

"TWISTER" HIGH INDUCTION STAMPED FACE

The "Twister" diffuser is engineered to optimize air distribution effectiveness. This next generation diffuser has a high induction, 360° swirl pattern for a superior coanda effect. It is available for a 2' x 2' (600 x 600) ceiling module with a choice of five round neck sizes.

Steel Construction – High Induction

Fixed Pattern Model TWR "Twister" Swirl Pattern **Page D101**



Model TWR



Models UNI, 5000CTD, UNI-PD

ARCHITECTURAL SQUARE

Designed with the architect in mind, the diffusers in this series are fashioned to blend in with most ceiling types in order to create the ultimate in aesthetic looks. Nailor has accomplished this while still offering a variety of diffuser designs that provide flexibility in both style, selection and engineering performance.

Flat Panel

Steel Construction –	Model UNI	Page D104
Aluminum Construction –	Model AUNI	Page D104
Steel with Ceiling Tile –	Model UNI-RC	Page D106

Downblast –

Steel Fixed Perforated –	Model UNI-PD	Page D115
Steel Adjustable –	Model UNI-AD	Page D118
Steel Round Plaque Face –	Model UNI-RP	Page D121

Ceiling Tile Slot –

Supply	Model Series 5000CTD	Page D128
Return	Model Series 5000RCTD	Page D128

Plaque Face

Steel Construction –	Model UNI2	Page D112
Aluminum Construction –	Model AUNI2	Page D112
Steel Construction –	Model 6600	Page D134

Plaque Face with Perimeter Slots

Steel Construction –	Model 66UNI	Page D139
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ROUND

Nailor's round diffusers are available in steel or aluminum construction, with adjustable or fixed patterns. Included in this series of diffusers is a 'Plaque' style for architectural ceilings and a 'Downblast' type for high ceiling areas.

Adjustable Horizontal Pattern

Steel Construction –	Model RNR	Page D143
Aluminum Construction –	Model ARNR	Page D143

Adjustable Horizontal to Vertical Pattern

Steel Construction –	Model RNRA1	Page D146
Aluminum Construction –	Model ARNRA1	Page D146

Fully Adjustable Horizontal/Vertical Pattern

Aluminum Construction –	Model 6300R	Page D148
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Plaque Face Horizontal Pattern

Steel Construction –	Model RUNI	Page D150
Aluminum Construction –	Model ARUNI	Page D150

Downblast Adjustable Horizontal/Vertical Pattern

Steel Construction –	Model RDB	Page D152
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Models RUNI, RNR, RDB

ARCHITECTURAL CEILING TILE SLOT DIFFUSER

- 'ICE TONG' PATTERN CONTROLLERS
- SQUARE FACE
- ROUND NECK (SUPPLY)

Models:

Supply

5075CTD 3/4" (19) Slot

5010CTD 1" (25) Slot

5075CTD-F 3/4" (19) Slot

5010CTD-F 1" (25) Slot

Return

5075RCTD 3/4" (19) Slot

5010RCTD 1" (25) Slot

5075RCTD-F 3/4" (19) Slot

5010RCTD-F 1" (25) Slot



Model 5075CTD

Model Series 5000CTD(-F) Series Diffusers have been designed with the architect in mind to provide an unobtrusive high performance ceiling diffuser that incorporates a center ceiling tile (by others) that matches the surrounding ceiling system. This product is available in a nominal size of 24" x 24" (600 x 600) to suit both imperial and metric exposed grid suspended ceiling systems. The 4-way blow linear slot design utilizes the 'ice-tong' premium quality pattern controller, providing a tight horizontal air pattern, which can accommodate high turn down ratios and is therefore eminently suitable for variable air volume systems.

STANDARD FEATURES:

- Factory precision welding on all mitered corners.
- Pattern controllers are individually adjustable for each slot with 180° air pattern adjustment from horizontal to vertical providing volume control.
- Discharge patterns are fully field adjustable for 1-way, 2-way corner, 2-way opposite, 3-way or 4-way patterns.
- Designed for use with standard 15/16" (24) T-Bar and narrow 9/16" (14) flat T-Bar ceiling systems.

- Available in 1, 2, 3 or 4 slots.
- Choice of 3/4" (19) or 1" (25) slot width.
- Supply diffuser has a round neck for flexible duct connection.
- Matching return air unit is similar in design, but minus pattern controllers. For ductless plenum return applications, the 5000RCTD incorporates a light shield to block out light and prevent see-through.
- Plenum is secured with steel S-clips and is easily removable for installation of a field cut ceiling tile (by others) into the face of the diffuser.

