

CONNOLS-AIR
PERFORATED AIR
DIFFUSER



The New Perforated Air Diffuser by Connols-Air

No other perforated diffuser offers this combination of feature

MODEL P AND PM

Circular air distribution from square and rectangular perforated panels

Connols-air engineers have combined the architectural advantages of square or rectangular ceiling panels with the air handling advantages of circular distribution. A round neck hidden behind the square perforated face achieve even 360° distribution. The design of the new Connor perforated diffuser provides horizontal air distribution even when it is mounted without a ceiling.

A unique pattern control system

The type PM perforated diffuser can be specified square or rectangular and adjusted on the job for one, two, three or 360° air pattern. This versatility meets a wide range of air distribution requirements for heating, cooling and ventilating.

The PM diffuser has a combination volume control and pattern control that is unique and extremely easy to adjust. Two perforated discs are mounted one above another beneath the neck of the diffuser. The discs have slotted openings in the centre which permit them to be centered for a 360° pattern and placed off-centre for three-way or one-way air discharge patterns. Shown here are the basic patterns obtainable and the variation in flow resulting from these pattern changes.

The type P diffuser has a plain disc damper and hence, will provide 360° air flow pattern only.

Minimum diffuser smudging

Connols-air has perforated the volume disc dampers of the type PM diffuser. Air bleeding through the perforations minimizes negative areas on the face plate and reduces smudging.

Hinged face plate

The face plate swings open on two sides – the contractor uses whichever side is more convenient. This saves time installation and provides easy access to the volume and pattern control discs.

Easy to install

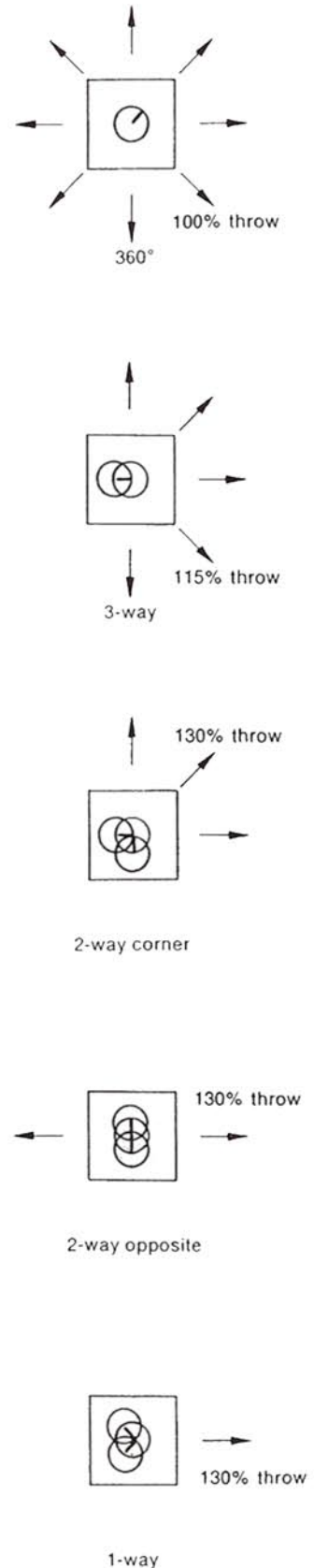
Round neck makes it simple for the contractor to locate the centre of square or rectangular ceiling openings. A slight rotation aligns the diffuser with the ceiling system. Internal damper mechanism and pattern control is easily removed by unscrewing the retaining nut and rotating the spider. Thus, giving access to neck interior for standard sheet metal installation.

Matching supply and return diffusers

Connols-air engineers matched the face plates for the supply and return units so that they look the same in the ceiling. Behind the perforated face plate, the return units have simple square or rectangular necks.

Quality construction

The Connols-air perforated diffuser is manufactured with a steel outer cone, perforated steel distribution plates and extruded aluminium frames to fit overlay, lay-in, concealed spline and snap-in ceiling constructions. Exposed surfaces are baked white enamel; interior surfaces are flat black.



