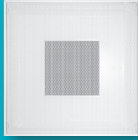




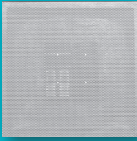

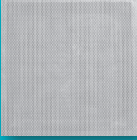



 <p>6100, 6150 56100, 56150 These perforated supply ceiling diffusers feature a neck mounted rotatable core with either a round or square neck. Aluminum or steel perforated face is available.</p>	 <p>6490, 56490 These perforated ceiling returns feature a square neck. Aluminum or steel perforated face is available.</p>
 <p>6200, 56200 6200FR, 6290F These perforated supply ceiling diffusers feature neck mounted curved blades with a square neck. Aluminum or steel perforated face is available. Fire rated or filter return variations available.</p>	 <p>6600, 56600, 6600FR These perforated supply ceiling diffusers feature face mounted deflectors with a round neck. Aluminum or steel perforated face is available. A fire rated variation is also available.</p>
 <p>6500, 56500 6500FR, 6590F These perforated supply ceiling diffusers feature neck mounted curved blades with a round neck. Aluminum or steel perforated face is available. Fire rated supply and return variations available.</p>	 <p>6690, 56690 These perforated ceiling returns feature a round neck. Aluminum or steel perforated face is available.</p>
 <p>6300 This perforated supply ceiling diffuser features face mounted deflectors and a prescored fiberglass backpan for field cutting. Available in steel construction only.</p>	 <p>6790, 56790 These aluminum or steel perforated screen ceiling panels with no backpan are great for non-ducted return or exhaust applications.</p>
 <p>6390 This perforated return features a prescored fiberglass backpan for field cutting. Available in steel construction only.</p>	 <p>1100, 51100 These architectural, perforated, supply ceiling diffusers feature neck mounted curved blades with a square or rectangular neck. Available in steel or aluminum construction. A metric version is also available.</p>
 <p>6400, 56400, 6400FR These perforated supply ceiling diffusers feature face mounted deflectors with a square neck. Aluminum or steel perforated face as well as a fire rated variations are available.</p>	 <p>1190, 51190 These architectural, perforated, ceiling returns feature a square or rectangular neck. Available in steel or aluminum construction.</p>

6100, 56100 (Supply)
6150, 56150 (Supply)
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 Performance Data..... C1-9
 Engineering Specifications..... C1-11

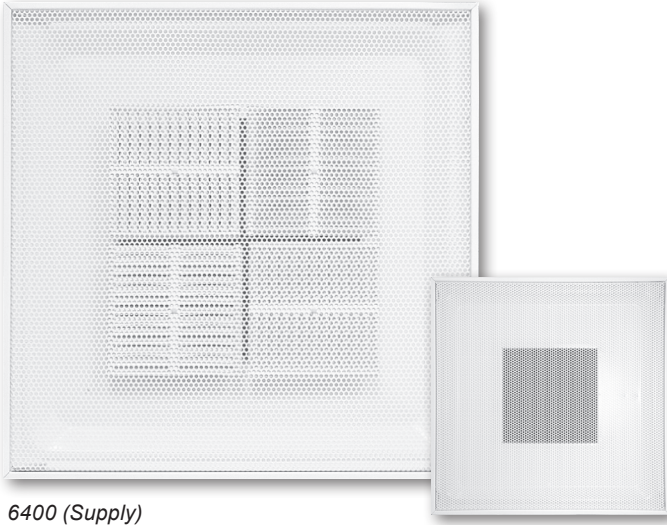
6200, 56200, 6200FR (Supply)
6290FR, 6290F (Return)
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 Performance Data..... C1-33
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6300 (Supply)
6390 (Return)
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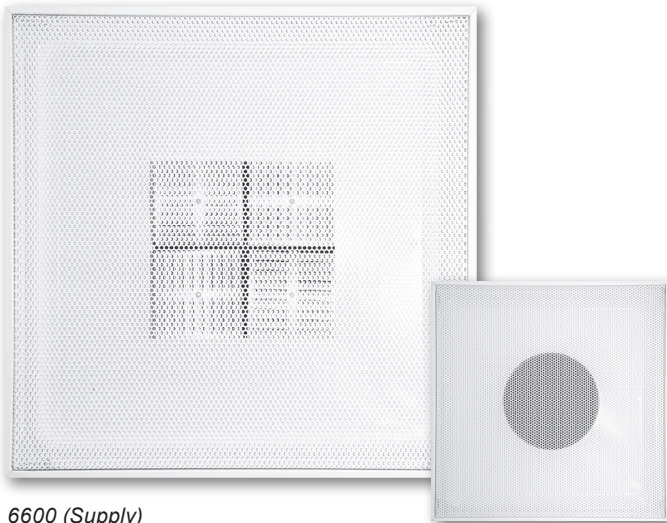
6400, 56400, 6400FR (Supply)
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6400 (Supply)

6490 (Return)



6600 (Supply)

6690 (Return)

Introduction: 6400, 6600 Series

The 6400/6600 series perforated diffusers uses modular air pattern controllers mounted to the backside of the perforated face, which are factory set for 4-way air pattern. They are field adjustable for 1, 2, or 3-way pattern or may be removed for down blow without reducing the core area. The 6400/6600 series diffusers exhibit typical isothermal throws of 12' to 17' for 4-way air distribution and 21' to 30' for 1-way air distribution. The modular capability makes the 6400/6600 ideal for installations with changing air pattern requirements such as tenant lease spaces. Matching returns are the 6490 and 6690 series.

MODELS

- 6400 - Steel, Square Neck Supply Diffuser
- 6490 - Steel, Square Neck Return Diffuser
- 56400 - Perforated Aluminum with Steel Backpan, Square Neck Supply Diffuser
- 56490 - Perforated Aluminum with Steel Backpan, Square Neck Return Diffuser
- 6400FR - Steel, Fire Rated, Square Neck Supply Diffuser
- 6600 - Steel, Round Neck Supply Diffuser
- 6690 - Steel, Round Neck Return Diffuser
- 56600 - Perforated Aluminum with Steel Backpan, Round Neck Supply Diffuser
- 56690 - Perforated Aluminum with Steel Backpan, Round Neck Return Diffuser
- 6600FR - Steel, Fire Rated, Round Neck Supply Diffuser

FEATURES

- Field adjustable 1, 2, 3, or 4-way blow patterns.
- Great choice for installations with changing air pattern requirements.
- Removable perforated face for easy cleaning.

