

# METALAIRE®

## ***QUICK SELECT***

**"AIR DISTRIBUTION SELECTION MADE EASY"**

The METALAIRE Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a condensed version of our Infosource catalogs and contains the dimensions and performance of the most used grilles, registers, diffusers and air terminal units.

The Quick Select Catalog is divided into productlines. Each section begins with a summary that includes all our available models along with features and benefits of our products.

To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaire.com](http://www.metalaire.com), or refer to our InfoSource catalogs.

**Revised: May 11, 2007**



At METALAIRE®, we continually work to improve our products. Product descriptions, dimensions, and performance are subject to change without notice. For the most current available literature visit our web page at [www.metalaire.com](http://www.metalaire.com). Contact your local METALAIRE® representative to verify product or performance details.

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BERG



**ROUND  
CEILING DIFFUSERS**



**Model 900**  
Pg. 14

## Fixed Round Diffusers - Aluminum - Multi-Cone - Model 900

- ✧ Economical high performance diffuser
- ✧ Damper available (900D)



**Model 3000**  
(Flush Face Shown)  
Pg. 16

## Adjustable Round Diffusers - Aluminum - 3-Cone - Series 3000

- ✧ High induction/capacity 3 cone adjustable diffuser
- ✧ Fully adjustable from horizontal to vertical discharge
- ✧ Low profile flush face or dropped face designs are available

Adjustable	
3000-1	Flush
3000-2	Dropped



**Model 3100**  
(Flush Face Shown)  
Pg. 18

Series 3100 - Aluminum  
Series 3100S - Steel

## Fixed/Adjustable Round Diffusers - Aluminum/Steel - Multi-Cone - Series 3100

- ✧ High induction/capacity 2 cone diffuser
- ✧ Can be adjusted for vertical or horizontal discharge
- ✧ Low profile flush face or dropped face designs are available

	Aluminum		Steel	
Adjustable	3100A-1 Flush	3100A-2 Dropped	3100S-A-1 Flush	3100S-A-2 Dropped
Fixed	3100-1 Flush	3100-2 Dropped	3100S-1 Flush	3100S-2 Dropped



**Model 3200**  
Pg. 20

## Adjustable Round Diffusers - Steel - Model 3200

- ✧ Excellent choice for high capacity applications such as factories, gymnasiums, theaters, and convention halls
- ✧ Discharge pattern is easily adjusted from vertical to horizontal with adjustment ring
- ✧ Diffuser can effectively be applied for either spot heating or cooling
- ✧ In the horizontal setting the unit provides tight ceiling patterns excellent for VAV applications
- ✧ Outer cone design guards against ceiling smudging in horizontal position



**Model R5750**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

## Round Architectural Ceiling Diffuser - Steel - Model R5750

- ✧ Architectural pleasing round diffuser blends well into the ceiling surface
- ✧ Fixed horizontal throw pattern
- ✧ Designed for surface mounting applications
- ✧ Excellent in both heating and cooling applications
- ✧ The R5750 is an excellent choice for VAV applications



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRES Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRES Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaires.com](http://www.metalaires.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METAL\*AIRES



# RCD - Round Ceiling Diffusers

5/2007

## ➔ Fixed Round Diffusers ➔ Model 900 ➔ Aluminum

### Product Details

- ★ Economical high performance diffuser
- ★ Damper available (900D)

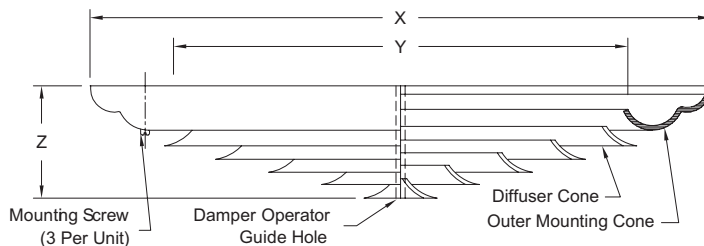


**Model 900-1 Shown**

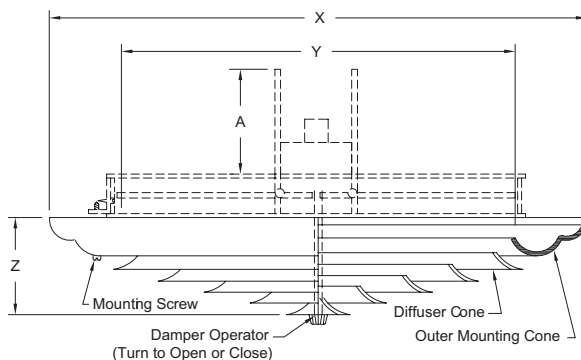
Standard Finish: 01 White

Dimensions are in inches

**Fixed Round Diffuser - Multi Cone**  
Surface Mount  
Model 900-1



**Fixed Round Diffuser - Multi Cone - With Damper**  
Surface Mount  
Model 900D-1



Diffuser Size	X	Y	Z	Number of Cones
6	10 1/8	5 7/8	1 7/8	4
8	12 1/8	7 7/8	2 3/16	5
10	14 1/8	9 7/8	2 1/2	6
12	16 1/8	11 7/8	2 13/16	7
14	18 1/8	13 7/8	3 1/8	8

Damper Size	A
6	3
8	4
10	5
12	6
14	6 1/4

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum 28 Custom Color	<b>900D - Round Damper</b> .....220 Replacement Knobs	• Sizes only as listed



## Model 900 - Performance

Neck Size	fpm	200	300	400	500	600	700	800	900	1000
Pt	Pt	.005	.010	.015	.025	.035	.050	.065	.080	.10
6"	CFM Throw NC	37 3-5 <	55 3-5 <	75 3-6 <	90 3-6 <	110 4-6 20	130 4-6 23	145 4-6 25	165 5-7 25	185 5-7 30
8"	CFM Throw NC	65 4-6 <	100 4-6 <	135 4-6 <	165 5-7 20	200 5-8 25	230 5-8 25	265 5-8 28	300 5-9 30	330 6-10 35
10"	CFM Throw NC	105 4-7 <	160 5-8 <	210 5-9 <	265 5-10 20	315 6-11 25	370 6-12 30	420 7-13 30	475 7-14 35	525 7-14 35
12"	CFM Throw NC	150 5-8 <	230 5-9 <	305 6-10 20	380 6-11 25	455 6-12 25	535 7-13 30	610 7-14 30	685 6-16 35	760 10-18 35
14"	CFM Throw NC	200 6-9 <	310 7-11 <	415 8-13 20	520 9-14 25	625 11-15 30	730 12-17 30	830 13-19 35	935 15-21 35	1040 18-23 40

### Performance Notes for Series 900:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

CFM - Cubic feet per minute (air)

fpm - Velocity of air stream in feet per minute

Pt - Total pressure (inches of water column)

Throw - Throw distance in feet at terminal velocities of 150 - 100 fpm with a supply air temperature 20°F cooler than room temperature

NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE:10E-12 watts minus a 10 dB room attenuation in all octave bands



## Round Damper for Series 900 ➡ Aluminum ➡ Model 900D

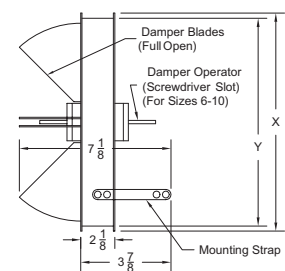
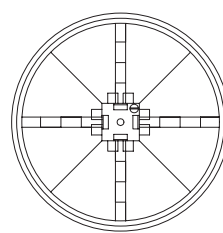
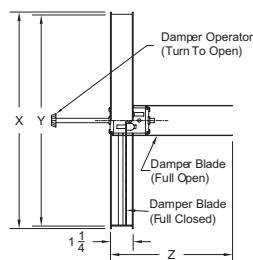
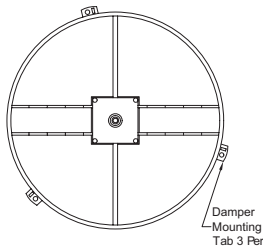
- ★ For attachment to Model 900
- ★ 2 butterfly style blades for 6" - 12" sizes
- ★ 8 blade radial style for 14" size
- ★ Blades adjusted through diffuser face
- ★ Damper supplied with mounting hardware



Dimensions are in inches

### Butterfly Damper - Size 12 and Under - Aluminum

### Opposed Blade Damper - Size 14 for Series 900 - Aluminum



900D Models			
Diffuser Sizes	X	Y	Z
6	5 15/16	5 5/8	3
8	7 15/16	7 5/8	4
10	9 15/16	9 5/8	5
12	11 15/16	11 5/8	6
14	13 15/16	13 5/8	7

# RCD - Round Ceiling Diffusers

5/2007

## Adjustable Round Diffusers Series 3000 Aluminum

### Product Details

- ★ High induction/capacity 3 cone adjustable diffuser
- ★ Fully adjustable from horizontal to vertical discharge
- ★ Low profile flush face, or dropped face designs are available

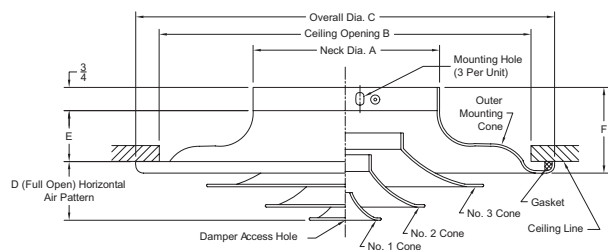


**Model 3000-1 Shown**

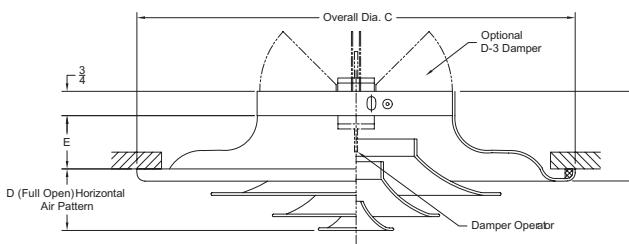
Standard Finish: 01 White

Dimensions are in inches

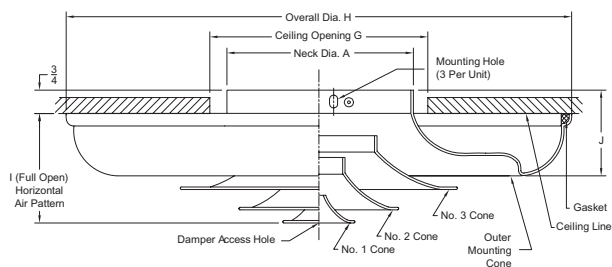
### Adjustable Round Diffuser - 3 Cone Flush Cone Model 3000-1



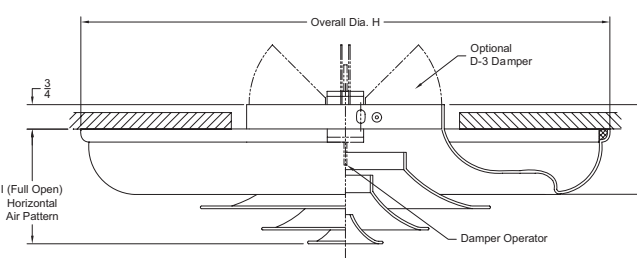
### Adjustable Round Diffuser - 3 Cone Flush Cone - With D3 Damper Model 3000-1D



### Adjustable Round Diffuser - 3 Cone Drop Cone Model 3000-2



### Adjustable Round Diffuser - 3 Cone Drop Cone - With D3 Damper Model 3000-2D



Neck Size	A	B	C	D	E	F	G	H	I	J
6	5 7/8	12	13 1/2	2 1/4	1 5/8	2 3/4	7	16 5/16	3 7/8	2 3/4
8	7 7/8	16	18	2 5/8	2 1/8	3 3/8	9	23 3/16	4 3/4	3 3/8
10	9 7/8	20	22 1/2	2 15/16	2 5/8	4	11	27 3/16	5 9/16	4
12	11 7/8	24	27	3 1/2	3 1/4	4 5/8	13	31 13/16	6 3/4	4 5/8
14	13 7/8	28	31 1/2	4 1/4	3 3/4	5 1/4	15	36 7/8	8	5 1/4
16	15 7/8	32	36	4 5/8	4 1/4	6	17	42 1/4	8 7/8	6
18	17 7/8	36	40 1/2	5	4 7/8	6 5/8	19	47 9/16	9 7/8	6 5/8
20	19 7/8	40	45	5 3/8	5 3/8	7 1/4	21	52 3/8	10 3/4	7 1/4
24	23 7/8	40	45	5 3/8	5 3/8	7 1/4	25	52 3/8	10 3/4	7 1/4

# RCD - Round Ceiling Diffusers

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	<b>Shipped Unattached</b> D3 - Aluminum Radial Opposed Blade Damper . . .220 SD3 - Steel Radial Opposed Blade Damper . . . .220 G3 - Equalizing Grid . . . . .220 GD3 - Combination Grid/Damper . . . . .220 BDS - Butterfly Damper . . . . .220 RSD - Radial Shutter Damper . . . . .220	Safety Chain	• Sizes only as listed

## Series 3000 - Performance

### Models 3000 (-1, -2)

Neck Size	Neck Area in Sq. Ft.	fpm Neck Vel.	400	500	600	700	800	900	1000	1200	1400	1600
		Pv	0.01	0.016	0.023	0.031	0.04	0.051	0.063	0.09	0.122	0.16
		Ps Horiz. Ps Vert.	0.011 0.019	0.018 0.03	0.026 0.043	0.035 0.058	0.046 0.075	0.059 0.096	0.072 0.115	0.105 0.17	0.145 0.225	0.190 0.3
6"	0.2	CFM Throw NC	80 1-3 <	100 2-4 <	110 2-5 <	140 3-6 20	160 3-7 24	180 3-8 27	200 4-8 36	240 4-9 36	280 5-10 39	320 6-12 44
8"	0.35	CFM Throw NC	140 2-4 <	175 2-5 <	210 3-6 <	245 3-7 20	280 4-8 24	315 4-10 27	350 5-11 31	420 5-13 36	490 6-14 39	560 7-16 44
10"	0.55	CFM Throw NC	220 2-5 <	270 3-6 <	330 3-7 <	380 4-8 21	435 5-10 25	490 6-11 28	545 6-12 32	655 7-14 37	765 8-18 40	870 9-21 45
12"	0.79	CFM Throw NC	315 3-7 <	390 3-8 <	470 4-10 20	550 5-11 22	630 6-13 26	710 7-15 29	785 8-17 33	940 9-19 38	1100 10-21 41	1260 12-25 46
14"	1.07	CFM Throw NC	425 3-8 <	535 4-9 <	640 5-11 20	750 6-13 23	855 7-16 27	965 8-18 31	1070 9-20 34	1285 11-13 40	1500 13-26 43	1710 15-30 48
16"	1.4	CFM Throw NC	560 4-9 <	700 5-10 <	840 5-13 21	980 6-15 24	1120 7-17 28	1260 9-21 33	1400 10-23 36	1680 12-27 41	1960 14-30 44	2240 16-35 49
18"	1.77	CFM Throw NC	710 4-10 <	885 5-12 <	1060 6-15 21	1240 7-17 25	1420 9-21 29	1595 11-23 34	1770 13-26 37	2120 15-31 42	2480 16-34 45	2830 18-38 51
20"	2.18	CFM Throw NC	875 4-11 <	1090 6-14 20	1310 7-16 22	1525 8-19 26	1745 9-23 30	1965 11-23 36	2180 13-28 39	2620 15-33 44	3060 18-38 47	3490 20-42 53
24"	3.14	CFM Throw NC	1255 12-24 22	1570 13-26 26	1885 14-28 28	2200 15-30 31	2510 16-33 35	2825 17-35 38	3140 18-37 41	3770 20-40 47	4395 23-45 51	5025 25-50 55

### Performance Notes for Series 3000:

1. Tabulated radial throw in feet is based on a 9' ceiling height, ambient supply air, MAX Throw @ Vt = 75 fpm, MIN Throw @ Vt = 150 fpm, and the diffuser inner cones in down position for 360° horizontal air distribution pattern.
2. For vertical down protection air pattern with cooling supply air temperature 20° below room temperature and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.80 to obtain vertical down projection distances at MIN and MAX (Vt) terminal velocities.
3. For vertical down projection air pattern with heating supply air temperatures 20° above room temperature and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.60 to obtain vertical down projection distances at MIN and MAX (Vt) terminal velocities.
4. Velocity Pressure (Pv) and Static Pressure (Ps) are in inches of water.
5. Series 3000 Diffusers are tested in accordance with ASHRAE 70-1991. Sound data are calculated in accordance with International Standard ISO 3741 comparison method. The NC values are based on a room absorption of 10 dB for sound power level (Lw) RE: 10E-12 watts. < symbol indicated NC less than 20. The NC data are for single diffusers; for results of throttling a volume damper, see table below.
6. All data are applicable for exposed duct mounting or ceiling installation.

### Damper Throttling Correction Factors

% Register Damper Open	Add To Listed NC (1)*	Factor Times Listed Pt (2)*
100%	0 dB	1.0
82%	4 dB	1.5
70%	8 dB	2.0
50%	16 dB	4.0

\*(1) NC Addition to listed NC value.

(2) Pt Multiplier times listed Pt value.



# RCD - Round Ceiling Diffusers

5/2007

Round Ceiling Diffusers



RCD

➔ Fixed/Adjustable Round Diffusers ➔ Series 3100 ➔ Aluminum  
➔ Series 3100S ➔ Steel

## Product Details

- ★ High induction/capacity 2 cone diffuser
- ★ Can be adjusted for vertical or horizontal discharge
- ★ Available 3100 aluminum construction or 3100S steel construction
- ★ Low profile flush face or dropped face designs are available
- ★ 30" and 36" units are available in non-adjustable models only



**Model 3100-1 Shown**

Standard Finish: 01 White

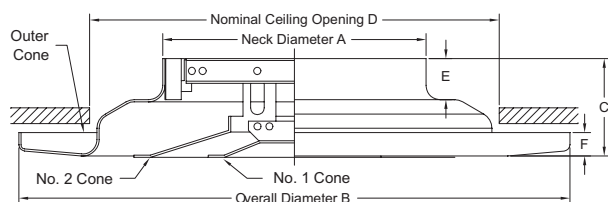
Dimensions are in inches

### Fixed Round Ceiling Diffuser - 2 Cone

#### Flush Cone

Model 3100-1 - Aluminum

Model 3100S-1 - Steel

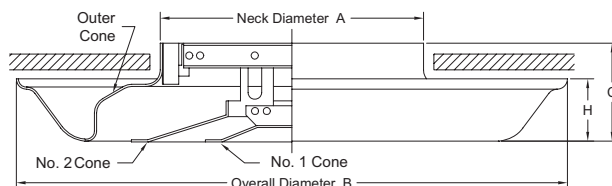


### Fixed Round Ceiling Diffuser - 2 Cone

#### Drop Cone

Model 3100-2 - Aluminum

Model 3100S-2 - Steel

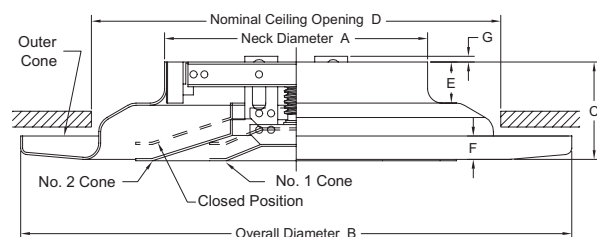


### Adjustable Round Ceiling Diffuser - 2 Cone

#### Flush Cone

Model 3100A-1 - Aluminum

Model 3100AS-1 - Steel

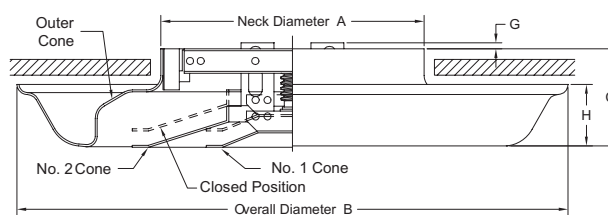


### Adjustable Round Ceiling Diffuser - 2 Cone

#### Drop Cone

Model 3100A-2 - Aluminum

Model 3100SA-2 - Steel



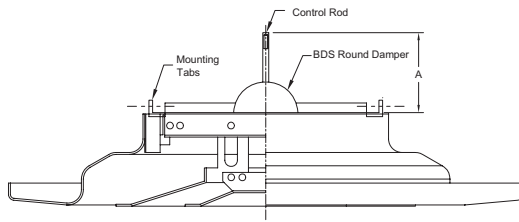
Dimensions								
Size	A	B	C	D	E	F	G	H
6	5 3/4	16 5/8	2 15/16	12	1 1/4	5/8	3/4	1 7/8
8	7 3/4	16 5/8	2 15/16	12	1 1/4	5/8	3/4	1 7/8
10	9 3/4	22 3/16	3 5/16	17	1 1/4	7/8	3/4	2 1/2
12	11 3/4	22 3/16	3 5/16	17	1 1/4	7/8	3/4	2 1/2
14	13 3/4	29 1/4	4 3/16	23	1 1/4	7/8	1 9/16	3 1/2
16	15 3/4	29 1/4	4 3/16	23	1 1/4	7/8	1 9/16	3 3/8
18	17 3/4	34 1/2	4 5/8	28	1 1/4	1	1 9/16	3 3/4
20	19 3/4	34 1/2	4 5/8	28	1 1/4	1	1 9/16	3 3/4
24	23 3/4	40 1/2	5 1/4	34	1 1/4	1	1 9/16	4 1/4
30	29 3/4	49 1/2	6 1/8	41	2 1/4	1 3/8	2 1/16	5 1/8
36	35 3/4	58 3/8	7 1/8	50	2 1/4	1 3/8	2 1/16	6 1/8

30" and 36" units are available in non-adjustable models only

# RCD - Round Ceiling Diffusers

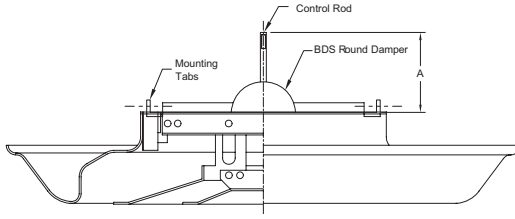


**Fixed Round Ceiling Diffuser - 2 Cone**  
**Flush Cone - With Damper**  
 Model 3100-1D - Aluminum  
 Model 3100S-1D - Steel



Dimensions	
Size	A
6	2 1/2
8	3 1/2
10	4 1/2
12	5 1/2
14	6 1/2
16	7 1/2

**Fixed Round Ceiling Diffuser - 2 Cone**  
**Drop Cone - With Damper**  
 Model 3100-2D - Aluminum  
 Model 3100S-2D - Steel



Dimensions	
Size	A
6	2 1/2
8	3 1/2
10	4 1/2
12	5 1/2
14	6 1/2
16	7 1/2

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	<b>Shipped Unattached</b> D3 - Aluminum Radial Opposed Blade Damper . . .220 SD3 - Steel Radial Opposed Blade Damper . . . . .220 G3 - Equalizing Grid . . . . .220 GD3 - Combination Grid/Damper . . . . .220 BDS - Butterfly Damper . . . . .220 RSD - Radial Shutter Damper . . . . .220	Safety Chain	• Sizes only as listed

## Series 3100 - Performance

Models 3100 (-1, -2), 3100S (-1, -2)

Neck Size	Neck Area in Sq. Ft.	ftm Neck Vel.	400	500	600	700	800	900	1000	1200	1400	1600
		Pv	0.01	0.016	0.023	0.031	0.04	0.051	0.063	0.09	0.122	0.16
		Ps Horiz. Ps Vert.	0.025 0.049	0.039 0.076	0.056 0.109	0.076 0.149	0.1 0.194	0.126 0.247	0.156 0.305	0.225 0.44	0.304 0.594	0.398 0.777
6"	0.188	CFM Throw NC	75 2-3-6 <18	94 3-4-8 <18	113 3-5-9 <18	132 4-5-11 18	151 4-6-12 19	169 5-7-14 23	188 5-8-16 26	226 6-9-19 32	264 7-11-22 36	301 9-13-26 40
8"	0.338	CFM Throw NC	135 3-5-9 19	169 3-5-10 19	203 4-6-12 19	237 4-7-13 20	271 5-8-15 24	304 6-9-17 28	338 7-10-20 31	406 8-12-25 37	474 10-14-29 42	541 10-15-30 46
10"	0.769	CFM Throw NC	213 4-16-12 <18	266 4-7-13 20	319 5-7-15 23	372 5-8-17 26	425 6-9-18 29	479 7-10-20 31	532 7-11-23 34	638 9-14-27 40	745 11-16-32 45	851 12-18-36 49
12"	1.05	CFM Throw NC	308 5-7-15 19	385 5-8-16 22	461 6-9-18 25	538 7-10-20 28	615 7-11-22 31	692 8-12-24 34	769 9-13-26 37	923 11-16-32 42	1077 12-19-37 47	1231 14-21-43 51
14"	1.375	CFM Throw NC	420 6-9-18 22	525 6-10-19 25	630 7-11-21 28	735 8-12-23 31	840 8-13-25 34	945 9-14-28 37	1050 10-15-30 39	1260 12-18-36 44	1470 14-21-43 48	1680 17-25-57 52
16"	1.743	CFM Throw NC	550 7-10-21 24	687 7-11-22 27	825 8-12-25 30	962 9-14-27 32	1100 10-15-30 35	1237 11-17-33 38	1375 12-18-37 40	1649 14-22-43 45	1924 17-25-50 50	2194 19-29-57 54
18"	2.154	CFM Throw NC	697 8-12-24 25	871 9-13-27 28	1046 10-15-32 31	1220 11-16-32 33	1394 12-17-35 36	1568 13-19-38 39	1743 14-20-43 41	2091 16-24-48 46	2440 18-28-55 50	2788 21-32-64 54
20"	3.109	CFM Throw NC	862 9-13-27 27	1077 10-15-30 30	1293 11-16-32 32	1508 12-18-36 35	1724 13-20-39 37	1939 14-22-43 39	2154 16-24-47 41	2585 19-28-56 45	3016 22-33-65 50	3447 24-36-72 54
24"	3.109	CFM Throw NC	1224 12-18-36 28	1554 13-20-40 31	1885 15-22-45 33	2176 16-25-49 36	2487 18-27-54 38	2798 20-30-59 40	3109 21-32-64 42	3731 25-37-75 46	4353 28-42-84 50	4974 31-47-93 54
30"	4.868	CFM Throw NC	1947 17-26-51 30	2434 19-29-54 32	2921 21-32-64 35	3408 24-35-71 37	3894 26-39-78 39	4381 28-42-85 41	4868 31-46-92 43	5842 35-53-105 47	6815 39-58-117 51	7789 42-63-126 54
36"	7.02	CFM Throw NC	2808 24-36-72 31	3510 27-40-81 33	4212 30-45-90 36	4914 33-49-99 38	5616 36-54-108 40	6318 39-59-118 42	7020 42-63-127 44	8423 48-72-144 48	9827 53-79-158 57	11231 58-84-168 54

30" and 36" units are available in non-adjustable models only

See Page RCD-22 for Performance Notes

# RCD - Round Ceiling Diffusers

5/2007

## Adjustable Round Diffusers Model 3200 Steel

### Product Details

- ★ Excellent choice for high capacity applications such as factories, gymnasiums, theaters, and convention halls
- ★ Discharge pattern is easily adjusted from vertical to horizontal with adjustment ring
- ★ Diffuser can effectively be applied for either spot heating or cooling
- ★ In the horizontal setting the unit provides tight ceiling patterns excellent for VAV applications
- ★ Outer cone design guards against ceiling smudging in horizontal position

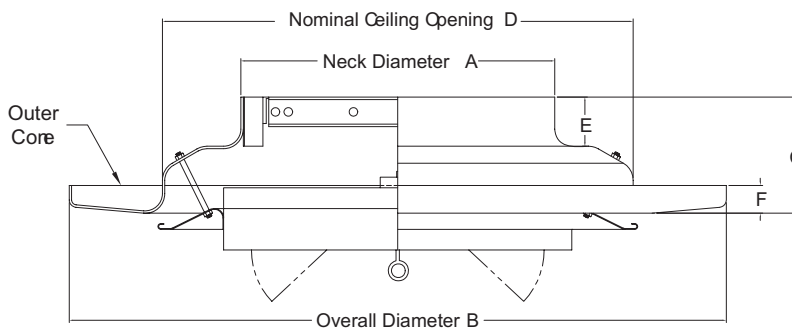


**Model 3200-1**

Standard Finish: 01 White

Dimensions are in inches

Round Diffuser - High Capacity - Adjustable - Pole Operated - Vertical to Horizontal Pattern  
Model 3200-1



Dimensions						
Size	A	B	C	D	E	F
6	5 3/4	17 1/4	2 1/8	6 3/4	1 1/8	1 1/8
8	7 3/4	17 1/4	2 1/8	8 3/4	1 1/8	1 1/4
10	9 3/4	20 1/4	2 5/8	10 3/4	1 1/4	1 3/4
12	11 3/4	22 1/4	2 5/8	12 3/4	1 1/4	1 3/4
14	13 3/4	29 1/2	2 5/8	14 3/4	1 1/4	2 3/8
16	15 3/4	29 1/2	2 3/4	16 3/4	1 1/4	2 3/8
18	17 3/4	33 1/2	3 5/8	18 3/4	1 1/4	2 1/2
20	19 3/4	36 1/2	3 5/8	20 3/4	1	2 1/2
24	23 3/4	40 1/2	3 5/8	24 3/4	1	2 1/2

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	G3 - Equalizing Grid ..... 220	Safety Chain	<ul style="list-style-type: none"> <li>• Sizes only as listed</li> <li>• Units 14" and greater are shipped with a factory installed safety chain</li> </ul>

# RCD - Round Ceiling Diffusers

## Model 3200 - Performance

Neck Velocity		400	500	600	700	800	900	1000	1200	1400	1600
Velocity Pressure		0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.090	0.122	0.160
6" Dia	Air Flow Rate, CFM	80	100	120	135	155	175	195	235	275	315
	Static Pressure, H	0.004	0.007	0.010	0.013	0.017	0.022	0.027	0.039	0.052	0.069
	Total Pressure, H	0.014	0.022	0.032	0.044	0.057	0.072	0.089	0.128	0.175	0.228
	Static Pressure, V	0.020	0.032	0.046	0.062	0.081	0.103	0.127	0.182	0.248	0.324
	Total Pressure, V	0.030	0.047	0.068	0.093	0.121	0.153	0.189	0.272	0.371	0.484
	NC, H	<	<	15	16	17	19	21	24	26	29
	NC, V	<	<	<	13	15	16	18	22	25	29
	Throw, H, cooling	1-1-3	1-2-3	1-2-4	1-2-4	2-2-5	2-3-6	2-3-6	2-4-7	3-4-9	3-5-9
	Throw, V, cooling	2-4-8	4-5-11	4-6-13	5-7-14	5-8-16	6-9-19	7-10-21	8-12-25	10-15-29	11-17-33
	Throw, V, heating	0-1-3	1-2-4	1-2-4	1-2-5	2-3-6	2-3-6	2-4-7	3-4-8	3-5-10	4-6-11
8" Dia	Air Flow Rate, CFM	140	175	210	245	280	315	350	420	490	560
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.020	0.029	0.039	0.051	0.065	0.080	0.115	0.157	0.205
	Static Pressure, V	0.012	0.018	0.026	0.036	0.046	0.059	0.073	0.104	0.142	0.186
	Total Pressure, V	0.022	0.034	0.049	0.066	0.086	0.109	0.135	0.194	0.264	0.345
	NC, H	<	16	18	20	21	23	25	28	31	34
	NC, V	<	<	<	<	<	17	19	24	28	32
	Throw, H, cooling	1-2-3	1-2-4	2-2-5	2-3-6	2-3-7	2-4-7	3-4-8	3-5-10	4-6-12	4-7-12
	Throw, V, cooling	3-6-11	5-7-14	6-8-17	6-10-19	7-11-22	8-13-25	9-14-28	11-17-33	13-19-39	15-22-45
	Throw, V, heating	1-1-4	1-2-5	1-3-6	2-3-7	3-4-8	3-4-9	3-5-9	4-6-11	4-7-13	5-8-15
10" Dia	Air Flow Rate, CFM	220	275	325	380	435	490	545	655	765	875
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.020	0.029	0.039	0.051	0.065	0.080	0.115	0.157	0.205
	Static Pressure, V	0.012	0.018	0.026	0.036	0.046	0.059	0.073	0.104	0.142	0.186
	Total Pressure, V	0.022	0.034	0.049	0.066	0.086	0.109	0.135	0.194	0.264	0.345
	NC, H	<	16	17	19	20	22	23	26	29	32
	NC, V	<	<	<	<	<	15	17	23	27	31
	Throw, H, cooling	1-2-4	2-3-5	2-3-6	2-4-7	3-4-8	3-5-9	3-5-10	4-6-12	5-7-14	6-8-15
	Throw, V, cooling	4-7-14	6-9-18	7-10-21	8-12-24	9-14-28	10-16-31	12-17-35	14-21-42	16-24-49	19-28-56
	Throw, V, heating	1-2-5	1-3-6	2-4-7	2-4-8	3-5-9	4-5-11	4-6-12	5-7-14	6-8-17	6-9-19
12" Dia	Air Flow Rate, CFM	315	395	470	550	630	705	785	940	1100	1255
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.02	0.029	0.039	0.051	0.065	0.080	0.115	0.157	0.205
	Static Pressure, V	0.011	0.017	0.025	0.034	0.044	0.056	0.069	0.099	0.134	0.175
	Total Pressure, V	0.021	0.033	0.047	0.064	0.084	0.106	0.131	0.188	0.257	0.335
	NC, H	<	<	15	19	23	26	29	35	40	43
	NC, V	<	<	<	17	20	23	27	32	37	41
	Throw, H, cooling	2-2-5	2-3-6	2-4-7	3-4-9	3-5-10	4-6-11	4-6-12	5-7-15	6-9-17	7-10-19
	Throw, V, cooling	4-8-17	7-10-21	8-12-25	10-15-29	11-17-33	12-19-37	14-21-42	17-25-50	19-29-58	22-33-67
	Throw, V, heating	1-2-6	1-3-7	2-4-8	3-5-10	4-6-11	4-6-13	5-7-14	6-8-17	7-10-20	8-11-23
14" Dia	Air Flow Rate, CFM	430	535	640	750	855	960	1070	1285	1495	1710
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.020	0.029	0.039	0.051	0.065	0.080	0.115	0.157	0.205
	Static Pressure, V	0.011	0.017	0.024	0.033	0.043	0.055	0.068	0.097	0.133	0.173
	Total Pressure, V	0.021	0.033	0.047	0.064	0.083	0.105	0.13	0.187	0.255	0.333
	NC, H	<	16	21	25	29	32	36	41	44	46
	NC, V	<	15	19	23	27	30	33	38	42	45
	Throw, H, cooling	2-3-6	2-4-7	3-4-9	3-5-10	4-6-12	4-6-13	5-7-14	6-9-17	7-10-20	8-12-22
	Throw, V, cooling	1-3-13	2-5-21	3-7-28	5-10-33	6-13-38	7-17-43	9-21-48	13-29-57	18-33-67	24-38-71
	Throw, V, heating	1-2-5	1-3-7	2-4-8	3-5-9	4-5-11	4-6-12	4-7-13	5-8-16	6-9-19	7-11-22
16" Dia	Air Flow Rate, CFM	560	700	840	975	1115	1255	1395	1675	1955	2235
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.020	0.029	0.039	0.051	0.065	0.080	0.115	0.157	0.205
	Static Pressure, V	0.010	0.016	0.024	0.032	0.042	0.053	0.066	0.094	0.129	0.168
	Total Pressure, V	0.02	0.032	0.046	0.063	0.082	0.104	0.128	0.184	0.251	0.328
	NC, H	15	20	25	29	33	37	40	45	48	50
	NC, V	16	20	24	28	31	35	38	43	47	49
	Throw, H, cooling	2-3-7	3-4-8	3-5-10	4-6-12	4-7-13	5-7-15	6-8-17	7-10-20	8-12-23	9-13-25
	Throw, V, cooling	2-4-14	3-6-23	4-8-30	5-11-35	6-14-40	8-18-45	10-22-50	14-30-60	20-35-69	26-40-79
	Throw, V, heating	1-2-6	1-3-8	2-4-9	2-5-11	3-6-12	4-7-14	5-8-16	6-9-19	7-11-22	8-12-25

See Page RCD-22 for Performance Notes



## Model 3200 - Performance

Neck Velocity		400	500	600	700	800	900	1000	1200	1400	1600
Velocity Pressure		0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.090	0.122	0.160
18" Dia	Air Flow Rate, CFM	705	885	1060	1235	1415	1590	1765	2120	2475	2825
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.02	0.029	0.039	0.051	0.065	0.08	0.115	0.157	0.205
	Static Pressure, V	0.01	0.016	0.023	0.031	0.041	0.051	0.064	0.092	0.125	0.163
	Total Pressure, V	0.02	0.031	0.045	0.062	0.081	0.102	0.126	0.181	0.247	0.322
	NC, H	<	19	23	27	31	35	38	44	50	54
	NC, V	<	16	21	25	30	34	37	43	49	52
	Throw, H, cooling	2-4-7	3-5-9	4-6-11	4-7-13	5-7-15	6-8-17	6-9-19	7-11-22	9-13-26	10-15-28
	Throw, V, cooling	2-4-14	3-6-23	4-8-32	5-11-37	6-14-43	8-18-48	10-23-53	14-32-64	20-37-74	26-43-85
	Throw, V, heating	1-1-5	1-2-8	1-3-11	2-4-12	2-5-14	3-6-16	4-8-18	5-11-21	7-12-25	9-14-28
20" Dia	Air Flow Rate, CFM	875	1090	1310	1525	1745	1965	2180	2620	3055	3490
	Static Pressure, H	0.003	0.004	0.006	0.009	0.011	0.014	0.018	0.026	0.035	0.046
	Total Pressure, H	0.013	0.02	0.029	0.039	0.051	0.065	0.08	0.115	0.157	0.205
	Static Pressure, V	0.01	0.015	0.022	0.029	0.038	0.049	0.06	0.087	0.118	0.154
	Total Pressure, V	0.02	0.031	0.044	0.06	0.078	0.099	0.123	0.176	0.24	0.314
	NC, H	<	19	25	29	34	38	41	48	53	57
	NC, V	<	<	20	25	30	35	39	45	50	52
	Throw, H, cooling	3-4-8	3-5-10	4-6-12	5-7-14	6-8-17	6-9-19	7-10-21	8-12-25	10-14-29	11-17-31
	Throw, V, cooling	2-4-14	2-6-22	4-8-32	5-11-41	6-14-47	8-18-53	10-22-59	14-32-71	19-41-83	25-47-95
	Throw, V, heating	0-1-4	1-1-6	1-2-9	1-3-12	2-4-15	2-5-18	3-6-19	4-9-23	5-12-27	7-15-31
24" Dia	Air Flow Rate, CFM	1255	1570	1885	2200	2515	2825	3140	3770	4400	5025
	Static Pressure, H	0.002	0.004	0.005	0.007	0.009	0.012	0.015	0.021	0.029	0.038
	Total Pressure, H	0.012	0.019	0.028	0.038	0.049	0.062	0.077	0.111	0.151	0.197
	Static Pressure, V	0.009	0.014	0.021	0.028	0.037	0.047	0.058	0.083	0.113	0.148
	Total Pressure, V	0.019	0.03	0.043	0.059	0.077	0.097	0.12	0.173	0.236	0.308
	NC, H	<	19	25	31	36	40	44	50	54	56
	NC, V	<	17	23	28	32	37	40	47	52	56
	Throw, H, cooling	3-5-10	4-6-12	5-7-15	6-9-17	7-10-20	7-11-22	8-12-25	10-15-30	12-17-35	13-20-37
	Throw, V, cooling	2-4-17	3-7-27	4-10-38	6-13-50	8-17-57	10-21-64	12-27-71	17-38-85	23-50-99	30-57-109
	Throw, V, heating	1-1-5	1-2-7	1-3-10	2-3-14	2-5-18	3-6-21	3-7-23	5-10-28	6-14-33	8-18-37

### Performance Notes for Model 3200-1:

- Tabulated throw in feet is based on a 9' ceiling, with supply air temperature 20°F cooler than room temperature, heating air temperature is 20°F above room temperature MAX Throw @ Vt = 50 fpm, MIN Throw @ Vt = 150 fpm, and the diffuser/inner cones in down position for 360° horizontal air distribution pattern.  
Example: 9-13-27  

| .....Distance @ 50 fpm Term. Vel.  
 | .....Distance @ 100 fpm Term. Vel.  
 | .....Distance @ 150 fpm Term. Vel.
- Velocity Pressure (Pv) and Static Pressure (Ps) are in inches of water. Pv + Ps = Pt (total pressure).
- Series 3200 Round Adjustable Diffusers are tested in accordance with ASHRAE 70-1991. Sound data are calculated in accordance with International Standard ISO 3741 comparison method. The NC values are based on a room absorption of 10 dB for sound power level (Lw) RE: 10E-12 watts. < symbol indicates NC less than 15. The NC data is for a single diffusers; for results of throttling a volume damper, see table below.
- All data is applicable for exposed duct mounting or ceiling installation.

### Performance Notes for Series 3100:

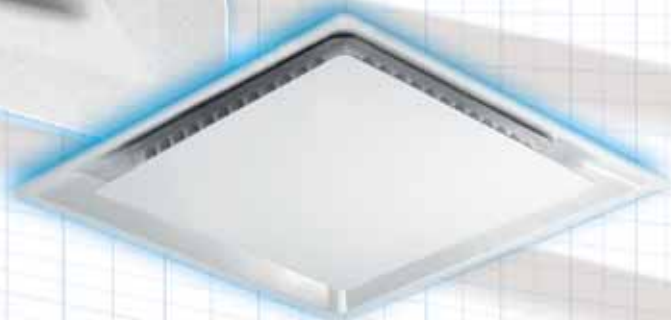
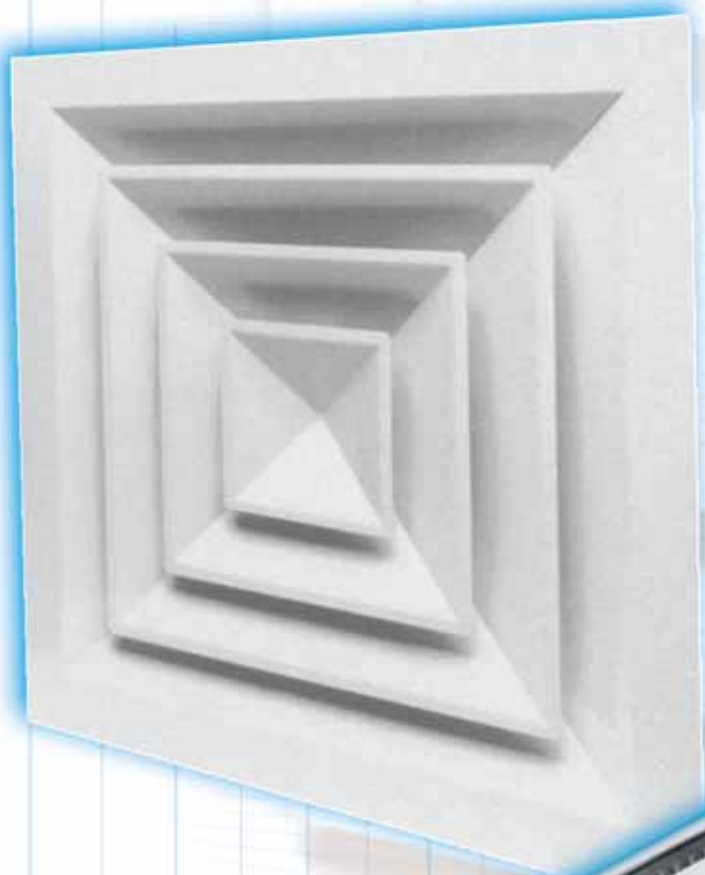
- Tabulated throw in feet is based on a 9' ceiling, with supply air temperature 20°F cooler than room temperature, MAX Throw @ Vt = 50 fpm, MIN Throw @ Vt = 150 fpm, and the diffuser/inner cones in down position for 360° horizontal air distribution pattern.  
Example: 9-13-27  

| .....Distance @ 50 fpm Term. Vel.  
 | .....Distance @ 100 fpm Term. Vel.  
 | .....Distance @ 150 fpm Term. Vel.

 For vertical Ak values, multiply Ak by 0.76.
- For vertical down projection air pattern with cooling supply air temperature 20° below room temperature, and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.80 to obtain vertical down projection distances at MIN and MAX (Vt) terminal velocities.
- For vertical down projection air pattern with heating supply air temperatures 20° above room temperature, and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.60 to obtain vertical down projection distances at MIN and MAX (Vt) terminal velocities.
- Velocity Pressure (Pv) and Static Pressure (Ps) are in inches of water. Pv + Ps = Pt (total pressure).
- Series 3100 Round Adjustable Diffusers are tested in accordance with ASHRAE 70-1991. Sound data are calculated in accordance with International Standard ISO 3741 comparison method. The NC values are based on a room absorption of 10 dB for sound power level (Lw) RE: 10E-12 watts. < symbol indicates NC less than 20. The NC data are for single diffusers; for results of throttling a volume damper, see table below.
- All data are applicable for exposed duct mounting or ceiling installation.



D  
C  
D



**DIRECTIONAL  
CEILING DIFFUSERS**



**Model 5000**  
Aluminum

(Border 1  
Surface Mount Shown)  
Pg. 28



Straight Lip

## Square/Rectangular Louver Face Ceiling Diffusers - Aluminum - Series 5000

- Available in 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way directional air patterns
- Cores are easy to remove with spring loaded latches — no tools required
- Series 5000 deflector blades are straight and do not include a horizontal lip, making this diffuser an excellent choice for high capacity applications
- The series 5000 is an excellent choice for VAV applications
- The series 5000 is available with optional induction vanes

Available Border Styles	
5000-1 Surface Mount	5000-6 T-bar Lay-in
5000-2 V-Beveled Drop Surface Mounting	5000-7 Concealed T-bar
5000-4 Drop Face Surface Mount	5000-8 Tegular T-bar
5000-46 Drop Face T-bar Lay-in	5000-9 Donn Finline



**Model 5500**  
Aluminum

(Border 6  
T-bar Lay-in Shown)  
Pg. 30



Horizontal Lip

## Square/Rectangular Louver Face Ceiling Diffusers - Aluminum - Series 5500

- Available in 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way directional air patterns
- Cores are easy to remove with spring loaded latches — no tools required
- Series 5500 deflector blades include a horizontal lip, making this diffuser an excellent choice for high induction applications
- The series 5500 is an excellent choice for VAV applications
- The series 5500 is available with optional induction vanes

Available Border Styles	
5500-1 Surface Mount	5500-6 T-bar Lay-in
5500-2 V-Beveled Drop Surface Mounting	5500-7 Concealed T-bar
5500-4 Drop Face Surface Mount	5500-8 Tegular T-bar
5500-46 Drop Face T-bar Lay-in	5500-9 Donn Finline



**Model 5500S**  
Steel

(Border 6  
T-bar Lay-in Shown)  
Pg. 32



Horizontal Lip

## Square/Rectangular Louver Face Ceiling Diffusers - Steel - Series 5500S

- Available in 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way directional air patterns
- Cores are easy to remove with spring loaded latches — no tools required
- Series 5500S deflector blades include a horizontal lip, making this diffuser an excellent choice for high induction applications
- The series 5500S is an excellent choice for VAV applications
- The series 5500S is also available with optional induction vanes.

Available Border Styles	
5500S-1 Surface Mount	5500SR-1 Flush Mount w/Integral Round Neck
5500S-2 V-Beveled Drop Surface Mounting	5500SR-2 V-Beveled Drop Surface Mounting - Round Neck
5500S-6 T-bar Lay-in	5500SR-6 T-bar Lay-in w/Integral Round Neck
5500S-8 Tegular T-bar	5500SR-8 Tegular T-bar - Round Neck
5500S-9 Donn Finline	5500SR-9 Donn Finline - Round Neck



**Model 5200**  
Pg. 38

## Square/Rectangular Diffusers - Economical Square Diffusers - Aluminum - Series 5200

- Removable core for concealed mounting
- Optional built-in opposed blade damper
- Available in 1 way, 2 way opposite, 2 way corner, 3 way, and 4 way directional air patterns

Available Border Styles	
5200-1 Surface Mount	
5200-2 Beveled Drop Surface Mounting	
5200-6 T-bar Lay-in	

# DCD - Directional Ceiling Diffusers



**Model 5700**  
Pg. 40

Series 5700 - Fixed  
Series 5700A - Adjustable

## Square Face Diffusers - Round Neck 2-Cone - Steel/Aluminum/Aluminized Steel Adjustable/Non-Adjustable - Series 5700

- ★ The series 5700 provides a tight horizontal 360° discharge pattern for superior induction and occupant comfort
- ★ Series 5700 can be converted in the field to a 3 cone diffuser with the addition of the optional Snap-58
- ★ Lay-in border designed to be installed in standard 15/16" wide tees
- ★ T-bar Lay-in border 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Cores are easy to remove without tools
- ★ The series 5700 is an excellent choice for VAV applications

Steel	Aluminized Steel	Aluminum
5700-1 Surface Mount	5700-1 AS Surface Mount	5700-1 AL Surface Mount
5700-6 T-bar Lay-in	5700-6 AS T-bar Lay-in	5700-6 AL T-bar Lay-in
5700-6P T-bar Lay-in Panel		
5700-7 Concealed T-bar	5700-7 AS Concealed T-bar	
5700-9 Donn Finline	5700-9 AS Donn Finline	
Metric/Steel	Metric/Aluminized Steel	Metric/Aluminum
M5700-6 T-bar Lay-in 600mm x 600mm	M5700-6 AS T-bar Lay-in 600mm x 600mm	M5700-6 AL T-bar Lay-in 600mm x 600mm

Adjustable/Steel	Adjustable/Aluminized Steel	Adjustable/Aluminum
5700A-1 Surface Mount	5700A-1 AS Surface Mount	
5700A-6 T-bar Lay-in	5700A-6 AS T-bar Lay-in	5700A-6 AL T-bar Lay-in
5700A-7 Concealed T-bar	5700A-7 AS Concealed T-bar	



**Model 5750**  
Pg. 44

## Square Panel Face Diffusers - Round Neck - Uni-Flo - Steel/Aluminized Steel - Series 5750

- ★ Attractive single panel design blends well with all ceilings
- ★ The series 5750 provides a tight 360° discharge pattern for superior induction and occupant comfort
- ★ T-bar Lay-in border type 6 designed to be installed in standard 15/16" wide tees
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Face panel is easy to remove without tools
- ★ The series 5750 is an excellent choice for VAV applications

Steel	Aluminized Steel	Metric/Steel	Metric/Aluminized Steel
5750-1 Surface Mount	5750-1 AS Surface Mount		
5750-6 T-bar Lay-in	5750-6 AS T-bar Lay-in		
5750-7 Concealed T-bar	5750-7 AS Concealed T-bar		
5750-9 Donn Finline	5750-9 AS Donn Finline		
		M5750-6 T-bar Lay-in - 600mm x 600mm	M5750-6 AS T-bar Lay-in - 600mm x 600mm



**Model 5800**  
Pg. 48

Series 5800 - Fixed  
Series 5800A - Adjustable

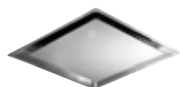
## Square Face Diffusers - Round Neck 3-Cone - Steel/Aluminum/Aluminized Steel Adjustable/Non-Adjustable - Series 5800

- ★ The series 5800 provides a tight 360° discharge pattern for superior induction and occupant comfort
- ★ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" wide tees
- ★ border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Cores are easy to remove without tools
- ★ The Series 5800 is an excellent choice for VAV applications

Steel	Aluminized Steel	Aluminum
5800-1 Surface Mount	5800-1 AS Surface Mount	5800-1 AL Surface Mount
5800-6 T-bar Lay-in	5800-6 AS T-bar Lay-in	5800-6 AL T-bar Lay-in
5800-6P T-bar Lay-in Panel		
5800-7 Concealed T-bar	5800-7 AS Concealed T-bar	
Metric/Steel	Metric/Aluminized Steel	Metric/Aluminum
M5800-6 T-bar Lay-in 600mm x 600mm	M5800-6 AS T-bar Lay-in 600mm x 600mm	M5800-6 AL T-bar Lay-in 600mm x 600mm

Adjustable/Steel	Adjustable/Aluminized Steel
5800A-1 Surface Mount	5800A-1 AS Surface Mount
5800A-6 T-bar Lay-in	5800A-6 AS T-bar Lay-in





**Series  
Phenomenator®**  
Pg. 52

## Square Panel Face Diffusers - Round Neck - Ultra High Performance - Series Phenomenator®

- ✱ The highest induction ratio of any commercial air diffuser available
- ✱ Excellent selection for providing exceptional comfort, especially in executive offices, conference rooms, and board rooms
- ✱ Can improve productivity by maintaining draft-free comfort in many applications
- ✱ Designed for applications calling for minimal temperature differences in a space
- ✱ Solves comfort problems in applications such as reception areas and entrance ways
- ✱ Diffuser can be applied in critical applications requiring minimal temperature gradients

Steel	Aluminized Steel	Metric/Steel	Metric/Aluminized Steel
Phenom-1 Surface Mount	Phenom-1 AS Surface Mount	M-Phenom-6 T-bar Lay-in - 600mm x 600mm	M-Phenom-6 AS T-bar Lay-in - 600mm x 600mm
Phenom-6 T-bar Lay-in	Phenom-6 AS T-bar Lay-in		
Phenom-7 Concealed T-bar	Phenom-7 AS Concealed T-bar		
Phenom-9 Donn Finline	Phenom-9 AS Donn Finline		



**Model  
5500 DAF-CC5**  
Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

## Concentric Supply/Return Ceiling Diffusers - Louvered Face - Cube Core Series 5500 DAF-CC5

- ✱ 5500 DAF-CC5 concentric supply/return diffuser is designed for high capacity application
- ✱ Cube core return
- ✱ 4-way air patterns only
- ✱ Choice of 6 mounting frames
- ✱ Snap-in/out core - simplifies installation
- ✱ Sizes to handle full range of standard tonnage roof-top units
- ✱ Supply/Return plenums are by others

Available Border Styles
5500 DAF-CC5-1 Surface Mount
5500 DAF-CC5-2 V-Beveled Drop Surface Mounting
5500 DAF-CC5-4 Deep Drop Frame
5500 DAF-CC5-6 T-bar Lay-in
5500 DAF-CC5-7 Concealed T-bar
5500 DAF-CC5-8 Tegular T-bar Lay-in



**Model 9000**  
Pg. 56

## Square/Rectangular Diffusers - Modular Core - Supply - Extruded Aluminum - Series 9000 Mod-Flo

- ✱ The series 9000 is a directional ceiling diffuser available in a wide range of field capabilities
- ✱ Modular cores can be adjusted to obtain 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way air patterns
- ✱ Cores are easy to remove with spring loaded latches - no tools required
- ✱ T-bar Lay-in border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ✱ The series 9000 is an excellent choice for VAV applications

Available Styles
9000-1 Surface Mount
9000-2 Beveled Frame
9000-6 T-bar Lay-in
9000-7 Concealed Spline
9000-8 Tegular T-bar
9000-9 Donn Finline



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRES Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRES Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaires.com](http://www.metalaires.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES



# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers

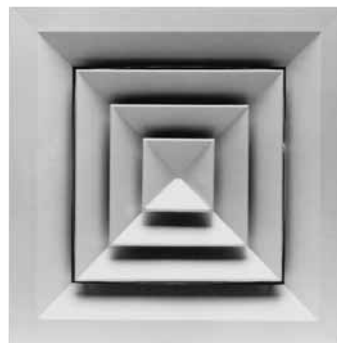


DCD

## ➔ Square/Rectangular Louver Face ➔ Series 5000 ➔ Extruded Aluminum

### Product Details

- ★ Available in 1, 2-way opposite, 2-way corner, 3, and 4-way directional air patterns
- ★ Cores are easy to remove with spring loaded latches - no tools required
- ★ 5000 series deflector blades are straight and do not include a horizontal lip, making this diffuser an excellent choice for high capacity applications
- ★ The 5000 series is an excellent choice for VAV applications
- ★ The 5000 series is available with optional induction vanes

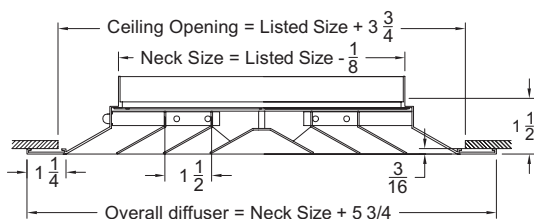


**Model 5000-1 S4 Shown**

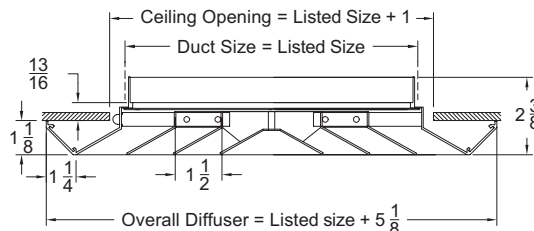
Standard Finish: 01 White

Dimensions are in inches

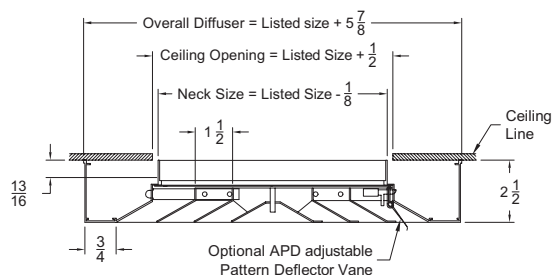
### Square/Rectangular Louver Face Ceiling Diffusers Surface Mount - Removable Core Model 5000-1



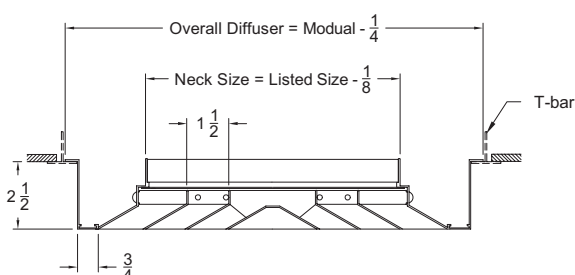
### Square/Rectangular Louver Face Ceiling Diffusers V-Beveled Drop Surface Mounting - Removable Core Model 5000-2



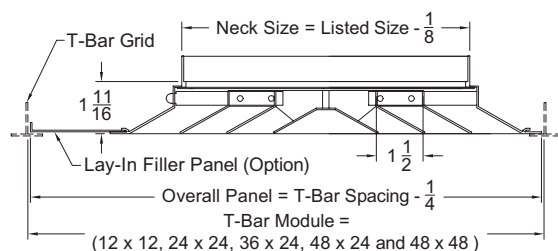
### Square/Rectangular Louver Face Ceiling Diffusers Drop Face Surface Mount - Removable Core Model 5000-4



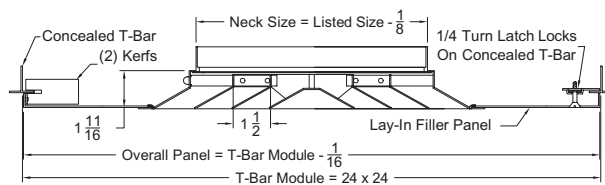
### Square/Rectangular Louver Face Ceiling Diffusers Drop Face - T-bar Lay-in - Removable Core Model 5000-46



### Square/Rectangular Louver Face Ceiling Diffusers T-bar Lay-in - Removable Core Model 5000-6



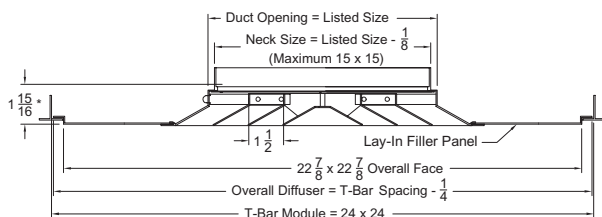
### Square/Rectangular Louver Face Ceiling Diffusers Concealed Spline - Removable Core Model 5000-7



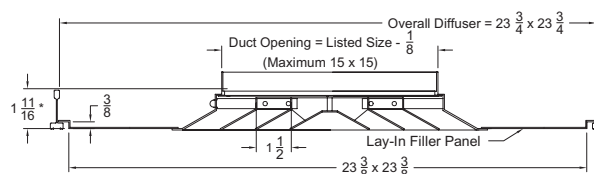
# DCD - Directional Ceiling Diffusers



## Square/Rectangular Louver Face Ceiling Diffusers Tegular T-bar - Removable Core Model 5000-8



## Square/Rectangular Louver Face Ceiling Diffusers Donn Fineline - Removable Core Model 5000-9



### Air Patterns - (Square) Louver Face Ceiling Diffusers

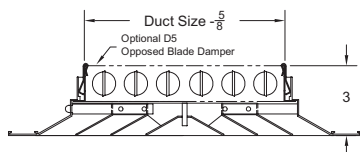
S1 - One Way	S2 - Two Way Opposite	SC - Two Way Corner	S3 - Three Way	S4 - Four Way

### Air Patterns - (Rectangular)

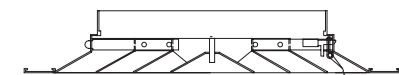
Short Louver Face Ceiling Diffusers				Long Louver Face Ceiling Diffusers		
R1 - One Way	R2S - Two Way Opposite	R3S - Three Way	R4 - Four Way	R1L - One Way	R2L - Two Way	R3L - Three Way

### Options and Accessories

#### Square/Rectangular Louver Face Ceiling Diffusers Option: D5 Opposed Blade Damper

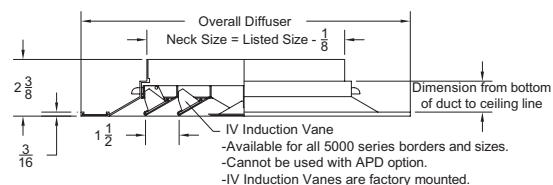


Option: APD Air Pattern Controller allows adjustment from horizontal to vertical from the face of the diffuser



Optional APD Adjustable Pattern Deflector Vane  
- Available for all 5000 series borders and sizes,  
- Cannot be used with IV Induction Vanes option,  
- APDs are factory mounted.

#### Square/Rectangular Louver Face Ceiling Diffusers Option: IV Induction Vane (see page DCD-37 for performance)



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color  <b>Note:</b> Anodized Finish not available	<b>Square and Rectangular Neck:</b> D5 - Opposed Blade Damper- Steel .....221 D5A - Opposed Blade Damper- Aluminum .....221 L9 - Equalizing Grid .....221 TR - Square to Round Transition .....220 TR DEEP - Square to Round Transition - Deep .....221 <b>Round Neck:</b> G3 - Equalizing Grid .....220 BDS - Butterfly Damper .....220 RSD - Radial Shutter Damper .....220	<b>Factory Mounted:</b> IV - Induction Vanes APD - Air Pattern Deflectors allows adjustment from horizontal to vertical air pattern from the face of the diffuser  <b>Note:</b> IV (Induction Vanes) can not be used with APD (Air Pattern Deflector) option and vice-versa	• Available air patterns: S1, S2, S3, S4, R1S, R1L, R2S, R2L, R3S, R3L, R4 and SC • For 5000-6 (D5) models only: 21" x 21" neck in 24" x 24" module is available in S4 pattern only



# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



DCD

## ➡ Square/Rectangular Louver Face ➡ Series 5500 ➡ Aluminum

### Product Details

- ★ Available in 1, 2-way opposite, 2-way corner, 3, and 4-way directional air patterns
- ★ Cores are easy to remove with spring loaded latches - no tools required
- ★ 5500 series deflector blades include a horizontal lip, making this diffuser an excellent choice for high induction applications
- ★ The 5500 series is an excellent choice for VAV applications
- ★ The 5500 series is available with optional induction vanes

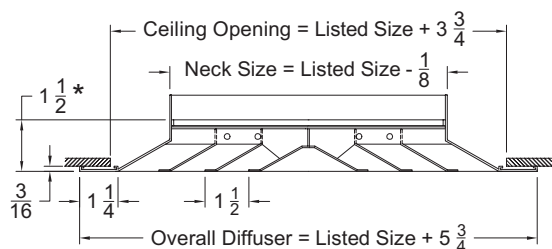


**Model 5500-2 S4 Shown**

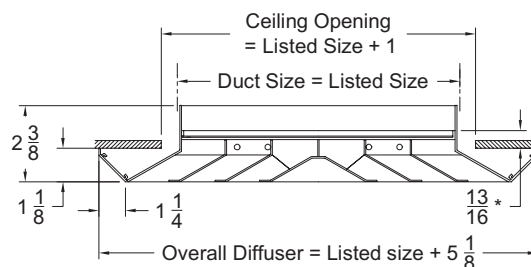
Standard Finish: 01 White

Dimensions are in inches

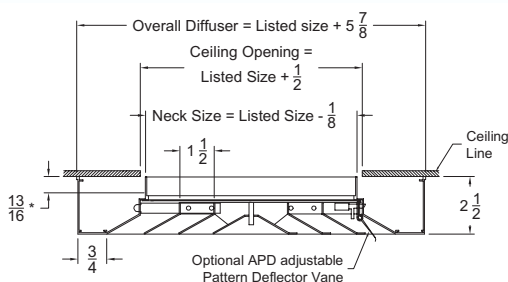
### Square/Rectangular Louver Face Ceiling Diffusers Surface Mount Model 5500-1



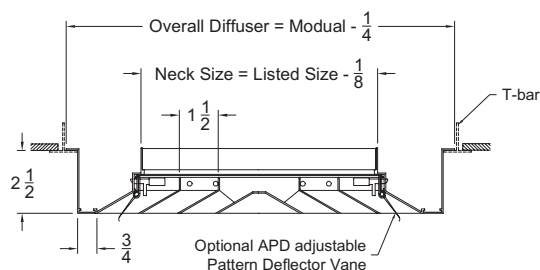
### Square/Rectangular Louver Face Ceiling Diffusers V-Beveled Drop Surface Mounting Model 5500-2



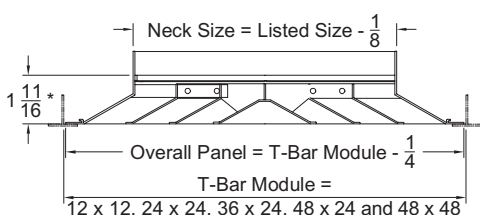
### Square/Rectangular Louver Face Ceiling Diffusers Drop Face Surface Mount Model 5500-4



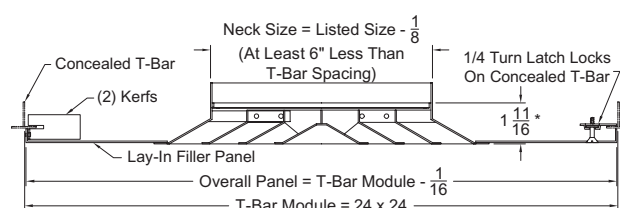
### Square/Rectangular Louver Face Ceiling Diffusers Drop Face T-bar Lay-in Model 5500-46



### Square/Rectangular Louver Face Ceiling Diffusers T-bar Lay-in Model 5500-6



### Square/Rectangular Louver Face Ceiling Diffusers Concealed Spline Model 5500-7

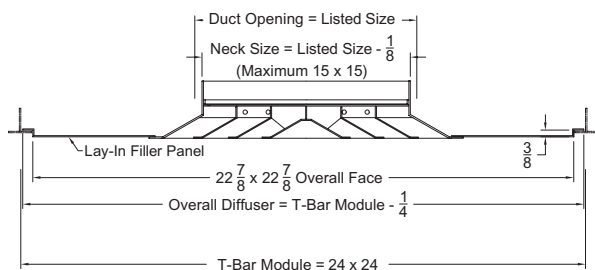




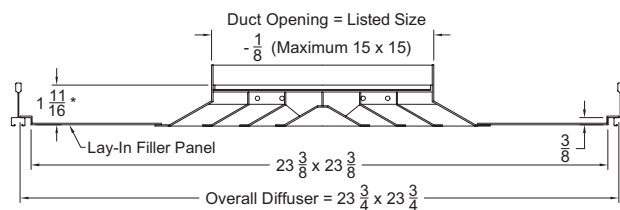
# DCD - Directional Ceiling Diffusers



## Square/Rectangular Louver Face Ceiling Diffusers Tegular T-bar Model 5500-8



## Square/Rectangular Louver Face Ceiling Diffusers Donn Fineline Model 5500-9



### Air Patterns - (Square) Louver Face Ceiling Diffusers

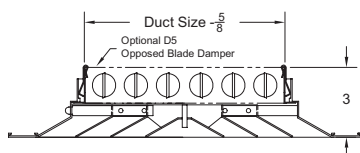
S1 - One Way	S2 - Two Way Opposite	SC - Two Way Corner	S3 - Three Way	S4 - Four Way

### Air Patterns - (Rectangular)

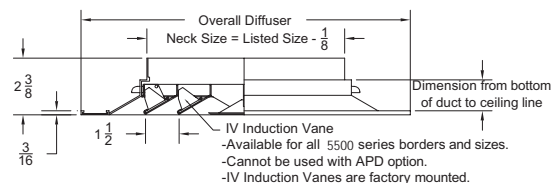
Short Louver Face Ceiling Diffusers				Long Louver Face Ceiling Diffusers		
R1 - One Way	R2S - Two Way Opposite	R3S - Three Way	R4 - Four Way	R1L - One Way	R2L - Two Way	R3L - Three Way

### Options and Accessories

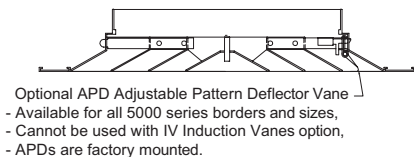
#### Square/Rectangular Louver Face Ceiling Diffusers Option: D5 Opposed Blade Damper



#### Square/Rectangular Louver Face Ceiling Diffusers Option: IV Induction Vane (see page DCD-37 for performance)



Option: APD Air Pattern Controller allows adjustment from horizontal to vertical from the face of the diffuser



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color  <b>Note:</b> Anodized Finish not available	<b>(Shipped Unattached)</b> <b>Square and Rectangular Neck:</b> D5 - Opposed Blade Damper - Steel ..... 221 D5A - Opposed Blade Damper - Aluminum ..... 221 L9 - Equalizing Grid ..... 221 TR - Square to Round Transition ..... 220 <b>Round Neck:</b> G3 - Equalizing Grid ..... 220 BDS - Butterfly Damper ..... 220 RSD - Radial Shutter Damper ..... 220	<b>Factory Mounted:</b> IV - Induction Vanes APD - Air Pattern Deflectors allows adjustment from horizontal to vertical air pattern from the face of the diffuser  <b>Note:</b> IV (Induction Vanes) can not be used with APD (Air Pattern Deflector) option and vice-versa	<ul style="list-style-type: none"> <li>Available air patterns: S1, S2, S3, S4, R1S, R1L, R2S, R2L, R3S, R3L, R4 and SC (Type)</li> <li>For 5500-6 models only: 21" x 21" neck in 24" x 24" module is available in S4 pattern only</li> </ul>

See Page DCD-36 for Performance Notes

For more product information visit us at [www.metalair.com](http://www.metalair.com)

# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers

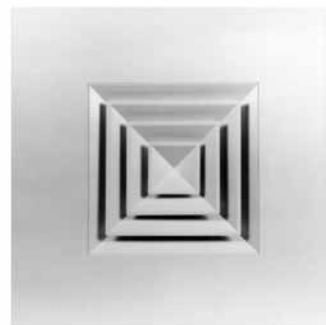


DCD

## ➡ Square/Rectangular Louver Face ➡ Series 5500S ➡ Steel

### Product Details

- ★ Available in 1, 2-way opposite, 2-way corner, 3, and 4-way directional air patterns
- ★ Cores are easy to remove with spring loaded latches - no tools required
- ★ 5500S series deflector blades include a horizontal lip, making this diffuser an excellent choice for high induction applications
- ★ The 5500S series is an excellent choice for VAV applications
- ★ The 5500S is also available with optional induction vanes

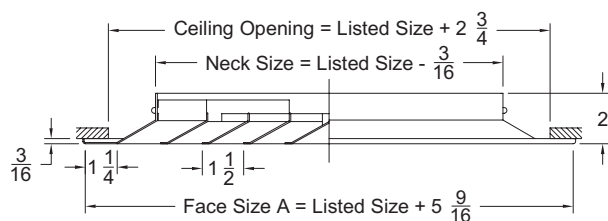


**Model 5500S-6 S4 Shown**

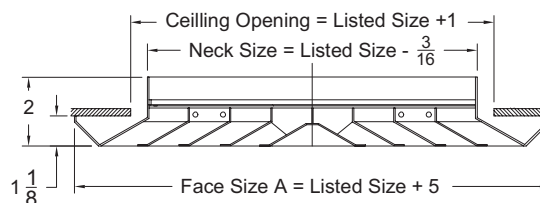
Standard Finish: 01 White

Dimensions are in inches

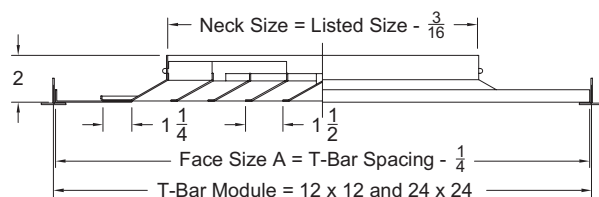
### Square/Rectangular Louver Face Ceiling Diffusers Surface Mount - Steel Model 5500S-1



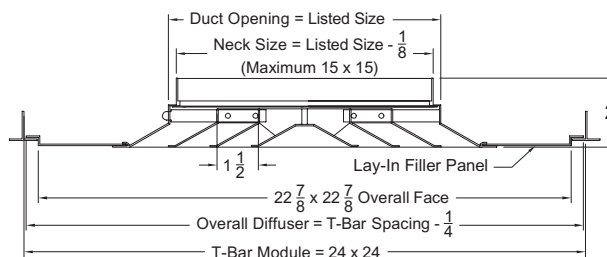
### Square/Rectangular Louver Face Ceiling Diffusers V-Beveled Drop Surface Mounting - Steel Model 5500S-2



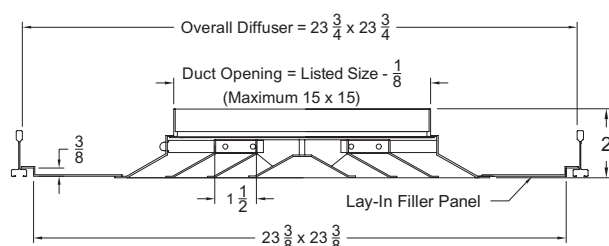
### Square/Rectangular Louver Face Ceiling Diffusers T-bar Lay-in - Steel Model 5500S-6



### Square/Rectangular Louver Face Ceiling Diffusers Tegular T-bar - Steel Model 5500S-8



### Square/Rectangular Louver Face Ceiling Diffusers Donn Fineline - Steel Model 5500S-9



# DCD - Directional Ceiling Diffusers

## Air Patterns - (Square) Louver Face Ceiling Diffusers

S1 - One Way	S2 - Two Way Opposite	SC - Two Way Corner	S3 - Three Way	S4 - Four Way

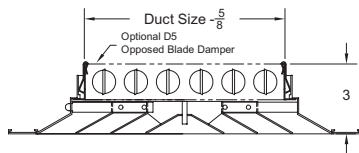
## Air Patterns - (Rectangular)

Short Louver Face Ceiling Diffusers				Long Louver Face Ceiling Diffusers		
R1 - One Way	R2S - Two Way Opposite	R3S - Three Way	R4 - Four Way	R1L - One Way	R2L - Two Way	R3L - Three Way

## Options and Accessories

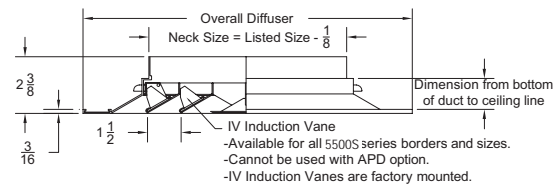
### Square/Rectangular Louver Face Ceiling Diffusers

Option: D5 Opposed Blade Damper

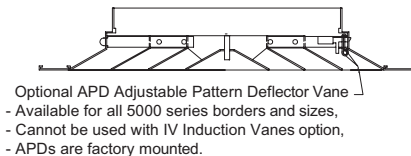


### Square/Rectangular Louver Face Ceiling Diffusers

Option: IV Induction Vane (see page DCD-37 for performance)



Option: APD Air Pattern Controller allows adjustment from horizontal to vertical from the face of the diffuser



Optional APD Adjustable Pattern Deflector Vane  
 - Available for all 5000 series borders and sizes,  
 - Cannot be used with IV Induction Vanes option,  
 - APDs are factory mounted.

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum 03 Black 28 Custom Color	<b>(Shipped Unattached)</b> <b>Square and Rectangular Neck:</b> D5 - Opposed Blade Damper - Steel .....221 D5A - Opposed Blade Damper - Aluminum .....221 L9 - Equalizing Grid .....221 TR - Square to Round Transition .....220 <b>Round Neck:</b> G3 - Equalizing Grid .....220 BDS - Butterfly Damper .....220 RSD - Radial Shutter Damper .....220	<b>Factory Mounted:</b> IV - Induction Vanes APD - Air Pattern Deflectors allows adjustment from horizontal to vertical air pattern from the face of the diffuser <b>Note:</b> IV (Induction Vanes) can not be used with APD (Air Pattern Deflector) option and vice-versa	<ul style="list-style-type: none"> <li>Available air patterns: S1, S2, S3, S4, R1S, R1L, R2S, R2L, R3S, R3L, R4 and SC</li> <li>For 5500S-6 models only: 21x21 neck in 24x24 module is available in S4 pattern only</li> </ul>

See Page DCD-52 for Performance Notes



# DCD - Directional Ceiling Diffusers

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## Series 5500/5500S - Performance

Models 5500 (frame styles: -1, -2, -4, -46, -6, -7, -8, -9)

Models 5500S (frame styles: -1, -2, -4, -46, -6, -7, -8, -9)

(S1) 1-Way Square Air Pattern

NECK SIZE Ak	Ps Pt	NECK VELOCITY					
		200	300	400	500	600	700
		.018 .020	.040 .046	.071 .081	.111 .127	.160 .182	.218 .248
6 x 6 Ak = .087	TOTAL CFM THROW NC	50 5-9 -	75 8-15 -	100 13-20 -	125 18-26 -	150 22-31 23	175 26-37 28
9 x 9 Ak = .197	TOTAL CFM THROW NC	113 8-16 -	169 12-21 -	225 17-27 -	281 22-32 24	338 27-38 29	394 31-44 34
12 x 12 Ak = .350	TOTAL CFM THROW NC	200 11-22 -	300 16-27 -	400 21-33 22	500 26-38 27	600 31-44 32	700 35-50 37
15 x 15 Ak = .546	TOTAL CFM THROW NC	313 12-24 -	469 17-30 -	625 23-35 24	781 28-41 29	938 33-47 34	1094 37-52 39
18 x 18 Ak = .787	TOTAL CFM THROW NC	450 14-26 -	675 22-32 20	900 33-45 25	1125 36-48 30	1350 38-52 35	1575 40-56 40
21 x 21 Ak = 1.071	TOTAL CFM THROW NC	613 16-28 -	919 26-34 21	1225 33-43 26	1531 37-51 31	1837 40-55 36	2144 42-58 41
24 x 24 Ak = 1.399	TOTAL CFM THROW NC	800 19-29 -	1200 28-36 22	1600 39-45 27	2000 40-53 32	2400 41-59 37	2800 44-61 42
27 x 27 Ak = 1.770	TOTAL CFM THROW NC	1013 21-31 -	1519 30-39 23	2025 35-49 28	2531 41-55 33	3037 43-60 38	3544 46-64 43

Models 5500 (-1, -2, -4, -46, -6, -7, -8, -9)

Models 5500S (-1, -2, -4, -46, -6, -7, -8, -9)

(SC) 2-Way Adjacent or or (S2) Opposite Pattern

NECK SIZE Ak	Ps Pt	NECK VELOCITY					
		200	300	400	500	600	700
		.018 .020	.040 .046	.071 .081	.111 .127	.160 .182	.218 .248
6 x 6 Ak = .087	TOTAL CFM CFM/SIDE THROW NC	50 25 3-6 -	75 38 7-12 -	100 50 11-17 -	125 63 16-23 -	150 75 20-28 23	175 88 24-34 28
9 x 9 Ak = .197	TOTAL CFM CFM/SIDE THROW NC	113 56 5-10 -	169 84 9-15 -	225 113 13-21 -	281 141 18-27 24	338 169 23-32 29	394 197 27-38 34
12 x 12 Ak = .350	TOTAL CFM CFM/SIDE THROW NC	200 100 7-14 -	300 150 12-20 -	400 200 16-26 22	500 250 21-31 27	600 300 26-37 32	700 350 30-42 37
15 x 15 Ak = .546	TOTAL CFM CFM/SIDE THROW NC	313 156 10-19 -	469 234 14-25 -	625 313 19-30 24	781 391 25-36 29	938 469 30-41 34	1094 547 33-47 39
18 x 18 Ak = .787	TOTAL CFM CFM/SIDE THROW NC	450 225 12-23 -	675 338 16-28 20	900 450 22-34 25	1125 563 27-39 30	1350 675 32-45 35	1575 788 36-51 40
21 x 21 Ak = 1.071	TOTAL CFM CFM/SIDE THROW NC	613 306 12-24 -	919 459 17-30 21	1225 613 23-35 26	1531 766 28-41 31	1837 919 33-47 36	2144 1072 37-52 41
24 x 24 Ak = 1.399	TOTAL CFM CFM/SIDE THROW NC	800 400 12-22 -	1200 600 16-28 22	1600 800 21-34 27	2000 1000 27-39 32	2400 1200 32-45 37	2800 1400 36-50 42
27 x 27 Ak = 1.770	TOTAL CFM CFM/SIDE THROW NC	1013 506 8-15 -	1519 759 12-21 23	2025 1013 17-27 28	2531 1266 22-32 33	3037 1519 27-38 38	3544 1772 31-43 43

See Page DCD-36 for Performance Notes

# DCD - Directional Ceiling Diffusers

## Series 5500/5500S - Performance

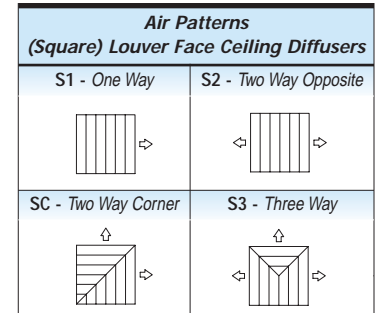
Models 5500 (-1, -2, -4, -46, -6, -7, -8, -9)

Models 5500S (-1, -2, -4, -46, -6, -7, -8, -9)

(S3) 3 Way Square Pattern

NECK SIZE Ak	Ps Pt Side Designation	NECK VELOCITY											
		200		300		400		500		600		700	
		.013 .016		.030 .036		.053 .063		.083 .099		.120 .142		.163 .194	
		A	B	A	B	A	B	A	B	A	B	A	B
6 x 6 Ak = .100	TOTAL CFM CFM/SIDE THROW NC	50 19 13 3-5 0	75 28 19 6-11 0	100 38 25 10-16 0	125 47 31 15-22 0	150 56 38 20-28 23	175 66 44 24-33 28						
9 x 9 Ak = .225	TOTAL CFM CFM/SIDE THROW NC	113 42 28 4-8 0	169 63 42 8-14 0	225 84 56 12-19 0	281 105 70 17-25 24	338 127 84 22-31 29	394 148 98 26-36 34						
12 x 12 Ak = .400	TOTAL CFM CFM/SIDE THROW NC	200 75 50 6-12 0	300 113 75 10-17 0	400 150 100 15-23 22	500 188 125 20-29 27	600 225 150 24-34 32	700 263 175 28-40 37						
15 x 15 Ak = .625	TOTAL CFM CFM/SIDE THROW NC	313 75 50 6-12 0	469 176 117 12-22 0	625 234 156 17-27 24	781 293 195 23-33 29	938 352 234 27-38 34	1094 410 273 31-44 39						
18 x 18 Ak =.900	TOTAL CFM CFM/SIDE THROW NC	450 169 113 10-20 0	675 253 169 15-25 20	900 338 225 20-31 25	1125 422 281 25-37 30	1350 506 338 30-42 35	1575 591 394 34-48 40						
21 x 21 Ak = 1.225	TOTAL CFM CFM/SIDE THROW NC	613 230 153 12-23 0	919 345 230 16-28 21	1225 459 306 22-34 26	1531 574 383 27-40 31	1837 689 459 32-45 36	2144 804 536 36-51 41						
24 x 24 Ak = 1.600	TOTAL CFM CFM/SIDE THROW NC	800 300 200 12-24 0	1200 450 300 17-30 22	1600 600 400 23-35 27	2000 750 500 28-41 32	2400 900 600 33-47 37	2800 1050 700 37-52 42						
27 x 27* Ak = 2.025	TOTAL CFM CFM/SIDE THROW NC	1013 380 253 12-23 0	1519 570 380 17-29 23	2025 759 506 22-34 28	2531 949 633 27-40 33	3037 1139 759 32-46 38	3544 1329 886 36-51 43						

See Page DCD-36 for Performance Notes



Directional Ceiling Diffusers

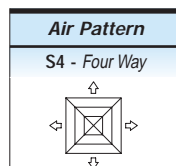


DCD

## Series 5500/5500S - Performance

Models 5500 (-1, -2, -4, -46, -6, -7, -8, -9 frame styles)  
Models 5500S (-1, -2, -4, -46, -6, -7, -8, -9 frame styles)  
(S4) 4-Way Square Pattern

NECK SIZE Ak	Ps Pt	NECK VELOCITY					
		200	300	400	500	600	700
		.013 .016	.030 .036	.053 .063	.083 .099	.120 .142	.163 .194
6 x 6 Ak = .100	TOTAL CFM CFM/SIDE THROW NC	50 13 2-4 -	75 19 6-10 -	100 25 10-16 -	125 31 15-21 -	150 38 19-27 23	175 44 23-32 28
9 x 9 Ak = .225	TOTAL CFM CFM/SIDE THROW NC	113 28 3-6 -	169 42 7-12 -	225 56 11-18 -	281 70 16-23 24	338 84 21-29 29	394 98 24-34 34
12 x 12 Ak = .400	TOTAL CFM CFM/SIDE THROW NC	200 50 5-9 -	300 75 8-15 -	400 100 13-20 22	500 125 18-26 27	600 150 22-31 32	700 175 26-37 37
15 x 15 Ak = .625	TOTAL CFM CFM/SIDE THROW NC	313 78 6-12 -	469 117 10-18 -	625 156 15-23 24	781 195 20-29 29	938 234 25-35 34	1094 273 29-40 39
18 x 18 Ak = .900	TOTAL CFM CFM/SIDE THROW NC	450 113 8-16 -	675 169 12-21 20	900 225 17-27 25	1225 306 22-32 30	1350 338 27-38 35	1575 394 31-44 40
21 x 21 Ak = 1.225	TOTAL CFM CFM/SIDE THROW NC	613 153 10-19 -	919 230 14-24 21	1225 306 19-30 26	1531 383 24-36 31	1837 459 29-41 36	2144 536 33-47 41
24 x 24 Ak = 1.600	TOTAL CFM CFM/SIDE THROW NC	800 200 11-22 -	1200 300 16-27 22	1600 400 21-33 27	2000 500 26-38 32	2400 600 31-44 37	2800 700 35-50 42
27 x 27* Ak = 2.025	TOTAL CFM CFM/SIDE THROW NC	1013 253 12-24 -	1519 380 17-29 23	2025 506 22-35 28	2531 633 28-40 33	3037 759 33-46 38	3544 886 37-52 43
33 x 33* Ak = 3.025	TOTAL CFM CFM/SIDE THROW NC	1513 378 12-23 -	2269 567 17-29 24	3025 756 22-34 29	3781 945 27-40 34	4537 1134 33-46 39	5294 1323 36-51 44



### Series 5500/5500S - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 - 50 fpm with ambient supply air temperature.
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factor

# DCD - Directional Ceiling Diffusers

## Optional IV

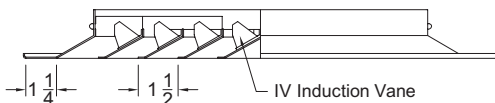
### Optional IV Induction Vane

Model 5000 - Aluminum

Model 5500 - Aluminum

Model 5500S - Steel

*IV Vanes increase the induction rate of the diffuser providing higher mixing and comfort in the occupied zone*



IV Induction Vane Shown (back side of diffuser)

## Optional IV - Performance

Performance Data		5000-IV Performance - Neck Velocity, fpm						5500-IV Performance - Neck Velocity, fpm							
		200		300		400		500		600		700		200	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B
Size	Pv in Inches H2O Ps in Inches H2O	.003 .015	.006 .030	.010 .050	.016 .078	.022 .110	.030 .150	.0002 .0008	.0006 .0017	.0010 .0031	.0016 .0049	.0022 .0070	.0022 .0095	.0022 .0124	
6" x 6"	Total CFM	50	75	100	125	150	175	50	75	100	125	150	175	200	
	1-Way	2	4	7	8	10	11	2	4	5	6	7	8	10	
	2-Way	1	3	4	6	7	8	3	7	5	6	7	8	10	
	3-Way	1	2	2	3	3	4	6	11	7	13	9	15	10	
	4-Way	1	2	2	3	4	6	7	13	9	15	10	18	15	
	NC	<	<	<	<	<	23	<10	<15	16	18	25	28	33	
9" x 9"	Total CFM	110	170	225	280	335	390	115	170	225	280	340	395	450	
	1-Way	4	7	10	11	12	16	3	10	5	12	7	13	11	
	2-Way	2	5	7	8	11	12	4	11	7	13	9	15	12	
	3-Way	1	2	3	5	6	7	9	16	11	19	12	21	14	
	4-Way	2	3	5	6	7	9	11	19	13	23	15	27	22	
	NC	<	<	<	<	23	28	<10	<15	17	20	26	31	35	
12" x 12"	Total CFM	200	300	400	500	600	700	200	300	400	500	600	700	800	
	1-Way	6	10	12	15	17	20	3	10	6	12	8	14	12	
	2-Way	4	7	9	12	13	15	5	12	8	14	9	16	11	
	3-Way	2	3	5	8	10	11	8	14	10	17	12	20	15	
	4-Way	2	5	7	8	9	11	12	20	14	24	16	28	23	
	NC	<	<	<	23	28	33	<10	<15	18	22	27	32	36	
15" x 15"	Total CFM	310	470	625	780	935	1090	315	470	625	780	940	1095	1250	
	1-Way	8	11	14	17	20	25	4	13	6	15	10	20	14	
	2-Way	5	8	11	12	15	17	6	14	8	18	11	20	16	
	3-Way	3	4	7	10	12	14	8	18	13	22	14	25	19	
	4-Way	3	6	8	10	12	14	14	25	18	31	20	35	23	
	NC	<	<	<	23	28	33	<10	17	23	29	34	39	45	
18" x 18"	Total CFM	450	675	900	1125	1350	1575	450	675	900	1125	1350	1575	1800	
	1-Way	9	12	16	20	22	27	4	14	7	17	12	21	15	
	2-Way	7	10	12	15	17	22	6	16	9	19	14	25	17	
	3-Way	4	5	8	10	11	14	9	19	14	23	16	27	21	
	4-Way	4	8	10	11	14	16	16	27	19	33	22	38	29	
	NC	<	<	<	23	28	33	<15	19	25	30	35	40	46	
21" x 21"	Total CFM	610	920	1225	1530	1835	2140	615	920	1225	1530	1840	2145	2450	
	1-Way	10	14	18	22	25	30	4	14	7	18	12	23	16	
	2-Way	7	11	14	17	20	26	6	17	9	21	15	27	18	
	3-Way	5	6	9	11	12	15	9	21	14	25	17	29	21	
	4-Way	5	9	11	13	15	18	17	29	21	36	24	42	32	
	NC	<	<	<	28	33	38	<15	20	25	31	36	41	47	

### Optional IV - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 - 50 fpm with ambient supply air temperature.
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factor

# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



DCD

## ➔ Economical Square Diffusers ➔ Series 5200 ➔ Aluminum

### Product Details

- ★ Removable core for concealed mounting
- ★ Optional built-in opposed blade damper
- ★ Available in 1 way, 2 way opposite, 2 way corner, 3 way and 4 way directional air patterns

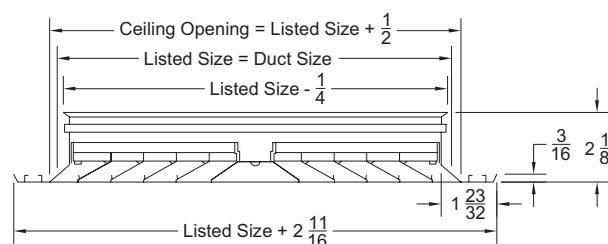


**Model 5200-2 Shown**

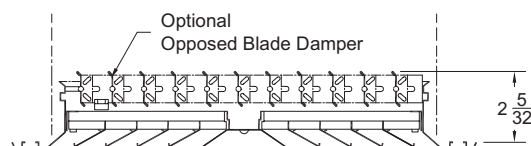
Standard Finish: 01 White

Dimensions are in inches

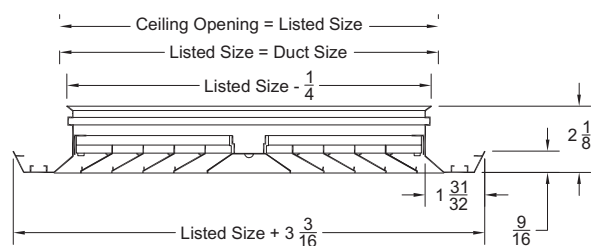
### Economical Square Diffusers - Surface Mount Model 5200-1



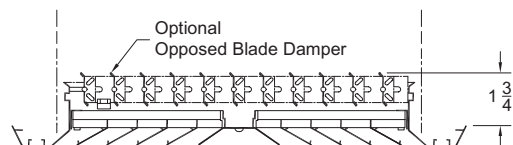
### Economical Square Diffusers - Surface Mount With Opposed Blade Damper Model 5200-1 D



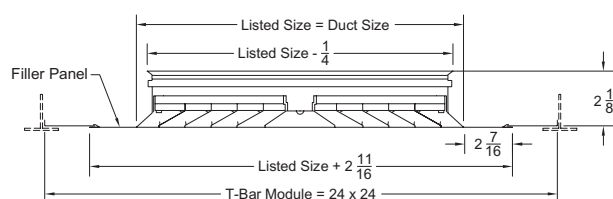
### Economical Square Diffusers - V-Beveled Drop Surface Mounting Model 5200-2



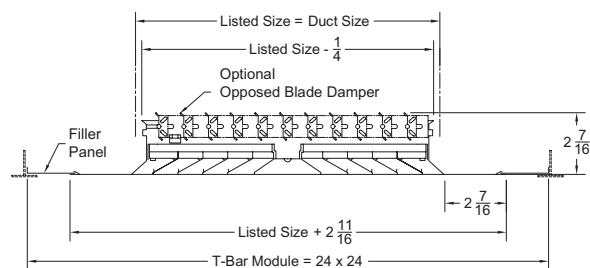
### Economical Square Diffusers - V-Beveled Drop Surface Mounting With Opposed Blade Damper Model 5200-2 D



### Economical Square Diffusers - T-bar Lay-in Model 5200-6

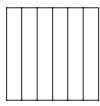
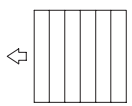
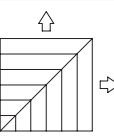
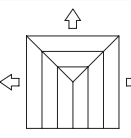
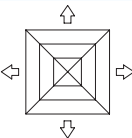


### Economical Square Diffusers - T-bar Lay-in With Opposed Blade Damper Model 5200-6 D





# DCD - Directional Ceiling Diffusers

Air Patterns - Square Economical Face Ceiling Diffusers					
S1 - One Way	S2 - Two Way Opposite	SC - Two Way Corner	S3 - Three Way	S4 - Four Way	Available Sizes
					6" x 6"    8" x 8" 10" x 10"    12" x 12" 14" x 14"    16" x 16" 18" x 18"    20" x 20" 22" x 22"    24" x 24"

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish:</b> 02 Aluminum 28 Custom Color	DA - Opposed Blade Damper - Aluminum .....337	Available Air Pattern: S1, S2, S3, S4 and SC Units are shipped with screw holes as standard

## Series 5200 - Performance

Models 5200 (-1, -2, -6, -1D, -2D, -6D)

CFM	Outlet Size	6 x 6	8 x 8	10 x 10	12 x 12	14 x 14	16 x 16	20 x 20	22 x 22	24 x 24
100	Neck Velocity Ps Throw	400 .004 12 17 14 12	225 .001 17 14 12 10	114 .001 14 12 10 9	100 .001 12 10 8 7					
200	Neck Velocity Ps Throw	800 .014 33 27 23 20	450 .004 27 22 19 16	288 .002 23 19 16 14	200 .001 21 17 14 12	147 .001 18 15 13 11				
300	Neck Velocity Ps Throw		675 .008 35 30 25 22	432 .004 35 30 25 22	300 .002 27 22 19 15	220 .001 24 20 17 15				
400	Neck Velocity Ps Throw		900 .019 47 39 32 29	576 .008 40 34 28 24	400 .004 35 30 25 22	294 .002 32 27 22 19				
600	Neck Velocity Ps Throw			864 .017 52 43 36 32	600 .008 43 36 30 26	441 .003 41 34 28 25	216 .001 30 25 21 19			
800	Neck Velocity Ps Throw				800 .018 57 48 40 35	588 .008 51 43 36 31	450 .005 47 39 32 29	288 .002 40 34 28 24	238 .001 35 29 24 21	200 .001 33 27 23 20
1000	Neck Velocity Ps Throw					735 .014 63 52 43 38	563 .009 57 48 40 35	360 .003 49 41 34 30	298 .002 40 34 28 25	250 .001 38 32 26 23
1200	Neck Velocity Ps Throw					882 .019 70 58 48 42	675 .012 64 53 44 39	432 .004 55 46 38 33	357 .002 46 38 32 28	300 .001 43 36 30 26
1400	Neck Velocity Ps Throw						787 .014 63 52 43 38	504 .005 60 50 41 36	417 .003 51 43 35 31	350 .002 48 40 33 29
1600	Neck Velocity Ps Throw						900 .020 76 63 52 46	576 .006 65 54 45 40	476 .005 61 51 42 37	400 .003 57 48 40 35
1800	Neck Velocity Ps Throw							648 .006 65 54 45 40	536 .011 78 65 54 48	450 .006 76 61 51 45
2000	Neck Velocity Ps Throw							720 .007 70 58 48 42	595 .008 70 58 48 42	500 .004 66 55 45 40
2200	Neck Velocity Ps Throw							792 .014 79 66 55 48	655 .009 47 62 51 45	550 .005 70 58 48 42

### Series 5200 - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

**Neck Velocity** - The neck velocity is in feet per minute (fpm).

**Ps** - Static pressure =  $P_t - P_v$  (inches of water column).

**Throw** - Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 fpm is reached.

Numbers reported in chart are, from left to right, for 1,2,3, and 4-way throw patterns.



# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



DCD

➔ Square Face Diffuser ➔ 2-Cone ➔ Round Neck ➔ Series 5700 ➔ Steel

➔ Series 5700 AS ➔ Aluminized Steel

➔ Series 5700 AL ➔ Steel

## Product Details

- ★ The 5700 provides a tight horizontal 360° discharge pattern for superior induction and occupant comfort
- ★ 5700 can be converted in the field to a 3 cone diffuser with the addition of the optional Snap-58
- ★ Available in metric 600mm x 600mm lay-in
- ★ Model 5700A is adjustable from horizontal to vertical discharge
- ★ Lay-in T-bar border 6 can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPF)
- ★ Cores are easy to remove without tools
- ★ The 5700 series is an excellent choice for VAV applications



**Model 5700-6 Shown**

Standard Finish: 01 White

## Aluminized Steel

METALAIRE is proud to announce the availability of aluminized steel for our square Directional Ceiling Diffusers. In environments which demand aluminum's corrosion resistance, the aluminized coated steel offers the protection of aluminum and the strength of steel. The use of aluminized steel results in a product that ships better and that handle better during installation.

## What is Aluminized Steel?

Aluminized steel is continuously hot-dip coated in a bath of commercially pure aluminum to provide a metallurgical bond between the steel substrate and the aluminum coating. The aluminum bath contains 5% to 11% silicon, which is added to minimize growth of a brittle iron-aluminum inter-metallic layer and thus promote coating adherence during forming. This process melds the best features of both metallic materials; the strength and other mechanical properties of the steel substrate and the surface characteristics and corrosion resistance of the aluminum coating.

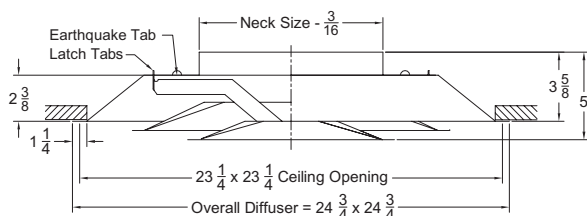
Aluminized steel has been subjected to long-term testing for resistance to atmospheric corrosion and is proven superior to any other metallic-coated steel. Over forty years of exposure tests in a mild industrial atmosphere show the coating on aluminized steel still protecting the base metal with virtually no detectable loss of the original coating.

## Non - Adjustable

Dimensions are in inches

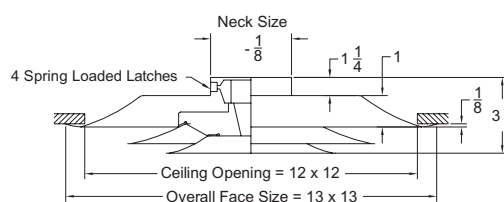
### Square Face Diffusers - Surface Mount - 24" x 24"

Model 5700-1 - Steel  
Model 5700-1 AS - Aluminized Steel  
Model 5700-1 AL - Aluminum



### Square Face Diffusers - Surface Mount - 12" x 12"

Model 5700-1 - Steel  
Model 5700-1 AS - Aluminized Steel  
Model 5700-1 AL - Aluminum

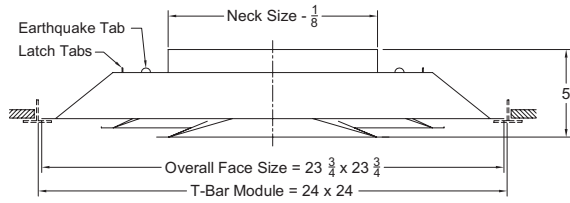


# DCD - Directional Ceiling Diffusers



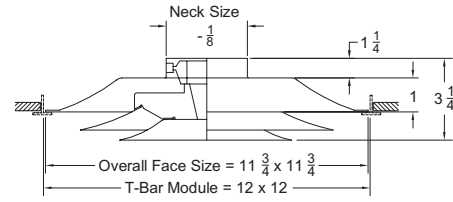
## Square Face Diffusers - T-Bar Lay-in - 24" x 24"

Model 5700-6 - Steel  
Model 5700-6 AS - Aluminized Steel  
Model 5700-6 AL - Aluminum



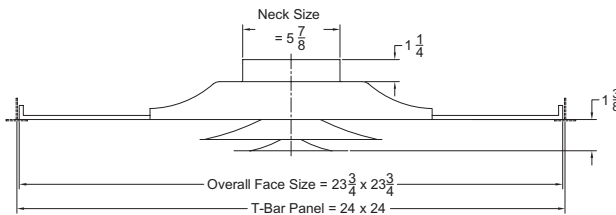
## Square Face Diffusers - T-bar Lay-ins - 12" x 12"

Model 5700-6 - Steel  
Model 5700-6 AS - Aluminized Steel  
Model 5700-6 AL - Aluminum



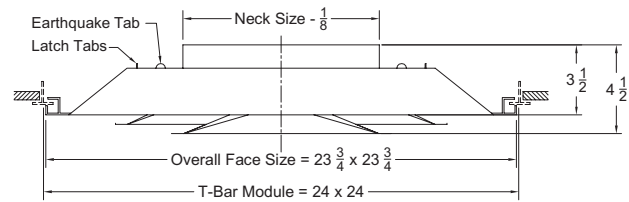
## Square Face Diffusers - T-bar Lay-in Panel - Steel

Model 5700-6P



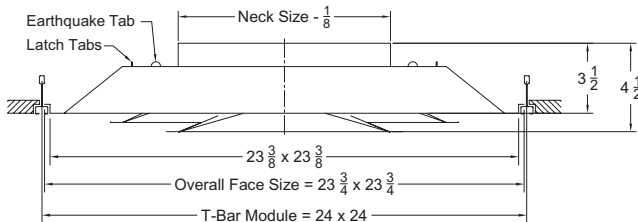
## Square Face Diffusers - Concealed Spline - 24" x 24"

Model 5700-7 - Steel  
Model 5700-7 AS - Aluminized Steel



## Square Face Diffusers - Donn Fineline - 24" x 24"

Model 5700-9 - Steel  
Model 5700-9 AS - Aluminized Steel

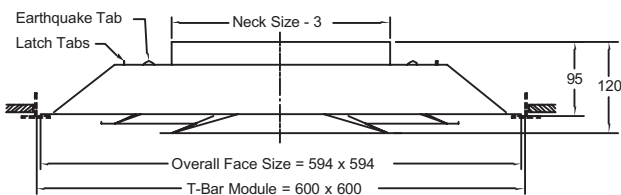


## Metric

Dimensions are in millimeters

## Square Face Diffusers - Metric - T-bar Lay-in - Steel

Model M5700-6 - 600mm x 600mm  
Model M5700-6 AS - 600mm x 600mm  
Model M5700-6 AL - 600mm x 600mm



# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



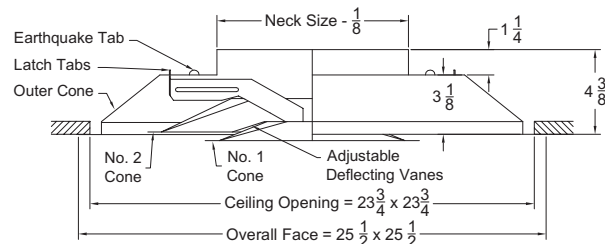
DCD

## Adjustable

Dimensions are in inches

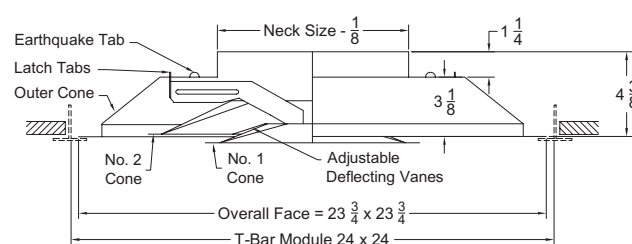
### Square Face Diffusers - Surface Mount

Model 5700A-1 - Steel  
Model 5700A-1 AS- Aluminized Steel  
Model 5700A-1 AL- Aluminum



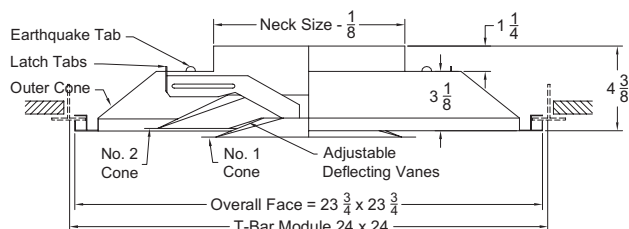
### Square Face Diffusers - T-bar Lay-in

Model 5700A-6 - Steel  
Model 5700A-6 AS- Aluminized Steel  
Model 5700A-6 AL- Aluminum



### Square Face Diffusers - Concealed Spline

Model 5700A-7 - Steel  
Model 5700A-7 AS- Aluminized Steel



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White  <b>Optional Finish</b> 03 Black 28 Custom color	D3 - Round Opposed Blade Damper - Steel .....220 SD3 - Round Opposed Blade Damper - Aluminum ...220 G3 - Equalizing Grid .....220 BDS - Butterfly Damper .....220 RSD - Radial Shutter Damper .....220 SNAP 58 - Converts 5700 from 2 to 3 Cones) BAF - Directional Baffles  <b>Note:</b> All Accessories Shipped Unattached	• Sizes only as listed • Available Neck Sizes: 6, 8, 10, 12, 14 and 15

# DCD - Directional Ceiling Diffusers

## Series 5700 - Performance

Models 5700 (-1, -6, -7, -9), 5700-6P, 5700 AS (-1,-6,-7,-9), 5700 AL (-1, -6), 5700A (-1, -6, -7), 5700A-1, 5700A-6P

Listed Size	Neck Size Ak	fpm Neck Velocity Pv	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	900 0.050	1000 0.062	1200 0.090	1400 0.122	2000 0.249
12" x 12"	6 Ak = 0.093	CFM Ps Pt Throw* Throw NC	80 0.021 0.031 2-3-6 3-4-6 -	100 0.033 0.049 3-4-7 3-5-7 <15	120 0.048 0.071 3-5-7 4-5-7 18	135 0.061 0.091 3-5-8 4-6-8 20	155 0.080 0.120 4-6-8 5-6-8 23	175 0.102 0.153 4-6-9 5-6-9 26	195 0.127 0.189 5-7-9 6-7-9 28	235 0.184 0.274 6-7-10 6-7-10 33	275 0.253 0.375 6-8-11 6-8-11 36	395 0.521 0.770 8-9-13 8-10-13 44
	8 Ak = 0.165	CFM Ps Pt Throw* Throw NC	140 0.029 0.039 3-4-8 3-5-8 -	175 0.046 0.062 3-5-9 4-6-9 <15	210 0.066 0.089 4-6-10 5-7-10 19	245 0.090 0.121 5-7-11 6-7-11 22	280 0.118 0.158 5-8-11 6-7-11 25	315 0.149 0.199 6-8-12 7-8-12 28	350 0.184 0.246 7-9-13 8-10-14 31	420 0.265 0.354 8-10-14 8-10-14 36	490 0.360 0.482 9-11-15 9-11-15 40	700 0.735 0.984 10-13-18 10-13-18 46
24" x 24"	6 Ak = .077	CFM Ps Pt Throw* Throw NC	80 0.014 0.024 2-2-5 2-4-7 -	100 0.021 0.037 2-3-5 3-5-8 -	120 0.031 0.053 2-4-6 4-6-9 -	135 0.039 0.069 3-4-6 4-6-10 -	155 0.051 0.091 3-4-6 5-7-10 <15	175 0.065 0.116 4-5-7 5-8-11 16	195 0.081 0.143 4-5-7 6-8-12 18	235 0.118 0.207 5-6-8 7-9-13 23	275 0.161 0.283 5-6-8 8-10-14 27	395 0.332 0.582 6-7-10 10-12-17 43
	8 Ak = 0.136	CFM Ps Pt Throw* Throw NC	140 0.016 0.026 2-3-6 3-5-10 -	175 0.025 0.040 3-4-7 4-6-11 -	210 0.036 0.058 3-5-7 5-7-12 -	245 0.048 0.079 4-6-8 6-9-13 -	280 0.063 0.103 4-6-9 6-10-14 <15	315 0.080 0.131 5-6-9 7-10-15 18	350 0.099 0.161 5-7-10 8-11-16 21	420 0.142 0.232 6-7-10 10-12-17 26	490 0.194 0.316 7-8-11 11-13-18 30	700 0.395 0.645 8-10-13 13-16-22 55
	10 Ak = 0.213	CFM Ps Pt Throw* Throw NC	220 0.019 0.029 3-4-8 4-6-12 -	275 0.030 0.046 3-5-8 5-8-14 -	325 0.042 0.064 4-6-9 6-9-15 -	380 0.057 0.088 5-7-10 7-11-16 <15	435 0.075 0.115 5-8-11 8-12-17 16	490 0.096 0.146 6-8-11 9-13-18 20	545 0.118 0.181 7-8-12 10-14-19 24	655 0.171 0.261 8-9-13 12-15-21 30	765 0.233 0.355 8-10-14 13-16-23 35	1090 0.473 0.722 10-12-17 16-19-28 63
	12 Ak = 0.307	CFM Ps Pt Throw* Throw NC	315 0.021 0.031 3-5-9 5-7-15 -	395 0.033 0.048 4-6-10 6-9-17 -	470 0.046 0.069 5-7-11 7-11-18 -	550 0.063 0.094 6-8-12 8-13-20 <15	630 0.083 0.123 7-9-13 10-15-21 19	705 0.104 0.154 7-10-14 11-16-22 23	785 0.129 0.191 8-10-14 12-17-23 27	940 0.185 0.274 9-11-16 14-18-26 33	1100 0.253 0.375 10-12-17 16-20-28 39	1570 0.515 0.765 12-14-20 19-23-33 68
	14 Ak = 0.418	CFM Ps Pt Throw* Throw NC	430 0.026 0.036 4-6-11 6-9-17 -	535 0.041 0.056 5-7-12 7-11-19 -	640 0.058 0.081 6-9-13 8-13-21 <15	750 0.080 0.110 7-10-14 10-15-23 <15	855 0.104 0.144 8-11-15 11-17-24 18	960 0.131 0.181 9-11-16 13-18-26 23	1070 0.163 0.225 10-12-17 14-19-27 28	1285 0.234 0.324 11-13-18 17-21-30 35	1495 0.317 0.440 11-14-20 19-23-32 40	2140 0.650 0.900 14-17-24 22-27-39 57
	15 Ak = 0.479	CFM Ps Pt Throw* Throw NC	490 0.032 0.042 4-6-11 6-9-18 -	615 0.051 0.066 5-8-13 8-11-21 -	735 0.072 0.095 6-9-14 9-14-23 <15	860 0.099 0.130 7-11-15 11-16-24 16	980 0.129 0.169 8-11-16 12-18-26 22	1105 0.164 0.214 9-12-17 14-20-28 27	1225 0.201 0.263 10-13-18 15-21-29 31	1475 0.292 0.381 11-14-20 18-23-32 39	1720 0.396 0.519 12-15-21 20-24-35 46	2455 0.808 1.057 15-18-25 24-29-41 68

### Series 5700 - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic Feet per Minute (air)
- fpm - Velocity of air stream in Feet Per Minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw\* - Non-isothermal horizontal throw (supply air temperature 15°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors





➔ Square Panel Face ➔ Series 5750 ➔ Steel

➔ Series 5750 AS ➔ Aluminized Steel

## Product Details

- ★ Attractive single panel design blends well with all ceilings
- ★ The 5750 provides a tight 360° discharge pattern for superior induction and occupant comfort
- ★ Available in metric lay-in 600mm x 600mm
- ★ Lay-in T-bar border 6 can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPF)
- ★ Face panel is easy to remove without tools
- ★ The 5750 is an excellent choice for VAV applications



**Model 5750-6 Shown**

Standard Finish: 01 White

## Aluminized Steel

METALAIRE is proud to announce the availability of aluminized steel for our square Directional Ceiling Diffusers. In environments which demand aluminum's corrosion resistance, the aluminized coated steel offers the protection of aluminum and the strength of steel. The use of aluminized steel results in a product that ships better and that handle better during installation.

## What is Aluminized Steel?

Aluminized steel is continuously hot-dip coated in a bath of commercially pure aluminum to provide a metallurgical bond between the steel substrate and the aluminum coating. The aluminum bath contains 5% to 11% silicon, which is added to minimize growth of a brittle iron-aluminum inter-metallic layer and thus promote coating adherence during forming. This process melds the best features of both metallic materials; the strength and other mechanical properties of the steel substrate and the surface characteristics and corrosion resistance of the aluminum coating.

Aluminized steel has been subjected to long-term testing for resistance to atmospheric corrosion and is proven superior to any other metallic-coated steel. Over forty years of exposure tests in a mild industrial atmosphere show the coating on aluminized steel still protecting the base metal with virtually no detectable loss of the original coating.

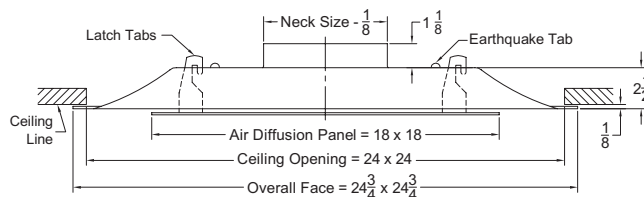
Dimensions are in inches

### Square Face - Round Neck - Uni-Flow Panel Face

Surface Mount - 24" x 24"

Model 5750-1 - Steel

Model 5750-1 AS - Aluminized Steel

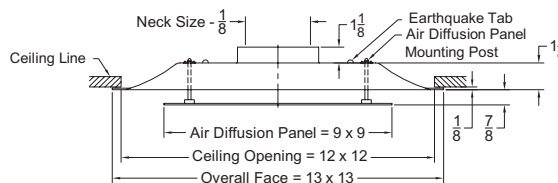


### Square Face - Round Neck - Uni-Flow Panel Face

Surface Mount - 12" x 12"

Model 5750-1 - Steel

Model 5750-1 AS - Aluminized Steel

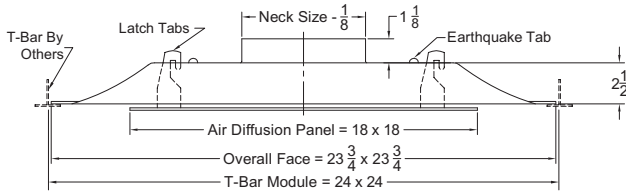




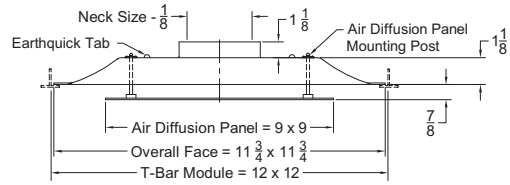
# DCD - Directional Ceiling Diffusers



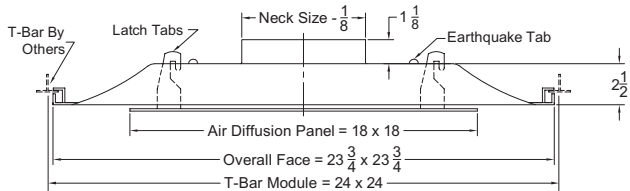
**Square Face - Round Neck - Uni-Flow Panel Face**  
**T-bar Lay-in - 24" x 24"**  
 Model 5750-6 - Steel  
 Model 5750-6 AS - Aluminized Steel



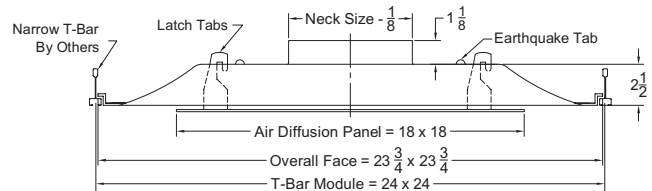
**Square Face - Round Neck - Uni-Flow Panel Face**  
**T-bar Lay-in - 12" x 12"**  
 Model 5750-6 - Steel  
 Model 5750-6 AS - Aluminized Steel



**Square Face - Round Neck - Uni-Flow Panel Face**  
**Concealed Spline - 24" x 24"**  
 Model 5750-7 - Steel  
 Model 5750-7 AS - Aluminized Steel



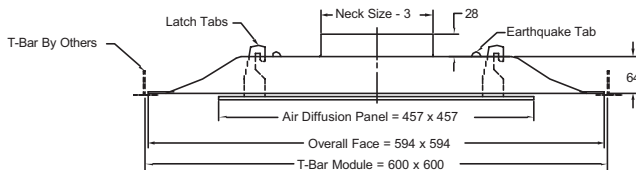
**Square Face - Round Neck - Uni-Flow Panel Face**  
**Donn Fineline - 12" x 12"**  
 Model 5750-9 - Steel  
 Model 5750-9 AS - Aluminized Steel



## Metric

Dimensions are in millimeters

**Square Face - Round Neck - Uni-Flow Panel Face - Metric**  
**T-bar Lay-in**  
 Model M5750-6 - Steel  
 Model M5750-6 AS - Aluminized Steel



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 03 Black 28 Custom color	G3 - Equalizing Grid .....220 BDS - Butterfly Damper .....220 RSD - Radial Shutter Damper .....220 BAF - Directional Baffles BO - Blank off for 5750  <b>Note:</b> All Accessories Shipped Unattached	<ul style="list-style-type: none"> <li>Sizes only as listed</li> <li>Available Neck Sizes:                6" and 8" for 12" x 12" Module                6", 8", 10", 12", 14", and 15" for                24" x 24" Module.</li> </ul>

# DCD - Directional Ceiling Diffusers

5/2007

## Series 5750 - Performance

Models 5750 (-1, -2, -7, -9) 5750 AS (-1, -6, -7, -9)

Listed Size	Neck Size Ak	fpm Neck Velocity Pv	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	900 0.050	1000 0.062	1200 0.090	1400 0.122	2000 0.249
12" x 12"	6 Ak = 0.093	CFM Ps Pt Throw* Throw NC	80 0.009 0.019 3-4-7 3-4-7 <15	100 0.014 0.030 3-5-7 4-5-7 <15	120 0.021 0.043 4-6-8 4-6-8 <15	135 0.024 0.054 4-6-9 5-6-9 16	155 0.032 0.072 5-6-9 5-7-9 18	175 0.041 0.092 6-7-10 6-7-10 21	195 0.051 0.114 6-7-10 6-7-10 23	235 0.075 0.165 6-8-11 7-8-11 27	275 0.104 0.226 7-9-12 7-9-12 31	315 0.137 0.297 8-9-13 8-9-13 34
	8 Ak = 0.165	CFM Ps Pt Throw* Throw NC	140 0.017 0.027 3-5-9 4-6-9 <15	175 0.027 0.043 4-7-10 5-7-10 <15	210 0.039 0.061 5-8-11 6-8-11 17	245 0.053 0.083 6-8-11 7-8-12 20	280 0.069 0.109 7-9-12 7-9-13 22	315 0.087 0.138 8-9-13 8-9-13 25	350 0.108 0.170 8-10-14 8-10-14 27	420 0.155 0.245 9-11-15 9-11-15 31	490 0.212 0.334 10-12-17 10-12-17 34	560 0.276 0.436 10-12-17 10-13-18 37
24" x 24"	6 Ak = .077	CFM Ps Pt Throw* Throw NC	80 0.003 0.013 0-1-4 1-2-5 <15	100 0.004 0.020 1-2-6 1-3-6 <15	120 0.006 0.029 1-2-7 2-4-7 <15	135 0.006 0.036 1-3-8 2-4-8 <15	155 0.008 0.048 2-4-8 3-5-9 15	175 0.011 0.061 2-5-9 4-5-9 18	195 0.014 0.076 3-5-9 4-6-10 21	235 0.021 0.110 4-7-10 5-7-11 26	275 0.029 0.151 5-8-11 6-8-12 31	315 0.039 0.198 6-9-12 6-9-13 35
	8 Ak = 0.136	CFM Ps Pt Throw* Throw NC	140 0.007 0.017 1-1-6 1-2-6 <15	175 0.012 0.027 1-2-7 2-4-8 <15	210 0.017 0.039 1-3-9 2-5-10 <15	245 0.023 0.053 2-4-10 3-6-11 17	280 0.030 0.070 3-6-11 4-6-12 21	315 0.038 0.088 3-7-12 5-7-13 25	350 0.047 0.109 4-7-13 5-8-13 28	420 0.067 0.157 6-9-14 6-10-14 34	490 0.091 0.213 7-10-15 7-11-16 39	560 0.119 0.279 8-11-16 9-12-17 42
	10 Ak = 0.213	CFM Ps Pt Throw* Throw NC	220 0.016 0.026 1-2-7 1-3-8 <15	275 0.025 0.040 1-3-9 2-5-10 <15	325 0.034 0.056 2-4-11 3-6-12 15	380 0.047 0.077 2-5-13 4-7-14 21	435 0.061 0.101 3-7-14 5-8-15 26	490 0.078 0.128 4-8-15 6-9-16 30	545 0.096 0.159 5-9-16 7-10-17 33	655 0.139 0.229 7-11-17 8-12-18 37	765 0.190 0.313 9-13-19 9-14-20 41	875 0.249 0.409 10-14-20 11-15-21 43
	12 Ak = 0.307	CFM Ps Pt Throw* Throw NC	315 0.027 0.037 1-2-9 2-4-10 <15	395 0.042 0.058 1-3-11 2-6-12 <15	470 0.059 0.082 2-5-13 4-7-14 17	550 0.081 0.112 3-7-15 5-8-17 22	630 0.107 0.146 4-9-17 6-10-18 27	705 0.133 0.183 5-10-18 7-11-19 30	785 0.165 0.227 6-11-19 8-12-20 33	940 0.236 0.326 8-13-21 10-14-22 38	1100 0.324 0.446 10-15-23 11-17-23 42	1255 0.422 0.581 12-17-24 13-18-25 45
	14 Ak = 0.418	CFM Ps Pt Throw* Throw NC	430 0.031 0.041 1-3-10 2-4-11 <15	535 0.049 0.064 2-4-13 3-6-14 <15	640 0.069 0.092 2-6-15 4-8-17 20	750 0.095 0.126 3-8-18 6-10-19 25	855 0.124 0.164 4-10-20 7-11-21 30	960 0.156 0.206 6-12-21 8-13-22 33	1070 0.194 0.256 7-13-22 9-14-23 36	1285 0.280 0.370 10-15-24 11-17-25 40	1495 0.378 0.501 12-18-26 13-19-27 43	1710 0.495 0.655 14-20-28 15-21-29 46
	15 Ak = 0.479	CFM Ps Pt Throw* Throw NC	490 0.038 0.048 1-3-11 2-4-12 <15	615 0.060 0.076 2-4-14 3-7-15 <15	735 0.086 0.108 3-6-16 4-9-18 20	860 0.117 0.148 4-8-19 6-10-21 27	980 0.152 0.192 5-11-21 8-12-22 32	1105 0.194 0.244 6-12-23 9-13-24 35	1225 0.238 0.300 7-14-24 10-15-25 37	1475 0.345 0.435 11-17-26 12-18-27 41	1720 0.469 0.592 13-19-28 14-21-29 44	1965 0.613 0.772 15-21-30 16-22-31 47

### Series 5750 - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic Feet per Minute (air)
- fpm - Velocity of air stream in Feet Per Minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw\* - Non-isothermal horizontal throw (supply air temperature 15°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRE Pre-Flite catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRE Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaire.com](http://www.metalaire.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRE InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM)

METALAIRE leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRE





# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



DCD

- ➔ Square Louver Face ➔ Series 5800 ➔ Steel
- ➔ Series 5800 AS ➔ Aluminized Steel
- ➔ Series 5800 AL ➔ Aluminum

## Product Details

- ★ The 5800 provides a tight 360° discharge pattern for superior induction and occupant comfort
- ★ Available in metric 600mm x 600mm lay-in
- ★ 5800A can be adjusted from horizontal to vertical discharge
- ★ Lay-in T-bar border 6 can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPf)
- ★ Cores are easy to remove without tools
- ★ The 5800 is an excellent choice for VAV applications



**Model 5800-6 Shown**

Standard Finish: 01 White

## Aluminized Steel

METALAIRe is proud to announce the availability of aluminized steel for our square Directional Ceiling Diffusers. In environments which demand aluminum's corrosion resistance, the aluminized coated steel offers the protection of aluminum and the strength of steel. The use of aluminized steel results in a product that ships better and that handles better during installation.

