23 37 XX – High Performance Architectural Diffusers

KAM-M5 – Aluminum Long Throw Jet Nozzle Diffusers (On/Off Actuator Control)

PART 1 – GENERAL

1.1 SUMMARY

A. Long throw jet nozzle supply diffuser(s) adjustable by means of an On/Off actuator to control jet direction.

B. Construction: aluminum; provide duct-mounted or surface-mounted models as scheduled.

C. Mounting types:

1. KAM-M5-W: Surface mounted; includes a removable rim to conceal mounting screws after installation.
2. KAM-M5-D: Duct mounted.

D. Finish: factory powder coated (TGIC-free), white RAL 9016 unless otherwise scheduled.

1.2 SUBMITTALS

A. Product Data: Manufacturer's data for scheduled model(s), available sizes, and mounting type(s), including:

1. Recommended airflow range and free area (as published).
2. Pressure loss and diffuser-generated NC.
3. Throw data with ceiling effect (Coanda) and without ceiling effect (as published).
4. Temperature differential correction factors for throws (as published).
5. Actuator characteristics and interface requirements (On/Off), including electrical requirements and wiring.
6. Installation/mounting details and service access requirements.

B. Shop Drawings: Indicate model designation, mounting type (surface mounted or duct mounted), available size selected, finish, installation details, actuator location, required access, and electrical connection routing. For -W models, indicate removable rim detail and required orientation.

C. Airflow Prediction Report (Required – SelectiV): Provide a manufacturer-generated SelectiV airflow prediction report for each diffuser type and each distinct room condition using manufacturer performance data and recognized airflow physics corrections (ΔT correction

factors, Coanda effects, buoyancy effects, jet interaction, and wall/floor/ceiling collision effects). Report shall include:

1. 3D room model with diffuser locations.
2. Predicted airflow visualization views: plan (top), section (side), elevation (front).
3. Throws for terminal velocities of 150, 100, 60, 50, 40, 30, and 20 fpm.
4. Pressure loss at scheduled airflow.
5. Diffuser-generated NC at scheduled airflow.
6. Perceived NC at room center (5 ft height) from all sources combined across 63–8000 Hz octave bands; include key assumptions used.

D. Verified CFD Validation (When Indicated): Provide EffectiV Verified CFD validation and summary report for spaces indicated and/or when operation is outside published selection limits.

1.3 SUBSTITUTIONS

A. Substitutions per Division 01. Proposed equals shall provide required electrical/control documentation for On/Off actuator operation and all Part 1 deliverables, including the SelectiV Airflow Prediction Report deliverables.

PART 2 – PRODUCTS

2.1 BASIS OF DESIGN

A. EffectiV KAM-M5 aluminum long throw jet nozzle diffuser adjustable by On/Off actuator.

2.2 MODELS AND MOUNTING (AS SCHEDULED)

A. KAM-M5-W: Surface mounted; removable rim to conceal screws after installation.

B. KAM-M5-D: Duct mounted.

2.3 AVAILABLE SIZES

A. Provide KAM-M5 in the following available sizes only:

1. 10 in (250 mm)
2. 12 in (315 mm)
3. 16 in (400 mm)

2.4 MATERIALS AND FINISH

A. Construction: aluminum.

B. Actuated adjustment: On/Off actuator controls jet direction.

C. Finish: factory powder coated (TGIC-free), white RAL 9016 unless otherwise scheduled.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install per manufacturer instructions; provide electrical connection for actuator as required and access for servicing.

B. Orient the product according to the markings on the diffuser body; install with the orientation arrow pointing upward.

C. For -W models, install removable rim after fastening to conceal screws.

3.2 ADJUSTING

A. Balance to scheduled airflow.

B. Verify actuator positions achieve required jet direction per control sequence.