PANEL SIZES

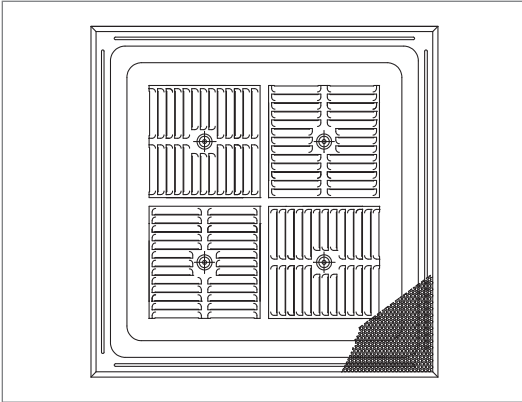
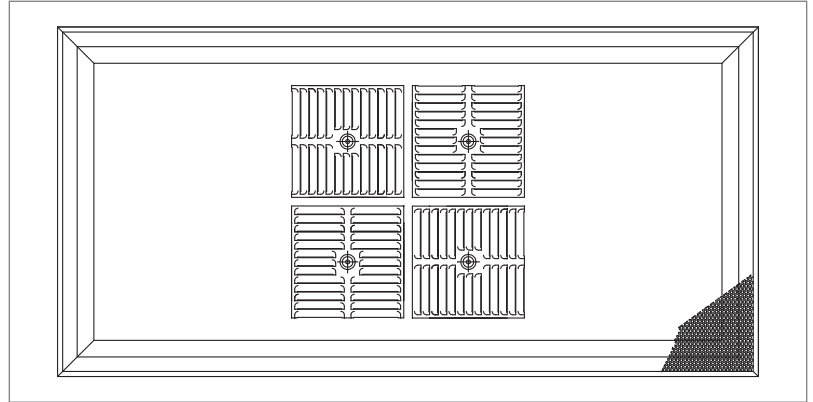
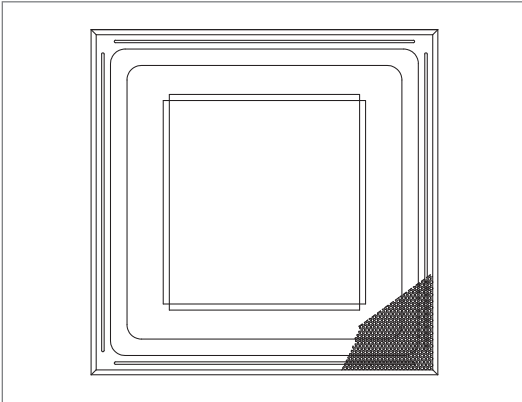
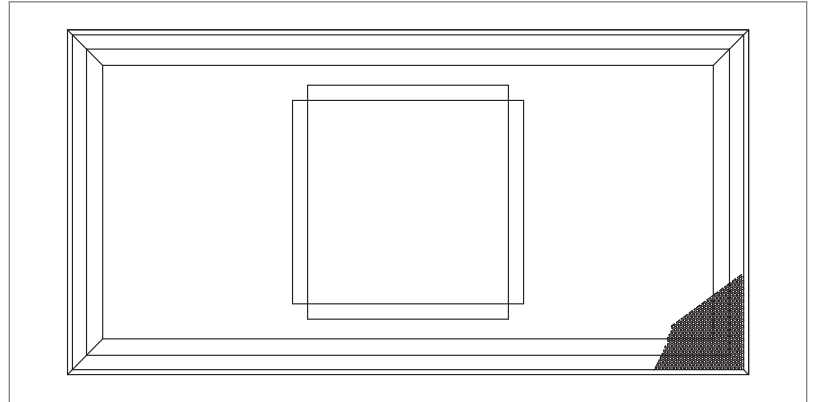
- 12"x12"
- 16"x16"
- 20"x20"
- 12"x24"
- 24"x24"
- 24"x48"

ACCESSORIES

- Optional Opposed Blade Damper (Model OBDFA)
- Optional Round Dampers
- Optional Insulated Backpan

FINISHES

- Standard finish is #44 British White.
- Optional finishes available.

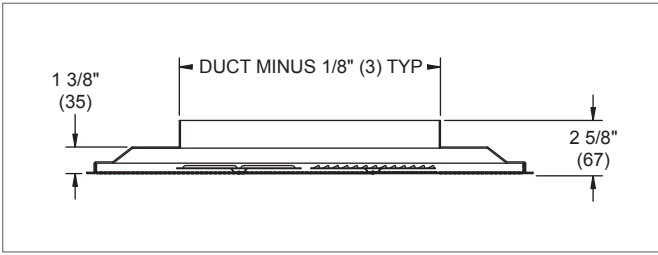
6400, 56400, 6490, 56490 (Supply/Return) Dimensional Information
**6400, 56400, FACE VIEW
(12"x12" & 24"x24" PANEL)**

**6400, 56400, FACE VIEW
(ALL OTHER PANELS)**

**6490, 56490, FACE VIEW
(12"x12" & 24"x24" PANEL)**

**6490, 56490, FACE VIEW
(ALL OTHER PANELS)**

6400, 56400, 6490, 56490, AVAILABLE SIZES

Neck Size	Panel Size											
	12" x 12" (305 x 305)		16" x 16" (406 x 406)		20" x 20" (508 x 508)		24" x 24" (610 x 610)		12" x 24" (305 x 610)		24" x 48" (610 x 1219)	
	Steel	Alum.	Steel	Alum.	Steel	Alum.	Steel	Alum.	Steel	Alum.	Steel	Alum.
6" x 6" (152 x 152)	S/R	S/R	S/R	-	S/R	-	S/R	S/R	S/R	S/R	S/R	S/R
6" x 18" (152 x 457)	-	-	-	-	-	-	-	-	R	R	-	-
8" x 8" (203 x 203)	-	-	S/R	-	S/R	-	S/R	S/R	-	-	S/R	S/R
10" x 10" (254 x 254)	R	R	R	-	S/R	-	S/R	S/R	-	-	S/R	S/R
10" x 22" (254 x 559)	-	-	-	-	-	-	-	-	R	R	R	R
12" x 12" ((305 x 305)	-	-	-	-	R	-	S/R	S/R	-	-	S/R	S/R
14" x 14" (356 x 356)	-	-	R	-	-	-	R	R	-	-	-	-
15" x 15" (381 x 381)	-	-	-	-	-	-	S/R	S/R	-	-	R	R
16" x 16" (406 x 406)	-	-	-	-	-	-	R	R	-	-	R	R
18" x 18" (457 x 457)	-	-	-	-	R	-	S/R	S/R	-	-	R	R
22" x 22" (559 x 559)	-	-	-	-	-	-	R	R	-	-	-	-
22" x 46" (559 x 1168)	-	-	-	-	-	-	-	-	-	-	R	R

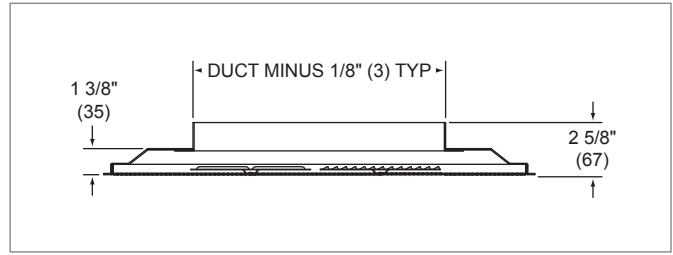
NOTES: Dimensions in parentheses are mm. "S" = Supply and "R" = Return. Dash in space indicates not applicable.

6400, 56400, 6490, 56490 (Supply/Return) Dimensional Information

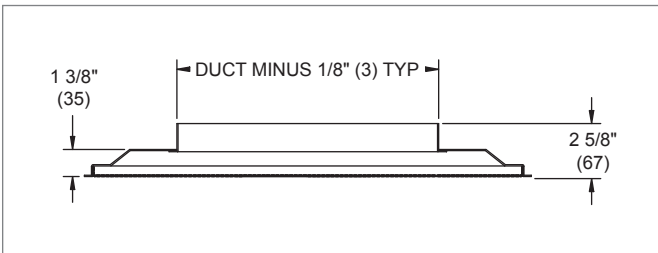
**6400, 56400, CROSS SECTION
(12"x12" & 24"x24" PANEL)**



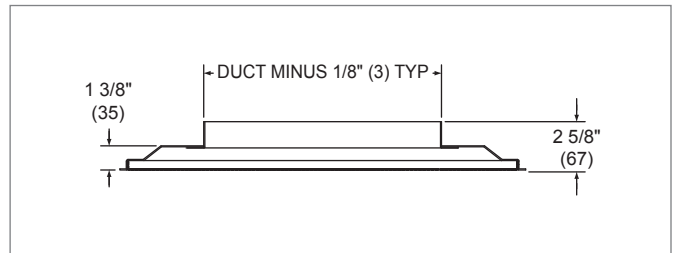
**6400, 56400*, CROSS SECTION
(ALL OTHER PANELS)**



