

# Ceiling Component Diffusers

## Suggested Specification



### T-bar Diffusers

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#### TBD2 / TBDI2 - SUPPLY DIFFUSER

Supply and install Price TBD2/TBDI2 series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have 1 in. [25] or 1 1/2 in. [38] slot and be available in 1 or 2 slot models. On 2 slot models, diffuser shall be supplied with an extruded aluminum center T painted B12 White = white powder coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature curved extruded aluminum pattern controllers, factory installed for the specified air pattern. Pattern controllers shall be capable of field adjustment for horizontal air patterns toward or away from the inlet. Two slot diffusers may be adjusted for vertical discharge. Pattern controllers are to be painted black. The diffuser plenum shall be constructed out of coated steel. The visible face of the plenum shall be factory finished in matte black. Internal or external insulation is available as an option (model TBDI).

#### TBD3 / TBDI3 - SUPPLY DIFFUSER

Supply and install Price TBD3/TBDI3 series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have 1/2 in. [13], 3/4 in. [19] or 1 in. [25] slot and be available in 1, 2, 3 or 4 slot models. On 2, 3, 4 slot models, diffuser shall be supplied with an extruded aluminum center T painted B12 White = white powder coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature extruded aluminum "ice tong" pattern controllers and produce 180° control of the air pattern. Pattern controllers are to be painted black. Diffuser plenum shall be constructed of coated steel. Internal or external insulation is available as an option (model TBDI).

#### TBR / TBRI - RETURN DIFFUSER

Supply and install Price TBR/TBRI series of T-bar return diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Return units shall have 1/2 in. [13], 3/4 in. [19], 1 in. [25], or 1 1/2 in. [38] slot and be available in 1, 2, 3 or 4 slot models. On 2, 3 and 4 slot models, an extruded aluminum center T painted white is to be supplied. Diffuser plenum shall be constructed of coated steel. Internal insulation is available as an option (model TBRI).

#### TBD4 / TBDI4 - SUPPLY DIFFUSER

Supply and install Price TBD4/TBDI4 series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have 3/4 in. [19], 1 in. [25] or 1 1/2 in. [38] slot and be available in 1, 2, 3 or 4 slot models. On 2, 3 or 4 slot models diffuser shall be supplied with an extruded aluminum center T painted B12 White = white powder coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature extruded aluminum pattern controllers fitted with a tight sealing extruded vinyl blade seal. Pattern controllers shall provide an adjustable air pattern toward or away from the inlet. Two and four slot diffusers may also be adjusted to vertical air pattern. Pattern controllers are to be painted black. Diffuser plenum shall be constructed out of coated steel. Internal or external insulation is available as an option (model TBDI).

#### TBD6 / TBDI6 - SUPPLY DIFFUSER

Supply and install Price TBD6/TBDI6 series of T-bar supply diffuser of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have a 3/8 in. [10] or 3/4 in. [19] slot and feature an aero-dynamically curved extruded aluminum high induction pattern controller, designed for high velocity discharge. Pattern controller to be painted black. Diffuser plenum shall be constructed out of coated steel. Internal or external insulation is available as an option (model TBDI6).

#### TBDR6 / TBDR16 - RETURN DIFFUSER

Supply and install Price TBDR6/TBDR16 series of T-bar combination supply and return diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Supply section shall have a 3/8 in. [10] or 3/4 in. [19] slot and feature an aero-dynamically curved extruded aluminum high induction pattern controller, designed for high velocity discharge. Pattern controller to be painted black. Return section is to be integral and will feature a 2 in. [50] return slot. Plenum shall be constructed out of coated steel. Internal or external insulation is available as an option (model TBDR16).

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#### TBDV6 / TBDVI6 - SUPPLY / CENTER VERTICAL DISCHARGE

Supply and install Price TBDV6/TBDVI6 series of T-bar supply diffusers of sizes and capacities as shown on the diffuser schedule. Diffuser shall feature a 1 in. [25] center vertical discharge section, utilizing extruded aluminum "ice tong" pattern controllers to produce an air pattern adjustable through 180°. The end sections of the diffuser are supplied with a  $\frac{3}{8}$  in. [10] or  $\frac{3}{4}$  in. [19] slot and use an aerodynamically curved extruded aluminum high induction pattern controller, designed for high velocity discharge. All pattern controllers are to be painted black. Diffuser plenum shall be constructed out of coated steel. Internal or external insulation is available as an option (model TBDVI6).

