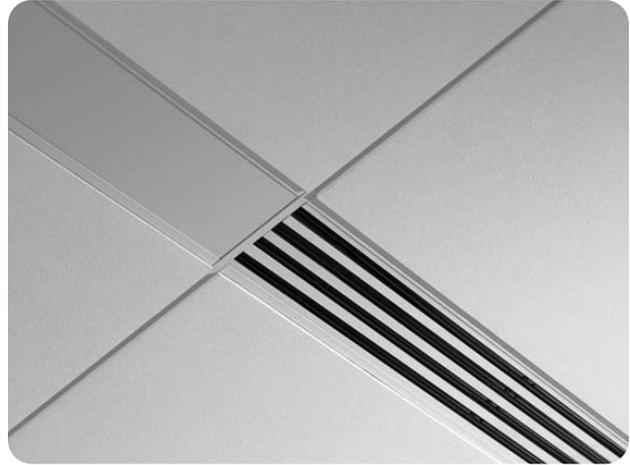


Armstrong® TechZone™ Compatible Linear Diffusers

Carnes is very pleased to introduce our new line of linear diffusers specifically designed to be used with Armstrong® TechZone™ ceilings. The TechZone™ series is available for lay in and 9/16" tegular applications in 1-4 slots and 15/16" tegular applications in 1-3 slots. Slots are 3/4" and are available in the following lengths: 24", 30", 36", 48", 60", and 72". All models are sized to lay into the 6" grid, regardless of the number of slots.

For the TechZone™ series, each slot is equipped with an individually adjustable pattern control that controls the direction of air discharge either parallel with or perpendicular to the diffuser face. The adjustment from the face of the diffuser allows for pattern control in a full 180° range for either right or left parallel, intermediate or perpendicular air flow. The unique design of the pattern control also allows the same vane which controls the air pattern to also be adjustable for rate of air flow. This dampening is accomplished without upsetting the air pattern. The TechZone™ series meets ANSI/ASHRAE Standard 70-1991 for performance.

This custom diffuser series offers clean, sleek lines that compliment the look of the Armstrong® TechZone™ Ceiling very nicely while offering a wide range of adjustment possibilities. The Carnes and Armstrong® partnership gives you a ceiling that offers a unique combination of functionality, versatility and a desirable, aesthetically pleasing appearance.



Application

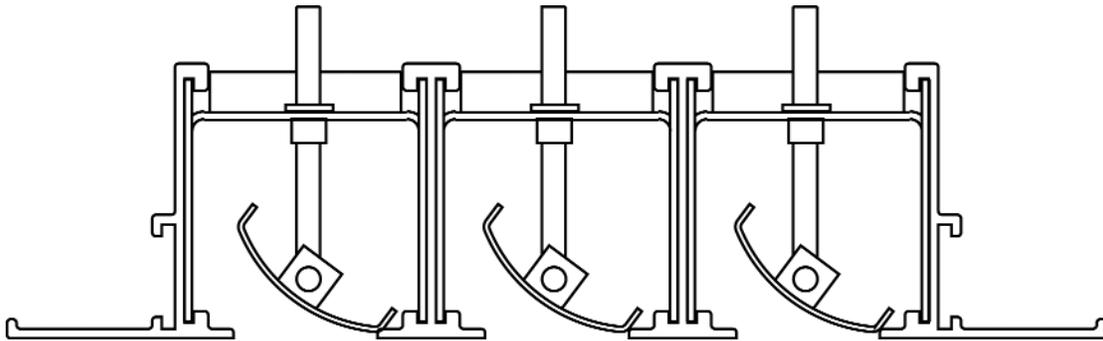
This custom line of linear diffusers was developed specifically for Armstrong and is the result of a unique partnership. The Armstrong TechZone Ceiling offers 4 & 5 foot panels with 6" grids for all HVAC, lightning, wiring, etc. The result is a beautiful, uncluttered ceiling with clean lines that also offers a great deal of versatility.

