**Price Steel Louvered 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. Steel Louvered 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 Steel Louvered Grille**

1. Basis of Design: Price Industries, Inc.
2. Steel Louvered Supply Grille: Model 510, 510Z, 520
3. Steel Louvered Return Grille: Model 530, 535

**2.02 Steel Louvered Supply Grille**

1. Description:
	1. Furnish and install Price Model [510], [510Z], or [520] steel louvered supply grilles and registers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. The grille blades and border shall be steel construction.
	2. Grilles shall be [single deflection] or [double deflection] louver type, and shall have (**select one**):
		1. One set of fully adjustable blades, with 3/4 inch on center blade spacing [Model 510].
		2. One set of fixed blades with 0 degree deflection and 3/4 inch on center blade spacing [Model 510Z].
		3. Two sets of fully adjustable blades with 3/4 inch on center blade spacing [Model 520].
	3. 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. 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 opposed blade damper. The damper shall be operable from the register face.
	2. Border Style:
		1. The grille shall be suitable for [surface mounting], [T-bar lay-in mounting], [panel mounting], or [spiral duct frame mount], complete with a border in the following style (**select one**):
			1. 1-1/4 inch flat frame [**required for spiral duct mount**].
			2. 1 inch narrow frame.
			3. 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 (**select one**):
			1. 3/8 inch flat border mounting frame.
			2. Spiral duct mounting frame.
	4. Fastening:
		1. The grille shall be supplied with the following fastening method (**select one**):
			1. Countersunk screw holes complete with screws.
			2. No screw holes.
			3. Concealed mounting brackets.
	5. Insect Screen:
		1. The grille shall be supplied with an 18 x16 aluminum mesh insect screen [**Not recommended with opposed blade damper**].

**2.03 Steel Louvered Return Grille**

1. Description:
	1. Furnish and install Price Model [530], [535] steel louvered return grilles and registers of sizes and mounting types designated by the plans and air distribution schedule.
2. Construction:
	1. The grille blades and border shall be steel construction.
	2. Grilles shall be 45 degree deflection fixed louver type to minimize see-through, and shall have (**select one**):
		1. One set of fixed blades with 3/4 inch on center blade spacing [Model 530]
		2. One set of fixed blades with 1/2 inch on center blade spacing [Model 535].
	3. The grilles blade orientation shall be (**select one**), as indicated on the outlet schedule.
		1. Blades parallel to the long dimension.
		2. Blades parallel to the short dimension.
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) opposed blade damper. The damper shall be operable from the register face.
	2. Border Style:
		1. The grille shall be suitable for [surface mounting], [T-bar lay-in mounting], [panel mounting], or [spiral duct frame mount], complete with a border in the following style (**select one**):
			1. Surface Mount with 1-1/4 inch flat border. [**required for spiral duct mount**]
			2. Surface Mount with 1 inch narrow border.
			3. 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 (select one):
			1. 3/8 inch flat border mounting frame.
			2. 5/8 inch narrow border mounting frame.
	4. Fastening:
		1. The grille shall be supplied with the following fastening method (**select one**):
			1. Countersunk screw holes complete with screws.
			2. Concealed bracket (**applies to Model 530 and surface mount only**).
			3. No screw holes (**default for T-bar frames**).
	5. Insect Screen:
		1. The grille shall be supplied with an 18 x16 aluminum mesh insect screen.
	6. Thin Line Return Dissipater (**Nominal 22 x 22 inch size and Flat Face Border T-bar frame only**):
		1. The grille shall be supplied with a Thin Line Return Dissipater (TLRD) to provide sound power insertion loss across the full range of frequencies, and shall be suitable for ceiling and wall applications.
		2. The manufacturer shall provide catalogued performance for insertion loss and transmission loss.
		3. The TLRD shall be a high-quality welded galvanized steel construction. Satin Coat paint shall be available as an option.
		4. The TLRD shall be factory-mounted to the grille and shipped as a one-piece construction to simplify field installation.
	7. Light Shield:
		1. The grille shall be supplied with a light shield to minimize the direct line of sight through the grille into the ceiling plenum and block reflected light from ceiling fixtures.

**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.