## What is Aluminized Steel?

Aluminized steel is continuously hot-dip coated in a bath of commercially pure aluminum to provide a metallurgical bond between the steel substrate and the aluminum coating. The aluminum bath contains 5% to 11% silicon, which is added to minimize growth of a brittle iron-aluminum inter-metallic layer and thus promote coating adherence during forming. This process melds the best features of both metals; the strength and other mechanical properties of the steel substrate and the surface characteristics and corrosion resistance of aluminum.

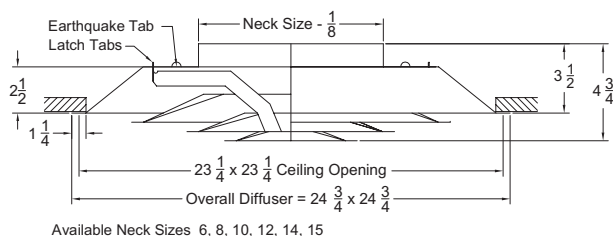
Aluminized steel has been subjected to long-term testing for resistance to atmospheric corrosion and is proven superior to any other metallic-coated steel. Over forty years of exposure tests in a mild industrial atmosphere show the coating on aluminized steel still protecting the base metal with virtually no detectable loss of the original coating.

## Non-Adjustable

Dimensions are in inches

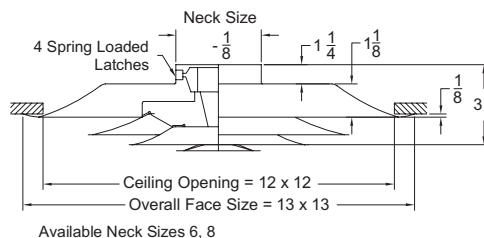
### Square Face - Round Neck - 3 Cone - Surface Mount - 24" x 24"

Model 5800-1 - Steel  
Model 5800-1 AS - Aluminized Steel  
Model 5800-1 AL - Aluminum



### Square Face - Round Neck - 3 Cone - Surface Mount - 12" x 12"

Model 5800-1 - Steel  
Model 5800-1 AS - Aluminized Steel

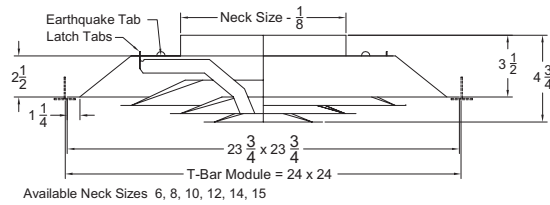


# DCD - Directional Ceiling Diffusers



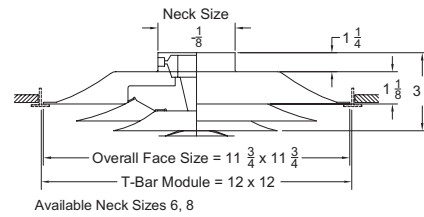
## Square Face - Round Neck - 3 Cone - T-bar Lay-in - 24" x 24"

Model 5800-6 - Steel  
 Model 5800-6 AS - Aluminized Steel  
 Model 5800-6 AL - Aluminum



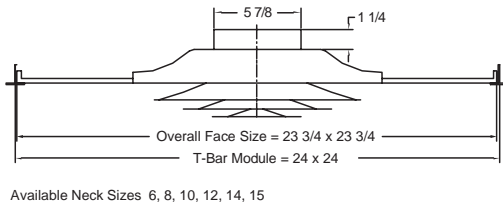
## Square Face - Round Neck - 3 Cone - T-bar Lay-in - 12" x 12"

Model 5800-6 - Steel  
 Model 5800-6 AS - Aluminized Steel



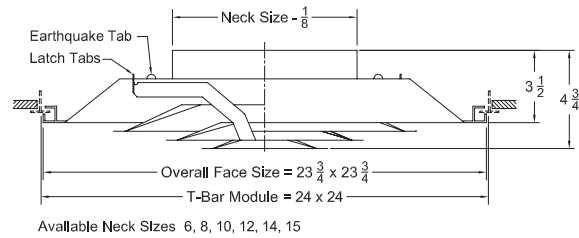
## Square Face - Round Neck - 3 Cone - T-bar Lay-in Panel - 24" x 24"

Model 5800-6P - Steel



## Square Face - Round Neck - 3 Cone - Concealed Spline - 24" x 24"

Model 5800-7 - Steel  
 Model 5800-7 AS - Aluminized Steel

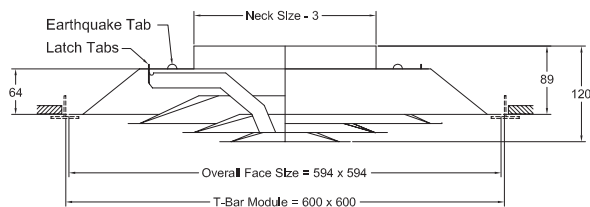


## Metric

Dimensions are in millimeters

## Square Face - Round Neck - 3 Cone - T-bar Lay-in - Metric

Model M5800-6 - Steel  
 Model M5800-6 AS - Aluminized Steel  
 Model M5800-6 AL - Aluminum



# DCD - Directional Ceiling Diffusers

5/2007

Directional Ceiling Diffusers



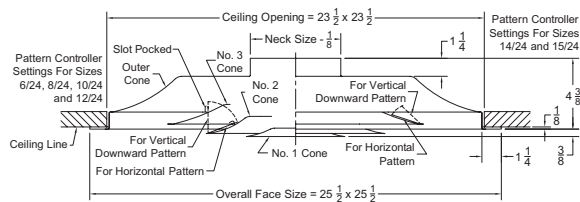
DCD

## Adjustable

Dimensions are in inches

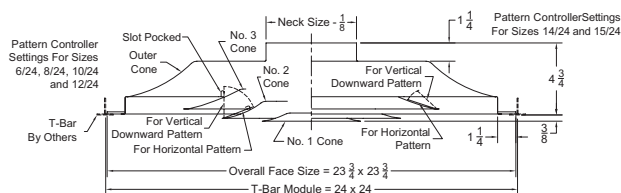
### Square Face - Round Neck - 3 Cone - Surface Mount - Adjustable

Model 5800A-1 - Steel  
Model 5800A-1 AS - Aluminized Steel



### Square Face - Round Neck - 3 Cone - T-bar Lay-in - Adjustable

Model 5800A-6 - Steel  
Model 5800A-6 AS - Aluminized Steel



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 03 Black 28 Custom color	<b>G3</b> - Equalizing Grid .....220 <b>BDS</b> - Butterfly Damper .....220 <b>RSD</b> - Radial Shutter Damper .....220 <b>BAF</b> - Directional Baffles <b>Note:</b> All Accessories Shipped Unattached	<ul style="list-style-type: none"> <li>Sizes only as listed</li> <li>Available Neck Sizes: 6, 8, 10, 12, 14 and 15</li> <li>Available Neck Sizes: 6" and 8" for 12" x 12" Module</li> </ul>



# DCD - Directional Ceiling Diffusers

## Series 5800 - Performance

Models 5800 (-1, -6, -7), 5800-6P, 5800 AS (-1,-6, -7), 5800 AL (-1, -6)

Listed Size	Neck Size Ak	fpm Neck Velocity Pv	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	900 0.050	1000 0.062	1200 0.090	1400 0.122	2000 0.249
12" x 12"	6 Ak = 0.093	CFM	80	100	120	135	155	175	195	235	275	315
		Ps	0.026	0.040	0.058	0.073	0.097	0.123	0.153	0.223	0.305	0.400
		Pt	0.036	0.056	0.080	0.104	0.137	0.174	0.216	0.312	0.427	0.559
		Throw*	3-4-6	3-5-7	4-5-7	4-6-8	5-6-8	5-6-9	5-7-9	6-7-10	6-8-11	7-9-12
12" x 12"	8 Ak = 0.165	CFM	140	175	210	245	280	315	350	420	490	560
		Ps	0.026	0.041	0.059	0.080	0.104	0.132	0.163	0.235	0.319	0.417
		Pt	0.036	0.056	0.081	0.110	0.144	0.182	0.225	0.324	0.442	0.577
		Throw*	3-5-8	4-6-9	5-7-10	6-8-11	7-8-11	7-9-12	7-9-13	8-10-14	9-11-15	9-11-16
24" x 24"	6 Ak = .077	CFM	80	100	120	135	155	175	195	235	275	315
		Ps	0.013	0.020	0.029	0.037	0.048	0.061	0.076	0.111	0.152	0.199
		Pt	0.023	0.036	0.051	0.067	0.088	0.112	0.139	0.201	0.274	0.359
		Throw*	3-4-5	3-4-6	4-5-7	4-5-7	4-5-7	5-6-8	5-6-8	5-6-9	6-7-10	6-7-11
	8 Ak = 0.136	CFM	140	175	210	245	280	315	350	420	490	560
		Ps	0.014	0.022	0.032	0.043	0.056	0.071	0.088	0.126	0.172	0.225
		Pt	0.024	0.038	0.054	0.074	0.096	0.122	0.150	0.216	0.294	0.384
		Throw*	4-5-7	5-6-8	5-6-9	5-7-9	6-7-10	6-7-11	6-8-11	7-9-12	8-9-13	8-10-14
	10 Ak = 0.213	CFM	220	275	325	380	435	490	545	655	765	875
		Ps	0.018	0.028	0.039	0.053	0.070	0.088	0.109	0.158	0.215	0.282
		Pt	0.028	0.043	0.061	0.084	0.110	0.139	0.172	0.248	0.337	0.441
		Throw*	5-6-9	6-7-10	6-8-11	7-8-12	7-9-12	8-9-13	8-10-14	9-11-15	9-12-16	10-12-18
	12 Ak = 0.307	CFM	315	395	470	550	630	705	785	940	1100	1255
		Ps	0.022	0.035	0.049	0.067	0.088	0.111	0.137	0.197	0.270	0.351
		Pt	0.032	0.050	0.072	0.098	0.128	0.161	0.200	0.287	0.392	0.511
		Throw*	6-7-11	7-8-12	7-9-13	8-10-14	9-11-15	9-11-16	10-12-17	11-13-18	11-14-20	12-15-21
	14 Ak = 0.418	CFM	430	535	640	750	855	960	1070	1285	1495	1710
		Ps	0.032	0.049	0.071	0.097	0.126	0.159	0.198	0.285	0.386	0.505
		Pt	0.042	0.065	0.093	0.128	0.166	0.210	0.260	0.375	0.508	0.665
		Throw*	7-9-12	8-10-14	9-11-15	9-12-16	10-12-17	11-13-18	11-14-19	12-15-21	13-16-23	14-17-25
	15 Ak = 0.479	CFM	490	615	735	860	980	1105	1225	1475	1720	1965
		Ps	0.036	0.056	0.080	0.109	0.142	0.181	0.222	0.322	0.438	0.571
		Pt	0.046	0.072	0.102	0.140	0.182	0.231	0.284	0.412	0.560	0.731
		Throw*	7-9-13	9-10-15	9-11-16	10-12-17	11-13-19	11-14-20	12-15-21	13-16-23	14-17-25	15-19-26
	15 Ak = 0.479	CFM	490	615	735	860	980	1105	1225	1475	1720	1965
		Ps	0.036	0.056	0.080	0.109	0.142	0.181	0.222	0.322	0.438	0.571
		Pt	0.046	0.072	0.102	0.140	0.182	0.231	0.284	0.412	0.560	0.731
		Throw*	7-10-18	8-12-20	10-15-22	12-17-24	13-18-26	15-19-27	17-20-29	18-22-32	20-24-34	21-26-36

### Series 5800 - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic Feet per Minute (air)
- fpm - Velocity of air stream in Feet Per Minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw\* - Non-isothermal horizontal throw (supply air temperature 15°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors





- ➔ Square Panel Face ➔ Series Phenomenator® ➔ Steel
- ➔ Series Phenomenator® AS ➔ Aluminized Steel

## Product Details

- ★ The highest induction ratio of any commercial air diffuser available
- ★ Excellent selection for providing exceptional comfort, especially in executive offices, conference rooms, and board rooms
- ★ Can improve productivity by maintaining draft-free comfort in many applications
- ★ Designed for applications calling for minimal temperature differences in a space
- ★ Solves comfort problems in applications such as reception areas and entrance ways
- ★ Diffuser can be applied in critical applications requiring minimal temperature gradients



**Model Phenomenator® Shown**

Standard Finish: 01 White

## Aluminized Steel

METALAIRES is proud to announce the availability of aluminized steel for our square Directional Ceiling Diffusers. In environments which demand aluminum's corrosion resistance, the aluminized coated steel offers the protection of aluminum and the strength of steel. The use of aluminized steel results in a product that ships better and that handle better during installation.

## What is Aluminized Steel?

Aluminized steel is continuously hot-dip coated in a bath of commercially pure aluminum to provide a metallurgical bond between the steel substrate and the aluminum coating. The aluminum bath contains 5% to 11% silicon, which is added to minimize growth of a brittle iron-aluminum inter-metallic layer and thus promote coating adherence during forming. This process melds the best features of both metallic materials; the strength and other mechanical properties of the steel substrate and the surface characteristics and corrosion resistance of the aluminum coating.

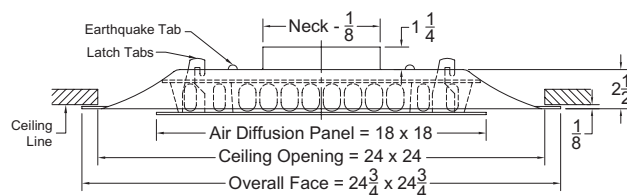
Aluminized steel has been subjected to long-term testing for resistance to atmospheric corrosion and is proven superior to any other metallic-coated steel. Over forty years of exposure tests in a mild industrial atmosphere show the coating on aluminized steel still protecting the base metal with virtually no detectable loss of the original coating.

Dimensions are in inches

### Square Face Ceiling Diffusers - Round Neck - Ultra High Performance Surface Mount

Model Phenom-1 - Steel

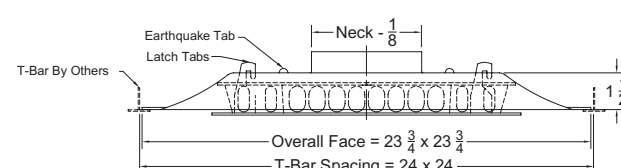
Model Phenom-1 AS - Aluminized Steel



### Square Face Ceiling Diffusers - Round Neck - Ultra High Performance T-bar Lay-in

Model Phenom-6 - Steel

Model Phenom-6 AS - Aluminized Steel

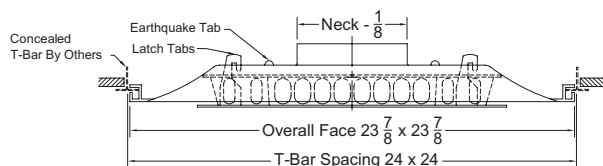


# DCD - Directional Ceiling Diffusers



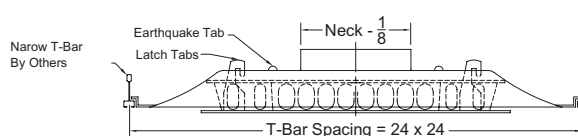
## Square Face Ceiling Diffusers - Round Neck - Ultra High Performance Concealed Spline

Model Phenom-7 - Steel  
Model Phenom-7 AS - Aluminized Steel



## Square Face Ceiling Diffusers - Round Neck - Ultra High Performance Donn Finline

Model Phenom-9 - Steel  
Model Phenom-9 AS - Aluminized Steel

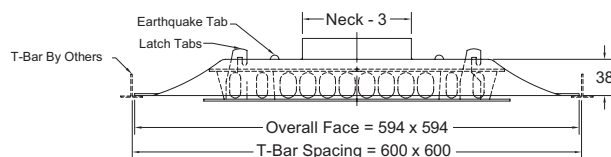


## Metric

Dimensions are in millimeters

## Square Face Ceiling Diffusers - Round Neck - Ultra High Performance T-bar Lay-in

Model Phenom-6 - Steel  
Model Phenom-6 AS - Aluminized Steel



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 03 Black 28 Custom color	G3 - Equalizing Grid .....220 BDS - Butterfly Damper .....220 RSD - Radial Shutter Damper .....220 B0 - Blank off  <b>Note:</b> All Accessories Shipped Unattached	<ul style="list-style-type: none"> <li>Sizes only as listed</li> <li>Available Neck Sizes: 6", 8", 10", 12", 14", and 15"</li> </ul>

## Series Phenomenator® - Performance

Model Phenom (-1, -6, -7, -9), Phenom AS (-1, -6, -7, -9)

Nominal Neck Size	Neck Velocity, fpm Velocity Pressure	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	900 0.050	1000 0.062	1200 0.090
6"	Volumetric Flow Rate, CFM			120	135	155	175	195	215
	Static Pressure, Ps (in. w.c.)			0.020	0.026	0.034	0.044	0.054	0.066
	Total Pressure, Ps (in. w.c.)			0.042	0.057	0.074	0.094	0.116	0.141
	Isothermal Throw			1-1-2	1-2-3	2-2-4	2-3-5	3-4-6	3-5-7
	Non-Isothermal Throw*			1-1-1	1-1-2	1-1-3	1-2-4	2-3-5	3-4-6
8"	Noise Criteria, NC			<20	20	21	24	26	29
	Volumetric Flow Rate, CFM	140	175	210	245	280	315	350	385
	Static Pressure, Ps (in. w.c.)	0.020	0.031	0.045	0.061	0.080	0.101	0.125	0.152
	Total Pressure, Ps (in. w.c.)	0.030	0.047	0.067	0.092	0.114	0.151	0.187	0.218
	Isothermal Throw	1-2-3	2-3-5	2-5-6	3-6-7	4-6-8	5-7-10	6-8-12	7-9-13
10"	Non-Isothermal Throw*	1-1-2	1-2-4	1-4-5	2-5-6	3-5-7	4-6-9	5-7-10	6-7-11
	Noise Criteria, NC	<20	21	25	29	32	35	37	40
	Volumetric Flow Rate, CFM	220	275	325	380	435	490	545	600
	Static Pressure, Ps (in. w.c.)	0.036	0.080	0.090	0.108	0.142	0.180	0.223	0.270
	Total Pressure, Ps (in. w.c.)	0.046	0.096	0.110	0.139	0.182	0.300	0.285	0.345
12"	Isothermal Throw	4-6-9	6-8-10	7-9-12	8-10-13	8-10-14	9-12-16	11-14-17	12-15-18
	Non-Isothermal Throw*	3-5-7	5-7-9	5-8-11	6-9-12	7-9-13	8-11-15	10-13-15	11-13-17
	Noise Criteria, NC	20	24	27	31	35	38	41	44
	Volumetric Flow Rate, CFM	315	395	470	550	630	705	785	870
	Static Pressure, Ps (in. w.c.)	0.061	0.096	0.136	0.186	0.240	0.306	0.380	0.423
14"	Total Pressure, Ps (in. w.c.)	0.071	0.112	0.156	0.217	0.280	0.356	0.442	0.495
	Isothermal Throw	4-7-11	7-10-13	9-11-14	11-13-16	13-15-18	15-18-20	16-20-22	18-21-24
	Non-Isothermal Throw*	3-6-10	6-9-12	7-10-13	9-11-14	11-14-16	12-15-18	13-17-20	15-19-22
	Noise Criteria, NC	22	27	32	36	40	43	46	52
	Volumetric Flow Rate, CFM	430	535	640	750	860	975	1095	1220
15"	Static Pressure, Ps (in. w.c.)	0.089	0.138	0.166	0.271	0.284	0.293	0.306	0.336
	Total Pressure, Ps (in. w.c.)	0.099	0.154	0.188	0.297	0.318	0.343	0.360	0.441
	Isothermal Throw	9-10-13	11-14-15	13-15-18	14-17-21	16-19-23	17-21-25	19-23-27	23-26-29
	Non-Isothermal Throw*	6-7-11	7-11-13	11-14-15	12-15-17	16-18-20	18-20-22	20-22-24	21-23-26
	Noise Criteria, NC	30	35	40	44	50	56	62	68
15"	Volumetric Flow Rate, CFM	490	615	735	875	1020	1165		
	Static Pressure, Ps (in. w.c.)	0.112	0.177	0.253	0.337	0.355	0.364		
	Total Pressure, Ps (in. w.c.)	0.122	0.193	0.275	0.368	0.395	0.414		
	Isothermal Throw	10-12-14	13-15-17	13-16-20	16-19-22	19-21-25	21-23-27		
	Non-Isothermal Throw*	8-10-12	10-12-14	11-14-17	12-16-19	15-19-22	17-21-23		
	Noise Criteria, NC	33	39	44	50	56	62		

### Series Phenom - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

1. All pressures are in inches of water.
2. Isothermal throw values are given for velocities of 150, 100 and 50 feet per minute (room and supply air temperature are within 2°)
3. Throw\* values are given for velocities of 150, 100 and 50 feet per minute with supply air 15°F cooler than room air temperature.
4. Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating of Air Outlets and Inlets."
5. Each NC value represents the noise criteria curve for the octave bands, with a room absorption of 10 dB, re 10<sup>-12</sup> Watts.
6. Actual throw and noise performance may vary from cataloged values with the field use of flexible duct inlets.



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRES Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRES Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaires.com](http://www.metalaires.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES



# DCD - Directional Ceiling Diffusers

5/2007



## ➔ Square/Rectangular Modular Core ➔ Series 9000 ➔ Aluminum

### Product Details

- ★ The 9000 is a highly flexible directional mounting applications ceiling diffuser available in a wide range of border types
- ★ Modular cores can be adjusted to obtain 1, 2 way opposite, 2 way corner, 3 or 4 way air patterns
- ★ Cores are easy to remove with spring loaded latches - no tools required
- ★ Lay-in T-bar border 6 can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPf)
- ★ The 9000 is an excellent choice for VAV applications

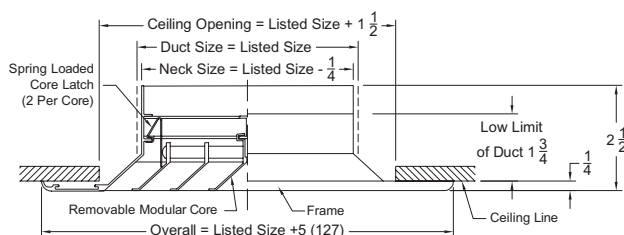


**Model 9000-1 Shown**

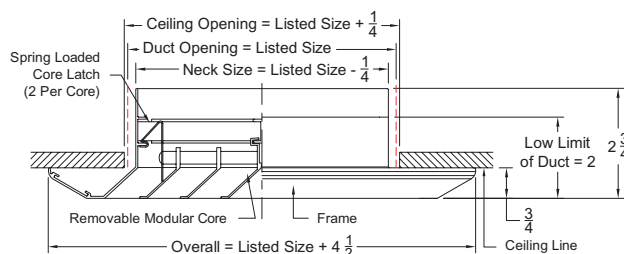
Standard Finish: 01 White

Dimensions are in inches

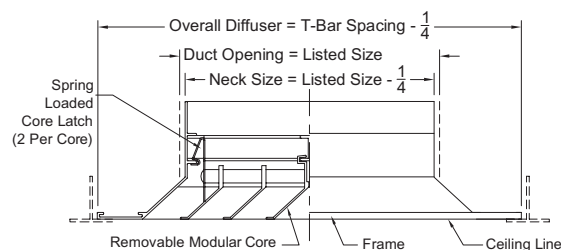
### Square/Rectangular Modular Core Ceiling Diffusers Surface Mount Model 9000-1



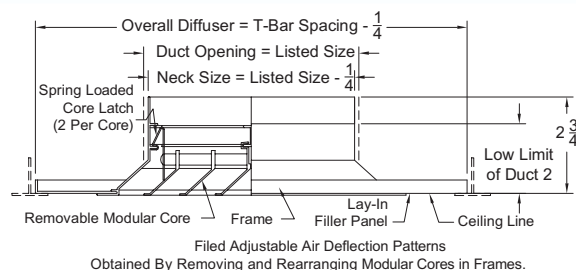
### Square/Rectangular Modular Core Ceiling Diffusers Beveled Surface Mount Model 9000-2



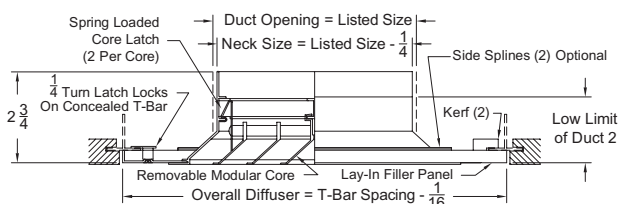
### Square/Rectangular Modular Core Ceiling Diffusers T-bar Lay-in Model 9000-6



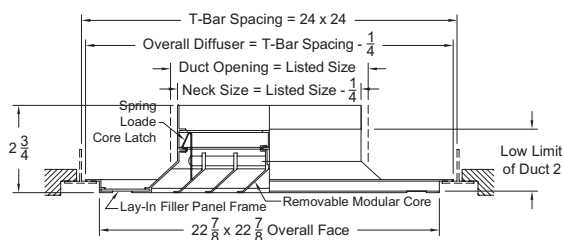
### Square/Rectangular Modular Core Ceiling Diffusers T-bar Lay-in Panel Model 9000-6P



### Square/Rectangular Modular Core Ceiling Diffusers Concealed Spline Model 9000-7



### Square/Rectangular Modular Core Ceiling Diffusers T-bar Lay-in Panel Model 9000-8

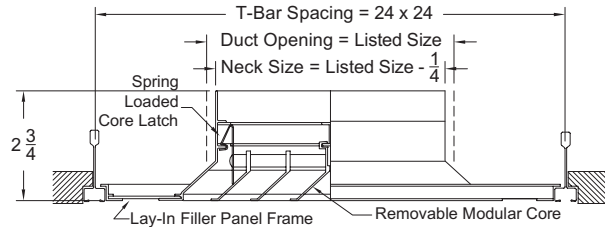




# DCD - Directional Ceiling Diffusers



## Square/Rectangular Modular Core Ceiling Diffusers Donn Finline Model 9000-9



### Air Patterns - Square Face Ceiling Diffusers

One Way	Two Way Corner	Two Way Opposite	Three Way	Four Way

1. Available Finishes	2. Available Accessories
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 28 Custom color	<b>(Shipped Unattached)</b> OBD - Opposed Blade Damper - Steel ..... .221 OBDA - Opposed Blade Damper - Aluminum ..... .221 L9 - Equalizing Grid ..... .221 TR Deep - Square to Round Transition - Deep ..... .221

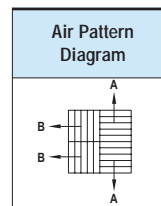
# DCD - Directional Ceiling Diffusers

5/2007

## Series 9000 - Performance

4 Core - Models 9000-1, 9000-2, 9000-6, 9000-6P, 9000-7, 9000-8, 9000-9

Listed Size & Neck Area Sq. Ft.	Effective Area AK Sq. Ft.	Vn Neck Velocity fpm Vk Outlet Velocity fpm Pt Total Pressure Side Designation	200 450 0.013		300 675 0.028		400 900 0.050		500 1125 0.079		600 1350 0.114		700 1575 0.155	
			A	B	A	B	A	B	A	B	A	B	A	B
6" X 6" 0.25	0.112	CFM NC	50 <20		75 <20		100 <20		125 20		150 26		175 31	
		Throw	4-Way 3-Way 2-Way 1-Way	2-3 3-4 3-4 4-6	3-4 4-6 4-6 6-8	4-5 6-7 6-7 8-10	4-6 6-8 6-8 8-12	5-7 7-10 7-10 10-14	6-8 8-11 8-11 12-16					
8" x 8" 0.44	0.196	CFM NC	90 <20		130 <20		175 <20		220 23		265 28		310 33	
		Throw	4-Way 3-Way 2-Way 1-Way	3-4 4-6 4-6 6-8	4-5 6-7 6-7 8-10	5-7 7-10 7-10 10-14	6-8 8-11 8-11 12-16	6-9 8-13 8-13 12-18	7-10 10-14 10-14 14-20					
10" x 10" 0.69	0.312	CFM NC	140 <20		205 <20		275 <20		345 23		415 28		485 33	
		Throw	4-Way 3-Way 2-Way 1-Way	4-5 6-7 6-7 8-10	5-7 7-10 7-10 10-14	6-9 8-13 8-13 12-18	7-10 10-14 10-14 14-20	8-12 11-17 11-17 16-24	9-13 13-18 13-18 18-26					
12" x 12" 1.00	0.444	CFM NC	200 <20		300 <20		400 <20		500 25		600 31		700 36	
		Throw	4-Way 3-Way 2-Way 1-Way	4-6 6-8 6-8 8-12	6-8 8-11 8-11 12-16	7-10 10-14 10-14 14-20	8-12 11-17 11-17 16-24	9-14 13-20 13-20 18-28	10-15 14-21 14-21 20-30					
14" x 14" 1.36	0.604	CFM NC	270 <20		405 <20		545 21		680 27		815 33		950 38	
		Throw	4-Way 3-Way 2-Way 1-Way	5-7 7-10 7-10 10-14	7-10 10-14 10-14 14-20	8-12 11-17 11-17 16-24	10-14 14-20 14-20 20-28	11-17 16-24 16-24 22-34	12-18 17-25 17-25 24-36					
16" x 16" 1.78	0.792	CFM NC	355 20		530 20		710 21		885 28		1070 33		1245 38	
		Throw	4-Way 3-Way 2-Way 1-Way	5-8 7-11 7-11 10-16	8-11 11-16 11-16 16-22	9-14 13-20 13-20 18-28	11-16 16-22 16-22 22-32	12-19 17-27 17-27 24-38	13-20 18-28 18-28 26-40					
18" x 18" 2.25	0.996	CFM NC	450 <20		670 <20		900 22		1120 29		1345 34		1570 39	
		Throw	4-Way 3-Way 2-Way 1-Way	6-9 8-13 8-13 12-18	9-12 13-17 13-17 18-24	10-15 14-21 14-21 20-30	12-18 17-25 17-25 24-36	13-21 18-30 18-30 26-42	15-23 21-32 21-32 30-46					
20" x 20" 2.78	1.236	CFM NC	555 <20		830 <20		1110 23		1390 30		1670 35		1945 40	
		Throw	4-Way 3-Way 2-Way 1-Way	7-10 10-14 10-14 14-20	10-13 13-18 13-18 20-26	12-16 17-22 17-22 24-32	13-20 18-28 18-28 26-40	15-23 21-32 21-32 30-46	16-24 22-34 22-34 32-48					
22" x 22" 3.36	1.492	CFM NC	670 <20		1010 <20		1345 23		1680 31		2015 36		2350 41	
		Throw	4-Way 3-Way 2-Way 1-Way	7-11 10-16 10-16 14-22	11-15 16-21 16-21 22-30	13-18 18-25 18-25 26-36	15-22 21-31 21-31 30-44	16-25 22-35 22-35 32-50	18-27 25-38 25-38 36-54					
24" x 24" 4.00	1.776	CFM NC	800 <20		1200 <20		1600 26		2000 32		2400 38		2800 42	
		Throw	4-Way 3-Way 2-Way 1-Way	8-12 11-17 11-17 16-24	12-16 16-17 16-17 24-32	14-20 20-28 20-28 28-40	16-24 22-34 22-34 32-48	18-28 25-39 25-39 36-56	20-30 28-42 28-42 40-60					



### Series 9000 - Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

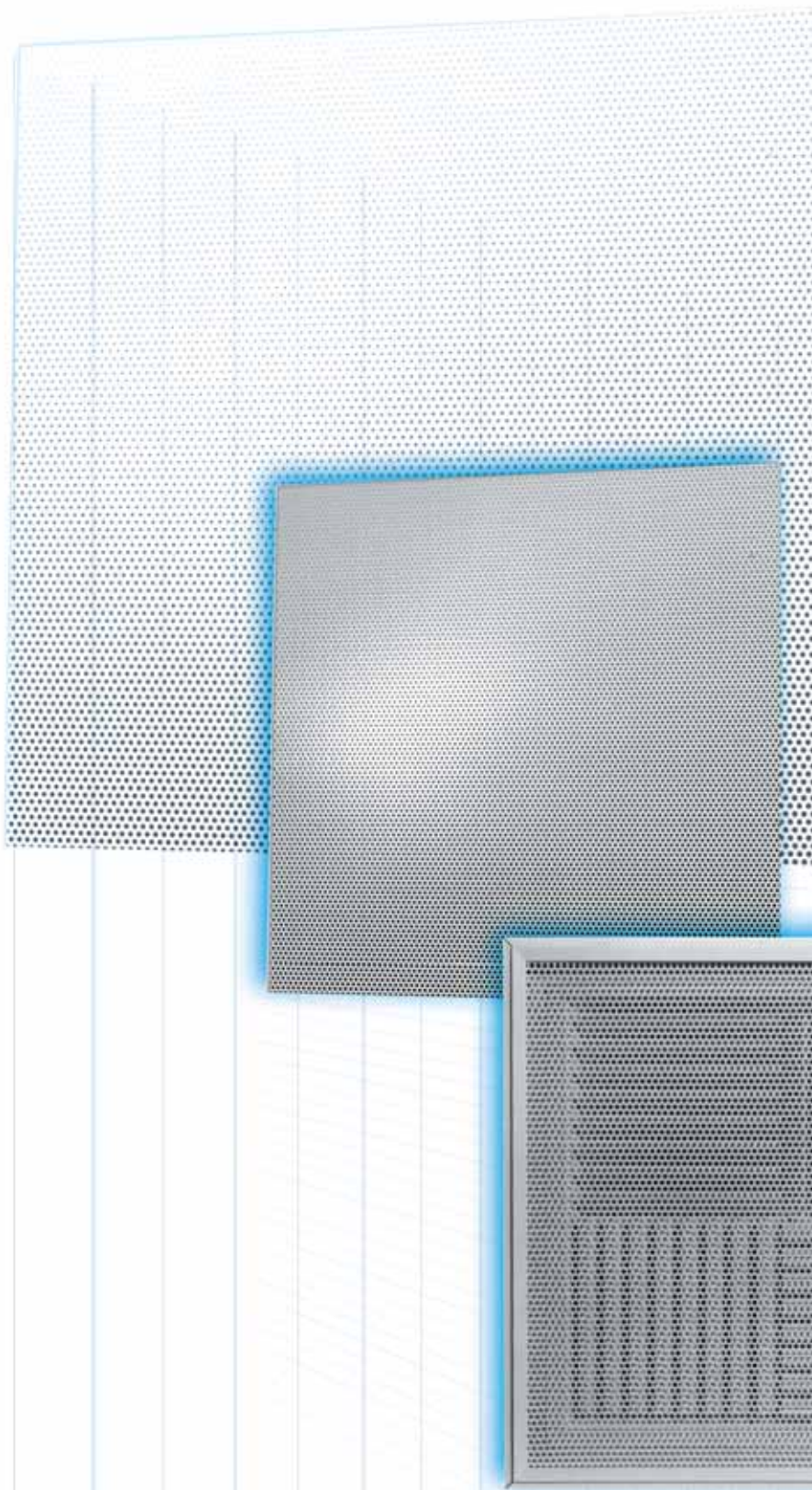
- CFM - Cubic Feet per Minute (air)
- fpm - Velocity of air stream in Feet Per Minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)

Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 and 100 fpm with supply air temperature 20° F below room air temperature

NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands

AK - Area Factor

PERFORATED  
CEILING  
DIFFUSERS



**PERFORATED  
CEILING DIFFUSERS**



## Model 7000

Additional product information available at [www.metalair.com](http://www.metalair.com)

Series 7000 - Supply  
Series 7000R - Return

### Perforated Supply - Extruded Aluminum - Curved Blade Pattern Controller - Series 7000

- ★ The series 7000 is an aluminum, perforated supply diffuser with curved blade pattern controllers mounted in the neck of the diffuser. Pattern controllers are adjustable from a horizontal to vertical discharge pattern
- ★ The face is secured with spring clips making removal and access to the pattern controllers easy
- ★ Units are available in 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way patterns
- ★ The Series 7000 generates a "star pattern" directional discharge of air maximizing induction and room air mixing
- ★ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee. This border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Matching returns available: 7000R
- ★ The series 7000 is an excellent choice for VAV applications

Supply		Return	
7000-1 Surface Mount	7000-8 Tegalur T-bar	7000R-1 Surface Mount	7000R-8 Tegalur T-bar
7000-6 T-bar Lay-in	7000-9 Donn Finline	7000R-6 T-bar Lay-in	7000R-9 Donn Finline
7000-7 Concealed T-bar		7000R-7 Concealed T-bar	



## Model PRTB

Additional product information available at [www.metalair.com](http://www.metalair.com)

Series PRTB - Aluminum  
Series SPRTB - Steel

### Perforated Screen - Non-Ducted - Return - Aluminum/Steel - Series PRTB

- ★ The series PRTB is an economical choice for non-duct plenum return applications and is shipped without pattern controllers
- ★ Unit can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)

Aluminum	Steel
PRTB-6 T-bar Lay-in	SPRTB-6 T-bar Lay-in
PRTB-8 Tegalur T-bar	SPRTB-8 Tegalur T-bar
PRTB-9 Donn Finline	SPRTB-9 Donn Finline



## Model 7300

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Perforated Supply/Return Diffuser - Fiberglass Backpan - Series 7300

- ★ The series 7300 perforated supply diffuser is an economical diffuser with a fiberglass plenum designed to allow field installation of the inlet collar (by others). The face of the diffuser is non-removable and includes a pattern controller set for a circular 360° degree round discharge pattern
- ★ The series 7300 provides a 360° tight horizontal circular pattern along the ceiling
- ★ The series 7300 includes a T-bar Lay-in border type 6 which is designed to be installed in standard 15/16" tee
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Matching returns available: 7300R
- ★ The series 7300 is an excellent choice for VAV applications

T-bar Lay-in
7300-6 Fixed Steel Face
7300-6 AF Fixed Aluminum Face



## Model 7350

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Perforated Supply/Return Diffuser - Fiberglass Backpan - Series 7350

- ★ The series 7350 perforated supply diffuser is an economical diffuser with a fiberglass plenum designed to allow field installation of the inlet collar (by others)
- ★ The face diffuser includes a hinged removable face and 4 pattern controllers that can adjusted for a 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way discharge air patterns
- ★ Set in a 4-way pattern, the 7350 provides a 360° tight horizontal circular pattern along the ceiling
- ★ The series 7350 includes a T-bar Lay-in border type 6 designed to be installed in standard 15/16" tee
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPF)
- ★ Matching returns available: 7350R
- ★ The series 7350 is an excellent choice for VAV applications

	Supply	Return
T-bar Lay-in	7350-6 Hinged Steel Removable Face	7350R-6 Hinged Steel Removable Face
	7350-6 AF Hinged Aluminum Removable Face	7350R-6 AF Hinged Aluminum Removable Face
Tegalur T-bar	7350-8 Hinged Steel Removable Drop Face	7350R-8 Hinged Steel Removable Drop Face



# PCD - Perforated Ceiling Diffusers



**Model 7500**

Pg. 64

**Round Neck**

Series 7500 - Supply  
Series 7500R - Return

**Square Neck**

Series 7550 - Supply  
Series 7550R - Return

## Perforated Ceiling Diffuser - Face Mounted Adjustable Pattern Controller - Series 7500

- ★ The series 7500 and 7550 perforated supply diffusers have 4 adjustable pattern controllers mounted on the face of the diffuser.
- ★ Series 7500 are round neck diffusers; series 7550 are square neck diffusers
- ★ The hinged, fully removable face allow access to the pattern controllers
- ★ Unit can be adjusted for 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way patterns  
In 4-way pattern, Series 7500 provides a 360° tight horizontal circular pattern along the ceiling
- ★ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Matching returns available: 7500R (round neck) and 7550R (square neck)
- ★ The series 7500 and 7550 are excellent choices for VAV applications

Round Neck			
Supply		Return	
7500-1 Surface Mount	7500-8 Tegular T-bar	7500R-1 Surface Mount	7500R-8 Tegular T-bar
7500-1 DF Surface Mount - Drop Face	7500-8 AF Tegular T-bar - Aluminum Face	7500R-1 DF Surface Mount - Drop Face	7500R-8 AF Tegular T-bar - Aluminum Face
7500-1 AF Surface Mount - Aluminum Face	7500-8 AL Tegular T-bar - All Aluminum	7500R-1 AF Surface Mount - Aluminum Face	7500R-8 AL Tegular T-bar - All Aluminum
7500-6 T-bar Lay-in	7500-9 Donn Finline	7500R-6 T-bar Lay-in	7500R-9 Donn Finline
7500-6 AF T-bar Lay-in - Aluminum Face	Metric	7500R-6 AF T-bar Lay-in - Aluminum Face	Metric
7500-6 AL T-bar Lay-in - All Aluminum	M-7500-6 T-bar Lay-in - 600mm x 600mm	7500R-6 AL T-bar Lay-in - All Aluminum	M-7500R-6 T-bar Lay-in - 600mm x 600mm

Square Neck			
Supply		Return	
7550-1 Surface Mount	7550-8 Tegular T-bar	7550R-1 Surface Mount	7550R-8 Tegular T-bar
7550-1 DF Surface Mount - Drop Face	7550-8 AF Tegular T-bar - Aluminum Face	7550R-1 DF Surface Mount - Drop Face	7550R-8 AF Tegular T-bar - Aluminum Face
7550-1 AF Surface Mount - Aluminum Face	7550-8 AL Tegular T-bar - All Aluminum	7550R-1 AF Surface Mount - Aluminum Face	7550R-8 AL Tegular T-bar - All Aluminum
7550-6 T-bar Lay-in	7550-9 Donn Finline	7550R-6 T-bar Lay-in	7550R-9 Donn Finline
7550-6 AF T-bar Lay-in - Aluminum Face	Metric	7550R-6 AF T-bar Lay-in - Aluminum Face	Metric
7550-6 AL T-bar Lay-in - All Aluminum	M-7550-6 T-bar Lay-in - 600mm x 600mm	7550R-6 AL T-bar Lay-in - All Aluminum	M-7550R-6 T-bar Lay-in - 600mm x 600mm



**Model 7600**

Pg. 70

**Round Neck**

Series 7600 - Supply  
Series 7600R - Return

**Square Neck**

Series 7650 - Supply  
Series 7650R - Return

## Perforated Ceiling Diffuser - Curved Blade - Neck Mounted Pattern Controller - Series 7600

- ★ The Series 7600 and 7650 perforated supply diffusers have curved blade pattern controllers mounted in the neck of the diffuser. Pattern controllers are adjustable from a horizontal to vertical discharge pattern
- ★ Series 7600 are round neck diffusers; series 7650 are square neck diffusers
- ★ The hinged, fully removable face allow access to the pattern controllers
- ★ Units are available in 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way patterns. The 4-way core can be set for corner or side discharge patterns. The series 7600 and 7650 provide a "star pattern" directional discharge of air maximizing induction and room air mixing
- ★ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Matching returns available: 7600R (round neck) and 7650R (square neck)
- ★ The series 7600 and 7650 are excellent choices for VAV applications

Round Neck			
Supply		Return	
7600-1 Surface Mount	7600-8 Tegular T-bar	7600R-1 Surface Mount	7600R-8 Tegular T-bar
7600-1 DF Surface Mount - Drop Face	7600-8 AF Tegular T-bar - Aluminum Face	7600R-1 DF Surface Mount - Drop Face	7600R-8 AF Tegular T-bar - Aluminum Face
7600-1 AF Surface Mount - Aluminum Face	7600-8 AL Tegular T-bar - All Aluminum	7600R-1 AF Surface Mount - Aluminum Face	7600R-8 AL Tegular T-bar - All Aluminum
7600-6 T-bar Lay-in	7600-9 Donn Finline	7600R-6 T-bar Lay-in	7600R-9 Donn Finline
7600-6 AF T-bar Lay-in - Aluminum Face	Metric	7600R-6 AF T-bar Lay-in - Aluminum Face	Metric
7600-6 AL T-bar Lay-in - All Aluminum	M-7600-6 T-bar Lay-in - 600mm x 600mm	7600R-6 AL T-bar Lay-in - All Aluminum	M-7600R-6 T-bar Lay-in - 600mm x 600mm

Square Neck			
Supply		Return	
7650-1 Surface Mount	7650-8 Tegular T-bar	7650R-1 Surface Mount	7650R-8 Tegular T-bar
7650-1 DF Surface Mount - Drop Face	7650-8 AF Tegular T-bar - Aluminum Face	7650R-1 DF Surface Mount - Drop Face	7650R-8 AF Tegular T-bar - Aluminum Face
7650-1 AF Surface Mount - Aluminum Face	7650-8 AL Tegular T-bar - All Aluminum	7650R-1 AF Surface Mount - Aluminum Face	7650R-8 AL Tegular T-bar - All Aluminum
7650-6 T-bar Lay-in	7650-9 Donn Finline	7650R-6 T-bar Lay-in	7650R-9 Donn Finline
7650-6 AF T-bar Lay-in - Aluminum Face	Metric	7650R-6 AF T-bar Lay-in - Aluminum Face	Metric
7650-6 AL T-bar Lay-in - All Aluminum	M-7650-6 T-bar Lay-in - 600mm x 600mm	7650R-6 AL T-bar Lay-in - All Aluminum	M-7650R-6 T-bar Lay-in - 600mm x 600mm





**Model 7900**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Perforated Face Modular Core Diffuser - Aluminum - Series 7900

- ✧ The series 7900 is an aluminum, perforated modular core supply diffuser. Modular cores can be field adjusted for 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way air discharge patterns
- ✧ The perforated face is secured with spring clips making removal and access to the modular core pattern controllers easy
- ✧ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee
- ✧ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ✧ Matching returns available: 7900R
- ✧ The series 7900 is an excellent choice for VAV applications

### Supply

7900-1	Surface Mount
7900-6	T-bar Lay-in
7900-7	Concealed Spline
7900-8	Tegular T-bar



**Model 7950**

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## Perforated Face Modular Core Diffuser - Aluminum Deflectors/Steel Backpan - Square Neck - Series 7950

- ✧ The series 7950 perforated modular core supply diffuser with a steel backpan. Modular cores can be field adjusted for 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way air discharge patterns
- ✧ The perforated face is secured with spring clips making removal and access to the modular core pattern controllers easy
- ✧ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee
- ✧ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ✧ Matching returns available: 7950R
- ✧ The 7950 is an excellent choice for VAV applications

### Supply

7950-1	Surface Mount	7950-8	Tegular T-bar
7950-1 DF	Surface Mount - Drop Face	7950-8 AF	Tegular T-bar - Aluminum Face
7950-1 AF	Surface Mount - Aluminum Face	7950-9	Donn Finline
7950-6	T-bar Lay-in		
7950-6 AF	T-bar Lay-in - Aluminum Face		



**Model 7550R-F**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Perforated Filter Return Diffuser - Square Neck - Steel Series 7550R-F/7650R-F

- ✧ Unit can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ✧ T-bar Lay-in border type 6 is designed to be installed in standard 15/16" tee
- ✧ The hinged, perforated face, allows access to the filter (by others)

### Filter Return

7550R-1 F	Surface Mount - Filter Back	7650R-1 F	Surface Mount - Filter Back
7550R-6 F	T-bar Lay-in - Filter Back	7650R-6 F	T-bar Lay-in - Filter Back
7550R-8 F	Tegular T-bar - Filter Back	7650R-8 F	Tegular T-bar - Filter Back



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRE Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRE Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaire.com](http://www.metalaire.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRE InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM)

METALAIRE leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRE

# PCD - Perforated Ceiling Diffusers

5/2007

Perforated Ceiling Diffusers



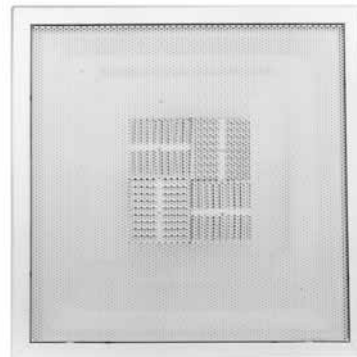
PCD

- ➔ Supply/Return Perforated Ceiling Diffusers ➔ Round Neck
- ➔ Face Mounted Adjustable Pattern Controllers

## Product Details

- ★ Series 7500 perforated supply diffusers have 4 adjustable pattern controllers mounted on the face of the diffuser.
- ★ Series 7500 are round neck diffusers
- ★ The hinged, fully removable face allows access to the pattern controllers
- ★ Unit can be adjusted for 1-way, 2-way opposite, 2-way corner, 3-way, and 4-way patterns. In 4-way pattern, Series 7500 provides a 360° tight horizontal circular pattern along the ceiling
- ★ Border type 6 can be used in surface mounting applications by adding optional T-bar plaster frame (TBPF)
- ★ Matching returns available: 7500R (round neck) and 7550R (square neck)
- ★ The series 7500 is an excellent choices for VAV applications
- ★ Also available in square neck series 7550

Series 7500	
7500	Steel Backpan & Face
7500 AF	Steel Backpan & Aluminum Face
7500 AL	Aluminum Backpan & Face



**Model 7500-1**

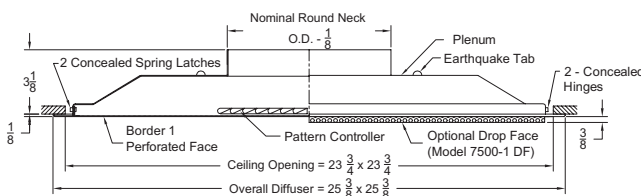
Standard Finish: 01 White

## Supply

Dimensions are in inches

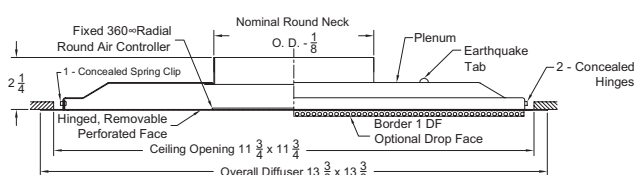
### Supply - Round Neck - Adjustable - Surface Mount - 24" x 24"

Model 7500-1 - Steel backpan & face  
Model 7500-1 AF - Steel backpan & aluminum face  
Model 7500-1 DF - Steel backpan & face - drop face



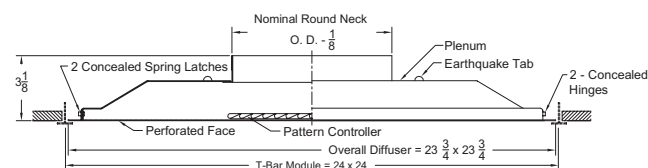
### Supply - Round Neck - Adjustable - Surface Mount - 12" x 12"

Model 7500-1 - Steel backpan & face  
Model 7500-1 AF - Steel backpan & aluminum face  
Model 7500-1 DF - Steel backpan & face - drop face



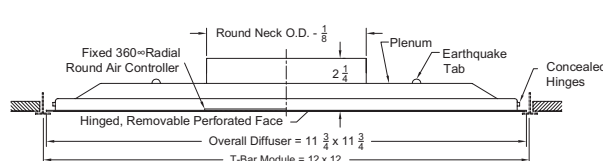
### Supply - Round Neck - Adjustable - T-bar Lay-in - 24" x 24"

Model 7500-6 - Steel backpan & face  
Model 7500-6 AF - Steel backpan & aluminum face  
Model 7500-6 AL - Aluminum backpan & face



### Supply - Round Neck - Adjustable - T-bar Lay-in - 12" x 12"

Model 7500-6 - Steel backpan & face  
Model 7500-6 AF - Steel backpan & aluminum face  
Model 7500-6 AL - Aluminum backpan & face

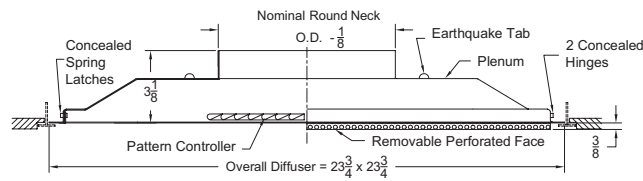


# PCD - Perforated Ceiling Diffusers



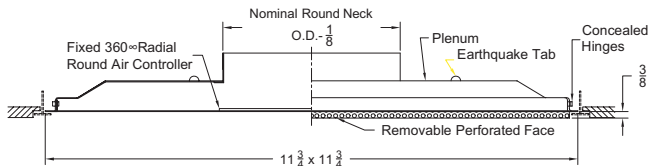
## Supply - Round Neck - Adjustable - Tegular T-bar - 24" x 24"

Model 7500-8 - Steel backpan & face  
 Model 7500-8 AF - Steel backpan & aluminum face  
 Model 7500-8 AL - Aluminum backpan & face



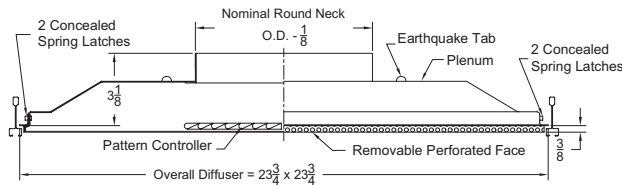
## Supply - Round Neck - Adjustable - Tegular T-bar - 12" x 12"

Model 7500-8 - Steel backpan & face  
 Model 7500-8 AF - Steel backpan & aluminum face



## Supply - Round Neck - Adjustable - Donn Finline - 24" x 24"

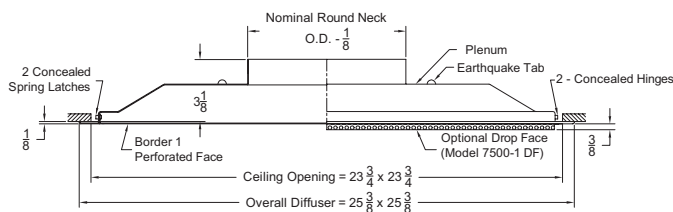
Model 7500-9 - Steel backpan & face  
 Model 7500-9 AF - Steel backpan & aluminum face



## Return

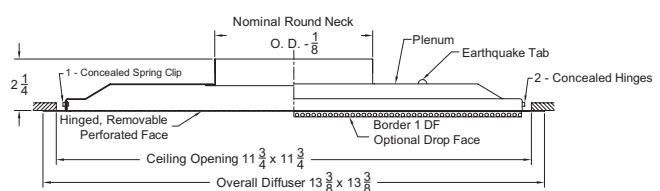
### Return - Round Neck - Surface Mount - 24" x 24"

Model 7500R-1 - Steel backpan & face  
 Model 7500R-1 AF - Steel backpan & aluminum face  
 Model 7500R-1 DF - Steel backpan & face - drop face



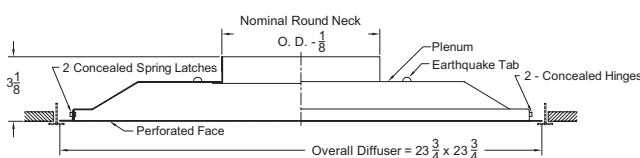
### Return - Round Neck - Surface Mount - 12" x 12"

Model 7500R-1 - Steel backpan & face  
 Model 7500R-1 AF - Steel backpan & aluminum face  
 Model 7500R-1 DF - Steel backpan & face - drop face



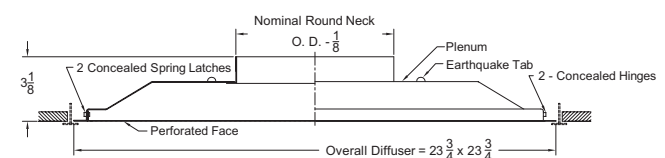
### Return - Round Neck - T-bar Lay-in - 24" x 24"

Model 7500R-6 - Steel backpan & face  
 Model 7500R-6 AF - Steel backpan & aluminum face  
 Model 7500R-6 AL - Aluminum backpan & face



### Return - Round Neck - Face Mounted - T-bar Lay-in - 12" x 12"

Model 7500R-6 - Steel backpan & face  
 Model 7500R-6 AF - Steel backpan & aluminum face  
 Model 7500R-6 AL - Aluminum backpan & face





# PCD - Perforated Ceiling Diffusers

5/2007

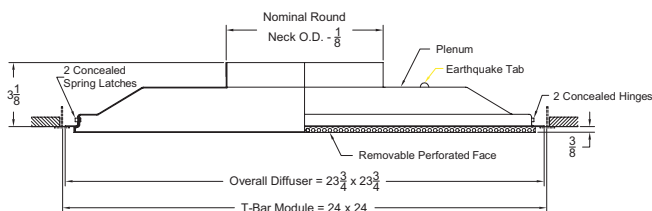
Perforated Ceiling Diffusers



PCD

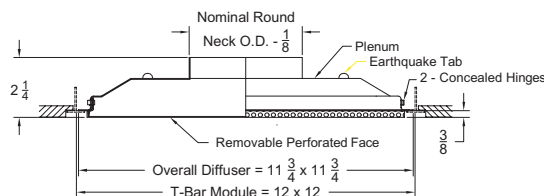
## Return - Round Neck - Face Mounted - T-bar Lay-in - 24" x 24"

Model 7500R-8 - Steel backpan & face  
Model 7500R-8 AF - Steel backpan & aluminum face  
Model 7500R-8 AL - Aluminum backpan & face



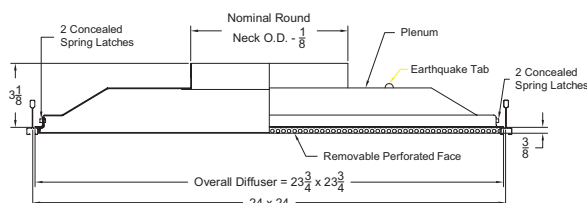
## Return - Round Neck - Face Mounted - T-bar Lay-in - 12" x 12"

Model 7500R-8 - Steel backpan & face  
Model 7500R-8 AF - Steel backpan & aluminum face  
Model 7500R-8 AL - Aluminum backpan & face



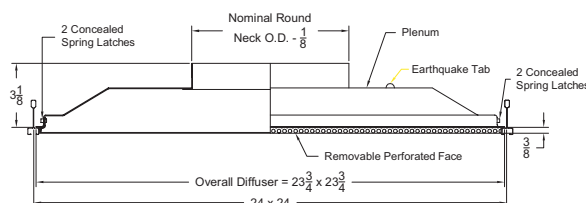
## Return - Round Neck - Face Mounted - Donn Finline - 24" x 24"

Model 7500R-9 - Steel backpan & face  
Model 7500R-9 AF - Steel backpan & aluminum face



## Return - Round Neck - Face Mounted - Donn Finline - 24" x 24"

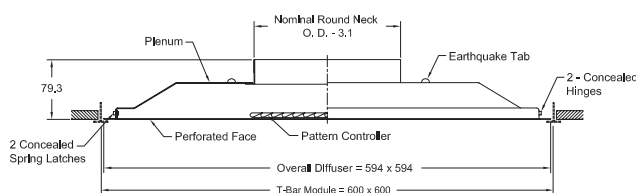
Model 7500R-9 - Steel backpan & face  
Model 7500R-9 AF - Steel backpan & aluminum face



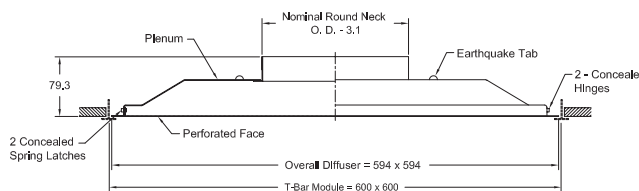
## Metric

Dimensions are in millimeters

## Supply - Round Neck - T-bar Lay-in Model M7500-6



## Return - Round Neck - T-bar Lay-in Model M7500R-6



## Notes for Models 7500 (-1, -6, -8, -9) 7500-1 DF, 7500 AF (-1, -6, -8), 7500 AL (-6, -8)

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White (border only for 7500-1) <b>Optional Finish</b> 02 Aluminum paint 03 Black 22 (BBP) Black back pan/white face & border 28 Custom color	<b>All accessories shipped unattached</b> <b>Round Neck:</b> G3 - Equalizing grid ..... 220 BDS - Butterfly damper ..... 220 RSD - Radial Shutter damper ..... 220	<ul style="list-style-type: none"> <li>Available only in listed sizes</li> <li>Pattern controllers are mounted on the back side of the perforated face and can be adjusted to 1, 2, 3 or 4 way pattern</li> <li>Seismic tabs standard on all units</li> <li>Pattern controller on 12" x 12" unit is a non adjustable disc on the perforated face</li> <li>7500 series have 3/16" diameter holes on 1/4" staggered centers</li> </ul>

## Notes for Models 7500R (-1, -6, -8, -9) 7500R-1 DF, 7500R AF (-1, -6, -8, -9) 7500R AL (-6, -8)

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 22 (BBP) Black back pan/white face & border and white border (for 7500R-1 models only) 28 Custom color	<b>All accessories shipped unattached</b> <b>Square Necks:</b> OBD - Opposed blade damper - Steel ..... 221 OBDA - Opposed blade damper - Aluminum ..... 221 <b>Round Neck:</b> BDS - Butterfly damper ..... 220 RSD - Radial Shutter damper ..... 220	<ul style="list-style-type: none"> <li>Available only in listed sizes</li> <li>7500R series have 3/16" diameter holes on 1/4" staggered centers</li> </ul>

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METALAIRES

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# PCD - Perforated Ceiling Diffusers

## Series 7500 - Performance/Flush Face - Round Neck

Models 7500 (-1, -6), 7500 AF (-1, -6), 7500 AL (-6)

Listed Size	Neck Size	fpm Neck Velocity Pv	300 0.006	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	1000 0.062	1200 0.090
12" x 12"	6"	CFM Pt	60 0.011	80 0.019	100 0.030	120 0.043	135 0.054	155 0.072	195 0.114	235 0.165
		Throw	4*-Way 1-2-3	1-2-5	2-3-5	2-3-6	3-4-6	3-4-6	4-5-7	5-6-8
			4-Way 1-2-4	1-2-5	2-3-6	2-4-6	3-4-7	3-5-7	4-6-8	5-6-9
			3-Way 1-2-4	1-3-5	2-3-6	3-4-6	3-5-7	4-5-7	4-6-8	5-6-9
			2-Way 1-2-5	2-3-5	3-4-6	3-5-6	4-5-7	4-5-7	5-6-8	5-6-9
	8"	CFM Pt	105 0.015	140 0.027	175 0.043	210 0.061	245 0.083	280 0.109	350 0.170	420 0.245
		Throw	4*-Way 1-2-5	2-3-6	3-4-7	3-5-7	4-5-8	4-6-9	5-7-10	6-7-11
			4-Way 1-2-5	2-3-6	3-4-7	3-5-8	4-6-9	4-6-9	5-7-11	6-8-12
			3-Way 1-2-5	2-4-7	3-5-8	4-5-8	5-7-10	5-7-10	6-8-11	7-8-12
			2-Way 2-3-6	3-4-7	4-5-8	4-6-9	5-7-9	6-7-10	6-8-11	7-9-12
24" x 24"	6"	CFM Pt	60 0.010	80 0.019	100 0.029	120 0.042	135 0.053	155 0.070	195 0.110	235 0.160
		Throw	4*-Way 1-2-4	1-2-5	2-3-5	2-4-6	3-4-6	3-5-7	4-5-8	5-6-8
			4-Way 1-2-4	1-3-5	2-3-6	3-4-7	3-4-7	3-5-7	4-6-8	5-6-9
			3-Way 1-2-4	1-3-5	2-4-6	3-4-7	3-5-7	4-5-8	5-6-8	5-7-9
			2-Way 1-3-5	2-3-6	3-4-6	3-5-7	4-5-7	4-5-8	5-6-9	5-7-9
	8"	CFM Pt	105 0.016	140 0.028	175 0.043	210 0.063	245 0.085	280 0.111	350 0.174	420 0.250
		Throw	4*-Way 1-2-5	2-3-6	3-4-7	3-5-8	4-6-9	4-6-9	5-7-10	6-8-11
			4-Way 1-2-5	2-3-7	3-4-8	3-5-9	4-6-9	4-7-10	6-8-11	7-9-12
			3-Way 1-2-6	2-4-7	3-5-8	4-6-9	5-7-10	5-7-10	6-8-11	7-9-12
			2-Way 2-3-6	3-5-7	4-6-8	5-6-9	6-7-10	6-7-10	7-8-12	7-9-13
	10"	CFM Pt	165 0.023	220 0.041	275 0.064	325 0.090	380 0.123	435 0.161	545 0.252	655 0.365
		Throw	4*-Way 1-3-6	2-4-8	3-5-9	4-6-10	5-7-11	5-8-11	7-9-13	8-10-14
			4-Way 1-3-6	2-4-8	3-5-10	4-6-11	5-7-12	5-8-12	7-10-14	8-11-15
			3-Way 1-3-7	2-5-9	3-6-10	4-7-11	5-8-12	6-9-13	8-10-14	9-11-16
			2-Way 2-4-8	4-6-9	5-7-10	6-8-11	7-9-12	7-9-13	8-10-14	9-11-16
	12"	CFM Pt	235 0.025	315 0.044	395 0.070	470 0.099	550 0.135	630 0.177	785 0.275	940 0.395
		Throw	4*-Way 1-3-7	3-5-10	4-6-11	5-7-12	6-8-13	6-10-14	8-11-15	10-12-17
			4-Way 1-3-7	3-5-10	4-6-12	5-7-13	6-9-14	7-10-15	8-12-17	10-13-18
			3-Way 1-3-8	3-6-11	4-7-12	5-8-13	6-10-14	7-11-15	8-12-17	10-13-19
			2-Way 3-5-9	5-7-11	6-8-12	7-9-13	8-10-15	9-11-16	10-12-17	11-13-19
	14"	CFM Pt	320 0.033	430 0.059	535 0.091	640 0.131	750 0.179	855 0.233	1070 0.365	1285 0.527
		Throw	4*-Way 2-4-8	3-6-11	4-7-13	5-8-14	6-9-15	7-10-16	8-12-17	10-13-18
			4-Way 2-4-9	3-6-12	5-7-14	6-8-15	7-9-16	8-12-17	9-13-18	11-14-20
			3-Way 2-4-10	3-7-13	4-8-14	5-9-15	6-10-16	7-11-17	8-13-18	10-14-21
			2-Way 3-6-11	5-8-13	6-9-14	7-10-15	8-11-16	9-12-17	10-13-18	11-14-20
	16"	CFM Pt	420 0.040	560 0.071	700 0.110	840 0.159	975 0.214	1115 0.280	1395 0.438	1675 0.631
		Throw	4*-Way 2-4-10	4-6-13	5-8-14	6-10-16	7-11-17	8-13-18	10-14-20	12-15-21
			4-Way 2-4-11	3-7-13	4-9-15	5-10-16	6-11-17	7-12-18	8-14-21	10-15-22
			3-Way 2-4-11	3-8-14	4-10-16	5-11-17	6-12-18	7-13-19	8-15-21	10-16-22
			2-Way 4-7-13	6-9-15	8-11-16	9-13-18	10-14-19	11-15-21	12-16-22	14-17-24

See Page PCD-69 for Series 7500 Performance Notes



# PCD - Perforated Ceiling Diffusers

5/2007

## Series 7500 - Performance/Drop Face - Round Neck

Models 7500 (-8, -9), 7500 AF (-8, -9), 7500 DF (-1), 7500 AL (-8)

Listed Size	Neck Size	fpm Neck Velocity Pv	300 0.006	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	1000 0.062	1200 0.090
12" x 12"	6"	CFM Pt	60 0.011	80 0.020	100 0.031	120 0.045	135 0.057	155 0.075	195 0.119	235 0.172
		Throw	4*-Way 1-2-4	1-2-3 1-3-5	1-2-4 2-3-6	2-2-4 3-4-7	2-3-4 3-5-7	2-3-5 4-5-8	3-4-5 4-6-9	3-4-6 5-7-10
			3-Way 1-2-4	2-3-5	2-3-6	3-4-7	3-5-7	4-5-8	4-6-9	5-7-10
			2-Way 1-2-5	2-3-6	3-4-6	3-5-7	4-5-7	4-6-8	5-6-9	6-7-10
			1-Way 2-3-5	3-4-6	3-5-7	4-5-7	4-5-8	5-6-8	5-7-9	6-7-10
			NC	-	-	<15	17	21	28	32
	8"	CFM Pt	105 0.014	140 0.025	175 0.038	210 0.055	245 0.075	280 0.098	350 0.153	420 0.221
		Throw	4*-Way 1-2-3	1-2-4	2-3-5	2-3-5	2-4-6	3-4-6	3-5-7	4-5-7
			4-Way 1-2-5	2-4-7	3-5-8	4-5-9	4-6-10	5-7-11	6-8-12	7-9-13
			3-Way 1-3-5	2-4-7	3-5-8	4-5-9	4-6-10	5-7-11	6-8-12	7-9-13
			2-Way 2-3-6	3-4-8	4-5-9	4-6-9	5-7-10	6-8-11	7-9-12	8-9-13
24" x 24"	6"	Throw	1-Way 2-4-7	3-5-8	4-6-9	5-7-10	6-7-10	6-8-11	7-9-12	8-10-13
			NC	-	-	<15	20	25	32	36
	8"	Throw	4*-Way 1-2-3	1-2-4	2-3-5	2-3-6	3-4-6	3-4-6	4-5-7	4-6-8
			4-Way 1-2-6	2-4-8	3-5-9	4-6-10	4-7-10	5-8-11	6-9-12	8-10-14
			3-Way 1-3-6	2-4-8	3-5-9	4-6-10	4-7-10	5-8-11	6-9-12	8-10-14
			2-Way 2-3-7	3-5-8	4-6-9	5-7-10	5-8-11	6-8-11	7-9-13	8-10-14
			1-Way 2-4-7	3-5-8	4-6-9	5-7-10	6-8-11	7-8-12	7-9-13	8-10-14
	10"	Throw	NC	-	-	<15	17	21	28	32
			4*-Way 1-2-4	2-3-6	2-3-6	3-4-7	3-5-7	4-5-8	5-6-9	5-7-10
			4-Way 1-3-7	2-5-10	4-6-11	5-7-12	5-8-13	6-9-14	8-11-16	9-12-17
			3-Way 2-3-7	3-5-10	4-6-11	5-7-12	5-8-13	6-9-14	8-11-16	9-12-17
			2-Way 2-4-8	4-6-10	5-7-11	6-8-12	7-9-13	7-10-14	9-11-16	10-12-17
	12"	Throw	1-Way 3-5-9	4-7-10	5-8-11	6-9-12	8-10-14	8-10-14	9-11-16	10-13-18
			NC	-	-	<15	16	22	28	42
			CFM Pt	235 0.021	315 0.037	395 0.059	470 0.083	550 0.113	630 0.149	785 0.231
			4*-Way 1-2-5	2-3-7	3-4-8	3-5-8	4-6-9	4-7-10	5-8-11	7-8-12
			4-Way 2-4-8	3-6-11	5-7-13	6-8-14	7-10-16	8-11-17	9-13-19	11-14-20
24" x 24"	14"	Throw	3-Way 2-4-8	3-6-11	5-7-13	6-8-14	7-10-16	8-11-17	9-13-19	11-14-20
			2-Way 3-5-10	5-7-12	6-8-13	7-10-15	8-11-16	9-12-17	11-13-19	12-15-21
			1-Way 3-6-11	5-8-12	7-10-14	8-11-15	9-11-16	10-12-17	11-14-19	12-15-21
			NC	-	-	<15	17	25	31	43
			CFM Pt	320 0.023	430 0.041	535 0.063	640 0.091	750 0.124	855 0.162	1070 0.253
	16"	Throw	4*-Way 2-3-6	3-4-8	3-5-9	4-6-10	4-7-11	5-8-11	6-9-13	8-10-14
			4-Way 2-4-10	3-7-13	5-8-15	7-10-17	8-12-18	9-13-19	11-15-22	13-17-24
			3-Way 2-5-10	4-7-13	6-8-15	7-10-17	8-12-18	9-13-19	11-15-22	13-17-24
			2-Way 3-6-12	5-8-14	7-10-16	8-12-17	9-13-19	10-14-20	13-16-22	14-17-24
			1-Way 4-7-12	6-9-14	8-11-16	9-12-18	11-13-19	12-14-20	13-16-23	14-18-25
24" x 24"	16"	Throw	NC	-	<15	19	27	34	45	50
			CFM Pt	420 0.025	560 0.045	700 0.070	840 0.100	975 0.135	1115 0.177	1395 0.276
			4*-Way 2-3-7	3-4-9	4-6-10	4-7-11	5-8-12	6-9-13	7-10-14	9-11-16
			4-Way 2-5-11	4-8-15	6-9-18	8-11-19	9-13-21	10-15-22	13-18-25	15-19-27
			3-Way 2-5-11	4-8-15	6-9-18	8-11-19	9-13-21	10-15-22	13-18-25	15-19-27
	16"	Throw	2-Way 4-7-14	6-9-16	8-11-18	9-14-20	10-15-21	12-16-23	15-18-25	16-20-28
			1-Way 4-8-14	7-10-16	9-13-18	10-14-20	12-15-22	13-16-23	15-18-26	16-20-28
			NC	-	<15	21	29	36	48	54
			CFM Pt	560 0.045	700 0.070	840 0.100	975 0.135	1115 0.177	1395 0.276	1675 0.398
			4*-Way 2-3-7	3-4-9	4-6-10	4-7-11	5-8-12	6-9-13	7-10-14	9-11-16
			4-Way 2-5-11	4-8-15	6-9-18	8-11-19	9-13-21	10-15-22	13-18-25	15-19-27

See Page PCD-69 for Series 7500 Performance Notes



# PCD - Perforated Ceiling Diffusers

## Series 7500R - Performance

Models 7500R (-1, -6, -8, -9), 7500R AF (-1, -6, -8, -9), 7500R DF (-1), 7500R AL (-6, -8, -9)

Nominal Neck Diameter	fpm Inlet Velocity Ps	300 -.01	400 -.02	500 -.03	600 -.04	700 -.05	800 -.06	900 -.08	1000 -.10
6	CFM	60	80	100	115	135	155	175	195
8	CFM	105	140	175	210	245	280	315	350
10	CFM	165	220	270	325	380	435	490	545
12	CFM	235	315	390	470	550	630	705	785
14	CFM	320	425	535	640	750	855	930	1070
16	CFM	420	560	700	835	975	1115	1255	1395
18	CFM	520	700	870	1045	1220	1395	1570	1740

### Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw\* - Non-isothermal horizontal throw (supply air temperature 15°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors



# PCD - Perforated Ceiling Diffusers

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Perforated Ceiling Diffusers



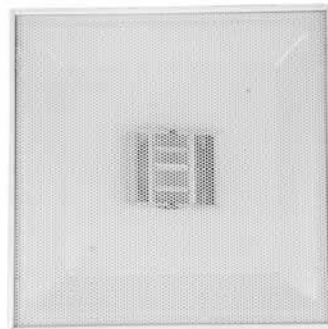
PCD

- ➔ Supply/Return Perforated Ceiling Diffuser ➔ Round Neck
- ➔ Neck Mounted Curved Blade Pattern Controllers

## Product Details

- ★ The 7600 perforated supply diffuser has curved blade pattern controllers mounted in the neck of the diffuser. Pattern controllers are adjustable from a horizontal to vertical discharge pattern
- ★ The hinged face allows access to the pattern controllers
- ★ Units are available in 1, 2-way opposite, 2-way corner, 3, and 4-way patterns. The 4-way core can be set for corner or side discharge patterns
- ★ Border 6, T-bar Lay-in can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPF)
- ★ Matching returns available: 7600R (round neck)
- ★ The 7600 is an excellent choice for VAV applications
- ★ Also available in square neck series 7650

Series 7600	
7600	Steel Backpan & Face
7600 AF	Steel Backpan & Aluminum Face
7600 AL	Aluminum Backpan & Face



**Model 7600-6 4W Shown**

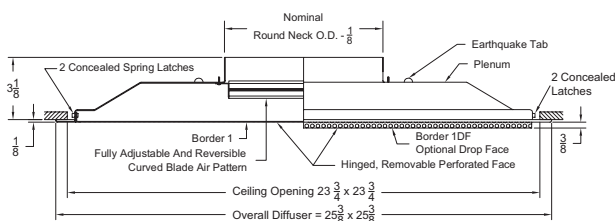
Standard Finish: 01 White

## Supply - 24" x 24"

Dimensions are in inches

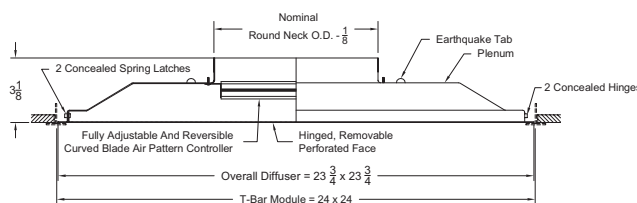
### Supply - Round Neck - Neck Mounted - Adjustable - Surface Mount

Model 7600-1 - Steel backpan & face  
Model 7600-1 AF - Steel backpan & aluminum face  
Model 7600-1 DF - Steel backpan & face - drop face



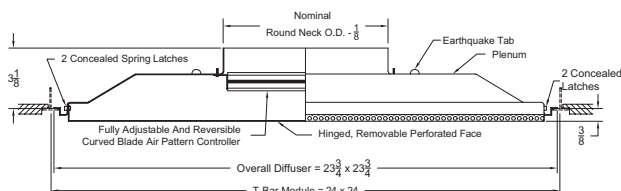
### Supply - Round Neck - Neck Mounted - Adjustable - T-bar Lay-in

Model 7600-6 - Steel backpan & face  
Model 7600-6 AF - Steel backpan & aluminum face  
Model 7600-6 AL - Aluminum backpan & face



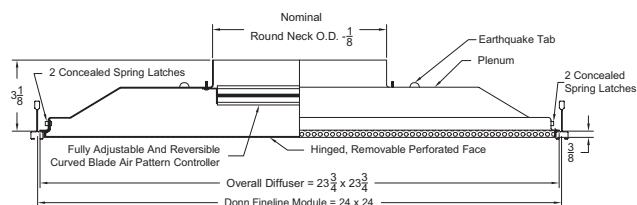
### Supply - Round Neck - Face Mounted - Adjustable - Tegular T-bar

Model 7600-8 - Steel backpan & face  
Model 7600-8 AF - Steel backpan & aluminum face  
Model 7600-8 AL - Aluminum backpan & face



### Supply - Round Neck - Face Mounted - Adjustable - Donn Finline

Model 7600-9 - Steel backpan & face  
Model 7600-9 AF - Steel backpan & aluminum face



Available Round In lets ( For All Models ): 6, 8, 10, 12, 14, 16

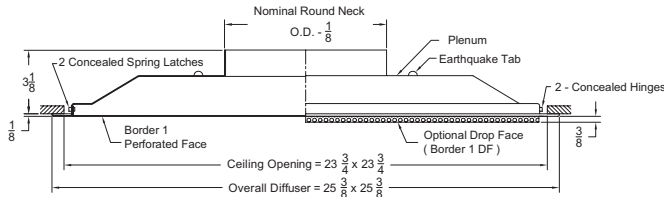
# PCD - Perforated Ceiling Diffusers



## Return

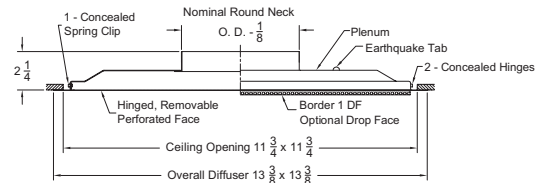
### Return - Round Neck - Surface Mount - 24" x 24"

Model 7600R-1 - Steel backpan & face  
 Model 7600R-1 DF - Steel backpan & face - drop face  
 Model 7600R-1 AF - Steel backpan & aluminum face



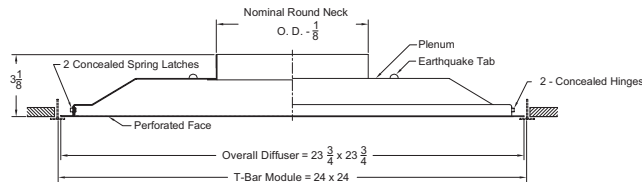
### Return - Round Neck - Surface Mount - 12" x 12"

Model 7600R-1 - Steel backpan & face  
 Model 7600R-1 AF - Steel backpan & aluminum face  
 Model 7600R-1 AL - Aluminum backpan & face



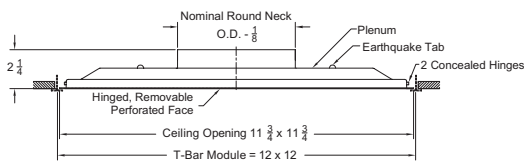
### Return - Round Neck - T-bar Lay-in - 24" x 24"

Model 7600R-6 - Steel backpan & face  
 Model 7600R-6 AF - Steel backpan & aluminum face  
 Model 7600R-6 AL - Aluminum backpan & face



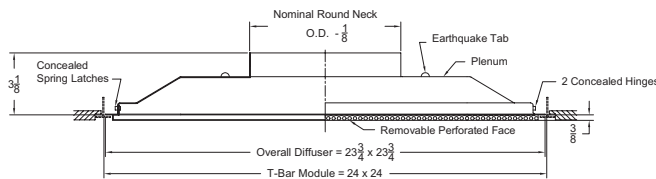
### Return - Round Neck - T-bar Lay-in - 12" x 12"

Model 7600R-6 - Steel backpan & face  
 Model 7600R-6 AF - Steel backpan & aluminum face  
 Model 7600R-6 AL - Aluminum backpan & face



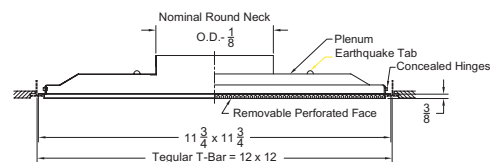
### Return - Round Neck - Tegular T-bar - 24" x 24"

Model 7600R-8 - Steel backpan & face  
 Model 7600R-8 AF - Steel backpan & aluminum face  
 Model 7600R-8 AL - Aluminum backpan & face



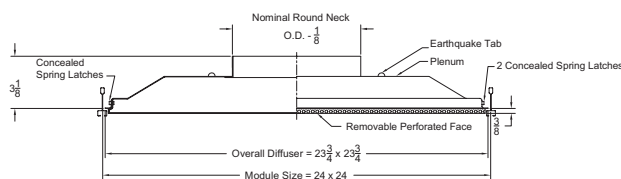
### Return - Round Neck - Tegular T-bar - 12" x 12"

Model 7600R-8 - Steel backpan & face  
 Model 7600R-8 AF - Steel backpan & aluminum face  
 Model 7600R-8 AL - Aluminum backpan & face



### Return - Round Neck - Donn Fineline - 24" x 24"

Model 7600R-9 - Steel backpan & face  
 Model 7600R-9 AF - Steel backpan & aluminum face



# PCD - Perforated Ceiling Diffusers

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Perforated Ceiling Diffusers

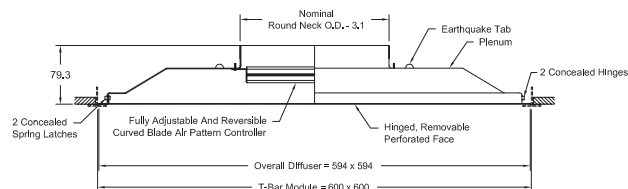


PCD

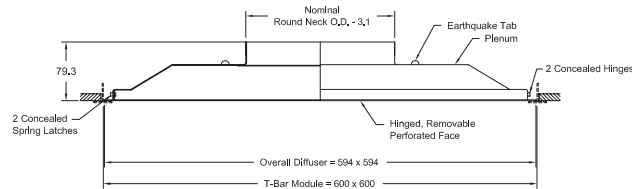
## Metric

Dimensions are in millimeters

### Supply - Round Neck - T-bar Lay-in Model M7500-6



### Return - Round Neck - T-bar Lay-in Model M7500R-6



### Notes for Models 7600 (-1, -6, -8, -9) 7600-1 DF, 7600 AF (-1, -6, -8, -9) 7600 AL (-6, -8)

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 22 (BBP) Black back pan/white face 28 Custom color	<b>All accessories shipped unattached</b> <b>Round Neck:</b> G3 - Equalizing grid .....218 BDS - Butterfly damper .....218 RSD - Radial Shutter damper .....218	<ul style="list-style-type: none"> <li>Pattern controllers are mounted on the back side of the perforated face and can be adjusted to 1, 2, 3 or 4 way pattern</li> <li>Seismic tabs standard on all units</li> <li>7600 has 3/16" diameter holes in 1/4" centers</li> </ul>

### Notes for Models 7600R (-1, -6, -8, -9), 7600R-1 DF, 7600R AF (-1, -6, -8, -9) 7600R AL (-6, -8)

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 22 (BBP) Black back pan/white face 28 Custom color	<b>Round Neck:</b> BDS - Butterfly damper .....218 RSD - Radial Shutter damper .....218	<ul style="list-style-type: none"> <li>Seismic tabs standard on all units</li> <li>7600R has 3/16" diameter holes in 1/4" centers</li> </ul>

**Models 7600 (-1, -6), 7600 AF (-1, -6), 7600 AL (-6)**

### Perforated Ceiling Diffusers



PCD

For more product information visit us at [www.metalair.com](http://www.metalair.com)

# PCD - Perforated Ceiling Diffusers

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## Series 7600 - Performance / Drop Face - Round Neck

Models 7600 (-8, -9), 7600-1 DF, 7600 AF (-8, -9), 7600 AL (-8)

Listed Size	Neck Size	fpm Neck Velocity Pv	300 0.006	400 0.010	500 0.016	600 0.022	700 0.031	800 0.040	1000 0.062	1200 0.090
24 x 24	6	CFM Pt	60 0.015	80 0.026	100 0.041	120 0.060	135 0.075	155 0.099	195 0.157	235 0.229
		Throw	4*-Way 1-1-3 4-Way 1-2-3 3-Way 1-2-4 2-Way 3-4-7 1-Way 4-5-7 NC -	1-2-3 1-2-5 2-3-5 2-4-5 4-5-8 5-6-9 6-7-10 -	1-2-4 2-3-5 2-4-5 3-4-6 5-6-8 6-7-10 -	2-3-4 2-3-6 3-4-6 3-4-6 5-7-9 6-7-11 6-8-11 6-7-11 <15	2-3-4 3-4-6 3-4-6 4-4-6 6-7-10 6-7-11 7-8-12 20	2-3-5 3-4-6 4-4-6 4-5-7 7-8-12 8-9-13 26	3-4-5 4-5-7 4-5-7 5-6-8 8-9-13 9-10-15 32	3-4-6 4-6-8 5-6-8 8-9-13 9-10-15 32
		CFM Pt	105 0.016	140 0.028	175 0.044	210 0.063	245 0.086	280 0.112	350 0.175	420 0.252
		Throw	4*-Way 1-2-3 4-Way 1-2-4 3-Way 1-3-5 2-Way 4-6-9 1-Way 5-7-10 NC -	2-2-4 2-3-6 2-4-6 5-7-10 6-8-11 -	2-3-5 2-4-7 3-5-7 6-8-11 7-9-13 7-9-13 <15	2-3-5 3-4-7 4-5-7 7-9-12 8-10-14 8-10-14 15	3-4-6 3-5-8 4-6-8 8-9-13 9-11-15 9-11-15 22	4-5-7 4-6-9 5-6-9 8-10-14 9-11-16 10-13-18 28	4-5-8 5-7-10 5-7-10 9-11-16 10-12-17 11-14-20 34	4-5-8 6-7-10 6-7-10 10-12-17 11-14-20 34
		CFM Pt	165 0.017	220 0.030	275 0.047	325 0.066	380 0.090	435 0.118	545 0.186	655 0.268
		Throw	4*-Way 1-2-4 4-Way 1-3-6 3-Way 2-4-7 2-Way 5-7-11 1-Way 6-9-12 NC -	2-3-5 2-4-7 3-5-8 6-9-13 8-10-14 -	2-4-6 3-5-8 4-6-8 8-10-14 9-11-16 8-10-14 <15	3-4-7 4-6-9 5-6-9 9-11-15 10-12-17 10-12-17 16	3-5-7 4-6-10 5-7-10 10-12-17 10-13-18 11-13-19 21	4-5-8 5-7-11 6-8-11 8-10-14 11-14-20 12-14-20 24	5-6-9 6-8-12 7-8-12 11-14-20 13-16-22 13-16-22 31	5-7-9 7-9-13 8-9-13 13-15-22 14-17-25 14-17-25 38
	12	CFM Pt	235 0.018	315 0.033	395 0.052	470 0.074	550 0.101	630 0.133	785 0.206	940 0.295
		Throw	4*-Way 1-3-5 4-Way 1-3-7 3-Way 2-4-8 2-Way 6-8-13 1-Way 7-10-15 NC -	2-3-7 3-4-9 4-6-9 8-11-15 9-12-17 -	3-4-7 4-6-10 5-7-10 9-12-17 11-14-19 11-14-19 <15	3-5-8 4-7-11 6-8-11 11-13-18 12-15-21 12-15-21 17	4-6-9 5-8-12 7-8-12 11-14-20 13-16-23 13-16-23 22	5-7-9 6-9-13 7-9-13 12-15-21 14-17-24 14-17-24 25	6-7-10 7-10-14 8-10-14 14-17-24 16-19-27 16-19-27 32	7-8-11 9-11-16 9-11-16 15-18-26 17-21-29 17-21-29 40
		CFM Pt	320 0.017	430 0.031	535 0.048	640 0.068	750 0.094	855 0.122	1070 0.191	1285 0.276
		Throw	4*-Way 2-3-6 4-Way 2-4-8 3-Way 2-5-9 2-Way 7-10-15 1-Way 8-12-17 NC -	3-4-8 3-5-10 4-7-11 9-12-18 11-14-20 11-14-20 -	3-5-9 4-6-12 5-8-12 11-14-20 13-16-22 13-16-22 <15	4-6-9 5-8-13 7-9-13 12-15-21 13-16-23 14-17-24 18	5-7-10 6-9-14 8-10-14 13-16-23 15-19-26 15-19-26 23	5-8-11 7-10-15 9-11-15 14-18-25 16-20-28 16-20-28 27	7-9-12 9-12-17 10-12-17 16-20-28 18-22-31 18-22-31 34	8-9-13 10-13-18 11-13-18 18-22-30 20-24-34 20-24-34 43
		CFM Pt	420 0.019	560 0.033	700 0.052	840 0.075	975 0.101	1115 0.132	1395 0.206	1675 0.297
		Throw	4*-Way 2-3-7 4-Way 2-4-9 3-Way 3-6-10 2-Way 8-11-17 1-Way 9-14-20 NC -	3-5-9 3-6-12 5-7-12 10-14-20 15-18-25 15-18-25 -	4-6-10 5-7-13 6-9-13 13-16-22 15-18-25 15-18-25 <15	5-7-11 6-9-15 7-10-15 14-17-25 15-19-26 16-20-28 16-20-28 20	5-8-12 7-10-16 9-11-16 17-21-30 18-22-32 19-23-32 19-23-32 24	6-9-12 8-12-17 10-12-17 16-20-28 18-22-32 21-25-36 21-25-36 29	8-10-14 10-13-19 11-13-19 20-25-35 23-28-39 23-28-39 36	9-11-15 12-15-21 12-15-21 20-25-35 23-28-39 23-28-39 45

See Page PCD-75 for Series 7600 Performance Notes



# PCD - Perforated Ceiling Diffusers

## Series 7600R Round Neck

All models for Series 7600R

Nominal Neck Diameter	fpm Inlet Velocity Ps	300 -.01	400 -.02	500 -.03	600 -.04	700 -.05	800 -.06	900 -.08	1000 -.10
6	CFM	60	80	100	115	135	155	175	195
8	CFM	105	140	175	210	245	280	315	350
10	CFM	165	220	270	325	380	435	490	545
12	CFM	235	315	390	470	550	630	705	785
14	CFM	320	425	535	640	750	855	9300	1070
16	CFM	420	560	700	835	975	1115	1255	1395
18	CFM	520	700	870	1045	1220	1395	1570	1740

### Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw\* - Non-isothermal horizontal throw (supply air temperature 15°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors



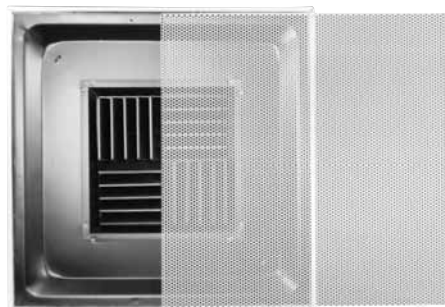
# PCD - Perforated Ceiling Diffusers

5/2007

➔ Supply Diffusers ➔ Perforated Face Modular Core ➔ Square Neck ➔ Series 7950

## Product Details

- ★ The 7950 is a perforated modular core supply diffuser with a steel backpan. Modular cores can be field adjusted for 1, 2-way opposite, 2-way corner, 3, or 4 way air discharge patterns
- ★ The perforated face is secured with spring clips making removal and access to the modular core pattern controllers easy
- ★ Border 6, T-bar Lay-in can be used in surface mounting applications by adding optional T-bar Plaster Frame (TBPF)
- ★ Matching returns available: 7950R
- ★ The 7950 is an excellent choice for VAV applications



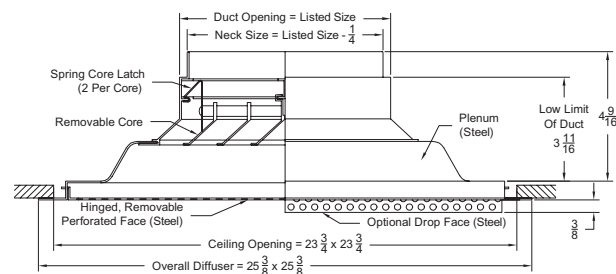
### Model 7950-6 Shown

Standard Finish: 22 BBP White Perforated Face - Black Backpan and Core

Dimensions are in inches

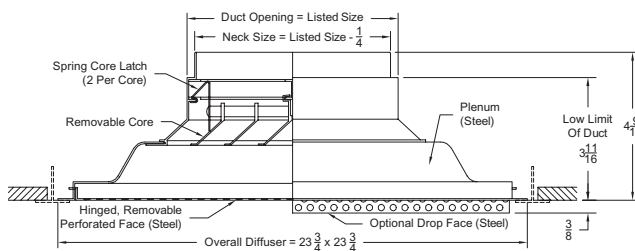
#### Supply - Square Neck - Neck Mounted - Adjustable - Surface Mount

Model 7950-1 - Steel backpan & face  
Model 7950-1 DF - Steel backpan & face - drop face  
Model 7950-1 AF - Steel backpan & aluminum face



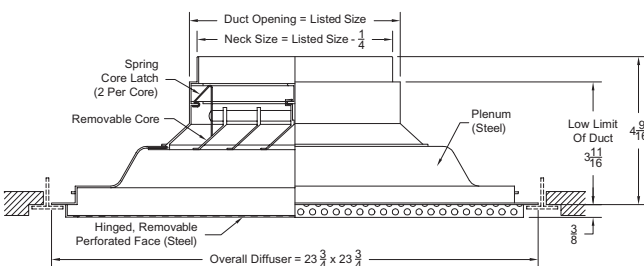
#### Supply - Square Neck - Neck Mounted - Adjustable - T-bar Lay-in

Model 7950-6 - Steel backpan & face  
Model 7950-6 AF - Steel backpan & aluminum face - drop face



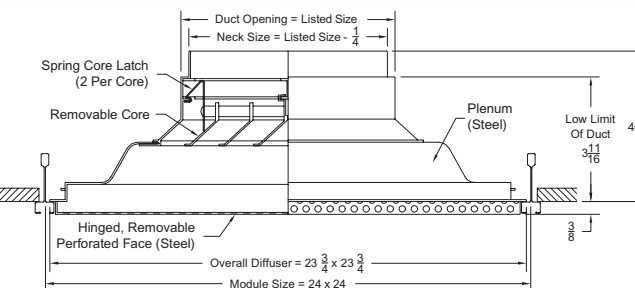
#### Supply - Square Neck - Neck Mounted - Adjustable - T-regular T-bar

Model 7950-8 - Steel backpan & face  
Model 7950-8 AF - Steel backpan & aluminum face



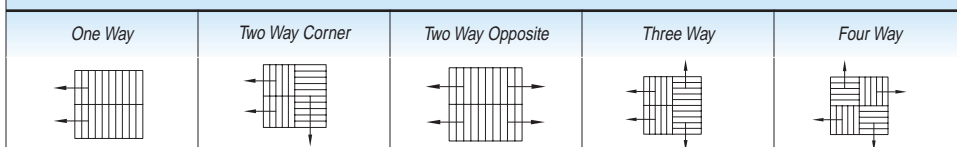
#### Supply - Square Neck - Neck Mounted - Adjustable - Donn Finline

Model 7950-9 - Steel backpan & face  
Model 7950-9 AF - Steel backpan & aluminum face



# PCD - Perforated Ceiling Diffusers

## Air Patterns - Square Louver Face Ceiling Diffusers



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White (for 7950-1) 22 (BBP) White perforated face with black backpan and cores <b>Optional Finish</b> 03 Black 28 Custom color	OBD - Opposed blade damper - Steel .....221 OBDA - Opposed blade damper - Aluminum ..... 221 L9 - Equalizing grid .....221 TR DEEP - Square to round transition - deep .....221	<ul style="list-style-type: none"> <li>All modules have 4 cores for possible 1, 2, 3 or 4 way air patterns</li> <li>Series 7950 have 3/16" diameter holes on 1/4" staggered centers</li> </ul>

All models for Series 7950 (-1, -6, -8, -9), 7950-1 DF, 7950 AF (-1, -6, -8, -9)

Listed Size (ft.) & Neck Area Sq. Ft.	Neck Velocity fpm Outlet Velocity fpm Side Designation		200 305		300 460		400 615		500 770		600 925	
			A	B	A	B	A	B	A	B	A	B
6" x 6"	CFM		50		75		100		125		150	
	NC		-		-		-		20		24	
	Pt. Total Pressure (in. w.c.)		0.006		0.016		0.032		0.049		0.065	
	Throw	4-Way	1-3		1-4		2-6		3-9		4-12	
		3-Way	1-3	2-4	1-4	2-6	2-6	3-8	3-9	4-13	4-12	6-17
		2-Way	2-4		2-6		3-8		4-13		6-17	
	Throw	1-Way	2-6		2-8		4-12		6-18		12-24	
8" x 8"	CFM		90		135		175		225		265	
	NC		-		-		18		24		30	
	Pt. Total Pressure (in. w.c.)		0.012		0.025		0.042		0.069		0.080	
	Throw	4-Way	1-3		2-6		3-9		4-12		5-15	
		3-Way	1-3	2-4	2-6	3-8	3-9	4-13	4-12	6-17	5-15	7-21
		2-Way	2-4		3-8		4-13		6-17		7-21	
	Throw	1-Way	2-6		4-12		6-18		8-24		10-30	
10" x 10"	CFM		140		205		275		345		415	
	NC		-		-		22		25		31	
	Pt. Total Pressure (in. w.c.)		0.012		0.027		0.019		0.076		0.110	
	Throw	4-Way	1-3		2-7		3-9		5-15		7-20	
		3-Way	1-3	2-4	2-7	3-10	3-9	4-13	5-15	7-21	7-20	10-28
		2-Way	2-4		3-10		4-13		7-21		10-28	
	Throw	1-Way	2-6		4-14		6-18		10-30		14-40	
12" x 12"	CFM		200		300		400		500		600	
	NC		-		-		23		26		32	
	Pt. Total Pressure (in. w.c.)		0.014		0.030		0.054		0.085		0.122	
	Throw	4-Way	1-4		2-7		4-11		6-17		8-23	
		3-Way	1-4	2-6	2-7	3-10	4-11	6-16	6-17	8-24	8-23	11-32
		2-Way	2-6		3-10		6-16		8-24		11-32	
	Throw	1-Way	2-8		4-14		8-22		12-34		16-46	
14" x 14"	CFM		275		410		545		680		815	
	NC		-		-		-		-		33	
	Pt. Total Pressure (in. w.c.)		0.014		0.032		0.067		0.009		0.129	
	Throw	4-Way	1-4		3-9		5-15		8-24		11-32	
		3-Way	1-4	2-6	3-9	4-13	5-15	7-21	8-23	11-32	10-29	14-41
		2-Way	2-6		4-13		7-21		11-32		14-41	
	Throw	1-Way	2-8		6-18		10-30		16-46		20-58	
16" x 16"	CFM		355		530		710		890		1065	
	NC		-		-		25		33		38	
	Pt. Total Pressure (in. w.c.)		0.016		0.034		0.061		0.095		0.137	
	Throw	4-Way	1-5		3-9		5-15		8-21		11-32	
		3-Way	1-5	2-7	3-9	4-13	5-15	7-21	8-24	11-34	11-32	16-45
		2-Way	2-7		4-13		7-21		11-34		16-45	
	Throw	1-Way	2-10		6-18		10-30		16-48		22-64	
18" x 18"	CFM		450		675		900		1125		1350	
	NC		-		-		26		35		39	
	Pt. Total Pressure (in. w.c.)		0.016		0.036		0.065		0.102		0.149	
	Throw	4-Way	1-6		3-10		5-16		9-27		12-35	
		3-Way	1-6	2-8	3-10	4-14	5-16	7-23	9-27	13-38	12-35	17-49
		2-Way	2-8		1-14		7-23		13-38		17-49	
	Throw	1-Way	2-11		6-20		10-32		18-54		24-70	
20" x 20"	CFM		555		835		1110		1385		1665	
	NC		-		-		27		37		40	
	Pt. Total Pressure (in. w.c.)		0.016		0.038		0.068		0.106		0.158	
	Throw	4-Way	1-5		3-9		5-15		8-24		11-32	
		3-Way	1-5	2-7	3-9	4-13	5-15	7-21	8-24	11-34	11-32	16-45
		2-Way	2-7		4-13		7-21		11-34		16-45	
	Throw	1-Way	2-10		6-18		10-30		16-48		22-64	

### Series 7950 Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)  
 fpm - Velocity of air stream in feet per minute  
 Pt - Total pressure (inches of water column)  
 Throw - Non-isothermal horizontal throw (supply air temperature 20°F colder than average room air temperature) values are for 150 fpm - 50 fpm velocities  
 NC - Noise criterion, sound pressure level.  
 NC ratings are based on sound power level (Lw)  
 RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands





# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRES Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRES Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaires.com](http://www.metalaires.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

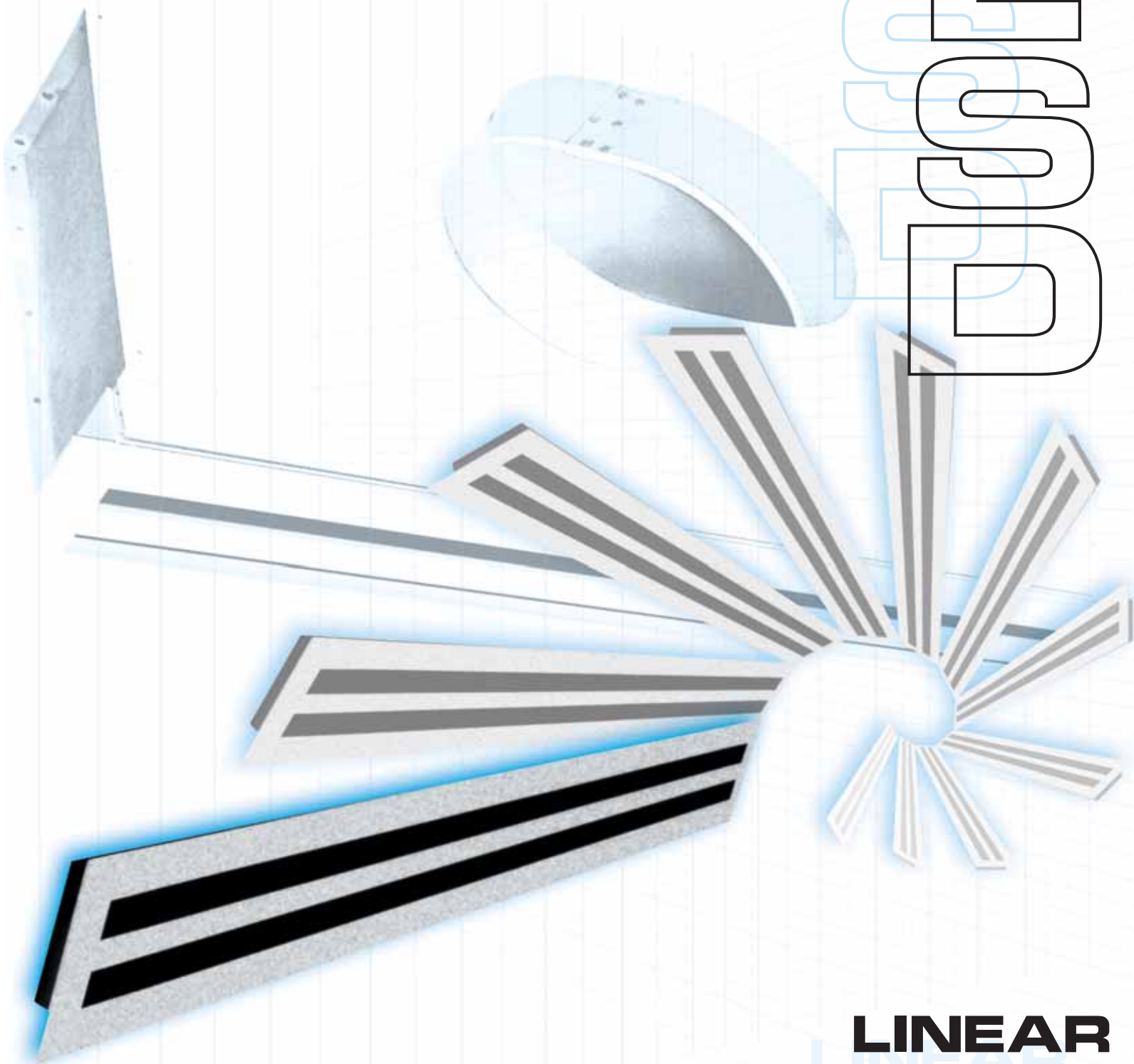
## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES

# SLD



**LINEAR  
SLOT DIFFUSERS**





Model 6600

Pg. 82

## Supply/Return Linear Slot Diffuser w/ Integral Volume/Directional Pattern Controllers - Aluminum Series 6600/6600R

- Available in 1 to 8 slots with 1/2", 3/4", or 1" slot width
- Excellent choice for continuous linear slot applications. Units are available in a single section up to 8'. This feature gives a clean appearance and makes installation easier with fewer joints to line up
- Pattern controllers on supply units are aluminum and are adjustable from the face of the diffuser and can be set to adjust volume or throw direction from vertical to horizontal
- Available for T-bar Lay-in, Surface mount, Narrow Tee, Dropped Face, Concealed Spline, or Concealed Spline/Plaster Frame
- Optional BP factory supplied boot plenums are available
- The series 6600 is an excellent selection for variable volume systems supplying a tight horizontal pattern from maximum to minimum throws
- The series 6600R is designed for return applications. The unit is supplied without pattern controllers to reduce pressure and noise
- Series 6600 is Patent Pending

	Supply				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		6600-11-1 1 1/8" Border			
Concealed Mounting Hardware	6600-12-6 1 1/8" Border	6600-12-1 1 1/8" Border	6600-42-7 25/32" Border		
No Mounting Hardware	6600-10-6 1 1/8" Border		6600-40-7 25/32" Border	6600-40-8 25/32" Border	6600-40-9 25/32" Border
	6600-20-6 3/4" Border				
	6600-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
6600-22-73 3/4" Border	6600-22-74 3/4" Border

	Return				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		6600R-11-1 1 1/8" Border			
Concealed Mounting Hardware	6600R-12-6 1 1/8" Border	6600R-12-1 1 1/8" Border	6600R-42-7 25/32" Border		
No Mounting Hardware	6600R-10-6 1 1/8" Border		6600R-40-7 25/32" Border	6600R-40-8 25/32" Border	6600R-40-9 25/32" Border
	6600R-20-6 3/4" Border				
	6600R-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
6600R-22-73 3/4" Border	6600R-22-74 3/4" Border

## Supply/Return Linear Slot Diffuser for Spiral Pipe - Aluminum - Series 6600SP/6600SPR



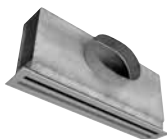
Model 6610SP

Pg. 99

- The series 6600SP is designed to integrate into exposed spiral duct systems
- Series 6600SP pattern controllers are fully adjustable and can be set from horizontal to vertical discharge
- The series 6600SP operates effectively from minimum to maximum flow making this diffuser an excellent selection for variable volume systems
- Series 6600SPR is designed for return applications. The unit is supplied without pattern controllers to reduce pressure and noise

Supply	Return
6610SP-11-1 Screw Mounted - 1 1/8" Border	6610SPR-11-1 Screw Mounted - 1 1/8" Border
6610SP-12-1 Concealed Mounting Hardware - 1 1/8" Border	6610SPR-12-1 Concealed Mounting Hardware - 1 1/8" Border





**Model BP**

Pg. 100

## Boot Plenums - Insulated/Non-Insulated for 6600 - Series BP

- ★ The series BP (non-insulated) and BPI (insulated) boot plenums are designed to connect the Series 6600 linear slot diffusers to the ducted supply or return system
- ★ Units provide an even distribution of air into the series 6600 diffuser to maximize induction and occupant comfort
- ★ The series BPI boot plenum is fully insulated — including the end caps
- ★ Units can be used for both ducted and plenum returns
- ★ Factory tested and manufactured BP/BPI plenums are built to fit securely into the series 6600 of diffusers reducing installation cost and minimizing leakage
- ★ Available with an optional quadrant locking damper
- ★ Series BP & BPI are shipped separate from series 6600 linear slot diffusers and require field attachment

	Non Insulated				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		BP-11-1 1 1/8" Border			
Concealed Mounting Hardware	BP-12-6 1 1/8" Border	BP-12-1 1 1/8" Border	BP-42-7 25/32" Border		
No Mounting Hardware	BP-10-6 1 1/8" Border		BP-40-7 25/32" Border	BP-40-8 25/32" Border	BP-40-9 25/32" Border
	BP-20-6 3/4" Border				
	BP-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
BP-22-73 3/4" Border	BP-22-74 3/4" Border

	Insulated				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		BPI-11-1 1 1/8" Border			
Concealed Mounting Hardware	BPI-12-6 1 1/8" Border	BPI-12-1 1 1/8" Border	BPI-42-7 25/32" Border		
No Mounting Hardware	BPI-10-6 1 1/8" Border		BPI-40-7 25/32" Border	BPI-40-8 25/32" Border	BPI-40-9 25/32" Border
	BPI-20-6 3/4" Border				
	BPI-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
BPI-22-73 3/4" Border	BPI-22-74 3/4" Border



**Model L-5000**

Pg. 109

## Linear Louver Diffusers - Series L-5000

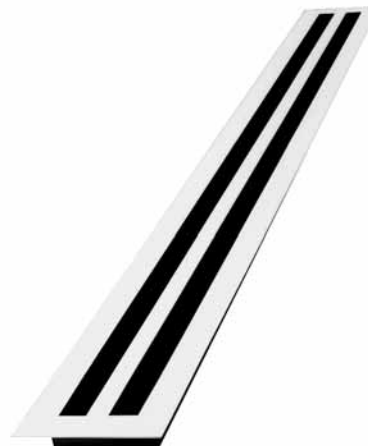
- ★ The series L-5000 is a fixed pattern, high induction architectural linear slot diffuser. This diffuser is constructed from heavy aluminum extrusions and is available with either 1-way or 2-way opposite air discharge patterns
- ★ The series L-5000 generates a tight, high induction discharge of air maximizing room air mixing and occupant comfort. With the optional IV induction vanes, mixing and performance is further increased reducing temperature gradients and increasing room air circulation
- ★ Also available is an optional plenum that allows the 2-way opposite unit to become a supply/return diffuser. The optional L-5000 BP-SR has a dividing section built into the plenum making an effective choice for perimeter supply/return applications
- ★ T-bar Lay-in units available in 18", 24", 30", 36" or 42" and in surface mounting applications up to 48"
- ★ 1-way units available in 3", 6", 9", 12" and 15" widths
- ★ 2-way opposite units available in 6" and 12" widths
- ★ The louvered face is secured with spring clips making removal easy for installation
- ★ The series L-5000 is an excellent choice for VAV applications

Surface Mount	L-5000-1
T-bar Lay-in	L-5000-6

## ➔ Linear Slot ➔ Series 6600 ➔ Aluminum

### Product Details

- ✦ Available in 1 to 8 slots with 1/2", 3/4", or 1" slot width
- ✦ Excellent choice for continuous linear slot applications. Units are available in a single section up to 8'. This feature gives a clean appearance and makes installation easier with fewer joints to line up
- ✦ Pattern controllers on supply units are aluminum and are adjustable from the face of the diffuser and can be set to adjust volume or throw direction from vertical to horizontal
- ✦ Available for T-bar Lay-in, surface mount, narrow tee, dropped face, concealed spline, or concealed spline/plaster frame
- ✦ Optional BP factory supplied boot plenums are available
- ✦ The 6600 series is an excellent selection for variable volume systems supplying a tight horizontal pattern from maximum to minimum throws
- ✦ The 6600R is designed for return applications. The unit is supplied without pattern controllers to reduce pressure and noise



### Model 6600 Shown

Finish: 20 White Border  
with Black Pattern Controller

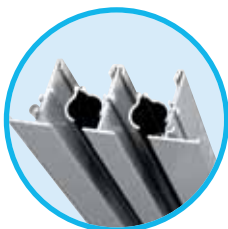
### About The 6600 (Patent Pending)

The 6600 is an excellent choice for continuous linear applications such as perimeter office space where the diffuser can direct air along the perimeter wall or glass and towards the occupied area to maximize comfort. Other applications for the 6600 linear slot diffuser include large public areas that demand superior comfort such as airport terminals, convention centers, or shopping malls. The flexibility of the 6600 allows the diffuser to be installed in a variety of applications to maximize occupant comfort.

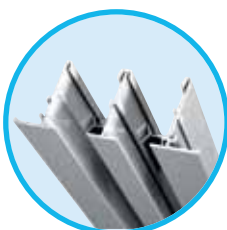
The Series 6600 pattern controllers can be adjusted from the face to obtain vertical to horizontal throw. Pattern can be field set for "left" or "right" horizontal throw direction. Multiple slot units can be field set for one or two-way opposite horizontal throw.

In the horizontal setting, the diffuser produces a tight air pattern from maximum to minimum flow, making the 6600 an excellent choice for variable volume systems.