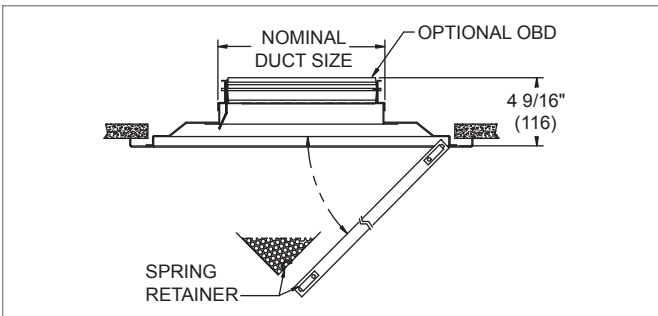
**6490, 56490, CROSS SECTION
(12"x12" & 24"x24" PANEL)**



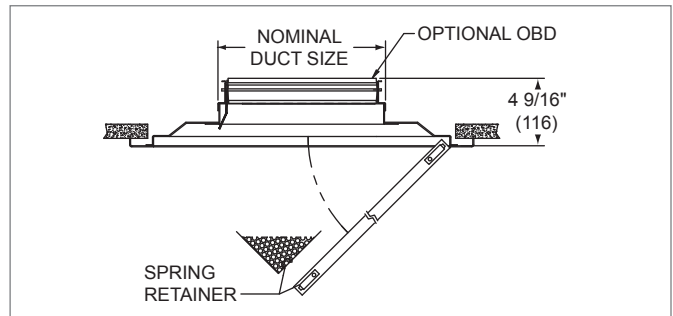
**6490, 56490*, CROSS SECTION
(ALL OTHER PANELS)**



**6400, 6490, 56400, 56490, HINGE DETAIL
(12"x12" & 24"x24" PANEL)**

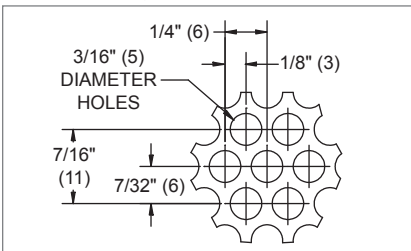


**6400, 6490, 56400*, 56490*, HINGE DETAIL
(ALL OTHER PANELS)**



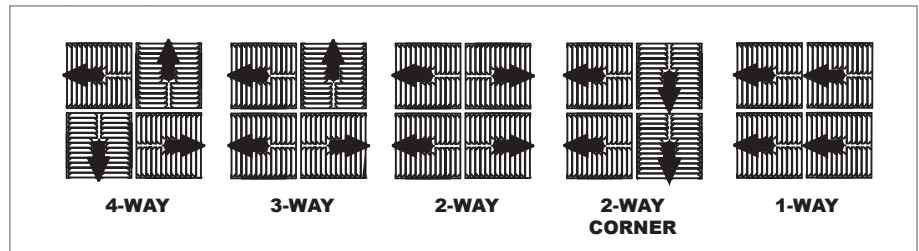
* 56400 and 56490 not available in 16"x16" and 20"x20" panels.

6400 SERIES, PERFORATION DETAIL



NOTE: Dimensions in parentheses are mm.

6400, 56400, DISCHARGE AIR PATTERNS

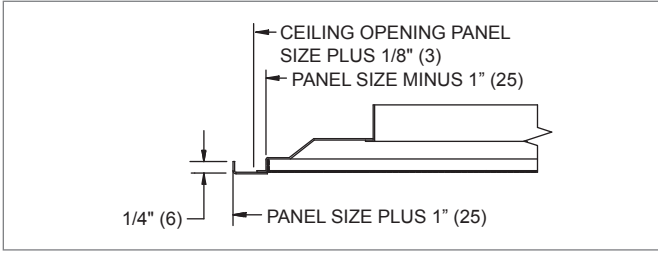


PERFORATED FACE DIFFUSERS

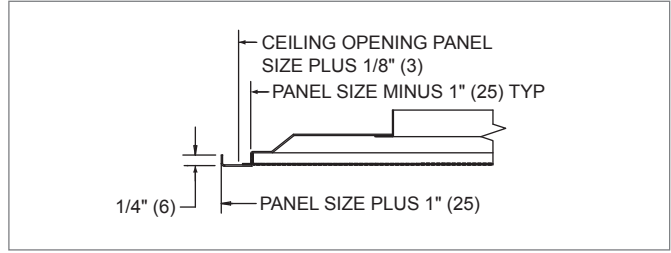
6400-6490

6490, 56490 (Return) Frame Styles

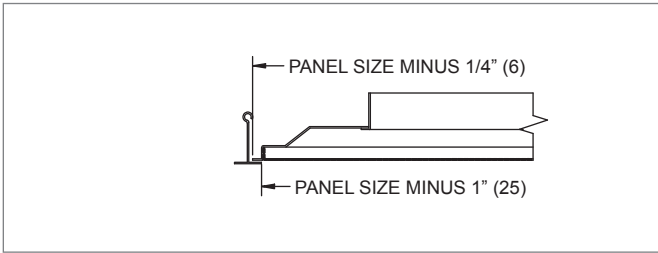
**6490, 56490, FRAME 20, SURFACE MOUNT
(12"x12" & 24"x24" PANEL)**



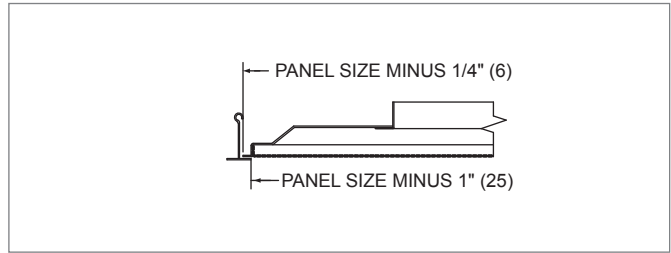
**6490, 56490*, FRAME 20, SURFACE MOUNT
(ALL OTHER PANELS)**



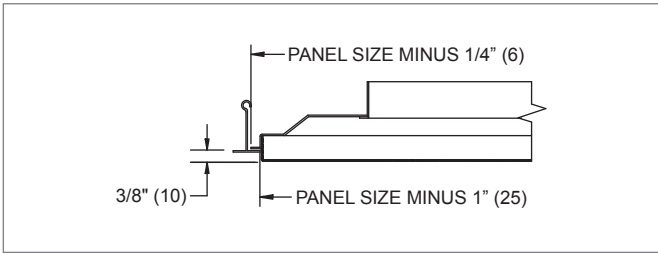
**6490, 56490, FRAME 23, LAY-IN T-BAR
(12"x12" & 24"x24" PANEL)**



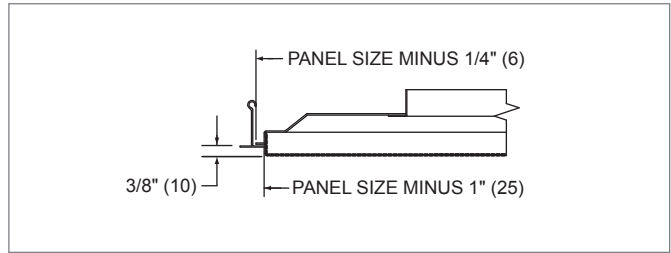
**6490, 56490*, FRAME 23, LAY-IN T-BAR
(ALL OTHER PANELS)**



**6490, FRAME 30, DROP FACE
(12"x12" & 24"x24" PANEL)**

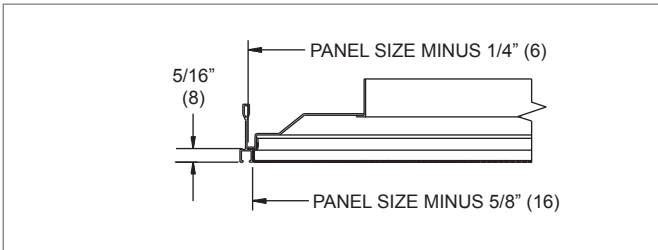


**6490, 56490*, FRAME 30, DROP FACE
(ALL OTHER PANELS)**



* 56490 not available in 16"x16" and 20"x20" panels.