Standard Features

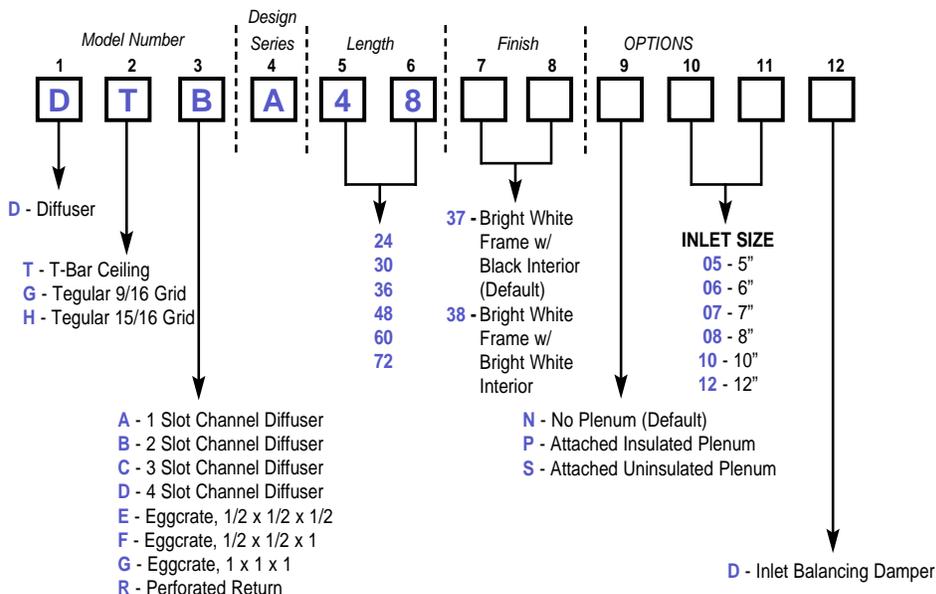
- All TechZone series diffusers are designed to be Armstrong TechZone Compatible.
- Available in 24", 30", 36", 48", 60" and 72".
- Surface mount diffusers available in 1-4 slots and tegular diffusers available in 1-3 slots.
- Plenums can be field or factory attached at no extra cost (factory attachment is recommended).
- Design of ceiling offers easy access for maintenance.
- Uses standard ceiling and grid components.

Optional Features

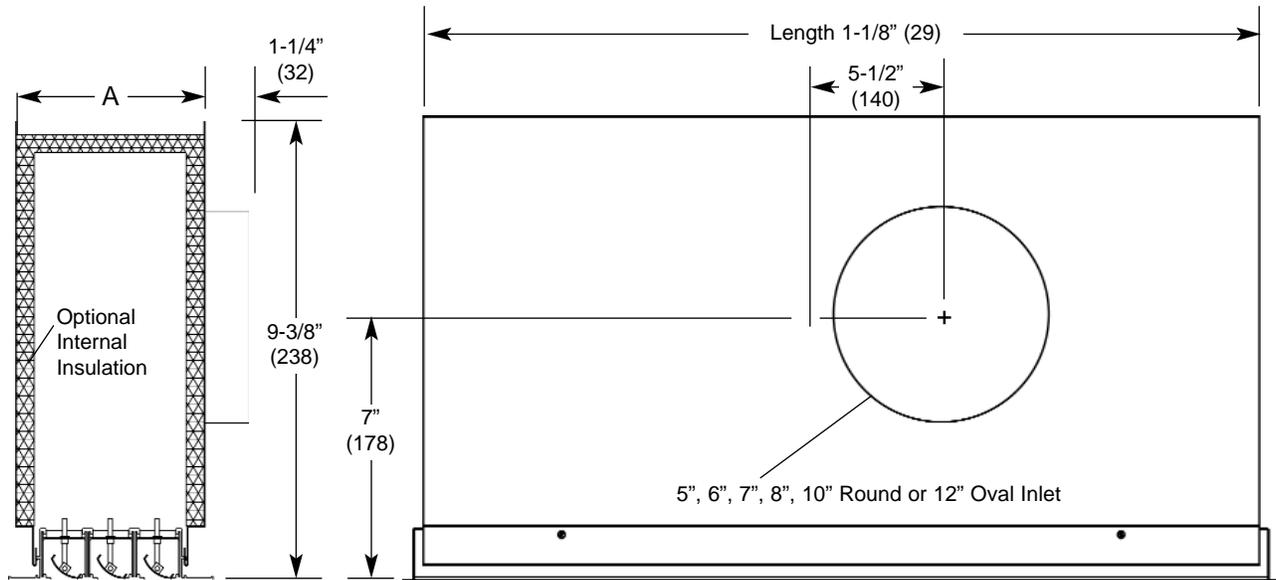
- Inlet balancing damper.