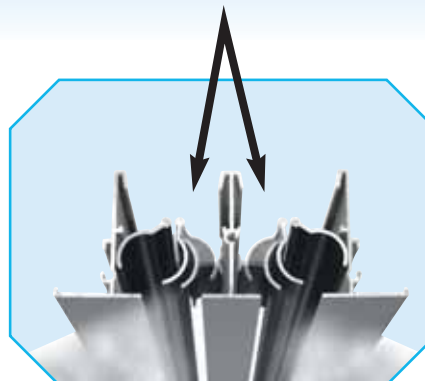
### Model 6600 - Supply



### Model 6600 - Return



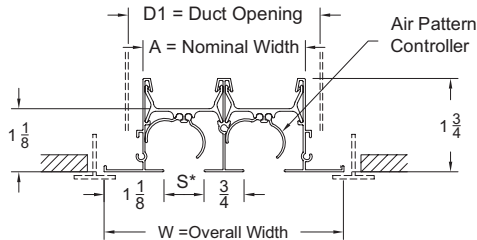
6600 Pattern Controllers can be field-adjusted to vary discharge volume while maintaining a tight horizontal pattern



Dimensions are in inches

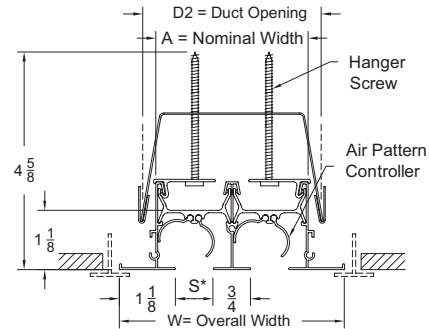
## Series 6600-10-6 T-bar Lay-in $\Rightarrow$ 1 1/8" Border

Supply - 1 1/8" Border - T-bar Lay-in  
Model 6650-10-6 - 1/2" Slot Width  
Model 6675-10-6 - 3/4" Slot Width  
Model 6610-10-6 - 1" Slot Width

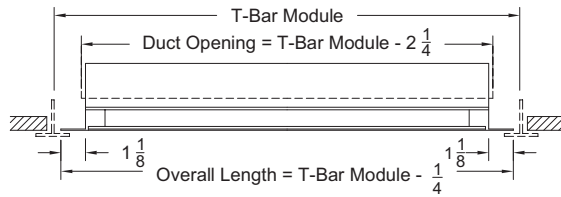
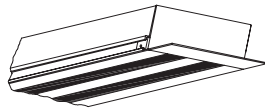


## Series 6600-12-6 T-bar Lay-in $\Rightarrow$ 1 1/8" Border $\Rightarrow$ Concealed Mount

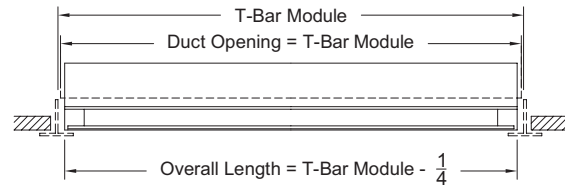
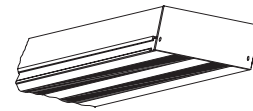
Supply - 1 1/8" Border - T-bar Lay-in  
Model 6650-12-6 - 1/2" Slot Width  
Model 6675-12-6 - 3/4" Slot Width  
Model 6610-12-6 - 1" Slot Width



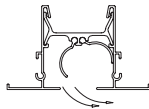
## End Border Models 6600-10-6 & 6600-12-6



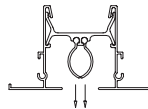
## End Cap Models 6600-10-6 & 6600-12-6



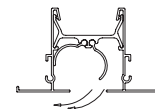
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650 (6650-10-6 & 6650-12-6)								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
D2	1 7/8	3 1/8	4 3/8	5 5/8	6 7/8	8 1/8	9 3/8	10 5/8
W	2 3/4	4	5 1/4	6 1/2	7 3/4	9	10 1/4	11 1/2

Model 6675 (6675-10-6 & 6675-12-6)								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
D2	2 1/8	3 5/8	5 1/8	6 5/8	8 1/8	9 5/8	11 1/8	12 5/8
W	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2

Model 6610 (6610-10-6 & 6610-12-6)								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
D2	2 3/8	4 1/8	5 7/8	7 5/8	9 3/8	11 1/8	12 7/8	14 5/8
W	3 1/4	5	6 3/4	8 1/2	10 1/4	12	13 3/4	15 1/2

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

For more product information visit us at [www.metalair.com](http://www.metalair.com)

**LSD-83**  
METALAIR

# LSD - Linear Slot Diffusers

5/2007

Linear Slot Diffusers

LSD

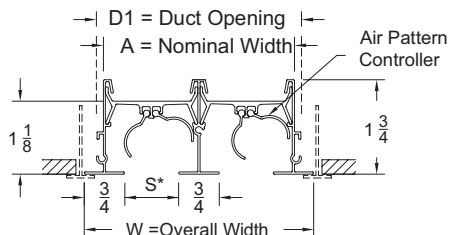
## Series 6600-20-6 T-bar Lay-in $\Rightarrow$ 3/4" Border

### Supply - 3/4" Border - T-bar Lay-in

Model 6650-20-6 - 1/2" Slot Width

Model 6675-20-6 - 3/4" Slot Width

Model 6610-20-6 - 1" Slot Width



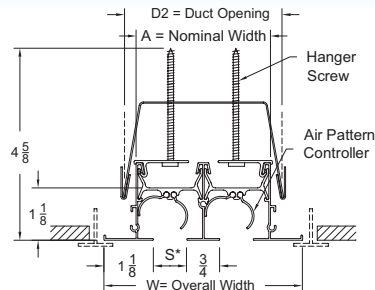
## Series 6600-22-6 T-bar Lay-in $\Rightarrow$ 3/4" Border

### Supply - 3/4" Border - T-bar Lay-in

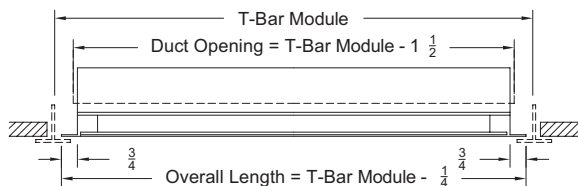
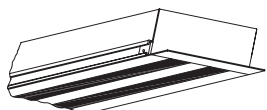
Model 6650-22-6 - 1/2" Slot Width

Model 6675-22-6 - 3/4" Slot Width

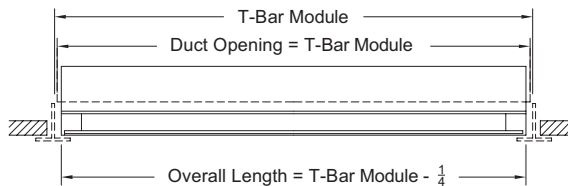
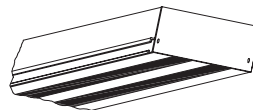
Model 6610-22-6 - 1" Slot Width



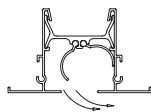
## End Border Model 6600-20-6



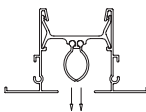
## End Cap Model 6600-20-6



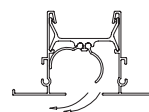
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 5/16	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
W	2	3 1/4	4 1/2	5 3/4	7	8 1/4	9 1/2	10 3/4

Model 6610								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
W	2 1/2	4 1/4	6	7 3/4	9 1/2	11 1/4	13	14 3/4

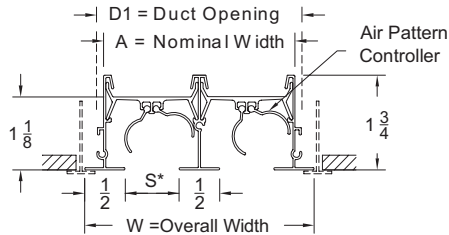
Model 6675								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
W	2 1/4	3 3/4	5 1/4	6 3/4	8 1/4	9 3/4	11 1/4	12 3/4

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

# LSD - Linear Slot Diffusers

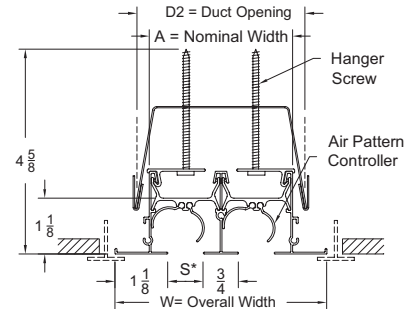
## Series 6600-30-6 T-bar Lay-in $\Rightarrow$ 1/2" Border

Supply - 1/2" Border - T-bar Lay-in  
Model 6650-30-6 - 1/2" Slot Width  
Model 6675-30-6 - 3/4" Slot Width  
Model 6610-30-6 - 1" Slot Width

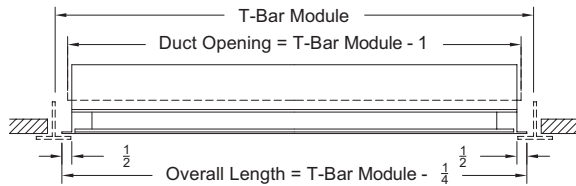
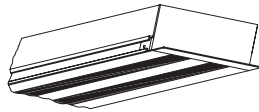


## Series 6600-32-6 T-bar Lay-in $\Rightarrow$ 1/2" Border

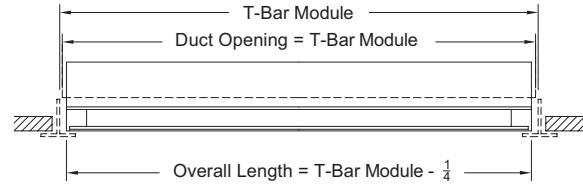
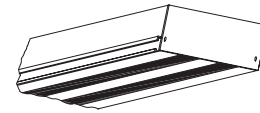
Supply - 1/2" Border - T-bar Lay-in  
Model 6650-32-6 - 1/2" Slot Width  
Model 6675-32-6 - 3/4" Slot Width  
Model 6610-32-6 - 1" Slot Width



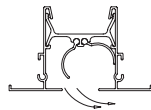
## End Border Model 6600-30-6



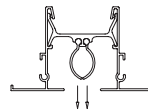
## End Cap Model 6600-30-6



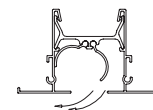
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 5/16	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
W	1 1/2	2 3/4	4	5 1/4	6 1/2	7 3/4	9	10 1/4

Model 6675								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
W	1 3/4	3 1/4	4 3/4	6 1/4	7 3/4	9 1/4	10 3/4	12 1/4

Model 6610								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
W	2	3 3/4	5 1/2	7 1/4	9	10 3/4	12 1/2	14 1/4

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

# LSD - Linear Slot Diffusers

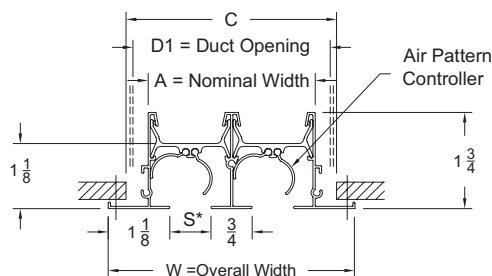
5/2007

Linear Slot Diffusers

LSD

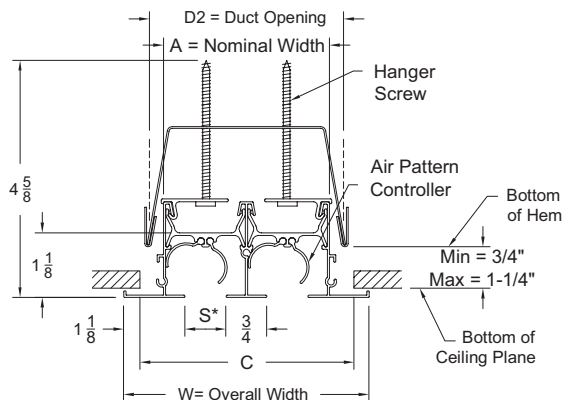
## Series 6600-11-1 1 1/8" Border ➔ Face Screw Mounting

Supply - 1 1/8" Border  
Model 6650-11-1 - 1/2" Slot Width  
Model 6675-11-1 - 3/4" Slot Width  
Model 6610-11-1 - 1" Slot Width



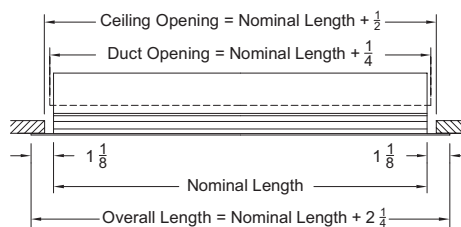
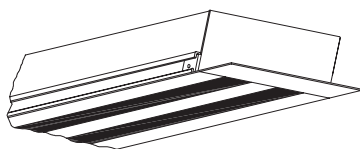
## Series 6600-12-1 1 1/8" Border ➔ Concealed Surface Mount

Supply - 1 1/8" Border  
Model 6650-12-1 - 1/2" Slot Width  
Model 6675-12-1 - 3/4" Slot Width  
Model 6610-12-1 - 1" Slot Width

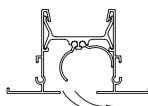


### End Border

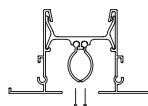
Note: For the 6600-12-1, the BP/BPI plenum must be installed with 3/4" minimum/ 1-1/4" Maximum opening between the bottom of the ceiling plane and the bottom of the hem of the BP/BPI plenum



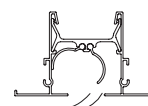
### Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650 (6650-11-1 & 6650-12-1)								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
D2	1 7/8	3 1/8	4 3/8	5 5/8	6 7/8	8 1/8	9 3/8	10 5/8
C	2	3 1/4	4 1/2	5 3/4	7	8 1/4	9 1/2	10 3/4
W	2 3/4	4	5 1/4	6 1/2	7 3/4	9	10 1/4	11 1/2

Model 6675 (6675-11-1 & 6675-12-1)								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
D2	2 1/8	3 5/8	5 1/8	6 5/8	8 1/8	9 5/8	11 1/8	12 5/8
C	2 1/4	3 3/4	5 1/4	6 3/4	8 1/4	9 3/4	11 1/4	12 3/4
W	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2

Model 6610 (6610-11-1 & 6610-12-1)								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
D2	2 3/8	4 1/8	5 7/8	7 5/8	9 3/8	11 1/8	12 7/8	14 5/8
C	2 1/2	4 1/4	6	7 3/4	9 1/2	11 1/4	13	14 3/4
W	3 1/4	5	6 3/4	8 1/2	10 1/4	12	13 3/4	15 1/2

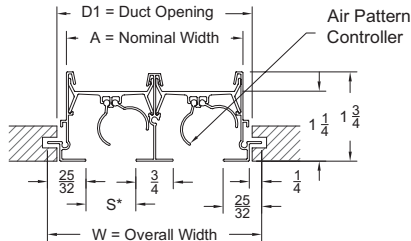
6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop



# LSD - Linear Slot Diffusers

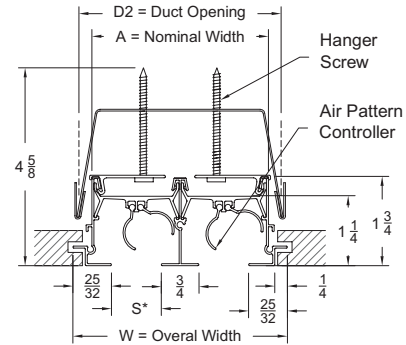
## Series 6600-40-7 25/32" Border → Concealed Spline

Supply - Concealed Spline  
 Model 6650-40-7 - 1/2" Slot Width  
 Model 6675-40-7 - 3/4" Slot Width  
 Model 6610-40-7 - 1" Slot Width

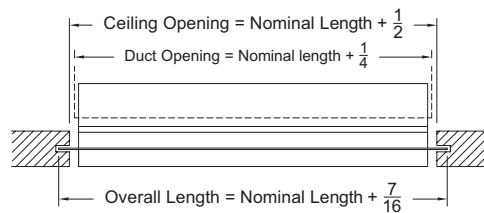
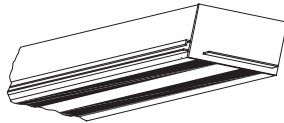


## Series 6600-42-7 25/32" Border → Concealed Spline → Concealed Mount

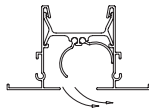
Supply - Concealed Spline  
 Model 6650-42-7 - 1/2" Slot Width  
 Model 6675-42-7 - 3/4" Slot Width  
 Model 6610-42-7 - 1" Slot Width



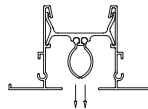
## End Border Model 6600-40-7 & 6600-42-7



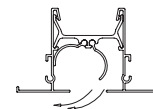
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650 (6650-40-7 & 6650-42-7)									
S = 1/2" Slot	Number of Air Slots								
	1	2	3	4	5	6	7	8	
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8	
D2	1 7/8	3 1/8	4 3/8	5 5/8	6 7/8	8 1/8	9 3/8	10 5/8	
W	2 1/16	3 5/16	4 9/16	5 13/16	7 1/16	8 5/16	9 9/16	10 13/16	

Model 6675 (6675-40-7 & 6675-42-7)								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
D2	2 1/8	3 5/8	5 1/8	6 5/8	8 1/8	9 5/8	11 1/8	12 5/8
W	2 5/16	3 13/16	5 5/16	6 13/16	8 5/16	9 13/16	11 5/16	12 13/16

Model 6610 (6610-40-7 & 6610-42-7)								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
D2	2 3/8	4 1/8	5 7/8	7 5/8	9 3/8	11 1/8	12 7/8	14 5/8
W	2 9/16	4 5/16	6 1/16	7 13/16	9 9/16	11 5/16	13 1/16	14 13/16

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

# LSD - Linear Slot Diffusers

5/2007

Linear Slot Diffusers

LSD

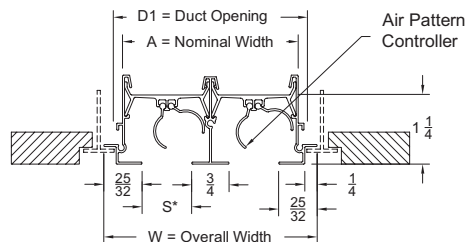
## Series 6600-40-8 Drop Face

### Supply - Drop Face

Model 6650-40-8 - 1/2" Slot Width

Model 6675-40-8 - 3/4" Slot Width

Model 6610-40-8 - 1" Slot Width



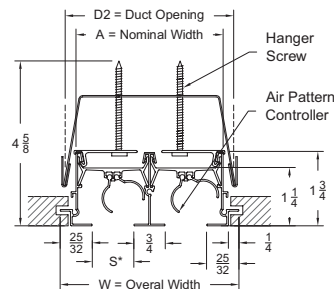
## Series 6600-42-8 Drop Face

### Supply - Drop Face

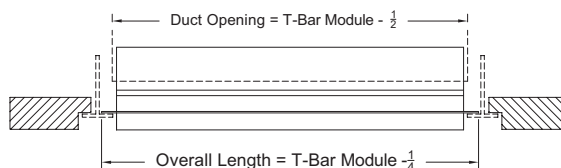
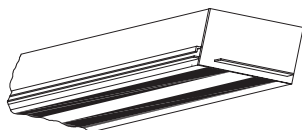
Model 6650-42-8 - 1/2" Slot Width

Model 6675-42-8 - 3/4" Slot Width

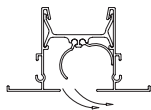
Model 6610-42-8 - 1" Slot Width



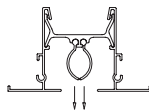
## End Border Model 6600-40-8



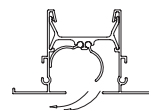
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650 (6650-40-8)								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
D2	1 7/8	3 1/8	4 3/8	5 5/8	6 7/8	8 1/8	9 3/8	10 5/8
W	2 1/16	3 5/16	4 9/16	5 13/16	7 1/16	8 5/16	9 9/16	10 13/16

Model 6610 (6610-40-8)								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
D2	2 3/8	4 1/8	5 7/8	7 5/8	9 3/8	11 1/8	12 7/8	14 5/8
W	2 9/16	4 5/16	6 1/16	7 13/16	9 9/16	11 5/16	13 1/16	14 13/16

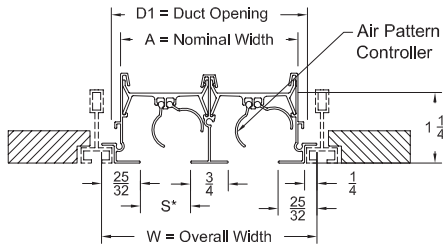
Model 6675 (6675-40-8)								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
D2	2 1/8	3 5/8	5 1/8	6 5/8	8 1/8	9 5/8	11 1/8	12 5/8
W	2 5/16	3 13/16	5 5/16	6 13/16	8 5/16	9 13/16	11 5/16	12 13/16

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

# LSD - Linear Slot Diffusers

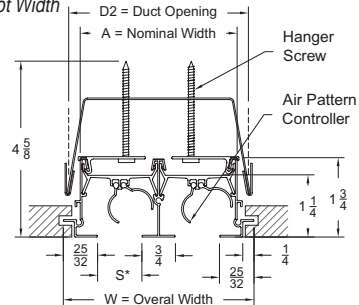
## Series 6600-40-9 Narrow Tee

Supply - Narrow Tee - 9/16" Face  
Model 6650-40-9 - 1/2" Slot Width  
Model 6675-40-9 - 3/4" Slot Width  
Model 6610-40-9 - 1" Slot Width

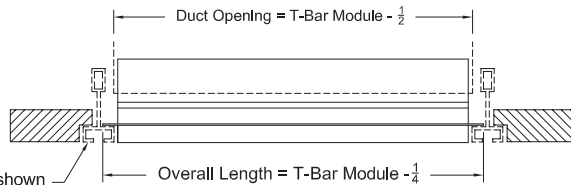
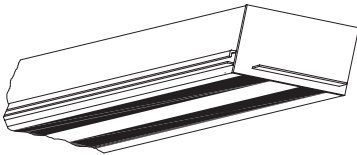


## Series 6600-42-9 Narrow Tee

Supply - Narrow Tee - 9/16" Face  
Model 6650-42-9 - 1/2" Slot Width  
Model 6675-42-9 - 3/4" Slot Width  
Model 6610-42-9 - 1" Slot Width

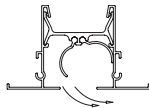


## End Border Model 6600-40-9

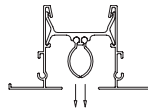


6600-40-9 Model shown  
with Bolt Grid as an alternate  
application

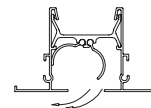
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650 (6650-40-9)								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8
W	2 1/16	3 5/16	4 9/16	5 13/16	7 1/16	8 5/16	9 9/16	10 13/16

Model 6675 (6675-40-9)								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
W	2 5/16	3 13/16	5 5/16	6 13/16	8 5/16	9 13/16	11 5/16	12 13/16

Model 6610 (6610-40-9)								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
W	2 9/16	4 5/16	6 1/16	7 13/16	9 9/16	11 5/16	13 1/16	14 13/16

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

# LSD - Linear Slot Diffusers

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Linear Slot Diffusers

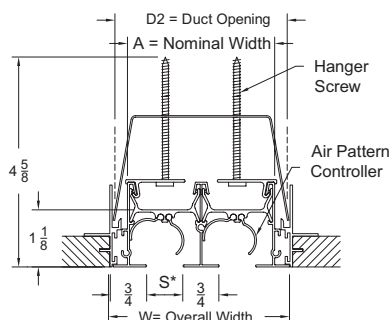
LSD

## Series 6600-22-73-1

Concealed Spline/Plaster Frame ➔ 3/4" Border w/ Concealed Mount

Supply - 3/4" Border - Concealed Spline/Plaster Frame

Model 6650-22-73 - 1/2" Slot Width  
Model 6675-22-73 - 3/4" Slot Width  
Model 6610-22-73 - 1" Slot Width

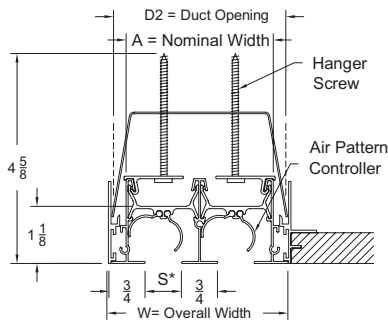


## Series 6600-22-74-1

Wall Concealed Spline /Plaster Frame ➔ 3/4" Border w/ Concealed Mount

Supply - 3/4" Border - Concealed Spline/Plaster & Wall Frame

Model 6650-22-74 - 1/2" Slot Width  
Model 6675-22-74 - 3/4" Slot Width  
Model 6610-22-74 - 1" Slot Width

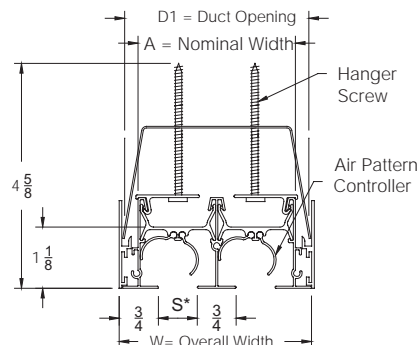


## Series 6600-22-75-1

Wall Concealed Spline/Plaster Frame ➔ 3/4" Border w/ Concealed Mount

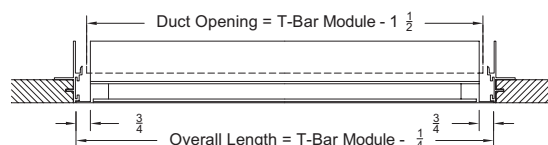
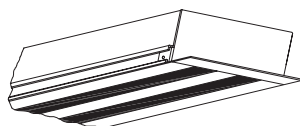
Supply - 3/4" Border - Concealed Spline/Plaster & Wall Frame

Model 6650-22-75 - 1/2" Slot Width  
Model 6675-22-75 - 3/4" Slot Width  
Model 6610-22-75 - 1" Slot Width

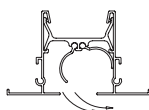


## End Border

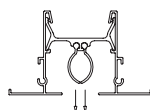
Models 6600-22-73 & 6600-22-74



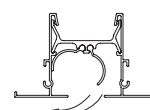
## Air Deflection Patterns



Right Horizontal



Vertical Projection



Left Horizontal

Model 6650								
S = 1/2" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10
D1	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/5	10 3/8
W	2	3 1/4	4 1/4	5 3/4	7	8 1/4	9 1/2	10 3/4

Model 6675								
S = 3/4" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12
D1	1 7/8	3 3/8	4 7/8	6 3/8	7 7/8	9 3/8	10 7/8	12 3/8
W	2 1/4	3 3/4	5 1/4	6 3/4	8 1/4	9 3/4	11 1/4	12 3/4

Model 6610								
S = 1" Slot	Number of Air Slots							
	1	2	3	4	5	6	7	8
A	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14
D1	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8
W	2 1/2	4 1/4	6	7 3/4	9 1/2	11 1/4	13	14 3/4

6600R return has same dimensions as 6600 supply but provided without pattern controllers to reduce sound and pressure drop

## Notes for Series 6600

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 20 White frame with black pattern controller <b>Optional Finish</b> 21 Clear anodized with black pattern controller 28 Custom color	Mitered Corners (45°, 90° and 135°) ..... 95 Replacement End Caps Insulated Boot Plenums Non-Insulated Boot Plenums <b>Note:</b> BP Boot Plenums are shipped separate for field installation	<ul style="list-style-type: none"> <li>Sizes available in only 1-8 slots</li> <li>Slot widths available 1/2" (6650), 3/4" (6675), and 1" (6610)</li> <li>Longest single section is 8 feet</li> <li>Continuous lengths are made in sections</li> </ul>

# LSD - Linear Slot Diffusers

## Series 6600 - Performance

### 6650 1/2" Slot - CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	0.005 0.004	0.021 0.015	0.047 0.033	0.083 0.058	0.130 0.091	0.188 0.132	0.255 0.179	0.334 0.234	0.422 0.295	0.521 0.365
1	CFM/LF		5	10	15	20	25	30	35	40	45	50
	Horizontal Throw, ft		1-1-6	3-6-12	6-10-14	10-12-17	11-13-19	12-14-20	13-16-22	14-17-24	14-18-25	15-19-26
	Vertical Throw, ft		2	7	9	11	12	13	14	15	16	17
	Horizontal NC		<15	<15	<15	17	22	27	30	34	36	38
	Vertical NC		<15	<15	<15	<15	<15	15	18	22	24	26
2	CFM/LF		10	20	30	40	50	60	70	80	90	100
	Horizontal Throw, ft		1-2-8	4-8-17	8-14-20	14-17-24	15-19-26	17-20-29	18-22-31	19-24-33	20-25-35	22-36-37
	Vertical Throw, ft		3	9	13	15	17	18	20	21	23	24
	Horizontal NC		<15	<15	<15	20	25	30	33	37	39	41
	Vertical NC		<15	<15	<15	<15	<15	18	21	25	27	29
3	CFM/LF		15	30	45	60	75	90	105	120	135	150
	Horizontal Throw, ft		2-4-13	6-13-20	13-18-25	17-20-29	19-23-32	20-25-35	22-27-38	18-22-31	19-24-33	20-25-35
	Vertical Throw, ft		5	11	16	18	21	23	24	26	28	29
	Horizontal NC		<15	<15	15	22	27	32	35	39	41	43
	Vertical NC		<15	<15	<15	<15	15	20	23	27	29	31
4	CFM/LF		20	40	60	80	100	120	140	160	180	200
	Horizontal Throw, ft		3-6-15	10-15-24	15-20-29	19-24-33	22-26-37	24-29-41	26-31-44	27-33-47	29-35-50	31-37-53
	Vertical Throw, ft		5	13	18	21	24	26	28	30	32	34
	Horizontal NC		<15	<15	17	24	29	33	36	40	42	44
	Vertical NC		<15	<15	<15	<15	17	21	24	28	30	32
5	CFM/LF		25	50	75	100	125	150	175	200	225	250
	Horizontal Throw, ft		3-7-16	11-16-25	16-23-32	22-26-35	24-30-42	26-32-46	29-35-49	31-37-53	32-40-56	34-42-59
	Vertical Throw, ft		6	19	23	26	29	32	34	37	39	41
	Horizontal NC		<15	<15	19	26	31	35	37	41	43	45
	Vertical NC		<15	<15	<15	<15	19	23	25	29	31	33
6	CFM/LF		30	60	90	120	150	180	210	240	270	300
	Horizontal Throw, ft		4-8-20	14-20-29	20-25-35	24-29-41	26-32-46	29-35-50	31-38-54	33-41-58	35-43-61	37-56-65
	Vertical Throw, ft		6	16	23	26	29	32	34	37	39	41
	Horizontal NC		<15	17	20	27	32	36	38	42	44	46
	Vertical NC		<15	<15	<15	15	20	24	26	30	32	35
7	CFM/LF		35	70	105	140	175	210	245	280	315	350
	Horizontal Throw, ft		5-9-18	12-18-31	18-27-38	24-31-44	29-35-49	31-38-54	34-41-59	36-44-63	38-47-66	40-49-70
	Vertical Throw, ft		7	17	24	28	31	34	37	40	42	45
	Horizontal NC		<15	18	21	28	33	37	39	43	45	47
	Vertical NC		<15	<15	<15	16	21	25	37	331	33	35
8	CFM/LF		40	80	120	160	200	240	280	320	360	400
	Horizontal Throw, ft		6-10-19	13-19-33	19-29-41	26-33-47	31-37-53	33-41-58	36-44-63	39-47-67	41-50-71	43-53-75
	Vertical Throw, ft		7	18	26	30	34	37	40	43	45	48
	Horizontal NC		<15	20	22	29	34	39	40	44	46	48
	Vertical NC		<15	<15	<15	17	22	27	28	32	34	36

See Page LSD-95 for Performance Notes

Linear Slot Diffusers

LSD

# LSD - Linear Slot Diffusers

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## Series 6600 - Performance

### 6675 3/4" Slot - CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	0.011 0.007	0.024 0.014	0.042 0.025	0.066 0.040	0.095 0.057	0.129 0.077	0.168 0.101	0.213 0.128	0.263 0.158	0.318 0.191
1	CFM/LF		10	15	20	25	30	35	40	45	50	55
	Horizontal Throw, ft		1-2-6	2-4-14	3-6-22	4-10-24	6-14-27	9-19-29	11-22-31	14-26-33	18-24-35	20-26-36
	Vertical Throw, ft		2	6	10	12	13	14	15	16	17	18
	Horizontal NC		<15	<15	<15	15	19	23	25	28	31	33
2	CFM/LF		20	30	40	50	60	70	80	90	100	110
	Horizontal Throw, ft		1-3-10	3-6-22	5-10-29	7-16-35	10-22-38	14-26-41	19-29-44	22-33-46	25-35-49	27-36-51
	Vertical Throw, ft		4	8	14	17	18	20	21	23	24	25
	Horizontal NC		<15	<15	<15	18	22	26	28	31	34	36
3	CFM/LF		30	45	60	75	90	105	120	135	150	165
	Horizontal Throw, ft		1-3-13	3-7-27	6-13-36	9-20-41	13-27-44	17-32-48	23-36-51	27-39-54	30-41-57	33-43-60
	Vertical Throw, ft		4	10	17	21	23	24	26	28	29	31
	Horizontal NC		<15	<15	<15	20	24	28	30	33	35	37
4	CFM/LF		40	60	80	100	120	140	160	180	200	220
	Horizontal Throw, ft		4-10-24	10-18-36	16-24-42	20-30-47	24-36-51	28-39-55	32-42-59	36-44-63	38-47-66	40-49-70
	Vertical Throw, ft		5	11	20	24	26	28	30	32	34	35
	Horizontal NC		<15	15	16	22	25	30	31	35	37	39
5	CFM/LF		50	75	100	125	150	175	200	225	250	275
	Horizontal Throw, ft		10-15-30	15-23-41	20-30-47	25-37-52	30-41-57	35-44-62	38-47-66	41-50-70	43-52-74	45-55-78
	Vertical Throw, ft		6	13	22	27	29	31	34	36	38	39
	Horizontal NC		<15	16	17	23	26	32	33	36	38	40
6	CFM/LF		60	90	120	150	180	210	240	270	300	330
	Horizontal Throw, ft		10-15-29	15-22-44	20-29-51	24-37-57	29-44-63	34-48-68	39-51-73	44-54-77	47-57-81	49-60-85
	Vertical Throw, ft		6	14	24	29	32	34	37	39	41	43
	Horizontal NC		<15	17	19	24	28	33	34	37	39	41
7	CFM/LF		70	105	140	175	210	245	280	315	350	385
	Horizontal Throw, ft		11-16-32	16-24-48	21-32-55	26-40-63	32-48-68	37-52-73	42-55-78	48-59-83	51-62-88	53-65-92
	Vertical Throw, ft		7	15	26	31	34	37	40	42	45	47
	Horizontal NC		16	18	20	24	29	34	35	38	40	42
8	CFM/LF		80	120	160	200	240	280	320	360	400	440
	Horizontal Throw, ft		11-17-34	17-25-51	23-34-59	28-42-66	34-51-73	40-55-78	45-59-84	51-63-89	54-66-94	57-70-9
	Vertical Throw, ft		7	16	28	34	37	40	43	45	48	50
	Horizontal NC		18	19	22	25	30	35	37	39	41	43
9	CFM/LF		90	135	180	225	270	315	360	405	450	495
	Horizontal Throw, ft		11-18-36	18-27-54	24-36-60	29-44-72	35-52-84	41-58-96	47-63-102	53-69-108	58-75-114	62-79-120
	Vertical Throw, ft		7	17	30	36	40	44	48	51	54	57
	Horizontal NC		19	21	24	28	33	38	40	43	45	47
10	CFM/LF		100	150	200	250	300	350	400	450	500	550
	Horizontal Throw, ft		11-19-38	19-29-57	25-38-63	30-46-75	36-54-90	42-60-102	48-66-108	54-72-114	59-78-120	64-84-126
	Vertical Throw, ft		7	18	32	39	44	49	54	58	62	66
	Horizontal NC		20	22	26	31	36	41	43	46	48	50
11	CFM/LF		110	165	220	275	330	385	440	495	550	605
	Horizontal Throw, ft		11-20-40	20-30-60	26-40-66	31-48-78	37-56-96	43-63-108	49-69-114	55-75-120	60-81-126	65-86-132
	Vertical Throw, ft		7	19	34	41	46	51	56	60	64	68
	Horizontal NC		21	23	28	33	38	43	45	48	50	52
12	CFM/LF		120	180	240	300	360	420	480	540	600	660
	Horizontal Throw, ft		11-21-42	21-32-64	27-42-69	32-50-84	38-58-102	44-65-114	50-71-120	56-77-126	61-83-132	66-88-138
	Vertical Throw, ft		7	20	36	43	49	54	59	63	67	71
	Horizontal NC		22	24	30	35	40	45	47	50	52	54
13	CFM/LF		130	195	260	325	390	455	520	585	650	715
	Horizontal Throw, ft		11-22-44	22-34-68	28-44-72	33-52-87	39-60-102	45-71-114	51-73-120	57-79-126	62-85-132	67-90-138
	Vertical Throw, ft		7	21	38	45	51	56	61	65	69	73
	Horizontal NC		23	25	32	37	42	47	49	52	54	56
14	CFM/LF		140	210	280	350	420	490	560	630	700	770
	Horizontal Throw, ft		11-23-46	23-36-70	29-46-74	34-54-90	40-62-102	46-73-114	52-75-120	58-81-126	63-87-132	68-92-138
	Vertical Throw, ft		7	22	40	47	53	58	63	67	71	75
	Horizontal NC		24	26	34	39	44	49	51	54	56	58
15	CFM/LF		150	225	300	375	450	525	600	675	750	825
	Horizontal Throw, ft		11-24-48	24-37-72	30-48-76	35-56-92	41-64-102	47-75-114	53-79-120	59-83-126	64-89-132	69-94-138
	Vertical Throw, ft		7	23	42	49	55	60	65	69	73	77
	Horizontal NC		25	27	36	41	46	51	53	56	58	60
16	CFM/LF		160	240	320	400	480	560	640	720	800	880
	Horizontal Throw, ft		11-25-50	25-39-74	31-50-78	36-58-96	42-66-102	48-77-114	54-81-120	60-85-126	65-91-132	70-97-138
	Vertical Throw, ft		7	24	44	51	57	62	67	71	75	79
	Horizontal NC		26	28	38	43	48	53	55	58	60	62
17	CFM/LF		170	255	340	425	510	595	680	765	850	935
	Horizontal Throw, ft		11-26-52	26-41-76	32-52-80	37-60-96	43-70-102	49-79-114	55-83-120	61-87-126	66-93-132	71-99-138
	Vertical Throw, ft		7	25	46	53	59	64	69	73	77	81
	Horizontal NC		27	29	40	45	50	55	57	60	62	64
18	CFM/LF		180	270	360	450	540	630	720	810	900	990
	Horizontal Throw, ft		11-27-54	27-42-78	33-54-82	38-62-98	44-72-102	50-81-114	56-85-120	62-91-126	67-97-132	72-103-138
	Vertical Throw, ft		7	26	48	55	61	66	71	75	79	83
	Horizontal NC		28	30	42	47	52	57	59	62	64	66
19	CFM/LF		190	285	380	475	570	665	760	855	950	1045
	Horizontal Throw, ft		11-28-56	28-43-80	34-56-84	39-64-100	45-74-102	51-83-114	57-87-120	63-93-126	68-99-132	73-105-138
	Vertical Throw, ft		7	27	50	57	63	68	73	77	81	85
	Horizontal NC		29	31	44	49	54	59	61	64	66	68
20	CFM/LF		200	300	400	500	600	700	800	900	1000	1100
	Horizontal Throw, ft		11-29-58	29-45-82	35-58-86	40-66-102	46-76-102	52-85-114	58-91-120	64-97-126	69-103-132	74-109-138
	Vertical Throw, ft		7	28	52	59	65	70	75	79	83	87
	Horizontal NC		30	32	46	51	56	61	63	66	68	70
21	CFM/LF		210	315	420	525	630	735	840	945	1050	1155
	Horizontal Throw, ft		11-30-60	30-47-84	36-60-88	41-68-104	47-78-102	53-87-114	59-93-120	65-101-126	70-107-132	75-113-138
	Vertical Throw, ft		7	29	54	61	67	72	77	81	85	89
	Horizontal NC		31	33	48	53	58	63	65	68	70	72
22	CFM/LF		220	330	440	550	660	770	880	990	1100	1210
	Horizontal Throw, ft		11-31-62	31-49-86	37-62-90	42-70-106	48-80-102	54-89-114	60-95-120	66-103-126	71-109-132	76-115-138
	Vertical Throw, ft		7	30	56	63	69	74	79	83	87	91
	Horizontal NC		32	34	50	55	60	65	67	70	72	74
23	CFM/LF		230	345	460	575	690	805	920	1035	1150	1265
	Horizontal Throw, ft		11-32-64	32-51-88	38-64-92	43-72-108	49-82-102	55-91-114	61-97-120	67-105-126	72-111-132	77-117-138
	Vertical Throw, ft		7	31	58	65	71	76	81	85	89	93
	Horizontal NC		33	35	52	57	62	67	69	72	74	76
24	CFM/LF		240	360	480	600	720	840	960	1080	1200	1320
	Horizontal Throw, ft		11-33-66	33-53-90	39-66-94	44-74-110	50-84-102	56-93-114	62-99-120	68-107-126	73-113-132	78-119-138
	Vertical Throw, ft		7	32	60	67	73	78	83	87	91	95
	Horizontal NC		34	36	54	59	64	69	71	74	76	78
25	CFM/LF		250	375	500	625	750	875	1000	1125	1250	1375
	Horizontal Throw, ft		11-34-68	34-55-92	40-68-96	45-76-112	51-86-102	57-95-114	63-101-120	69-109-126	74-115-132	79-121-138
	Vertical Throw, ft		7	33	62	69	75	80	85	89	93	97
	Horizontal NC		35	37	56	61	66	71	73	76	78	80
26	CFM/LF		260	390	520	650	780	910	1040	1170	1300	1430
	Horizontal Throw, ft		11-35-70	35-57-94	41-70-98	46-78-114	52-88-102	58-97-114	64-103-120	70-111-126	75-117-132	80



## Series 6600 - Performance

### 6610 1" Slot - CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	0.008 0.003	0.030 0.012	0.047 0.020	0.068 0.028	0.092 0.037	0.120 0.04	0.152 0.061	0.188 0.076	0.227 0.092	0.270 0.109
1	CFM/LF		10	20	25	30	35	40	45	50	55	60
	Horizontal Throw, ft		1-2-6	3-6-22	4-10-24	6-14-27	9-19-29	11-22-31	14-23-33	18-24-35	20-26-36	22-27-38
	Vertical Throw, ft		2	10	12	13	14	15	16	17	18	18
	Horizontal NC		<15	<15	<15	<15	19	22	24	26	28	30
	Vertical NC		<15	<15	<15	<15	<15	<15	<15	<15	16	18
2	CFM/LF		20	40	50	60	70	80	90	100	110	120
	Horizontal Throw, ft		1-3-10	5-10-29	7-16-35	10-22-38	14-26-41	19-29-44	22-33-46	25-35-49	27-36-51	29-38-54
	Vertical Throw, ft		4	14	17	18	20	21	23	24	25	26
	Horizontal NC		<15	<15	<15	<15	21	25	27	29	31	33
	Vertical NC		<15	<15	<15	<15	<15	<15	15	17	19	21
3	CFM/LF		30	60	75	90	105	120	135	150	165	180
	Horizontal Throw, ft		3-7-18	12-18-36	15-23-41	18-27-44	21-32-48	24-26-51	27-39-54	30-41-57	33-43-60	36-44-63
	Vertical Throw, ft		4	17	21	23	24	26	28	29	31	32
	Horizontal NC		<15	<15	<15	17	22	27	28	30	32	34
	Vertical NC		<15	<15	<15	<15	<15	15	16	18	20	22
4	CFM/LF		40	80	100	120	140	160	180	200	220	240
	Horizontal Throw, ft		4-10-24	16-24-42	20-30-47	24-36-51	28-39-55	32-42-59	36-44-63	38-47-66	40-49-70	42-51-73
	Vertical Throw, ft		5	20	24	26	28	30	32	34	35	37
	Horizontal NC		<15	<15	15	19	24	29	30	32	34	36
	Vertical NC		<15	<15	<15	<15	<15	17	18	20	22	24
5	CFM/LF		50	100	125	150	175	200	225	250	275	300
	Horizontal Throw, ft		10-15-30	20-30-47	25-37-52	30-41-57	35-44-62	38-47-66	41-50-70	43-52-74	45-55-78	47-57-81
	Vertical Throw, ft		6	24	29	32	34	37	39	41	43	45
	Horizontal NC		<15	<15	16	21	25	31	32	34	35	37
	Vertical NC		<15	<15	<15	<15	<15	19	20	22	23	25
6	CFM/LF		60	120	150	180	210	240	270	300	330	360
	Horizontal Throw, ft		10-15-29	20-29-51	24-37-57	29-44-63	34-48-68	39-51-73	44-54-77	47-57-81	49-60-85	51-63-89
	Vertical Throw, ft		6	24	29	32	34	37	39	41	43	45
	Horizontal NC		<15	15	17	22	27	33	34	35	36	38
	Vertical NC		<15	<15	<15	<15	<15	21	22	23	24	26
7	CFM/LF		70	140	175	210	245	280	315	350	385	420
	Horizontal Throw, ft		11-16-32	21-32-55	26-40-62	32-48-68	37-52-73	42-55-78	48-59-83	51-62-88	53-65-92	55-68-96
	Vertical Throw, ft		7	26	31	34	37	40	42	45	47	49
	Horizontal NC		<15	16	18	24	28	34	36	37	37	39
	Vertical NC		<15	<15	<15	<15	16	22	24	25	25	27
8	CFM/LF		80	160	200	240	280	320	360	400	440	480
	Horizontal Throw, ft		11-17-34	23-34-59	28-42-66	34-51-73	40-55-78	45-59-84	51-63-89	54-66-94	57-70-98	59-73-103
	Vertical Throw, ft		7	28	34	37	40	43	45	48	50	52
	Horizontal NC		<15	16	20	26	30	35	37	38	39	41
	Vertical NC		<15	<15	<15	<15	18	23	25	26	27	29

See Page LSD-95 for Performance Notes

## Series 6600 - Performance

### 6650R - 1/2" Slot Width

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	15	20	25	30	35	40
Ak/Ft=.03	NC	—	20	27	32	37	41
2	CFM/Ft.	35	50	60	70	80	95
Ak/Ft=.06	NC	—	22	27	32	37	41
3	CFM/Ft.	55	80	95	110	125	150
Ak/Ft=.09	NC	—	23	28	33	37	42
4	CFM/Ft.	70	100	120	140	155	190
Ak/Ft=.12	NC	—	24	30	34	37	44
5	CFM/Ft.	90	135	155	180	200	245
Ak/Ft=.15	NC	—	25	30	34	37	44
6	CFM/Ft.	110	155	195	220	245	300
Ak/Ft=.18	NC	—	26	33	37	40	96
7	CFM/Ft.	130	185	225	260	290	355
Ak/Ft=.21	NC	—	27	33	37	41	47
8	CFM/Ft.	140	200	245	280	310	385
Ak/Ft=.24	NC	—	28	34	38	42	48

### 6675R - 3/4" Slot Width

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	25	35	45	50	55	70
Ak/Ft=.02	NC	—	21	29	32	35	42
2	CFM/Ft.	55	80	90	100	110	135
Ak/Ft=.08	NC	—	25	29	32	35	42
3	CFM/Ft.	90	115	140	160	180	220
Ak/Ft=.12	NC	—	26	32	36	40	46
4	CFM/Ft.	100	140	175	200	225	275
Ak/Ft=.12	NC	—	27	34	38	41	47
5	CFM/Ft.	140	185	225	260	290	360
Ak/Ft=.16	NC	—	28	34	38	42	48
6	CFM/Ft.	160	225	275	320	360	440
Ak/Ft=.20	NC	—	29	35	40	43	49
7	CFM/Ft.	175	250	305	350	395	480
Ak/Ft=.24	NC	—	30	36	40	44	50
8	CFM/Ft.	200	285	350	400	450	545
Ak/Ft=.32	NC	—	31	37	41	45	51

### 6610R - 1" Slot Width

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	35	50	60	70	80	95
Ak/Ft=.06	NC	—	25	31	36	40	45
2	CFM/Ft.	70	100	125	140	155	190
Ak/Ft=.11	NC	—	27	33	37	41	47
3	CFM/Ft.	105	150	185	210	235	285
Ak/Ft=.17	NC	—	29	35	39	43	49
4	CFM/Ft.	140	200	250	280	310	380
Ak/Ft=.23	NC	—	31	37	41	45	51
5	CFM/Ft.	175	250	300	350	390	475
Ak/Ft=.28	NC	—	32	38	42	46	52
6	CFM/Ft.	210	300	375	420	465	570
Ak/Ft=.33	NC	—	33	40	43	47	53
7	CFM/Ft.	245	350	425	490	545	665
Ak/Ft=.39	NC	—	34	41	44	47	54
8	CFM/Ft.	280	400	475	560	620	760
Ak/Ft=.44	NC	—	35	42	45	48	55

See Page LSD-95 for Performance Notes

## Series 6600 - Performance Notes

### Performance Notes:

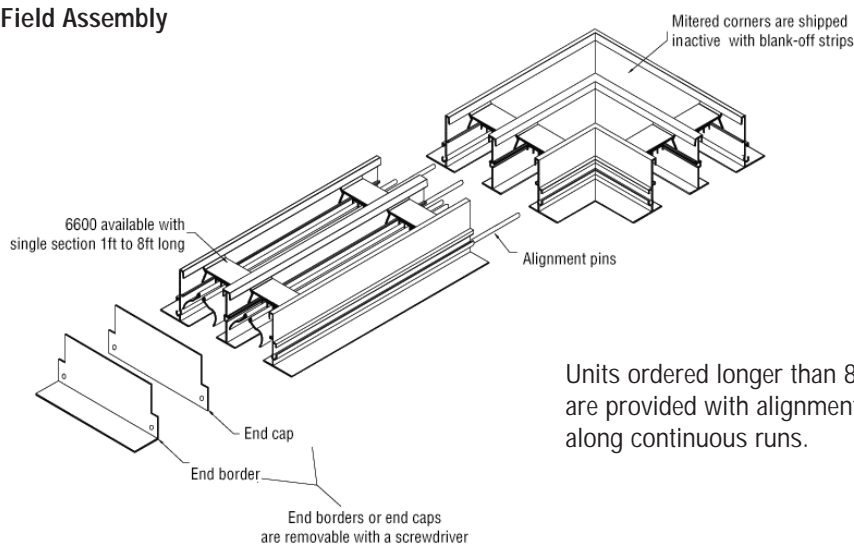
1. On units without BP/BPI plenums, pressure drop reported is across the diffuser element only. The field supply plenum pressure drop should be included when determining system fan requirements. A good approximation of the static pressure requirements can be calculated by adding the velocity pressure through the plenum inlet to the diffuser section pressure drop.
2. NC is based on a 4 ft section of diffuser. The following table should be used to calculate sound levels for lengths other than 4 ft.
3. To correct throws for lengths other than the 4 ft lengths used in determining catalog performance, throws should be adjusted per the following table:

NC Correction for Length					
Length (feet)	2	4	6	8	10
NC Correction	-2	+0	+2	+3	+5
Throw Correction Multiplier for Length					
Length (feet)	2	4	8	10	12
Throw Correction	.7	1.0	1.5	1.7	1.8

4. All pressures are in inches of water
5. Isothermal throws are given for terminal velocities of 150, 100 and 50 fpm, based upon 4 ft section
6. Vertical throw values are based on a 50 fpm terminal velocity
7. For Vertical supply, subtract one NC
8. For Returns minus pattern controllers, deduct 12 NC.
9. Throw values are based on a 1-way discharge from the slot. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
10. Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."

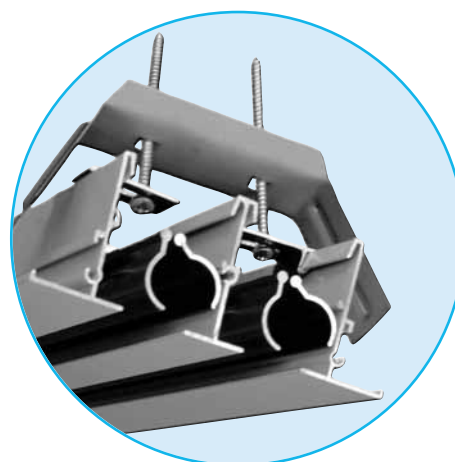
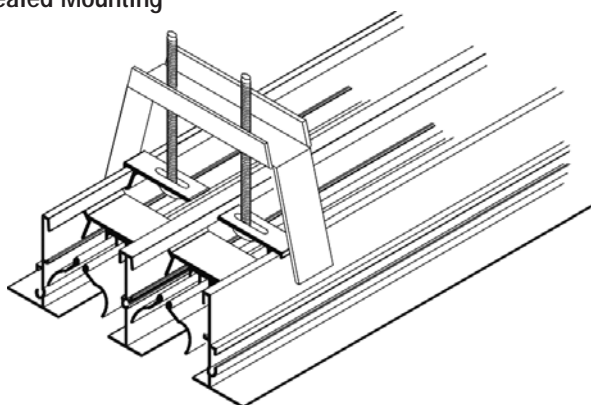
## Series 6600 - Installation

### Field Assembly



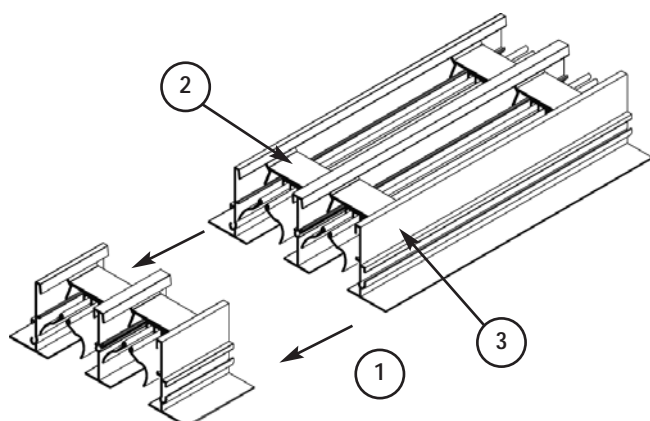
Units ordered longer than 8ft are shipped in multiple sections. Units are provided with alignment pins to keep the 6600 diffusers straight along continuous runs.

### Concealed Mounting



- Concealed Mounting makes installation easy
- Units are inserted into hemmed plenum and secured in place by tightening screws through the face

### Field Cutting



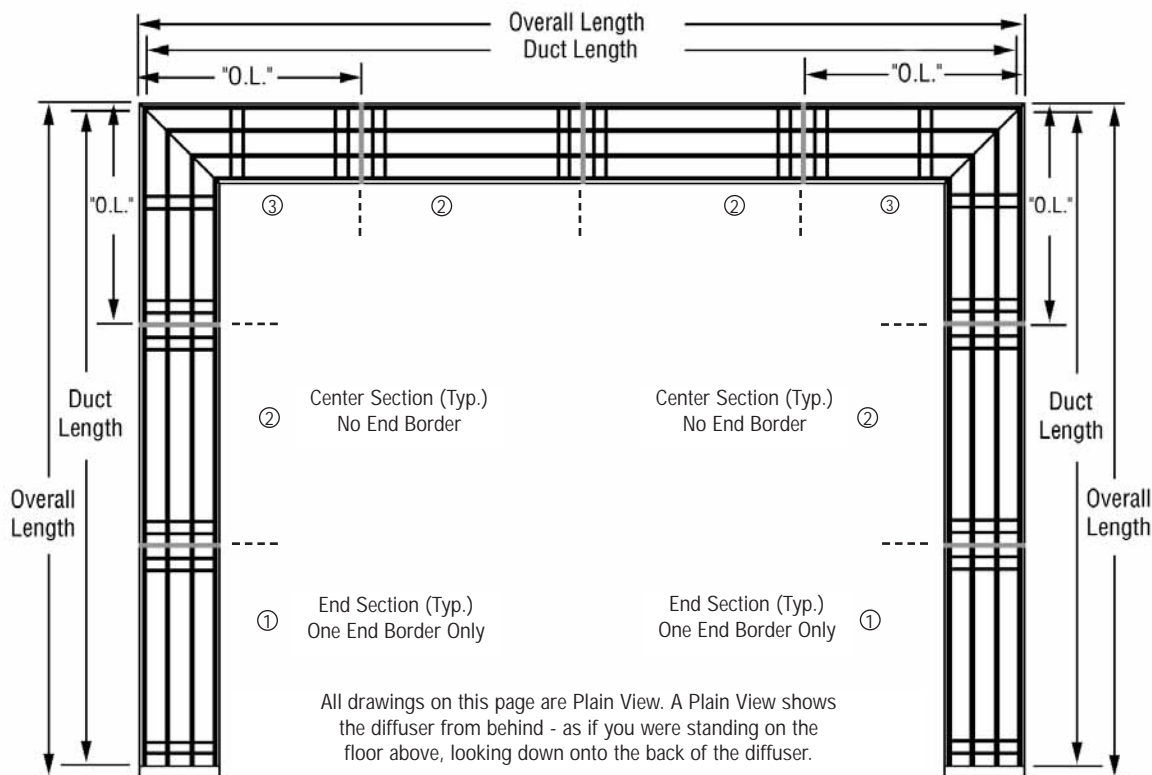
1. 6600 can be field-cut to fit job conditions
2. Spacer is inserted to support pattern controllers
3. Screw or crimp to secure spacer in-place

# LSD - Linear Slot Diffusers

## Series 6600 - Continuous Run Dimensions

## MODELS 6650-11-1 - *Surface Mount*

### MODELS 6650-12-1 - *Concealed Mounting*

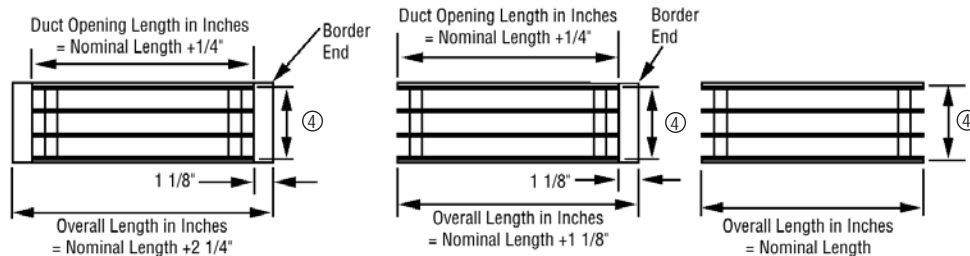


## Linear Slot Diffusers

LSD

**Single Section, Two End Borders**  
(Not Shown)

① End Section, One End Border    ② Center Section, No End Borders



- ④ Note: For Duct Opening, Ceiling Opening, and Overall Width, see page LSD-83 - 90

## Series 6600 - Mitered Corners

### 45° Angle

Dimensions are in inches

Mitered Corners - 45° Angle - Extruded Aluminum

Slots: 1/2" (6650), 3/4" (6675) and 1" (6610)

Model MC6600-11-1 - 1 1/8" Border - Face Screw Mounting

Model MC6600-12-1 - 1 1/8" Border - Surface Mounting

Model MC6600-10-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-12-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-20-6 - 3/4" Border - T-bar Lay-in

Model MC6600-30-6 - 1/2" Border - T-bar Lay-in

Model MC6600-22-73 - 3/4" Border - Concealed Spline

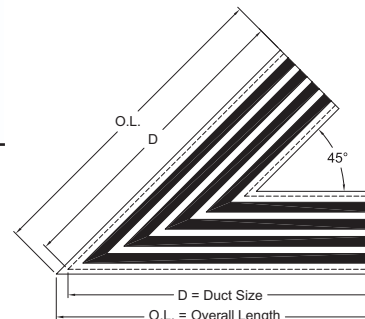
Model MC6600-22-74 - 3/4" Border - Concealed Spline

Model MC6600-40-7 - 25/32" Border - Concealed Spline

Model MC6600-42-7 - 25/32" Border - Concealed Mounting

Model MC6600-40-8 - 25/32" Border - Drop Face

Model MC6600-40-9 - 25/32" Border - Donn Finline



Number of Slots	Duct Size (All Models)	Mitered Corner Models (1/2", 3/4" or 1" Slot)				
		MC6600-11-1 MC6600-12-1 MC6600-10-6 MC6600-12-6	MC6600-20-6 MC6600-22-73 MC6600-22-74	MC6600-30-6	MC6600-40-7 MC6600-42-7 MC6600-40-8	MC6600-40-9
		O.L.	O.L.	O.L.	O.L.	O.L.
1 - 2	24	24-3/4	24-27/32	24-5/16	24-29/32	24-29/32
3 - 5	36	36-3/4	36-27-32	36-5/16	36-29/32	36-29/32
6 - 8	48	48-3/4	48-27-32	48-5/16	48-29/32	48-29/32

### 90° Angle

Mitered Corners - 90° Angle - Extruded Aluminum

Slots: 1/2" (6650), 3/4" (6675) and 1" (6610)

Model MC6600-11-1 - 1 1/8" Border - Face Screw Mounting

Model MC6600-12-1 - 1 1/8" Border - Surface Mounting

Model MC6600-10-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-12-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-20-6 - 3/4" Border - T-bar Lay-in

Model MC6600-30-6 - 1/2" Border - T-bar Lay-in

Model MC6600-22-73 - 3/4" Border - Concealed Spline

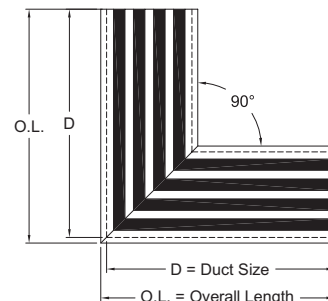
Model MC6600-22-74 - 3/4" Border - Concealed Spline

Model MC6600-40-7 - 25/32" Border - Concealed Spline

Model MC6600-42-7 - 25/32" Border - Concealed Mounting

Model MC6600-40-8 - 25/32" Border - Drop Face

Model MC6600-40-9 - 25/32" Border - Donn Finline



Number of Slots	Duct Size (All Models)	Mitered Corner Models (1/2", 3/4" or 1" Slot)				
		MC6600-11-1 MC6600-12-1 MC6600-10-6 MC6600-12-6	MC6600-20-6 MC6600-22-73 MC6600-22-74	MC6600-30-6	MC6600-40-7 MC6600-42-7 MC6600-40-8	MC6600-40-9
		O.L.	O.L.	O.L.	O.L.	O.L.
1 - 3	12	12 23/32	12 11/32	12 1/8	12 3/8	12 3/8
4 - 8	24	24 23/32	24 11/32	24 1/8	24 3/8	24 3/8

### 135° Angle

Mitered Corners - 135° Angle - Extruded Aluminum

Slots: 1/2" (6650), 3/4" (6675) and 1" (6610)

Model MC6600-11-1 - 1 1/8" Border - Face Screw Mounting

Model MC6600-12-1 - 1 1/8" Border - Surface Mounting

Model MC6600-10-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-12-6 - 1 1/8" Border - T-bar Lay-in

Model MC6600-20-6 - 3/4" Border - T-bar Lay-in

Model MC6600-30-6 - 1/2" Border - T-bar Lay-in

Model MC6600-22-73 - 3/4" Border - Concealed Spline

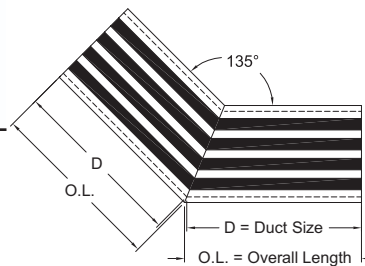
Model MC6600-22-74 - 3/4" Border - Concealed Spline

Model MC6600-40-7 - 25/32" Border - Concealed Spline

Model MC6600-42-7 - 25/32" Border - Concealed Mounting

Model MC6600-40-8 - 25/32" Border - Drop Face

Model MC6600-40-9 - 25/32" Border - Donn Finline



Number of Slots	Duct Size (All Models)	Mitered Corner Models (1/2", 3/4" or 1" Slot)				
		MC6600-11-1 MC6600-12-1 MC6600-10-6 MC6600-12-6	MC6600-20-6 MC6600-22-73 MC6600-22-74	MC6600-30-6	MC6600-40-7 MC6600-42-7 MC6600-40-8	MC6600-40-9
		O.L.	O.L.	O.L.	O.L.	O.L.
1 - 3	12	12-13/32	12-1/4	12-5/32	12-9/32	12-9/32
4 - 8	24	24-13-32	24-1/4	24-5/32	24-9/32	24-9-32



# LSD - Linear Slot Diffusers

➔ Linear Slot for Spiral Pipe ➔ Aluminum ➔ Series 6600SP ➔ Supply  
➔ Series 6600SPR ➔ Return

## Product Details

- ★ The series 6600SP is designed to integrate into exposed spiral duct systems
- ★ Series 6600SP pattern controllers are fully adjustable and can be set from horizontal to vertical discharge
- ★ The series 6600SP operates effectively from minimum to maximum flow making this diffuser an excellent selection for variable volume systems
- ★ Series 6600SPR is designed for return applications. The unit is supplied without pattern controllers to reduce pressure and noise



### Model 6610SP Shown

Standard Finish: 20 White Border  
with Black Pattern Controller

Linear Slot Diffusers

LSD

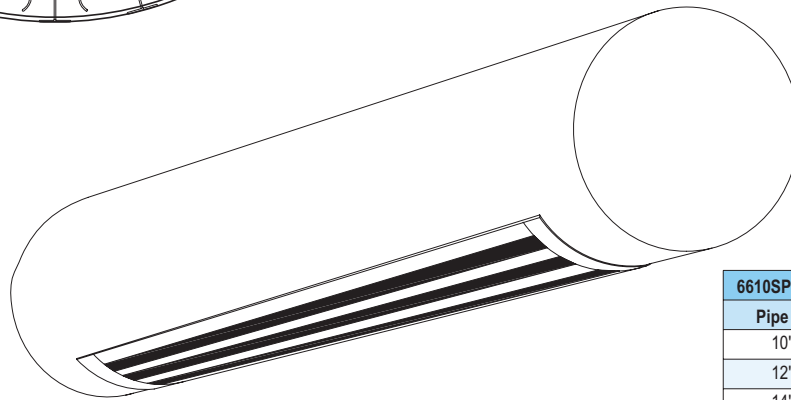
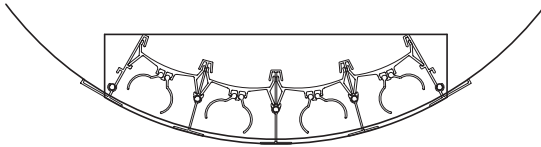
## Linear Slot for Spiral Pipe - Aluminum - Surface Mount - 1 1/8" Border - Series 6600SP/6600SPR

Model 6610SP-11-1 - Supply - Screw Mounted

Model 6610SPR-11-1 - Return - Screw Mounted

Model 6610SP-12-1 - Supply - Concealed Mounting Hardware

Model 6610SPR-12-1 - Return - Concealed Mounting Hardware



6610SP is available only in a 1" Slot Width	
Pipe Diameter	Available Slots
10" Round	1, 2
12" Round	1, 2, 3
14" Round	1, 2, 3
16" Round	1, 2, 3, 4
18" Round	1, 2, 3, 4
20" Round	1, 2, 3, 4
24" Round	1, 2, 3, 4
30" Round	1, 2, 3, 4

Notes for Models 6610SP (50,75,10)-( [10-6,12-6,20-6,30-6], [11-1,12-1], [40-7,42-7], [40-8], [40-9], [22-73,22-74] )

1. Available Finishes	2. Construction Details
<b>Standard Finish:</b> 20 White frame with black pattern controller <b>Optional Finish</b> 21 Clear anodized with black pattern controller 28 Custom color	<ul style="list-style-type: none"> <li>• Sizes available in only 1-4 slots</li> <li>• Slot widths 1"</li> <li>• Longest single section is 6 feet</li> </ul>

## ➔ Boot Plenums ➔ Insulated/Non-Insulated ➔ Series BP ➔ Steel

### Product Details

- ✪ The series BP (non-insulated) and BPI (insulated) boot plenums are designed to connect the series 6600 linear slot diffusers to the ducted supply or return system
- ✪ Units provide an even distribution of air into the series 6600 diffuser to maximize induction and occupant comfort
- ✪ The series BPI boot plenum is fully insulated — including the end caps
- ✪ Units can be used for both ducted and plenum returns
- ✪ Factory tested and manufactured BP/BPI plenums are built to fit securely into the series 6600 of diffusers reducing installation cost and minimizing leakage
- ✪ Available with an optional quadrant locking damper
- ✪ Series BP & BPI are shipped separate from series 6600 linear slot diffusers and require field attachment



**Model BP Shown w/  
6600 Series Linear Slot Diffuser**  
(BP & BPI are shipped separate for field installation)

	Non Insulated				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		BP-11-1 1 1/8" Border			
Concealed Mounting Hardware	BP-12-6 1 1/8" Border	BP-12-1 1 1/8" Border	BP-42-7 25/32" Border		
No Mounting Hardware	BP-10-6 1 1/8" Border		BP-40-7 25/32" Border	BP-40-8 25/32" Border	BP-40-9 25/32" Border
	BP-20-6 3/4" Border				
	BP-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
BP-22-73 3/4" Border	BP-22-74 3/4" Border

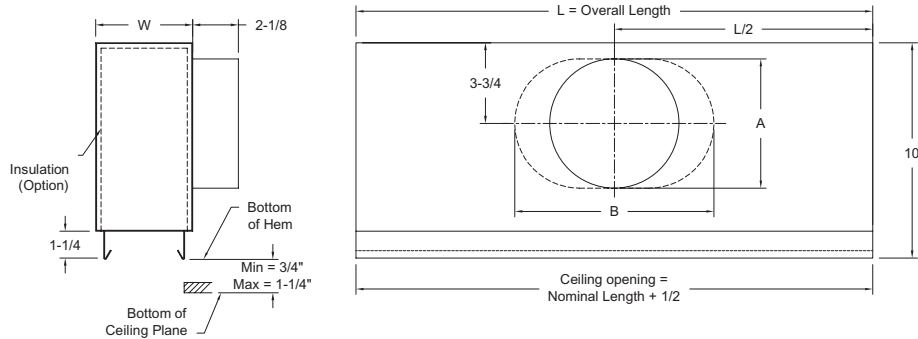
	Insulated				
	T-bar Lay-in	Surface Mount	Concealed Spline	Drop Face	Narrow Tee
Screw Mounted		BPI-11-1 1 1/8" Border			
Concealed Mounting Hardware	BPI-12-6 1 1/8" Border	BPI-12-1 1 1/8" Border	BPI-42-7 25/32" Border		
No Mounting Hardware	BPI-10-6 1 1/8" Border		BPI-40-7 25/32" Border	BPI-40-8 25/32" Border	BPI-40-9 25/32" Border
	BPI-20-6 3/4" Border				
	BPI-30-6 1/2" Border				

Concealed Spline/Plaster Mounting Frame	Concealed Wall Mounted Spline/Plaster Mounting Frame
BPI-22-73 3/4" Border	BPI-22-74 3/4" Border

## Non Insulated/Insulated Boot Plenums

### Steel - Hemmed Plenums

Model BP (BPI)-12-1 - *Surface Mount - 1 1/8" Border*  
 Model BP (BPI)-12-6 - *T-bar Lay-in - 1 1/8" Border*  
 Model BP (BPI)-22-73 - *Concealed Spline - 3/4" Border*  
 Model BP (BPI)-22-74 - *Concealed Spline - 3/4" Border*  
 Model BP (BPI)-42-7 - *Concealed Spline - 25/32" Border*



Available Nominal Lengths	24	36	48	60
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Model 6650 (1/2" Slot Width)				Model 6675 (3/4" Slot Width)				Model 6610 (1" Slot Width)			
Width (W)				Width (W)				Width (W)			
1 Slot	2 Slot	3 Slot	4 Slot	1 Slot	2 Slot	3 Slot	4 Slot	1 Slot	2 Slot	3 Slot	4 Slot
2 5/8	3 7/8	5 1/8	6 3/8	2 7/8	4 3/8	5 7/8	7 3/8	3 1/8	4 7/8	6 5/8	8 3/8
5 Slot	6 Slot	7 Slot	8 Slot	5 Slot	6 Slot	7 Slot	8 Slot	5 Slot	6 Slot	7 Slot	8 Slot
7 5/8	8 7/8	10 1/8	11 3/8	8 7/8	10 3/8	11 7/8	13 3/8	10 1/8	11 7/8	13 5/8	15 3/8

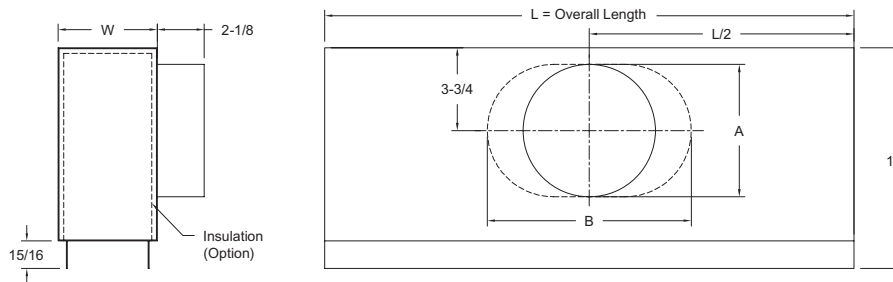
Models	Overall Length (L)
BP (BPI)-12-1	N.L. - 1/16
BP (BPI)-12-6	N.L. - 2 7/16
BP (BPI)-22-73	N.L. - 1 1/4
BP (BPI)-22-74	N.L. - 1 1/4
BP (BPI)-42-7	N.L. - 9/16

Available Inlets	Round Dim. (A)	Oval Dim. (A x B)
6	5 7/8	-
8	-	5 7/8 x 8 15/16
10	-	5 7/8 x 12 1/16
12	-	5 7/8 x 15 1/4
14	-	5 7/8 x 18 7/16

## Non Insulated/Insulated Boot Plenums

### Steel - Straight Plenums

Model BP (BPI)-10-6 - *T-bar Lay-in 1/8" Border*  
 Model BP (BPI)-20-6 - *T-bar Lay-in 3/4" Border*  
 Model BP (BPI)-30-6 - *T-bar Lay-in 1/2" Border*  
 Model BP (BPI)-11-1 - *Surface Mount 1 1/8" Border*  
 Model BP (BPI)-40-7 - *Concealed Spline - 25/32" Border*  
 Model BP (BPI)-40-8 - *Drop Face - 25/32" Border*  
 Model BP (BPI)-40-9 - *Donn Fineline - 25/32" Border*



Available Nominal Lengths	24	36	48	60
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Model 6650 (1/2" Slot Width)				Model 6675 (3/4" Slot Width)				Model 6610 (1" Slot Width)			
Width (W)				Width (W)				Width (W)			
1 Slot	2 Slot	3 Slot	4 Slot	1 Slot	2 Slot	3 Slot	4 Slot	1 Slot	2 Slot	3 Slot	4 Slot
2 1/8	3 3/8	4 5/8	5 7/8	2 3/8	3 7/8	5 3/8	6 7/8	2 5/8	4 3/8	6 1/8	7 7/8
5 Slot	6 Slot	7 Slot	8 Slot	5 Slot	6 Slot	7 Slot	8 Slot	5 Slot	6 Slot	7 Slot	8 Slot
7 1/8	8 3/8	9 5/8	10 7/8	8 3/8	9 7/8	11 3/8	12 7/8	9 5/8	11 3/8	13 1/8	14 7/8

Models	Overall Length (L)
BP (BPI)-11-1	N.L. - 1/16
BP (BPI)-10-6	N.L. - 2 7/16
BP (BPI)-20-6	N.L. - 1 7/16
BP (BPI)-30-6	N.L. - 15/16
BP (BPI)-40-7	N.L. - 9/16
BP (BPI)-40-8	N.L. - 9/16
BP (BPI)-40-9	N.L. - 9/16

Available Inlets	Round Dim. (A)	Oval Dim. (A x B)
6	5 7/8	-
8	-	5 7/8 x 8 15/16
10	-	5 7/8 x 12 1/16
12	-	5 7/8 x 15 1/4
14	-	5 7/8 x 18 7/16

## Series 6650 BP/BPI - Performance

### 6650 - 1 Slot Performance Data

6" Inlet 1 Slot	2' Length	CFM	15	30	45	60	75	90	105
		Static Pressure	0.010	0.038	0.086	0.153	0.240	0.345	0.470
		Horizontal Throw, ft	1-3-9	6-9-18	9-13-23	12-18-27	15-21-30	18-23-33	20-25-35
	4' Length	NC	<15	20	28	35	41	45	47
		CFM	30	60	90	120	150	180	210
		Static Pressure	0.016	0.063	0.142	0.252	0.394	0.567	0.772
8" Inlet 1 Slot	2' Length	Horizontal Throw, ft	2-4-7	5-7-15	7-11-21	10-15-24	12-18-27	15-21-30	17-23-32
		NC	<15	24	34	41	45	46	49
	4' Length	CFM	20	35	50	65	80	95	110
		Static Pressure	0.018	0.054	0.110	0.185	0.281	0.396	0.531
		Horizontal Throw, ft	3-6-12	7-10-20	10-15-24	13-19-28	16-22-31	19-24-34	21-26-36
		NC	<15	18	27	33	38	42	44
10" Inlet 1 Slot	2' Length	CFM	40	70	100	130	160	190	220
		Static Pressure	0.018	0.056	0.115	0.194	0.294	0.415	0.556
		Horizontal Throw, ft	3-5-10	6-9-17	8-12-22	11-16-25	13-20-28	16-22-31	18-23-33
	4' Length	NC	<15	24	33	39	43	45	45
		CFM	30	45	60	75	90	105	120
		Static Pressure	0.056	0.126	0.225	0.351	0.505	0.688	0.899
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	6-9-18	9-13-23	12-18-27	15-21-30	18-23-33	20-25-35	22-27-38
		NC	<15	22	29	34	39	42	43
	4' Length	CFM	60	90	120	150	180	210	240
		Static Pressure	0.036	0.082	0.146	0.227	0.328	0.446	0.582
		Horizontal Throw, ft	5-7-15	7-11-21	10-15-22	12-18-27	15-21-30	17-23-32	20-24-35
		NC	19	27	34	40	45	48	51
12" Inlet 1 Slot	2' Length	CFM	45	60	75	90	105	120	135
		Static Pressure	0.047	0.083	0.129	0.186	0.254	0.331	0.419
		Horizontal Throw, ft	9-13-23	12-18-27	15-21-30	18-23-33	20-25-35	22-27-38	23-28-40
	4' Length	NC	24	28	32	35	39	42	45
		CFM	90	120	150	180	210	240	270
		Static Pressure	0.098	0.175	0.273	0.393	0.535	0.699	0.884
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	7-11-21	10-15-24	12-18-27	15-21-30	17-23-32	20-24-35	21-26-37
		NC	23	30	36	41	45	48	51

### 6650 - 2 Slot Performance Data

6" Inlet 2 Slot	2' Length	CFM	20	40	60	80	100	120	140
		Static Pressure	0.007	0.028	0.064	0.114	0.178	0.256	0.349
		Horizontal Throw, ft	1-2-8	4-8-17	8-12-25	11-17-31	14-21-35	17-25-38	19-29-41
	4' Length	NC	<15	15	25	32	38	43	46
		CFM	30	60	90	120	150	180	210
		Static Pressure	0.010	0.041	0.093	0.166	0.259	0.373	0.507
8" Inlet 2 Slot	2' Length	Horizontal Throw, ft	1-2-5	3-5-10	5-8-16	7-10-21	9-13-26	10-16-30	12-18-32
		NC	<15	<15	24	32	37	41	43
	4' Length	CFM	25	45	65	85	105	125	145
		Static Pressure	0.007	0.023	0.049	0.084	0.128	0.181	0.244
		Horizontal Throw, ft	1-3-10	5-9-19	9-14-27	12-18-32	15-22-35	17-26-39	20-29-42
		NC	<15	<15	23	29	35	39	43
10" Inlet 2 Slot	2' Length	CFM	50	90	130	170	210	250	290
		Static Pressure	0.014	0.045	0.094	0.161	0.245	0.348	0.468
		Horizontal Throw, ft	3-4-9	5-8-16	8-11-23	10-15-29	12-18-32	14-22-35	17-25-38
	4' Length	NC	<15	20	29	36	41	45	46
		CFM	35	55	75	95	115	135	155
		Static Pressure	0.013	0.032	0.059	0.095	0.139	0.191	0.252
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	3-6-15	7-11-23	10-16-30	13-20-34	16-24-37	19-28-40	21-30-43
		NC	<15	17	23	29	34	38	41
	4' Length	CFM	70	110	150	190	230	270	310
		Static Pressure	0.019	0.047	0.088	0.142	0.207	0.286	0.377
		Horizontal Throw, ft	4-6-12	6-10-19	9-13-26	11-16-31	13-20-34	16-23-37	18-27-39
		NC	<15	21	29	35	40	43	45
12" Inlet 2 Slot	2' Length	CFM	50	70	90	110	130	150	170
		Static Pressure	0.024	0.047	0.078	0.117	0.163	0.217	0.279
		Horizontal Throw, ft	6-10-21	10-15-29	12-19-33	15-23-36	18-27-39	21-30-42	24-32-45
	4' Length	NC	<15	<15	17	21	24	28	31
		CFM	100	140	180	220	260	300	340
		Static Pressure	0.027	0.053	0.087	0.130	0.181	0.241	0.310
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	6-9-17	8-12-24	10-16-30	13-19-33	15-23-36	17-26-39	20-29-41
		NC	16	23	29	34	38	41	43

See Page LSD-95 for Performance Notes

## Series 6650 BP/BPI - Performance

## 6650 3 Slot Performance Data

6" Inlet 3 Slot	2' Length	CFM	25	50	75	100	125	150	175
		Static Pressure	0.008	0.033	0.073	0.130	0.203	0.293	0.398
		Horizontal Throw, ft	1-2-7	3-7-17	7-13-25	11-17-34	14-21-39	17-25-42	20-30-46
	4' Length	NC	<15	15	24	31	36	40	43
		CFM	40	75	115	150	190	225	265
		Static Pressure	0.015	0.054	0.127	0.216	0.347	0.486	0.674
8" Inlet 3 Slot	2' Length	Horizontal Throw, ft	1-2-6	4-5-11	5-8-16	7-11-21	9-13-27	11-16-32	12-19-36
		NC	<15	<15	23	29	36	40	44
		CFM	35	55	80	105	130	155	180
	4' Length	Static Pressure	0.009	0.022	0.046	0.079	0.122	0.173	0.233
		Horizontal Throw, ft	2-3-12	4-9-19	8-14-27	12-18-35	15-22-39	18-26-43	20-31-46
		NC	<15	<15	21	28	33	37	41
10" Inlet 3 Slot	2' Length	CFM	70	110	160	210	260	310	360
		Static Pressure	0.021	0.052	0.109	0.188	0.289	0.410	0.553
		Horizontal Throw, ft	3-5-10	5-8-16	8-11-23	10-15-30	12-18-36	15-22-39	17-25-42
	4' Length	NC	<15	18	27	34	39	44	47
		CFM	45	65	90	115	140	165	190
		Static Pressure	0.011	0.023	0.044	0.072	0.106	0.147	0.195
12" Inlet 3 Slot	2' Length	Horizontal Throw, ft	3-6-15	5-11-22	10-15-31	13-20-37	16-24-41	19-28-44	21-32-48
		NC	<15	<15	21	27	32	36	39
		CFM	90	130	180	230	280	330	380
	4' Length	Static Pressure	0.023	0.048	0.091	0.149	0.221	0.307	0.407
		Horizontal Throw, ft	4-6-13	6-9-18	8-13-25	11-16-33	13-20-36	16-23-39	18-27-42
		NC	<15	20	27	33	38	42	45
12" Inlet 3 Slot	2' Length	CFM	65	85	110	135	160	185	210
		Static Pressure	0.022	0.038	0.063	0.095	0.133	0.178	0.229
		Horizontal Throw, ft	5-11-22	9-14-29	12-19-36	15-23-40	18-27-44	21-31-47	24-35-50
	4' Length	NC	<15	16	20	23	26	29	32
		CFM	130	170	220	270	320	370	420
		Static Pressure	0.027	0.046	0.077	0.117	0.164	0.219	0.282
12" Inlet 3 Slot	4' Length	Horizontal Throw, ft	6-9-18	8-12-24	10-16-31	13-19-37	15-23-40	17-26-43	20-30-46
		NC	17	22	27	33	37	41	44

## 6650 4 Slot Performance Data

6" Inlet 4 Slot	2' Length	CFM	40	65	90	115	140	165	190
		Static Pressure	0.018	0.047	0.090	0.147	0.218	0.302	0.401
		Horizontal Throw, ft	1-3-12	3-8-19	7-13-26	11-17-34	14-21-41	16-24-44	19-28-48
	4' Length	NC	<15	16	24	30	36	39	42
		CFM	60	100	135	175	210	250	285
		Static Pressure	0.031	0.087	0.159	0.267	0.385	0.546	0.709
8" Inlet 4 Slot	2' Length	Horizontal Throw, ft	1-3-7	4-6-12	6-8-17	7-11-21	9-13-26	10-15-31	12-17-35
		NC	<15	16	24	31	35	37	37
		CFM	50	80	110	140	170	200	230
	4' Length	Static Pressure	0.014	0.036	0.069	0.112	0.164	0.228	0.301
		Horizontal Throw, ft	2-5-15	5-12-24	10-16-32	14-21-41	17-25-45	20-29-49	23-34-53
		NC	<15	17	24	30	35	39	42
10" Inlet 4 Slot	2' Length	CFM	75	120	165	210	255	300	345
		Static Pressure	0.022	0.056	0.107	0.173	0.255	0.353	0.467
		Horizontal Throw, ft	2-5-9	5-7-15	7-10-20	9-13-26	10-16-31	12-18-37	14-21-42
	4' Length	NC	<15	16	23	29	34	38	40
		CFM	60	90	120	150	180	210	240
		Static Pressure	0.014	0.032	0.056	0.088	0.127	0.173	0.226
12" Inlet 4 Slot	2' Length	Horizontal Throw, ft	3-7-18	7-13-26	12-18-35	15-22-42	18-26-46	21-31-50	24-35-54
		NC	<15	17	23	29	33	37	41
		CFM	95	135	180	225	270	315	360
	4' Length	Static Pressure	0.021	0.043	0.077	0.120	0.174	0.236	0.308
		Horizontal Throw, ft	4-6-12	6-8-17	7-11-22	9-14-28	11-17-33	13-19-38	15-22-41
		NC	<15	16	23	28	33	36	39
12" Inlet 4 Slot	2' Length	CFM	80	120	160	200	240	280	320
		Static Pressure	0.018	0.041	0.073	0.114	0.164	0.223	0.292
		Horizontal Throw, ft	5-12-24	12-18-35	16-24-44	20-29-49	24-35-54	27-41-58	31-44-62
	4' Length	NC	<15	<15	20	24	28	32	35
		CFM	120	240	300	360	420	480	
		Static Pressure	0.018	0.040	0.071	0.111	0.159	0.217	0.283
12" Inlet 4 Slot	4' Length	Horizontal Throw, ft	5-7-15	7-11-22	10-15-29	12-18-37	15-22-42	17-26-46	20-29-49
		NC	<15	19	25	31	35	39	42

See Page LSD-95 for Performance Notes

# LSD - Linear Slot Diffusers

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## Series 6675 BP/BPI - Performance

### 6675 1 Slot Performance Data

6" Inlet 1 Slot	2' Length	CFM	20	35	50	65	80	95	110
		Static Pressure	0.014	0.043	0.088	0.148	0.224	0.316	0.424
		Horizontal Throw, ft	1-3-10	4-8-17	8-12-24	10-16-28	13-19-31	15-23-34	18-26-36
	4' Length	NC	<15	18	26	32	37	41	45
		CFM	30	52.5	75	97.5	120	142.5	165
		Static Pressure	0.009	0.026	0.054	0.091	0.137	0.194	0.259
8" Inlet 1 Slot	2' Length	Horizontal Throw, ft	2-3-6	4-5-11	5-8-15	7-10-20	8-12-24	10-14-27	11-17-29
		NC	<15	18	25	30	36	40	44
	4' Length	CFM	25	40	55	70	85	100	115
		Static Pressure	0.036	0.093	0.175	0.284	0.419	0.580	0.767
		Horizontal Throw, ft	2-5-12	6-10-19	9-13-26	11-17-29	14-20-32	16-24-35	18-26-37
		NC	<15	17	24	30	35	39	41
10" Inlet 1 Slot	2' Length	CFM	40	60	85	105	130	150	175
		Static Pressure	0.014	0.032	0.065	0.099	0.152	0.202	0.275
		Horizontal Throw, ft	3-4-8	4-6-12	6-9-17	7-11-21	9-13-25	10-15-27	12-18-30
	4' Length	NC	<15	17	24	29	34	38	42
		CFM	35	45	55	65	75	85	95
		Static Pressure	0.085	0.140	0.210	0.293	0.390	0.501	0.625
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	4-8-17	7-11-22	9-13-26	10-16-28	12-18-30	14-20-32	15-23-34
		NC	<15	17	22	26	30	33	35
	4' Length	CFM	55	70	85	100	115	130	145
		Static Pressure	0.028	0.045	0.066	0.092	0.122	0.155	0.193
		Horizontal Throw, ft	4-6-11	5-7-14	6-9-17	7-10-20	8-12-23	9-13-25	10-15-27
		NC	<15	17	21	25	28	31	34
12" Inlet 1 Slot	2' Length	CFM	65	85	110	135	160	185	210
		Static Pressure	0.022	0.038	0.063	0.095	0.133	0.178	0.229
		Horizontal Throw, ft	5-11-22	9-14-29	12-19-36	15-23-40	18-27-44	21-31-47	24-35-50
	4' Length	NC	<15	16	20	23	26	29	32
		CFM	130	170	220	270	320	370	420
		Static Pressure	0.027	0.046	0.077	0.117	0.164	0.219	0.282
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	6-9-18	8-12-24	10-16-31	13-19-37	15-23-40	17-26-43	20-30-46
		NC	17	22	27	33	37	41	44

### 6675 2 Slot Performance Data

6" Inlet 2 Slot	2' Length	CFM	30	55	80	105	130	155	180
		Static Pressure	0.009	0.029	0.061	0.105	0.161	0.228	0.308
		Horizontal Throw, ft	1-3-10	4-9-19	8-14-27	12-18-35	15-22-39	18-26-43	20-31-46
	4' Length	NC	<15	18	27	33	39	42	44
		CFM	45	85	120	160	195	235	270
		Static Pressure	0.009	0.033	0.065	0.116	0.172	0.250	0.330
8" Inlet 2 Slot	2' Length	Horizontal Throw, ft	1-3-6	4-6-12	6-8-17	8-11-23	9-14-28	11-17-33	13-19-37
		NC	<15	18	25	33	37	41	43
	4' Length	CFM	45	65	85	105	125	145	165
		Static Pressure	0.007	0.023	0.049	0.084	0.128	0.181	0.244
		Horizontal Throw, ft	1-3-10	5-9-19	9-14-27	12-18-32	15-22-35	17-26-39	20-29-42
		NC	<15	<15	23	29	35	39	43
10" Inlet 2 Slot	2' Length	CFM	70	100	130	160	190	220	250
		Static Pressure	0.014	0.028	0.047	0.071	0.100	0.135	0.174
		Horizontal Throw, ft	3-5-10	5-7-14	6-9-18	8-11-23	9-13-27	10-16-31	12-18-35
	4' Length	NC	<15	17	23	28	33	37	39
		CFM	50	70	90	110	130	150	170
		Static Pressure	0.023	0.045	0.074	0.111	0.155	0.207	0.265
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	3-7-17	6-12-24	10-15-31	12-19-36	15-22-39	17-25-42	19-29-45
		NC	<15	17	22	27	32	35	38
	4' Length	CFM	75	105	135	165	195	225	255
		Static Pressure	0.025	0.050	0.082	0.123	0.171	0.228	0.293
		Horizontal Throw, ft	4-5-11	5-7-15	6-10-19	8-12-23	9-14-28	11-16-32	12-18-36
		NC	<15	16	21	26	30	34	37
12" Inlet 2 Slot	2' Length	CFM	95	120	145	170	195	220	250
		Static Pressure	0.021	0.036	0.058	0.084	0.116	0.152	0.194
		Horizontal Throw, ft	7-12-25	11-16-32	14-20-38	16-25-42	19-29-45	22-33-48	25-36-51
	4' Length	NC	<15	18	21	25	28	31	34
		CFM	110	145	180	220	255	295	330
		Static Pressure	0.025	0.044	0.068	0.102	0.137	0.183	0.229
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	5-8-16	7-10-21	8-13-25	10-16-31	12-18-36	14-21-38	16-23-41
		NC	<15	20	24	29	33	36	39

See Page LSD-95 for Performance Notes



## Series 6675 BP/BPI - Performance

## 6675 3 Slot Performance Data

6" Inlet 3 Slot	2' Length	CFM	45	70	95	120	145	170	195
		Static Pressure	0.012	0.029	0.053	0.084	0.122	0.168	0.221
		Horizontal Throw, ft	1-3-12	3-8-19	6-13-26	10-17-33	13-20-40	16-24-45	18-27-48
	4' Length	NC	<15	17	24	30	35	39	41
		CFM	70	105	145	180	220	255	295
		Static Pressure	0.017	0.037	0.071	0.110	0.165	0.221	0.296
8" Inlet 3 Slot	2' Length	Horizontal Throw, ft	2-4-8	4-6-12	6-8-17	7-10-21	8-13-25	10-15-29	11-17-34
		NC	<15	17	24	29	34	38	41
	4' Length	CFM	55	85	115	145	175	205	235
		Static Pressure	0.012	0.029	0.054	0.082	0.124	0.171	0.224
		Horizontal Throw, ft	2-5-15	5-11-24	9-16-32	13-20-40	16-24-46	19-28-50	22-33-53
		NC	<15	18	25	30	35	39	42
10" Inlet 3 Slot	2' Length	CFM	85	130	175	220	265	310	355
		Static Pressure	0.013	0.031	0.057	0.090	0.130	0.178	0.233
		Horizontal Throw, ft	2-5-10	5-8-15	7-10-20	8-13-25	10-15-31	12-18-36	14-20-41
	4' Length	NC	<15	18	24	30	34	39	42
		CFM	65	100	130	160	190	220	250
		Static Pressure	0.015	0.037	0.062	0.094	0.132	0.177	0.229
12" Inlet 3 Slot	2' Length	Horizontal Throw, ft	3-7-18	7-14-28	12-18-36	15-22-44	18-26-48	20-30-51	23-35-55
		NC	<15	19	25	30	34	38	41
	4' Length	CFM	100	150	195	240	285	330	375
		Static Pressure	0.018	0.041	0.070	0.105	0.149	0.199	0.257
		Horizontal Throw, ft	3-6-12	6-9-17	8-11-23	9-14-28	11-16-33	13-19-38	14-22-42
		NC	<15	18	24	29	34	37	40
12" Inlet 3 Slot	2' Length	CFM	85	120	155	190	225	260	295
		Static Pressure	0.022	0.043	0.072	0.108	0.152	0.203	0.261
		Horizontal Throw, ft	5-11-24	10-17-33	14-21-43	18-26-48	21-31-2	24-36-56	27-41-59
	4' Length	NC	<15	<15	18	22	26	30	33
		CFM	130	180	235	285	340	390	445
		Static Pressure	0.016	0.031	0.053	0.078	0.111	0.146	0.190
12" Inlet 3 Slot	4' Length	Horizontal Throw, ft	5-8-15	7-10-21	9-14-27	11-16-33	13-20-39	15-23-44	17-26-47
		NC	<15	18	24	29	33	37	39

## 6675 4 Slot Performance Data

6" Inlet 4 Slot	2' Length	CFM	50	80	110	140	170	200	230
		Static Pressure	0.011	0.029	0.055	0.089	0.131	0.181	0.239
		Horizontal Throw, ft	1-3-10	3-6-19	5-12-26	9-17-34	13-20-41	16-24-48	18-28-53
	4' Length	NC	<15	16	23	30	35	39	43
		CFM	75	120	165	210	255	300	345
		Static Pressure	0.016	0.042	0.079	0.129	0.190	0.263	0.348
8" Inlet 4 Slot	2' Length	Horizontal Throw, ft	1-3-8	3-6-12	6-8-17	7-11-21	9-13-26	10-15-30	12-17-35
		NC	<15	16	23	29	34	37	39
	4' Length	CFM	70	100	130	160	190	220	250
		Static Pressure	0.016	0.042	0.079	0.129	0.190	0.263	0.348
		Horizontal Throw, ft	1-3-8	3-6-12	6-8-17	7-11-21	9-13-26	10-15-30	12-17-35
		NC	<15	18	24	29	33	37	39
10" Inlet 4 Slot	2' Length	CFM	105	150	195	240	285	330	375
		Static Pressure	0.017	0.034	0.057	0.086	0.122	0.163	0.211
		Horizontal Throw, ft	2-5-11	5-8-15	7-10-20	8-12-24	10-14-29	11-17-33	13-19-38
	4' Length	NC	<15	17	23	28	32	36	39
		CFM	80	110	140	170	200	230	260
		Static Pressure	0.014	0.027	0.044	0.065	0.090	0.119	0.152
12" Inlet 4 Slot	2' Length	Horizontal Throw, ft	3-6-19	5-12-26	8-1-34	13-20-41	16-24-48	18-28-53	21-31-56
		NC	<15	17	23	27	32	35	38
	4' Length	CFM	125	165	210	255	300	345	390
		Static Pressure	0.017	0.030	0.049	0.072	0.099	0.131	0.167
		Horizontal Throw, ft	3-6-13	6-8-17	7-11-21	9-13-26	10-15-20	12-17-35	13-20-39
		NC	<15	16	22	26	30	34	37
12" Inlet 4 Slot	2' Length	CFM	100	140	180	220	260	300	340
		Static Pressure	0.007	0.014	0.023	0.034	0.047	0.063	0.081
		Horizontal Throw, ft	4-10-24	9-17-34	14-22-43	18-26-51	21-31-56	24-36-60	27-41-64
	4' Length	NC	<15	16	20	23	26	29	32
		CFM	150	210	270	330	390	450	510
		Static Pressure	0.014	0.028	0.046	0.069	0.096	0.128	0.164
12" Inlet 4 Slot	4' Length	Horizontal Throw, ft	5-8-15	7-11-21	9-14-27	11-17-33	13-20-39	15-23-45	17-26-50
		NC	<15	19	24	28	32	36	39

See Page LSD-95 for Performance Notes

# LSD - Linear Slot Diffusers

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## Series 6610 BP/BPI - Performance

### 6610 1 Slot Performance Data

6" Inlet 1 Slot	2' Length	CFM	30	45	60	75	90	105	120
		Static Pressure	0.013	0.029	0.052	0.082	0.117	0.160	0.209
		Horizontal Throw, ft	2-5-12	5-9-19	8-12-25	10-16-30	12-19-33	15-22-35	17-25-38
	4' Length	NC	16	23	30	35	40	44	46
		CFM	45	70	90	115	135	160	180
		Static Pressure	0.012	0.029	0.048	0.078	0.107	0.151	0.191
8" Inlet 1 Slot	2' Length	Horizontal Throw, ft	2-4-8	4-6-12	5-8-16	7-10-20	8-12-23	9-14-28	10-16-30
		NC	16	23	29	34	39	43	46
	4' Length	CFM	40	50	65	80	95	110	125
		Static Pressure	0.032	0.051	0.085	0.129	0.182	0.244	0.316
		Horizontal Throw, ft	4-8-17	6-10-21	9-14-27	11-17-31	13-20-34	15-23-36	17-26-39
		NC	17	22	28	33	38	40	42
10" Inlet 1 Slot	2' Length	CFM	60	75	100	120	145	165	190
		Static Pressure	0.017	0.026	0.047	0.068	0.099	0.128	0.170
		Horizontal Throw, ft	3-5-10	4-6-13	6-9-17	7-10-21	8-13-25	10-14-29	11-16-31
	4' Length	NC	17	21	28	32	37	40	43
		CFM	40	55	70	85	100	115	130
		Static Pressure	0.044	0.083	0.134	0.197	0.273	0.361	0.461
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	4-8-17	7-11-23	10-15-29	12-18-32	14-21-35	16-24-37	18-27-39
		NC	16	24	30	35	38	39	39
	4' Length	CFM	60	85	105	130	150	175	195
		Static Pressure	0.016	0.033	0.050	0.076	0.102	0.138	0.172
		Horizontal Throw, ft	3-5-10	5-7-15	6-9-18	8-11-23	9-13-26	10-15-30	11-17-31
		NC	<15	21	26	31	35	39	41
12" Inlet 1 Slot	2' Length	CFM	48	65	80	95	110	125	140
		Static Pressure	0.018	0.033	0.050	0.071	0.095	0.123	0.154
		Horizontal Throw, ft	5-10-20	9-14-27	11-17-31	13-20-34	15-23-36	17-26-39	19-29-41
	4' Length	NC	<15	<15	19	23	26	29	32
		CFM	70	100	120	145	165	190	210
		Static Pressure	0.029	0.058	0.084	0.123	0.159	0.211	0.258
12" Inlet 1 Slot	2' Length	Horizontal Throw, ft	4-6-12	6-9-17	7-10-21	8-13-25	10-14-29	11-16-31	12-18-32
		NC	<15	21	25	30	33	35	37
	4' Length	CFM	48	65	80	95	110	125	140
		Static Pressure	0.018	0.033	0.050	0.071	0.095	0.123	0.154
		Horizontal Throw, ft	5-10-20	9-14-27	11-17-31	13-20-34	15-23-36	17-26-39	19-29-41
		NC	<15	<15	19	23	26	29	32

### 6610 2 Slot Performance Data

6" Inlet 2 Slot	2' Length	CFM	30	55	80	105	130	155	180
		Static Pressure	0.006	0.020	0.042	0.072	0.110	0.156	0.211
		Horizontal Throw, ft	1-2-7	2-6-16	5-12-24	9-15-31	13-19-38	15-23-43	18-26-46
	4' Length	NC	<15	18	27	33	39	42	44
		CFM	45	85	120	160	195	235	270
		Static Pressure	0.009	0.031	0.061	0.109	0.162	0.235	0.310
8" Inlet 2 Slot	2' Length	Horizontal Throw, ft	1-2-6	3-5-10	5-7-15	7-10-20	8-12-24	10-14-29	11-17-33
		NC	<15	18	25	33	37	41	43
	4' Length	CFM	45	65	85	105	125	145	165
		Static Pressure	0.017	0.035	0.059	0.090	0.128	0.172	0.223
		Horizontal Throw, ft	2-4-13	3-8-19	6-12-25	9-15-31	12-18-37	14-21-42	16-24-44
		NC	<15	18	24	29	33	37	40
10" Inlet 2 Slot	2' Length	CFM	70	100	130	160	190	220	250
		Static Pressure	0.014	0.028	0.047	0.071	0.100	0.135	0.174
		Horizontal Throw, ft	2-4-9	4-6-12	5-8-16	7-10-20	8-12-23	9-13-27	10-15-31
	4' Length	NC	<15	17	23	28	33	37	39
		CFM	50	70	90	110	130	150	170
		Static Pressure	0.023	0.045	0.074	0.111	0.155	0.207	0.265
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	2-5-15	4-9-21	7-13-26	10-16-32	13-19-38	15-22-42	17-25-45
		NC	<15	17	22	27	32	35	38
	4' Length	CFM	75	105	135	165	195	225	255
		Static Pressure	0.012	0.024	0.039	0.059	0.082	0.109	0.140
		Horizontal Throw, ft	2-5-9	4-6-13	6-8-17	7-10-20	8-12-24	9-14-28	10-16-31
		NC	<15	16	21	26	30	34	37
12" Inlet 2 Slot	2' Length	CFM	60	90	120	150	180	210	240
		Static Pressure	0.014	0.032	0.058	0.090	0.130	0.176	0.230
		Horizontal Throw, ft	3-7-18	7-13-26	12-18-35	15-22-42	18-26-46	21-31-50	24-35-54
	4' Length	NC	<15	17	21	26	29	33	36
		CFM	90	135	180	225	270	315	360
		Static Pressure	0.017	0.038	0.068	0.106	0.153	0.208	0.272
12" Inlet 2 Slot	2' Length	Horizontal Throw, ft	3-6-11	6-8-17	7-11-22	9-14-28	11-17-33	13-19-39	15-22-42
		NC	<15	18	24	30	34	38	41
	4' Length	CFM	60	90	120	150	180	210	240
		Static Pressure	0.014	0.032	0.058	0.090	0.130	0.176	0.230
		Horizontal Throw, ft	3-7-18	7-13-26	12-18-35	15-22-42	18-26-46	21-31-50	24-35-54
		NC	<15	17	21	26	29	33	36

See Page LSD-95 for Performance Notes

## Series 6610 BP/BPI - Performance

## 6610 3 Slot Performance Data

6" Inlet 3 Slot	2' Length	CFM	40	65	90	115	140	165	190
		Static Pressure	0.007	0.019	0.036	0.058	0.087	0.120	0.160
		Horizontal Throw, ft	1-2-6	2-4-16	4-8-22	6-13-28	9-17-34	12-20-40	15-23-46
	4' Length	NC	<15	16	23	29	34	38	41
		CFM	60	100	135	175	210	250	285
		Static Pressure	0.011	0.030	0.055	0.093	0.134	0.190	0.247
8" Inlet 3 Slot	2' Length	Horizontal Throw, ft	1-2-6	2-5-10	4-7-14	6-9-18	7-11-21	8-13-25	10-14-29
		NC	<15	16	22	28	33	37	40
		CFM	50	80	110	140	170	200	230
	4' Length	Static Pressure	0.010	0.026	0.049	0.080	0.117	0.162	0.215
		Horizontal Throw, ft	1-3-10	3-6-19	5-12-26	9-17-34	13-20-41	16-24-48	18-28-53
		NC	<15	17	24	29	34	38	42
10" Inlet 3 Slot	2' Length	CFM	75	120	165	210	255	300	345
		Static Pressure	0.008	0.022	0.041	0.066	0.098	0.135	0.179
		Horizontal Throw, ft	1-3-8	3-6-12	6-8-17	7-11-21	9-13-26	10-15-30	12-17-35
	4' Length	NC	<15	17	23	28	33	38	41
		CFM	60	110	140	170	200	230	260
		Static Pressure	0.008	0.028	0.045	0.066	0.092	0.122	0.155
12" Inlet 3 Slot	2' Length	Horizontal Throw, ft	2-4-14	5-12-26	9-17-34	13-20-41	16-24-48	18-28-53	21-31-56
		NC	<15	21	27	32	36	39	42
	4' Length	CFM	90	165	210	255	300	345	390
		Static Pressure	0.008	0.026	0.042	0.062	0.086	0.113	0.145
		Horizontal Throw, ft	2-4-9	6-8-17	7-11-21	9-13-26	10-15-30	12-17-35	13-20-39
		NC	<15	20	26	31	35	38	40
12" Inlet 3 Slot	2' Length	CFM	80	120	160	200	240	280	320
		Static Pressure	0.010	0.022	0.038	0.060	0.086	0.118	0.154
		Horizontal Throw, ft	3-6-19	6-14-29	11-19-38	16-24-48	19-29-54	22-34-58	26-38-62
	4' Length	NC	<15	<15	19	23	28	31	35
		CFM	120	180	240	300	360	420	480
		Static Pressure	0.009	0.021	0.038	0.059	0.084	0.115	0.150
12" Inlet 3 Slot	2' Length	Horizontal Throw, ft	3-6-12	6-9-18	8-12-24	10-15-30	12-18-36	14-21-42	16-24-48
		NC	<15	18	25	30	35	38	41

## 6610 4 Slot Performance Data

6" Inlet 4 Slot	2' Length	CFM	50	80	110	140	170	200	230
		Static Pressure	0.009	0.022	0.042	0.069	0.101	0.140	0.185
		Horizontal Throw, ft	1-2-6	2-4-17	3-8-23	6-13-29	8-18-35	12-21-42	15-24-48
	4' Length	NC	<15	16	23	30	35	39	43
		CFM	75	120	165	210	255	300	345
		Static Pressure	0.012	0.032	0.060	0.098	0.144	0.200	0.264
8" Inlet 4 Slot	2' Length	Horizontal Throw, ft	1-2-6	2-5-10	4-7-14	6-9-18	7-11-22	9-13-26	10-15-30
		NC	<15	16	23	29	34	37	39
	4' Length	CFM	70	100	130	160	190	220	250
		Static Pressure	0.017	0.035	0.059	0.090	0.126	0.169	0.219
		Horizontal Throw, ft	1-3-13	3-6-21	5-11-27	7-17-33	10-20-39	14-23-46	17-26-52
		NC	<15	18	24	29	33	37	39
10" Inlet 4 Slot	2' Length	CFM	105	150	195	240	285	330	375
		Static Pressure	0.013	0.027	0.045	0.068	0.096	0.129	0.166
		Horizontal Throw, ft	2-4-9	3-6-13	5-8-17	7-10-21	8-12-25	10-14-29	11-16-32
	4' Length	NC	<15	19	26	32	36	40	42
		CFM	80	120	160	200	240	280	320
		Static Pressure	0.010	0.022	0.038	0.060	0.086	0.118	0.154
12" Inlet 4 Slot	2' Length	Horizontal Throw, ft	2-4-17	4-9-25	7-17-33	12-21-42	17-25-50	19-29-58	22-33-62
		NC	<15	19	26	32	36	40	42
	4' Length	CFM	125	180	240	300	360	420	480
		Static Pressure	0.012	0.025	0.044	0.069	0.100	0.136	0.178
		Horizontal Throw, ft	2-5-11	5-8-16	7-10-21	9-13-26	10-16-31	12-18-36	14-21-42
		NC	<15	18	25	30	35	39	42
12" Inlet 4 Slot	2' Length	CFM	90	140	190	240	290	340	390
		Static Pressure	0.007	0.017	0.031	0.050	0.073	0.101	0.132
		Horizontal Throw, ft	2-5-19	6-13-29	10-20-39	17-25-50	20-30-59	24-35-64	27-41-68
	4' Length	NC	<15	16	21	25	28	32	35
		CFM	135	210	285	360	435	510	585
		Static Pressure	0.008	0.020	0.038	0.060	0.088	0.120	0.158
12" Inlet 4 Slot	2' Length	Horizontal Throw, ft	3-6-12	6-9-18	8-12-25	10-16-31	13-19-38	15-22-44	17-25-51
		NC	<15	19	25	30	35	39	42

See Page LSD-95 for Performance Notes

## Series BP/BPI - Return Air Performance

### Return Air Performance 1/2" Slots (Duct Connected)

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	15	20	25	30	35	40
Ak/Ft=.03	NC	--	20	27	32	37	41
2	CFM/Ft.	35	50	60	70	80	95
Ak/Ft=.06	NC	--	22	27	32	37	41
3	CFM/Ft.	55	80	95	110	125	150
Ak/Ft=.09	NC	--	23	28	33	37	42
4	CFM/Ft.	70	100	120	140	155	190
Ak/Ft=.12	NC	--	24	30	34	37	44
5	CFM/Ft.	90	135	155	180	200	245
Ak/Ft=.15	NC	--	25	30	34	37	44
6	CFM/Ft.	110	155	195	220	245	300
Ak/Ft=.18	NC	--	26	33	37	40	46
7	CFM/Ft.	130	185	225	260	290	355
Ak/Ft=.21	NC	--	27	33	37	41	47
8	CFM/Ft.	140	200	245	280	310	385
Ak/Ft=.24	NC	--	28	34	38	42	48

### Return Air Performance 3/4" Slots (Duct Connected)

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	25	35	45	50	55	70
Ak/Ft=.02	NC	--	21	29	32	35	42
2	CFM/Ft.	55	80	90	100	110	135
Ak/Ft=.08	NC	--	25	29	32	35	42
3	CFM/Ft.	90	115	140	160	180	220
Ak/Ft=.12	NC	--	26	32	36	40	46
4	CFM/Ft.	100	140	175	200	225	275
Ak/Ft=.12	NC	--	27	34	38	41	47
5	CFM/Ft.	140	185	225	260	290	360
Ak/Ft=.16	NC	--	28	34	38	42	48
6	CFM/Ft.	160	225	275	320	360	440
Ak/Ft=.20	NC	--	29	35	40	43	49
7	CFM/Ft.	175	250	305	350	395	480
Ak/Ft=.24	NC	--	30	36	40	44	50
8	CFM/Ft.	200	285	350	400	450	545
Ak/Ft=.32	NC	--	31	37	41	45	51

### 6610R 1" Slot Width

Number of Slots	Negative Ps Inches of Water	.02	.04	.06	.08	.10	.15
1	CFM/Ft.	35	50	60	70	80	95
Ak/Ft=.06	NC	--	25	31	36	40	45
2	CFM/Ft.	70	100	125	140	155	190
Ak/Ft=.11	NC	--	27	33	37	41	47
3	CFM/Ft.	105	150	185	210	235	285
Ak/Ft=.17	NC	--	29	35	39	43	49
4	CFM/Ft.	140	200	250	280	310	380
Ak/Ft=.23	NC	--	31	37	41	45	51
5	CFM/Ft.	175	250	300	350	390	475
Ak/Ft=.28	NC	--	32	38	42	46	52
6	CFM/Ft.	210	300	375	420	465	570
Ak/Ft=.33	NC	--	33	40	43	47	53
7	CFM/Ft.	245	350	425	490	545	665
Ak/Ft=.39	NC	--	34	41	44	47	54
8	CFM/Ft.	280	400	475	560	620	760
Ak/Ft=.44	NC	--	35	42	45	48	55

See Page LSD-95 for Performance Notes

## ➔ Linear Louver Diffuser ➔ Model L-5000 ➔ Aluminum

### Product Details

- ★ The series L-5000 is a fixed pattern, high induction architectural linear slot diffuser. This diffuser is constructed from heavy aluminum extrusions and is available with either 1-way or 2-way opposite air discharge patterns
- ★ Also available is an optional plenum that allows the 2-way opposite unit to become a supply/return diffuser.
- ★ T-bar Lay-in units available in 18", 24", 30", 36" or 42" and in surface mounting applications up to 48"
- ★ 1-way units available in 3", 6", 9", 12" and 15" widths
- ★ 2-way opposite units available in 6" and 12" widths
- ★ The louvered face is secured with spring clips making removal easy for installation
- ★ The series L-5000 is an excellent choice for VAV applications
- ★ L-5000 surface mount diffuser available



**Model L-5000 Shown**

Standard Finish: 01 White

Linear Slot Diffusers

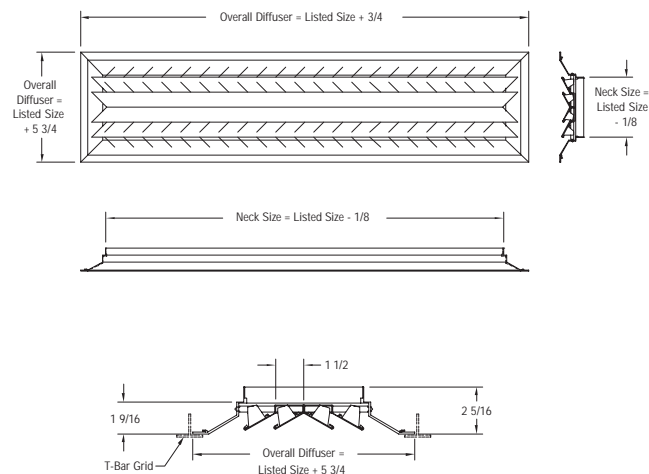
LSD

### Surface Mount

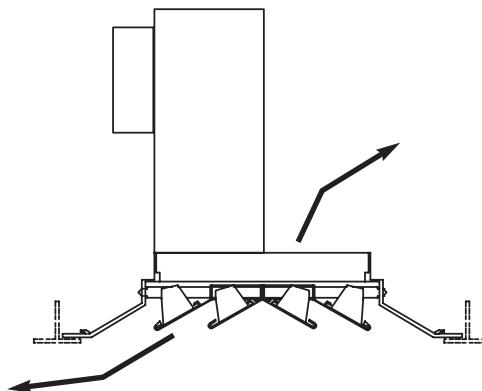
Dimensions are in inches

#### Series L-5000

Model L-5000-1 - Dimensions same as above (with screw holes)



The L-5000 can be used for combination Supply/Return applications.  
Unit shown above with optional boot plenum.



## Model L-5000 - Performance

Size in inches	Neck Velocity (VN) fpm	400	450	500	550	600	650	700
	Total Pressure	.057	.072	0.94	.110	.130	.168	.180
42 x 3 An .875	CFM ea. side	350	394	480	481	535	568	610
	Throw in ft.	11	12	14	15	15	17	18
42 x 4.5 An 1.312	CFM ea. side	525	591	656	722	788	853	919
	Throw in ft.	13	14	16	17	19	20	22

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pt - Total pressure (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 50 fpm with ambient supply air temperature.
- An - Neck area



DIFFUSERS

**PLENUM  
SLOT DIFFUSERS**



**Series PHP**  
Pg. 114

## Plenum Slot Diffusers - Adjustable Pattern Controller - Series PHP

- ★ Heavy duty extruded aluminum pattern controller and gasket for tight horizontal discharge pattern
- ★ Field adjustable pattern controllers allow adjustable horizontal and vertical throw
- ★ Units available in 1 to 4 slots to meet a wide range of applications and capabilities
- ★ Double hem face construction for rigidity and straightness
- ★ PHPR return model offers low pressure drop return; Integral light shield hides interior of unit
- ★ One-piece plenum construction ensures tight fit in ceiling grid
- ★ Optional 1/4" insulation on PHPI-6 units
- ★ Lay-in (type 6) integrates into 1" T-bar ceiling

	T-bar Lay-in		Fineline Ceilings			
	Supply	Return	Supply		Return	
Insulated	PHPSI-6	PHPRI-6	PHPSI-9 Supply w/ Center Tee	PHNSI-9 Supply w/ hat section	PHPRI-9 Return w/ Center Tee	PHNRI-9 Return w/ hat section
Non-Insulated	PHPS-6	PHPR-6	PHPS-9 Supply w/ Center Tee	PHNS-9 Supply w/ hat section	PHPR-9 Return w/ Center Tee	PHNR-9 Return w/ hat section



**Series PHC**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## High Capacity Plenum Slot Diffusers - Fixed Pattern Controller - Series PHC

- ★ Aerodynamically shaped, heavy duty extruded aluminum curved blade pattern controller generates a tight horizontal discharge pattern
- ★ Excellent selection for perimeter applications, especially in cold climates because of its high induction ratio
- ★ Available with integral return, a low cost and efficient solution to return air into the ceiling plenum
- ★ Optional 1/4" insulation on PHCSI-6, PHCRI-6, PHCSI-DB-6, and PHCRI-DB-6

T-bar Lay-in				
Insulated	PHCSI-6 Supply	PHCRI-6 Supply - with Return	PHCSI-DB-6 Supply - with Down Blow	PHCRI-DB-6 Supply - with Down Blow & Return
Non-Insulated	PHCS-6 Supply	PHCR-6 Supply - with Return	PHCS-DB-6 Supply - with Down Blow	PHCR-DB-6 Supply - with Down Blow & Return



**Series LT**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Light Troffer Diffusers - Fixed Pattern Controller - Series LT

- ★ Architecturally pleasing; Reduces ceiling clutter by integrating the ceiling diffuser into the light fixture
- ★ Each unit is customized to fit the specified light fixture ensuring a tight seal for optimum performance
- ★ Optional 1/2" internal insulation available
- ★ Available with single or double-sided supply configurations
- ★ Model DS-LT-6 double-sided diffusers are available with side or top inlet for installation flexibility
- ★ Matching single-sided plenum return unit model SSR-LT-6 is available

T-bar Lay-in				
Insulated	SSI-LT-6 Single Side	DSI-LT-6 Double Side - Side Inlet	DSTI-LT-6 Double Side - Top Inlet	SSRI-LT-6 Single Side Return
Non-Insulated	SS-LT-6 Single Side	DS-LT-6 Double Side - Side Inlet	DST-LT-6 Double Side - Top Inlet	SSR-LT-6 Single Side Return



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRES Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRES Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaires.com](http://www.metalaires.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES

## ➔ Plenum Slot Diffusers ➔ Supply/Return ➔ Series PHP

### Product Details

- ★ Heavy duty extruded aluminum pattern controller and gasket for tight horizontal discharge pattern
- ★ Field adjustable pattern controllers allow adjustable horizontal and vertical throw
- ★ Units available in 1 to 4 slots to meet a wide range of applications and capabilities
- ★ Double hem face construction for rigidity and straightness
- ★ PHPR return model offers low pressure drop return; Integral light shield hides interior of unit
- ★ One-piece plenum construction ensures tight fit in ceiling grid
- ★ Optional 1/4" insulation on PHPI-6 units
- ★ Lay-in (type 6) integrates into 1" T-bar ceiling



### Model PHP-6 Shown

Finish: 25 - WT - White Tees with Black Borders  
& Plenum Interior

### T-bar Lay-in - Supply

Dimensions are in inches

#### Adjustable Pattern Controller

##### Non Insulated

Model PHPS-50-6 - 1/2" Slot Width

Model PHPS-75-6 - 3/4" Slot Width

Model PHPS-10-6 - 1" Slot Width

Model PHPS-15-6 - 1 1/2" Slot Width

##### Insulated

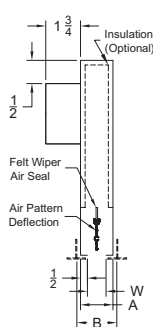
Model PHPSI-50-6 - 1/2" Slot Width

Model PHPSI-75-6 - 3/4" Slot Width

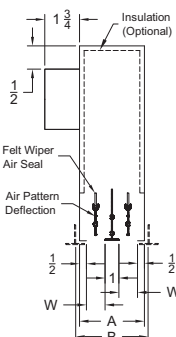
Model PHPSI-10-6 - 1" Slot Width

Model PHPSI-15-6 - 1 1/2" Slot Width

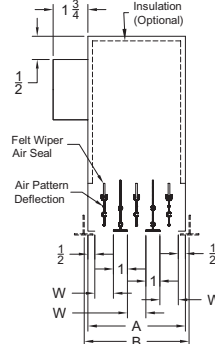
#### 1 Slot



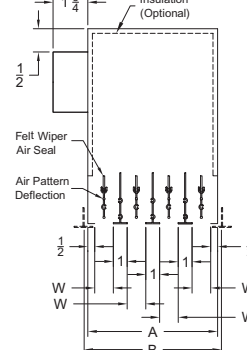
#### 2 Slot



#### 3 Slot

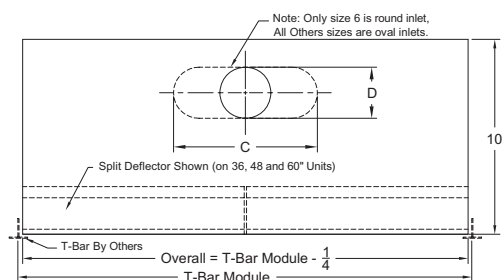


#### 4 Slot



### Supply - Plenum Slot Diffusers - Steel - Face View

Series PHPS(I)-6 - T-bar Lay-in



# PSD - Plenum Slot Diffusers

## T-bar Lay-in - Return

Dimensions are in inches

### No Pattern Controller

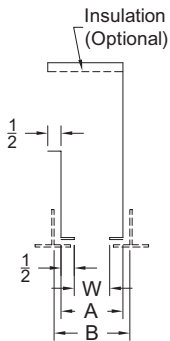
#### Non Insulated

Model PHPR-50-6 - 1/2" Slot Width  
 Model PHPR-75-6 - 3/4" Slot Width  
 Model PHPR-10-6 - 1" Slot Width  
 Model PHPR-15-6 - 1 1/2" Slot Width

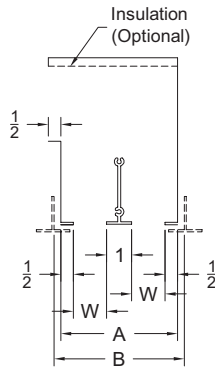
#### Insulated

Model PHPRI-50-6 - 1/2" Slot Width  
 Model PHPRI-75-6 - 3/4" Slot Width  
 Model PHPRI-10-6 - 1" Slot Width  
 Model PHPRI-15-6 - 1 1/2" Slot Width

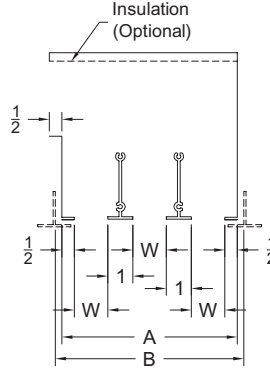
1 Slot



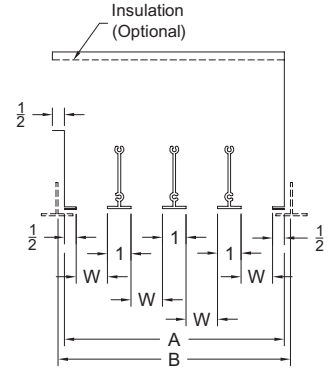
2 Slot



3 Slot



4 Slot

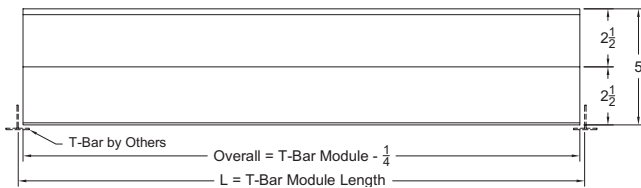


Plenum Slot Diffusers

PSD

### Return- Plenum Slot Diffusers - Face View

Series PHPR(I)-6 - T-bar Lay-in



Inlet Size	C	D
6 Round	—	5 7/8
8 Oval	8 15/16	6
10 Oval	12 1/16	6
12 Oval	15 1/4	6

Models		L	W	1 Slot		2 Slots		3 Slots		4 Slots	
Supply	Return			A	B	A	B	A	B	A	B
PHPS(I)-50-6	PHPR(I)-50-6	24, 36, 48, 60	1/2	1 1/2	1 3/4	3	3 1/4	4 1/2	4 3/4	6	6 1/4
PHPS(I)-75-6	PHPR(I)-75-6	24, 36, 48, 60	3/4	1 3/4	2	3 1/2	3 3/4	5 1/4	5 1/2	7	7 1/4
PHPS(I)-10-6	PHPR(I)-10-6	24, 36, 48, 60	1	2	2 1/4	4	4 1/4	6	6 1/4	8	8 1/4
PHPS(I)-15-6	PHPR(I)-15-6	24, 36, 48, 60	1 1/2	2 1/2	2 3/4	5	5 1/4	7 1/2	7 3/4	10	10 1/4

# PSD - Plenum Slot Diffusers

5/2007

Plenum Slot Diffusers

PSD

## Donn Finline Ceiling - Supply - Adjustable Pattern Controller

### Non Insulated

Model PHPS-75-9 - 3/4" Slot Width  
Model PHPS-10-9 - 1" Slot Width  
Model PHPS-15-9 - 1 1/2" Slot Width

### Insulated

Model PHPSI-75-9 - 3/4" Slot Width  
Model PHPSI-10-9 - 1" Slot Width  
Model PHPSI-15-9 - 1 1/2" Slot Width

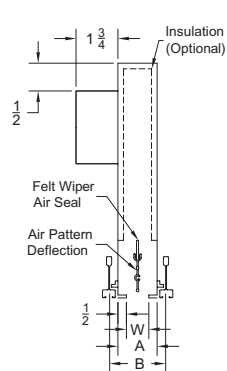
### Non Insulated

Model PHNS-75-9 - 3/4" Slot Width  
Model PHNS-10-9 - 1" Slot Width  
Model PHNS-15-9 - 1 1/2" Slot Width

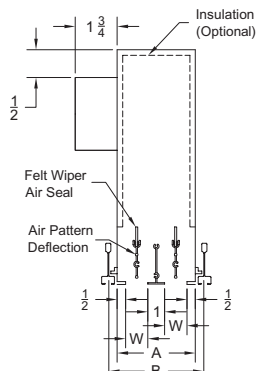
### Insulated

Model PHNSI-75-9 - 3/4" Slot Width  
Model PHNSI-10-9 - 1" Slot Width  
Model PHNSI-15-9 - 1 1/2" Slot Width

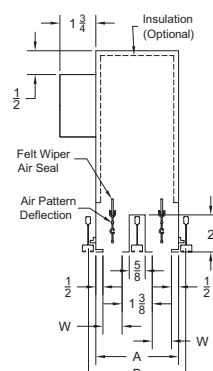
### 1 Slot



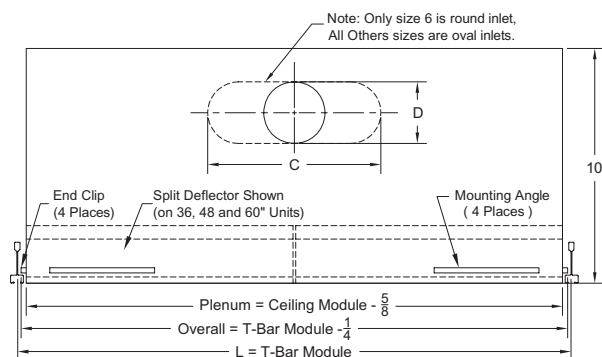
### 2 Slot - Center Tee



### 2 Slot - Hat Section



## Supply- Plenum Slot Diffusers - Face View Series PHPS(I)-9 - Donn Fline Ceiling



Inlet Size	C	D
6 Round	—	5 7/8
8 Oval	8 15/16	6
10 Oval	12 1/16	6
12 Oval	15 1/4	6

Supply	L	W	1 Slot w/ Center Tee		2 Slots w/ Center Tee		2 Slots w/ Hat Section	
			A	B	A	B	A	B
PHPS(I)-75-9	24, 48	3/4	1 3/4	2 3/8	3 1/2	4 1/8	—	—
PHPS(I)-10-9	24, 48	1	2	2 5/8	4	4 5/8	—	—
PHPS(I)-15-9	24, 48	1 1/2	2 1/2	3 1/8	5	4 5/8	—	—
PHPS(I)-75-9	24, 48	—	—	—	—	—	3 7/8	4 1/4
PHPS(I)-10-9	24, 48	—	—	—	—	—	4 3/8	5
PHPS(I)-15-9	24, 48	—	—	—	—	—	5 3/8	6



# PSD - Plenum Slot Diffusers

## Donn Finline Ceiling - Return - No Pattern Controller

### Non Insulated

Model PHPR-75-9 - 3/4" Slot Width  
Model PHPR-10-9 - 1" Slot Width  
Model PHPR-15-9 - 1 1/2" Slot Width

### Insulated

Model PHPRI-75-9 - 3/4" Slot Width  
Model PHPRI-10-9 - 1" Slot Width  
Model PHPRI-15-9 - 1 1/2" Slot Width

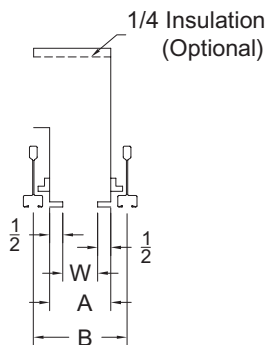
### Non Insulated

Model PHNR-75-9 - 3/4" Slot Width  
Model PHNR-10-9 - 1" Slot Width  
Model PHNR-15-9 - 1 1/2" Slot Width

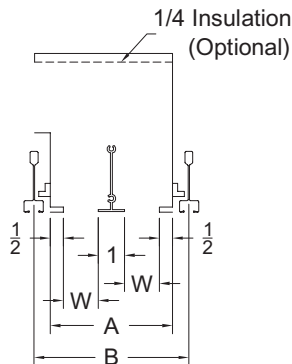
### Insulated

Model PHNRI-75-9 - 3/4" Slot Width  
Model PHNRI-10-9 - 1" Slot Width  
Model PHNRI-15-9 - 1 1/2" Slot Width

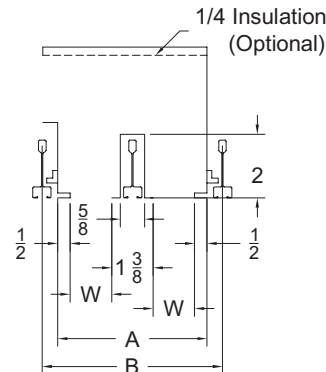
1 Slot



2 Slot - Center Tee

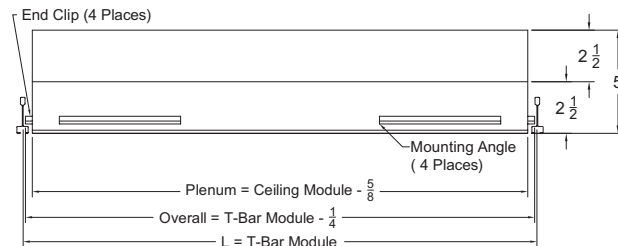


2 Slot - Hat Section



## Return- Plenum Slot Diffusers - Face View

Series PHPR(I)-9 - Donn Finline Ceiling



Inlet Size	C	D
6 Round	—	5 7/8
8 Oval	8 15/16	6
10 Oval	12 1/16	6
12 Oval	15 1/4	6

Return	L	W	1 Slot w/ Center Tee		2 Slots w/ Center Tee		2 Slots w/ Hat Section	
			A	B	A	B	A	B
PHPR(I)-75-9	24, 48	3/4	1 3/4	2 3/8	3 1/2	4 1/8	—	—
PHPR(I)-10-9	24, 48	1	2	2 5/8	4	4 5/8	—	—
PHPR(I)-15-9	24, 48	1 1/2	2 1/2	3 1/8	5	4 5/8	—	—
PHPR(I)-75-9	24, 48	—	—	—	—	—	3 7/8	4 1/4
PHPR(I)-10-9	24, 48	—	—	—	—	—	4 3/8	5
PHPR(I)-15-9	24, 48	—	—	—	—	—	5 3/8	6

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 25-WT White Tees with Black Borders <b>Optional Finish</b> 26 White Tees and Borders 27 Black Tees and Borders	CN - (For units over 24") LQ - Locking quadrant damper T-1 - One outside tee T-2 - Two outside tee TC-1 - One outside tee TC-2 - Bar clips both ends TC-3 - One T-bar clip/One outside tee EN - End Notch EN-2 - End notch/Two outer tees	<ul style="list-style-type: none"> <li>Extruded aluminum pattern controller (supply)</li> <li>No pattern controller on return units</li> <li>One-piece electrogalvanized steel plenum with double hem face</li> <li>Internal insulation is 1/4" on one slot units</li> </ul>

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 25-WT White Tees with Black Borders <b>Optional Finish</b> 26 White Tees and Borders 27 Black Tees and Borders	CN - HS center hat section for 2 slot units (see PHNS models) LQ - Locking quadrant damper	<ul style="list-style-type: none"> <li>Extruded aluminum pattern controller on supply units, no pattern controller on return units</li> <li>One-piece electrogalvanized steel plenum with double hem face</li> <li>All -9 units over 24" have a standard cross-notch</li> <li>Internal insulation is 1/4" on one slot units</li> <li>Available in lengths and slot widths as shown</li> </ul>

# PSD - Plenum Slot Diffusers

5/2007

## Model PHPS-6 and PHPSI-6 One Slot - Performance

				CFM/LF																							
				10			15			25			40			60			75			90			120		
1/2" Slot Width	2' Length 6" Inlet	Horizontal	CFM	20			30			50			80			120			150			180			240		
			Ps	0.01			0.023			0.064			0.163			0.367			0.574			0.826			1.469		
			Pt	0.011			0.024			0.068			0.174			0.39			0.61			0.879			1.562		
		Throw	2	3	6	3	5	8	5	7	10	7	9	12	9	11	15	10	12	17	11	13	19	12	15	22	
		NC	-			<10			17			29			39			43			47			56			
		Vertical	Ps	0.013			0.029			0.082			0.209			0.471			0.736			1.06			1.885		
	Pt	0.014			0.031			0.086			0.22			0.495			0.773			1.113			1.978				
	Throw	1	1	3	1	2	4	2	3	7	4	5	11	5	8	16	7	10	20	8	12	24	11	16	32		
	NC	-			<10			15			29			38			42			45			52				
	4' Length 6" Inlet	Horizontal	CFM	40			60			100			160			240			300			360			-		
			Ps	0.01			0.023			0.063			0.16			0.36			0.563			0.81			-		
			Pt	0.013			0.028			0.079			0.201			0.453			0.708			1.02			-		
		Throw	2	3	7	3	5	10	6	8	14	9	12	18	12	15	22	14	17	24	15	19	26	-			
		NC	-			<10			20			32			42			46			50			-			
Vertical		Ps	0.013			0.029			0.08			0.205			0.462			0.722			1.039			-			
Pt	0.015			0.035			0.096			0.247			0.555			0.867			1.249			-					
Throw	2	3	5	3	4	8	4	6	13	7	10	20	10	15	30	13	19	38	15	23	46	-					
NC	-			<10			18			32			41			45			48			-					
5' Length 8" Inlet	Horizontal	CFM	50			75			125			200			300			375			450			-			
		Ps	0.01			0.022			0.061			0.157			0.353			0.551			0.794			-			
		Pt	0.011			0.025			0.07			0.18			0.405			0.633			0.912			-			
	Throw	3	4	8	4	6	12	7	11	16	11	14	20	14	17	24	16	19	27	17	21	29	-				
	NC	<10			11			22			34			44			48			52			-				
	Vertical	Ps	0.013			0.028			0.079			0.201			0.453			0.707			1.018			-			
Pt	0.014			0.032			0.088			0.224			0.505			0.789			1.136			-					
Throw	2	3	7	3	5	10	5	8	16	9	13	26	13	20	40	16	25	49	20	30	59	-					
NC	<10			12			26			39			46			50			55			-					
3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20			30			50			80			120			150			180			240		
			Ps	0.007			0.015			0.041			0.104			0.235			0.367			0.528			0.939		
			Pt	0.007			0.015			0.042			0.108			0.243			0.38			0.973			-		
		Throw	2	3	5	3	4	7	4	6	9	7	8	12	8	10	14	9	11	16	10	12	17	12	14	20	
		NC	-			-			<10			23			32			37			40			47			
		Vertical	Ps	0.008			0.017			0.048			0.123			0.277			0.433			0.623			1.108		
	Pt	0.008			0.018			0.05			0.127			0.285			0.446			0.642			1.141				
	Throw	1	1	2	1	2	3	2	3	5	3	4	9	4	7	13	5	8	16	7	10	20	9	13	26		
	NC	-			-			<10			24			36			41			45			54				
	4' Length 8" Inlet	Horizontal	CFM	40			60			100			160			240			300			360			-		
			Ps	0.006			0.014			0.04			0.102			0.23			0.36			0.518			-		
			Pt	0.007			0.016			0.046			0.117			0.264			0.412			0.593			-		
		Throw	2	3	6	3	4	8	5	7	13	7	11	16	11	14	20	13	16	22	14	17	25	-			
		NC	-			<10			15			26			35			40			43			-			
Vertical		Ps	0.008			0.017			0.047			0.121			0.272			0.424			0.611			-			
Pt	0.008			0.019			0.053			0.136			0.305			0.477			0.686			-					
Throw	1	2	4	2	3	6	3	5	10	6	8	17	8	12	25	10	15	31	12	19	37	-					
NC	-			10			12			27			39			44			48			-					
5' Length 8" Inlet	Horizontal	CFM	50			75			125			200			300			375			450			-			
		Ps	0.006			0.014			0.039			0.1			0.226			0.353			0.508			-			
		Pt	0.008			0.017			0.048			0.124			0.278			0.434			0.626			-			
	Throw	2	4	7	4	6	11	6	9	14	10	13	18	13	16	22	14	18	25	16	19	27	-				
	NC	-			<10			17			28			37			42			45			-				
	Vertical	Ps	0.007			0.017			0.046			0.118			0.266			0.416			0.599			-			
Pt	0.009			0.02			0.055			0.142			0.319			0.498			0.717			-					
Throw	2	3	5	3	4	8	4	7	13	7	11	22	11	16	32	13	20	40	16	24	48	-					
NC	-			<10			14			29			41			46			50			-					