6490, FRAME 98, NARROW-T (24"x24" PANEL)



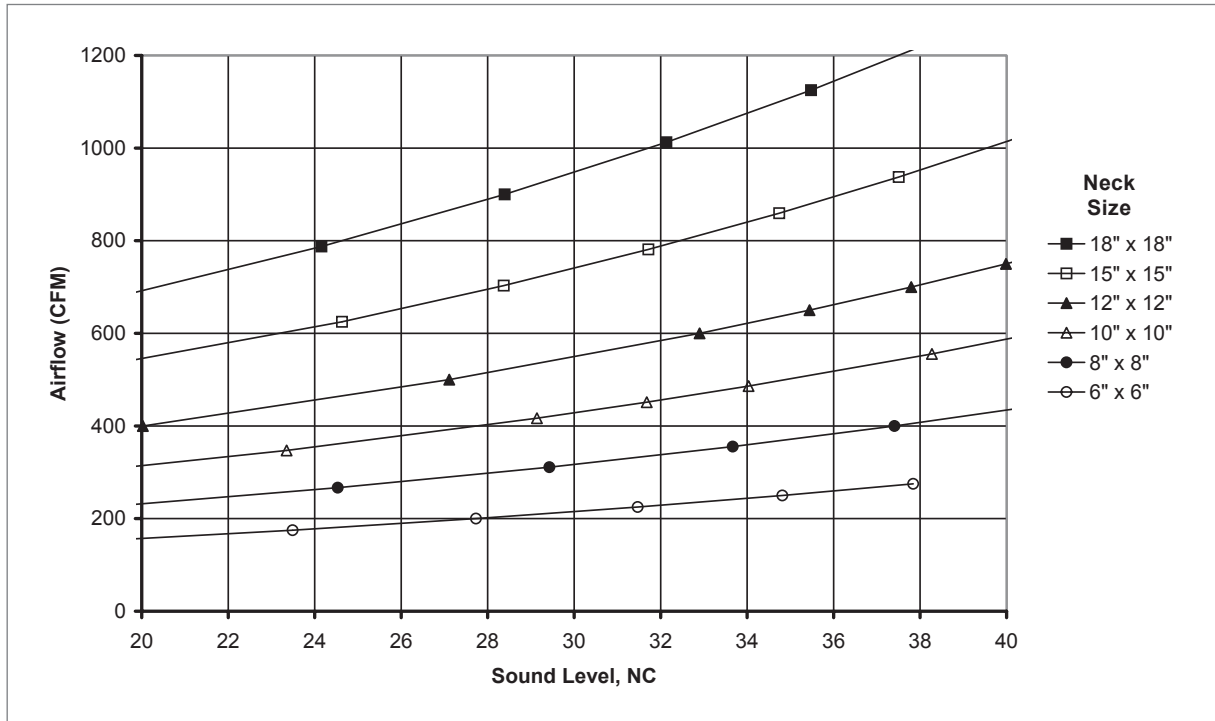
NOTE: Dimensions in parentheses are mm.

PERFORATED FACE DIFFUSERS

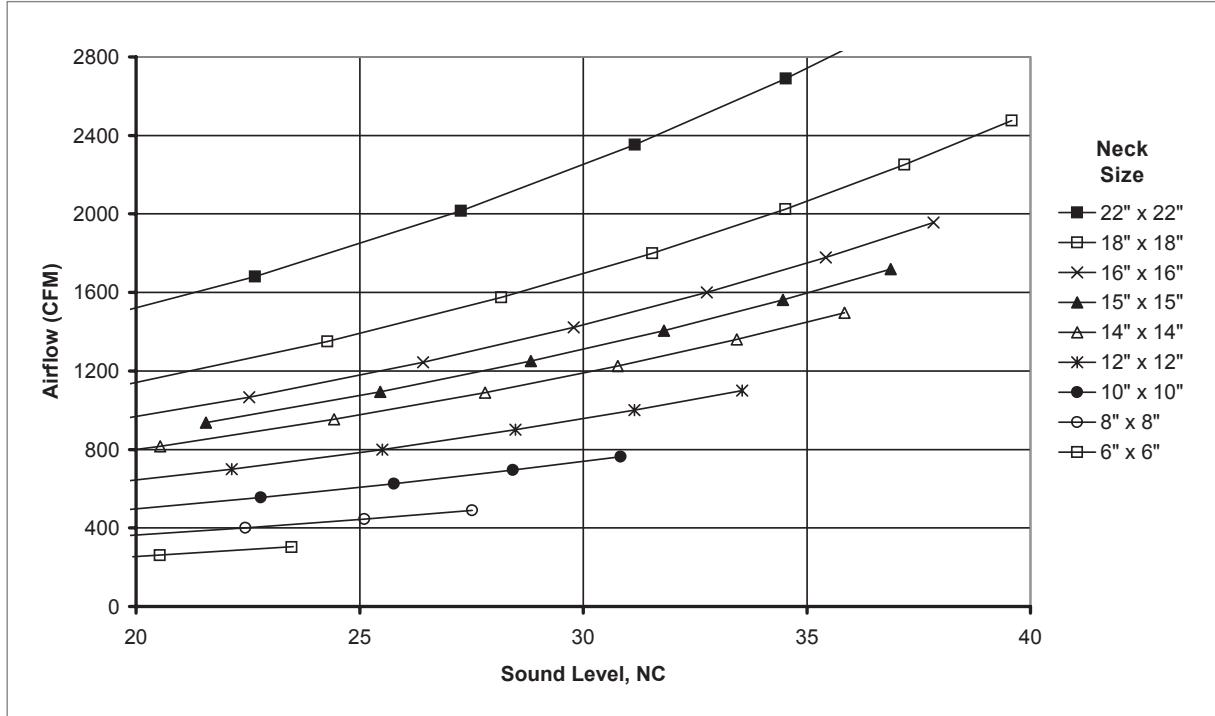
6
4
9
0
-
5
6
4
9
0

6400, 56400, 6490, 56490 (Supply/Return) Reference Charts

AIRFLOW VS. NC LEVEL: 6400, 56400, 24"x24" PANEL (NO DAMPER)



AIRFLOW VS. NC LEVEL: 6490, 56490, 24"x24" PANEL (NO DAMPER)



PERFORATED FACE DIFFUSERS

6400 - 56400

6490, 56490 (Return) Performance Data

IP/METRIC DATA: 6490, 56490, 12"x12" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
10" x 10"	1100	275	0.075	-0.425	23	5.59	130	18.8	-105.7	45	40	37	34	33	31	
	300	208	0.006	-0.032	-	1.52	98	1.4	-7.8	42	22	13	-	-	-	
	400	278	0.010	-0.056	-	2.03	131	2.5	-13.9	44	26	19	15	11	-	
	500	347	0.016	-0.088	-	2.54	164	3.9	-21.8	45	29	23	20	17	-	
	600	417	0.022	-0.126	16	3.05	197	5.6	-31.4	46	32	27	24	22	14	
	700	486	0.031	-0.172	19	3.56	229	7.6	-42.7	46	34	30	27	26	20	
	800	556	0.040	-0.224	23	4.06	262	9.9	-55.8	47	36	33	30	29	25	
	900	625	0.051	-0.284	26	4.57	295	12.6	-70.6	48	38	35	33	33	29	
1000	694	0.062	-0.350	28	5.08	328	15.5	-87.1	48	40	37	35	35	33		
	1100	764	0.075	-0.424	31	5.59	361	18.8	-105.5	49	41	39	37	38	36	

