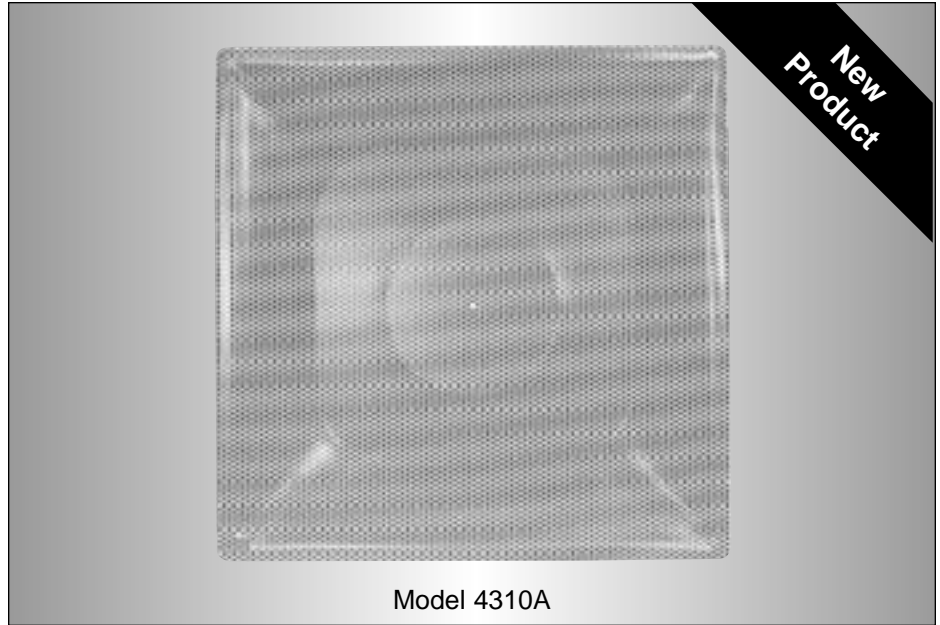


## ALL ALUMINUM PERFORATED CEILING DIFFUSERS

- 100% ALUMINUM CONSTRUCTION
- SUITABLE FOR MRI ROOMS
- SUPPLY AND RETURN

### Models:

- |               |               |
|---------------|---------------|
| <b>4310A</b>  | <b>Supply</b> |
| <b>4310AR</b> | <b>Return</b> |



Model 4310A

The **Nailor Model 4310A Perforated Supply Diffusers** have an all aluminum constructed design that combines a smooth unobtrusive architectural appearance with the superior performance characteristics required by engineers. This diffuser is suitable for MRI rooms.

The **4310** features a smoothly contoured die-formed backpan and wrap-around fixed perforated face. The round disc pattern deflector provides a true 360° radial horizontal air pattern. A tight air pattern protects the ceiling against smudging, providing excellent performance in VAV systems.

The **Nailor Model 4310AR Perforated Return Diffuser** is designed to match the supply model but omits the pattern deflector. It is suitable for ducted return applications.

### FEATURES:

- Specially designed for MRI Rooms.
- 24" x 24" (600 x 600) module design for suspended ceiling systems.
- Integral round neck is standard.
- Inlet collar has approximately 1 1/4" (32) depth for easy duct connection.

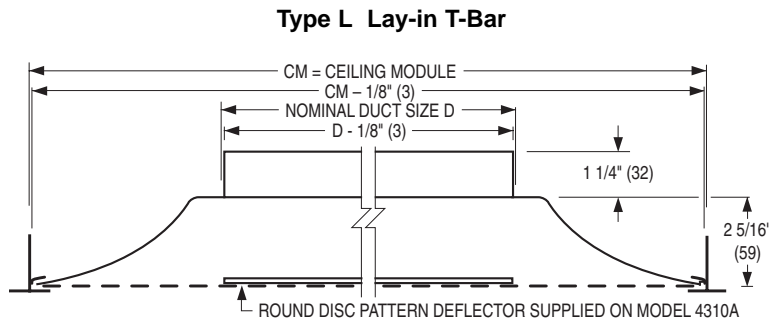
- Supply models incorporate an aluminum fixed round disc pattern deflector that provides a tight air pattern.
- Aluminum perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4310AR Series**) have the same face and frame

construction as the supply models without the deflector.

**Material:** 100% all aluminum construction.

**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

D  
CEILING DIFFUSERS



### Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Round Neck	
		Imperial Units (in.)	Metric Units (mm)
24 x 24	600 x 600	6, 8, 10, 12, 14, 15 dia.	152, 203, 254, 305, 356, 381 dia.

## HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

### All Aluminum Perforated Supply or Return Ceiling Diffusers – Model Series 4310A

4310A - 10 - 24 x 24 - L - AW - -

**MODEL**

- Supply 4310A
- Return 4310AR

**NECK SIZE (inches)**

06, 08, 10, 12, 14, 15 dia.

**CEILING MODULE**

- | Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 24 x 24         | 600 x 600   |

**ACCESSORIES**

- None (default) —
- External Foil Back Insulation EX

**FINISH**

- Appliance White (default) AW
- Special Custom Color SP
- AW Face/Black Backpan BA

**FRAME TYPE**

- Lay-in T-Bar L

D

CEILING DIFFUSERS

**SUGGESTED SPECIFICATION:**

**Model 4310A**

Furnish and install **Nailor Model 4310A All Aluminum Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a die-formed aluminum backpan with an integral round neck. An aluminum perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area, shall wrap around the backpan. A round stamped aluminum disc deflector shall be mounted on the perforated face. The finish shall be AW Appliance White baked enamel (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 – 1991.

**Model 4310AR**

Furnish and install **Nailor Model 4310AR All Aluminum Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a die-formed aluminum backpan with an integral round neck. An aluminum perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area, shall wrap around the backpan. The finish shall be AW Appliance White baked enamel (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 – 1991.

## Performance Data

### Model 4310A • 24 x 24 (600 x 600) Module

Nominal Neck Size	Neck Velocity, fpm	300	400	500	600	700	800	900	1000	1200	1400
	Velocity Pressure	.006	.010	.016	.023	.031	.040	.051	.063	.090	.122
6" Dia.	Total Pressure	.005	.008	.013	.016	.025	.032	.041	.050	.072	.098
	Airflow, cfm	60	80	100	120	140	160	180	195	235	275
	Throw	1-1-2	1-1-2	1-1-3	1-2-3	1-2-4	1-2-4	2-3-5	2-3-6	2-3-7	3-4-8
	NC	—	—	16	18	20	22	24	26	31	37
8" Dia.	Total Pressure	.009	.015	.024	.034	.046	.061	.077	.095	.136	.185
	Airflow, cfm	105	140	175	210	245	280	315	350	420	490
	Throw	1-1-3	1-2-3	1-2-4	2-3-5	2-3-6	2-3-7	3-4-8	3-4-9	3-5-10	4-6-12
	NC	—	—	18	21	24	27	31	34	39	46
10" Dia.	Total Pressure	.013	.023	.037	.053	.072	.094	.119	.147	.211	.288
	Airflow, cfm	165	220	270	325	380	435	490	585	655	765
	Throw	1-2-4	2-2-5	2-3-6	2-4-7	3-4-8	3-5-10	4-5-11	4-6-12	5-7-14	6-8-17
	NC	—	—	19	22	25	28	33	36	41	48
12" Dia.	Total Pressure	.016	.031	.049	.070	.095	.125	.158	.195	.260	.382
	Airflow, cfm	235	315	390	470	550	630	705	785	940	1100
	Throw	2-2-5	2-3-6	3-4-8	3-5-9	4-5-11	4-6-12	5-7-14	6-8-15	6-9-18	7-11-21
	NC	—	16	21	25	29	32	35	38	44	50
14" Dia.	Total Pressure	.021	.038	.059	.085	.115	.151	.191	.235	.339	.461
	Airflow, cfm	320	430	535	640	750	855	960	1070	1285	1495
	Throw	2-3-5	2-4-7	3-5-9	4-5-11	4-6-13	5-7-14	5-8-16	6-9-18	7-11-22	8-13-25
	NC	—	16	22	27	32	35	39	43	49	53
15" Dia.	Total Pressure	.022	.040	.062	.090	.122	.160	.202	.250	.359	.489
	Airflow, cfm	370	490	615	735	860	980	1105	1230	1475	1720
	Throw	2-3-5	3-4-7	3-5-10	4-6-11	5-7-13	5-8-15	6-9-17	7-10-19	8-12-23	9-14-27
	NC	—	17	23	29	34	37	41	45	51	55

D  
CEILING DIFFUSERS

- CFM - cubic feet per minute
- FPM - feet per minute velocity
- TP - total pressure - inches w.g.
- VP - velocity pressure - inches w.g.
- T - throw in feet
- NC - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. All pressures are in inches w.g. To obtain static pressure, subtract the velocity pressure from the total pressure.
2. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.
3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in spaces indicates an NC level of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.