See Page PSD-125 for performance data notes

# PSD - Plenum Slot Diffusers

## Model PHPS-6 and PHPSI-6 One Slot - Performance

			CFM/LF													
			10	15	25	40	60	75	90	120	160					
1" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	320				
			Ps	0.005	0.010	0.028	0.073	0.163	0.255	0.368	0.654	1.162				
			Pt	0.005	0.011	0.030	0.076	0.172	0.268	0.387	0.687	1.222				
			Throw	3 4 6	4 5 7	5 6 9	6 8 11	8 10 14	9 11 15	10 12 17	11 14 19	13 16 23				
		Vertical	NC	—	<10	10	23	32	36	39	44	53				
			Ps	0.007	0.016	0.044	0.113	0.254	0.396	0.571	1.015	1.804				
			Pt	0.007	0.016	0.046	0.116	0.262	0.410	0.590	1.048	1.864				
			Throw	0 1 1	1 1 2	1 2 4	2 3 6	3 4 9	4 5 11	4 7 13	6 9 18	8 12 23				
		Horizontal	NC	—	—	<10	22	35	40	43	47	55				
			CFM	40	60	100	160	240	300	360	480	—				
			Ps	0.004	0.010	0.028	0.071	0.160	0.250	0.361	0.641	—				
			Pt	0.005	0.012	0.034	0.086	0.194	0.303	0.436	0.775	—				
	4' Length 8" Inlet	Horizontal	Throw	1 2 4	2 3 7	4 5 11	6 9 16	9 13 19	11 15 22	13 17 24	16 19 28	—				
			NC	—	<10	13	26	35	39	42	47	—				
		Vertical	Ps	0.007	0.016	0.043	0.111	0.249	0.389	0.560	0.995	—				
			Pt	0.008	0.018	0.049	0.125	0.282	0.441	0.635	1.129	—				
			Throw	1 2 3	2 2 5	3 4 8	4 6 13	6 10 19	8 12 24	10 14 29	13 19 38	—				
			NC	—	—	<10	25	38	43	46	50	—				
		Horizontal	CFM	50	75	125	200	300	375	450	600	—				
			Ps	0.004	0.010	0.027	0.070	0.157	0.245	0.353	0.628	—				
			Pt	0.005	0.011	0.032	0.082	0.184	0.287	0.413	0.735	—				
			Throw	5 6 9	6 8 11	8 10 14	10 13 18	13 15 22	14 17 24	15 19 27	18 22 31	—				
	5' Length 10" Inlet	Horizontal	NC	—	<10	15	28	37	41	44	49	—				
			Ps	0.007	0.015	0.042	0.108	0.244	0.381	0.549	0.975	—				
			Pt	0.008	0.017	0.047	0.120	0.271	0.423	0.609	1.082	—				
			Throw	1 2 4	2 3 7	4 5 11	6 9 18	9 13 26	11 16 33	13 20 39	18 26 53	—				
		Vertical	NC	—	<10	11	27	40	45	48	52	—				
			CFM	20	30	50	80	120	150	180	240	320				
			Ps	0.004	0.010	0.027	0.069	0.155	0.242	0.349	0.620	1.102				
			Pt	0.005	0.010	0.028	0.073	0.163	0.255	0.368	0.654	1.162				
	1-1/2" Slot Width	2' Length 8" Inlet	Horizontal	Throw	1 2 3	2 2 5	3 4 8	4 6 11	6 9 13	8 10 15	9 11 16	11 13 18	12 15 21			
				NC	—	—	<10	13	22	29	34	42	50			
				Vertical	Ps	0.003	0.007	0.020	0.052	0.117	0.183	0.263	0.468	0.831		
					Pt	0.003	0.008	0.022	0.056	0.125	0.196	0.282	0.501	0.891		
			Horizontal	Throw	0 1 1	1 1 2	1 1 3	1 2 4	2 3 7	3 4 8	3 5 10	4 7 13	6 9 17			
				NC	—	—	—	<10	19	25	30	37	45			
				Horizontal	CFM	40	60	100	160	240	300	360	480	640		
					Ps	0.004	0.009	0.026	0.068	0.152	0.237	0.342	0.608	1.081		
			Pt		0.005	0.012	0.032	0.082	0.186	0.290	0.417	0.742	1.319			
			Throw		2 2 5	2 3 7	4 6 12	6 9 15	9 13 18	12 15 21	13 16 23	15 18 26	17 21 30			
			Vertical	NC	—	—	<10	16	25	32	37	45	53			
				Ps	0.003	0.007	0.020	0.051	0.115	0.179	0.258	0.458	0.815			
		Pt		0.004	0.009	0.026	0.066	0.148	0.231	0.333	0.593	1.054				
		Throw		1 1 2	1 2 4	2 3 6	3 5 10	5 7 14	6 9 18	7 11 21	10 14 29	13 19 38				
		Horizontal	NC	—	—	<10	12	22	28	33	40	48				
			CFM	50	75	125	200	300	375	450	600	800				
			Ps	0.004	0.009	0.026	0.066	0.149	0.233	0.335	0.596	1.059				
			Pt	0.005	0.011	0.031	0.078	0.176	0.275	0.395	0.703	1.249				
		5' Length 10" Inlet	Horizontal	Throw	3 4 8	4 6 10	7 9 13	10 12 17	12 15 21	13 16 23	15 18 25	17 21 29	19 24 34			
				NC	—	—	<10	18	27	34	39	47	55			
			Vertical	Ps	0.003	0.007	0.020	0.050	0.112	0.176	0.253	0.449	0.799			
				Pt	0.004	0.009	0.024	0.062	0.139	0.217	0.313	0.556	0.989			
				Throw	1 2 3	2 2 5	3 4 8	4 7 13	7 10 20	8 12 25	10 15 30	13 20 40	18 27 53			
				NC	—	—	<10	14	24	30	35	42	50			

See Page PSD-125 for performance data notes

Plenum Slot Diffusers

PSD

# PSD - Plenum Slot Diffusers

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## Model PHPS-6 and PHPSI-6 - Two Slot - Performance

			CFM/LF												
			10	15	25	40	60	75	90	120	160				
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	320			
			Ps	0.005	0.012	0.032	0.083	0.186	0.291	0.419	0.745	1.324			
			Pt	0.005	0.012	0.034	0.086	0.195	0.304	0.438	0.778	1.383			
		Vertical	Throw	1 2 3	2 2 5	3 4 8	4 6 13	6 9 17	8 12 19	9 14 21	13 17 24	16 20 28			
			NC	—	—	<10	15	26	32	37	43	51			
			Ps	0.005	0.011	0.029	0.075	0.169	0.264	0.380	0.675	1.200			
		Pt	0.005	0.011	0.031	0.079	0.177	0.277	0.398	0.708	1.259				
		Throw	0 0 2	0 1 3	1 2 6	3 5 9	5 7 14	6 9 17	7 10 21	9 14 28	12 19 37				
		NC	—	—	<10	14	26	33	37	44	51				
	4' Length 8" Inlet	Horizontal	CFM	40	60	100	160	240	300	360	480	640			
			Ps	0.005	0.011	0.032	0.081	0.183	0.285	0.411	0.730	1.298			
			Pt	0.006	0.014	0.038	0.096	0.216	0.338	0.486	0.864	1.536			
		Vertical	Throw	1 2 4	2 3 7	4 5 11	6 9 18	9 13 24	11 16 27	13 20 30	18 24 34	23 28 39			
			NC	—	—	<10	18	29	35	40	46	54			
			Ps	0.005	0.010	0.029	0.074	0.165	0.258	0.372	0.662	1.176			
		Pt	0.006	0.012	0.035	0.088	0.199	0.311	0.448	0.796	1.415				
		Throw	0 1 2	1 1 5	2 3 8	4 7 13	7 10 20	8 12 24	10 15 29	13 20 39	17 26 52				
		NC	—	—	<10	17	29	36	40	47	54				
	5' Length 10" Inlet	Horizontal	CFM	50	75	125	200	300	375	450	600	800			
			Ps	0.005	0.011	0.031	0.079	0.179	0.279	0.402	0.715	1.272			
			Pt	0.006	0.013	0.036	0.091	0.206	0.321	0.463	0.822	1.462			
		Vertical	Throw	2 3 5	3 4 8	4 6 13	7 10 21	10 16 27	13 19 30	16 23 33	21 27 38	25 31 44			
			NC	—	—	<10	20	31	37	42	48	56			
			Ps	0.005	0.010	0.028	0.072	0.162	0.253	0.365	0.648	1.153			
		Pt	0.005	0.012	0.033	0.084	0.189	0.295	0.425	0.755	1.343				
		Throw	0 1 3	1 2 6	2 5 10	5 8 16	8 12 24	10 15 31	12 18 37	16 24 49	22 33 65				
		NC	—	—	<10	19	31	38	42	49	56				
	3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	320		
				Ps	0.004	0.008	0.023	0.059	0.133	0.208	0.299	0.532	0.946		
				Pt	0.004	0.009	0.025	0.063	0.141	0.221	0.318	0.565	1.005		
			Vertical	Throw	1 2 3	2 2 5	3 4 8	4 6 12	6 9 17	8 11 19	9 14 21	12 17 24	16 20 28		
				NC	—	—	—	<10	20	26	31	38	44		
				Ps	0.003	0.008	0.021	0.054	0.122	0.191	0.275	0.490	0.871		
			Pt	0.004	0.008	0.023	0.058	0.131	0.204	0.294	0.523	0.930			
			Throw	0 0 2	0 1 3	1 2 6	3 5 9	5 7 14	6 9 17	7 10 21	9 14 27	12 18 37			
			NC	—	—	—	<10	17	26	31	37	42			
4' Length 8" Inlet		Horizontal	CFM	40	60	100	160	240	300	360	480	640			
			Ps	0.004	0.008	0.023	0.058	0.130	0.204	0.293	0.521	0.927			
			Pt	0.005	0.010	0.028	0.073	0.164	0.256	0.369	0.656	1.165			
		Vertical	Throw	2 3 5	3 4 8	4 7 13	7 11 20	11 16 24	13 19 27	16 21 30	20 24 34	23 28 39			
			NC	—	—	<10	14	23	29	34	41	47			
			Ps	0.003	0.008	0.021	0.053	0.120	0.188	0.270	0.480	0.854			
		Pt	0.004	0.010	0.027	0.068	0.154	0.240	0.346	0.614	1.092				
		Throw	0 1 2	1 1 5	1 3 8	4 6 13	6 10 19	8 12 24	10 14 29	13 19 38	17 25 51				
		NC	—	—	—	<10	20	29	34	40	45				
5' Length 10" Inlet		Horizontal	CFM	50	75	125	200	300	375	450	600	800			
			Ps	0.003	0.008	0.022	0.056	0.125	0.196	0.282	0.501	0.890			
			Pt	0.004	0.009	0.026	0.067	0.152	0.237	0.342	0.607	1.080			
		Vertical	Throw	2 3 5	3 4 8	4 6 13	7 10 21	10 15 27	13 19 30	15 23 33	21 27 38	25 31 44			
			NC	—	—	<10	16	25	31	36	43	49			
			Ps	0.003	0.007	0.020	0.051	0.115	0.180	0.259	0.461	0.819			
		Pt	0.004	0.009	0.025	0.063	0.142	0.222	0.319	0.568	1.009				
		Throw	0 1 3	1 2 6	2 5 10	5 8 15	8 12 23	10 15 29	12 17 35	15 23 46	21 31 62				
		NC	—	—	—	<10	22	31	36	42	47				

See Page PSD-125 for performance data notes

# PSD - Plenum Slot Diffusers

## Model PHPS-6 and PHPSI-6 - Two Slot - Performance

			CFM/LF										
			10	15	25	40	60	75	90	120	160		
1" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	320	
			Ps	0.002	0.005	0.014	0.035	0.080	0.124	0.179	0.318	0.566	
			Pt	0.002	0.005	0.015	0.039	0.088	0.137	0.198	0.352	0.626	
		Vertical	Throw	1 1 3	1 2 4	2 4 7	4 6 12	6 9 17	7 11 19	9 13 21	12 17 24	15 20 28	
			NC	—	—	—	<10	17	24	29	35	40	
			Ps	0.002	0.005	0.013	0.034	0.077	0.120	0.172	0.306	0.545	
	4' Length 8" Inlet	Horizontal	Pt	0.002	0.005	0.015	0.038	0.085	0.133	0.191	0.340	0.604	
			Throw	0 0 1	0 0 2	0 1 4	1 3 6	3 5 9	4 6 12	5 7 14	6 9 19	8 12 25	
			NC	—	—	—	<10	16	24	30	37	42	
		Vertical	CFM	40	60	100	160	240	300	360	480	640	
			Ps	0.002	0.005	0.014	0.035	0.078	0.122	0.176	0.312	0.555	
			Pt	0.003	0.007	0.019	0.050	0.112	0.174	0.251	0.446	0.793	
	5' Length 10" Inlet	Horizontal	Throw	1 2 4	2 3 6	4 5 11	6 9 17	9 13 24	11 16 27	13 19 30	17 24 34	23 28 39	
			NC	—	—	—	<10	20	27	32	38	43	
			Ps	0.002	0.005	0.013	0.033	0.075	0.117	0.169	0.300	0.534	
		Vertical	Pt	0.003	0.007	0.019	0.048	0.109	0.170	0.244	0.435	0.772	
			Throw	0 0 1	0 1 2	1 2 5	2 4 9	4 7 13	5 8 16	7 10 20	9 13 26	12 18 35	
			NC	—	—	—	<10	19	27	33	40	45	
	1-1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	50	75	125	200	300	375	450	600	800
				Ps	0.002	0.005	0.013	0.034	0.076	0.118	0.170	0.303	0.538
				Pt	0.003	0.006	0.018	0.046	0.102	0.160	0.230	0.410	0.728
			Vertical	Throw	2 2 5	2 4 7	4 6 12	7 10 20	10 15 27	12 18 30	15 22 33	20 27 38	25 31 44
				NC	—	—	<10	11	22	29	34	40	45
				Ps	0.002	0.005	0.013	0.032	0.073	0.114	0.164	0.291	0.518
4' Length 10" Inlet		Horizontal	Pt	0.003	0.006	0.017	0.044	0.100	0.156	0.224	0.398	0.708	
			Throw	0 0 1	0 1 3	1 2 7	3 5 11	5 8 16	7 10 20	8 12 24	11 16 32	14 21 43	
			NC	—	—	—	<10	21	29	35	42	47	
		Vertical	CFM	40	60	100	160	240	300	360	480	640	
			Ps	0.001	0.002	0.007	0.017	0.039	0.060	0.087	0.154	0.274	
			Pt	0.002	0.003	0.010	0.025	0.056	0.087	0.125	0.223	0.396	
5' Length 12" Inlet		Horizontal	Throw	2 2 5	2 3 7	4 6 12	6 9 19	9 14 24	12 17 27	14 21 30	19 24 34	23 28 39	
			NC	—	—	<10	15	20	24	32	40		
			Ps	0.001	0.002	0.005	0.014	0.032	0.049	0.071	0.127	0.225	
		Vertical	Pt	0.001	0.003	0.008	0.022	0.049	0.076	0.110	0.195	0.347	
			Throw	0 0 0	0 0 1	0 1 2	1 1 6	1 3 9	2 5 11	3 7 14	6 9 18	8 12 20	
			NC	—	—	—	<10	13	18	23	26	33	

See Page PSD-125 for performance data notes

Plenum Slot Diffusers

PSD

# PSD - Plenum Slot Diffusers

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## Model PHPS-6 and PHPSI-6 - Three Slot - Performance

			CFM/LF																											
			25			40			60			80			100			120			160			200			250			
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	50			80			120			160			200			240			320			400			500		
			Ps	0.012			0.030			0.068			0.121			0.188			0.271			0.483			0.754			1.178		
			Pt	0.013			0.034			0.076			0.136			0.212			0.305			0.542			0.847			1.324		
			Throw	4	6	12	6	9	15	9	13	19	12	15	21	14	17	24	15	19	26	18	21	30	20	24	34	22	27	38
			NC	—			<10			16			23			29			34			41			48			55		
			Ps	0.009			0.023			0.052			0.092			0.144			0.207			0.368			0.576			0.900		
		Vertical	Pt	0.010			0.027			0.060			0.107			0.167			0.241			0.428			0.669			1.045		
			Throw	0	1	3	1	2	7	2	4	11	3	7	15	5	9	18	7	11	21	10	15	25	12	18	27	15	22	31
			NC	—			<10			11			20			26			31			36			40			46		
			CFM	100			160			240			320			400			480			640			800			1000		
			Ps	0.012			0.030			0.067			0.118			0.185			0.266			0.473			0.739			1.155		
			Pt	0.017			0.044			0.100			0.178			0.278			0.400			0.712			1.112			1.737		
	4' Length 8" Inlet	Horizontal	Throw	4	6	12	6	9	19	9	14	26	13	19	30	16	24	34	19	26	37	25	30	43	28	34	48	31	38	54
			NC	<10			11			19			26			32			37			44			51			58		
			Ps	0.009			0.023			0.051			0.090			0.141			0.203			0.361			0.564			0.882		
			Pt	0.015			0.037			0.084			0.150			0.234			0.337			0.600			0.937			1.464		
			Throw	0	1	4	1	3	10	3	6	15	4	10	21	7	13	26	10	15	30	14	21	35	17	26	39	21	31	43
			NC	—			<10			14			23			29			34			39			43			49		
		Vertical	CFM	125			200			300			400			500			600			800			1000			1250		
			Ps	0.011			0.029			0.065			0.116			0.181			0.261			0.464			0.724			1.132		
			Pt	0.016			0.041			0.092			0.163			0.255			0.368			0.654			1.021			1.596		
			Throw	4	6	13	7	10	20	10	15	29	13	20	34	17	25	38	20	29	42	27	34	48	31	38	54	35	42	60
			NC	<10			13			21			28			34			39			46			53			60		
			Ps	0.009			0.022			0.050			0.089			0.138			0.199			0.354			0.553			0.864		
5' Length 10" Inlet	Horizontal	Pt	0.013			0.034			0.077			0.136			0.213			0.306			0.544			0.850			1.328			
		Throw	1	1	5	1	3	12	3	7	18	6	12	24	9	15	30	12	18	34	16	24	39	21	31	43	25	34	49	
		NC	—			<10			16			25			31			36			41			45			51			
		CFM	100			160			240			320			400			480			640			800			1000			
		Ps	0.008			0.021			0.048			0.085			0.133			0.191			0.339			0.530			0.829			
		Pt	0.011			0.029			0.065			0.115			0.180			0.259			0.461			0.720			1.126			
	Vertical	Throw	5	7	15	8	12	21	12	18	26	16	21	30	19	24	34	21	26	37	25	30	43	28	34	48	31	38	54	
		NC	—			<10			15			21			26			30			37			43			48			
		Ps	0.006			0.016			0.036			0.065			0.101			0.145			0.258			0.403			0.630			
		Pt	0.009			0.024			0.053			0.095			0.148			0.214			0.380			0.593			0.927			
		Throw	1	2	7	2	5	13	5	10	19	8	13	25	11	16	27	13	19	30	17	25	35	21	27	39	25	31	43	
		NC	—			<10			11			21			29			36			44			50			56			
3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	50			80			120			160			200			240			320			400			500		
			Ps	0.008			0.022			0.049			0.087			0.135			0.195			0.346			0.541			0.845		
			Pt	0.010			0.025			0.057			0.101			0.159			0.228			0.406			0.634			0.991		
		Vertical	Throw	3	5	9	5	8	15	8	11	19	10	15	21	13	17	24	15	19	26	18	21	30	20	24	34	22	27	38
			NC	—			—			<10			18			23			27			34			40			45		
			Ps	0.006			0.016			0.037			0.066			0.103			0.148			0.263			0.411			0.643		
	4' Length 10" Inlet	Horizontal	Pt	0.008			0.020			0.045			0.081			0.126			0.182			0.323			0.504			0.788		
			Throw	0	0	2	1	1	5	1	3	9	2	5	13	3	7	16	5	9	19	8	13	25	10	16	27	13	20	31
			NC	—			—			<10			18			26			33			41			47			53		
		Vertical	CFM	100			160			240			320			400			480			640			800			1000		
			Ps	0.008			0.021			0.048			0.085			0.133			0.191			0.339			0.530			0.829		
			Pt	0.011			0.029			0.065			0.115			0.180			0.259			0.461			0.720			1.126		
5' Length 10" Inlet	Horizontal	Throw	5	7	15	8	12	21	12	18	26	16	21	30	19	24	34	21	26	37	25	30	43	28	34	48	31	38	54	
		NC	—			<10			15			21			26			30			37			43			48			
		Ps	0.006			0.016			0.036			0.065			0.101			0.145			0.258			0.403			0.630			
	Vertical	Pt	0.009			0.024			0.053			0.095			0.148			0.214			0.380			0.593			0.927			
		Throw	1	2	7	2	5	13	5	10	19	8	13	25	11	16	27	13	19	30	17	25	35	21	27	39	25	31	43	
		NC	—			<10			11			21			29			36			44			50			56			

See Page PSD-125 for performance data notes



# PSD - Plenum Slot Diffusers

## Model PHPS-6 and PHPSI-6 - Three Slot - Performance

			CFM/LF									
			25	40	60	80	100	120	160	200	250	
1" Slot Width	2' Length 10" Inlet	Horizontal	CFM	50	80	120	160	200	240	320	400	500
			Ps	0.005	0.013	0.029	0.052	0.081	0.117	0.208	0.325	0.507
			Pt	0.006	0.015	0.033	0.060	0.093	0.134	0.238	0.372	0.581
		Vertical	Throw	3 4 8	4 7 13	7 10 19	9 13 21	11 16 24	13 19 26	17 21 30	20 24 34	22 27 38
			NC	—	—	<10	17	25	31	39	46	54
			Ps	0.004	0.010	0.022	0.039	0.062	0.089	0.158	0.247	0.386
	4' Length 10" Inlet	Horizontal	Pt	0.005	0.012	0.026	0.047	0.074	0.106	0.188	0.294	0.460
			Throw	0 0 2	0 1 4	1 2 7	2 4 9	3 6 11	4 7 14	6 9 18	8 11 23	10 14 29
			NC	—	—	<10	14	21	27	35	41	45
		Vertical	CFM	100	160	240	320	400	480	640	800	1000
			Ps	0.005	0.013	0.029	0.051	0.080	0.115	0.204	0.318	0.497
			Pt	0.008	0.020	0.046	0.081	0.127	0.183	0.325	0.508	0.794
	5' Length 12" Inlet	Horizontal	Throw	3 5 10	5 8 16	8 12 24	11 16 30	13 20 34	16 24 37	21 30 43	27 34 48	31 38 54
			NC	—	<10	11	20	28	34	42	49	57
			Ps	0.004	0.010	0.022	0.039	0.060	0.087	0.155	0.242	0.378
		Vertical	Pt	0.007	0.017	0.039	0.069	0.108	0.156	0.276	0.432	0.675
			Throw	0 1 3	1 2 7	2 4 11	3 7 14	5 9 18	7 11 21	9 14 28	12 18 36	15 22 43
			NC	—	—	<10	17	24	30	38	44	48
1-1/2" Slot Width	2' Length 10" Inlet	Horizontal	CFM	125	200	300	400	500	600	800	1000	1250
			Ps	0.005	0.012	0.028	0.050	0.078	0.112	0.200	0.312	0.487
			Pt	0.008	0.020	0.044	0.079	0.123	0.177	0.315	0.492	0.768
		Vertical	Throw	4 6 11	6 9 18	9 13 26	12 18 34	15 22 38	18 26 42	24 34 48	29 38 54	35 42 60
			NC	—	<10	13	22	30	36	44	51	59
			Ps	0.004	0.009	0.021	0.038	0.059	0.085	0.152	0.237	0.370
	4' Length 12" Inlet	Horizontal	Pt	0.007	0.017	0.038	0.067	0.104	0.150	0.267	0.417	0.651
			Throw	1 1 5	1 3 9	3 7 14	6 9 19	8 12 24	9 14 28	13 19 38	16 24 43	20 29 49
			NC	—	<10	12	19	26	32	40	46	50
		Vertical	CFM	100	160	240	320	400	480	640	800	1000
			Ps	0.002	0.006	0.014	0.025	0.040	0.057	0.102	0.159	0.249
			Pt	0.004	0.011	0.025	0.044	0.069	0.099	0.175	0.274	0.428
	5' Length 12" Inlet	Horizontal	Throw	2 3 7	4 5 11	5 8 16	7 11 22	9 14 27	11 16 32	14 22 43	18 27 48	23 34 5
			NC	—	—	<10	14	18	22	30	36	43
			Ps	0.002	0.005	0.011	0.019	0.030	0.044	0.077	0.121	0.189
		Vertical	Pt	0.004	0.009	0.021	0.038	0.059	0.085	0.151	0.236	0.369
			Throw	0 0 2	1 1 4	1 3 6	2 4 9	3 5 11	4 6 13	6 9 17	7 11 22	9 14 27
			NC	—	—	—	—	<10	13	19	23	27
1-1/2" Slot Width	2' Length 10" Inlet	Horizontal	CFM	125	200	300	400	500	600	800	1000	1250
			Ps	0.002	0.006	0.014	0.025	0.039	0.056	0.100	0.156	0.244
			Pt	0.005	0.013	0.030	0.054	0.084	0.121	0.215	0.336	0.524
		Vertical	Throw	3 4 9	5 7 14	7 11 22	10 14 29	12 18 36	14 22 42	19 29 48	24 36 54	30 42 60
			NC	—	<10	12	16	20	24	32	38	45
			Ps	0.002	0.005	0.011	0.019	0.030	0.043	0.076	0.119	0.185
	4' Length 12" Inlet	Horizontal	Pt	0.005	0.012	0.027	0.048	0.075	0.107	0.191	0.298	0.466
			Throw	0 1 3	1 2 6	2 4 9	4 6 11	5 7 14	6 9 17	8 11 23	9 14 28	12 18 35
			NC	—	—	—	<10	11	15	21	25	29
		Vertical	CFM	100	160	240	320	400	480	640	800	1000
			Ps	0.002	0.006	0.014	0.025	0.040	0.057	0.102	0.159	0.249
			Pt	0.004	0.011	0.025	0.044	0.069	0.099	0.175	0.274	0.428
	5' Length 12" Inlet	Horizontal	Throw	2 3 7	4 5 11	5 8 16	7 11 22	9 14 27	11 16 32	14 22 43	18 27 48	23 34 5
			NC	—	—	<10	14	18	22	30	36	43
			Ps	0.002	0.005	0.011	0.019	0.030	0.044	0.077	0.121	0.189
		Vertical	Pt	0.004	0.009	0.021	0.038	0.059	0.085	0.151	0.236	0.369
			Throw	0 0 2	1 1 4	1 3 6	2 4 9	3 5 11	4 6 13	6 9 17	7 11 22	9 14 27
			NC	—	—	—	—	<10	13	19	23	27

See Page PSD-125 for performance data notes

Plenum Slot Diffusers

PSD

# PSD - Plenum Slot Diffusers

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## Model PHPS-6 and PHPSI-6 Four Slot - Performance

			CFM/LF										
			50	75	80	100	150	175	200	250	300		
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500	—	
			Ps	0.033	0.074	0.084	0.131	0.295	0.401	0.524	0.819	—	
			Pt	0.039	0.087	0.099	0.154	0.347	0.473	0.617	0.965	—	
		Vertical	Throw	9 12 16	12 14 20	12 15 21	13 16 23	16 20 28	18 22 30	19 23 33	21 26 36	—	
			NC	<10	15	17	23	35	39	42	48	—	
			Ps	0.029	0.066	0.075	0.117	0.262	0.357	0.466	0.729	—	
			Pt	0.035	0.079	0.090	0.140	0.315	0.428	0.559	0.874	—	
			Throw	1 2 8	2 5 12	2 5 12	4 8 16	8 12 20	9 14 21	10 16 23	13 18 25	—	
			NC	<10	12	13	20	32	36	39	44	—	
	4' Length 10" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000	—	
			Ps	0.032	0.072	0.082	0.129	0.289	0.394	0.514	0.803	—	
			Pt	0.044	0.099	0.113	0.176	0.396	0.539	0.704	1.100	—	
		Vertical	Throw	12 16 23	16 20 28	17 21 29	19 23 33	23 28 40	25 30 43	27 33 46	30 36 51	—	
			NC	<10	18	20	26	38	42	45	51	—	
			Ps	0.029	0.064	0.073	0.114	0.257	0.350	0.457	0.714	—	
			Pt	0.040	0.091	0.104	0.162	0.364	0.496	0.647	1.011	—	
			Throw	1 3 11	3 7 16	3 8 17	5 11 22	11 16 28	13 19 30	15 22 32	18 25 36	—	
			NC	<10	15	16	23	35	39	42	47	—	
	5' Length 10" Inlet	Horizontal	CFM	250	375	400	500	750	875	1000	1250	—	
			Ps	0.031	0.071	0.081	0.126	0.283	0.386	0.504	0.787	—	
			Pt	0.050	0.113	0.128	0.200	0.450	0.613	0.801	1.251	—	
		Vertical	Throw	13 18 26	18 22 31	19 23 33	21 26 36	26 31 45	28 34 48	30 36 51	33 41 58	—	
			NC	11	20	22	28	40	44	47	53	—	
			Ps	0.028	0.063	0.072	0.112	0.252	0.343	0.448	0.700	—	
			Pt	0.047	0.105	0.119	0.186	0.419	0.570	0.745	1.164	—	
			Throw	2 4 13	4 9 19	4 10 21	7 13 25	13 19 31	15 22 33	17 25 36	21 28 40	—	
			NC	12	17	18	25	37	41	44	49	—	
	3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500	600
				Ps	0.025	0.057	0.065	0.101	0.228	0.311	0.406	0.634	0.913
				Pt	0.031	0.070	0.080	0.125	0.281	0.382	0.499	0.780	1.123
Vertical			Throw	9 12 16	12 14 20	12 15 21	13 16 23	16 20 28	18 22 30	19 23 33	21 26 36	23 28 40	
			NC	—	—	<10	18	29	33	36	42	46	
			Ps	0.025	0.057	0.065	0.101	0.227	0.310	0.404	0.632	0.910	
			Pt	0.031	0.070	0.080	0.124	0.280	0.381	0.498	0.777	1.119	
			Throw	1 1 5	1 3 10	2 3 11	2 5 13	5 10 20	7 12 21	9 13 23	11 17 25	13 20 28	
			NC	—	—	<10	16	29	33	37	41	44	
4' Length 10" Inlet		Horizontal	CFM	200	300	320	400	600	700	800	1000	1200	
			Ps	0.025	0.056	0.064	0.099	0.224	0.305	0.398	0.622	0.895	
			Pt	0.037	0.083	0.094	0.147	0.331	0.450	0.588	0.919	1.323	
		Vertical	Throw	6 12 23	12 19 28	13 20 29	17 23 33	23 28 40	25 30 43	27 33 46	30 36 51	33 40 56	
			NC	<10	14	15	21	32	36	39	45	49	
			Ps	0.025	0.056	0.063	0.099	0.223	0.304	0.396	0.620	0.892	
			Pt	0.037	0.082	0.094	0.147	0.330	0.449	0.587	0.917	1.320	
			Throw	2 5 13	5 10 20	6 11 20	9 13 23	13 20 28	16 21 30	18 23 32	21 25 36	23 28 39	
			NC	<10	10	12	19	32	36	40	44	47	
5' Length 10" Inlet		Horizontal	CFM	250	375	400	500	750	875	1000	1250	1500	
			Ps	0.024	0.055	0.062	0.097	0.219	0.299	0.390	0.609	0.877	
			Pt	0.043	0.097	0.110	0.172	0.386	0.526	0.687	1.073	1.546	
		Vertical	Throw	15 18 26	18 22 31	19 23 33	21 26 36	26 31 45	28 34 48	30 36 51	33 41 58	36 45 63	
			NC	<10	16	17	23	34	38	41	47	51	
			Ps	0.024	0.055	0.062	0.097	0.219	0.297	0.389	0.607	0.874	
			Pt	0.043	0.096	0.110	0.171	0.386	0.525	0.686	1.071	1.543	
			Throw	4 8 16	8 12 22	9 13 23	11 16 25	16 22 31	19 24 33	21 25 36	23 28 40	25 31 44	
			NC	<10	12	14	21	34	38	42	46	49	

# PSD - Plenum Slot Diffusers

## Model PHPS-6 and PHPSI-6 Four Slot - Performance

			CFM/LF									
			50	75	80	100	150	175	200	250	300	
1" Slot Width	2' Length 10" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500	600
			Ps	0.017	0.039	0.045	0.070	0.157	0.213	0.279	0.435	0.627
			Pt	0.020	0.046	0.052	0.082	0.183	0.250	0.326	0.510	0.734
			Throw	8 12 16	12 14 20	12 15 21	13 16 23	16 20 28	18 22 30	19 23 33	21 26 36	23 28 40
			NC	—	—	<10	16	29	33	36	41	44
			Ps	0.017	0.037	0.042	0.066	0.149	0.203	0.265	0.414	0.596
		Vertical	Pt	0.020	0.044	0.050	0.078	0.176	0.239	0.312	0.488	0.703
			Throw	1 2 6	2 3 9	2 4 9	3 6 11	6 9 17	7 10 20	8 11 23	10 14 25	11 17 28
			NC	—	—	<10	13	26	31	34	39	43
			CFM	200	300	320	400	600	700	800	1000	1200
			Ps	0.017	0.038	0.044	0.068	0.154	0.209	0.273	0.427	0.615
			Pt	0.029	0.065	0.074	0.116	0.261	0.355	0.463	0.724	1.042
	4' Length 10" Inlet	Horizontal	Throw	11 16 23	16 20 28	17 21 29	19 23 33	23 28 40	25 30 43	27 33 46	30 36 51	33 40 56
			NC	<10	11	13	19	32	36	39	44	47
			Ps	0.016	0.037	0.042	0.065	0.146	0.199	0.260	0.406	0.584
			Pt	0.028	0.063	0.072	0.112	0.253	0.344	0.450	0.703	1.012
			Throw	1 3 9	3 6 13	3 7 14	5 9 18	9 13 27	10 16 30	12 18 32	15 22 36	18 27 39
			NC	—	—	<10	16	29	34	37	42	46
		Vertical	CFM	250	375	400	500	750	875	1000	1250	1500
			Ps	0.017	0.038	0.043	0.067	0.151	0.205	0.268	0.418	0.602
			Pt	0.028	0.063	0.072	0.112	0.252	0.343	0.447	0.699	1.007
			Throw	11 17 26	17 22 31	18 23 33	21 26 36	26 31 45	28 34 48	30 36 51	33 41 58	36 45 63
			NC	<10	13	15	21	34	38	41	46	49
			Ps	0.016	0.036	0.041	0.064	0.143	0.195	0.254	0.398	0.572
1-1/2" Slot Width	2' Length 10" Inlet	Horizontal	Pt	0.027	0.061	0.069	0.109	0.244	0.332	0.434	0.678	0.977
			Throw	2 5 12	5 9 18	6 9 19	8 12 24	12 18 31	14 21 33	16 24 36	20 28 40	24 31 44
			NC	<10	10	12	18	31	36	39	44	48
			CFM	100	150	160	200	300	350	400	500	600
			Ps	0.016	0.037	0.042	0.066	0.148	0.202	0.264	0.412	0.593
			Pt	0.019	0.044	0.050	0.078	0.175	0.238	0.311	0.486	0.700
		Vertical	Throw	6 10 16	10 14 20	10 15 21	13 16 23	16 20 28	18 22 30	19 23 33	21 26 36	23 28 40
			NC	—	—	<10	10	19	23	27	33	38
			Ps	0.012	0.028	0.032	0.050	0.112	0.152	0.198	0.310	0.446
			Pt	0.015	0.035	0.039	0.061	0.138	0.188	0.246	0.384	0.553
			Throw	1 1 3	1 2 4	1 2 5	2 3 6	3 4 9	3 5 10	4 6 12	5 7 15	6 9 18
			NC	—	—	—	<10	12	17	21	27	31
	4' Length 12" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000	1200
			Ps	0.016	0.036	0.041	0.065	0.145	0.198	0.258	0.404	0.581
			Pt	0.023	0.053	0.060	0.093	0.210	0.286	0.373	0.583	0.840
			Throw	4 8 21	8 16 28	10 17 29	14 21 33	21 28 40	25 30 43	27 33 46	30 36 51	33 40 56
			NC	—	—	<10	13	22	26	30	36	41
			Ps	0.012	0.027	0.031	0.049	0.109	0.149	0.194	0.304	0.437
		Vertical	Pt	0.019	0.044	0.050	0.077	0.174	0.237	0.309	0.483	0.696
			Throw	1 2 4	2 3 6	2 3 7	3 4 9	4 6 13	5 8 15	6 9 17	7 11 22	9 13 26
			NC	—	—	—	<10	15	20	24	30	34
			CFM	250	375	400	500	750	875	1000	1250	1500
			Ps	0.016	0.036	0.041	0.063	0.142	0.194	0.253	0.396	0.570
			Pt	0.027	0.061	0.069	0.108	0.244	0.331	0.433	0.676	0.974
5' Length 12" Inlet	Horizontal	Throw	7 14 26	14 21 31	15 22 33	19 26 36	26 31 45	28 34 48	30 36 51	33 41 58	36 45 63	
		NC	<10	11	12	15	24	28	32	38	43	
		Ps	0.012	0.027	0.030	0.048	0.107	0.146	0.191	0.298	0.429	
		Pt	0.023	0.052	0.059	0.093	0.208	0.283	0.370	0.578	0.833	
		Throw	1 3 6	3 4 9	3 5 9	4 6 11	6 9 17	7 10 20	8 11 23	9 14 28	11 17 34	
		NC	—	—	—	<10	17	22	26	32	36	

### Performance Notes:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Isothermal horizontal throw (supply air temperature the same as average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands

Two-way throw can be determined by dividing the supply air volume in each direction and using the One-way throw values listed. (See example below)

### EXAMPLE:

PHPS-10-6, 10" inlet 1" Slot, 4-Slot, 4', 2-Way

Determine Ps, NC, and Throw at 600 CFM

1. Find Ps and NC using PHPS-10-6, 1" Slot, 4', 4-Slot data:

Ps = .154

NC = 32

For 2-way throw use PHPS-10-6, 1" Slot, 4', 10" inlet, 1-way, 2-Slot data at 300 CFM.

Horizontal Throw = 11-16-27 in each direction

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## Models PHPR-6, PHPR-9, PHNR-9 - Performance

			CFM/LF									
			Negative Ps	10	15	20	25	30	35	40	45	50
1/2" Slot Width	2' Length	1 Slot	Airflow	20	30	40	50	60	70	80	90	100
			NC	<15	<15	<15	<15	16	20	24	28	32
		2 Slot	Airflow	40	60	80	100	120	140	160	180	200
			NC	<15	<15	<15	15	19	23	27	31	35
		3 Slot	Airflow	60	90	120	150	180	210	240	270	300
			NC	<15	<15	<15	16	21	25	29	33	36
	4' Length	4 Slot	Airflow	80	120	160	200	240	280	320	360	400
			NC	<15	<15	<15	18	22	26	30	34	38
		1 Slot	Airflow	40	60	80	100	120	140	160	180	200
			NC	<15	<15	<15	<15	18	22	26	30	34
		2 Slot	Airflow	80	120	160	200	240	280	320	360	400
			NC	<15	<15	<15	17	21	25	29	33	37
		3 Slot	Airflow	120	180	240	300	360	420	480	540	600
			NC	<15	<15	<15	18	23	27	31	35	38
	5' Length	4 Slot	Airflow	160	240	320	400	480	560	640	720	800
			NC	<15	<15	15	20	24	28	32	36	40
		1 Slot	Airflow	50	75	100	125	150	175	200	225	250
			NC	<15	<15	<15	15	19	23	27	31	35
		2 Slot	Airflow	100	150	200	250	300	350	400	450	500
			NC	<15	<15	<15	18	22	26	30	34	38
	5' Length	3 Slot	Airflow	150	225	300	375	450	525	600	675	750
			NC	<15	<15	15	19	24	28	32	36	39
		4 Slot	Airflow	200	300	400	500	600	700	800	900	1000
			NC	<15	<15	16	21	25	29	33	37	41

			CFM/LF									
			Negative Ps	10	15	20	25	30	40	50	60	70
3/4" Slot Width	2' Length	1 Slot	Airflow	20	30	40	50	60	80	100	120	140
			NC	<15	<15	<15	<15	<15	17	24	29	35
		2 Slot	Airflow	40	60	80	100	120	160	200	240	280
			NC	<15	<15	<15	<15	<15	20	27	32	38
		3 Slot	Airflow	60	90	120	150	180	240	300	360	420
			NC	<15	<15	<15	<15	15	22	28	34	39
	4' Length	4 Slot	Airflow	80	120	160	200	240	320	400	480	560
			NC	<15	<15	<15	<15	17	23	30	35	41
		1 Slot	Airflow	40	60	80	100	120	160	200	240	280
			NC	<15	<15	<15	<15	<15	19	26	31	37
		2 Slot	Airflow	80	120	160	200	240	320	400	480	560
			NC	<15	<15	<15	<15	16	22	29	34	40
		3 Slot	Airflow	120	180	240	300	360	480	600	720	840
			NC	<15	<15	<15	<15	17	24	30	36	41
	5' Length	4 Slot	Airflow	160	240	320	400	480	640	800	960	1120
			NC	<15	<15	<15	15	19	25	32	37	43
		1 Slot	Airflow	50	75	100	125	150	200	250	300	350
			NC	<15	<15	<15	<15	<15	20	27	32	38
		2 Slot	Airflow	100	150	200	250	300	400	500	600	700
			NC	<15	<15	<15	<15	17	23	30	35	41
	5' Length	3 Slot	Airflow	150	225	300	375	450	600	750	900	1050
			NC	<15	<15	<15	15	18	25	31	37	42
		4 Slot	Airflow	200	300	400	500	600	800	1000	1200	1400
			NC	<15	<15	<15	16	20	26	33	38	44

# PSD - Plenum Slot Diffusers

## Models PHPR-6, PHPR-9, PHNR-9 - Performance

			CFM/LF									
			Negative Ps	20	30	40	50	60	70	80	90	100
1" Slot Width	2' Length	1 Slot	Airflow	40	60	80	100	120	140	160	180	200
			NC	<15	<15	<15	15	19	23	26	30	34
		2 Slot	Airflow	80	120	160	200	240	280	320	360	400
			NC	<15	<15	<15	18	22	26	29	33	37
		3 Slot	Airflow	120	180	240	300	360	420	480	540	600
			NC	<15	<15	15	19	23	27	31	35	38
	4' Length	4 Slot	Airflow	160	240	320	400	480	560	640	720	800
			NC	<15	<15	16	21	25	29	32	36	40
		1 Slot	Airflow	80	120	160	200	240	280	320	360	400
			NC	<15	<15	<15	17	21	25	28	32	36
		2 Slot	Airflow	160	240	320	400	480	560	640	720	800
			NC	<15	<15	15	20	24	28	31	35	39
		3 Slot	Airflow	240	360	480	600	720	840	960	1080	1200
			NC	<15	<15	17	21	25	29	33	37	40
	5' Length	4 Slot	Airflow	320	480	640	800	960	1120	1280	1440	1600
			NC	<15	<15	18	23	27	31	34	38	42
		1 Slot	Airflow	100	150	200	250	300	350	400	450	500
			NC	<15	<15	<15	18	22	26	29	33	37
		2 Slot	Airflow	200	300	400	500	600	700	800	900	1000
			NC	<15	<15	16	21	25	29	32	36	40
		3 Slot	Airflow	300	450	600	750	900	1050	1200	1350	1500
			NC	<15	<15	18	22	26	30	34	38	41
		4 Slot	Airflow	400	600	800	1000	1200	1400	1600	1800	2000
			NC	<15	15	19	24	28	32	35	39	43

			CFM/LF									
			Negative Ps	20	30	40	50	60	80	100	125	150
1-1/2" Slot Width	2' Length	1 Slot	Airflow	40	60	80	100	120	160	200	250	300
			NC	<15	<15	<15	<15	<15	22	28	36	42
		2 Slot	Airflow	80	120	160	200	240	320	400	500	600
			NC	<15	<15	<15	<15	17	25	31	39	45
		3 Slot	Airflow	120	180	240	300	360	480	600	750	900
			NC	<15	<15	<15	15	19	26	33	40	47
	4' Length	4 Slot	Airflow	160	240	320	400	480	640	800	1000	1200
			NC	<15	<15	<15	17	20	28	34	42	48
		1 Slot	Airflow	80	120	160	200	240	320	400	500	600
			NC	<15	<15	<15	<15	16	24	30	38	44
		2 Slot	Airflow	160	240	320	400	480	640	800	1000	1200
			NC	<15	<15	<15	16	19	27	33	41	47
		3 Slot	Airflow	240	360	480	600	720	960	1200	1500	1800
			NC	<15	<15	<15	17	21	28	35	42	49
	5' Length	4 Slot	Airflow	320	480	640	800	960	1280	1600	2000	2400
			NC	<15	<15	15	19	22	30	36	44	50
		1 Slot	Airflow	100	150	200	250	300	400	500	625	750
			NC	<15	<15	<15	<15	17	25	31	39	45
		2 Slot	Airflow	200	300	400	500	600	800	1000	1250	1500
			NC	<15	<15	<15	17	20	28	34	42	48
		3 Slot	Airflow	300	450	600	750	900	1200	1500	1875	2250
			NC	<15	<15	<15	18	22	29	36	43	50
		4 Slot	Airflow	400	600	800	1000	1200	1600	2000	2500	3000
			NC	<15	<15	16	20	23	31	37	45	51

Plenum Slot Diffusers

PSD



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## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRES InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRES.COM](http://WWW.METALAIRES.COM)

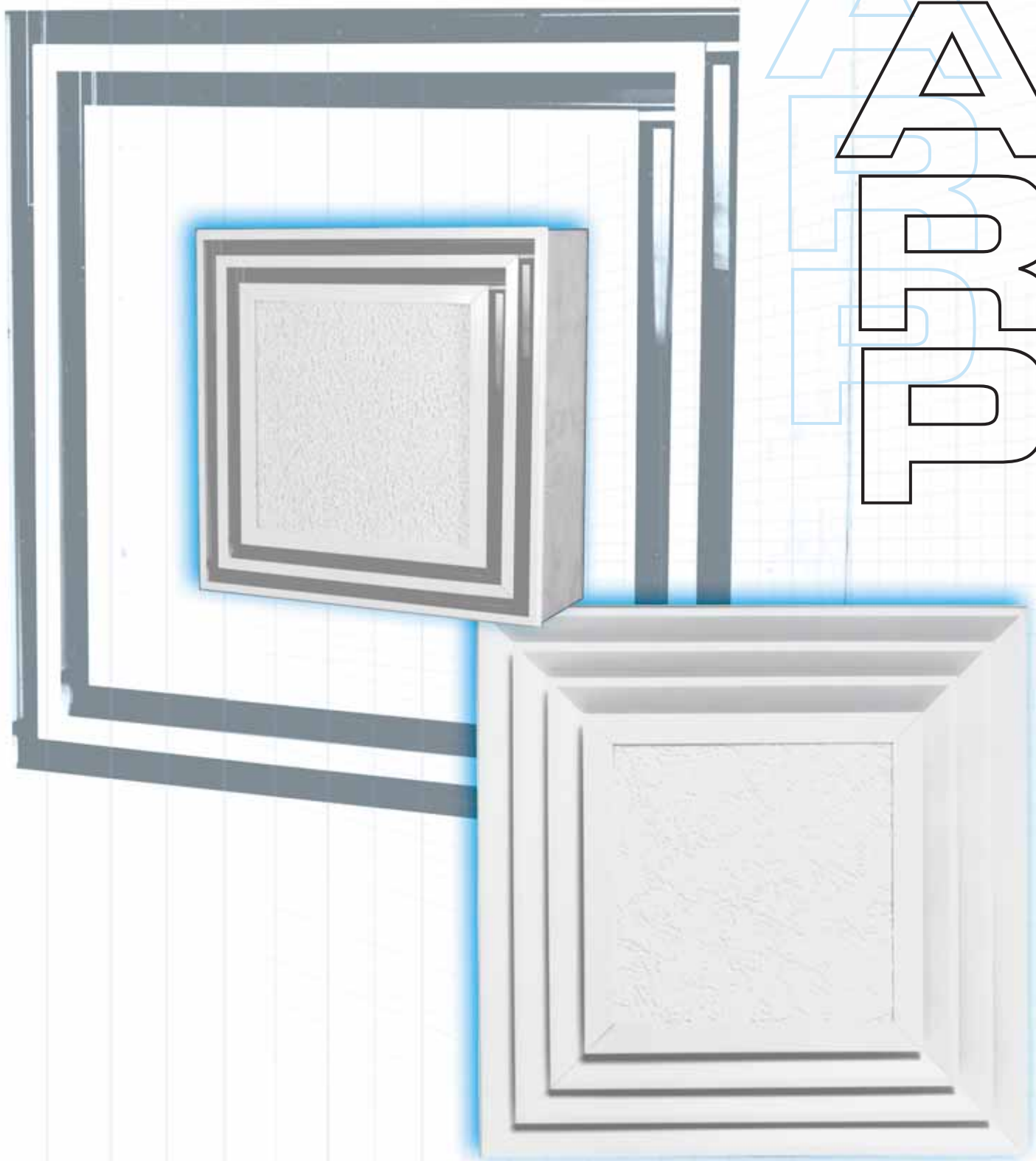
METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES



AR  
E  
P



**ARCHITECTURAL  
DIFFUSERS**



**Model 5500DD**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Louvered Face - Fixed Deflection - Aluminum - Series 5500DD

- ★ Series 5500DD offers an architectural air diffuser designed to excel in both performance and aesthetic appeal
- ★ The unique horizontal lip on all sides of the diffuser face provides a horizontal air pattern that is tight to the ceiling. This attribute makes the series 5500DD ideally suited for maximum occupant comfort, even in variable volume systems
- ★ The series 5500DD is shipped fully assembled and is designed to allow the ceiling tile to be installed (by others) from the face without having to remove the plenum. This means the center tile can be installed after the diffuser has been installed in the ceiling
- ★ The series 5500DD, available in both supply and return models, is offered in a wide variety of border styles and slot configurations, allowing for maximum design flexibility
- ★ Supply unit constructed with extruded aluminum face and steel backpan. Return units include steel light shield/baffle
- ★ Available with 1 to 4 slots
- ★ The series 5500DD is an excellent choice for VAV applications

	Louvered Face			
	Supply		Return	
Insulated	5500DDI-6 T-bar Lay-in	5500DDI-8 Tegular T-bar		
	5500DDI-9 24x24 Donn Finline			
Non-Insulated	5500DD-6 T-bar Lay-in	5500DD-8 Tegular T-bar	5500DDR-6 T-bar Lay-in	5500DDR-8 Tegular T-bar
	5500DD-9 24x24 Donn Finline		5500DDR-9 Fine LIne	




**Model 6600SQ**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Modular Slot - Aluminum- Series 6600SQ

- ★ The series 6600SQ provides outstanding operation flexibility. The supply units are shipped with pattern controllers that are individually adjustable from the face of the diffuser. This feature allows the direction of air flow to be adjusted a full 180°. The return is shipped without pattern controller to minimize sound and pressure drop
- ★ The series 6600SQ is shipped fully assembled and is designed to allow the ceiling tile to be installed (by others) from the face without having to remove the plenum. This means the center tile can be installed after the diffuser has been installed in the ceiling
- ★ The series 6600SQ, available in both supply and return models, is offered in a wide variety of border styles and slot configurations, allowing for maximum design flexibility
- ★ Supply unit constructed with extruded aluminum face and pattern controllers, with a steel backpan. Return units include steel light shield/baffle
- ★ Available with 1 to 4 slots
- ★ The series 6600SQ is an excellent choice for VAV applications

	Modular Slot			
	Supply		Return	
Insulated	6600SQI-6 T-bar Lay-in	6600SQI-8 Tegular T-bar		
	6600SQI-9 Donn Finline			
Non-Insulated	6600SQ-6 T-bar Lay-in	6600SQ-8 Tegular T-bar	6600SQR-6 T-bar Lay-in	6600SQR-8 Tegular T-bar
	6600SQ-9 Donn Finline		6600SQR-9 Donn Finline	



# REFILED

**ENVIRONMENTAL/  
HOSPITAL DIFFUSERS**



**Model HPL-CL**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Environmental/Hospital Diffusers - Laminar Flow - Series HPL-CL

- ✦ The HPL laminar flow diffusers are engineered for supply air distribution in critical environments such as hospital operating rooms and clean rooms. The diffusers are engineered to supply a low velocity vertical "piston" of conditioned air
- ✦ The HPL-CL laminar is easy to clean and sterilize. The face and core assembly can be removed from the face for cleaning. With the face and core assembly removed, the interior of the backpan and inlet collar are free of obstructions and easy to access
- ✦ The diffuser is available with a choice of three free areas for the perforated face: 23%, 40% and 51% maximizing the range of capacities for the HPL. The HPL is also available in aluminum or stainless steel construction

	Laminar Flow		
	Surface Mount	T-bar Lay-in	Special 1 1/2" T-bar Lay-in
Aluminum	HPL-CL-AL-1	HPL-CL-AL-6	HPL-CL-AL-6M
Stainless Steel	HPL-CL-SS-1	HPL-CL-SS-6	HPL-CL-SS-6M
SS Face/Aluminum Backpan	HPL-CL-SA-1	HPL-CL-SA-6	HPL-CL-SA-6M



**Model HPL-HA**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Environmental/Hospital Diffusers - Laminar Flow - w/HEPA Filter Cell - Series HPL-HA

- ✦ When the application calls for the HEPA filters to be located in the supply diffuser, the HPL-HA is an excellent choice. The series HPL-HA laminar flow diffusers are engineered for supply air distribution in critical environments such as hospital operating rooms and clean rooms. The diffusers are engineered to supply a low velocity vertical "piston" of conditioned air
- ✦ The series HPL-HA design includes a HEPA filter cell accessible from the face of the diffuser. The face and core assembly can be removed from the face for cleaning. This feature allows the filters to be removed and replaced from the diffuser face
- ✦ The diffuser is available with a choice of three free areas for the perforated face: 23%, 40% and 51% maximizing the range of capacities for the HPL. The HPL is also available in aluminum or stainless steel construction
- ✦ Optional HEPA filters are available

	Laminar Flow		
	Surface Mount	T-bar Lay-in	Special 1 1/2" T-bar Lay-in
Aluminum	HPL-HA-AL-1	HPL-HA-AL-6	HPL-CL-HA-6M
Stainless Steel	HPL-HA-SS-1	HPL-HA-SS-6	HPL-CL-HA-6M
SS Face/Aluminum Backpan	HPL-HA-SA-1	HPL-HA-SA-6	HPL-CL-HA-6M



**Model HPL-PR**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Environmental/Hospital Diffusers - Laminar Flow - Patient Isolation Applications - Series HPL-PR

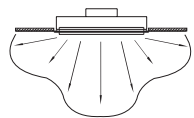
- ✦ The series HPL-PR is specifically engineered to improve patient comfort in critical health care applications such as isolation rooms and trauma centers. The unique design provides a "tent" of conditioned air around the patient
- ✦ The unique design of the HPL-PR provides filtered air to protect the patient and at the same time minimize the air velocities that impact the patient. This device provides a high level of comfort
- ✦ Series HPL-PR includes a HEPA filter section. Optional HEPA filters are available. HPL-PR configuration minimizes induction, distributing low velocity air with minimum aspiration
- ✦ Unit is aluminum construction and is available for Surface Mount and T-bar Lay-in applications, and is also available for special 1 1/2" wide T-bar Lay-in applications

	Laminar Flow - Patient Isolation Applications		
	Surface Mount	T-bar Lay-in	Special 1 1/2" T-bar Lay-in
Aluminum	HPL-PR-AL-1	HPL-PR-AL-6	HPL-PR-AL-6M
Stainless Steel	HPL-PR-SS-1	HPL-PR-SS-6	HPL-PR-SS-6M
SS Face/Aluminum Backpan	HPL-PR-SA-1	HPL-PR-SA-6	



## Model HRD-CL

Additional product information available at [www.metalair.com](http://www.metalair.com)



### Environmental/Hospital Diffusers - Radial Discharge Pattern - Removable Face - Series HRD-CL

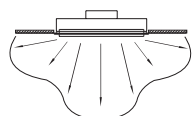
- ★ The HRD-CL radial discharge pattern diffusers are engineered for supply air distribution in critical environments such as chemistry labs and clean rooms. The diffusers are engineered to supply a low velocity of conditioned air in a radial pattern from the ceiling
- ★ The HRD-CL radial discharge pattern diffusers are easy to clean and sterilize. The face and core assembly can be removed from the face for cleaning. With the face and core assembly removed, the interior of the backpan and inlet collar are free of obstructions and easy to access
- ★ The diffuser is available in stainless steel or heavy aluminum construction. Units available in 90° or 180° throw

	Radial Discharge		
	Flush Mount	T-bar Lay-in	Special 1 1/2" T-bar Lay-in
Aluminum	HRD-CL-AL-1	HRD-CL-AL-6	HRD-CL-AL-6M
Stainless Steel	HRD-CL-SS-1	HRD-CL-SS-6	HRD-CL-SS-6M
SS Face/Aluminum Backpan	HRD-CL-SA-1	HRD-CL-SA-6	HRD-CL-SA-6M



## Model HRD-HA

Additional product information available at [www.metalair.com](http://www.metalair.com)



### Environmental/Hospital Diffusers - Radial Discharge Pattern - Removable Face w/HEPA Filter Series HRD-HA

- ★ The series HRD-HA radial discharge pattern diffusers includes a HEPA filter section and are engineered for supply air distribution in critical environments such as chemistry labs and clean rooms. The diffusers are engineered to supply a low velocity of conditioned air in a radial pattern from the ceiling
- ★ The series HRD-HA design includes a HEPA filter cell accessible from the face of the diffuser. The face and core assembly can be removed from the face for cleaning. This feature allows the filters to be removed and replaced from the diffuser face. Optional HEPA filters are available
- ★ The HRD-HA Radial Discharge Pattern Diffusers are easy to clean and sterilize. The face and core assembly can be removed from the face for cleaning. With the face and core assembly removed, the interior of the backpan and inlet collar are free of obstructions and easy to access
- ★ The diffuser is available in stainless steel or heavy aluminum construction. Units available in 90° or 180° throw
- ★ Optional HEPA Filters are available

	Radial Discharge - w/HEPA Filter Cell		
	Flush Mount	T-bar Lay-in	Special 1 1/2" T-bar Lay-in
Aluminum	HRD-HA-AL-1	HRD-HA-AL-6	HRD-HA-AL-6M
Stainless Steel	HRD-HA-SS-1	HRD-HA-SS-6	HRD-HA-SS-6M
SS Face/Aluminum Backpan	HRD-HA-SA-1	HRD-HA-SA-6	HRD-HA-SA-6M





## Model Periflow

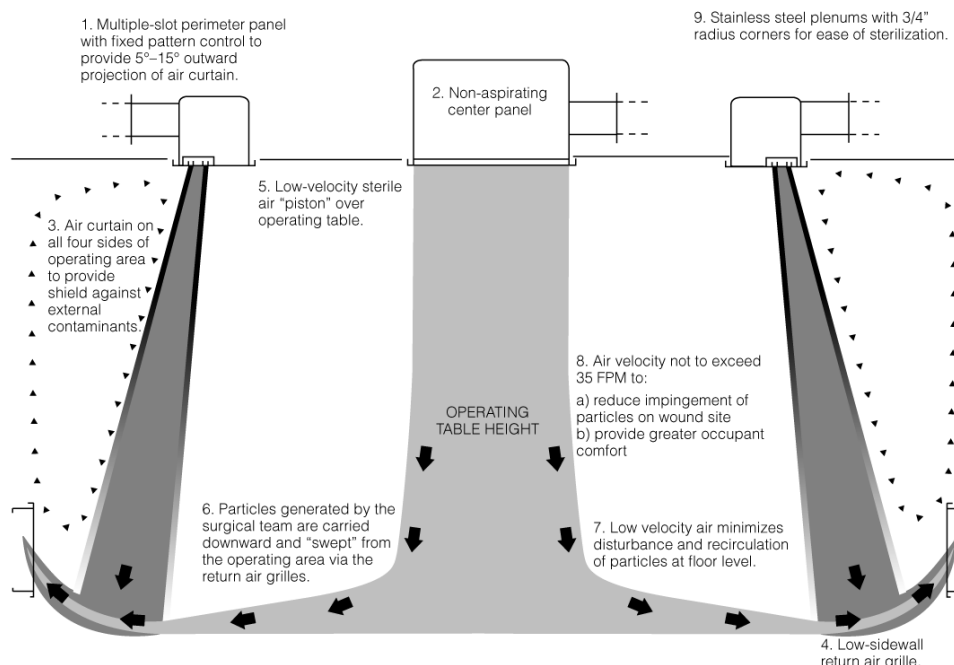
Additional product information available at [www.metalair.com](http://www.metalair.com)

### Environmental/Hospital Diffusers - Laminar Flow - Operating Room Systems - Series Periflow

- ✱ The Periflow operating room air distribution system provides control over particulate matter within the operating room environment
- ✱ The system has been tested in accordance with the guidelines set forth by the Committee on Operating Room Environments of the American College of Surgeons as published in the January 1976 Bulletin and meets Class 1 Microbiological Air Cleanliness guidelines. The system provides the highest standard of air cleanliness for patients undergoing minor procedures or surgeries as critical as organ transplants
- ✱ The system is in either stainless steel or heavy aluminum construction to ensure long-term durability and resistance to strong germicidal solutions. In addition, each system is custom designed and precisely fabricated to accommodate the specialized medical, mechanical, and electrical considerations of today's operating room environments
- ✱ By its compact yet efficient design, the Periflow system allows the designer the flexibility to properly provide for all the various components competing for space above the operating room ceiling

#### Flush Mount

Periflow Laminar Flow Panels w/Perimeter Air Curtain







LEB  
G

**LINEAR BAR GRILLES**

LINEAR BAR GRILLES



## Series 2000

Pg. 138

### Linear Bar Grilles & Registers - Series 2000

- Series 2000 linear bar grilles and registers are engineered for supply and return air distribution in heating, cooling, and ventilating applications, and are designed for sidewall, floor, sill, and ceiling installation
- Constructed of high-grade aluminum extrusions
- Bar grille frames are available in three border widths: 3/16", 1/2", 1"
- A complete line of accessories is available for series 2000 bar grilles and registers; including mitered corners, opposed blade dampers, adjustable extractors and grids, access doors, and debris screens

Series 2000 1" Borders - 7/32" Bars - 1/2" Center	Grilles - 1" Border		
	0° Deflection	15° Deflection	30° Deflection
Wall Mounting	2000 1" Border	2015 1" Border	2030 1" Border
Core Only	2000CO 1" Border	2015CO 1" Border	2030CO 1" Border
Floor Mounting	2000F 1" Border	2015F 1" Border	2030F 1" Border
Floor or Sill Mounting	2000FP 1" Border	2015FP 1" Border	2030FP 1" Border
Concealed Mounting Hanger	2000H 1" Border	2015H 1" Border	2030H 1" Border
For Plaster Wall & Ceilings	2000HP 1" Border	2015HP 1" Border	2030HP 1" Border

Series 2100 1/2" Borders - 7/32" Bars - 1/2" Center	Grilles - 1/2" Border		
	0° Deflection	15° Deflection	30° Deflection
Wall Mounting	2100 1/2" Border	2115 1/2" Border	2130 1/2" Border
Concealed Mounting Hanger	2100H 1/2" Border	2115H 1/2" Border	2130H 1/2" Border
Concealed Spline Subframe	2100HP 1/2" Border	2115HP 1/2" Border	2130HP 1/2" Border
Narrow Subframe	2100HW 1/2" Border	2115HW 1/2" Border	2130HW 1/2" Border
Combination Subframe	2100HC 1/2" Border	2115HC 1/2" Border	2130HC 1/2" Border

Series 2200 3/16" Border - 7/32" Bars - 1/2" Center	Grilles - 3/16" Border		
	0° Deflection	15° Deflection	30° Deflection
Non-Flanged Floor Mounting	2200F Floor Frame	2215F Floor Frame	2230F Floor Frame
Non-Flanged Floor Mounting - Pencil Proof	2200FP Floor Frame	2215FP Floor Frame	2230FP Floor Frame

Series 2300 1" Border - 1/8" Bars - 1/4" Center	Grilles - 1" Border		
	0° Deflection	15° Deflection	30° Deflection
Wall Mounting	2300 1" Border	2315 1" Border	2330 1" Border
Core Only - 1/8" Bars - 1/4" Centers	2300CO 1" Border - Core Only	2315CO 1" Border - Core Only	2330CO 1" Border - Core Only
Concealed Mounting Hangers	2300H 1" Border	2315H 1" Border	2330H 1" Border
Concealed Spline Mounting Frame	2300HP 1" Border	2315HP 1" Border	2330HP 1" Border

Series 2400 1/2" Border - 1/8" Bars - 1/4" Center	Grilles - 1/2" Border		
	0° Deflection	15° Deflection	30° Deflection
Wall Mounting	2400 1/2" Border	2415 1/2" Border	2430 1/2" Border
Concealed Mounting Hangers	2400H 1/2" Border	2415H 1/2" Border	2430H 1/2" Border
Concealed Spline Mounting Frame	2400HP 1/2" Border	2415HP 1/2" Border	2430HP 1/2" Border
Narrow Mounting Frame	2400HW 1/2" Border	2415HW 1/2" Border	2430HW 1/2" Border
Combination Narrow Mounting Frame	2400HC 1/2" Border	2415HC 1/2" Border	2430HC 1/2" Border

	Border	Bars	Centers
2000	1"	7/32"	1/2"
2100	1/2"	7/32"	1/2"
2200	3/16"	7/32"	1/2"
2300	1"	1/8"	1/4"
2400	1/2"	1/8"	1/4"



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## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

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- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

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# METAL\*AIR®

## ➔ Linear Bar Grilles & Registers ➔ Series 2000 ➔ Extruded Aluminum

### Product Details

- ★ Series 2000 linear bar grilles and registers are engineered for supply and return air distribution in heating, cooling, and ventilating applications, and are designed for sidewall, floor, sill, and ceiling installation
- ★ Constructed of high-grade aluminum extrusions
- ★ Bar grille frames are available in three border widths: 3/16", 1/2", 1"
- ★ A complete line of accessories are available for series 2000 bar grilles and registers; including mitered corners, opposed blade dampers, adjustable extractors and grids, access doors, and debris screens



**Model 2000 Shown**

Standard Finish: 01 White

### Series 2000 - 1" Borders • 7/32" Bars • 1/2" Centers

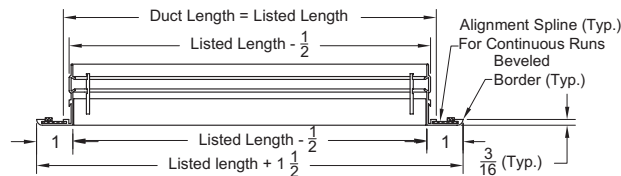
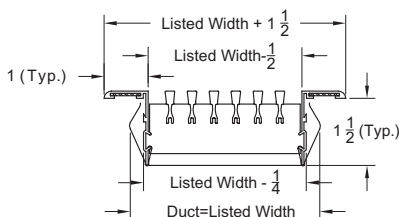
Sideview, dimensions are in inches

#### Wall Mounted - 1" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2000

Model 2000 - 0° Deflection

Model 2015 - 15° Deflection

Model 2030 - 30° Deflection

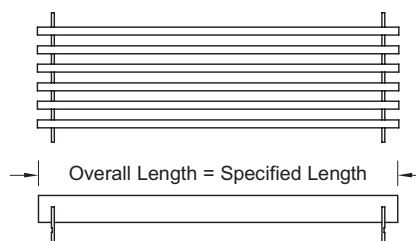
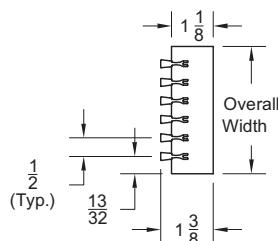


#### Core Only - 1" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2000

Model 2000CO - 0° Deflection

Model 2015CO - 15° Deflection

Model 2030CO - 30° Deflection



Model 2000FP - 0° Deflection  
Model 2015FP - 15° Deflection  
Model 2030FP - 30° Deflection

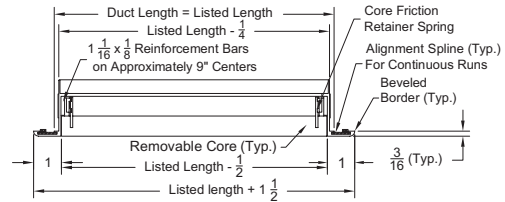
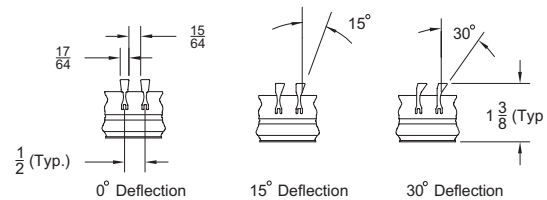


Diagram illustrating the alignment of a duct with a spline. The duct length is listed. The spline is positioned such that its center aligns with the center of the duct. The distance from the duct end to the spline end is labeled as "Listed Length -  $\frac{1}{4}$ ". The distance from the duct end to the spline center is labeled as "Listed Length -  $\frac{1}{2}$ ". The distance from the duct end to the spline end, including the duct thickness, is labeled as "Listed Length +  $1\frac{1}{2}$ ". The spline is labeled "Alignment Spline (Typ.)" and "For Continuous Runs Beveled Border (Typ.)". The duct is labeled "Duct Length = Listed Length".

Diagram illustrating the relationship between duct length, listed length, and beveled border for a 1/2 inch thick duct. The diagram shows a cross-section of the duct with the following dimensions:

- Duct Length = Listed Length +  $\frac{9}{16}$
- Listed Length -  $\frac{1}{4}$
- Listed Length -  $\frac{1}{2}$
- Listed length +  $1 \frac{1}{2}$
- Beveled Border (Typ.)
- $\frac{9}{16}$  (Typ.)

## 2000FP Pencil Proof



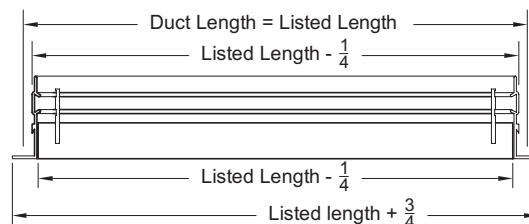
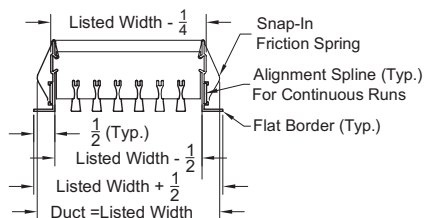
## Series 2100 - 1/2" Borders • 7/32" Bars • 1/2" Centers

Wall Mounted - 1/2" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2100

Model 2100 - 0° Deflection

Model 2115 - 15° Deflection

Model 2130 - 30° Deflection

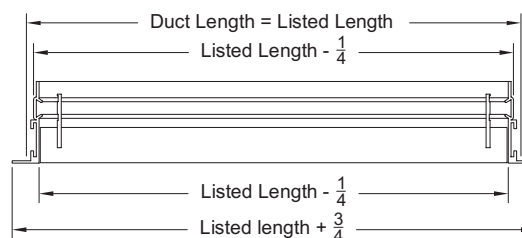
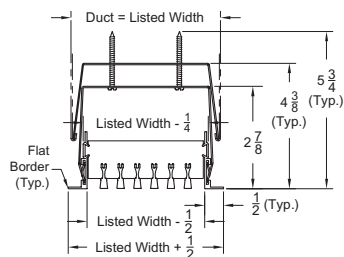


Concealed Mounting Hanger - 1/2" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2100

Model 2100H - 0° Deflection

Model 2115H - 15° Deflection

Model 2130H - 30° Deflection

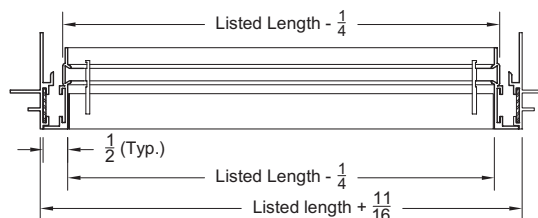
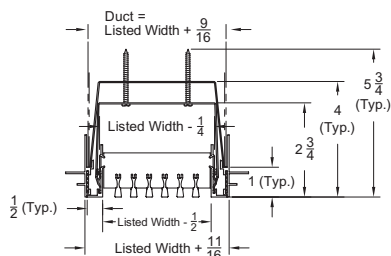


Concealed Spline Subframe - 1/2" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2100

Model 2100HP - 0° Deflection

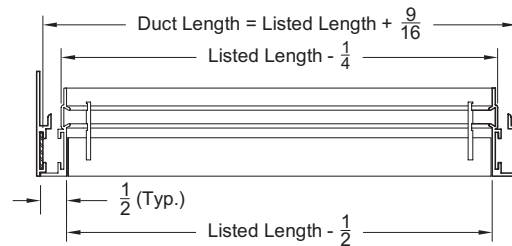
Model 2115HP - 15° Deflection

Model 2130HP - 30° Deflection

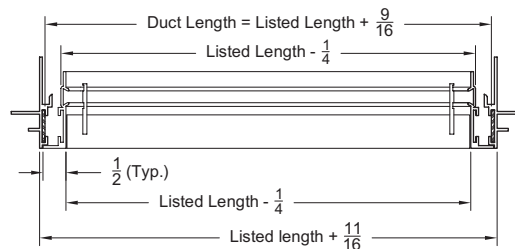




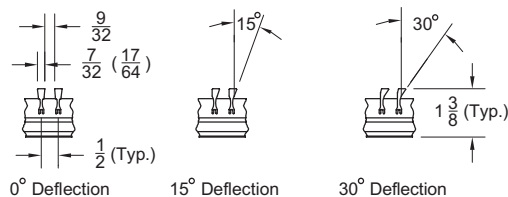
## Model 2130HW - 30° Deflection



## Model 2130HC - 30° Deflection



2100/2100H/2100HP/2100HW/2100HC



## Series 2200 - 3/16" Borders • 7/32" Bars • 1/2" Centers

3/16" Border/7/32" Bars/1/2" Centers - Extruded Aluminum - Series 2200

Non-Flanged Floor Mounting

Model 2200F - 0° Deflection

Model 2215F - 15° Deflection

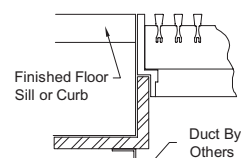
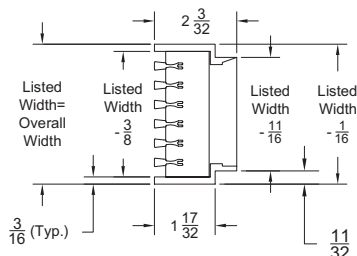
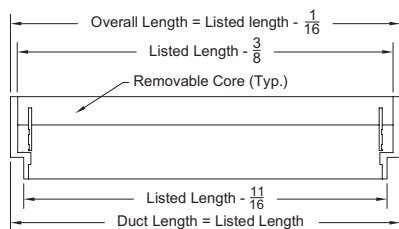
Model 2230F - 30° Deflection

Non-Flanged Floor Mounting/Pencil Proof

Model 2200FP - 0° Deflection

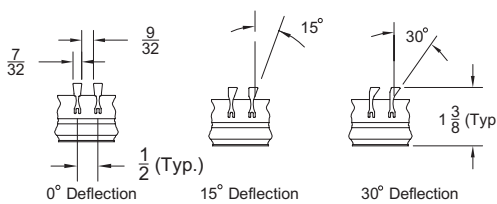
Model 2215FP - 15° Deflection

Model 2230FP - 30° Deflection

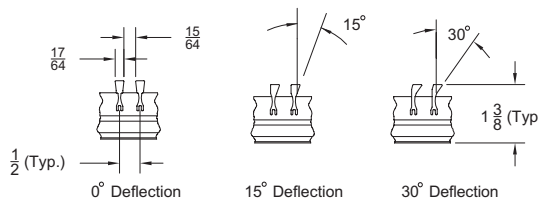


### Deflection Angles

Models  
2200F



Models  
2200FP Pencil Proof



Linear Bar Grilles

LBG

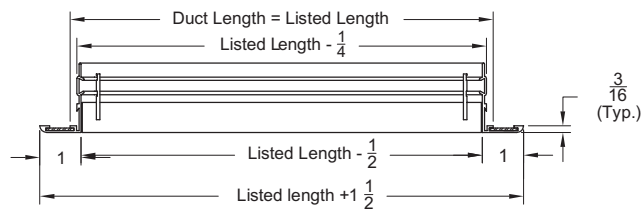
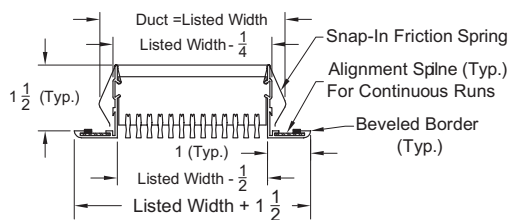
## Series 2300 - 1" Borders • 1/8" Bars • 1/4" Centers

Wall Mounted - 1" Border/1/8" Bars/1/4" Centers - Extruded Aluminum - Series 2300

Model 2300 - 0° Deflection

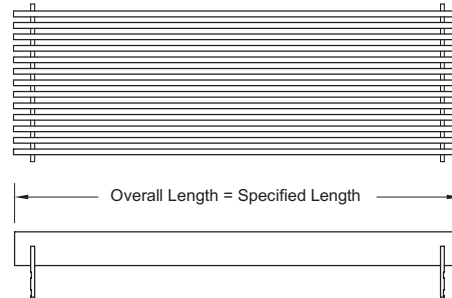
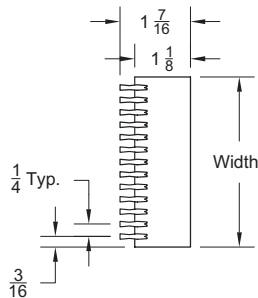
Model 2315 - 15° Deflection

Model 2330 - 30° Deflection



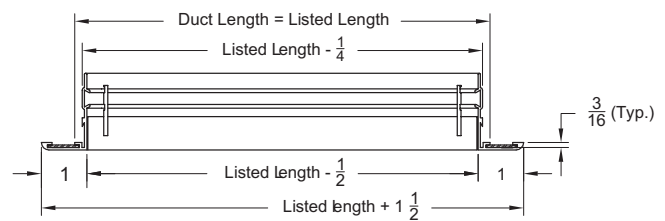
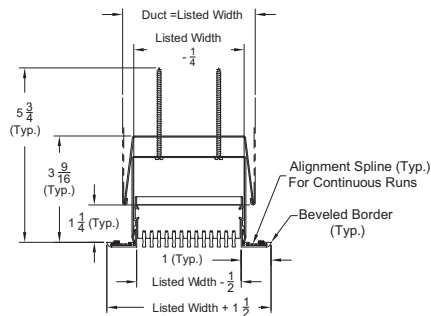
## Core Only - 1" Border/1/8" Bars/1/4" Centers - Extruded Aluminum - Series 2300

Model 2300CO - 0° Deflection  
 Model 2315CO - 15° Deflection  
 Model 2330CO - 30° Deflection



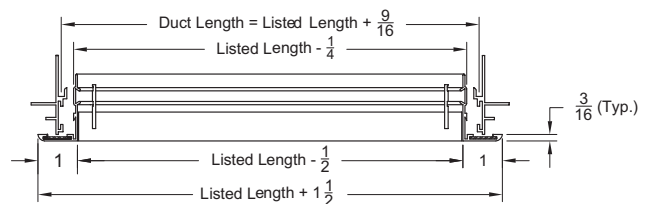
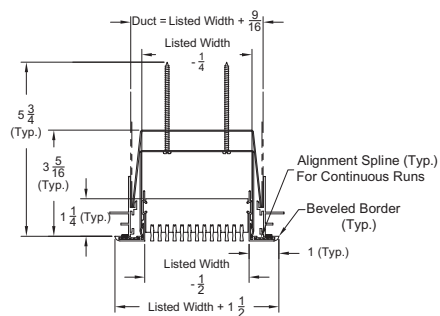
## Concealed Mounting Hangers - 1" Border/1/8" Bars/1/4" Centers - Extruded Aluminum - Series 2300

Model 2300H - 0° Deflection  
 Model 2315H - 15° Deflection  
 Model 2330H - 30° Deflection



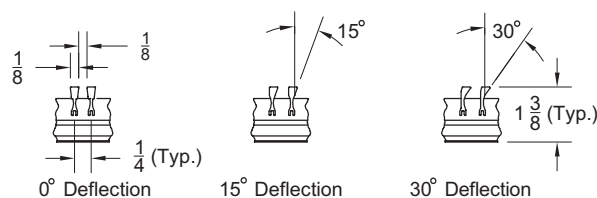
## Spline Subframe - 1" Border/1/8" Bars/1/4" Centers - Extruded Aluminum - Series 2300

Model 2300HP - 0° Deflection  
 Model 2315HP - 15° Deflection  
 Model 2330HP - 30° Deflection



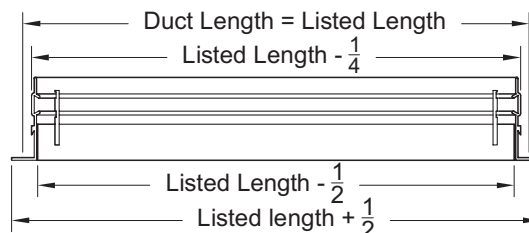
## Deflection Angles

**Models**  
 2300/2300CO/2300H/2300HP

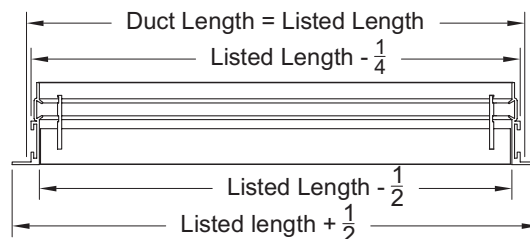


## 5/2007

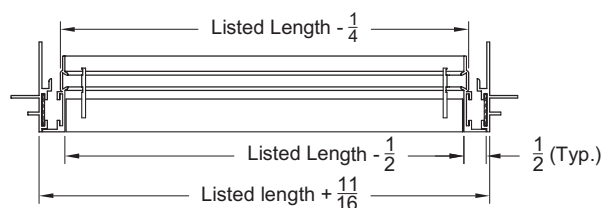
## Model 2430 - 30° Deflection



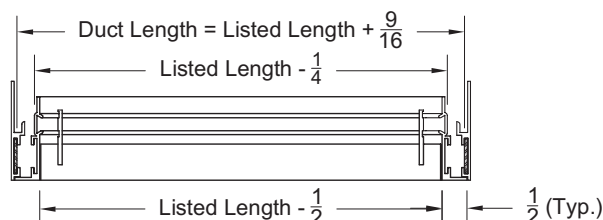
## Model 2430H - 30° Deflection



## Model 2430HP - 30° Deflection



Model 2430HW - 30° Deflection

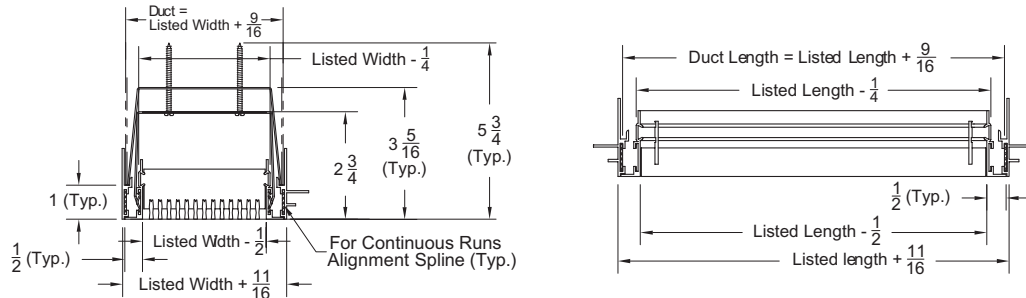


## Spline Subframe - 1/2" Border/1/8" Bars/1/4" Centers - Extruded Aluminum - Series 2400

Model 2400HC - 0° Deflection

Model 2415HC - 15° Deflection

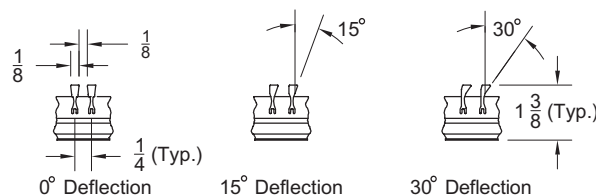
Model 2430HC - 30° Deflection



### Deflection Angles

#### Models

2400/2400H/2400HP/2400HC



Notes for Models 2000, 2015, 2030, 2000F, 2015F, 2030F, 2000FP, 2015FP, 2030FP, 2000H, 2015H, 2030H, 2000HP, 2015HP, 2030HP, 2100, 2115, 2130, 2100H, 2115H, 2130H, 2100HP, 2115HP, 2130HP, 2100HW, 2115HW, 2130HW, 2100HC, 2115HC, 2130HC

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White  <b>Optional Finish</b> 04 Clear Anodized 28 Custom color	<b>L9 - Equalizing grid</b> .....221 <b>Mitered corner</b> .....98 <b>Damper (for grilles)</b>	<b>Dampers</b> - Widths 3 1/2" and smaller use a single flap style damper Widths 4" and larger use model OBD - Steel OBDA - Aluminum damper  <b>Core Only</b> (longer sections are not available for core only sections)	<ul style="list-style-type: none"> <li>Widths available in 1/2" increments from 1 1/2" to 24"</li> <li>Lengths available in single pieces up to 72"</li> <li>Longer sections are made by joining sections in the field with factory supplied alignment strap</li> <li>For lengths less than 72", round up to next listed size. No odd size charges apply</li> <li>Standard mounting in concealed friction spring clips</li> <li>Available reverse sizes (face bars parallel to short side)</li> </ul>

Notes for Models 2300, 2315, 2330, 2300H, 2315H, 2330H, 2300HP, 2315HP, 2330HP, 2400, 2415, 2430, 2400H, 2415H, 2430H, 2400HP, 2415HP, 2430HP, 2400HW, 2415HW, 2430HW

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White  <b>Optional Finish</b> 04 Clear Anodized 28 Custom color	<b>L9 - Equalizing grid</b> .....221 <b>Mitered corner</b> .....98 <b>Damper (for grilles)</b>	<b>Dampers</b> - Widths 3 1/2" and smaller use a single flap style damper Widths 4" and larger use model OBD - Steel OBDA - Aluminum damper  <b>Core Only</b>	<ul style="list-style-type: none"> <li>Widths available in 1/2" increments from 1 1/2" to 24"</li> <li>Lengths available in single pieces up to 72"</li> <li>Longer sections are made by joining sections in the field with factory supplied alignment strap</li> <li>Standard mounting in concealed friction spring clips</li> <li>Available reverse sizes (face bars parallel to short side)</li> </ul>

Notes for Models 2200F, 2215F, 2230F, 2200FP, 2215FP, 2230FP, 2300 CO, 2315 CO, 2330 CO

1. Available Finishes	2. Construction Details
<b>Standard Finish:</b> 01 White  <b>Optional Finish</b> 04 Clear Anodized 28 Custom color	<ul style="list-style-type: none"> <li>Widths available in 1/2" increments from 1 1/2" to 8" for series 2200F</li> <li>Lengths available in single pieces up to 48"</li> <li>Longer sections are available only as separate non-connected sections. For lengths less than 48", round up to the next size</li> </ul>

# LBG - Linear Bar Grilles

5/2007

## Series 2000, 2100, 2200 (0° and 15° Deflection)

Listed Width (in inches) and Ak Area per foot	Outlet Velocity (V <sub>k</sub> )		500	700	900	1000	1100	1200	1300
	Total Pressure (Pt)		0.016	0.031	0.051	0.062	0.062	0.09	0.105
	Static Pressure (Ps)		0.012	0.024	0.04	0.05	0.05	0.072	0.084
	NC		15	20	23	23	29	31	
1 1/2 0.062	Flow CFM/Ft.		31	44	56	63	69	75	81
	Throw, Sill or Floor		6 9	9 13	10 14	11 16	13 18	13 19	14 20
	Ft. Side Wall		8 11	11 16	13 18	14 20	15 22	17 24	17 25
2 0.086	Flow CFM/Ft.		43	60	77	85	94	102	111
	Throw, Sill or Floor		5 8	8 12	10 14	11 16	13 18	13 19	14 20
	Ft. Side Wall		7 10	10 15	13 18	14 20	15 22	17 24	17 25
2 1/2 0.11	Flow CFM/Ft.		55	77	99	110	121	132	143
	Throw, Sill or Floor		6 9	9 13	11 16	13 18	13 19	15 21	15 22
	Ft. Side Wall		8 11	11 16	14 20	16 23	17 24	18 26	20 28
3 0.13	Flow CFM/Ft.		65	91	117	130	143	156	169
	Throw, Sill or Floor		7 10	10 15	13 18	15 21	15 22	17 24	18 26
	Ft. Side Wall		8 12	13 18	15 22	17 25	18 26	20 28	21 30
3 1/2 0.152	Flow CFM/Ft.		76	107	137	153	168	183	198
	Throw, Sill or Floor		7 10	10 15	13 18	15 21	15 22	17 24	18 26
	Ft. Side Wall		9 13	13 19	16 23	18 26	20 28	21 30	22 23
4 0.176	Flow CFM/Ft.		110	154	198	220	242	264	286
	Throw, Sill or Floor		8 11	13 18	14 20	16 23	18 26	19 27	20 29
	Ft. Side Wall		10 14	15 22	17 25	20 29	22 32	24 34	25 26
5 0.22	Flow CFM/Ft.		110	154	198	220	242	264	286
	Throw, Sill or Floor		8 12	13 18	15 21	17 24	18 26	19 27	21 30
	Ft. Side Wall		10 15	15 22	19 27	22 31	23 33	24 35	27 38
6 0.265	Flow CFM/Ft.		133	186	239	265	292	318	345
	Throw, Sill or Floor		8 12	13 18	15 22	17 25	18 26	20 28	21 30
	Ft. Side Wall		10 15	15 22	19 27	22 31	23 33	24 35	27 38
8 0.062	Flow CFM/Ft.		178	249	320	355	391		
	Throw, Sill or Floor		10 14	13 19	15 22	18 26	19 27		
	Ft. Side Wall		12 17	17 24	20 28	23 33	24 34		
10 0.446	Flow CFM/Ft.		223	312	401	445			
	Throw, Sill or Floor		10 15	15 22	18 26	21 30			
	Ft. Side Wall		13 19	20 28	23 33	26 37			
12 0.536	Flow CFM/Ft.		268	375	482				
	Throw, Sill or Floor		12 17	22 31	21 30				
	Ft. Side Wall		15 21	24 35	27 38				

### Performance Notes for Series 2000:

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 and 50 fpm with supply air temperature 20° F below room air temperature.
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

## Series 2000, 2100, 2200 (30° Deflection)

Listed Width (in inches) and Ak Area per foot	Outlet Velocity (V <sub>k</sub> )		570	805	1035	1140	1265	1380	1495
	Total Pressure (Pt)		0.02	0.04	0.067	0.081	0.1	0.119	0.139
	Static Pressure (Ps)		0.017	0.034	0.056	0.07	0.084	0.1	0.118
	NC		20	25	28	31	34	36	
1 1/2 0.062	Flow CFM/Ft.		36	50	65	71	79	86	94
	Throw, Sill or Floor		6 9	9 13	10 14	11 16	13 18	13 19	14 20
	Ft. Side Wall		8 11	11 16	13 18	14 20	15 22	17 24	17 25
2 0.086	Flow CFM/Ft.		48	68	88	97	108	117	127
	Throw, Sill or Floor		5 8	8 12	10 14	11 16	13 18	13 19	14 20
	Ft. Side Wall		7 10	10 15	13 18	14 20	15 22	17 24	17 25
2 1/2 0.11	Flow CFM/Ft.		63	89	114	125	139	152	164
	Throw, Sill or Floor		6 9	9 13	11 16	13 18	13 19	15 21	15 22
	Ft. Side Wall		8 11	11 16	14 20	16 23	17 24	18 26	20 28
3 0.13	Flow CFM/Ft.		74	105	135	148	164	179	194
	Throw, Sill or Floor		7 10	10 14	13 18	15 21	15 22	17 24	18 26
	Ft. Side Wall		8 12	13 18	15 22	17 25	18 26	20 28	21 30
3 1/2 0.152	Flow CFM/Ft.		87	123	156	174	193	211	228
	Throw, Sill or Floor		7 10	10 15	13 18	14 20	15 21	15 22	17 24
	Ft. Side Wall		9 13	13 19	16 23	18 26	20 28	21 30	22 32
4 0.176	Flow CFM/Ft.		100	141	181	200	221	242	262
	Throw, Sill or Floor		8 11	13 18	15 21	17 24	18 26	19 27	21 30
	Ft. Side Wall		10 14	15 22	17 25	20 29	22 32	24 34	25 36
5 0.22	Flow CFM/Ft.		125	177	228	251	278	304	329
	Throw, Sill or Floor		8 12	13 18	15 22	17 25	18 26	20 28	21 30
	Ft. Side Wall		10 15	15 22	19 27	22 31	23 33	24 35	27 38
6 0.265	Flow CFM/Ft.		157	213	274	302	335	366	396
	Throw, Sill or Floor		8 12	13 18	15 22	17 25	18 26	20 28	21 30
	Ft. Side Wall		10 15	15 22	19 27	22 31	23 33	24 35	27 38
8 0.062	Flow CFM/Ft.		202	286	367	405	449		
	Throw, Sill or Floor		10 14	13 19	15 22	18 26	19 27		
	Ft. Side Wall		12 17	17 24	20 28	23 33	24 34		
10 0.446	Flow CFM/Ft.		254	358	461	507			
	Throw, Sill or Floor		10 15	15 22	18 26	21 30			
	Ft. Side Wall		13 19	20 28	23 33	26 37			
12 0.536	Flow CFM/Ft.		305	431	554				
	Throw, Sill or Floor		12 17	22 31	21 30				
	Ft. Side Wall		15 21	24 35	27 38				



## Series 2300, 2400 (0° and 15° Deflection)

Listed Width (in inches) and Ak Area per foot	Outlet Velocity (V <sub>k</sub> )	500	700	900	1000	1100	1200	1300
	Total Pressure (Pt)	0.020	0.038	0.062	0.076	0.091	0.110	0.128
	Static Pressure (Ps)	0.015	0.029	0.049	0.61	0.073	0.088	0.102
	NC	15	18	24	28	31	35	37
1 1/2 0.062	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	31 7 11 10 13	44 11 16 13 19	56 12 17 16 22	63 13 19 17 24	69 16 22 18 26	75 16 23 20 29	81 17 24 20 30
2 0.086	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	43 6 10 8 12	60 10 14 12 18	77 12 17 16 22	85 13 19 17 24	94 16 22 18 26	102 16 23 20 29	111 17 24 20 30
2 1/2 0.11	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	55 7 11 10 13	77 11 16 13 19	99 13 19 17 24	110 16 22 19 28	121 16 23 20 29	132 18 25 22 31	143 18 26 24 34
3 0.13	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	65 8 12 10 14	91 12 17 16 22	117 16 22 18 26	130 17 24 20 30	143 18 25 22 31	156 18 26 24 34	169 20 29 25 36
3 1/2 0.152	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	76 8 12 10 14	107 12 18 16 22	137 16 22 18 26	153 18 25 20 30	168 18 26 22 31	183 20 29 24 34	198 22 31 25 36
4 0.176	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	88 10 13 12 17	123 16 22 18 26	158 17 24 20 30	175 19 28 24 35	193 22 31 26 38	210 23 32 29 41	228 24 35 30 31
5 0.22	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	110 10 14 12 18	154 16 22 18 26	198 18 25 22 31	220 20 29 25 36	242 22 0 26 0	264 23 32 29 41	286 25 36 31 44
6 0.265	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	133 10 14 12 18	186 16 22 18 26	239 18 26 23 32	265 20 30 26 37	292 22 0 28 0	318 24 34 29 42	345 25 36 32 46
8 0.062	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	178 12 17 14 20	249 16 23 20 29	320 18 26 24 34	355 22 31 28 40	391 23 29		
10 0.446	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	223 12 18 16 23	312 18 26 24 34	401 22 31 28 40	445 25 36 31 44			
12 0.536	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	268 14 20 18 25	375 26 37 29 42	482 25 36 32 46				

## Series 2300, 2400 (30° Deflection)

Listed Width (in inches) and Ak Area per foot	Outlet Velocity (V <sub>k</sub> )	500	700	900	1000	1100	1200	1300
	Total Pressure (Pt)	0.016	0.031	0.051	0.062	0.062	0.09	0.105
	Static Pressure (Ps)	0.012	0.024	0.04	0.05	0.05	0.072	0.084
	NC		15	20	23	23	29	31
1 1/2 0.062	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	36 7 11 10 13	50 11 16 13 19	65 12 17 16 22	71 13 19 17 24	79 16 22 18 26	86 16 23 20 29	94 17 24 20 30
2 0.086	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	48 6 10 8 12	68 10 14 12 18	88 12 17 16 22	97 13 19 17 24	108 16 22 18 26	117 16 23 20 29	127 17 24 20 30
2 1/2 0.11	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	63 7 11 10 13	89 11 16 13 19	114 13 19 17 24	125 16 22 19 28	139 16 23 20 29	152 18 25 22 31	164 18 26 24 34
3 0.13	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	74 8 12 10 14	105 12 17 16 22	135 16 22 18 26	148 17 24 20 30	164 18 25 22 31	179 18 26 24 34	194 20 29 25 36
3 1/2 0.152	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	87 8 12 11 16	123 12 18 16 23	156 16 22 19 28	174 18 25 22 31	193 18 26 24 34	211 20 29 25 36	228 22 31 26 38
4 0.176	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	100 10 13 12 17	141 16 22 18 26	181 17 24 20 30	200 19 28 24 35	221 22 31 26 38	242 23 32 29 41	262 24 35 30 43
5 0.22	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	125 10 14 12 18	177 16 22 18 26	228 18 25 22 31	251 20 29 25 36	278 22 31 26 38	304 23 32 29 41	329 25 36 31 44
6 0.265	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	157 10 14 12 18	213 16 22 18 26	274 18 26 20 30	302 20 30 22 31	335 22 31 24 34	366 24 34 25 36	396 25 36 32 46
8 0.062	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	202 12 17 14 20	286 16 23 20 29	367 18 26 24 34	405 22 31 28 40	449 23 29		
10 0.446	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	254 12 18 16 23	358 18 26 24 34	461 22 31 28 40	507 25 36 31 44			
12 0.536	Flow CFM/Ft. Throw, Sill or Floor Ft. Side Wall	305 14 20 18 25	431 26 37 29 42	554 25 36 32 46				

### Performance Notes for Series 2000:

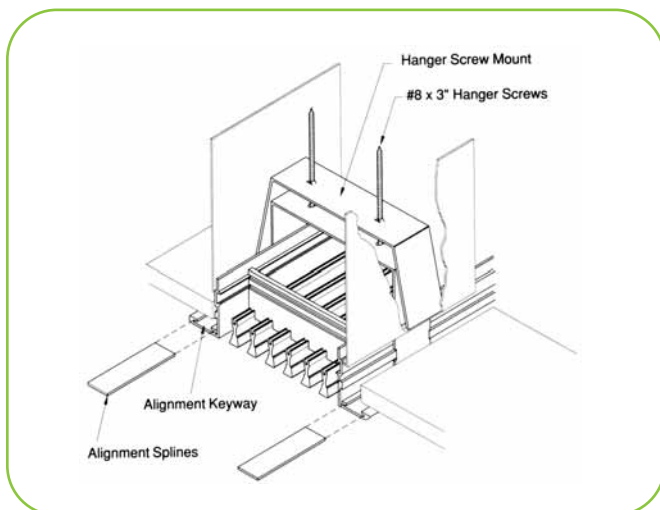
All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 and 50 fpm with supply air temperature 20° F below room air temperature.
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

## Installation Information

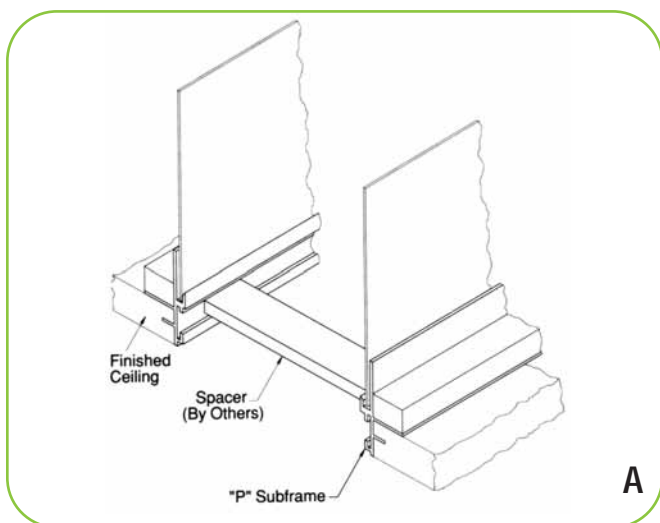
### Hanger Bracket Installation into Hemmed Ducts



*The hanger bracket mounting system is also designed to work well with factory supplied subframe material – both “P” and “W” styles. In order to ensure a satisfactory subframe installation, the following procedures should be followed:*

- 1) The factory supplied subframe material should be cut to the proper length (i.e., the nominal size of the Grille).
- 2) The neck of the subframe should be attached to the outside of the ductwork with the ends of the duct nestled in the channel of the subframe extrusion.
- 3) Care should be taken that the face of the subframe material is parallel to the finished surface, and, if being used as a plaster ground, the “P” subframe is recessed the proper distance from the designed finish wall.
- 4) The long sides of the subframe must be braced with appropriately sized spacer bars to prevent distortion of the subframe dimensionally, especially during plastering. Note: this bracing must be done prior to plastering.
- 5) The spacer bars should remain in place until the Grille is installed, and, in a long run, should be removed only when each Grille section is ready for installation. Subframe material used on long runs should be aligned section to section by use of the factory supplied alignment splines. In addition to serving as a plaster ground, the “P” style auxiliary subframe is designed to accommodate standard concealed spline ceiling tiles. The “W” style auxiliary subframe is installed in much the same manner as the “P” style subframe, except that it is usually placed in a ceiling directly against a sidewall. Note that Model 2000 Bar Grilles cannot be used with a “W” style subframe next to a wall because the 1” border of the Grille would overlap the subframe.

### Auxiliary Subframe Preparation “P” and “W” Styles

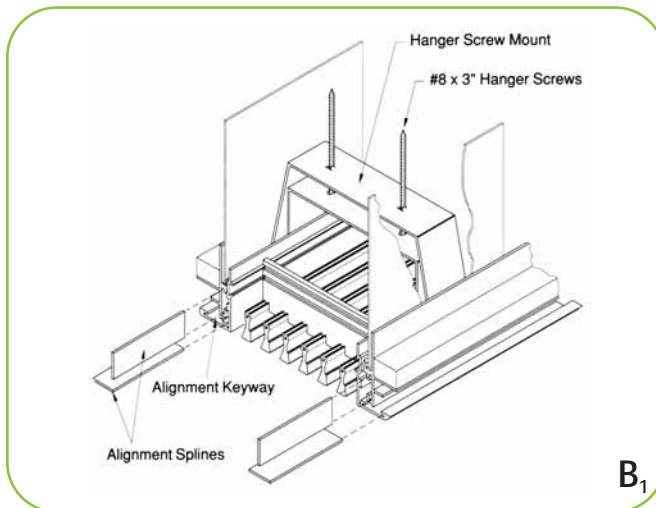


*The hanger bracket mounting system is also designed to work well with factory supplied subframe material – both “P” and “W” styles. In order to ensure a satisfactory subframe installation, the following procedures should be followed:*

- 1) The factory supplied subframe material should be cut to the proper length (i.e., the nominal size of the Grille).
- 2) The neck of the subframe should be attached to the outside of the ductwork with the ends of the duct nestled in the channel of the subframe extrusion.
- 3) Care should be taken that the face of the subframe material is parallel to the finished surface, and, if being used as a plaster ground, the “P” subframe is recessed the proper distance from the designed finish wall.
- 4) The long sides of the subframe must be braced with appropriately sized spacer bars to prevent distortion of the subframe dimensionally, especially during plastering. Note: this bracing must be done prior to plastering.
- 5) The spacer bars should remain in place until the Grille is installed, and, in a long run, should be removed only when each Grille section is ready for installation. Subframe material used on long runs should be aligned section to section by use of the factory supplied alignment splines. In addition to serving as a plaster ground, the “P” style auxiliary subframe is designed to accommodate standard concealed spline ceiling tiles. The “W” style auxiliary subframe is installed in much the same manner as the “P” style subframe, except that it is usually placed in a ceiling directly against a sidewall. Note that Model 2000 Bar Grilles cannot be used with a “W” style subframe next to a wall because the 1” border of the Grille would overlap the subframe.

## Installation Information

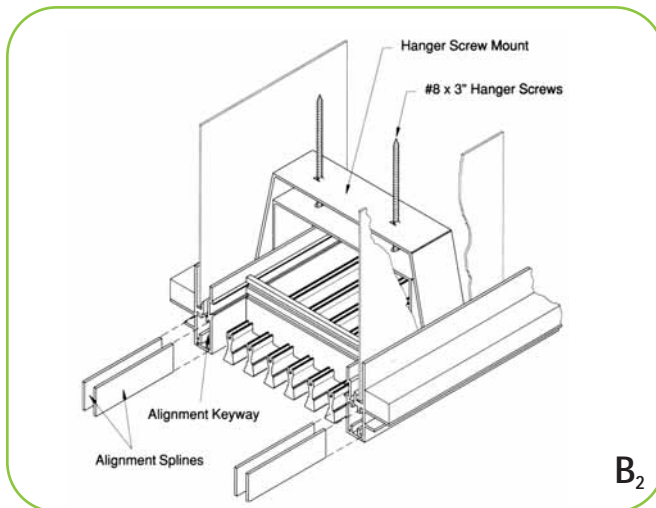
### Hangar Bracket Installation into Auxiliary Subframe



*Series 2000 and 2300 Linear Bar Grilles and Registers are easily installed into auxiliary subframe material using factory supplied hanger brackets and leveling screws according to the following instructions:*

- 1) Arrange the appropriate number of hanger brackets and hanger screw mounts (shipped unattached) on the neck of the Grille, positioning the brackets over the hanger screw mounts.
- 2) Insert the supplied #8 X 3" screws through their mounts and into the proper hole in the hanger brackets, locking the Grille and hangers together.
- 3) Position the Grille carefully in the duct opening and press into position, pushing the legs of the hanger brackets past the extruded channel of the auxiliary subframe, allowing them to snap into position (if necessary, press the hanger brackets upward with the screws to seat the brackets properly).
- 4) Tighten the screws to draw the Grille firmly against the ceiling or sidewall, adjusting the tension to accommodate any variation in the mounting surface. In installations where long runs are composed of many separate units, the same procedure should be followed on each Grille section, taking care to use the factory supplied alignment splines to ensure a smooth and unbroken appearance.

### Hangar Bracket Installation into Auxiliary Subframe

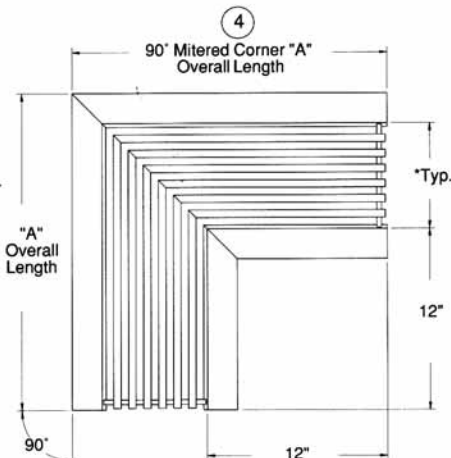
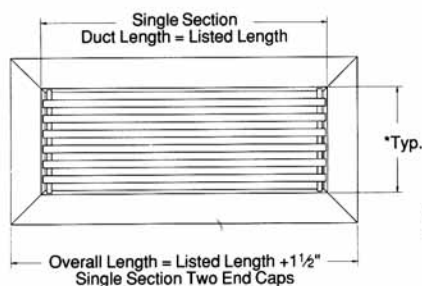
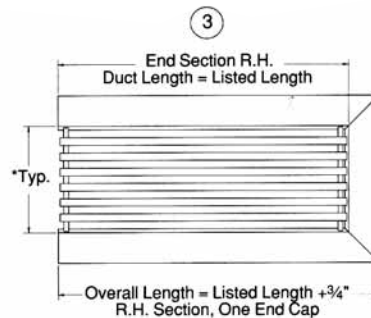
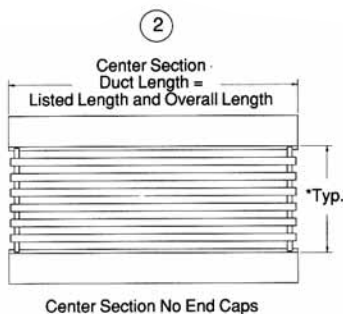
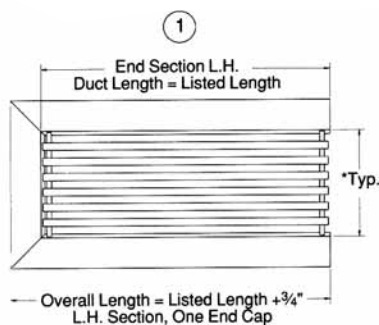
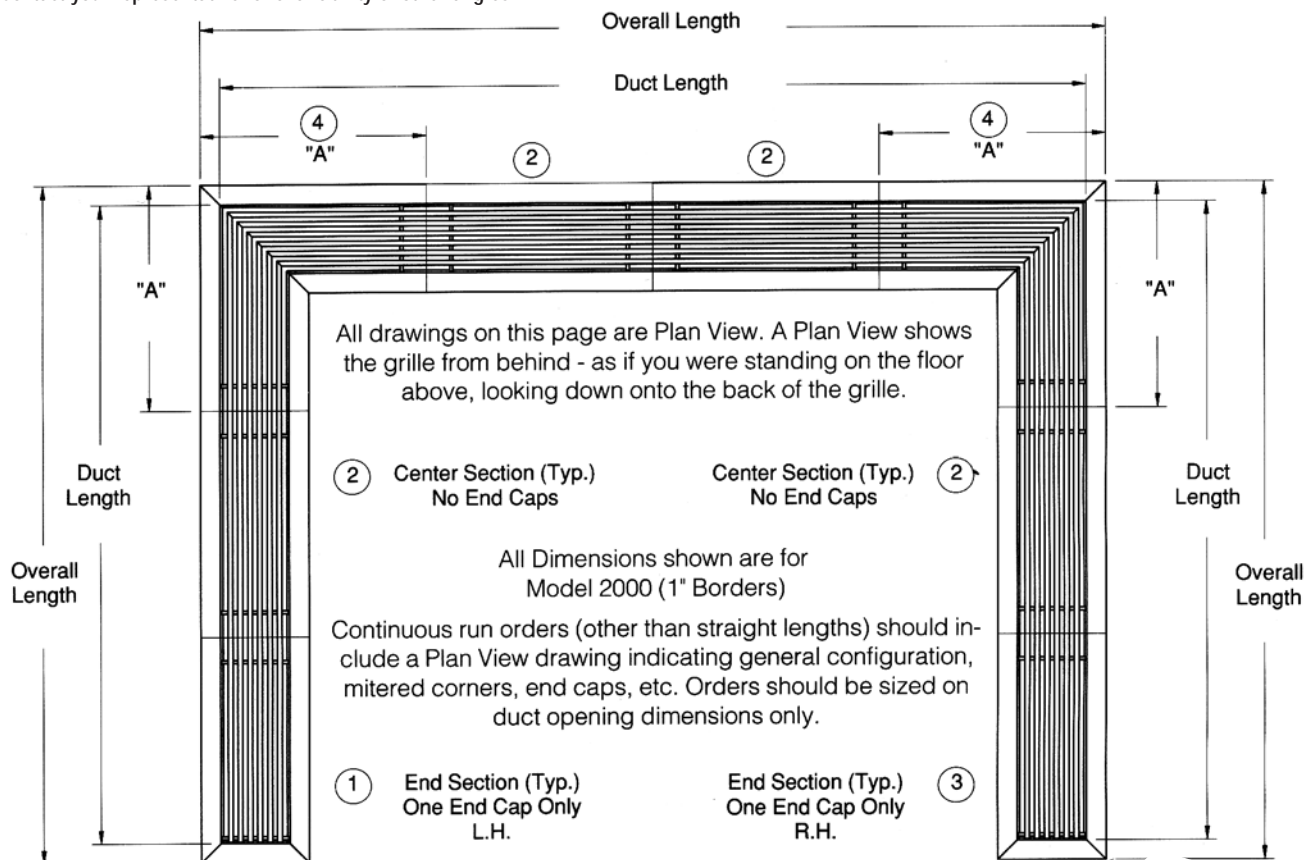


*Model 2100 Units – 1/2 inch Borders Model 2100 Bar Grilles and Registers are installed into auxiliary subframes following basically the procedures outlined above. Special care must be taken, however, in the installation of the 2100 unit due to the extremely narrow frame borders of these units. Installation should proceed as follows:*

- 1) Arrange the appropriate number of hanger brackets and hanger screw mounts (shipped unattached) on the neck of the Grille, positioning the brackets over the hanger screw mounts.
- 2) Insert the supplied #8 X 3" screws through their mounts and into the proper hole in the hanger brackets, locking the Grille and hangers together.
- 3) Position the Grille carefully in the duct opening and press into position, pushing the legs of the hanger brackets past the extruded channel of the auxiliary subframe, allowing them to snap into position (if necessary, press the hanger brackets upward with the screws to seat the brackets properly).
- 4) Tighten the screws to draw the Grille firmly against the ceiling or sidewall, adjusting the tension to accommodate any variation in the mounting surface. In installations where long runs are composed of many separate units, the same procedure should be followed on each Grille section, taking care to use the factory supplied alignment splines to ensure a smooth and unbroken appearance.