#### TBDRV6 / TBDRVI6 - SUPPLY / SUPPLY-RETURN

Supply and install Price TBDRV6/TBDRVI6 series of combination supply and supply-return diffusers of sizes and capacities as shown on the plans and schedule. Supply section shall feature a 1 in. [25] center vertical discharge section utilizing extruded aluminum "ice tong" pattern controllers to produce an air pattern adjustable through 180°. The end sections of the diffuser are supplied with a  $\frac{3}{8}$  in. [10] or  $\frac{3}{4}$  in. [19] slot and use an aerodynamically curved extruded aluminum high induction pattern controller, designed for high velocity discharge and low sound and pressure drop. All pattern controllers are to be painted black. Diffuser return section is to be integral and will feature a 2 in. [50] return slot. Plenum is to be constructed of coated steel. Internal or external insulation is available as an option (model TBDRVI6).

#### TBDI6 HC - THERMAL POWERED DIFFUSER

Supply and install Price model TBDI6 HC T-bar supply slot diffusers of the sizes and capacities as shown on the drawings and diffuser schedules. The diffuser shall have an outlet consisting of two slots. One slot shall consist of an aerodynamically curved pattern controller, designed for a tight horizontal air pattern with high induction and high velocity discharge. A second discharge slot, parallel to the first, shall be designed to produce a strong vertical air pattern, suitable for heating applications. This vertical discharge slot shall incorporate a trim adjustment volume damper. A self-powered, thermally actuated two position deflector shall be incorporated onto the entrance to the discharge slots in order to direct the air flow to the horizontal slot when supply air temperatures are below 69 °F [21 °C] and to the vertical slot when the supply air temperature is above 81 °F [27 °C].

The horizontal pattern control blade shall be of extruded aluminum and finished in black. The center T between the two slots shall be finished in B12 White = white powder coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. The diffuser shall be complete with a full length plenum, 12 in. [305] high, fabricated of coated steel. Internal or external insulation is available as an option.

Performance data shall be based on tests conducted in accordance with ASHRAE Standard 70-2006 and shall be available for both horizontal and vertical air patterns.

#### TBD7 / TBDI7 - SUPPLY DIFFUSER

Supply and install Price TBD7/TBDI7 Series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have a  $\frac{3}{4}$  in. [19] slot and be available in 1, 2, 3 and 4 slot models. Diffuser shall feature fixed louvered pattern controllers, which provide high air capacity while maintaining the architectural appeal of the ceiling. Diffuser shall be available in one or two way air pattern. Diffuser face and louvered pattern controllers are to be painted white. Diffuser plenum shall be constructed of coated steel. Internal or external insulation is available as an option (model TBDI).

#### TBR7 / TBR17 - RETURN DIFFUSER

Supply and install Price TBR/TBR17 Series of T-bar return diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Return units shall have a  $\frac{3}{4}$  in. [19] slot and be available in 1, 2, 3 and 4 slot models and shall match in appearance the TBD/TBDI7 series when viewed from the diffuser face. Diffuser face to be painted B12 White = white powder coat Paint. Finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Plenum to be constructed of coated steel. Internal insulation is available as an option (model TBR1).

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#### TBD8 / TBDI8 - SUPPLY DIFFUSER

Supply and install Price TBD8/TBDI8 Series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffuser shall have 1/2 in. [13], 3/4 in. [19] or 1 in. [25] slot and be available in 1 or 2 slot models. On 2 slot models, diffusers shall be supplied with an extruded aluminum center T painted B12 White = white powder coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature extruded aluminum "ice tong" pattern controllers and produce 180° control of the air pattern. Pattern controllers are to be painted black. Diffuser plenum is to feature a sloped-shoulder design in order to produce an air pattern with short horizontal projection and wide horizontal spread. Diffuser plenum is to be constructed of coated steel and externally lined with 1/2 in. thick [13] foil-backed fiberglass insulation (model TBDI).

