Perforated Ceiling Diffusers

Nailor manufactures a full range of supply air and matching return air Perforated Ceiling Diffusers. The perforated face is available in both corrosion-resistant steel and aluminum, with 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area. As standard, backpans are available in corrosion-resistant steel with an option of aluminum, and some premium models are available with extruded aluminum frames. The diffusers can be selected to suit most common ceiling types, and are available with both flush and drop face styles. A variety of pattern controllers and deflector core styles are offered, allowing for a selection to be made based upon style, performance, and budgetary considerations. Match the supply air with the corresponding return air and the results will be a smooth, aesthetically balanced ceiling appearance.

Supply Air

ADJUSTABLE PATTERN DEFLECTORS ON FACE

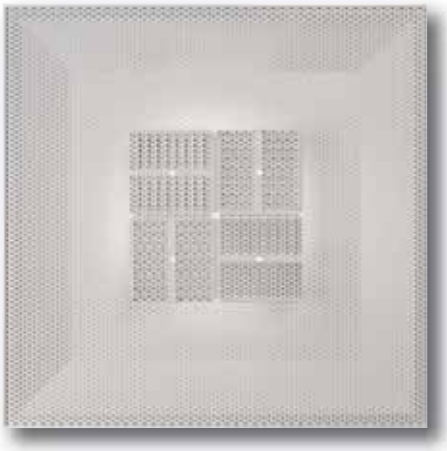
The stamped deflectors for this series of models are mounted in a 4-way discharge pattern on the rear of the perforated face and can be easily field adjusted to a 1, 2, or 3-way pattern. These diffusers are available with round or square necks. For the matching return, see Model Series 4360/4365.

Flush Face

Steel –	Model 4320	**Page D156**
Aluminum Face –	Model 4320A	**Page D156**
Aluminum –	Model 4320AA	**Page D156**

Drop Face

Steel –	Model 4325	**Page D156**
Aluminum Face –	Model 4325A	**Page D156**
Aluminum –	Model 4325AA	**Page D156**



Model 4320

Model 4320CB

CURVED BLADE PATTERN CONTROLLERS

The curved blade pattern controllers are individually adjustable and available as standard in a 4-way discharge pattern. The blades are mounted directly beneath the neck of the diffuser. A 1, 2, or 3-way discharge pattern is available as an option. These diffusers are offered with round or square necks. For the matching return, see Model Series 4360/4365.

Flush Face

Steel –	Model 4320CB	**Page D166**
Aluminum Face –	Model 4320CBA	**Page D166**
Aluminum –	Model 4320CBAA	**Page D166**

Drop Face

Steel –	Model 4325CB	**Page D166**
Aluminum Face –	Model 4325CBA	**Page D166**
Aluminum –	Model 4325CBAA	**Page D166**

FULL FACE CURVED BLADE PATTERN CONTROLLERS

This grille frame style, full face diffuser features curved blade pattern controllers with extruded aluminum frames and blades, and a perforated face that is offered in either corrosion-resistant steel or aluminum. The curved blade pattern controllers are individually adjustable and are in a 4-way discharge pattern as standard. A 1, 2, or 3-way discharge pattern is available as an option. These diffusers are available with square necks only. For the matching return, see Model Series 4340R.

Flush Face

Steel –	Model 4340CB	**Page D174**
Aluminum –	Model 4340CBA	**Page D174**

Model 4340CB

ADJUSTABLE DISCHARGE PATTERN

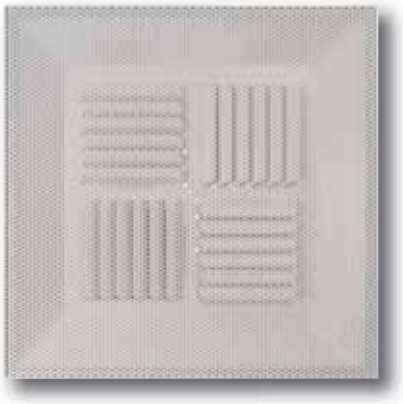
This diffuser has pattern controllers that are factory set in a fixed 4-way discharge pattern. The controllers can be field adjusted to a 1, 2 or 3-way pattern as required. These diffusers are available with round or square necks. For the matching return, see Model Series 4360/4365.

Flush Face

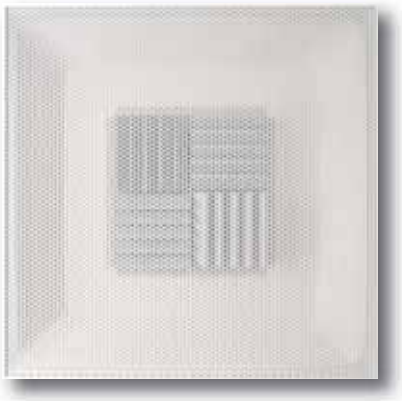
Steel Face/Steel Backpan –	Model 4320F	**Page D182**
Aluminum Face/Steel Backpan –	Model 4320FA	**Page D182**
Aluminum Face/Aluminum Backpan –	Model 4320FAA	**Page D182**

Drop Face

Steel Face/Steel Backpan –	Model 4325F	**Page D182**
Aluminum Face/Steel Backpan –	Model 4325FA	**Page D182**
Aluminum Face/Aluminum Backpan –	Model 4325FAA	**Page D182**



Model 4320F



Model 4320M

MODULAR CORE, SQUARE NECK

This perforated diffuser has four individual, corrosion-resistant steel, spring-loaded modular pattern controllers that are mounted in the neck of the diffuser. They are shipped in a 4-way discharge pattern and can easily be field adjusted to provide a 1, 2, or 3-way discharge pattern. These diffusers are available with square necks. For the matching return, see Model Series 4360/4365.

Flush Face

Steel –	Model 4320M	**Page D188**
Aluminum Face –	Model 4320MA	**Page D188**

Drop Face

Steel –	Model 4325M	**Page D188**
Aluminum Face –	Model 4325MA	**Page D188**

MODULAR CORE, ROUND NECK, LOW PROFILE

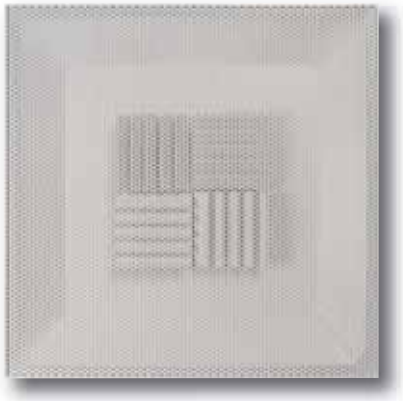
This model has a low profile backpan that includes an integral round neck. It incorporates four individual, corrosion-resistant steel, spring loaded modular pattern controllers that are mounted inside the backpan. The modular cores are shipped in a 4-way pattern and can easily be field adjusted to provide a 1, 2, or 3-way discharge pattern. These diffusers are available with round necks only. For the matching return, see Model Series 4360/4365.

Flush Face

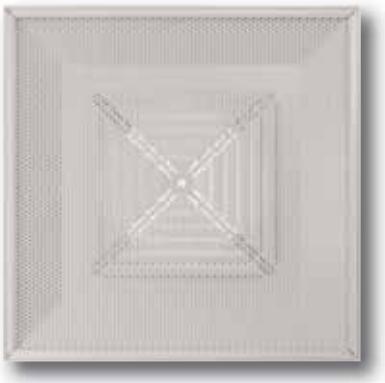
Steel –	Model 4320MR	**Page D192**
Aluminum Face –	Model 4320MRA	**Page D192**

Drop Face

Steel –	Model 4325MR	**Page D192**
Aluminum Face –	Model 4325MRA	**Page D192**



Model 4320MR



Model 4320S

ADJUSTABLE STAR PATTERN, ROUND OR SQUARE NECK

This diffusers features four individually stamped pattern controllers mounted directly under the neck that produces a long throw 4-way 'star pattern'. The factory set pattern controller is easily rotated from side throw to corner throw in the field. Individual vanes can be field adjusted to suit the desired air pattern. For the matching return, see Model Series 4360/4365.

Flush Face

Steel –	Model 4320S	**Page D198**
Aluminum Face –	Model 4320SA	**Page D198**
Aluminum –	Model 4320SAA	**Page D198**

Drop Face

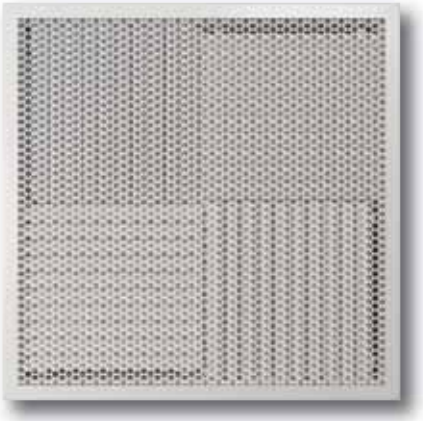
Steel –	Model 4325S	**Page D198**
Aluminum Face –	Model 4325SA	**Page D198**
Aluminum –	Model 4325SAA	**Page D198**

FULL FACE MODULAR CORE

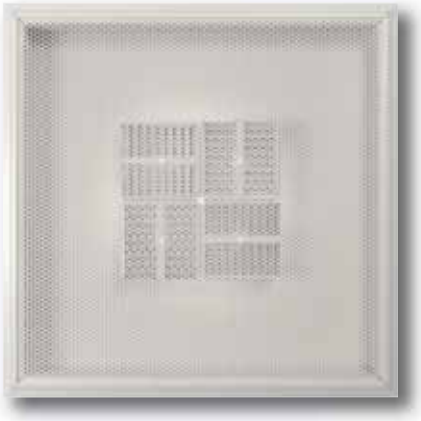
This grille frame style, full face diffuser, features an extruded aluminum frame with a corrosion-resistant steel modular core. The modular core is shipped in a 4-way pattern and can easily be field adjusted to provide a 1, 2, or 3-way pattern. These diffusers are available with square necks only. For the matching return, see Model Series 4340R.

Flush Face

Steel Face –	Model 4340M	**Page D176**
Aluminum Face –	Model 4340MA	**Page D176**



Model 4340M



Model 4330

PREMIUM ARCHITECTURAL, ADJUSTABLE DEFLECTORS ON FACE

The perforated diffusers in this series have an extruded aluminum frame with a narrow border that is visible within the T-Bar module. The stamped steel deflectors are mounted in a 4-way discharge pattern and can be easily field adjusted to a 1, 2 or 3-way pattern. The diffusers are available with round or square necks. For the matching return, see Model Series 4330R.

Flush Face

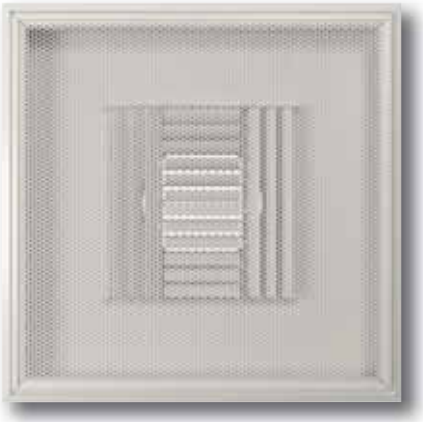
Steel Face –	Model 4330	**Page D204**
Aluminum Face –	Model 4330A	**Page D204**
Aluminum –	Model 4330AA	**Page D204**

PREMIUM ARCHITECTURAL, CURVED BLADE PATTERN CONTROLLERS

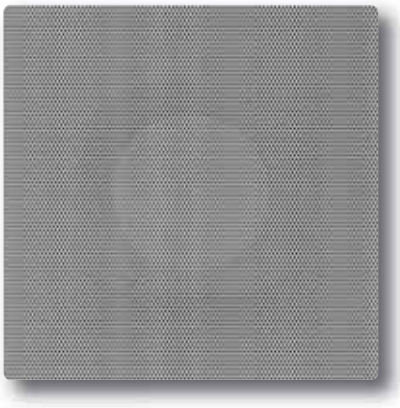
The perforated diffusers in this series have an extruded aluminum frame with a narrow border that is visible within the T-Bar module. The extruded aluminum curved blade pattern controllers are individually adjustable and are in a 4-way discharge pattern as standard. A 1, 2, or 3-way discharge pattern is available as an option. For the matching return, see Model 4330R.

Flush Face

Steel Face –	Model 4330CB	**Page D212**
Aluminum Face –	Model 4330CBA	**Page D212**
Aluminum –	Model 4330CBAA	**Page D212**



Model 4330CB



Model 4310A

ALL ALUMINUM PERFORATED FOR MRI ROOMS

This diffuser is 100% aluminum and can be used for MRI rooms. It features a smooth, contoured wrap-around perforated face. The supply air diffuser includes a round disc pattern deflector that provides a true 360° radial horizontal air pattern. The matching return air diffuser is suitable for ducted return applications.

Flush Face

Supply Air –	Model 4310A	**Page D222**
Return Air –	Model 4310AR	**Page D222**

PERFORATED

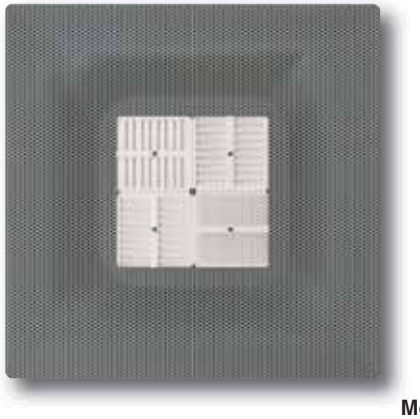
This perforated supply and return model with a corrosion-resistant steel diffuser face with a one-piece, pre-scored, molded fiberglass plenum with a foil-back vapour barrier and a 4-way discharge pattern. An extruded aluminum frame with a narrow border that is visible within the T-Bar module. See Model Series 4330 and 4330CB for the matching supply air diffusers.

Supply

Steel –	Model 4350	**Page D225**

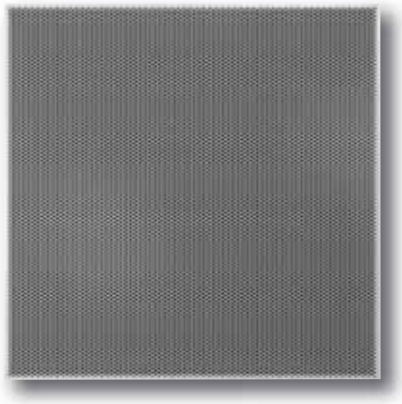
Return

Steel –	Model 4350R	**Page D225**



Model 4350

Return Air



Model 4360

STANDARD BACKPAN DESIGN

This perforated return diffuser is designed with a backpan that allows for both ducted and non-ducted applications. Available with a round or square neck for ducted applications and a full face design, square neck for either ducted or non-ducted applications. See Model Series 4320/4325, 4320CB/4325CB, 4320F/4325F and 4320M/ 4325M for the matching supply air diffusers.

Flush Face

Steel –	Model 4360	**Page D228**
Aluminum Face –	Model 4360A	**Page D228**
Aluminum –	Model 4360AA	**Page D228**

Drop Face

Steel –	Model 4365	**Page D228**
Aluminum Face –	Model 4365A	**Page D228**
Aluminum –	Model 4365AA	**Page D228**

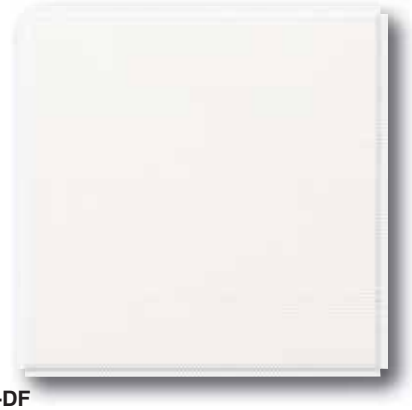
EXTRUDED FRAME

This grille frame style, full face diffuser has an extruded aluminum frame and is offered with a choice of a corrosion-resistant steel or an aluminum perforated face. The diffusers are available with square necks only and can be used in both ductless and ducted applications. See Model Series 4340CB and 4340M for the matching supply diffusers.

Flush Face

Steel Face –	Model 4340R	**Page D178**
Aluminum Face –	Model 4340RA	**Page D178**

Model 4340R



Model 4302-DF

PANELS

This economical perforated return panel is for use in a ductless return or as an exhaust grille in exposed grid T-Bar ceiling systems. When installed, the appearance matches that of the 4320/4325, 4320CB/ 4325CB, 4320F/ 4325F and 4320M/4325M supply diffusers.

Flush Face

Steel –	Model 4302	**Page D235**
Aluminum –	Model 4302A	**Page D235**

Drop Face

Steel –	Model 4302-DF	**Page D235**

Fineline®

Steel –	Model 4302-F	**Page D235**

EXCLUSIVE WARRANTY FOR NAILOR STEEL GRILLES, REGISTERS AND DIFFUSERS

LIMITED WARRANTY – SERIES 61C, 6100, 61EC, 61F, RNS, RNS2, UNI, 4300, 6500, 7500 AND 61CC

Nailor Industries Inc. ('Nailor') warrants to the original and each subsequent owner of a new Nailor Series Grille, Register or Ceiling Air Diffuser in the model series titled above, constructed of corrosion-resistant steel that should rust become visible on the exposed portion of any individual product covered by this agreement Nailor will replace the rusted unit. Any diffuser affected by chemicals or misuse, including, without limitation, the failure to perform reasonable and necessary maintenance, will not be covered by this warranty. This warranty is for sixty (60) months from the date of the shipment by Nailor.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The rusted unit will be shipped by the owner at its cost to Nailor for replacement. The cost of the replacement, including the cost of shipment to the owner, but excluding any costs for either the removal or preparation for shipment of the rusted unit and the re-installation of the replacement unit, will be borne by Nailor. A reasonable time should be allowed after shipment to Nailor for the replacement of the rusted unit.

This is the only warranty given with the purchase. Any warranties implied by law are limited to sixty (60) months from the date of shipment by Nailor. Nailor neither assumes nor authorizes any person to assume for it any other liability in connection with any diffuser covered by this agreement.

No payment or other compensation will be made for indirect or consequential damage such as, damage or injury to person or property or loss of revenue or profit which might be paid, incurred or sustained by reason of the use or inability to use a Nailor product listed above, even if such loss or damage could have been foreseen by Nailor.

Some states do not allow the exclusion of limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above may not apply to you.

PERFORATED CEILING DIFFUSERS

- SUPPLY
- FACE MOUNTED PATTERN CONTROLLERS
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

Steel Models:

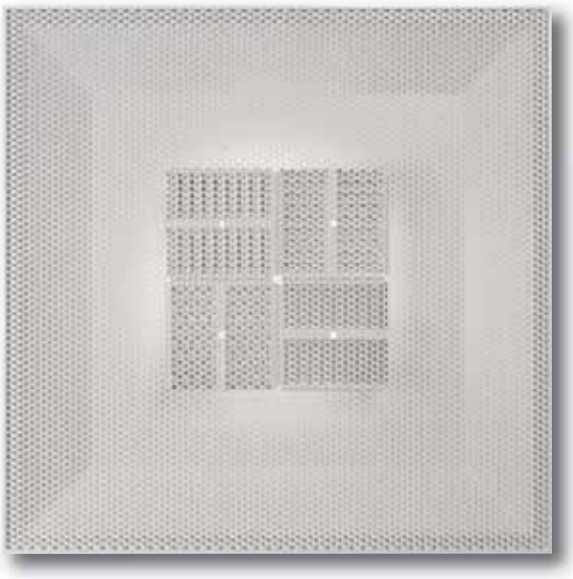
4320 Flush Face
4325 Drop Face

Aluminum Face Models:

4320A Flush Face
4325A Drop Face

Aluminum Models:

4320AA Flush Face
4325AA Drop Face



Model 4320

Model Series 4320 and 4325 Perforated Ceiling Diffusers have been designed to provide both the unobtrusive, smooth appearance preferred by many architects and the high engineering performance required for use in heating and cooling applications. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

Model Series 4320 features four individual stamped pattern controllers mounted on the rear of the diffuser face. They are easily field adjustable to suit the desired air pattern. Model Series 4325 features a dropped (extended) face panel that is available to complement tegular tile ceiling systems, so the panel remains flush with the ceiling line. In non-tegular ceilings the throw is reduced slightly and the airflow projection protects the ceiling against smudging.

STANDARD FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can adjust to vertical or 1, 2, 3 or 4-way horizontal, before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (4360 Series) have the same face and frame construction as the supply models to match the appearance.

CONSTRUCTION MATERIAL:

Models 4320/4325 have a corrosion-resistant steel perforated face and backpan. Models 4320A/4325A have an aluminum perforated face and a corrosion-resistant steel backpan. Models 4320AA/4325AA have an aluminum perforated face and backpan.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675 Butterfly Damper 6" – 14" (152 – 356).
MIB Molded Insulation Blanket, R-6.0.

Square Neck:

OBD Opposed Blade Damper (Steel)
OBDA Opposed Blade Damper (Aluminum) (-AA models only)

OTHER OPTIONS & ACCESSORIES:

EX External Foil-Back Insulation (installed) -R-4.2.
EXB External Foil-Back Insulation (loose) -R-4.2.
EQT Earthquake Tabs

For additional options and accessories; see page D255.

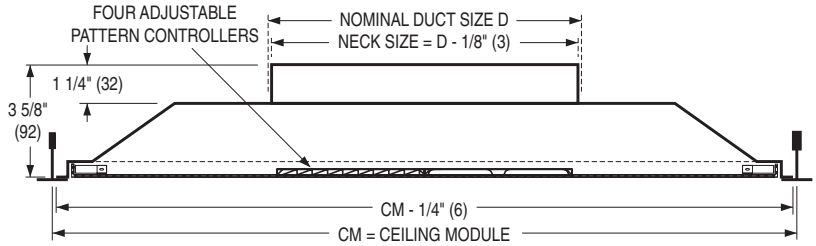
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6, 8	152, 203	6 x 6, 8 x 8	152 x 152, 203 x 203
16 x 16	400 x 400	6, 8, 10, 12	152, 203, 254, 305	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
24 x 12	600 x 300	6, 8	152, 203	6 x 6, 8 x 8, 18 x 6	152 x 152, 203 x 203, 457 x 152
20 x 20	500 x 500	6, 8, 10, 12, 14	152, 203, 254, 305, 356	6 x 6, 8 x 8, 10 x 10	152 x 152, 203 x 203, 254 x 254
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16	152, 203, 254, 305, 356, 381, 406	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356
48 x 24	1200 x 600				

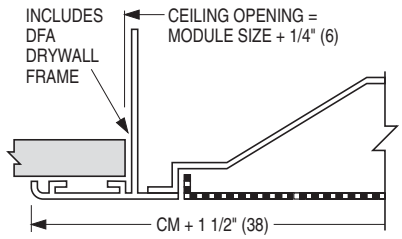
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320, 4320A, 4320AA • Supply • Flush Face

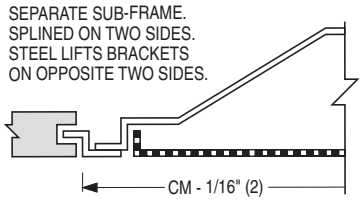
Type L Lay-in T-Bar



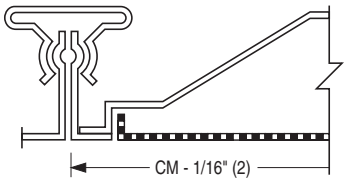
Type S Surface Mount



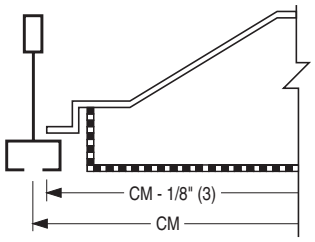
Type SP Spline



Type M Metal Pan (Snap-in)

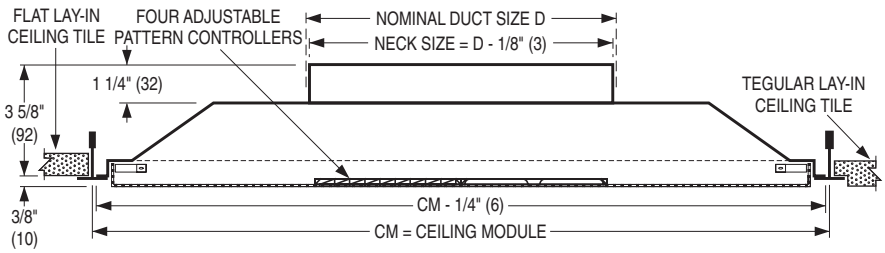


Type F Fineline®

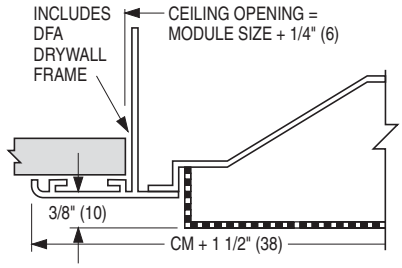


Models 4325, 4325A, 4325AA • Supply • Drop Face

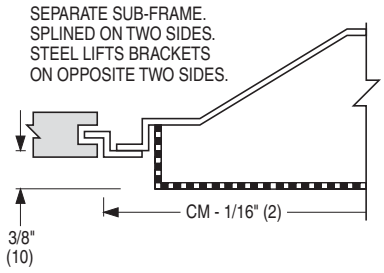
Type L Lay-in T-Bar or Tegular



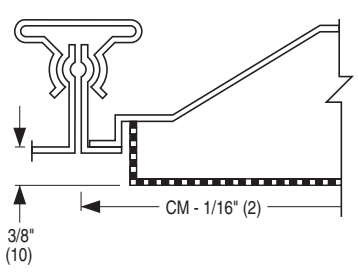
Type S Surface Mount



Type SP Spline



Type M Metal Pan (Snap-in)



Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 4320, 4320A, 4320AA • Flush Face • 12 x 12 (300 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.012	.020	.032	.046	.063	.082	.128	.185
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	—	19	24	28	35	41
8" Dia.	Total Pressure		.014	.022	.035	.049	.065	.086	.132	.194
	Flow Rate, CFM		105	140	175	210	245	280	350	420
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	16	22	27	31	38	44
6 x 6	Total Pressure		.013	.022	.036	.052	.074	.092	.143	.206
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	—	16	22	27	31	38	44
8 x 8	Total Pressure		.015	.026	.041	.059	.080	.104	.162	.234
	Flow Rate, CFM		135	175	220	265	310	355	440	530
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	12	19	25	30	34	41	47

Models 4320, 4320A, 4320AA • Flush Face • 24 x 12 (600 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.012	.020	.032	.046	.063	.082	.128	.185
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	—	19	24	28	35	41
8" Dia.	Total Pressure		.014	.022	.035	.049	.065	.086	.132	.194
	Flow Rate, CFM		105	140	175	210	245	280	350	420
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	16	22	27	31	38	44
6 x 6	Total Pressure		.013	.022	.036	.052	.074	.092	.143	.206
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	—	16	22	27	31	38	44
8 x 8	Total Pressure		.015	.026	.041	.059	.080	.104	.162	.234
	Flow Rate, CFM		135	175	220	265	310	355	440	530
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	12	19	25	30	34	41	47

For performance notes, see page D160.

PERFORMANCE DATA:

Models 4320, 4320A, 4320AA • Flush Face • 24 x 24 (600 x 600) and 48 x 24 (1200 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.012	.020	.032	.046	.062	.082	.128	.185
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	10	18	21	25	32	38
8" Dia.	Total Pressure		.015	.026	.042	.060	.082	.107	.167	.241
	Flow Rate, CFM		104	139	174	209	244	279	349	418
	Throw	4-Way	1-1-2	1-1-3	1-1-5	1-2-6	1-2-7	1-3-8	2-5-10	3-6-12
		3-Way	1-1-4	1-2-6	1-3-8	2-4-10	2-5-11	3-6-13	5-8-17	6-10-20
		2-Way	1-1-6	1-3-9	2-4-11	3-6-13	4-8-16	5-9-18	7-11-22	9-13-24
		1-Way	1-2-8	1-4-11	2-6-14	4-8-16	5-9-19	7-11-22	9-14-26	11-16-29
	Noise Criteria		—	11	16	22	27	31	38	44
10" Dia.	Total Pressure		.019	.033	.053	.075	.102	.135	.210	.302
	Flow Rate, CFM		163	218	272	327	381	436	545	654
	Throw	4-Way	1-1-3	1-1-5	1-2-7	1-3-8	2-4-10	2-5-11	4-7-14	5-8-17
		3-Way	1-1-7	1-3-9	2-5-11	3-7-14	4-8-16	5-9-18	7-11-23	9-14-27
		2-Way	1-2-9	2-5-12	3-7-15	5-9-19	7-11-22	8-12-26	10-15-32	12-19-34
		1-Way	1-3-11	3-7-15	4-9-19	7-11-23	9-13-28	10-15-31	12-19-36	15-23-39
	Noise Criteria		—	16	21	27	32	36	43	49
12" Dia.	Total Pressure		.022	.040	.063	.091	.124	.162	.253	.364
	Flow Rate, CFM		235	314	392	471	549	628	785	942
	Throw	4-Way	1-1-5	1-2-7	1-3-9	2-5-11	3-6-13	4-7-14	6-9-18	7-11-22
		3-Way	1-2-9	2-5-12	3-7-15	5-9-18	6-10-21	8-12-24	10-15-31	12-18-36
		2-Way	1-4-12	3-7-16	5-10-20	7-12-24	9-14-29	10-16-33	13-20-41	16-24-44
		1-Way	2-6-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-46	19-30-50
	Noise Criteria		—	19	25	31	36	40	47	53
14" Dia.	Total Pressure		.026	.047	.073	.105	.143	.187	.292	.420
	Flow Rate, CFM		318	424	530	636	742	848	1060	1272
	Throw	4-Way	1-1-6	1-3-9	2-5-11	3-6-13	4-8-16	5-9-18	7-11-23	9-13-28
		3-Way	1-4-11	3-7-14	4-9-18	7-11-22	8-13-27	9-14-30	12-18-38	14-22-44
		2-Way	2-6-15	4-10-20	7-12-26	10-15-31	11-17-36	13-20-41	16-26-50	20-31-54
		1-Way	3-8-18	6-12-24	10-15-31	12-18-38	14-21-44	16-24-50	20-30-57	24-38-62
	Noise Criteria		13	23	29	35	40	44	51	57
15" Dia.	Total Pressure		.029	.052	.081	.117	.159	.208	.324	.467
	Flow Rate, CFM		370	490	615	740	860	985	1225	1475
	Throw	4-Way	1-1-6	1-3-9	2-5-11	3-6-13	4-8-16	5-9-18	7-11-23	9-13-28
		3-Way	1-4-11	3-7-14	4-9-18	7-11-22	8-13-27	9-14-30	12-18-38	14-22-44
		2-Way	2-6-15	4-10-20	7-12-26	10-15-31	11-17-36	13-20-41	16-26-50	20-31-54
		1-Way	3-8-18	6-12-24	10-15-31	12-18-38	14-21-44	16-24-50	20-30-57	24-38-62
	Noise Criteria		15	25	31	37	42	46	53	59
16" Dia.	Total Pressure		.032	.058	.090	.129	.175	.229	.359	.517
	Flow Rate, CFM		418	558	698	837	977	1116	1396	1675
	Throw	4-Way	1-3-10	2-5-13	3-8-15	5-10-16	7-12-77	9-13-19	12-15-21	13-16-23
		3-Way	3-5-9	5-7-10	6-8-11	7-9-12	8-9-13	8-10-14	9-11-16	10-12-18
		2-Way	2-5-11	4-8-13	6-10-14	8-11-16	9-12-17	10-13-18	12-14-20	13-16-22
		1-Way	7-12-21	11-17-24	14-29-28	17-21-31	18-23-33	20-24-36	22-28-40	24-31-43
	Noise Criteria		16	26	32	38	43	47	54	60

For performance notes, see page D160.