## Dimensions and Continuous Runs

Contact your representative for availability of other angles



90° Mitered Corner Dimensions			
Listed Width	"A"	Listed Width	"A"
1 1/2"	14 1/4"	5"	17 3/4"
2"	14 3/4"	6"	18 3/4"
2 1/2"	15 1/4"	8"	20 3/4"
3"	15 3/4"	10"	22 3/4"
3 1/2"	16 1/4"	12"	24 3/4"
4"	16 3/4"		

\* Duct Width Equals Listed Width



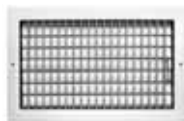
GAER



**GRILLES & REGISTERS**

GRILLES & REGISTERS

5/32



**Series V**  
Pg. 158

## Sidewall Supply Grilles - Economical Aluminum - Vertical Blades - Series V

- Series V grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- This economical series of supply grilles and registers is available with the V-1 single deflection, VH-1 double deflection and with the VM-1 single deflection with a built in multi-shutter damper
- The series V are provided with vertical front blades. Units are constructed with an aluminum one piece formed border and blades

Single Deflection Grille	V-1
Double Deflection Grille	VH-1
Single Deflection — Multi-Shutter	VM-1



**Series 4000**  
Pg. 160

## Sidewall Supply Grilles - Aluminum/Steel - Series 4000

- The series 4000 sets the standards for performance and appearance in the industry. The series 4000 is all aluminum; the series 4000S has a steel border and steel blades
- The series 4000 is available with single or double deflection, and with a number of options and accessories to meet a variety of applications
- Series 4000 grilles and registers can be selected with either vertical or horizontal front blades

	Single Deflection	
	Steel	Aluminum
Vertical Blades	V4002S-1	V4002-1
Horizontal Blades	H4002S-1	H4002-1

	Double Deflection	
	Steel	Aluminum
Vertical Front Blades	V4004S-1	V4004-1
Horizontal Front Blades	H4004S-1	H4004-1

	Single Deflection - Multi-Shutter Damper	
	Steel	Aluminum
Vertical Blades	V4002SM-1	V4002M-1
Horizontal Blades	H4002SM-1	H4002M-1



**Model 4000-AF**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Sidewall Supply Grille - Adjustable Air Foil Blades - Extruded Aluminum Blade Series 4000-AF - Air Foil

- The series 4000-AF is our premier product, offering superior construction and high performance with aerodynamically shaped extruded deflection blades. The 4000-AF series is constructed with an extruded aluminum border and air foil deflection blades; the 4000S-AF series has a steel border and extruded aluminum air foil deflection blades
- The series 4000-AF is an excellent choice for projects requiring superior performance and aesthetics
- The series 4000-AF is available with single or double deflection, and with a number of options and accessories to meet a variety of applications
- Series 4000-AF grilles and registers can be selected with either vertical or horizontal front blades

	Single Deflection	
	Steel Border - Aluminum Blades	Aluminum
Vertical Blades	V4002S-AF-1	V4002-AF-1
Horizontal Blades	H4002S-AF-1	H4002-AF-1

	Double Deflection	
	Steel Border - Aluminum Blades	Aluminum
Vertical Front Blades	V4004S-AF-1	V4004-AF-1
Horizontal Front Blades	H4004S-AF-1	H4004-AF-1



**Series 4004P**  
Pg. 164

## Supply Grilles - Spiral Pipe Grille - Aluminum/Steel - Series 4004P

- The model 4004P (aluminum) and 4004SP (galvanized steel) offers superior performance in exposed duct applications offering a clean, low profile appearance
- Units can be easily installed in round duct diameters 6"-48"
- Integral gasket seals grille tightly to duct
- Units includes built in extractor to allow accurate balancing and uniform air flow
- Model 4004P is all aluminum construction. Model 4004SP includes is provided with galvanized steel border and blades

	Aluminum	Steel
Surface Mount	4004P-1	4004SP-1



# GAR - Grilles and Registers



**Series L**  
Model LS3 Shown  
Pg. 166

## Supply Curved Blade Ceiling Grilles - Aluminum - Series L

- ✱ The series L curved blade grilles and registers are an economic solution for use in applications requiring ceiling or sidewall installations with directional air patterns. The series L is available with 1-way, 2-way corner, 2-way opposite, 3-way, and 4-way directional air patterns
- ✱ The series L is constructed from aluminum with adjustable curved blade allowing adjustment from full horizontal to full vertical air directions
- ✱ Units are available with a wide range of options and accessories

	Single Deflection				
	No Damper		Multi-Shutter Damper Operated Through Curved Blades		Horizontal Multi-Shutter Damper Operated Through slot on border
	Long Blades	Short Blades	Long Blades	Short Blades	Long Blades
1 Way	L-1	S-1	LM-1	SM-1	LMH-1
2 Way Opposite	LT-1	ST-1	LTM-1	STM-1	LTMH-1
2 Way Corner	LTC-1		LTCM-1		
3 Way Corner	LTC3-1		LTC3M-1		
3 Way Equal Throw	LS3-1		LS3M-1		
4 Way	LS4-1		LS4M-1		

	Double Deflection - No Damper	
	Long Blades	Short Blades
1 Way	LV-1	SH-1
2 Way Opposite	LTV-1	STH-1



**Series RH**  
Pg. 172

## Sidewall Return Grilles - Aluminum - Series RH

- ✱ The series RH return grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- ✱ This economical series of roll form aluminum return grilles and registers is available with a number of borders to integrate into a wide range of ceiling systems
- ✱ Series RH is an excellent choice for exhaust and return applications

Roll Formed Aluminum/RH - Grilles	
Surface Mount	RH-1
	RH-H-1 - Hinged Core
T-bar Lay-in Modules	RH-6
Concealed T-bar Lay-in	RH-7
Tegular Lay-in	RH-8
Donn Finline Lay-in	RH-9



**Series RHE**  
Pg. 173

## Sidewall Return Grilles - Extruded Aluminum - Series RHE

- ✱ The series RHE is our premier product, offering superior construction and high performance with extruded aluminum construction. This unit has both superior appearance and performance and is built for durability
- ✱ The series RHE is available with an optional hinge to allow access behind the grille face
- ✱ Series RHE is an excellent choice for projects requiring exhaust or return applications

Extruded Aluminum/RHE - Grilles	
Surface Mount	RHE-1
	RHE-H-1 - Hinged Core



**Series SRH**  
Pg. 174

## Sidewall Return Grilles - Steel - Series SRH

- ✱ The series SRH is designed for applications requiring a steel border. The blades of the SRH are constructed from steel
- ✱ This economical series of return grilles and registers is available a number of borders to integrate into a wide range of ceiling systems
- ✱ Series SRH is an excellent choice for exhaust and return applications

Steel/SRH - Grilles	
Surface Mount	SRH-1
	SRH-H-1 - Hinged Core
T-bar Lay-in Modules	SRH-6





## Model HDRH

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Heavy Duty Grilles - Sidewall Return - Extruded Aluminum - 1 1/3" Blade Spacing - Model HDRH

- ✦ The series HDRH is an excellent choice for projects that require a grille or register to withstand moderate physical abuse. Applications for the series HDRH include common areas in schools, hospitals, and other high traffic areas
- ✦ The series HDRH is made from aluminum material equal or greater than 14-gauge steel. Outer borders are thicker than those of standard commercial grilles and registers. Deflector blades are assembled in the outer border using heavy alloy metal screws for rigidity
- ✦ Series HDRH is an excellent choice for exhaust or return applications in heavy traffic public areas

Louver Grille Surface Mount	
Surface Mount	HDRH-1



## Series 4002R

Pg. 176

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Return Grilles & Registers - Extruded Aluminum - Fixed Blades 0° or 45° - Series 4002R

- ✦ The series 4002R return grilles and registers are designed to match the 4000 series supply models. These units are constructed of heavy aluminum. The 4002RS is constructed with a heavy steel border and steel deflector blades
- ✦ The deflector blades for both the series 4002R and 4002RS are fixed and available in 0° or 45° settings
- ✦ Series 4000R and 4000RS offer the advantage of a uniform appearance when selected with the series 4000 supply grilles and registers

	Steel	Aluminum
Vertical Blades	V4002RS-1	V4002R-1
Horizontal Blades	H4002RS-1	H4002R-1

## Series DG



## Model DGCO



## Model DGDF

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Door Grilles - Exhaust & Return - Extruded Aluminum - Series DG

- ✦ Series DG door grilles are designed to transfer air through doors or walls. The DG Series include "V" shaped louvers providing a sight-proof return or exhaust grille regardless of the viewing angle
- ✦ The series DG is available with a number of options include a light-proof option (model DGLP), surface mounting applications, and door mounting (model DGDF)
- ✦ Series DG offers a number of solutions for your door and air transfer applications

Series DG	
Core Only	DGCO
Single Frame Flange	DGSF
Double Flange Frame - Telescoping	DGDF
Double Flange Frame - Light Resistant	DGLP

# GAR - Grilles and Registers



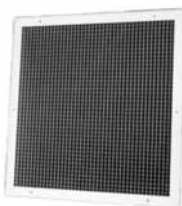
## Series 4500

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Sidewall Grille - Steel Gym Grille - Series 4500

- ✱ The series 4500 is a heavy duty return gym grille. This unit is designed for applications such as gymnasiums and public areas. The border and deflection blades are heavy gauge steel and built to withstand moderate physical abuse
- ✱ The series 4500 is available with 0° deflection or for more sight-proof application, 38° deflection (model 4538-1)
- ✱ Series 4500 is an excellent choice for return or exhaust applications in high traffic applications where extra protection for the grille is required

Grilles	
Surface Mount	4500-1 0° Deflection - Horizontal Fixed Blades
	4538-1 38° Deflection - Horizontal Fixed Blades



## Series CC5

Pg. 180

### Sidewall/Ceiling Return Grilles & Registers - Extruded Aluminum/Aluminum - Series CC5/CC15/CC1

- ✱ The series CC5 cubed core return and exhaust grilles are designed to provide low pressure drops and low sound levels
- ✱ The series CC5 is available with a number of options and accessories such as a 1" thick core (model CC1) to reduce sight into the grille
- ✱ Series CC5 is an excellent choice for applications requiring minimum pressure drop and noise in return and exhaust applications

	Grilles		
	CC5 - Cubed Core 1/2" x 1/2" x 1/2" Core	CC15 - Cubed Core 1/2" x 1/2" x 1" Core	CC1 - Cubed Core 1" x 1" x 1" Core
Surface Mount	CC5-1	CC15-1	CC1-1
T-bar Lay-in	CC5-6	CC15-6	CC1-6
Concealed Spline	CC5-7	CC15-7	CC1-7
Tegular Ceiling T-bar Lay-in	CC5-8	CC15-8	CC1-8
Donn Finline Lay-in	CC5-9	CC15-9	CC1-9
T-bar Lay-in Channel Frame	CC5 TBC-6		
Removable Core	CC5R-6		



## Model RP

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Sidewall Ceiling Return Grille - Perforated Face - Aluminum - Model RP

- ✱ The series RP perforated face return or exhaust grilles are designed to blend into the ceiling system and provide a clean, uncluttered architectural appearance
- ✱ The series RP grilles and registers are available with a wide range of options and accessories
- ✱ Series RP is of aluminum construction and ideal for return and exhaust applications requiring low pressure drops and low sound

Sidewall Ceiling Return Grille - Perforated Face
RP-1



## Series RC

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Removable Core Grilles & Registers - Extruded Aluminum - Series RC - Revers-A-Core®

- ✱ The series RC Revers-A-Core® supply grilles and registers combine rugged aluminum construction, a clean architectural design, and an extremely flexible air pattern versatility
- ✱ The fixed louvered core is removable from the face and can be rotated or reversed to achieve any of four different air deflection patterns
- ✱ Series RC grilles and registers is an excellent selection for applications calling for a distinctive appearance and high performance

Single Deflection		Double Deflection	
Curved Border	41C-1	Curved Border	42C-1
Flat Border	41F-1	Flat Border	42F-1
Curved Border - Removable Inner Frame	RC41C-1	Curved Border - Removable Inner Frame	RC42C-1

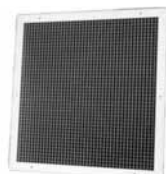


**Series RHF**  
Pg. 184

## Filter Return Grilles - Aluminum - Series RHF

- ✦ The series RHF return filter grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- ✦ The series RHF is designed for 1" or 2" thick filters (by others) and includes a hinged face with 1/4" turn fasteners for quick filter changes
- ✦ Series RHF is an excellent choice for exhaust and return applications requiring a filter

	Roll Formed Aluminum	Extruded Aluminum	Steel
Surface Mount	RHF-1 G/S (Grille Size)	RHEF-1 G/S (Grille Size)	SRHF-1 G/S (Grille Size)
	RHF-1 F/S (Filter Size)	RHEF-1 F/S (Filter Size)	SRHF-1 F/S (Filter Size)
T-bar Lay-in	RHF-6 G/S (Grille Size)		SRHF-6 G/S (Grille Size)
	RHF-6 F/S (Filter Size)		SRHF-6 F/S (Filter Size)



**Series CC5F**  
Pg. 188

## Filter Return Grilles - Cubed Core - Aluminum - Series CC5F

- ✦ The series CC5F cubed core return and exhaust filter grilles are designed to provide low pressure drops and low sound levels
- ✦ The series CC5F is designed for 1" thick filters (by others) and includes a hinged face with 1/4" turn fasteners for quick filter changes
- ✦ Series CC5F is an excellent choice for applications requiring minimum pressure drop and noise in return and exhaust applications

Return Grilles	
Surface Mount	CC5F-1 G/S Grille Size
	CC5F-1 F/S Filter Size
T-bar Lay-in	CC5F-6 G/S Grille Size
	CC5F-6 F/S Filter Size



**Series RPF**  
Additional product  
information available  
at [www.metalaire.com](http://www.metalaire.com)

## Filter Return Grilles - Aluminum - Series RPF

- ✦ The series RPF perforated face return or exhaust filter grilles are designed to blend into the ceiling system and provide a clean, uncluttered architectural appearance
- ✦ The series RPF is designed for 1" thick filters (by others) and includes a hinged face with 1/4" turn fasteners for quick filter changes
- ✦ Series RPF is of aluminum construction and ideal for return and exhaust filter applications requiring low pressure drops and low sound

Perforated Face Return Filter	
Surface Mount	RPF-1 G/S (Grill Size)
	RPF-1 F/S (Filter Size)
T-bar Lay-in	RPF-6 G/S (Grill Size)



# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRE Pre-Flite catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRE Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaire.com](http://www.metalaire.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRE InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM)

METALAIRE leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



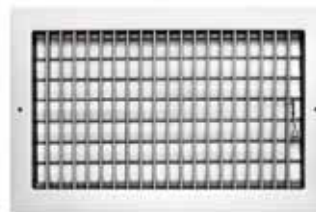
# METALAIRE



## Supply Grilles ➡ Series V ➡ Stamped Border ➡ Aluminum

### Product Details

- ★ The V series of grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- ★ This economical series of supply grilles and registers are available with the V-1 single deflection, VH-1 double deflection and with the VM-1 single deflection with a built in multi-shutter damper
- ★ The V series are provided with vertical front blades. Units are constructed with an aluminum one piece formed border



**Model VM-1 Shown**

Standard Finish: 01 White

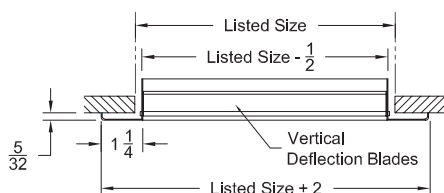
	6	8	10	12	14
4	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓
8		✓	✓	✓	✓
10			✓		
12				✓	

Available neck sizes  
(V-1, VH-1, VM-1)

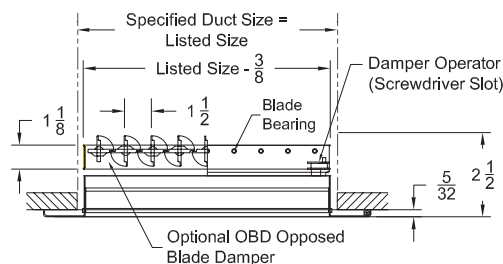
### Single Deflection

Sideview, dimensions are in inches

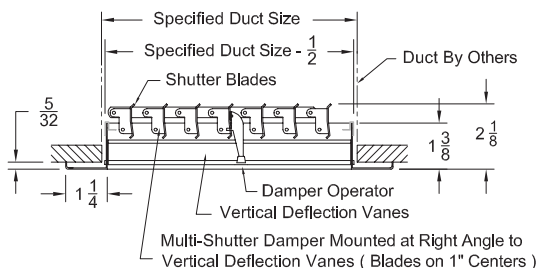
Supply - Single Deflection Grille - Surface Mount - Vertical Blades  
Model V-1



Supply - Single Deflection Register - Surface Mount - Vertical Blades  
With Opposed Blade Damper  
Model VD-1



Supply - Single Deflection Register - Surface Mount - Vertical Blades  
With Multi Shutter Damper  
Model VM-1

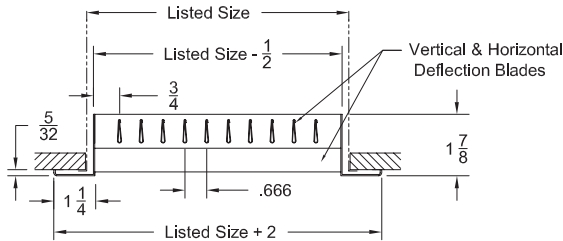




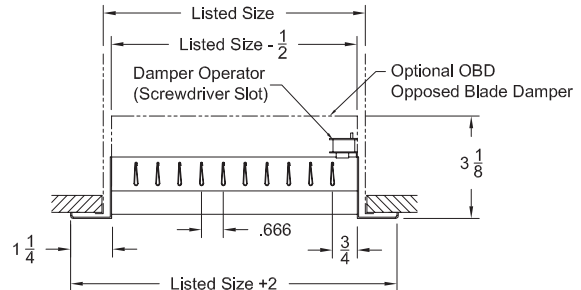
# GAR - Grilles and Registers

## Double Deflection

Supply - Double Deflection Grille - Surface Mount - Vertical Front Blades  
Model VH-1



Supply - Double Deflection Register - Vertical Front Blades  
With Opposed Blade Damper  
Model VHD-1



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	<b>OBD - Steel - Opposed Blade Damper (for grilles only)</b> . . . . .221 <b>OBDA - Aluminum - Opposed Blade Damper (for grilles only)</b> .221 <b>L9 - Equalizing Grid</b> . . . . .221 <b>PF - Plaster Frame</b> . . . . .222	<ul style="list-style-type: none"> <li>Sizes available only as listed</li> <li>For larger sizes, oversize or horizontal front blades, use series H (V) 4002</li> <li>Border is one-piece construction</li> </ul>

## Series V - Performance

Models V, VH, VM/ Series V available sizes shown on GAR-158

CFM	OUTLET SIZE									NC
		6" x 4"	8" x 4"	10" x 4"	8" x 6"	10" x 6"	12" x 6"	10" x 8"	12" x 8"	
50	Velocity Ps Throw	300 .011 12-9-7	225 .006 11-8-6							
100	Velocity Ps Throw	600 .044 20-14-11	450 .025 18-13-10	360 .016 16-12-9	300 .011 15-11-9	240 .007 14-10-8	200 .005 13-10-7			
150	Velocity Ps Throw	900 .099 26-18-14	675 .056 23-17-13	540 .036 22-15-12	450 .025 20-14-11	360 .016 19-13-10	300 .011 18-13-10	270 .009 17-12-9	225 .006 16-11-9	20
200	Velocity Ps Throw		900 .099 28-20-16	720 .064 26-19-14	600 .044 25-18-14	480 .028 23-16-13	400 .020 22-15-12	360 .016 21-15-11	300 .011 20-14-11	
250	Velocity Ps Throw				750 .069 29-20-16	600 .044 27-19-15	500 .031 25-18-14	450 .025 24-17-13	375 .017 23-16-13	
300	Velocity Ps Throw				900 .099 33-23-18	720 .064 30-21-17	600 .044 28-20-16	540 .036 27-19-15	450 .025 26-18-14	
350	Velocity Ps Throw					840 .087 34-24-18	700 .060 32-22-17	630 .049 30-22-17	525 .034 29-20-16	
400	Velocity Ps Throw						800 .079 35-25-19	720 .064 33-24-18	600 .044 31-22-17	20
450	Velocity Ps Throw						900 .099 38-27-21	810 .080 36-26-20	675 .056 34-24-19	25
500	Velocity Ps Throw								750 .069 37-26-20	
550	Velocity Ps Throw								825 .083 39-28-21	
600	Velocity Ps Throw								900 .099 41-29-23	
	NC	30 - 35								

### Performance Notes for Series V

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

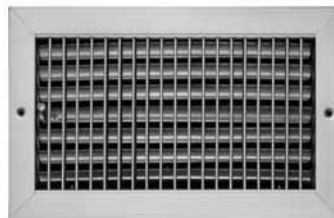
- CFM** - Cubic feet per minute (air)
- fpm** - Velocity of air stream in feet per minute
- Ps** - Static pressure = Pt - Pv (inches of water column)
- Throw** - Non-isothermal horizontal throw (supply air temperature 20°F colder than average room air temperature) values are for 150 fpm - 100 fpm - 50 fpm velocities
- NC** - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands



## ➔ Supply Grilles ➔ Series 4000 ➔ Aluminum ➔ Series 4000S ➔ Steel

### Product Details

- ★ Series 4000 sets the standards for performance and appearance in the industry. Series 4000 is all aluminum; series 4000S has a steel border and steel deflection blades
- ★ The series 4000 are available with single or double deflection, with a number of options and accessories to meet a variety of applications
- ★ Series 4000 grilles and registers can be selected with either vertical or horizontal front blades



**Model V4004 -1 Shown**

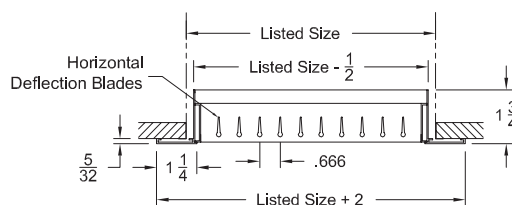
Standard Finish: 01 White

Series 4000 available in 6" x 4" to 48" x 48"  
in one piece construction (2" increments)

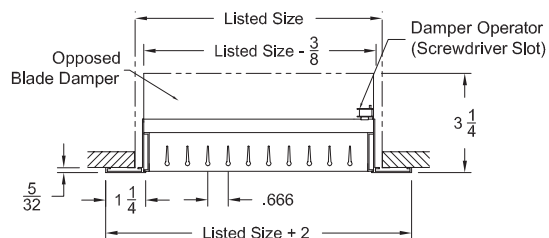
### Single Deflection ➔ Aluminum

Sideview, dimensions are in inches

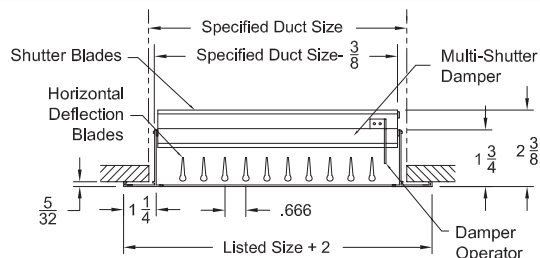
**Supply - Single Deflection Grille - Surface Mount - Aluminum**  
 Model H4002-1 - Horizontal Blades  
 Model V4002-1 - Vertical Blades



**Supply - Single Deflection Register - Surface Mount - Aluminum With Opposed Blade Damper**  
 Model H4002D-1 - Horizontal Blades  
 Model V4002D-1 - Vertical Blades

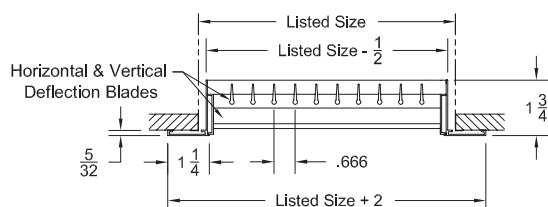


**Supply - Single Deflection Register - Surface Mount - Aluminum With Multi Shutter Damper**  
 Model H4002M-1 - Horizontal Blades  
 Model V4002M-1 - Vertical Blades

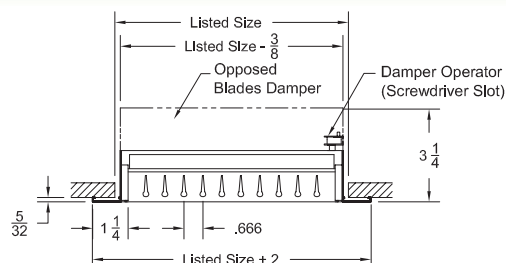


### Double Deflection ➔ Aluminum

**Supply - Double Deflection Grille - Surface Mount - Aluminum**  
 Model H4004-1 - Horizontal Blades  
 Model V4004-1 - Vertical Blades



**Supply - Double Deflection Register - Surface Mount - Aluminum With Opposed Blade Damper**  
 Model H4004D-1 - Horizontal Blades  
 Model V4004D-1 - Vertical Blades



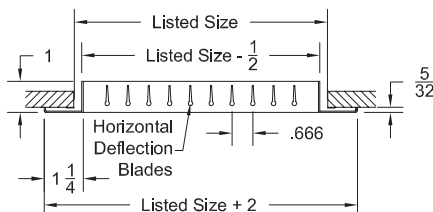
# GAR - Grilles and Registers

## Single Deflection - Steel

### Supply - Single Deflection - Surface Mount - Steel

Model H4002S-1 - Horizontal Blades

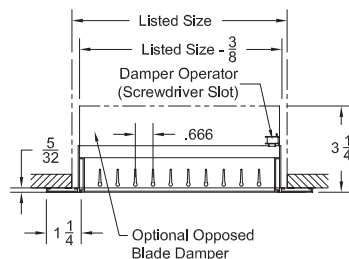
Model V4002S-1 - Vertical Blades



### Supply - Single Deflection - Surface Mount - Steel With Opposed Blade Damper

Model H4002SD-1 - Horizontal Blades

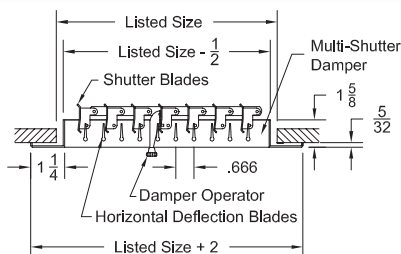
Model V4002SD-1 - Vertical Blades



### Supply - Single Deflection - Surface Mount - Steel With Multi Shutter Damper

Model H4002SM-1 - Horizontal Blades

Model V4002SM-1 - Vertical Blades

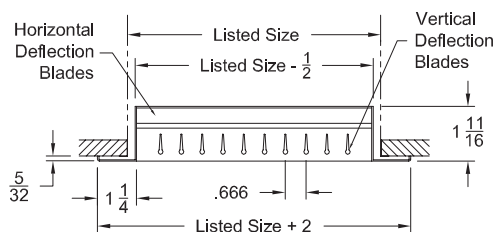


## Double Deflection - Steel

### Supply - Double Deflection - Surface Mount - Steel

Model H4004S-1 - Horizontal Blades

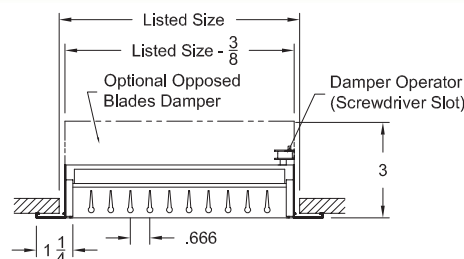
Model V4004S-1 - Vertical Blades



### Supply - Double Deflection - Surface Mount - Steel With Opposed Blade Damper

Model H4004SD-1 - Horizontal Blades

Model V4004SD-1 - Vertical Blades



Notes for Models H4002-1, V4002-1, H4004-1, V4004-1, H4002M-1, V4002M-1

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	OBD - Steel - Opposed Blade Damper (for grilles only) . . . . .221 OBDA - Aluminum - Opposed Blade Damper (for grilles only) .221 L9 - Equalizing Grid . . . . .221 PF - Plaster Frame . . . . .222	<ul style="list-style-type: none"> <li>All sizes have steel borders and blades</li> <li>Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in field</li> <li>Can be ordered to fit standard T-bar grid sizes</li> </ul>

Notes for Models H4002S-1, V4002S-1, H4004S-1, V4004S-1, H4002SM-1, V4002SM-1

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	OBD - Steel - Opposed Blade Damper (for grilles only) . . . . .221 OBDA - Aluminum - Opposed Blade Damper (for grilles only) .221 L9 - Equalizing Grid . . . . .221 PF - Plaster Frame . . . . .222	<ul style="list-style-type: none"> <li>All sizes have steel borders and blades</li> <li>Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in field</li> <li>Can be ordered to fit standard T-bar grid sizes</li> </ul>



# GAR - Grilles and Registers

5/2007

## Series 4000 - Performance

Models H4002-1, V4002-1, H4004-1, V4004-1, H4002M-1, V4002M-1,  
H4002S-1, V4002S-1, H4004S-1, V4004S-1, H4002SM-1, V4002SM-1

CFM		OUTLET SIZE														NC
		6" x 4"	8" x 4"	10" x 4"	8" x 6"	10" x 6"	12" x 6"	10" x 8"	12" x 8"	18" x 6"	16" x 8"	24" x 6"	20" x 8"	28" x 6"	30" x 6"	
50	Velocity Ps Throw	300 .011 12-9-7	225 .006 11-8-6													20
100	Velocity Ps Throw	600 .044 20-14-11	450 .025 18-13-10	360 .016 16-12-9	300 .011 15-11-9	240 .007 14-10-8	200 .005 13-10-7									
150	Velocity Ps Throw	900 .099 26-18-14	675 .056 23-17-13	540 .036 22-15-12	450 .025 20-14-11	360 .016 19-13-10	300 .011 18-13-10	270 .009 17-12-9	225 .006 16-11-9	200 .005 15-11-9						
200	Velocity Ps Throw		900 .099 28-20-16	720 .064 26-19-14	600 .044 25-18-14	480 .028 23-16-13	400 .020 22-15-12	360 .016 21-15-11	300 .011 20-14-11	267 .009 19-13-10	225 .006 18-13-10	200 .005 17-12-9				
250	Velocity Ps Throw				750 .069 29-20-16	600 .044 27-19-15	500 .031 25-18-14	450 .025 24-17-13	375 .017 23-16-13	333 .014 22-16-12	281 .010 21-15-11	250 .008 20-14-11	225 .006 19-14-11	214 .006 19-13-10	200 .005 18-13-10	
300	Velocity Ps Throw				900 .099 33-23-18	720 .064 30-21-17	600 .044 28-20-16	540 .036 27-19-15	450 .025 26-18-14	400 .020 25-18-14	338 .014 23-17-13	300 .011 22-16-12	270 .009 22-15-12	257 .008 22-15-12	240 .007 21-15-11	
400	Velocity Ps Throw						800 .079 35-25-19	720 .064 33-24-18	600 .044 31-22-17	533 .035 33-23-18	450 .025 28-20-16	400 .020 27-19-15	360 .016 26-19-14	343 .014 26-18-14	320 .013 25-18-14	
500	Velocity Ps Throw								750 .069 37-26-20	667 .055 35-25-19	563 .039 33-23-18	500 .031 32-23-17	450 .025 31-22-17	429 .023 30-21-17	400 .020 29-21-16	
600	Velocity Ps Throw								900 .099 41-29-23	800 .079 40-28-22	675 .056 38-27-21	600 .044 36-26-20	540 .036 35-25-19	514 .032 34-24-19	480 .028 33-24-18	
700	Velocity Ps Throw										787 .076 42-30-23	700 .060 40-28-22	630 .049 39-27-21	600 .044 38-27-21	560 .038 36-26-20	
	NC	30 - 35										20 - 25				

CFM	OUTLET SIZE															
		30" x 8"	16" x 16"	24" x 12"	30" x 10"	18" x 18"	28" x 12"	20" x 18"	24" x 16"	40" x 10"	30" x 14"	36" x 12"	24" x 20"	42" x 12"	48" x 12"	
350	Velocity Ps Throw	210 .005 21-15-12														
400	Velocity Ps Throw	240 .007 23-16-13	225 .006 22-16-12	200 .005 22-15-12												
450	Velocity Ps Throw	270 .009 25-18-14	253 .008 24-17-13	225 .006 23-17-13	216 .006 23-16-13	200 .005 22-16-12										
500	Velocity Ps Throw	300 .011 27-19-15	281 .010 26-19-14	250 .008 25-18-14	240 .007 25-18-14	222 .006 24-17-13	214 .006 24-17-13	200 .005 23-17-13								
600	Velocity Ps Throw	360 .016 30-21-17	338 .014 30-21-16	300 .011 28-20-16	288 .010 28-20-15	267 .009 27-19-15	257 .008 27-19-15	240 .007 26-19-14	225 .006 26-18-14	216 .006 25-18-14	206 .005 25-18-14	200 .005 25-18-14				
650	Velocity Ps Throw	390 .019 32-23-18	366 .016 31-22-17	325 .013 30-21-16	312 .012 30-21-16	289 .010 29-20-16	279 .010 28-20-16	260 .008 28-20-15	244 .007 27-19-15	234 .007 27-19-15	223 .006 26-19-14	217 .006 26-19-14				
800	Velocity Ps Throw	480 .028 37-26-20	450 .025 36-26-20	400 .020 35-25-19	384 .018 34-24-19	356 .016 33-24-18	343 .014 33-23-18	320 .013 32-23-18	300 .011 31-22-17	288 .010 31-22-17	274 .009 30-22-17	267 .009 30-21-17	240 .007 29-21-16	229 .006 29-20-16	200 .005 27-19-15	
1000	Velocity Ps Throw	600 .044 43-31-24	563 .039 42-30-23	500 .031 40-29-22	480 .028 40-28-22	444 .024 39-28-21	429 .023 38-27-21	400 .020 37-27-21	375 .017 37-26-20	360 .016 36-26-20	343 .014 35-25-19	333 .014 35-25-29	300 .011 34-24-19	286 .010 33-24-18	250 .008 32-23-17	
1200	Velocity Ps Throw	720 .064 49-35-27	675 .056 48-34-26	600 .044 46-33-25	576 .041 45-32-25	533 .035 44-31-24	514 .032 43-31-24	480 .028 42-30-23	450 .025 41-29-23	432 .023 41-29-22	411 .021 40-29-22	400 .020 40-28-22	360 .016 38-27-21	343 .014 38-27-21	300 .011 36-26-20	
1400	Velocity Ps Throw	840 .087 54-39-30	787 .076 53-38-29	700 .060 51-36-28	672 .055 50-36-28	662 .047 49-35-27	600 .044 48-34-27	560 .038 47-34-26	525 .038 47-34-26	504 .031 46-32-25	480 .028 45-32-25	467 .027 44-31-24	420 .022 43-30-24	400 .020 42-30-23	350 .015 38-27-21	
	NC	30 - 35			20 - 25							20				

For Series 4000 performance notes, see page GAR-163

# GAR - Grilles and Registers

## Series 4000 - Performance

Models H4002-1, V4002-1, H4004-1, V4004-1, H4002M-1, V4002M-1,  
H4002S-1, V4002S-1, H4004S-1, V4004S-1, H4002SM-1, V4002SM-1

CFM		OUTLET SIZE														
		42" x 16"	30" x 24"	48" x 16"	36" x 24"	30" x 30"	48" x 20"	44" x 24"	36" x 30"	48" x 24"	36" x 30"	48" x 26"	40" x 32"	36" x 36"	48" x 30"	
1000	Velocity Ps Throw	214 .006 30-21-17	200 .005 29-21-16													
	Velocity Ps Throw	257 .008 34-24-19	240 .007 33-24-18	225 .006 33-23-18	200 .005 31-22-17											
1400	Velocity Ps Throw	300 .011 38-27-21	280 .010 37-26-20	263 .008 36-26-20	233 .007 35-25-19	224 .006 34-24-19	210 .005 34-24-18									
	Velocity Ps Throw	343 .014 42-30-23	320 .013 41-29-22	300 .011 40-28-22	267 .009 38-27-21	256 .008 38-27-21	240 .007 37-26-20	218 .006 36-25-20	213 .006 35-25-19	200 .005 35-25-19	213 .006 35-25-19					
1800	Velocity Ps Throw	386 .018 45-32-26	360 .016 44-31-24	338 .014 43-31-24	300 .011 41-29-23	288 .010 41-29-22	270 .009 40-28-22	245 .007 39-27-21	240 .007 38-27-21	225 .006 38-27-21	240 .007 38-27-21	208 .005 37-26-20	203 .005 26-26-20	200 .005 36-26-20		
	Velocity Ps Throw	429 .023 49-35-27	400 .020 48-34-26	375 .017 46-33-26	333 .014 45-32-25	320 .013 44-31-24	300 .011 43-31-24	273 .009 42-30-23	267 .009 41-29-23	250 .008 40-29-22	267 .009 41-29-23	231 .007 39-28-22	225 .006 39-28-21	222 .006 39-28-21	200 .005 37-27-21	
2200	Velocity Ps Throw	471 .027 52-37-29	440 .024 51-36-28	413 .021 50-35-27	367 .016 48-34-26	352 .015 47-33-26	330 .013 46-33-25	300 .011 44-32-24	293 .011 44-31-24	275 .009 43-31-24	293 .011 44-31-24	254 .008 42-30-23	248 .008 42-30-23	244 .007 41-29-23	220 .006 40-28-22	
	Velocity Ps Throw	514 .032 55-39-30	480 .028 54-38-30	450 .025 53-37-29	400 .020 51-36-28	384 .018 50-35-27	360 .016 49-35-27	327 .013 47-34-26	320 .013 47-33-26	300 .011 46-33-25	320 .013 47-33-26	277 .009 45-32-25	270 .009 44-31-24	267 .009 44-31-24	240 .007 42-30-23	
2600	Velocity Ps Throw	557 .038 58-41-32	520 .033 57-40-31	488 .029 56-40-31	433 .023 53-38-29	416 .021 53-37-29	390 .019 52-37-28	355 .015 50-35-27	347 .015 50-35-27	325 .013 48-34-27	347 .015 50-35-27	300 .011 47-33-26	292 .010 49-33-26	289 .010 47-33-26	260 .008 45-32-25	
	Velocity Ps Throw	600 .044 61-44-34	560 .038 60-43-33	525 .034 59-42-32	467 .027 56-40-31	448 .025 55-39-31	420 .022 54-39-30	382 .018 53-37-29	373 .017 52-37-29	350 .015 51-36-28	373 .017 52-37-29	323 .013 50-35-27	315 .012 49-35-27	311 .012 49-35-27	280 .010 47-34-26	
3000	Velocity Ps Throw	643 .051 64-46-35	600 .044 63-45-35	563 .039 61-44-34	500 .031 59-42-32	480 .028 58-41-32	450 .025 57-40-31	409 .021 55-39-30	400 .020 55-39-30	375 .017 53-38-29	400 .020 55-39-30	346 .015 52-37-29	338 .014 52-37-28	333 .014 51-36-28	300 .011 50-35-27	
	Velocity Ps Throw	729 .065 70-50-38	680 .057 68-48-38	637 .050 67-47-37	567 .039 64-46-35	544 .036 63-45-35	510 .032 62-44-34	464 .026 60-43-33	453 .025 60-42-33	425 .022 58-41-32	453 .025 60-42-33	392 .019 57-40-31	383 .018 56-40-31	378 .018 56-40-31	340 .014 54-38-30	
3800	Velocity Ps Throw	814 .081 75-53-41	760 .071 74-52-40	712 .062 72-51-40	633 .049 69-49-38	608 .045 68-48-38	570 .040 67-47-37	518 .033 65-46-36	507 .031 64-46-35	475 .028 63-45-35	507 .031 64-46-35	438 .024 61-43-34	428 .022 61-43-33	422 .022 60-43-33	380 .018 58-41-32	
	Velocity Ps Throw	900 .099 80-57-44	840 .087 79-56-43	787 .076 77-55-42	700 .060 77-55-42	672 .055 73-52-40	630 .049 71-51-39	573 .040 69-49-38	560 .038 69-49-38	525 .034 67-48-37	560 .038 69-49-38	485 .029 65-46-36	472 .027 65-46-36	467 .027 65-46-36	420 .022 60-43-33	
NC		25 - 30			20 - 25											

### Performance Notes for Series 4000

All data are tested are accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

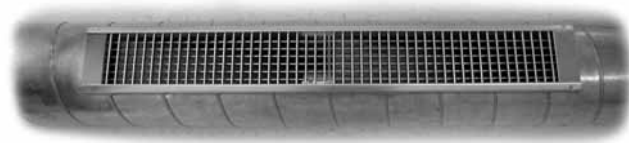
- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Ps - Static pressure =  $P_t - P_v$  (inches of water column)
- Throw - Non-isothermal horizontal throw (supply air temperature 20°F colder than average room air temperature) values are for 50 fpm - 100 fpm - 150 fpm velocities
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands



## ➔ Supply Grilles ➔ Series 4004P-1 ➔ Aluminum ➔ Series 4004SP-1 ➔ Steel

### Product Details

- ★ The model 4004P (aluminum) and 4004SP (galvanized steel) offers superior performance in exposed duct applications offering a clean, low profile appearance
- ★ Front blades are vertical
- ★ Units can be easily installed in round duct diameters 10" to 48"
- ★ Integral gasket seals grille tightly to duct
- ★ Units includes built in extractor to allow accurate balancing and uniform air flow
- ★ Model 4004P is all aluminum construction  
Model 4004SP is galvanized steel construction



**Model 4004SP-1 Shown**

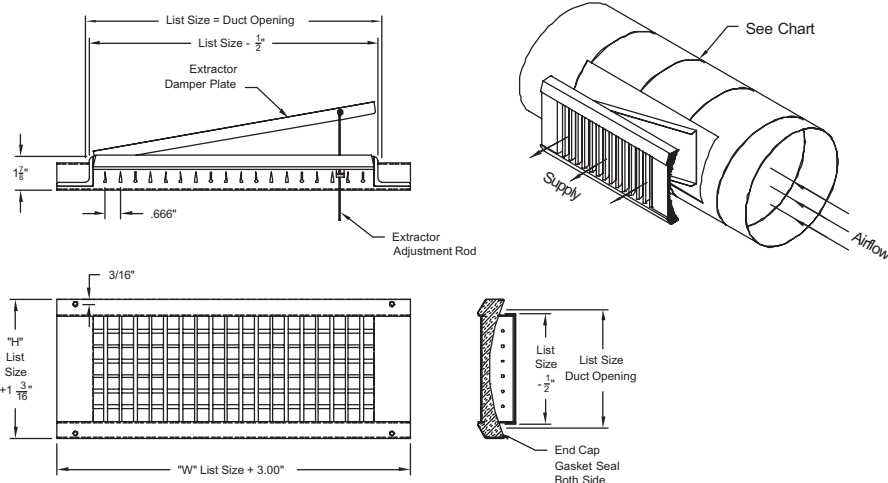
Standard Finish: 24 Mill (galvanized)

Sideview, dimensions are in inches

### Supply - Spiral Pipe Grille - Surface Mount

Model 4004P-1 - Aluminum

Model 4004SP-1 - Galvanized Steel



Available in listed sizes only

HEIGHT	WIDTH															
	10"	12"	14"	16"	18"	20"	24"	30"	36"	38"	40"	42"	44"	46"	48"	
	MINIMUM / MAXIMUM DUCT DIAMETER															
3"	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24	6/24
4"	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24	8/24
6"	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24
8"	-	-	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36	20/36
10"	-	-	-	-	30/48	30/48	30/48	30/48	30/48	30/48	30/48	30/48	30/48	30/48	30/48	30/48
12"	-	-	-	-	42/48	42/48	42/48	42/48	42/48	42/48	42/48	42/48	42/48	42/48	42/48	42/48

### 1. Available Finishes

Standard Finish for 4004SP - Steel:  
24 Mill finish

Standard Finish for 4004P - Aluminum:  
01 White

### 2. Construction Details

- Units include extractor with wire handle
- Ends are supplied with foam gasket to seal around duct
- Units are surface mount and provided with screws to mount into duct

# GAR - Grilles and Registers

## Series 4004P - Performance

CFM		10x3	12x3	10x4 14x3	16x3 12x4	18x3 14x4	10x6 20x3	16x4	24x3 12x6 18x4	14x6 20x4	16x6 24x4 30x3	14x8 18x6 36x3	16x8 20x6 30x4	24x6 18x8 36x4
50	Velocity Ps Throw	225 0.006 11-8-6												
100	Velocity Ps Throw	450 0.025 18-13-10	400 0.02 17-13-10	360 0.016 16-12-9	300 0.011 15-11-9	260 0.008 14-10-9	240 0.007 14-10-8	225 0.006 14-10-8	200 0.005 13-10-7					
150	Velocity Ps Throw	675 0.056 23-17-13	600 0.048 22-16-12	540 0.036 22-15-12	450 0.025 20-14-11	400 0.02 19-14-10	360 0.016 19-13-10	340 0.014 19-13-10	300 0.011 18-13-10	270 0.009 17-12-9	225 0.006 16-11-9			
200	Velocity Ps Throw	900 0.099 28-20-16	800 0.082 27-19-15	720 0.064 26-19-14	600 0.044 25-18-14	530 0.035 24-16-13	480 0.028 23-16-13	450 0.025 23-16-12	400 0.02 22-15-12	360 0.016 21-15-11	300 0.011 20-14-11	260 0.008 19-13-10	225 0.006 18-13-10	200 0.005 17-12-9
250	Velocity Ps Throw				750 0.069 29-20-16	660 0.054 28-19-15	600 0.044 27-19-15	565 0.039 27-19-15	500 0.031 25-18-14	450 0.025 24-17-13	375 0.017 23-16-13	330 0.013 22-15-12	281 0.01 21-15-11	250 0.008 20-14-11
300	Velocity Ps Throw				900 0.099 33-23-18	800 0.08 31-21-17	720 0.064 30-21-17	675 0.055 29-21-17	600 0.044 28-20-16	540 0.036 27-19-15	450 0.025 26-18-14	400 0.021 25-18-13	338 0.014 23-17-13	300 0.011 22-16-12
400	Velocity Ps Throw							900 0.091 37-30-22	800 0.079 35-25-19	720 0.064 33-24-18	600 0.044 31-22-17	535 0.036 30-22-18	450 0.025 28-20-16	400 0.02 27-19-15
500	Velocity Ps Throw										750 0.069 37-26-20	665 0.052 36-25-20	563 0.039 33-23-18	500 0.031 32-23-17
600	Velocity Ps Throw											770 0.07 41-29-23	675 0.056 38-27-21	600 0.044 36-26-20
700	Velocity Ps Throw												787 0.076 42-30-23	700 0.06 40-28-22

CFM		16x10 20x8	30x6 18x10	48x4 20x10 24x8	36x6 18x12	20x12 30x8 24x10	48x6 36x8 24x12	30x10	46x8 36x10 30x12	38x10 48x8	36x12	40x12 48x10	48x12
250	Velocity Ps Throw	225 0.006 19-14-11	200 0.005 18-13-10										
300	Velocity Ps Throw	270 0.009 22-15-12	240 0.007 21-15-11	215 0.006 20-15-11	200 0.005 19-14-10								
400	Velocity Ps Throw	360 0.016 26-19-14	320 0.013 25-18-14	288 0.01 24-17-14	265 0.008 23-17-13	240 0.007 23-16-13	200 0.005 22-15-12						
500	Velocity Ps Throw	450 0.025 31-22-17	400 0.02 29-21-16	360 0.017 29-20-16	330 0.014 28-20-15	300 0.011 27-19-15	250 0.008 25-18-14	240 0.007 23-17-13					
600	Velocity Ps Throw	540 0.036 35-25-19	480 0.028 33-24-18	435 0.024 32-23-18	400 0.019 31-22-17	360 0.016 30-21-17	300 0.011 28-20-16	288 0.01 28-20-15	240 0.007 26-19-14	225 0.006 25-17-14	200 0.005 25-18-14		
700	Velocity Ps Throw	630 0.049 39-27-21	560 0.038 36-26-20	500 0.032 36-25-20	460 0.027 35-24-19	420 0.022 34-23-18	350 0.016 33-23-17	335 0.016 33-22-17	280 0.01 29-21-16	265 0.009 26-19-15	235 0.007 27-19-15	210 0.005 27-20-16	
800	Velocity Ps Throw			575 0.037 39-27-22	535 0.034 38-26-21	480 0.028 37-26-20	400 0.02 35-25-19	384 0.018 34-24-19	320 0.013 32-23-18	300 0.011 29-21-16	267 0.009 30-21-17	240 0.008 28-20-17	200 0.005 27-19-15
1000	Velocity Ps Throw				660 0.05 45-34-27	600 0.044 43-31-24	500 0.031 40-29-22	480 0.028 40-28-22	400 0.02 37-27-21	375 0.017 34-23-18	333 0.014 35-25-19	300 0.012 33-24-18	250 0.008 32-23-17
1200	Velocity Ps Throw					720 0.064 49-35-27	600 0.044 46-33-25	576 0.041 45-32-25	480 0.028 42-30-23	450 0.026 39-28-21	411 0.021 40-29-22	360 0.016 38-28-21	300 0.011 36-26-20
1400	Velocity Ps Throw					840 0.087 54-39-30	700 0.06 51-36-28	672 0.055 50-36-28	560 0.038 47-34-26	530 0.032 45-33-26	480 0.028 45-32-25	420 0.022 41-29-23	350 0.015 38-27-21
1600	Velocity Ps Throw									600 0.04 48-34-26	530 0.031 47-34-27	480 0.027 44-31-26	400 0.019 40-29-23
1800	Velocity Ps Throw										600 0.043 49-35-27	540 0.034 44-33-26	450 0.026 42-30-25
2000	Velocity Ps Throw												500 0.032 44-32-27

### Performance Notes for Series 4004P

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

CFM - Cubic Feet per Minute (air)

Velocity - Velocity of air stream in Feet Per Minute

Ps - Static pressure =  $P_t - P_v$  (inches of water column)

Throw - Non-isothermal horizontal throw (supply air temperature 20°F colder than average room air temperature) values are for 50 fpm - 100 fpm - 150 fpm velocities



## Supply Curved Blade Grilles Series L Aluminum

### Product Details

- ★ The L series of curved blade grilles and registers is an economic solution to application requiring ceiling or sidewall installations with direction air patterns. The L series is available with 1, 2-way, 2 way opposite, 3 and 4 way directional air patterns
- ★ The L series is constructed from aluminum with adjustable curved blade allowing adjustment from full horizontal to full vertical air directions
- ★ Units are available with a wide range of options and accessories



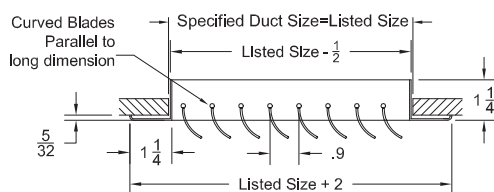
**Model LS3-1 Shown**

Standard Finish: 01 White

### Single Deflection

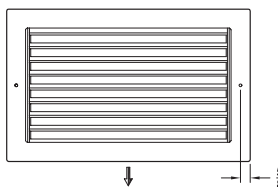
Sideview, dimensions are in inches

Supply - Single Deflection - Surface Mount  
One Way - Long Blades  
Model L-1

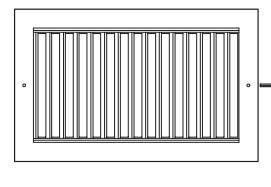


Supply - Single Deflection - Surface Mount  
One Way - Short Blades  
Model S-1

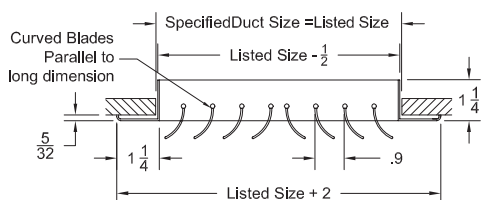
Face View ( L-1 Model )



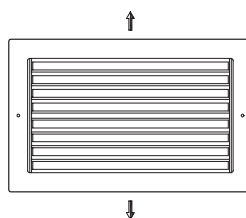
Face View ( S-1 Model )



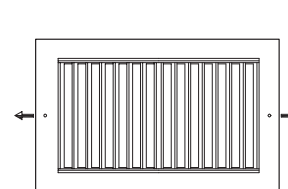
Supply - Single Deflection - Surface Mount  
Two Way Opposite - Long Blades  
Model LT-1



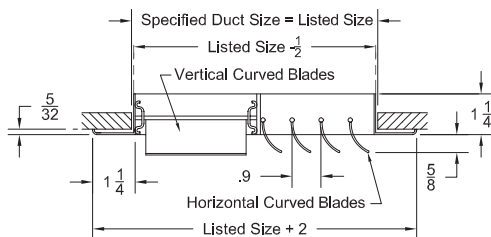
Face View ( LT-1 Model )



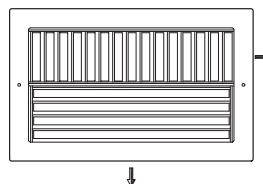
Face View ( ST-1 Model )



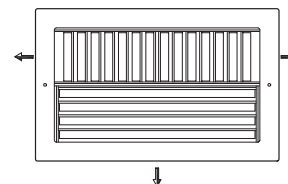
Supply - Single Deflection - Surface Mount  
Two Way Corner Blow Pattern - Long Blades  
Model LTC-1



Face View ( LTC-1 Model )

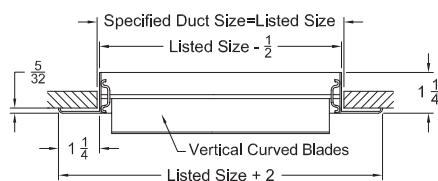


Face View ( LTC3-1 Model )



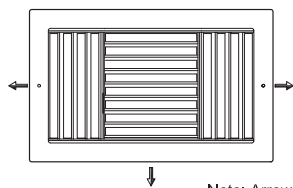
# GAR - Grilles and Registers

**Supply - Single Deflection - Surface Mount**  
**Three Way Equal Throw Blow Pattern - Long Blades**  
 Model LS3-1

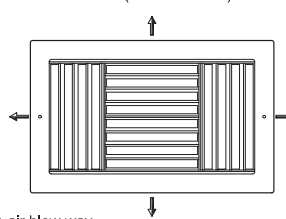


**Supply - Single Deflection - Surface Mount**  
**Four Way Blow Pattern - Long Blades**  
 Model LS4-1

Face View ( LS3-1 Model )



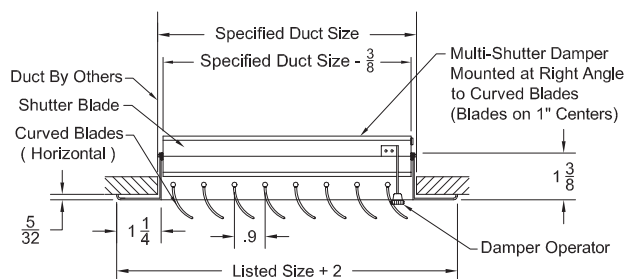
Face View ( LS4-1 Model )



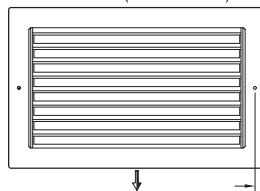
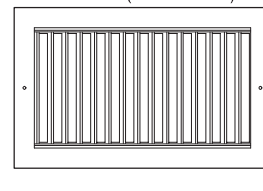
Note: Arrow shows air blow way.

## Single Deflection - Multi-Shutter Damper Operated Through Curved

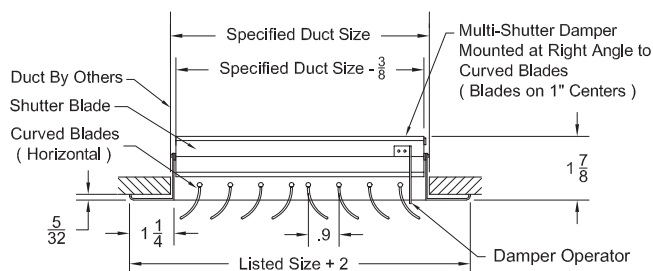
**Supply - Single Deflection - Surface Mount**  
**One Way - Long Blades - With Multi Shutter Damper**  
 Model LM-1



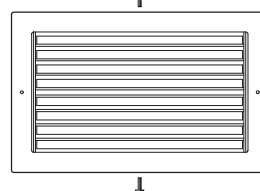
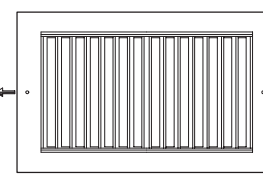
**Supply - Single Deflection - Surface Mount**  
**One Way - Short Blades - With Multi Shutter Damper**  
 Model SM-1

One Way - Long Blades  
Face View ( LM-1 Model )One Way - Short Blades  
Face View ( SM-1 Model )

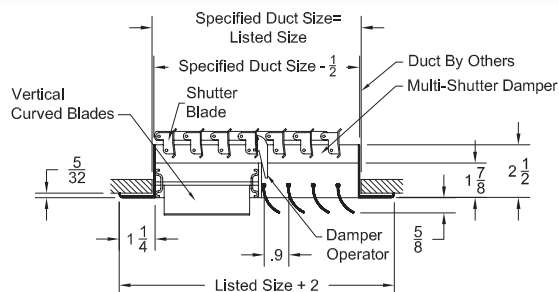
**Supply - Single Deflection - Surface Mount**  
**Two Way Opposite - Long Blades - With Multi Shutter Damper**  
 Model LTM-1



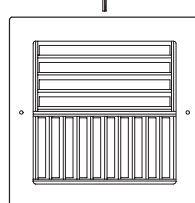
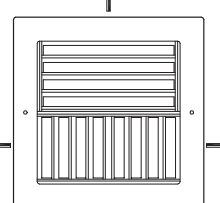
**Supply - Single Deflection - Surface Mount**  
**Two Way Opposite - Short Blades - With Multi Shutter Damper**  
 Model STM-1

Two Way Opposite - Long Blades  
Face View ( LTM-1 Model )Two Way Opposite - Short Blades  
Face View ( STM-1 Model )

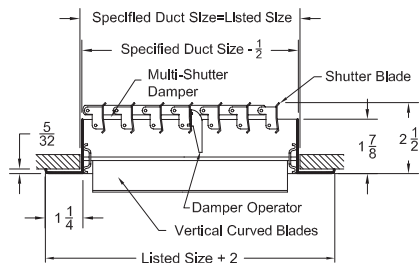
**Supply - Single Deflection - Surface Mount**  
**Two Way Corner Blow Pattern - Long Blades - With Multi Shutter Damper**  
 Model LTCM-1



**Supply - Single Deflection - Surface Mount**  
**Three Way Corner Blow Pattern - Long Blades - With Multi Shutter Damper**  
 Model LTC3M-1

Two Way Corner - Long Blades  
Face View ( LTCM-1 Model )Three Way Corner - Long Blades  
Face View ( LTC3M-1 Model )

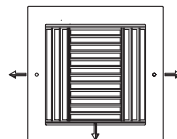
Supply - Single Deflection - Surface Mount  
Three Way Equal Throw - Long Blades - With Multi Shutter Damper  
Model LS3M-1



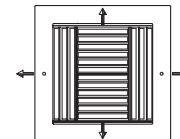
Note: Available In sizes 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14 Only.

Supply - Single Deflection - Surface Mount  
Four Way - Long Blades - With Multi Shutter Damper  
Model LS4M-1

Three Way - Long Blades  
Face View ( LS3M-1 Model )

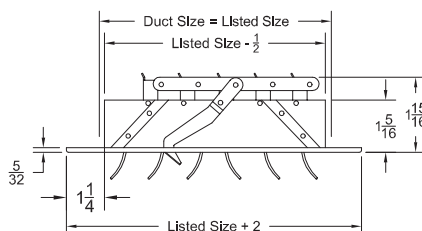


Four Way - Long Blades  
Face View ( LS4M-1 Model )



## Single Deflection - Horizontal Multi-Shutter Damper Operated Through Slot On Border

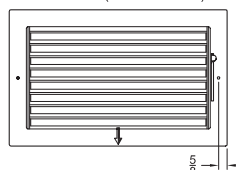
Supply - Single Deflection - Surface Mount - One Way - Long Blades  
With Horizontal Multi Shutter Damper - with handles through border  
Model LMH-1



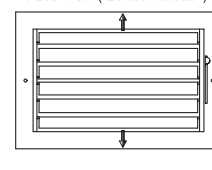
Only Available in Sizes: 6 x 4, 8 x 4, 10 x 4, 12 x 4, 14 x 4, 6 x 6, 8 x 6, 10 x 6, 12 x 6, 14 x 6, 8 x 8, 10 x 8, 12 x 8, 14 x 8, 10 x 10 and 12 x 12

Supply - Single Deflection - Surface Mount  
Two Way Opposite - Long Blades - With Horizontal Multi Shutter Damper  
Model LTMH-1

One Way - Long Blades  
Face View ( LMH-1 Model )

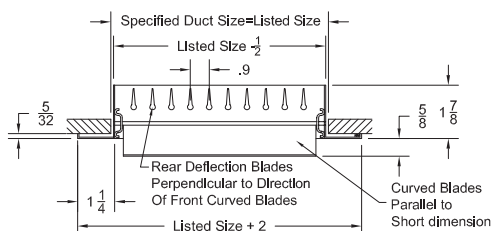


Two Way Opposite - Long Blades  
Face View ( LTMH-1 Model )



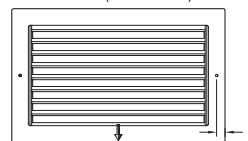
## Double Deflection

Supply - Double Deflection - Surface Mount  
One Way - Long Blades  
Model LV-1

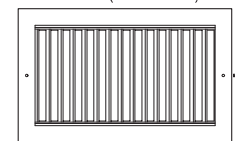


Supply - Double Deflection - Surface Mount  
One Way - Short Blades  
Model SH-1

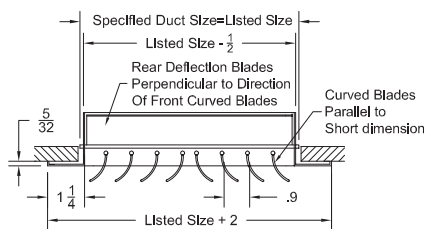
One Way - Long Blades  
Face View ( LV-1 Model )



One Way - Short Blades  
Face View ( SH-1 Model )

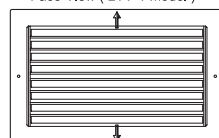


Supply - Double Deflection - Surface Mount  
Two Way Opposite - Long Blades  
Model LTV-1

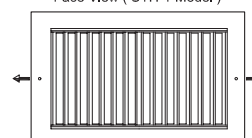


Supply - Double Deflection - Surface Mount  
Two Way Opposite - Short Blades  
Model STH-1

Two Way Opposite - Long Blades  
Face View ( LTV-1 Model )



Two Way Opposite - Short Blades  
Face View ( STH-1 Model )



# GAR - Grilles and Registers

Notes for Models L-1, S-1, LT-1, ST-1, LTC-1, LTC3-1, LS3-1, LS4-1, LV-1, SH-1, LTV-1, STH-1

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	OBD - Steel - Opposed Blade Damper .....221 OBDA - Aluminum - Opposed Blade Damper .....221 L9 - Equalizing Grid .....221 PF - Plaster Frame .....222	<ul style="list-style-type: none"> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in field</li> <li>• Can be ordered to fit standard T-bar Lay-in grid sizes</li> <li>• Can be ordered with smaller neck sizes in T-bar panels</li> </ul>

Notes for Models LM-1, SM-1, LTM-1, STM-1, LTCM-1, LTC3M-1, LMH-1, LTMH-1, LS3M-1, LS4M-1

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	L9 - Equalizing Grid .....221 PF - Plaster Frame .....222	<ul style="list-style-type: none"> <li>• No odd/fractional sizes available</li> <li>• Sizes only as listed</li> </ul>

## Series L - Performance

Models L-1, S-1, LT-1, ST-1, LTC-1, LTC3-1, LS3-1, LS4-1, LV-1, SH-1, LTV-1, STH-1,  
LM-1, SM-1, LTM-1, STM-1, LTCM-1, LTC3M-1, LMH-1, LTMH-1, LS3M-1, LS4M-1

CFM	Ak	OUTLET SIZE												NC
		6" x 6"	8" x 6"	8" x 8"	12" x 6"	10" x 8"	10" x 10"	12" x 10"	12" x 12"	14" x 12"	14" x 14"	18" x 12"	16" x 16"	
		.08	.10	.14	.15	.17	.22	.26	.31	.36	.42	.46	.55	
50	Velocity Ps Throw	645 .055 12-8-7-6	484 .012 11-7-6-5	363 .007 10-7-6-5	323 .005 9-6-5-4	290 .004 9-6-5-4	232 .003 8-6-5-4							20
100	Velocity Ps Throw		968 .049 17-12-10-8	726 .028 15-11-9-7	645 .022 15-10-9-7	581 .018 14-10-8-7	465 .011 13-9-8-6	387 .008 13-9-7-6	323 .005 12-8-7-6	276 .004 11-8-6-5	237 .003 11-7-6-5	215 .002 10-7-6-5		
150	Velocity Ps Throw			1089 .063 20-14-12-10	968 .049 20-14-11-9	871 .040 19-13-11-9	697 .026 17-12-10-8	581 .018 16-12-10-8	484 .012 15-11-9-7	415 .009 15-10-9-7	355 .007 14-10-8-7	323 .005 13-9-8-6	272 .004 13-9-7-6	
200	Velocity Ps Throw					1161 .071 23-16-13-11	929 .046 21-15-12-10	774 .032 20-14-12-9	645 .022 19-13-11-9	553 .016 18-13-10-8	474 .012 17-12-10-8	430 .010 16-11-10-8	363 .007 15-11-9-7	20 - 25
250	Velocity Ps Throw						1161 .071 25-17-14-12	968 .049 23-16-14-11	806 .034 22-15-13-10	691 .025 21-15-12-10	592 .019 20-14-11-9	538 .015 19-13-11-9	454 .011 18-13-10-8	
300	Velocity Ps Throw							1161 .071 26-19-15-12	968 .049 25-17-14-12	829 .036 23-16-14-11	711 .027 22-16-13-11	645 .022 22-15-13-10	544 .016 20-14-12-10	
350	Velocity Ps Throw								1129 .067 28-19-16-13	968 .049 26-18-15-12	829 .036 25-17-14-12	753 .030 24-17-14-11	635 .021 23-16-13-11	30 - 35
400	Velocity Ps Throw									1106 .065 29-20-17-14	948 .047 27-19-16-13	860 .039 26-18-15-12	726 .028 25-17-14-12	
450	Velocity Ps Throw										1066 .060 29-21-17-14	968 .049 28-20-17-13	817 .035 27-19-16-13	
500	Velocity Ps Throw										1185 .074 32-22-18-15	1075 .061 31-22-18-14	907 .043 29-20-17-14	30 - 35
550	Velocity Ps Throw											1183 .074 33-23-19-15	998 .053 31-22-18-15	
600	Velocity Ps Throw												1089 .063 33-23-19-16	
650	Velocity Ps Throw												1179 .073 35-24-20-16	

For performance notes, see page GAR-171

Grilles and Registers

GAR



# GAR - Grilles and Registers

5/2007

## Series L - Performance

Models L-1, S-1, LT-1, ST-1, LTC-1, LTC3-1, LS3-1, LS4-1, LV-1, SH-1, LTV-1, STH-1, LM-1, SM-1, LTM-1, STM-1, LTCM-1, LTC3M-1, LMH-1, LTMH-1, LS3M-1, LS4M-1

CFM	Ak	OUTLET SIZE											
		24" x 14"	18" x 18"	20" x 20"	22" x 22"	24" x 24"	36" x 24"	30" x 30"	32" x 32"	44" x 24"	48" x 24"	44" x 28"	46" x 30"
		.72	.70	.86	1.04	1.24	1.86	1.94	2.20	2.27	2.48	2.65	2.97
150	Velocity Ps Throw	207 .002 12-8-7-5	215 .002 12-8-7-6										
200	Velocity Ps Throw	276 .004 14-10-8-7	287 .004 14-10-8-7	232 .003 13-9-8-6									
250	Velocity Ps Throw	346 .006 16-12-10-8	358 .007 17-12-10-8	290 .004 15-11-9-7	240 .003 14-10-8-7								
300	Velocity Ps Throw	415 .009 19-13-11-9	430 .010 19-13-11-9	348 .006 17-12-10-8	288 .004 16-12-10-8	242 .003 15-11-9-7							
350	Velocity Ps Throw	484 .012 21-15-12-10	502 .013 21-15-12-10	406 .009 19-14-11-9	336 .006 18-13-11-9	282 .004 17-12-10-8							
400	Velocity Ps Throw	553 .016 23-16-13-11	573 .017 23-16-13-11	465 .011 21-15-12-10	384 .008 20-14-12-9	323 .005 19-13-11-9	215 .002 16-11-10-8	206 .003 16-11-9-8					
500	Velocity Ps Throw	691 .025 26-18-15-12	717 .027 27-19-15-13	581 .018 25-17-14-12	480 .012 23-16-13-11	403 .009 22-15-13-10	269 .004 19-13-11-9	258 .004 19-13-11-9	227 .003 18-13-10-8	220 .003 18-12-10-8	202 .002 17-12-10-8		
600	Velocity Ps Throw	829 .036 30-21-17-14	860 .039 30-21-18-14	697 .026 28-20-16-13	576 .017 26-18-15-12	484 .012 25-17-14-12	323 .005 22-15-13-10	264 .004 20-14-12-10	272 .004 20-14-12-10	264 .004 20-14-12-10	242 .003 20-14-11-9	226 .003 19-13-11-9	202 .002 18-13-11-9
700	Velocity Ps Throw	968 .049 33-23-19-16	1004 .053 34-24-20-16	813 .035 31-22-18-15	672 .024 29-21-17-14	565 .017 28-19-16-13	376 .007 24-17-14-11	308 .005 22-16-13-11	318 .005 23-16-13-11	308 .005 22-16-13-11	282 .004 22-16-13-11	264 .004 21-15-12-10	236 .003 20-14-12-10
800	Velocity Ps Throw	1106 .065 36-26-21-17	1147 .069 37-26-21-17	929 .046 34-24-20-16	768 .031 32-23-19-15	645 .022 30-21-18-14	430 .010 26-18-15-12	413 .009 26-18-15-12	363 .007 25-17-14-12	352 .007 24-17-14-12	323 .005 24-17-14-12	302 .005 23-16-13-11	269 .004 22-16-13-11
900	Velocity Ps Throw			1045 .058 37-26-22-18	864 .039 35-24-20-16	726 .028 33-23-19-16	484 .012 28-20-17-13	396 .008 28-20-16-13	408 .009 27-19-16-13	396 .008 27-19-15-13	363 .007 26-18-15-12	339 .006 25-18-15-12	303 .005 24-17-14-11
	NC		35		30		20 - 25				<20		

Grilles and Registers



GAR

CFM	Ak	OUTLET SIZE												NC
		46" x 30"	46" x 32"	46" x 34"	46" x 36"	46" x 38"	46" x 40"	46" x 42"	46" x 44"	46" x 46"	48" x 44"	48" x 46"	48" x 48"	
		2.97	3.17	3.37	3.56	3.76	3.96	4.16	4.36	4.56	4.55	4.75	4.96	
700	Velocity Ps Throw	236 .003 20-14-12-10	221 .003 20-14-12-9	208 .002 20-14-11-9										
800	Velocity Ps Throw	269 .004 22-16-13-11	252 .003 22-15-13-10	238 .003 21-15-12-10	224 .003 21-15-12-10	213 .002 21-14-12-10	202 .002 20-14-12-10							
1000	Velocity Ps Throw	337 .006 26-18-15-12	316 .005 25-18-15-12	297 .005 25-18-15-12	281 .004 24-17-14-12	266 .004 24-17-14-11	252 .003 24-17-14-11	240 .003 23-16-13-11	230 .003 23-16-13-11	220 .003 22-16-13-11	220 .003 23-16-13-11	210 .002 22-16-13-10	202 .002 22-15-13-10	20
1200	Velocity Ps Throw	404 .009 29-21-17-15	379 .008 29-20-17-14	356 .007 28-20-16-13	337 .006 28-20-16-13	319 .005 27-19-16-13	303 .005 27-19-16-13	289 .004 26-18-15-12	275 .004 26-18-15-12	263 .004 26-18-15-12	264 .004 26-18-15-12	252 .003 25-18-15-12	242 .003 25-17-14-12	
1400	Velocity Ps Throw	471 .012 33-23-19-16	442 .010 32-23-19-15	416 .009 32-22-18-15	393 .008 31-22-18-15	372 .007 30-21-18-14	353 .007 30-21-17-14	337 .006 29-21-17-14	321 .005 29-20-17-14	307 .005 28-20-16-13	308 .005 28-20-16-13	295 .005 28-20-16-13	282 .004 28-19-16-13	
1600	Velocity Ps Throw	539 .015 36-25-21-17	505 .013 35-25-21-17	475 .012 35-24-20-16	449 .011 34-24-20-16	425 .010 33-23-19-16	404 .009 33-23-19-15	385 .008 32-23-19-15	367 .007 32-22-18-15	351 .007 31-22-18-15	352 .007 31-22-18-15	337 .006 31-22-18-15	323 .005 30-21-18-14	
1800	Velocity Ps Throw	606 .019 39-28-23-19	568 .017 38-27-22-18	535 .015 37-26-22-18	505 .013 37-26-21-17	478 .012 36-25-21-17	454 .011 35-25-21-17	433 .010 35-24-20-16	413 .009 34-24-20-16	395 .008 34-24-20-16	396 .008 34-24-20-16	379 .008 33-23-19-16	363 .007 33-23-19-16	
2000	Velocity Ps Throw	673 .024 42-30-24-20	631 .021 41-29-24-19	594 .019 40-28-23-19	561 .017 40-28-23-19	531 .015 39-27-23-18	505 .013 38-27-22-18	481 .012 37-26-22-18	459 .011 37-26-21-17	439 .010 36-26-21-17	440 .010 36-26-21-17	421 .009 36-25-21-17	403 .009 35-25-20-17	20 - 25
2400	Velocity Ps Throw	808 .034 48-33-28-23	757 .030 47-33-27-22	713 .027 46-32-27-22	673 .024 45-31-26-21	638 .021 44-31-26-21	606 .019 43-30-25-20	577 .018 42-30-25-20	551 .016 42-29-24-20	527 .015 41-29-24-19	528 .015 41-29-24-19	505 .013 41-29-24-19	484 .012 40-28-23-19	
2800	Velocity Ps Throw	942 .047 53-37-31-25	884 .041 52-36-30-24	832 .036 51-36-29-24	785 .033 50-35-29-23	744 .029 49-34-28-23	707 .026 48-34-28-23	673 .024 47-33-27-22	643 .022 46-33-27-22	615 .020 46-32-27-22	616 .020 46-32-27-22	589 .018 45-32-26-21	565 .017 44-31-26-21	
3000	Velocity Ps Throw	1010 .054 55-39-32-26	947 .047 54-38-31-26	891 .042 53-37-31-25	842 .037 52-37-30-25	797 .034 51-36-30-24	757 .030 50-35-29-24	721 .027 49-35-29-23	689 .025 49-34-28-23	659 .023 48-34-28-23	660 .023 48-34-28-23	631 .021 47-33-27-22	605 .019 47-33-27-22	
	NC		35 - 40					30 - 35						

# GAR - Grilles and Registers

## Series L - Performance

Models L-1, S-1, LT-1, ST-1, LTC-1, LTC3-1, LS3-1, LS4-1, LV-1, SH-1, LTV-1, STH-1, LM-1, SM-1, LTM-1, STM-1, LTCM-1, LTC3M-1, LMH-1, LTMH-1, LS3M-1, LS4M-1

CFM	Ak	OUTLET SIZE												NC
		46" x 30"	46" x 32"	46" x 34"	46" x 36"	46" x 38"	46" x 40"	46" x 42"	46" x 44"	46" x 46"	48" x 44"	48" x 46"	48" x 48"	
		2.97	3.17	3.37	3.56	3.76	3.96	4.16	4.36	4.56	4.55	4.75	4.96	
2000	Velocity Ps Throw	673 .024 42-30-24-20	631 .021 41-29-24-19	594 .019 40-28-23-19	561 .017 40-28-23-19	531 .015 39-27-23-18	505 .013 38-27-22-18	481 .012 37-26-22-18	459 .011 37-26-21-17	439 .010 36-26-21-17	440 .010 36-26-21-17	421 .009 36-25-21-17	403 .009 35-25-20-17	25 - 30
2200	Velocity Ps Throw	741 .029 45-32-26-21	694 .025 44-31-26-21	653 .023 43-30-25-20	617 .020 42-30-25-20	585 .018 41-29-24-20	555 .016 41-29-24-19	529 .015 40-28-23-19	505 .013 39-28-23-19	483 .012 39-27-23-18	484 .012 39-27-23-18	463 .011 38-27-22-18	444 .010 38-26-22-18	
2400	Velocity Ps Throw	808 .034 48-33-28-23	757 .030 47-33-27-22	713 .027 46-32-27-22	673 .024 45-31-26-21	638 .021 44-31-26-21	606 .019 43-30-25-20	577 .018 42-30-25-20	551 .016 42-29-24-20	527 .015 41-29-24-19	528 .015 41-29-24-19	505 .013 41-29-24-19	484 .012 40-28-23-19	
2600	Velocity Ps Throw	875 .040 50-35-29-24	820 .036 49-35-29-23	772 .031 48-34-28-23	729 .028 47-33-27-22	691 .025 46-32-26-22	656 .023 46-32-26-22	625 .021 45-32-26-21	597 .019 44-31-26-21	571 .017 43-31-25-21	572 .017 44-31-25-21	547 .016 43-30-25-20	524 .014 42-30-25-20	
2800	Velocity Ps Throw	942 .047 53-37-31-25	884 .041 52-36-30-24	832 .036 51-36-29-24	785 .033 50-35-29-23	744 .029 49-34-28-23	707 .026 48-34-28-23	673 .024 47-33-27-22	643 .022 46-32-27-22	615 .020 46-32-27-22	616 .020 46-32-27-22	589 .018 45-32-26-21	565 .017 44-31-26-21	30 - 35
3000	Velocity Ps Throw	1010 .054 55-39-32-26	947 .047 54-38-31-26	891 .042 53-37-31-25	842 .037 52-37-30-25	797 .034 51-36-30-24	757 .030 50-35-29-24	721 .027 49-34-28-23	689 .025 49-34-28-23	659 .023 48-34-28-23	660 .023 48-34-28-23	631 .021 47-33-27-22	605 .019 47-33-27-22	
3200	Velocity Ps Throw	1077 .061 58-41-34-27	1010 .054 56-40-33-27	950 .048 55-39-32-26	898 .043 54-38-32-26	850 .038 53-37-31-25	808 .034 52-37-30-25	769 .031 52-36-30-24	734 .028 51-36-30-24	702 .026 50-35-29-24	704 .026 50-35-29-24	673 .024 49-35-29-23	645 .022 49-34-28-23	
3400	Velocity Ps Throw	1144 .069 60-42-35-28	1073 .061 59-41-34-28	1010 .054 58-40-33-27	954 .048 57-40-33-27	904 .043 56-39-32-26	858 .039 55-38-32-26	817 .035 54-38-31-25	780 .032 53-37-31-25	746 .029 52-37-30-25	748 .029 52-37-30-25	715 .027 51-36-30-24	685 .025 51-36-29-24	
3600	Velocity Ps Throw		1136 .068 61-43-35-29	1069 .060 60-42-35-28	1010 .054 59-41-34-28	957 .048 58-41-34-27	909 .044 57-40-33-27	866 .040 56-39-32-26	826 .036 55-39-32-26	790 .033 54-38-31-26	792 .033 54-38-31-26	757 .030 53-38-31-25	726 .028 53-37-31-25	
3800	Velocity Ps Throw		1199 .076 63-44-37-30	1129 .067 62-44-36-29	1066 .060 61-43-35-29	1010 .054 60-42-35-28	959 .049 59-41-34-28	834 .037 56-39-33-27	872 .040 57-40-33-27	834 .037 56-39-33-27	836 .037 56-39-33-27	799 .034 55-39-32-26	766 .031 55-38-32-26	
4000	Velocity Ps Throw			1188 .074 64-45-37-30	1122 .066 63-44-37-30	1063 .060 62-43-36-29	1010 .054 61-43-35-29	962 .049 60-42-35-28	918 .044 59-41-34-28	878 .041 58-41-34-27	880 .041 58-41-34-27	842 .037 57-40-33-27	806 .034 56-40-33-27	
4200	Velocity Ps Throw				1178 .073 65-46-38-31	1116 .066 64-45-37-30	1060 .059 63-44-36-30	922 .045 60-42-35-28	964 .049 61-43-35-29	922 .045 60-42-35-28	924 .045 60-42-35-28	884 .041 59-42-34-28	847 .038 58-41-34-28	
4400	Velocity Ps Throw					1169 .072 66-46-38-31	1111 .065 65-45-38-31	1058 .059 64-45-37-30	1010 .054 63-44-36-30	966 .049 62-43-36-29	968 .049 62-43-36-29	926 .045 61-43-35-29	887 .042 60-42-35-28	
4600	Velocity Ps Throw						1161 .071 67-47-39-31	1010 .054 65-46-38-31	1056 .059 64-45-37-31	1010 .054 64-45-37-30	1012 .054 64-45-37-30	968 .049 63-44-36-30	927 .045 62-43-36-29	35 - 40

### Performance Notes for Series L

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Non-isothermal horizontal throw (supply air temperature 20°F colder than average room air temperature)  
values are for 50 fpm velocities for 1, 2, 3, and 4-way air patterns
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus  
a 10 dB room attenuation in all octave bands
- Ak - Area Factors

Grilles and Registers



GAR

## Return and Exhaust Grilles Series RH Aluminum

### Product Details

- ★ The RH series of return grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- ★ This economical series of rollformed aluminum return grilles and registers are available in a number of borders to integrate into a wide range of ceiling systems
- ★ The RH is an excellent choice for exhaust and return applications
- ★ See page GAR-63 for performance

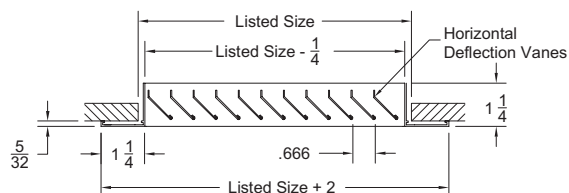


**Model RH-1 Shown**

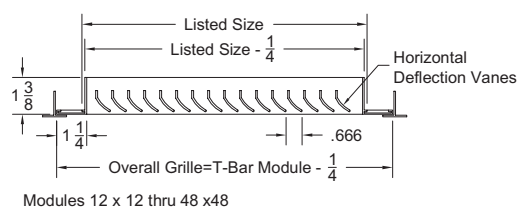
Standard Finish: 01 White

Sideview, dimensions are in inches

### Return and Exhaust Grille - Surface Mount Model RH-1

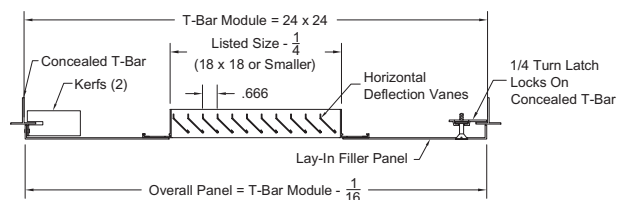


### Return and Exhaust Grille - T-bar Lay-in Model RH-6

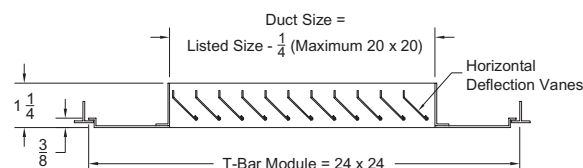


T-bar Module	12 x 12	24 x 12	24 x 24	48 x 24	36 x 36	48 x 48
Nominal Neck Size	10 x 10	22 x 10	22 x 22	46 x 22	34 x 34	46 x 46

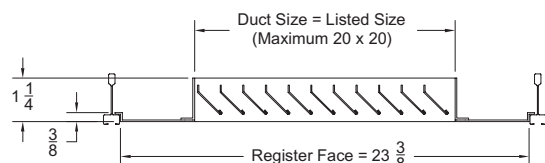
### Return and Exhaust Grille - Concealed Spline Model RH-7



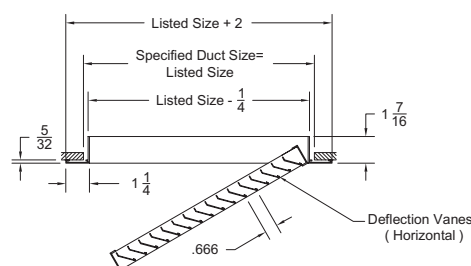
### Return and Exhaust Grille - Tegular T-bar Model RH-8



### Return and Exhaust Grille - Donn Finline Model RH-9



### Return and Exhaust Grille - Surface Mount Hinged Face Model RH-H-1



# GAR - Grilles and Registers

## ➡ Return Grilles ➡ Series RHE ➡ Extruded Aluminum

### Product Details

- ★ The series RHE is our premier extruded aluminum product, offering superior construction and high performance. This unit is built for durability
- ★ The series RHE is available with an optional hinge to allow access behind the grille face
- ★ Series RHE is an excellent choice for projects requiring exhaust or return applications
- ★ See page GAR-63 for performance

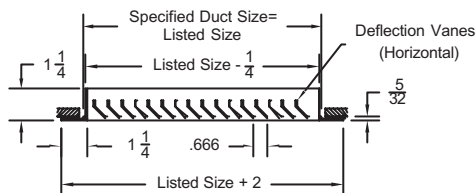


**Model RHE-1 Shown**

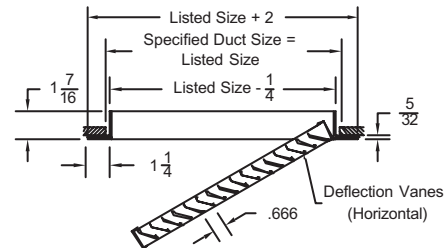
Standard Finish: 01 White

Sideview, dimensions are in inches

#### Return Grille - Surface Mount Model RHE-1



#### Return Grille - Surface Mount - Hinged Face Model RHE-H-1



### Notes for Models RH (-1, -6, -7, -8, -9), RH-H-1

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper.....221 <b>OBDA</b> - Aluminum - Opposed Blade Damper...221 <b>L9</b> - Equalizing Grid .....221 <b>PF</b> - Plaster Frame .....222	Reverse Sizes (blades parallel to short side) Hinged Core Insect Screen	<ul style="list-style-type: none"> <li>• Odd/fractional sizes are available</li> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in field</li> </ul>

### Notes for Models RHE-1, RHE-H-1

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 04 Clear Anodized 24 Mill finish 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper.....221 <b>OBDA</b> - Aluminum - Opposed Blade Damper...221 <b>L9</b> - Equalizing Grid .....221 <b>PF</b> - Plaster Frame .....222	Reverse Sizes (blades parallel to short side) Hinged Core Insect Screen	<ul style="list-style-type: none"> <li>• All sizes have extruded aluminum frames and blades</li> <li>• Odd/fractional sizes are available</li> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in the field</li> </ul>

## Return Grilles Series SRH Steel

### Product Details

- ✱ The series SRH is designed for applications requiring steel construction
- ✱ This economical series of return grilles and registers is available a number of borders to integrate into a wide range of ceiling system
- ✱ Series SRH is an excellent choice for exhaust and return applications

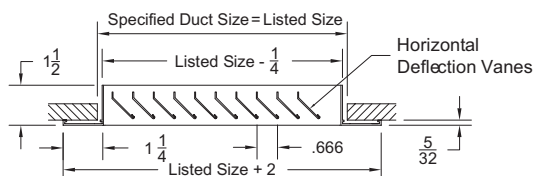


**Model SRH-1 Shown**

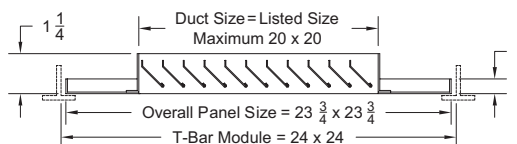
Standard Finish: 01 White

Sideview, dimensions are in inches

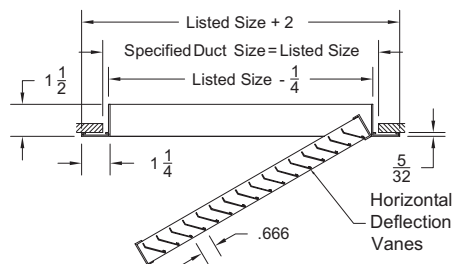
**Return Grille - Surface Mount**  
Model SRH-1



**Return Grille - T-bar Lay-in**  
Model SRH-6



**Return Grille - Surface Mount - Hinged Face**  
Model SRH-H-1



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper . . . . .221 <b>OBDA</b> - Aluminum - Opposed Blade Damper .221 <b>L9</b> - Equalizing Grid . . . . .221 <b>PF</b> - Plaster Frame . . . . .222	Reverse Sizes (blades parallel to short side) Hinged Core Insect Screen	<ul style="list-style-type: none"> <li>• Frame and blades are steel</li> <li>• Odd/fractional sizes are available</li> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in the field</li> </ul>

### Performance Notes for Series RH, SRH & RHE

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- Nk Vel - Neck Velocity of air stream in feet per minute
- Ps - Negative Static pressure (inches of water column)
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

# GAR - Grilles and Registers

## Series RH, SRH & RHE - Performance

Models RH (-1, -6, -7, -8, -9), RH-H-1, RHE-1, RHE-H-1, SRH (-1, -6), SRH-H-1

CFM	Ak	NECK SIZE													
		10" x 6"	12" x 6"	10" x 8"	12" x 8"	18" x 6"	12" x 12"	16" x 12"	18" x 12"	20" x 12"	24" x 12"	18" x 18"	20" x 18"	20" x 20"	24" x 18"
		.40	.47	.53	.63	.71	.95	1.27	1.42	1.58	1.90	2.14	2.37	2.63	2.85
100	Nk Vel Ps	240 .007	200 .005												
150	Nk Vel Ps	360 .016	300 .011	270 .009	225 .006	200 .005									
200	Nk Vel Ps	480 .029	400 .020	360 .016	300 .011	267 .009	200 .005								
250	Nk Vel Ps	600 .046	500 .032	450 .026	375 .018	333 .014	250 .008								
300	Nk Vel Ps	720 .066	600 .046	540 .037	450 .026	400 .020	300 .011	225 .006	200 .005						
350	Nk Vel Ps	840 .089	700 .062	630 .050	525 .035	467 .028	350 .016	263 .009	233 .007	210 .006					
400	Nk Vel Ps		800 .081	720 .066	600 .046	533 .036	400 .020	300 .011	267 .009	240 .007	200 .005				
450	Nk Vel Ps		900 .103	810 .083	675 .058	600 .046	450 .026	338 .014	300 .011	270 .009	225 .006	200 .005			
500	Nk Vel Ps				750 .071	667 .056	500 .032	375 .018	333 .014	300 .011	250 .008	222 .006	200 .005		
550	Nk Vel Ps				825 .086	733 .068	550 .038	413 .022	367 .017	330 .014	275 .010	244 .008	220 .006		
600	Nk Vel Ps				900 .103	800 .081	600 .046	450 .026	400 .020	360 .016	300 .011	267 .009	240 .007	216 .006	200 .005
650	Nk Vel Ps					867 .095	650 .054	488 .030	433 .024	390 .019	325 .013	289 .011	260 .009	234 .007	217 .006
700	Nk Vel Ps						700 .062	525 .035	467 .028	420 .022	350 .016	311 .012	280 .010	252 .008	233 .007
750	Nk Vel Ps						750 .071	563 .040	500 .032	450 .026	375 .018	333 .014	300 .011	270 .009	250 .008
NC		40					35	30				25			

CFM	Ak	NECK SIZE													
		22" x 22"	30" x 18"	24" x 24"	36" x 18"	30" x 24"	36" x 24"	30" x 30"	36" x 30"	48" x 24"	42" x 30"	42" x 36"	48" x 36"	48" x 42"	48" x 48"
		3.19	3.56	3.80	4.27	4.75	5.70	5.94	7.12	7.60	8.31	9.67	11.40	13.30	15.20
700	Nk Vel Ps	208 .005													
800	Nk Vel Ps	238 .007	213 .006	200 .005											
1000	Nk Vel Ps	298 .011	267 .009	250 .008	222 .006	200 .005									
1200	Nk Vel Ps	357 .016	320 .013	300 .011	267 .009	240 .007	200 .005								
1400	Nk Vel Ps	417 .022	373 .017	350 .015	311 .012	280 .010	233 .007	224 .006							
1600	Nk Vel Ps	476 .028	427 .023	400 .020	356 .016	320 .013	267 .009	256 .008	213 .006	200 .005					
2000	Nk Vel Ps	595 .044	533 .036	500 .031	444 .025	400 .020	333 .014	320 .013	267 .009	250 .008	229 .007				
2500	Nk Vel Ps	744 .069	667 .056	625 .049	556 .039	500 .031	417 .022	400 .020	333 .014	313 .012	286 .010	238 .007	208 .005		
3000	Nk Vel Ps	893 .100	800 .080	750 .070	667 .056	600 .045	500 .031	480 .029	400 .020	375 .018	343 .015	286 .010	250 .008	214 .006	
3500	Nk Vel Ps			875 .096	778 .076	700 .061	583 .043	560 .039	467 .027	438 .024	400 .020	333 .014	292 .011	250 .008	219 .006
4000	Nk Vel Ps				889 .099	800 .080	667 .056	640 .051	533 .036	500 .031	457 .026	381 .018	333 .014	286 .010	250 .008
4500	Nk Vel Ps					900 .101	750 .070	720 .065	600 .045	563 .040	514 .033	429 .023	375 .018	321 .013	281 .010
5000	Nk Vel Ps						833 .087	800 .080	667 .056	625 .049	571 .041	476 .028	417 .022	357 .016	313 .012
6000	Nk Vel Ps								800 .080	750 .070	686 .059	571 .041	500 .031	429 .023	375 .018
NC		40					35	30				25			

For performance notes, see page GAR-174

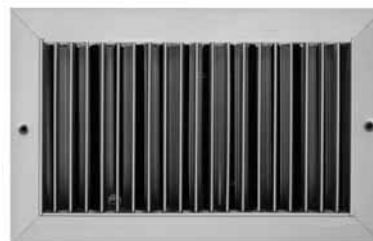




## Return Grilles ➡ Series 4002R ➡ Extruded Aluminum ➡ Series 4002RS ➡ Steel

### Product Details

- ✱ The series 4002R return grilles and registers are designed to match the 4000 series supply models. These units are constructed of heavy aluminum. The 4002RS is constructed with a heavy steel border and steel deflector blades
- ✱ The deflector blades for series 4002R are fixed and available in 0° or 45°. The deflector blades for series 4002RS are fixed and available in 0° or 40° settings



**Model 4002R-1 Shown**

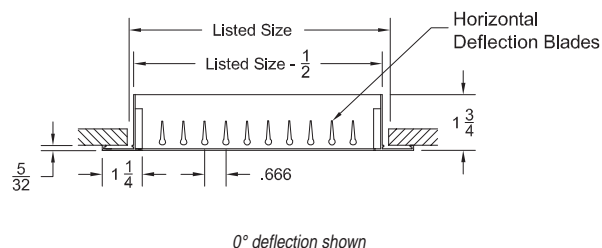
Standard Finish: 01 White

### Extruded Aluminum

Sideview, dimensions are in inches

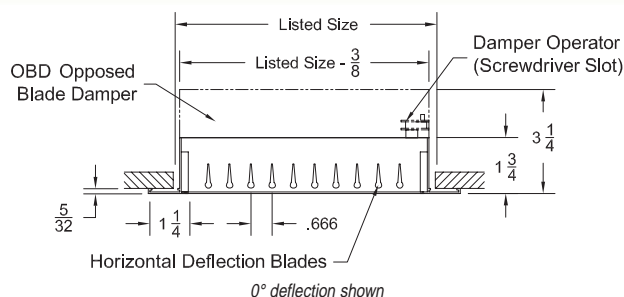
#### Single Deflection Sidewall Return Grille - Surface Mount Extruded Aluminum

Model V4002R-1  
Model H4002R-1



#### Single Deflection Sidewall Return Register - Surface Mount With Opposed Blade Damper - Extruded Aluminum

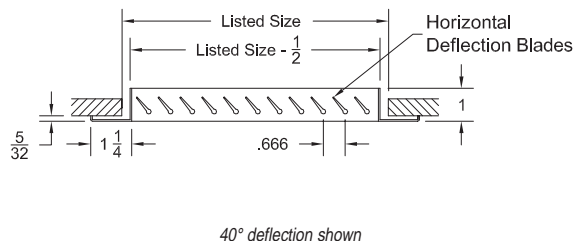
Model V4002RD-1  
Model H4002RD-1



### Steel

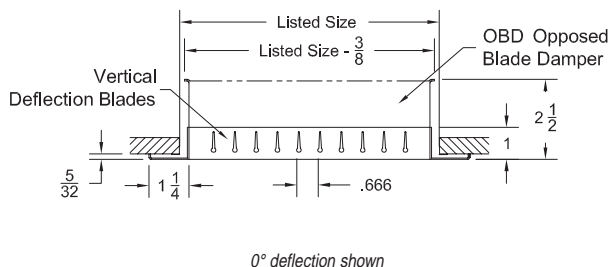
#### Single Deflection Sidewall Return Grille - Surface Mount - Steel

Model V4002RS-1  
Model H4002RS-1



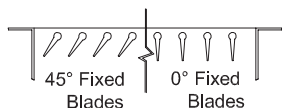
#### Single Deflection Sidewall Return Register - Surface Mount With Opposed Blade Damper - Extruded Aluminum

Model V4002RSD-1  
Model H4002RSD-1



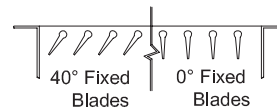
#### Series 4002R - Aluminum

Deflector Blades Are Available With 0° or 45° Fixed Settings



#### Series 4002RS - Steel

Deflector Blades Are Available With 0° or 40° Fixed Settings



# GAR - Grilles and Registers

## Notes for Models H4002R-1, V4002R-1, H4002RD-1, V4002RD-1

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 04 Anodized 24 Mill finish 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper . . . . . 221 <b>OBDA</b> - Aluminum - Opposed Blade Damper .221 <b>L9</b> - Equalizing Grid . . . . . 221 <b>PF</b> - Plaster Frame . . . . . 222	Insect Screen	<ul style="list-style-type: none"> <li>• Frame and blades are aluminum</li> <li>• Blades are at either 0° or 45°</li> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in the field</li> <li>• Can be ordered to fit standard T-bar grid sizes</li> <li>• Can be ordered with smaller neck sizes in T-bar panels</li> </ul>

## Notes for Models H4002RS-1, V4002RS-1, H4002RSD-1, V4002RSD-1

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 03 Black 04 Anodized 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper . . . . . 221 <b>OBDA</b> - Aluminum - Opposed Blade Damper .221 <b>L9</b> - Equalizing Grid . . . . . 221 <b>PF</b> - Plaster Frame . . . . . 222	Insect Screen	<ul style="list-style-type: none"> <li>• Frame and blades are steel</li> <li>• Blades are at either 0° or 40°</li> <li>• Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in the field</li> <li>• Can be ordered to fit standard T-bar grid sizes</li> </ul>

## Series 4002R - Performance

### Models H4002R-1, V4002R-1, H4002RD-1, V4002RD-1, H4002RS-1, V4002RS-1, H4002RSD-1, V4002RSD-1

CFM	Ak	NECK SIZE														NC
		6" x 4"	8" x 4"	10" x 4"	14" x 4"	12" x 6"	14" x 6"	16" x 6"	14" x 8"	18" x 8"	20" x 8"	24" x 8"	26" x 8"	24" x 10"	24" x 12"	
		.16	.22	.27	.38	.49	.58	.66	.77	.99	1.10	1.32	1.43	1.65		
50	Nk Vel Ps	300 .014	225 .008													20
100	Nk Vel Ps	600 .056	450 .031	360 .020	257 .010	200 .006										
150	Nk Vel Ps	900 .126	675 .071	540 .045	386 .023	300 .014	257 .010	225 .008								
200	Nk Vel Ps		900 .126	720 .081	514 .041	400 .025	343 .018	300 .014	257 .010	200 .006						
250	Nk Vel Ps				643 .064	500 .039	429 .029	375 .022	321 .016	250 .010	225 .008					
300	Nk Vel Ps				771 .093	600 .056	514 .041	450 .031	386 .023	300 .014	270 .011	225 .008	208 .007			
350	Nk Vel Ps				900 .126	700 .076	600 .056	525 .043	450 .031	350 .019	315 .015	263 .011	242 .009	210 .007		
400	Nk Vel Ps					800 .100	686 .073	600 .056	514 .041	400 .025	360 .020	300 .014	277 .012	240 .009	200 .006	
450	Nk Vel Ps					900 .126	771 .093	675 .071	579 .052	450 .031	405 .026	338 .018	312 .015	270 .011	225 .008	
500	Nk Vel Ps						857 .114	750 .087	643 .064	500 .039	450 .031	375 .022	346 .019	300 .014	250 .009	25 - 30
550	Nk Vel Ps							825 .106	707 .078	550 .047	495 .038	413 .026	381 .023	330 .017	275 .011	
600	Nk Vel Ps							900 .126	771 .093	600 .056	540 .045	450 .031	415 .027	360 .020	300 .013	
650	Nk Vel Ps								836 .109	650 .066	585 .053	488 .037	450 .031	390 .024	325 .016	
700	Nk Vel Ps								900 .126	700 .076	630 .062	525 .043	485 .037	420 .027	350 .018	
	NC	30 - 35										25 - 30				

For performance notes, see page GAR-178



## Series 4002R - Performance

Models H4002R-1, V4002R-1, H4002RD-1, V4002RD-1, H4002RS-1, V4002RS-1, H4002RSD-1, V4002RSD-1

CFM	Ak	NECK SIZE														NC
		30" x 10"	28" x 12"	30" x 12"	30" x 14"	34" x 16"	48" x 14"	40" x 18"	48" x 18"	40" x 24"	42" x 24"	48" x 24"	48" x 30"	48" x 36"	48" x 48"	
		2.06	2.31	2.47	2.89	3.74	4.62	4.95	5.94	6.60	6.93	7.92	9.90	11.88	15.84	
500	Nk Vel Ps	240 .009	214 .007	200 .006												20
600	Nk Vel Ps	288 .013	257 .010	240 .009	206 .007											
700	Nk Vel Ps	336 .018	300 .014	280 .012	240 .009											
800	Nk Vel Ps	384 .023	343 .018	320 .016	274 .012	212 .007										
1000	Nk Vel Ps	480 .036	429 .029	400 .025	343 .018	265 .011	214 .007	200 .006								
1200	Nk Vel Ps	576 .052	514 .041	480 .036	411 .026	318 .016	257 .010	240 .009	200 .006							
1400	Nk Vel Ps	672 .070	600 .056	560 .049	480 .036	371 .021	300 .014	280 .012	233 .008	210 .007	200 .006					
1600	Nk Vel Ps	768 .092	686 .073	640 .064	549 .047	424 .028	343 .018	320 .016	267 .011	240 .009	229 .008	200 .006				
2000	Nk Vel Ps		857 .114	800 .100	686 .073	529 .044	429 .029	400 .025	333 .017	300 .014	286 .013	250 .010	200 .006			
2500	Nk Vel Ps				857 .114	662 .068	536 .045	500 .039	417 .027	375 .022	357 .020	313 .015	250 .010	208 .007		
3000	Nk Vel Ps					794 .098	643 .064	600 .056	500 .039	450 .031	429 .029	375 .022	300 .014	250 .010		25 - 30
3500	Nk Vel Ps						750 .087	700 .076	583 .053	525 .043	500 .039	438 .030	350 .019	292 .013	219 .007	
4000	Nk Vel Ps						857 .114	800 .100	667 .069	600 .056	571 .051	500 .039	400 .025	333 .017	250 .010	
4500	Nk Vel Ps							900 .129	750 .089	675 .072	643 .066	563 .050	450 .032	375 .022	281 .013	
	NC	30 - 35										25 - 30				

### Performance Notes for Series 4002R

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- Nk Vel - Neck Velocity of air stream in feet per minute
- Ps - Negative Static pressure (inches of water column)
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

# LEADING THE INDUSTRY IN PRODUCT LITERATURE

WITH THE CHOICE OF OUR PRE-FLITE CATALOG, QUICK SELECT CATALOG, INFOSOURCE CATALOG, INFOSOURCE CD AND OUR WEB SITE, [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM), YOU PICK THE FORMAT FOR PRODUCT INFORMATION THAT BEST SUITS YOUR AIR DISTRIBUTION DESIGN NEEDS.

## PRE-FLIGHT - Product Overview Catalog

The METALAIRE Pre-Flight catalog is a condensed reference guide containing concise listings of our entire product line including grilles, registers, diffusers, and air terminal units. This catalog can be used to help select the type of device, along with available border styles. The catalog includes photos of each model along with the features and model guide, a great tool when you are trying to select a device for your project.

## QUICK SELECT CATALOG - Air Distribution Selection Made Easy

The METALAIRE Quick Select Catalog is designed to save you time selecting air distribution equipment. This catalog is a compact version of our InfoSource Catalogs and includes drawings and performance for our most popular products. The Quick Select Catalog is broken into product types with each section beginning with a model summary that includes features and benefits of our products. To obtain product information not included in the Quick Select Catalog, simply go to our web site at [www.metalaire.com](http://www.metalaire.com).

## INFOSOURCE CATALOG SUITE

### - Complete Guide to Air Distribution Selection

The METALAIRE InfoSource Catalog suite is the leading product catalog in the industry. Included in these catalogs are the complete product listings, drawings, product features and benefits, product performance data, specifications, and model specifications. These catalogs are organized to make it quick and easy to find the information you are looking for.

## INFOSOURCE CD

Our InfoSource CD has set the standard in the industry for air distribution product selection. This CD contains a complete library of all our catalogs and submittals along with our air terminal unit selection program.

### INFOSOURCE CATALOG SUITE

- Ceiling Diffusers Catalog
- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

## WEBSITE: [WWW.METALAIRE.COM](http://WWW.METALAIRE.COM)

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# METALAIRE

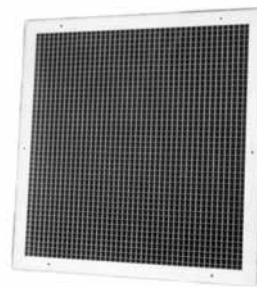




## Return and Exhaust Grilles Series CC5/CC15/CC1 Aluminum

### Product Details

- ★ The series CC5 cubed core return and exhaust grilles are designed to provide low pressure drops and low sound levels
- ★ The series CC5 is available with a number of options and accessories such as a 1" thick core (model CC1) to reduce sight into the grille
- ★ Series CC5 is an excellent choice for applications requiring minimum pressure drop and noise in return and exhaust applications



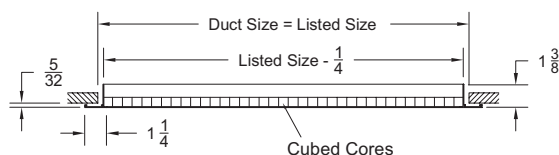
**Model CC5-1 Shown**

Standard Finish: 01 White

Sideview, dimensions are in inches

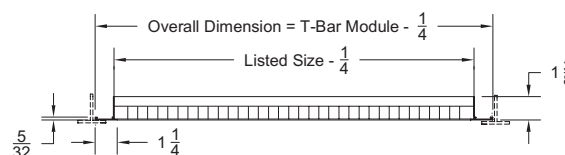
### Return and Exhaust - Surface Mount

Model CC5-1 - 1/2" x 1/2" x 1/2" Core  
Model CC15-1 - 1/2" x 1/2" x 1" Core  
Model CC1-1 - 1" x 1" x 1" Core



### Return and Exhaust - T-bar Lay-in

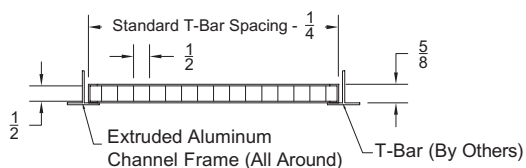
Model CC5-6 - 1/2" x 1/2" x 1/2" Core  
Model CC15-6 - 1/2" x 1/2" x 1" Core  
Model CC1-6 - 1" x 1" x 1" Core



T-bar Module	12 x 12	24 x 12	24 x 24	48 x 24	30 x 30	36 x 36	48 x 48
Nominal Neck Size	10 x 10	22 x 10	22 x 22	46 x 22	28 x 28	34 x 34	46 x 46

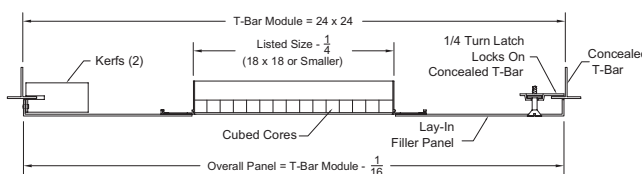
### Return and Exhaust - Channel Frame - T-bar Lay-in

Model CC5-TBC-6 - 1/2" x 1/2" x 1/2" Core



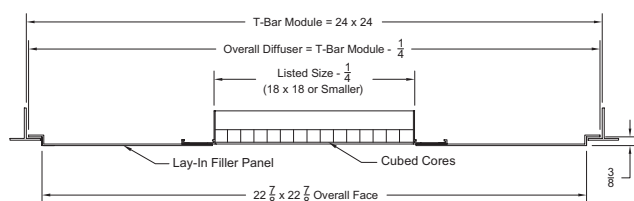
### Return and Exhaust - Concealed Spline

Model CC5-7 - 1/2" x 1/2" x 1/2" Core  
Model CC15-7 - 1/2" x 1/2" x 1" Core  
Model CC1-7 - 1" x 1" x 1" Core



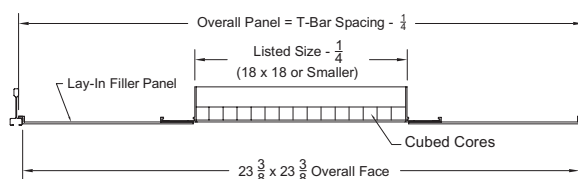
### Return and Exhaust - Tegular T-bar

Model CC5-8 - 1/2" x 1/2" x 1/2" Core  
Model CC15-8 - 1/2" x 1/2" x 1" Core  
Model CC1-8 - 1" x 1" x 1" Core



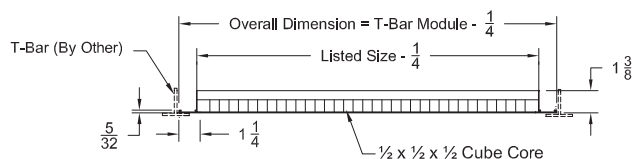
### Return and Exhaust - Donn Finline

Model CC5-9 - 1/2" x 1/2" x 1/2" Core  
Model CC15-9 - 1/2" x 1/2" x 1" Core  
Model CC1-9 - 1" x 1" x 1" Core



# GAR - Grilles and Registers

Return and Exhaust - Sidewall Ceiling Grille - 1/2" x 1/2" x 1/2" Core  
T-bar Lay-in Removable Core  
Model CC5R-6



Notes for Models CC5 (-1, -6, -7, -8, -9) CC5-TBC-6, CC5R-6, CC15 (-1, -6, -7, -8, -9), CC1 (-1, -6, -7, -8, -9)

1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	OBD - Opposed Blade Damper - Steel.....221 OBDA - Opposed Blade Damper - Aluminum...221 L9 - Equalizing Grid .....221 PF - Plaster Frame .....222	Insect Screen	<ul style="list-style-type: none"> <li>Frame is extruded aluminum, core is aluminum eggcrate</li> <li>Oversized units made in multiple sections, each with full flanges. Mullion strips provided for joining units in the field</li> </ul>





## Series CC5/CC15/CC1 - Performance

Models CC5 (-1, -6, -7, -8, -9), CC5-TBC-6, CC5R-6, CC15 (-1, -6, -7, -8, -9), CC1 (-1, -6, -7, -8, -9)

CFM	Ak	NECK SIZE													
		6" x 6"	8" x 8"	10" x 10"	12" x 12"	14" x 14"	16" x 14"	16" x 16"	18" x 16"	18" x 18"	20" x 18"	20" x 20"	22" x 20"	22" x 22"	24" x 22"
		0.25	0.44	0.69	0.99	1.35	1.54	1.76	1.98	2.23	2.47	2.75	3.02	3.33	3.63
100	Velocity P <sub>s</sub>	400 .014	225 .005												
150	Velocity P <sub>s</sub>	600 .032	338 .010	216 .004											
200	Velocity P <sub>s</sub>	800 .057	450 .018	288 .007	200 .004										
250	Velocity P <sub>s</sub>		563 .028	360 .012	250 .006										
300	Velocity P <sub>s</sub>		675 .041	432 .017	300 .008	220 .004									
350	Velocity P <sub>s</sub>		787 .055	504 .023	350 .011	257 .006	225 .005								
400	Velocity P <sub>s</sub>		900 .072	576 .030	400 .014	294 .008	257 .006	225 .005	200 .004						
450	Velocity P <sub>s</sub>			648 .037	450 .018	331 .010	289 .007	253 .006	225 .005	200 .004					
500	Velocity P <sub>s</sub>			720 .046	500 .022	367 .012	321 .009	281 .007	250 .006	222 .004	200 .004				
550	Velocity P <sub>s</sub>			792 .056	550 .027	404 .015	354 .011	309 .009	275 .007	244 .005	220 .004				
600	Velocity P <sub>s</sub>			864 .066	600 .032	441 .017	386 .013	338 .010	300 .008	267 .006	240 .005	216 .004			
650	Velocity P <sub>s</sub>				650 .038	478 .020	418 .016	366 .012	325 .009	289 .007	260 .006	234 .005	213 .004		
700	Velocity P <sub>s</sub>				700 .044	514 .024	450 .018	394 .014	350 .011	311 .009	280 .007	252 .006	229 .005	208 .004	
750	Velocity P <sub>s</sub>				750 .050	551 .027	482 .021	422 .016	375 .013	333 .010	300 .008	270 .006	245 .005	223 .004	205 .004
NC		25-30			20-25		<20								

Grilles and Registers



GAR

# GAR - Grilles and Registers

## Series CC5/CC15/CC1 - Performance

Models CC5 (-1, -6, -7, -8, -9), CC5-TBC-6, CC5R-6, CC15 (-1, -6, -7, -8, -9), CC1 (-1, -6, -7, -8, -9)

CFM	Ak	NECK SIZE														NC
		24" x 24"	26" x 26"	28" x 28"	30" x 30"	32" x 32"	48" x 24"	34" x 34"	36" x 36"	38" x 38"	40" x 40"	42" x 42"	44" x 44"	46" x 46"	48" x 48"	
		3.96	4.65	5.39	6.19	7.04	7.92	7.95	8.91	9.93	11.00	12.13	13.31	14.55	15.84	
800	Velocity Ps	200 .003														
1000	Velocity Ps	250 .005	213 .004													
1200	Velocity Ps	300 .008	256 .006	220 .004												
1600	Velocity Ps	400 .014	341 .010	294 .007	256 .006	225 .004	200 .003									
2000	Velocity Ps	500 .021	426 .015	367 .011	320 .009	281 .007	250 .005	249 .005	222 .004							
2500	Velocity Ps	625 .033	533 .024	459 .018	400 .014	352 .010	313 .008	311 .008	278 .007	249 .005	225 .004	204 .004				
3000	Velocity Ps	750 .048	639 .035	551 .026	480 .020	422 .015	375 .012	374 .012	333 .009	299 .008	270 .006	245 .005	223 .004	204 .004		<20
3500	Velocity Ps	875 .065	746 .047	643 .035	560 .027	492 .021	438 .016	436 .016	389 .013	349 .010	315 .008	286 .007	260 .006	238 .005	219 .004	
4000	Velocity Ps		852 .062	735 .046	640 .035	563 .027	500 .021	498 .021	444 .017	399 .013	360 .011	327 .009	298 .008	272 .006	250 .005	
4500	Velocity Ps			827 .058	720 .044	633 .034	563 .027	561 .027	500 .021	449 .017	405 .014	367 .011	335 .010	306 .008	281 .007	
5000	Velocity Ps				800 .054	703 .042	625 .033	623 .033	556 .026	499 .021	450 .017	408 .014	372 .012	340 .010	313 .008	
6000	Velocity Ps					800 .104	750 .048	747 .047	667 .038	598 .030	540 .025	490 .020	446 .017	408 .014	375 .012	
7000	Velocity Ps						875 .065	872 .064	778 .051	698 .041	630 .034	571 .028	521 .023	476 .019	438 .016	
8000	Velocity Ps								889 .067	798 .054	720 .044	653 .036	595 .030	544 .025	500 .021	
NC		30-35											25-30			

### Performance Notes for Series CC5/CC15/CC1

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- Nk Vel - Neck Velocity of air stream in feet per minute
- Ps - Negative Static pressure (inches of water column)
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors



- ➔ Filter Grilles ➔ Series RHF ➔ Aluminum
  - ➔ Series RHEF ➔ Extruded Aluminum
  - ➔ Series SRHF ➔ Steel

## Product Details

- ★ The RHF series of return aluminum filter grilles combine the advantages of corrosion resistant construction and durability with attractive design, solid performance, and competitive pricing
- ★ The RHEF is our premiere extruded aluminum filter grille offering superior appearance and performance. The SRHF is designed for applications requiring steel construction
- ★ The RHEF and SRHF are excellent choices for exhaust and return applications requiring a filter
- ★ The SRHF is designed for applications requiring steel construction



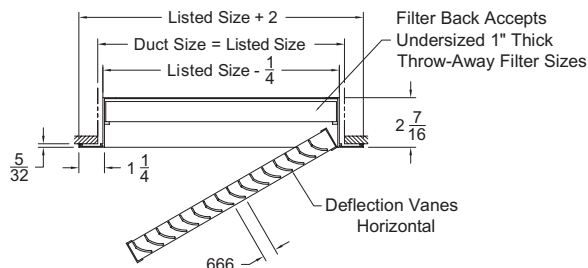
**Model RHF-1 Shown**

Standard Finish: 01 White

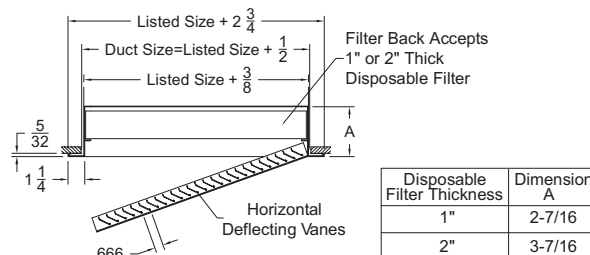
## Aluminum

Sideview, dimensions are in inches

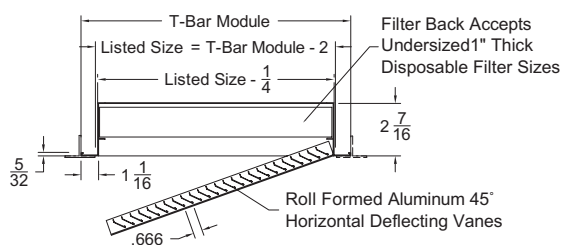
**Filter Back Return Grilles and Registers**  
45° Louvered Face - Grille Size - Surface Mount - Aluminum  
Model RHF-1 GS



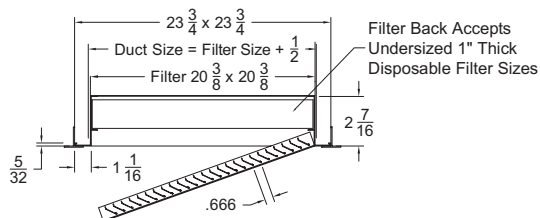
**Filter Back Return Grilles and Registers**  
45° Louvered Face - Filter Size - Surface Mount - Aluminum  
Model RHF-1 FS



**Filter Back Return Grilles and Registers**  
45° Louvered Face - Grille Size - T-bar Lay-in - Aluminum  
Model RHF-6 GS



**Filter Back Return Grilles and Registers**  
45° Louvered Face - Filter Size - T-bar Lay-in - Aluminum  
Model RHF-6 FS

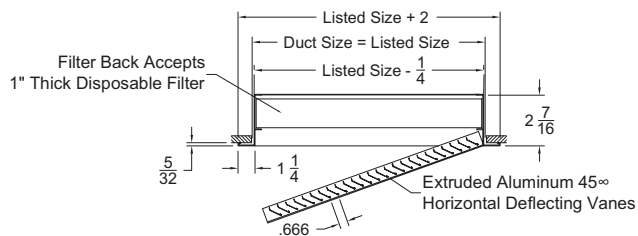


Lay-In T-Bar Modules for RHF-6 GS and RHF-6 FS	
24 x 24	48 x 24
Listed Sizes	
22 x 22	46 x 22
Overall Dimensions W x H	
23 3/4 x 23 3/4	47 3/4 x 23 3/4

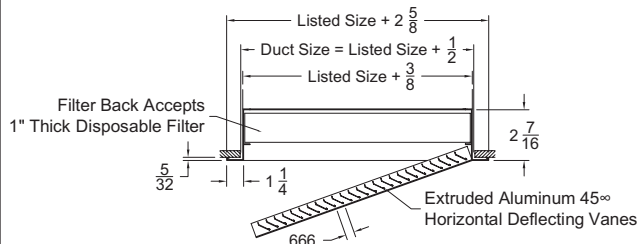
# GAR - Grilles and Registers

## Extruded Aluminum

Filter Back Return Grilles and Registers - 45° Louvered Face  
Grille Size - Surface Mount - Extruded Aluminum  
Model RHEF-1 GS

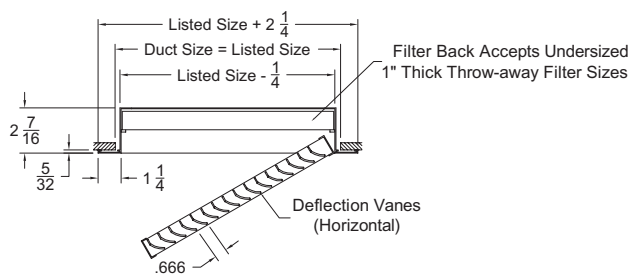


Filter Back Return Grilles and Registers - 45° Louvered Face  
Filter Size - Surface Mount - Extruded Aluminum  
Model RHEF-1 FS

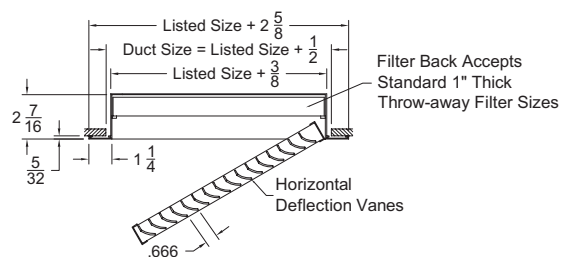


## Steel

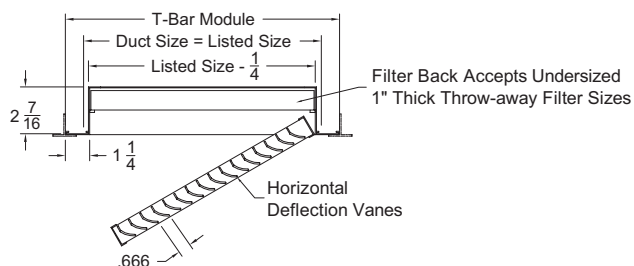
Filter Back Return Grilles and Registers - 45° Louvered Face - Steel  
Grille Size - Surface Mount  
Model SRHF-1 GS



Filter Back Return Grilles and Registers - 45° Louvered Face - Steel  
Filter Size - Surface Mount  
Model SRHF-1 FS

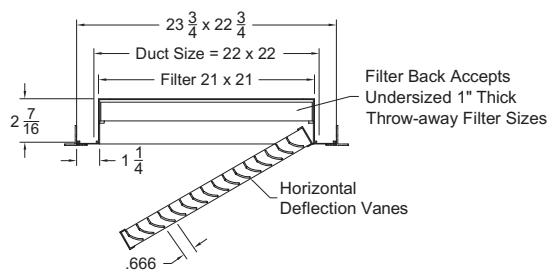


Filter Back Return Grilles and Registers - 45° Louvered Face - Steel  
Grille Size- T-bar Lay-in  
Model SRHF-6 GS



Lay-in T-Bar Modules for SRHF-6 GS and SRHFD-6 GS Models							
12 x 12	24 x 12	36 x 12	48 x 12	24 x 24	36 x 24	48 x 24	36 x 36
Listed Sizes							
10 x 10	22 x 10	34 x 10	46 x 10	22 x 22	34 x 22	46 x 22	34 x 34
							46 x 46

Filter Back Return Grilles and Registers - 45° Louvered Face - Steel  
Filter Size - T-bar Lay-in  
Model SRHF-6 FS



# GAR - Grilles and Registers

5/2007

## Notes for Series RHF

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish:</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper.....221 <b>OBDA</b> - Aluminum - Opposed Blade Damper ...221 <b>L9</b> - Equalizing Grid.....221 <b>PF</b> - Plaster Frame .....222	• Frame and blades are aluminum

## Notes for Series RHEF

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish (no additional charge):</b> 02 Aluminum paint 03 Black 04 Clear Anodized 24 Mill Finish 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper.....221 <b>OBDA</b> - Aluminum - Opposed Blade Damper ...221 <b>L9</b> - Equalizing Grid.....221 <b>PF</b> - Plaster Frame .....222	• Frame and blades are aluminum. Can be ordered as either G/S (grille size) or F/S (filter size).

## Notes for Series SRHF

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish:</b> 03 Black 28 Custom color	<b>OBD</b> - Steel - Opposed Blade Damper.....221 <b>OBDA</b> - Aluminum - Opposed Blade Damper ...221 <b>L9</b> - Equalizing Grid.....221 <b>PF</b> - Plaster Frame .....222	• Frame and blades are steel. Can be ordered as either G/S (grille size) or F/S (filter size).



## Series RHF - Performance

Models RHF-1 GS, RHF-6 GS, RHF-1 FS, RHF-6 FS, RHEF-1 GS, RHEF-1 FS, SRHF-1 GS, SRHF-1FS, SRHF-6 GS, SRHF-6 FS

CFM	Ak	OUTLET SIZE													
		10" x 6"	12" x 6"	10" x 8"	12" x 8"	18" x 6"	12" x 12"	16" x 12"	18" x 12"	20" x 12"	24" x 12"	18" x 18"	20" x 18"	20" x 20"	24" x 18"
		.40	.47	.53	.63	.71	.95	1.27	1.42	1.58	1.90	2.14	2.37	2.63	2.85
100	Nk Vel Ps	240 .007	200 .005												
150	Nk Vel Ps	360 .016	300 .011	270 .009	225 .006	200 .005									
200	Nk Vel Ps	480 .029	400 .020	360 .016	300 .011	267 .009	200 .005								
250	Nk Vel Ps	600 .046	500 .032	450 .026	375 .018	333 .014	250 .008								
300	Nk Vel Ps	720 .066	600 .046	540 .037	450 .026	400 .020	300 .011	225 .006	200 .005						
350	Nk Vel Ps	840 .089	700 .062	630 .050	525 .035	467 .028	350 .016	263 .009	233 .007	210 .006					
400	Nk Vel Ps		800 .081	720 .066	600 .046	533 .036	400 .020	300 .011	267 .009	240 .007	200 .005				
450	Nk Vel Ps		900 .103	810 .083	675 .058	600 .046	450 .026	338 .014	300 .011	270 .009	225 .006	200 .005			
500	Nk Vel Ps				750 .071	667 .056	500 .032	375 .018	333 .014	300 .011	250 .008	222 .006	200 .005		
550	Nk Vel Ps				825 .086	733 .068	550 .038	413 .022	367 .017	330 .014	275 .010	244 .008	220 .006		
600	Nk Vel Ps				900 .103	800 .081	600 .046	450 .026	400 .020	360 .016	300 .011	267 .009	240 .007	216 .006	200 .005
650	Nk Vel Ps					867 .095	650 .054	488 .030	433 .024	390 .019	325 .013	289 .011	260 .009	234 .007	217 .006
700	Nk Vel Ps						700 .062	525 .035	467 .028	420 .022	350 .016	311 .012	280 .010	252 .008	233 .007
750	Nk Vel Ps						750 .071	563 .040	500 .032	450 .026	375 .018	333 .014	300 .011	270 .009	250 .008
	NC	40					35	30			25				

### Performance Notes for Series RHF

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- Nk Vel - Neck velocity of air stream in feet per minute
- Ps - Negative Static pressure (inches of water column)
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw)  
RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

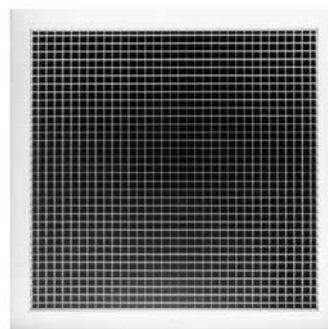




## ➔ Filter Return Grilles & Registers ➔ Cube Core ➔ Series CC5F ➔ Aluminum

### Product Details

- ★ The series CC5F cubed core return and exhaust filter grilles are designed to provide low pressure drops and low sound levels
- ★ The series CC5F is designed for 1" thick filters (by others) and includes a hinged face with 1/4" turn fasteners for quick filter changes
- ★ Series CC5F is an excellent choice for applications requiring minimum pressure drop and noise in return and exhaust applications

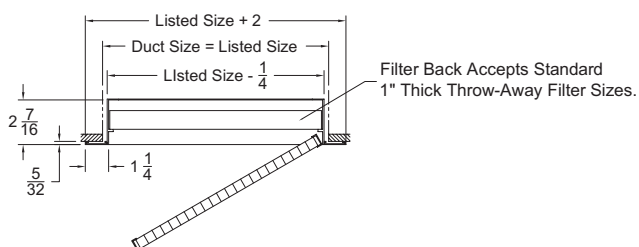


**Model CC5F-1 Shown**

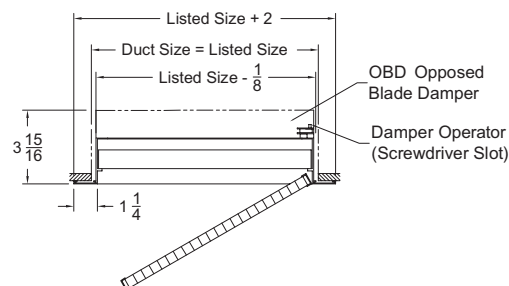
Standard Finish: 01 White

Sideview, dimensions are in inches

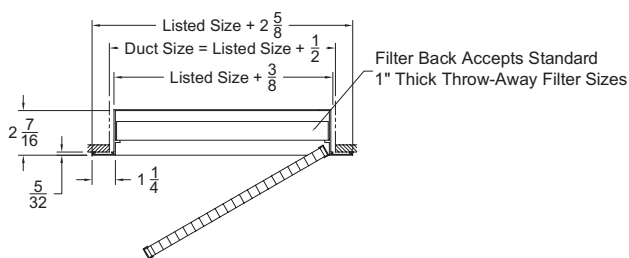
**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Grille Size - Surface Mount  
Model CC5F-1 GS**



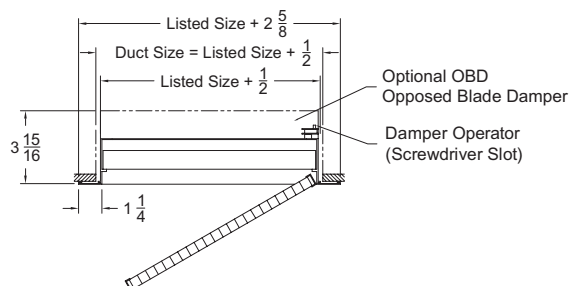
**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Grille Size - With Opposed Blade Damper - Surface Mount  
Model CC5FD-1 GS**



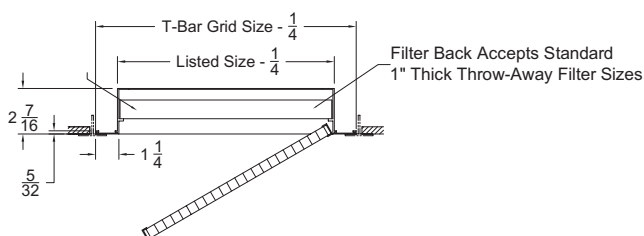
**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Filter Size - Surface Mount  
Model CC5F-1 FS**



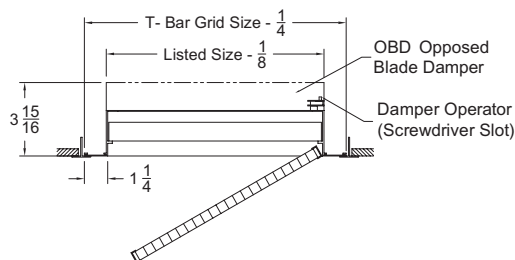
**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Filter Size - With Opposed Blade Damper - Surface Mount  
Model CC5FD-1 FS**



**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Grille Size - T-bar Lay-in  
Model CC5F-6 GS**

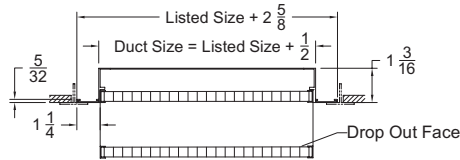


**Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Grille Size - With Opposed Blade Damper - T-bar Lay-in  
Model CC5FD-6 GS**



# GAR - Grilles and Registers

Filter Back Return Grilles and Registers - 1/2" x 1/2" x 1/2" Cube Core  
Filter Size - T-bar Lay-in with four thumb latches/removable core  
Model CC5F-6 FS



1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 01 White <b>Optional Finish:</b> 02 Aluminum paint 03 Black 24 Mill finish 28 Custom color	OBD - Steel - Opposed Blade Damper.....221 OBDA - Aluminum - Opposed Blade Damper .....221 L9 - Equalizing Grid .....221 PF - Plaster Frame .....222	<ul style="list-style-type: none"> <li>Frame and cube core are aluminum</li> <li>Can be ordered as either G/S (grille size) or F/S (filter size)</li> </ul>

## Series CC5F - Performance

Models CC5F-1 GS, CC5-1 FS, CC5F-6 GS, CC5F-6 FS, CC5FD-1 GS, CC5FD-1 FS, CC5FD-6 GS

CFM	Ak	NECK SIZE													
		6" x 6"	8" x 8"	10" x 10"	12" x 12"	14" x 14"	16" x 14"	16" x 16"	18" x 16"	18" x 18"	20" x 18"	20" x 20"	22" x 20"	22" x 22"	24" x 22"
		0.25	0.44	0.69	0.99	1.35	1.54	1.76	1.98	2.23	2.47	2.75	3.02	3.33	3.63
100	Velocity Ps	400 .064	225 .0055												
150	Velocity Ps	600 .082	338 .06	216 .054											
200	Velocity Ps	800 .107	450 .068	288 .057	200 .054										
250	Velocity Ps		563 .078	360 .062	250 .056										
300	Velocity Ps		675 .091	432 .067	300 .058	220 .054									
350	Velocity Ps		787 .105	504 .073	350 .061	257 .056	225 .055								
400	Velocity Ps		900 .122	576 .080	400 .064	294 .058	257 .056	225 .055	200 .054						
450	Velocity Ps			648 .087	450 .068	331 .060	289 .057	253 .056	225 .055	200 .054					
500	Velocity Ps			720 .096	500 .072	367 .062	321 .059	281 .057	250 .056	222 .054	200 .054				
550	Velocity Ps			792 .106	550 .077	404 .065	354 .061	309 .059	275 .057	244 .055	220 .054				
600	Velocity Ps			864 .116	600 .082	441 .067	386 .063	338 .060	300 .058	267 .056	240 .055	216 .054			
650	Velocity Ps				650 .088	478 .070	418 .066	366 .062	325 .059	289 .057	260 .056	234 .055	213 .054		
700	Velocity Ps				700 .094	514 .074	450 .068	394 .064	350 .061	311 .059	280 .057	252 .056	229 .055	208 .054	
750	Velocity Ps				750 .100	551 .077	482 .071	422 .066	375 .063	333 .060	300 .058	270 .056	245 .055	223 .054	205 .054
NC		25-30			20-25		<20								

For performance notes, see page GAR-190



## Series CC5F - Performance

Models CC5F-1 GS, CC5-1 FS, CC5F-6 GS, CC5F-6 FS, CC5FD-1 GS, CC5FD-1 FS, CC5FD-6 GS

CFM	Ak	NECK SIZE														NC
		24" x 24"	26" x 26"	28" x 28"	30" x 30"	32" x 32"	48" x 24"	34" x 34"	36" x 36"	38" x 38"	40" x 40"	42" x 42"	44" x 44"	46" x 46"	48" x 48"	
		3.96	4.65	5.39	6.19	7.04	7.92	7.95	8.91	9.93	11.00	12.13	13.31	14.55	15.84	
800	Velocity Ps	200 .053														
1000	Velocity Ps	250 .055	213 .054													
1200	Velocity Ps	300 .058	256 .056	220 .054												
1600	Velocity Ps	400 .064	341 .060	294 .057	256 .056	225 .054	200 .053									
2000	Velocity Ps	500 .071	426 .065	367 .061	320 .059	281 .057	250 .055	249 .055	222 .054							
2500	Velocity Ps	625 .083	533 .074	459 .068	400 .064	352 .060	313 .058	311 .058	278 .057	249 .055	225 .054	204 .054				
3000	Velocity Ps	750 .098	639 .085	551 .076	480 .070	422 .065	375 .062	374 .062	333 .059	299 .058	270 .056	245 .055	223 .054	204 .054		
3500	Velocity Ps	875 .115	746 .097	643 .085	560 .077	492 .071	438 .066	436 .066	389 .063	349 .060	315 .058	286 .057	260 .056	238 .055	219 .054	
4000	Velocity Ps		852 .112	735 .096	640 .085	563 .077	500 .071	498 .071	444 .067	399 .063	360 .061	327 .059	298 .058	272 .056	250 .055	
4500	Velocity Ps			827 .108	720 .094	633 .084	563 .077	561 .077	500 .071	449 .067	405 .064	367 .061	335 .060	306 .058	281 .057	
5000	Velocity Ps				800 .104	703 .092	625 .083	623 .083	556 .076	499 .071	450 .067	408 .064	372 .062	340 .060	313 .058	
6000	Velocity Ps					800 .104	750 .098	747 .097	667 .088	598 .080	540 .075	490 .070	446 .067	408 .064	375 .062	
7000	Velocity Ps						875 .115	872 .114	778 .101	698 .091	630 .084	571 .078	521 .073	476 .069	438 .066	
8000	Velocity Ps								889 .117	798 .104	720 .094	653 .086	595 .080	544 .075	500 .071	
NC		30-35											25-30			

### Performance Notes for Series CC5F

All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

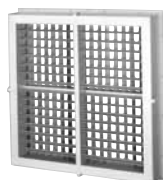
- CFM - Cubic Feet per Minute (air)
- Nk Vel - Neck velocity of air stream in Feet Per Minute
- Ps - Negative Static pressure (inches of water column)
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw)  
RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands
- Ak - Area Factors

IND



**INDUSTRIAL /  
HIGH CAPACITY DEVICES**

INDUSTRIAL /  
HIGH CAPACITY DEVICES



Series 4100  
Series 4200  
Series 4300

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

## Industrial/High Capacity Grilles & Registers - Modular Frame/Multi-Core - Aluminum Series 4100, 4200, 4300

- ★ Series 4100, 4200 and 4300 industrial grilles and registers are engineered specifically for high capacity industrial air distribution applications where performance is a priority
- ★ The series 4100, 4200 and 4300 models are designed for ceiling and high sidewall installation and are available with of choice of three collar depths
- ★ Series 4100, 4200 and 4300 are excellent selections for industrial applications requiring high capacity and performance

Series 4100	Vertical Blades	Horizontal Blades
Single Deflection	V4152	H4152
Double Deflection - Front Blades	V4154	H4154
Single Deflection - Inverted Frame	V4152 IF	H4152 IF
Double Deflection - Inverted Frame - Front Blades	V4154 IF	H4154 IF
Single Deflection - w/ Trunk Latch Frame	V4152-TLF	H4152-TLF
Double Deflection - Front Blades - w/ Trunk Latch Frame	V4154-TLF	H4154-TLF
Modular Frame - Single Deflection	V4152MF	H4152MF
Modular Frame - Double Deflection	V4154MF	H4154MF

Series 4200	Vertical Blades	Horizontal Blades
Single Deflection	V4252	H4252
Double Deflection - Front Blades	V4254	H4254
Single Deflection - Inverted Frame	V4252 IF	H4252 IF
Double Deflection - Inverted Frame - Front Blades	V4254 IF	H4254 IF
Single Deflection - w/ Trunk Latch Frame	V4252-TLF	H4252-TLF
Double Deflection - Front Blades - w/ Trunk Latch Frame	V4254-TLF	H4254-TLF
Modular Frame - Single Deflection	V4252MF	H4252MF
Modular Frame - Double Deflection	V4254MF	H4254MF

Series 4300	Vertical Blades	Horizontal Blades
Single Deflection	V4352	H4352
Double Deflection - Front Blades	V4354	H4354
Modular Frame - Single Deflection	V4352MF	H4352MF
Modular Frame - Double Deflection	V4354MF	H4354MF

Gang Operator for Series 4100, 4200, & 4300	Vertical Blades	Horizontal Blades
Gang Operator	GOV	GOH

Airfoil Blades for Series 4100 & 4200	
Optional Airfoil Blades (Mounted)	AB

Series	Collar	Blades	Center
4100	4 3/8"	1 1/2"	1 1/2"
4200	1 7/8"	1 1/2"	1 1/2"
4300	7"	3"	3"





**Model RL**  
Pg. 194

## Industrial/High Capacity Drum Louver - Supply - Extruded Aluminum - Series RL Roto-Louver

- ✧ The series RL Roto-Louver outlets are engineered for high capacity, long throw applications such as sports arenas, gymnasiums, conference centers, industrial plants and other large spaces.
- ✧ The series RL units have the flexibility to change throw direction and spread of the discharge jet with individually adjustable deflection blades and a rotating cylindrical drum assembly.
- ✧ Series RL Roto-Louver outlets are an excellent choice for high capacity, long throw applications. These units offer flexibility allowing installation in a variety of applications.