IP/METRIC DATA: 6490, 56490, 24"x12" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
18" x 6"	1100	275	0.075	-0.425	23	5.59	130	18.8	-105.7	45	40	37	34	33	31	
	300	225	0.006	-0.031	-	1.52	106	1.4	-7.8	42	22	13	-	-	-	
	400	300	0.010	-0.056	-	2.03	142	2.5	-13.9	44	26	19	15	11	-	
	500	375	0.016	-0.087	11	2.54	177	3.9	-21.8	45	29	23	20	17	-	
	600	450	0.022	-0.126	16	3.05	212	5.6	-31.4	46	32	27	24	22	14	
	700	525	0.031	-0.171	20	3.56	248	7.6	-42.7	47	35	30	27	26	20	
	800	600	0.040	-0.224	23	4.06	283	9.9	-55.8	47	37	33	30	30	25	
	900	675	0.051	-0.283	26	4.57	319	12.6	-70.6	48	38	35	33	33	29	
1000	750	0.062	-0.350	29	5.08	354	15.5	-87.1	48	40	37	35	36	33		
	1100	825	0.075	-0.423	31	5.59	389	18.8	-105.4	49	41	39	37	38	37	
22" x 10"	300	458	0.006	-0.031	-	1.52	216	1.4	-7.8	45	23	14	12	-	-	
	400	611	0.010	-0.056	11	2.03	288	2.5	-13.9	47	27	20	18	15	-	
	500	764	0.016	-0.087	17	2.54	361	3.9	-21.7	48	30	25	23	21	11	
	600	917	0.022	-0.125	21	3.05	433	5.6	-31.2	49	33	28	27	26	18	
	700	1069	0.031	-0.171	25	3.56	505	7.6	-42.5	50	35	32	30	30	24	
	800	1222	0.040	-0.223	29	4.06	577	9.9	-55.5	50	38	34	33	34	29	
	900	1375	0.051	-0.282	32	4.57	649	12.6	-70.2	51	39	37	35	37	33	
	1000	1528	0.062	-0.348	34	5.08	721	15.5	-86.7	51	41	39	38	39	37	
1100	1681	0.075	-0.421	37	5.59	793	18.8	-104.9	52	42	41	40	42	41		

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

PERFORATED FACE DIFFUSERS

6490-15490

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6490 (Return) Performance Data

IP/METRIC DATA: 6490, 16"x16" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
8" x 8"	300	133	0.006	-0.032	-	1.52	63	1.4	-7.9	40	21	12	-	-	-	
	400	178	0.010	-0.056	-	2.03	84	2.5	-14.0	42	25	18	14	-	-	
	500	222	0.016	-0.088	-	2.54	105	3.9	-21.8	43	29	22	18	15	-	
	600	267	0.022	-0.126	12	3.05	126	5.6	-31.4	44	31	26	22	19	11	
	700	311	0.031	-0.172	16	3.56	147	7.6	-42.8	45	34	29	26	23	17	
	800	356	0.040	-0.224	19	4.06	168	9.9	-55.9	45	36	32	29	27	22	
	900	400	0.051	-0.284	22	4.57	189	12.6	-70.7	46	38	34	31	30	26	
	1000	444	0.062	-0.351	25	5.08	210	15.5	-87.3	46	39	36	33	33	30	
10" x 10"	300	208	0.006	-0.032	-	1.52	98	1.4	-7.8	42	22	13	-	-	-	
	400	278	0.010	-0.056	-	2.03	131	2.5	-13.9	44	26	19	15	11	-	
	500	347	0.016	-0.088	-	2.54	164	3.9	-21.8	45	29	23	20	17	-	
	600	417	0.022	-0.126	16	3.05	197	5.6	-31.4	46	32	27	24	22	14	
	700	486	0.031	-0.172	19	3.56	229	7.6	-42.7	46	34	30	27	26	20	
	800	556	0.040	-0.224	23	4.06	262	9.9	-55.8	47	36	33	30	29	25	
	900	625	0.051	-0.284	26	4.57	295	12.6	-70.6	48	38	35	33	33	29	
	1000	694	0.062	-0.350	28	5.08	328	15.5	-87.1	48	40	37	35	35	33	
14" x 14"	300	408	0.006	-0.031	-	1.52	193	1.4	-7.8	45	22	14	11	-	-	
	400	544	0.010	-0.056	-	2.03	257	2.5	-13.9	46	27	20	17	14	-	
	500	681	0.016	-0.087	16	2.54	321	3.9	-21.7	47	30	24	22	20	11	
	600	817	0.022	-0.126	21	3.05	385	5.6	-31.3	48	33	28	26	25	18	
	700	953	0.031	-0.171	24	3.56	450	7.6	-42.5	49	35	31	29	29	23	
	800	1089	0.040	-0.223	28	4.06	514	9.9	-55.6	50	37	34	32	33	28	
	900	1225	0.051	-0.282	31	4.57	578	12.6	-70.3	50	39	36	35	36	33	
	1000	1361	0.062	-0.349	33	5.08	642	15.5	-86.8	51	41	39	37	39	37	
	1100	1497	0.075	-0.422	36	5.59	707	18.8	-105.0	51	42	40	39	41	40	

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

6490 (Return) Performance Data

IP/METRIC DATA: 6490, 20"x20" PANEL (NO DAMPER)

PERFORATED FACE DIFFUSERS

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
8" x 8"	300	133	0.006	-0.032	-	1.52	63	1.4	-7.9	40	21	12	-	-	-	
	400	178	0.010	-0.056	-	2.03	84	2.5	-14.0	42	25	18	14	-	-	
	500	222	0.016	-0.088	-	2.54	105	3.9	-21.8	43	29	22	18	15	-	
	600	267	0.022	-0.126	12	3.05	126	5.6	-31.4	44	31	26	22	19	11	
	700	311	0.031	-0.172	16	3.56	147	7.6	-42.8	45	34	29	26	23	17	
	800	356	0.040	-0.224	19	4.06	168	9.9	-55.9	45	36	32	29	27	22	
	900	400	0.051	-0.284	22	4.57	189	12.6	-70.7	46	38	34	31	30	26	
	1000	444	0.062	-0.351	25	5.08	210	15.5	-87.3	46	39	36	33	33	30	
10" x 10"	300	208	0.006	-0.032	-	1.52	98	1.4	-7.8	42	22	13	-	-	-	
	400	278	0.010	-0.056	-	2.03	131	2.5	-13.9	44	26	19	15	11	-	
	500	347	0.016	-0.088	-	2.54	164	3.9	-21.8	45	29	23	20	17	-	
	600	417	0.022	-0.126	16	3.05	197	5.6	-31.4	46	32	27	24	22	14	
	700	486	0.031	-0.172	19	3.56	229	7.6	-42.7	46	34	30	27	26	20	
	800	556	0.040	-0.224	23	4.06	262	9.9	-55.8	47	36	33	30	29	25	
	900	625	0.051	-0.284	26	4.57	295	12.6	-70.6	48	38	35	33	33	29	
	1000	694	0.062	-0.350	28	5.08	328	15.5	-87.1	48	40	37	35	35	33	
12" x 12"	300	408	0.006	-0.031	-	1.52	193	1.4	-7.8	45	22	14	11	-	-	
	400	544	0.010	-0.056	-	2.03	257	2.5	-13.9	46	27	20	17	14	-	
	500	681	0.016	-0.087	16	2.54	321	3.9	-21.7	47	30	24	22	20	11	
	600	817	0.022	-0.126	21	3.05	385	5.6	-31.3	48	33	28	26	25	18	
	700	953	0.031	-0.171	24	3.56	450	7.6	-42.5	49	35	31	29	29	23	
	800	1089	0.040	-0.223	28	4.06	514	9.9	-55.6	50	37	34	32	33	28	
	900	1225	0.051	-0.282	31	4.57	578	12.6	-70.3	50	39	36	35	36	33	
	1000	1361	0.062	-0.349	33	5.08	642	15.5	-86.8	51	41	39	37	39	37	
18" x 18"	300	675	0.006	-0.031	-	1.52	319	1.4	-7.8	47	23	15	13	-	-	
	400	900	0.010	-0.055	14	2.03	425	2.5	-13.8	48	28	21	19	17	-	
	500	1125	0.016	-0.087	20	2.54	531	3.9	-21.6	49	31	25	24	23	13	
	600	1350	0.022	-0.125	24	3.05	637	5.6	-31.1	50	34	29	28	28	20	
	700	1575	0.031	-0.170	28	3.56	743	7.6	-42.3	51	36	32	31	32	26	
	800	1800	0.040	-0.222	32	4.06	850	9.9	-55.3	52	38	35	34	36	31	
	900	2025	0.051	-0.281	35	4.57	956	12.6	-69.9	52	40	37	37	39	36	
	1000	2250	0.062	-0.347	37	5.08	1062	15.5	-86.4	53	41	39	39	42	39	
	1100	2475	0.075	-0.420	40	5.59	1168	18.8	-104.5	53	43	41	41	44	43	