PERFORMANCE DATA:

Models 4320, 4320A, 4320AA • Flush Face • 24 x 24 (600 x 600) and 48 x 24 (1200 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6 x 6	Total Pressure		.013	.022	.036	.052	.070	.092	.143	.206
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	—	12	20	23	27	34	40
8 x 8	Total Pressure		.018	.030	.048	.069	.094	.123	.191	.276
	Flow Rate, CFM		133	177	222	266	310	355	444	532
	Throw	4-Way	1-1-2	1-1-4	1-1-6	1-2-7	1-3-8	2-4-9	3-6-12	4-7-14
		3-Way	1-1-5	1-2-8	1-4-10	2-5-12	3-7-14	4-8-16	6-10-20	8-12-24
		2-Way	1-2-8	1-4-10	2-6-13	4-8-16	5-9-19	7-10-21	9-13-27	10-16-30
		1-Way	1-3-9	2-5-13	3-8-16	5-9-19	7-11-23	8-13-27	11-16-31	13-19-34
	Noise Criteria		—	14	19	25	30	34	41	47
10 x 10	Total Pressure		.021	.038	.059	.086	.116	.152	.237	.341
	Flow Rate, CFM		208	277	347	416	485	555	694	832
	Throw	4-Way	1-1-4	1-2-6	1-3-8	2-4-10	2-5-11	3-6-13	5-8-16	6-10-20
		3-Way	1-2-8	1-4-11	3-6-13	4-8-16	5-9-19	7-11-22	9-13-28	11-16-33
		2-Way	1-3-11	3-6-14	4-9-18	6-11-22	8-13-27	9-14-30	12-18-37	14-22-40
		1-Way	2-5-13	4-9-18	6-11-22	9-13-28	10-16-33	12-18-37	15-22-42	18-28-46
	Noise Criteria		—	17	24	30	35	39	45	52
12 x 12	Total Pressure		.025	.046	.071	.103	.140	.183	.286	.411
	Flow Rate, CFM		300	400	500	600	700	800	1000	1200
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22	8-13-27
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-37	14-21-42
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47	19-30-52
		1-Way	3-8-17	6-11-23	9-14-30	11-17-36	13-20-42	15-23-48	19-30-54	23-36-59
	Noise Criteria		12	21	28	34	39	43	49	56
14 x 14	Total Pressure		.031	.055	.086	.124	.169	.221	.345	.497
	Flow Rate, CFM		410	545	680	815	955	1090	1360	1635
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22	8-13-27
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-37	14-21-42
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47	19-30-52
		1-Way	3-8-17	6-11-23	9-14-30	11-17-36	13-20-42	15-23-48	19-30-54	23-36-59
	Noise Criteria		15	24	31	37	42	46	52	59

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based on 10 dB room absorption, re 10^{-12} watts. Dash (—) in spaces indicates an Noise Criteria level of less than 10.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Neck Size Square in Inches	Nominal Overall Face Size	Ak Factor
6 x 6	12 x 12	.2345
8 x 8	12 x 12	.3461
6 x 6	24 x 24	.6932
8 x 8	24 x 24	.7620
10 x 10	24 x 24	.7995
12 x 12	24 x 24	.8465
14 x 14	24 x 24	.8993

Neck Size Diameter in Inches	Nominal Overall Face Size	Ak Factor
6	12 x 12	.2289
8	12 x 12	.3461
6	24 x 24	.6010
8	24 x 24	.6854
10	24 x 24	.7283
12	24 x 24	.7651
14	24 x 24	.8102
15	24 x 24	.8389

PERFORMANCE DATA:

Models 4325, 4325A, 4325AA • Drop Face • 12 x 12 (300 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.009	.016	.025	.036	.049	.063	.099	.143
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-3	1-2-4	1-2-4	2-3-6	2-3-6
		3-Way	1-1-2	1-1-3	1-2-4	1-2-5	1-3-6	2-3-7	3-4-9	3-5-9
		2-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-3-7	2-4-8	3-5-11	4-6-12
		1-Way	1-1-4	1-2-6	1-3-7	2-4-9	3-5-10	4-6-12	5-7-15	6-9-16
	Noise Criteria		—	—	—	16	21	25	32	38
8" Dia.	Total Pressure		.010	.017	.026	.037	.051	.067	.104	.150
	Flow Rate, CFM		105	140	175	210	245	280	350	420
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	14	20	25	29	36	42
6 x 6	Total Pressure		.010	.019	.028	.041	.056	.072	.113	.163
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-2	1-1-3	1-1-3	1-2-4	1-2-5	2-3-6	2-3-7	3-4-7
		3-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-4-8	3-4-9	3-5-10	4-6-11
		2-Way	1-1-4	1-2-5	1-3-7	2-4-8	3-4-9	3-5-11	4-7-13	5-8-14
		1-Way	1-1-5	1-3-7	2-4-9	3-5-11	4-6-13	5-7-15	6-9-17	7-11-19
	Noise Criteria		—	—	13	19	24	28	35	41
8 x 8	Total Pressure		.012	.021	.032	.046	.063	.082	.128	.185
	Flow Rate, CFM		135	175	220	265	310	355	440	530
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	10	17	23	28	32	39	45

Models 4325, 4325A, 4325AA • Drop Face • 24 x 12 (600 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.009	.016	.025	.036	.049	.063	.099	.143
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-3	1-2-4	1-2-4	2-3-6	2-3-6
		3-Way	1-1-2	1-1-3	1-2-4	1-2-5	1-3-6	2-3-7	3-4-9	3-5-9
		2-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-3-7	2-4-8	3-5-11	4-6-12
		1-Way	1-1-4	1-2-6	1-3-7	2-4-9	3-5-10	4-6-12	5-7-15	6-9-16
	Noise Criteria		—	—	—	16	21	25	32	38
8" Dia.	Total Pressure		.010	.017	.026	.037	.051	.067	.104	.150
	Flow Rate, CFM		105	140	175	210	245	280	350	420
	Throw	4-Way	1-1-1	1-1-1	1-1-3	1-1-4	1-1-4	1-1-5	1-3-6	1-4-8
		3-Way	1-1-2	1-1-4	1-1-5	1-2-6	1-3-7	1-4-8	2-5-11	4-6-13
		2-Way	1-1-3	1-1-6	1-2-7	1-3-9	2-4-10	2-6-12	4-7-15	6-9-16
		1-Way	1-1-4	1-2-7	1-3-9	2-4-11	2-6-13	3-7-14	6-9-17	7-11-19
	Noise Criteria		—	—	14	20	25	29	36	42
6 x 6	Total Pressure		.013	.022	.036	.052	.074	.092	.143	.206
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	—	13	19	24	28	35	41
8 x 8	Total Pressure		.012	.021	.032	.046	.063	.082	.128	.185
	Flow Rate, CFM		135	175	220	265	310	355	440	530
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-2-6	1-3-8	2-4-9
		3-Way	1-1-3	1-1-5	1-2-6	1-3-8	1-4-9	2-5-10	3-6-13	5-8-16
		2-Way	1-1-4	1-2-7	1-3-9	2-4-10	2-6-12	3-7-14	5-9-18	7-10-19
		1-Way	1-1-6	1-2-8	2-4-11	2-6-13	3-7-15	5-8-17	7-11-20	8-13-22
	Noise Criteria		—	10	17	23	28	32	39	45

For performance notes, see page D163.

PERFORMANCE DATA:

Models 4325, 4325A, 4325AA • Drop Face • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6" Dia.	Total Pressure		.009	.016	.025	.036	.049	.063	.099	.143
	Flow Rate, CFM		58	78	98	117	137	156	196	235
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-3	1-2-4	1-2-4	2-3-6	2-3-6
		3-Way	1-1-2	1-1-3	1-2-4	1-2-5	1-3-6	2-3-7	3-4-9	3-5-9
		2-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-3-7	2-4-8	3-5-11	4-6-12
		1-Way	1-1-4	1-2-6	1-3-7	2-4-9	3-5-10	4-6-12	5-7-15	6-9-16
	Noise Criteria		—	—	—	15	18	22	29	35
8" Dia.	Total Pressure		.013	.021	.034	.049	.066	.087	.136	.195
	Flow Rate, CFM		104	139	174	209	244	279	349	418
	Throw	4-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-3-7	2-4-8	3-5-8	4-6-9
		3-Way	1-1-4	1-2-6	2-3-7	2-4-9	3-5-11	4-6-12	5-7-13	6-9-14
		2-Way	1-2-5	1-3-7	2-4-9	3-5-11	4-6-13	5-7-15	6-9-16	7-11-18
		1-Way	1-2-7	2-4-10	3-6-12	4-7-15	6-9-18	6-10-19	8-12-21	10-15-23
	Noise Criteria		—	—	13	18	24	28	35	41
10" Dia.	Total Pressure		.016	.027	.043	.061	.084	.109	.171	.245
	Flow Rate, CFM		163	218	272	327	381	436	545	654
	Throw	4-Way	1-1-4	1-3-6	2-3-7	3-4-9	3-5-10	4-6-10	5-7-12	6-9-13
		3-Way	1-2-7	2-4-9	3-6-12	4-7-14	5-8-15	6-9-16	8-12-18	9-14-20
		2-Way	1-3-8	2-5-11	4-7-14	5-8-17	6-10-19	7-11-20	9-14-22	11-17-26
		1-Way	2-4-11	3-7-15	6-9-19	7-11-23	9-13-26	10-15-28	13-19-31	15-23-34
	Noise Criteria		—	13	18	24	29	33	40	46
12" Dia.	Total Pressure		.019	.033	.052	.074	.101	.132	.207	.297
	Flow Rate, CFM		235	314	392	471	549	628	785	942
	Throw	4-Way	1-3-6	2-4-9	3-5-11	4-6-12	5-7-13	6-9-14	7-11-15	9-12-17
		3-Way	2-4-10	3-6-13	5-8-16	6-10-18	7-11-19	9-13-20	11-16-23	13-18-26
		2-Way	2-5-12	4-8-16	6-10-20	8-12-22	9-14-24	11-16-22	13-20-30	16-22-33
		1-Way	3-7-16	6-11-22	9-14-28	11-16-30	13-19-33	14-22-35	18-28-39	22-30-43
	Noise Criteria		—	17	23	29	34	38	45	51
14" Dia.	Total Pressure		.021	.038	.059	.086	.117	.153	.239	.344
	Flow Rate, CFM		318	424	530	636	742	848	1060	1272
	Throw	4-Way	2-4-8	3-5-11	4-7-13	5-8-14	6-10-16	7-11-17	9-13-19	11-14-21
		3-Way	3-6-13	5-9-18	7-11-20	9-13-22	10-15-24	12-18-26	15-20-29	18-23-32
		2-Way	3-8-16	6-11-22	9-13-26	11-16-28	12-19-31	14-22-33	18-27-36	22-28-40
		1-Way	5-11-22	9-14-30	12-18-35	14-22-38	17-27-41	19-30-44	24-35-49	30-38-51
	Noise Criteria		10	20	28	32	37	41	48	54
15" Dia.	Total Pressure		.022	.040	.062	.091	.127	.171	.265	.366
	Flow Rate, CFM		370	490	615	740	860	985	1225	1475
	Throw	4-Way	2-4-7	3-5-10	4-7-12	5-8-14	6-9-15	7-10-17	9-12-19	10-13-21
		3-Way	3-6-13	5-9-19	7-10-19	9-12-22	10-15-23	12-18-26	14-19-29	18-22-32
		2-Way	3-8-15	6-11-21	8-12-26	11-15-28	11-19-30	13-21-32	18-27-35	21-27-40
		1-Way	5-10-21	8-14-29	11-17-34	13-21-36	17-26-40	18-29-42	24-34-47	28-36-50
	Noise Criteria		12	22	28	34	39	43	50	56
16" Dia.	Total Pressure		.025	.045	.070	.100	.137	.179	.280	.403
	Flow Rate, CFM		418	558	698	837	977	1116	1396	1675
	Throw	4-Way	3-5-11	5-7-15	6-9-17	7-11-18	8-13-20	10-15-21	12-17-24	15-18-27
		3-Way	2-6-13	4-9-17	7-11-19	9-13-21	10-16-22	12-17-24	15-19-28	17-21-30
		2-Way	2-6-13	4-9-17	7-11-19	9-13-21	10-16-22	12-17-24	15-19-28	17-21-30
		1-Way	7-12-23	12-17-27	15-21-31	18-23-34	20-26-36	22-27-39	24-31-43	26-34-47
	Noise Criteria		13	23	29	35	40	44	51	57

For performance notes, see page D163.

PERFORMANCE DATA:

Models 4325, 4325A, 4325AA • Drop Face • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090
6 x 6	Total Pressure		.010	.019	.028	.041	.056	.072	.113	.163
	Flow Rate, CFM		75	100	125	150	175	200	250	300
	Throw	4-Way	1-1-2	1-1-3	1-1-3	1-2-4	1-2-5	2-3-6	2-3-7	3-4-7
		3-Way	1-1-3	1-1-4	1-2-5	1-3-6	2-4-8	3-4-9	3-5-10	4-6-11
		2-Way	1-1-4	1-2-5	1-3-7	2-4-8	3-4-9	3-5-11	4-7-13	5-8-14
		1-Way	1-1-5	1-3-7	2-4-9	3-5-11	4-6-13	5-7-15	6-9-17	7-11-19
	Noise Criteria		—	—	—	17	20	24	31	37
8 x 8	Total Pressure		.014	.024	.038	.056	.075	.098	.153	.220
	Flow Rate, CFM		133	177	222	266	310	355	444	532
	Throw	4-Way	1-1-3	1-2-5	1-3-6	2-3-7	3-4-8	3-5-9	4-6-10	5-7-11
		3-Way	1-2-5	1-3-7	2-4-9	3-5-11	4-6-13	5-7-14	6-9-15	7-11-17
		2-Way	1-2-7	2-4-9	3-6-12	4-7-14	5-8-16	6-9-17	8-12-19	9-14-21
		1-Way	1-3-9	3-6-13	4-8-16	6-9-19	7-11-21	8-13-23	10-16-27	13-19-29
	Noise Criteria		—	11	16	22	27	31	38	44
10 x 10	Total Pressure		.018	.031	.049	.069	.095	.124	.193	.278
	Flow Rate, CFM		208	277	347	416	485	555	694	832
	Throw	4-Way	1-2-5	2-3-7	3-4-9	3-5-11	4-6-12	5-7-12	6-9-14	7-11-15
		3-Way	1-4-8	3-5-11	4-7-14	5-8-16	6-10-18	7-11-19	9-14-21	11-16-23
		2-Way	2-5-11	4-7-14	6-9-18	7-11-20	8-13-22	9-14-24	12-18-28	14-20-30
		1-Way	3-6-14	5-9-19	8-12-24	9-14-28	11-17-30	13-19-32	16-24-36	19-28-39
	Noise Criteria		—	14	21	27	32	36	42	49
12 x 12	Total Pressure		.02	.037	.058	.084	.114	.149	.233	.335
	Flow Rate, CFM		300	400	500	600	700	800	1000	1200
	Throw	4-Way	1-4-8	3-5-11	4-7-13	5-8-14	6-9-15	7-11-16	9-13-18	11-14-20
		3-Way	2-6-12	5-8-17	7-10-19	8-12-21	10-15-23	11-17-24	14-19-28	17-21-31
		2-Way	3-7-15	6-10-21	8-13-24	10-15-27	12-18-29	14-21-32	17-24-35	21-27-38
		1-Way	4-10-21	8-14-29	11-17-33	14-21-36	16-24-39	18-29-42	23-33-46	28-36-51
	Noise Criteria		—	18	25	31	36	40	46	53
14 x 14	Total Pressure		.025	.046	.071	.103	.140	.183	.286	.411
	Flow Rate, CFM		408	544	681	817	953	1089	1361	1633
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22	8-13-27
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-37	14-21-42
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47	19-30-52
		1-Way	3-8-17	6-11-23	9-14-30	11-17-36	13-20-42	15-23-48	19-30-54	23-36-59
	Noise Criteria		12	21	28	34	39	43	49	56

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB 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.

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.

HOW TO ORDER

PERFORATED SUPPLY CEILING DIFFUSERS, FACE MOUNTED DEFLECTORS
MODEL SERIES 4320

EXAMPLE: 4320 - RND - 08 - 24 x 24 - L - AW - –

1. **Models**
   - 4320 Steel, Flush Face
   - 4325 Steel, Drop Face
   - 4320A Aluminum Face, Flush
   - 4325A Aluminum Face, Drop
   - 4320AA Aluminum Face and Backpan, Flush
   - 4325AA Aluminum Face and Backpan, Drop
2. **Neck Type**
   - RND Round
   - SQR Square/Rectangular
3. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15, 16
   Square or Rectangular:
   6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 18 x 6
4. **Ceiling Module Size**
   Imperial (inches)
   12 x 12, 16 x 16, 20 x 20, 24 x 12, 24 x 24 (default), 48 x 24
   Metric (mm)
   300 x 300, 400 x 400, 500 x 500, 600 x 300, 600 x 600, 1200 x 600
5. **Frame Type**
   - L Lay-in T-Bar (default)
   - S Surface Mount
   - SP Spline
   - M Metal Pan (Snap-in)
   - F Fineline®
6. **Finish**
   - AW Appliance White (default)
   - AL Aluminum
   - BK Black
   - BW British White
   - MI Mill
   - PC Prime Coat Paint
   - BA AW Face/Black Backpan
   - SP Special Custom Color

OPTIONS & ACCESSORIES:

7. **Damper**
   - – None (default)

   Round Neck:
   4250 Radial Sliding, 6" - 14"
   4275 Radial Opposed Blade, 5" - 24"
   4675 Butterfly, 6" - 14"

   Square Neck:
   - OBD Opposed Blade, Steel
   - OBDA Opposed Blade, Aluminum (AA models only)
8. **External Insulation**
   - – None (default)
   - EX Foil-back (installed), R-4.2
   - EXB Foil-back (loose), R-4.2
   - MIB Molded Insulation Blanket, R-6.0
9. **Earthquake Tabs**
   - – None (default)
   - EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

10. **Air Balancing Devices** (order separately)

    Round Neck:
    - EGR Equalizing Grid
    - DEGR Damper/Equalizing Grid

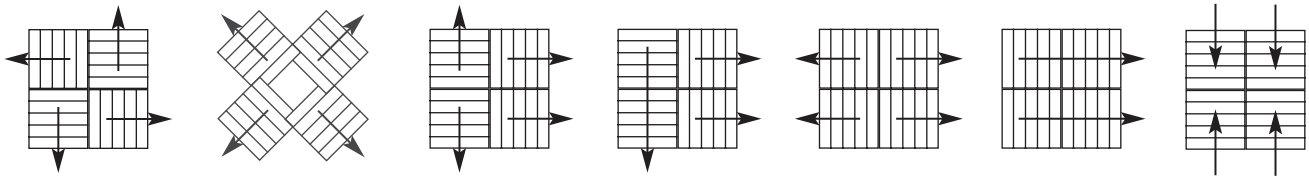
    Square/Rectangular Neck:
    - EGL Equalizing Grid (long)
    - EGS Equalizing Grid (short)
    - DEGL Damper/Equalizing Grid (long)
    - DEGS Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.
2. Dampers are shipped loose for field installation.
3. EX and EXB maximum size 24" x 24" (600 x 600). MIB Molded Insulation Blanket available on 24" x 24" (600 x 600) round neck only.

Available Air Patterns

All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.



4-way | **4-way corner** | **3-way** | **2-way corner** | **2-way opposite** | **1-way** | **Vertical**

Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Models 4320, 4325 – Steel
Furnish and install **Nailor Model** (select one) **4320 Flush Face** or **4325 Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320A, 4325A – Aluminum Face
Furnish and install **Nailor Model** (select one) **4320A Flush Face** or **4325A Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320AA, 4325AA – Aluminum
Furnish and install **Nailor Model** (select one) **4320AA Flush Face** or **4325AA Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped aluminum backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

PERFORATED CURVED BLADE DIFFUSERS

- SUPPLY
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)

Steel Models:

4320CB Flush Face
4325CB Drop Face

Aluminum Face Models:

4320CBA Flush Face
4325CBA Drop Face

Aluminum Models:

4320CBAA Flush Face
4325CBAA Drop Face

Model 4320CB

Model Series 4320CB Curved Blade Diffusers provide the unobtrusive, smooth appearance preferred by many architects with superior features and performance characteristics. Designed to maximize throw, this model features individually adjustable, friction pivoted curved blade deflectors mounted directly under the neck. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

4320CB Diffusers features a 4-way adjustable discharge pattern as standard. The deflector blades can be adjusted to control both the angle of discharge and hence throw from full horizontal to vertical in each direction and also damper the air volume. By closing off the deflectors in one or more directions, directional control can also be achieved. Model Series 4320CB is also available with a factory supplied 1, 2 or 3-way adjustable discharge pattern controller.

Model Series 4325CB features a dropped (extended) face panel that is available to complement tegular tile ceiling systems, so that the panel remains flush with the ceiling line.

STANDARD FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted from horizontal to vertical before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and moving the curved blade deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (4360 Series) have the same face and frame construction as the supply models to match their appearance.

CONSTRUCTION MATERIAL:

Models 4320CB/4325CB have a corrosion-resistant steel perforated face and backpan. Models 4320CBA/4325CBA have an aluminum perforated face and a corrosion-resistant steel backpan. Models 4320BAA/4325CBAA have an aluminum perforated face and backpan.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675 Butterfly Damper 6" – 14" (152 – 356).
MIB Molded Insulation Blanket, R-6.0.

Square Neck:

OBD Opposed Blade Damper (Steel)
OBDA Opposed Blade Damper (Aluminum) (-AA models only)

OTHER OPTIONS & ACCESSORIES:

EX External Foil-Back Insulation (installed) -R-4.2.
EXB External Foil-Back Insulation (loose) -R-4.2.
EQT Earthquake Tabs

For additional options and accessories; see page D255.

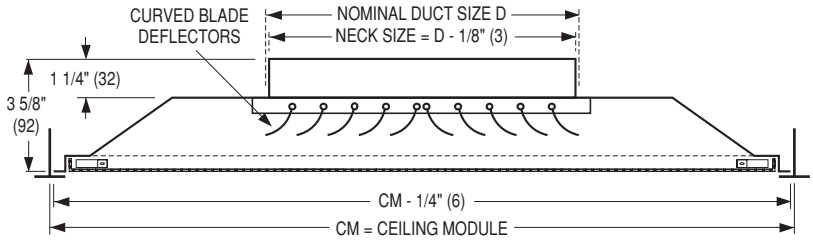
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6, 8	152, 203	6 x 6, 8 x 8	152 x 152, 203 x 203
16 x 16	400 x 400	6, 8, 10, 12	152, 203, 254, 305	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
24 x 12	600 x 300	6, 8	152, 203	6 x 6, 8 x 8	152 x 152, 203 x 203
20 x 20	500 x 500	6, 8, 10, 12, 14	152, 203, 254, 305, 356	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16, 18	152, 203, 254, 305, 356, 381, 406, 457	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457
48 x 24	1200 x 600				

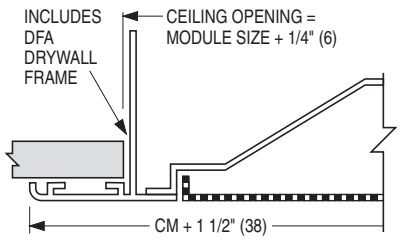
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320CB, 4320CBA, 4320CBAA • Supply • Flush Face

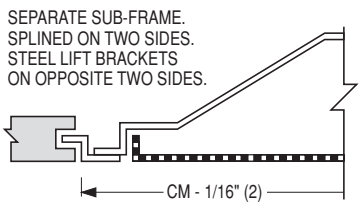
Type L Lay-in T-Bar



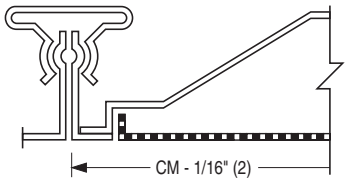
Type S Surface Mount



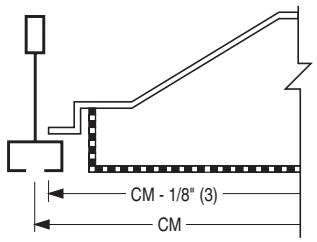
Type SP Spline



Type M Metal Pan (Snap-in)

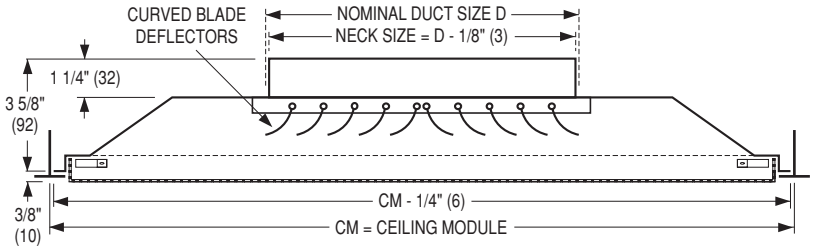


Type F Fineline®

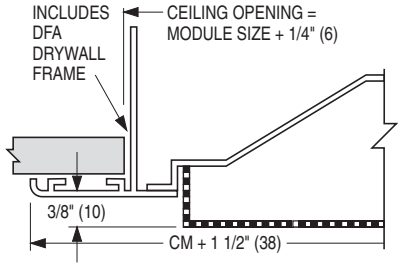


Models 4325CB, 4325CBA, 4325CBAA • Supply • Drop Face

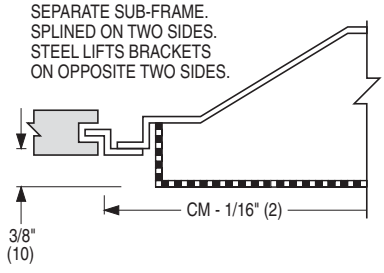
Type L Lay-in T-Bar or Tegular



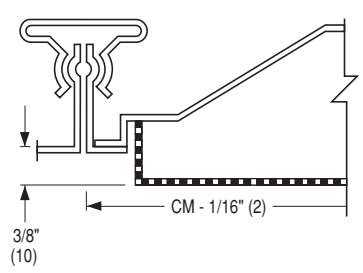
Type S Surface Mount



Type SP Spline



Type M Metal Pan (Snap-in)



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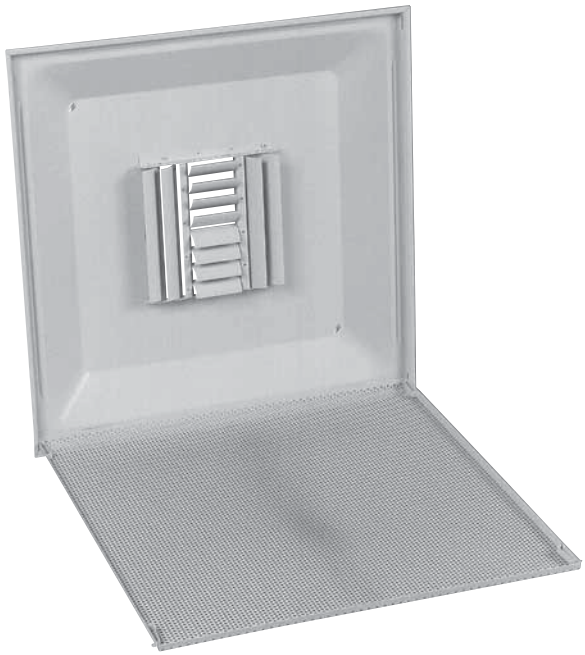
Model Series 4320CB • Adjusting Pattern Controllers

Removing Perforated Face

The **4300 Series** is supplied with a removable face plate that is retained in place by four spring-loaded latches, one located in each corner of the diffuser.

1. Insert a small screwdriver through a perforated hole in the edge of the face plate and push the spring-loaded latch inward from diffuser frame to release face.
2. Repeat procedure on the opposite side.
3. The face plate will now swing down, using the two remaining latches as hinges. The face may be completely removed by depressing in a similar manner, the two remaining latches.
4. To close; lift perforated face, depress spring latches with fingers and snap in place.

The pattern controller in the neck of the diffuser features individually adjustable deflector blades which may be used to vary the discharge pattern from full horizontal to vertical. Each blade is friction pivoted using a tension wire which securely holds its position after adjustment.

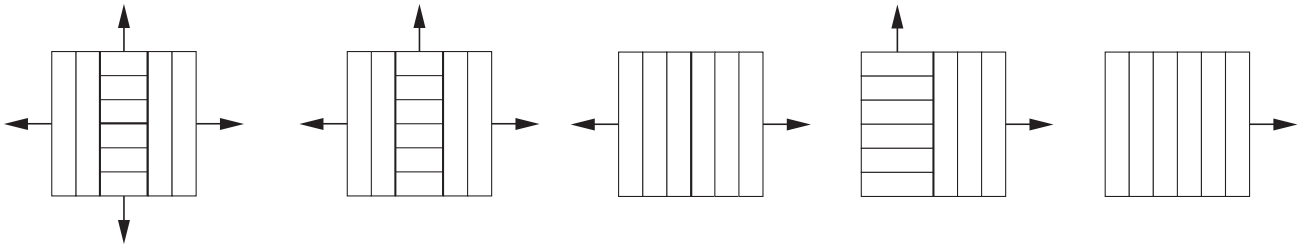


Round or Square Neck • 4-way Pattern

Pattern Controller Options

Standard Model Configuration

Optional Model Configurations



B4, 4-way | **B3, 3-way** | **B2, 2-way opposite** | **C2, 2-way corner** | **B1, 1-way**

The **4320CB Series** is supplied with this style of pattern controller unless specified otherwise.

PERFORMANCE DATA:

Models 4320CB, 4325CB, 4320CBA, 4325CBA, 4320CBAA, 4325CBAA • 12 x 12 Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900	1100
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051	.075
6" Dia.	Total Pressure		.023	.042	.037	.039	.052	.159	.204	.307
	Flow Rate, CFM		60	80	95	115	135	155	175	215
	Throw	4-Way	1-2-4	2-3-6	2-4-7	3-5-7	3-5-8	4-6-9	5-6-9	6-6-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16
		2-Way	2-4-8	3-5-11	4-6-13	5-8-15	6-9-16	7-11-18	8-12-20	9-13-22
		1-Way	3-4-9	4-6-12	5-8-16	6-9-18	7-11-20	8-12-22	9-14-23	10-16-26
	Noise Criteria		—	—	—	18	23	28	32	40
8" Dia.	Total Pressure		.025	.045	.069	.102	.137	.180	.227	.340
	Flow Rate, CFM		105	140	175	210	245	280	315	385
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12	6-9-15
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14	8-11-16
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21	10-16-24
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25	12-19-29
	Noise Criteria		—	—	15	21	26	31	34	41
6 x 6	Total Pressure		.025	.045	.066	.096	.132	.175	.224	.338
	Flow Rate, CFM		75	100	125	150	175	200	225	275
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11	6-8-12
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15	7-11-17
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22	10-16-25
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26	11-18-29
	Noise Criteria		—	—	—	19	24	29	33	41
8 x 8	Total Pressure		.027	.049	.076	.112	.151	.197	.249	.374
	Flow Rate, CFM		135	175	220	265	310	355	400	490
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14	7-11-16
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16	8-12-18
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24	12-18-27
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28	14-23-32
	Noise Criteria		—	—	16	22	27	32	35	42

Models 4320CB, 4325CB, 4320CBA, 4325CBA, 4320CBAA, 4325CBAA • 24 x 12 Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900	1100
	VP		.006	.010	.016	.023	.031	.040	.051	.075
6" Dia.	Total Pressure		.023	.042	.037	.039	.052	.159	.204	.307
	Flow Rate, CFM		60	80	95	115	135	155	175	215
	Throw	4-Way	1-2-4	2-3-6	2-4-7	3-5-7	3-5-8	4-6-9	5-6-9	6-6-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16
		2-Way	2-4-8	3-5-11	4-6-13	5-8-15	6-9-16	7-11-18	8-12-20	9-13-22
		1-Way	3-4-9	4-6-12	5-8-16	6-9-18	7-11-20	8-12-22	9-14-23	10-16-26
	Noise Criteria		—	—	—	18	23	28	32	40
8" Dia.	Total Pressure		.025	.045	.069	.102	.137	.180	.227	.340
	Flow Rate, CFM		105	140	175	210	245	280	315	385
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12	6-9-15
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14	8-11-16
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21	10-16-24
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25	12-19-29
	Noise Criteria		—	—	15	21	26	31	34	41
6 x 6	Total Pressure		.025	.045	.066	.096	.132	.175	.224	.338
	Flow Rate, CFM		75	100	125	150	175	200	225	275
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11	6-8-12
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15	7-11-17
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22	10-16-25
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26	11-18-24
	Noise Criteria		—	—	—	19	24	29	33	41
8 x 8	Total Pressure		.027	.049	.076	.112	.151	.197	.249	.374
	Flow Rate, CFM		135	175	220	265	310	355	400	490
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14	7-11-16
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16	8-12-18
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24	12-18-27
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28	14-23-32
	Noise Criteria		—	—	16	22	27	32	35	42

For performance notes, see page D171.