Roto-Louver
RL
RL-DF Dual Flow
RL-GO Gang Operator



**Model JA-1**  
Additional product information available at [www.metalair.com](http://www.metalair.com)

## High Capacity - Supply - Round Neck - Steel - Series JA - Jet\*Aire

- ✧ Jet\*Aire Diffusers offer an economical solution to high capacity air distribution applications requiring long throw distances. This diffuser can be effectively applied to large space applications such as civic centers, auditoriums, and arenas.
- ✧ Units are available as a single diffuser, or multiple diffusers mounted in a panel.
- ✧ Jet\*Aire Diffusers are an excellent choice for high capacity, long throw applications. The modular design of the Jet\*Aire diffusers allows selection for a wide range of air volumes

Jet*Aire
JA-1 Surface Mount - Single Unit
JA-1P Panel Mounted - 1 Unit
JA-2P Panel Mounted - 2 Units
JA-3P Panel Mounted - 3 Units
JA-4P Panel Mounted - 4 Units
JA-1EX Exposed Duct Mount - No Panel



**Model OAL**  
Additional product information available at [www.metalair.com](http://www.metalair.com)

## Outside Air Louvers - Extruded Aluminum - Series OAL

- ✧ Series OAL stationary outside air louvers are fixed multiple blade air distribution devices designed for installation in building exterior wall openings
- ✧ The series OAL inhibit the entrance of wind, rain, snow, sleet, sand, birds, insects, and airborne debris while serving to enhance the building's exterior appearance
- ✧ Each series OAL blade has a 45° face deflection and includes a water baffle with a 1/4" return bend
- ✧ Series OAL blades also overlap to improve the weather resistance of the louver

Type "C" Channel Frame	Type "F" Flange Frame
OAL2C 2" Depth	OAL2F 2" Depth
OAL4C 4" Depth	OAL4F 4" Depth



**Model MPK**  
Additional product information available at [www.metalair.com](http://www.metalair.com)

## Industrial/High Capacity Punkah Louver Global Adjustment - Aluminum - Model MPK

- ✧ Model MPK discharges a high-velocity jet that can be directed to condition a specific space or area
- ✧ The model MPK is constructed using a felt gasket that allows smooth movement of the inner core to direct air flow and provides a tight seal to prevent air leakage
- ✧ An optional aperture damper is available which includes an adjustment knob and stainless steel linkage and tension springs for maximum corrosion protection



**Model MRDD**

## Architectural - High Velocity - Round - Series MRD

- ✧ An excellent selection for architecturally pleasing applications requiring an adjustable outlet with high capacities and long throw.
- ✧ Heavy gauge aluminum construction
- ✧ Available in single and double deflection
- ✧ Unit is designed for surface mounting with concealed fastening

Single Deflection	Double Deflection
MRDS	MRDD

Additional product information available at [www.metalair.com](http://www.metalair.com)

For more product information visit us at [www.metalair.com](http://www.metalair.com)





## ➔ Industrial High Capacity ➔ Supply ➔ Series RL Roto Louver ➔ Aluminum

### Product Details

- ★ The series RL Roto-Louver outlets are engineered for high capacity, long throw applications such as sports arenas, gymnasiums, conference centers, industrial plants and other large spaces
- ★ The series RL units have the flexibility to change throw direction and spread of the discharge jet with individually adjustable deflection blades and a rotating cylindrical drum assembly
- ★ Series RL Roto-Louver outlets are an excellent choice for high capacity, long throw applications. These units offer flexibility allowing installation in a variety of applications

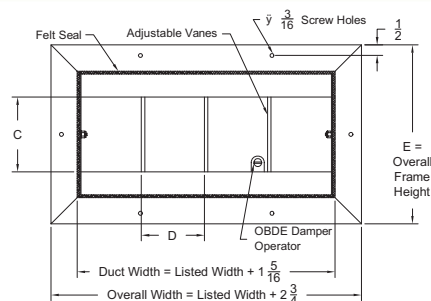
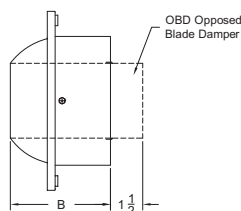


**Model RL Shown**

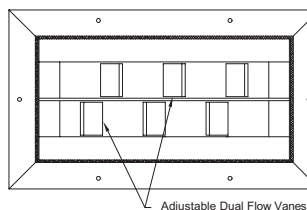
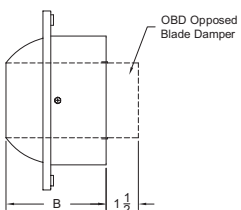
Standard Finish: 02 Aluminum

Sideview, dimensions are in inches

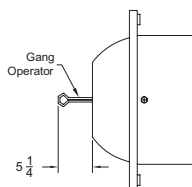
### Supply - Cylindrical Drum - Roto Louver - Standard Blades Model RL - Standard Unit



### Supply - Cylindrical Drum - Roto Louver - Standard Blades Model RL-DF - Dual Flow Blades



### Supply - Cylindrical Drum - Roto Louver - Standard Blades Model RL-GO - With Gang Operator



Available Listed Height	6								10								12								15							
Available Listed Widths	9	12	18	24	30	36	48	60	20	25	30	35	40	50	60	70	20	25	30	35	40	50	60	70	15	20	25	30	40	50	60	70
Number of Louvers	2	3	5	7	9	11	15	19	3	4	5	6	7	9	11	13	3	4	5	6	7	9	11	12	2	3	4	5	7	9	11	13
A	1 3/4								2 5/8								3								3 1/2							
B	4 3/8								6 1/8								6 1/8								8							
C	3 1/2								5 7/8								6 1/4								9 1/2							
D	3								5								5								5							
E	8 1/2								12 1/4								13 7/8								16 7/8							
F	7								10 13/16								12 1/2								15 1/2							

### Notes for Models RL, RL-DF, RL-GO

1. Available Finishes	2. Available Accessories	3. Construction Details
<b>Standard Finish:</b> 04 Clear Anodized <b>Optional Finish:</b> 01 White	<b>OBD - Steel - Opposed Blade Damper</b> .....221 <b>OBDA - Aluminum - Opposed Blade Damper</b> .....221	• Sizes available only as listed

# GOING



**SECURITY PRODUCTS**

SECURITY PRODUCTS



**Model SGSP**  
Pg. 197

## Maximum Security Grilles - Square Holes/Mesh Face - Series SGSP

- ✦ The series SGSP is a supply maximum security steel grille and has a face plate perforated with 2" square holes separated by 1" wide fret bars. A woven steel mesh screen is inserted directly behind the face panel and is sandwiched by a steel backup plate
- ✦ The series SGSP is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ✦ Series SGSP is an excellent choice for maximum security applications such as federal correctional facilities, state and local prisons, psychiatric hospitals, and manufacturing plants where security is of paramount concern. This grille can be used for both supply and return applications



**Model SGRP**  
Pg. 198

## Maximum Security Grilles - Round Perforated Holes - Series SGRP

- ✦ The series SGRP is a supply maximum security steel grille and has round holes and a perforated face plate
- ✦ The series SGRP is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ✦ Series SGRP is an excellent choice for maximum security applications such as federal correctional facilities, state and local prisons, psychiatric hospitals, and manufacturing plants where security is of paramount concern. This grille can be used for both supply and return applications



**Model SGRH**

## Minimum Security Grilles - Fixed Louver Face - Series SGRH

- ✦ The series SGRH is a return, minimum security grille constructed with heavy gauge steel louvers that are reinforced and welded to a steel sleeve
- ✦ The series SGRH is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ✦ Series SGRH is an excellent choice for a return grille in minimum security, supervised areas. Applications for the series SGRH include minimum security areas in federal correctional facilities, state and local prisons, psychiatric hospitals, and manufacturing plants. The SGRH is also an excellent choice for public areas to resist vandalism

Additional product information available at [www.metalair.com](http://www.metalair.com)



**Model SG5500S**

## Minimum Security Grilles - Steel Diffuser and Face Plate - Series SG5500S

- ✦ The series SG5500S is a supply, minimum security steel ceiling diffuser and features a steel lattice face panel attached to the high performing Series 5500S steel supply diffuser
- ✦ This surfaced mounted diffuser is available with 1, 2, 3, or 4 way air patterns
- ✦ Series SG5500S is an excellent choice for minimum security, supervised areas requiring a ceiling mounted diffuser. Applications for the SG5500S include minimum security areas in federal correctional facilities, state and local prisons, psychiatric hospitals, and manufacturing plants. The SG5500S is also an excellent choice for public areas to resist vandalism

Additional product information available at [www.metalair.com](http://www.metalair.com)



**Model SG2000**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Minimum Security Grilles - 1" Borders - 7/32" Bars - 1/2" Centers - Series SG2000

- ✦ The series SG2000 is a return, minimum security grille constructed with heavy gauge aluminum louvers that are reinforced and welded to a steel sleeve
- ✦ The series SG2000 is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ✦ Series SG2000 is an excellent choice for a return grille in minimum security, supervised areas. Applications for the series SG2000 include minimum security areas in federal correctional facilities, state and local prisons, psychiatric hospitals, and manufacturing plants. The SG2000 is also an excellent choice for public areas to resist vandalism

Extruded Aluminum		
Deflection	Single Face	Dual Face (Transfer Grille)
0°	SG2000-1	SG2000-2
15°	SG2015-1	SG2015-2
30°	SG2030-1	SG2030-2

## ➔ Maximum Security Grilles ➔ Square Holes/Mesh Face ➔ Model SGSP ➔ Steel

### Product Details

- ★ The series SGSP is a supply maximum security steel grille and has a face plate perforated with 2' square holes separated by 1" wide fret bars. A woven steel mesh screen is inserted directly behind the face panel and is sandwiched by a steel backup plate
- ★ The series SGSP is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ★ Series SGSP is an excellent choice for maximum security applications such as federal correctional facilities, state and local prisons, psychiatric hospitals, as well as manufacturing plants. The SGSP is also an excellent choice for public areas to resist vandalism

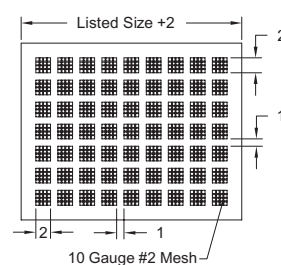
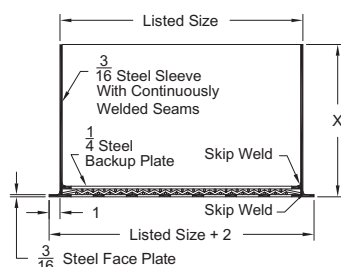


**Model SGSP Shown**

Standard Finish: 01 White

Sideview, dimensions are in inches

### Security Grille - Square Holes - Mesh Screen Face Model SGSP



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Note:</b> Contact Factory for other finish	<b>OBD</b> - sleeve mounted steel damper . . . . . 221 <b>OBDA</b> - sleeve mounted aluminum damper . . 221 <b>SAB</b> - Steel Anchors <b>BSA</b> - Bolted Steel Angles <b>WSA</b> - Welded Steel Angles <b>SBR</b> - Security Bars Screw Holes	<b>LSA</b> - Loose Steel Angles <b>WAF</b> - Welded Angle Frame	<ul style="list-style-type: none"> <li>• Neck Sizes available in 2" increments as listed</li> <li>• Damper can be mounted for rear operation with standard flat tip screwdriver. Due to tight bar spacing, face operated dampers are not recommended</li> <li>• Face plate, sleeve and horizontal blades are 14 gauge steel</li> <li>• Wire mesh is 10 gauge by #2</li> </ul>

## ➔ Maximum Security Grilles ➔ Round Perforated Holes ➔ Series SGRP ➔ Steel

### Product Details

- ★ The series SGRP is a supply maximum security steel grille and has round holes and a perforated face plate
- ★ The series SGRP is designed for sidewall applications. A rear operated opposed blade damper is available as an option
- ★ Series SGRP is an excellent choice for maximum security applications such as federal correctional facilities, state and local prisons, psychiatric hospitals, as well as manufacturing plants where security is of paramount concern. This grille can be used for both supply and return applications

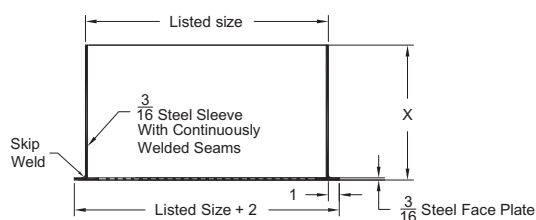


**Model SGRP Shown**

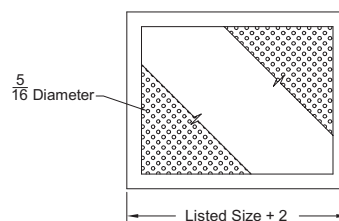
Standard Finish: 01 White

Sideview, dimensions are in inches

### Security Grille - With Perforated Face Model SGRP



**X = Sleeve Length ( Has to be specified)**



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
<b>Standard Finish:</b> 01 White <b>Note:</b> Contact Factory for other finish	<b>OBDA</b> - sleeve mounted aluminum damper . . .221 <b>OBD</b> - sleeve mounted steel damper . . . . .221 <b>SAB</b> - Steel Anchors <b>BSA</b> - Bolted Steel Angles <b>WSA</b> - Welded Steel Angles <b>SBR</b> - Security Bars Screw Holes	<b>LSA</b> - Loose Steel Angles <b>WAF</b> - Welded Angle Frame	<ul style="list-style-type: none"> <li>• Neck Sizes available in 2" increments as listed</li> <li>• Damper can be mounted for rear operation with standard flat tip screwdriver. Due to tight bar spacing, face operated dampers are not recommended</li> <li>• Face plate, sleeve and horizontal blades are 14 gauge steel</li> </ul>



# FOR



**FIRE RATED PRODUCTS**

FIRE RATED PRODUCTS

T-Bar Module = 24 x 24





## Model FD11 AH

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Thinline 2" Frames - Blades in Airstream - Series FD11 A

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour fire partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 2" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD11 AH	FD11 AV



## Model FD12 AH

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Standard 4 1/4" Frames - Blades in Airstream - Series FD12 A

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 4 1/4" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD12 AH	FD12 AV



## Model FD11 BH

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Thinline 2" Frames - Blades out of Airstream - Series FD11 B

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour fire partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 2" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD11 BH	FD11 BV



## Model FD12 BH

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Standard 4 1/4" Frames - Blades out of Airstream - Series FD12 B

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 4 1/4" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD12 BH	FD12 BV



## Model FD11 C

Additional product information available at [www.metalair.com](http://www.metalair.com)

### Thinline 2" Frames - Round Inlet/Outlet - Series FD11 C

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour fire partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 2" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD11 CH	FD11 CV

**Model FD12 C**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Standard 4 1/4" Frames - Round Inlet/Outlet - Series FD12 C**

- ★ 1 1/2 hour UL fire resistance
- ★ Rated for use in 2 hour partitions
- ★ Heavy duty rollformed steel construction
- ★ Meets NFPA 90a requirements for vertical or horizontal mounts
- ★ 4 1/4" deep frame
- ★ Optional 12" deep sleeve

Horizontal Application	Vertical Application
FD12 CH	FD12 CV

**Model****5500S-6 FRS**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Square/Rectangular Louver Face Ceiling Diffusers with Radiation Damper for T-bar Lay-in - Series 5500S FRS**

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled — Ready to install

**Model****5700-6 FRS**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Square Face Diffusers - Round Neck 2-Cone with Radiation Damper for T-bar Lay-in - Series 5700 FRS**

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled — Ready to install

**Model****5800-6 FRS**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Square Face Diffusers - Round Neck 3-Cone with Radiation Damper for T-bar Lay-in - Series 5800 FRS**

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled — Ready to install
- ★ Optional volume damper on select models

Supply	
Fixed Volume	Adjustable Volume
5800-6 FRS	5800-6 FRSA

**Model****7500-6 FRS**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Perforated Ceiling Diffuser - Face Mounted Adjustable Pattern Controller with Radiation Damper for T-bar Lay-in - Series 7500 FRS**

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled — Ready to install
- ★ Optional volume damper on select models

Flush Face	Supply		Return
	Fixed Volume	Adjustable Volume	Fixed Volume
Round Neck	7500-6 FRS	7500-6 FRSA	7500R-6 FRS
Square Neck	7550-6 FRS	7550-6 FRSA	7550R-6 FRS

Drop Face	Supply		Return
	Fixed Volume	Adjustable Volume	Fixed Volume
Round Neck	7500-6 DF FRS	7500-6 DF FRSA	7500R-6 DF FRS
Square Neck	7550-6 DF FRS	7550-6 DF FRSA	7550R-6 DF FRS

For more product information visit us at [www.metalair.com](http://www.metalair.com)



**Model**  
**7600-6 FRS**  
*Pg. 198*

## Perforated Ceiling Diffuser - Curved Blade - Neck Mounted Pattern Controller with Radiation Damper for T-bar Lay-in - Series 7600 FRS

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled — Ready to install

	Flush Face			Drop Face	
	Supply	Return		Supply	Return
Round Neck	7600-6 FRS	7600R-6 FRS	Round Neck	7600-6 DF FRS	7600R-6 DF FRS
Square Neck	7650-6 FRS	7650R-6 FRS	Square Neck	7650-6 DF FRS	7650R-6 DF FRS



**Model**  
**CC5 FRS**  
*Pg. 199*

## Sidewall/Ceiling Return Grilles & Registers with Radiation Damper for T-bar Lay-in - Series CC5 FRS

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled - Ready to install



**Series**  
**PRTB FRS**  
*Pg. 200*

## Perforated Screen - Non-Ducted - Return with Radiation Damper for T-bar Lay-in - Series PRTB FRS

- ★ Three hour UL classified ceiling diffuser system
- ★ Complete factory package - diffuser, damper, & blanket
- ★ Factory assembled - Ready to install

Aluminum	Steel
PRTB FRS	SPRTB FRS



**Model RD-10**  
*Pg. 201*

## Round Radiation Dampers - Series RD-10

- ★ Three hour UL fire resistant classification
- ★ Approved for use with flexible duct, steel duct, and non-ducted supply/return applications
- ★ Heavy duty rollformed steel construction
- ★ Optional adjustable volume control

Fixed Volume	Adjustable Volume
RD-10	RD-10A



**Model RD-20**  
*Pg. 202*

## Square Radiation Dampers - Series RD-20

- ★ Three hour UL fire resistant classification
- ★ Approved for use with flexible duct, steel duct, and non-ducted supply/return applications
- ★ Heavy duty rollformed steel construction
- ★ Optional adjustable volume control

Fixed Volume	Adjustable Volume
RD-20	RD-20A

NEW

Earthquake Tab  
Catch Tabs

Overall Face S

T-Bar Mo

**ENGINEERED POLYMER  
PRODUCTS**



## Engineered Polymer Ceiling Diffusers - Louver Face - Series EP5000

- ✧ For use in ceiling applications which call for a clean, smooth appearance, lightweight, corrosion resistant, and ease of installation
- ✧ For flush surface mount or inverted T-bar Lay-in ceiling grid systems

### Model EP5000

Additional product information available at [www.metalair.com](http://www.metalair.com)

Surface Mount	T-bar Lay-in
EP5000-1	EP5000-6



## Engineered Polymer Cube Core - Eggcrate Return/Exhaust - Series EPCC5

- ✧ Attractive 1/2" x 1/2" grid by 1/2" deep design
- ✧ Available for non-ducted applications
- ✧ Can be used with an aluminum transition for use with round duct.

### Model EPCC5

Additional product information available at [www.metalair.com](http://www.metalair.com)

Surface Mount
EP-CC5-1



## Engineered Polymer Grilles & Registers - Louver Face Return/Exhaust - Series EPRH

- ✧ Fixed 45° angled deflecting blades provide a vision obscured appearance
- ✧ Horizontal 45° angled fixed vanes are on 3/4" centers

### Model EPRH

Additional product information available at [www.metalair.com](http://www.metalair.com)





Ceiling Framing

F4

F1

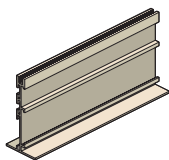
FOR

formations™

FORMATIONS®

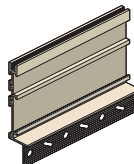


## Border Styles



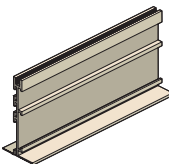
Border A

Our most versatile Formations® border option, Border A is ideal for either hard or acoustical ceilings, as well as any sidewall application. Border A provides you with total freedom to incorporate bends and curves in any direction, which means you can select any air flow pattern for maximum comfort and design without restrictions.



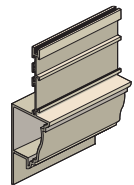
Border B

For beautifully smooth transitions, Border B lets you hide Formations® where ceilings and walls intersect. Because a speedy installation saves everyone time and money, we've incorporated a specially designed leg, to ensure a quick, professional finish.



Border C

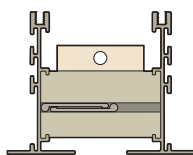
Invisible by design, Border C is a great option when you choose to completely hide your Formations® diffuser. Cover the flange of Border C with drywall tape and spackle for a totally concealed installation. All that's visible is a very sleek, beautiful black line.



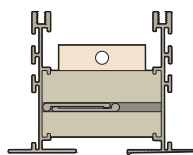
Border D  
Patent # 6,648,752

When you want to go beyond concealing to creating a touch of elegance, Border D® provides a fluid integration with wall and ceiling transitions by uniquely disguising the diffuser as a design element. Crown molding, wood trim, marble finish or any of a variety of options... Border D® provides a clean, elegant style you'll only find with Formations®.

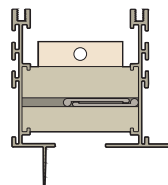
## Combination Border Options



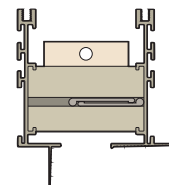
Border AA



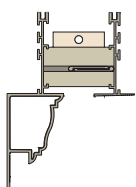
Border AC



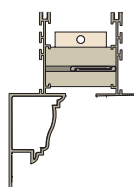
Border BA



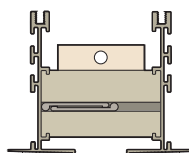
Border BC



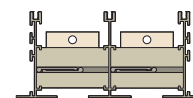
Border DC



Border DA

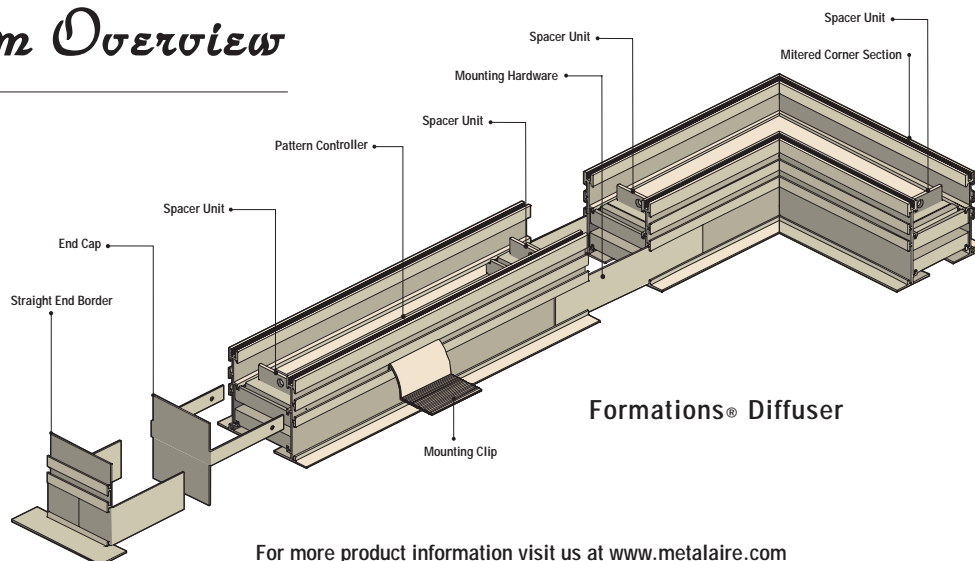


Border CC

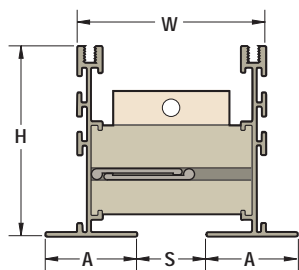


Border AA  
2 Slot

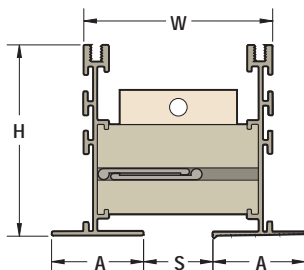
## System Overview



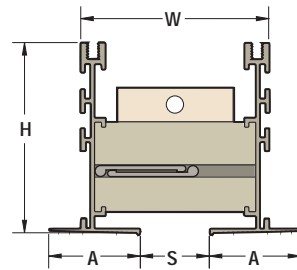
## Combination Border Options - Dimensions - One Slot



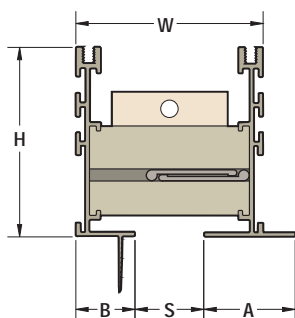
BORDER AA



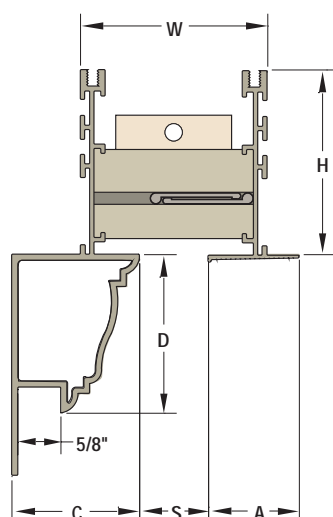
BORDER AC



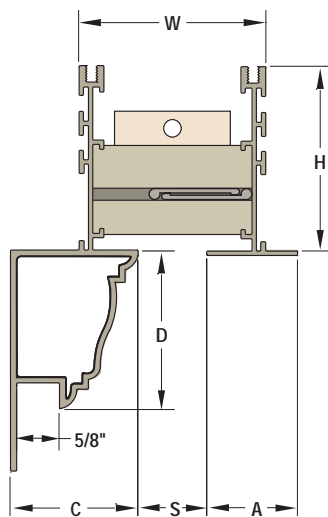
BORDER CC



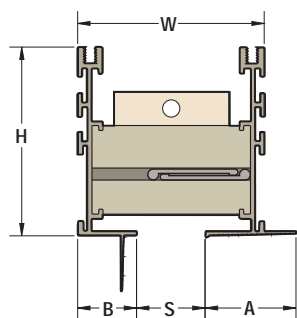
BORDER BA



BORDER DC



BORDER DA

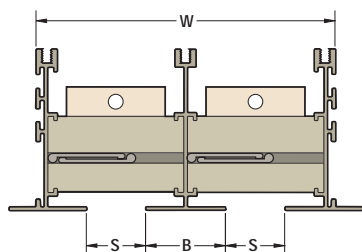


BORDER BC

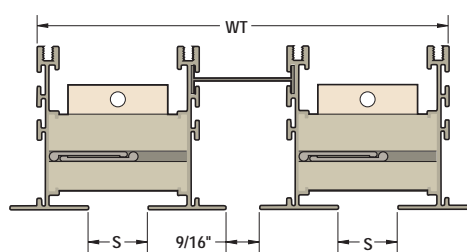
MODEL	S SLOT WIDTH	W WIDTH	A BORDER WIDTH	B BORDER WIDTH	H HEIGHT	C BORDER D WIDTH	D BORDER D HEIGHT
FAL-10	1	2 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	<sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>
FAL-15	1 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	-----	-----
FAL-20	2	4 <sup>3</sup> / <sub>4</sub>	1 <sup>13</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>
FAL-25	2 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>16</sub>	-----	-----
FAL-30	3	6 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	-----	-----

All dimensions in inches.

## Combination Border Options - Dimensions - Two Slot



BORDER AA 2 SLOT

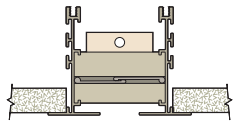


BORDER AA 2T SLOT

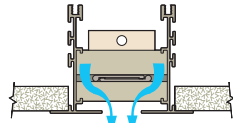
MODEL	S SLOT WIDTH	B BORDER WIDTH	W WIDTH	WT WIDTH
FAL-10	1	1 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	6 <sup>15</sup> / <sub>16</sub>
FAL-15	1 <sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>8</sub>	8 <sup>15</sup> / <sub>16</sub>
FAL-20	2	2 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>	9 <sup>15</sup> / <sub>16</sub>
FAL-25	2 <sup>1</sup> / <sub>2</sub>	2 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>8</sub>	11 <sup>15</sup> / <sub>16</sub>
FAL-30	3	3 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>8</sub>	13 <sup>15</sup> / <sub>16</sub>

All dimensions in inches.

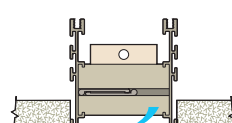
## Pattern Controllers - Standard



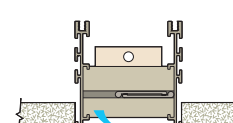
FULLY DAMPERED



VERTICAL

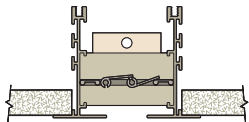


LEFT

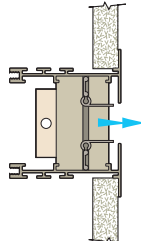


RIGHT

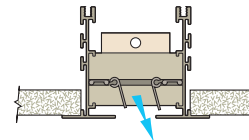
## Pattern Controllers - Combo



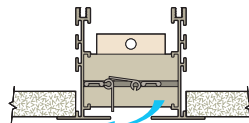
FULLY DAMPERED



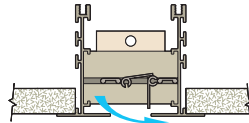
SIDEWALL



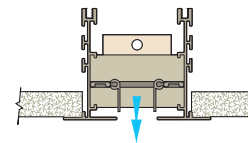
VERTICAL OFFSET



LEFT

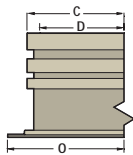


RIGHT

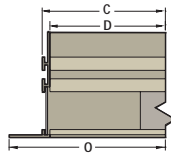


VERTICAL

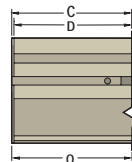
## End Fabrication Dimensions



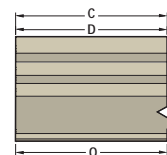
MITERED END



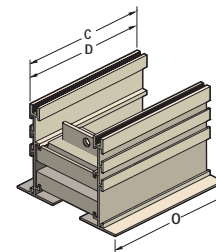
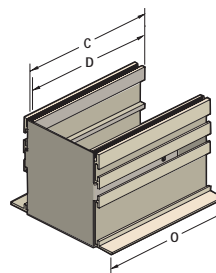
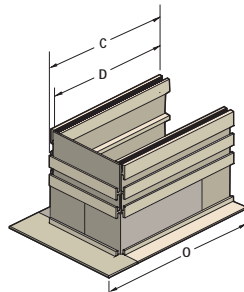
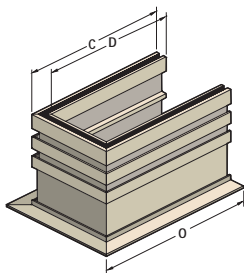
STRAIGHT END



END CAP



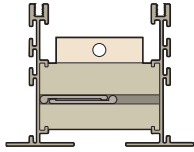
OPEN END



PO		STRAIGHT	STRAIGHT	STRAIGHT	OPEN	OPEN	OPEN	MITERED	MITERED	MITERED	OPEN	END CAP	END CAP	END CAP	OPEN
BORDER TYPE	SLOT WIDTH	C	O	C	O	C	O	C	O	C	O	C	O	C	O
AA	1	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	1.5	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	2	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	2.5	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	3	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
BA	1	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
AC	1.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
BC	2	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
CC	2.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
DA	2.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
DC	3	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>

All dimensions are in inches.

D - Order Specified Length



## Series FAL

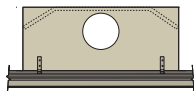
Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Formations® Linear: Continuous - Series FAL

- Formations® Linear satisfies the most demanding engineering and architectural criteria, providing both superior air distribution performance and sculptured elegance
- Specially designed air pattern controllers are easily adjustable to satisfy a myriad of applications
- Available in 24" increments, pattern controllers allow the air flow to be directed horizontally, to the left, right or vertically
- Formations® Linear is available for straight and curved applications

FAL				
1" Slot Width	1.5" Slot Width	2" Slot Width	2.5" Slot Width	3" Slot Width
FAL-10	FAL-15	FAL-20	FAL-25	FAL-30

FALC (for concealed hanger brackets)				
1" Slot Width	1.5" Slot Width	2" Slot Width	2.5" Slot Width	3" Slot Width
FALC-10	FALC-15	FALC-20	FALC-25	FALC-30



## Series FAP

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Formations® Plenum - Standard/Hemmed - Series FAP

- The FAP (non-insulated) and FAPI (insulated) boot plenums are designed to connect the Formations® linear slot diffusers to the ducted supply or return system
- Units provide an even distribution of air into the plenum to maximize induction and occupant comfort
- FAPI boot plenum is fully insulated including the end caps
- Units can be used for both ducted and plenum returns
- Factory tested and manufactured FAP/FAPI plenums are built to fit securely into the Formations® plenum diffusers, reducing installation cost and minimizing leakage
- Available with an optional quadrant locking damper
- Models FAP/FAPI are shipped separate from Formations® Linear and require field attachment
- Available with hemmed plenum (models FAPH/FAPHI) for use with FALC concealed mounting

	(For FAL) Formations® Plenum				
	1" Slot Width	1.5" Slot Width	2" Slot Width	2.5" Slot Width	3" Slot Width
Non-Insulated Plenums	FAP-10	FAP-15	FAP-20	FAP-25	FAP-30
Insulated Plenums	FAPI-10	FAPI-15	FAPI-20	FAPI-25	FAPI-30

	(For FALC) Hemmed Formations® Plenum				
	1" Slot Width	1.5" Slot Width	2" Slot Width	2.5" Slot Width	3" Slot Width
Non-Insulated Plenums	FAPH-10	FAPH-15	FAPH-20	FAPH-25	FAPH-30
Insulated Plenums	FAPHI-10	FAPHI-15	FAPHI-20	FAPHI-25	FAPHI-30



## Series FTS

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

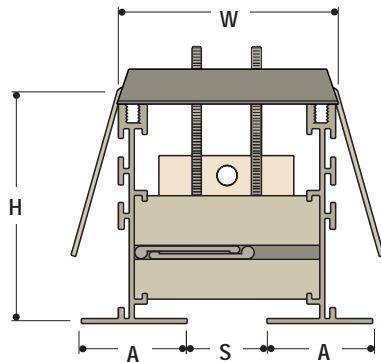
### Formations® Tee System - Series FTS

- Formations® Tee system includes model FAL and a plenum
- Available in 2', 4', or 5' lengths, with an internal plenum, the Formations® Tee system ensures your diffuser fits tightly into your 15/16", 9/16", or bolt-slot suspension system for a sleek, clean appearance
- A perfect choice for installation in an acoustical ceiling, the Formations® Tee system is easily repositioned, providing great flexibility
- Manufactured in pre-engineered lengths, the Tee system is available in 1", 1.5", and 2" slot widths

	15/16" & 9/16" Tee System		
	1" Slot Width	1.5" Slot Width	2" Slot Width
Non-Insulated Plenums	FTS-10	FTS-15	FTS-20
Insulated Plenums	FTSI-10	FTSI-15	FTSI-20

	Bolt-Slot Tee System		
	1" Slot Width	1.5" Slot Width	2" Slot Width
Non-Insulated Plenums	FTSB-10	FTSB-15	FTSB-20
Insulated Plenums	FTSBI-10	FTSBI-15	FTSBI-20

## Concealed Mounting Models

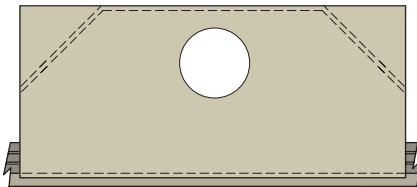


BORDER AA

FALC-10	• 1" SLOT
FALC-15	• 1.5" SLOT
FALC-20	• 2" SLOT
FALC-25	• 2.5" SLOT
FALC-30	• 3" SLOT

FORMATIONS UNIT SLOT WIDTH	NUMBER OF SLOTS	DIM W (WIDTH)	DIM H (HEIGHT)	DIM A (BORDER WIDTH)
1	1	2 3/4	2 3/4	1 5/16
1 1/2	1	3 3/4	2 3/4	1 9/16
2	1	4 3/4	2 3/4	1 13/16
2 1/2	1	5 3/4	3 3/16	2 1/16
3	1	6 3/4	3 5/8	2 5/16

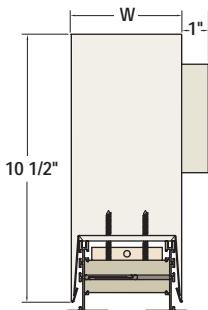
All dimensions are in inches.



## Formations Plenums - Hemmed

FAPH-10	• 1" SLOT
FAPH-15	• 1.5" SLOT
FAPH-20	• 2" SLOT
FAPH-25	• 2.5" SLOT
FAPH-30	• 3" SLOT

FAPHI-10	• 1" SLOT	• INSULATED
FAPHI-15	• 1.5" SLOT	• INSULATED
FAPHI-20	• 2" SLOT	• INSULATED
FAPHI-25	• 2.5" SLOT	• INSULATED
FAPHI-30	• 3" SLOT	• INSULATED



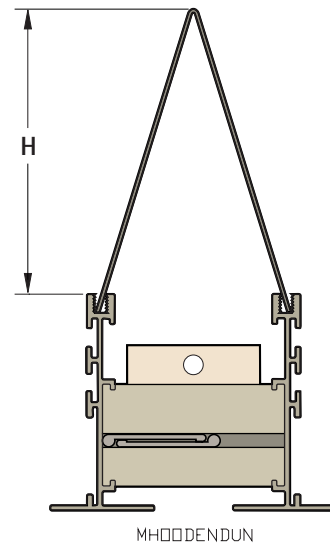
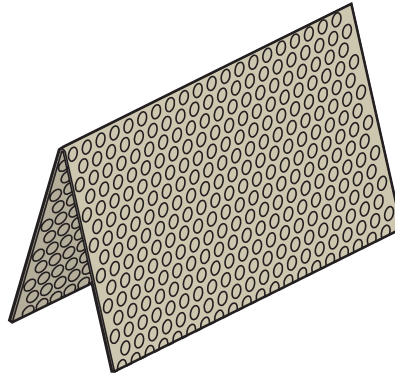
FORMATIONS UNIT SLOT WIDTH	NUMBER OF SLOTS	DIM W (WIDTH)	NOMINAL LENGTH	PLENUM LENGTH	STANDARD AVAILABLE INLETS	
					Round	Oval
1	1	3 1/8	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
1 1/2	1	4 1/8	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
2	1	5 1/8	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
2 1/2	1	6 1/8	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
3	1	7 1/8	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
1	2	6 1/4	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
1 1/2	2	8 1/4	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
2	2	10 1/4	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
2 1/2	2	12 1/4	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12
3	2	14 1/4	24, 36, 48, 60	23 3/4, 35 3/4, 47 3/4, 59 3/4	6	8, 10, 12

All dimensions are in inches.

## HOODS

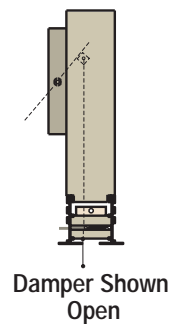
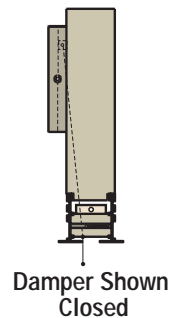
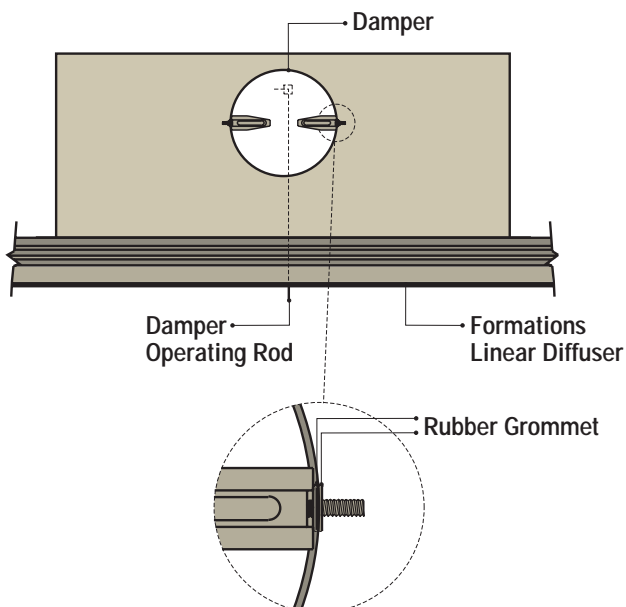
FAR-10	• 1" SLOT
FAR-15	• 1.5" SLOT
FAR-20	• 2" SLOT
FAR-25	• 2.5" SLOT
FAR-30	• 3" SLOT

SLOT NUMBER	SLOT WIDTH	DIM H
1	1	3 1/8
	1 1/2	3 1/8
	2	3 1/8
	2 1/2	3 1/8
	3	3 1/8
SLOT NUMBER	SLOT WIDTH	DIM H
2	1	2 3/4
	1 1/2	3
	2	3 3/4
	2 1/2	5
	3	5 3/4

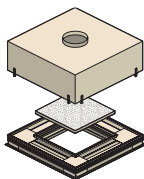


## FACE OPERATED DAMPER

FODR • FACE OPERATED DAMPER







Series FAI

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Formations® Integra - Supply/Return - Series FAI

- ✱ Laying in an acoustical tee bar or hard ceiling, your specified ceiling material actually becomes the face of the Integra diffuser, providing beautiful design integrity
- ✱ Integra is available in 1", 1.5", and 2" slot widths
- ✱ Available for either supply or return solutions and can be adjusted for one, two, three or four-way directional air flow
- ✱ Unit can be adjusted for horizontal or vertical air patterns

	Supply			Non Ducted Return		
	1" Slot Width	1.5" Slot Width	2" Slot Width	1" Slot Width	1.5" Slot Width	2" Slot Width
Non-Insulated Plenums	FAI-10	FAI-15	FAI-20	FAIR-10	FAIR-15	FAIR-20
Insulated Plenums	FAII-10	FAII-15	FAII-20			

## FORMATIONS - Performance Data

PRESSURIZED CEILING PLENUM WITH STANDARD BLADE PATTERN CONTROLLER										
1.0" Slot Width	1 Slot	Airflow, cfm/lf	25	40	65	80	95	110	125	140
		Static Pressure	0.026	0.066	0.174	0.264	0.372	0.499	0.644	0.808
		NC (Noise Criteria)	<15	16	31	37	42	45	48	51
		Throw	6 9 15	10 13 19	14 17 24	15 19 26	17 20 29	18 22 31	19 23 33	20 25 35
1.5" Slot Width	2 Slots	Airflow, cfm/lf	40	60	100	120	145	165	190	210
		Static Pressure	0.017	0.038	0.105	0.151	0.221	0.286	0.379	0.463
		NC (Noise Criteria)	-	<15	26	32	38	41	45	47
		Throw	7 10 19	10 15 23	17 21 29	19 23 32	20 25 35	22 27 38	23 29 41	25 30 43
2.0" Slot Width	1 Slot	Airflow, cfm/lf	30	50	80	95	115	130	150	170
		Static Pressure	0.026	0.072	0.184	0.259	0.380	0.486	0.647	0.831
		NC (Noise Criteria)	<15	16	31	36	41	44	48	50
		Throw	6 9 16	10 15 21	15 19 26	17 20 29	18 22 32	19 24 34	21 25 36	22 27 38
2.5" Slot Width	2 Slots	Airflow, cfm/lf	45	75	120	145	175	195	225	255
		Static Pressure	0.017	0.048	0.123	0.179	0.261	0.324	0.431	0.553
		NC (Noise Criteria)	-	<15	25	31	37	40	44	47
		Throw	5 9 19	11 16 25	17 23 32	20 25 35	22 28 39	24 29 41	25 31 44	27 33 47
3.0" Slot Width	1 Slot	Airflow, cfm/lf	35	55	90	110	135	155	175	195
		Static Pressure	0.025	0.062	0.166	0.248	0.374	0.493	0.628	0.780
		NC (Noise Criteria)	-	<15	27	33	39	42	45	48
		Throw	5 9 17	9 14 22	15 20 28	18 22 31	20 24 34	21 26 37	22 28 39	24 29 41
3.0" Slot Width	2 Slots	Airflow, cfm/lf	55	85	135	165	205	235	265	295
		Static Pressure	0.016	0.039	0.099	0.148	0.229	0.301	0.383	0.474
		NC (Noise Criteria)	-	<15	20	27	34	38	41	44
		Throw	5 10 20	10 15 27	16 24 34	20 27 38	24 30 42	26 32 45	28 34 48	29 36 51
3.0" Slot Width	1 Slot	Airflow, cfm/lf	40	60	100	120	145	165	190	210
		Static Pressure	0.020	0.045	0.126	0.181	0.265	0.343	0.455	0.556
		NC (Noise Criteria)	-	<15	23	29	35	38	42	44
		Throw	5 9 18	9 14 23	15 21 29	18 23 32	20 25 35	22 27 38	23 29 41	25 30 43
3.0" Slot Width	2 Slots	Airflow, cfm/lf	60	90	150	180	220	250	285	315
		Static Pressure	0.012	0.026	0.073	0.105	0.156	0.202	0.262	0.320
		NC (Noise Criteria)	-	<15	17	22	29	33	37	40
		Throw	4 9 20	9 15 28	16 24 36	20 28 39	24 31 44	27 33 47	29 35 50	30 37 52
3.0" Slot Width	1 Slot	Airflow, cfm/lf	45	70	115	145	170	200	225	250
		Static Pressure	0.021	0.051	0.138	0.219	0.301	0.416	0.527	0.650
		NC (Noise Criteria)	-	<15	21	29	34	38	42	44
		Throw	5 9 19	10 15 25	16 22 32	20 25 35	22 27 38	24 29 42	25 31 44	27 33 47
3.0" Slot Width	2 Slots	Airflow, cfm/lf	70	105	175	220	255	300	340	420
		Static Pressure	0.011	0.025	0.070	0.111	0.150	0.207	0.266	0.406
		NC (Noise Criteria)	-	<15	16	23	28	33	37	43
		Throw	4 9 21	9 16 30	17 26 39	22 31 44	25 33 47	29 36 51	31 38 54	35 43 60

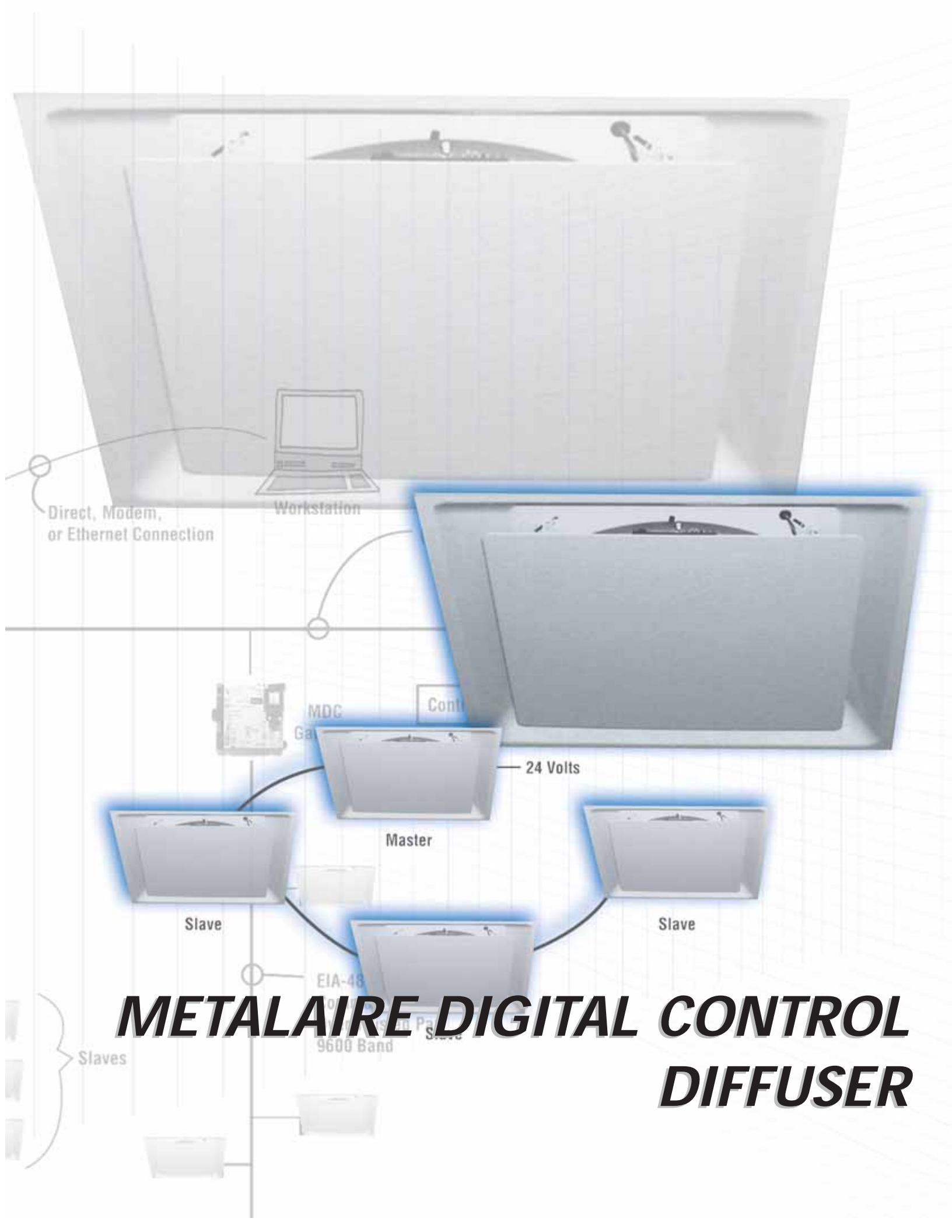
- All pressures are in inches of water.
- Isothermal throws are given for velocities of 150, 100, and 50 fpm.
- Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
- Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	2	4	6	8	10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8



# ***METALABRE DIGITAL CONTROL DIFFUSER***

## ➔ Digital Controlled Diffuser ➔ Series MDC ➔ Steel

### Product Details

#### ✦ Superior Personal Comfort

The main function of an air distribution system is to provide comfort to a building's occupants. The MDC® is an economical solution to maximize personal comfort by allowing smaller zone control. An MDC® diffuser installed in an individual's office gives the occupant the ability to set the temperature for both heating and cooling comfort

#### ✦ Flexibility

The MDC® has the flexibility to operate in applications ranging from office buildings, retail stores, schools, hospitals, and conference centers. Flexibility built into the MDC® allows the diffuser to be applied to a wide range of applications providing superior control and occupant comfort

#### ✦ Interoperability

All MDC® diffusers are native BACnet devices and communicate using MS/TP protocol. These devices can communicate to any BACnet system regardless of system manufacturer giving building owners and operators the freedom to select and change building controls even after the system is installed. Using the METALAIRE® Portal, the MDC® diffusers can be set-up to communicate with Modbus or Johnson Control's N2 protocol. With the addition of a Serial LonTalk adapter, the MDC® can be integrated into a Lon system

#### ✦ Ease of Installation

Installation of the MDC® is quick and easy. In the basic configuration, the MDC® only requires a 24 power connection and the unit will begin operation as a stand alone device. Add a twisted pair connection and you now can communicate over a multitude of building automation systems

#### ✦ Ease of Start-up, Operation, and Trouble Shooting

The MDC® is easy to configure using the HHC hand held control. The HHC uploads all the operation functions for the MDC® operation. Built into each controller are LEDs designed to make trouble shooting easy. Installers and building operators from the floor can view the LEDs indicating normal operation, transferring firmware, auto-detecting baud rate, hardware failure, manual mode, and firmware error. Indicators also show TX transmit and RX receive displays

#### ✦ Economic Alternative to a Conventional VAV System

When looking at the MDC® diffuser, one must consider the cost compared to a conventional system. The initial cost of an MDC® system is comparable to a conventional system when the entire installation, labor and control wiring is considered



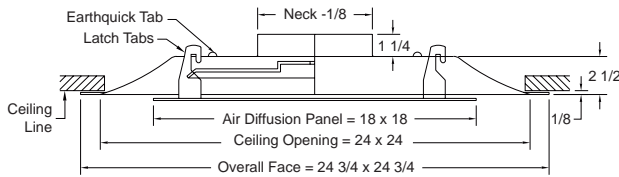
### **Model MDC Shown**

Standard Finish: 01 White

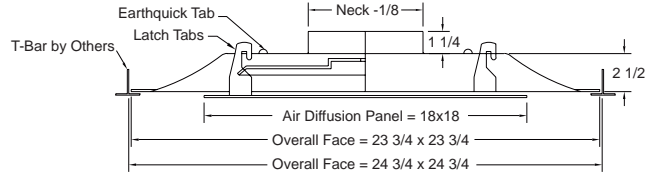
# 5/2007 MDC - METALAIRE Digital Control Diffuser

Dimensions are in inches

**Digital Controlled Diffuser - Steel**  
**18" x 18" Square Bottom Panel**  
 Model MDC-1 - Surface Mount



**Digital Controlled Diffuser - Steel**  
**18" x 18" Square Bottom Panel**  
 Model MDC-6 - T-bar Lay-in



1. Available Finishes	2. Available Accessories	3. Available Options	4. Construction Details
Standard Finish: 01 White	HHC - Hand held controller MDC-G - MDC Gateway	120/24 - Volt Transformer 240/24 - Volt Transformer 277/24 - Volt Transformer 120/277/24 - Dual Voltage Transformer	<ul style="list-style-type: none"> <li>MDC diffuser is shipped with all components and wiring harnesses required for installation</li> <li>Requires the additional of the HHC hand held remote to set-up and operate the MDC Diffusers</li> </ul>

## Model MDC - Performance

Damper Percent Open		20	30	40	50	60	70	80	90	100
6"	Inlet Static Pressure 0.1	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	45 0.003 0.103 <15 1-2-4	60 0.006 0.106 <15 1-2-4	75 0.009 0.109 16 2-2-5	85 0.012 0.112 16 2-2-5	95 0.015 0.115 17 2-2-5	105 0.018 0.118 18 2-3-5	115 0.021 0.121 18 2-3-5	125 0.025 0.125 19 2-3-5
	Inlet Static Pressure 0.2	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	80 0.010 0.210 20 2-4-6	100 0.016 0.216 21 2-4-6	120 0.023 0.223 22 3-4-7	135 0.029 0.229 22 3-4-7	150 0.036 0.236 23 3-4-8	165 0.044 0.244 24 3-4-8	180 0.052 0.252 24 3-4-8	190 0.058 0.258 25 3-4-8
	Inlet Static Pressure 0.3	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	90 0.013 0.313 23 3-4-6	115 0.021 0.321 25 3-4-7	140 0.032 0.332 26 3-4-8	160 0.041 0.341 27 3-5-8	185 0.055 0.355 28 3-5-9	205 0.068 0.368 29 3-5-9	220 0.078 0.378 29 3-5-9	240 0.093 0.393 30 3-5-10
	Inlet Static Pressure 0.4	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	105 0.018 0.418 25 3-5-7	140 0.032 0.432 27 3-5-8	165 0.044 0.444 29 4-5-8	195 0.061 0.461 31 4-6-9	215 0.075 0.475 32 4-6-9	240 0.093 0.493 33 4-6-10	265 0.114 0.514 34 4-6-10	285 0.131 0.531 35 4-6-11
	Inlet Static Pressure 0.5	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	120 0.023 0.523 30 4-5-7	155 0.039 0.539 32 4-6-8	190 0.058 0.558 34 4-6-9	220 0.078 0.578 35 4-6-9	245 0.097 0.597 36 4-6-10	275 0.122 0.622 37 4-7-11	300 0.146 0.646 37 5-7-11	320 0.166 0.666 38 5-7-11

See Page MDC-214 for  
 Series MDC Performance Notes

Damper Percent Open		20	30	40	50	60	70	80	90	100
8"	Inlet Static Pressure 0.1	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	50 0.001 0.101 16 1-2-4	65 0.002 0.102 16 1-2-4	85 0.004 0.104 17 2-2-5	100 0.005 0.105 17 2-2-5	115 0.007 0.107 18 2-3-5	130 0.009 0.109 18 2-3-5	145 0.011 0.111 19 2-3-6	160 0.013 0.113 20 2-3-6
	Inlet Static Pressure 0.2	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	80 0.003 0.203 25 2-3-6	110 0.006 0.206 26 2-4-7	135 0.009 0.209 26 2-4-7	155 0.012 0.212 27 3-4-8	180 0.017 0.217 27 3-4-8	200 0.020 0.220 27 3-4-8	220 0.025 0.225 28 3-4-9	235 0.028 0.228 28 3-4-9
	Inlet Static Pressure 0.3	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	95 0.005 0.305 29 2-4-6	130 0.009 0.309 30 3-4-7	160 0.013 0.313 31 3-4-8	190 0.018 0.318 31 3-5-9	220 0.025 0.325 32 3-5-9	245 0.031 0.331 32 3-5-10	270 0.037 0.337 33 4-5-10	295 0.045 0.345 33 4-5-11
	Inlet Static Pressure 0.4	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	120 0.007 0.407 32 3-5-7	160 0.013 0.413 33 3-5-8	195 0.019 0.419 34 4-5-9	230 0.027 0.427 35 4-6-10	265 0.036 0.436 36 4-6-10	295 0.045 0.445 37 4-6-11	325 0.054 0.454 38 4-6-11	355 0.064 0.464 38 4-7-12
	Inlet Static Pressure 0.5	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	125 0.008 0.508 35 3-5-7	175 0.016 0.516 36 4-6-8	220 0.025 0.525 38 4-6-9	260 0.035 0.535 38 4-6-10	300 0.046 0.546 39 5-7-11	335 0.057 0.557 39 5-7-12	370 0.070 0.570 40 5-7-12	405 0.084 0.584 40 5-7-13

For more product information visit us at [www.metalair.com](http://www.metalair.com)

**MDC-215**  
 METALAIRE

METALAIRE Digital Control Diffuser



MDC

# MDC - METALAIRE Digital Control Diffuser

5/2007

## Model MDC - Performance

	Damper Percent Open		20	30	40	50	60	70	80	90	100
	Inlet Static Pressure	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	50 0.001 0.101 17 1-2-4	75 0.001 0.101 18 1-2-4	95 0.002 0.102 19 2-2-5	120 0.003 0.103 19 2-3-5	140 0.004 0.104 20 2-3-6	160 0.005 0.105 21 2-3-6	180 0.007 0.107 21 2-3-6	200 0.008 0.108 22 2-3-7	220 0.010 0.110 22 2-3-7
10"	Inlet Static Pressure 0.2	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	80 0.001 0.201 30 2-3-6	115 0.003 0.203 30 2-3-7	145 0.004 0.204 30 2-4-7	180 0.007 0.207 31 3-4-8	210 0.009 0.209 31 3-4-9	245 0.013 0.213 31 3-5-9	275 0.016 0.216 31 3-5-10	305 0.019 0.219 32 3-5-10	335 0.024 0.224 32 4-5-11
	Inlet Static Pressure 0.3	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	105 0.002 0.302 35 2-4-7	145 0.004 0.304 35 3-4-8	190 0.008 0.308 36 3-5-9	225 0.011 0.311 36 3-5-10	265 0.015 0.315 36 4-5-10	305 0.019 0.319 36 4-6-11	340 0.024 0.324 37 4-6-12	375 0.029 0.329 37 4-6-12	410 0.035 0.335 37 4-7-13
	Inlet Static Pressure 0.4	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	130 0.004 0.404 39 3-5-7	185 0.007 0.407 40 4-5-9	235 0.012 0.412 40 4-6-10	280 0.016 0.416 41 4-6-11	325 0.022 0.422 41 4-7-11	370 0.029 0.429 41 5-7-12	415 0.036 0.436 42 5-7-13	460 0.044 0.444 42 5-8-14	500 0.052 0.452 42 5-8-14
	Inlet Static Pressure 0.5	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	135 0.004 0.504 41 3-5-7	195 0.008 0.508 41 4-6-9	205 0.013 0.513 41 4-6-10	305 0.019 0.519 42 5-7-11	360 0.027 0.527 42 5-7-12	410 0.035 0.535 42 5-8-13	460 0.044 0.544 42 5-8-14	510 0.055 0.555 43 6-9-14	560 0.066 0.566 43 6-9-15

**Performance Notes for Series MDC**  
All data are tested in accordance with ANSI/ASHRAE 70-1991

### Definition of Units:

- CFM - Cubic feet per minute (air)
- fpm - Velocity of air stream in feet per minute
- Pv - Velocity pressure (inches of water column)
- Pt - Total pressure (inches of water column)
- Ps - Static pressure = Pt - Pv (inches of water column)
- Throw - Cataloged throw is horizontal distances in feet to the terminal velocities of 150 - 100 - 50 fpm with ambient supply air temperature
- NC - Noise criterion, sound pressure level. NC ratings are based on sound power level (Lw) RE: 10E-12 watts minus a 10 dB room attenuation in all octave bands

	Damper Percent Open		20	30	40	50	60	70	80	90	100
	Inlet Static Pressure	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	50 0.000 0.100 19 1-2-3	75 0.001 0.101 20 1-2-4	100 0.001 0.101 20 2-2-5	125 0.002 0.102 21 2-3-5	150 0.002 0.102 22 2-3-6	170 0.003 0.103 23 2-3-6	195 0.004 0.104 23 2-3-6	220 0.005 0.105 24 2-3-7	240 0.006 0.106 25 2-3-7
12"	Inlet Static Pressure 0.2	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	75 0.001 0.201 29 2-2-5	110 0.001 0.201 29 2-3-6	140 0.002 0.202 30 2-3-7	185 0.003 0.203 31 2-4-7	220 0.005 0.205 31 3-4-8	260 0.007 0.207 32 3-4-9	295 0.009 0.209 32 3-5-9	330 0.011 0.211 32 3-5-10	370 0.014 0.214 33 4-5-11
	Inlet Static Pressure 0.3	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	95 0.001 0.301 35 2-3-6	145 0.002 0.302 36 3-4-8	190 0.004 0.304 36 3-4-9	235 0.006 0.306 37 3-5-10	280 0.008 0.308 37 3-5-10	330 0.011 0.311 38 4-6-11	375 0.014 0.314 38 4-6-12	420 0.018 0.318 38 4-6-13	465 0.022 0.322 38 4-7-13
	Inlet Static Pressure 0.4	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	115 0.001 0.401 38 2-4-7	170 0.003 0.403 39 3-4-8	225 0.005 0.405 40 3-5-10	280 0.008 0.408 41 4-6-11	335 0.011 0.411 41 4-6-12	390 0.015 0.415 42 4-7-13	440 0.020 0.420 42 5-7-13	495 0.025 0.425 43 5-7-14	550 0.031 0.431 43 5-8-15
	Inlet Static Pressure 0.5	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	125 0.002 0.502 41 3-4-7	190 0.004 0.504 42 3-5-9	255 0.007 0.507 42 4-6-10	315 0.010 0.510 43 4-6-11	380 0.015 0.515 43 5-7-12	440 0.020 0.520 43 5-8-13	505 0.026 0.526 44 5-8-14	565 0.032 0.532 44 6-9-15	630 0.040 0.540 44 6-9-16

	Damper Percent Open		20	30	40	50	60	70	80	90	100
	Inlet Static Pressure	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	50 0.000 0.100 21 1-1-3	75 0.000 0.100 22 1-2-4	105 0.001 0.101 23 1-2-4	130 0.001 0.101 24 2-2-5	160 0.001 0.101 25 2-3-5	190 0.002 0.102 25 2-3-6	220 0.003 0.103 26 2-3-7	250 0.003 0.103 27 2-3-7	280 0.004 0.104 27 2-4-7
14"	Inlet Static Pressure 0.2	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	75 0.000 0.200 29 1-2-4	115 0.001 0.201 30 2-3-6	155 0.001 0.201 31 2-3-6	195 0.002 0.202 31 2-4-7	235 0.003 0.203 32 3-4-7	275 0.004 0.204 33 3-4-9	315 0.005 0.205 33 3-5-9	355 0.007 0.207 34 3-5-10	400 0.009 0.209 34 4-5-11
	Inlet Static Pressure 0.3	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	90 0.000 0.300 36 2-3-5	140 0.001 0.301 37 2-3-7	190 0.002 0.302 37 3-4-8	240 0.003 0.303 38 3-4-9	290 0.005 0.305 38 3-5-10	345 0.006 0.306 39 4-5-11	395 0.009 0.309 39 4-6-12	445 0.011 0.311 39 4-6-12	500 0.014 0.314 39 4-7-13
	Inlet Static Pressure 0.4	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	105 0.001 0.401 38 2-3-6	165 0.001 0.401 39 3-4-8	225 0.003 0.403 40 3-5-9	285 0.004 0.404 40 4-5-11	345 0.006 0.406 41 4-6-12	405 0.009 0.409 42 4-6-13	465 0.012 0.412 42 5-7-14	530 0.015 0.415 43 5-7-15	590 0.019 0.419 43 5-8-15
	Inlet Static Pressure 0.5	Airflow Rate, CFM Velocity Pressure, in. w.c. Total Pressure, in. w.c. NC Throw	125 0.001 0.501 42 2-4-7	190 0.002 0.502 42 3-5-9	255 0.004 0.504 43 4-5-10	325 0.006 0.506 44 4-6-11	390 0.008 0.508 44 4-7-13	460 0.012 0.512 45 5-7-14	530 0.015 0.515 45 5-8-15	600 0.020 0.520 46 6-8-16	670 0.024 0.524 46 6-9-16

METALAIRE Digital Control Diffuser



MDC

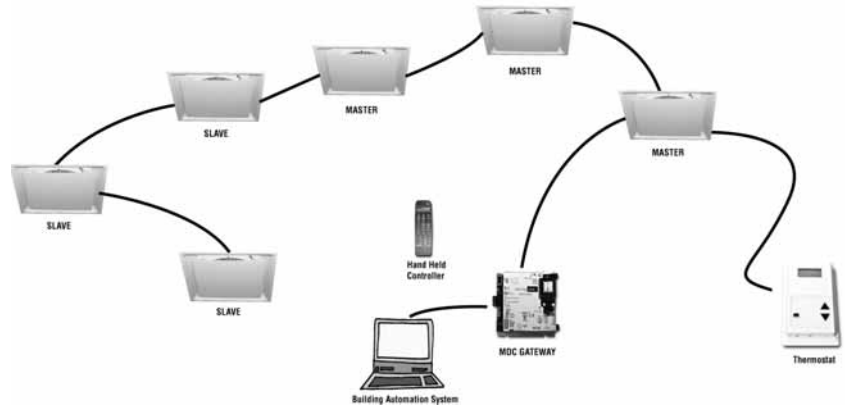
## MDC® Stand Alone



Simple Installation  
Requires 24 Volt Connection

## Expands to integrate into BACnet System

### Control System Diagram

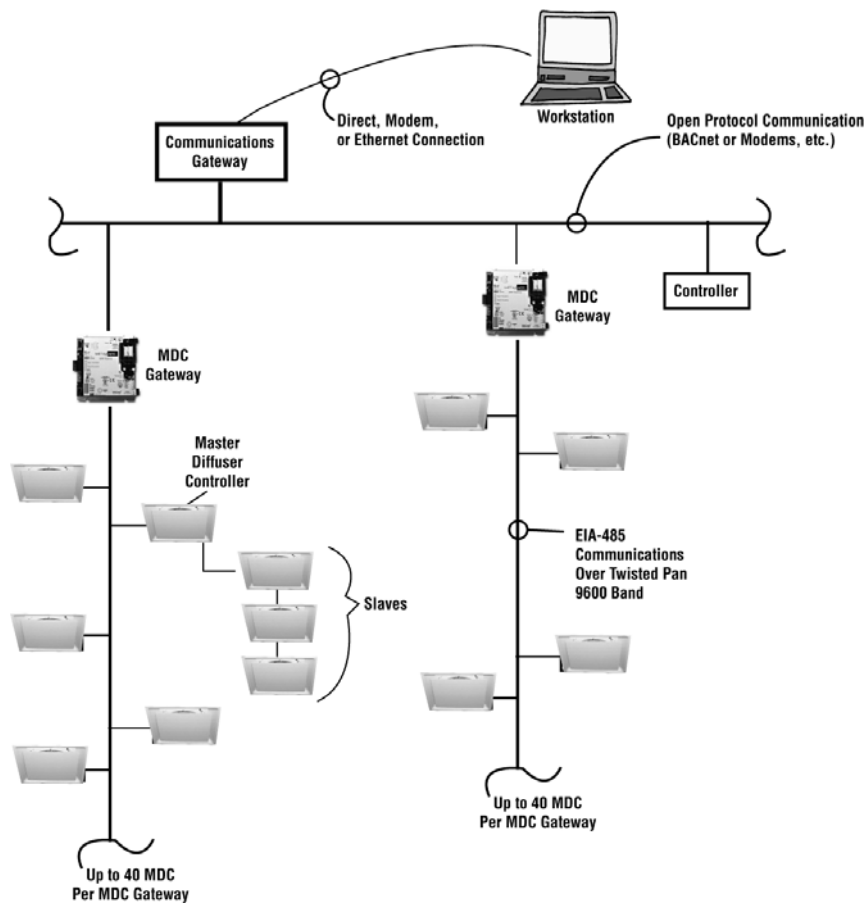


## MDC® Master/Slave Units

Master MDC Can Control Up to 3 Slaves



## General Architecture Sketch





# LEADING THE INDUSTRY IN PRODUCT LITERATURE

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- Grilles & Registers Catalog
- Air Terminal Unit Catalog
- Formations Catalog

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METALAIRES leads the industry with a web site that contains all the product literature and performance data needed to design your air distribution system. Our web site includes all our submittals, catalogs, installation manuals, as well as as other valuable information to aid you in air distribution design.



# METALAIRES

UNDERFLOOR



WFOP & WFOPV

**UNDERFLOOR  
DIFFUSER**



## ➔ Aircell Polymer Floor Diffuser ➔ Series WFO

### Product Details

- ★ Unique "flip-over" design
- ★ Memory locating peg
- ★ Easy fit locking collar
- ★ Concealed bracket for concrete/slab flooring
- ★ Combined damper/dirt tray with incremental damper positioning



**Model WFO Shown**

### Series WFO - Introduction

The METALAIRE Aircell WFO series floor diffuser offers the choice of horizontal or vertical air patterns with its flip over design, as well as a host of other unique & patented features. The WFOV low pressure vertical supply disc offers vertical projection with a 50% increase in air volume capacity, compared with standard WFO units.

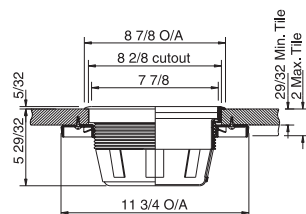
The WFO diffusers disc has been designed to resist permanent deformation when subjected to point loads up to 500 kg and all materials used are fire retardant. The WFOV diffuser disc is suitable for point loads up to 300 kg.

Dimensions are in inches

#### Aircell Polymer Floor Diffusers - Pressurized Floor Void

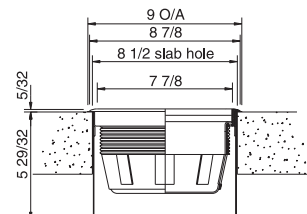
Model WFO - Tile Installation

Model WFOV - Low pressure vertical air pattern



#### Aircell Polymer Floor Diffusers - Pressurized Void

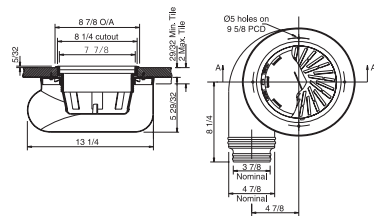
Model WFOV - Slab Floor Installation Supplied with a steel adaptor collar which is cast into the floor slab. The diffuser can then be installed into the collar with concealed spring clips



#### Aircell Polymer Floor Diffusers-Ducted Insulation with Plenum Supplied

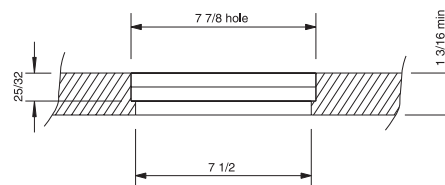
Model WFOP - Plenum snap fits onto the locking collar

Model WFOPV - Low pressure vertical air pattern disk



#### Aircell Polymer Floor Diffusers - Step Drilled Installation

Model WFOD - The diffuser disc only is supplied, suitable for installation into pre-cut holes in floor tiles



#### 1. Available Finishes

**Standard Finish:**  
WFO diffusers are available in a state grey finish (RAL 7037 Mid Grey) as standard. Other colors can be specified subject to a minimum quantity.

#### 2. Advantages

- Ability to change between horizontal and vertical settings instantly
- Commissioning settings are retained once set using the memory locating peg
- Reduced installation time with easy fit locking collar
- Quick fit plenum

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**ACCESSORIES**



**Model 900D**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Round Damper for Series 900 - Aluminum - Model 900D

- ★ For attachment to Model 900
- ★ 2 butterfly style blades for 6" - 12" sizes
- ★ 8 blade radial style for 14" size
- ★ Blades adjusted through diffuser face
- ★ Damper supplied with mounting hardware



**Model D3**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Radial Opposed Blade Dampers - Aluminum/Steel - Series D3

- ★ For use in round air diffusers
- ★ Designed to provide full radial volume control resulting in lower than normal pressure losses
- ★ Overlapping blade design insures positive shut-off when required

Aluminum	Steel
D3	SD3



**Model G3**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Round Straightening Grid - Aluminum - Series G3

- ★ For use with all diffusers
- ★ Designed to provide maximum air flow equalization through use of a blade matrix system, thus ensuring lowest possible pressure losses in drop
- ★ Dampers not available on 24" grid

w/o Damper	w/Damper
G3	GD3



**Model BDS**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Butterfly Damper - Steel - Model BDS

- ★ Two butterfly style blades
- ★ Blades are adjusted through diffuser face



**Model RSD**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Radial Shutter Damper - Steel - Model RSD

- ★ Cost effective alternative to butterfly style dampers
- ★ Design permits very precise damper control and does not interfere with diffuser air patterns



**Model TR**

Additional product information available at [www.metalair.com](http://www.metalair.com)

## Square to Round Transition - Aluminum - Model TR

- ★ Square to round transitions slip fit over the square neck or register to permit installation to round or flex-duct
- ★ 2 11/16" overall depth

**Model TR DEEP**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Square to Round Deep Transition - Aluminum - Model TR Deep**

- ★ Square to round transitions slip fit over the square neck or register to permit installation to round or flex-duct
- ★ 4 7/8" overall depth

**Model L9**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Square/Rectangular Equalizing Grid - Aluminum - Model L9**

- ★ Designed to provide uniform airflow in branch ducts
- ★ Pre-tensioned blades adjust individually and may be set at an angle at the branch take-off to provide a rake-off effect

**Model D5**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Opposed Blade Damper 5000 - Aluminum/Steel - Series D5**

- ★ Extruded opposed blade volume damper for use with all series 5000 and 5500 diffuser models
- ★ Designed to snap into the diffuser collar from the face side before or after diffuser installation without the use of tools
- ★ Damper operator is accessible at the diffuser face

Aluminum	Steel
D5	D5S

**Model D7**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Opposed Blade Damper 7000 - Aluminum - Model D7**

- ★ Extruded opposed blade volume damper for use with all series 7000
- ★ Designed to snap into the diffuser neck from the face side
- ★ Damper operator is accessible at the diffuser face

**Model OBDA**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Opposed Blade Damper for Grilles - Aluminum - Model OBDA**

- ★ Tapered blades set in a U-channel frame
- ★ Opposed blades on 1" centers
- ★ Screwdriver slot operator

**Model OBD**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Opposed Blade Damper for Grilles - Steel - Model OBD**

- ★ Blades taper at edge to reduce pressure drop and provide tight closure
- ★ Screwdriver slot operator

**Model OBDD**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

**Dampers for Duct Mounting - Extruded Aluminum - Model OBDD**

- ★ Removable key operator for thru-duct adjustments
- ★ Opposed blades on 1" centers





## Sidewall Mounted Plaster Frame - Model PF

- ✦ Provides a uniform opening in plaster ceilings or sidewall to accommodate grilles and registers
- ✦ Are available for all ceiling and sidewall grilles and registers

### Model PF

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)



## T-bar Plaster Frame - Aluminum/Steel - Series TBPF

- ✦ Permits installation of a T-bar frame style ceiling diffuser into plaster or gypsum type ceiling

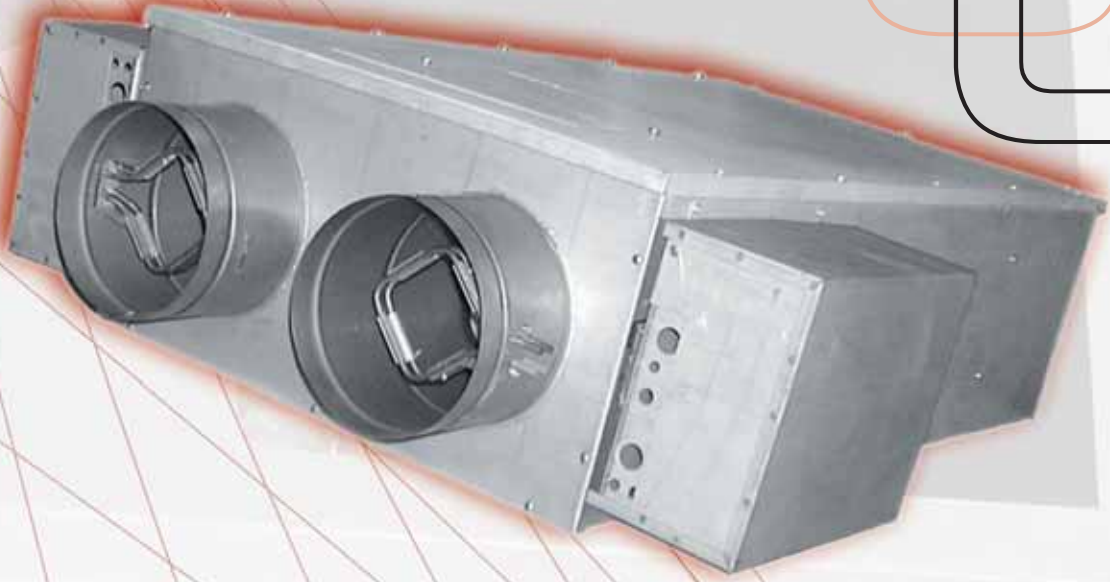
Aluminum	Steel
TBPF	STBPF

### Model TBPF

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)



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**AIR TERMINAL UNITS**  
AIR TERMINAL UNITS

TH-500



**Series TH-500**  
Pg. 230

## Series TH-500 - High Performance - Single Duct Air Terminal Units

- ★ Series TH-500 Air Terminals are designed to regulate the flow of conditioned air in single duct air distribution systems. They are available in a wide range of standard control sequences and work equally well in constant volume and variable volume systems
- ★ Series TH-500 Air Terminals can be specified with hot water coils, electric heat, sound attenuators, and other optional accessories
- ★ Series TH-500 Air Terminals feature a low leakage single blade damper. The TH series is available with pneumatic, electric, analog electric, and DDC (by others) factory mounted controls
- ★ Series TH-500 Air Terminals are available for both pressure independent and pressure dependent applications
- ★ Series TH-500 Air Terminals are recommended for use in duct systems with static pressures up to 3" water gauge

TL-500



**Series TL-500**  
Pg. 246

## Series TL-500 - Low Profile - Single Duct Air Terminal Units

- ★ Series TL-500 Air Terminals are designed to regulate the flow of conditioned air in single duct air distribution systems. They are available in a wide range of standard control sequences and work equally well in constant volume and variable volume systems. The maximum height of the TL series is 12 1/2"
- ★ Series TL-500 Air Terminals can be specified with hot water coils, electric heat, sound attenuators, and other optional accessories
- ★ Series TL-500 Air Terminals feature a low leakage single blade damper
- ★ Series TL-500 is also available with pneumatic, electric, analog electric, and DDC (by others) factory mounted controls
- ★ Series TL-500 Air Terminals are available for both system pressure independent and system pressure dependent applications

FCL-600



**Series FCI-600**  
Pg. 248

## Series FCI-600 - Constant Volume Air Terminal Units

- ★ Series FCI-600 fan-powered terminal units are designed to provide superior comfort control to zones with both heating and cooling requirements. The fan in a constant volume (or series) fan powered terminal, runs continuously during occupied hours. FCI is available with an optional ECM motor for improved energy efficiency and control
- ★ Series FCI-600 provides cooling through the primary air valve. The primary air valve controls the volume of air that is discharged into the terminal unit. The cooled air is delivered to the space through the terminal's fan. When heating is required, the Series FCI-600 initially provides plenum air that is drawn through the induction inlet
- ★ Series FCI-600 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications
- ★ Series FCI-600 is available in 6 casing sizes with a wide range of primary inlet sizes offering the flexibility to meet both your capacity and sound requirements

FCL-600 Air Terminal Units



**Series FCL-600**  
Pg. 264

## Series FCL-600 - Low Profile Constant Volume Air Terminal Units

- ★ Series FCL-600 low Profile fan-powered terminal units are designed to provide superior comfort control in applications with restricted heights. The FCL-600 series can also be selected for projects with limited heights in the ceiling plenum.
- ★ The FCL is designed to be applied in zones with both heating and cooling requirements. The fan in a constant volume (or series) fan powered terminal, runs continuously during occupied hours.
- ★ Series FCL-600 provides cooling through the primary air valve. The primary air valve controls the volume of air that is discharged into the terminal unit. The cooled air is delivered to the space through the terminal's fan. When heating is required, the Series FCL-600 initially provides plenum air that is drawn through the induction inlet.
- ★ Series FCL-600 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications.
- ★ Series FCL-600 is available in 2 casing sizes and offers the flexibility to meet both your capacity and sound requirements.

ATU



**Series FVI-500**  
Pg. 266

## Series FVI-500 - Parallel Fan Powered Air Terminal Units

- ★ Series FVI-500 fan-powered terminal units are designed to provide superior comfort control to zones with both heating and cooling requirements. The fan in a variable volume (or parallel) fan powered terminal, runs only upon requirements for heat
- ★ Series FVI-500 provides variable volume cooling through the primary air valve. The primary air valve controls the volume of cooled air that is discharged into the space. In a parallel fan-powered terminal unit, the primary air does not pass through the fan. When heating is required, the Series FVI-500 initially provides plenum air that is drawn through the induction inlet
- ★ Series FVI-500 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications
- ★ Series FVI-500 is available in 7 casing sizes with a wide range of primary inlet sizes offering the flexibility to meet both your capacity and sound requirements

FVI-500



**Series DH-500**  
Pg. 286

## Series DH-500 - High Performance - Dual Duct Air Terminal Units

- ★ Series DH-500 (patent pending) High Performance Dual Duct Air Terminals are designed to regulate the flow of conditioned air in dual duct air distribution systems. In a dual duct system, both heated and cooled air are provided to the air terminal and mixed to provide the desired discharge temperature. The DH-500 has been engineered to provide a 1:30\* mixing ratio, the highest in the industry. They are available with a wide range of standard control sequences
- ★ Series DH-500 Air Terminals feature a low leakage single blade damper in the heating and cooling inlets
- ★ The DH series is available with pneumatic, electric, analog electronic, and DDC (by others) factory mounted controls
- ★ DH-500 air terminals are available for both system pressure independent and system pressure dependent applications
- ★ Series DH-500 Air Terminals are recommended for use in duct systems with static pressures up to 3" water gauge

\* Series DH-500 is Patent Pending

DH-500



**Series DD-500**  
Pg. 288

## Series Dual Duct Air Terminal Units

- ★ Series DD-500 Dual Duct air terminals are designed to regulate the flow of conditioned air in dual duct air distribution systems. In a dual duct system, both heated and cooled air are provided to the air terminal and mixed in downstream duct work (by others) to provide the desired discharge temperature. The DD-500 is available with a wide range of standard control sequences
- ★ Series DD-500 Air Terminals feature a low leakage single blade damper. The DD-500 series is available with pneumatic, electric, analog electronic, and DDC (by others) factory mounted controls. DD-500 air terminals are available for both system pressure independent and system pressure dependent applications
- ★ Series DD-500 air terminals are recommended for use in duct systems with static pressures up to 3" water gauge

DD-500



**Series SR-500**

Additional product  
information available  
at [www.metalair.com](http://www.metalair.com)

## Series SR-500 - Square Retrofit Air Terminal

- ★ The METALAIR® Series SR-500 is a retrofit product designed to fit into existing low pressure square or rectangular duct systems
- ★ The height of the installation plate varies with the duct height
- ★ A flow sensor access panel is mounted in the installation plate in front of the damper blades
- ★ Damper position can be controlled by any pressure dependent or pressure independent pneumatic, electric, or electronic control sequence available for the Series SR TH-500 Single Duct Air Terminal
- ★ Series SR Retrofit dampers are constructed of 20 gauge zinc coated steel
- ★ Series SR-500 units are intended for VAV applications in low pressure/low velocity applications, but may be used in duct systems with static pressure up to 4" water gauge and at a maximum rated velocity of 3000 fpm

SR-500



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RA-500



## Series RA-500

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Series RA-500 - Retrofit Terminal

- ✦ Series RA retrofit assemblies are customized retrofit valves designed to slip into existing mechanically regulated single or dual duct terminals to convert to variable volume operation.
- ✦ Units allow the conversion of existing constant volume systems to a more energy efficient, variable volume system.
- ✦ RA assemblies are currently available to fit most of the competitive terminals manufactured from the 60's to 80's.
- ✦ The RA valves can be installed, in most applications, without disrupting existing ductwork. Units are installed by removing existing volume regulators and inserting the RA valve.
- ✦ One or two valves in a single panel may be controlled by a single actuator
- ✦ Control sequences for the RA-500 are available to convert mechanically regulated constant single or dual duct air terminals into pneumatic VAV single duct or dual duct.

RT-500



## Series RT-500

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### Series RT-500 - Round Retrofit Air Terminal

- ✦ Series RT-500 Retrofit Air Terminals are designed to regulate the flow of conditioned air in single or dual duct air distribution systems and are also used to provide positive or negative pressures in laboratory flow hood applications
- ✦ Series RT-500 Retrofit Air Terminals are primarily used to convert mechanically regulated constant volume single or dual duct air terminals to more efficient variable volume air terminals without disrupting total system operation
- ✦ Series RT-500 is ready installed into existing duct-work in front of an old air terminal
- ✦ This series features the the proven, low leakage Series TH-500 Air Terminal Damper
- ✦ Control components are shipped piped and wired
- ✦ Control linkage design allows the damper to be easily field repositioned 90° without the use of tools
- ✦ Constructed of 20 gauge zinc coated steel
- ✦ Recommend for use in duct systems with static pressures up to 3" water gauge

BP-500



## Series BP-500

Additional product information available at [www.metalaire.com](http://www.metalaire.com)

### Series BP-500 - Bypass Terminal

- ✦ Series BP-500 Bypass Air Terminals are designed to achieve VAV delivery of conditioned air to a room in single duct, constant volume air distribution systems
- ✦ Series BP-500 Bypass Air Terminals are available with a variety of standard control sequences
- ✦ Series BP-500 Bypass Air Terminals use a primary air damper working in concert with a bypass port damper
- ✦ Construction is of galvanized steel
- ✦ Units are available for system pressure dependent and system pressure independent applications

ATU

Air Terminal Units

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# METALAIRES



## Features of the METALAIRE VAV Valve and Flow Sensor:

### Inlet Valve

The METALAIRE® inlet valve assembly has a seamless butt weld on a round inlet tube to minimize leakage and prevent the damper from binding. The damper shaft rotates in a long life, self-lubricating Kepital® (acetal resin material) bearing. The damper shaft is composed of die cast aluminum and includes a damper position indicator. The actuator connects to a square end to prevent the actuator screw(s) from slipping.

The damper blade is manufactured with a flexible gasket and mounted without adhesives to provide an excellent close off seal. Included on the damper gasket are slits around the perimeter to prevent damper noise at low turn down. The damper is constructed of double thickness 24-gauge steel. Damper leakage is less than 1% of maximum CFM at 3.0" static pressure.

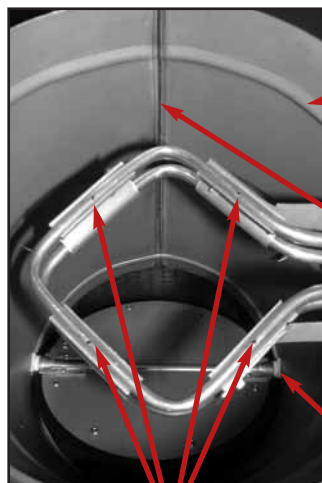
The primary air valve has a bead rolled into the tube, which strengthens the tube and serves as a stop and prevents field attached flex duct from slipping.

### Flow Sensor

The METALAIRE multi-quadrant averaging flow sensor is a highly accurate, multi-ported device designed to provide true flow readings, even with varying flex duct inlet conditions. The sensor amplifies the input signal providing accurate flow control at low supply air volumes. Velocity pressure is read as a 4-point average that maintains +/- 5% accuracy regardless of inlet conditions.

The sensor provides two control ports and two accessory ports, all with brass barbed fittings to prevent connecting tubing from slipping. All flow sensor piping connections are made with external ports that extend through the damper tube allowing for easy inspection. This is a major advantage over competitors' sensors where the tubing attachment is inside the air valve. The metal construction of METALAIRE flow sensors assures long life and durability. Competing manufacturers typically provide plastic flow sensors, fittings, and balancing tees.

The METALAIRE flow sensor provides an accurate signal to controllers operating within a typical 0.03" to 1.0" velocity pressure range. For low flow controller applications, the sensor can be used to provide a signal down to 0.01".



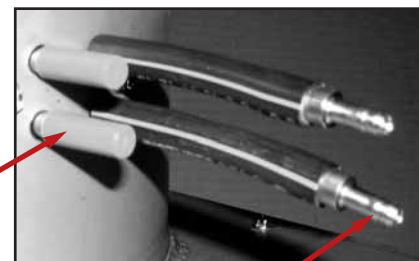
Bead formed on inlet tube for rigidity and to allow for a tight flex duct connection

Seamless weld

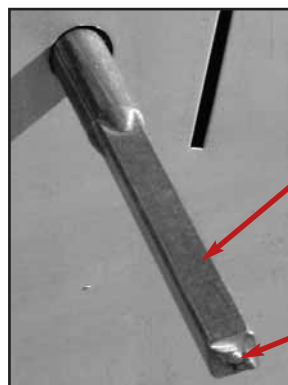
Kepital bearings

Average Velocity is obtained in 4 quadrants

Metal sensor tubes extend through the inlet tube, allowing external connections (shown with dust cover)



Brass barbed fittings for tube connection to VAV controller



Square Shaft

Damper Position indicator

## Options & Accessories for Air Terminal Units

### Thermopure Insulation

ThermoPure insulation is a closed cell, washable, durable, and non-wicking insulation material that is ideal for critical care facilities such as hospitals and medical facilities as well as high humidity or corrosive environments. ThermoPure is mold and mildew resistant and the closed-cell structure minimizes moisture movement and condensation. It has been tested in accordance with USTC #P91-112.2 for mold growth and in accordance with 10.111 for humidity. After a 60-day period the material showed no evidence of mold growth or insulation deterioration, including the adhesive.

ThermoPure is 100% Fiber Glass free, assuring no downstream brush off, and is provided at a density of 1.5 lbs/ft<sup>3</sup>. The material is Polyolefin (Polyethylene) and exhibits unique thermal, physical, and chemical resistance properties. It is chemically resistant to most hydrocarbon-based solvents and has a broad installation temperature range. Additionally, because of the closed cell design, it offers low thermal conductivity and the lowest vapor transmission and water absorption rates of the commercially available insulations. The "R" value per wall thickness is 13% greater than Elatomaric (rubber) foam insulation and the water vapor transmission rate is 0.00 perm-in.

ThermoPure has been tested in accordance with both UL-723 (25/50) and ASTM E84 and has a flame spread of 10 and a smoke density of 30. It also meets UL 181 and UL 94 horizontal burn test standards. ThermoPure also meets many other state and local specifications, please contact your METALAIR representative for a complete list of specification compliance.

ThermoPure's mold and mildew resistance, broad thermal range, and resistance to degradation make it a perfect choice for applications such as hospitals, high humidity environments, clean rooms, food processing areas, low temperature installations, and corrosive or chemical processing environments.



*Thermopure Insulation*

### *Electronic Anti-Reverse Rotation Device*

For more product information visit us at [www.metalair.com](http://www.metalair.com)





## SERIES TH-500

### High Performance-Single Duct Air Terminal Units

**Series TH-500 Air Terminals** are designed to regulate the flow of conditioned air in single duct air distribution systems. They are available in a wide range of standard control sequences and work equally well in constant volume and variable volume systems.

**Series TH-500 Air Terminals** can be specified with hot water coils, electric heat, sound attenuators, and other optional accessories.

**Series TH-500 Air Terminals** feature a low leakage single blade damper. The **TH series** is available with pneumatic, electric, analog electric, and DDC (by others) factory mounted controls.

**Series TH-500 Air Terminals** are available for both pressure independent and pressure dependent applications.

**Series TH-500 Air Terminals** are recommended for use in duct systems with static pressures up to 3" water gauge.

The inlet tube for the TH-500 includes a bead that strengthens the tube and provides recess for flex duct straps

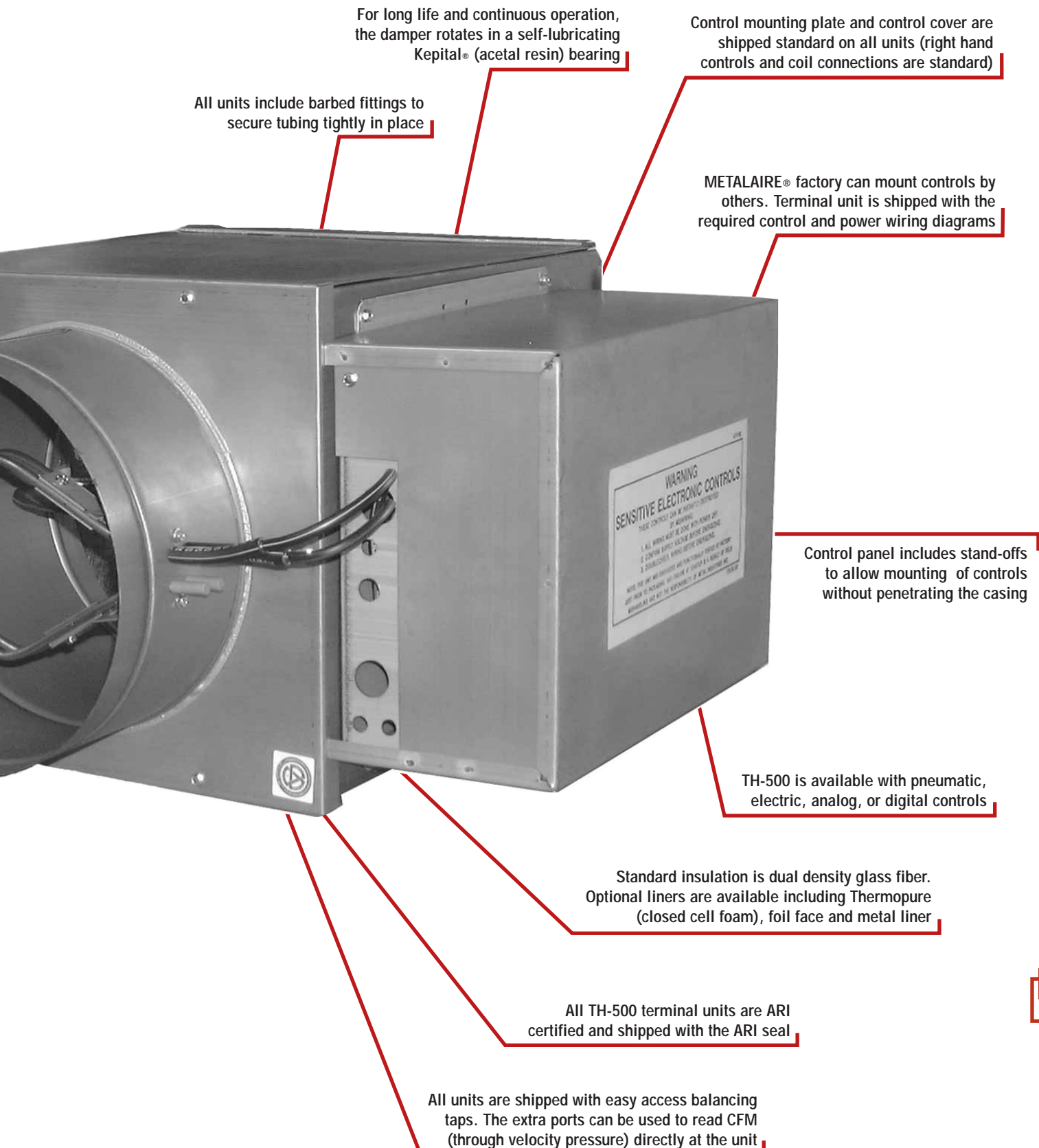
For set-up and balancing purposes, all units are shipped with a convenient balancing chart located on the outside of the terminal for conversion from velocity pressure to CFM

Units size 6 through 16 are constructed with a seamless butt weld to minimize leakage and prevent the damper from binding

Multiquadrant Averaging Flow Sensor provides an accurate flow signal without requiring an immediate upstream straight duct connection (Shipped standard on all units)



# ATU - Air Terminal Units



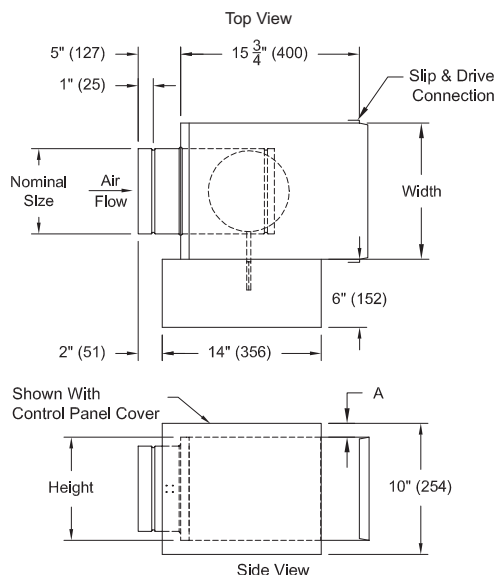
## TH-500 - Air Terminal Dimensions

### 6" to 16" Case Sizes

Dimensions are in inches

#### High Performance Single Duct - Basic Unit

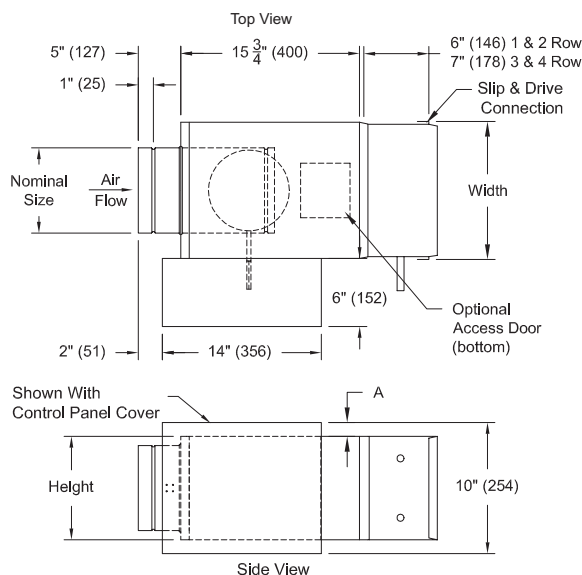
Model TH506 - 6" Inlet      Model TH512 - 12" Inlet  
Model TH508 - 8" Inlet      Model TH514 - 14" Inlet  
Model TH510 - 10" Inlet      Model TH516 - 16" Inlet



Model Number	Nominal Size In. (mm)	Height In. (mm)	Width In. (mm)	Dim. A In. (mm)	Unit Weight
TH506	6 Dia. (152)	8 (203)	12 (305)	2 (51)	12 lbs 5.4 kg
TH508	8 Dia. (203)	10 (254)	12 (305)	1 (25)	15 lbs 6.8 kg
TH510	10 Dia. (254)	12 1/2 (318)	14 (356)	-	18 lbs 8.2 kg
TH512	12 Dia. (305)	15 (381)	16 (406)	-	22 lbs 9.9 kg
TH514	14 Dia. (356)	17 1/2 (445)	20 (508)	-	24 lbs 11 kg
TH516	16 Dia. (406)	18 (457)	24 (610)	-	29 lbs 13 kg

#### High Performance Single Duct - With Hot Water Coils

Model TH506 - 6" Inlet      Model TH512 - 12" Inlet  
Model TH508 - 8" Inlet      Model TH514 - 14" Inlet  
Model TH510 - 10" Inlet      Model TH516 - 16" Inlet



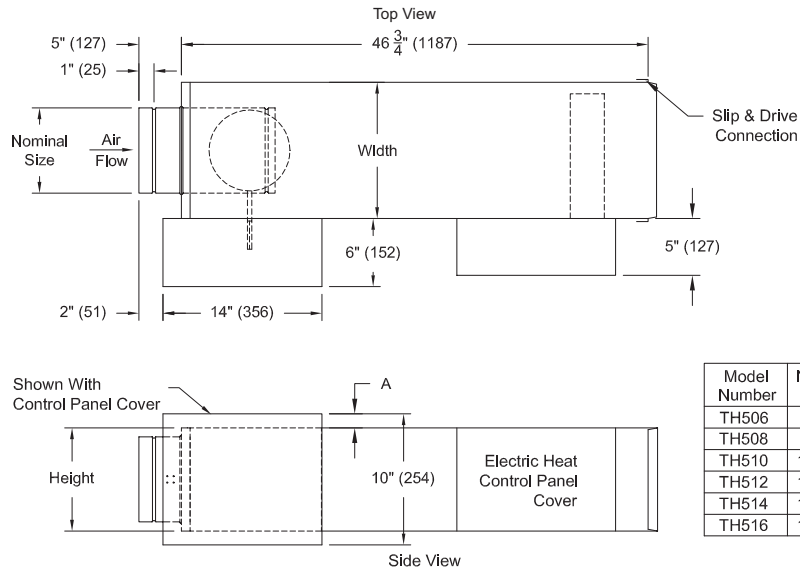
Model Number	Nominal Size In. (mm)	Height In. (mm)	Width In. (mm)	Dim. A In. (mm)	Unit Weight with			
					1R HW Coil	2R HW Coil	3R HW Coil	4R HW Coil
TH506	6 Dia. (152)	8 (203)	12 (305)	2 (51)	16.7 (7.6)	17.7 (8)	21.2 (9.6)	22.5 (10.2)
TH508	8 Dia. (203)	10 (254)	12 (305)	1 (25)	20 (9.1)	21.6 (9.8)	26 (11.8)	27.7 (12.6)
TH510	10 Dia. (254)	12 1/2 (318)	14 (356)	-	24.3 (11)	26.6 (12)	32.4 (14.7)	24.8 (15.8)
TH512	12 Dia. (305)	15 (381)	16 (406)	-	31 (14.1)	34.3 (15.6)	40.1 (18.2)	43.4 (19.7)
TH514	14 Dia. (356)	17 1/2 (445)	20 (508)	-	34.1 (15.5)	38.9 (17.7)	48 (21.8)	52.8 (10.2)
TH516	16 Dia. (406)	18 (457)	24 (610)	-	42.3 (19.2)	48 (21.8)	53.7 (24.3)	59.4 (26.9)



## TH-500 - Air Terminal Dimensions

### High Performance Single Duct - Electric Heat With Integral Sound Attenuator

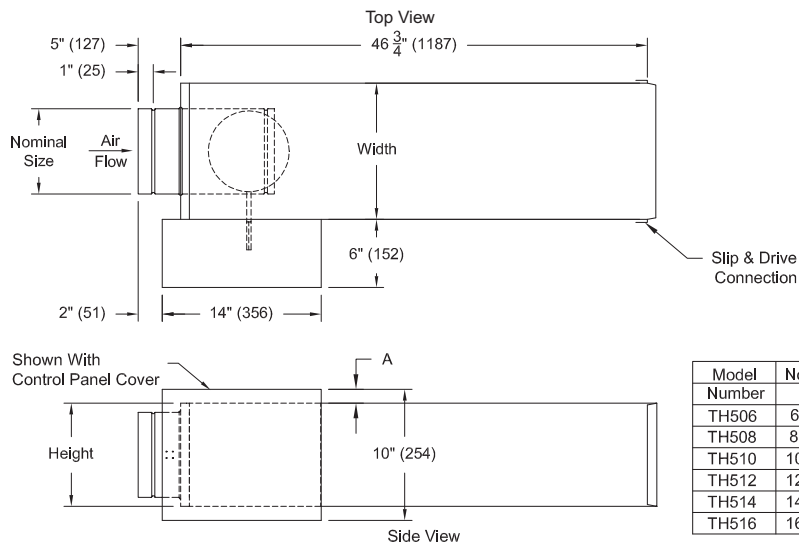
Model TH506 - 6" Inlet      Model TH512 - 12" Inlet  
 Model TH508 - 8" Inlet      Model TH514 - 14" Inlet  
 Model TH510 - 10" Inlet      Model TH516 - 16" Inlet



Model Number	Nominal Size In. (mm)	Height In. (mm)	Width In. (mm)	Dim. A In. (mm)	Unit Weight Lbs. Kg
TH506	6 Dia. (152)	8 (203)	12 (305)	2 (51)	38 (17)
TH508	8 Dia. (203)	10 (254)	12 (305)	1 (25)	43 (20)
TH510	10 Dia. (254)	12 1/2 (318)	14 (356)	-	50 (23)
TH512	12 Dia. (305)	15 (381)	16 (406)	-	59 (27)
TH514	14 Dia. (356)	17 1/2 (445)	20 (508)	-	67 (30)
TH516	16 Dia. (406)	18 (457)	24 (610)	-	77 (35)

### High Performance Single Duct - With Sound Attenuator

Model TH506 - 6" Inlet      Model TH512 - 12" Inlet  
 Model TH508 - 8" Inlet      Model TH514 - 14" Inlet  
 Model TH510 - 10" Inlet      Model TH516 - 16" Inlet



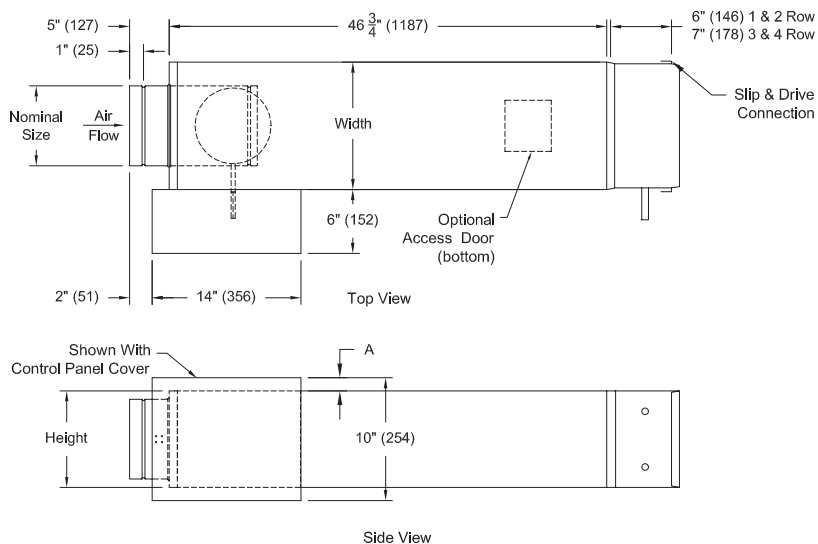
Model Number	Nominal Size In. (mm)	Height In. (mm)	Width In. (mm)	Dim. A In. (mm)	Unit Weight Lbs. (Kg)
TH506	6 Dia. (152)	8 (203)	12 (305)	2 (51)	24 (11)
TH508	8 Dia. (203)	10 (254)	12 (305)	1 (25)	28 (13)
TH510	10 Dia. (254)	12 1/2 (318)	14 (356)	-	34 (15)
TH512	12 Dia. (305)	15 (381)	16 (406)	-	41 (19)
TH514	14 Dia. (356)	17 1/2 (445)	20 (508)	-	47 (21)
TH516	16 Dia. (406)	18 (457)	24 (610)	-	54 (25)



## TH-500 - Air Terminal Dimensions

### High Performance Single Duct - With Sound Attenuator and Hot Water Coils

Model TH506 - 6" Inlet      Model TH512 - 12" Inlet  
Model TH508 - 8" Inlet      Model TH514 - 14" Inlet  
Model TH510 - 10" Inlet    Model TH516 - 16" Inlet

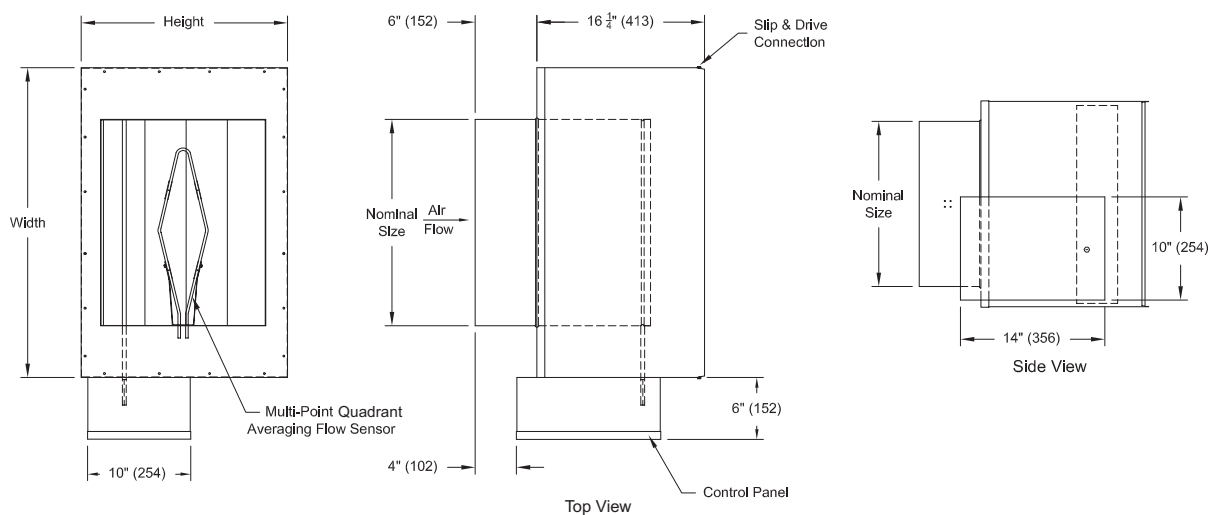


Model Number	Nominal Size In. (mm)	Height In. (mm)	Width In. (mm)	Dim. A In. (mm)	Unit Weight with			
					1R HW Coil	2R HW Coil	3R HW Coil	4R HW Coil
TH506	6 Dia. (152)	8 (203)	12 (305)	2 (51)	29 lbs (13 kg)	30 lbs (14 kg)	33 lbs (15 kg)	35 lbs (16 kg)
TH508	8 Dia. (203)	10 (254)	12 (305)	1 (25)	33 lbs (15 kg)	35 lbs (16 kg)	39 lbs (18 kg)	41 lbs (19 kg)
TH510	10 Dia. (254)	12 1/2 (318)	14 (356)	-	40 lbs (18 kg)	43 lbs (20 kg)	48 lbs (22 kg)	51 lbs (23 kg)
TH512	12 Dia. (305)	15 (381)	16 (406)	-	43 lbs (20 kg)	48 lbs (22 kg)	51 lbs (23 kg)	56 lbs (26 kg)
TH514	14 Dia. (356)	17 1/2 (445)	20 (508)	-	48 lbs (22 kg)	51 lbs (23 kg)	56 lbs (26 kg)	60 lbs (27 kg)
TH516	16 Dia. (406)	18 (457)	24 (610)	-	51 lbs (23 kg)	56 lbs (26 kg)	60 lbs (27 kg)	68 lbs (30 kg)

### 20" x 16" & 24" x 16" Case Sizes

#### High Performance Single Duct - Basic Unit

Model TH520 - 20" x 16" Rectangular Inlet  
Model TH524 - 24" x 16" Rectangular Inlet



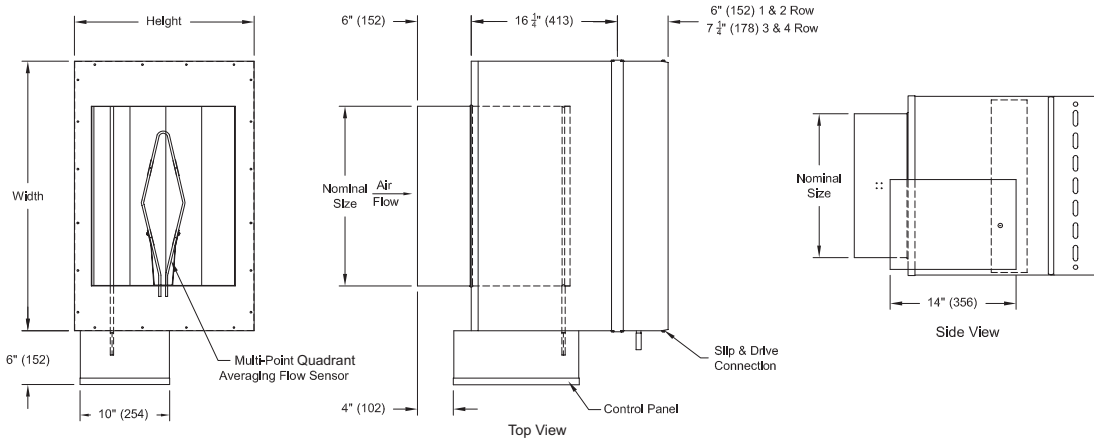
Model Number	Nominal Size	Dim. H x W	CFM Range	Shipping Weight(Lbs)(Kg)
TH520	20 (508) x 16 (406)	20 (508) x 30 (762)	0-6000 (0-1.04)	47 (21.4)
TH524	24 (610) x 16 (406)	20 (508) x 38 (965)	0-8000 (0-1.42)	58 (26.3)

## TH-500 - Air Terminal Dimensions

### High Performance Single Duct - With Hot Water Coils

Model TH520 - 20" x 16" Rectangular Inlet

Model TH524 - 24" x 16" Rectangular Inlet



Model Number	Nominal Size	Dim. H x W	CFM Range	Shipping Weight(Lbs)(Kg)
TH520	20 (508) x 16 (406)	20 (508) x 30 (762)	0-6000 (0-1.04)	47 (21.4)
TH524	24 (610) x 16 (406)	20 (508) x 38 (965)	0-8000 (0-1.42)	58 (26.3)

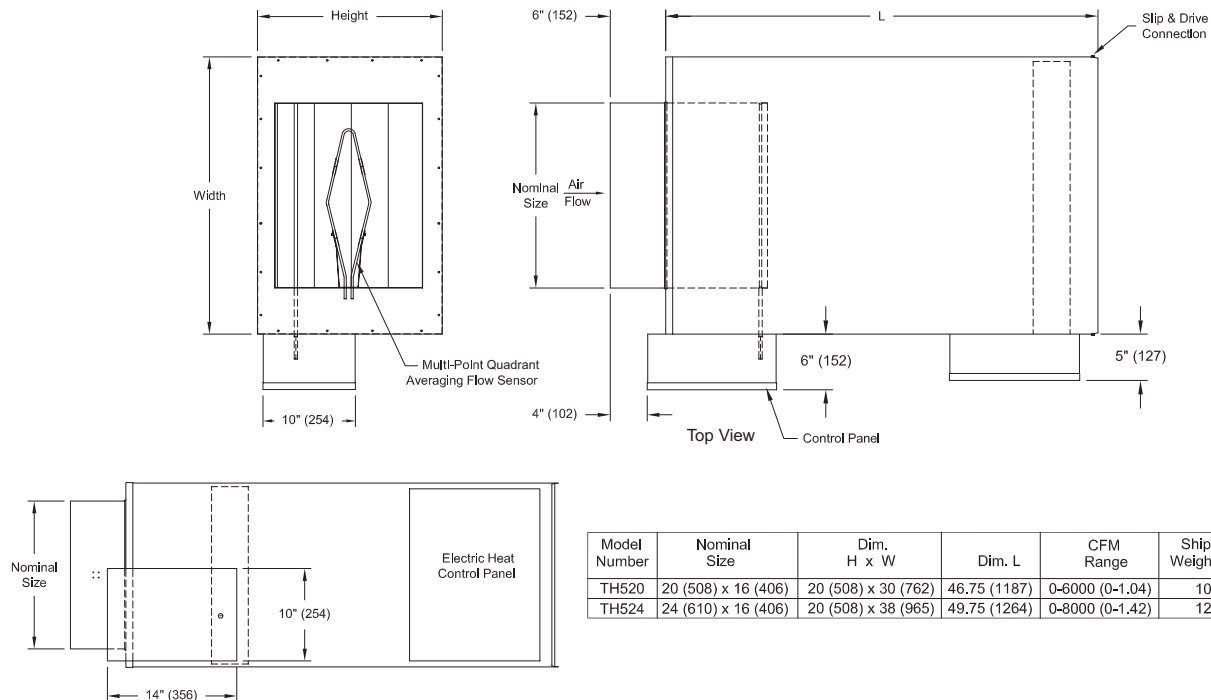
Weight* with 1R HW Coil	1R HW Inlet Tube Diameter	Weight* with 2R HW Coil	2R HW Inlet Tube Diameter	Weight* with 3R HW Coil	3R HW Inlet Tube Diameter	Weight* with 4R HW Coil	4R HW Inlet Tube Diameter
64.1 lbs (29 kg)	7/8 (22)	72.2 lbs (33 kg)	7/8 (22)	78.3 lbs (36 kg)	1 1/8 (28.6)	85.7 lbs (39 kg)	1 1/8 (28.6)
78.5 lbs (36 kg)	7/8 (22)	88.6 lbs (40 kg)	7/8 (22)	98.7 lbs (45 kg)	1 1/8 (28.6)	108.8 lbs (50 kg)	1 1/8 (28.6)

\* Dry weight

### High Performance Single Duct - With Electric Heat

Model TH520 - 20" x 16" Rectangular Inlet

Model TH524 - 24" x 16" Rectangular Inlet



Model Number	Nominal Size	Dim. H x W	Dim. L	CFM Range	Shipping Weight(Lbs)(Kg)
TH520	20 (508) x 16 (406)	20 (508) x 30 (762)	46.75 (1187)	0-6000 (0-1.04)	103 (47)
TH524	24 (610) x 16 (406)	20 (508) x 38 (965)	49.75 (1264)	0-8000 (0-1.42)	122 (55)

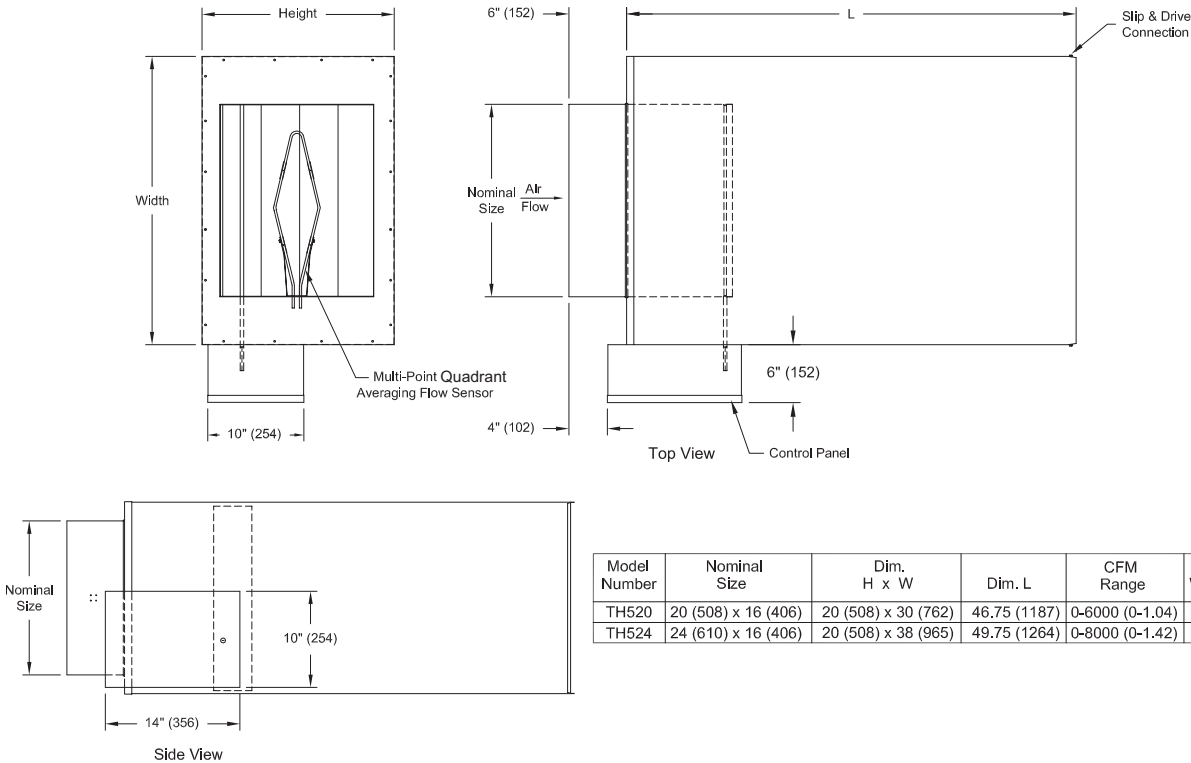


## TH-500 - Air Terminal Dimensions

### High Performance Single Duct - With Integral Sound Attenuator

Model TH520 - 20" x 16" Rectangular Inlet

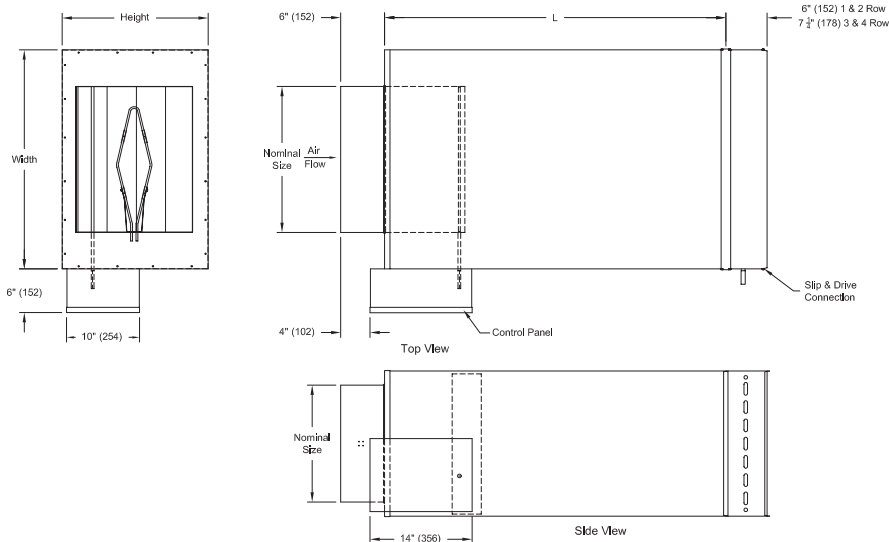
Model TH524 - 24" x 16" Rectangular Inlet



### High Performance Single Duct - With Sound Attenuator and Hot Water Coils

Model TH520 - 20" x 16" Rectangular Inlet

Model TH524 - 24" x 16" Rectangular Inlet



Model Number	Nominal Size	Dim. H x W	Dim. L	CFM Range	Shipping Weight(Lbs)(Kg)
TH520	20 (508) x 16 (406)	20 (508) x 30 (762)	46.75 (1187)	0-6000 (0-1.04)	77 (35)
TH524	24 (610) x 16 (406)	20 (508) x 38 (965)	49.75 (1264)	0-8000 (0-1.42)	93 (42)

Weight* with 1R HW Coll	1R HW Inlet Tube Diameter	Weight* with 2R HW Coll	2R HW Inlet Tube Diameter	Weight* with 3R HW Coll	3R HW Inlet Tube Diameter	Weight* with 4R HW Coll	4R HW Inlet Tube Diameter
64.1 lbs (29 kg)	7/8 (22)	72.2 lbs (33 kg)	7/8 (22)	78.3 lbs (36 kg)	1 1/8 (28.6)	85.7 lbs (39 kg)	1 1/8 (28.6)
78.5 lbs (36 kg)	7/8 (22)	88.6 lbs (40 kg)	7/8 (22)	98.7 lbs (45 kg)	1 1/8 (28.6)	108.8 lbs (50 kg)	1 1/8 (28.6)

## TH-500 - ARI Rating Points at 1.5" Inlet Pressure

ARI Certified Radiated Sound Power, 1.5" Inlet Static Pressure								
Unit Size	Min Ps	CFM	Octave Band					
			2	3	4	5	6	7
506	0.10	400	57	53	47	40	37	33
508	0.09	700	62	59	49	43	37	32
510	0.05	1100	60	56	51	44	38	34
512	0.05	1600	64	59	55	48	43	37
514	0.07	2100	63	58	49	44	42	39
516	0.08	2800	64	64	58	51	48	45
520	0.09	4400	70	66	64	61	54	47
524	0.09	5300	76	71	70	65	59	53



ARI Certified Discharge Sound Power, 1.5" Inlet Static Pressure								
Unit Size	Min Ps	CFM	Octave Band					
			2	3	4	5	6	7
506	0.10	400	65	66	61	57	52	49
508	0.09	700	66	67	61	59	55	50
510	0.05	1100	69	70	63	61	55	52
512	0.05	1600	68	70	68	61	57	54
514	0.07	2100	71	72	67	65	62	58
516	0.08	2800	73	74	73	66	61	56
520	0.09	4400	79	82	81	76	73	68
524	0.09	5300	86	83	83	78	74	70

### STATEMENT OF STANDARD TEST CONFORMITY

METALAIRE tests all TH-500 air terminal units for engineering performance in accordance with the following standards: American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)/International Organization for Standardization (ISO)/Air-Conditioning & Refrigeration Institute (ARI).

