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Delta Air Valve (DAV)

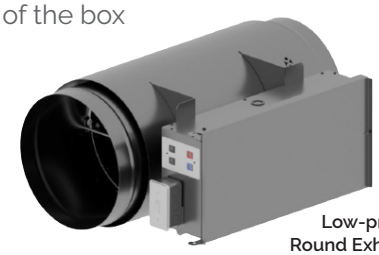
Design to the actual ventilation requirement, not the terminal's limitations.

Low Pressure Aairflow Control for Modern HVAC Design.

The Delta Air Valve (DAV) is a factory-integrated air terminal that delivers accurate airflow measurement and control across an industry-leading operating range. DAV helps consulting engineers and energy modelers design low-pressure, low-EUI systems that perform as designed, while reducing schedule complexity and change-order rework.

DAV at a Glance

- 100:1 turndown enables one size to cover many zone airflow requirements (e.g 25-2500CFM)
- +/- 3% accuracy (above 200FPM, +/- 6FPM below 200FPM)
- Operates accurately at ultra-low pressure (down to 0.03 in. w.c.)
- Standardized, ASHRAE Guideline 36 aligned control sequences available out of the box



Low-profile
Round Exhaust

Low-profile
Rectangular Supply

The Challenge

Legacy terminals increase design complexity

- Low-flow inaccuracy forces elevated minimum airflow setpoints (over-ventilation).
- Higher duct static pressure requirements increase fan energy and acoustic risk.
- Many box sizes and options are needed to cover varying zone airflow rates.
- Late tenant changes, space repurposing, or design revisions trigger resizing and rework.
- A gap emerges between modeled performance and real-world operation.

The Solution

DAV Decreases Design Complexity

One size covers most zones

- Simplified terminal sizing. Reduce SKUs and schedule complexity.
- Simplify coordination, submittals, procurement, and commissioning.
- Reduce sizing risk and change orders.

Designed to minimize rework

- Many airflow changes become setpoint/software updates, not box resizing.
- Faster response to tenant fit-outs and evolving occupancy patterns.
- Standardized ASHRAE Guideline 36 control sequences for more consistent design performance

Enables Low Energy HVAC Design

- Lower duct static pressure setpoints become practical.
- Reduced fan horsepower and energy consumption.
- Reduced over ventilation and temperature swings
- Quieter operation without requiring internal liners that introduce contaminants
- Energy models and measured system performance align more closely with accurate airflow data.
- Paired with IAQ and occupancy count, further efficiencies are possible

Built for Modern ASHRAE Expectations

The DAV can simplify the path to compliance for various ASHRAE standards:

- ASHRAE 62.1 — reliable minimum ventilation control at low flow.
- ASHRAE 90.1 — reduced fan energy enabled by low-pressure design.
- ASHRAE Guideline 36 — packaged control sequences designed to GL36 standards.
- ASHRAE 195 — Fully integrated solution with factory-validated performance (600-point validation).
- ASHRAE 241 — ventilation that can scale to match the risk of hazard.

Fully Integrated Delta Controls Solution

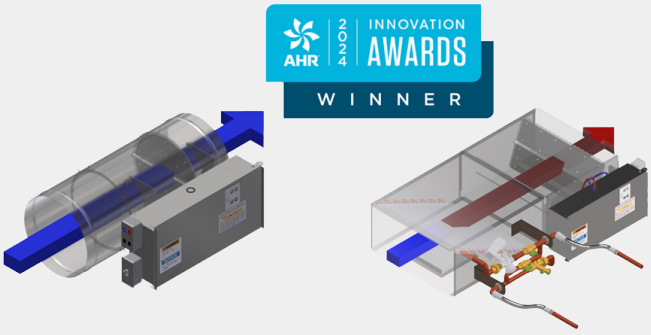
- Factory-installed RED5 controller and peripherals.
- Preloaded, Guideline 36–aligned application databases standardize control sequences.
- Native compatibility with Delta ecosystem tools (BACnet/SC, Python, MQTT, RED5, UNO IAQ, O3 multi-sensors, enteliweb, etc).
- Native BACnet, able to seamlessly integrate into 3rd party building infrastructures

Specification Guidance (Basis of Design)

Basis of Design: Factory integrated and validated high turndown airflow control solution. Substitutions that reduce low-flow accuracy, controllable range, ultra-low pressure operation, or standardization benefits shall not be permitted.

Air terminal solutions proposed as "equal" shall, at minimum, provide:

- Validated 100:1 controllable turndown range.
- +/- 3% accuracy (above 200FPM, +/- 6FPM below 200FPM)
- Stable operation at ultra-low differential pressure (down to 0.03 in. w.c.).
- Factory validation performed with the complete assembly (terminal, airflow sensing, actuator, and controller), with documentation.
- Reheat placed ahead of the damper for reduced airflow stratification through the coil



Smarter Ventilation. Precision Control.

For over 40 years, Delta Controls has led building automation innovation, delivering future-ready solutions like the Delta Air Valve that redefine building performance through precision, efficiency, and sustainability.

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Delta™ CONTROLS
A Brand of Delta