**Price Airfoil Return Grille**

**Division 23 – Heating, Ventilating, and Air Conditioning**

**Section 23 37 13 – Diffusers, Registers, and Grilles**

The following specification is for a defined application. Price would be pleased to assist in developing a specification for your specific need.

**PART 1 – GENERAL**

* 1. **Section includes**:
1. Airfoil Return Grille.
	1. **Related Requirements**
2. Section 01 30 00 – Administrative Requirements
3. Section 01 40 00 – Quality Requirements
4. Section 01 60 00 – Product Requirements
5. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
6. Section 01 78 00 – Closeout Submittals
7. Section 01 79 00 – Demonstration and Training
	1. **Reference Standards**
8. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
9. ASHRAE Standard 70 – Method of Testing the Performance of Air Outlets and Air Inlets
10. ASTM 610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
11. ASTM 714 – Test Method for Evaluating Degree of Blistering of Paints
12. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
13. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
14. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub

**1.04 Submittals**

1. See Section 01 30 00 – Administrative Requirements for submittal procedures.
2. Product Data: Provide data indicating configuration, general assembly, and materials used in fabrication. Include catalog performance ratings that indicate airflow, and NC designation.
3. Shop Drawings: Indicate configuration, general assembly, and materials used in fabrication.
4. Project Record Documents: Record actual locations of units and control components.
5. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions (if applicable), and maintenance and repair data.
6. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
7. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

**1.06 Quality Assurance**

1. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum ten years of documented experience.

**1.07 Warranty**

1. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
2. Provide 12 month manufacturer warranty from date of shipment of grilles and registers.

**PART 2 – PRODUCTS**

**2.01 Airfoil Return Grilles**

1. Basis of Design: Price Industries, Inc.
2. Airfoil Return Grille: Model 60, 60D, 60DAL, 70, 70D, 70DAL
3. Airfoil Filter Return Grille: Model 60FH, 70FH
4. General:
	1. The airfoil Return grille shall be supplied with extruded aluminum blades and border with individually adjustable airfoil blades for non-turbulent airflow.

**2.02 Airfoil Return Grilles**

1. Description:
	1. Furnish and install Price Model [60], [60D], [60DAL], [70], [70D], [70DAL] airfoil return grilles and registers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. Grilles shall be 45 degree deflection fixed louver type, and shall have (**select one**):
		1. One set of blades with ¾ inch on center blade spacing (Model 60)
		2. One set of blades with ½ inch on center blade spacing (Model 70).
	2. The grilles front blade orientation shall be (**select one**), as indicated on the outlet schedule.
		1. Front blades parallel to the long dimension.
		2. Front blades parallel to the short dimension.
	3. The blades and border shall be heavy duty extruded aluminum construction.
	4. The minimum grille size shall be six inches by four inches. The maximum one-piece grille size shall be [36 inches x 96 inches] or [48 inches x 48 inches with steel frame option].
	5. The grille shall be supplied with a mullion when nominal grille dimensions exceed 20 inches.
3. Paint Specification:
	1. Paint finish shall be (**select one**):
		1. Baked-on powder coat finish.
			1. The paint film thickness shall be a minimum of 2 mils.
			2. The finish shall have a hardness of 2H as tested in accordance with ASTM D3363.
			3. The finish shall pass an ASTM B117 Corrosive Environment Salt Spray Test for 1000 hours with no measurable creep, rusting or blistering as per ASTM D1654, D610 and D714.
			4. The finish shall pass an ASTM D870 Water Immersion test of a minimum of 500 hours with no measurable with no rusting or blistering as per ASTM D610 and D714.
			5. The finish shall have an impact resistance of 100 inch-pounds in accordance with ASTM D2794.
		2. All components shall have a custom finish in a color to match a customer supplied sample.
4. Options:
	1. Opposed Blade Damper:
		1. The grille shall be supplied with [a coated steel (D)] or [an aluminum with mill finish (DAL)] opposed blade damper.
	2. Border Style:
		1. The grille shall be suitable for sidewall mounting or T-bar lay-in mounting, complete with a border in the following style (s**elect one**):
			1. Surface Mount with 1-1/4 inch curved border.
			2. Surface Mount with 1-1/4 inch flat border.
			3. Surface Mount with 1 inch narrow border.
			4. Exposed duct with 15/16 border.
			5. Panel mount border. The maximum grille size shall equal the module size minus four inches. The panel module shall be the following size (**select one**):
				1. 12 x 12 inches.
				2. 24 x 12 inches.
				3. 24 x 24 inches.
				4. 48 x 24 inches.
	3. Mounting Frames:
		1. The grille shall be supplied with a 3/8 inch flat border mounting frame.
	4. Fastening:
		1. The grille shall be supplied with the following fastening method (**select one**):
			1. Countersunk screw holes complete with oval-head screws.
			2. Concealed fastening.
			3. Straight screw holes.
			4. No screw holes.

