**Price T-Bar Supply/Return Diffusers**

**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. T-Bar Supply/Return Diffusers
	1. **Related Requirements**
2. Section 01 30 00 – Administrative Requirements
3. Section 01 40 00 – Quality Requirements
4. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
5. Section 01 78 00 – Closeout Submittals
6. Section 01 79 00 – Demonstration and Training
	1. **Reference Standards**
7. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
8. ASHRAE 70 – Standard Method of Testing the Performance of Air Outlets and Air Inlets
9. ASTM D610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
10. ASTM D714 – Standard Test Method for Evaluating Degree of Blistering of Paints
11. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
12. ASTM D1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
13. 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 78 00 - Closeout Submittals, for additional warranty requirements.
2. Provide 12 month manufacturer warranty from date of shipment of diffusers.

**PART 2 – PRODUCTS**

**2.01 Manufacturer**

1. Basis of Design: Price Industries, Inc.
2. T-Bar Horizontal Supply Diffusers: Models TBD6, TBDI6
3. T-Bar Horizontal Supply Diffusers with Integral Return: Models TBDR6, TBDRI6
4. T-Bar Horizontal Supply Diffusers with Vertical Center Discharge : Models TBDV6, TBDVI6
5. T-Bar Horizontal Supply Diffusers with Integral Return and Vertical Center Discharge: Models TBDRV6, TBDRVI6

**2.02 T-bar Horizontal Supply Diffusers**

1. Description:
	1. Furnish and install Price model [TBD6] or [TBDI6] T-bar supply diffusers in sizes and capacities as shown by the plans and air distribution schedule. Provide drawings accompanied by an itemized list indicating the unit locations and appropriate product submittal drawings provided by the manufacturer. Exact dimensions of the walls and ceiling are per the architectural drawings.
2. Construction:
	1. The T-bar diffusers shall have extruded aluminum center tees and pattern controllers, and a coated steel plenum.
	2. The diffuser supply slot width shall be [3/8 inch] or [3/4 inch] and shall feature an aerodynamically curved, high induction pattern controller designed for high velocity discharge.
	3. Module sizes shall be available in a nominal length of [24], [30], [36], [48], or [60] inches.
	4. [**Model TBDI6 only**] The plenums shall be insulated (**select one**):
		1. AFI –The plenum pan shall be externally insulated with 1/2 inch fiberglass with foil/scrim vapor barrier.
		2. FF – The plenum shall be externally insulated with fiber free foam insulation.
		3. CF – The plenum shall be externally insulated with coated fiberglass insulation.
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.
		3. The pattern controller and plenum face shall be painted black.
4. Options:
	1. Frame style:
		1. The T-bar diffusers shall be supplied with the following frame style for T-bar lay in mounting (**select one**):
			1. T-bar clips on [inlet side] or [both sides].
			2. One outside T-bar on [inlet side] or [both sides].
			3. Aluminum plaster frame.

**2.03 T-Bar Horizontal Supply Diffusers with Integral Return**

1. Description:
	1. Furnish and install Price model [TBDR6] or [TBDRI6] T-bar combination supply and return diffusers in sizes and capacities as shown by the plans and air distribution schedule. Provide drawings accompanied by an itemized list indicating the unit locations and appropriate product submittal drawings provided by the manufacturer. Exact dimensions of the walls and ceiling are per the architectural drawings.
2. Construction:
	1. The T-bar diffusers shall have extruded aluminum center tees and pattern controllers, and a coated steel plenum.
	2. The diffuser supply slot width shall be [3/8 inch] or [3/4 inch] and shall feature an aerodynamically curved, high induction pattern controller designed for high velocity discharge.
	3. The diffuser return section slot width shall be 2 inches, and shall be integral to the unit.
	4. Module sizes shall be available in nominal lengths of [24], [30], [36], [48], or [60] inches.
	5. [**Model TBDRI6 only**] The plenums shall be insulated (**select one**):
		1. AFI –The plenum pan shall be externally insulated with 1/2 inch fiberglass with foil/scrim vapor barrier.
		2. FF – The plenum shall be externally insulated with fiber free foam insulation.
		3. CF – The plenum shall be externally insulated with coated fiberglass insulation.
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.
		3. The pattern controller and plenum face shall be painted black.
4. Options:
	1. Frame style:
		1. The T-bar diffusers shall be supplied with the following frame style for T-bar lay in mounting (**select one**):
			1. T-bar clips on [inlet side] or [both sides].
			2. One outside T-bar on [inlet side] or [both sides].
			3. Aluminum plaster frame.