Performance Data

Type P and PM Perforated Diffuser

FLOW RATE (cfm)	12 x 12 6*			24 x 24 8**			24 x 24 10**			24 x 24 12**			24 x 24 14**			24 x 24 14H**		
	TP	T	NC	TP	T	NC	TP	T	NC	TP	T	NC	TP	T	NC	TP	T	NC
100	.07	3-5	--															
125	.11	3-6	22															
150	.16	4-7	27															
175	.21	5-9	33	.08	3-6	--												
200	.28	7-11	37	.10	4-7	23												
225				.12	4-7	26												
250				.15	5-8	31												
275				.19	5-9	33												
300				.22	6-10	36	.06	4-6	--									
350							.08	4-7	22	.05	4-6	--						
400							.11	5-8	26	.065	4-7	20						
450							.14	5-9	31	.08	5-8	22						
500							.17	6-10	35	.10	5-9	25	.06	5-9	26			
550							.20	7-11	38	.12	6-10	29	.07	6-10	27			
600										.15	6-11	32	.08	6-11	29			
650										.17	7-12	35	.09	7-12	30			
700										.19	8-13	38	.11	8-13	31			
750													.13	8-14	32			
800													.14	9-15	33	.09	6-11	29
850													.16	9-16	35	.10	7-12	30
900													.18	10-17	36	.11	8-13	31
950													.20	10-18	38	.12	8-14	32
1000																.14	9-15	33
1050																.15	9-16	34
1100																.16	10-17	35
1150																.18	10-18	36
1200																.20	11-19	38
1250																.21	11-20	39

* Also available in 12" x 24" and 24" x 24" nominal size panels.

** Also available in 24" x 48" nominal size panels

T.P. Total pressure in inches water

T Throw in feet to 100 FPM and 50 FPM Vt

NC Noise criteria based on power level data re 10-12 Watt with room attenuation of 8 db in all bands

For extra high capacity, 14H may be used for 4-way blow or 360° diffusion.

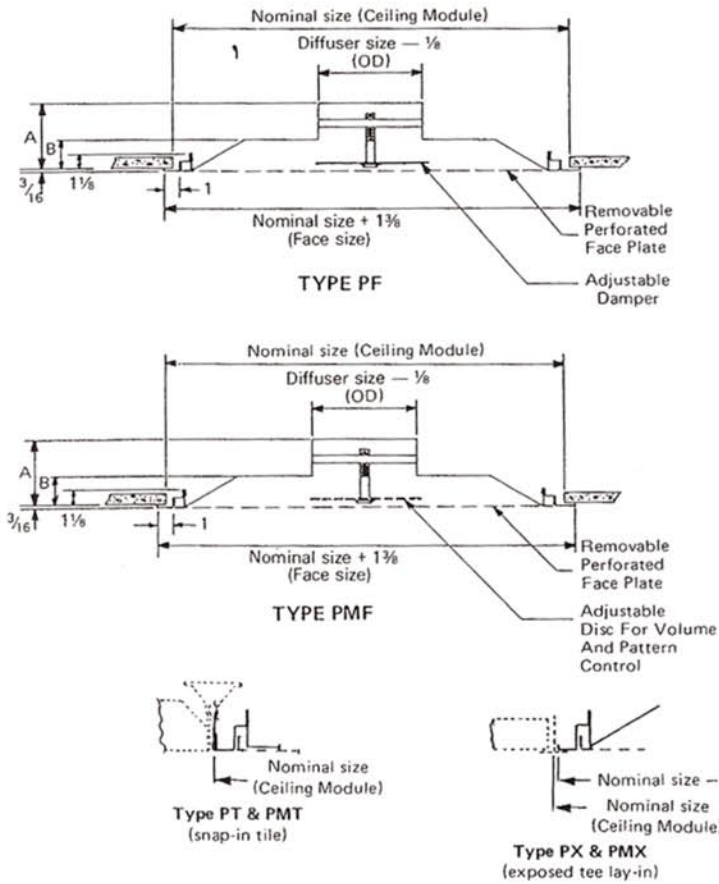
The 14-H-P uses a small round deflector which furnishes a horizontal ceiling pattern, but this cannot be used for pattern control or volume damper.