PERFORMANCE DATA:

Models 4320CB, 4325CB, 4320CBA, 4325CBA, 4320CBAA, 4325CBAA • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900	1100
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051	.075
6" Dia.	Total Pressure		.014	.025	.036	.052	.071	.094	.120	.181
	Flow Rate, CFM		60	80	95	115	135	155	175	215
	Throw	4-Way	1-2-4	2-3-6	2-3-7	3-4-7	3-5-8	4-6-9	4-6-9	5-6-11
		3-Way	1-2-5	2-3-7	2-4-8	3-5-9	4-6-9	4-7-10	5-7-11	6-8-12
		2-Way	2-3-7	3-4-9	4-6-11	4-7-12	5-8-13	6-9-14	7-11-15	8-12-17
		1-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-9-16	7-11-17	8-12-18	9-14-21
	Noise Criteria		—	—	—	17	22	26	28	35
8" Dia.	Total Pressure		.015	.027	.041	.060	.081	.106	.134	.200
	Flow Rate, CFM		105	140	175	210	245	280	315	385
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12	6-9-15
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14	8-11-16
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21	10-16-24
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25	12-19-29
	Noise Criteria		—	—	17	21	26	30	32	37
10" Dia.	Total Pressure		.017	.029	.045	.066	.090	.118	.149	.224
	Flow Rate, CFM		165	215	270	325	380	435	490	600
	Throw	4-Way	2-3-7	3-5-10	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16	8-12-19
		3-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-10-16	7-11-17	8-13-18	9-15-21
		2-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-27	14-21-31
		1-Way	4-7-14	6-9-18	7-11-23	9-14-26	11-16-28	12-18-29	14-22-31	16-25-35
	Noise Criteria		—	—	19	23	28	31	34	40
12" Dia.	Total Pressure		.018	.032	.050	.072	.099	.127	.162	.394
	Flow Rate, CFM		235	315	390	470	550	625	705	865
	Throw	4-Way	3-4-9	4-6-12	5-7-14	6-9-15	7-10-17	8-12-18	9-13-20	10-15-22
		3-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-20	9-14-22	10-15-23	11-17-26
		2-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32	16-26-36
		1-Way	5-8-17	7-11-23	9-14-28	11-17-31	13-20-33	15-23-35	17-26-37	19-29-42
	Noise Criteria		—	16	21	25	29	33	36	42
14" Dia.	Total Pressure		.019	.034	.054	.078	.107	.139	.175	.230
	Flow Rate, CFM		320	425	535	640	750	855	960	1175
	Throw	4-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-21	9-14-22	10-16-23	14-19-26
		3-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-24	10-16-25	12-18-27	14-21-31
		2-Way	5-8-17	7-11-24	9-14-28	11-17-30	13-21-33	15-24-35	17-26-37	19-29-42
		1-Way	6-9-20	8-13-27	11-16-33	13-20-36	15-24-38	17-27-41	20-30-43	23-34-49
	Noise Criteria		—	17	22	26	30	34	38	45
15" Dia.	Total Pressure		.011	.036	.056	.081	.110	.144	.180	.271
	Flow Rate, CFM		370	490	615	740	860	985	1100	1350
	Throw	4-Way	3-6-10	4-2-14	5-8-17	8-10-19	8-13-21	10-14-23	10-16-24	14-19-26
		3-Way	4-6-12	6-8-17	6-11-21	8-13-22	10-14-25	11-16-26	13-18-28	15-21-32
		2-Way	4-8-17	7-12-25	9-15-30	11-18-31	13-22-34	16-25-35	17-27-38	19-31-43
		1-Way	6-9-20	8-14-28	12-17-34	14-21-37	16-24-39	18-27-42	17-31-43	19-35-49
	Noise Criteria		—	18	23	27	31	35	39	46
16" Dia.	Total Pressure		.021	.038	.059	.084	.114	.149	.189	.283
	Flow Rate, CFM		420	560	700	835	975	1115	1255	1535
	Throw	4-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-26	16-22-31
		3-Way	4-7-14	6-9-18	7-11-23	9-14-25	10-16-27	12-18-29	14-22-30	16-25-34
		2-Way	6-9-20	8-13-27	10-16-32	13-20-35	15-24-37	17-27-40	20-30-42	23-34-48
		1-Way	7-11-23	10-15-31	12-18-37	15-23-41	17-27-44	21-31-47	23-35-50	26-40-57
	Noise Criteria		—	19	24	28	32	36	40	47
18" Dia.	Total Pressure		.022	.039	.061	.087	.118	.155	.196	.293
	Flow Rate, CFM		530	705	885	1060	1235	1415	1590	1945
	Throw	4-Way	4-7-14	5-9-18	7-10-20	9-13-24	10-16-26	10-19-28	13-21-29	17-25-33
		3-Way	4-7-17	6-10-21	8-12-24	10-15-28	11-20-30	13-22-32	17-24-34	19-27-39
		2-Way	7-10-23	10-14-29	11-17-34	15-22-36	18-28-43	20-30-44	24-34-50	27-39-57
		1-Way	8-12-26	11-17-33	14-21-40	18-25-45	21-32-50	23-38-53	29-40-56	33-46-64
	Noise Criteria		—	21	26	30	34	38	42	49

For performance notes, see page D171.

PERFORMANCE DATA:

Models 4320CB, 4325CB, 4320CBA, 4325CBA, 4320CBAA, 4325CBAA • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900	1100
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051	.075
6 x 6	Total Pressure		.015	.027	.039	.057	.078	.103	.132	.199
	Flow Rate, CFM		75	100	125	150	175	200	225	275
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11	6-8-12
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22	10-16-25
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26	11-18-29
	Noise Criteria		—	—	—	18	23	27	29	35
8 x 8	Total Pressure		.016	.029	.045	.066	.089	.116	.147	.220
	Flow Rate, CFM		135	175	220	265	310	355	400	490
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14	7-11-16
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16	8-12-18
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24	12-18-27
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28	15-22-32
	Noise Criteria		—	—	18	22	27	31	33	38
10 x 10	Total Pressure		.018	.031	.049	.072	.099	.129	.163	.246
	Flow Rate, CFM		210	275	345	415	485	555	625	765
	Throw	4-Way	2-4-8	3-5-11	4-7-13	5-8-14	6-10-16	7-11-17	8-12-18	9-13-21
		3-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-22	10-16-25
		2-Way	4-6-13	6-9-18	7-11-22	9-13-25	10-16-26	12-18-28	13-21-30	15-24-34
		1-Way	5-8-16	7-10-22	8-13-26	10-16-29	12-18-31	14-22-33	16-25-35	18-29-40
	Noise Criteria		—	—	20	24	29	32	35	41
12 x 12	Total Pressure		.019	.035	.055	.079	.108	.139	.178	.433
	Flow Rate, CFM		300	400	500	600	700	800	900	1100
	Throw	4-Way	3-5-10	4-6-13	5-8-16	6-10-17	8-12-20	9-13-21	10-15-22	11-17-25
		3-Way	3-5-11	5-7-15	6-9-18	7-11-21	9-13-23	10-15-24	11-17-26	12-19-29
		2-Way	5-8-16	7-11-23	9-13-27	11-16-29	13-20-32	14-23-34	16-25-36	18-29-41
		1-Way	6-9-20	8-12-26	10-16-31	12-20-34	14-23-37	17-26-40	22-31-44	25-35-50
	Noise Criteria		—	17	22	26	30	34	37	43
14 x 14	Total Pressure		.020	.037	.059	.085	.117	.152	.192	.253
	Flow Rate, CFM		410	545	680	815	955	1090	1225	1500
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22	8-12-25
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-37	12-21-42
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47	18-27-54
		1-Way	3-8-17	6-11-23	9-14-30	11-17-36	13-20-42	15-23-48	19-30-54	22-35-64
	Noise Criteria		—	18	23	27	31	35	39	46
15 x 15	Total Pressure		.012	.039	.061	.089	.121	.158	.198	.298
	Flow Rate, CFM		470	625	780	935	1095	1250	1405	1720
	Throw	4-Way	4-6-12	5-8-17	7-10-21	8-12-23	10-15-25	11-17-26	12-20-28	13-22-32
		3-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32	16-26-36
		2-Way	6-10-21	9-13-28	11-17-33	13-21-37	16-25-40	18-28-42	21-32-45	24-36-51
		1-Way	8-12-25	10-16-33	13-21-39	16-25-43	18-29-46	22-33-49	25-37-53	29-42-60
	Noise Criteria		—	19	24	28	32	36	40	47
16 x 16	Total Pressure		.023	.041	.064	.092	.125	.163	.207	.311
	Flow Rate, CFM		530	710	890	1065	1245	1420	1600	1955
	Throw	4-Way	4-7-14	5-9-18	7-10-20	9-13-24	10-16-26	10-19-28	13-21-29	15-24-33
		3-Way	4-7-17	6-10-21	8-12-24	10-15-28	11-20-30	13-22-32	17-24-34	19-27-39
		2-Way	7-10-23	10-14-29	11-17-34	15-22-36	18-28-43	20-30-44	24-34-50	27-39-57
		1-Way	8-12-26	11-17-33	14-21-40	18-25-45	21-32-50	23-38-53	29-40-56	33-46-64
	Noise Criteria		—	20	25	29	33	37	41	49
18 x 18	Total Pressure		.024	.042	.067	.095	.129	.170	.215	.322
	Flow Rate, CFM		675	900	1125	1350	1575	1800	2025	2475
	Throw	4-Way	5-7-15	6-10-21	8-12-25	10-15-27	12-18-30	13-21-32	15-24-33	17-27-38
		3-Way	5-8-17	7-11-24	9-14-29	11-17-32	13-22-34	15-24-36	17-27-39	19-31-44
		2-Way	8-12-26	11-16-34	13-21-40	16-26-44	20-30-47	23-34-50	26-38-54	29-43-62
		1-Way	9-14-29	12-20-39	16-25-47	20-29-52	23-34-56	26-39-60	29-44-64	33-50-73
	Noise Criteria		15	22	27	31	35	39	43	51

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

HOW TO ORDER

PERFORATED CURVED BLADE SUPPLY CEILING DIFFUSERS
MODEL SERIES 4320CB

EXAMPLE: 4320CB - RND - 08 - 24 x 24 - L - AW - B4 - –

1. **Models**
   - 4320CB Steel, Flush Face
   - 4325CB Steel, Drop Face
   - 4320CBA Aluminum Face, Flush
   - 4325CBA Aluminum Face, Drop
   - 4320CBAA Aluminum Face and Backpan, Flush
   - 4325CBAA Aluminum Face and Backpan, Drop
2. **Neck Type**
   - RND Round
   - SQR Square/Rectangular
3. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15, 16, 18
   Square or Rectangular:
   6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18
4. **Ceiling Module Size**
   Imperial (inches)
   12 x 12, 16 x 16, 20 x 20, 24 x 12, 24 x 24 (default), 48 x 24
   Metric (mm)
   300 x 300, 400 x 400, 500 x 500, 600 x 300, 600 x 600, 1200 x 600
5. **Frame Type**
   - L Lay-in T-Bar (default)
   - S Surface Mount
   - SP Spline
   - M Metal Pan (Snap-in)
   - F Fineline®
6. **Finish**
   - AW Appliance White (default)
   - AL Aluminum
   - BK Black
   - BW British White
   - MI Mill
   - PC Prime Coat Paint
   - BA AW Face/Black Backpan
   - SP Special Custom Color
7. **Blow Pattern**
   - B4 4-way (default)
   - B1 1-way
   - B2 2-way opposite
   - B3 3-way
   - C2 2-way corner

OPTIONS & ACCESSORIES:

8. **Damper**
   - – None (default)

   Round Neck:
   4250 Radial Sliding, 6" - 14"
   4275 Radial Opposed Blade, 5" - 24"
   4675 Butterfly, 6" - 14"

   Square Neck:
   - OBD Opposed Blade, Steel
   - OBDA Opposed Blade, Aluminum (AA models only)
9. **External Insulation**
   - – None (default)
   - EX Foil-back (installed), R-4.2
   - EXB Foil-back (loose), R-4.2
   - MIB Molded Insulation Blanket, R-6.0
10. **Earthquake Tabs**
    - – None (default)
    - EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

11. **Air Balancing Devices** (order separately)

    Round Neck:
    - EGR Equalizing Grid
    - DEGR Damper/Equalizing Grid

    Square/Rectangular Neck:
    - EGL Equalizing Grid (long)
    - EGS Equalizing Grid (short)
    - DEGL Damper/Equalizing Grid (long)
    - DEGS Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

2. Dampers are shipped loose for field installation.

3. EX and EXB maximum size 24" x 24" (600 x 600). MIB Molded Insulation Blanket available on 24" x 24" (600 x 600) round neck only.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Models 4320CB, 4325CB – Steel
Furnish and install **Nailor Model** (select one) **4320CB Flush Face** or **4325CB Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320CBA, 4325CBA – Aluminum Face
Furnish and install **Nailor Model** (select one) **4320CBA Flush Face** or **4325CBA Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320CBAA, 4325CBAA – Aluminum
Furnish and install **Nailor Model** (select one) **4320CBAA Flush Face** or **4325CBAA Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a stamped aluminum backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

PERFORATED CURVED BLADE DIFFUSERS

- SUPPLY
- SURFACE MOUNT
- FULL FACE SQUARE NECK
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)

Steel Face Model:

4340CB

Aluminum Model:

4340CBA

- **Suffix '-O' adds a steel opposed blade damper**

Model 4340CB

Model Series 4340CB Curved Blade Diffusers are designed to complement the Nailor 4320CB curved blade ceiling diffusers and feature the same individually adjustable, friction pivoted curved blade pattern controllers. Designed to maximize throw, they project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in VAV systems.

Model 4340CB is a square neck grille frame style design, featuring full face pattern controllers, for surface mount installation in hard ceilings. A 4-way adjustable discharge pattern is standard. The pattern controllers may also be used to damper the air volume and by closing them off in one or more directions, directional control can also be achieved. Also available with a factory supplied optional 1, 2 or 3-way adjustable discharge pattern controller.

STANDARD FEATURES:

- Available in nominal duct sizes from 6" x 6" (152 x 152) to 24" x 24" (610 x 610) in 2" (51) increments.
- Curved blades on 1" (25) centers are individually adjustable and regulate angle of discharge.
- Frame is mechanically interlocked for strength with hairline mitered corners. Standard diffuser has a 4-way (B4) discharge pattern.
- Removable face has concealed latches for easy access to core.
- 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.
- Return models (4340R Series) have the same face and frame construction as the supply models to match the appearance.

CONSTRUCTION MATERIAL:

Extruded aluminum blades and frame. Corrosion-resistant steel perforated face (Model 4340CB) or aluminum perforated face (Model 4340CBA).

FINISH OPTIONS:

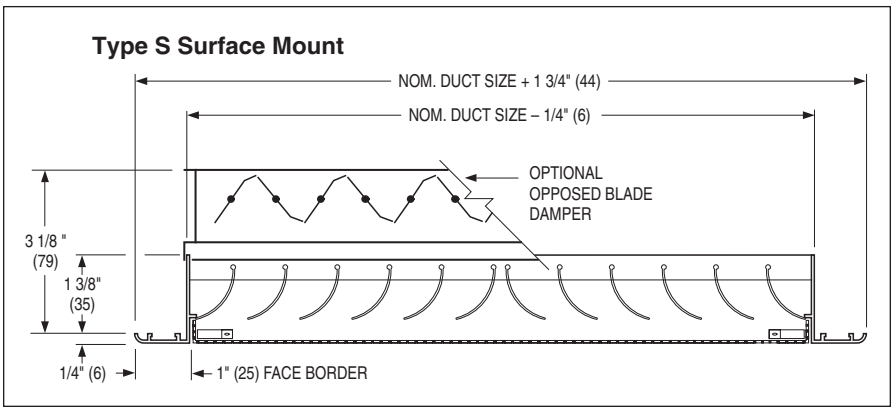
AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

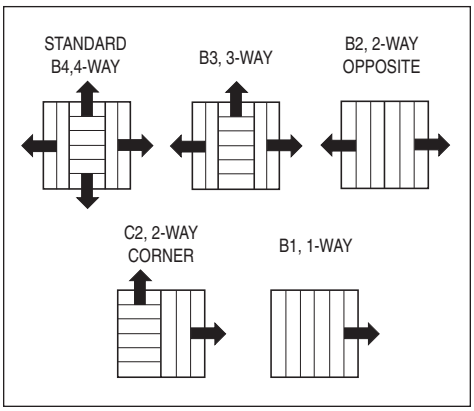
GK	Foam Gasket
EQT	Earthquake Tabs

For additional options and accessories; see page D255.

Dimensional Data



Pattern Controller Options



PERFORMANCE DATA:

Models 4340CB, 4340CBA • Surface Mount • Square Neck

Nominal Neck Size	Neck Velocity, FPM		200	300	400	500	600	700	800	900
	Velocity Pressure		.003	.006	.010	.016	.022	.031	.040	.050
	Total Pressure		.014	.032	.057	.089	.129	.175	.229	.290
6 x 6	Flow Rate, CFM		50	75	100	125	150	175	200	225
	Throw	4-Way	1-1-3	2-3-4	3-4-5	3-5-6	4-5-7	4-6-8	5-7-9	6-8-10
		3-Way	1-2-3	2-3-4	3-5-6	4-5-7	5-7-9	6-8-10	6-9-12	7-10-13
		2-Way	2-3-4	3-4-5	4-5-7	5-7-9	6-9-12	7-10-13	8-12-15	8-12-16
		1-Way	3-4-5	4-5-7	5-7-9	6-8-11	7-11-14	8-12-16	9-14-18	11-16-21
	Noise Criteria		—	21	25	28	31	34	36	38
8 x 8	Flow Rate, CFM		89	133	176	222	267	311	356	400
	Throw	4-Way	2-3-4	3-4-5	3-5-6	4-5-7	4-6-8	5-7-9	5-7-10	6-9-12
		3-Way	2-3-4	3-4-5	4-5-7	4-6-8	5-7-10	6-9-12	7-10-13	7-11-14
		2-Way	3-4-5	3-5-6	4-6-8	5-7-10	7-10-13	7-11-14	8-12-16	9-14-18
		1-Way	3-5-6	4-6-8	5-7-10	6-9-12	8-12-15	9-13-17	10-15-19	11-16-22
	Noise Criteria		—	23	27	30	33	35	37	39
10 x 10	Flow Rate, CFM		139	208	278	347	417	486	556	625
	Throw	4-Way	2-3-4	3-5-6	4-6-8	6-8-11	6-9-12	7-11-14	8-12-16	9-14-18
		3-Way	3-5-6	4-6-8	5-7-10	7-10-13	8-12-15	9-14-18	10-15-20	11-16-22
		2-Way	4-6-8	6-8-11	7-10-13	8-12-16	10-15-20	12-17-23	13-19-26	15-20-23
		1-Way	5-7-9	6-9-12	8-12-16	10-15-20	12-18-24	14-21-28	16-24-32	18-27-36
	Noise Criteria		—	23	28	31	34	36	38	40
12 x 12	Flow Rate, CFM		200	300	400	500	600	700	800	900
	Throw	4-Way	3-5-6	4-6-8	5-7-10	6-9-12	8-12-15	9-13-17	10-15-20	12-17-23
		3-Way	3-5-6	5-7-9	6-9-12	8-12-15	9-14-18	11-16-22	13-19-25	14-20-27
		2-Way	5-7-9	6-9-12	8-12-16	11-16-21	12-18-24	15-22-29	17-25-33	18-27-36
		1-Way	6-9-12	8-12-16	10-15-20	12-18-24	15-22-29	17-25-33	18-27-36	21-31-42
	Noise Criteria		—	23	27	31	34	36	39	41
14 x 14	Flow Rate, CFM		272	408	544	681	817	953	1089	1225
	Throw	4-Way	4-5-7	4-6-9	6-9-12	7-11-14	9-14-18	10-15-20	12-18-24	14-21-28
		3-Way	4-5-9	5-8-11	6-10-13	8-13-16	10-15-20	11-17-23	13-19-27	16-23-31
		2-Way	5-7-10	6-9-13	8-12-18	11-17-22	12-19-26	16-23-31	18-26-36	19-29-39
		1-Way	6-9-12	8-12-18	10-15-22	13-19-26	15-23-30	17-25-35	19-28-39	21-31-43
	Noise Criteria		—	24	28	32	35	37	40	42
16 x 16	Flow Rate, CFM		355	533	711	889	1067	1244	1422	1600
	Throw	4-Way	5-7-9	6-8-11	8-10-14	9-13-18	10-15-21	13-18-27	14-20-28	16-22-31
		3-Way	5-7-11	6-9-13	8-13-17	10-15-22	13-19-26	15-22-30	18-25-36	19-29-39
		2-Way	6-10-12	9-14-16	11-17-24	14-21-28	17-25-32	19-26-34	21-34-40	24-34-44
		1-Way	7-10-16	9-15-18	12-18-26	15-22-32	18-27-36	19-28-37	24-35-42	26-36-46
	Noise Criteria		—	27	31	35	37	40	42	44
18 x 18	Flow Rate, CFM		450	675	900	1125	1350	1575	1800	2025
	Throw	4-Way	5-7-10	6-9-12	8-12-16	10-15-20	12-18-24	14-21-28	16-24-32	18-27-36
		3-Way	5-7-12	7-11-14	9-14-18	11-16-22	13-19-26	16-24-31	18-27-36	21-31-41
		2-Way	8-12-18	10-15-20	13-19-26	16-24-32	20-29-39	23-34-45	26-39-52	29-43-58
		1-Way	9-14-22	11-16-24	15-23-30	18-27-36	22-32-43	25-37-49	28-42-56	30-45-60
	Noise Criteria		—	28	32	36	38	41	43	45

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 20.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

PERFORATED MODULAR CORE DIFFUSERS

- SUPPLY
- SURFACE MOUNT
- FULL FACE SQUARE NECK
- 1, 2, 3 OR 4-WAY DISCHARGE PATTERN

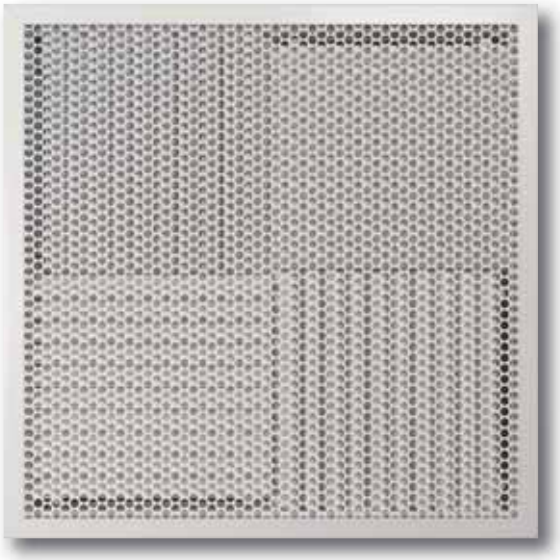
Steel Face Model:

4340M

Aluminum Face Model:

4340MA

- **Suffix '-O' adds a steel opposed blade damper**



Model 4340M

Model Series 4340M Modular Core Diffusers are designed to complement the Nailor 4320M and 4320MR modular ceiling diffusers and feature the same flexible high performance modular core design. The four individual, spring-loaded modular pattern controllers are mounted in the diffuser frame and position the leading edge of the pattern controllers near the perforated face and flush with the ceiling for optimum performance. The engineered design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes, providing excellent performance in VAV systems.

Model 4340M is a square neck grille frame design, featuring full face pattern controllers, for surface mount installation in hard ceilings. Discharge pattern can adjust to 1, 2, 3 or 4-way horizontal, before or after installation. Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors. Diffusers are shipped from the factory with a 4-way discharge pattern.

STANDARD FEATURES:

- Hinged removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Frame is mechanically interlocked for strength with hairline mitered corners.
- 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 and removing a modular core gives access to the optional opposed blade damper.
- Return models 4340R Series have the same face and frame construction as the supply models to match the appearance.

CONSTRUCTION MATERIAL:

Extruded aluminum frame. Corrosion-resistant steel modular core. Corrosion-resistant steel perforated face (Model 4340M) or aluminum perforated face (Model 4340MA).

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

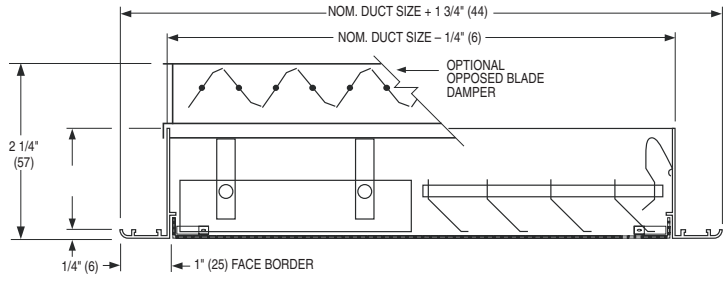
OPTIONS & ACCESSORIES:

GK	Foam Gasket
EQT	Earthquake Tabs

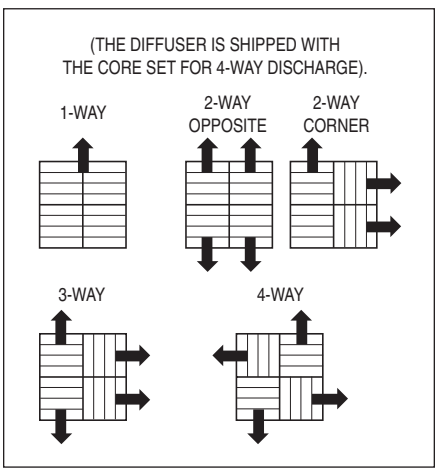
For additional options and accessories; see page D255.

Dimensional Data

Type S Surface Mount



Modular Core Adjustments



Available Duct Sizes

6 x 6 (152 x 152)	10 x 10 (254 x 254)	14 x 14 (356 x 356)	18 x 18 (457 x 457)	22 x 22 (559 x 559)
8 x 8 (203 x 203)	12 x 12 (305 x 305)	16 x 16 (406 x 406)	20 x 20 (508 x 508)	24 x 24 (610 x 610)

PERFORMANCE DATA:

Models 4340M, 4340MA • Surface Mount • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800
	Velocity Pressure		.006	.010	.016	.023	.031	.040
	Total Pressure		.028	.047	.075	.103	.146	.188
6 x 6	Flow Rate, CFM		75	100	125	150	175	200
	Throw	4-Way	2-3-7	3-4-8	4-5-8	4-7-9	5-7-10	6-8-11
		3-Way	3-4-8	4-5-9	4-7-10	5-8-11	6-8-12	7-9-13
		2-Way	4-5-10	5-7-12	6-9-13	7-10-15	8-11-16	9-12-17
		1-Way	4-7-13	6-9-15	7-11-17	9-13-18	10-14-20	12-15-21
	Noise Criteria		—	—	19	25	31	35
8 x 8	Flow Rate, CFM		133	176	222	267	311	356
	Throw	4-Way	2-4-8	3-5-10	4-6-11	5-8-12	6-9-13	7-10-14
		3-Way	2-5-9	4-6-12	5-8-13	6-9-15	7-11-18	8-12-17
		2-Way	3-6-12	5-8-16	7-10-18	8-12-20	10-14-25	11-16-23
		1-Way	4-8-15	7-10-20	8-13-22	10-15-25	12-18-31	14-20-28
	Noise Criteria		—	—	22	28	34	38
10 x 10	Flow Rate, CFM		208	278	347	417	486	556
	Throw	4-Way	2-5-9	4-6-12	5-8-14	6-9-15	7-11-17	8-12-18
		3-Way	3-5-11	5-7-14	6-9-17	7-11-18	8-13-20	10-14-21
		2-Way	3-7-14	6-10-19	8-12-22	10-14-25	11-17-27	13-19-28
		1-Way	4-9-18	8-12-24	10-15-28	12-18-31	14-21-33	16-24-35
	Noise Criteria		—	16	24	30	36	41
12 x 12	Flow Rate, CFM		300	400	500	600	700	800
	Throw	4-Way	2-5-11	4-7-14	6-9-17	7-11-18	8-12-20	9-14-21
		3-Way	3-6-13	5-8-17	7-11-20	8-13-22	10-15-24	11-17-26
		2-Way	4-8-17	7-11-22	9-14-27	11-17-29	13-20-32	15-22-34
		1-Way	5-11-21	9-14-28	12-18-34	14-21-37	16-25-40	19-28-43
	Noise Criteria		—	18	26	32	38	43
14 x 14	Flow Rate, CFM		408	544	681	817	953	1089
	Throw	4-Way	3-6-12	5-8-16	7-10-20	8-12-21	9-14-23	11-16-25
		3-Way	3-7-15	6-10-19	8-12-24	10-15-26	11-17-28	13-19-30
		2-Way	4-10-19	8-13-26	11-16-31	13-19-34	15-23-37	17-26-40
		1-Way	5-12-24	10-16-32	13-20-39	16-24-43	19-28-46	22-32-50
	Noise Criteria		-—	19	27	34	39	44
15 x 15	Flow Rate, CFM		469	625	781	938	1094	1250
	Throw	4-Way	3-6-13	5-9-17	7-11-21	9-13-23	10-15-25	11-17-27
		3-Way	3-8-15	6-10-21	9-13-25	10-15-28	12-18-30	14-21-32
		2-Way	5-10-21	8-14-28	11-17-34	14-21-37	16-24-40	18-28-43
		1-Way	6-13-26	10-17-34	14-22-42	17-26-46	20-30-50	23-34-53
	Noise Criteria		—	20	28	35	40	45
16 x 16	Flow Rate, CFM		533	711	889	1067	1244	1422
	Throw	4-Way	3-7-14	5-9-18	8-11-22	9-14-25	11-16-27	12-18-28
		3-Way	4-8-16	6-11-22	9-14-27	11-16-29	13-19-32	15-22-34
		2-Way	5-11-22	8-15-29	12-18-36	15-22-39	17-26-42	20-29-45
		1-Way	6-13-27	11-18-37	15-23-45	18-27-49	21-32-53	24-37-57
	Noise Criteria		—	21	29	35	41	46
18 x 18	Flow Rate, CFM		675	900	1125	1350	1575	1800
	Throw	4-Way	3-7-15	6-10-20	9-13-25	10-15-28	12-18-30	14-20-32
		3-Way	4-9-18	7-12-25	10-15-30	12-18-33	14-21-36	16-25-38
		2-Way	5-12-25	9-16-33	14-20-40	16-25-44	19-29-48	22-33-51
		1-Way	7-15-31	12-20-41	17-26-50	20-31-55	24-36-60	27-41-64
	Noise Criteria		—	22	30	37	42	47

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

HOW TO ORDER

PERFORATED RETURN CEILING DIFFUSERS, GRILLE TYPE
MODEL SERIES 4340CB, 4340M AND 4340R

EXAMPLE: 4340CB - O - 0808 - S - AW - B4 - A - –

1a. **Models**

Supply:

4340CB	Steel, Curved Blade Controllers
4340CBA	Aluminum, Curved Blade Controllers
4340M	Steel, Modular Core
4340MA	Aluminum, Modular Core

Return:

4340R	Steel
4340RA	Aluminum

1b. **Damper**
(model suffix)

–	None (default)
-O	OBD Opposed Blade, Steel

2. **Neck Size** (inches – all models)

0606	6 x 6
0808	8 x 8
1010	10 x 10
1212	12 x 12
1414	14 x 14
1616	16 x 16
1818	18 x 18
2020	20 x 20
2222	22 x 22
2424	24 x 24

Return only:

3030	30 x 30
4824	48 x 24

3. **Frame Type**

S	Surface Mount (default)

4. **Finish**

AW	Appliance White (default)
AL	Aluminum
BK	Black
BW	British White
MI	Mill
PC	Prime Coat Paint
SP	Special Custom Color

5. **Blow Pattern**
(CB only)

B4	4-way (default)
B1	1-way
B2	2-way opposite
B3	3-way
C2	2-way corner

6. **Fastening**

N	None (default)
A	Screw Holes

7. **Gasket**

–	None (default)
GK	Foam Gasket

8. **Earthquake Tabs**

–	None (default)
EQT	Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

9. **Air Balancing Devices**
(order separately)

Square/Rectangular Neck:

EGL	Equalizing Grid (long)
DEGL	Damper/Equalizing Grid (long)

Note:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340CB** (aluminum with corrosion-resistant steel face) or **4340CBA** (aluminum) **Perforated Full Face Curved Blade Supply 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. An extruded aluminum blade pack with individually adjustable curved blades on 1" (25) centers shall be sized according to the square neck size as specified. The diffuser shall have a 4-way (standard), 3-way, 2-way, 1-way (select one) discharge pattern. A perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The diffuser shall be fastened through the neck with sheet metal screws. The finish shall be AW Appliance White (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel, and operable from the face of the diffuser, shall be provided with all units.

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

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340M** (corrosion-resistant steel with aluminum frame) or **4340MA** (aluminum frame and face) **Full Face Square Neck Perforated Supply Modular Core 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. Mounted in the diffuser shall be four, corrosion-resistant steel, square modular pattern deflectors installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The modular core shall be sized according to the square neck size as specified. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The diffuser shall be fastened through the neck with sheet metal screws (supplied by the installing contractor). The finish shall be AW Appliance White (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel, and operable from the face of the diffuser, shall be provided with all units.

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

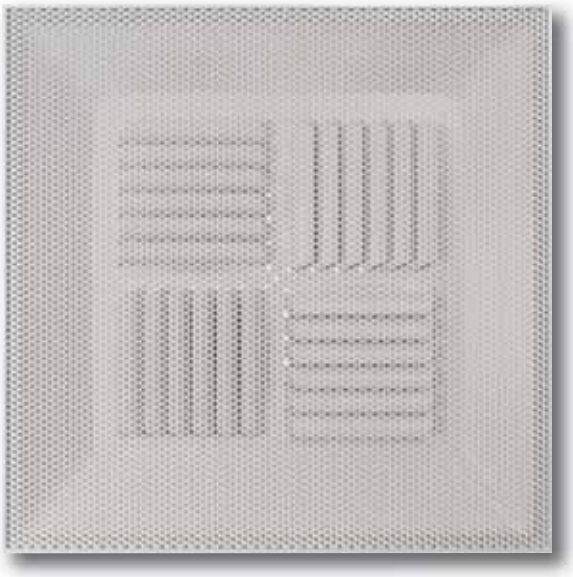
SUGGESTED SPECIFICATION:

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 (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.

