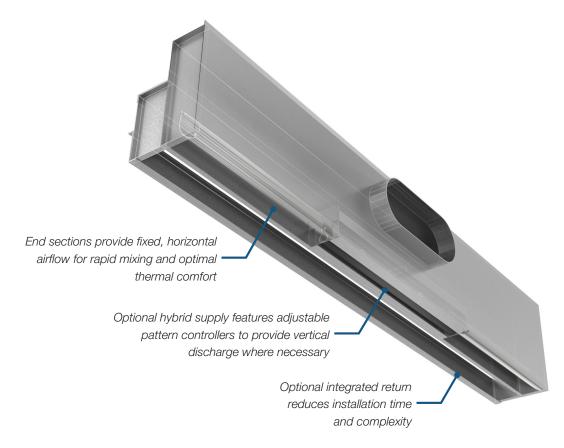
# TBD6 T-BAR DIFFUSER





## **TBD6**T-Bar Diffuser

This T-bar diffuser is designed for high velocity discharge and high room air induction with low sound and pressure drop. Primarily intended for perimeter installations, the TBD6 provides a fixed horizontal air pattern. Four different supply and integrated return configurations ensure this product can be selected for optimal performance in a variety of perimeter applications.

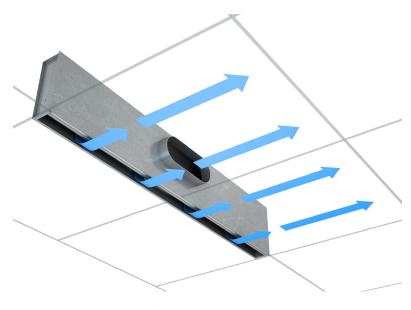




## **CONFIGURATIONS**

#### Fixed Pattern Supply

Ideal for cooling applications, this single slot diffuser with fixed horizontal air pattern is typically installed at the room perimeter, discharging inward, with a high induction ceilinghugging air pattern to rapidly mix room air to achieve high thermal comfort.



#### Fixed Pattern Supply with Integrated Return

- This diffuser has a fixed pattern supply in addition to an integral return section for ceiling plenum return air.
- The combination of supply and return in a single product reduces installation time and complexity.

## **TYPICAL APPLICATIONS**

The TBD6 series of T-bar diffusers are designed for lay-in installation in standard ceiling grids and provide a fixed horizontal air pattern with a high induction ratio for a high degree of comfort in perimeter zones.

#### CONSTRUCTION

- Application
  - Supply (TBD6, TBDV6)
  - Supply with integrated return (TBDR6, TBDRV6)
- Slot Widths
  - 3/8 in. (TBDx38)
  - 3/4 in. (TBDx75)
- Airflow
  - Fixed (TBD6, TBDR6)
  - Hybrid (TBDV6, TBDRV6)
- **Options** 
  - Internal insulation
  - External insulation



#### Hybrid Pattern Supply

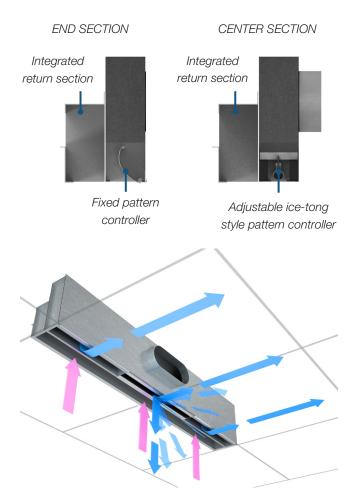
- + This configuration produces two distinct air patterns simultaneously. The air slot is divided into three sections, with end sections providing a fixed, high-induction, horizontal airflow. The center section includes adjustable ice-tong style air pattern controllers, which provide a full 180° of air pattern adjustment.
- + Ideal for cooling applications, this diffuser is typically installed at the perimeter, discharging inward, with a high induction ceiling-hugging air pattern mixing supply and room air to minimize temperature gradients.
- + When installed adjacent to a window or outside wall, the air pattern from the center section can be adjusted to an angled vertical discharge. This can allow a quantity of conditioned air to blanket a cold exterior wall or window, minimizing any convective drafts generated by room air in contact with cold surfaces.