CONSTRUCTION MATERIAL:

Extruded aluminum frame, roll-formed steel pattern controllers and corrosion-resistant steel plenum.

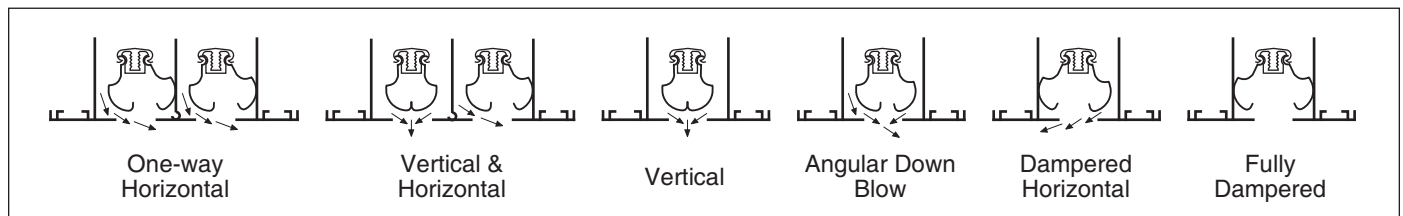
FINISH OPTIONS:

AW Appliance White face with black pattern controllers. Other finishes are available.

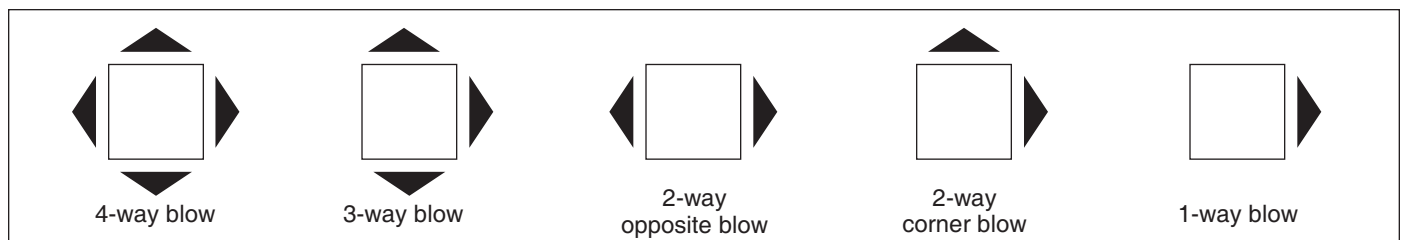
OPTIONS & ACCESSORIES:

IN Internal Insulation (available with supply models only)

'Ice Tong' Pattern Controller Adjustment

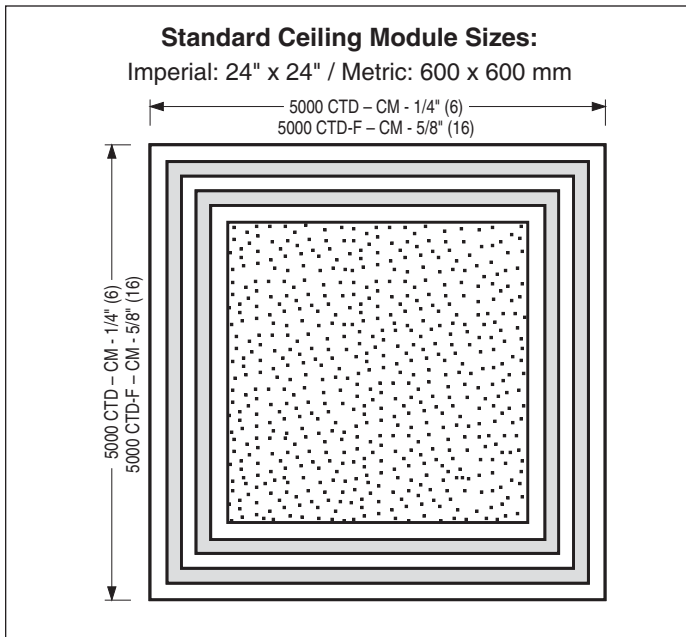


Field Adjustable Discharge Pattern Options



DIMENSIONAL DATA:

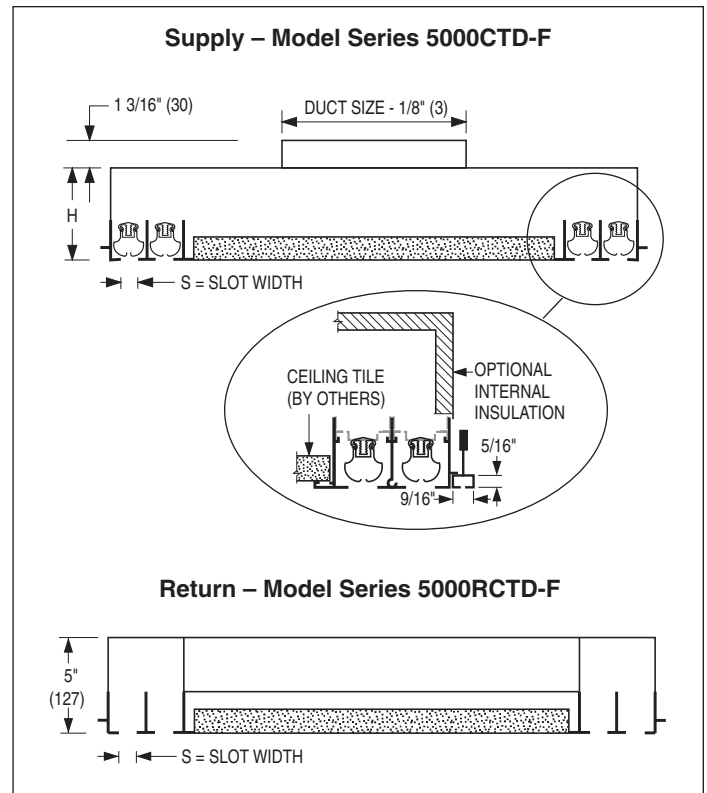
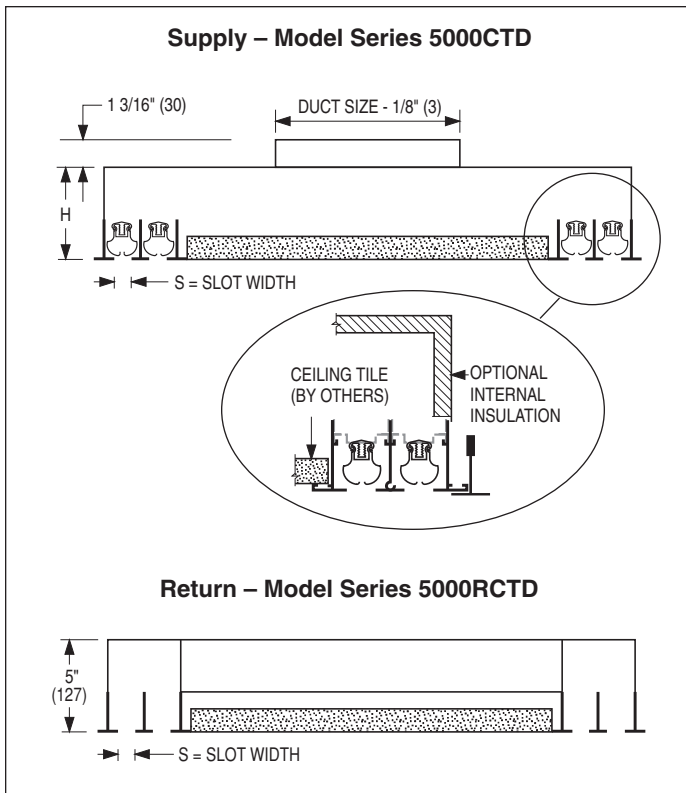
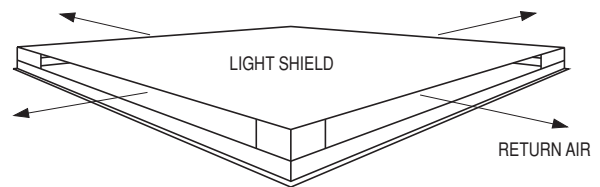
Model Series 5000CTD, 5000RCTD, 5000CTD-F and 5000RCTD-F



Standard Round Inlet Sizes:

Imperial: 6", 8", 10", 12" and 14" dia.

Metric: 152, 203, 254, 305 and 356 mm dia.