Return

	CFM	75	100	150	200	250	300	400	450	500	600	800	1000	1500	2000	3000	4000
12 x 12 overall size 10 x 10 neck	Neg SP	.005	.007	.015	.026	.04	.06	.10	.13								
	NC	.	.	.	.	.	20	31	35								
24 x 24 overall size 10 x 22 neck	Neg SP						.012	.021	.027	.033	.05	.08	.13				
	NC					.	.	.	.	21	28	36					
24 x 24 overall size 22 x 22 neck	Neg SP									.009	.016	.025	.06	.10			
	NC									.	.	14	26	34			
24 x 48 overall size 22 x 46 neck	Neg SP														.003	.06	.10
	NC														17	28	36

Performance Data

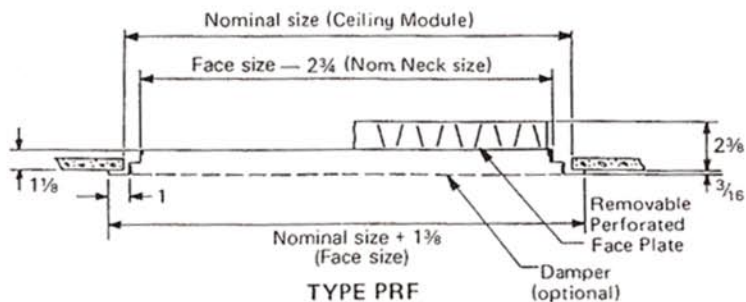
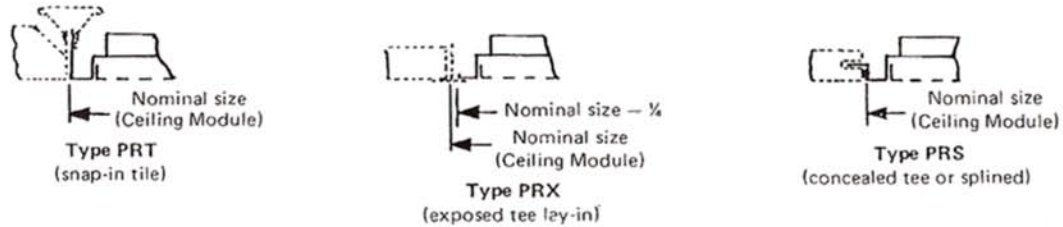
Type P and PM Perforated Diffuser



NOM. SIZE (CEILING MODULE)	DIFFUSE SIZE	A	B
12 x 12	6	3	1 1/8
12 x 24	6	3	1 1/8
12 x 48	6	3	1 1/8
24 x 24	6	3 1/2	1 17/32
	8		
	10		
24 x 48	6	3 1/2	1 17/32
	8		
	10		

Return

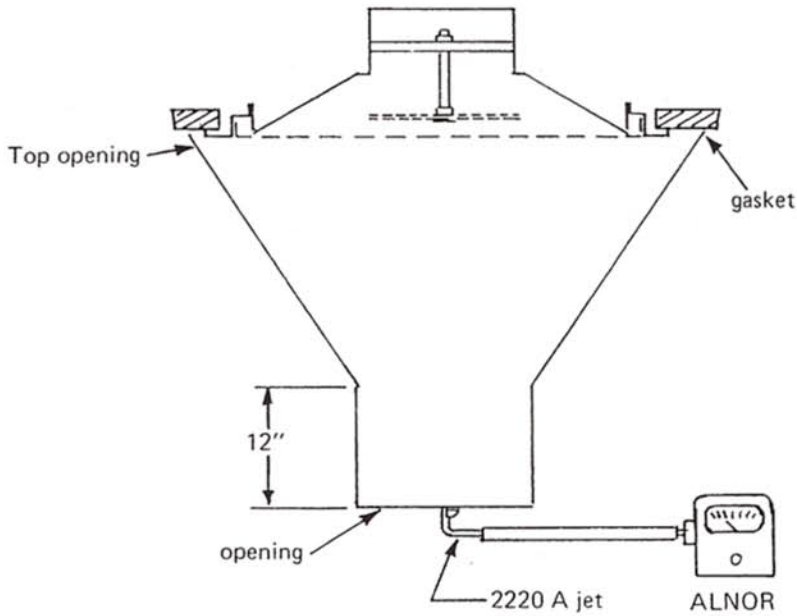
The type PRF diffuser provides a return air unit identical in appearance to the type PF and PMF supply air units.
 The type PRT diffuser provides a return air unit identical to the type PT and PMT supply air units.
 The type PRX diffuser provides a return air unit identical to the type PX and PMX supply air units.
 The type PRS diffuser provides a return air unit identical to the type PS and PMS supply air units.