#### TBR / TBR18 - RETURN DIFFUSER

Supply and install Price TBR/TBR18 Series of T-bar return diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Return units shall have 1/2 in. [13], 3/4 in. [19] or 1 in. [25] slot and be available in 1 or 2 slot models. On 2 slot models, an extruded aluminum center T painted B12 White = white powder coat is to be supplied. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser plenum shall be constructed of coated steel. Internal insulation is available as an option (model TBR1).

##### Insulation:

Externally insulated units shall be wrapped with 1/2 in. [13] thick aluminum foil-backed insulation (AFI).

Internally insulated models shall be lined with 1/4 in. [6] thick fiber free foam or coated fiberglass insulation.

The foam insulation shall meet the requirements of UL181 / UL723 - ASTME84 Flame Spread of less than 25 & Smoke Generation of less than 50, ASHRAE 62-1089 / ATS 1000.01 Toxic Combustion Bi-products, UL181 Air Erosion and ASTM C665 Fungi Resistance.

#### LTA / LTF / LTN - LIGHT TROFFER DIFFUSER

Supply and install Price LTA/LTF/LTN series of light troffer diffusers of sizes and capacities as show on the plans and schedule.

##### LTA

Provide diffusers with hinged pattern controllers to control discharge from horizontal to vertical and provide trim dampering. Pattern controllers are to be adjustable through the discharge slots of the diffuser-fixture combination.

##### LTF

Provide diffusers with fixed aerodynamically curved pattern controllers are to provide superior horizontal air pattern.

##### LTN

Provide diffusers without pattern controllers for use in regressed slot light fixtures. Diffusers to have oval side inlets (on single type units and saddle type low profile units) and round inlets (on saddle type units). Diffusers shall be designed to integrate with the light fixture without the requirements of screw type fasteners. Diffuser manufacturer is to ensure com-patibility between diffusers and light fixture. Diffuser is to be constructed of coated steel. Where insulation is required, specify exterior foil-backed 1/2 in. [13] insulation.

#### TBD2-FR / TBDI2-FR - SUPPLY DIFFUSER

Supply and install Price TBD2-FR/TBDI2-FR series of T-bar Fire-Rated diffuser assemblies of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffusers shall be Fire-Rated assemblies listed in the UL, Underwriter' Laboratories Fire Resistance Directory and in the ULC, Under-writer' Laboratories of Canada Equipment and Materials Directory. Diffusers shall meet UL time and temperature test criteria and NFPA 90A requirements. This design is intended for use in an exposed grid suspended ceiling (T-bar Lay-in) with up to a three hour rating and must be installed in accordance with installation instructions. The diffuser plenum shall be constructed out of coated steel and include a flap damper with the thermal blanket encased out of the air stream to protect it from erosion and deterioration. The flap damper shall sit flush against the plenum wall for low noise and unrestricted air flow. It shall also have a positive spring closure and locking clip for added safety. Fuse link replacement (optional 212 °F available) may be easily accomplished with the removal and reinsertion of one screw. Diffuser shall have 1 in. [25]

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or 1 1/2 in. [38] slot and be available in 1 or 2 slot models. On 2 slot models, the diffuser shall be supplied with an extruded aluminum center T painted B12 White Powder Coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature curved extruded aluminum pattern controllers, factory installed for the specified air pattern. Pattern controllers shall be capable of field adjustment for horizontal air patterns toward or away from the inlet, and for vertical air patterns. Pattern controllers are to be painted black. The interior of the plenum shall be factory finished in matte black.