PERFORATED CEILING DIFFUSERS

- SUPPLY
- NECK MOUNTED PATTERN CONTROLLERS
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN



Model 4320F

Steel Face/Steel Backpan Models:

4320F Flush Face
4325F Drop Face

Aluminum Face/Steel Backpan Models:

4320FA Flush Face
4325FA Drop Face

Aluminum Face/Aluminum Backpan Models:

4320FAA Flush Face
4325FAA Drop Face

Model Series 4320F Perforated Diffusers combine smooth, unobtrusive architectural appearance with the superior performance characteristics required by engineers. Designed to maximize throw, these models feature four heavy gauge stamped pattern controllers that are mounted directly under the neck. The formed louver air pattern controller has curved vanes that optimize airflow projection and provide a superior horizontal air pattern with a strong ceiling coanda effect. An excellent choice for variable air volume systems.

A main benefit of the 4320F Series design is that the factory set 4-way discharge pattern controllers can be field adjusted to a 1, 2, or 3-way pattern. You can be assured that once installed, be it long or short term, the air pattern projection and performance will remain constant.

Model 4325F features a drop (extended) face panel that is available to complement tegular tile ceiling systems. This ensures the panel remains flush with the ceiling line.

STANDARD FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Factory set 4-way discharge pattern can be field adjusted to a 1, 2, or 3 way deflection.
- Rugged curved vane air pattern controllers ensure performance is always optimized.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (4360 Series) have the same face and frame construction as the supply models to match their appearance.

CONSTRUCTION MATERIAL:

Models 4320F/4325F have a corrosion-resistant steel perforated face and backpan. Models 4320FA/4325FA have an aluminum perforated face and corrosion-resistant steel backpan. Models 4320FAA/4325FAA have an aluminum perforated face and backpan.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675 Butterfly Damper 6" – 14" (152 – 356).
MIB Molded Insulation Blanket, R-6.0.

Square Neck:

OBD Opposed Blade Damper (Steel)
OBDA Opposed Blade Damper (Aluminum) (-AA models only)

OTHER OPTIONS & ACCESSORIES:

EX External Foil-Back Insulation (installed) -R-4.2.
EXB External Foil-Back Insulation (loose) -R-4.2.
EQT Earthquake Tabs

For additional options and accessories; see page D255.

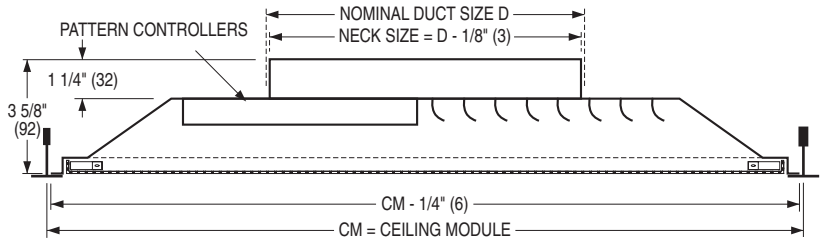
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16	152, 203, 254, 305, 356, 381, 406	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406

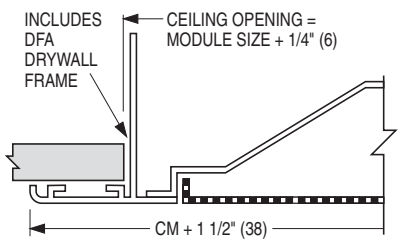
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320F, 4320FA, 4320FAA • Supply • Flush Face

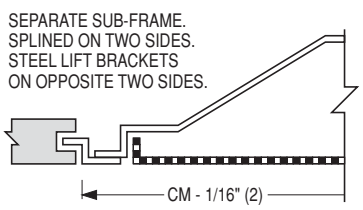
Type L Lay-in T-Bar



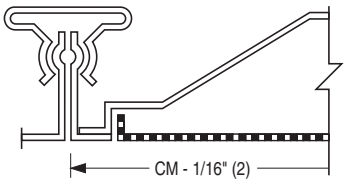
Type S Surface Mount



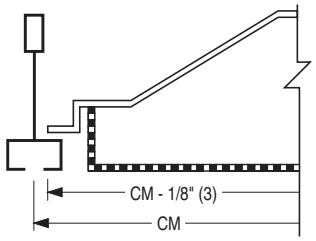
Type SP Spline



Type M Metal Pan (Snap-in)

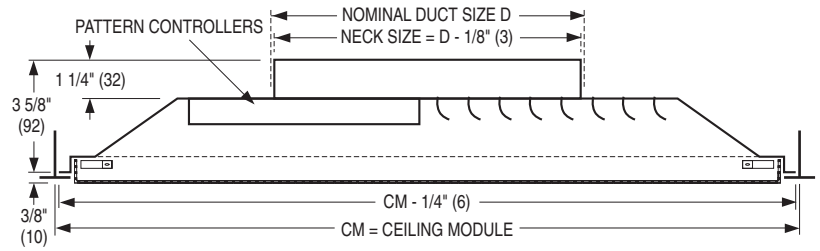


Type F Fineline®

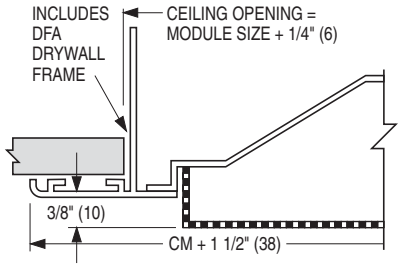


Models 4325F, 4325FA, 4325FAA • Supply • Drop Face

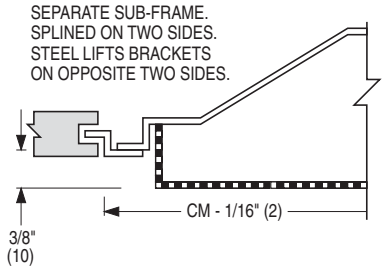
Type L Lay-in T-Bar



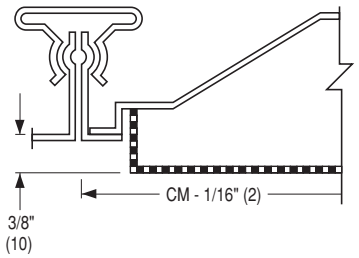
Type S Surface Mount



Type SP Spline



Type M Metal Pan (Snap-in)



Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 4320F, 4320FA, 4320FAA, 4325F, 4325FA, 4325FAA • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.026	.047	.073	.105	.143	.186	.236
6" Dia.	Flow Rate, CFM		60	80	95	115	135	155	175
	Throw	4-Way	1-2-4	2-3-6	2-3-7	3-4-7	3-5-8	4-6-9	4-6-9
		3-Way	1-2-5	2-3-7	2-4-8	3-5-9	4-6-9	4-7-10	5-7-11
		2-Way	2-3-7	3-4-9	4-6-11	4-7-12	5-8-13	6-9-14	7-11-15
		1-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-9-16	7-11-17	8-12-18
	Noise Criteria		—	—	17	23	28	33	36
8" Dia.	Flow Rate, CFM		105	140	175	210	245	280	315
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25
	Noise Criteria		—	—	20	26	31	36	39
10" Dia.	Flow Rate, CFM		165	215	270	325	380	435	490
	Throw	4-Way	2-3-7	3-5-10	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16
		3-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-10-16	7-11-17	8-13-18
		2-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-27
		1-Way	4-7-14	6-9-18	7-11-23	9-14-26	11-16-28	12-18-29	14-22-31
	Noise Criteria		—	15	23	29	34	38	40
12" Dia.	Flow Rate, CFM		235	315	390	470	550	625	705
	Throw	4-Way	3-4-9	4-6-12	5-7-14	6-9-15	7-10-17	8-12-18	9-13-20
		3-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-20	9-14-22	10-15-23
		2-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32
		1-Way	5-8-17	7-11-23	9-14-28	11-17-31	13-20-33	15-23-35	17-26-37
	Noise Criteria		—	16	24	30	35	39	41
14" Dia.	Flow Rate, CFM		320	425	535	640	750	855	960
	Throw	4-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-21	9-14-22	10-16-23
		3-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-24	10-16-25	12-18-27
		2-Way	5-8-17	7-11-24	9-14-28	11-17-30	13-21-33	15-24-35	17-26-37
		1-Way	6-9-20	8-13-27	11-16-33	13-20-36	15-24-38	17-27-41	20-30-43
	Noise Criteria		—	18	26	32	37	41	43
15" Dia.	Flow Rate, CFM		370	490	615	740	860	985	1100
	Throw	4-Way	3-6-10	4-2-14	5-8-17	8-10-19	8-13-21	10-14-23	10-16-24
		3-Way	4-6-12	6-8-17	6-11-21	8-13-22	10-14-25	11-16-26	13-18-28
		2-Way	4-8-17	7-12-25	9-15-30	11-18-31	13-22-34	16-25-35	17-27-38
		1-Way	6-9-20	8-14-28	12-17-34	14-21-37	16-24-39	18-27-42	17-31-43
	Noise Criteria		—	19	27	33	38	42	44
16" Dia.	Flow Rate, CFM		420	560	700	835	975	1115	1255
	Throw	4-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-26
		3-Way	4-7-14	6-9-18	7-11-23	9-14-25	10-16-27	12-18-29	14-22-30
		2-Way	6-9-20	8-13-27	10-16-32	13-20-35	15-24-37	17-27-40	20-30-42
		1-Way	7-11-23	10-15-31	12-18-37	15-23-41	17-27-44	21-31-47	23-35-50
	Noise Criteria		—	21	28	34	39	43	45

For performance notes, see page D185.

PERFORMANCE DATA:

Models 4320F, 4320FA, 4320FAA, 4325F, 4325FA, 4325FAA • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.025	.045	.070	.100	.137	.179	.226
6 x 6	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26
	Noise Criteria		—	—	18	24	29	34	37
8 x 8	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28
	Noise Criteria		—	—	21	27	32	37	40
10 x 10	Flow Rate, CFM		210	275	345	415	485	555	625
	Throw	4-Way	2-4-8	3-5-11	4-7-13	5-8-14	6-10-16	7-11-17	8-12-18
		3-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-22
		2-Way	4-6-13	6-9-18	7-11-22	9-13-25	10-16-26	12-18-28	13-21-30
		1-Way	5-8-16	7-10-22	8-13-26	10-16-29	12-18-31	14-22-33	16-25-35
	Noise Criteria		—	16	24	30	35	39	41
12 x 12	Flow Rate, CFM		300	400	500	600	700	800	900
	Throw	4-Way	3-5-10	4-6-13	5-8-16	6-10-17	8-12-20	9-13-21	10-15-22
		3-Way	3-5-11	5-7-15	6-9-18	7-11-21	9-13-23	10-15-24	11-17-26
		2-Way	5-8-16	7-11-23	9-13-27	11-16-29	13-20-32	14-23-34	16-25-36
		1-Way	6-9-20	8-12-26	10-16-31	12-20-34	14-23-37	17-26-40	22-31-44
	Noise Criteria		—	17	25	31	36	40	42
14 x 14	Flow Rate, CFM		410	545	680	815	955	1090	1360
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-372
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47
		1-Way	3-8-17	6-11-23	9-14-30	11-17-1936	13-20-42	15-23-48	19-30-54
	Noise Criteria		—	19	27	33	38	42	44
15 x 15	Flow Rate, CFM		470	625	780	935	1095	1250	1405
	Throw	4-Way	4-6-12	5-8-17	7-10-21	8-12-23	10-15-25	11-17-26	12-20-28
		3-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32
		2-Way	6-10-21	9-13-28	11-17-33	13-21-37	16-25-40	18-28-42	21-32-45
		1-Way	8-12-25	10-16-33	13-21-39	16-25-43	18-29-46	22-33-49	25-37-53
	Noise Criteria		—	20	28	33	39	43	45
16 x 16	Flow Rate, CFM		530	710	890	1065	1245	1420	1600
	Throw	4-Way	4-7-14	5-9-18	7-10-20	9-13-24	10-16-26	10-19-28	13-21-29
		3-Way	4-7-17	6-10-21	8-12-24	10-15-28	11-20-30	13-22-32	17-24-34
		2-Way	7-10-23	10-14-29	11-17-34	15-22-36	18-28-43	20-30-44	24-34-50
		1-Way	8-12-26	11-17-33	14-21-40	18-25-45	21-32-50	23-38-53	29-40-56
	Noise Criteria		—	22	29	35	40	44	45

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

HOW TO ORDER

PERFORATED SUPPLY CEILING DIFFUSERS, NECK MOUNTED DEFLECTORS
MODEL SERIES 4320F

EXAMPLE: 4320F - RND - 08 - 24 x 24 - L - AW - –

1. **Models**
   Louvered Face
   - 4320F Steel, Flush Face
   - 4325F Steel, Drop Face
   - 4320FA Aluminum Face, Flush
   - 4325FA Aluminum Face, Drop
   - 4320FAA Aluminum Face and Backpan, Flush
   - 4325FAA Aluminum Face and Backpan, Drop
2. **Neck Type**
   - RND Round
   - SQR Square/Rectangular
3. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15, 16
   Square or Rectangular:
   6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16
4. **Ceiling Module Size**
   Imperial (inches)
   24 x 24 (default)
   Metric (mm)
   600 x 600
5. **Frame Type**
   - L Lay-in T-Bar (default)
   - S Surface Mount
   - SP Spline
   - M Metal Pan (Snap-in)
   - F Fineline®
6. **Finish**
   - AW Appliance White (default)
   - AL Aluminum
   - BK Black
   - BW British White
   - MI Mill
   - PC Prime Coat Paint
   - BA AW Face/Black Backpan
   - SP Special Custom Color
7. **Damper**
   - – None (default)

   Round Neck:
   4250 Radial Sliding, 6" - 14"
   4275 Radial Opposed Blade, 5" - 24"
   4675 Butterfly, 6" - 14"

   Square Neck:
   - OBD Opposed Blade, Steel
   - OBDA Opposed Blade, Aluminum (AA models only)
8. **External Insulation**
   - – None (default)
   - EX Foil-back (installed), R-4.2
   - EXB Foil-back (loose), R-4.2
   - MIB Molded Insulation Blanket, R-6.0
9. **Earthquake Tabs**
   - – None (default)
   - EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

10. **Air Balancing Devices**
    (order separately)

    Round Neck:
    - EGR Equalizing Grid
    - DEGR Damper/Equalizing Grid

    Square/Rectangular Neck:
    - EGL Equalizing Grid (long)
    - EGS Equalizing Grid (short)
    - DEGL Damper/Equalizing Grid (long)
    - DEGS Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

2. Dampers are shipped loose for field installation.

3. EX and EXB maximum size 24" x 24" (600 x 600). MIB Molded Insulation Blanket available on 24" x 24" (600 x 600) round neck only.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Models 4320F, 4325F - Steel

Furnish and install **Nailor Model** (select one) **4320F Flush Face** or **4325F Drop Face, Adjustable Pattern Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a high neck collar that is round or square as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted at the neck of the diffuser shall be factory set 4-way stamped curved vane deflectors that can be field adjusted to a 1, 2, or 3 way discharge pattern (as specified). The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning, adjusting the discharge pattern and adjusting the optional damper if required.

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

SUGGESTED SPECIFICATION:

Models 4320FA, 4325FA – Aluminum Face

Furnish and install **Nailor Model** (select one) **4320FA Flush Face** or **4325FA Drop Face, Adjustable Pattern Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a high neck collar that is round or square as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted at the neck of the diffuser shall be factory set 4-way stamped curved vane deflectors that can be field adjusted to a 1, 2, or 3 way discharge pattern (as specified). The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning, adjusting the discharge pattern and adjusting the optional damper if required.

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

SUGGESTED SPECIFICATION:

Models 4320FAA, 4325FAA – Aluminum Face and Backpan

Furnish and install **Nailor Model** (select one) **4320FAA Flush Face** or **4325FAA Drop Face, Adjustable Pattern Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an aluminum backpan with a high neck collar that is round or square as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted at the neck of the diffuser shall be factory set 4-way stamped curved vane deflectors that can be field adjusted to a 1, 2, or 3 way discharge pattern (as specified). The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning, adjusting the discharge pattern and adjusting the optional damper if required.

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

PERFORATED MODULAR CORE DIFFUSERS

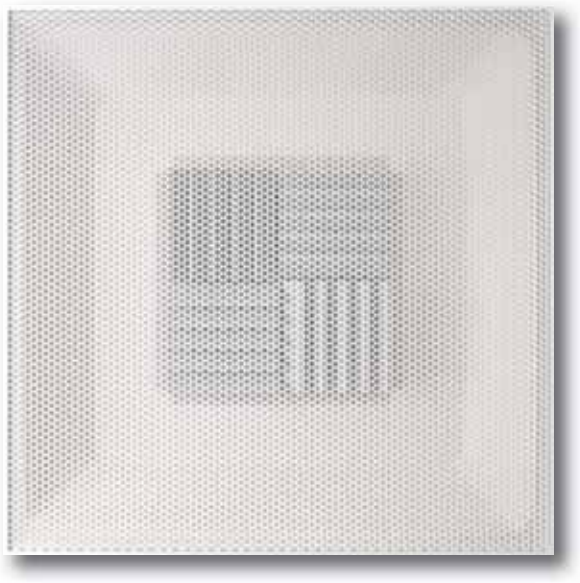
- SUPPLY
- SQUARE NECK
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

Steel Models:

4320M Flush Face
4325M Drop Face

Aluminum Face Models:

4320MA Flush Face
4325MA Drop Face



Model 4320M

Model Series 4320M Perforated Modular Core Diffusers provide the unobtrusive, smooth appearance preferred by many architects and combines this with the flexible features of a high performance modular core design. This model features four individual, spring-loaded modular pattern controllers mounted in the neck. They can be adjusted before or after installation, to provide a 1, 2, 3 or 4-way discharge pattern by simply dropping the perforated face and rotating one or more of the pattern controllers.

The engineered modular core design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes. It therefore provides excellent performance in variable air volume systems. The diffuser is shipped from the factory with the modular core set for a 4-way discharge pattern.

Model 4325M features a dropped (extended) face panel that is designed to complement tegular tile ceiling systems. The face panel is suspended flush with the ceiling line, providing both an aesthetically pleasing appearance and ensuring optimal performance is maintained.

STANDARD FEATURES:

- Square neck is standard.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Inlet collar has approximately 1 1/2" (38) depth for easy duct connection.
- Dropping the perforated face and removing a core module gives access to the optional opposed blade damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (4360 Series) have the same face and frame construction as the supply models to match their appearance.

Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6 x 6, 8 x 8	152 x 152, 203 x 203
24 x 24	600 x 600	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 20 x 20	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457, 508 x 508

CONSTRUCTION MATERIAL:

Models 4320M/4325M have a corrosion-resistant steel backpan, modular core and perforated face. Models 4320MA/4325MA have a corrosion-resistant steel backpan and modular core with an aluminum perforated face.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

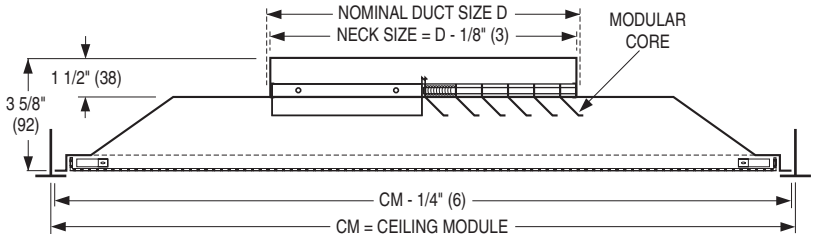
OBD	Opposed Blade Damper (steel)
EX	External Foil-Back Insulation (installed) -R-4.2.
EXB	External Foil-Back Insulation (loose) -R-4.2.
EQT	Earthquake Tabs

For additional options and accessories; see page D255.

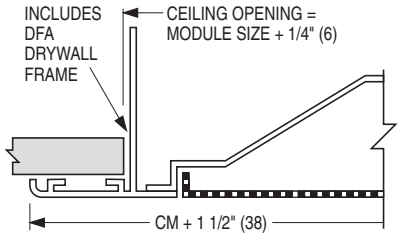
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320M, 4320MA • Flush Face • Square Neck

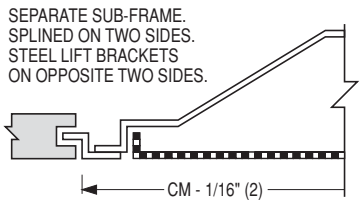
Type L Lay-in T-Bar



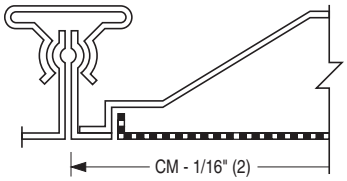
Type S Surface Mount



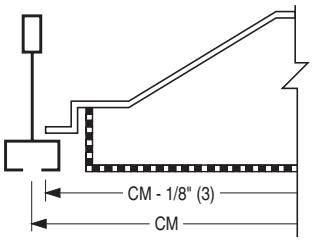
Type SP Spline



Type M Metal Pan (Snap-in)

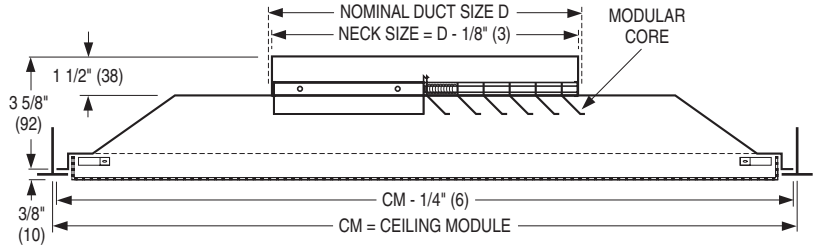


Type F Fineline®



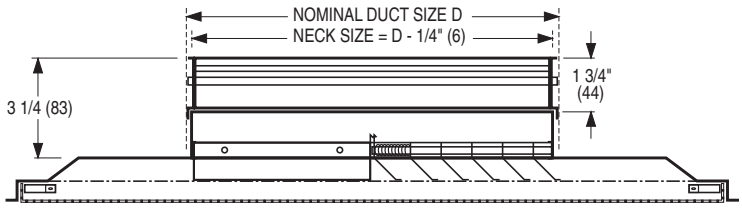
Models 4325M, 4325MA • Drop Face • Square Neck

Type L Lay-in T-Bar or Tegular



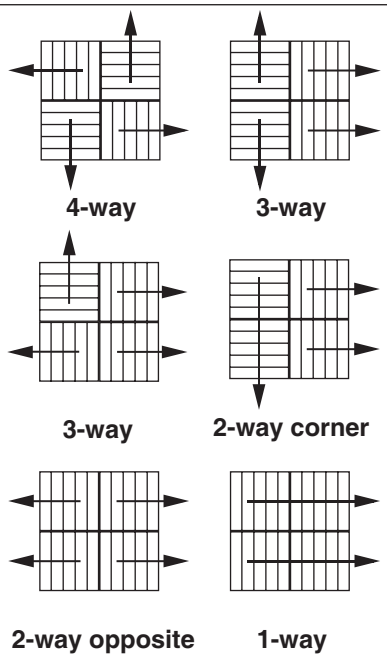
Drop face models are also available with Type S, SP and M frames.

Optional Opposed Blade Damper • Model OBD



Heavy gauge roll-formed steel damper is supplied with a screwdriver slot operator.

Modular Core Adjustments



All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.

Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 4320M, 4320MA, 4325M, 4325MA • 12 x 12 (300 x 300) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
6 x 6	Total Pressure		.030	.048	.071	.119	.155	.196	.244
	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-1-2	1-1-3	1-2-4	1-2-5	2-3-6	2-3-6	2-4-7
		3-Way	1-2-4	2-3-6	2-4-8	3-4-9	3-5-10	4-6-11	4-7-11
		2-Way	2-3-6	2-4-8	3-5-10	4-6-12	4-7-13	5-8-14	6-9-15
		1-Way	3-4-9	4-6-12	5-8-16	6-9-19	7-11-20	8-12-22	9-14-22
	Noise Criteria		—	—	19	24	30	34	39
8 x 8	Total Pressure		.028	.042	.064	.110	.141	.186	.240
	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	1-1-3	1-2-5	2-3-6	2-3-7	2-4-8	3-5-8	3-5-9
		3-Way	2-3-6	2-4-8	3-5-10	4-6-13	5-7-14	5-8-15	6-9-15
		2-Way	2-4-8	3-5-11	4-6-13	5-8-16	6-9-18	7-11-19	8-12-20
		1-Way	4-6-12	5-8-17	7-10-21	8-12-25	10-15-27	11-17-29	12-19-31
	Noise Criteria		—	16	23	28	34	38	43

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

PERFORMANCE DATA:

Models 4320M, 4320MA, 4325M, 4325MA • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	VP		.006	.010	.016	.023	.031	.040	.051
6 x 6	Total Pressure		.024	.042	.065	.098	.130	.169	.202
	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-1-2	1-1-3	1-2-4	1-2-5	2-3-6	2-3-6	2-4-7
		3-Way	1-2-4	2-3-6	2-4-8	3-4-9	3-5-10	4-6-11	4-7-11
		2-Way	2-3-6	2-4-8	3-5-10	4-6-12	4-7-13	5-8-14	6-9-15
		1-Way	3-4-9	4-6-12	5-8-16	6-9-19	7-11-20	8-12-22	9-14-22
	Noise Criteria		—	—	15	19	23	29	31
8 x 8	Total Pressure		.024	.042	.065	.098	.130	.169	.202
	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	1-1-3	1-2-5	2-3-6	2-3-7	2-4-8	3-5-8	3-5-9
		3-Way	2-3-6	2-4-8	3-5-10	4-6-13	5-7-14	5-8-15	6-9-15
		2-Way	2-4-8	3-5-11	4-6-13	5-8-16	6-9-18	7-11-19	8-12-20
		1-Way	4-6-12	5-8-17	7-10-21	8-12-25	10-15-27	11-17-29	12-19-31
	Noise Criteria		—	—	18	23	27	33	35
10 x 10	Total Pressure		.034	.050	.073	.124	.160	.226	.263
	Flow Rate, CFM		210	275	345	415	485	555	625
	Throw	4-Way	1-2-4	2-3-6	2-3-7	3-4-9	3-5-10	4-6-11	4-7-11
		3-Way	2-4-8	3-5-10	4-6-13	5-8-16	6-9-17	7-10-18	8-12-19
		2-Way	3-5-10	4-6-13	5-8-17	6-10-20	8-12-22	9-13-24	10-15-25
		1-Way	5-8-16	7-10-21	8-13-26	10-16-32	12-18-34	14-21-37	16-24-39
	Noise Criteria		—	—	21	26	30	36	38
12 x 12	Total Pressure		.036	.052	.085	.127	.169	.230	.276
	Flow Rate, CFM		300	400	500	600	700	800	900
	Throw	4-Way	1-2-5	2-3-7	3-4-9	3-5-11	4-6-12	5-7-13	5-8-14
		3-Way	3-4-9	4-6-13	5-8-16	6-9-19	7-11-21	8-13-22	9-14-23
		2-Way	4-6-12	5-8-16	6-10-20	8-12-25	9-14-27	11-16-28	12-18-30
		1-Way	6-9-19	8-12-25	10-16-32	12-19-38	15-22-41	17-25-44	19-29-47
	Noise Criteria		—	—	25	30	34	39	42
15 x 15	Total Pressure		.039	.058	.096	.129	.177	.236	.291
	Flow Rate, CFM		470	625	780	935	1095	1250	1405
	Throw	4-Way	2-3-7	3-4-9	4-6-12	4-7-14	5-8-15	6-9-16	7-10-17
		3-Way	4-6-12	5-8-16	6-10-20	8-12-24	9-14-26	10-16-28	12-18-29
		2-Way	5-7-15	6-10-20	8-13-26	10-15-31	12-18-33	13-20-36	15-23-38
		1-Way	8-12-24	10-16-32	13-20-40	16-24-48	18-28-52	21-32-56	24-36-59
	Noise Criteria		—	19	28	33	37	42	45
18 x 18	Total Pressure		.041	.062	.110	.135	.186	.240	.301
	Flow Rate, CFM		675	900	1125	1350	1575	1800	2025
	Throw	4-Way	2-4-8	3-5-11	4-7-14	5-8-17	6-10-18	7-11-19	8-12-21
		3-Way	4-7-14	6-9-19	8-12-24	9-14-29	11-17-31	13-19-33	14-22-35
		2-Way	6-9-18	8-12-25	10-15-31	12-18-37	14-21-40	16-25-43	18-28-46
		1-Way	9-14-29	12-19-38	16-24-48	19-29-58	24-34-62	25-38-67	29-43-71
	Noise Criteria		—	22	31	36	41	46	49

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

PERFORATED MODULAR CORE DIFFUSERS

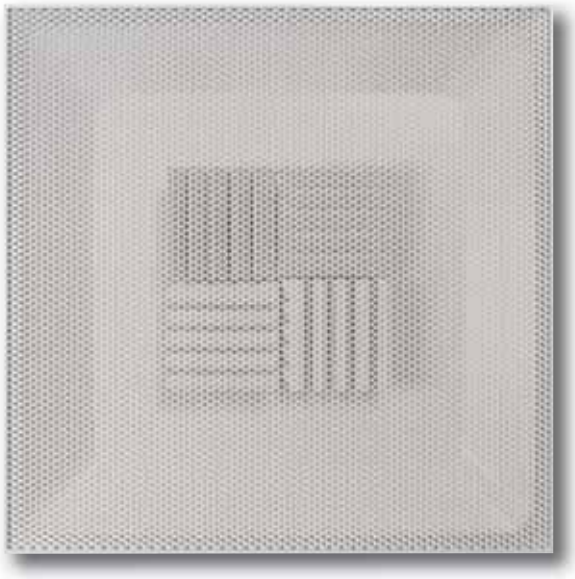
- SUPPLY
- INTEGRAL ROUND NECK
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

Steel Models:

4320MR Flush Face
4325MR Drop Face

Aluminum Face Models:

4320MRA Flush Face
4325MRA Drop Face



Model 4320MR

Model Series 4320MR Perforated Modular Core Diffusers provide the unobtrusive, smooth appearance preferred by many architects and combines this with the flexible features of a high performance modular core design. The low profile backpan features an integral round neck which eliminates the need for adapters. Four individual spring-loaded adjustable modular pattern controllers are mounted inside the backpan. This positions the leading edge of the pattern controllers near the perforated face and flush with ceiling for optimum performance. The engineered design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes and therefore provides excellent performance in VAV systems.

Discharge pattern can adjust to 1, 2, 3 or 4-way horizontal, before or after installation.

Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors. Diffusers are shipped from the factory with a 4-way discharge pattern.

Model Series 4325MR features a dropped (extended) face panel that is designed to complement tegular tile ceiling systems. The face panel is suspended flush with the ceiling line, providing both an aesthetically pleasing appearance and ensuring optimal performance is maintained.

STANDARD FEATURES:

- Designed for suspended ceiling systems.
- Round neck is standard.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Inlet collar has approximately 1 1/4" (32) depth for easy duct connection.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Dropping the perforated face and removing a modular core module gives access to the optional balancing damper.
- Return models (4360 Series) have the same face and frame construction as the supply models to match their appearance.

CONSTRUCTION MATERIAL:

Models 4320MR/4325MR have a corrosion-resistant steel backpan, modular core and perforated face.

Models 4320MRA/4325MRA have a corrosion-resistant steel backpan and modular core with an aluminum perforated face.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

4250	Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275	Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675	Butterfly Damper 6" – 14" (152 – 356).
EX	External Foil-Back Insulation (installed) -R-4.2.
EXB	External Foil-Back Insulation (loose) -R-4.2.
MIB	Molded Insulation Blanket R-6.0.
EQT	Earthquake Tabs

For additional options and accessories; see page D255.

