**PRODUCT SPECIFICATION GUIDE**

**MODEL: BACKDRAFT DAMPERS**

**DIVISION 23 - Heating, Ventilation, and Air Conditioning (HVAC)
(PREVIOUSLY DIVISION 15)**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) Format.

The section must be carefully reviewed and edited by the Engineer to meet the requirements of the project and local building code. Coordinate with other specification sections and the drawings.

Delete all "Specifier Notes" when editing this section.

**This section covers United Enertech’s light to medium duty backdraft damper with velocities up to 2800 fpm. Consult United Enertech for assistance in editing this section for specific applications.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SECTION 233313 (Previously 15820)**

**GRAVITY OPERATED OR ACTUATOR OPERATED BACKDRAFT DAMPERS**

1. **GENERAL**
	* + 1. **SECTION INCLUDES**
				1. Extruded aluminum, light to medium duty, backdraft dampers suitable for application in HVAC systems with velocities to 2,800 feet per minute (14.2 m/s).
			2. **RELATED SECTIONS**
				1. Section 233100 – HVAC Ducts and Casings (Previously 15810).
				2. Section 230913.13 – Actuators and Operators (Previously 15900)
			3. **REFERENCES**
2. AMCA 500-D – Laboratory Methods for Testing Dampers for Ratings.
3. AMCA 511 - Certified Ratings Program for Air Control Devices.
	* + 1. **SUBMITTALS**
4. Comply with requirements of Section 013300 - Submittal Procedures.
5. Product Data: Submit manufacturer's product data.
6. Include leakage, pressure drop, and maximum back pressure data.
7. Indicate materials, construction, dimensions, and installation details.
8. Include damper pressure drop and leakage ratings based on tests and procedures performed in accordance with AMCA 500-D.
	* + 1. **QUALITY ASSURANCE**
				1. Dampers shall be warranted against manufacturing defects for a period of 5 years.
				2. Pressure Drop Ratings: Damper pressure drop ratings are attained by testing 500-D.
				3. Leakage Ratings: Damper leakage ratings are attained by testing in accordance with AMCA 500-D.
			2. **DELIVERY, STORAGE, AND HANDLING**
				1. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer, material, and location of installation.
				2. Storage: Store materials in a dry area indoor and protected from damage and in accordance with manufacturer’s instructions.
				3. Handling: Handle and lift dampers by sleeve or frame only. Do not lift damper by blade. Protect materials and finishes during handling and installation to prevent damage.
9. **PRODUCTS**
	* + 1. **MANUFACTURER**
				1. United Enertech, 3005 South Hickory Street, Chattanooga, TN 37407. Phone (423) 698-7715, [www.unitedenertech.com](http://www.unitedenertech.com)
			2. **BACKDRAFT DAMPERS**
				1. Model: CB-600

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Specifier Notes: Damper blades start to open at 0.025” wg. (6.2 Pa.) Damper blades are fully open at 0.16” wg. (39.9 Pa.).

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

* + - * 1. Ratings:
1. Temperature Ratings: -40⁰ F to 200⁰ F (-40⁰ C to 93⁰ C)
2. Maximum Velocity: 2800 fpm (14.2 m/s)
3. Differential Pressure Ratings: 3.0 in. wg. (0.74 kPa)
4. Leakage 8.7 cfm/ft2 @ 1 in. wg. (0.04m3/s/m2 @ 0.25kPa)
	* + - 1. Construction:

Frame: 1$ $3⁄4” x1” x .063 (44 x 25 x 1.6 mm) extruded aluminum channel with optional [front-flange] and [rear-flange].

Blades:

1. Style: Single-piece, end pivot.
2. Action: Gravity operated or actuator operated backdraft.
3. Orientation: Vertical mounted, horizontal flow or horizontal mounted, vertical up flow.
4. Material: 0.045” (1.14 mm) extruded aluminum.
5. Width: Maximum 5.46” (139 mm)

Seals: Extruded vinyl.

Linkage: On-blade.

Finish: Mill aluminum.

Mounting:

* Vertical (Arrangements “A” & “D”)
* Horizontal (Upblast, arrangements “B” & “E”)
* Horizontal (Downblast, arrangements “C” & “F”)
	+ - 1. **Accessories:**
1. Factory Installed Sleeve:
2. Gauge:
* 20 (1.0)
* 16 (1.6)
1. Length:
* 10” (254)
* 12” (305)
* 24” (610)
* Other\_\_\_\_\_\_\_\_\_\_\_
1. Counter balance
* Weights
* Spring
1. Set Limit open position bracket

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Specifier Notes: Specify an electric actuator and fail position. Consult United Enertech for assistance in specifying accessories for specific applications.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1. Internally Mounted Actuator:
	1. Electric: [24VAC] [120 VAC] [230 VAC].
	2. Fail Position: [Open] [Closed].

**2.4 SOURCE QUALITY**

1. Factory Tests: Factory cycle damper assembly to assure proper operation.
2. **EXECUTION**
	* + 1. **EXAMINATION**
				1. Examine areas to receive dampers. Notify the Engineer of conditions that would adversely affect installation or subsequent utilization of dampers. Do not proceed with installation until unsatisfactory conditions are corrected
			2. **INSTALLATION**
				1. Install dampers at locations as indicated on the drawings and in accordance with manufacturer’s installation instructions.
				2. Do not compress or stretch damper sleeve or frame into duct or opening.
				3. Handle dampers using the frame or sleeve. Do not lift or move damper using blades.
				4. Install dampers square and free from racking with blades running horizontally.
				5. Install factory supplied mullion for multiple section assemblies to support assembly weight and to hold against system pressure. Install bracing as needed.

**END OF SECTION**