NOM. SIZE (CEILING MODULE)	NOM. NECK SIZE
12 x 12	10 5/8 x 10 5/8
12 x 24	11 5/8 x 23 5/8
12 x 48	11 5/8 x 47 5/8
24 x 24	23 5/8 x 23 5/8
24 x 48	23 5/8 x 47 5/8

Air Balancing Data

Type P and PM Perforated Diffuser



$$Q = V \times A_k$$

Q is air flow in CFM

V is velometer reading in FPM

A_k is area factor for specific size

Hood size: 12" x 12" top, 6" x 6" bottom
and overall height of 24"

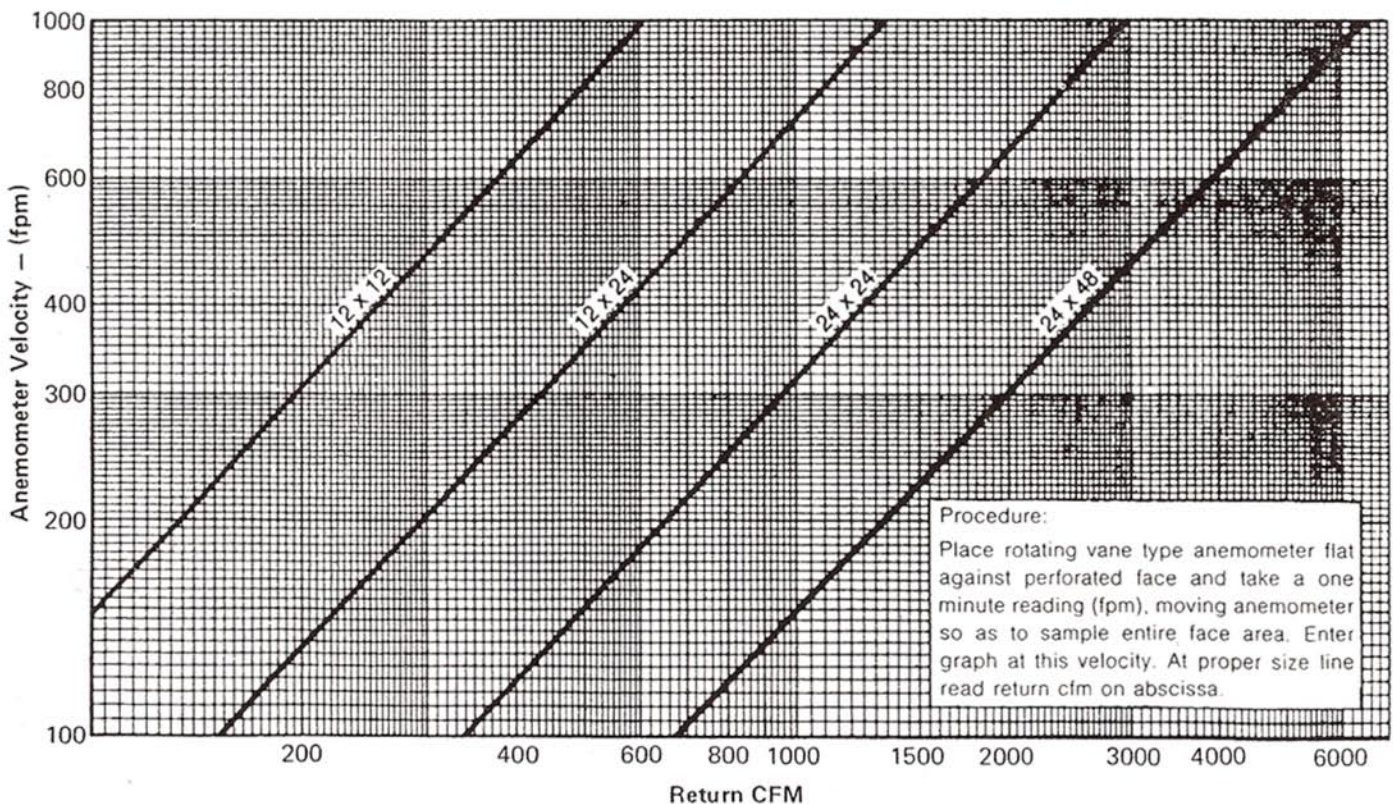
Area factor (A_k) .252

Hood size: 24" x 24" top, 12" x 12" bottom
and overall height of 34"

Area factor (A_k) 1.01

Note: A_k includes a 2% correction for
average hood resistance

Return





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