**2.04 T-Bar Horizontal Supply Diffusers with Vertical Center Discharge**

1. Description:
	1. Furnish and install Price model [TBDV6] or [TBDVI6] T-bar supply diffusers in sizes and capacities as shown by the plans and air distribution schedule. Provide drawings accompanied by an itemized list indicating the unit locations and appropriate product submittal drawings provided by the manufacturer. Exact dimensions of the walls and ceiling are per the architectural drawings.
2. Construction:
	1. The T-bar diffusers shall have extruded aluminum pattern controllers, and a coated steel plenum.
	2. The diffuser supply slot width shall be [3/8 inch] or [3/4 inch] and shall feature an aerodynamically curved, high induction pattern controller designed for high velocity discharge. The diffuser shall include a 1 inch center vertical discharge section, with “ice-tong” shaped pattern controllers to produce an air pattern adjustable through 180 degrees.
	3. Module sizes shall be available in nominal lengths of [24], [30], [36], [48], or [60] inches.
	4. [**Model TBDVI6 only**] The plenums shall be insulated (**select one**):
		1. AFI –The plenum pan shall be externally insulated with 1/2 inch fiberglass with foil/scrim vapor barrier.
		2. FF – The plenum shall be externally insulated with fiber free foam insulation.
		3. CF – The plenum shall be externally insulated with coated fiberglass insulation.
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.
		3. The pattern controller and plenum face shall be painted black.
4. Options:
	1. Frame style:
		1. The T-bar diffusers shall be supplied with the following frame style for T-bar lay in mounting (**select one**):
			1. T-bar clips on [inlet side] or [both sides].
			2. One outside T-bar on [inlet side] or [both sides].
			3. Aluminum plaster frame.

**2.05 T-Bar Horizontal Supply Diffusers with Integrated Return with Vertical Center Discharge**

1. Description:
	1. Furnish and install Price model [TBDRV6] or [TBDRVI6] T-bar supply diffusers in sizes and capacities as shown by the plans and air distribution schedule. Provide drawings accompanied by an itemized list indicating the unit locations and appropriate product submittal drawings provided by the manufacturer. Exact dimensions of the walls and ceiling are per the architectural drawings.
2. Construction:
	1. The T-bar diffusers shall have extruded aluminum pattern controllers, and a coated steel plenum.
	2. The diffuser supply slot width shall be [3/8 inch] or [3/4 inch] and shall feature an aerodynamically curved, high induction pattern controller designed for high velocity discharge. The diffuser shall include a 1 inch center vertical discharge section, with “ice-tong” shaped pattern controllers to produce an air pattern adjustable through 180 degrees.
	3. The diffuser return section slot width shall be 2 inches, and shall be integral to the unit.
	4. Module sizes shall be available in nominal lengths of [24], [30], [36], [48], or [60] inches.
	5. [**Model TBDRVI6 only**] The plenums shall be insulated (**select one**):
		1. AFI –The plenum pan shall be externally insulated with 1/2 inch fiberglass with foil/scrim vapor barrier.
		2. FF – The plenum shall be externally insulated with fiber free foam insulation.
		3. CF – The plenum shall be externally insulated with coated fiberglass insulation.
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.
		3. The pattern controller and plenum face shall be painted black.
4. Options:
	1. Frame style:
		1. The T-bar diffusers shall be supplied with the following frame style for T-bar lay in mounting (**select one**):
			1. T-bar clips on [inlet side] or [both sides].
			2. One outside T-bar on [inlet side] or [both sides].
			3. Aluminum plaster frame.

**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 diffusers.

**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 addition.