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1310, 1310TF & 51310
 These perforated face supply grilles feature 5/16" diameter holes on 7/16" staggered centers.



13SD
 This perforated face supply grille features 3/16" diameter holes on 9/32" staggered centers.



1320
 This lattice face supply grille features 2"x2" square holes and wire mesh between face plate and backer plate.



1330
 This louvered face supply grille features a wire mesh between the mullion and mesh guard. Blades set horizontally at 40°.



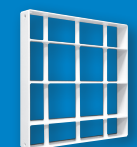
1340
 This lattice face with louvered core supply diffuser features 13/16" square holes and 3/16" fret.



51350
 This aluminum supply and return grille features 3/16"x3/4" bars on 1/2" centers. Bars are set at 0° deflection.



1380 & 51380
 These lattice or perforated face plates feature 13/16" square holes with 3/16" fret or 5/16" diameter holes on 7/16" staggered centers.



1390
 This barred duct work features a vertical or horizontal security bar. Round bars are 3/4" diameter. Flat bars are 2 1/2"x1/4".



1390F
 This barred duct work with sleeve features vertical and horizontal round security bars. Round bars are 3/4" diameter.

1310, 1310TF, 51310

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1320

Introduction: 1320

The 1320 series maximum security grilles feature a wire mesh sandwiched between two plates that have 2"x2" square holes with a 1" fret, representing the base design for correctional facilities around the country. The heavy construction and wire mesh deter the insertion or concealment of dangerous objects and unwanted contraband.

MODEL

1320 - Maximum security steel grille with 3/16" thick face and backer plate with 2"x2" square holes and a 1" fret.

FEATURES

- 10 Gage x #2 wire steel mesh.
- 3/16" Thick steel stitch welded sleeve.
- 30"x30" Maximum single unit size.
- Sleeve lengths of 6", 8", 10", 12", 14", 16", and 18".

ACCESSORIES

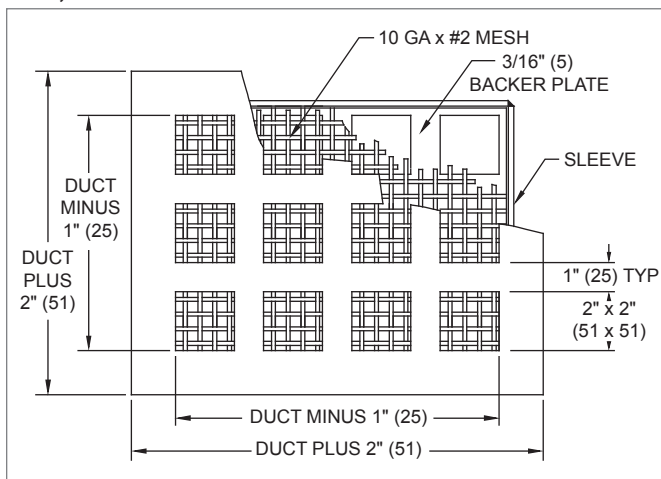
- Unpainted steel angle frame shipped loose for field installation, constructed of 1 1/2"x1 1/2"x3/16" angle.
- Steel 3/4" diameter security bars on 6" centers.
- Steel 3"x3/4" diameter anchor bars.
- Two unpainted loose steel angles shipped loose for field installation, constructed of 1 1/2"x1 1/2"x3/16" angle.
- Front or rear operated OBD.

FINISHES

- Standard finish is #44 British White.
- Optional finish is Mill.