5000CTD Ceiling Tile Cutting Dimensions

No. of Slots	Imperial Units (inches)			Metric Units (mm)		
	Slot Width(s)		H	Slot Width(s)		H
	S = 3/4	S = 1		S = 19	S = 25	
1	19 1/2 x 19 1/2	19 x 19	5	495 x 495	483 x 483	127
2	16 1/2 x 16 1/2	15 1/2 x 15 1/2	5	419 x 419	394 x 394	127
3	13 1/2 x 13 1/2	12 x 12	6 3/4	343 x 343	305 x 305	171
4	10 1/2 x 10 1/2	8 1/2 x 8 1/2	6 3/4	267 x 267	216 x 216	171

5000CTD-F Ceiling Tile Cutting Dimensions

No. of Slots	Imperial Units (inches)			Metric Units (mm)		
	Slot Width(s)		H	Slot Width(s)		H
	S = 3/4	S = 1		S = 19	S = 25	
1	20 1/8 x 20 1/8	19 5/8 x 19 5/8	5	511 x 511	498 x 498	127
2	17 1/8 x 17 1/8	16 1/8 x 16 1/8	5	435 x 435	410 x 410	127
3	14 1/8 x 14 1/8	12 5/8 x 12 5/8	6 3/4	359 x 359	321 x 321	171
4	11 1/8 x 11 1/8	9 1/8 x 9 1/8	6 3/4	283 x 283	232 x 232	171

PERFORMANCE DATA:

Models 5075CTD, 5075CTD-F • 3/4" (19) Slot • Supply

Slot	Size	Neck Velocity, FPM	200	300	400	500	600	700	800	900
		Velocity Pressure	.002	.006	.010	.016	.022	.031	.040	.050
1 Slot	8" Neck Dia.	Airflow, CFM	70	105	140	175	210	245	280	315
		Total Pressure	.017	.039	.070	.109	.156	.213	.278	.351
		Throw	2-3-6	3-5-10	4-7-12	5-9-14	7-11-16	8-12-17	9-13-18	10-14-19
		Noise Criteria	—	12	22	28	32	36	40	43
2 Slot	8" Neck Dia.	Airflow, CFM	70	105	140	175	210	245	280	315
		Total Pressure	.008	.019	.033	.052	.075	.102	.134	.169
		Throw	1-2-5	2-3-7	3-5-10	4-6-13	5-7-14	6-9-15	7-11-17	8-12-18
		Noise Criteria	—	—	12	18	22	26	30	33
	10" Neck Dia.	Airflow, CFM	110	160	220	270	330	380	435	490
		Total Pressure	.017	.036	.068	.102	.153	.203	.266	.337
		Throw	2-4-8	3-6-11	5-8-14	6-10-16	8-13-18	9-15-20	10-16-21	11-17-22
		Noise Criteria	—	14	20	26	30	34	38	41
3 Slot	10" Neck Dia.	Airflow, CFM	110	160	220	270	330	380	435	490
		Total Pressure	.011	.024	.045	.068	.101	.136	.176	.224
		Throw	2-4-7	3-5-9	4-6-12	5-8-15	7-11-19	8-12-21	9-14-23	10-16-25
		Noise Criteria	—	11	17	23	27	31	35	38
	12" Neck Dia.	Airflow, CFM	155	235	315	390	470	550	630	705
		Total Pressure	.020	.045	.081	.125	.181	.248	.326	.408
		Throw	3-5-10	5-8-14	6-10-18	8-12-21	10-16-25	12-18-26	14-19-27	15-20-28
		Noise Criteria	13	20	26	32	36	40	44	47
4 Slot	12" Neck Dia.	Airflow, CFM	155	235	315	390	470	550	630	705
		Total Pressure	.015	.034	.062	.092	.138	.189	.248	.310
		Throw	3-4-9	4-6-13	6-9-17	8-11-20	8-13-22	9-16-23	12-18-25	13-19-26
		Noise Criteria	10	17	23	29	33	37	41	44
	14" Neck Dia.	Airflow, CFM	215	320	430	535	640	750	855	960
		Total Pressure	.027	.059	.106	.165	.236	.324	.420	.530
		Throw	4-6-12	6-9-18	8-12-21	10-15-23	12-18-25	14-20-27	16-21-29	17-22-31
		Noise Criteria	17	24	30	36	40	44	48	51

Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions, using a 4-way pattern.

2. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.

3. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 10.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

PERFORMANCE DATA:

Models 5010CTD, 5010CTD-F • 1" (25) Slot • Supply

	Size	Neck Velocity, FPM	200	300	400	500	600	700	800	900
		Velocity Pressure	.002	.006	.010	.016	.022	.031	.040	.050
1 Slot	8" Neck Dia.	Airflow, CFM	70	105	140	175	210	245	280	315
		Total Pressure	.014	.031	.055	.087	.125	.170	.221	.280
		Throw	2-3-6	3-5-10	4-6-12	5-8-14	6-9-15	7-11-17	8-12-18	9-14-19
		Noise Criteria	—	11	18	24	28	32	36	39
	10" Neck Dia.	Airflow, CFM	110	160	220	270	330	380	435	490
		Total Pressure	.030	.064	.122	.184	.274	.364	.477	.605
		Throw	3-5-10	5-8-14	6-9-15	7-11-17	9-14-19	11-15-21	12-16-22	13-17-23
		Noise Criteria	—	21	28	34	38	42	46	49
2 Slot	8" Neck Dia.	Airflow, CFM	70	105	140	175	210	245	280	315
		Total Pressure	.007	.015	.027	.042	.060	.082	.106	.135
		Throw	1-2-4	2-3-6	3-4-9	3-5-11	4-6-13	4-7-15	5-9-16	7-11-19
		Noise Criteria	—	—	—	14	18	22	26	29
	10" Neck Dia.	Airflow, CFM	110	160	220	270	330	380	435	490
		Total Pressure	.013	.027	.051	.077	.115	.153	.200	.254
		Throw	2-3-7	3-5-11	4-7-13	5-9-16	7-11-19	8-14-22	9-15-23	10-16-25
		Noise Criteria	—	11	18	24	28	32	36	39
	12" Neck Dia.	Airflow, CFM	155	235	315	390	470	550	630	705
		Total Pressure	.023	.052	.094	.144	.210	.287	.377	.472
		Throw	3-5-11	5-8-15	7-11-19	8-14-21	10-16-23	12-18-25	14-18-26	15-19-28
		Noise Criteria	—	17	24	30	34	38	42	45
3 Slot	10" Neck Dia.	Airflow, CFM	110	160	220	270	330	380	435	490
		Total Pressure	.008	.018	.033	.050	.075	.099	.130	.165
		Throw	2-3-6	3-4-9	4-6-12	5-7-15	6-9-18	8-11-20	9-12-22	10-14-24
		Noise Criteria	—	—	14	20	24	28	32	35
	12" Neck Dia.	Airflow, CFM	155	235	315	390	470	550	630	705
		Total Pressure	.020	.032	.057	.088	.128	.175	.229	.287
		Throw	3-4-9	4-6-13	6-9-18	8-11-20	9-13-23	10-15-25	12-18-27	13-19-28
		Noise Criteria	—	15	21	27	31	35	39	42
4 Slot	12" Neck Dia.	Airflow, CFM	155	235	315	390	470	550	630	705
		Total Pressure	.010	.024	.042	.065	.094	.129	.170	.210
		Throw	2-4-8	4-5-11	5-8-15	7-10-20	8-12-21	9-14-23	11-15-25	12-17-27
		Noise Criteria	—	13	19	25	29	33	37	40
	14" Neck Dia.	Airflow, CFM	215	320	430	535	640	750	855	960
		Total Pressure	.017	.039	.070	.108	.154	.212	.275	.347
		Throw	3-5-10	5-8-15	7-10-21	9-14-23	11-16-25	13-18-28	15-19-30	17-20-32
		Noise Criteria	13	20	26	32	36	40	44	47

Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions, using a 4-way pattern.

2. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.

3. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 10.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

PERFORMANCE DATA:

Models 5075RCTD, 5075RCTD-F • 3/4" (19) Slot • Return

No. of Slots	Negative Static Pressure	.006	.028	.065	.110	.170	.250	.350	.465
1	CFM	70	140	210	280	350	420	490	560
	Noise Criteria	—	—	16	24	30	35	39	43
2	CFM	130	260	390	520	650	780	910	1040
	Noise Criteria	—	—	19	27	33	38	42	46
3	CFM	180	360	540	720	900	1080	1260	1440
	Noise Criteria	—	10	21	29	35	40	44	48
4	CFM	220	440	660	880	1100	1320	1540	1760
	Noise Criteria	—	10	21	29	35	40	44	48

