connections, electric power service and signal wire to unit is furnished and installed by others as specified in electrical specification section and Opcon Installation Manuals.

2.03 HARDWARE REQUIREMENTS

A. Door hanging hardware shall be furnished and installed by the door supplier or hardware supplier. The hardware must be pre-installed on the door panels. The Opcon drive spindle profile shall match the selected bottom arm hardware. Bottom door arm (push or pull type) shall mount within bottom rail of swing door or may be surface mounted (optional) at bottom rail. The following hardware (detailed in related sections) is compatible with the Opcon Converter:

1. Offset Hung Bottom Pivot: Rixson #H27 (bottom arm only) for offset hung doors (for heavy duty application) located per Rixson template and Opcon assembly details.
2. Offset Hung Top Pivot: Rixson #H180 for offset hung doors (heavy duty application) located per Rixson template and instructions.
3. Offset Hung Intermediate Pivots: Rixson #M190 for offset hung doors (heavy duty application) located per Rixson template and Opcon assembly instructions. Note: intermediate pivots are recommended placed not more than 30” apart. See Rixson specifications relative to door weight.
4. Center Hung Bottom Pivot: Rixson #H28 (bottom arm only for center hung doors (for heavy duty application) located per Rixson Template and Opcon assembly details.
5. Center Hung Top Pivot: Rixson #H340 or #H345 for center hung doors (heavy duty application) located per Rixson template and Opcon assembly details.
6. Butt Hung or Continuous Hinge: Rixson #327 slide arm for butt hung doors located per Rixson template and Opcon assembly instructions.
7. Other door hanging hardware by Dorma, CR Laurence, or custom manufactured hardware for special doors (radiation, explosion types, etc.) may be used. Please consult Opcon for integration requirements.

B. Threshold shall be saddle type (10” wide) or flat type (7” wide) across entire width of door. Threshold fasteners must not penetrate cement case or cement case cover. Thresholds are to be removable and have a silicone seal at the entire perimeter after placement. Opcon furnished spindle gasket to be installed over threshold per drawings.

1. Pre-fabricated thresholds are available from Opcon in various styles, sizes and finishes, or if by others, thresholds must be fabricated to Opcon specifications.
2. Pre-fabricated terrazzo/stone/tile pans are available from Opcon for many stone or tile thicknesses are available by custom order.

C. Safety sensors are compatible with all automatic door operators converted to underground use. Opcon recommends safety sensors be installed on all swinging doors and especially on oversized/overweight doors.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install operator converter using factory authorized technicians. Technicians shall also be authorized to install and tune automatic door operator. Install converter in accordance with manufacturer’s instructions and reviewed shop drawings.

B. Adjust converter drive transfer system (chain tensioner, direct shaft, or belt) to achieve smooth operation including back-check, latch, and proper limit stops.

C. Water-test electrical conduit penetrations (high volt and low volt connections) in cement case to assure leak-free system.

D. Certify that door operation complies with ANSI A156.19 or A156.10 as specified.

3.02 CLEANING AND PROTECTION

A. Clean exposed operating components as recommended by manufacturer.

B. Protect converter and automatic door operator equipment from damage and deterioration during construction and/or servicing.

C. Protect converter, spindle/pivot system and all converter related components from direct contact with pressure washing.