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

6490, 56490 (Return) Performance Data

IP/METRIC DATA: 6490, 56490, 24"x24" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
	1100	275	0.075	-0.425	23	5.59	130	18.8	-105.7	45	40	37	34	33	31	
8" x 8"	300	133	0.006	-0.032	-	1.52	63	1.4	-7.9	40	21	12	-	-	-	
	400	178	0.010	-0.056	-	2.03	84	2.5	-14.0	42	25	18	14	-	-	
	500	222	0.016	-0.088	-	2.54	105	3.9	-21.8	43	29	22	18	15	-	
	600	267	0.022	-0.126	12	3.05	126	5.6	-31.4	44	31	26	22	19	11	
	700	311	0.031	-0.172	16	3.56	147	7.6	-42.8	45	34	29	26	23	17	
	800	356	0.040	-0.224	19	4.06	168	9.9	-55.9	45	36	32	29	27	22	
	900	400	0.051	-0.284	22	4.57	189	12.6	-70.7	46	38	34	31	30	26	
	1000	444	0.062	-0.351	25	5.08	210	15.5	-87.3	46	39	36	33	33	30	
	1100	489	0.075	-0.424	28	5.59	231	18.8	-105.6	47	41	38	36	36	34	
10" x 10"	300	208	0.006	-0.032	-	1.52	98	1.4	-7.8	42	22	13	-	-	-	
	400	278	0.010	-0.056	-	2.03	131	2.5	-13.9	44	26	19	15	11	-	
	500	347	0.016	-0.088	-	2.54	164	3.9	-21.8	45	29	23	20	17	-	
	600	417	0.022	-0.126	16	3.05	197	5.6	-31.4	46	32	27	24	22	14	
	700	486	0.031	-0.172	19	3.56	229	7.6	-42.7	46	34	30	27	26	20	
	800	556	0.040	-0.224	23	4.06	262	9.9	-55.8	47	36	33	30	29	25	
	900	625	0.051	-0.284	26	4.57	295	12.6	-70.6	48	38	35	33	33	29	
	1000	694	0.062	-0.350	28	5.08	328	15.5	-87.1	48	40	37	35	35	33	
	1100	764	0.075	-0.424	31	5.59	361	18.8	-105.5	49	41	39	37	38	36	
12" x 12"	300	300	0.006	-0.031	-	1.52	142	1.4	-7.8	44	22	14	-	-	-	
	400	400	0.010	-0.056	-	2.03	189	2.5	-13.9	45	26	19	16	13	-	
	500	500	0.016	-0.087	14	2.54	236	3.9	-21.7	46	30	24	21	19	-	
	600	600	0.022	-0.126	18	3.05	283	5.6	-31.3	47	33	28	25	24	16	
	700	700	0.031	-0.171	22	3.56	330	7.6	-42.6	48	35	31	28	28	22	
	800	800	0.040	-0.224	26	4.06	378	9.9	-55.7	49	37	33	31	31	27	
	900	900	0.051	-0.283	28	4.57	425	12.6	-70.5	49	39	36	34	34	31	
	1000	1000	0.062	-0.349	31	5.08	472	15.5	-87.0	50	40	38	36	37	35	
	1100	1100	0.075	-0.423	34	5.59	519	18.8	-105.3	50	42	40	38	40	38	
14" x 14"	300	408	0.006	-0.031	-	1.52	193	1.4	-7.8	45	22	14	11	-	-	
	400	544	0.010	-0.056	-	2.03	257	2.5	-13.9	46	27	20	17	14	-	
	500	681	0.016	-0.087	16	2.54	321	3.9	-21.7	47	30	24	22	20	11	
	600	817	0.022	-0.126	21	3.05	385	5.6	-31.3	48	33	28	26	25	18	
	700	953	0.031	-0.171	24	3.56	450	7.6	-42.5	49	35	31	29	29	23	
	800	1089	0.040	-0.223	28	4.06	514	9.9	-55.6	50	37	34	32	33	28	
	900	1225	0.051	-0.282	31	4.57	578	12.6	-70.3	50	39	36	35	36	33	
	1000	1361	0.062	-0.349	33	5.08	642	15.5	-86.8	51	41	39	37	39	37	
	1100	1497	0.075	-0.422	36	5.59	707	18.8	-105.0	51	42	40	39	41	40	