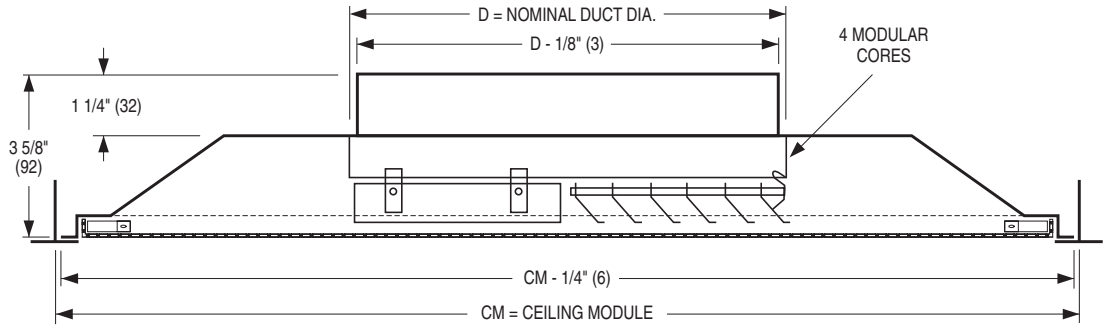
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6, 8	152, 203
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16	152, 203, 254, 305, 356, 381, 406

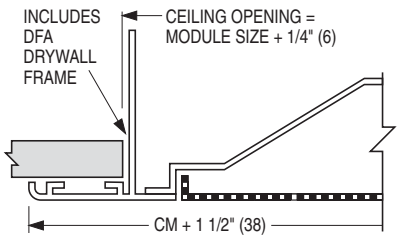
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320MR, 4320MRA • Flush Face • Round Neck

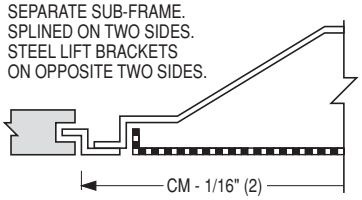
Type L Lay-in T-Bar



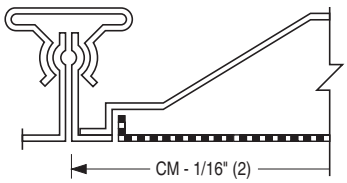
Type S Surface Mount



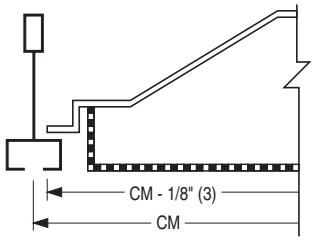
Type SP Spline



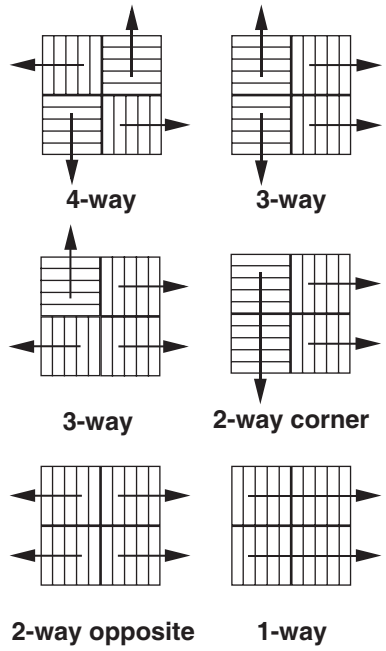
Type M Metal Pan (Snap-in)



Type F Fineline®



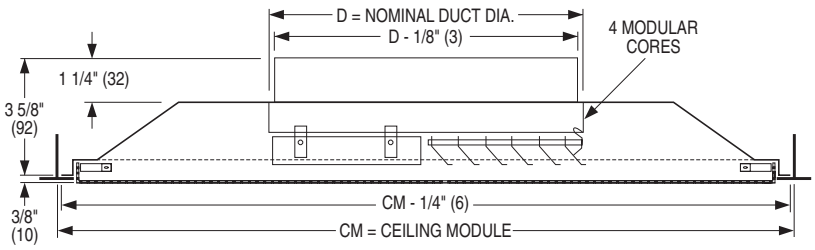
Modular Core Adjustments



All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.

Models 4325MR, 4325MRA • Drop Face • Round Neck

Type L Lay-in T-Bar or Tegular



Drop face models are also available with Type S, SP and M frames.

Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 4320MR, 4320MRA, 4325MR, 4325MRA • 12 x 12 (300 x 300) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063
6" Dia.	Total Pressure		.016	.031	.041	.065	.092	.124	.163
	Flow Rate, CFM		60	80	100	115	135	155	195
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-2-5	1-2-5	2-3-7
		3-Way	1-1-3	1-2-5	2-3-6	2-3-7	3-4-8	3-5-9	4-6-12
		2-Way	1-1-3	1-1-4	1-2-5	1-3-6	1-4-8	2-4-9	3-5-11
		1-Way	1-1-4	1-1-7	1-2-8	1-4-9	2-5-10	3-7-13	5-8-15
	Noise Criteria		—	—	18	23	29	33	38
8" Dia.	Total Pressure		.015	.027	.043	.062	.084	.110	.171
	Flow Rate, CFM		105	140	175	210	245	280	350
	Throw	4-Way	1-1-2	1-1-4	1-2-5	1-2-6	1-3-7	2-4-8	3-5-10
		3-Way	1-2-5	1-3-7	2-4-8	3-5-9	4-6-11	4-7-13	5-9-16
		2-Way	1-1-4	1-2-6	1-3-9	2-4-9	3-5-11	3-6-13	5-8-16
		1-Way	1-2-7	1-4-9	2-6-12	4-7-14	5-9-17	6-10-19	8-13-21
	Noise Criteria		—	15	24	27	33	37	42

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB 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.

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.

PERFORMANCE DATA:

Models 4320MR, 4320MRA, 4325MR, 4325MRA • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063
6" Dia.	Total Pressure		.016	.031	.041	.065	.092	.124	.163
	Flow Rate, CFM		60	80	100	115	135	155	195
	Throw	4-Way	1-1-1	1-1-2	1-1-3	1-1-4	1-2-5	1-2-5	2-3-7
		3-Way	1-1-3	1-2-5	2-3-6	2-3-7	3-4-9	3-5-10	4-6-13
		2-Way	1-1-3	1-1-4	1-2-5	1-3-7	1-4-8	2-4-9	3-5-11
		1-Way	1-1-4	1-1-7	1-2-8	1-4-10	2-5-12	3-7-14	5-8-16
	Noise Criteria		—	—	16	21	26	30	37
8" Dia.	Total Pressure		.015	.027	.043	.062	.084	.110	.171
	Flow Rate, CFM		105	140	175	210	245	280	350
	Throw	4-Way	1-1-2	1-1-4	1-2-5	1-2-6	1-3-7	2-4-8	3-5-10
		3-Way	1-2-5	1-3-7	2-4-8	3-5-10	4-6-12	4-7-14	5-9-17
		2-Way	1-1-4	1-2-6	1-3-8	2-4-9	3-5-11	3-6-13	5-8-16
		1-Way	1-2-7	1-4-10	2-6-13	4-7-15	5-9-17	6-10-19	8-13-21
	Noise Criteria		—	13	20	25	30	34	41
10" Dia.	Total Pressure		.019	.033	.052	.075	.102	.133	.208
	Flow Rate, CFM		165	220	270	325	380	435	545
	Throw	4-Way	1-1-4	1-1-6	1-3-7	1-4-9	2-5-10	3-6-12	5-7-13
		3-Way	1-3-6	2-4-9	3-5-11	4-6-13	5-7-15	6-9-17	7-11-19
		2-Way	1-1-6	1-3-8	2-5-10	3-6-13	4-7-15	5-8-17	7-10-19
		1-Way	1-4-10	3-7-14	5-9-18	7-10-20	8-12-21	9-14-23	12-18-26
	Noise Criteria		—	16	23	28	33	37	44
12" Dia.	Total Pressure		.023	.040	.063	.091	.124	.162	.253
	Flow Rate, CFM		235	315	390	470	550	630	785
	Throw	4-Way	1-1-6	1-2-8	2-4-10	2-6-12	3-7-13	5-8-14	6-10-16
		3-Way	1-3-8	3-5-11	4-6-13	5-8-15	6-9-17	7-11-18	9-13-20
		2-Way	1-2-8	2-5-11	3-6-13	5-8-16	6-9-17	7-11-18	9-13-20
		1-Way	3-7-14	5-9-19	8-12-21	9-14-23	11-17-25	13-19-27	16-21-30
	Noise Criteria		—	19	26	31	36	40	47
14" Dia.	Total Pressure		.027	.049	.076	.110	.149	.195	.304
	Flow Rate, CFM		320	425	535	640	750	855	1070
	Throw	4-Way	1-2-8	1-4-11	2-6-13	4-8-14	5-9-15	7-11-16	9-13-18
		3-Way	2-4-10	3-6-12	5-8-13	6-10-15	7-11-16	8-12-17	11-13-19
		2-Way	1-4-10	3-6-13	5-8-15	6-10-16	7-11-18	9-13-19	11-15-21
		1-Way	4-9-19	8-13-22	10-16-24	13-19-27	15-20-29	17-22-31	20-24-35
	Noise Criteria		14	23	30	35	40	44	51
16" Dia.	Total Pressure		.033	.059	.092	.132	.180	.235	.368
	Flow Rate, CFM		420	560	700	835	975	1115	1295
	Throw	4-Way	1-3-10	2-5-13	3-8-15	5-10-16	7-12-17	9-13-19	12-15-21
		3-Way	3-5-9	5-7-10	6-8-11	7-9-12	8-9-13	8-10-14	9-11-16
		2-Way	2-5-11	4-8-13	6-10-14	8-11-16	9-12-17	10-13-18	12-14-20
		1-Way	7-12-21	11-17-24	14-19-27	17-21-30	18-23-32	20-24-35	22-27-39
	Noise Criteria		15	24	31	36	41	45	52

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB 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.

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.

HOW TO ORDER

PERFORATED MODULAR CORE SUPPLY CEILING DIFFUSERS – MODEL SERIES 4320M

EXAMPLE: 4320M - 8 x 8 - 24 x 24 - L - AW - –

1. **Models**
   Square Neck:
   4320M Steel, Flush Face
   4325M Steel, Drop Face
   4320MA Aluminum Face, Flush
   4325MA Aluminum Face, Drop
   Round Neck:
   4320MR Steel, Flush Face
   4325MR Steel, Drop Face
   4320MRA Aluminum Face, Flush
   4325MRA Aluminum Face, Drop
2. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15, 16
   Square:
   6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 20 x 20
3. **Ceiling Module Size**
   Imperial (inches)
   12 x 12, 24 x 24 (default)
   Metric (mm)
   300 x 300, 600 x 600
4. **Frame Type**
   L Lay-in T-Bar (default)
   S Surface Mount
   SP Spline
   M Metal Pan (Snap-in)
   F Fineline®
5. **Finish**
   AW Appliance White (default)
   AL Aluminum
   BK Black
   BW British White
   MI Mill
   PC Prime Coat Paint
   BA AW Face/Black Backpan
   SP Special Custom Color
6. **Damper**
   – None (default)
   Round Neck:
   4250 Radial Sliding, 6" - 14"
   4275 Radial Opposed Blade, 5" - 24"
   4675 Butterfly, 6" - 14"
   Square Neck:
   OBD Opposed Blade, Steel
7. **External Insulation**
   – None (default)
   EX Foil-back (installed), R-4.2
   EXB Foil-back (loose), R-4.2
   MIB Molded Insulation Blanket, R-6.0
8. **Earthquake Tabs**
   – None (default)
   EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

Air Balancing Devices
(order separately)

Round Neck:
EGR Equalizing Grid
DEGR Damper/Equalizing Grid

Square/Rectangular Neck:
EGL Equalizing Grid (long)
EGS Equalizing Grid (short)
DEGL Damper/Equalizing Grid (long)
DEGS Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

2. Dampers are shipped loose for field installation.

3. EX and EXB maximum size 24" x 24" (600 x 600). MIB Molded Insulation Blanket available on 24" x 24" (600 x 600) round neck only.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Models 4320M, 4325M – Steel
Furnish and install **Nailor Model** (select one) **4320M Flush Face** or **4325M Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with an integral square neck collar. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted in the neck of the diffuser shall be four square modular pattern deflectors factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320MA, 4325MA – Aluminum Face
Furnish and install **Nailor Model** (select one) **4320MA Flush Face** or **4325MA Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with an integral square neck collar. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted in the neck of the diffuser shall be four square modular pattern deflectors factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

SUGGESTED SPECIFICATION:

Models 4320MR, 4325MR – Steel
Furnish and install **Nailor Model** (select one) **4320MR Flush Face** or **4325MR Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped, corrosion-resistant steel, low profile backpan with an integral round neck. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted below the neck of the diffuser shall be four square modular pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320MRA, 4325MRA – Aluminum Face
Furnish and install **Nailor Model** (select one) **4320MRA Flush Face** or **4325MRA Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped, corrosion-resistant steel, low profile backpan with an integral round neck. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted below the neck of the diffuser shall be four square modular pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The finish shall be AW Appliance White (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.

PERFORATED ADJUSTABLE STAR PATTERN DIFFUSERS

- SUPPLY
- FLUSH FACE OR DROP FACE
- ROUND OR SQUARE NECK

Steel Models:

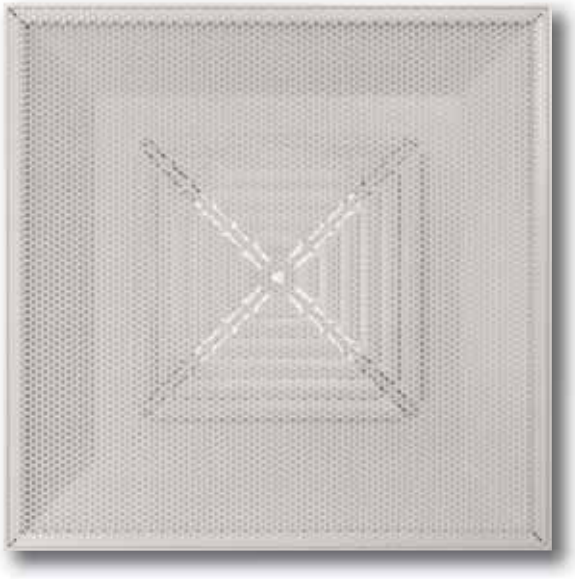
4320S Flush Face
4325S Drop Face

Aluminum Face Models:

4320SA Flush Face
4325SA Drop Face

Aluminum Models:

4320SAA Flush Face
4325SAA Drop Face



Model 4320S

Model Series 4320S and 4325S Perforated Adjustable Star Pattern Ceiling Diffusers have been designed to provide both the unobtrusive, smooth appearance preferred by many architects and high engineering performance required for use in heating and cooling applications. The diffusers project a tight, uniform horizontal or vertical blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

Model Series 4320S Diffusers feature a stamped pattern conroller mounted directly under the neck that produces a long throw 4-way 'star pattern'. The factory set pattern controller is easily rotated from side throw to corner throw in the field. Individual vanes can be field adjusted to suit the desired air pattern.

Model Series 4325S features a dropped (extended) face panel that is available to complement tegular tile ceiling systems, so that the panel remains flush with the ceiling line. In non-tegular ceilings the throw is reduced slightly and the airflow projection protects the ceiling against smudging.

STANDARD FEATURES:

- 4-way 'Star Pattern' Controller.
- Round or square necks available.
- Removable face has concealed latches for easy access to the optional damper.
- Discharge pattern can adjust from side throw to corner throw in the field.
- Individual vanes can be adjusted to produce a horizontal or vertical pattern or 3-way horizontal pattern by turning one segment of blades in the opposite direction.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.

CONSTRUCTION MATERIAL:

Models 4320S/4325S have a corrosion-resistant steel perforated face and backpan. Models 4320SA/4325SA have an aluminum perforated face and a corrosion-resistant steel backpan. Models 4320SAA/4325SAA have an aluminum perforated face and backpan.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675 Butterfly Damper 6" – 14" (152 – 356).
MIB Molded Insulation Blanket, R-6.0.

Square Neck:

OBD Opposed Blade Damper (Steel)
OBDA Opposed Blade Damper (Aluminum) (-AA models only)

OTHER OPTIONS & ACCESSORIES:

EX External Foil-Back Insulation (installed) -R-4.2.
EXB External Foil-Back Insulation (loose) -R-4.2.
EQT Earthquake Tabs

For additional options and accessories; see page D255.

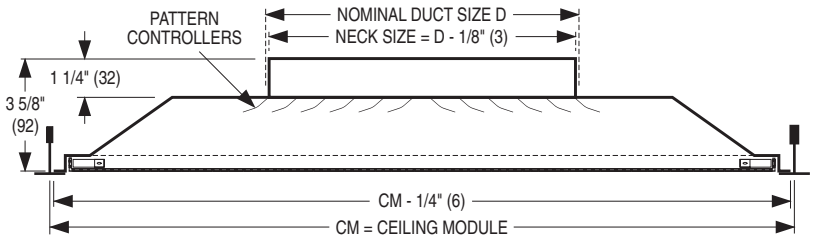
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6	152	6 x 6	152 x 152
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16	152, 203, 254, 305, 356, 381, 406	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305

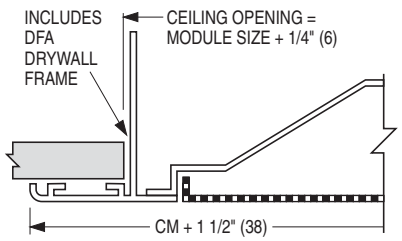
DIMENSIONAL DATA AND FRAME TYPES:

Models 4320S, 4320SA, 4320SAA • Supply • Flush Face

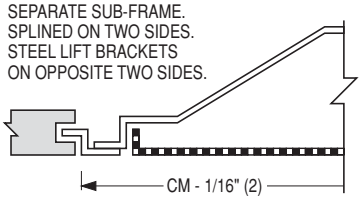
Type L Lay-in T-Bar



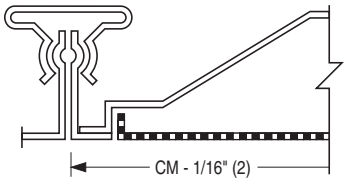
Type S Surface Mount



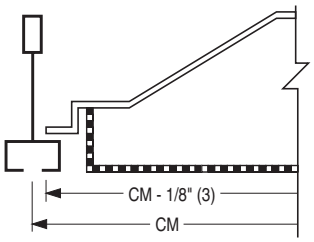
Type SP Spline



Type M Metal Pan (Snap-in)

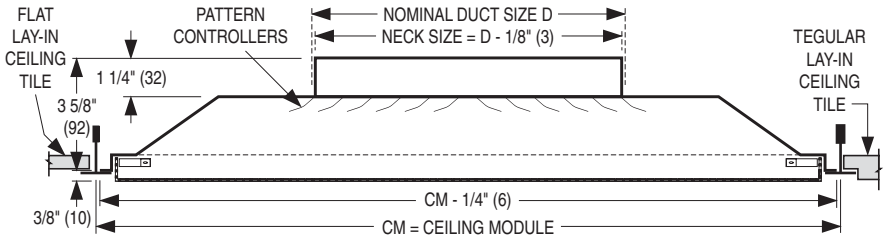


Type F Fineline®

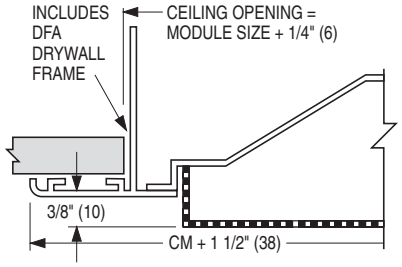


Models 4325S, 4325SA, 4325SAA • Supply • Drop Face

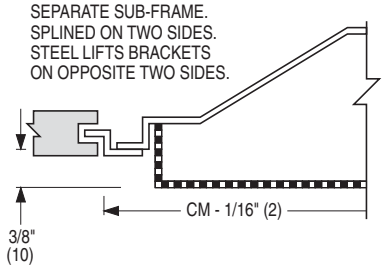
Type L Lay-in T-Bar or Tegular



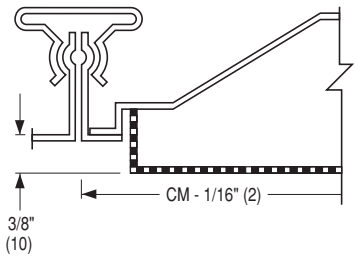
Type S Surface Mount



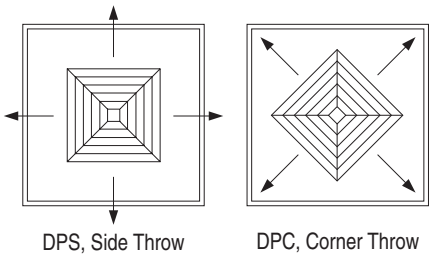
Type SP Spline



Type M Metal Pan (Snap-in)



Factory Set 4-Way Discharge Pattern:



Fineline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 4320S, 4320SA, 4320SAA, 4325S, 4325SA,4325SAA • 12 x 12 (300 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1200	1400
	Velocity Pressure	.006	.010	.016	.022	.031	.040	.050	.062	.090	.122
6" Dia.	Total Pressure	.020	.036	.056	.080	.109	.142	.180	.222	.320	.436
	Airflow, CFM	60	80	100	120	135	155	175	195	235	275
	Throw	1-1-3	1-2-4	1-2-5	2-3-7	2-4-8	3-4-9	3-5-10	3-5-11	4-7-12	5-8-13
	Noise Criteria	—	—	15	21	26	31	34	38	44	49
6 x 6	Total Pressure	.022	.039	.060	.087	.118	.154	.195	.241	.347	.472
	Airflow, CFM	75	100	125	150	175	200	225	250	300	350
	Throw	1-1-3	1-2-5	2-3-6	2-3-7	3-4-9	3-5-10	4-6-11	4-6-12	5-7-14	6-9-15
	Noise Criteria	—	—	17	23	28	32	36	40	46	51

Models 4320S, 4320SA, 4320SAA, 4325S, 4325SA,4325SAA • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1200	1400
	Velocity Pressure	.006	.010	.016	.022	.031	.040	.050	.062	.090	.122
6 x 6	Total Pressure	.018	.032	.050	.072	.098	.128	.163	.201	.289	.393
	Airflow, CFM	75	100	125	150	175	200	225	250	300	350
	Throw	1-1-3	1-2-5	2-3-6	2-3-7	3-4-9	3-5-10	4-6-11	4-6-12	5-7-14	6-9-15
	Noise Criteria	—	—	17	23	28	32	36	40	46	51
8 x 8	Total Pressure	.020	.036	.056	.081	.110	.144	.182	.224	.323	.440
	Airflow,CFM	135	180	220	265	310	355	400	445	535	620
	Throw	1-2-5	2-3-7	3-4-9	3-5-11	4-6-13	5-7-15	6-8-16	6-8-17	7-11-19	9-13-20
	Noise Criteria	—	—	19	25	30	35	39	42	48	53
10 x 10	Total Pressure	.023	.040	.063	.091	.123	.161	.204	.251	.362	.493
	Airflow, CFM	210	280	345	415	485	555	625	695	835	970
	Throw	2-4-8	3-5-11	4-6-13	5-8-16	6-9-18	7-11-19	8-12-20	9-14-22	11-16-24	13-18-26
	Noise Criteria	—	—	21	27	32	36	40	44	50	55
12 x 12	Total Pressure	.024	.043	.067	.097	.132	.172	.218	.269	.388	.528
	Airflow, CFM	300	400	500	600	700	800	900	1000	1200	1400
	Throw	3-5-11	4-7-14	6-9-18	7-11-21	8-12-23	9-14-24	11-16-26	12-18-27	14-21-30	17-23-32
	Noise Criteria	—	15	22	28	34	38	42	45	51	57

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

PERFORMANCE DATA:

Models 4320S, 4320SA, 4320SAA, 4325S, 4325SA,4325SAA • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1200	1400
	Velocity Pressure	.006	.010	.016	.022	.031	.040	.050	.062	.090	.122
6" Dia.	Total Pressure	.017	.031	.048	.069	.094	.123	.155	.192	.276	.376
	Airflow, CFM	60	80	100	120	135	155	175	195	235	275
	Throw	1-1-3	1-2-4	1-2-5	2-3-7	2-4-8	3-4-9	3-5-10	3-5-11	4-7-12	5-8-13
	Noise Criteria	—	—	15	21	26	31	35	38	44	49
8" Dia.	Total Pressure	.018	.032	.051	.073	.099	.129	.164	.202	.291	.396
	Airflow, CFM	105	140	175	210	245	280	315	350	420	490
	Throw	1-2-4	2-3-6	2-4-8	3-5-9	3-5-11	4-6-13	5-7-14	5-8-15	6-9-16	7-11-18
	Noise Criteria	—	—	18	24	29	34	38	41	47	52
10" Dia.	Total Pressure	.021	.038	.059	.085	.115	.151	.191	.235	.339	.461
	Airflow, CFM	165	220	275	325	380	435	490	545	655	765
	Throw	2-3-6	2-4-9	3-5-11	4-6-13	5-7-15	6-8-17	7-9-18	7-11-19	8-13-21	10-15-23
	Noise Criteria	—	—	21	26	31	35	40	43	49	54
12" Dia.	Total Pressure	.023	.042	.065	.094	.128	.167	.211	.260	.375	.510
	Airflow, CFM	235	315	395	470	550	630	705	785	940	1100
	Throw	3-4-9	4-6-12	5-7-14	6-9-18	7-10-20	8-12-21	9-14-22	10-15-23	12-18-26	14-20-28
	Noise Criteria	—	15	23	29	34	38	43	46	52	57
14" Dia.	Total Pressure	.024	.043	.068	.098	.133	.174	.220	.272	.391	.532
	Airflow, CFM	320	430	535	640	750	855	960	1070	1285	1495
	Throw	3-5-11	5-7-15	6-9-19	7-11-22	8-13-23	10-15-25	11-17-26	12-19-28	15-22-31	18-23-33
	Noise Criteria	—	17	25	31	36	40	45	48	54	59
15" Dia.	Total Pressure	.025	.045	.070	.101	.137	.179	.227	.280	.403	.549
	Airflow, CFM	370	490	615	735	860	980	1105	1225	1475	1720
	Throw	4-6-13	6-8-17	7-10-21	8-13-24	9-15-26	12-17-28	13-19-29	15-21-30	17-23-33	20-25-36
	Noise Criteria	—	18	26	32	37	41	46	49	55	61
16" Dia.	Total Pressure	.026	.046	.072	.104	.141	.184	.233	.288	.415	.565
	Airflow, CFM	420	560	700	840	975	1115	1255	1395	1675	1955
	Throw	4-7-14	6-9-19	8-12-23	9-14-25	11-17-28	13-19-29	15-21-31	16-23-33	19-25-36	22-28-39
	Noise Criteria	—	19	27	33	38	42	47	50	56	62

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

HOW TO ORDER

PERFORATED STAR PATTERN SUPPLY CEILING DIFFUSERS – MODEL SERIES 4320S

EXAMPLE: 4320S - RND - 08 - 24 x 24 - L - AW - DPS - –

1. **Models**
   - 4320S Steel, Flush Face
   - 4325S Steel, Drop Face
   - 4320SA Aluminum Face, Flush
   - 4325SA Aluminum Face, Drop
   - 4320SAA Aluminum Face and Backpan, Flush
   - 4325SAA Aluminum Face and Backpan, Drop
2. **Neck Type**
   - RND Round
   - SQR Square
3. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15, 16
   Square/Rectangular:
   6 x 6, 8 x 8, 10 x 10, 12 x 12
4. **Ceiling Module Size**
   Imperial (inches)
   12 x 12, 24 x 24 (default)
   Metric (mm)
   300 x 300, 600 x 600
5. **Frame Type**
   - L Lay-in T-Bar (default)
   - S Surface Mount
   - SP Spline
   - M Metal Pan (Snap-in)
   - F Fineline®
6. **Finish**
   - AW Appliance White (default)
   - AL Aluminum
   - BK Black
   - BW British White
   - MI Mill
   - PC Prime Coat Paint
   - BA AW Face/Black Backpan
   - SP Special Custom Color
7. **Discharge Pattern**
   - DPS Side Throw (default)
   - DPC Corner Throw
8. **Damper**
   - – None (default)

   Round Neck:
   - 4250 Radial Sliding, 6" - 14"
   - 4275 Radial Opposed Blade, 5" - 24"
   - 4675 Butterfly, 6" - 14"

   Square Neck:
   - OBD Opposed Blade, Steel
   - OBDA Opposed Blade, Aluminum (AA models only)
9. **External Insulation**
   - – None (default)
   - EX Foil-back (installed), R-4.2
   - EXB Foil-back (loose), R-4.2
   - MIB Molded Insulation Blanket, R-6.0
10. **Earthquake Tabs**
    - – None (default)
    - EQT Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

11. **Air Balancing Devices**
    (order separately)

    Round Neck:
    - EGR Equalizing Grid
    - DEGR Damper/Equalizing Grid

    Square/Rectangular Neck:
    - EGL Equalizing Grid (long)
    - EGS Equalizing Grid (short)
    - DEGL Damper/Equalizing Grid (long)
    - DEGS Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

2. Dampers are shipped loose for field installation.

3. EX and EXB maximum size 24" x 24" (600 x 600). MIB Molded Insulation Blanket available on 24" x 24" (600 x 600) round neck only.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Models 4320S, 4325S – Steel
Furnish and install **Nailor Model** (select one) **4320S Flush Face** or **4325S Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted directly under the neck of the diffuser shall be a 4-way stamped, factory set 'Star Pattern' controller that is easily rotated from side throw to corner throw in the field. The diffuser shall include individual vanes that can be field adjusted to produce a horizontal or vertical pattern or 3-way horizontal pattern by turning one segment of the blades in the opposite direction. The perforated face shall be removable, concealed latches allowing easy access to the interior for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320SA, 4325SA – Aluminum Face
Furnish and install **Nailor Model** (select one) **4320SA Flush Face** or **4325SA Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted directly under the neck of the diffuser shall be a 4-way stamped, factory set 'Star Pattern' controller that is easily rotated from side throw to corner throw in the field. The diffuser shall include individual vanes that can be field adjusted to produce a horizontal or vertical pattern or 3-way horizontal pattern by turning one segment of the blades in the opposite direction. The perforated face shall be removable, concealed latches allowing easy access to the interior for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

Models 4320SAA, 4325SAA – Aluminum
Furnish and install **Nailor Model** (select one) **4320SAA Flush Face** or **4325SAA Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a stamped aluminum backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted directly under the neck of the diffuser shall be a 4-way stamped, factory set 'Star Pattern' controller that is easily rotated from side throw to corner throw in the field. The diffuser shall include individual vanes that can be field adjusted to produce a horizontal or vertical pattern or 3-way horizontal pattern by turning one segment of the blades in the opposite direction. The perforated face shall be removable, concealed latches allowing easy access to the interior for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

PERFORATED CEILING DIFFUSERS

- SUPPLY
- PREMIUM ARCHITECTURAL QUALITY
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

Steel Face Model:

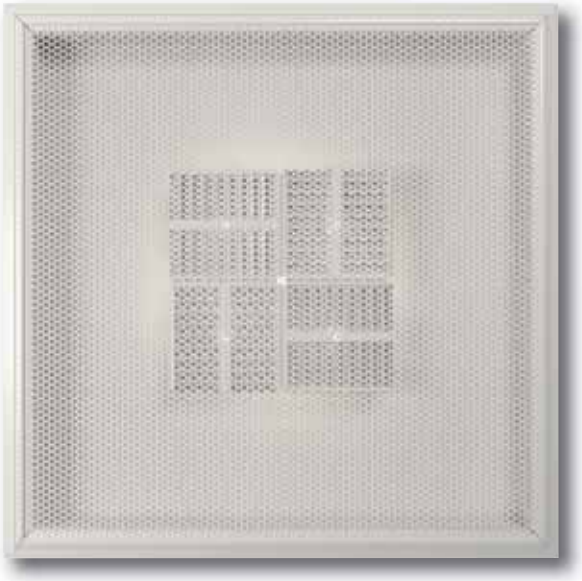
4330 Flush Face

Aluminum Face Model:

4330A Flush Face

Aluminum Model:

4330AA Flush Face



Model 4330

Model Series 4330 Perforated Ceiling Diffusers have been designed to provide both the unobtrusive, smooth appearance preferred by many architects and the high engineering performance required for use in heating and cooling applications. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

The 4330 Series features an extruded aluminum frame with hairline mitered corners that encapsulates the perforated face providing a narrow, visible border within the T-Bar module. Four individual stamped pattern controllers mounted on the rear of the diffuser face are easily field adjustable to suit the desired air pattern.

STANDARD FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can adjust to vertical or 1, 2, 3 or 4-way horizontal, before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face has 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (4330R Series) are available with the same face and frame construction as the supply models to match their appearance.

CONSTRUCTION MATERIAL:

Model 4330 has a corrosion-resistant steel perforated face and backpan. Model 4330A has an aluminum perforated face and corrosion-resistant steel backpan. Model 4330AA has an aluminum perforated face and backpan. All models have an extruded aluminum border and frame.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).

4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).

