**Price Spiral Duct Grilles**

**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. Spiral Duct Grilles.
	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 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**

A. See Section 01 30 00 – Administrative Requirements for submittal procedures.

B. Product Data: Provide data indicating configuration, general assembly, and materials used in fabrication. Include catalog performance ratings that indicate airflow, static pressure, and NC designation.

C. Shop Drawings: Indicate configuration, general assembly, and materials used in fabrication.

D. Project Record Documents: Record actual locations of units and control components.

E. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, maintenance and repair data, and parts lists.

F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

* 1. See Section 01 60 00 - Product Requirements for additional provisions.

**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 18 month manufacturer warranty from date of shipment of grilles and registers.

**PART 2 – PRODUCTS**

**2.01 Spiral Duct Grilles**

1. Basis of Design: Price Industries, Inc.
2. Spiral Duct Grille, Supply: SDG
3. Spiral Duct Grille, Supply: SDGE
4. Spiral Duct Grille, Return: SDGR
5. Spiral Duct Grille, Return: SDGER

**2.02 Steel and Aluminum Spiral Duct Supply Grille**

1. Description:
	1. Furnish and install Price Model SDG spiral duct grille supply outlets of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The supply grille frame and blades shall be [steel], [aluminum], or [galvanized steel] construction.
	2. Supply grilles shall be supplied with double deflection blades with 3/4 inch spacing, and the front set blade orientation shall be [parallel to the short dimension] or [parallel to the long dimension].
	3. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
	4. Open cell foam insulation gasket shall be provided around the grille neck to provide a tight seal around openings in the duct. A closed cell foam end gasket shall be supplied to reduce leakage along the duct diameter.
	5. Nominal lengths for single piece construction shall be available in one inch increments.
3. Paint Specification (**select one**):
	1. Steel and aluminum components shall be supplied with a baked-on powder coat finish.
		* 1. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
			2. The paint film thickness shall be a minimum of 2.0 mils.
			3. The finish shall have a hardness of 2H.
			4. The finish shall withstand a minimum salt spray exposure of 500 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
			5. The finish shall have an impact resistance of 80 inch-pounds.
	2. Galvanized steel components shall be supplied with a mill finish.
4. Options:
	1. Opposed Blade Damper:
		1. The heavy duty, opposed blade balancing damper shall be constructed of a minimum 18 gauge coated, cold rolled steel. The damper frame corners shall overlap and be of welded construction for added strength.
		2. The damper shall be operable from the register face.
		3. The damper shall be supplied fitted with a face accessible screw-type blade locking mechanism.
	2. Air Scoop:
		1. The outlet shall be provided with an adjustable air scoop to direct airflow from the duct into the grille and to provide air volume control.
		2. Galvanized steel air scoop shall be provided for steel and galvanized grilles. Aluminum air scoop shall be provided for aluminum grilles.
		3. The air scoop shall be operated via [rod operator] or [cable operator].

**2.03 Extruded Aluminum Spiral Duct Supply Grille**

1. Description:
	1. Furnish and install Price Model SDGE spiral duct grille supply outlets of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The grille frame and blades shall be extruded aluminum construction.
	2. Supply grilles shall be supplied with [single] or [double] deflection blades with 3/4 inch spacing and the front set blade orientation shall be [parallel to the short dimension] or [parallel to the long dimension]. The face frame shall be curved to match the radius of the duct.
	3. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
	4. Nominal lengths for single piece construction shall be available in one inch increments.
3. Paint Specification (**select one**):
	1. The grille shall have a baked-on powder coat finish.
4. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
5. The paint film thickness shall be a minimum of 2.0 mils.
6. The finish shall have a hardness of 2H.
7. The finish shall withstand a minimum salt spray exposure of 500 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
8. The finish shall have an impact resistance of 80 inch-pounds.
	1. The grille shall have a clear anodized finish.
9. Options:
	1. Opposed Blade Damper:
		1. The heavy duty, opposed blade balancing damper shall be constructed of a minimum 18 gauge coated, cold rolled steel. The damper frame corners shall overlap and be of welded construction for added strength.
		2. The damper shall be operable from the register face.
		3. The damper shall be supplied fitted with a face accessible screw-type blade locking mechanism.
	2. Air Scoop:
		1. The outlet shall be provided with an adjustable air scoop to direct airflow from the duct into the grille and to provide air volume control.
		2. The air scoop shall be aluminum construction with a mill finish.
		3. The air scoop shall be operated via [rod operator] or [cable operator].

**2.04 Steel Spiral Duct Return Grille**

1. Description:
	1. Furnish and install Price Model SDGR spiral duct return grille of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The return grille frame and perforated screen shall have [steel] or [galvanized steel] construction.
	2. Return grilles shall be supplied with a 51 percent free area perforated screen.
	3. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
	4. Open cell foam insulation gasket shall be provided around the grille neck to provide a tight seal around openings in the duct.
	5. Nominal lengths for single piece construction shall be available in one inch increments.
3. Paint Specification (**select one**):
4. Steel return grilles shall have a baked-on powder coat finish.
5. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
6. The paint film thickness shall be a minimum of 2.0 mils.
7. The finish shall have a hardness of 2H.
8. The finish shall withstand a minimum salt spray exposure of 500 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
9. The finish shall have an impact resistance of 80 inch-pounds.
10. Galvanized return grilles shall have a mill finish.

**2.05 Extruded Aluminum Spiral Duct Return Grille**

1. Description:
	1. Furnish and install Price Model SDGER spiral duct grille return outlets of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The return grille shall be supplied with an extruded aluminum construction frame and an aluminum construction perforated face.
	2. Return grilles shall be supplied with a 51 percent free area perforated screen. The face frame shall be curved to match the radius of the duct.
	3. The mounting frame shall be supplied with countersunk screw holes for aesthetic appeal.
	4. Open cell foam insulation gasket shall be provided around the grille neck to provide a tight seal around openings in the duct.
	5. Nominal lengths for single piece construction shall be available in one inch increments.
3. Paint Specification (**select one**):
	1. The grille shall have a baked-on powder coat finish.
4. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
5. The paint film thickness shall be a minimum of 2.0 mils.
6. The finish shall have a hardness of 2H.
7. The finish shall withstand a minimum salt spray exposure of 500 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
8. The finish shall have an impact resistance of 80 inch-pounds.
	1. The grille shall have a clear anodized finish.

**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.