

PERFORATED RETURN AIR DIFFUSERS

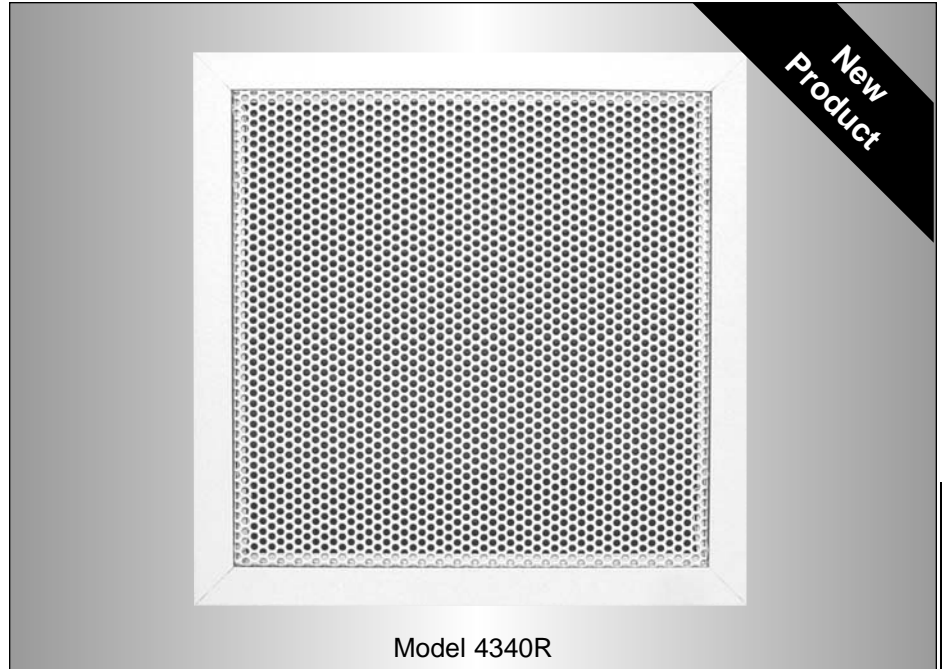
- SURFACE MOUNT
- SQUARE NECK
- MATCH AND COMPLIMENT
4340CB AND 4340M
SUPPLY MODELS

Steel Face Model:

4340R

Aluminum Model:

4340RA



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The **Nailor 4340R Series Perforated Face Return Air Diffusers** are designed to match supply air **Models 4340CB and 4340M** in appearance, except that the air pattern controllers are omitted.

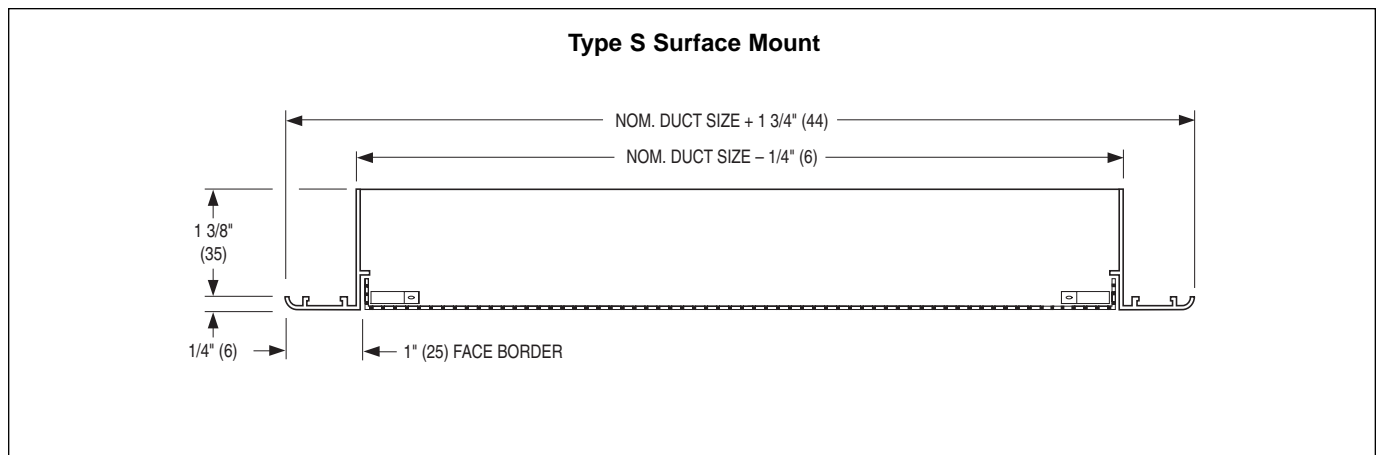
The **4340R** is a square neck grille frame style design, for surface mount installation in hard ceilings. It is suitable for both ducted and ductless return air applications.

