Smoke and Combination Fire and Smoke Actuators

In Section 233300 or equivalent

1. All smoke and combination fire and smoke dampers shall be provided with Belimo Aircontrols FS series actuators. Equals shall be approved before submission of bid.

2. Quality Assurance
   a. Actuator shall carry a manufacturer’s 5-year warranty.
   b. Manufacturer shall have ISO 9001 certification.
   c. Actuators shall be UL873 or UL60730 listed.
   d. For replacement of existing competitive motors, NYC MEA, NYC OCTR or CSFM listing shall have been obtained.

3. Actuator and damper shall have UL555 & UL555S Listing by the damper manufacturer for 250°F [350°C].

4. Actuators shall be tested to UL2043 for low smoke generation in environmental air spaces and air moving plenums as required by NFPA 70, 300.22 (C) and the International Mechanical Code Section 602.2.1.4. Housing shall be steel or plastic; aluminum is not acceptable.

5. Actuator shall have electronic or microcontroller based motor control providing:
   a. Electronic cut off at full open so that no noise can be generated while holding open. Holding noise level shall be inaudible.
   b. Overload protection. Shall be incapable of burning out if stalled before reaching full rotation.

6. The actuators shall be direct coupled and employ a steel-toothed cold-weld clamp for connecting to damper shafts. Aluminum clamps or set-screw attachment are not acceptable.

7. Damper installation
   a. Dampers shall be installed straight and true, level in all planes, and square in all dimensions.
   b. Dampers shall move freely without undue stress due to twisting, racking, bowing, or other installation error.
   c. Do not install in area where moisture can penetrate damper or actuator nor where actuator temperature continuously exceeds 120°F.

8. Two-position actuators shall be FSTF, FSLF, FSNF, or FSAF*A as damper manufacturer selects for torque based on UL555 (S) testing.

9. Proportional actuators shall be FSAFB24-SR, 2-10V or 4-20mA control.

10. Combination Fire and Smoke and Balancing actuators shall be FSAFB24-SR (-S) with an SGA/F potentiometer.

11. Where space constraints exist preventing direct coupling, linkage components shall be provided by and approved by damper or actuator manufacturer.

12. Inspect areas to receive dampers. Notify the Engineer of conditions that would adversely affect the installation utilization of the dampers. Do not proceed with installation until unsatisfactory conditions are corrected. In particular, NFPA 80 and NFPA 105 require access to damper and all components.