- ARI Standard 880-98 Standard for Air Terminals
- ANSI/ASHRAE 130-1996 Methods of Testing for Rating Ducted Air Terminal Units
- ASHRAE Standard 41.1-1986 (RA 91) Standard Method for Temperature Measurement
- ASHRAE Standard 41.2-1987 Standard Methods for Laboratory Air Measurements
- ASHRAE Standard 41.3-1989 Standard Methods for Pressure Measurement
- ISO 5219-1984 Air distribution and air diffusion - Laboratory aerodynamic testing and rating of air terminal devices

Casing Leakage, CFM				
Inlet Size	0.25" ΔPs	0.50" ΔPs	1.00" ΔPs	1.50" ΔPs
6	2	3	4	5
8	2	3	5	6
10	3	4	6	8
12	3	5	7	9
14	4	6	9	11
16	5	7	10	12
20	5	7	10	12
24	6	8	12	14

Damper Leakage, CFM			
Inlet Size	1.5" ΔPs	3.0" ΔPs	6.0" ΔPs
6	3	4	7
8	3	4	7
10	4	5	7
12	4	5	7
14	4	6	8
16	4	6	8
20	N/A	N/A	N/A
24	N/A	N/A	N/A

Selection Recommendations for TH-500		
Inlet Size	Minimum CFM	CFM @ 1"
6	105	600
8	190	1100
10	290	1700
12	430	2500
14	550	3250
16	750	4400
20	1100	6200
24	1250	7200

#### Notes:

1. Minimum CFM (without electric heat) is based on a signal velocity pressure of 0.03 in w.c..
2. For recommendations on minimum CFM with electric heat, see page ATU-241.
3. Maximum CFM is based on a signal velocity pressure of 1.0 in w.c..
4. For Selections outside the above ranges, contact your local METALAIRE Representative.





# ATU - Air Terminal Units

5/2007

## TH-500 - Radiated Sound Power at Min., .5", & .75" Wg

Unit Size	Outlet P <sub>a</sub> in. H <sub>2</sub> O	CFM (L/s)	Min P <sub>a</sub> in. H <sub>2</sub> O (Pa)	Min P <sub>a</sub>							NC1 ARI 885- 90	NC2 ARI 885- 98	Inlet Pressure, P <sub>a</sub> =0.5 inches of water (125 Pa)							NC1 ARI 885- 90	NC2 ARI 885- 98	Inlet Pressure, P <sub>a</sub> =0.75 inches of water (185 Pa)							NC1 ARI 885- 90	NC2 ARI 885- 98
				Octave Band Sound Power, L <sub>w</sub> , dB									Octave Band Sound Power, L <sub>w</sub> , dB									Octave Band Sound Power, L <sub>w</sub> , dB								
				2	3	4	5	6	7	2			3	4	5	6	7	2	3			4	5	6	7					
506 6inch	0.25	100 (47)	0.015 (38)	40	32	17	14	12	10	-	-	41	32	22	20	16	10	-	-	-	43	34	24	22	18	13	-	-		
		200 (94)	0.038 (95)	42	35	23	20	19	12	-	-	48	38	30	25	20	16	-	-	-	50	40	34	28	24	20	-	-		
		250 (118)	0.059 (148)	43	36	26	23	22	15	-	-	50	40	32	27	23	18	-	-	-	52	42	36	30	25	22	-	-		
		300 (142)	0.071 (176)	45	38	29	26	25	19	-	-	52	41	35	29	25	20	-	-	-	54	45	40	32	29	24	-	-		
		400 (189)	0.104 (258)	51	41	34	31	31	22	-	-	54	45	39	33	31	23	-	-	-	56	48	43	36	33	27	-	-		
		450 (212)	0.125 (310)	51	43	36	34	33	24	-	-	54	47	40	36	35	25	-	-	-	56	50	44	38	35	28	-	-		
		500 (236)	0.136 (339)	52	45	39	36	36	26	-	-	55	48	42	37	36	27	-	-	-	57	51	45	39	37	30	-	-		
508 8inch	0.25	600 (283)	0.169 (421)	52	49	44	41	41	31	-	-	55	51	45	41	42	32	-	-	-	58	54	47	42	42	33	-	22		
		200 (94)	0.021 (53)	42	33	20	16	15	15	-	-	48	36	25	20	17	16	-	-	-	50	39	30	26	20	19	-	-		
		300 (142)	0.029 (72)	45	36	22	18	18	18	-	-	51	40	33	25	20	19	-	-	-	53	43	37	31	24	21	-	-		
		500 (236)	0.046 (114)	47	39	26	24	19	18	-	-	53	43	36	30	23	19	-	-	-	55	46	39	33	26	22	-	-		
		600 (283)	0.064 (159)	48	41	29	27	21	18	-	-	54	44	37	33	25	20	-	-	-	57	48	40	35	28	23	-	-		
		700 (300)	0.090 (224)	50	43	33	31	23	20	-	-	56	46	40	35	27	21	-	-	-	58	50	42	37	30	25	-	-		
		800 (378)	0.101 (252)	53	45	37	36	26	21	-	-	57	48	42	37	29	23	-	-	-	60	51	44	39	32	27	-	22		
510 10inch	0.25	900 (423)	0.110 (274)	55	48	41	40	29	23	-	-	59	50	44	40	32	25	-	21	61	53	46	41	34	28	-	23			
		1000 (472)	0.128 (318)	55	50	45	42	32	26	-	-	60	52	46	42	34	27	-	22	62	54	48	44	36	30	-	25			
		1100 (519)	0.145 (360)	56	51	47	43	35	29	-	21	61	53	48	44	37	30	-	23	63	55	50	45	38	32	-	22			
		300 (142)	0.019 (22)	48	34	20	16	15	13	-	-	49	36	23	19	17	15	-	-	-	51	39	32	25	21	19	-	-		
		400 (189)	0.012 (29)	51	36	25	22	19	19	-	-	52	42	34	28	24	19	-	-	-	54	46	37	32	27	21	-	-		
		600 (283)	0.015 (38)	52	37	27	24	19	19	-	-	54	44	37	31	26	19	-	-	-	56	48	41	35	30	22	-	-		
		800 (378)	0.039 (96)	53	39	30	27	20	19	-	-	55	46	39	35	29	20	-	-	-	57	50	43	38	32	23	-	-		
512 12inch	0.25	1000 (472)	0.046 (115)	53	40	33	31	23	19	-	-	57	49	42	38	31	22	-	-	-	58	51	45	40	34	25	-	-		
		1200 (566)	0.058 (194)	55	45	37	34	27	21	-	-	59	51	45	41	34	24	-	21	60	53	46	42	36	27	-	22			
		1400 (661)	0.079 (272)	55	48	42	39	31	23	-	-	62	54	48	44	37	28	-	21	65	48	45	40	34	23	-	27			
		1600 (753)	0.133 (331)	59	51	47	44	35	27	-	21	63	56	51	47	40	32	22	-	26	65	57	51	47	40	33	-	25		
		1700 (812)	0.151 (377)	61	53	49	46	37	30	-	23	65	58	53	50	42	33	25	-	29	66	59	54	51	43	35	-	26		
		450 (212)	0.022 (55)	51	35	22	19	15	13	-	-	53	41	30	22	19	16	-	-	-	54	43	33	26	20	19	-	-		
		800 (378)	0.031 (77)	54	39	29	24	19	18	-	-	56	46	38	31	27	21	-	-	-	57	49	42	34	29	24	-	-		
514 14inch	0.25	1000 (472)	0.037 (93)	55	41	32	26	20	18	-	-	56	48	40	33	29	23	-	-	-	58	50	44	36	31	25	-	-		
		1200 (566)	0.044 (109)	56	44	35	28	22	19	-	-	57	49	42	35	31	24	-	-	-	58	51	45	38	33	27	-	-		
		1450 (684)	0.054 (135)	56	46	38	31	25	20	-	-	58	50	44	38	34	27	-	-	-	59	52	47	40	36	29	-	21		
		1700 (812)	0.074 (185)	57	48	42	34	28	22	-	-	59	51	47	40	37	29	-	21	61	53	49	42	38	31	-	23			
		1950 (920)	0.095 (236)	58	51	46	37	32	25	-	-	61	53	50	43	39	32	-	24	62	55	51	44	40	34	-	22			
		2200 (1038)	0.115 (287)	59	52	49	41	36	28	-	23	63	55	53	45	41	34	24	-	27	64	57	54	46	43	36	-	25		
		2500 (1180)	0.172 (428)	60	54	51	45	38	30	22	25	64	57	55	47	43	36	26	-	30	65	59	56	48	45	38	-	27		
516 16inch	0.25	50 (20)	0.002 (05)	50	33	26	19	15	14	-	-	54	35	28	22	19	17	-	-	-	54	37	30	26	22	20	-	-		
		925 (437)	0.004 (10)	51	36	29	22	18	16	-	-	56	40	33	30	25	21	-	-	-	57	42	38	32	28	23	-	-		
		1300 (614)	0.024 (61)	54	40	31	26	22	19	-	-	59	49	44	38	36	34	-	21	59	51	45	38	37	34	-	21			
		1600 (753)	0.042 (106)	54	43	34	28	25	20	-	-	60	50	44	40	37	34	-	22	61	53	45	41	38	34	-	23			
		1900 (897)	0.061 (151)	55	46	39	32	28	22	-	-	61	52	46	41	38	35	-	23	62	53	46	41	38	36	-	21			
		2200 (1038)	0.099 (196)	55	49	44	36	31	24	-	-	62	53	46	41	39	35	-	21	62	54	47	41	40	36	-	25			
		2600 (1227)	0.103 (256)	57	52	46	40	35	28	-	-	62	55	47	43	41	36	-	21	62	56	47	43	41	36	-	21			
520 20x16inch	0.25	3000 (1416)	0.127 (315)	59	55	49	44	38	32	-	24	63	58	50	45	43	38	24	-	27	64	59	50	46	43	38	-	25		
		3250 (1534)	0.138 (344)	60	57	53	46	40	34	24	27	64	60	54	48	44	39	26	-	29	65	60	55	49	45	40	-	26		
		750 (354)	0.004 (09)	51	36	27	22	16	13	-	-	54	39	30	24	19	17	-	-	-	54	41	33	28	21	19	-	-		
		1100 (519)	0.015 (38)	53	40	31	25	20	17	-	-	56	45	36	29	24	20	-	-	-	56	47	39	32	26	22	-	-		
		1500 (708)	0.026 (65)	55	45	35	28	24	21	-	-	58	51	41	35	31	26	-	-	-	58	53	44	38	33	28	-	-		
		1800 (851)	0.035 (87)	56	46	37	31	27	23	-	-	59	52	42	36	33	29	-	21	59	54	45	39	35	30	-	22			
		2400 (1133)	0.038 (144)	57	48	41	36	33	29	-	-	60	53	44	40	37	33	-	22	60	55	47	42	38	34	-	24			
524 24x16inch	0.25	3200 (1510)	0.131 (327)	61	57	54	47	43	40	25	29	64	59	54	49	45	42	25	29	65	60	55	50	46	42	36	30			
		600 (236)	0.220 (497)	67	66	60	59	57	50	33	37	69	68	67	62	58	51	39	43	71	69	68	63	58	52	41	44			
		120 (54)	0.016 (14)	53	39	32	28	22	19	-	-	55	42	36	30	25	20	-	-	-	56	44	38	32	28	22	-	-		
		160 (75)	0.019 (23)	54	42	38	36	30	24	-	-	57	50	45	38	32	25	-	-	-	58	52	48	39	35	28	-	22		
		200 (94)	0.014 (35)	56	46	42	42	32	27	-	-	59	55	50	43	35	28	-	21	24	60	57	53	47	39	32	-	24		
		300 (1416)	0.031 (77)	59	53	50	51	41	35	23	24	63	59	56	51	42	35	27	31	64	62	59	53	45	39	31	34			
		400 (1888)	0.056 (139)	62	59	56	56	48	42	28	31	66	64	61	54	47	43	34	37	68	65	63	59	51	45	35	38			
528 28x16inch	0.25	500 (236)	0.087 (217)	66	64	59	60	53	47	32	34	70	68	66	63	55	48	38	42	72	68	67	63	56	50	39	43			
		600 (283)	0.125 (311)	69	66	61	61	56	50	34	37	73	70	68	63	58	51	41	44	74	71	69	64	59	53	42	46			
		700 (306)	0.152 (378)	70	67	62	61	57	51	34	38	74	72	69	65	59	53	42	45	75	72	70	66	61	55	43	46			
		800																												

# ATU - Air Terminal Units

## TH-500 - Radiated Sound Power at 1", 2", & 3" Wg

Unit Size	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	Inlet Pressure, Ps=1 inch of water (250 Pa)										Inlet Pressure, Ps=2 inches of water (500 Pa)										Inlet Pressure, Ps=3 inches of water (750 Pa)												
				Octave Band Sound Power, Lw, dB							NC1 ARI- 885- 90	NC2 ARI- 885- 98	Octave Band Sound Power, Lw, dB							NC1 ARI- 885- 90	NC2 ARI- 885- 98	Octave Band Sound Power, Lw, dB							NC1 ARI- 885- 90	NC2 ARI- 885- 98						
				2	3	4	5	6	7	2			3	4	5	6	7	2	3			4	5	6	7											
				506 6 inch	0.25	100	(47)	0.015	(3.8)	45	36	25	24	21	15	-	-	47	37	34	31	31	28	-	-	48	38	36	38	40	38	-	-	-	-	
200	(94)	0.038	(9.5)	51		43	39	31	28	24	-	-	53	43	41	38	37	35	-	-	54	44	41	41	42	41	-	-	-	-						
250	(118)	0.059	(14.8)	53		45	41	32	30	26	-	-	55	47	43	39	38	37	-	-	56	48	44	43	43	42	-	-	-	-						
300	(142)	0.071	(17.6)	55		48	45	35	32	28	-	-	56	48	46	41	40	38	-	-	57	49	46	44	44	43	-	-	-	-						
400	(189)	0.104	(25.8)	56		52	46	38	36	30	-	-	58	54	49	43	41	39	-	-	59	55	50	46	45	44	21	24	-	-						
450	(212)	0.125	(31.0)	57		53	46	40	37	31	-	-	21	59	55	50	44	42	39	-	-	21	60	56	52	47	46	44	23	26	-	-				
508 8 inch	0.25	500	(236)	0.136	(33.9)	59	55	47	41	39	32	-	-	24	60	57	52	45	43	39	-	-	23	61	58	54	48	46	45	25	29	-	-			
		600	(283)	0.169	(42.1)	60	57	48	43	43	34	-	-	22	26	63	61	54	47	44	40	-	-	27	31	64	62	57	49	47	46	29	32	-	-	
		200	(94)	0.021	(5.3)	51	41	35	30	23	20	-	-	-	52	43	38	35	29	23	-	-	-	53	45	39	36	32	27	-	-	-	-			
		300	(142)	0.029	(7.2)	55	46	42	36	28	24	-	-	-	55	46	43	40	35	33	-	-	-	56	47	45	42	40	38	-	-	-	-			
		500	(236)	0.046	(11.4)	57	50	42	37	30	25	-	-	-	59	54	49	44	38	35	-	-	-	61	59	55	51	47	42	40	22	25	-	-		
		600	(283)	0.064	(15.9)	59	52	43	38	31	27	-	-	21	61	57	51	45	39	36	-	-	22	63	61	59	54	49	43	41	25	29	-	-		
510 10 inch	0.25	700	(330)	0.090	(22.4)	61	53	45	40	33	28	-	-	23	63	60	53	47	40	37	-	-	26	64	61	56	51	44	41	27	31	-	-			
		800	(378)	0.101	(25.2)	62	54	46	41	35	30	-	-	21	25	65	61	54	48	41	37	-	-	27	31	67	64	58	52	45	42	31	34	-	-	
		900	(425)	0.110	(27.4)	64	55	48	43	37	32	-	-	23	66	62	55	49	43	38	-	-	28	67	65	59	53	46	42	32	35	-	-			
		1000	(472)	0.128	(31.8)	65	57	50	45	39	33	-	-	25	29	68	63	56	50	44	39	-	-	29	33	70	66	60	54	47	42	33	37	-	-	
		1100	(519)	0.145	(36.0)	66	58	51	47	40	35	-	-	26	30	69	64	57	52	45	40	-	-	31	34	71	67	61	56	49	44	34	38	-	-	
		300	(142)	0.009	(2.2)	52	41	35	28	23	20	-	-	-	54	45	40	32	26	22	-	-	-	56	47	42	35	29	26	-	-	-	-			
512 12 inch	0.25	400	(189)	0.012	(2.9)	55	48	41	35	31	23	-	-	-	57	49	43	40	37	32	-	-	-	58	49	44	42	40	39	-	-	-	-			
		600	(283)	0.015	(3.8)	57	50	45	38	33	25	-	-	-	59	55	49	43	39	35	-	-	-	60	56	50	45	42	40	21	25	-	-			
		800	(378)	0.039	(9.6)	58	52	46	41	35	26	-	-	-	61	60	53	46	42	38	-	-	26	62	63	62	56	49	45	42	28	32	-	-		
		1000	(472)	0.046	(11.5)	59	53	47	42	36	28	-	-	-	62	63	56	49	44	40	-	-	29	33	64	67	60	52	47	45	34	38	-	-		
		1200	(566)	0.078	(19.4)	61	54	48	43	37	29	-	-	23	63	65	57	51	46	42	-	-	32	35	65	69	62	54	49	49	37	40	-	-		
		1400	(661)	0.109	(27.2)	65	57	49	45	39	31	-	-	25	29	70	66	58	52	47	44	-	-	33	37	71	70	63	56	50	49	38	41	-	-	
514 14 inch	0.25	1600	(755)	0.133	(33.1)	67	58	51	47	41	34	-	-	27	31	71	66	59	53	49	46	-	-	33	37	72	71	63	56	51	50	39	42	-	-	
		1700	(802)	0.151	(37.7)	68	60	54	52	44	36	-	-	29	32	72	67	60	55	50	48	-	-	34	38	73	72	64	58	53	51	40	44	-	-	
		450	(212)	0.022	(5.5)	55	46	40	31	25	20	-	-	-	58	50	42	36	30	25	-	-	-	59	50	45	40	35	30	-	-	-	-			
		800	(378)	0.031	(7.7)	59	52	46	37	31	26	-	-	21	61	57	54	47	41	38	-	-	25	29	61	59	57	52	47	44	29	32	-	-		
		1000	(472)	0.037	(9.3)	59	53	48	39	32	27	-	-	22	62	60	57	49	43	38	-	-	29	32	63	62	60	55	49	44	32	35	-	-		
		1200	(566)	0.044	(10.9)	60	54	49	40	34	29	-	-	23	64	62	58	50	44	39	-	-	30	33	65	65	63	56	49	45	35	38	-	-		
516 16 inch	0.25	1450	(684)	0.054	(13.5)	61	54	50	42	37	31	-	-	21	24	65	63	59	51	45	40	-	-	31	34	66	67	64	57	50	45	36	39	-	-	
		1700	(802)	0.074	(18.5)	62	56	52	44	40	34	-	-	23	26	66	64	60	52	46	41	-	-	32	35	68	69	65	57	51	45	37	41	-	-	
		1950	(920)	0.095	(23.6)	63	57	53	46	42	36	-	-	24	27	67	65	61	53	48	42	-	-	33	36	69	70	65	58	51	46	38	41	-	-	
		2200	(1038)	0.115	(28.7)	65	59	55	48	44	38	-	-	26	30	69	66	62	55	50	44	-	-	34	37	71	70	66	59	53	47	38	42	-	-	
		2500	(1180)	0.172	(42.8)	66	61	57	50	47	40	-	-	29	32	70	68	64	57	52	46	-	-	36	39	72	71	68	62	55	48	41	44	-	-	
		550	(260)	0.002	(0.5)	55	39	32	28	24	22	-	-	-	58	43	37	32	28	24	-	-	-	60	46	41	37	30	26	-	-	-	-			
520 20x16 inch	0.25	925	(437)	0.004	(1.0)	57	43	40	33	30	25	-	-	-	60	49	45	39	34	29	-	-	-	62	53	48	42	38	31	21	25	-	-			
		1300	(614)	0.024	(6.1)	60	52	45	39	37	35	-	-	22	63	60	52	46	42	40	-	-	26	29	65	65	67	58	50	45	45	32	35	-	-	
		1600	(755)	0.042	(10.6)	61	53	45	41	38	35	-	-	23	64	62	53	47	42	40	-	-	28	32	66	67	68	67	58	51	47	45	34	38	-	-
		1900	(897)	0.061	(15.1)	62	54	46	41	39	36	-	-	21	25	65	63	54	48	45	42	-	-	29	33	68	68	69	59	52	49	46	35	39	-	-
		2200	(1038)	0.079	(19.6)	62	56	47	42	41	37	-	-	21	25	66	64	55	49	47	43	-	-	31	34	69	69	70	60	54	50	47	37	40	-	-
		2600	(1227)	0.103	(25.6)	63	57	48	43	41	38	-	-	22	26	68	65	57	51	48	45	-	-	32	35	70	70	70	62	55	52	48	38	41	-	-
524 24x16 inch	0.25	3000	(1416)	0.127	(31.5)	65	60	50	46	43	39	-	-	26	29	69	66	58	52	49	45	-	-	33	37	71	70	63	55	53	49	38	41	-	-	
		3250	(1534)	0.138	(34.4)	66	61	55	50	45	41	-	-	27	31	70	67	60	54	50	46	-	-	34	38	73	71	64	57	55	50	39	42	-	-	
		750	(354)	0.004	(0.9)	55	43	35	30	24	20	-	-	-	57	47	42	36	31	26	-	-	-	59	51	47	40	36	30	-	-	-	-			
		1100	(519)	0.015	(3.8)	57	49	41	34	29	24	-	-	-	59	53	49	44	38	32	-	-	23	61	56	51	49	40	35	22	25	-	-			
		1500	(708)	0.026	(6.5)	59	55	46	40	36	30	-	-	24	61	59	55	50	45	42	-	-	26	30	63	61	57	53	49	47	29	32	-	-		
		1800	(850)	0.035	(8.7)	60	56	47	41	37	32	-	-	21	25	63	61	57	52	47	44	-	-	29	32	65	64	60	56	52	49	32	35	-	-	
528 30x16 inch	0.25	2400	(1133)	0.058	(14.4)	60	57	49	43	40	35	-	-	22	26	65	65	60	54	51	48	-	-	32	35	68	67	64	60	58	56	36	39	-	-	
		3200	(1510)	0.094	(23.5)	63																														



# ATU - Air Terminal Units

5/2007

## TH-500 - Discharge Sound Power at Min., .5" & .75" Wg

Unit Size	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	Min Ps								Inlet Pressure, Ps=0.5 inches of water (125 Pa)								Inlet Pressure, Ps=0.75 inches of water (185 Pa)											
												NC1 ARI 885- 90	NC2 ARI 885- 98									NC1 ARI 885- 90	NC2 ARI 885- 98								
				Octave Band Sound Power, Lw, dB										Octave Band Sound Power, Lw, dB										Octave Band Sound Power, Lw, dB							
				2	3	4	5	6	7					2	3	4	5	6	7					2	3	4	5	6	7		
506 6 inch	0.25	100	(47)	0.015	(3.8)	40	32	17	14	12	10	-	-	41	32	22	20	16	10	-	-	43	34	24	22	18	13	-	-		
		200	(94)	0.038	(9.5)	42	35	23	20	19	12	-	-	48	38	30	25	20	16	-	-	50	40	34	28	24	20	-	-		
		250	(118)	0.059	(14.8)	43	36	26	23	22	15	-	-	50	40	32	27	23	18	-	-	52	42	36	30	25	22	-	-		
		300	(142)	0.071	(17.6)	45	38	29	26	25	19	-	-	52	41	35	29	25	20	-	-	54	45	40	32	29	24	-	-		
		400	(189)	0.104	(25.8)	51	41	34	31	31	22	-	-	54	45	39	33	31	23	-	-	56	48	43	36	33	27	-	-		
		450	(212)	0.125	(31.0)	51	43	36	34	33	24	-	-	54	47	40	36	35	25	-	-	56	50	44	38	35	28	-	-		
500	(236)	0.136	(33.9)	52	45	39	36	36	26	-	-	55	48	42	37	36	27	-	-	57	51	45	39	37	30	-	-				
600	(283)	0.169	(42.1)	52	49	44	41	41	31	-	-	55	51	45	41	42	32	-	-	58	54	47	42	42	33	-	-				
508 8 inch	0.25	200	(94)	0.021	(5.3)	42	33	20	16	15	15	-	-	48	36	25	20	17	16	-	-	50	39	30	26	20	19	-	-		
		300	(142)	0.029	(7.2)	45	36	22	18	18	18	-	-	51	40	33	25	20	19	-	-	53	43	37	31	24	21	-	-		
		500	(236)	0.046	(11.4)	47	39	26	24	19	18	-	-	53	43	36	30	23	19	-	-	55	46	39	33	26	22	-	-		
		600	(283)	0.064	(15.9)	48	41	29	27	21	18	-	-	54	44	37	33	25	20	-	-	57	48	40	35	28	23	-	-		
		700	(330)	0.090	(22.4)	50	43	33	31	23	20	-	-	56	46	40	35	27	21	-	-	58	50	42	37	30	25	-	-		
		800	(378)	0.101	(25.2)	53	45	37	36	26	21	-	-	57	48	42	37	29	23	-	-	60	51	44	39	32	27	-	-		
900	(425)	0.110	(27.4)	55	48	41	40	29	23	-	-	59	50	44	40	32	25	-	-	61	53	46	41	34	28	-	-				
1000	(472)	0.128	(31.8)	55	50	45	42	32	26	-	-	60	52	46	42	34	27	-	-	62	54	48	44	36	30	-	-				
1100	(519)	0.145	(36.0)	56	51	47	43	35	29	-	-	61	53	48	44	37	30	-	-	63	55	50	45	38	32	-	-				
510 10 inch	0.25	300	(142)	0.009	(2.2)	48	34	20	16	15	13	-	-	49	36	23	19	17	15	-	-	51	39	32	25	21	19	-	-		
		400	(189)	0.012	(2.9)	51	36	25	22	19	19	-	-	52	42	34	28	24	19	-	-	54	45	37	32	27	21	-	-		
		600	(283)	0.015	(3.8)	52	37	27	24	19	19	-	-	54	44	37	31	26	19	-	-	56	48	41	35	30	22	-	-		
		800	(378)	0.039	(9.6)	53	39	30	27	20	19	-	-	55	46	39	35	29	20	-	-	57	50	43	38	32	23	-	-		
		1000	(472)	0.046	(11.5)	53	40	33	31	23	19	-	-	57	49	42	38	31	22	-	-	58	51	45	40	34	25	-	-		
		1200	(566)	0.078	(19.4)	55	45	37	34	27	21	-	-	59	51	45	41	34	24	-	-	60	53	46	42	36	27	-	-		
1400	(661)	0.109	(27.2)	55	48	42	39	31	23	-	-	62	54	48	44	37	28	-	-	64	55	48	45	38	30	-	-				
1600	(755)	0.133	(33.1)	59	51	47	44	35	27	-	-	63	56	51	47	40	32	-	-	65	57	51	47	40	33	-	-				
1700	(802)	0.151	(37.7)	61	53	49	46	37	30	-	-	65	58	53	50	42	33	-	-	66	59	54	51	43	35	-	-				
512 12 inch	0.25	450	(212)	0.022	(5.5)	51	35	22	19	15	13	-	-	53	41	30	22	19	16	-	-	54	43	33	26	20	19	-	-		
		800	(378)	0.031	(7.7)	54	39	29	24	19	18	-	-	56	46	38	31	27	21	-	-	57	49	42	34	29	24	-	-		
		1000	(472)	0.037	(9.3)	55	41	32	26	20	18	-	-	56	48	40	33	29	23	-	-	58	50	44	36	31	25	-	-		
		1200	(566)	0.044	(10.9)	56	44	35	28	22	19	-	-	57	49	42	35	31	24	-	-	58	51	45	38	33	27	-	-		
		1450	(684)	0.054	(13.5)	56	46	38	31	25	20	-	-	58	50	44	38	34	27	-	-	59	52	47	40	36	29	-	-		
		1700	(802)	0.074	(18.5)	57	48	42	34	28	22	-	-	59	51	47	40	37	29	-	-	61	53	49	42	38	31	-	-		
1950	(920)	0.095	(23.6)	58	51	46	37	32	25	-	-	61	53	50	43	39	32	-	-	62	55	51	44	40	34	-	-				
2200	(1038)	0.115	(28.7)	59	52	49	41	36	28	-	-	63	55	53	45	41	34	-	-	64	57	54	46	43	36	-	-				
2500	(1180)	0.172	(42.8)	60	54	51	45	38	30	-	-	64	57	55	47	43	36	-	-	65	59	56	48	45	38	-	-				
514 14 inch	0.25	550	(260)	0.002	(0.5)	50	33	26	19	15	14	-	-	54	35	28	22	19	17	-	-	54	37	30	26	22	20	-	-		
		925	(437)	0.004	(1.0)	51	36	29	22	18	16	-	-	56	40	35	30	25	21	-	-	57	42	38	32	28	23	-	-		
		1300	(614)	0.024	(6.1)	54	40	31	26	22	19	-	-	59	49	44	38	36	34	-	-	61	51	45	38	37	34	-	-		
		1600	(755)	0.042	(10.6)	54	43	34	28	25	20	-	-	60	50	44	40	37	34	-	-	62	53	45	41	38	34	-	-		
		1900	(897)	0.061	(15.1)	55	46	39	32	28	22	-	-	61	52	45	41	38	35	-	-	63	53	46	41	38	36	-	-		
		2200	(1038)	0.079	(19.6)	55	49	44	36	31	24	-	-	62	53	46	41	39	35	-	-	64	54	47	41	40	36	-	-		
2600	(1227)	0.103	(25.6)	57	52	46	40	35	28	-	-	62	55	47	43	41	36	-	-	64	56	47	43	41	36	-	-				
3000	(1416)	0.127	(31.5)	59	55	49	44	38	32	-	-	63	58	50	45	43	38	-	-	64	59	50	46	43	38	-	-				
3250	(1534)	0.138	(34.4)	60	57	53	46	40	34	-	-	64	60	54	48	44	39	-	-	65	60	55	49	45	40	-	-				
516 16 inch	0.25	750	(354)	0.004	(0.9)	51	36	27	22	16	13	-	-	54	39	30	24	19	17	-	-	54	41	33	28	21	19	-	-		
		1100	(519)	0.015	(3.8)	53	40	31	25	20	17	-	-	56	45	36	29	24	20	-	-	56	47	39	32	26	22	-	-		
		1500	(708)	0.026	(6.5)	55	45	35	28	24	21	-	-	58	51	41	35	31	26	-	-	58	53	44	38	33	28	-	-		
		1800	(850)	0.035	(8.7)	56	46	37	31	27	23	-	-	59	52	42	36	33	29	-	-	61	54	45	39	35	30	-	-		
		2400	(1133)	0.058	(14.4)	57	48	41	36	33	29	-	-	60	53	44	40	37	33	-	-	62	55	47	42	38	34	-	-		
		3200	(1510)	0.094	(23.5)	59	53	48	42	39	36	-	-	62	55	49	44	40	37	-	-	64	57	51	46	41	38	-	-		
3600	(1699)	0.113	(28.1)	60	55	52	45	41	38	-	-	63	57	52	46	42	39	-	-	64	59	53	48	43	40	-	-				
4000	(1888)	0.131	(32.7)	61	57	54	47	43	40	-	-	64	59	54	49	45	42	-	-	65	60	55	50	46	42	-	-				
4400	(2077)	0.153	(38.0)	62	59	56	48	44	41	-	-	65	61	57	50	46	43	-	-	66	62	58	51	47	44	-	-				
520 20x16 inch	0.25	1100	(519)	0.006	(1.5)	53	39	29	26	23	18	-	-	54	44	33	29	26	21	-	-	55	46	34	30	29	24	-	-		
		1600	(755)	0.013	(3.3)	55	43	35	34	29	22	-	-	56	49	42	38	31	28	-	-	57	52	45	40	33	30	-	-		
		1900	(897)	0.018	(4.5)	56	47	40	40	34	27	-	-	57	53	49	45	41	35	-	-	58	56	51	47	41	35	-	-		
		2500	(1180)	0.031	(7.7)	57	51	45	45	39	32	-	-	59	57	53	48	43	37	-	-	60	58	54	49	43	37	-	-		
		3200	(1510)	0.051	(12.7)	59	56	50	49	45	37	-	-	62	61	58	51</														

# ATU - Air Terminal Units

## TH-500 - Discharge Sound Power at 1", 2", & 3" Wg

Unit Size	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	Inlet Pressure, Ps=1 inch of water (250 Pa)										Inlet Pressure, Ps=2 inches of water (500 Pa)										Inlet Pressure, Ps=3 inches of water (750 Pa)																			
				Octave Band Sound Power, Lw, dB							NC1 ARI 885-90	NC2 ARI 885-98	Octave Band Sound Power, Lw, dB							NC1 ARI 885-90	NC2 ARI 885-98	Octave Band Sound Power, Lw, dB							NC1 ARI 885-90	NC2 ARI 885-98													
				2	3	4	5	6	7	2			3	4	5	6	7	2	3			4	5	6	7	2	3	4			5	6	7										
				2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7				
506 6 inch	0.25	100 (47)	0.015 (3.8)	45	36	25	24	21	15	-	-	-	47	37	34	31	31	28	-	-	-	48	38	36	38	40	38	-	-	-	48	38	36	38	40	38	-	-	-				
		200 (94)	0.038 (9.5)	51	43	39	31	28	24	-	-	-	53	43	41	38	37	35	-	-	-	54	44	41	41	42	41	-	-	-	54	44	41	41	42	41	-	-	-				
		250 (118)	0.059 (14.8)	53	45	41	32	30	26	-	-	-	55	47	43	39	38	37	-	-	-	56	48	44	43	43	42	-	-	-	56	48	44	43	43	42	-	-	-				
		300 (142)	0.071 (17.6)	55	48	45	35	32	28	-	-	-	56	48	46	41	40	38	-	-	-	57	49	46	44	44	43	-	-	-	57	49	46	44	44	43	-	-	-				
		400 (189)	0.104 (25.8)	56	52	46	38	36	30	-	-	-	58	54	49	43	41	39	-	-	-	59	55	50	46	45	44	21	24	-	59	55	50	46	45	44	21	24	-				
		450 (212)	0.125 (31.0)	57	53	46	40	37	31	-	-	-	59	55	50	44	42	39	-	-	-	60	56	52	47	46	44	23	26	-	60	56	52	47	46	44	23	26	-				
508 8 inch	0.25	500 (236)	0.136 (33.9)	59	55	47	41	39	32	-	-	-	60	57	52	45	43	39	-	-	-	61	58	54	48	46	45	25	29	-	61	58	54	48	46	45	25	29	-				
		600 (283)	0.169 (42.1)	60	57	48	43	43	34	-	-	-	63	61	54	47	44	40	-	-	-	64	62	57	49	47	46	29	32	-	64	62	57	49	47	46	29	32	-				
		200 (94)	0.021 (5.3)	51	41	35	30	23	20	-	-	-	52	43	38	35	29	23	-	-	-	53	45	39	36	32	27	-	-	-	53	45	39	36	32	27	-	-	-				
		300 (142)	0.029 (7.2)	55	46	42	36	28	24	-	-	-	55	46	43	40	35	33	-	-	-	56	47	45	42	40	38	-	-	-	56	47	45	42	40	38	-	-	-				
		500 (236)	0.046 (11.4)	57	50	42	37	30	25	-	-	-	59	54	49	44	38	35	-	-	-	61	59	51	47	42	40	22	25	-	61	59	51	47	42	40	22	25	-				
		600 (283)	0.064 (15.9)	59	52	43	38	31	27	-	-	-	61	57	51	45	39	36	-	-	-	62	61	59	54	49	43	25	29	-	62	61	59	54	49	43	25	29	-				
510 10 inch	0.25	700 (330)	0.090 (22.4)	61	53	45	40	33	28	-	-	-	63	60	53	47	40	37	-	-	-	64	61	56	51	44	41	27	31	-	64	61	56	51	44	41	27	31	-				
		800 (378)	0.101 (25.2)	62	54	46	41	35	30	-	-	-	65	61	54	48	41	37	-	-	-	67	64	58	52	45	42	31	34	-	67	64	58	52	45	42	31	34	-				
		900 (425)	0.110 (27.4)	64	55	48	43	37	32	23	-	-	66	62	55	49	43	38	-	-	-	69	65	59	53	46	42	32	35	-	69	65	59	53	46	42	32	35	-				
		1000 (472)	0.128 (31.8)	65	57	50	45	39	33	-	-	-	68	63	56	50	44	39	-	-	-	70	66	60	54	47	42	33	37	-	70	66	60	54	47	42	33	37	-				
		1100 (519)	0.145 (36.0)	66	58	51	47	40	35	-	-	-	69	64	57	52	45	40	-	-	-	71	67	61	56	49	44	34	38	-	71	67	61	56	49	44	34	38	-				
		300 (142)	0.009 (2.2)	52	41	35	28	23	20	-	-	-	54	45	40	32	26	22	-	-	-	56	47	42	35	29	26	-	-	-	56	47	42	35	29	26	-	-	-				
512 12 inch	0.25	400 (189)	0.012 (2.9)	55	48	41	35	31	23	-	-	-	57	49	43	40	37	32	-	-	-	58	49	44	42	40	39	-	-	-	58	49	44	42	40	39	-	-	-				
		600 (283)	0.015 (3.8)	57	50	45	38	33	25	-	-	-	59	55	49	43	39	35	-	-	-	60	56	50	45	42	40	21	25	-	60	56	50	45	42	40	21	25	-				
		800 (378)	0.039 (9.6)	58	52	46	41	35	26	-	-	-	61	60	53	46	42	38	-	-	-	62	61	56	51	45	42	28	32	-	62	61	56	51	45	42	28	32	-				
		1000 (472)	0.046 (11.5)	59	53	47	42	36	28	-	-	-	62	63	56	49	44	40	-	-	-	63	64	62	56	50	47	34	38	-	63	64	62	56	50	47	34	38	-				
		1200 (566)	0.078 (19.4)	61	54	48	43	37	29	-	-	-	63	65	57	51	46	42	-	-	-	65	69	62	54	49	49	37	40	-	65	69	62	54	49	49	37	40	-				
		1400 (661)	0.109 (27.2)	65	57	49	45	39	31	-	-	-	66	66	58	52	47	44	-	-	-	68	71	63	56	50	49	38	41	-	68	71	63	56	50	49	38	41	-				
514 14 inch	0.25	1600 (755)	0.133 (33.1)	67	58	51	47	41	34	-	-	-	71	66	59	53	49	46	-	-	-	72	71	63	56	51	50	39	42	-	72	71	63	56	51	50	39	42	-				
		1700 (802)	0.151 (37.7)	68	60	54	48	42	36	-	-	-	72	67	60	55	50	48	-	-	-	74	72	64	58	53	51	40	44	-	74	72	64	58	53	51	40	44	-				
		450 (212)	0.022 (5.5)	55	46	40	31	25	20	-	-	-	58	50	42	36	30	25	-	-	-	59	50	45	40	35	30	-	-	-	59	50	45	40	35	30	-	-	-				
		800 (378)	0.031 (7.7)	59	52	46	37	31	26	-	-	-	61	57	54	47	41	38	-	-	-	62	59	57	52	47	44	29	32	-	62	59	57	52	47	44	29	32	-				
		1000 (472)	0.037 (9.3)	59	53	48	39	32	27	-	-	-	62	60	57	49	43	38	-	-	-	63	62	60	55	49	44	32	35	-	63	62	60	55	49	44	32	35	-				
		1200 (566)	0.044 (10.9)	60	54	49	40	34	29	-	-	-	63	62	58	50	44	39	-	-	-	64	63	65	63	56	49	45	38	-	64	63	65	63	56	49	45	38	-				
516 16 inch	0.25	1450 (684)	0.054 (13.5)	61	54	50	42	37	31	-	-	-	65	63	59	51	45	40	-	-	-	66	67	64	57	50	45	36	39	-	66	67	64	57	50	45	36	39	-				
		1700 (802)	0.074 (18.5)	62	56	52	44	40	34	-	-	-	66	64	60	52	46	41	-	-	-	68	69	65	57	51	45	37	41	-	68	69	65	57	51	45	37	41	-				
		1950 (920)	0.095 (23.6)	63	57	53	46	42	36	24	-	-	-	67	65	61	53	48	42	-	-	-	69	70	65	58	51	46	38	41	-	69	70	65	58	51	46	38	41	-			
		2200 (1038)	0.115 (28.7)	65	59	55	48	44	38	-	-	-	69	66	62	55	50	44	-	-	-	71	70	66	59	53	47	38	42	-	71	70	66	59	53	47	38	42	-				
		2500 (1180)	0.172 (42.8)	66	61	57	50	47	40	-	-	-	70	68	64	57	52	46	-	-	-	72	71	68	62	55	48	41	44	-	72	71	68	62	55	48	41	44	-				
		550 (260)	0.002 (0.5)	55	39	32	28	24	22	-	-	-	58	43	37	32	28	24	-	-	-	60	46	41	37	30	26	-	-	-	60	46	41	37	30	26	-	-	-				
520 20x16 inch	0.25	925 (437)	0.004 (1.0)	57	43	40	33	30	25	-	-	-	60	49	45	39	34	29	-	-	-	62	53	48	42	38	31	21	25	-	62	53	48	42	38	31	21	25	-				
		1300 (614)	0.024 (6.1)	60	52	45	39	37	35	-	-	-	63	60	52	46	42	40	-	-	-	65	65	65	65	57	50	45	32	35	-	65	65	65	65	57	50	45	32	35	-		
		1600 (755)	0.042 (10.6)	61	53	45	41	38	35	-	-	-	63	64	62	53	47	44	-	-	-	66	67	68	67	58	51	47	45	34	38	-	66	67	68	67	58	51	47	45	34	38	-
		1900 (897)	0.061 (15.1)	62	54	46	41	39	36	-	-	-	65	63	54	48	45	42	-	-	-	68	68	68	68	59	52	49	46	35	39	-	68	68	68	68	59	52	49	46	35	39	-
		2200 (1038)	0.079 (19.6)	62	56	47	42	41	37	-	-	-	66	64	55	49	47	43	-	-	-	69	69	69	69	60	54	50	47	37	40	-	69	69	6								



## TH-500 - Sound Path Attenuation Assumptions

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIRE publishes the NC levels for both the 1990 standard and the 1998 current standard.

ARI 885-90 Radiated Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Ceiling Effect	9	10	12	14	15	15
Room Effect	9	10	10	11	12	13
<b>Total dB Reduction</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>26</b>	<b>28</b>	<b>29</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>3</sup> density).
- 2) Room size is 3000 ft<sup>3</sup>.
- 3) Unit is located 10 ft from measurement point.

ARI 885-90 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Duct Lining	1	3	8	22	23	13
End Reflection	11	6	2	0	0	0
Flex Duct	6	9	23	25	22	13
Room Effect	9	10	10	11	12	13
<b>Total dB Reduction</b>	<b>30</b>	<b>30</b>	<b>44</b>	<b>59</b>	<b>58</b>	<b>40</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick, 12" x 12" duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 6 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 3000 ft<sup>3</sup>.
- 5) Unit is located 10 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above

ARI 885-98 Radiated Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Ceiling/Space Effect	16	18	20	26	31	36
<b>Total dB Reduction</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>26</b>	<b>31</b>	<b>36</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>3</sup> density).
- 2) The plenum space is at least 3 ft deep and either wide (>30 ft) or insulated.

\* Combined effect including absorption of the ceiling tile, plenum absorption and room absorption.  
(New to ARI 885-98. ARI 885-90 had separate lines for these absorptions.)

ARI 885-98, APPE defined "Medium" application from 300 to 700 CFM

ARI 885-98 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	4	10	20	20	14
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
<b>Total dB Reduction</b>	<b>24</b>	<b>26</b>	<b>37</b>	<b>48</b>	<b>50</b>	<b>36</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) 12" x 12" x 5' duct with 1 inch thick fiberglass lining.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup> (size of standard test room).
- 5) Unit is located 5 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above

ARI 885-98, APPE defined "Large" application 700 CFM & greater

ARI 885-98 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	3	9	18	17	12
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
<b>Total dB Reduction</b>	<b>24</b>	<b>25</b>	<b>36</b>	<b>46</b>	<b>47</b>	<b>34</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) 15" x 15" x 5' duct with 1 inch thick fiberglass lining.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup> (size of standard test room).
- 5) Unit is located 5 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above



## TH-500 - Electric Heat Notes & kW Ranges

### NOTES:

1. D Ps is the static pressure difference across the TH assembly, with the damper in the fully open position.
2. To obtain total pressure (Pt), add the velocity pressure (Pv) for a given CFM to the static pressure (Ps) of the desired configuration.
3. Damper leakage at shut-off is less than 1% at the maximum capacity of the air terminal at 3 inches of static pressure, for units 6 through 16.
4. It is recommended that air terminals be selected in the upper middle range of their listed capacity for maximum efficiency.
5. The lowest CFM flows shown above only imply a range; all terminals are capable of shut-off.  
The minimum pressure independent controlled flow is dependent on the controller specified.
6. Low flows: High gain sensors are available for flow control down to 50 CFM if desired. On 6" inlet only.  
Warning: Most flow controllers are limited to a 5/1 flow control range.
7. Air terminals are not recommended for operation in ambient temperatures over 95°F.  
For protection of controls, do not store in ambient temperatures over 115°F.
8. A minimum of 0.03 inches of water is required to set the flow switch in the electric heater.  
Warning: Flow rates with static pressures below 0.03 inches of water will not activate the electric heater. Consult Factory.
9. Heaters equal or less than 6.0 kW are specifiable to the nearest 0.2 kW. Heaters from 6.0 to 10.0 kW are specifiable to the nearest 0.5 kW.  
Heaters from 10.5 to Max kW are specifiable to the nearest 1.0 kW.
10. Minimum flow rate for electric heat is 70 CFM/kW. Lower CFM's can cause nuisance tripping, excessive discharge temperatures, rapid cycling, and rapid element failure. Electric Heat units running below 70 CFM/kW will void all warranties  
(See Selection Recommendations for TH-500 on page TH-21).
11. Higher kW's consult factory for availability. Min of 70 CFM/kW.
12. For optimum thermal comfort, the suggested discharge temperature should not exceed 20°F above room set point.
13. We do not recommend discharge temperatures in excess of 115°F to protect heater coils.

Single Phase				
Size	Heater Voltage	Min kW/St	Max kW	Max Steps
6	120	1.0	4	2
	208	.5	4	2
	240	.5	4	2
	277	.5	4	2
	480	1	4	2
8	120	1.0	5	3
	208	.5	8	3
	240	.5	8	3
	277	.5	8	3
	480	1	5	3
10	120	.5	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	1	13	3
12	120	.5	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	.5	13	3
14	120	.5	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	.5	13	3
16	120	1.4	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	.5	13	3
20	120	.5	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	.5	13	3
24	120	.5	5	3
	208	.5	9.5	3
	240	.5	9.5	3
	277	.5	12	3
	480	.5	13	3

Three Phase				
Size	Heater Voltage	Min kW/St	Max kW	Max Steps
6	208	.5	4	2
	240	.5	4	2
	480	1.6	4	2
8	208	1.5	8	3
	240	1.5	8	3
	480	1.5	8	3
10	208	1.5	13	3
	240	1.5	13	3
	480	1.5	13	3
12	208	1.5	16	3
	240	1.5	16	3
	480	1.5	23	3
14	208	1.5	16	3
	240	1.5	16	3
	480	1.5	24	3
16	208	1.5	16	3
	240	1.5	16	3
	480	1.5	39	3
20	208	1.5	16	3
	240	1.5	16	3
	480	1.5	39	3
24	208	1.5	16	3
	240	1.5	16	3
	480	1.5	39	3

### Electric heat selection

A. Specify electric duct heaters using voltage, kW and number of steps.

B. Use above chart to select voltage. Calculate required kW using following equations:

\* air density at sea level - reduce by 0.036 for each 1000 feet of altitude above sea level

$$\text{kW} = \frac{\text{BTU/hr}}{3413}$$

$$\text{d}T = \frac{\text{kW} \times 3413}{\text{CFM} \times 1.085^*}$$

$$\text{kW} = \frac{\text{CFM} \times \text{d}T \times 1.085^*}{3413}$$

$$\text{CFM} = \frac{\text{kW} \times 3413}{\text{d}T \times 1.085^*}$$

$$\text{CFM} = \frac{\text{kW} \times 3413}{\text{d}T \times 1.085^*}$$

### Where

- BTU/hr = Required heating capacity
- CFM = volume of air during heating. Typically 30% to 100% of maximum cooling air volume
- dT = desired air temperature rise across the electric heater in °F
- Inlet air temperature = primary air temperature, usually 55°F

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# ATU - Air Terminal Units

5/2007

## TH-500 - Hot Water Coils MBH Selection Data

TH-506 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			100	200	300	350	400	450	500	600
1-Row 1-Circuit	0.5	0.1	5.1	6.9	8.0	8.4	8.7	9.0	9.3	9.7
	1	0.47	5.6	7.9	9.4	10.0	10.5	10.9	11.4	12.0
	2	1.79	6.0	8.6	10.4	11.1	11.8	12.3	12.9	13.8
	3	3.91	6.1	8.9	10.8	11.6	12.3	12.9	13.5	14.7
	4	6.83	6.2	9.0	11.0	11.8	12.6	13.2	13.8	14.9
	Airside Ps (in. wc.)		0.01	0.04	0.08	0.1	0.13	0.15	0.19	0.25
2-Row 2-Circuit	1	0.12	8.3	12.2	14.7	15.7	16.5	17.2	17.9	19.0
	2	0.47	9.0	13.8	17.1	18.5	19.7	20.7	21.7	23.3
	3	1.02	9.2	14.4	18.2	19.7	21.0	22.3	23.4	25.3
	5	2.75	9.4	15.0	19.1	20.8	22.3	23.7	25.0	27.2
	6	3.92	9.5	15.2	19.4	21.1	22.7	24.1	25.5	27.8
	Airside Ps (in. wc.)		0.03	0.09	0.17	0.22	0.27	0.33	0.4	0.54

TH-508 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			300	400	500	600	700	800	900	1000
1-Row 1-Circuit	0.5	0.17	9.2	10.1	10.8	11.3	11.8	12.2	12.5	12.8
	1	0.64	10.9	12.2	13.3	14.1	14.8	15.5	16.0	16.5
	2	2.42	12.0	13.7	15.0	16.1	17.1	18.0	18.7	19.4
	3	5.3	12.5	14.3	15.7	17.0	18.1	19.0	19.9	20.7
	4	9.25	12.7	14.6	16.1	17.5	18.6	19.6	20.5	21.4
	Airside Ps (in. wc.)		0.05	0.08	0.11	0.15	0.2	0.25	0.31	0.37
2-Row 2-Circuit	1	0.17	16.6	18.7	20.4	21.7	22.8	23.8	24.6	25.3
	2	0.64	19.2	22.3	24.7	26.0	28.5	30.0	31.3	32.5
	3	1.39	20.3	23.8	26.6	29.0	31.1	32.9	34.5	36.0
	4.5	3.04	21.2	25.0	28.1	30.8	33.2	35.2	37.1	38.8
	6	5.31	21.6	25.6	28.9	31.8	34.3	36.5	38.6	40.4
	Airside Ps (in. wc.)		0.1	0.17	0.24	0.33	0.43	0.54	0.65	0.78

TH-510 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			400	600	800	1000	1200	1400	1500	1600
1-Row 2-Circuit	1	0.12	13.6	15.7	17.1	18.3	19.1	19.9	20.2	20.5
	2	0.46	15.7	18.5	20.7	22.3	23.7	24.9	25.4	25.8
	3	1.01	16.5	19.8	22.2	24.2	25.8	27.2	27.8	28.4
	4	1.76	17.0	20.5	23.2	25.3	27.1	28.6	29.3	29.9
	5	2.71	17.3	21.0	23.8	26.0	27.9	29.5	30.3	30.9
	Airside Ps (in. wc.)		0.04	0.08	0.13	0.19	0.27	0.35	0.39	0.44
2-Row 3-Circuit	1	0.1	20.6	24.0	26.3	27.9	29.0	30.2	-	-
	2	0.37	24.9	30.1	34.0	36.9	38.9	41.2	-	-
	3	0.82	26.8	33.0	37.7	41.4	43.9	46.9	-	-
	4.5	1.8	28.8	35.3	40.7	45.1	48.2	51.8	-	-
	6	3.16	29.0	36.5	42.4	47.2	50.6	54.7	-	-
	Airside Ps (in. wc.)		0.09	0.18	0.28	0.41	0.57	0.73	-	-

TH-512 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			800	1000	1200	1400	1600	1800	2000	2200
1-Row 2-Circuit	1	0.15	20.2	21.6	22.7	23.6	24.3	25.0	25.6	26.1
	2	0.55	24.4	26.5	28.2	29.7	30.9	32.0	33.0	33.9
	3	1.21	26.3	28.7	30.8	32.6	34.1	35.4	36.7	37.8
	4	2.11	27.3	30.0	32.3	34.2	36.0	37.5	38.8	40.1
	5	3.25	28.0	30.9	33.3	35.4	37.2	38.8	40.3	41.6
	Airside Ps (in. wc.)		0.08	0.11	0.15	0.2	0.25	0.31	0.37	0.44
2-Row 4-Circuit	1	0.06	28.5	30.3	31.5	32.8	33.7	34.5	35.1	-
	2	0.25	37.5	40.8	43.1	45.7	47.5	49.1	50.5	-
	3	0.54	41.9	46.2	49.1	52.6	55.1	57.3	59.3	-
	4.5	1.2	45.5	50.6	54.3	58.6	61.8	64.6	67.1	-
	6	2.12	47.6	53.2	57.3	62.2	65.8	69.0	71.9	-
	Airside Ps (in. wc.)		0.17	0.24	0.33	0.43	0.54	0.65	0.78	-

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Air Terminal Units

ATU

# ATU - Air Terminal Units

## TH-500 - Hot Water Coils MBH Selection Data

TH-514 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			1000	1300	1600	2000	2300	2600	3000	3300
1-Row 2-Circuit	1	0.21	25.7	27.7	29.2	30.8	31.7	32.5	33.4	33.9
	2	0.79	31.9	35.1	37.7	40.4	42.1	43.5	45.2	46.3
	3	1.73	34.7	38.6	41.7	45.1	47.2	49.1	51.2	52.7
	4	3.01	36.3	40.6	44.1	47.9	50.3	52.4	54.2	55.6
	5	4.63	37.3	41.9	45.6	49.7	52.4	54.7	57.4	59.2
	Airside Ps (in. wc.)		0.06	0.09	0.13	0.19	0.25	0.31	0.39	0.46
2-Row 4-Circuit	1	0.08	35.1	37.5	39.1	40.8	41.8	42.6	43.4	-
	2	0.3	47.2	52.4	56.1	59.8	62.1	64.0	66.1	-
	3	0.66	53.8	60.2	65.3	70.6	73.9	76.7	79.9	-
	4.5	1.45	59.0	66.9	73.4	80.3	84.6	88.4	92.7	-
	6	2.54	62.1	70.9	78.2	86.2	91.2	95.7	100.8	-
	Airside Ps (in. wc.)		0.13	0.2	0.28	0.41	0.52	0.64	0.82	-

TH-516 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			1600	2000	2300	2600	3000	3300	3600	4000
1-Row 2-Circuit	1	0.24	31.7	33.4	34.4	35.2	36.2	36.8	37.3	38.0
	2	0.89	41.1	44.2	46.1	47.7	49.6	50.8	51.9	53.2
	3	1.95	45.6	49.5	51.9	54.0	56.4	58.1	59.5	61.3
	4	3.39	48.3	52.6	55.4	57.8	60.6	62.5	64.2	66.3
	5	5.21	50.4	54.7	57.7	60.4	63.5	65.6	67.5	69.8
	Airside Ps (in. wc.)		0.1	0.14	0.18	0.22	0.29	0.34	0.39	0.47
2-Row 4-Circuit	1	0.08	41.7	43.5	44.5	45.3	46.2	46.8	47.2	-
	2	0.32	60.1	64.3	66.8	68.9	71.2	72.7	74.0	-
	3	0.72	70.3	76.2	79.9	83.0	86.5	88.8	90.9	-
	4.5	1.58	79.0	86.8	91.7	95.9	100.8	104.0	107.0	-
	6	2.76	84.3	93.3	99.0	104.0	109.8	113.7	117.2	-
	Airside Ps (in. wc.)		0.21	0.3	0.39	0.47	0.6	0.71	0.82	-

TH-520 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			1500	2000	2500	3000	3500	4000	5000	6000
1-Row 4-Circuit	2	0.25	43.9	48.0	51.1	53.6	55.6	57.2	59.9	62.0
	4	0.96	53.0	59.3	64.2	68.3	71.7	74.6	79.4	83.2
	6	2.12	57.0	64.4	70.3	75.2	79.4	83.0	89.1	94.0
	8	3.72	59.2	67.3	73.8	79.3	84.0	88.9	95.0	100.6
	10	5.77	60.7	69.2	76.2	82.0	87.0	91.4	98.9	105.1
	Airside Ps (in. wc.)		0.05	0.08	0.11	0.15	0.2	0.25	0.37	0.51
2-Row 6-Circuit	6	1.55	90.8	104.1	114.7	123.3	130.6	136.8	146.9	-
	8	2.73	95.9	111.0	123.2	133.3	141.9	149.4	161.7	-
	10	4.23	99.2	115.6	129.0	140.1	149.7	158.1	172.1	-
	12	6.06	101.6	118.9	133.1	145.1	155.5	164.5	179.8	-
	14	8.21	103.4	121.4	136.2	148.9	159.8	169.4	185.7	-
	Airside Ps (in. wc.)		0.1	0.17	0.24	0.33	0.43	0.54	0.78	-

TH-524 Imperial Units										
	GPM	Head Loss (Ft-hd)	CFM							
			2000	3000	4000	5000	5500	6000	7000	8000
1-Row 4-Circuit	2	0.28	53.4	59.7	63.9	66.9	68.2	69.3	71.1	72.7
	4	1.07	66.3	76.8	84.2	89.8	92.2	94.3	98.0	101.1
	6	2.36	72.1	84.8	94.1	101.2	104.3	107.1	112.0	116.2
	8	4.15	75.5	89.6	100.0	108.2	111.7	114.9	120.6	125.5
	10	6.43	77.6	92.7	103.9	112.8	116.6	120.2	126.4	131.9
	Airside Ps (in. wc.)		0.05	0.1	0.17	0.25	0.29	0.34	0.44	0.56
2-Row 6-Circuit	2	0.2	74.8	82.9	87.8	91.1	92.4	93.5	-	-
	4	0.77	100.8	117.3	128.4	136.5	139.7	142.6	-	-
	6	1.7	104.1	135.5	151.0	162.7	167.5	171.9	-	-
	8	2.73	111.0	146.8	165.4	179.7	185.8	191.2	-	-
	10	4.63	126.2	154.4	175.3	191.6	198.6	204.9	-	-
	Airside Ps (in. wc.)		0.11	0.22	0.36	0.52	0.62	0.71	-	-



## SERIES TL-500

### Low Profile-Single Duct Air Terminal Units

Series TL-500 Air Terminals are designed to regulate the flow of conditioned air in single duct air distribution systems. They are available in a wide range of standard control sequences and work equally well in constant volume and variable volume systems. The maximum height of the TL series is 12 1/2".

Series TL-500 Air Terminals can be specified with hot water coils, electric heat, sound attenuators, and other optional accessories.

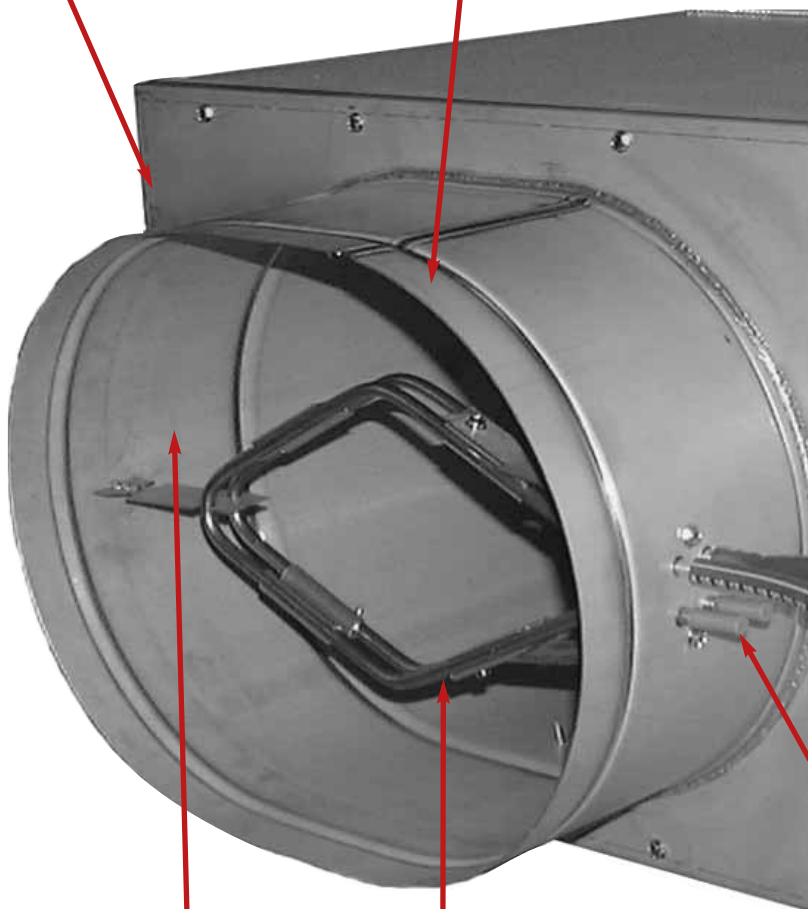
Series TL-500 Air Terminals feature a low leakage single blade damper.

Series TL-500 is also available with pneumatic, electric, analog electric, and DDC (by others) factory mounted controls.

Series TL-500 Air Terminals are available for both system pressure independent and system pressure dependent applications.

The inlet tube for the TL-500 includes a bead that strengthens the tube and serves as a stop to keep attached flex duct from slipping

For set-up and balancing purposes, all units are shipped with a convenient balancing chart located on the outside of the terminal for conversion from velocity pressure to CFM



Units are constructed with a seamless butt weld to minimize leakage and prevent the damper from binding

Multiquadrant Averaging Flow Sensor provides an accurate flow signal without requiring an immediate upstream straight duct connection (Shipped standard on all units)



# ATU - Air Terminal Units

**Maximum Height 12 1/2"**

All units include barbed fittings to secure tubing tightly in place

Control mounting plate and control cover are shipped standard on all units(right hand controls and coil connections are standard)

For long life and continuous operation, the damper rotates in a self-lubricating Kepital® (acetal resin) bearing

Control panel includes stand-offs to allow mounting of controls without penetrating the casing

METALAIRES® factory can mount controls by others. Terminal unit is shipped with the required control and power wiring diagrams

TL-500 is available with pneumatic, electric, analog or digital controls

Standard insulation is dual density glass fiber. Optional liners are available including Thermopure (closed cell foam), foil face, and metal liner

All TL-500 terminal units are ARI certified and shipped with the ARI seal

All units are shipped with easy access balancing taps. The extra ports can be used to read CFM (through velocity pressure) directly at the unit

For more product information visit us at [www.metalair.com](http://www.metalair.com)

Air Terminal Units



ATU

**ATU-249**  
METALAIRES



## SERIES FCI-600

### Constant Volume Air Terminal Units

Series FCI-600 fan-powered terminal units are designed to provide superior comfort control to zones with both heating and cooling requirements. The fan in a constant volume (or series) fan powered terminal, runs continuously during occupied hours. FCI is available with an optional ECM motor for improved energy efficiency and control.

Series FCI-600 provides cooling through the primary air valve. The primary air valve controls the volume of air that is discharged into the terminal unit. The cooled air is delivered to the space through the terminal's fan. When heating is required, the Series FCI-600 initially provides plenum air that is drawn through the induction inlet.

Series FCI-600 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications.

Series FCI-600 is available in 6 casing sizes with a wide range of primary inlet sizes offering the flexibility to meet both your capacity and sound requirements.

All units are shipped with easy access balancing taps. The extra ports can be used to read CFM (through velocity pressure) directly at the unit

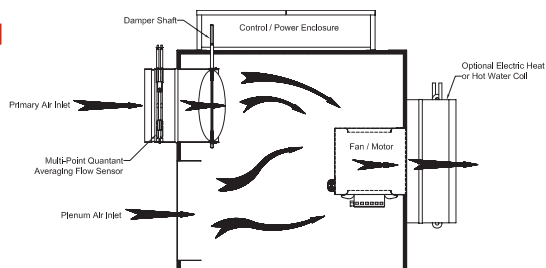
All units include an SCR solid state fan speed controller. Motors are designed to work in conjunction with the SCR controller

All electrical wiring is connected using quick-disconnect bulkhead fittings allowing easy servicing of electrical components

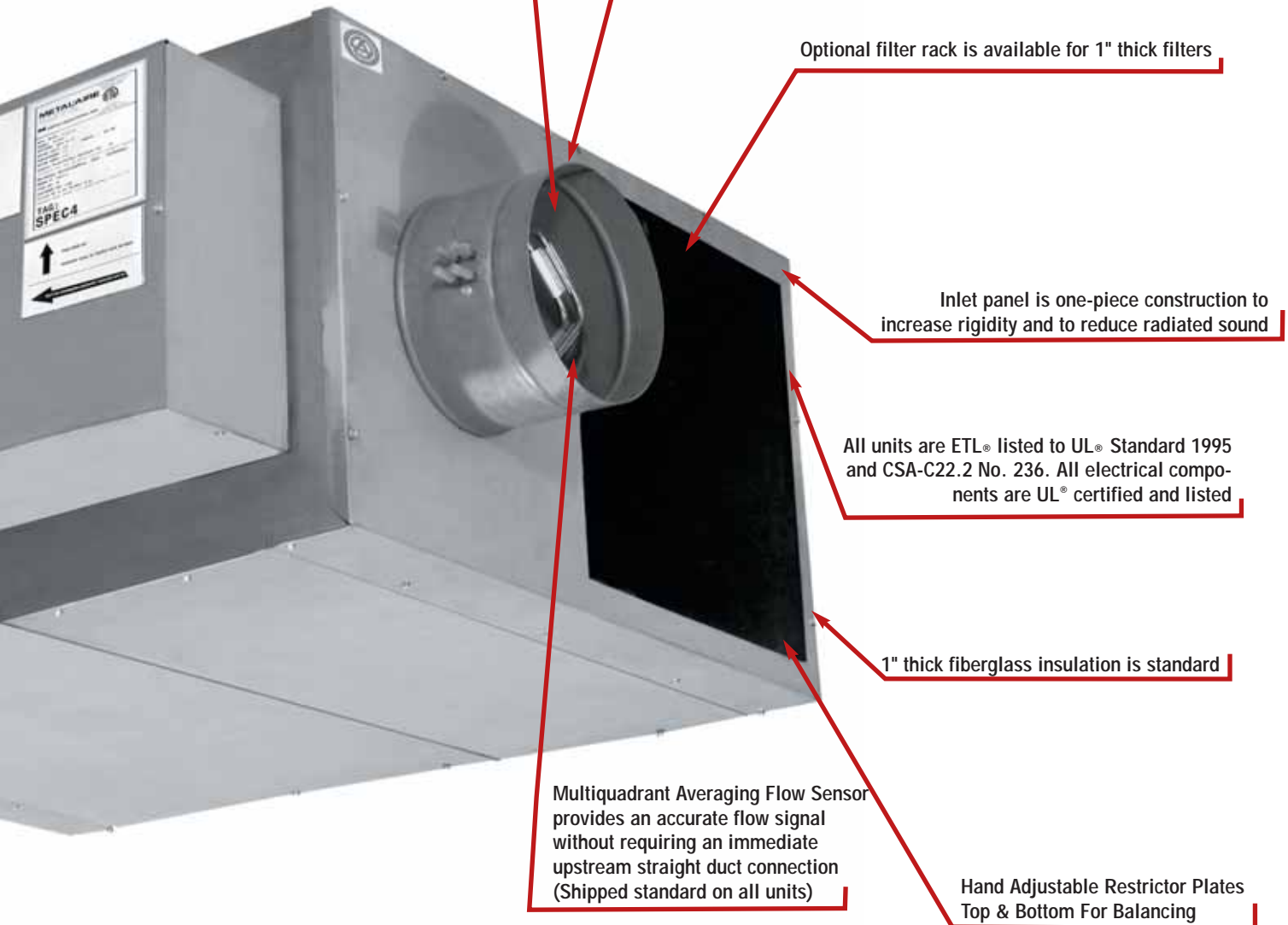
Control panel includes stand-offs to allow mounting of controls without penetrating the casing

Air Terminal Units

ATU



# ATU - Air Terminal Units



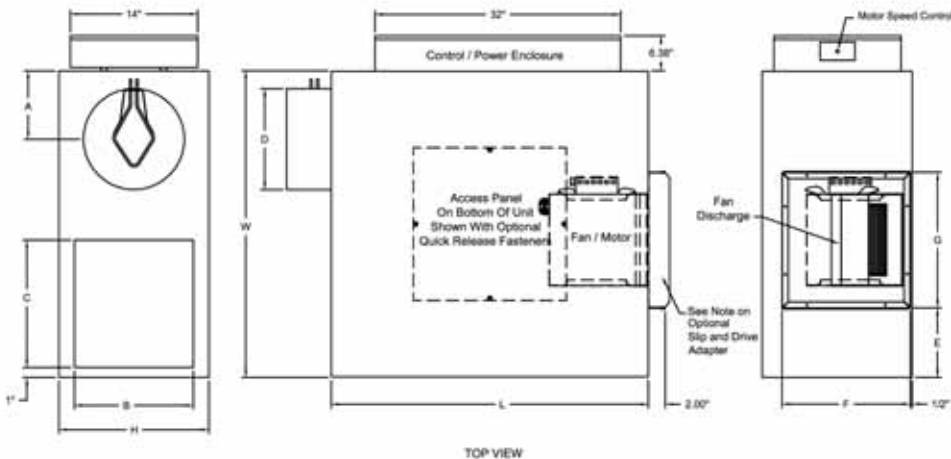


## FCI-600 - Air Terminal Dimensions

Dimensions are in inches

### Series Fan Powered - Basic Unit

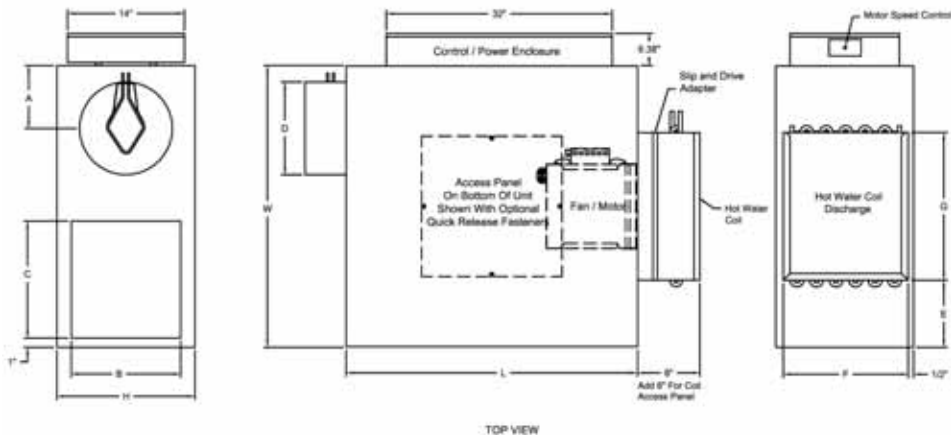
- Case Size 2 - 8" Inlet      Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet      Case Size 6 - 16" Inlet  
Case Size 4 - 12" Inlet      Case Size 7 - 18" x 16" Inlet



Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Discharge Loc. E	Discharge Height F	Discharge Width G
	Standard	Optional										
2	8 (203)	6, 10, 12	1/8	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
3	10 (254)	6, 8, 12, 14	1/8	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
4	12 (305)	8, 10, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	16 (406)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	9 (228)	18 (457)	22 (559)
7	18 x 16 (457 x 406)	12, 14, 16	(2) 3/4	20 (508)	46 (1168)	46 (1168)	11 (279)	16 (406)	22 (559)	4 (102)	20 (508)	38 (962)

### Series Fan Powered - With Hot Water Coil on Discharge Port

- Case Size 2 - 8" Inlet      Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet      Case Size 6 - 16" Inlet  
Case Size 4 - 12" Inlet      Case Size 7 - 18" x 16" Inlet

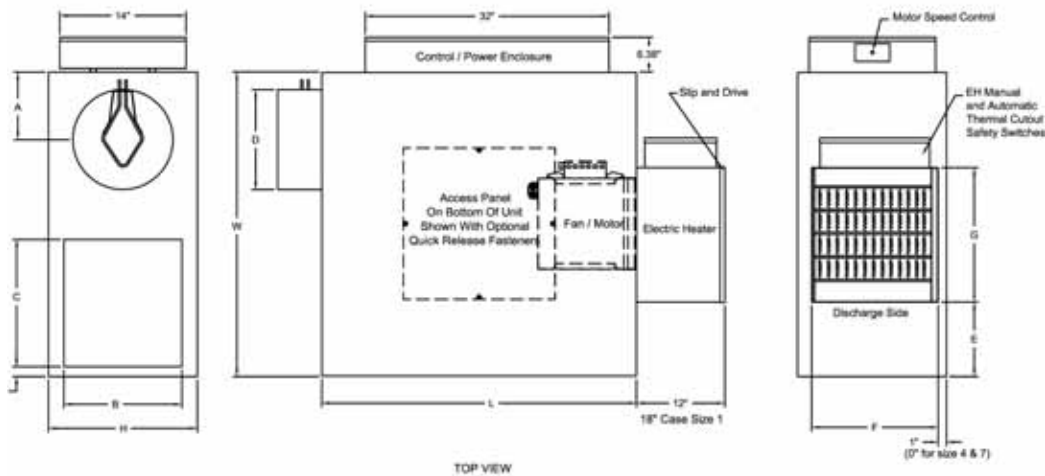


Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Discharge Loc. E	Discharge Height F	Discharge Width G
	Standard	Optional										
2	8 (203)	6, 10, 12	1/2	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
4	12 (305)	8, 10, 14	1/2	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	9 (228)	18 (457)	22 (559)

## FCI-600 - Air Terminal Dimensions

### Series Fan Powered - With Electric Heat

Case Size 2 - 8" Inlet      Case Size 5 - 14" Inlet  
 Case Size 3 - 10" Inlet    Case Size 6 - 16" Inlet  
 Case Size 4 - 12" Inlet    Case Size 7 - 18" x 16" Inlet



Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Discharge Loc. E	Discharge Height F	Discharge Width G
	Standard	Optional										
2	8 (203)	8, 10, 12	1/8	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
3	10 (254)	8, 8, 12, 14	1/8	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
4	12 (305)	8, 10, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	16 (406)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	9 (228)	18 (457)	22 (559)
7	18 x 16 (457 x 406)	12, 14, 16	(2) 3/4	20 (508)	46 (1168)	46 (1168)	11 (279)	16 (406)	22 (559)	4 (102)	20 (508)	38 (952)

Approximate Shipping Weight	
CASE	FCI
2	124 LBS.
3	165 LBS.
4	165 LBS.
5	198 LBS.
6	220 LBS.
7	260 LBS.



## 5/2007



## FCI-600 - RADIATED SOUND POWER AT 1", 1.5", 2" WG

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	sure, Ps = 1.0 inches of water										sure, Ps = 1.5 inches of water										sure, Ps = 2.0 inches of water															
					Octave Band Sound Power, Lw, dB										NC1 ARI 885-885-	NC2 ARI 885-885-	Octave Band Sound Power, Lw, dB										NC1 ARI 885-885-	NC2 ARI 885-885-	Octave Band Sound Power, Lw, dB										NC1 ARI 885-885-	NC2 ARI 885-885-
					2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98				
2	8	0.25	200 (94)	0.007 (1.6)	54	52	50	45	47	43	21	24	54	52	50	48	51	48	22	24	55	52	51	51	54	51	25	25	25	25	25	25								
			300 (142)	0.017 (4.2)	57	54	51	46	48	44	22	25	57	54	52	49	52	48	23	26	58	55	53	52	55	52	26	27	26	27	26	27								
			400 (189)	0.031 (7.7)	59	54	48	47	49	46	20	22	60	58	53	50	53	51	24	27	63	59	54	53	56	54	27	29	27	29	27	29								
			500 (236)	0.045 (11.2)	62	58	53	47	49	45	24	27	63	59	54	50	53	49	25	29	64	60	55	52	56	52	27	30	27	30	27	30								
			600 (283)	0.076 (18.9)	64	60	54	49	49	45	26	29	65	61	54	51	52	49	27	31	66	62	55	54	55	52	28	32	28	32	28	32								
			750 (354)	0.110 (27.4)	68	64	55	49	50	47	31	34	68	65	55	53	53	51	32	35	69	65	56	54	55	52	32	35	32	35	32	35								
3	10	0.25	300 (142)	0.006 (1.4)	61	57	49	43	43	40	22	26	61	57	51	47	47	45	22	26	61	57	53	49	50	49	24	27	24	27	24	27								
			400 (189)	0.010 (2.6)	61	58	50	44	44	41	24	27	62	58	52	47	48	46	24	27	62	59	53	50	51	49	25	28	25	28	25	28								
			500 (236)	0.016 (4.0)	62	59	51	45	45	42	25	28	63	60	53	49	49	47	26	29	64	61	55	51	52	51	27	31	27	31	27	31								
			600 (283)	0.023 (5.8)	63	60	51	46	46	43	26	29	64	61	53	49	49	47	27	31	65	62	55	52	52	51	28	32	28	32	28	32								
			700 (330)	0.032 (7.9)	65	62	52	47	47	45	28	32	66	63	54	50	50	48	29	33	67	64	56	52	53	51	31	34	31	34	31	34								
			800 (378)	0.041 (10.3)	66	64	53	49	49	47	31	34	68	65	55	51	51	49	32	35	68	66	57	53	54	52	33	37	33	37	33	37								
			900 (425)	0.052 (13.0)	68	66	54	51	51	49	33	37	69	67	56	52	53	51	34	38	70	67	58	54	55	53	34	38	34	38	34	38								
4	12	0.25	400 (189)	0.001 (0.3)	61	58	46	41	40	36	24	27	61	58	48	44	43	41	24	27	62	60	51	46	46	45	26	29	26	29	26	29								
			600 (283)	0.003 (0.6)	62	59	48	43	41	38	25	28	63	60	50	45	44	43	26	29	64	61	52	48	47	46	27	31	27	31	27	31								
			800 (378)	0.005 (1.2)	65	62	50	45	43	40	28	32	66	63	52	47	46	44	29	33	67	64	54	49	49	47	31	34	31	34	31	34								
			1000 (472)	0.008 (2.0)	68	64	52	48	46	43	31	34	70	66	54	50	48	46	33	37	71	67	56	51	50	48	34	38	34	38	34	38								
			1200 (566)	0.014 (3.5)	71	67	55	50	49	46	34	38	72	69	59	54	51	48	37	40	73	70	58	53	52	50	38	41	38	41	38	41								
			1400 (661)	0.023 (5.7)	73	69	57	53	52	49	37	40	74	71	61	55	53	51	39	42	75	72	60	55	54	52	40	44	40	44	40	44								
			1600 (755)	0.037 (9.2)	74	64	62	57	51	50	36	40	75	73	63	57	54	52	41	45	80	68	66	61	55	53	44	48	44	48	44	48								
5	14	0.25	1000 (472)	0.029 (7.2)	68	64	54	50	48	42	31	34	70	66	57	53	53	46	33	37	71	68	60	56	57	49	35	39	35	39	35	39								
			1200 (566)	0.041 (10.3)	69	65	54	50	48	43	32	35	71	67	57	53	53	46	34	38	71	68	60	56	57	49	35	39	35	39	35	39								
			1400 (661)	0.056 (14.0)	71	67	56	52	50	46	34	38	72	68	58	54	54	48	35	39	73	70	61	57	59	50	38	41	38	41	38	41								
			1600 (755)	0.074 (18.3)	73	69	57	53	52	48	37	40	74	70	59	56	55	50	38	41	75	71	61	57	60	52	39	42	39	42	39	42								
			1800 (849)	0.093 (23.2)	75	72	59	55	54	51	40	44	76	73	61	57	57	52	41	45	77	73	62	58	61	53	41	45	41	45	41	45								
			2000 (944)	0.115 (28.6)	77	73	60	57	56	53	41	45	77	74	62	58	59	54	42	46	78	75	63	59	62	55	44	47	44	47	44	47								
6	16	0.25	1600 (755)	0.030 (7.5)	72	67	60	55	49	47	34	38	73	68	61	56	50	48	35	39	74	69	61	57	51	49	37	40	37	40	37	40								
			1800 (849)	0.039 (9.7)	74	68	61	57	51	49	36	40	74	69	61	57	52	49	37	40	75	70	62	58	53	50	38	41	38	41	38	41								
			2000 (944)	0.048 (11.9)	75	70	62	58	53	51	38	41	76	71	62	58	53	51	39	43	77	72	63	59	54	52	40	44	40	44	40	44								
			2200 (1038)	0.058 (14.4)	76	71	63	59	55	52	39	43	77	72	63	60	55	53	40	44	78	73	64	60	55	54	41	45	41	45	41	45								
			2400 (1133)	0.069 (17.2)	78	73	64	61	57	54	41	45	78	73	64	62	57	55	41	45	79	74	64	63	58	57	43	46	43	46	43	46								
			2600 (1227)	0.081 (20.2)	79	75	65	62	58	56	44	47	80	75	65	62	58	56	44	48	81	75	65	62	58	56	45	49	45	49	45	49								
			2800 (1321)	0.096 (23.8)	80	75	66	63	59	57	44	48	81	76	67	63	59	57	45	49	82	75	66	64	60	58	46	50	46	50	46	50								
7	18 x 16	0.25	2200 (1038)	0.068 (17.0)	76	74	69	65	62	60	42	46	78	75	70	65	62	61	44	47	80	77	74	66	63	60	47	50	47	50	47	50								
			2500 (1180)	0.082 (20.5)	78	76	71	67	64	62	45	48	80	77	72	67	64	63	46	50	82	79	76	68	65	62	49	53	49	53	49	53								
			2700 (1274)	0.091 (22.8)	80	78	73	67	65	62	47	51	81	80	75	68	65	62	50	53	83	80	77	69	66	63	50	54	50	54	50	54								
			3000 (1416)	0.105 (26.1)	81	79	74	68	66	63	48	52	82	81	76	69	66	63	51	54	85	82	79	71	68	65	53	56	53	56	53	56								
			4000 (1888)	0.151 (37.6)	83	82	77	71	69	65	52	55	84	83	78	71	68	65	53	57	89	86	83	75	72	69	57	60	57	60	57	60								
			4400 (2076)	0.163 (40.5)	84	83	79	75	73	70	53	57	85	84	79	76	74	71	54	58	90	87	85	78	75	73	59	62	59	62	59	62								

# ATU - Air Terminal Units

5/2007

## FCI-600 - DISCHARGE SOUND POWER FAN ONLY, .5", .75" WG

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	Fan Only										sure, Ps = 0.5 inches of water										sure, Ps = 0.75 inches of water															
					Octave Band Sound Power,										NC1	NC2	Octave Band Sound Power,										NC1	NC2	Octave Band Sound Power,										NC1	NC2
					Lw, dB										885-	885-	Lw, dB										885-	885-	Lw, dB										885-	885-
					2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98				
2	8	0.25	200 (94)	0.007 (1.6)	56	50	55	49	47	43	< 15	< 15	55	49	54	48	45	42	< 15	< 15	55	49	54	48	45	42	< 15	< 15	55	49	54	48	45	42	< 15	< 15				
			300 (142)	0.017 (4.2)	57	51	56	50	48	45	< 15	< 15	58	52	56	51	50	47	< 15	< 15	58	52	56	52	50	47	< 15	< 15	58	52	56	52	50	47	< 15	< 15				
			400 (189)	0.031 (7.7)	58	51	56	51	49	48	< 15	< 15	62	55	58	55	54	52	< 15	< 15	62	55	59	56	54	53	< 15	< 15	62	55	59	56	54	53	< 15	< 15				
			500 (236)	0.045 (11.2)	60	56	60	55	55	55	< 15	< 15	62	57	61	57	57	56	< 15	< 15	63	58	61	59	58	57	< 15	< 15	63	58	61	59	58	57	< 15	< 15				
			600 (283)	0.076 (18.9)	63	59	62	59	59	59	16	16	65	60	63	61	60	60	16	18	66	61	63	62	61	61	18	19	66	61	63	62	61	61	18	19				
			750 (354)	0.110 (27.4)	67	64	66	65	65	65	21	22	69	65	66	66	65	65	22	22	70	66	67	66	66	66	24	24	70	66	67	66	66	66	24	24				
3	10	0.25	300 (142)	0.006 (1.4)	53	57	54	44	44	42	< 15	< 15	54	57	54	44	44	43	< 15	< 15	62	69	60	55	53	52	27	28	62	69	60	55	53	52	27	28				
			400 (189)	0.010 (2.6)	54	58	55	45	45	43	< 15	< 15	55	58	55	45	45	44	< 15	< 15	60	60	58	53	51	50	16	18	60	60	58	53	51	50	16	18				
			500 (236)	0.016 (4.0)	56	60	57	47	47	45	16	18	57	60	57	47	47	46	16	18	58	51	56	51	49	48	< 15	< 15	60	56	60	55	55	55	< 15	< 15				
			600 (283)	0.023 (5.8)	64	62	58	48	48	47	19	20	65	62	59	48	48	47	19	20	60	56	60	55	55	55	< 15	< 15	60	56	60	55	55	55	< 15	< 15				
			700 (330)	0.032 (7.9)	67	63	59	49	49	48	20	21	67	63	59	49	49	49	20	21	68	64	62	57	55	54	21	22	68	64	62	57	55	54	21	22				
			800 (378)	0.041 (10.3)	68	64	60	50	50	49	21	21	69	64	61	50	50	49	21	21	70	66	63	58	57	56	24	24	70	66	63	58	57	56	24	24				
4	12	0.25	900 (425)	0.052 (13.0)	70	66	62	52	52	51	24	24	71	66	62	52	52	51	24	24	71	66	62	52	52	51	24	24	71	66	62	52	52	51	24	24				
			400 (189)	0.001 (0.3)	57	58	57	56	52	47	< 15	< 15	57	58	59	57	53	50	< 15	< 15	59	60	60	59	55	52	16	18	59	60	60	59	55	52	16	18				
			600 (283)	0.003 (0.6)	57	58	58	57	52	48	< 15	< 15	58	59	60	58	54	51	15	16	60	61	61	60	56	53	18	19	60	61	61	60	56	53	18	19				
			800 (378)	0.005 (1.2)	60	61	60	59	56	52	18	18	61	62	62	61	57	55	19	19	63	63	64	63	59	57	20	20	63	63	64	63	59	57	20	20				
			1000 (472)	0.008 (2.0)	64	64	64	62	60	58	21	21	64	65	66	65	61	60	22	22	66	67	67	66	63	62	25	25	66	67	67	66	63	62	25	25				
			1200 (566)	0.014 (3.5)	64	66	66	65	62	60	24	24	67	68	69	68	65	65	26	26	69	70	69	69	66	66	28	28	69	70	69	69	66	66	28	28				
5	14	0.25	1400 (661)	0.023 (5.7)	68	68	67	68	64	62	26	26	70	71	71	71	68	68	29	29	71	73	72	72	70	69	32	32	71	73	72	72	70	69	32	32				
			1600 (755)	0.037 (9.2)	71	70	67	70	65	63	28	28	72	74	74	74	71	71	33	33	73	75	74	75	72	72	34	34	73	75	74	75	72	72	34	34				
			1000 (472)	0.029 (7.2)	67	60	60	56	54	51	16	17	68	61	61	58	56	53	18	18	69	62	61	59	57	54	19	20	69	62	61	59	57	54	19	20				
			1200 (566)	0.041 (10.3)	69	63	63	61	58	56	20	20	70	64	64	62	59	57	21	21	71	65	64	63	60	58	22	22	71	65	64	63	60	58	22	22				
			1400 (661)	0.056 (14.0)	70	66	66	65	62	61	24	24	71	67	67	66	63	62	25	25	72	68	67	67	64	63	26	26	72	68	67	67	64	63	26	26				
			1600 (755)	0.074 (18.3)	72	69	69	69	66	65	27	27	73	70	70	70	67	66	28	28	74	71	70	70	68	66	29	29	74	71	70	70	68	66	29	29				
6	16	0.25	1800 (849)	0.093 (23.2)	73	72	72	72	70	69	31	31	75	73	73	73	71	70	32	32	76	74	73	73	71	70	33	33	76	74	73	73	71	70	33	33				
			2000 (944)	0.115 (28.6)	75	75	74	75	73	73	34	34	76	76	75	76	74	74	35	35	77	77	75	76	75	74	35	35	77	77	75	76	75	74	35	35				
			1600 (755)	0.030 (7.5)	69	71	74	69	68	67	29	29	72	73	74	71	70	70	32	32	73	73	74	72	70	69	32	32	73	73	74	72	70	69	32	32				
			1800 (849)	0.039 (9.7)	71	73	75	71	69	69	32	32	74	74	76	73	72	72	33	33	74	74	75	73	72	71	33	33	74	74	75	73	72	71	33	33				
			2000 (944)	0.048 (11.9)	73	74	77	73	71	71	33	33	75	76	77	75	74	73	35	35	76	76	77	75	73	73	35	35	76	76	77	75	73	73	35	35				
			2200 (1038)	0.058 (14.4)	76	76	78	74	73	72	35	35	77	77	79	77	75	75	37	37	77	77	78	77	75	75	37	37	77	77	78	77	75	75	37	37				
7	18 x 16	0.25	2400 (1133)	0.069 (17.2)	80	78	80	76	75	75	38	38	78	79	80	78	77	77	39	39	78	79	80	79	77	77	39	39	78	79	80	79	77	77	39	39				
			2600 (1227)	0.081 (20.2)	84	80	81	78	77	76	40	40	80	80	82	80	79	78	40	40	79	80	82	80	79	79	40	40	79	80	82	80	79	79	40	40				
			2800 (1321)	0.096 (23.8)	84	80	82	80	78	78	40	40	80	82	84	82	80	80	42	42	80	82	84	82	81	80	42	42	80	82	84	82	81	80	42	42				
			2200 (1038)	0.068 (17.0)	77	69	68	67	66	65	29	30	77	69	68	67	66	66	29	30	78	70	69	68	67	66	30	31	78	70	69	68	67	66	30	31				
			2500 (1180)	0.082 (20.5)	78	70	69	68	67	66	30	31	79	70	69	68	67	66	31	32	79	71	70	69	68	67	31	32	79	71	70	69	68	67	31	32				
			2700 (1274)	0.091 (22.8)	79	71	70	69	68	67	31	32	79	72	70	69	68	67	31	32	80	72	71	70	69	68	32	34	80	72	71	70	69	68	32	34				



## FCI-600 - DISCHARGE SOUND POWER AT 1", 1.5", 2" WG

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H20 (Pa)	sure, Ps = 1.0 inches of water										sure, Ps = 1.5 inches of water										sure, Ps = 2.0 inches of water											
					Octave Band Sound Power, Lw, dB							NC1 885-	NC2 885-	Octave Band Sound Power, Lw, dB							NC1 885-	NC2 885-	Octave Band Sound Power, Lw, dB							NC1 885-	NC2 885-					
					2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98	2	3	4	5	6	7	90	98
2	8	0.25	200 (94)	0.007 (1.6)	55	49	53	48	45	42	< 15	< 15	55	49	54	48	46	42	< 15	< 15	55	49	53	48	46	42	< 15	< 15	55	49	53	48	46	42	< 15	< 15
			300 (142)	0.017 (4.2)	58	52	56	52	50	48	< 15	< 15	58	52	56	52	50	48	< 15	< 15	58	52	56	52	50	48	< 15	< 15	58	52	56	52	50	48	< 15	< 15
			400 (189)	0.031 (7.7)	61	55	59	56	55	53	< 15	< 15	61	55	59	56	55	54	< 15	< 15	62	55	59	56	55	54	< 15	< 15	62	55	59	56	55	54	< 15	< 15
			500 (236)	0.045 (11.2)	63	58	61	58	58	57	< 15	15	64	59	62	59	59	58	15	16	64	60	62	60	59	58	16	18	64	60	62	60	59	58	16	18
			600 (283)	0.076 (18.9)	66	62	63	62	61	61	19	20	66	63	64	62	62	61	20	21	67	63	64	62	62	61	20	21	67	63	64	62	61	20	21	
750 (354)	0.110 (27.4)	70	66	67	67	67	66	24	24	70	66	67	67	66	66	24	24	71	67	68	67	67	66	25	25	71	67	68	67	67	66	25	25			
3	10	0.25	300 (142)	0.006 (1.4)	64	61	60	59	55	54	18	19	65	61	60	59	56	54	18	19	65	62	61	60	57	55	19	20	65	62	61	60	57	55	19	20
			400 (189)	0.010 (2.6)	64	61	60	59	55	54	18	19	65	61	60	59	56	54	18	19	65	62	61	60	57	55	19	20	65	62	61	60	57	55	19	20
			500 (236)	0.016 (4.0)	64	61	60	59	55	54	18	19	65	61	60	59	56	54	18	19	65	62	61	60	57	55	19	20	65	62	61	60	57	55	19	20
			600 (283)	0.023 (5.8)	65	62	61	60	57	56	19	20	66	62	62	61	58	56	19	20	67	63	62	62	58	57	20	21	67	63	62	62	58	57	20	21
			700 (330)	0.032 (7.9)	67	64	63	63	60	58	21	22	68	65	64	64	60	59	22	24	68	65	64	64	61	60	22	24	68	65	64	64	61	60	22	24
			800 (378)	0.041 (10.3)	69	66	65	65	62	61	24	24	69	66	66	66	62	61	24	24	70	67	66	66	63	62	25	25	70	67	66	66	63	62	25	25
900 (425)	0.052 (13.0)	69	66	66	66	63	62	24	24	70	67	67	67	63	63	25	25	71	67	67	67	64	63	25	25	71	67	67	67	64	63	25	25			
4	12	0.25	400 (189)	0.001 (0.3)	58	59	60	58	55	52	15	16	60	61	61	60	56	54	18	19	61	62	62	61	57	55	19	20	61	62	62	61	57	55	19	20
			600 (283)	0.003 (0.6)	59	60	61	59	55	53	16	18	61	61	62	61	57	54	18	19	62	63	63	62	58	56	20	21	62	63	63	62	58	56	20	21
			800 (378)	0.005 (1.2)	62	63	63	62	59	57	20	20	63	64	64	63	60	58	21	21	64	65	65	64	61	59	22	22	64	65	65	64	61	59	22	22
			1000 (472)	0.008 (2.0)	65	66	66	66	62	61	24	24	66	67	67	67	63	62	25	25	67	68	68	67	64	63	26	26	67	68	68	67	64	63	26	26
			1200 (566)	0.014 (3.5)	68	69	69	69	66	65	27	27	69	70	70	70	67	66	28	28	70	71	70	70	67	67	29	29	70	71	70	70	67	67	29	29
			1400 (661)	0.023 (5.7)	71	72	72	72	69	69	31	31	71	73	73	73	70	70	32	32	72	74	73	73	71	70	33	33	72	74	73	73	71	70	33	33
1600 (755)	0.037 (9.2)	73	74	74	75	72	72	33	33	73	75	74	75	72	72	34	34	74	76	75	76	73	73	35	35	74	76	75	76	73	73	35	35			
5	14	0.25	1000 (472)	0.029 (7.2)	70	63	61	59	57	55	20	21	71	64	62	61	59	57	21	22	71	64	62	61	59	57	21	22	71	64	62	61	59	57	21	22
			1200 (566)	0.041 (10.3)	71	66	64	63	61	59	24	24	72	67	65	64	62	60	25	25	72	67	65	64	62	60	25	25	72	67	65	64	62	60	25	25
			1400 (661)	0.056 (14.0)	73	69	67	67	65	63	27	27	74	70	68	68	66	64	28	28	74	70	68	68	66	64	28	28	74	70	68	68	66	64	28	28
			1600 (755)	0.074 (18.3)	75	72	70	70	68	66	31	31	76	73	71	71	69	67	32	32	76	73	71	71	69	67	32	32	76	73	71	71	69	67	32	32
			1800 (849)	0.093 (23.2)	76	74	73	73	71	70	33	33	78	75	74	74	72	71	34	34	78	75	74	74	72	71	34	34	78	75	74	74	72	71	34	34
2000 (944)	0.115 (28.6)	78	77	75	76	75	74	37	37	79	78	76	77	76	75	38	38	79	78	76	77	76	75	38	38	79	78	76	77	76	75	38	38			
6	16	0.25	1600 (755)	0.030 (7.5)	72	73	74	71	70	70	32	32	72	72	73	71	69	68	31	31	73	73	74	72	70	69	32	32	73	73	74	72	70	69	32	32
			1800 (849)	0.039 (9.7)	74	74	75	73	72	71	33	33	74	74	75	73	71	70	33	33	75	74	75	73	72	71	33	33	75	74	75	73	72	71	33	33
			2000 (944)	0.048 (11.9)	75	76	76	75	74	73	35	35	76	75	76	75	73	72	34	34	76	76	76	75	73	73	35	35	76	76	76	75	73	73	35	35
			2200 (1038)	0.058 (14.4)	77	77	78	77	75	75	37	37	77	77	78	77	75	75	37	37	78	77	78	77	75	75	37	37	78	77	78	77	75	75	37	37
			2400 (1133)	0.069 (17.2)	78	79	79	79	77	77	39	39	79	79	80	79	77	77	39	39	79	79	80	79	78	77	39	39	79	79	80	79	78	77	39	39
			2600 (1227)	0.081 (20.2)	80	81	82	81	80	79	41	41	80	81	81	81	79	79	41	41	81	81	82	81	79	79	41	41	81	81	82	81	79	79	41	41
2800 (1321)	0.096 (23.8)	82	83	84	83	82	82	44	44	81	82	83	83	81	81	42	42	81	82	84	82	81	81	42	42	81	82	84	82	81	81	42	42			
7	18 x 16	0.25	2200 (1038)	0.068 (17.0)	79	71	70	69	68	67	31	32	79	72	71	70	69	68	31	32	80	72	71	70	69	68	32	34	80	72	71	70	69	68	32	34
			2500 (1180)	0.082 (20.5)	80	72	71	70	69	68	32	34	81	72	72	71	70	69	34	35	81	73	72	71	70	69	34	35	81	73	72	71	70	69	34	35
			2700 (1274)	0.091 (22.8)	81	73	72	71	70	69	34	35	82	74	73	72	71	69	35	36	82	74	73	72	71	70	35	36	82	74	73	72	71	70	35	36
			3000 (1416)	0.105 (26.1)	83	75	74	73	72	71	36	38	83	76	75	74	73	72	36	38	84	76	75	74	73	72	38	39	84	76	75	74	73	72	38	39
			4000 (1888)	0.151 (37.6)	85	77	76	75	74	73	39	40	86	78	77	76	74	74	40	41	86	78	77	76	75	74	40	41	86	78	77	76	75	74	40	41
			4400 (2076)	0.163 (40.5)	86	78	77	76	75	74	40	41	87	79	78	77	75	75	41	43	87	80	79	77	76	75	41	43	87	80	79	77	76	75	41	43

See Page ATU-257 For NC Calculations

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIR publishes the NC levels for both the 1990 standard and the 1998 current standard.





## FCI-600 - ARI Rating Points



ARI Certified Radiated Sound Power, Fan Only								
Unit Size	Fan CFM	Octave Band						Electrical Power (Watts)
		2	3	4	5	6	7	
208	400	57	54	49	39	40	37	145
310	700	62	59	49	41	41	38	230
412	1200	66	62	51	46	45	42	420
514	1800	71	68	56	53	53	50	810
616	2400	77	73	63	61	57	56	1300
718	2700	78	75	70	66	64	61	1700

ARI Certified Discharge Sound Power, 1.5" Inlet Static Pressure									
Unit Size	Fan CFM	Primary CFM	Min Ps	Octave Band					
				2	3	4	5	6	7
208	400	400	0.03	61	55	59	56	55	54
310	700	700	0.03	68	65	64	64	60	59
412	1200	1200	0.01	69	70	70	70	67	66
514	1800	1800	0.09	78	75	74	74	72	71
616	2400	2400	0.07	79	79	80	79	77	77
718	2700	2700	0.09	82	74	73	72	71	69

ARI Certified Discharge Sound Power, Fan Only								
Unit Size	Fan CFM	Octave Band						Electrical Power (Watts)
		2	3	4	5	6	7	
208	400	58	51	56	51	49	48	145
310	700	67	63	59	49	49	48	230
412	1200	64	66	66	65	62	60	420
514	1800	73	72	72	72	70	69	810
616	2400	80	78	80	76	75	75	1300
718	2700	79	71	70	69	68	67	1700

### STATEMENT OF STANDARD TEST CONFORMITY

METALAIRES tests all FCI-600 air terminal units for engineering performance in accordance with the following standards: American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)/International Organization for Standardization (ISO)/Air-Conditioning & Refrigeration Institute (ARI).

- ARI Standard 880-98  
Standard for Air Terminals
- ANSI/ASHRAE 130-1996  
Methods of Testing for Rating Ducted Air Terminal Units
- ASHRAE Standard 41.1-1986 (RA 91)  
Standard Method for Temperature Measurement
- ASHRAE Standard 41.2-1987  
Standard Methods for Laboratory Air Measurements
- ASHRAE Standard 41.3-1989  
Standard Methods for Pressure Measurement
- ISO 5219-1984 Air distribution and air diffusion -  
Laboratory aerodynamic testing and rating of air terminal devices

		Standard PSC Motor Amperage Ratings	
		115V-1 Phase 60 Hz	277V-1 Phase 60 Hz
Case Size	Motor HP	Name Plate Amps	Name Plate Amps
2	1/8	2.6	0.9
3	1/8	2.6	0.9
4	1/4	4.8	1.9
5	1/3	8.8	3.6
6	1	N/A	6.2
7	3/4 (Qty 2)	22.8 (2 motors)	8.6 (2 motors)

Inlet Size	Damper Leakage, CFM		
	1.5" DPS	3.0" DPS	6.0" DPS
6	3	4	7
8	2	4	7
10	4	5	7
12	4	5	7
14	4	6	8
16	4	6	8

		ECM Motor Amperage Ratings	
		115V-1 Phase 60 Hz	277V-1 Phase 60 Hz
Case Size	Motor HP	Name Plate Amps	Name Plate Amps
2	1/2	7.7	4.1
4	1/2	7.7	4.1
6	1	12.8	6.9

Motors also available 208-240 50/60 Hz. Contact your METALAIRES Representative for details.

## FCI-600 - Sound Path Attenuation Assumptions

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIR publishes the NC levels for both the 1990 standard and the 1998 current standard.

ARI 885-90 Radiated Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Ceiling Effect	9	10	12	14	15	15
Room Effect	9	10	10	11	12	13
Total dB Reduction	21	22	23	26	28	29

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>3</sup> density)
- 2) Room size is 3000 ft<sup>3</sup>.
- 3) Unit is located 10 ft from measurement point.

ARI 885-90 Discharge Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Duct Lining	1	3	8	22	23	13
End Reflection	11	6	2	0	0	0
Flex Duct	6	9	23	25	22	13
Room Effect	9	10	10	11	12	13
Total dB Reduction	30	30	44	59	58	40

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick. 12 x 12 duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 6 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 3000 ft<sup>3</sup>.
- 5) Unit is located 10 ft from measurement point.
- 6) Sound power split; attenuation credit based on unit feeding one outlet (10 log (# outlets = 1)).

ARI 885-98 Discharge Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	3	9	18	17	12
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
Power Split	5	5	5	5	5	5
Total dB Reduction	29	30	41	51	52	39

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick. 15 x 15 duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup>.
- 5) Unit is located 5 ft from measurement point.
- 6) Sound power split; attenuation credit based on unit feeding three outlets (10 log (# outlets = 3)).

ARI 885-98 Radiated Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Ceiling/Space Effect*	16	18	20	26	31	36
Total dB Reduction	18	19	20	26	31	36

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>3</sup> density)
- 2) The plenum space is at least 3 ft deep and either wide (> 30 ft) or insulated.

\* - combined effect including absorption of the ceiling tile, plenum absorption and room absorption. (New to ARI 885-98. ARI 885-90 had separate lines for these absorptions.)

ARI 885-98, Appendix E defines "Small" for applications less than 300 CFM

ARI 885-98 Discharge Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	6	12	25	29	18
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
Power Split	0	0	0	0	0	0
Total dB Reduction	24	28	39	53	59	40

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick. 8 x 8 duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup>.
- 5) Unit is located 5 ft from measurement point.
- 6) Sound power split; attenuation credit based on unit feeding one outlet (10 log (# outlets = 1)).

ARI 885-98, Appendix E defines "Medium" for applications from 300 to 700 CFM

ARI 885-98 Discharge Sound Path Assumptions						
Assumptions	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	4	10	20	20	14
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
Power Split	3	3	3	3	3	3
Total dB Reduction	27	29	40	51	53	39

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick. 12 x 12 duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup>.
- 5) Unit is located 5 ft from measurement point.
- 6) Sound power split; attenuation credit based on unit feeding two outlets (10 log (# outlets = 2)).

ARI 885-98, Appendix E defines "Large" for applications 700 CFM and greater

# ATU - Air Terminal Units

5/2007

## FCI-600 - Hot Water Coil MBH Selection Data/Imperial Units

Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
2	One	1	0.14	200	300	350	400	450	500	600
		2	0.55	10.5	12.7	13.6	14.4	15.1	15.7	16.8
		4	2.11	11.5	14.3	15.5	16.5	17.5	18.3	19.8
		6	4.62	12.2	15.4	16.7	17.9	19.0	20.1	21.9
			Airside Ps (in. w.c.)	12.4	15.8	17.2	18.5	19.6	20.7	22.7
2	Two	1	0.06	0.01	0.01	0.02	0.02	0.03	0.03	0.05
		2	0.24	14.4	17.9	19.2	20.4	21.4	22.3	-
		4	0.95	16.3	21.0	23.0	24.7	26.3	27.7	-
		6	2.12	17.5	23.1	25.5	27.7	29.7	31.6	-
			Airside Ps (in. w.c.)	18.0	24.0	26.5	28.9	31.1	33.2	-
Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
3	One	1	0.21	350	400	500	550	650	750	800
		2	0.78	15.9	16.8	18.5	19.8	20.4	21.5	22.0
		4	3.00	18.1	19.4	21.6	22.6	24.4	26.0	26.7
		6	6.57	19.5	21.0	23.7	24.9	27.1	29.0	29.9
			Airside Ps (in. w.c.)	20.0	21.6	24.5	25.7	28.1	30.2	31.2
3	Two	1	0.08	0.01	0.01	0.02	0.02	0.03	0.03	0.04
		2	0.30	21.6	23.0	25.4	26.3	28.0	29.5	30.1
		4	1.15	25.7	27.8	31.5	33.1	36.0	38.4	39.6
		6	2.54	28.4	31.1	35.8	37.9	41.8	45.2	46.9
			Airside Ps (in. w.c.)	29.4	32.3	37.5	39.8	44.2	48.1	49.9
Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
4	One	1	0.21	800	1000	1100	1200	1300	1400	1500
		2	0.79	22.0	23.6	24.3	24.9	25.4	25.9	26.4
		4	3.01	26.7	29.2	30.2	31.2	32.1	33.0	33.7
		6	6.59	29.9	33.1	34.5	35.8	37.0	38.2	39.2
			Airside Ps (in. w.c.)	31.2	34.7	36.3	37.7	39.1	40.3	41.5
4	Two	1	0.08	0.04	0.06	0.07	0.08	0.09	0.10	0.11
		2	0.30	30.1	32.1	33.0	33.7	34.4	35.0	35.5
		4	1.15	39.6	43.4	45.1	46.6	47.9	49.1	50.3
		6	2.54	46.9	52.5	55.0	57.3	59.4	61.4	63.3
			Airside Ps (in. w.c.)	49.9	56.5	59.4	62.1	64.6	67.0	69.2
Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
5	One	1	0.21	1200	1350	1475	1725	1850	1975	2000
		2	0.79	24.9	25.7	26.3	27.3	27.8	28.2	30.6
		4	3.01	31.2	32.6	33.6	35.3	36.1	36.8	40.0
		6	6.59	35.8	37.6	39.0	41.4	42.5	43.6	47.3
			Airside Ps (in. w.c.)	37.7	39.7	41.2	44.0	45.2	46.4	50.5
5	Two	1	0.08	0.08	0.1	0.11	0.15	0.16	0.18	0.19
		2	0.30	33.7	34.7	35.4	36.5	-	-	-
		4	1.15	46.6	48.5	50.0	52.5	-	-	-
		6	2.54	57.3	60.5	62.8	67.0	-	-	-
			Airside Ps (in. w.c.)	62.1	65.8	68.7	73.8	-	-	-
Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
6	One	1	0.22	1650	1800	1950	2100	2250	2400	2600
		2	0.84	28.2	28.8	29.3	29.8	30.2	30.7	31.2
		4	3.20	36.5	37.5	38.5	39.4	40.2	40.9	41.9
		6	7.00	42.7	44.2	45.6	46.8	48.0	49.1	50.5
			Airside Ps (in. w.c.)	45.4	47.0	48.6	50.0	51.4	52.6	54.2
6	Two	1	0.08	0.11	0.13	0.15	0.17	0.2	0.22	0.25
		2	0.31	37.4	38.1	38.6	39.2	39.6	40.0	-
		4	1.20	53.8	55.3	56.6	57.8	58.9	59.9	-
		6	2.65	68.5	71.0	73.2	75.3	77.3	79.1	-
			Airside Ps (in. w.c.)	75.3	78.3	81.1	83.8	86.2	88.5	-
Unit Size	Rows	GPM	Head Loss (Ft-H <sub>2</sub> O)	CFM						
7	One	1	0.07	1500	2000	2500	2750	3000	3500	4000
		2	0.28	32.9	35.1	36.6	37.2	37.8	38.7	39.4
		4	1.07	44.5	48.9	52.1	53.5	54.7	56.9	58.6
		6	2.36	53.8	60.6	65.9	68.2	70.2	73.9	77.1
			Airside Ps (in. w.c.)	57.9	65.8	72.2	75.0	77.5	82.1	86.0
7	Two	1	0.05	0.03	0.05	0.07	0.09	0.10	0.13	0.16
		2	0.20	42.4	44.7	46.2	46.8	47.3	-	-
		4	0.77	62.6	68.6	72.9	74.6	76.1	-	-
		6	1.70	81.0	92.1	100.6	104.1	107.4	-	-
			Airside Ps (in. w.c.)	89.6	103.6	114.7	119.5	123.8	-	-

For Performance Notes see page ATU-259 Table A

## FCI-600 - Hot Water Coils Notes

### Table-A

#### IMPERIAL NOTES

- Hot water coil data are for discharge mounted coils.
- Values shown in the previous charts assume the following conditions: 180°F EWT, and 65°F EAT. For other conditions of entering water, air temperatures and air flow, see note 5.
- Tabulated values are in MBH (Thousands of BTU per hour).
- Head Loss is in feet of water.
- MBH values are based on a DT (temperature difference) of 115° F between entering air and entering water. For other DTs, multiply the MBH values by the factors below:

DT	Factor
50	.44
60	.52
70	.61
80	.70
90	.79

DT	Factor
100	.88
115	1.00
125	1.07
140	1.20
150	1.30

6. Air Temperature Rise =  $\frac{927 \times \text{MBH}}{\text{CFM}}$

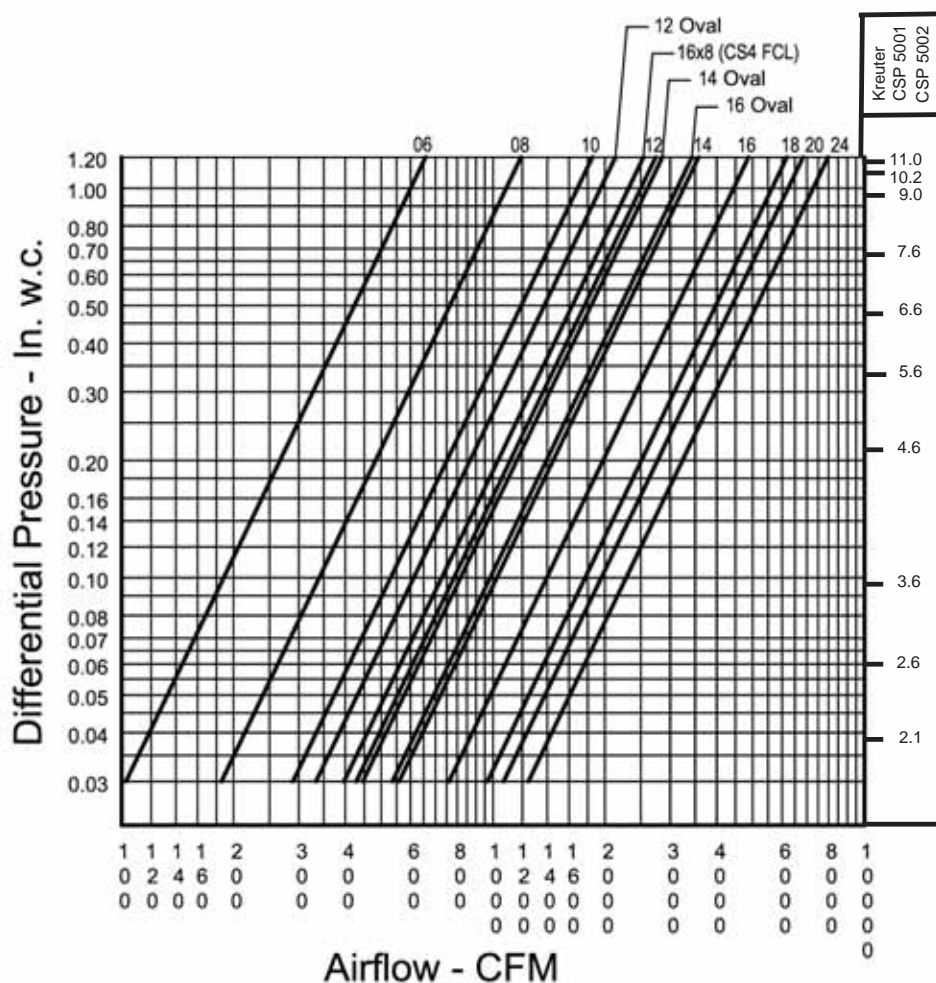
7. Water Temperature Drop =  $\frac{2.04 \times \text{MBH}}{\text{GPM}}$

8. For water valve sizing, contact your METALAIR representative. For data values other than those listed, interpolate or use the METALAIR Terminal Selection Program. Contact your METALAIR representative for additional information.

9. All hot water coils are 10 Fins per inch (FPI).



## FCI-600 - Calibration for MI Multi-Point Quadrant Averaging Flow Sensor



ATU Model	Inlet Size	Flow Coefficient
TH, FC	06 Round	600
FV, DD	08 "	1100
DH, BP	10 "	1700
RT, RA	12 "	2500
TL (6-10)	14 "	3250
FCL Cs2 (6-8)	16 "	4400
12 TL	12 Oval	1965
14 TL	14 "	2600
16 TL	16 "	3150
FCL Cs4	16x8 Rect.	2340
FC & FV Cs7	18x16 "	5600
TH20	20x16 "	6200
TH24	24x16 "	7200

$$Cfm = \sqrt{\Delta p} \times \text{Flow Coefficient}$$

Data is with Sensor Mounted in Round Duct, except for Rectangular Sizes 18, 20 and 24 Widths x 16 Height and 16 x 8 (FCL Case 4)

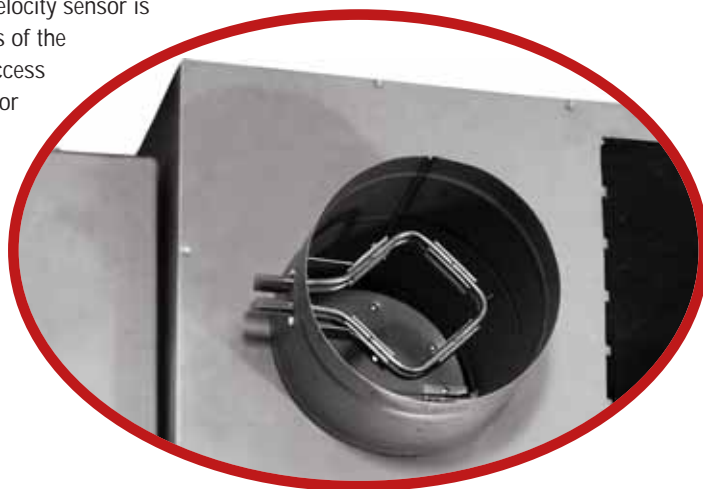
\*Some controllers do not operate consistently below 0.030 in. w.c.

## PRIMARY AIR VALVE AND MULTI-POINT QUADRANT AVERAGING FLOW SENSOR

Primary air valve has a bead rolled into the tube, which strengthens the tube and serves as a stop to prevent field-attached flex duct from slipping. The primary valve velocity sensor is multi-ported and arranged to sense velocity in each of four quadrants of the inlet. Those port readings are then inherently averaged back to the access

FCI-600 Fan Powered Unit - K Factors			
Inlet Size	Inlet Area	CFM @ 1"	K Factor
6	0.20	600	1.72
8	0.35	1100	1.61
10	0.55	1700	1.65
12	0.79	2500	1.58
14	1.07	3250	1.73
16	1.40	4400	1.61
18 x 16	2.00	5600	2.05

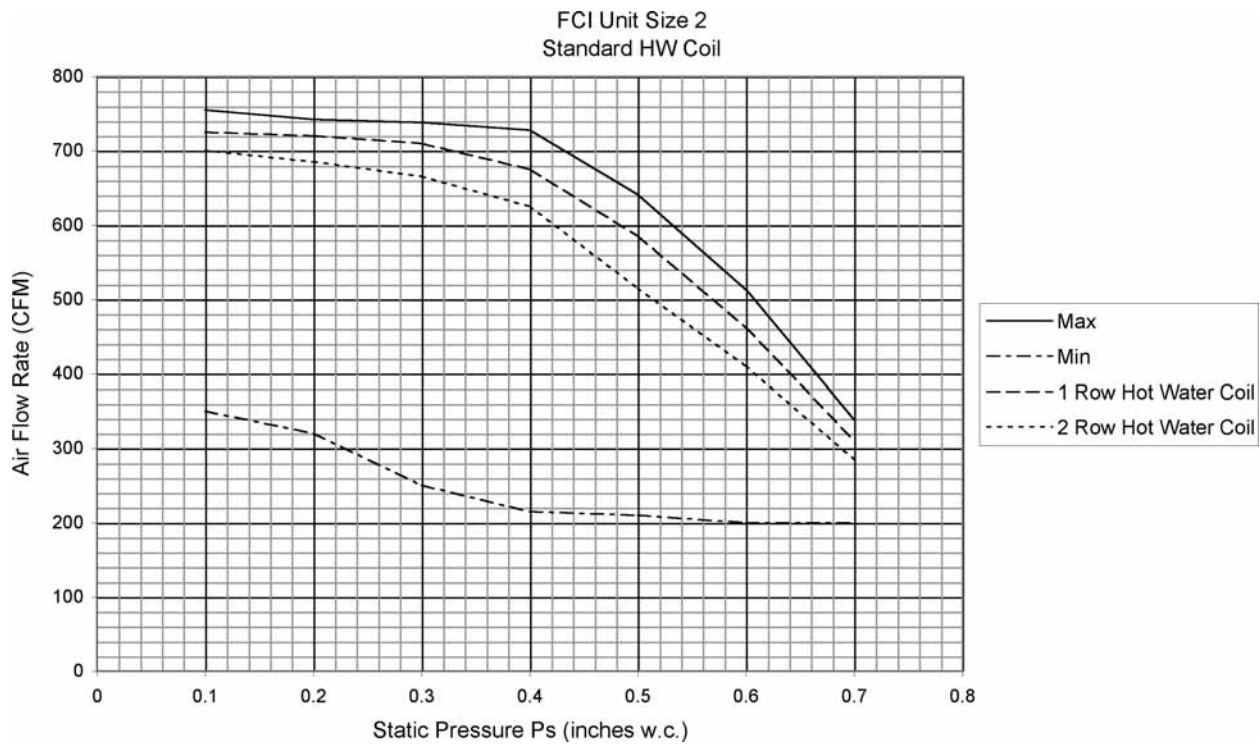
ports. The sensor has two control ports and two accessory ports. Piping connections are made externally.