FEATURES:

- Square neck.
- Available in nominal duct sizes from 6" x 6" (152 x 152) to 24" x 24" (610 x 610) in 2" (51) increments.
- Frame is mechanically interlocked for strength with hairline mitered corners.
- Hinged, removable face plate with concealed quick release spring latches.
- Perforated face has 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area.
- Type N standard fastening is with sheet metal screws (by others), through the neck of the diffuser outer frame. Optional Type A countersunk screwholes on face of outer frame.
- Dropping the perforated face gives access to the optional opposed blade damper.

Material: Extruded aluminum frame. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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



HOW TO SPECIFY OR TO ORDER

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

Full Face Square Neck Perforated Return Diffusers – Model Series 4340R

4340R - 12 x 12 - S - AW - N - -

MODEL

- Steel Face 4340R
- Aluminum 4340RA

NECK SIZE (inches)

Square

- 6 x 6, 8 x 8, 10 x 10, 12 x 12,
- 14 x 14, 16 x 16, 18 x 18,
- 20 x 20, 22 x 22, 24 x 24

FRAME TYPE

- Surface Mount (default) S

ACCESSORIES

- None (default) —
- Foam Gasket GK
- Earthquake Tabs EQT

FASTENING

- None (default) N
(installs through neck of frame)
- Countersunk holes on outer frame A

FINISH

- Appliance White (default) AW
- Special Custom Color SP

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Notes:

1. If more than one accessory is required, list in order.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340R** (corrosion-resistant steel face with aluminum frame) or **4340RA** (aluminum) **Full Face Square Neck Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a mechanically interlocked extruded aluminum frame with hairline mitered corners. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall also be removable, hinged and include quick-release spring latches allowing easy access for cleaning. The diffuser shall be surface mounted and fastened through the neck with sheet metal screws. 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 4340R, 4340RA • Surface Mount • Square Neck

Listed Duct Size (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity VP	Core Velocity								
				300	400	500	600	700	800	900	1000	1200
			Neg. SP	.006	.010	.016	.022	.031	.040	.051	.062	.090
				.024	.042	.067	.095	.130	.170	.215	.265	.382
6 x 6	0.20	0.20	CFM	60	80	100	120	140	160	180	200	240
			NC	—	—	—	15	21	26	32	37	44
8 x 8	0.38	0.36	CFM	114	152	190	228	266	304	342	380	456
			NC	—	—	11	18	25	29	35	40	47
10 x 10	0.61	0.56	CFM	183	244	305	366	427	488	549	610	732
			NC	—	—	13	20	27	31	37	42	49
12 x 12	0.90	0.80	CFM	270	360	450	540	630	720	810	900	1080
			NC	—	—	15	22	28	33	38	44	51
14 x 14	1.24	1.09	CFM	372	496	620	744	868	992	1116	1240	1488
			NC	—	—	16	23	29	34	39	45	52
16 x 16	1.64	1.42	CFM	492	656	820	984	1148	1312	1476	1640	1968
			NC	—	—	17	24	30	35	40	46	53
18 x 18	2.10	1.80	CFM	630	840	1050	1260	1470	1680	1890	2100	2520
			NC	—	—	17	24	30	36	40	46	53
20 x 20	2.61	2.22	CFM	783	1044	1305	1566	1827	2088	2349	2610	3132
			NC	—	11	18	25	30	37	41	47	54
22 x 22	3.17	2.69	CFM	951	1268	1585	1902	2219	2536	2853	3170	3804
			NC	—	11	18	26	31	37	42	48	55
24 x 24	3.79	3.20	CFM	1137	1516	1895	2274	2653	3032	3411	3790	4548
			NC	—	12	19	27	33	38	43	49	56

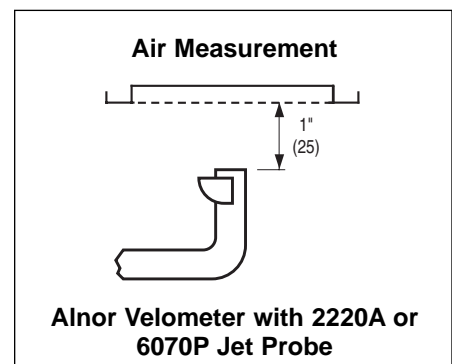
CFM - cubic feet per minute
VP - velocity pressure - inches w.g.
Neg. SP - negative static pressure - inches w.g.
NC - Noise Criteria values are based on 10 dB room absorption, re 10⁻¹² watts.
 Core Velocity is in feet per minute.

Performance Notes:

1. Diffuser tested without damper. Apply the following corrections for addition of opposed blade damper to diffuser:
Neg. SP Listed Value x 1.10.
NC Add 5 dB to listed value.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Airflow Measurements

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into diffuser.
2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.
3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (V_k in FPM).
4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
 Airflow (CFM) = Average velocity (V_k) x Ak.



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