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

6490, 56490 (Return) Performance Data

IP/METRIC DATA: 6490, 56490, 24"x24" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
15" x 15"	300	469	0.006	-0.031	-	1.52	221	1.4	-7.8	45	23	14	12	-	-	
	400	625	0.010	-0.056	11	2.03	295	2.5	-13.9	47	27	20	18	15	-	
	500	781	0.016	-0.087	17	2.54	369	3.9	-21.7	48	30	25	23	21	11	
	600	938	0.022	-0.125	22	3.05	442	5.6	-31.2	49	33	28	27	26	18	
	700	1094	0.031	-0.171	25	3.56	516	7.6	-42.5	50	36	32	30	30	24	
	800	1250	0.040	-0.223	29	4.06	590	9.9	-55.5	50	38	34	33	34	29	
	900	1406	0.051	-0.282	32	4.57	664	12.6	-70.2	51	39	37	35	37	33	
	1000	1563	0.062	-0.348	34	5.08	737	15.5	-86.7	51	41	39	38	40	37	
16" x 16"	300	533	0.006	-0.031	-	1.52	252	1.4	-7.8	46	23	15	12	-	-	
	400	711	0.010	-0.056	12	2.03	336	2.5	-13.9	47	27	20	18	16	-	
	500	889	0.016	-0.087	18	2.54	420	3.9	-21.6	48	31	25	23	22	12	
	600	1067	0.022	-0.125	23	3.05	503	5.6	-31.2	49	33	29	27	27	19	
	700	1244	0.031	-0.170	26	3.56	587	7.6	-42.4	50	36	32	30	31	25	
	800	1422	0.040	-0.223	30	4.06	671	9.9	-55.4	51	38	35	33	34	30	
	900	1600	0.051	-0.282	33	4.57	755	12.6	-70.1	51	40	37	36	37	34	
	1000	1778	0.062	-0.348	35	5.08	839	15.5	-86.6	52	41	39	38	40	38	
18" x 18"	300	675	0.006	-0.031	-	1.52	319	1.4	-7.8	47	23	15	13	-	-	
	400	900	0.010	-0.055	14	2.03	425	2.5	-13.8	48	28	21	19	17	-	
	500	1125	0.016	-0.087	20	2.54	531	3.9	-21.6	49	31	25	24	23	13	
	600	1350	0.022	-0.125	24	3.05	637	5.6	-31.1	50	34	29	28	28	20	
	700	1575	0.031	-0.170	28	3.56	743	7.6	-42.3	51	36	32	31	32	26	
	800	1800	0.040	-0.222	32	4.06	850	9.9	-55.3	52	38	35	34	36	31	
	900	2025	0.051	-0.281	35	4.57	956	12.6	-69.9	52	40	37	37	39	36	
	1000	2250	0.062	-0.347	37	5.08	1062	15.5	-86.4	53	41	39	39	42	39	
22" x 22"	300	1008	0.006	-0.031	-	1.52	476	1.4	-7.7	48	24	16	14	12	-	
	400	1344	0.010	-0.055	17	2.03	635	2.5	-13.7	50	28	22	20	19	-	
	500	1681	0.016	-0.086	23	2.54	793	3.9	-21.4	51	31	26	25	25	16	
	600	2017	0.022	-0.124	27	3.05	952	5.6	-30.9	52	34	30	29	30	23	
	700	2353	0.031	-0.169	31	3.56	1110	7.6	-42.0	53	37	33	33	34	28	
	800	2689	0.040	-0.220	35	4.06	1269	9.9	-54.9	53	39	36	35	38	33	
	900	3025	0.051	-0.279	38	4.57	1428	12.6	-69.5	54	40	38	38	41	38	
	1000	3361	0.062	-0.345	40	5.08	1586	15.5	-85.8	54	42	40	40	44	42	
	1100	3697	0.075	-0.417	43	5.59	1745	18.8	-103.8	55	43	42	42	46	45	

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

PERFORATED FACE DIFFUSERS

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6490, 56490 (Return) Performance Data

IP/METRIC DATA: 6490, 56490, 24"x48" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
6" x 6"	300	75	0.006	-0.032	-	1.52	35	1.4	-7.9	38	20	11	-	-	-	
	400	100	0.010	-0.056	-	2.03	47	2.5	-14.0	40	25	17	12	-	-	
	500	125	0.016	-0.088	-	2.54	59	3.9	-21.8	41	28	21	17	12	-	
	600	150	0.022	-0.126	-	3.05	71	5.6	-31.5	42	31	25	20	16	-	
	700	175	0.031	-0.172	12	3.56	83	7.6	-42.8	42	33	28	24	20	14	
	800	200	0.040	-0.225	15	4.06	94	9.9	-55.9	43	35	31	27	24	19	
	900	225	0.051	-0.284	18	4.57	106	12.6	-70.8	44	37	33	29	27	23	
	1000	250	0.062	-0.351	21	5.08	118	15.5	-87.4	44	38	35	32	30	27	
	1100	275	0.075	-0.425	23	5.59	130	18.8	-105.7	45	40	37	34	33	31	
8" x 8"	300	133	0.006	-0.032	-	1.52	63	1.4	-7.9	40	21	12	-	-	-	
	400	178	0.010	-0.056	-	2.03	84	2.5	-14.0	42	25	18	14	-	-	
	500	222	0.016	-0.088	-	2.54	105	3.9	-21.8	43	29	22	18	15	-	
	600	267	0.022	-0.126	12	3.05	126	5.6	-31.4	44	31	26	22	19	11	
	700	311	0.031	-0.172	16	3.56	147	7.6	-42.8	45	34	29	26	23	17	
	800	356	0.040	-0.224	19	4.06	168	9.9	-55.9	45	36	32	29	27	22	
	900	400	0.051	-0.284	22	4.57	189	12.6	-70.7	46	38	34	31	30	26	
	1000	444	0.062	-0.351	25	5.08	210	15.5	-87.3	46	39	36	33	33	30	
	1100	489	0.075	-0.424	28	5.59	231	18.8	-105.6	47	41	38	36	36	34	
10" x 10"	300	208	0.006	-0.032	-	1.52	98	1.4	-7.8	42	22	13	-	-	-	
	400	278	0.010	-0.056	-	2.03	131	2.5	-13.9	44	26	19	15	11	-	
	500	347	0.016	-0.088	-	2.54	164	3.9	-21.8	45	29	23	20	17	-	
	600	417	0.022	-0.126	16	3.05	197	5.6	-31.4	46	32	27	24	22	14	
	700	486	0.031	-0.172	19	3.56	229	7.6	-42.7	46	34	30	27	26	20	
	800	556	0.040	-0.224	23	4.06	262	9.9	-55.8	47	36	33	30	29	25	
	900	625	0.051	-0.284	26	4.57	295	12.6	-70.6	48	38	35	33	33	29	
	1000	694	0.062	-0.350	28	5.08	328	15.5	-87.1	48	40	37	35	35	33	
	1100	764	0.075	-0.424	31	5.59	361	18.8	-105.5	49	41	39	37	38	36	
12" x 12"	300	300	0.006	-0.031	-	1.52	142	1.4	-7.8	44	22	14	-	-	-	
	400	400	0.010	-0.056	-	2.03	189	2.5	-13.9	45	26	19	16	13	-	
	500	500	0.016	-0.087	14	2.54	236	3.9	-21.7	46	30	24	21	19	-	
	600	600	0.022	-0.126	18	3.05	283	5.6	-31.3	47	33	28	25	24	16	
	700	700	0.031	-0.171	22	3.56	330	7.6	-42.6	48	35	31	28	28	22	
	800	800	0.040	-0.224	26	4.06	378	9.9	-55.7	49	37	33	31	31	27	
	900	900	0.051	-0.283	28	4.57	425	12.6	-70.5	49	39	36	34	34	31	
	1000	1000	0.062	-0.349	31	5.08	472	15.5	-87.0	50	40	38	36	37	35	
	1100	1100	0.075	-0.423	34	5.59	519	18.8	-105.3	50	42	40	38	40	38	
22" x 10"	300	458	0.006	-0.031	-	1.52	216	1.4	-7.8	45	23	14	12	-	-	
	400	611	0.010	-0.056	11	2.03	288	2.5	-13.9	47	27	20	18	15	-	
	500	764	0.016	-0.087	17	2.54	361	3.9	-21.7	48	30	25	23	21	11	
	600	917	0.022	-0.125	21	3.05	433	5.6	-31.2	49	33	28	27	26	18	
	700	1069	0.031	-0.171	25	3.56	505	7.6	-42.5	50	35	32	30	30	24	
	800	1222	0.040	-0.223	29	4.06	577	9.9	-55.5	50	38	34	33	34	29	
	900	1375	0.051	-0.282	32	4.57	649	12.6	-70.2	51	39	37	35	37	33	
	1000	1528	0.062	-0.348	34	5.08	721	15.5	-86.7	51	41	39	38	39	37	
	1100	1681	0.075	-0.421	37	5.59	793	18.8	-104.9	52	42	41	40	42	41	