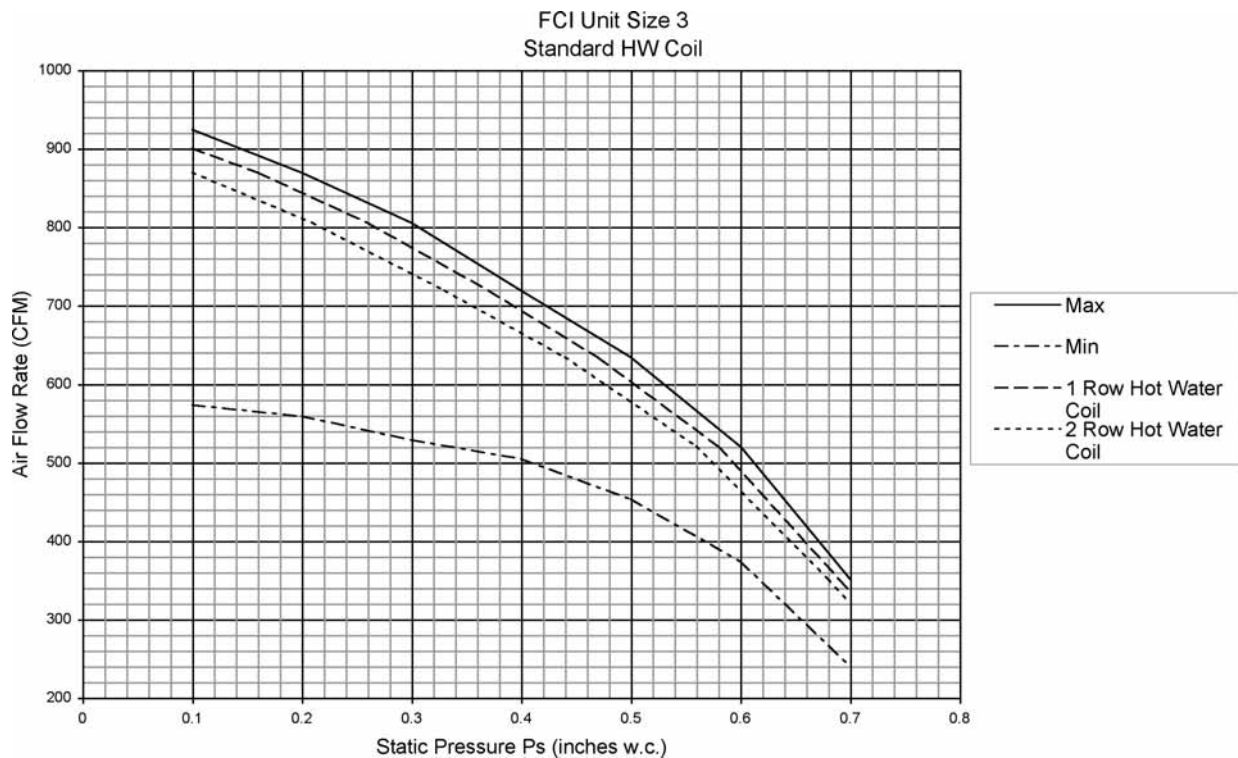


## FCI-600 - Fan Performance Charts

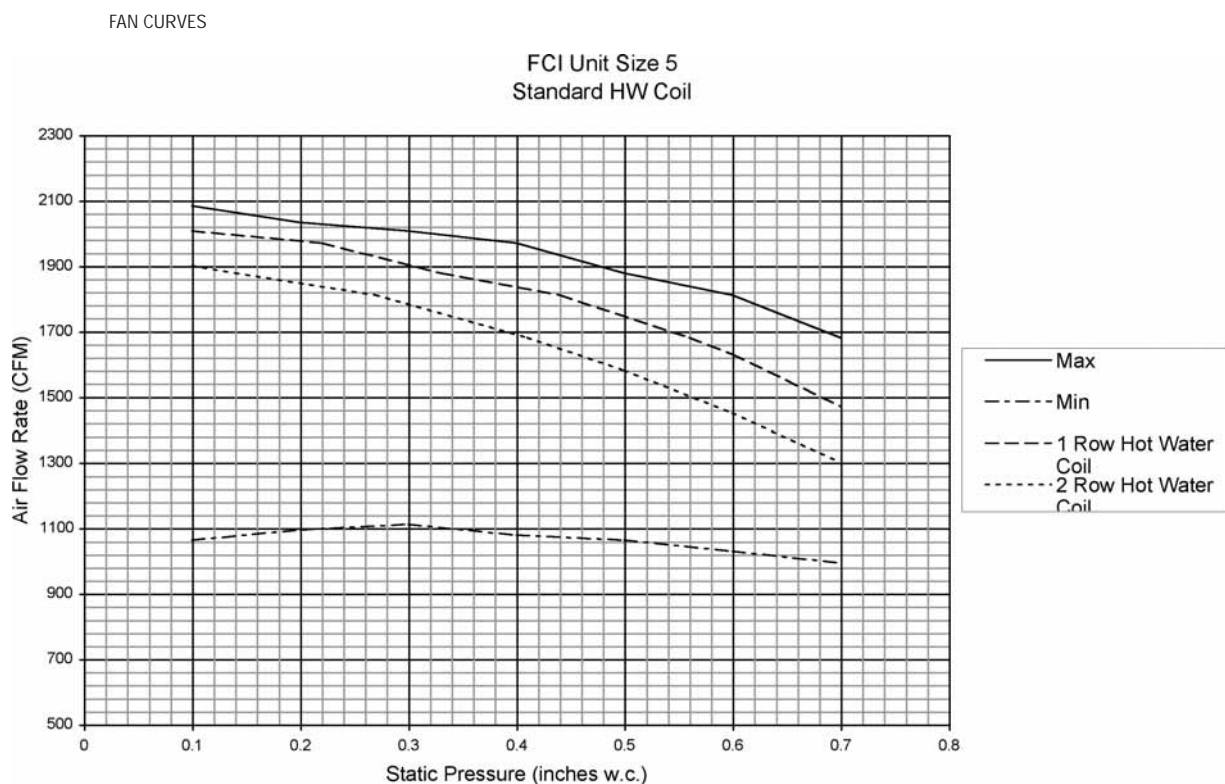
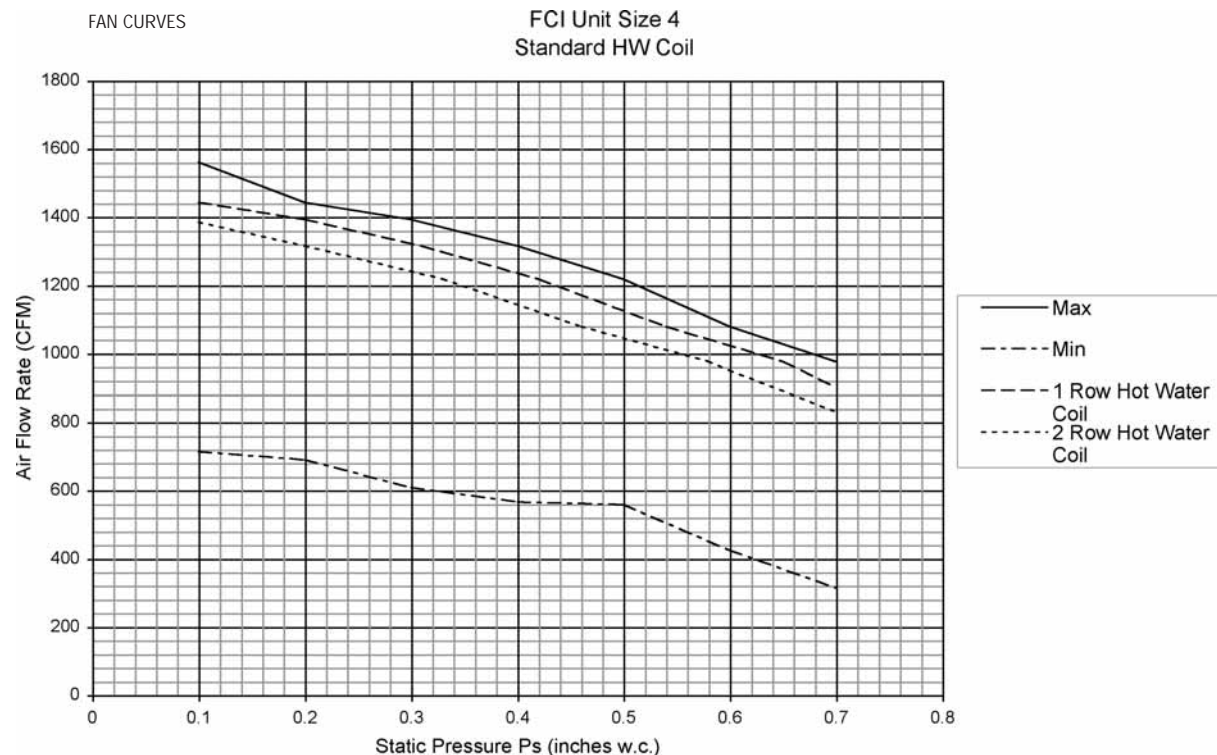
FAN CURVES



FAN CURVES

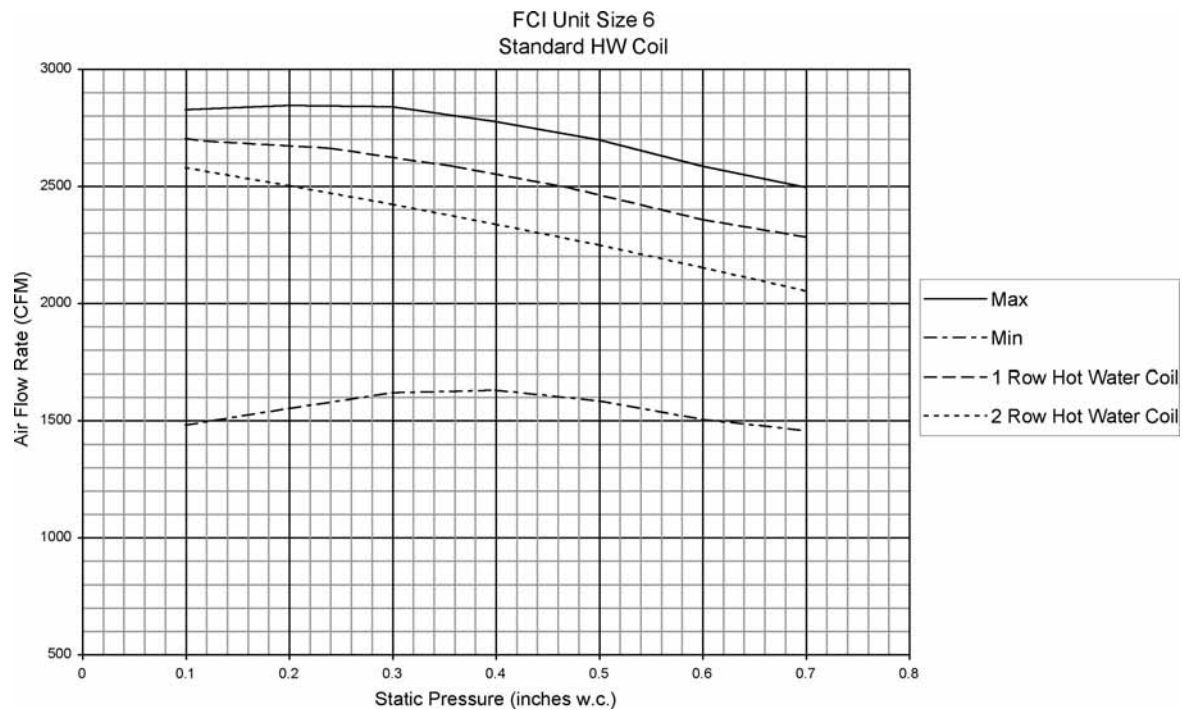


## FCI-600 - Fan Performance Charts

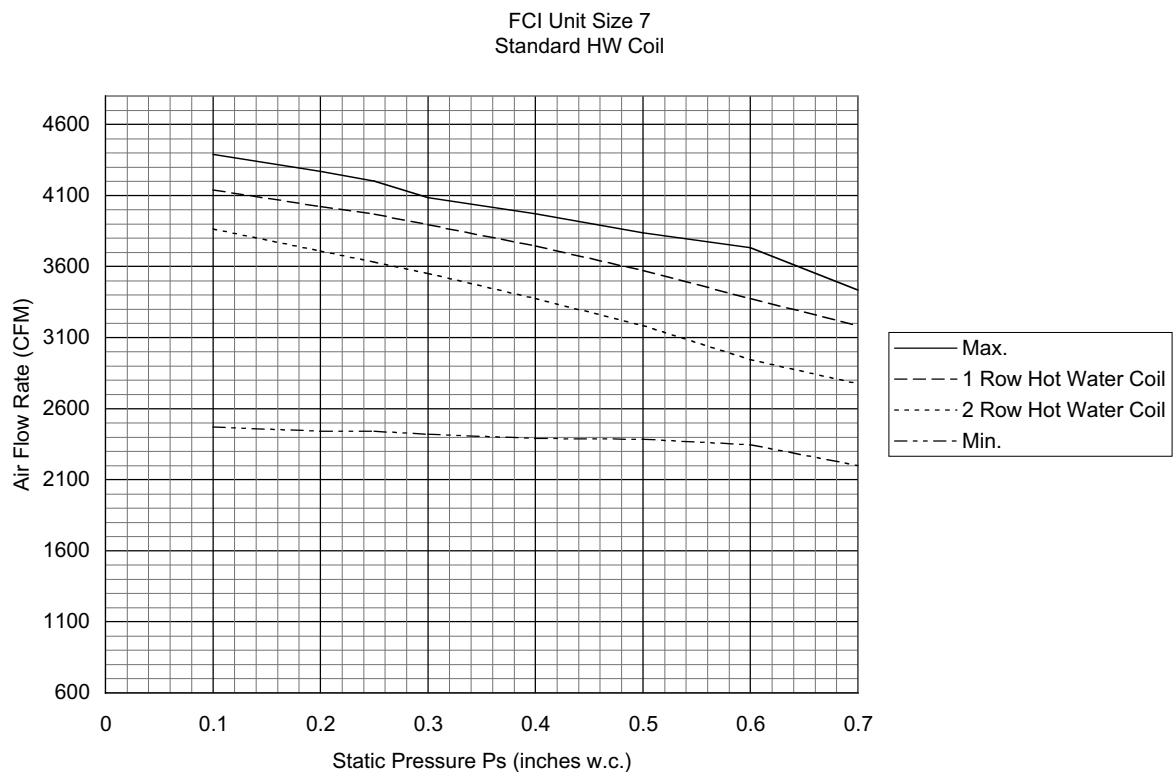


## FCI-600 - Fan Performance Charts

FAN CURVES



FAN CURVES





## SERIES FCL-600

### Low Profile Constant Volume Air Terminal Units

Series FCL-600 low Profile fan-powered terminal units are designed to provide superior comfort control in applications with restricted heights. The FCL-600 series can also be selected for projects with limited heights in the ceiling plenum.

The FCL-600 is designed to be applied in zones with both heating and cooling requirements. The fan in a constant volume (or series) fan powered terminal, runs continuously during occupied hours.

Series FCL-600 provides cooling through the primary air valve. The primary air valve controls the volume of air that is discharged into the terminal unit. The cooled air is delivered to the space through the terminal's fan. When heating is required, the Series FCL-600 initially provides plenum air that is drawn through the induction inlet.

Series FCL-600 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications.

Series FCL-600 is available in 2 casing sizes and offers the flexibility to meet both your capacity and sound requirements.

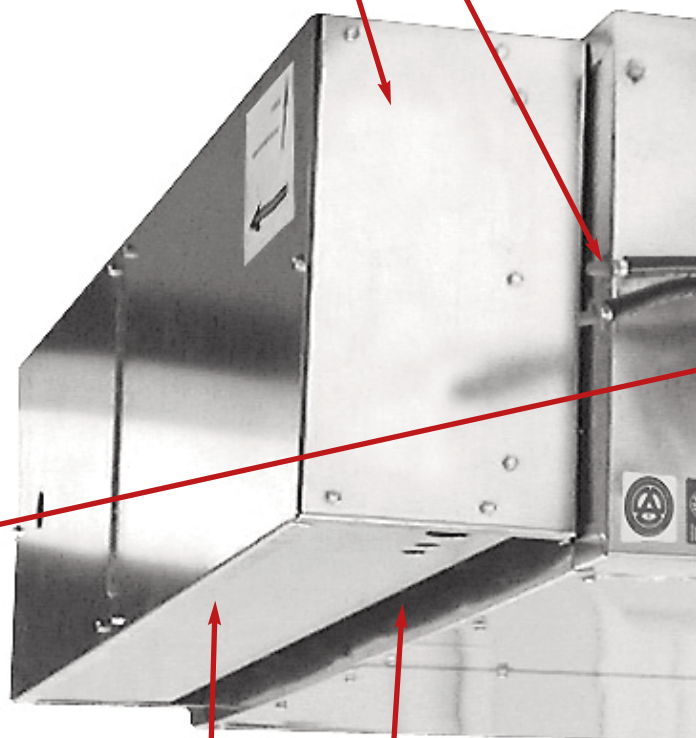
All units are shipped with easy access balancing taps. The extra ports can be used to read CFM (through velocity pressure) directly at the unit

All units include an SCR solid state fan speed controller. Motors are designed to work in conjunction with the SCR controller

Multiquadrant Averaging Flow Sensor provides an accurate flow signal without requiring an immediate upstream straight duct connection (Shipped standard on all units)

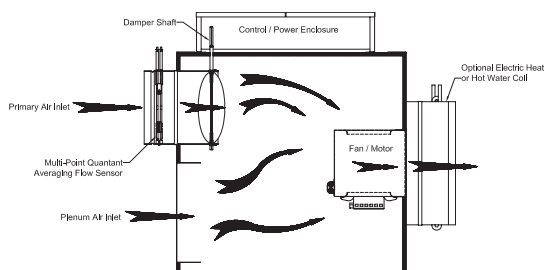
All electrical wiring is connected using quick-disconnect bulkhead fittings allowing easy servicing of electrical components

Control panel includes stand-offs to allow mounting of controls without penetrating the casing



Air Terminal Units

ATU

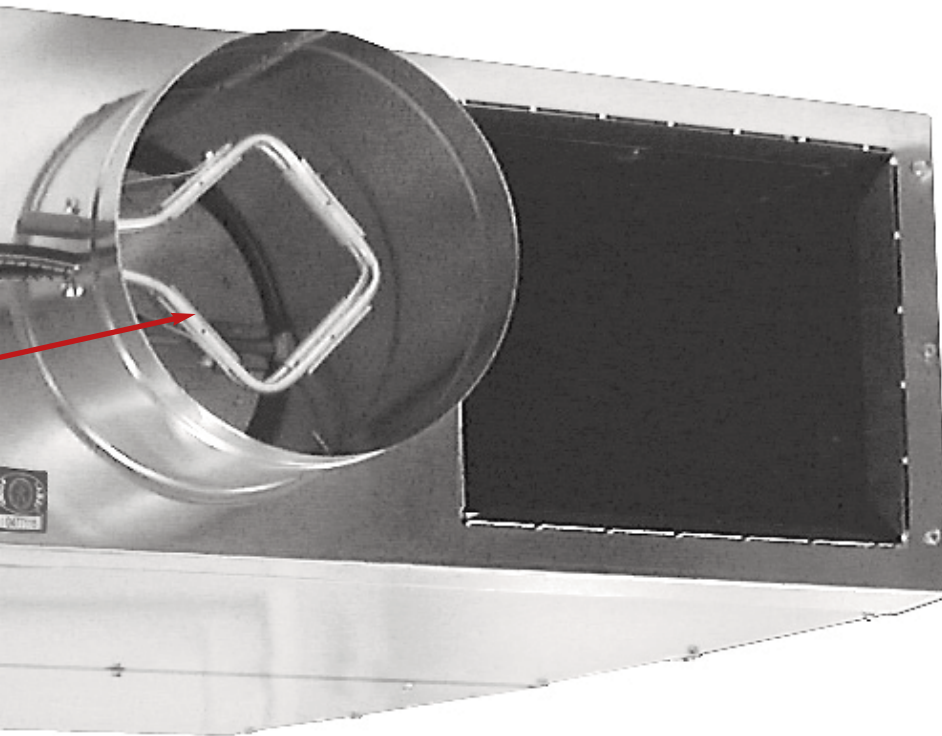




# ATU - Air Terminal Units

For long life and continuous operation, the damper shaft rotates in a self-lubricating Kepital® (acetal resin) bearing

Round primary inlet tubes are constructed with a seamless butt weld for rigidity and to eliminate leakage. It also includes a bead that strengthens the tube and provides recess for flex duct straps



Optional filter rack is available for 1" thick filters

Inlet panel is one-piece construction to increase rigidity and to reduce radiated sound

All units are ETL® listed to UL® Standard 1995 and CSA-C22.2 No. 236. All electrical components are UL® certified and listed

1" thick fiberglass insulation is standard

2" wide mounting lip provides easy installation and removal of access panel. Panels can be removed without disturbing trapeze-type hangers

Units are shipped with balanced single speed energy saving motors manufactured specifically for the torque requirements of each terminal. Motors are of energy efficient design

Air Terminal Units

ATU





## SERIES FVI-500

### Parallel Fan Powered Terminal Units

Series FVI-500 fan-powered terminal units are designed to provide superior comfort control to zones with both heating and cooling requirements. The fan in a variable volume (or parallel) fan powered terminal, runs only upon requirements for heat.

Series FVI-500 provides variable volume cooling through the primary air valve. The primary air valve controls the volume of cooled air that is discharged into the space. In a parallel fan-powered terminal unit, the primary air does not pass through the fan. When heating is required, the **Series FVI-500** initially provides plenum air that is drawn through the induction inlet.

Series FVI-500 is available with a wide range of control options and accessories to meet your design requirements; whether they be for factory mounted direct digital controls, pneumatic, or analog applications.

Series FVI-500 is available in 7 casing sizes with a wide range of primary inlet sizes offering the flexibility to meet both your capacity and sound requirements.

Multiquadrant Averaging Flow Sensor provides an accurate flow signal without requiring an immediate upstream straight duct connection (Shipped standard on all units)

All units include an SCR solid state fan speed controller. Motors are designed to work in conjunction with the SCR controller

All electrical wiring is connected using quick-disconnect bulkhead fittings allowing easy servicing of electrical components

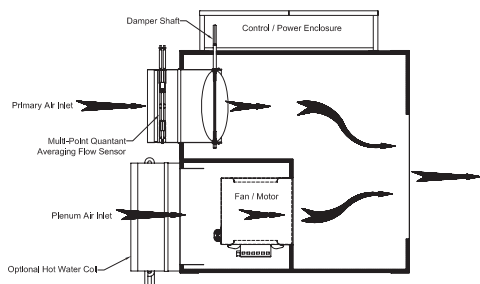
Control panel includes stand-offs to allow mounting of controls without penetrating the casing

18 gauge fan mounting bracket is designed to allow easy removal of fan assembly for servicing

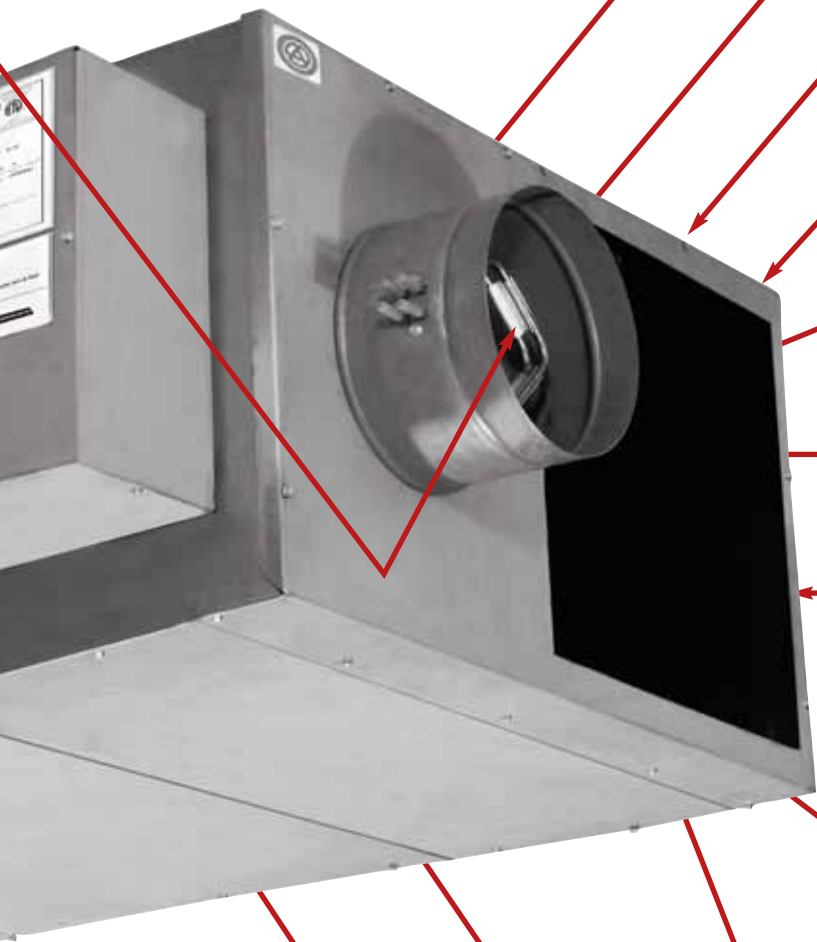
Air Terminal Units



ATU



# ATU - Air Terminal Units



All units are shipped with easy access balancing taps. The extra ports can be used to read CFM (through velocity pressure) directly at the unit

For long life and continuous operation, the damper shaft rotates in a self-lubricating Kepital® (acetal resin) bearing

Optional filter rack is available for 1" thick filters

Inlet panel is one-piece construction to increase rigidity and to reduce radiated sound

The inlet tube includes a bead that strengthens the tube and provides recess for flex duct straps

All units are ETL® listed to UL® Standard 1995 and CSA-C22.2 No. 236  
All electrical components are UL® certified and listed

1" thick fiberglass insulation is standard

Induced air inlet baffles ensure uniform loading of the fan and reduce radiated sound levels

Round primary inlet tubes are constructed with a seamless butt weld for rigidity and to eliminate leakage

3" wide mounting lip provides easy installation and removal of access panel. Panels can be removed without disturbing trapeze-type hangers

Units are shipped with balanced single speed energy saving motors manufactured specifically for the torque requirements of each terminal. Motors are of energy efficient design

Air Terminal Units



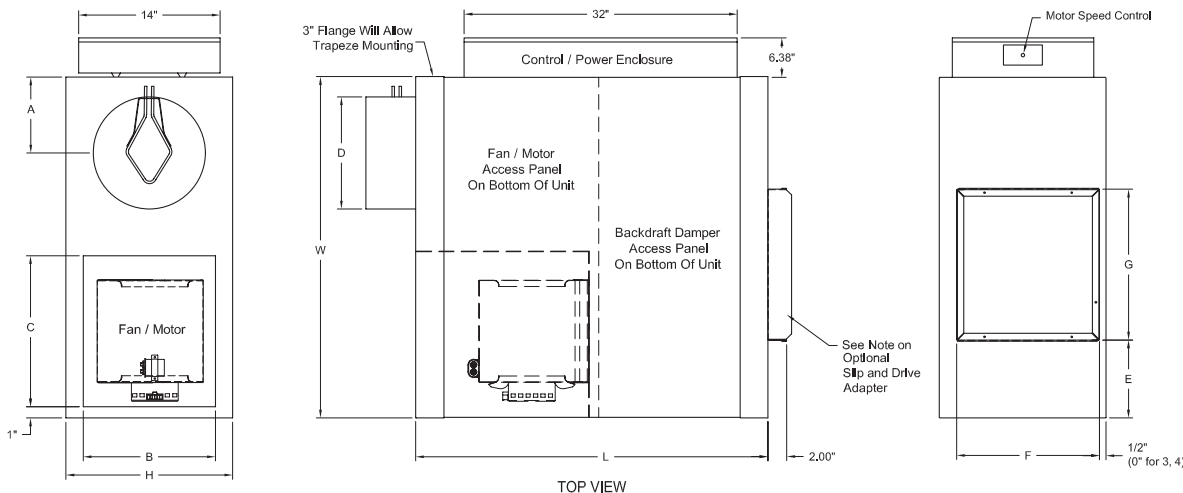
ATU

## FVI-500 - Air Terminal Dimensions

Dimensions are in inches

### Parallel Fan Powered - Basic Unit

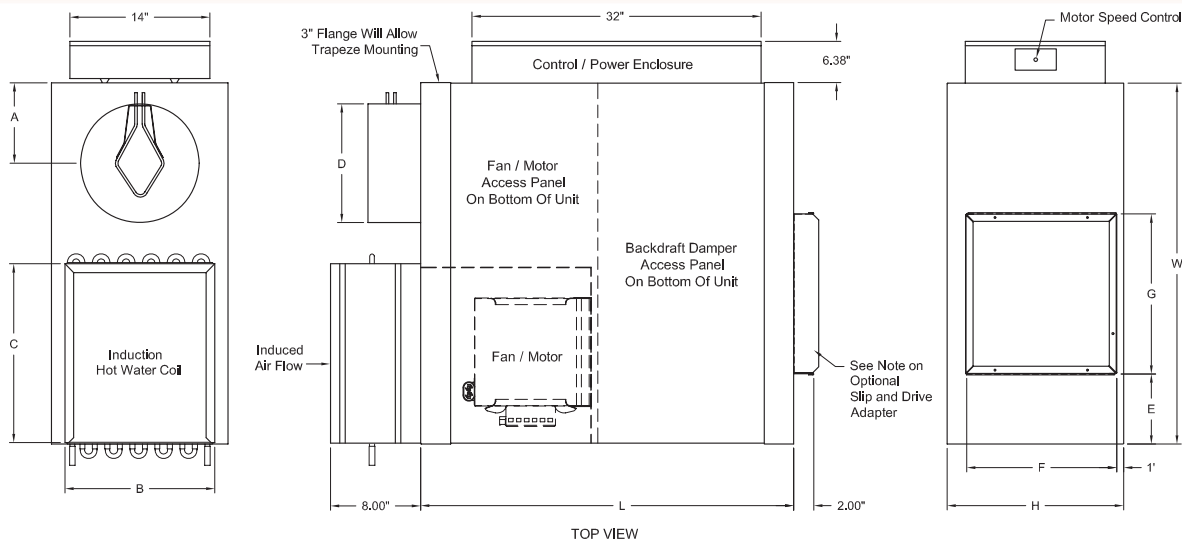
Case Size 1 - 6" Inlet Case Size 4 - 12" Inlet Case Size 7 - 18" x 16" Inlet  
Case Size 2 - 8" Inlet Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet Case Size 6 - 16" Inlet



Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Discharge Loc. E	Discharge Height F	Discharge Width G
	Standard	Optional										
1	6 (152)	8, 10	1/8	17 1/2 (445)	30 (762)	36 (914)	6 (152)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
2	8 (203)	6, 10, 12	1/6	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
3	10 (254)	6, 8, 12, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
4	12 (305)	8, 10, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	16 (406)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1/2	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	9 (229)	18 (457)	22 (559)
7	18x16 (457x406)	12, 14, 16	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	6 (152)	20 (508)	30 (762)

### Parallel Fan Powered - With Hot Water Coil on Induction Port

Case Size 1 - 6" Inlet Case Size 4 - 12" Inlet  
Case Size 2 - 8" Inlet Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet Case Size 6 - 16" Inlet



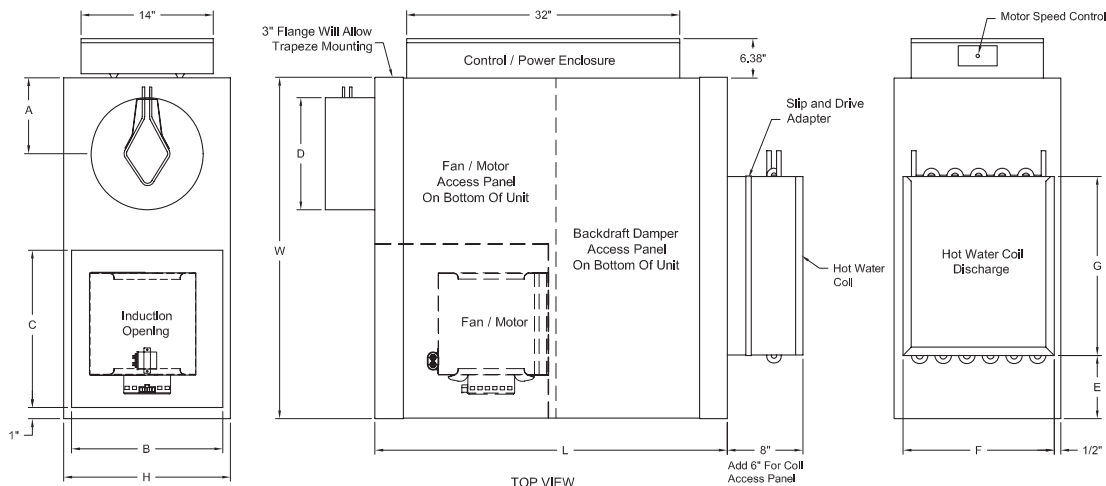
Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Hot Water Coil		Discharge Loc. E	Discharge Height F	Discharge Width G
	Standard	Optional						Height B	Width C			
1	6 (152)	8, 10	1/8	17 1/2 (445)	30 (762)	36 (914)	6 (152)	15 (381)	16 (406)	7 (178)	15 (381)	16 (406)
2	8 (203)	6, 10	1/6	17 1/2 (445)	30 (762)	36 (914)	7 (178)	15 (381)	16 (406)	7 (178)	15 (381)	16 (406)
3	10 (254)	6, 8, 12	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	17 1/2 (445)	20 (508)	8 (203)	17 1/2 (445)	20 (508)
4	12 (305)	8, 10	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	17 1/2 (445)	20 (508)	8 (203)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	17 1/2 (445)	20 (508)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1/2	20 (508)	42 (1067)	42 (1067)	10 (254)	18 (457)	22 (559)	9 (229)	18 (457)	22 (559)

# ATU - Air Terminal Units

## FVI-500 - Air Terminal Dimensions

### Parallel Fan Powered - With Hot Water Coil on Discharge Port

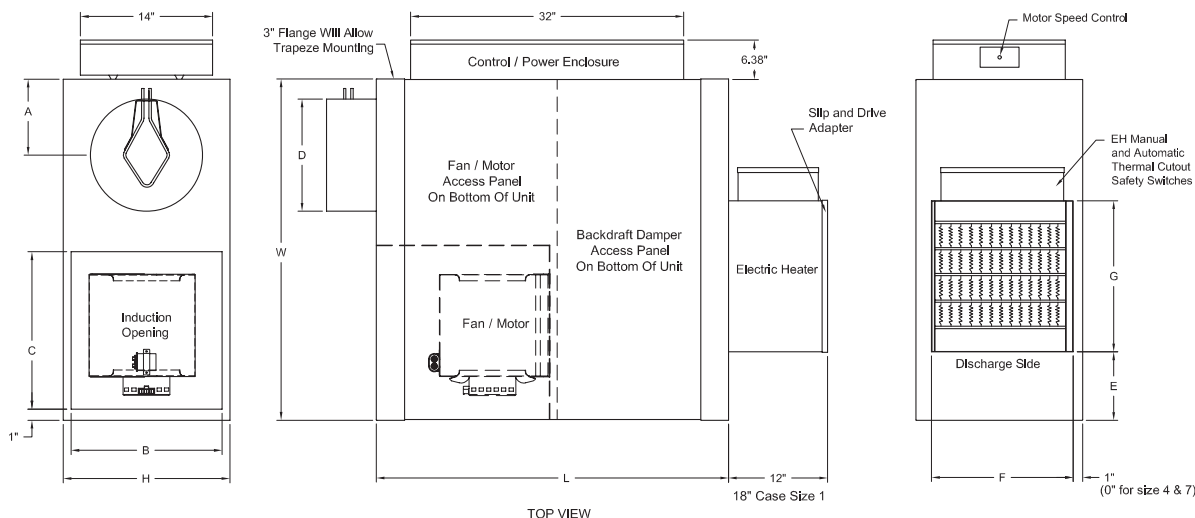
Case Size 1 - 6" Inlet      Case Size 4 - 12" Inlet      Case Size 7 - 18" x 16" Inlet  
Case Size 2 - 8" Inlet      Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet      Case Size 6 - 16" Inlet



Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Standard Hot Water Coil		
	Standard	Optional								Discharge Loc. E	Discharge Loc. F	Discharge Loc. G
1	6 (152)	8, 10	1/8	17 1/2 (445)	30 (762)	36 (914)	6 (152)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
2	8 (203)	6, 10, 12	1/6	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	7 (178)	15 (381)	16 (406)
3	10 (254)	6, 8, 12, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
4	12 (305)	8, 10, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	16 (406)	18 (457)	8 (203)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1/2	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	9 (228)	18 (457)	22 (559)
7	18x16 (457x406)	12, 14, 16	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	6 (152)	20 (508)	30 (762)

### Parallel Fan Powered - With Electric Heat

Case Size 1 - 6" Inlet      Case Size 4 - 12" Inlet      Case Size 7 - 18" x 16" Inlet  
Case Size 2 - 8" Inlet      Case Size 5 - 14" Inlet  
Case Size 3 - 10" Inlet      Case Size 6 - 16" Inlet



Casing Size	Inlet Diameter D		Horse Power	Unit Height H	Unit Width W	Unit Length L	Inlet Loc. A	Ind. Inlet Height B	Ind. Inlet Width C	Discharge Loc. E	Discharge Loc. F	Discharge Loc. G
	Standard	Optional										
1	6 (152)	8, 10	1/8	17 1/2 (445)	30 (762)	36 (914)	6 (152)	14 (356)	14 (356)	5 (127)	15 (381)	16 (406)
2	8 (203)	6, 10, 12	1/6	17 1/2 (445)	30 (762)	36 (914)	7 (178)	14 (356)	14 (356)	5 (127)	15 (381)	16 (406)
3	10 (254)	6, 8, 12, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	7 1/4 (184)	15 (381)	16 (406)
4	12 (305)	8, 10, 14	1/4	17 1/2 (445)	36 (914)	40 (1016)	8 (203)	14 (356)	18 (457)	3 1/4 (83)	17 1/2 (445)	20 (508)
5	14 (356)	10, 12, 16	1/3	20 (508)	40 (1016)	40 (1016)	10 (254)	16 (406)	18 (457)	6 5/8 (168)	17 1/2 (445)	20 (508)
6	16 (406)	10, 12, 14	1/2	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	8 (203)	17 1/2 (445)	20 (508)
7	18x16 (457x406)	12, 14, 16	1	20 (508)	42 (1067)	42 (1067)	10 (254)	16 (406)	20 (508)	4 (102)	20 (508)	30 (762)

## FVI-500 - Radiated Sound Power at Fan Only

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Fan Only								NC1 ARI 885- 90	NC2 ARI 885- 98
				Octave Band Sound Power, Lw, dB									
				2	3	4	5	6	7				
1	6	0.25	150 (71)	59	57	52	48	41	38	23	26		
			200 (94)	60	59	53	50	43	41	25	28		
			250 (118)	62	61	55	53	44	43	27	31		
			300 (142)	64	63	56	54	46	45	29	33		
			400 (189)	66	67	59	58	50	49	34	38		
			450 (212)	68	69	61	60	52	51	37	40		
			550 (260)	71	73	64	64	55	55	41	45		
2	8	0.25	250 (118)	63	60	55	51	44	41	26	30		
			300 (142)	64	61	56	51	44	41	27	31		
			350 (165)	65	62	56	52	45	42	28	32		
			400 (189)	65	63	56	52	45	43	29	33		
			500 (236)	66	64	56	52	46	43	31	34		
			600 (283)	67	65	57	53	46	44	32	35		
			775 (366)	69	67	57	54	47	45	34	38		
3	10	0.25	125 (59)	50	47	46	39	36	28	-	-		
			300 (142)	54	51	49	44	41	34	-	23		
			425 (201)	58	54	53	46	43	37	24	27		
			675 (319)	64	61	57	53	48	45	29	32		
			800 (378)	66	64	59	57	52	49	31	34		
			925 (437)	69	67	62	60	54	53	34	38		
			1175 (555)	76	73	67	67	60	61	41	45		
			1225 (578)	77	73	68	67	61	62	41	45		
4	12	0.25	500 (236)	61	60	56	53	45	42	27	31		
			700 (330)	64	63	58	56	48	46	30	33		
			900 (425)	67	66	60	59	50	50	33	37		
			1100 (519)	70	68	62	62	53	53	35	39		
			1300 (614)	72	71	64	66	56	57	39	42		
			1500 (708)	75	74	66	69	58	61	42	46		
			1575 (743)	76	74	66	69	58	62	42	46		
5	14	0.25	800 (378)	64	60	53	47	44	41	26	29		
			950 (448)	66	63	58	55	52	49	30	33		
			1100 (519)	71	67	62	60	56	53	34	38		
			1300 (614)	75	70	63	61	58	54	38	41		
			1500 (708)	78	73	65	63	60	56	41	45		
			1700 (802)	80	75	66	65	61	57	44	48		
			1800 (850)	81	76	67	66	62	59	45	49		
6	16	0.25	800 (378)	62	58	52	46	42	40	24	27		
			1000 (472)	66	63	60	55	47	45	32	35		
			1250 (590)	72	69	64	59	52	50	37	40		
			1400 (661)	73	71	65	61	54	53	39	42		
			1650 (779)	74	72	66	62	56	55	40	44		
			1800 (850)	76	73	67	63	57	56	41	45		
			2160 (1020)	78	75	68	65	59	58	44	47		
7	18x16	0.25	1875 (885)	72	67	61	56	47	46	34	38		
			2100 (991)	74	68	62	57	49	48	36	40		
			2400 (1133)	75	71	65	62	54	53	39	42		
			2600 (1227)	77	74	71	69	62	61	44	47		
			2800 (1322)	78	75	73	72	66	64	46	49		
			3000 (1416)	80	76	75	73	67	66	48	51		
			3125 (1475)	81	77	76	74	68	66	49	53		

See Page ATU-277 For NC Calculations

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIR publishes the NC levels for both the 1990 standard and the 1998 current standard.



# ATU - Air Terminal Units

## FVI-500 - Radiated Sound Power at .5", .75", 1" WG

Case	Inlet	Outlet Ps in. H <sub>2</sub> O	CFM (L/s)	Min Ps H <sub>2</sub> O (Pa)	in.	Inlet Pressure, Ps = 0.5 inches of water (125 Pa)										Inlet Pressure, Ps = 0.75 inches of water (187 Pa)										Inlet Pressure, Ps = 1.0 inches of water (250 Pa)									
						Octave Band Sound Power, Lw, dB							NC ARI 885- 90	NC ARI 885- 98	Octave Band Sound Power, Lw, dB							NC ARI 885- 90	NC ARI 885- 98	Octave Band Sound Power, Lw, dB							NC ARI 885- 90	NC ARI 885- 98			
						2	3	4	5	6	7	2			3	4	5	6	7	2	3			4	5	6	7								
						2	3	4	5	6	7	2			3	4	5	6	7	2	3			4	5	6	7								
1	6	0.25	100 (47)	0.080 (20.0)	50	37	33	30	25	23	-	-	51	38	33	31	26	24	-	-	51	39	34	32	27	24	-	-	-	-					
			200 (94)	0.100 (24.9)	52	40	36	34	28	25	-	-	52	41	37	35	29	26	-	-	53	42	37	36	29	27	-	-	-	-					
			250 (118)	0.110 (27.5)	54	42	38	36	29	27	-	-	54	44	40	37	32	31	-	-	55	45	43	38	35	34	-	-	-	-					
			300 (142)	0.127 (31.6)	54	44	39	37	31	28	-	-	55	45	42	39	34	31	-	-	56	46	44	40	36	35	-	-	-	-					
			400 (189)	0.160 (39.7)	56	48	42	40	34	31	-	-	57	48	44	41	36	33	-	-	58	49	47	43	38	35	-	-	-	21					
			450 (212)	0.176 (43.8)	57	49	44	41	35	32	-	-	58	50	46	42	37	34	-	-	59	50	48	44	39	35	-	-	-	22					
			500 (236)	0.192 (47.9)	59	51	46	42	37	33	-	21	59	51	47	44	38	34	-	21	59	51	48	45	40	36	-	-	-	22					
			600 (283)	0.241 (60.1)	62	53	50	49	41	36	21	25	62	54	50	49	42	37	21	25	63	54	51	50	42	37	22	26							
2	8	0.25	200 (94)	0.084 (20.9)	50	38	33	26	23	20	-	-	50	39	33	27	24	21	-	-	52	40	35	28	26	23	-	-	-	-					
			300 (142)	0.094 (23.5)	52	42	38	31	27	24	-	-	53	43	39	32	28	25	-	-	54	45	40	35	29	26	-	-	-	-					
			400 (189)	0.105 (26.2)	54	45	42	35	30	26	-	-	55	46	42	35	31	27	-	-	56	47	43	37	32	29	-	-	-	-					
			500 (236)	0.116 (28.8)	56	47	44	37	32	28	-	-	57	49	45	39	35	32	-	-	58	51	47	40	37	35	-	-	-	21					
			650 (307)	0.138 (34.4)	56	51	50	42	36	30	21	24	58	52	50	43	37	33	21	24	60	53	50	43	39	36	21	24							
			800 (378)	0.161 (40.1)	58	54	54	47	40	33	25	29	60	55	54	47	41	35	25	29	62	56	54	47	42	37	25	29							
			875 (413)	0.175 (43.5)	59	56	57	49	42	35	27	31	61	57	57	49	42	37	29	32	63	57	57	50	43	38	29	32							
			950 (448)	0.188 (46.8)	60	57	58	52	44	37	30	33	61	58	59	52	44	38	31	34	62	59	59	52	45	40	31	34							
3	10	0.25	1100 (519)	0.227 (56.6)	62	61	60	56	47	40	32	35	62	61	61	57	47	41	33	36	63	61	61	58	47	42	33	36							
			300 (142)	0.088 (21.9)	52	49	44	40	31	24	-	-	53	49	45	41	32	25	-	-	55	50	46	42	33	27	-	-	-	-					
			500 (236)	0.103 (25.7)	54	51	46	42	34	25	-	-	56	52	47	43	35	27	-	-	57	53	49	45	37	29	-	-	-	23					
			775 (358)	0.125 (31.1)	56	53	47	43	35	27	-	21	59	55	49	45	37	32	-	-	62	58	51	47	40	36	24	27							
			925 (437)	0.136 (33.9)	57	55	49	45	36	28	-	24	60	57	50	47	38	32	22	26	63	59	53	48	41	37	25	28							
			1075 (507)	0.158 (39.3)	58	57	52	48	36	28	23	26	60	59	52	48	39	34	25	28	65	61	54	49	42	37	27	31							
			1325 (632)	0.190 (47.2)	65	61	55	50	37	29	27	31	65	61	56	51	41	36	27	31	65	64	57	53	46	38	31	34							
			1450 (684)	0.204 (50.9)	66	63	57	53	37	32	29	33	66	63	58	53	42	37	30	33	66	65	59	55	47	39	32	35							
4	12	0.25	1625 (757)	0.254 (63.2)	68	65	59	54	38	33	32	35	69	65	60	55	43	38	32	35	69	66	60	56	48	40	33	37							
			1700 (812)	0.270 (67.2)	69	67	61	56	39	34	34	38	70	67	62	57	44	39	34	38	70	68	63	58	49	41	35	39							
			450 (212)	0.076 (18.9)	48	40	36	33	25	20	-	-	49	40	37	34	27	23	-	-	51	42	39	36	30	29	-	-	-	-					
			650 (307)	0.094 (23.9)	51	43	38	37	28	25	-	-	52	44	39	38	29	27	-	-	54	46	42	39	35	32	-	-	-	-					
			900 (425)	0.094 (23.4)	54	47	41	40	29	27	-	-	56	49	43	42	32	31	-	-	61	53	48	42	41	36	-	-	-	23					
			1100 (519)	0.100 (25.0)	56	53	47	43	35	27	-	21	59	54	47	44	37	32	-	-	63	54	47	44	42	37	22	26							
			1300 (614)	0.107 (26.6)	57	55	49	45	36	28	-	24	60	56	49	46	38	32	21	25	64	55	49	45	43	38	23	27							
			1500 (708)	0.118 (29.4)	64	56	50	45	39	35	23	27	64	56	50	46	43	39	23	27	65	56	51	47	44	40	25	29							
5	14	0.25	1800 (853)	0.143 (35.9)	67	57	52	46	40	36	27	31	68	57	54	48	44	40	29	32	68	58	54	49	46	41	29	32							
			2200 (1038)	0.182 (45.3)	70	60	54	47	42	37	31	35	71	60	55	49	45	41	32	36	72	61	56	51	47	42	34	38							
			2500 (1180)	0.212 (52.7)	72	62	60	48	44	38	34	38	72	63	60	50	46	42	34	38	73	64	61	52	48	43	35	39							
			550 (253)	0.072 (18.0)	47	46	39	35	24	23	-	-	50	46	41	37	30	28	-	-	52	50	43	39	33	30	-	-	-	-					
			775 (358)	0.081 (20.1)	50	48	41	37	27	26	-	-	53	50	43	38	33	30	-	-	55	52	46	41	36	32	-	-	-	-					
			1000 (472)	0.090 (22.5)	54	50	43	39	30	28	-	-	56	52	46	41	35	33	-	-	58	54	48	45	39	36	-	-	-	22					
			1500 (708)	0.106 (26.5)	61	54	47	42	36	32	-	23	64	56	49	46	40	36	23	27	65	59	52	48	44	40	25	29							
			1950 (920)	0.134 (33.3)	64	55	49	44	38	34	23	27	65	58	51	47	42	38	25	29	67	60	54	50	46	42	27	31							
6	16	0.25	2200 (1038)	0.149 (37.0)	66	56	50	45	39	35	26	30	66	59	53	48	43	39	26	30	68	61	55	50	46	43	29	32							
			2675 (1263)	0.209 (52.0)	69	58	53	46	41	37	30	34	70	61	56	50	44	41	31	35	71	63	57	52	47	45	32	36							
			3000 (1416)	0.246 (61.2)	71	59	55	47	42	39	32	36	72	62	58	52	46	42	34	38	74	64	59	54	48	46	36	40							
			3250 (1534)	0.278 (69.3)	72	60	56	49	43	40	34	38	73	63	59	53	48	43	35	39	75	65	60	55	49	47	38	41							
			750 (354)	0.083 (20.6)	49	44	35	30	26	24	-	-	51	46	37	33	29	28	-	-	53	48	39	36	32	31	-	-	-	-					
			950 (448)	0.088 (21.8)	52	45	37	33	29	26	-	-	54	47	39	35	32	30	-	-	56	50	42	38	35	32	-	-	-	-					
			1525 (723)	0.104 (26.9)	57	47	40	36	32	28	-	-	59	49	42	38	35	32	-	21	61	53	47	42	38	33	-	-	-	23					
			1800 (853)	0.115 (28.7)	60	48	44	42	37	30	-	22	62	54	48	47	41	35	21	25	64	59	53	49	45	41	25	28							
7	18x16	0.25	2400 (1133)	0.138 (34.3)	65	58	52	48	43	37	25	29	67	60	54	49	46	40	27	31	68	62	56	51	47	42	29	32							
			3000 (1416)	0.165 (41.2)	69	63	57	51	47	41	30	34	70	64	57	52	48	43	31	35	71	65	58	53	49	44	32	36							
			3600 (1652)	0.188 (46.9)	73	66	60	55	49	46	35	39	74	67	61	56	50	46	36	40	74	68	62	57	52	47	36	40							
			4000 (1888)	0.218 (54.3)	75	68	62	57	51	47	38	41	75	69	63	58	52	49	38	41	76	69	64	59	53	50	39	43							
			4400 (2377)	0.247 (61.4)	77	71	65	59	53	49	40	44	78	72	65	59	54	51	41	45	78	72	66	60	56	52	41	45							
			975 (453)	0.178 (44.4)	54	40	38	36	34	31	-	-	56	43	39	37	35	33	-	-	58	46	42	39	37	35	-	-	-	-					
			1200 (559)	0.021 (5.2)	56	43	41	39	37	32	-	-	58	46	44	42	39	36	-	-	60	48	46	44	41	37	-	-	-	22					
			8	0.25	1600 (753)	0.028 (6.9)	59	47	45	44	40	34	-	21	60	49	48	47	42	37	-	22	61	52	50	49	45	41	21	24					
2000 (944)	0.036 (9.0)	62			52	50	51	43	37	23	25	64	55	53	53	46	41	25	27	65	60	57	56												

# ATU - Air Terminal Units

5/2007

## FVI-500 - Radiated Sound Power at 1.5", 2" WG

Case	Inlet	Outlet Ps in. H <sub>2</sub> O	CFM (L/s)	Min Ps in. H <sub>2</sub> O (Pa)		Inlet Pressure, Ps = 1.5 inches of water (375 Pa)										Inlet Pressure, Ps = 2.0 inches of water (700 Pa)									
						Octave Band Sound Power, Lw, dB						NC1 ARI 885-90	NC2 ARI 885-98	Octave Band Sound Power, Lw, dB						NC1 ARI 885-90	NC2 ARI 885-98				
						2	3	4	5	6	7	885-90	885-98	2	3	4	5	6	7	885-90	885-98				
1	6	0.25	100 (47)	0.080 (20.0)	55	42	38	37	31	27	-	-	56	44	39	38	32	29	-	-					
			200 (94)	0.100 (24.9)	58	46	39	39	34	30	-	-	59	48	41	40	36	32	-	-					
			250 (118)	0.110 (27.5)	60	51	44	43	38	37	-	22	61	53	49	47	40	42	-	23					
			300 (142)	0.127 (31.6)	60	52	45	45	39	37	-	22	61	53	50	49	41	42	21	24					
			400 (189)	0.160 (39.7)	61	54	48	46	42	39	-	23	62	54	51	50	42	43	22	25					
			450 (212)	0.176 (43.8)	62	55	52	51	43	40	23	26	63	56	53	52	43	43	24	26					
			500 (236)	0.192 (47.9)	63	56	53	53	44	40	25	27	64	57	54	53	44	43	25	29					
600 (283)	0.241 (60.1)	64	57	54	53	45	41	25	29	65	58	56	55	46	42	27	31								
2	8	0.25	200 (94)	0.084 (20.9)	53	42	37	30	29	25	-	-	54	44	39	31	30	28	-	-					
			300 (142)	0.094 (23.5)	55	47	42	36	32	28	-	-	56	48	44	37	34	30	-	-					
			400 (189)	0.105 (26.2)	57	49	45	39	35	31	-	-	58	50	47	40	37	33	-	21					
			500 (236)	0.116 (28.8)	59	53	48	42	40	39	-	22	60	55	51	45	42	42	22	25					
			650 (307)	0.138 (34.4)	61	55	51	45	42	40	22	25	63	57	54	47	44	42	25	29					
			800 (378)	0.161 (40.1)	63	58	55	48	44	41	26	30	65	60	57	50	46	43	29	32					
			875 (413)	0.175 (43.5)	63	59	57	50	45	41	29	32	66	61	58	52	47	44	30	33					
950 (448)	0.188 (46.9)	63	60	60	52	46	42	32	35	65	62	61	53	48	45	33	36								
1100 (519)	0.227 (56.6)	64	62	61	59	48	42	33	36	66	63	62	60	49	46	34	37								
3	10	0.25	300 (142)	0.088 (21.9)	57	51	47	45	36	30	-	21	59	53	49	46	38	33	-	23					
			500 (236)	0.103 (25.7)	59	54	50	47	39	32	21	24	60	56	51	49	41	35	22	25					
			775 (366)	0.125 (31.1)	63	59	52	49	42	39	25	28	64	62	55	52	45	42	28	32					
			925 (437)	0.136 (33.9)	65	60	53	51	43	40	26	29	65	64	57	53	45	42	31	34					
			1075 (507)	0.158 (39.3)	66	60	54	52	45	41	26	30	66	65	59	54	46	43	32	35					
			1325 (625)	0.190 (47.2)	67	64	62	55	48	42	34	37	67	65	62	55	48	43	34	37					
			1450 (684)	0.204 (50.9)	67	65	61	56	49	43	33	36	68	66	63	56	49	43	35	38					
1625 (767)	0.254 (63.2)	70	67	62	57	50	44	34	38	71	68	64	58	51	45	36	39								
1700 (802)	0.270 (67.2)	71	69	64	59	51	46	37	40	72	70	65	61	52	47	38	41								
4	12	0.25	450 (212)	0.076 (18.9)	53	45	40	38	35	32	-	-	56	49	43	40	39	35	-	-					
			650 (307)	0.084 (20.9)	57	50	44	42	39	36	-	-	60	55	48	45	42	40	-	24					
			900 (425)	0.094 (23.4)	63	56	49	45	43	41	22	26	66	59	53	49	47	45	26	30					
			1100 (519)	0.100 (25.0)	65	57	50	47	44	42	25	29	68	61	54	50	48	46	29	32					
			1300 (614)	0.107 (26.6)	66	58	52	48	45	42	26	30	69	62	55	51	49	46	30	34					
			1500 (708)	0.118 (29.4)	67	59	53	49	46	43	27	31	71	63	56	52	49	47	32	36					
			1800 (850)	0.143 (35.5)	70	61	55	51	48	44	31	35	72	64	57	53	50	47	34	38					
2200 (1038)	0.182 (45.3)	74	62	57	52	49	43	36	40	76	65	58	55	51	48	39	43								
2500 (1180)	0.212 (52.7)	75	65	62	53	50	45	38	41	77	67	63	57	52	49	40	44								
5	14	0.25	550 (260)	0.072 (18.0)	55	52	45	41	36	33	-	-	58	53	50	44	40	35	21	24					
			775 (366)	0.081 (20.1)	58	54	48	43	40	36	-	22	60	59	52	47	42	38	25	28					
			1000 (472)	0.090 (22.5)	61	59	52	49	43	40	25	28	65	62	56	52	45	42	28	32					
			1500 (708)	0.106 (26.5)	68	63	56	52	48	45	29	33	71	65	59	55	51	49	32	36					
			1950 (920)	0.134 (33.3)	70	64	57	53	49	46	31	35	74	67	61	57	53	50	36	40					
			2200 (1038)	0.149 (37.0)	71	65	58	54	50	46	32	36	75	68	62	57	54	50	38	41					
			2675 (1263)	0.209 (52.0)	74	67	60	56	52	49	36	40	77	69	65	60	56	51	40	44					
3000 (1416)	0.246 (61.2)	76	69	62	58	53	51	39	43	78	71	67	62	58	53	41	45								
3250 (1534)	0.278 (69.3)	77	70	63	59	55	52	40	44	79	72	68	63	60	55	43	46								
6	16	0.25	750 (354)	0.083 (20.6)	56	50	43	39	35	33	-	-	58	52	46	42	37	35	-	-					
			950 (448)	0.088 (21.8)	58	52	50	42	37	39	21	24	60	56	52	48	45	43	23	26					
			1525 (720)	0.104 (25.9)	64	56	53	46	44	43	24	27	66	62	57	50	49	48	29	32					
			1800 (850)	0.115 (28.7)	67	62	57	53	49	46	29	32	68	65	60	58	55	51	32	35					
			2400 (1133)	0.138 (34.3)	70	64	59	54	50	47	31	35	72	67	62	59	55	51	34	38					
			3000 (1416)	0.165 (41.2)	73	67	61	56	51	47	35	39	75	69	64	60	57	53	38	41					
			3500 (1652)	0.188 (46.9)	76	69	64	59	53	49	39	43	78	71	66	61	58	54	41	45					
4000 (1888)	0.218 (54.3)	78	71	66	61	55	52	41	45	81	73	68	63	59	57	45	49								
4400 (2077)	0.247 (61.4)	80	73	68	62	58	54	44	48	83	75	70	65	62	60	48	52								
7	18 x 16	0.25	975 (460)	0.178 (44.4)	60	48	45	42	40	39	-	22	61	52	48	46	43	41	-	23					
			1200 (566)	0.021 (5.2)	62	50	48	47	44	41	21	25	63	56	51	49	48	43	22	26					
			1600 (755)	0.028 (6.9)	63	57	53	52	48	45	24	27	65	61	56	55	52	48	27	31					
			2000 (944)	0.036 (9.0)	68	63	60	58	53	50	32	35	70	66	64	63	59	55	36	39					
			2500 (1180)	0.056 (14.0)	70	65	62	59	54	51	34	37	73	68	66	64	59	56	38	42					
			3300 (1558)	0.098 (24.4)	74	68	65	62	56	52	37	41	76	70	68	66	62	57	41	44					
			4200 (1982)	0.170 (42.4)	78	72	68	65	60	54	41	45	80	75	70	67	64	59	44	48					
5000 (2360)	0.298 (74.2)	81	76	70	67	63	59	45	49	83	78	72	69	65	62	48	52								
5600 (2643)	0.454 (113.0)	82	78	74	69	65	62	47	51	84	80	76	72	67	65	50	55								

## FVI-500 - Discharge Sound Power Fan Only

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Fan Only								NC1 ARI 885- 90	NC2 ARI 885- 98
				Octave Band Sound Power, Lw, dB									
				2	3	4	5	6	7				
1	6	0.25	150 (71)	53	52	48	41	41	37	-	-		
			200 (94)	56	54	50	44	43	39	-	-		
			250 (118)	58	57	52	47	45	42	-	-		
			300 (142)	60	60	55	50	47	45	-	-		
			400 (189)	64	63	57	53	51	48	-	21		
			450 (212)	67	65	60	56	54	50	-	24		
			550 (260)	69	68	62	59	57	52	24	27		
2	8	0.25	250 (118)	55	53	47	47	42	38	-	-		
			300 (142)	56	55	48	48	43	40	-	-		
			350 (165)	57	57	50	50	44	42	-	-		
			400 (189)	59	58	51	51	45	44	-	-		
			500 (236)	62	61	53	53	47	48	-	-		
			600 (283)	65	64	55	56	50	52	-	22		
			775 (366)	67	66	58	59	53	57	21	22		
3	10	0.25	125 (59)	43	41	36	28	27	27	-	-		
			300 (142)	48	47	42	35	35	35	-	-		
			425 (201)	54	51	45	39	37	36	-	-		
			675 (319)	63	60	53	50	47	46	-	-		
			800 (378)	66	65	58	57	55	54	-	21		
			925 (437)	70	68	60	61	58	57	24	25		
			1175 (555)	72	70	62	62	60	59	26	27		
			1225 (578)	73	71	64	63	62	60	27	28		
4	12	0.25	500 (236)	60	58	54	52	50	46	-	-		
			700 (330)	64	62	56	55	54	50	-	-		
			900 (425)	66	65	58	57	56	53	-	21		
			1100 (519)	69	67	59	63	59	56	22	24		
			1300 (614)	71	70	61	62	62	59	26	27		
			1500 (708)	73	72	63	64	63	61	28	29		
						1575 (743)	74	72	64	65	64	63	28
5	14	0.25	800 (378)	60	56	50	46	43	40	-	-		
			950 (448)	63	63	58	55	52	49	-	-		
			1100 (519)	68	67	62	60	56	53	22	24		
			1300 (614)	72	70	62	61	58	55	26	27		
			1500 (708)	73	71	63	62	60	60	27	28		
			1700 (802)	74	73	64	64	61	63	29	31		
			1800 (850)	75	73	65	65	62	65	29	31		
6	16	0.25	800 (378)	58	55	55	52	48	44	-	-		
			1000 (472)	61	58	57	56	51	48	-	-		
			1250 (590)	64	61	60	55	54	52	-	-		
			1400 (661)	66	63	62	60	56	54	-	-		
			1650 (779)	70	67	65	61	60	60	22	24		
			1800 (850)	73	70	67	69	63	64	26	27		
			2160 (1020)	75	72	68	67	66	65	28	29		
7	18x16	0.25	1875 (885)	71	68	70	65	64	67	24	25		
			2100 (991)	74	71	72	68	66	69	27	28		
			2400 (1133)	77	74	74	71	69	71	31	32		
			2600 (1227)	79	76	75	73	70	73	33	34		
			2800 (1322)	81	78	76	75	72	74	35	37		
			3000 (1416)	82	79	77	76	74	74	37	38		
						3125 (1475)	83	80	77	77	76	75	38

See Page ATU-277 For NC Calculations



Air Terminal Units

ATU

# ATU - Air Terminal Units

5/2007

## FVI-500 - Discharge Sound Power .5", .75", 1" WG

Case	Inlet	Outlet Ps in. H2O	CFM (L/s)	Min Ps in. H2O (Pa)	Inlet Pressure, Ps = 0.5 inches of water (125 Pa)								Inlet Pressure, Ps = 0.75 inches of water (187 Pa)								Inlet Pressure, Ps = 1.0 inches of water (250 Pa)										
												NC1 ARI 885- 90	NC2 ARI 885- 98								NC1 ARI 885- 90	NC2 ARI 885- 98								NC1 ARI 885- 90	NC2 ARI 885- 98
					Octave Band Sound Power, Lw, dB									Octave Band Sound Power, Lw, dB									Octave Band Sound Power, Lw, dB								
					2	3	4	5	6	7				2	3	4	5	6	7				2	3	4	5	6	7			
1	6	0.25	100 (47)	0.080 (20.0)	56	49	44	45	37	34	-	-	57	52	47	46	38	36	-	-	58	53	51	46	41	38	-	-			
			200 (94)	0.100 (24.9)	58	51	46	45	38	36	-	-	58	53	48	46	40	38	-	-	59	54	51	46	42	39	-	-			
			250 (118)	0.110 (27.5)	59	52	46	46	39	37	-	-	59	54	49	46	41	39	-	-	59	55	52	46	43	41	-	-			
			300 (142)	0.127 (31.6)	59	53	48	46	41	39	-	-	59	55	50	46	42	40	-	-	60	56	52	46	44	41	-	-			
			400 (189)	0.160 (39.7)	60	54	51	46	42	42	-	-	60	55	52	46	43	42	-	-	61	56	52	47	44	43	-	-			
			450 (212)	0.176 (43.8)	61	56	52	47	44	44	-	-	61	57	53	48	45	44	-	-	62	58	54	48	45	44	-	-			
			500 (236)	0.192 (47.9)	62	58	54	48	45	45	-	-	62	58	54	48	46	46	-	-	63	59	54	48	46	46	-	-			
600 (283)	0.241 (60.1)	63	60	57	49	48	47	-	-	64	60	57	49	49	48	-	-	65	61	58	50	49	48	-	-						
2	8	0.25	200 (94)	0.084 (20.9)	51	48	44	46	37	29	-	-	52	49	44	47	37	30	-	-	54	51	45	48	37	30	-	-			
			300 (142)	0.094 (23.5)	55	51	46	48	40	35	-	-	56	52	48	49	40	34	-	-	58	54	50	50	39	34	-	-			
			400 (189)	0.105 (26.2)	57	53	48	49	42	38	-	-	59	54	50	50	42	38	-	-	60	56	52	51	42	37	-	-			
			500 (236)	0.116 (28.8)	60	55	50	50	44	41	-	-	61	56	52	51	44	41	-	-	62	58	53	52	44	41	-	-			
			650 (307)	0.138 (34.4)	63	57	52	51	46	45	-	-	63	58	54	52	47	45	-	-	64	60	55	53	47	45	-	-			
			800 (378)	0.161 (40.1)	65	60	55	52	49	49	-	-	66	61	56	53	50	49	-	-	66	62	58	55	50	50	-	-			
			875 (413)	0.175 (43.5)	68	61	56	53	50	51	-	-	68	63	58	54	51	52	-	-	69	64	59	56	52	52	-	-			
950 (448)	0.188 (46.9)	70	63	57	54	52	53	-	-	70	64	59	55	53	54	-	-	70	66	61	57	54	55	21	22						
1100 (519)	0.227 (56.6)	73	65	60	55	54	57	22	23	73	66	62	56	56	58	22	23	73	68	63	58	57	60	24	25						
3	10	0.25	300 (142)	0.088 (21.9)	52	50	41	38	35	30	-	-	54	52	42	41	37	31	-	-	58	54	46	43	39	33	-	-			
			500 (236)	0.103 (25.7)	55	52	44	40	38	34	-	-	58	54	46	43	40	35	-	-	60	56	50	45	42	37	-	-			
			775 (366)	0.125 (31.1)	60	55	48	44	43	38	-	-	62	57	51	46	44	40	-	-	64	59	54	48	45	41	-	-			
			925 (437)	0.136 (33.9)	62	56	50	47	45	43	-	-	64	58	52	48	47	44	-	-	66	60	55	50	47	45	-	-			
			1075 (507)	0.158 (39.3)	64	58	52	50	47	47	-	-	65	59	54	52	48	48	-	-	67	61	56	52	49	48	-	-			
			1325 (625)	0.190 (47.2)	68	60	56	52	48	47	-	-	69	62	57	53	49	48	-	-	70	63	59	53	50	49	-	-			
			1450 (684)	0.204 (50.9)	71	61	58	54	53	51	21	21	71	63	59	54	53	52	21	21	71	64	60	55	54	53	-	21			
1625 (767)	0.254 (63.2)	73	63	61	57	56	55	22	23	73	64	61	57	56	56	22	23	73	66	62	58	57	57	22	23						
1700 (802)	0.270 (67.2)	74	64	62	58	57	56	23	25	74	64	63	59	57	57	23	25	75	66	63	59	58	57	25	26						
4	12	0.25	450 (212)	0.076 (18.9)	55	51	43	41	37	32	-	-	58	54	47	44	40	35	-	-	61	57	51	45	39	35	-	-			
			650 (307)	0.084 (20.9)	58	53	46	44	40	36	-	-	60	56	49	46	43	38	-	-	63	59	53	48	42	39	-	-			
			900 (425)	0.094 (23.4)	61	55	50	47	43	38	-	-	63	58	52	49	45	42	-	-	65	60	55	51	45	42	-	-			
			1100 (519)	0.100 (25.0)	63	57	52	50	46	44	-	-	65	59	54	52	48	44	-	-	66	61	56	52	48	45	-	-			
			1300 (614)	0.107 (26.6)	65	59	54	55	49	47	-	-	66	61	56	55	50	47	-	-	68	63	58	56	50	48	-	-			
			1500 (708)	0.118 (29.4)	68	60	57	57	53	50	-	-	69	62	58	57	53	51	-	-	69	64	60	57	53	51	-	-			
			1800 (850)	0.143 (35.5)	72	63	61	60	55	53	21	22	72	64	62	61	56	54	21	22	73	66	63	62	57	55	22	23			
2200 (1038)	0.182 (45.3)	75	65	64	67	62	61	25	26	76	66	64	68	62	62	26	27	76	68	66	66	62	61	26	27						
2500 (1180)	0.212 (52.7)	76	65	65	68	64	63	26	27	77	66	66	68	65	64	27	29	77	70	68	69	65	64	27	29						
5	14	0.25	550 (260)	0.072 (18.0)	57	50	46	41	40	38	-	-	60	53	49	43	42	40	-	-	62	57	52	44	43	41	-	-			
			775 (366)	0.081 (20.1)	59	52	48	43	42	40	-	-	61	55	50	45	43	41	-	-	63	58	53	47	43	42	-	-			
			1000 (472)	0.090 (22.5)	60	54	49	45	44	42	-	-	62	56	52	47	46	45	-	-	64	59	54	49	47	44	-	-			
			1500 (708)	0.106 (26.5)	63	57	53	49	48	46	-	-	65	59	55	51	49	48	-	-	67	61	57	52	50	51	-	-			
			1950 (920)	0.134 (33.3)	66	60	57	53	53	51	-	-	68	62	58	54	54	51	-	-	69	63	59	55	55	52	-	-			
			2200 (1038)	0.149 (37.0)	68	64	59	55	55	53	-	-	70	65	60	56	56	53	-	21	72	66	61	57	57	53	21	22			
			2675 (1263)	0.209 (52.0)	70	66	62	59	59	57	21	22	72	66	63	60	59	56	21	22	73	67	63	60	59	55	22	24			
3000 (1416)	0.246 (61.2)	74	70	66	62	61	60	26	27	75	72	67	63	62	61	28	29	75	73	68	64	63	61	29	31						
3250 (1534)	0.278 (69.3)	76	72	67	64	63	62	28	29	76	73	68	65	64	62	29	31	77	74	69	66	64	63	31	32						
6	16	0.25	750 (354)	0.083 (20.6)	58	51	47	42	32	30	-	-	61	53	49	43	38	32	-	-	62	55	50	43	39	33	-	-			
			950 (448)	0.088 (21.8)	60	53	48	43	35	32	-	-	63	55	50	45	40	35	-	-	64	56	52	45	41	39	-	-			
			1525 (720)	0.104 (25.9)	64	60	53	47	41	35	-	-	65	60	54	49	45	41	-	-	67	60	56	49	46	45	-	-			
			1800 (850)	0.115 (28.7)	67	61	54	49	43	38	-	-	68	62	56	50	47	45	-	-	69	62	58	51	49	47	-	-			
			2400 (1133)	0.138 (34.3)	72	66	59	52	50	48	21	22	73	66	60	54	52	51	22	23	73	67	61	56	55	54	22	24			
			3000 (1416)	0.165 (41.2)	75	69	61	56	56	55	25	26	75	69	63	58	58	57	25	26	76	70	65	60	59	59	26	27			
			3500 (1652)	0.188 (46.9)	77	70	63	58	60	58	27	29	77	71	64	60	61	60	27	29	77	72	65	61	61	60	28	29			
4000 (1888)	0.218 (54.3)	78	71	64	62	61	60	29	30	79	72	65	63	61	61	30	31	80	73	67	64	62	61	31	32						
4400 (2077)	0.247 (61.4)	80	72	65	65	64	62	31	32	81	73	66	65	64	63	32	34	82	74	68	66	65	63	34	35						
7	18 x 16	0.25	975 (460)	0.178 (44.4)	59	55	48	42	34	31	-	-	60	56	48	43	36	32	-	-	60	56	49	44	36	33	-	-			
			1200 (566)	0.021 (5.2)	64	62	54	52	47	46	-	-	65	62	55	53	48	47	-	-	65	62	56	54	49	48	-	-			
			1600 (755)	0.028 (6.9)	67	63	56	55	51	50	-	-	68	64	57	56	53	51	-	-	69	65	58	57	54	51	-	21			
			2000 (944)	0.036 (9.0)	71	66	58	57	54	53	21	22	72	67	59	58	56	54	22	24	73	68	59	59	57	55	24	25			
			2500 (1180)	0.056 (14.0)	75	69	61	59	59	58	25	26	76	70	61	60	59	59	26	27	77	72	62	61	60	59	28	29			
			3300 (1558)	0.098 (24.4)	76	74	65	65	63	62	31	32	77	75	66	66	64	62	32	33	78	76	66	67	65	63	33	34			
			4200 (1982)	0.170 (42.4)	80	78	68	68	66	65	35	37	81	79	69	68	67	65	37	38	82	80	70	69	68	66	38	39			
5000 (2360)	0.298 (74.2)	82	79	73	71	70	68	37	38	83	81	75	72	70	69	39	40	84	82	76											

## FVI-500 - Discharge Sound Power 1.5", 2" WG

Case	Inlet	Outlet Ps in. H <sub>2</sub> O	CFM (L/s)	Min Ps in. H <sub>2</sub> O (Pa)	Inlet Pressure, Ps = 1.5 inches of water (125 Pa)								Inlet Pressure, Ps = 2.0 inches of water (187 Pa)									
					Octave Band Sound Power, Lw, dB						NC1 ARI 885- 90	NC2 ARI 885- 98	Octave Band Sound Power, Lw, dB						NC1 ARI 885- 90	NC2 ARI 885- 98		
					2	3	4	5	6	7	2	3	4	5	6	7						
1	6	0.25	100 (47)	0.080 (20.0)	58	54	51	46	42	39	-	-	59	56	52	47	43	41	-	-		
			200 (94)	0.100 (24.9)	59	55	52	46	43	40	-	-	61	57	53	48	44	42	-	-		
			250 (118)	0.110 (27.5)	60	56	52	47	44	41	-	-	62	57	54	49	44	43	-	-		
			300 (142)	0.127 (31.6)	60	56	53	47	44	42	-	-	62	58	55	49	45	44	-	-		
			400 (189)	0.160 (39.7)	61	57	53	47	45	44	-	-	63	59	56	50	46	46	-	-		
			450 (212)	0.176 (43.8)	63	58	54	50	46	45	-	-	64	61	57	52	48	47	-	-		
			500 (236)	0.192 (47.9)	64	60	55	52	47	47	-	-	65	63	58	53	49	49	-	21		
600 (283)	0.241 (60.1)	66	62	59	54	50	49	-	-	67	64	60	54	51	50	-	22					
2	8	0.25	200 (94)	0.084 (20.9)	56	53	48	50	40	33	-	-	59	55	51	50	42	35	-	-		
			300 (142)	0.094 (23.5)	60	55	52	51	41	36	-	-	62	57	53	52	44	38	-	-		
			400 (189)	0.105 (26.2)	62	57	54	52	44	39	-	-	63	59	55	54	46	41	-	-		
			500 (236)	0.116 (28.8)	63	59	55	53	46	43	-	-	64	60	56	53	47	45	-	-		
			650 (307)	0.138 (34.4)	65	60	58	54	49	48	-	-	66	61	58	55	50	49	-	-		
			800 (378)	0.161 (40.1)	67	63	60	55	51	51	-	-	68	64	61	56	52	52	-	-		
			875 (413)	0.175 (43.5)	70	65	61	57	53	52	-	21	71	66	62	58	54	53	21	22		
950 (448)	0.188 (46.9)	72	67	63	58	56	55	22	24	73	68	65	59	58	57	24	25					
1100 (519)	0.227 (56.6)	74	69	64	59	58	61	25	26	75	70	66	60	59	62	26	27					
3	10	0.25	300 (142)	0.088 (21.9)	60	56	48	44	41	35	-	-	61	58	50	47	43	38	-	-		
			500 (236)	0.103 (25.7)	62	58	52	46	45	39	-	-	63	59	55	48	46	44	-	-		
			775 (366)	0.125 (31.1)	65	60	55	49	47	44	-	-	66	61	59	51	49	46	-	-		
			925 (437)	0.136 (33.9)	67	61	57	51	48	46	-	-	68	63	58	53	52	48	-	-		
			1075 (507)	0.158 (39.3)	68	63	59	52	49	48	-	-	69	64	60	56	54	49	-	-		
			1325 (625)	0.190 (47.2)	71	65	60	53	50	49	-	21	72	66	62	57	55	54	21	22		
			1450 (684)	0.204 (50.9)	73	66	62	56	55	51	22	23	74	68	63	58	56	56	24	25		
1625 (767)	0.254 (63.2)	74	67	63	59	58	57	23	25	75	69	64	60	58	57	25	26					
1700 (802)	0.270 (67.2)	76	68	64	60	59	58	26	27	76	71	65	61	60	59	27	28					
4	12	0.25	450 (212)	0.076 (18.9)	62	58	53	47	41	37	-	-	63	59	54	49	45	42	-	-		
			650 (307)	0.084 (20.9)	64	60	55	49	44	40	-	-	66	61	56	52	46	45	-	-		
			900 (425)	0.094 (23.4)	66	61	57	52	47	43	-	-	67	62	58	54	50	47	-	-		
			1100 (519)	0.100 (25.0)	67	63	58	54	49	46	-	-	68	64	60	57	52	50	-	-		
			1300 (614)	0.107 (26.6)	69	65	59	57	51	49	-	21	71	66	62	60	55	54	21	22		
			1500 (708)	0.118 (29.4)	71	67	61	58	53	51	22	24	73	68	64	63	56	55	24	25		
			1800 (850)	0.143 (35.5)	74	70	64	63	58	56	26	27	76	70	66	64	59	57	26	27		
2200 (1038)	0.182 (45.3)	77	71	68	67	64	62	27	29	79	73	69	68	65	63	30	31					
2500 (1180)	0.212 (52.7)	78	72	70	69	67	65	29	30	80	75	71	70	68	66	32	33					
5	14	0.25	550 (260)	0.072 (18.0)	63	58	53	45	44	43	-	-	64	59	54	46	45	43	-	-		
			775 (366)	0.081 (20.1)	64	59	54	48	45	44	-	-	65	60	56	49	46	45	-	-		
			1000 (472)	0.090 (22.5)	65	60	55	51	48	46	-	-	67	62	57	52	49	48	-	-		
			1500 (708)	0.106 (26.5)	68	62	58	54	51	50	-	-	71	65	61	55	55	52	-	21		
			1950 (920)	0.134 (33.3)	73	67	62	57	56	53	22	24	74	69	64	59	58	55	25	26		
			2200 (1038)	0.149 (37.0)	74	70	65	59	58	55	26	27	75	71	66	61	60	56	27	28		
			2675 (1263)	0.209 (52.0)	75	71	66	61	60	57	27	28	76	73	67	63	61	60	29	31		
3000 (1416)	0.246 (61.2)	76	74	69	65	64	62	31	32	77	75	70	66	65	63	32	33					
3250 (1534)	0.278 (69.3)	78	75	70	67	65	64	32	33	78	76	71	68	67	66	33	34					
6	16	0.25	750 (354)	0.083 (20.6)	63	56	51	45	41	40	-	-	64	58	53	57	43	42	-	-		
			950 (448)	0.088 (21.8)	65	58	54	47	43	42	-	-	66	59	56	50	45	44	-	-		
			1525 (720)	0.104 (25.9)	68	61	57	50	47	46	-	-	69	62	59	53	51	50	-	-		
			1800 (850)	0.115 (28.7)	70	64	59	53	52	51	-	-	71	66	63	57	53	52	21	22		
			2400 (1133)	0.138 (34.3)	75	68	62	58	57	56	25	26	77	70	66	60	58	57	27	29		
			3000 (1416)	0.165 (41.2)	77	74	69	65	63	61	31	32	79	77	70	64	62	61	34	35		
			3500 (1652)	0.188 (46.9)	78	75	70	65	65	62	32	33	81	78	72	67	66	63	35	37		
4000 (1888)	0.218 (54.3)	81	76	71	67	66	63	33	34	84	81	73	68	67	64	39	40					
4400 (2077)	0.247 (61.4)	83	77	72	68	67	65	35	36	85	82	74	69	68	66	40	41					
7	18 x 16	0.25	975 (460)	0.178 (44.4)	62	57	50	48	41	35	-	-	63	59	52	49	45	40	-	-		
			1200 (566)	0.021 (5.2)	66	63	57	56	51	49	-	-	68	64	61	59	55	52	-	-		
			1600 (755)	0.028 (6.9)	70	66	59	58	56	52	21	22	72	67	62	61	60	59	22	24		
			2000 (944)	0.036 (9.0)	75	71	61	60	58	57	27	28	76	72	68	66	62	64	28	29		
			2500 (1180)	0.056 (14.0)	78	74	63	61	60	59	31	32	79	75	69	68	65	65	32	33		
			3000 (1558)	0.098 (24.4)	81	79	75	73	71	70	37	38	82	80	76	74	72	71	38	39		
			4200 (1982)	0.170 (42.4)	84	82	78	78	77	77	40	41	85	83	79	80	79	73	41	42		
5000 (2360)	0.298 (74.2)	85	83	81	79	78	77	41	42	86	84	82	81	79	78	42	44					
5600 (2643)	0.454 (113.0)	86	84	82	80	79	78	42	44	87	85	83	82	80	79	44	45					

See Page ATU-277 For NC Calculations

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIR publishes the NC levels for both the 1990 standard and the 1998 current standard.



## FVI-500 - ARI Rating Points



ARI Certified Radiated Sound Power, Fan Only								
Unit Size	Fan CFM	Octave Band						Electrical Power (Watts)
		2	3	4	5	6	7	
106	270	62	62	55	53	45	43	150
208	440	65	63	56	52	45	43	160
310	780	65	63	59	56	51	49	290
412	1000	68	66	61	60	52	51	490
514	1200	74	69	62	60	57	54	680
616	1800	76	73	67	63	57	56	760
718	2600	77	74	71	69	62	61	1430

ARI Certified Discharge Sound Power, Fan Only								
Unit Size	Fan CFM	Octave Band						Electrical Power (Watts)
		2	3	4	5	6	7	
106	270	59	59	53	48	46	43	150
208	440	60	59	51	52	46	46	160
310	780	66	64	57	56	54	51	290
412	1000	67	66	58	62	57	54	490
514	1200	71	69	62	60	57	54	680
616	1800	73	70	67	69	63	64	760
718	2600	79	76	75	73	70	73	1430

ARI Certified Radiated Sound Power, 1.5" Inlet Static Pressure									
Unit Size	Primary CFM	Min Ps	Octave Band						Electrical Power (Watts)
			2	3	4	5	6	7	
106	400	0.16	61	54	48	46	42	39	150
208	700	0.14	62	56	52	46	42	40	160
310	1100	0.16	66	60	54	53	45	41	290
412	1600	0.13	68	60	54	50	47	43	490
514	2100	0.15	71	64	58	53	50	46	680
616	2800	0.16	72	66	60	55	51	47	760
718	3750	0.13	77	71	67	63	58	52	1430

ARI Certified Discharge Sound Power, 1.5" Inlet Static Pressure									
Unit Size	Primary CFM	Min Ps	Octave Band						Electrical Power (Watts)
			2	3	4	5	6	7	
106	400	0.16	61	57	53	47	45	44	150
208	700	0.14	66	61	58	54	49	49	160
310	1100	0.16	68	64	59	52	49	49	290
412	1600	0.13	72	68	63	60	55	53	490
514	2100	0.15	74	69	64	59	58	54	680
616	2800	0.16	77	73	68	62	61	60	760
718	3750	0.13	84	81	76	75	74	77	1430

### STATEMENT OF STANDARD TEST CONFORMITY

METALAIRE tests all FVI-500 air terminal units for engineering performance in accordance with the following standards: Air-Conditioning & Refrigeration Institute (ARI), American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

- ARI Standard 880-98  
Standard for Air Terminals
- ANSI/ASHRAE 130-1996  
Methods of Testing for Rating Ducted Air Terminal Units
- ASHRAE Standard 41.1-1986 (RA 91)  
Standard Method for Temperature Measurement
- ASHRAE Standard 41.2-1987  
Standard Methods for Laboratory Air Measurements
- ASHRAE Standard 41.3-1989  
Standard Methods for Pressure Measurement

		Standard PSC Motor Amperage Ratings	
		115V-1 Phase 60 Hz	277V-1 Phase 60 Hz
Case Size	Motor HP	Name Plate Amps	Name Plate Amps
1	1/8	2.6	0.9
2	1/6	3.1	1.2
3	1/4	4.8	1.9
4	1/4	4.8	1.9
5	1/3	8.8	3.6
6	1/2	9.8	3.6
7	1	N/A	6.2

Inlet Size	Damper Leakage, CFM		
	1.5" DPS	3.0" DPs	6.0" DPs
6	3	4	7
8	2	4	7
10	4	5	7
12	4	5	7
14	4	6	8
16	4	6	8

Motors also available 208-240 50/60 Hz.  
Contact your METALAIRE Representative for details.

		ECM Motor Amperage Ratings	
		115V-1 Phase 60 Hz	277V-1 Phase 60 Hz
Case Size	Motor HP	Name Plate Amps	Name Plate Amps
3	1/2	7.7	4.1
6	1	12.8	6.9

All accessories which can be attached to the Series FVI-500 Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.

## FVI-500 - Sound Path Attenuation Assumptions

### NC CALCULATIONS

The current ARI Standard for NC calculations is ARI 885-98. Other terminal manufacturers may catalog performance based on ARI 885-90. Using this older, obsolete standard will provide lower NC levels compared to the 1998 standard. To allow for fair and accurate performance comparisons, METALAIRE publishes the NC levels for both the 1990 standard and the 1998 current standard.

ARI 885-90 Radiated Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Ceiling Effect	9	10	12	14	15	15
Room Effect	9	10	10	11	12	13
<b>Total dB Reduction</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>26</b>	<b>28</b>	<b>29</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>2</sup> density).
- 2) Room size is 3000 ft<sup>3</sup>.
- 3) Unit is located 10 ft from measurement point.

ARI 885-90 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Duct Lining	1	3	8	22	23	13
End Reflection	11	6	2	0	0	0
Flex Duct	6	9	23	25	22	13
Room Effect	9	10	10	11	12	13
<b>Total dB Reduction</b>	<b>30</b>	<b>30</b>	<b>44</b>	<b>59</b>	<b>58</b>	<b>40</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:

- 1) Fiberglass duct lining is 1 inch thick, 12" x 12" duct length is 5 feet.
- 2) Flex duct is 8 inches in diameter and 6 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 3000 ft<sup>3</sup>.
- 5) Unit is located 10 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above

ARI 885-98 Radiated Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Ceiling/Space Effect	16	18	20	26	31	36
<b>Total dB Reduction</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>26</b>	<b>31</b>	<b>36</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft<sup>2</sup> density).
- 2) The plenum space is at least 3 ft deep and either wide (>30 ft) or insulated.

*\* Combined effect including absorption of the ceiling tile, plenum absorption and room absorption.  
(New to ARI 885-98. ARI 885-90 had separate lines for these absorptions.)*

ARI 885-98, APPE defined "Medium" application from 300 to 700 CFM

ARI 885-98 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	4	10	20	20	14
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
<b>Total dB Reduction</b>	<b>24</b>	<b>26</b>	<b>37</b>	<b>48</b>	<b>50</b>	<b>36</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) 12" x 12" x 5' duct with 1 inch thick fiberglass lining.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup> (size of standard test room).
- 5) Unit is located 5 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above

ARI 885-98, APPE defined "Large" application 700 CFM & greater

ARI 885-98 Discharge Sound Path Assumptions						
Attenuation	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	3	9	18	17	12
End Reflection	9	5	2	0	0	0
Flex Duct	6	10	18	20	21	12
Space Effect	5	6	7	8	9	10
<b>Total dB Reduction</b>	<b>24</b>	<b>25</b>	<b>36</b>	<b>46</b>	<b>47</b>	<b>34</b>

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:

- 1) 15" x 15" x 5' duct with 1 inch thick fiberglass lining.
- 2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
- 3) Flex duct has a vinyl core.
- 4) Room size is 2400 ft<sup>3</sup> (size of standard test room).
- 5) Unit is located 5 ft from measurement point.
- 6) Attenuation credit based on a 300 CFM flow division using 10 log (# space) not shown above



# ATU - Air Terminal Units

5/2007

## FVI-500 - Hot Water Coil MBH Selection Data / Metric Units

Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				95	140	190	235	285	330	375	450
1	One	0.06	0.45	3.3	3.7	4.0	4.1	4.2	4.3	4.5	4.6
		0.13	1.76	3.6	4.2	4.5	4.7	4.8	5.0	5.3	5.4
		0.25	6.76	3.8	4.5	4.9	5.1	5.3	5.4	5.7	5.9
		0.38	14.83	3.9	4.6	5.0	5.2	5.4	5.6	5.9	6.1
		Airside Ps (kPa)		0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
1	Two	0.06	0.18	4.5	5.2	5.6	5.8	6.0	6.1	6.4	6.5
		0.13	0.75	5.2	6.2	6.7	7.0	7.3	7.5	7.9	8.1
		0.25	2.84	5.6	6.8	7.5	7.8	8.1	8.4	9.0	9.3
		0.38	6.34	5.7	7.0	7.7	8.1	8.5	8.8	9.5	9.7
		Airside Ps (kPa)		0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				165.2	210	245	260	285	340	375	415
2	One	0.06	0.45	4.0	4.4	4.7	4.8	4.9	5.2	5.4	5.6
		0.13	1.76	4.5	5.1	5.5	5.6	5.8	6.3	6.5	6.7
		0.25	6.76	4.9	5.6	6.0	6.2	6.4	7.0	7.3	7.6
		0.38	14.83	5.0	5.8	6.2	6.4	6.7	7.3	7.6	7.9
		Airside Ps (kPa)		0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02
2	Two	0.06	0.18	5.6	6.3	6.7	6.8	7.0	7.5	7.7	7.9
		0.13	0.75	6.7	7.7	8.3	8.5	8.9	9.8	10.0	10.4
		0.25	2.84	7.5	8.7	9.5	10.7	10.3	11.5	11.9	12.4
		0.38	6.34	7.8	9.1	10.0	10.3	10.8	12.3	12.7	13.3
		Airside Ps (kPa)		0.01	0.01	0.02	0.02	0.02	0.04	0.04	0.05
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				255	295	330.4	375	460	530	565	640
3	One	0.06	0.63	5.6	5.9	6.2	6.4	6.9	7.0	7.2	7.3
		0.13	2.36	6.6	7.0	7.4	7.8	8.5	8.7	8.9	9.2
		0.25	8.97	7.3	7.8	8.2	8.8	9.6	9.9	10.2	10.5
		0.38	19.67	7.5	8.1	8.6	9.1	10.1	10.4	10.7	11.1
		Airside Ps (kPa)		0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02
3	Two	0.06	0.24	7.7	8.1	8.4	8.8	9.4	9.6	9.7	9.9
		0.13	0.90	9.7	10.4	10.9	11.6	12.6	13.0	13.3	13.7
		0.25	3.44	11.0	12.0	12.8	13.8	15.2	15.8	16.3	16.8
		0.38	7.59	11.6	12.6	13.5	14.6	16.3	17.0	17.6	18.2
		Airside Ps (kPa)		0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				370	440	470	510	650	660	710	660
4	One	0.06	0.63	6.4	6.7	6.9	7.1	7.2	7.4	7.6	7.6
		0.13	2.36	7.8	8.3	8.5	8.8	9.1	9.4	9.6	9.7
		0.25	8.97	8.7	9.4	9.7	10.0	10.4	10.8	11.1	11.2
		0.38	19.67	9.1	9.8	10.2	10.5	11.0	11.4	11.7	11.8
		Airside Ps (kPa)		0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
4	Two	0.06	0.24	8.8	9.2	9.4	9.6	9.8	10.0	10.2	10.3
		0.13	0.90	11.5	12.3	12.7	13.1	13.5	14.0	14.3	14.4
		0.25	3.44	13.6	14.8	15.4	16.0	16.6	17.3	17.9	18.0
		0.38	7.59	14.5	15.9	16.6	17.2	18.0	18.8	19.5	19.6
		Airside Ps (kPa)		0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.05
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				460	505	545	575	615	660	732	780
5	One	0.06	0.63	6.9	7.1	7.2	7.3	7.5	7.6	7.8	7.9
		0.13	2.36	8.5	8.8	9.0	9.2	9.4	9.7	10.0	10.2
		0.25	9.00	9.6	10.0	10.3	10.6	10.9	11.2	11.7	11.9
		0.38	19.70	10.1	10.5	10.9	11.2	11.5	11.8	12.3	12.7
		Airside Ps (kPa)		0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03
5	Two	0.06	0.24	9.4	9.6	9.8	9.9	10.1	10.3	10.5	10.6
		0.13	0.90	12.6	13.1	13.4	13.8	14.0	14.4	14.9	15.2
		0.25	3.44	15.2	15.9	16.5	17.0	17.4	18.0	18.8	19.3
		0.38	7.59	16.3	17.2	17.8	18.4	18.9	19.6	20.6	21.2
		Airside Ps (kPa)		0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				555	600	660	685	730	770	800	850
6	One	0.06	0.66	7.6	7.7	7.9	8.0	8.1	8.2	8.3	8.4
		0.13	2.51	9.5	9.8	10.1	10.2	10.4	10.6	10.8	11.0
		0.25	9.53	10.9	11.3	11.7	11.9	12.1	12.5	12.7	13.0
		0.38	20.89	11.5	11.9	12.4	12.6	12.8	13.2	13.5	13.8
		Airside Ps (kPa)		0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03
6	Two	0.06	0.24	10.2	10.4	10.6	10.7	10.8	10.9	11.0	11.2
		0.13	0.93	14.0	14.5	14.9	15.1	15.5	15.7	15.9	16.2
		0.25	3.59	17.3	17.9	18.7	19.0	19.6	20.0	20.3	20.8
		0.38	7.92	18.7	19.5	20.4	20.8	21.4	21.9	22.4	23.0
		Airside Ps (kPa)		0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.07
Unit Size	Rows	L/s	Head Loss (kPa)	L/s							
				945	1135	1325	1225	1700	1795	1890	2125
7	One	0.06	0.93	10.3	10.5	10.7	10.9	11.1	11.2	11.3	11.4
		0.19	7.50	15.7	16.2	16.7	17.2	17.7	18.0	18.4	18.8
		0.38	28.46	17.9	18.7	19.4	20.0	20.6	21.1	21.7	22.2
		0.57	62.20	18.9	19.7	20.4	21.1	21.8	22.4	23.0	23.6
		Airside Ps (kPa)		0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.05
7	Two	0.06	0.33	15.1	15.3	15.5	13.5	13.6	13.8	-	-
		0.19	2.66	27.1	28.1	28.9	25.5	26.2	26.7	-	-
		0.38	10.19	33.4	34.9	36.2	32.3	33.3	34.3	-	-
		0.57	22.42	36.1	37.9	39.5	35.3	36.6	37.7	-	-
		Airside Ps (kPa)		0.04	0.05	0.05	0.06	0.07	0.08	-	-

For Performance Notes see page ATU-279 Table A

## FVI-500 - Hot Water Coils Notes

### Table-A

#### IMPERIAL NOTES

- Hot water coil data are correct for both discharge & induction mounted coils with exception to case 7.
- Values shown in the previous charts assume the following conditions: 180°F EWT, and 65°F EAT. For other conditions of entering water, air temperatures and air flow, see note 5.
- Tabulated values are in MBH (Thousands of BTU per hour).
- Head Loss is in feet of water.
- MBH values are based on a DT (temperature difference) of 115° F between entering air and entering water. For other DTs, multiply the MBH values by the factors below:

DT	Factor
50	.44
60	.52
70	.61
80	.70
90	.79

DT	Factor
100	.88
115	1.00
125	1.07
140	1.20
150	1.30

6. Air Temperature Rise =  $\frac{927 \times \text{MBH}}{\text{CFM}}$

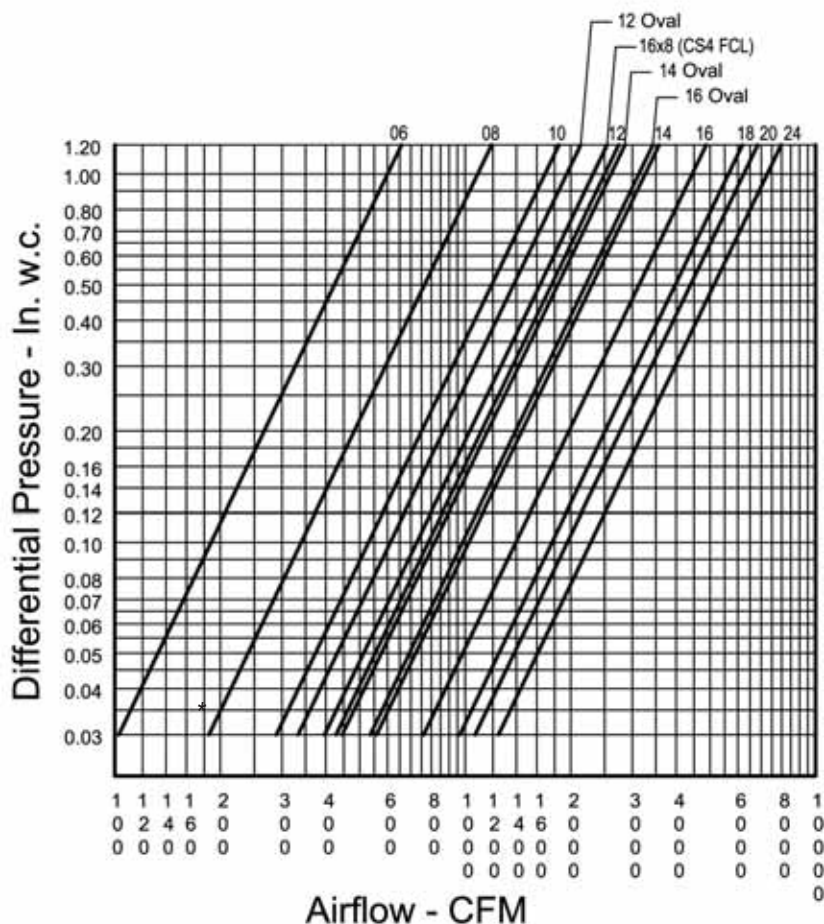
7. Water Temperature Drop =  $\frac{2.04 \times \text{MBH}}{\text{GPM}}$

8. For water valve sizing, contact your METALAIR representative. For data values other than those listed, interpolate or use the METALAIR Terminal Selection Program. Contact your METALAIR representative for additional information.

9. All hot water coils are 10 Fins per inch (FPI).



## FVI-500 - Calibration for METALAIRE Multi-Point Quadrant Averaging Sensor



ATU Model	Inlet Size	Flow Coefficient
TH, FC	06 Round	600
FV, DD	08 "	1100
DH, BP	10 "	1700
RT, RA	12 "	2500
TL (6-10)	14 "	3250
FCL Cs2 (6-8)	16 "	4400
12 TL	12 Oval	1965
14 TL	14 "	2600
16 TL	16 "	3150
FCL Cs4	16x8 Rect.	2340
FC & FV Cs7	18x16 "	5600
TH20	20x16 "	6200
TH24	24x16 "	7200

$$Cfm = \sqrt{\Delta p} \times \text{Flow Coefficient}$$

Data is with Sensor Mounted in Round Duct, except for Rectangular Sizes 18, 20 and 24 Widths x 16 Height and 16 x 8 (FCL Case 4)

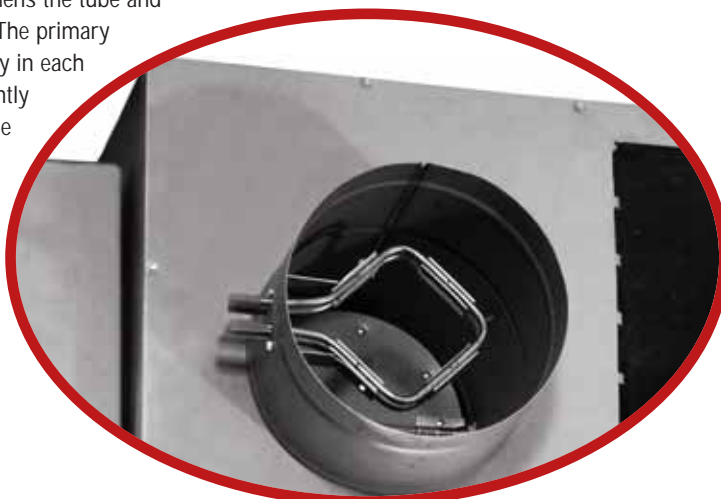
\* Some controllers do not operate consistently below 0.030 in. w.c.

## PRIMARY AIR VALVE AND MULTI-POINT QUADRANT AVERAGING FLOW SENSOR

Primary air valve has a bead rolled into the tube, which strengthens the tube and serves as a stop to prevent field-attached flex duct from slipping. The primary valve velocity sensor is multi-ported and arranged to sense velocity in each of four quadrants of the inlet. Those port readings are then inherently

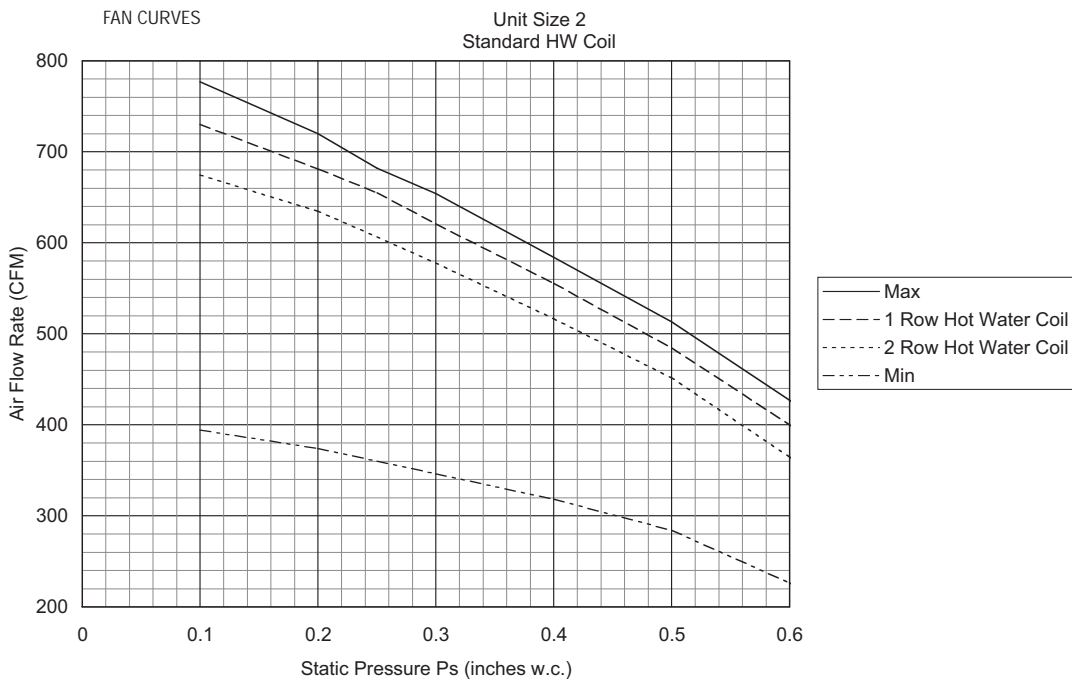
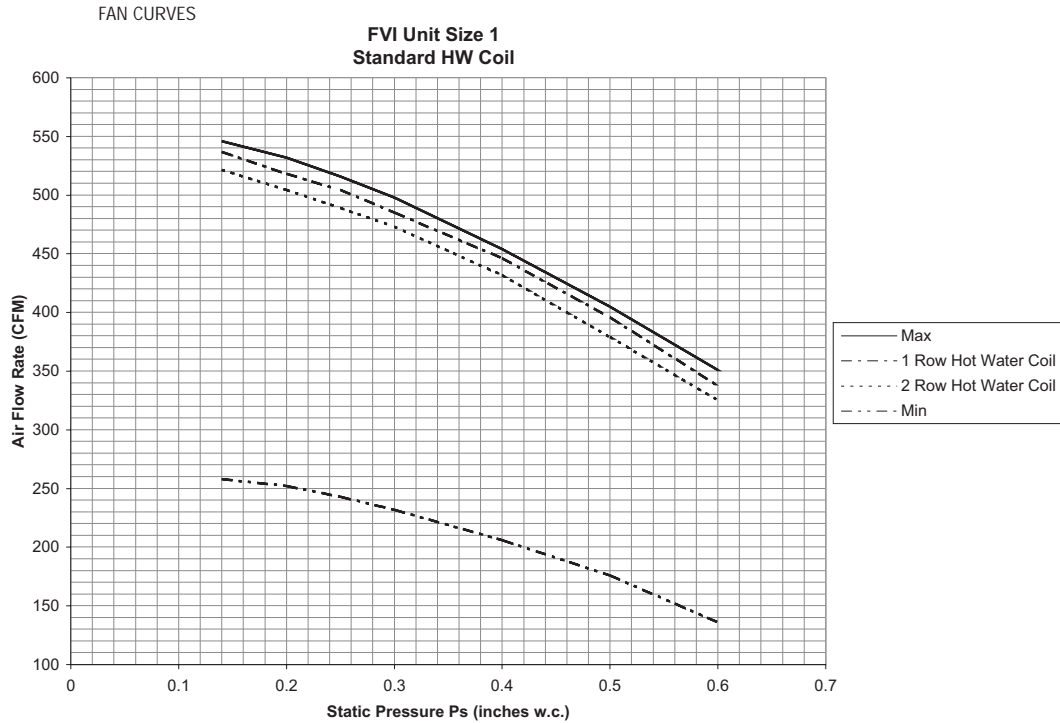
averaged back to the access ports. The sensor has two control ports and two accessory ports. Piping connections are made externally.

FVI-500 Fan Powered Unit - K Factors			
Inlet Size	Inlet Area	CFM @ 1"	K Factor
6	0.20	600	1.72
8	0.35	1100	1.61
10	0.55	1700	1.65
12	0.79	2500	1.58
14	1.07	3250	1.73
16	1.40	4400	1.61
18 x 16	2.00	5600	2.05



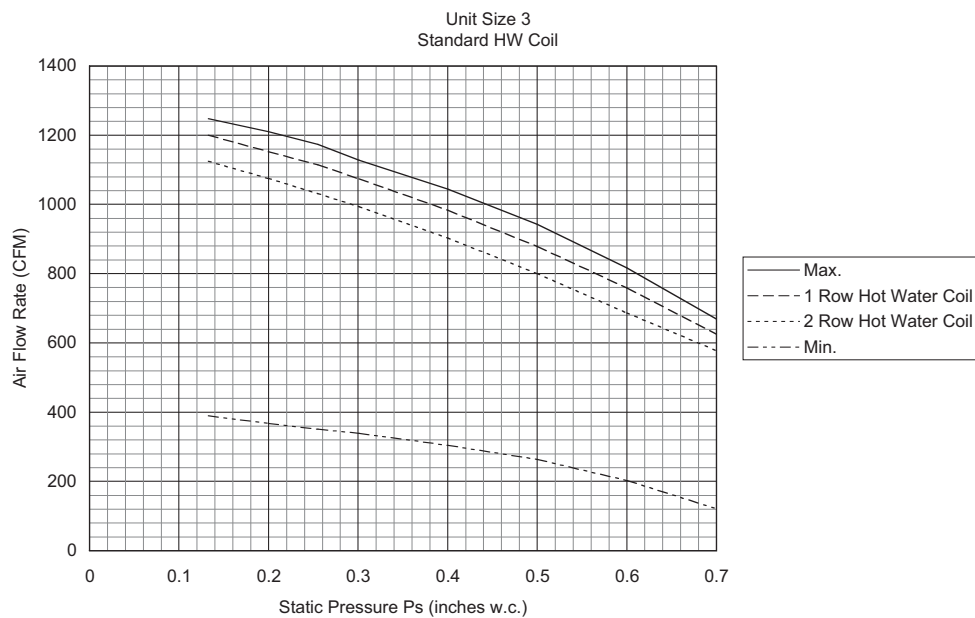


## FVI-500 - Fan Performance Charts

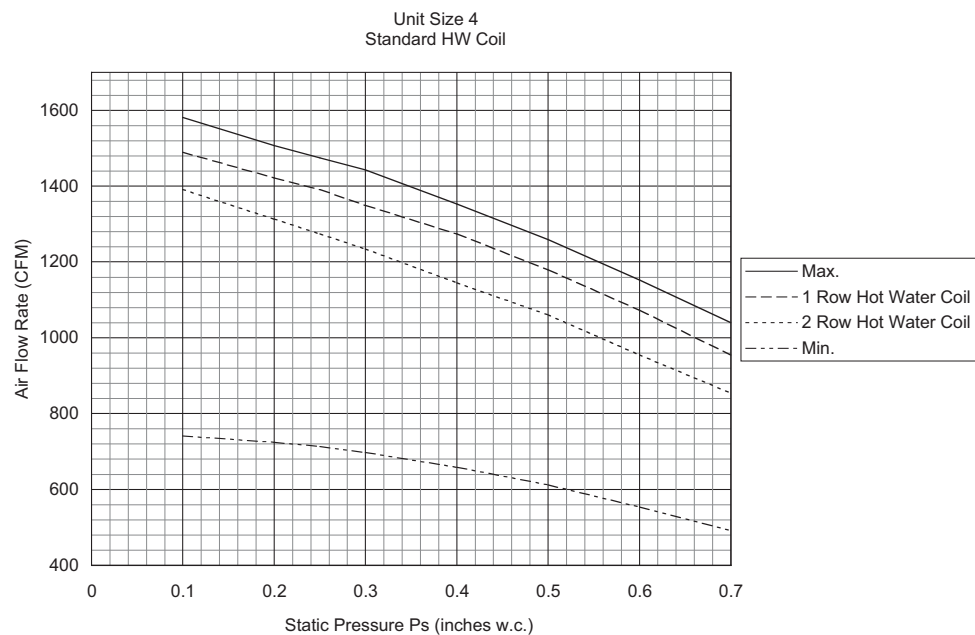


## FVI-500 - Fan Performance Charts

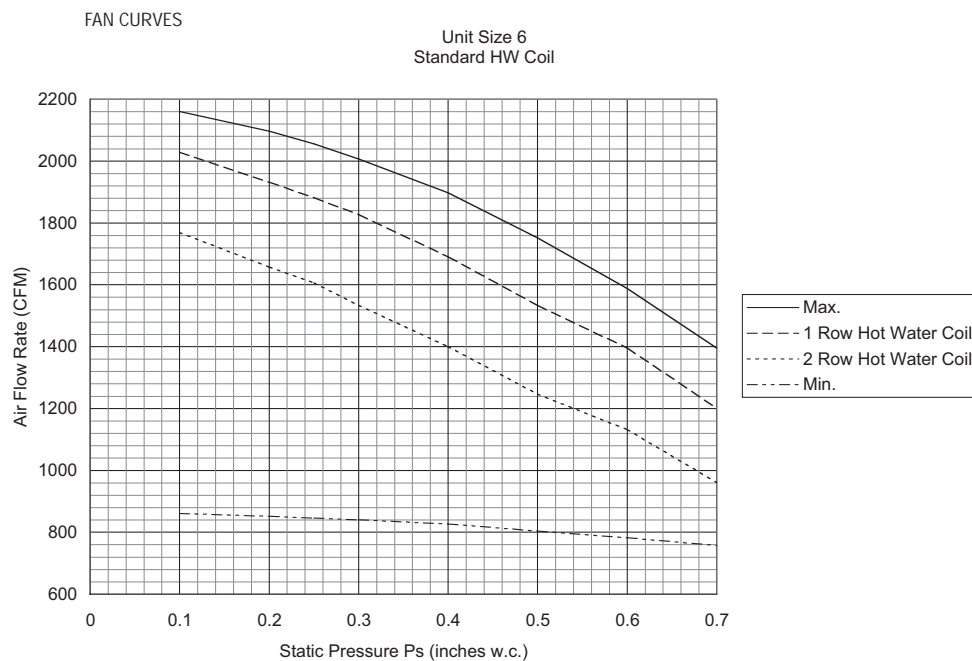
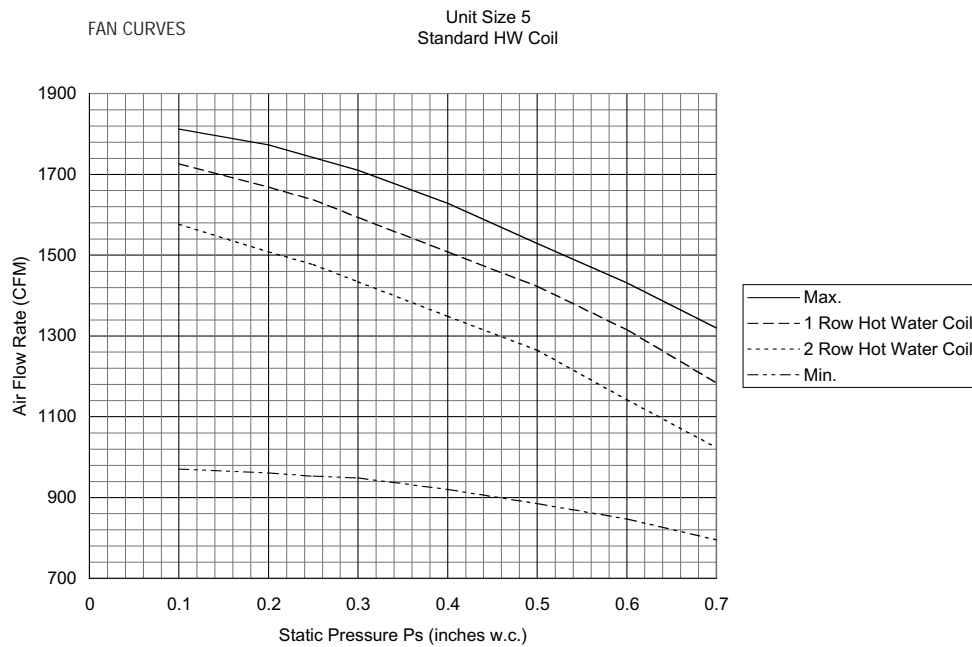
FAN CURVES



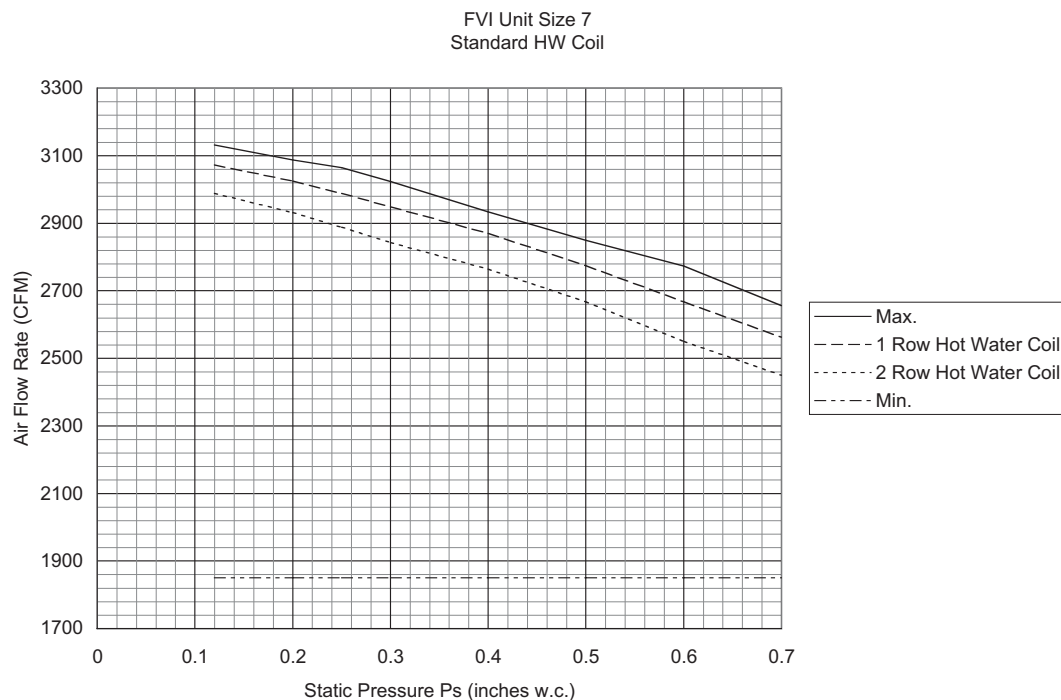
FAN CURVES



## FVI-500 - Fan Performance Charts



## FVI-500 - Fan Performance Charts



## Equations, Conversions & Factors

### Formulas

$$\begin{aligned} VP &= (\text{fpm} / 4,005)^2 \\ CFM &= \text{Cubic feet per minute} \\ TP &= \text{Total Pressure} \\ SP &= \text{Static Pressure} \\ VP &= \text{Velocity Pressure} \\ \text{fpm} &= \text{feet per minute} \\ \Delta P &= \text{Differential Pressure} \\ \Delta P_s &= \text{Static Differential Pressure} \\ \Delta P_T &= \text{Total Differential Pressure} \\ \text{Area Factor} &= \text{Dimension in Square Feet} \\ VP &= TP - SP \\ TP &= SP + VP \\ SP &= TP - VP \\ CFM &= \text{fpm} \times \text{Area Factor} \\ \Delta P_T &= TP_1 - TP_2 \\ \Delta P_s &= SP_1 - SP_2 \\ \Delta P &= (CFM / K)^2 \\ \text{fpm} &= CFM / \text{Area Factor} \\ K &= CFM / \sqrt{(\Delta P)} \end{aligned}$$

### Water Coils

$$\begin{aligned} MBH &= 1,000\text{s of Btus per Hour} \\ Btu &= \text{British Thermal Unit} \\ \text{gpm} &= \text{Gallons per Minute} \\ \Delta T &= (EWT - LWT) \\ \text{Air } \Delta T &= 927 \times MBH / \text{cfm} \\ H_2O \Delta T &= 2.04 \times MBH / \text{gpm} \\ 1 \text{ foot of head} &= 0.4335 \text{ psi} \\ 7.5 \text{ Gallons} &= 1 \text{ Cubic Foot} \end{aligned}$$

### Imperial to Metric Conversions

multiply	by	to get
Ft of water	2.989	kPa
GPM	0.0631	L/s
CFM	0.472	L/s
in w.c.	249.088	Pa
MBH	0.2931	kW
Gallons	3.79	Litres

### Electric Coils

$$\begin{aligned} kW &= \text{Kilowatts} \\ \text{Air } \Delta T &= (LWT - EWT) \\ kW &= \text{cfm} \times \Delta T / 3,160 \\ \Delta T &= kW \times 3160 / \text{cfm} \\ 1 \text{ MBH} &= kW \times 3.41 \end{aligned}$$

### Power

$$\begin{aligned} W &= \text{Watts} \\ A &= \text{Amps} \\ \text{hp} &= \text{Horsepower} \\ V &= \text{Volts} \\ E_1 &= \text{Efficiency} \\ PF &= \text{Power Factor} \end{aligned}$$

$$1 \text{ HUMAN AT REST} = 100 \text{ WATTS} = 341 \text{ BTU'S}$$

### Power AC Circuits (Single Phase)

$$\begin{aligned} PF &= W / (V \times A) \\ A &= 746 \times HP / (V \times E \times PF) \\ E &= 746 \times HP / (V \times A \times PF) \\ kW &= V \times A \times E \times PF / 1,000 \\ \text{hp} &= V \times A \times E \times PF / 746 \end{aligned}$$

### Power AC Circuits (3 Phase)

$$\begin{aligned} PF &= W / (V \times A \times 1.732) \\ A &= 746 \times HP / (1.732 \times V \times E \times PF) \\ E &= 746 \times HP / (V \times A \times PF \times 1.732) \\ kW &= V \times A \times PF \times 1.732 / 1000 \\ \text{hp} &= V \times A \times 1.732 \times E \times PF / 746 \end{aligned}$$

U.S. Galvanized Sheet Metal Gauges	
Gauge No.	Thickness (inches)
26	.0217
24	.0276
22	.0336
20	.0396
18	.0516
16	.0635
14	.0785

### Reheat Coils:

Several types of terminal devices are available with reheat coils, both hot water and electric. When determining the heat requirement for a terminal, the engineer will often start with the known zone heating demand, typically expressed in BTUH, or more conveniently, MBH (thousands of BTUs). The room load requirements for heating are then used to determine the Room Entering Air temperature (EAT<sub>r</sub>) now becomes the required LAT of the VAV box (ignoring any duct heat losses). The coil can now be sized according to:

$$\text{BTUH (coil)} = 1.085 \times (\text{LAT} - \text{EAT}_r) \times \text{CFM}$$

Where;

LAT = The coil leaving air temperature  
 EAT = Coil entering air temperature, (primary or mixed air)  
 CFM = Cubic feet per minute

Now that the coil requirements are known, published catalog data may be used to select the proper hot water or electric coil.







## SERIES DH-500

(Patent Pending)

### High Performance-Dual Duct Air Terminal Units

Series DH-500 (patent pending) High Performance Dual Duct Air Terminals are designed to regulate the flow of conditioned air in dual duct air distribution systems. In a dual duct system, both heated and cooled air are provided to the air terminal and mixed to provide the desired discharge temperature. The DH-500 has been engineered to provide a 1:30\* mixing ratio, the highest in the industry. They are available with a wide range of standard control sequences.

Series DH-500 Air Terminals feature a low leakage single blade damper in the heating and cooling inlets.

The DH series is available with pneumatic, electric, analog electronic, and DDC (by others) factory mounted controls.

DH-500 Air Terminals are available for both system pressure independent and system pressure dependent applications.

Series DH-500 Air Terminals are recommended for use in duct systems with static pressures up to 3" water gauge

*\*Mixing ratio is the ratio between a 1°F temperature difference in the discharge air stream and the difference between the hot deck and cold deck temperature*

#Series DH-500 is Patent Pending

The inlet tubes are free of obstructions, including stops, allowing the damper to rotate 360° within the inlet tube

The inlet tubes for the DH-500 includes a bead that strengthens the tube and serves as a stop to keep attached flex duct from slipping

For set-up and balancing purposes, all units are shipped with a convenient balancing chart located on the outside of the terminal for conversion from velocity pressure to CFM

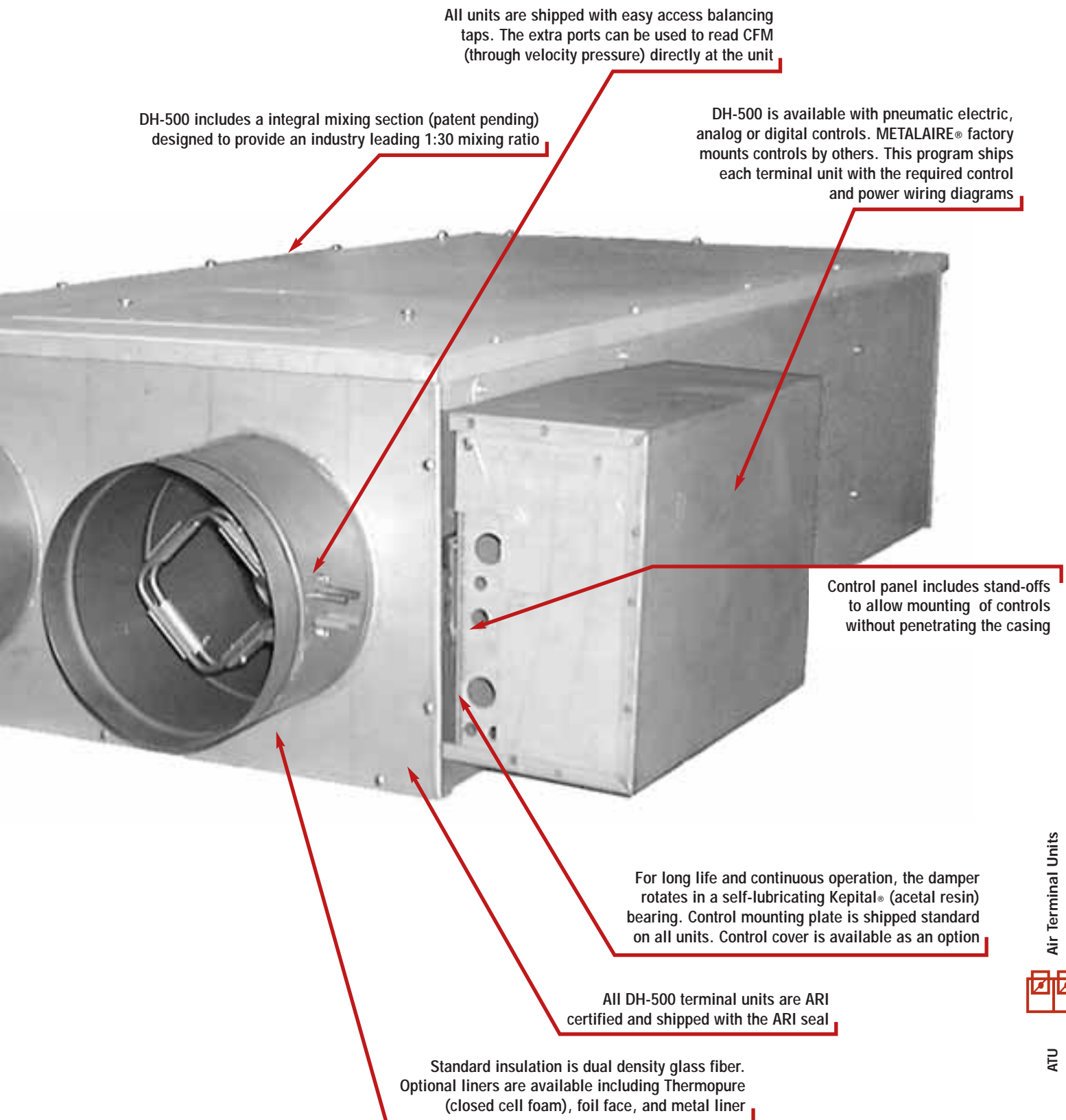
The DH-500 damper gaskets has slits around the perimeter to prevent a low frequency vibration and corresponding noise at near shut-off

Units inlet tubes are constructed with a seamless butt weld to minimize leakage and prevent the damper from binding

Multiquadrant Averaging Flow Sensor provides an accurate flow signal without the requirement of a straight duct connection immediately upstream (Shipped standard on all units).



# ATU - Air Terminal Units



Air Terminal Units



ATU



## SERIES DD-500

### Dual Duct Air Terminal Units

Series DD-500 Dual Duct air terminals are designed to regulate the flow of conditioned air in dual duct air distribution systems. In a dual duct system, both heated and cooled air are provided to the air terminal and mixed to provide the desired discharge temperature. The DD-500 is available with a wide range of standard control sequences.

Series DD-500 Air Terminals feature a low leakage single blade damper. The DD-500 series is available with pneumatic, electric, analog electronic, and DDC (by others) factory mounted controls. DD-500 air terminals are available for both system pressure independent and system pressure dependent applications.

Series DD-500 air terminals are recommended for use in duct systems with static pressures up to 3" water gauge.

Units inlet tubes are constructed with a seamless butt weld to minimize leakage and prevent the damper from binding

The inlet tubes are free of obstructions, including stops, allowing the damper to rotate 360 degrees within the inlet tube

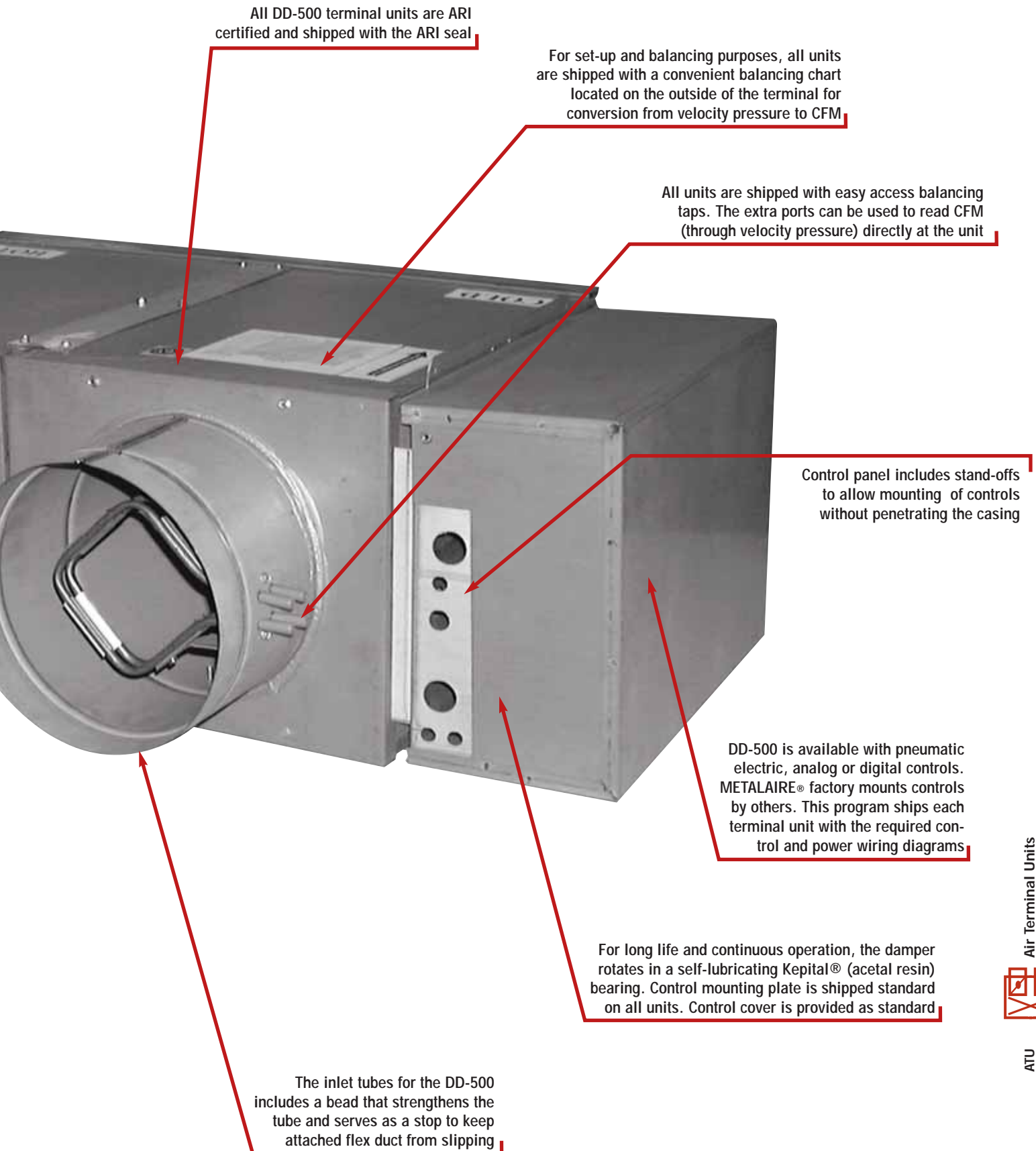
Multiquadrant Averaging Flow Sensor provides an accurate flow signal without the requirement of a straight duct connection immediately upstream (Shipped standard on all units).

The DD-500 damper gaskets has slits around the perimeter to prevent a low frequency vibration and corresponding noise at near shut-off

Standard insulation is dual density glass fiber. Optional liners are available including Thermopure (closed cell foam), foil face, and metal liner



# ATU - Air Terminal Units



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