



23 37 XX – Air Balancing Dampers

SKC– High Pressure Constant Air Volume Dampers

PART 1 – GENERAL

1.1 SUMMARY

- A. Section includes supply and installation of constant air volume (CAV) dampers for circular ducts, self-adjustable to maintain a preset airflow rate despite pressure variations.
- B. Basis of design: SKC-C constant air volume damper for circular duct, by EffectiV and MADEL.
- C. Performance: damper shall maintain preset airflow within system pressure variations from 0.2 to 4.019 in.w.g. (50 to 1,000 Pa).
- D. Sizes: available for duct diameters ranging from 4 in to 16 in.
- E. Purpose: facilitate air balancing; compensate for pressure changes over time and sudden pressure changes (doors opening, elevators, etc.).
- F. Operation: self-adjustable and independent of external energy sources; preset by installer using graduated adjustment knob scale.
- G. Post-install adjustment: adjustment knob shall be accessible and re-adjustable from outside the duct after installation, without duct disassembly.

1.2 SUBMITTALS

- A. Product Data: manufacturer's data for each scheduled damper size, including airflow operating range, pressure operating range, and acoustic/pressure loss data.
- B. Shop Drawings: show model designation, duct diameter, installed length, airflow direction, installation location(s), and access to the adjustment knob.
- C. Balancing/Commissioning Notes: indicate target airflow setpoint(s) and corresponding knob setting(s) for each installed damper, including any post-install readjustment procedure.

1.3 QUALITY ASSURANCE

- A. Provide damper(s) from a single manufacturer.

1.4 SUBSTITUTIONS

- A. Substitutions per Division 01.
 - B. Proposed equals shall document compliance with: self-adjusting constant airflow function, stated pressure range, stated size range, no external energy requirement, and post-install re-adjustment capability from outside the duct.
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PART 2 – PRODUCTS

2.1 BASIS OF DESIGN

A. EffectiV SKC-C constant air volume damper for circular ducts (EffectiV / MADEL).

2.2 MATERIALS AND CONSTRUCTION

A. Damper construction: galvanized steel.

B. Self-adjusting mechanism: damper shall automatically adjust to maintain preset airflow by balancing air pressure forces with spring/reactive forces.

C. Adjustment: provide graduated adjustment knob scale allowing quick field preset of desired airflow and post-install re-adjustment from outside the duct.

2.3 SIZES AND PERFORMANCE (AS SCHEDULED)

A. Duct diameters: 4 in through 16 in, as scheduled.

B. Operating pressure range: 0.2 to 4.019 in.w.g. (50 to 1,000 Pa).

C. Minimum required pressure differential varies with airflow (per manufacturer data).

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify duct diameter, installation location, and access to the adjustment knob for setting/verification prior to installation.

3.2 INSTALLATION

A. Install damper in circular ductwork with airflow direction consistent with product airflow marking.

B. Provide minimum straight duct lengths adjacent to damper as indicated by manufacturer installation requirements (minimum 3D upstream and minimum 1.5D downstream).

C. Install with adjustment knob accessible from outside the duct for presetting and future readjustment.

3.3 ADJUSTING AND COMMISSIONING

A. Preset each damper to the scheduled airflow using the graduated knob scale.

B. Verify airflow under representative operating conditions.

C. Where required, re-adjust airflow from outside the duct using the knob setting without duct disassembly.