#### Hybrid Supply with Integrated Return

+ This diffuser has both fixed and adjustable supply sections in addition to an integral return section for ceiling plenum return air.

## **INSULATION OPTIONS**

- Internal insulation options include ¼ in. thick fiber free foam or coated fiberglass insulation.
- + External insulation is provided as 1/2 in. aluminum foil-backed fiberglass.



Hybrid supply with integrated return



## PERFORMANCE DATA

## TBD675 36 in. Module, 8 in. Oval Inlet

Air Pattern Horizontal 1-way	Flow Rate (cfm)	50	75	100	125	150	200	250	300	350	400
	Total Pressure (in. w.g.)	0.007	0.016	0.028	0.043	0.062	0.111	0.173	0.249	0.339	0.442
	Static Pressure (in. w.g.)	0.006	0.013	0.023	0.035	0.050	0.091	0.141	0.203	0.276	0.360
	Throw Horiz. End (in. w.g.)	1-2-9	2-5-13	4-9-17	6-11-19	9-13-21	11-17-24	14-19-27	17-21-30	19-23-32	20-24-34
	Sound (NC)	-	-	-	-	15	22	28	33	36	40

#### TBDV675 48 in. Module, 8 in. Inlet, 15 in. Downblow Section

Air Pattern Horizontal/Vertical	Flow Rate (cfm)	100	125	150	175	200	225	250	275	300	350
	Total Pressure (in. w.g.)	0.035	0.054	0.078	0.106	0.139	0.176	0.217	0.263	0.312	0.425
	Static Pressure (in. w.g.)	0.030	0.046	0.066	0.090	0.119	0.150	0.185	0.224	0.266	0.362
	Throw Horiz. End (in. w.g.)	3-7-12	5-9-14	7-10-15	8-11-16	10-12-17	10-13-18	11-13-19	11-14-20	12-15-21	13-16-22
	Throw Vertical (in. w.g.)	2-3-5	3-4-5	3-4-6	3-4-6	4-5-6	4-5-7	4-5-7	4-5-8	5-6-8	5-6-8
	Sound (NC)	-	-	15	18	23	27	30	33	35	40
Air Pattern Horizontal 2-way	Flow Rate (cfm)	100	125	150	175	200	225	250	275	300	350
	Total Pressure (in. w.g.)	0.049	0.077	0.111	0.151	0.198	0.250	0.309	0.374	0.445	0.606
	Static Pressure (in. w.g.)	0.044	0.069	0.099	0.135	0.178	0.224	0.277	0.335	0.399	0.543
	Throw Horiz. End (in. w.g.)	3-7-13	5-9-14	7-11-15	8-12-17	10-13-18	11-13-19	11-14-20	12-15-21	13-15-22	13-17-23
	Throw Horiz. Center (in. w.g.)	4-7-13	6-9-14	7-11-16	8-12-17	9-13-18	11-14-20	12-14-20	12-15-21	13-16-22	14-17-24
	Sound (NC)	-	-	21	25	30	33	36	39	41	45
Air Pattern Horizontal 1-way	Flow Rate (cfm)	100	125	150	175	200	225	250	275	300	350
	Total Pressure (in. w.g.)	0.052	0.082	0.118	0.160	0.209	0.265	0.327	0.396	0.471	0.641
	Static Pressure (in. w.g.)	0.047	0.074	0.106	0.144	0.189	0.239	0.295	0.357	0.425	0.578
	Throw Horizontal (in. w.g.)	4-9-17	6-11-19	9-13-21	10-15-23	11-17-24	13-18-26	14-19-27	16-20-28	17-21-30	19-23-32
	Sound (NC)	-	-	21	25	30	33	36	39	41	45

#### **Performance Notes:**

- 1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- 2. Airflow is in cfm.
- 3. All pressures are in in. w.g.

- 4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
- 5. Throw data is based on supply air and room air being at isothermal conditions.
- 6. NC values are based on room absorptions of  $10 dB re 10^{-12}$ watts and one diffuser.
- 7. Blanks indicate NC less than 15.



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