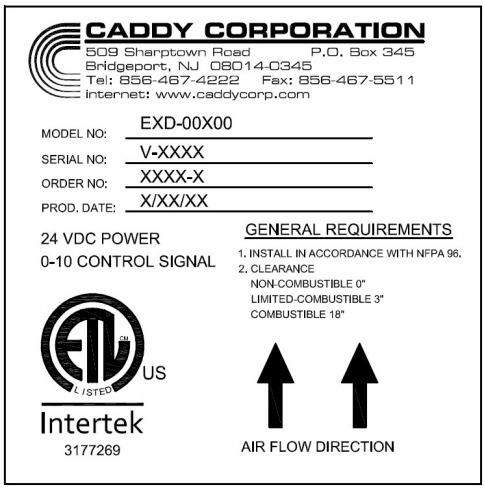
Caddy Modulating Exhaust Damper

Installation, Operation, and Maintenance Manual

Markings and Operational Data



Model No: Prefix of "EXD" followed by the product size in the following syntax – 12X18 where the first number, 12, indicates the width of the damper in inches, and the second number, 18, indicates the length of the damper in inches. Full model number would be "EXD-12X18" as an example. **Product sizes vary and are dictated by design airflow (CFM) at a maximum design velocity of 1800 FPM.**

Serial No: Prefix of "V" to indicate a ventilation product line followed by a serial number in series with Caddy's documented Serial Number Log.

Order No: Caddy Order Number and Line Item designation as indicated on project documentation.

Production Date: Recorded date at time of manufacture.

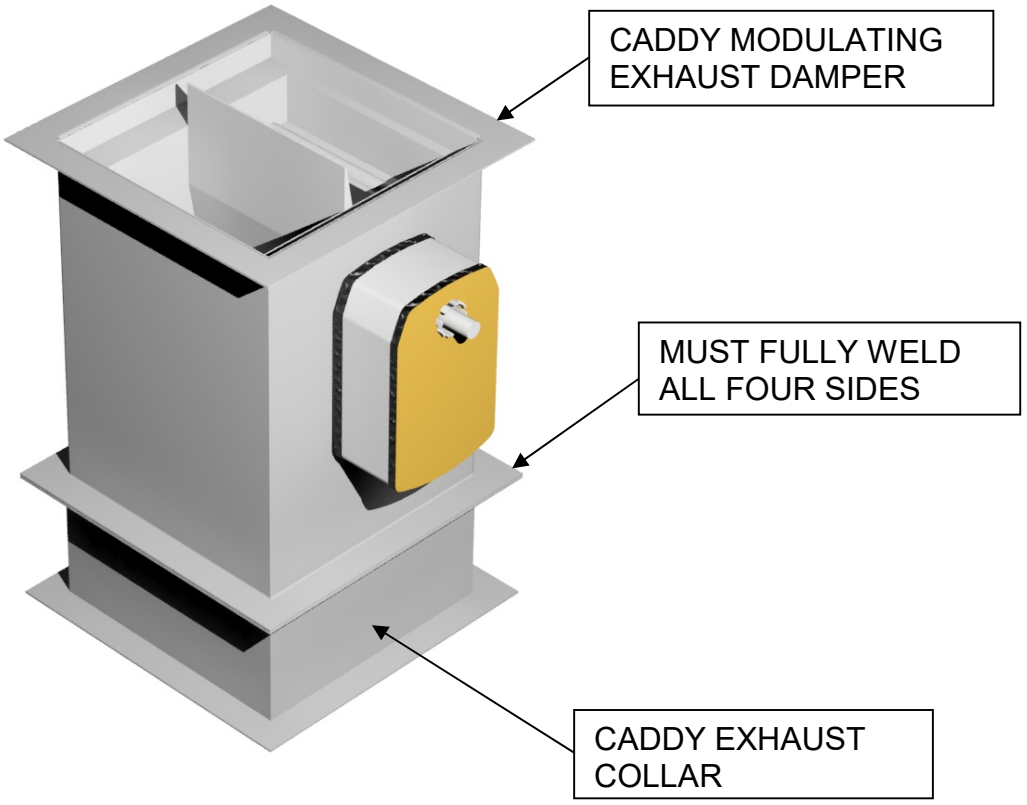
Operating Voltage: Damper requires 24 VDC to power the actuator. Active modulation based on real time input of 0-10 VDC. At 0 VDC the damper will be closed. At 10 VDC the damper will be completely open. The range in between the minimum and maximum input will produce partial damper openings. The damper will fully open upon loss of supply power.

Air Flow Direction: Visual aid indicating the exhaust airflow direction for proper installation.

General Requirements: Damper to be installed per NFPA 96. Clearance requirements listed.

Installation and Maintenance

To ensure optimum operation and performance, the damper must be installed so it is square and free from racking. The damper must be installed per NFPA 96 including clearance requirements for combustible, non-combustible, and limited-combustible materials. Caddy recommends that each modulating damper be maintained, cycled, and tested every six months and in accordance with the latest editions of NFPA90A, 92A, UL864, local codes and in accordance with actuator manufacturer's recommendations. Care should be exercised to ensure that tests are performed safely and do not cause system damage.



Construction

Damper framework to be fully welded to ensure a grease and liquid tight assembly. Damper components including framework, actuator shaft, actuator brackets, and hardware to be stainless steel.

Operation

The damper is designed to work in conjunction with a demand-based ventilation system. A non-specific demand-based ventilation system will generate an output of 0-10 VDC based on real time cooking demand. The damper will actively modulate during cooking periods to achieve the proper airflow values while working in conjunction with an already actively modulating exhaust fan.

The damper actuator provides true spring return operation for a reliable fail-safe application. The spring return system provides consistent torque to the damper with, and without, power applied to the actuator. The actuator provides 95 degrees of rotation and is provided with a graduated position indicator show 0 to 95 degrees. The actuator uses a brushless DC motor which is controlled by an Application Specific Integrated Circuit (ASIC) and a microprocessor. The microprocessor provides the intelligence to the ASIC to provide a constant rotation rate and to know the actuator's exact fail-safe position. The ASIC monitors and controls the brushless DC motor's rotation and provides a digital rotation sensing function to prevent damage to the actuator in a stall position. The actuator may be stalled anywhere in its normal rotation without the need of mechanical end switches.

Wiring