4675 Butterfly Damper 6" – 14" (152 – 356).

Square Neck:

OBD Opposed Blade Damper (Steel)

OBDA Opposed Blade Damper (Aluminum) (-AA models only)

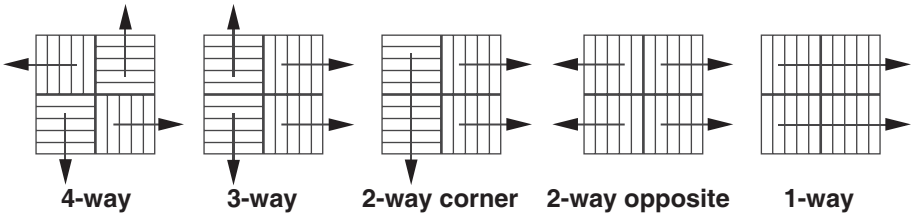
OTHER OPTIONS & ACCESSORIES:

EQT Earthquake Tabs

For additional options and accessories; see page D255.

Available Air Patterns

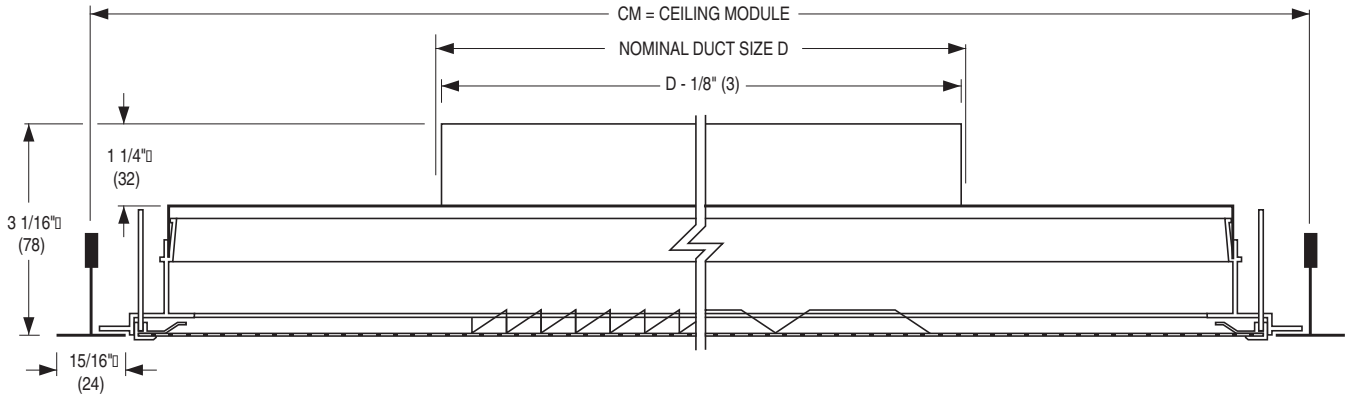
All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.



DIMENSIONAL DATA AND FRAME TYPES:

Models 4330, 4330A, 4330AA • Supply • Flush Face

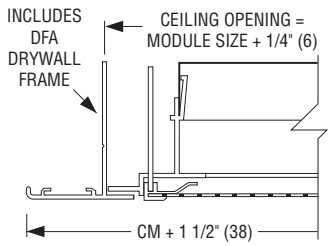
Type L Lay-in T-Bar



Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	5, 6, 7, 8	127, 152, 178, 203	6 x 6, 8 x 8	152 x 152, 203 x 203
24 x 12	600 x 300	5, 6, 7, 8	127, 152, 178, 203	6 x 6, 8 x 8, 18 x 6	152 x 152, 203 x 203, 457 x 152
16 x 16	400 x 400	5, 6, 7, 8, 10, 12	127, 152, 178, 203, 254, 305	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
20 x 20	500 x 500	5, 6, 7, 8, 10, 12, 14	127, 152, 178, 203, 254, 305, 356	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
24 x 24	600 x 600	5, 6, 7, 8, 10, 12, 14, 15, 16	127, 152, 178, 203, 254, 305, 356, 381, 406	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406
48 x 24	1200 x 600				

Type S Surface Mount



PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 12 x 12 (300 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090	.123
5" Dia.	Total Pressure		.011	.019	.030	.044	.059	.076	.120	.171	.234
	Flow Rate, CFM		40	55	70	80	95	110	135	165	190
	Throw	4-Way	1-2-4	2-2-5	2-3-6	2-4-7	3-5-7	3-6-8	5-6-9	6-7-10	6-7-10
		3-Way	1-2-4	2-3-6	2-3-7	2-4-8	3-5-9	4-6-10	5-7-10	6-8-12	6-9-13
		2-Way	1-2-5	2-3-6	2-4-8	3-5-10	4-6-10	4-7-12	6-8-13	7-10-14	7-10-15
		1-Way	2-3-6	2-4-8	3-5-9	4-6-10	5-7-11	6-8-13	6-9-13	8-10-14	9-10-15
	Noise Criteria		—	—	15	20	24	28	34	39	43
6" Dia.	Total Pressure		.015	.025	.040	.058	.078	.100	.158	.225	.308
	Flow Rate, CFM		60	80	100	120	140	160	195	235	275
	Throw	4-Way	1-2-4	2-3-5	3-3-7	3-4-8	3-5-8	3-6-9	5-7-10	6-8-10	7-8-11
		3-Way	1-2-4	2-3-6	3-3-8	3-4-9	3-5-10	4-6-10	5-8-11	6-9-13	7-10-14
		2-Way	1-2-5	2-3-7	3-4-9	3-5-10	4-6-11	4-7-12	6-9-14	7-10-15	8-11-17
		1-Way	2-3-6	3-4-9	3-5-11	4-6-11	5-8-12	6-9-13	7-10-15	9-10-16	10-12-17
	Noise Criteria		—	—	17	22	26	30	36	41	45
7" Dia.	Total Pressure		.016	.028	.040	.066	.092	.118	.187	.262	.36
	Flow Rate, CFM		80	105	135	160	190	215	270	320	375
	Throw	4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
		3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
		2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
		1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria		—	15	21	26	30	34	40	45	49
8" Dia.	Total Pressure		.019	.034	.053	.077	.104	.136	.213	.306	.417
	Flow Rate, CFM		105	140	175	210	245	280	350	420	490
	Throw	4-Way	1-3-6	2-4-8	4-4-10	4-6-11	4-7-12	5-8-12	6-10-13	8-11-14	9-12-16
		3-Way	1-3-6	2-4-8	4-5-11	4-6-13	5-7-13	5-9-14	7-11-16	9-13-18	10-13-19
		2-Way	1-3-7	2-5-10	4-6-12	4-7-14	5-8-15	6-10-17	8-12-19	10-14-21	12-16-22
		1-Way	3-4-9	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-19	13-14-21	13-16-22
	Noise Criteria		—	17	23	28	32	36	42	47	51
6" x 6"	Total Pressure		.018	.032	.051	.073	.099	.130	.200	.292	.395
	Flow Rate, CFM		75	100	125	150	175	200	250	300	350
	Throw	4-Way	1-2-5	2-3-6	3-4-8	3-5-9	4-6-9	4-7-10	6-8-11	7-9-12	8-9-13
		3-Way	1-2-5	2-4-7	3-4-9	3-5-10	4-6-11	5-7-12	6-9-13	7-10-15	8-11-16
		2-Way	1-2-6	2-4-8	3-5-10	4-6-12	5-7-13	5-8-14	7-10-16	8-12-17	9-13-19
		1-Way	2-4-7	3-5-10	4-6-11	5-7-12	6-9-13	7-10-14	8-11-16	10-12-17	11-13-19
	Noise Criteria		—	13	19	24	28	32	38	43	47

For performance notes, see page D211.

PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 24 x 12 (600 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090	.123
5" Dia.	Total Pressure		.010	.018	.028	.040	.054	.070	.110	.157	.215
	Flow Rate, CFM		40	55	70	80	95	110	135	165	190
	Throw	4-Way	1-2-4	2-2-5	2-3-6	2-4-7	3-5-7	3-6-8	5-6-9	6-7-10	6-7-10
		3-Way	1-2-4	2-3-6	2-3-7	2-4-8	3-5-9	4-6-10	5-7-10	6-8-12	6-9-13
		2-Way	1-2-5	2-3-6	2-4-8	3-5-10	4-6-10	4-7-12	6-8-13	7-10-14	7-10-15
		1-Way	2-3-6	2-4-8	3-5-9	4-6-10	5-7-11	6-8-13	6-9-13	8-10-14	9-10-15
	Noise Criteria		—	—	14	19	23	27	33	38	42
6" Dia.	Total Pressure		.013	.021	.034	.048	.065	.084	.132	.189	.258
	Flow Rate, CFM		60	80	100	120	140	160	195	235	275
	Throw	4-Way	1-2-4	2-3-5	3-3-7	3-4-8	3-5-8	3-6-9	5-7-10	6-8-10	7-8-11
		3-Way	1-2-4	2-3-6	3-3-8	3-4-9	3-5-10	4-6-10	5-8-11	6-9-13	7-10-14
		2-Way	1-2-5	2-3-7	3-4-9	3-5-10	4-6-11	4-7-12	6-9-14	7-10-15	8-11-17
		1-Way	2-3-6	3-4-9	3-5-11	4-6-11	5-8-12	6-9-13	7-10-15	9-10-16	10-12-17
	Noise Criteria		—	—	17	22	26	30	36	41	45
7" Dia.	Total Pressure		.015	.025	.039	.057	.076	.098	.155	.221	.302
	Flow Rate, CFM		80	105	135	160	190	215	270	320	375
	Throw	4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
		3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
		2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
		1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria		—	14	20	25	29	33	39	44	48
8" Dia.	Total Pressure		.014	.026	.04	.058	.079	.103	.16	.231	.314
	Flow Rate, CFM		105	140	175	210	245	280	350	420	490
	Throw	4-Way	1-3-6	2-4-8	4-4-10	4-6-11	4-7-12	5-8-12	6-10-13	8-11-14	9-12-16
		3-Way	1-3-6	2-4-8	4-5-11	4-6-13	5-7-13	5-9-14	7-11-16	9-13-18	10-13-19
		2-Way	1-3-7	2-5-10	4-6-12	4-7-14	5-8-15	6-10-17	8-12-19	10-14-21	12-16-22
		1-Way	3-4-9	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-19	13-14-21	13-16-22
	Noise Criteria		—	16	22	27	31	35	41	46	50
6" x 6"	Total Pressure		.017	.030	.048	.069	.094	.122	.189	.274	.374
	Flow Rate, CFM		75	100	125	150	175	200	250	300	350
	Throw	4-Way	1-2-5	2-3-6	3-4-8	3-5-9	4-6-9	4-7-10	6-8-11	7-9-12	8-9-13
		3-Way	1-2-5	2-4-7	3-4-9	3-5-10	4-6-11	5-7-12	6-9-13	7-10-15	8-11-16
		2-Way	1-2-6	2-4-8	3-5-10	4-6-12	5-7-13	5-8-14	7-10-16	8-12-17	9-13-19
		1-Way	2-4-7	3-5-10	4-6-11	5-7-12	6-9-13	7-10-14	8-11-16	10-12-17	11-13-19
	Noise Criteria		—	13	19	24	28	32	38	43	47
18" x 6"	Total Pressure		.041	.068	.109	.157	.211	.273	.430	.613	.84
	Flow Rate, CFM		225	300	375	450	525	600	750	900	1050
	Throw	4-Way	5-7-15	6-10-17	8-12-19	10-15-21	11-16-22	13-17-24	16-19-27	17-21-30	19-23-32
		3-Way	5-7-15	7-10-17	8-13-19	10-15-21	12-16-22	13-17-24	16-19-27	17-21-30	19-23-32
		2-Way	5-8-15	7-11-17	9-13-19	11-15-21	13-16-22	14-17-24	16-19-27	17-21-30	19-23-32
		1-Way	8-12-21	10-15-24	13-19-27	15-21-30	18-23-32	20-24-34	22-28-39	24-30-42	27-32-46
	Noise Criteria		17	25	31	36	40	44	50	55	59

For performance notes, see page D211.

PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 16 x 16 (400 x 400) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090	.123
5" Dia.	Total Pressure		.010	.018	.028	.040	.054	.070	.110	.157	.215
	Flow Rate, CFM		40	55	70	80	95	110	135	165	190
	Throw	4-Way	1-2-4	2-2-5	2-3-6	2-4-7	3-5-7	3-6-8	5-6-9	6-7-10	6-7-10
		3-Way	1-2-4	2-3-6	2-3-7	2-4-8	3-5-9	4-6-10	5-7-10	6-8-12	6-9-13
		2-Way	1-2-5	2-3-6	2-4-8	3-5-10	4-6-10	4-7-12	6-8-13	7-10-14	7-10-15
		1-Way	2-3-6	2-4-8	3-5-9	4-6-10	5-7-11	6-8-13	6-9-13	8-10-14	9-10-15
	Noise Criteria		—	—	14	19	23	27	33	38	42
6" Dia.	Total Pressure		.013	.021	.034	.048	.065	.084	.132	.189	.258
	Flow Rate, CFM		60	80	100	120	140	160	200	235	275
	Throw	4-Way	1-2-4	2-3-5	3-3-7	3-4-8	3-5-8	3-6-9	5-7-10	6-8-10	7-8-11
		3-Way	1-2-4	2-3-6	3-3-8	3-4-9	3-5-10	4-6-10	5-8-11	6-9-13	7-10-14
		2-Way	1-2-5	2-3-7	3-4-9	3-5-10	4-6-11	4-7-12	6-9-14	7-10-15	8-11-17
		1-Way	2-3-6	3-4-9	3-5-11	4-6-11	5-8-12	6-9-13	7-10-15	9-10-16	10-12-17
	Noise Criteria		—	—	17	22	26	30	36	41	45
7" Dia.	Total Pressure		.015	.025	.039	.057	.076	.098	.155	.221	.302
	Flow Rate, CFM		80	105	135	160	190	215	270	320	375
	Throw	4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
		3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
		2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
		1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria		—	14	20	25	29	33	39	44	48
8" Dia.	Total Pressure		.017	.028	.045	.065	.088	.113	.179	.255	.35
	Flow Rate, CFM		105	140	175	210	245	280	350	420	490
	Throw	4-Way	1-3-6	2-4-8	4-4-10	4-6-11	4-7-12	5-8-12	6-10-13	8-11-14	9-12-16
		3-Way	1-3-6	2-4-8	4-5-11	4-6-13	5-7-13	5-9-14	7-11-16	9-13-18	10-13-19
		2-Way	1-3-7	2-5-10	4-6-12	4-7-14	5-8-15	6-10-17	8-12-19	10-14-21	12-16-22
		1-Way	3-4-9	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-19	13-14-21	13-16-22
	Noise Criteria		—	16	22	27	31	35	41	46	50
10" Dia.	Total Pressure		.023	.039	.062	.089	.120	.154	.243	.348	.475
	Flow Rate, CFM		165	220	270	325	380	435	545	655	760
	Throw	4-Way	1-3-8	2-6-10	4-6-12	4-8-13	6-9-14	7-10-14	8-12-17	10-13-18	11-14-20
		3-Way	1-3-8	2-6-10	4-7-13	6-8-15	7-9-17	7-11-18	9-13-20	11-15-22	12-17-23
		2-Way	1-3-9	2-7-12	4-8-14	6-9-18	7-10-19	8-12-21	10-14-23	12-18-25	14-20-28
		1-Way	3-6-11	4-8-14	7-9-17	8-11-18	9-12-19	10-14-21	12-17-23	15-18-25	15-20-28
	Noise Criteria		11	19	25	30	34	38	44	49	53
6" x 6"	Total Pressure		.015	.025	.039	.057	.076	.098	.155	.221	.302
	Flow Rate, CFM		75	100	125	150	175	200	250	300	350
	Throw	4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
		3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
		2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
		1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria		—	14	20	25	29	33	39	44	48
8" x 8"	Total Pressure		.020	.034	.054	.078	.105	.135	.213	.304	.415
	Flow Rate, CFM		135	180	220	265	310	355	445	535	625
	Throw	4-Way	1-3-7	2-5-9	4-5-11	4-7-12	5-8-13	6-9-13	7-11-15	9-12-16	10-13-18
		3-Way	1-3-7	2-5-9	4-6-12	5-7-14	6-8-15	6-10-16	8-12-18	10-14-20	11-15-21
		2-Way	1-3-8	2-6-11	4-7-13	5-8-16	6-9-17	7-11-19	9-13-21	11-16-23	13-18-25
		1-Way	3-5-10	4-7-13	6-8-15	7-10-16	8-11-17	9-13-19	11-15-21	14-16-23	14-18-25
	Noise Criteria		9	17	23	28	32	36	42	47	51

For performance notes, see page D211.

PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 20 x 20 (500 x 500) Module Size

Nominal Neck Size	Neck Velocity, FPM	300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure	.006	.010	.016	.023	.031	.040	.063	.090	.123
5" Dia.	Total Pressure	.010	.018	.028	.040	.054	.070	.110	.157	.215
	Flow Rate, CFM	40	55	70	80	95	110	135	165	190
	Throw 4-Way	1-2-4	2-2-5	2-3-6	2-4-7	3-5-7	3-6-8	5-6-9	6-7-10	6-7-10
	Throw 3-Way	1-2-4	2-3-6	2-3-7	2-4-8	3-5-9	4-6-10	5-7-10	6-8-12	6-9-13
	Throw 2-Way	1-2-5	2-3-6	2-4-8	3-5-10	4-6-10	4-7-12	6-8-13	7-10-14	7-10-15
	Throw 1-Way	2-3-6	2-4-8	3-5-9	4-6-10	5-7-11	6-8-13	6-9-13	8-10-14	9-10-15
	Noise Criteria	—	—	14	19	23	27	33	38	42
6" Dia.	Total Pressure	.013	.021	.034	.048	.065	.084	.132	.189	.258
	Flow Rate, CFM	60	80	100	120	140	160	200	235	275
	Throw 4-Way	1-2-4	2-3-5	3-3-7	3-4-8	3-5-8	3-6-9	5-7-10	6-8-10	7-8-11
	Throw 3-Way	1-2-4	2-3-6	3-3-8	3-4-9	3-5-10	4-6-10	5-8-11	6-9-13	7-10-14
	Throw 2-Way	1-2-5	2-3-7	3-4-9	3-5-10	4-6-11	4-7-12	6-9-14	7-10-15	8-11-17
	Throw 1-Way	2-3-6	3-4-9	3-5-11	4-6-11	5-8-12	6-9-13	7-10-15	9-10-16	10-12-17
	Noise Criteria	—	—	17	22	26	30	36	41	45
7" Dia.	Total Pressure	.014	.023	.037	.053	.071	.092	.145	.207	.283
	Flow Rate, CFM	80	105	135	160	190	215	270	320	375
	Throw 4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
	Throw 3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
	Throw 2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
	Throw 1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria	—	13	19	24	28	32	38	43	47
8" Dia.	Total Pressure	.014	.024	.038	.055	.075	.096	.151	.216	.295
	Flow Rate, CFM	105	140	175	210	245	280	350	420	490
	Throw 4-Way	1-3-6	2-4-8	4-4-10	4-6-11	4-7-12	5-8-12	6-10-13	8-11-14	9-12-16
	Throw 3-Way	1-3-6	2-4-8	4-5-11	4-6-13	5-7-13	5-9-14	7-11-16	9-13-18	10-13-19
	Throw 2-Way	1-3-7	2-5-10	4-6-12	4-7-14	5-8-15	6-10-17	8-12-19	10-14-21	12-16-22
	Throw 1-Way	3-4-9	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-19	13-14-21	13-16-22
	Noise Criteria	—	16	22	27	31	35	41	46	50
10" Dia.	Total Pressure	.019	.031	.050	.071	.096	.124	.195	.279	.381
	Flow Rate, CFM	165	220	270	325	380	435	545	655	760
	Throw 4-Way	1-3-8	2-6-10	4-6-12	4-8-13	6-9-14	7-10-14	8-12-17	10-13-18	11-14-20
	Throw 3-Way	1-3-8	2-6-10	4-7-13	6-8-15	7-9-17	7-11-18	9-13-20	11-15-22	12-17-23
	Throw 2-Way	1-3-9	2-7-12	4-8-14	6-9-18	7-10-19	8-12-21	10-14-23	12-18-25	14-20-28
	Throw 1-Way	3-6-11	4-8-14	7-9-17	8-11-18	9-12-19	10-14-21	12-17-23	15-18-25	15-20-28
	Noise Criteria	11	19	25	30	34	38	44	49	53
12" Dia.	Total Pressure	.023	.038	.060	.087	.117	.150	.237	.338	.462
	Flow Rate, CFM	235	315	390	470	550	630	785	945	1100
	Throw 4-Way	2-4-8	3-5-12	5-7-14	5-8-16	6-9-17	7-12-18	9-14-20	12-16-21	14-17-23
	Throw 3-Way	2-4-10	3-6-13	5-7-16	6-9-18	7-11-20	8-13-21	11-16-23	13-18-27	15-20-28
	Throw 2-Way	2-4-11	3-7-15	5-8-18	7-11-20	8-13-23	9-15-25	12-18-28	15-21-31	17-23-33
	Throw 1-Way	3-6-14	5-8-18	7-11-20	8-13-21	11-16-23	12-18-25	15-20-28	18-21-31	19-23-33
	Noise Criteria	14	22	28	33	37	41	47	52	56
14" Dia.	Total Pressure	.029	.049	.079	.113	.152	.196	.309	.440	.603
	Flow Rate, CFM	320	425	530	635	740	850	1060	1270	1480
	Throw 4-Way	2-5-10	4-6-13	6-8-16	6-10-18	7-11-19	8-13-20	11-16-23	13-18-24	16-19-26
	Throw 3-Way	2-3-11	4-7-14	6-8-18	7-11-20	8-12-23	10-14-24	12-18-26	14-20-30	17-23-31
	Throw 2-Way	3-5-12	4-8-17	6-10-20	8-12-23	10-14-26	11-17-29	13-20-31	17-24-35	19-26-37
	Throw 1-Way	4-7-16	6-10-20	8-12-23	10-14-24	12-18-26	13-20-29	17-23-31	20-24-35	22-26-37
	Noise Criteria	19	27	33	38	42	46	52	57	61
6" x 6"	Total Pressure	.014	.023	.037	.053	.071	.092	.145	.207	.283
	Flow Rate, CFM	75	100	125	150	175	200	250	300	350
	Throw 4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
	Throw 3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
	Throw 2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
	Throw 1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria	—	13	19	24	28	32	38	43	47
8" x 8"	Total Pressure	.019	.031	.050	.071	.096	.124	.195	.279	.381
	Flow Rate, CFM	135	180	220	265	310	355	445	535	625
	Throw 4-Way	1-3-8	2-6-10	4-6-12	4-8-13	6-9-14	7-10-14	8-12-17	10-13-18	11-14-20
	Throw 3-Way	1-3-8	2-6-10	4-7-13	6-8-15	7-9-17	7-11-18	9-13-20	11-15-22	12-17-23
	Throw 2-Way	1-3-9	2-7-12	4-8-14	6-9-18	7-10-19	8-12-21	10-14-23	12-18-25	14-20-28
	Throw 1-Way	3-6-11	4-8-14	7-9-17	8-11-18	9-12-19	10-14-21	12-17-23	15-18-25	15-20-28
	Noise Criteria	11	19	25	30	34	38	44	49	53
10" x 10"	Total Pressure	.021	.035	.057	.082	.110	.142	.223	.318	.435
	Flow Rate, CFM	210	280	350	415	485	555	695	835	975
	Throw 4-Way	2-4-8	3-5-11	5-7-13	5-8-15	6-9-16	7-11-17	9-13-19	11-15-20	13-16-22
	Throw 3-Way	2-4-9	3-6-12	5-7-15	6-9-17	7-10-19	8-12-20	10-15-22	12-17-22	14-19-26
	Throw 2-Way	2-4-10	3-7-14	5-8-17	7-10-19	8-12-22	9-14-24	11-17-26	14-20-29	16-22-31
	Throw 1-Way	3-6-13	5-8-17	7-10-19	8-12-20	10-15-22	11-17-24	14-19-26	17-20-29	18-22-31
	Noise Criteria	13	21	27	32	36	40	46	51	55

For performance notes, see page D211.

PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200	1400
	VP		.006	.010	.016	.023	.031	.040	.063	.090	.123
6" Dia.	Total Pressure		.013	.021	.034	.048	.065	.084	.132	.189	.258
	Flow Rate, CFM		60	80	100	120	140	160	195	235	275
	Throw	4-Way	1-2-4	2-3-5	3-3-7	3-4-8	3-5-8	3-6-9	5-7-10	6-8-10	7-8-11
		3-Way	1-2-4	2-3-6	3-3-8	3-4-9	3-5-10	4-6-10	5-8-11	6-9-13	7-10-14
		2-Way	1-2-5	2-3-7	3-4-9	3-5-10	4-6-11	4-7-12	6-9-14	7-10-15	8-11-17
		1-Way	2-3-6	3-4-9	3-5-11	4-6-11	5-8-12	6-9-13	7-10-15	9-10-16	10-12-17
	Noise Criteria		—	—	17	22	26	30	36	41	45
8" Dia.	Total Pressure		.014	.024	.038	.055	.075	.096	.151	.216	.295
	Flow Rate, CFM		105	140	175	210	245	280	350	420	490
	Throw	4-Way	1-3-6	2-4-8	4-4-10	4-6-11	4-7-12	5-8-12	6-10-13	8-11-14	9-12-16
		3-Way	1-3-6	2-4-8	4-5-11	4-6-13	5-7-13	5-9-14	7-11-16	9-13-18	10-13-19
		2-Way	1-3-7	2-5-10	4-6-12	4-7-14	5-8-15	6-10-17	8-12-19	10-14-21	12-16-22
		1-Way	3-4-9	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-19	13-14-21	13-16-22
	Noise Criteria		—	16	22	27	31	35	41	46	50
10" Dia.	Total Pressure		.016	.027	.043	.062	.084	.109	.171	.244	.333
	Flow Rate, CFM		165	220	270	325	380	435	545	655	760
	Throw	4-Way	1-3-8	2-6-10	4-6-12	4-8-13	6-9-14	7-10-14	8-12-17	10-13-18	11-14-20
		3-Way	1-3-8	2-6-10	4-7-13	6-8-15	7-9-17	7-11-18	9-13-20	11-15-22	12-17-23
		2-Way	1-3-9	2-7-12	4-8-14	6-9-18	7-10-19	8-12-21	10-14-23	12-18-25	14-20-28
		1-Way	3-6-11	4-8-14	7-9-17	8-11-18	9-12-19	10-14-21	12-17-23	15-18-25	15-20-28
	Noise Criteria		11	19	25	30	34	38	44	49	53
12" Dia.	Total Pressure		.020	.033	.053	.076	.103	.132	.208	.298	.407
	Flow Rate, CFM		235	315	390	470	550	630	785	945	1100
	Throw	4-Way	2-4-8	3-5-12	5-7-14	5-8-16	6-9-17	7-12-18	9-14-20	12-16-21	14-17-23
		3-Way	2-4-10	3-6-13	5-7-16	6-9-18	7-11-20	8-13-21	11-16-23	13-18-27	15-20-28
		2-Way	2-4-11	3-7-15	5-8-18	7-11-20	8-13-23	9-15-25	12-18-28	15-21-31	17-23-33
		1-Way	3-6-14	5-8-18	7-11-20	8-13-21	11-16-23	12-18-25	15-20-28	18-21-31	19-23-33
	Noise Criteria		14	22	28	33	37	41	47	52	56
14" Dia.	Total Pressure		.023	.038	.061	.088	.119	.153	.241	.345	.47
	Flow Rate, CFM		320	425	530	635	740	850	1060	1270	1480
	Throw	4-Way	2-5-10	4-6-13	6-8-16	6-10-18	7-11-19	8-13-20	11-16-23	13-18-24	16-19-26
		3-Way	2-5-11	4-7-14	6-8-18	7-11-20	8-12-23	10-14-24	12-18-26	14-20-30	17-23-31
		2-Way	3-5-12	4-8-17	6-10-20	8-12-23	10-14-26	11-17-29	13-20-31	17-24-35	19-26-37
		1-Way	4-8-16	6-10-20	8-12-23	10-14-24	12-18-26	13-20-29	17-23-31	20-24-35	22-26-37
	Noise Criteria		16	24	30	35	39	43	49	54	58
16" Dia.	Total Pressure		.029	.048	.076	.110	.148	.191	.300	.430	.587
	Flow Rate, CFM		420	560	700	840	980	1120	1400	1680	1960
	Throw	4-Way	2-5-12	5-8-15	6-9-19	8-12-20	9-13-21	11-15-24	13-19-26	15-20-28	18-22-31
		3-Way	3-5-12	5-8-17	6-11-20	8-12-25	9-14-26	11-17-28	14-20-32	17-25-34	19-26-38
		2-Way	4-5-14	5-9-19	6-12-24	9-14-28	11-17-31	13-19-33	15-24-37	19-28-40	21-31-44
		1-Way	5-8-18	8-12-24	9-14-26	12-18-28	13-20-31	15-24-33	19-26-37	24-28-40	25-31-44
	Noise Criteria		19	27	33	38	42	46	52	57	61

For performance notes, see page D211.

PERFORMANCE DATA:

Models 4330, 4330A, 4330AA • Flush Face • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.063	.090	.123
6" x 6"	Total Pressure		.014	.023	.037	.053	.071	.092	.145	.207	.283
	Flow Rate, CFM		75	100	125	150	175	200	250	300	350
	Throw	4-Way	1-2-5	2-3-6	3-4-9	3-5-10	4-6-10	4-8-11	6-9-12	8-10-13	9-10-14
		3-Way	1-2-5	2-4-7	3-4-10	3-5-11	4-6-12	5-8-13	6-10-14	7-11-16	9-12-17
		2-Way	1-2-6	2-4-9	3-5-11	4-6-12	5-8-14	5-9-15	7-11-17	9-13-18	10-14-20
		1-Way	2-4-8	3-5-11	4-6-12	5-8-13	6-10-14	8-11-15	9-12-17	11-13-18	12-14-20
	Noise Criteria		—	13	19	24	28	32	38	43	47
8" x 8"	Total Pressure		.016	.027	.043	.062	.084	.109	.171	.244	.333
	Flow Rate, CFM		135	180	220	265	310	355	445	535	625
	Throw	4-Way	1-3-8	2-6-10	4-6-12	4-8-13	6-9-14	7-10-14	8-12-17	10-13-18	11-14-20
		3-Way	1-3-8	2-6-10	4-7-13	6-8-15	7-9-17	7-11-18	9-13-20	11-15-22	12-17-23
		2-Way	1-3-9	2-7-12	4-8-14	6-9-18	7-10-19	8-12-21	10-14-23	12-18-25	14-20-28
		1-Way	3-6-11	4-8-14	7-9-17	8-11-18	9-12-19	10-14-21	12-17-23	15-18-25	15-20-28
	Noise Criteria		11	19	25	30	34	38	44	49	53
10" x 10"	Total Pressure		.020	.033	.053	.076	.103	.132	.208	.298	.407
	Flow Rate, CFM		235	315	390	470	550	630	785	945	1100
	Throw	4-Way	2-4-8	3-5-11	5-7-13	5-8-15	6-9-16	7-11-17	9-13-19	11-15-20	13-16-22
		3-Way	2-4-9	3-6-12	5-7-15	6-9-17	7-10-19	8-12-20	10-15-22	12-17-22	14-19-26
		2-Way	2-4-10	3-7-14	5-8-17	7-10-19	8-12-22	9-14-24	11-17-26	14-20-29	16-22-31
		1-Way	3-6-13	5-8-17	7-10-19	8-12-20	10-15-22	11-17-24	14-19-26	17-20-29	18-22-31
	Noise Criteria		14	22	28	33	37	41	47	52	56
12" x 12"	Total Pressure		.021	.037	.058	.083	.115	.148	.230	.333	.450
	Flow Rate, CFM		300	400	500	600	700	800	1000	1200	1400
	Throw	4-Way	2-4-10	4-7-13	5-8-16	7-10-17	8-11-18	9-13-20	11-16-22	13-17-24	15-19-26
		3-Way	2-4-10	4-7-14	5-9-17	7-10-21	8-12-22	9-14-24	12-17-27	14-21-29	16-22-32
		2-Way	2-4-12	4-8-16	5-10-20	8-12-24	9-14-26	11-16-28	13-20-31	16-24-34	18-26-37
		1-Way	4-7-15	7-10-20	8-12-22	10-15-24	11-17-26	13-20-28	16-22-31	20-24-34	21-26-37
	Noise Criteria		16	24	30	35	39	43	49	54	58

Performance Notes:

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

2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

Listed throws for the 18" x 6" neck/24" x 12" module are for the long side of the diffuser. Throws for the narrow side are approximately x 0.6 listed values.