Model Numbering System



Specialty Products

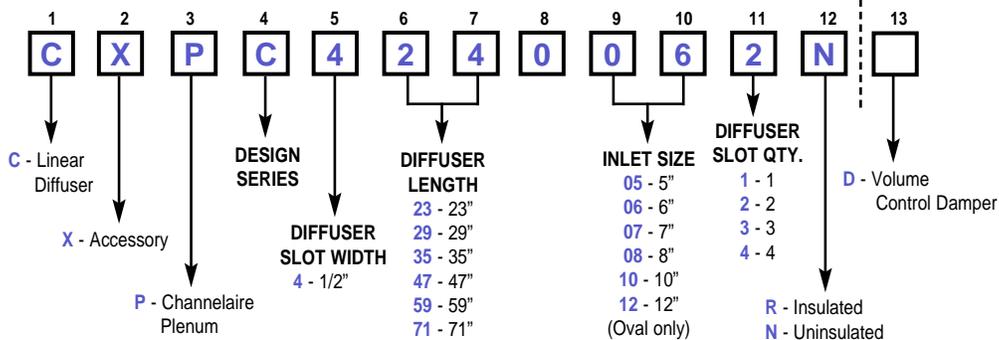


Notes:

- Optional insulation is 1/2" black matte-faced 1-1/2 lb. density.
- Standard material of plenum is 24 gauge galvanized steel.
- This is for field attached plenum. Default is factory attached plenum.
- Diffusers for Armstrong TechZone™ ceilings are lay in products. Plenum length is grid size minus 1 inch.

| DIM | No. of Slots | | | |
|-----|---------------|-----------------|----------------|------------------|
| | 1 | 2 | 3 | 4 |
| A | 2-3/4 (70) | 4-1/16 (103) | 5-3/8 (137) | 6-11/16 (170) |

Model Numbering System — Channelaire Plenum (For Field Attachment)



▼ Suggested Guide Specifications

Adjustable slot type diffusers shall be Carnes Model DT, DG or DH*, available in 1 - 4 slots. Frame construction shall be extruded aluminum, with formed adjustable pattern controllers. Each slot shall contain pattern controls, adjustable from the face of the diffuser to deflect the discharge air along a selected axis within a semi-circle of 180 degree. The same pattern controls shall function as volume control dampers without affecting the air discharge pattern. Diffusers shall be available for both lay in, 9/16" regular and 15/16" regular applications.

Return diffusers must also have the same dimensions to be Armstrong TechZone™ compatible and usable with or without an attached plenum.

All diffusers, regardless of number of slots, will maintain the same outside dimension to be Armstrong TechZone™ compatible.

The finish shall be electrocoat acrylic baked enamel. Standard finishes shall be Carnes #37 (white face frame with black pattern controllers) or #38 (white face frame with white face pattern controllers).

Plenums shall be manufactured by same manufacturer as the diffusers. Plenums shall be available as factory attached as standard. Optional field attachment shall also be available.

Published performance data shall be furnished and linear diffusers shall be tested in accordance with ANSI/ASHRAE Standard 70-1991.

*Armstrong® TechZone™ Compatible

Correction Factors for Lengths Other than Shown.

