

SECTION 233300 – AIR DUCT ACCESSORIES

1.1 SMOKE DAMPERS

A. Damper Motors: **[Proportional]** [or] **[two-position]** action.

1. Manufactured, brand labeled or distributed by Belimo.
2. Voltage: Two-position actuators shall be **[24 VAC]** **[120 VAC]**. Proportional actuators shall be 24 VAC.
3. Agency Listings:
 - a. UL 873 or UL 60730, UL 2043, ISO 9001.
 - b. **[<NYC Office of Technical Certification and Research> <California State Fire Marshall (CSFM)> <local standard> where required.]**
4. New construction damper actuators shall be provided by the damper manufacturer and sized per UL 555S test listings.
5. Coupling: V-bolt dual nut clamp with a V-shaped toothed cradle. Aluminum clamps or setscrews are not acceptable.
6. Overload Protection: Microprocessor or an electronic based motor controller providing burnout protection if stalled before full rotation is reached. The actuator shall electronically cut off at full open to eliminate noise generation.
7. Temperature rating: Actuator shall have UL 555S listings by the damper manufacturer for **[250 DegF (121 DegC)]** **[350 DegF (176 DegC)]**.
8. Proportional Smoke Damper Actuators shall meet all requirements specified above and shall modulate 0-100% open in response to a 2-10vdc or 4-20mA control signal. A 2-10vdc feedback output shall be available for position indication. A manual override winder and locking mechanism shall be provided for operation upon loss of power.
9. The manufacturer shall warrant all components for a period of 5 years from the date of production, with the first two years unconditional.

B. Accessories:

1. **[Integral auxiliary switches]** **[damper blade switches]** shall be provided on all actuators as required.
2. A **[momentary]** **[keyed]** test switch with open and closed position indication lights shall be mounted **[where indicated]** for code required periodic testing.
3. **[BACnet Remote Damper Testing Module]**
 - a. **Agency Listings: UL 60730.**
 - b. **BACnet MS/TP RS 485 network communication.**
 - c. **Actuated damper testing shall be initiated by a single BACnet command.**
 - d. **Results, pass or fail, shall be communicated to the BACnet controller.]**

1.2 COMBINATION FIRE AND SMOKE DAMPERS

A. Damper Motors: **[Proportional]** [or] **[two-position]** action.

1. Manufactured, brand labeled or distributed by Belimo.
2. Voltage: Two-position actuators shall be **[24 VAC]** **[120 VAC]**. Proportional actuators shall be 24 VAC.
3. Agency Listings:

- a. UL 873 or UL 60730, UL 2043 ISO 9001.
- b. [**<NYC Office of Technical Certification and Research> <California State Fire Marshall (CSFM)> <local standard> listed where required.**]
4. New construction damper actuators shall be provided and sized per UL 555 and UL 555S test listings.
5. Coupling: V-bolt dual nut clamp with a V-shaped toothed cradle. Aluminum clamps or setscrews are not acceptable.
6. Overload Protection: Microprocessor or an electronic based motor controller providing burnout protection if stalled before full rotation is reached. The actuator shall electronically cut off at full open to eliminate noise generation.
7. Temperature rating: Actuator shall have UL 555S listings by the damper manufacturer for [**250 DegF (121 DegC)**] [**350 DegF (176 DegC)**].
8. Proportional Smoke Damper Actuators shall meet all requirements specified above and shall modulate 0-100% open in response to a 2-10vdc or 4-20mA control signal. A 2-10vdc feedback output shall be available for position indication. A manual override and locking mechanism shall be provided for operation upon loss of power.
9. The manufacturer shall warrant all components for a period of 5 years from the date of production, with the first two years unconditional.

B. Accessories:

1. [**Integral auxiliary switches**] [**damper blade switches**] shall be provided ~~on~~ for all actuators as required.
2. A [momentary] [keyed] test switch with open and closed position indication lights shall be mounted [**where indicated**] for code required periodic testing.
3. [**BACnet Remote Damper Testing**]
 - a. **Agency Listings: UL 60730.**
 - b. **BACnet MS/TP RS 485 network communication.**
 - c. **Actuated damper testing shall be initiated by a single BACnet command.**
 - d. **Results, pass or fail, shall be communicated to the BACnet controller.**]