**Options:**

- 212 °F [100 °C] fusible link
- TBDI2-FR internal 1/4 in. [6] coated fiberglass insulation

#### TBD3-FR / TBDI3-FR - SUPPLY DIFFUSER

Supply and install Price TBD3-FR/TBDI3-FR series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffusers shall be Fire-Rated assemblies listed in the UL, Underwriter' Laboratories Fire Resistance Directory and in the ULC, Underwriter' Laboratories of Canada Equipment and Materials Directory. Diffusers shall meet UL time and temperature test criteria and NFPA 90A requirements. This design is intended for use in an exposed grid suspended ceiling (T-bar Lay-in) with up to a three hour rating and must be installed in accordance with installation instructions. The diffuser plenum shall be constructed out of coated steel and include a flap damper with the thermal blanket encased out of the air stream to protect it from erosion and deterioration. The flap damper shall sit flush against the plenum wall for low noise and unrestricted air flow. It shall also have a positive spring closure and locking clip for added safety. Fuse link replacement (optional 212 °F available) may be easily accomplished with the removal and reinsertion of one screw. Diffuser shall have 1/2 in. [13], 3/4 in. [19] or 1 in. [25] slot and be available in 1 and 2 slot models. On 2 slot models, the diffuser shall be supplied with an extruded aluminum center T painted B12 White Powder Coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature extruded aluminum "ice tong" pattern controllers and produce 180° control of the air pattern. Pattern controllers are to be painted black.

**Options:**

- 212 °F [100 °C] fusible link
- TBDI3-FR internal 1/4 in. [6] coated fiberglass insulation

#### TBD4-FR / TBDI4-FR - SUPPLY DIFFUSER

Supply and install Price TBD4-FR/TBDI4-FR series of T-bar supply diffusers of sizes and capacities as shown on the drawings (on the diffuser schedule). Diffusers shall be Fire-Rated assemblies listed in the UL, Underwriter' Laboratories Fire Resistance Directory and in the ULC, Underwriter' Laboratories of Canada Equipment and Materials Directory. Diffusers shall meet UL time and temperature test criteria and NFPA 90A requirements. This design is intended for use in an exposed grid suspended ceiling (T-bar Lay-in) with up to a three hour rating and must be installed in accordance with installation instructions. The diffuser plenum shall be constructed out of coated steel and include a flap damper with the thermal blanket encased out of the air stream to protect it from erosion and deterioration. The flap damper shall sit flush against the plenum wall for low noise and unrestricted air flow. It shall also have a positive spring closure and locking clip for added safety. Fuse link replacement (optional 212 °F available) may be easily accomplished with the removal and reinsertion of one screw. Diffuser shall have 3/4 in. [19], 1 in. [25] OR 1 1/2 in. [38] slot and be available in 1 or 2 slot models. On 2 slot models, the diffuser shall be supplied with an extruded aluminum center T painted B12 White Powder Coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714. Diffuser shall feature extruded aluminum pattern controllers fitted with a tight sealing extruded vinyl blade seal. Pattern controllers shall provide an adjustable air pattern horizontally toward or away from the inlet, and vertically. Pattern controllers are to be painted black.

**Options:**

- 212 °F [100 °C] fusible link
- TBDI4-FR internal 1/4 in. [6] coated fiberglass insulation

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### LDLT/ALDLT

#### Linear Low Temperature Diffuser

Furnish and install Price model (LDLT steel, ALDLT aluminum) low temperature linear diffusers of sizes designated by the plan and air distribution schedule. Diffuser shall consist of a supply air plenum lined with 3/4 in. dual density fibreglass with foil face, which meets requirement of NFPA 90A and UL181. The supply air plenum shall be gasket sealed to the induction chamber. The diffuser induction chamber shall project the supply air through multiple -tapered discharge slots. and shall be all-metal construction. A distribution baffle shall be provided to ensure equal pressurization across the induction chamber. The chamber shall be internally insulated with 1/2 in. fibreglass with foil face, which meets requirement of NFPA 90A and UL181.

The unit shall be designed and verified by test to prevent condensation from forming on the surface of the unit at 40 °F supply temperature and ceiling plenum conditions of 78 °F, 60% humidity.

Units shall be tested in accordance with ASHRAE Standard 70-2006. Performance data shall be provided for throw and drop at 40 °F supply air temperature with a room temperature of 75 °F.

Finish shall be B12 White Powder Coat. Paint finish shall pass 500 hours of salt spray exposure with no measurable creep in accordance with ASTM D1654 and 1000 hours with no rusting or blistering as per ASTM D610 and ASTM D714.