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

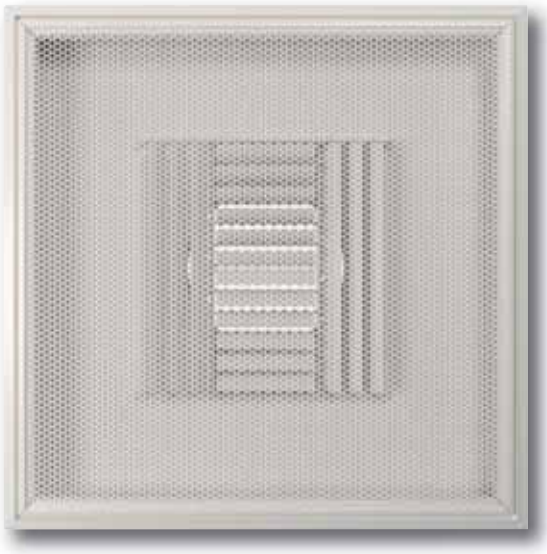
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

PERFORATED CURVED BLADE DIFFUSERS

- SUPPLY
- PREMIUM ARCHITECTURAL QUALITY
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)
- ROUND OR SQUARE NECK



Model 4330CB

Steel Face Model:

4330CB Flush Face

Aluminum Face Model:

4330CBA Flush Face

Aluminum Model:

4330CBAA Flush Face

Model Series 4330CB Curved Blade Diffusers provide the unobtrusive, smooth appearance preferred by many architects with superior features and performance characteristics. Designed to maximize throw, this model features individually adjustable, friction pivoted curved blade deflectors mounted directly under the neck. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

Model 4330CB Diffuser features an extruded aluminum frame with hairline mitered corners that encapsulates the perforated face providing a narrow, visible border within the T-Bar module. The deflector blades can be adjusted to control both the angle of discharge and hence throw from full horizontal to vertical in each direction and also damper the air volume. By closing off the deflectors in one or more directions, directional control can also be achieved. The 4330CB is supplied with a 4-way adjustable discharge pattern as standard but is also available with a factory supplied 1, 2 or 3-way adjustable discharge pattern controller.

STANDARD FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted from horizontal to vertical before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and moving the curved blade deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area.
- Dropping the perforated face gives access to the optional damper.
- Return models (4330R Series) are available with the same face and frame construction as the supply models to match their appearance.

CONSTRUCTION MATERIAL:

Model 4330CB has a corrosion-resistant steel perforated face and backpan. Model 4330CBA has an aluminum perforated face and corrosion-resistant steel backpan. Model 4330CBAA has an aluminum perforated face and backpan. All models have an aluminum border and frame.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

OPTIONS & ACCESSORIES:

Round Neck:

4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).

4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).

4675 Butterfly Damper 6" – 14" (152 – 356).

Square Neck:

OBD Opposed Blade Damper (Steel)

OBDA Opposed Blade Damper (Aluminum) (-AA models only)

OTHER OPTIONS & ACCESSORIES:

EQT Earthquake Tabs

For additional options and accessories; see page D255.

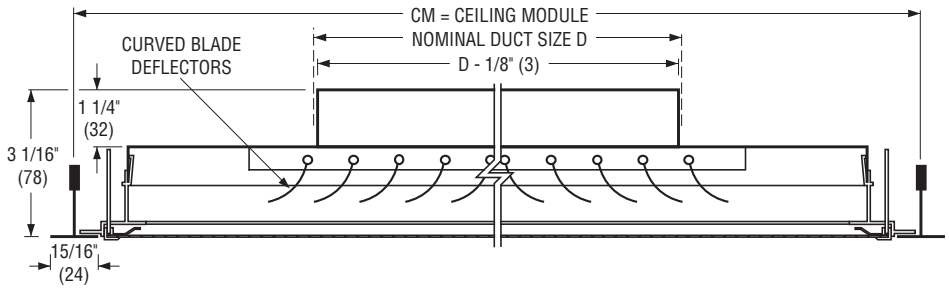
Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
		Round Neck		Square Neck	
Imperial Modules	Metric Modules	Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6, 8	152, 203	6 x 6, 8 x 8	152 x 152, 203 x 203
24 x 12	600 x 300	6, 8	152, 203	6 x 6, 8 x 8, 18 x 6	152 x 152, 203 x 203, 457 x 152
16 x 16	400 x 400	6, 8, 10, 12	152, 203, 254, 305	6 x 6, 8 x 8, 10 x 10, 12 x 12	152 x 152, 203 x 203, 254 x 254, 305 x 305
20 x 20	500 x 500	6, 8, 10, 12, 14	152, 203, 254, 305, 356	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14	152 x 152, 203 x 203, 254 x 254, 305 x 305, 381 x 381
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16, 18	152, 203, 254, 305, 356, 381, 406, 457	6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457
48 x 24	1200 x 600				

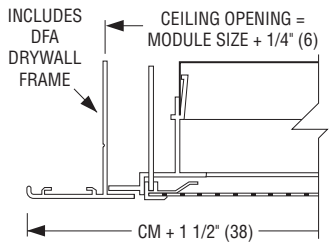
DIMENSIONAL DATA AND FRAME TYPES:

Models 4330CB, 4330CBA, 4330CBAA • Supply • Flush Face

Type L Lay-in T-Bar



Type S Surface Mount



Model Series 4330CB • Adjusting Pattern Controllers

Removing Perforated Face

The **4330 Series** is supplied with a removable face plate that is retained in place with quick-release spring latches, located on the edge of the perforated face border.

1. Carefully insert a small screwdriver or similar object through a perforated hole in the edge of the face plate and pull the diffuser face down slightly. Grasp the face plate by hand and pull down to the extent of the spring latches on all sides.
2. The face plate will now hang by the extended spring latches. Compress the spring latches by hand and remove from the backpan.
3. When the latches are removed from three sides, the face will hinge down from the remaining latches for access to the pattern deflectors. The face can be completely removed by depressing the remaining latches.
4. To close; lift perforated face, depress the spring latches and snap in place.

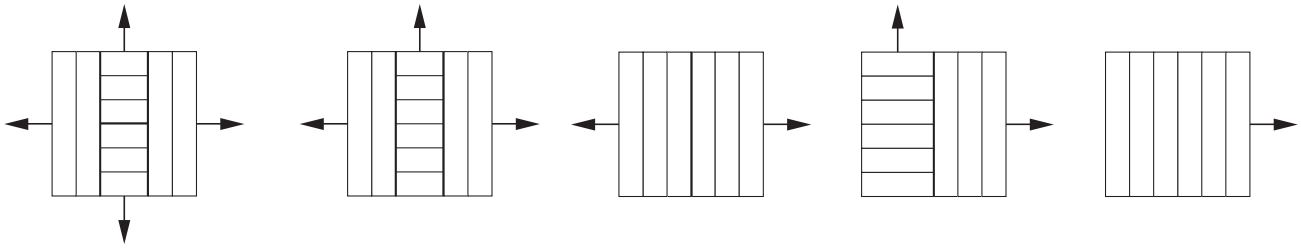
The pattern controller in the neck of the diffuser features individually adjustable deflector blades which may be used to vary the discharge pattern from full horizontal to vertical. Each blade is friction pivoted using a tension wire which securely holds its position after adjustment.

Round or Square Neck • 4-way Pattern

Pattern Controller Options

Standard Model Configuration

Optional Model Configurations



B4, 4-way | **B3, 3-way** | **B2, 2-way opposite** | **C2, 2-way corner** | **B1, 1-way**

The **4330CB Series** is supplied with this style of pattern controller unless specified otherwise.

PERFORMANCE DATA:

Models 4330CB, 4330CBA, 4330CBAA • 12 x 12 (300 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.030	.052	.082	.118	.162	.211	.267
6" Dia.	Flow Rate, CFM		60	80	95	115	135	155	175
	Throw	4-Way	1-2-4	2-3-6	2-4-7	3-5-7	3-5-8	4-6-9	5-6-9
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	2-4-8	3-5-11	4-6-13	5-8-15	6-9-16	7-11-18	8-12-20
		1-Way	3-4-9	4-6-12	5-8-16	6-9-18	7-11-20	8-12-22	9-14-23
	Noise Criteria		16	22	27	32	37	41	44
8" Dia.	Flow Rate, CFM		105	140	175	210	245	280	315
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25
	Noise Criteria		17	23	29	35	39	43	46
6 x 6	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26
	Noise Criteria		16	22	27	32	36	40	43
8 x 8	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28
	Noise Criteria		17	23	30	36	40	44	47

Models 4330CB, 4330CBA, 4330CBAA • 24 x 12 (600 x 300) Module Size

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.030	.052	.082	.118	.162	.211	.267
6" Dia.	Flow Rate, CFM		60	80	95	115	135	155	175
	Throw	4-Way	1-2-4	2-3-6	2-4-7	3-5-7	3-5-8	4-6-9	5-6-9
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	2-4-8	3-5-11	4-6-13	5-8-15	6-9-16	7-11-18	8-12-20
		1-Way	3-4-9	4-6-12	5-8-16	6-9-18	7-11-20	8-12-22	9-14-23
	Noise Criteria		16	22	27	32	37	41	44
8" Dia.	Flow Rate, CFM		105	140	175	210	245	280	315
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25
	Noise Criteria		17	23	29	35	39	43	46
6 x 6	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26
	Noise Criteria		16	22	27	32	36	40	43
8 x 8	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28
	Noise Criteria		17	23	30	36	40	44	47

For performance notes, see page D216.

PERFORMANCE DATA:

Models 4330CB, 4330CBA, 4330CBAA • 24 x 24 (600 x 600) Module Size • Round Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.030	.052	.082	.118	.162	.211	.267
6" Dia.	Flow Rate, CFM		60	80	95	115	135	155	175
	Throw	4-Way	1-2-4	2-3-6	2-3-7	3-4-7	3-5-8	4-6-9	4-6-9
		3-Way	1-2-5	2-3-7	2-4-8	3-5-9	4-6-9	4-7-10	5-7-11
		2-Way	2-3-7	3-4-9	4-6-11	4-7-12	5-8-13	6-9-14	7-11-15
		1-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-9-16	7-11-17	8-12-18
	Noise Criteria		—	19	25	30	34	38	41
8" Dia.	Flow Rate, CFM		105	140	175	210	245	280	315
	Throw	4-Way	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	4-8-12	5-9-12
		3-Way	2-3-7	3-4-9	3-5-11	4-7-12	5-8-13	6-9-14	7-10-14
		2-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-21
		1-Way	3-5-11	5-7-15	6-9-18	7-11-21	8-13-22	10-15-24	11-17-25
	Noise Criteria		14	22	28	33	37	41	44
10" Dia.	Flow Rate, CFM		165	215	270	325	380	435	490
	Throw	4-Way	2-3-7	3-5-10	4-6-12	5-7-13	5-8-14	6-10-15	7-11-16
		3-Way	2-4-8	3-5-11	4-7-13	5-8-15	6-10-16	7-11-17	8-13-18
		2-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-27
		1-Way	4-7-14	6-9-18	7-11-23	9-14-26	11-16-28	12-18-29	14-22-31
	Noise Criteria		16	24	30	35	39	43	46
12" Dia.	Flow Rate, CFM		235	315	390	470	550	625	705
	Throw	4-Way	3-4-9	4-6-12	5-7-14	6-9-15	7-10-17	8-12-18	9-13-20
		3-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-20	9-14-22	10-15-23
		2-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32
		1-Way	5-8-17	7-11-23	9-14-28	11-17-31	13-20-33	15-23-35	17-26-37
	Noise Criteria		18	26	32	37	41	45	48
14" Dia.	Flow Rate, CFM		320	425	535	640	750	855	960
	Throw	4-Way	3-5-10	4-7-14	5-8-16	7-10-18	8-12-21	9-14-22	10-16-23
		3-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-24	10-16-25	12-18-27
		2-Way	5-8-17	7-11-24	9-14-28	11-17-30	13-21-33	15-24-35	17-26-37
		1-Way	6-9-20	8-13-27	11-16-33	13-20-36	15-24-38	17-27-41	20-30-43
	Noise Criteria		21	29	35	39	44	48	51
15" Dia.	Flow Rate, CFM		370	490	615	740	860	985	1100
	Throw	4-Way	3-6-10	4-2-14	5-8-17	8-10-19	8-13-21	10-14-23	10-16-24
		3-Way	4-6-12	6-8-17	6-11-21	8-13-22	10-14-25	11-16-26	13-18-28
		2-Way	4-8-17	7-12-25	9-15-30	11-18-31	13-22-34	16-25-35	17-27-38
		1-Way	6-9-20	8-14-28	12-17-34	14-21-37	16-24-39	18-27-42	17-31-43
	Noise Criteria		22	30	36	40	45	49	52
16" Dia.	Flow Rate, CFM		420	560	700	835	975	1115	1255
	Throw	4-Way	4-6-12	5-8-16	6-10-20	8-12-22	9-14-23	10-16-25	12-18-26
		3-Way	4-7-14	6-9-18	7-11-23	9-14-25	10-16-27	12-18-29	14-22-30
		2-Way	6-9-20	8-13-27	10-16-32	13-20-35	15-24-37	17-27-40	20-30-42
		1-Way	7-11-23	10-15-31	12-18-37	15-23-41	17-27-44	21-31-47	23-35-50
	Noise Criteria		23	31	37	41	46	50	53
18" Dia.	Flow Rate, CFM		530	705	885	1060	1235	1415	1590
	Throw	4-Way	4-7-14	5-9-18	7-10-20	9-13-24	10-16-26	10-19-28	13-21-29
		3-Way	4-7-17	6-10-21	8-12-24	10-15-28	11-20-30	13-22-32	17-24-34
		2-Way	7-10-23	10-14-29	11-17-34	15-22-36	18-28-43	20-30-44	24-34-50
		1-Way	8-12-26	11-17-33	14-21-40	18-25-45	21-32-50	23-38-53	29-40-56
	Noise Criteria		25	33	39	43	48	52	55

For performance notes, see page D216.

PERFORMANCE DATA:

Models 4330CB, 4330CBA, 4330CBAA • 24 x 24 (600 x 600) Module Size • Square Neck

Nominal Neck Size	Neck Velocity, FPM		300	400	500	600	700	800	900
	Velocity Pressure		.006	.010	.016	.023	.031	.040	.051
	Total Pressure		.028	.050	.079	.113	.155	.202	.256
6 x 6	Flow Rate, CFM		75	100	125	150	175	200	225
	Throw	4-Way	1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-10	5-7-11
		3-Way	2-3-6	2-4-8	3-5-11	4-6-12	5-7-13	5-8-14	6-10-15
		2-Way	3-4-9	4-6-12	5-7-15	6-9-17	7-10-20	8-12-21	9-14-22
		1-Way	3-5-10	4-7-14	6-9-18	7-10-21	8-12-23	9-14-24	10-16-26
	Noise Criteria		—	20	26	31	35	39	42
8 x 8	Flow Rate, CFM		135	175	220	265	310	355	400
	Throw	4-Way	2-3-6	3-4-9	3-5-10	4-6-11	5-8-12	6-9-13	6-10-14
		3-Way	2-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	7-11-16
		2-Way	3-5-11	4-7-14	6-9-17	7-11-20	8-13-21	9-14-23	11-16-24
		1-Way	4-6-12	5-8-17	7-10-21	8-12-23	9-14-25	11-17-27	12-20-28
	Noise Criteria		15	23	29	34	38	42	45
10 x 10	Flow Rate, CFM		210	275	345	415	485	555	625
	Throw	4-Way	2-4-8	3-5-11	4-7-13	5-8-14	6-10-16	7-11-17	8-12-18
		3-Way	3-4-9	4-6-13	5-8-15	6-9-17	7-11-18	8-13-20	9-14-22
		2-Way	4-6-13	6-9-18	7-11-22	9-13-25	10-16-26	12-18-28	13-21-30
		1-Way	5-8-16	7-10-22	8-13-26	10-16-29	12-18-31	14-22-33	16-25-35
	Noise Criteria		17	25	31	36	40	44	47
12 x 12	Flow Rate, CFM		300	400	500	600	700	800	900
	Throw	4-Way	3-5-10	4-6-13	5-8-16	6-10-17	8-12-20	9-13-21	10-15-22
		3-Way	3-5-11	5-7-15	6-9-18	7-11-21	9-13-23	10-15-24	11-17-26
		2-Way	5-8-16	7-11-23	9-13-27	11-16-29	13-20-32	14-23-34	16-25-36
		1-Way	6-9-20	8-12-26	10-16-31	12-20-34	14-23-37	17-26-40	22-31-44
	Noise Criteria		19	25	33	38	42	46	49
14 x 14	Flow Rate, CFM		410	545	680	815	955	1090	1360
	Throw	4-Way	1-1-6	1-3-8	2-4-11	3-6-13	4-7-15	5-8-17	7-11-22
		3-Way	1-3-10	2-6-14	4-9-18	6-10-21	8-12-26	9-14-29	11-18-32
		2-Way	2-5-14	4-9-19	7-12-24	9-14-30	11-17-35	13-19-40	16-24-47
		1-Way	3-8-17	6-11-23	9-14-30	11-17-36	13-20-42	15-23-48	19-30-54
	Noise Criteria		22	30	36	40	45	49	52
15 x 15	Flow Rate, CFM		470	625	780	935	1095	1250	1405
	Throw	4-Way	4-6-12	5-8-17	7-10-21	8-12-23	10-15-25	11-17-26	12-20-28
		3-Way	4-7-14	6-9-20	8-12-24	9-14-26	11-17-28	13-20-30	14-23-32
		2-Way	6-10-21	9-13-28	11-17-33	13-21-37	16-25-40	18-28-42	21-32-45
		1-Way	8-12-25	10-16-33	13-21-39	16-25-43	18-29-46	22-33-49	25-37-53
	Noise Criteria		23	31	37	41	46	50	53
16 x 16	Flow Rate, CFM		530	710	890	1065	1245	1420	1600
	Throw	4-Way	4-7-14	5-9-18	7-10-20	9-13-24	10-16-26	10-19-28	13-21-29
		3-Way	4-7-17	6-10-21	8-12-24	10-15-28	11-20-30	13-22-32	17-24-34
		2-Way	7-10-23	10-14-29	11-17-34	15-22-36	18-28-43	20-30-44	24-34-50
		1-Way	8-12-26	11-17-33	14-21-40	18-25-45	21-32-50	23-38-53	29-40-56
	Noise Criteria		24	32	38	42	47	51	54
18 x 18	Flow Rate, CFM		675	900	1125	1350	1575	1800	2025
	Throw	4-Way	5-7-15	6-10-21	8-12-25	10-15-27	12-18-30	13-21-32	15-24-33
		3-Way	5-8-17	7-11-24	9-14-29	11-17-32	13-22-34	15-24-36	17-27-39
		2-Way	8-12-26	11-16-34	13-21-40	16-26-44	20-30-47	23-34-50	26-38-54
		1-Way	9-14-29	12-20-39	16-25-47	20-29-52	23-34-56	26-39-60	29-44-64
	Noise Criteria		26	34	40	44	49	53	56

Performance Notes:

1. All pressures are in inches w.g..
2. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 20.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

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.

HOW TO ORDER

PERFORATED PREMIUM CEILING DIFFUSERS – ARCHITECTURAL QUALITY – MODEL SERIES 4330 AND 4330CB

EXAMPLE: 4330 - RND - 08 - 24 x 24 - L - AW - –

1. **Models**

Supply:

Face Mounted Deflectors

4330	Steel Face
4330A	Aluminum Face
4330AA	Aluminum Face and Backpan

Curved Blade Pattern Controllers

4330CB	Steel Face
4330CBA	Aluminum Face
4330CBAA	Aluminum Face and Backpan

Return:

4330R	Steel Face
4330RA	Aluminum Face

2. **Neck Type**

RND	Round
SQR	Square/Rectangular

3. **Neck Size** (inches)

Round:

05, 06, 07, 08, 10, 12, 14, 15, 16, 18 (CB and R only)

Square or Rectangular:

6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 6
18 x 18 (CB and R only)
20 x 20, 22 x 22, 46 x 22 (R only)

4. **Ceiling Module Size**

Imperial (inches)

12 x 12, 16 x 16, 20 x 20, 24 x 12, 24 x 24 (default), 48 x 24

Metric (mm)

300 x 300, 400 x 400, 500 x 500, 600 x 300, 600 x 600, 1200 x 600

5. **Frame Type**

L	Lay-in T-Bar (default)
S	Surface Mount

6. **Finish**

AW	Appliance White (default)
AL	Aluminum
BK	Black
BW	British White
MI	Mill
PC	Prime Coat Paint
BA	AW Face/Black Backpan
SP	Special Custom Color

7. **Blow Pattern**

(CB only)

B4	4-way (default)
B1	1-way
B2	2-way opposite
B3	3-way
C2	2-way corner

OPTIONS & ACCESSORIES:

8. **Damper**

–	None (default)

Round Neck:

4250 Radial Sliding, 6" - 14"
4275 Radial Opposed Blade, 5" - 24"
4675 Butterfly, 6" - 14"

Square Neck:

OBD	Opposed Blade, Steel
OBDA	Opposed Blade, Aluminum (AA models only)

9. **Earthquake Tabs**

–	None (default)
EQT	Earthquake Tabs

OTHER OPTIONS & ACCESSORIES:

Air Balancing Devices

(order separately)

Round Neck:

EGR	Equalizing Grid
DEGR	Damper/Equalizing Grid

Square/Rectangular Neck:

EGL	Equalizing Grid (long)
EGS	Equalizing Grid (short)
DEGL	Damper/Equalizing Grid (long)
DEGS	Damper/Equalizing Grid (short)

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

2. Dampers are shipped loose for field installation.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330** (corrosion-resistant steel face/backpan) or **4330A** (aluminum face/steel backpan) or **4330AA** (aluminum face and backpan) **Premium Architectural Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 4330 shall have a corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame that encapsulates the perforated face. Model 4330A shall have an aluminum perforated face and corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame. Model 4330AA shall have an aluminum perforated face and backpan with a round or square neck as specified, and an extruded aluminum border/frame. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field rotated to provide throws in 1, 2, 3 or 4-way patterns. The face shall be removable and include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330CB** (corrosion-resistant steel face/backpan) or **4330CBA** (aluminum face/steel backpan) or **4330CBAA** (aluminum face and backpan) **Premium Architectural Perforated Curved Blade Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 4330CB shall have a corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame that encapsulates the perforated face. Model 4330CBA shall have an aluminum perforated face and corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame. Model 4330CBAA shall have an aluminum perforated face and backpan with a round or square neck as specified, and an extruded aluminum border/frame. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2, or 1-way (select one) pattern to be supplied. The face shall be removable and include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330R** (corrosion-resistant steel face) or **4330RA** (aluminum face) **Premium Architectural Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame that encapsulates the perforated face. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable and include spring latches allowing easy access for cleaning. The finish shall be AW Appliance White (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.

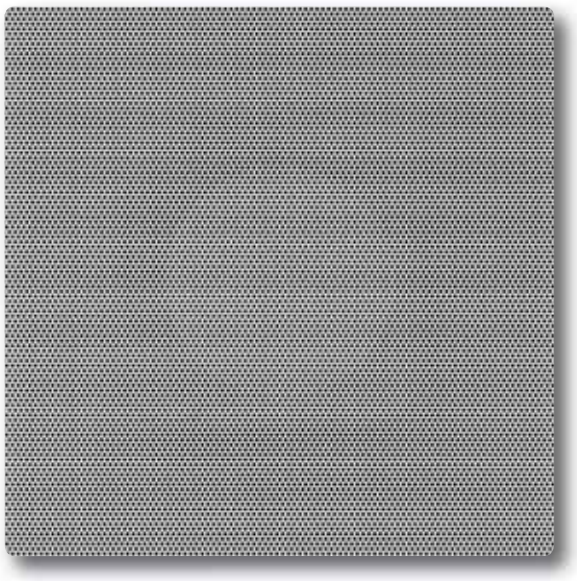
ALL ALUMINUM PERFORATED CEILING DIFFUSERS

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

Models:

4310A Supply

4310AR Return



Model 4310A

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.

Model 4310A 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.

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

STANDARD 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.

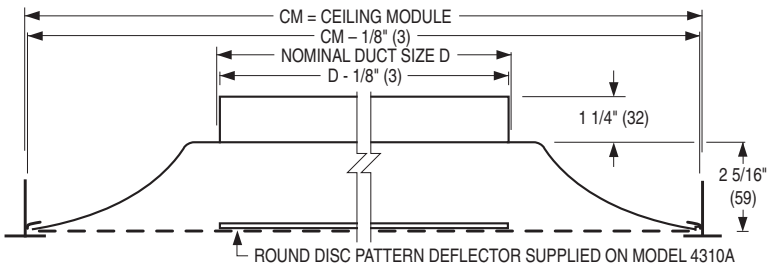
CONSTRUCTION MATERIAL:

100% all aluminum construction.

FINISH OPTIONS:

AW Appliance White finish is standard. Other finishes are available.

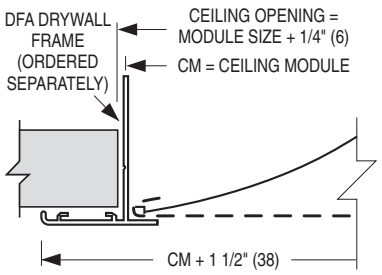
Type L Lay-in T-Bar



Available Combinations of Ceiling Module vs. Neck Size

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

Type L Surface Mount w/DFA



PERFORMANCE DATA:

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

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
	Noise Criteria	—	—	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
	Noise Criteria	—	—	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
	Noise Criteria	—	—	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
	Noise Criteria	—	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
	Noise Criteria	—	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
	Noise Criteria	—	17	23	29	34	37	41	45	51	55

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. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 15.

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

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.

HOW TO SPECIFY OR TO ORDER

PERFORATED ALL ALUMINUM CEILING DIFFUSERS, MRI – MODEL SERIES 4310A

EXAMPLE: 4310A - 08 - 24 x 24 - L - AW

1. **Models**
   Supply:
   4310A
   Return:
   4310AR
2. **Neck Size** (inches)
   Round:
   06, 08, 10, 12, 14, 15
3. **Ceiling Module Size**
   Imperial (inches)
   24 x 24 (default)
   Metric (mm)
   600 x 600
4. **Frame Type**
   L Lay-in T-Bar (default)
5. **Finish**
   - AW Appliance White (default)
   - AL Aluminum
   - BK Black
   - BW British White
   - MI Mill
   - PC Prime Coat Paint
   - BA AW Face/Black Backpan
   - SP Special Custom Color

Notes:

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

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 (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.

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 (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.

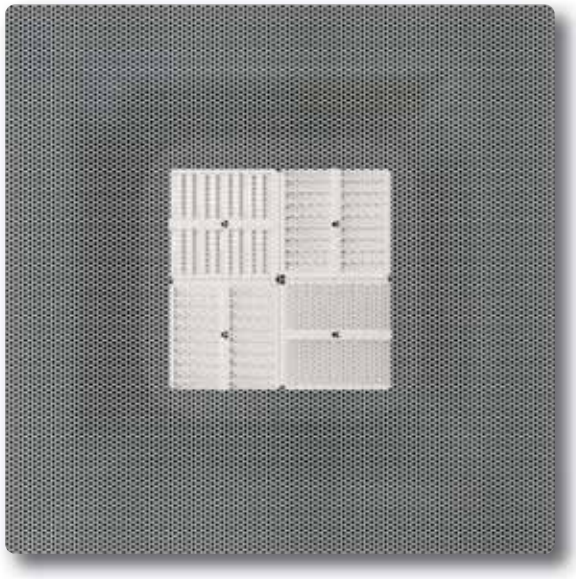
PERFORATED RETURN AIR DIFFUSERS

- FIBERGLASS PLENUM
- PRE-SCORED PLENUM
- 4-WAY DISCHARGE PATTERN
- SUPPLY AND RETURN

Models:

4350 **Supply**

4350R **Return**



Model 4350

Models 4350 and 4350R Perforated Ceiling Diffusers feature a corrosion-resistant steel diffuser face with a one-piece molded fiberglass backpan with foil-back vapor barrier 6.0 R-value. The vapor barrier created by the fiberglass backpan makes an excellent choice for ducted return air systems and high humidity environments. Available in supply (Model 4350) or return (Model 4350R), the diffusers feature a smoothly contoured backpan, wrap-around fixed perforated face and four stamped pattern controllers mounted on the back of the perforated face, providing excellent performance in VAV systems. The pre-scored plenum identifies round duct sizes to be cut in the field (by others) and will accommodate spin-in or tab-lock inlet collars. The diffusers are available for use with Lay-in T-Bar or hard ceiling applications.

STANDARD FEATURES:

- Pre-scored plenum for 6", 8", 10", 12", 14" or 15" (152, 203, 254, 305, 356 or 381) round spin-in or tab-lock inlet collars (by others).
- Four stamped pattern controllers mounted on the back of the perforated face, providing 4-way discharge pattern.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Center access hole with plug for screwdriver adjustment.

CONSTRUCTION MATERIAL:

Corrosion-resistant steel diffuser face with one-piece molded fiberglass backpan with foil-back vapor barrier 6.0 R-value.

FINISH OPTIONS:

BA - AW Appliance White face and Black interior.

OPTIONS & ACCESSORIES:

(order separately)

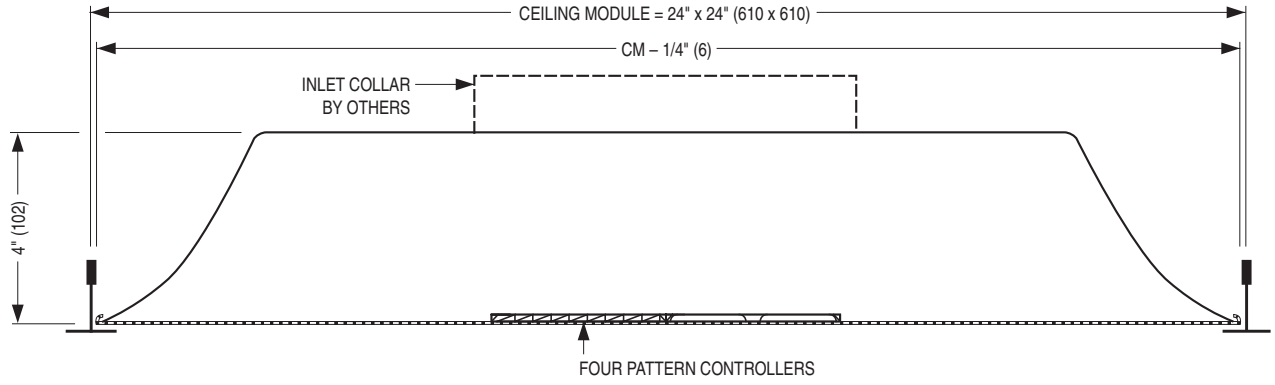
4250	Radial Sliding Blade Damper 6" – 14" (152 – 356).
4275	Radial Opposed Blade Damper 5" – 24" (127 – 610).
4675	Butterfly Damper 6" – 14" (152 – 356).
EGR	Equalizing Grid
DEGR	Damper/Equalizing Grid

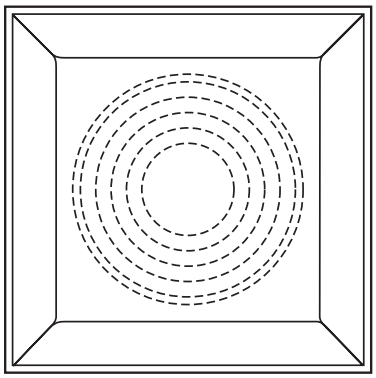
For additional options and accessories; see page D255.