Performance data is given for a 4-foot long diffuser. When other lengths are used, apply these corrections to the table data below.

| Length | 24" | 36" | 48" | 60" | 72" |
|-----------------------------|-------------------------------------|------|-----|------|------|
| Pressure Correction | No pressure correction is necessary | | | | |
| NC Correction (Add) | -3 | -1 | 0 | 1 | 3 |
| Throw Correction (Multiply) | 0.75 | 0.88 | 1 | 1.12 | 1.25 |

Correction Factors for Vertical Discharge Adjustment of Model DT/DG/DH.

Performance data is given for horizontal discharge. When the deflector is set for vertical discharge, apply these corrections to the table data below.

| | |
|--------------------------------|-------------------------|
| NC/RC Correction (Add) | -3 |
| Throw Correction (Multiply) | No Correction Necessary |
| Pressure Correction (Multiply) | 0.8 |

Correction Factors for Cold Air Performance.

Performance data is based on tests conducted in isothermal conditions. When 20°ΔT cooling conditions exist, horizontal throw (assuming the presence of a ceiling) is reduced by approximately 35%. To get horizontal throws corrected for 20°ΔT cooling conditions, multiply the table throw data by .65.

This correction does not apply in vertical discharge situations.

Return Air Factors

When Channelaire is used as an air return, either ducted or plenum, the pattern control is used for dampering only. With pattern control set at wide open these correction factors apply to the performance data.

| | |
|--------------------------------|----------------|
| NC/RC Correction (Add) | -3 |
| Throw Correction (Multiply) | Not Applicable |
| Pressure Correction (Multiply) | 0.8 |

| | | | | | | | | | | | |
|-------------------|--------------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|
| One Slot | Air Flow per foot | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | | |
| | Static Pressure | 0.008 | 0.018 | 0.032 | 0.050 | 0.072 | 0.128 | 0.202 | 0.288 | | |
| | Sound (NC) | ~ | ~ | ~ | 13 | 17 | 25 | 31 | 37 | | |
| | Throw | 1 2 5 | 3 5 10 | 5 | 8 12 19 | 11 15 23 | 15 20 28 | 18 23 32 | 20 25 35 | | |
| Two Slot | Air Flow per foot | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | | |
| | Static Pressure | 0.005 | 0.017 | 0.040 | 0.072 | 0.115 | 0.162 | 0.222 | 0.291 | | |
| | Sound (NC) | ~ | ~ | 12 | 20 | 28 | 31 | 36 | 40 | | |
| | Throw | 1 1 3 | 5 8 16 | 10 14 23 | 13 18 28 | 16 22 32 | 19 25 36 | 22 27 38 | 24 31 42 | | |
| Three Slot | Air Flow per foot | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | |
| | Static Pressure | 0.003 | 0.012 | 0.030 | 0.054 | 0.087 | 0.127 | 0.173 | 0.231 | 0.294 | |
| | Sound (NC) | ~ | ~ | 10 | 17 | 24 | 29 | 34 | 38 | 42 | |
| | Throw | 1 2 5 | 5 9 18 | 9 15 25 | 14 19 30 | 17 23 34 | 20 26 38 | 22 28 40 | 24 30 43 | 26 32 46 | |
| Four Slot | Air Flow per foot | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 240 |
| | Static Pressure | 0.008 | 0.017 | 0.031 | 0.049 | 0.070 | 0.098 | 0.127 | 0.162 | 0.198 | 0.288 |
| | Sound (NC) | ~ | ~ | 13 | 19 | 23 | 27 | 31 | 34 | 38 | 43 |
| | Throw | 4 6 15 | 7 11 22 | 10 16 28 | 13 20 32 | 16 23 35 | 19 26 38 | 21 28 40 | 23 30 42 | 24 31 44 | 27 35 48 |

Notes on Performance Data

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual performance in the field may vary.
- Tests were conducted in isothermal conditions.
- Sound levels are based on a room absorption of 10 db re 10⁻¹² watts.

Notes on Units of Measure Used

- Air flow is given in cubic feet per minute (CFM).
- Static Pressure is given in inches of water (w.g.).
- Sound data is given in NC.
- Throws are given in feet to terminal velocities of 150, 100 and 50 fpm, respectively.