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

PERFORATED FACE DIFFUSERS

6490, 56490 (Return) Performance Data

IP/METRIC DATA: 6490, 56490, 24"x48" PANEL (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
15" x 15"	300	469	0.006	-0.031	-	1.52	221	1.4	-7.8	45	23	14	12	-	-	
	400	625	0.010	-0.056	11	2.03	295	2.5	-13.9	47	27	20	18	15	-	
	500	781	0.016	-0.087	17	2.54	369	3.9	-21.7	48	30	25	23	21	11	
	600	938	0.022	-0.125	22	3.05	442	5.6	-31.2	49	33	28	27	26	18	
	700	1094	0.031	-0.171	25	3.56	516	7.6	-42.5	50	36	32	30	30	24	
	800	1250	0.040	-0.223	29	4.06	590	9.9	-55.5	50	38	34	33	34	29	
	900	1406	0.051	-0.282	32	4.57	664	12.6	-70.2	51	39	37	35	37	33	
	1000	1563	0.062	-0.348	34	5.08	737	15.5	-86.7	51	41	39	38	40	37	
16" x 16"	300	533	0.006	-0.031	-	1.52	252	1.4	-7.8	46	23	15	12	-	-	
	400	711	0.010	-0.056	12	2.03	336	2.5	-13.9	47	27	20	18	16	-	
	500	889	0.016	-0.087	18	2.54	420	3.9	-21.6	48	31	25	23	22	12	
	600	1067	0.022	-0.125	23	3.05	503	5.6	-31.2	49	33	29	27	27	19	
	700	1244	0.031	-0.170	26	3.56	587	7.6	-42.4	50	36	32	30	31	25	
	800	1422	0.040	-0.223	30	4.06	671	9.9	-55.4	51	38	35	33	34	30	
	900	1600	0.051	-0.282	33	4.57	755	12.6	-70.1	51	40	37	36	37	34	
	1000	1778	0.062	-0.348	35	5.08	839	15.5	-86.6	52	41	39	38	40	38	
18" x 18"	300	675	0.006	-0.031	-	1.52	319	1.4	-7.8	47	23	15	13	-	-	
	400	900	0.010	-0.055	14	2.03	425	2.5	-13.8	48	28	21	19	17	-	
	500	1125	0.016	-0.087	20	2.54	531	3.9	-21.6	49	31	25	24	23	13	
	600	1350	0.022	-0.125	24	3.05	637	5.6	-31.1	50	34	29	28	28	20	
	700	1575	0.031	-0.170	28	3.56	743	7.6	-42.3	51	36	32	31	32	26	
	800	1800	0.040	-0.222	32	4.06	850	9.9	-55.3	52	38	35	34	36	31	
	900	2025	0.051	-0.281	35	4.57	956	12.6	-69.9	52	40	37	37	39	36	
	1000	2250	0.062	-0.347	37	5.08	1062	15.5	-86.4	53	41	39	39	42	39	
46" x 22"	100	703	0.001	-0.003	-	0.51	332	0.2	-0.8	46	-	-	-	-	-	
	200	1406	0.003	-0.013	-	1.02	663	0.6	-3.4	49	19	-	-	-	-	
	300	2108	0.006	-0.030	15	1.52	995	1.4	-7.6	51	25	17	17	15	-	
	400	2811	0.010	-0.054	23	2.03	1327	2.5	-13.4	53	29	23	23	23	12	
	500	3514	0.016	-0.084	28	2.54	1658	3.9	-21.0	54	32	28	28	29	20	
	600	4217	0.022	-0.121	33	3.05	1990	5.6	-30.2	55	35	31	32	34	27	
	700	4919	0.031	-0.165	37	3.56	2322	7.6	-41.1	56	38	34	35	38	32	
	800	5622	0.040	-0.216	40	4.06	2653	9.9	-53.7	56	40	37	38	42	37	
900	6325	0.051	-0.273	43	4.57	2985	12.6	-68.0	57	41	39	40	45	42		

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

PERFORATED FACE DIFFUSERS

6400, 56400, 6490, 56490 (Supply/Return) Suggested Specification & Configuration -
1. SERIES: (XXXXX)

- 6400 - Square Neck, Steel Perforated Supply Diffuser with Face Mounted Deflectors
- 56400 - Square Neck, Aluminum Perforated Face, Steel Backpan Supply Diffuser with Face Mounted Deflectors
- 6490 - Square Neck, Steel Perforated Return
- 56490 - Square Neck, Aluminum Perforated Face, Steel Backpan Return

2. PATTERN: (XX)

- 04 - 4-Way
- 90 - Return

3. DIMENSION 1 x DIMENSION 2: (XX)x(XX) *

6"x6"	6"x18"
8"x8"	10"x10"
10"x22"	12"x12"
14"x14"	15"x15"
16"x16"	18"x18"
22"x22"	22"x46"

4. FRAME: (XXX)

- F20 - Surface Mount
- F23 - Lay-in T-Bar
- F30 - Drop Face
- F98 - Narrow-T *

5. PANEL: (XX)x(XX)

12"x12"	12"x24"
16"x16" **	20"x20" **
24"x24"	24"x48"

6. ACCESSORIES: (XX)

- 00 - None
- IB - Insulated Backpan

7. FINISH: (XX)

- 01 - Mill
- 03 - Black Backpan with British White Face
- 10 - Alumican
- 35 - Black
- 44 - British White

Damper not included in configuration code.

* See chart on C1-53 for available neck sizes.

** Models 56400/56490 not available in 16"x16" and 20"x20" panel sizes.

• Frame 98 only available with 24"x24" panel size.

6400, 56400

The perforated face supply diffuser shall be Krueger model 6400 (steel perforated face) or 56400 (aluminum perforated face). The diffusers shall have a perforated face with 3/16" diameter holes on 1/4" centers resulting in a 51% free area. The diffuser backpan shall be constructed of heavy gage steel and provide a square neck.

The diffuser shall have four separate pattern deflectors mounted on the back of the perforated face and be field adjustable to provide vertical or 1, 2, 3, or 4-way horizontal projection of air in to the room. The perforated face must be easily removable from the backpan for access to the pattern deflectors for adjustments or removal and access to the damper.

Optional opposed-blade damper (OBD) shall be constructed of heavy gage steel. Damper shall be operable from the face of the diffuser.

6490, 56490

The perforated face return diffuser shall be Krueger model 6490 (steel perforated face) or 56490 (aluminum perforated face). The diffusers shall have a perforated face with 3/16" diameter holes on 1/4" centers resulting in a 51% free area. The diffuser backpan shall be constructed of heavy gage steel and provide a square neck.

The return diffuser shall match the Krueger model 6400 (steel perforated face) or 56400 (aluminum perforated face) supply diffuser in appearance. The perforated face must be easily removable from the backpan for access to the damper.

Optional opposed-blade damper (OBD) shall be constructed of heavy gage steel. Damper shall be operable from the face of the diffuser.

PERFORMANCE

The manufacturer shall provide published (printed or electronic) performance data for the diffuser. Performance data shall include 2 - 7 octave band sound power levels. The diffuser shall be tested in accordance to the data standards at the time of product introduction or ANSI/ASHRAE Standard 70.

FINISH

The paint finish shall be #44 British White and be an anodic acrylic paint, baked at 315°F for 30 minutes. The paint thickness shall be 0.8 – 1.0 mils, gloss at 60° per ASTM D523-89 of 50 – 85%, pencil hardness per ASTM D3363-92A of HB – H, crosshatch adhesion per ASTM D3359-83 of 4B – 5B, impact per ASTM D2794-93 of direct impact >100 in/lb and reverse impact >80 in/lb, salt spray per ASTM B117-9048 of 96 hours, humidity per ASTM D2247-92 of >500 hours and water soak per ASTM D870-92 of 250 hours.