Models 5010RCTD, 5010RCTD-F • 1" (25) Slot • Return

No. of Slots	Negative Static Pressure	.006	.028	.065	.110	.170	.250	.350	.465
1	CFM	140	210	280	350	420	490	560	700
	Noise Criteria	—	—	17	23	28	32	36	42
2	CFM	253	380	507	633	760	887	1013	1267
	Noise Criteria	—	12	20	26	31	35	39	45
3	CFM	340	510	680	850	1020	1190	1360	1700
	Noise Criteria	—	13	21	27	32	36	40	46
4	CFM	400	600	800	1000	1200	1400	1600	2000
	Noise Criteria	—	14	22	28	33	37	41	47

Performance Notes:

1. All pressures are in inches w.g..

2. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 10.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

HOW TO ORDER OR TO SPECIFY

ARCHITECTURAL CEILING TILE SLOT DIFFUSERS – MODEL SERIES 5000CTD

EXAMPLE: 5075CTD-F - 1 - 24 x 24 - AW - 08 - -

- | | | |
|---|---|--|
| <p>1. Models Supply</p> <p>5075CTD 3/4" (19)</p> <p>5010CTD 1" (25)</p> <p>5075CTD-F 3/4" (19) Finline®</p> <p>5010CTD-F 1" (25) Finline®</p> <p>Return</p> <p>5075RCTD 3/4" (19)</p> <p>5010RCTD 1" (25)</p> <p>5075RCTD-F 3/4" (19) Finline®</p> <p>5010RCTD-F 1" (25) Finline®</p> | <p>3. Ceiling Module Size Imperial (inches)</p> <p>24 x 24</p> <p>Metric (mm)</p> <p>600 x 600</p> <p>4. Finish</p> <p>AW Appliance White (default)</p> <p>AL Aluminum</p> <p>BK Black</p> <p>BW British White</p> <p>PC Prime Coat Paint</p> <p>SP Special Custom Color</p> | <p>5. Inlet Size</p> <p>06 6" (152)</p> <p>08 8" (203)</p> <p>10 10" (254)</p> <p>12 12" (305)</p> <p>14 14" (356)</p> <p>OPTIONS & ACCESSORIES:</p> <p>6. Internal Insulation</p> <p>- None (default)</p> <p>IN Internal Insulation (available with supply models only)</p> <p>Notes:</p> <p>1. Inlet size specified on supply models only.</p> |
|---|---|--|

SUGGESTED SPECIFICATION:

5075CTD, 5010CTD – Supply Air, Standard T-Bar

Furnish and install **Nailor Model** (select one) **5075CTD** (3/4" (19) slot) or **Model 5010CTD** (1" (25) slot) **Ceiling Tile Slot Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, roll-formed steel pattern controllers, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) discharge air slots which integrate 'ice-tong' shaped adjustable pattern controllers. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The steel plenum shall be easily removable and include a round inlet collar that is not less than 1 3/16" (30) high. The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 standard T-Bar ceiling system. (Optional) The diffuser shall have internal insulation. The finish shall be AW Appliance White finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

5075RCTD, 5010RCTD – Return Air, Standard T-Bar

Furnish and install **Nailor Model** (select one) **5075RCTD** (3/4" (19) slot) or **Model 5010RCTD** (1" (25) slot) **Ceiling Tile Slot Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) return air slots to match the supply air diffuser of the same model. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 standard T-Bar ceiling system. A removable light shield shall be factory installed on the rear of the diffuser. The finish shall be AW Appliance White finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

5075CTD-F, 5010CTD-F – Supply Air, Narrow Regressed T-Bar

Furnish and install **Nailor Model** (select one) **5075CTD-F** (3/4" (19) slot) or **Model 5010CTD-F** (1" (25) slot) **Ceiling Tile Slot Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, roll-formed steel pattern controllers, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) discharge air slots which integrate 'ice-tong' shaped adjustable pattern controllers. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The steel plenum shall be easily removable and include a round inlet collar that is not less than 1 3/16" (30) high. The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 Narrow Regressed T-Bar ceiling system. (Optional) The diffuser shall have internal insulation. The finish shall be AW Appliance White finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

5075RCTD-F, 5010RCTD-F – Return Air, Narrow Regressed T-Bar

Furnish and install **Nailor Model** (select one) **5075RCTD-F** (3/4" (19) slot) or **Model 5010RCTD-F** (1" (25) slot) **Ceiling Tile Slot Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) return air slots to match the supply air diffuser of the same model. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 Narrow Regressed T-Bar ceiling system. A removable light shield shall be factory installed on the rear of the diffuser. The finish shall be AW Appliance White finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

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CEILING DIFFUSERS