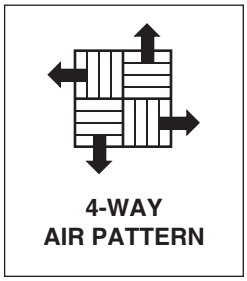
DIMENSIONAL DATA AND FRAME TYPES:

Model 4350 • Supply

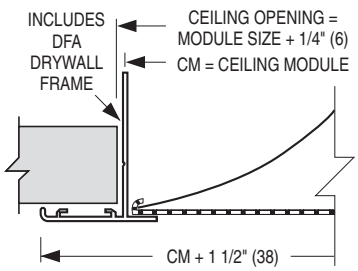
Type L Lay-in T-Bar





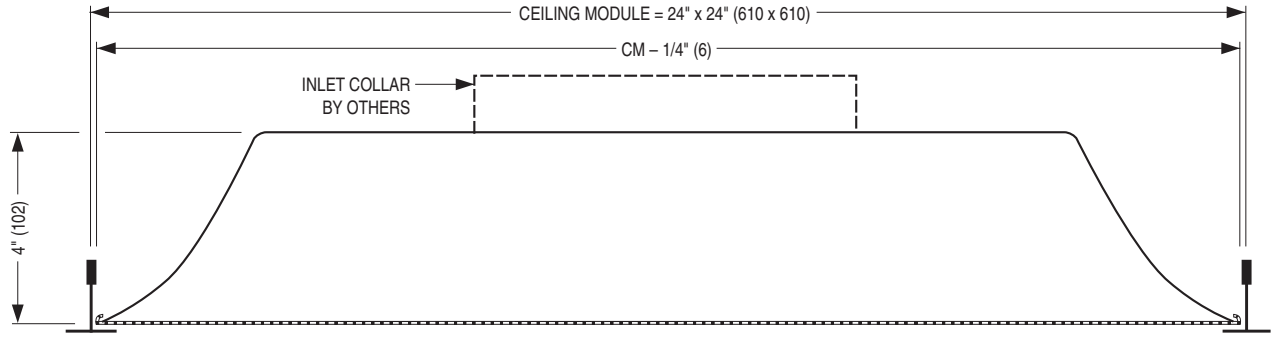


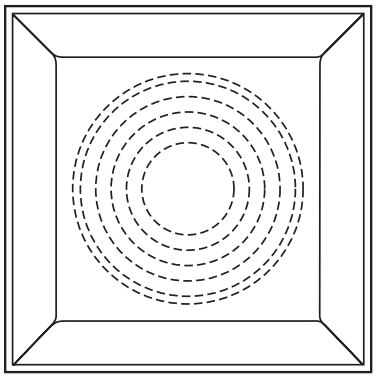
Type S Surface Mount



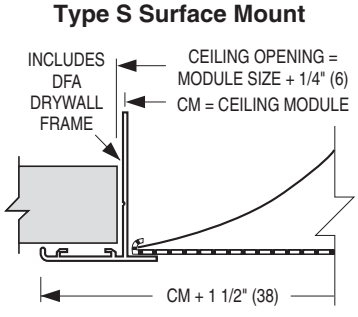
Model 4350R • Return

Type L Lay-in T-Bar





Type S Surface Mount



HOW TO SPECIFY OR TO ORDER

PERFORATED CEILING DIFFUSERS, FIBERGLASS PLENUM – MODEL SERIES 4350

EXAMPLE: 4350 - 24 x 24 - L - AW

1. **Models**
   Supply:
   4350
   Return:
   4350R
2. **Ceiling Module Size**
   Imperial (inches)
   24 x 24 (default)
   Metric (mm)
   600 x 600
3. **Frame Type**
   L Lay-in T-Bar (default)
4. **Finish**
   BA AW Face/Black Backpan (default)

OTHER OPTIONS & ACCESSORIES:

Air Balancing Devices
(order separately)

Round Neck:
4250 Radial Sliding Damper, 6" - 14"
4275 Radial Opposed Blade Damper, 5" - 24"
4675 Butterfly Damper, 6" - 14"
EGR Equalizing Grid
DEGR Damper/Equalizing Grid

Notes:

1. Pre-scored plenum accommodates a 6" to 15" spin-in or tab-lock inlet collar (by others).

SUGGESTED SPECIFICATION:

Models 4350 and 4350R
Furnish and install **Nailor Model** (select one) **4350 (supply)** or **4350R (return) Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The wrap-around fixed perforated face of the diffuser shall be constructed from corrosion-resistant steel with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Four stamped pattern controllers shall be mounted on the back of the perforated face, to provide a 4-way discharge pattern. A center access hole with plug shall be included to allow for screwdriver adjustment of the optional damper. A one-piece molded fiberglass backpan with foil-back vapor barrier 6.0 R-value shall be included with all units. A pre-scored plenum with cutouts shall be provided with all units, to accommodate spin-in or tab-lock inlet collars (by others). The finish shall be BA - AW Appliance White face and Black interior.

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

PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR CEILING DIFFUSERS

MOUNTING FRAMES

- Surface mount adapter frames for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.

OPTIONS

- A selection of optional items that are available on ceiling diffusers.

FINISHES

- Selection of standard and non-standard finishes to choose from.
- Baked enamel paint in custom colors to suit architect.

AIR BALANCING DEVICES

- Dampers for round and square necks.
- Equalizing grids.
- Volume extractors.

Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

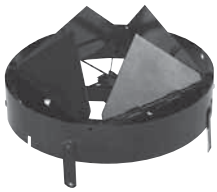
Nailor offers a comprehensive range of models and options to cover all applications.

Nailor balancing devices are:

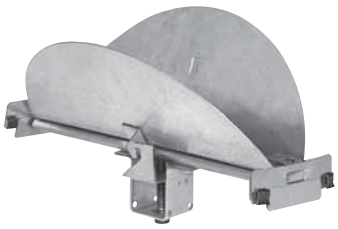
- Easy to select and specify. Many items can be ordered or specified as diffuser accessories.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

Model DFA
Drywall/Plaster Frame
Surface Mount
Ceiling Adapter

Model 4275
Radial Opposed
Blade Damper



Model 4250
Radial Sliding Blade Damper



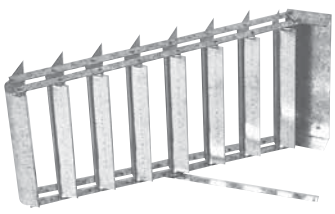
Model 4675
Butterfly Damper

Model OBD
Opposed Blade Damper
Steel, Neck Mount

Model OBDD
Opposed Blade Damper
Steel, Duct Mount

Model EGR
Equalizing Grid

Model DEGR
Damper with Equalizing Grid



Model EX-1
Volume Extractor

Mounting Frames

DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system.

The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized.

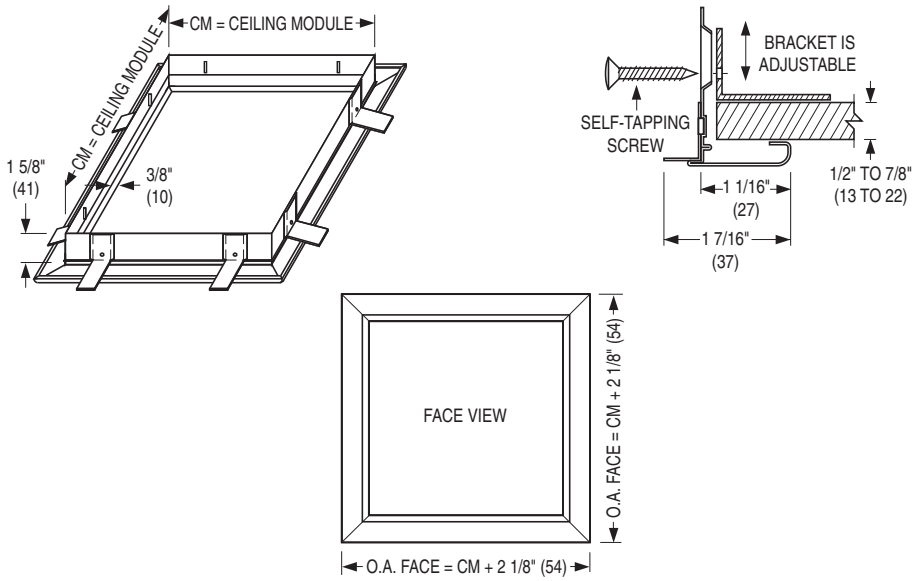
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

Standard Finish: AW Appliance White. Other finishes are available.

Model DFS is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

Ceiling opening = CM + 1/4" (6)

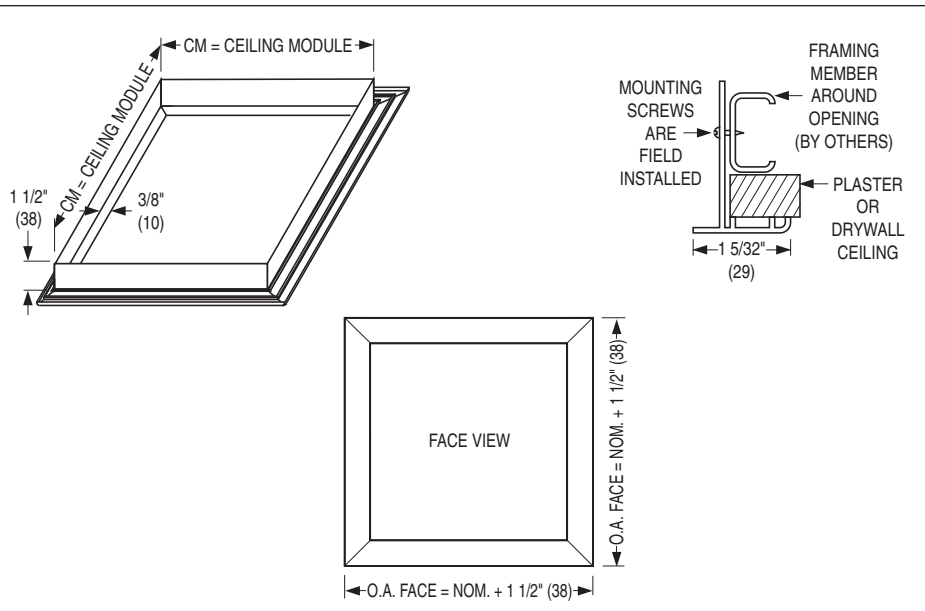


Model DFS

Model DFA requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 12	1219 x 305	1200 x 300
48 x 24	1219 x 1219	1200 x 600
60 x 12	1524 x 305	1500 x 300

Ceiling opening = CM + 1/4" (6)



Model DFA

Options and Finishes

OPTIONS:

EQT Earthquake Tabs

Earthquake (seismic) retaining safety tabs are available; factory installed on diffusers when required by local building code that units be independently restrained and safety wired to supporting structure.

SC Safety Chain

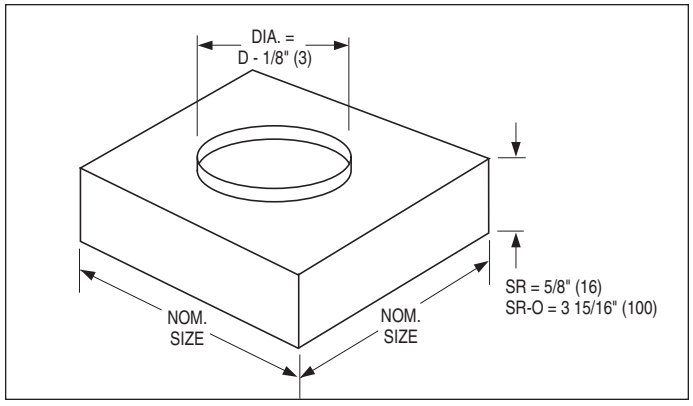
An optional safety chain is available on all of Nailor's round ceiling diffusers.

GK Foam Gaskets

Foam gasket is available on a selection of surface mount diffusers.

SR Square to Round Transition Collar

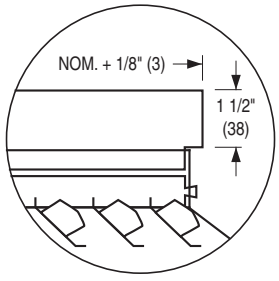
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



Square Neck Size (inches)	Round Neck Size D (inches)
6 x 6	4, 5, 6
8 x 8	4, 5, 6, 7, 8
9 x 9	6, 7, 8, 9
10 x 10	6, 7, 8, 9, 10
12 x 12	6, 8, 9, 10, 12
14 x 14	6, 8, 9, 10, 12, 14
15 x 15	6, 8, 10, 12, 14, 15
16 x 16	6, 8, 10, 12, 14, 15, 16
18 x 18	6, 8, 10, 12, 14, 15, 16, 18
20 x 20	6, 8, 10, 12, 14, 15, 16, 18, 20
21 x 21	6, 8, 10, 12, 14, 15, 16, 18, 20
22 x 22	6, 8, 10, 12, 14, 16, 18, 20
24 x 24	6, 8, 10, 12, 14, 15, 16, 18, 20, 24

ONA Offset Neck Adaptor

Fits outside duct (if a damper is required; order separately for remote mount. See Model OBDD).



EXTERNAL FOIL BACK INSULATION

EX External Insulation Blanket - Factory Installed

An optional 1 1/2" thick foil back insulation is available installed on a majority of Nailor ceiling diffusers. The insulation has an R value of 4.2.

EXB External Insulation Blanket - Ships Loose

This insulation is the same as above but is shipped loose for field installation.

MIB Molded Insulation Blanket - Factory Installed

The molded insulation is available as an option on various 24" x 24" square diffusers. The insulation has an R value of 6.0.

FINISHES:

AW Appliance White (standard)

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

AL Aluminum

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

BW British White

Matches most white ceiling tiles. (No additional cost)

BK Black

This black has a matte finish. (Additional cost)

BA Black Interior/Appliance White Face

Optional on perforated diffusers. AW Appliance White is applied on the perforated face and BK Black is applied on the interior of the backpan for a discreet appearance. (No additional cost)

SP Special

The **Nailor** range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

ALSO AVAILABLE:

MI Mill Finish

(No additional cost).

PPA Paint Prepared Aluminum (Washed only)

Aluminum models only. (No additional cost).

PC Prime Coat Paint

(Additional cost).

Air Balancing Devices

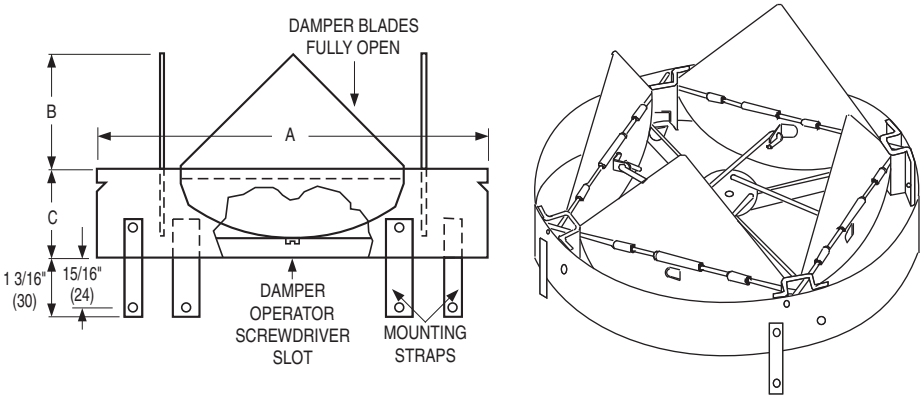
Radial Opposed Blade Damper

A unique method of controlling volume through a diffuser providing premium design quality and performance. The multi-blade perimeter design offers true radial flow at any setting.

A screwdriver slot, accessible through the diffuser, requires only a half turn to adjust from fully closed to fully open. The damper is designed to fit directly on the neck of the diffuser. Simple, convenient and accurate installation and operation.

Available with an optional operator arm. **Model 4275-OA** allows damper adjustment on the **UNI Diffusers** without removing the inner cone assembly.

Model 4275



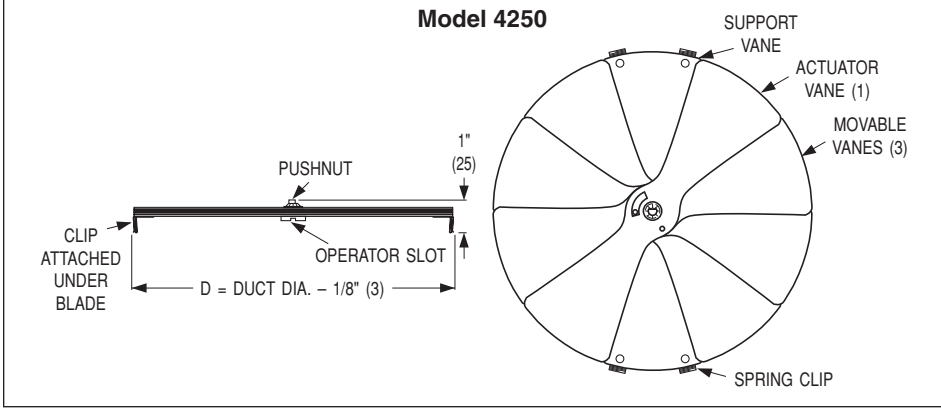
	Nominal size (inches)								Nominal Size (mm)							
	5	6	8	10	12	14	15	16	127	152	203	254	305	356	381	406
A	4 7/8	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	14 7/8	15 7/8	124	149	200	251	302	352	378	403
B	1 1/8	1 5/8	2 1/2	2 1/4	2 7/8	3 3/8	3 3/4	4 3/8	29	41	64	57	73	86	95	111
C	1 5/8				2 1/2				41				64			

Radial Sliding Blade Damper

The **Model 4250** is a neck mounted radial sliding blade damper used in round neck diffuser applications to provide fine volume control. Gang operated radial blades slide at right angles to the duct with minimal protrusion above the diffuser neck; allowing the damper to work effectively in flexible duct applications.

Available in sizes 6", 8", 10", 12" and 14" (152, 203, 254, 305 and 356).

Model 4250

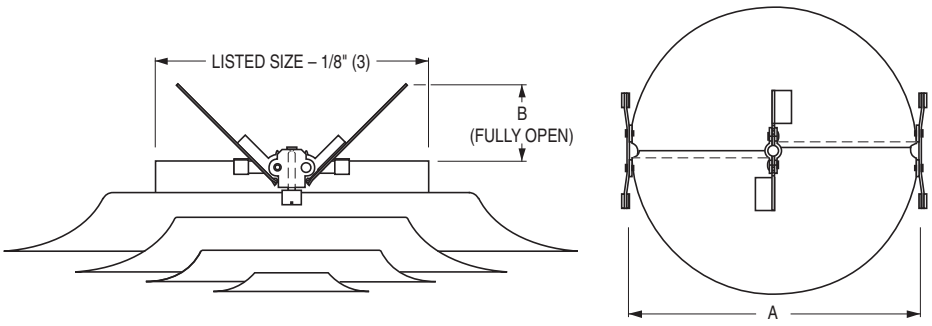


Butterfly Damper

The Model 4675 Butterfly Damper is an economical damper for volume balancing in round neck diffusers. Adjustable friction pivots hold the blades at the required setting. Adjusted from the face of the diffuser.

Not recommended for use with flexible duct.

Model 4675



	Nominal Size (inches)					Nominal size (mm)				
	6	8	10	12	14	152	203	254	305	356
A	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	149	200	251	302	352
B	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165

Air Balancing Devices

OPPOSED BLADE DAMPERS

Nailor Opposed Blade Dampers feature heavy gauge, roll-formed, corrosion-resistant steel or extruded aluminum blades and frame with miscellaneous steel components. Mill finish.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

DIFFUSER MOUNT MODELS:

OBD Steel

OBD-A Aluminum

This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL).

Can be specified as an integral part of the diffuser model by adding a - O (steel) or - OA (aluminum) suffix to the diffuser model.

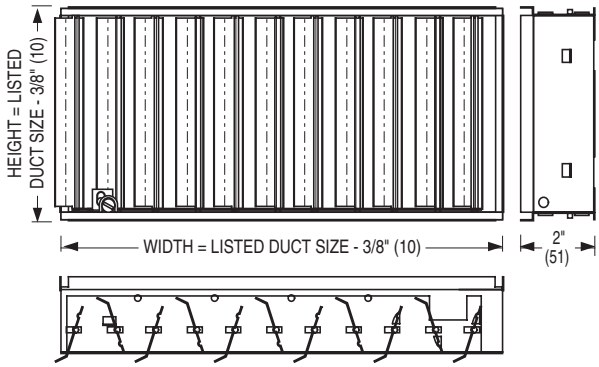
Available with Type DL Lever Operator for use with 6200, 6400 and 6500 Series Pattern Diffusers and 6600 Series Plaque Diffusers. Permits balancing without removing the diffuser inner core assembly.

Type SL Operator

The SL Operator incorporates a screwdriver slot, which adjusts from the face of the diffuser. This operator is the standard supplied when ordered separately.

Model OBD Type SL (Screwdriver Slot)

Diffuser Mount – Face Operator

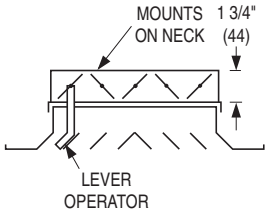


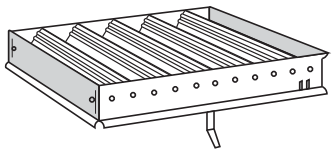
Type DL Operator

The DL Operator incorporates a lever that adjusts without the use of tools. The lever operator extends through the diffuser face.

Model OBD Type DL (Lever Operator)

Diffuser Mount – Face Operator





Min. Size = 4" x 2 1/2" (102 x 64)

Max. Size = 24" x 24" (610 x 610)

Air Balancing Devices

DUCT MOUNT MODELS:

OBDD Steel

OBDD-A Aluminum

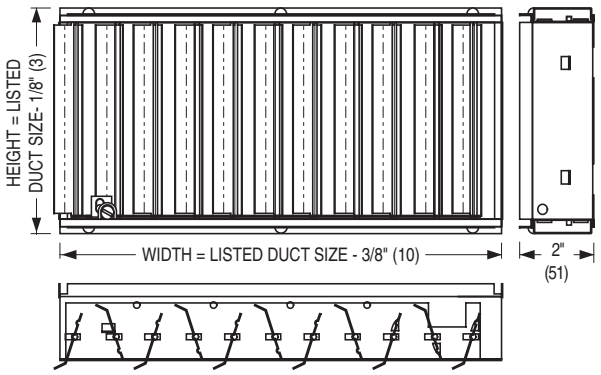
Designed to be field mounted independently in the duct, separate from and behind the diffuser. They are sized to suit and offer a friction fit in nominally sized ducts. They are secured with 1/2" (13) long sheet metal screws (by others) through the double walled sub-frame. Min. Size = 4" x 2 1/2" (102 x 64). Max. Size = 24" x 24" (610 x 610).

Type SL Operator

These models are supplied with a screwdriver slot face operator that is accessed from inside the duct by removing the diffuser.

Model OBDD Type SL (Screwdriver Slot)

Duct Mount – Face Operator

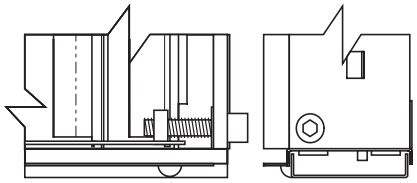


Type EH Operator

These duct mount models feature an external 3/16" (5) hex operator accessible from outside the duct; from the side of the duct when blades run vertically and from underneath the duct when blades run horizontally.

Model OBDD Type EH (Hex.)

Duct Mount – External Operator

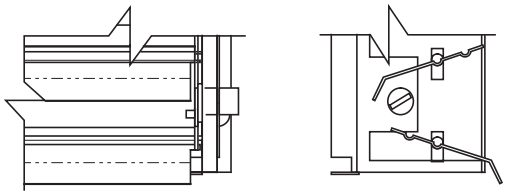


Type EN Operator

These duct mount models feature an external glass-filled nylon screwdriver slot operator accessible from outside the duct; from underneath the duct when blades run vertically, and from the side of the duct when blades run horizontally.

Model OBDD Type EN (Screwdriver Slot)

Duct Mount – External Operator



Type QD Operator *

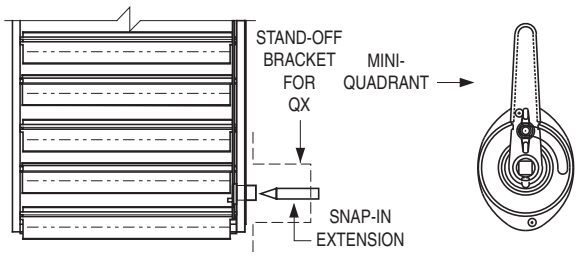
A snap-in shaft extension with 'mini' hand locking quadrant is available as an optional accessory.

Type QX Operator *

A snap-in shaft extension with 'mini' hand locking quadrant and 2" (51) stand-off bracket for externally insulated ducts. Order damper with blades parallel to horizontal duct dimension to ensure quadrant is located on vertical side of the duct.

*Not available on Model OBDD-A

Type QD or Type QX (Hand Quadrant)



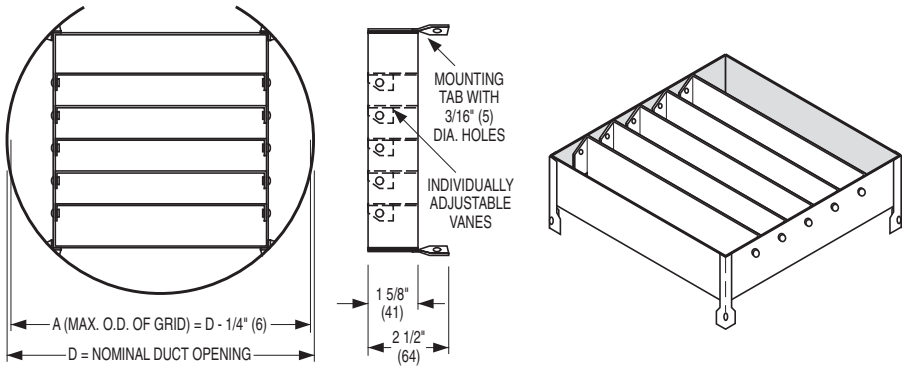
Air Balancing and Directional Control Devices

Equalizing Grid for Round Necks

The **Model EGR** is a duct mounted grid that equalizes the airflow into the branch duct or diffuser neck and provides directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

Model EGR



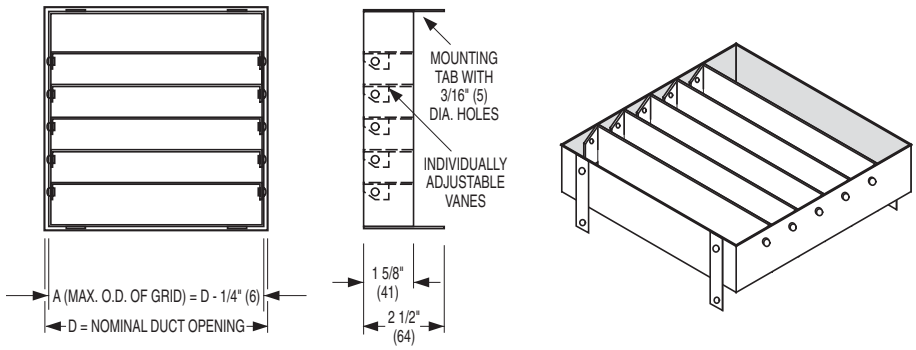
Equalizing Grid for Square and Rectangular Necks

The **Models EGS** and **EGL** are duct mounted grids that equalize the airflow into the branch duct or diffuser neck and provide directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.

Models EGS and EGL



Damper with Equalizing Grid for Round Necks

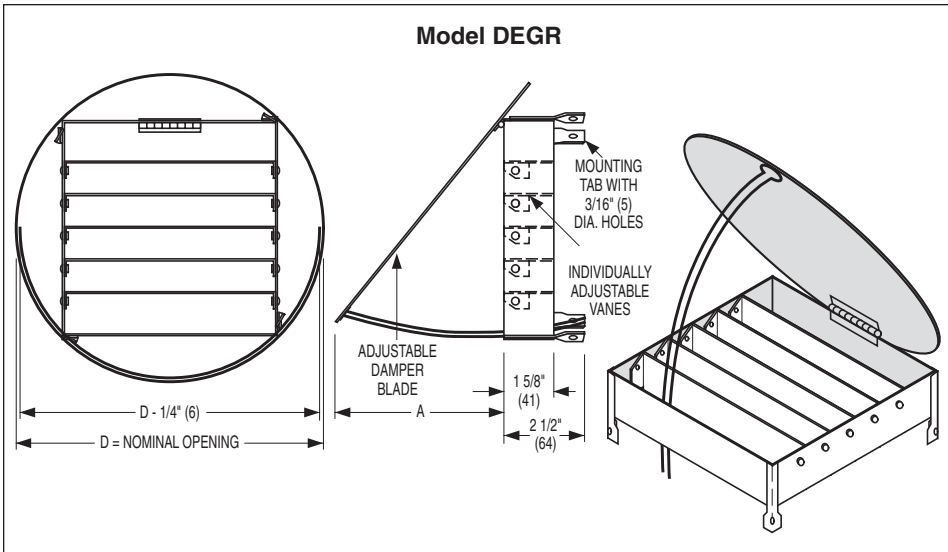
The **Model DEGR** is a duct mounted combination damper with equalizing grid.

It performs as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.

Model DEGR



Air Balancing and Directional Control Devices

Damper with Equalizing Grid for Square and Rectangular Necks

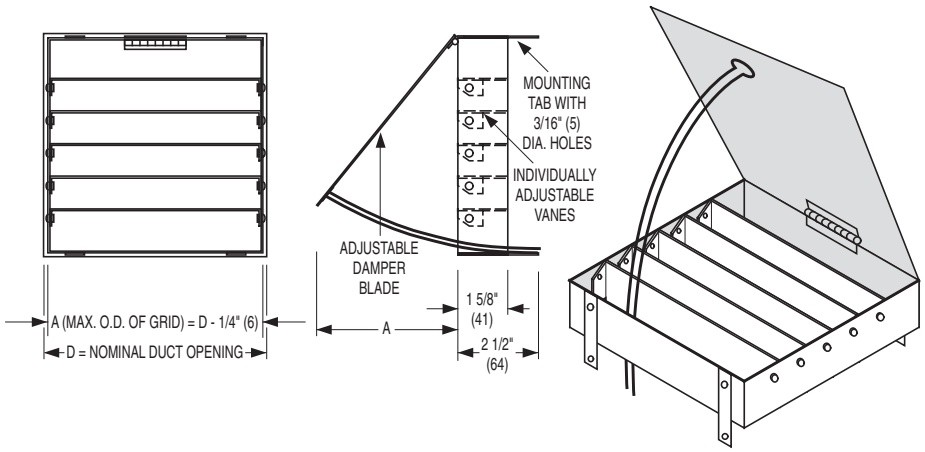
The **Models DEGS** and **DEGL** are duct mounted combination dampers with equalizing grids. They perform as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.

Models DEGS and DEGL



Volume Extractors

MODEL SERIES

EX Blades on 2" centers

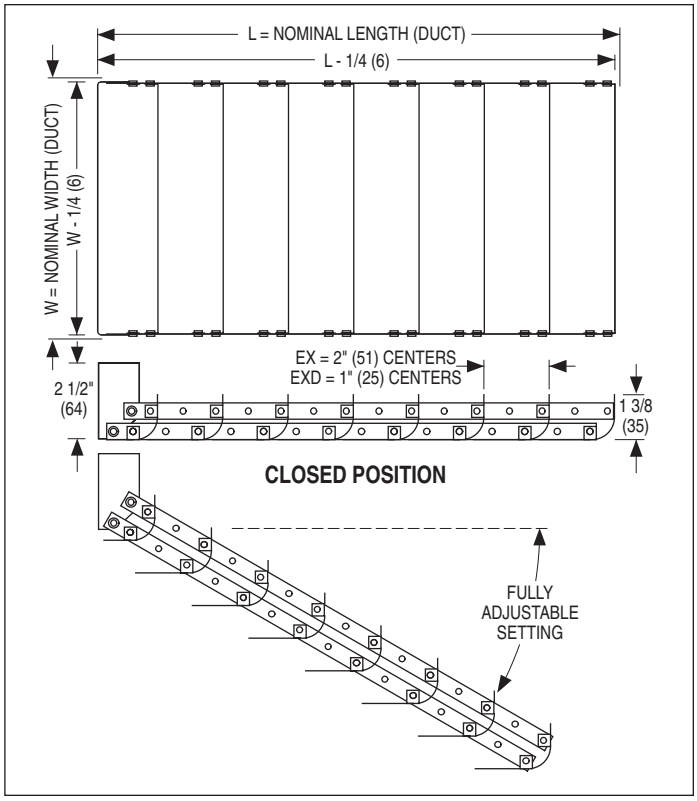
EXD Blades on 1" centers

The **Model Series EX Volume Extractors** uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure drop.

Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

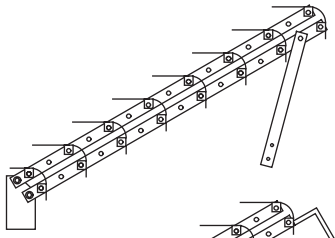
FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

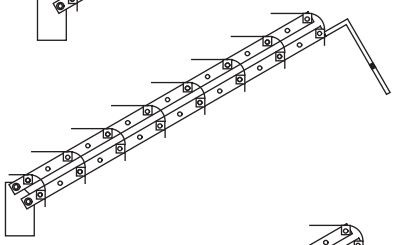


Operator Types

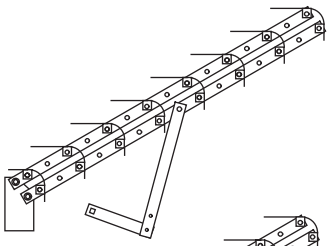
EX/EXD-1
Standard unit with adjusting strap.



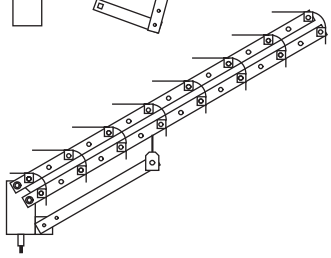
EX/EXD-1-R
Rod operator for external operation.



EX/EXD-2
Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.



EX/EXD-3
Screw gear operator. Adjusts with 3/16" (5) wrench (by others).



Optional Accessories

RLD
Locking device for Models **EX/EXD-1-R**.