**2.03 Airfoil Filter Return Grilles**

1. Description:
	1. Furnish and install Price Model [60FH], [70FH] airfoil filter return grilles and registers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. Grilles shall have 45 degree deflection fixed louver type blades, and shall have (**select one**):
		* 1. One set of blades with 3/4 inch on center blade spacing (Model 60)
			2. One set of blades with 1/2 inch on center blade spacing (Model 70).
	2. The grilles front blade orientation shall be (**select one**), as indicated on the outlet schedule.
		1. Front blades parallel to the long dimension.
		2. Front blades parallel to the short dimension.
	3. The blades and border shall be heavy extruded aluminum construction.
	4. The grille shall use a continuous length piano type hinge and quarter turn quick-release fasteners for filter access.
	5. The filter frame shall accept one inch filter media.
	6. The minimum grille size shall be six inches by four inches. The maximum one-piece grille size shall be [36 inches x 96 inches] or [48 inches x 48 inches with steel frame option].
	7. The grille shall be supplied with a mullion when nominal grille dimensions exceed 20 inches.
3. Paint Specification:
	1. Paint finish shall be (**select one**):
		1. Baked-on powder coat finish.
			1. The paint film thickness shall be a minimum of 2 mils.
			2. The finish shall have a hardness of 2H as tested in accordance with ASTM D3363.
			3. The finish shall pass an ASTM B117 Corrosive Environment Salt Spray Test for 1000 hours with no measurable creep, rusting or blistering as per ASTM D1654, D610 and D714.
			4. The finish shall pass an ASTM D870 Water Immersion test of a minimum of 500 hours with no measurable with no rusting or blistering as per ASTM D610 and D714.
			5. The finish shall have an impact resistance of 100 inch-pounds in accordance with ASTM D2794.
		2. All components shall have a custom finish in a color to match a customer supplied sample.
4. Options:
	1. Opposed Blade Damper:
		1. The register shall be supplied with [a coated steel (D)] or [aluminum with mill finish (DAL)] opposed blade damper.
	2. Border Style:
		1. The grille shall be suitable for surface or T-bar mounting.
	3. Mounting Frames:
		1. The grille shall be supplied with a 3/8 inch flat border mounting frame.
	4. Fastening:
		1. The grille shall be supplied with the following fastening method (select one):
			1. Countersunk screw holes complete with oval-head screws.
			2. Concealed fastening.
			3. Straight screw holes.
			4. No screw holes.

**PART 3 – EXECUTION**

**3.01 Examination**

1. Verify that conditions are suitable for installation.
2. Verify that field measurements are as shown on the drawings.

**3.02 Installation**

1. Install in accordance with manufacturer’s instructions.
2. See drawings for the size(s) and locations of grilles and registers.

**3.03 Field Quality Control**

1. See Section 01 40 00 – Quality Requirements for additional requirements.

**3.05 Cleaning**

1. See Section 01 74 19 – Construction Waste Management and Disposal for additional requirements.

**3.06 Closeout Activities**

1. See Section 01 78 00 – Closeout Submittals for closeout documentation requirements.
2. See Section 01 79 00 – Demonstration and Training for additional requirements.