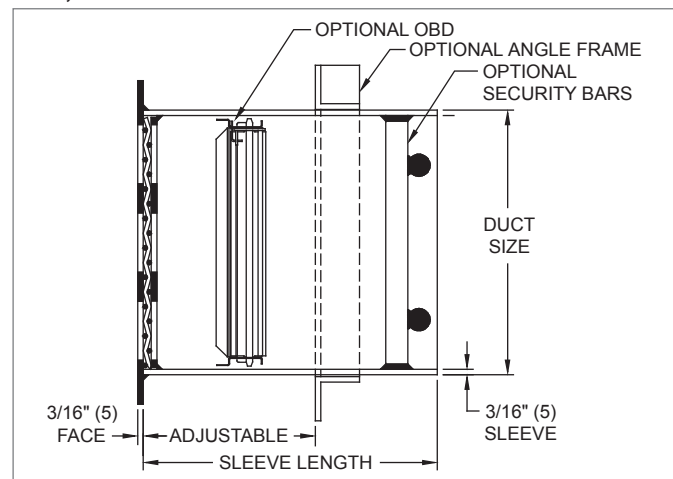
1320 Dimensional Information

1320, FACE VIEW



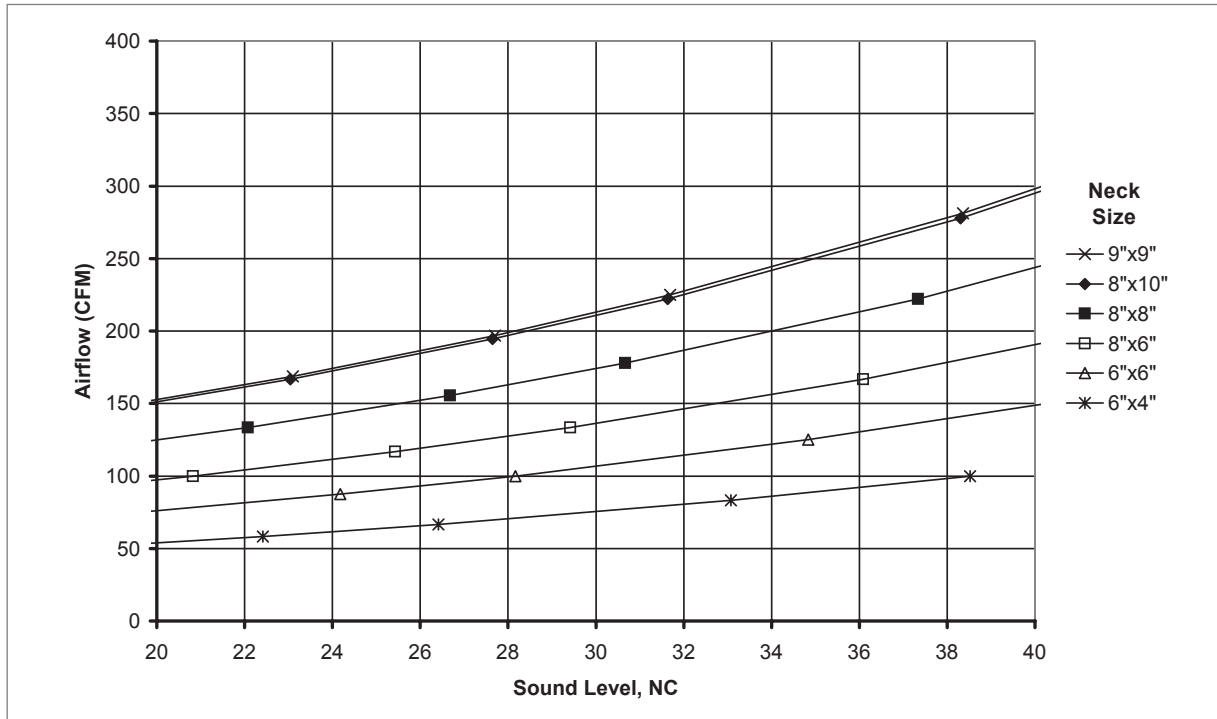
NOTE: Dimensions in parentheses are mm.

1320, CROSS SECTION

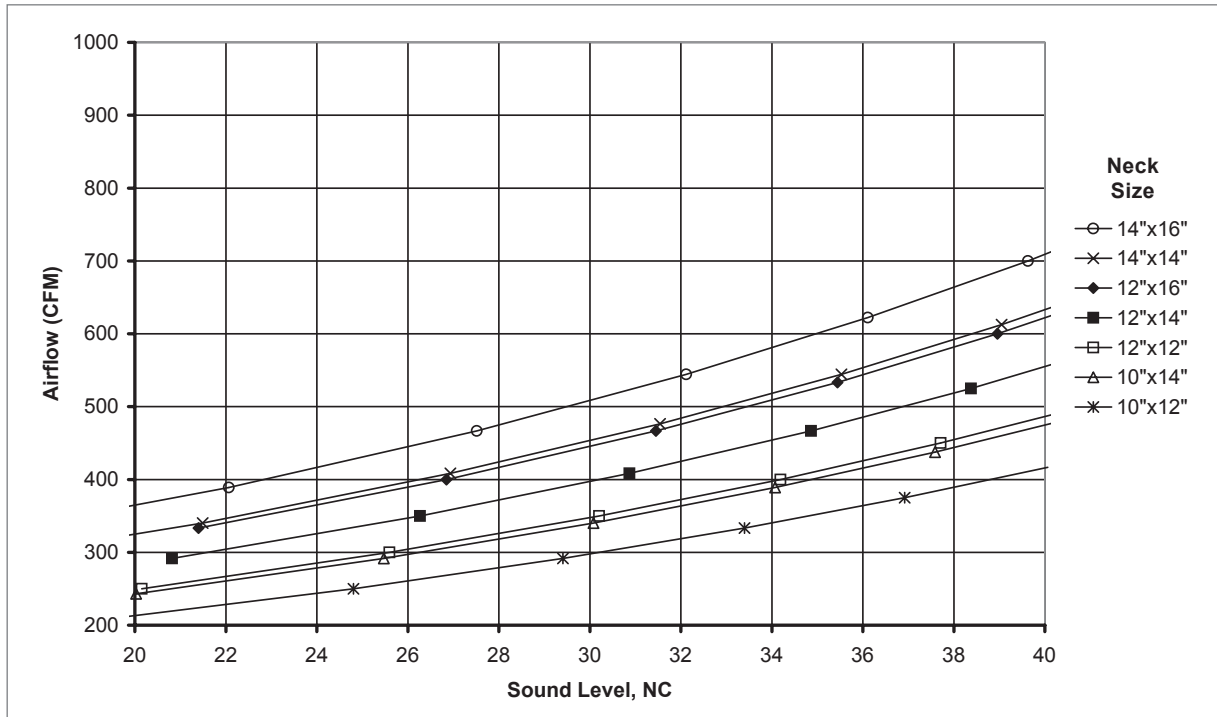


1320 Reference Charts

AIRFLOW VS. NC LEVEL: 1320 (NO DAMPER)

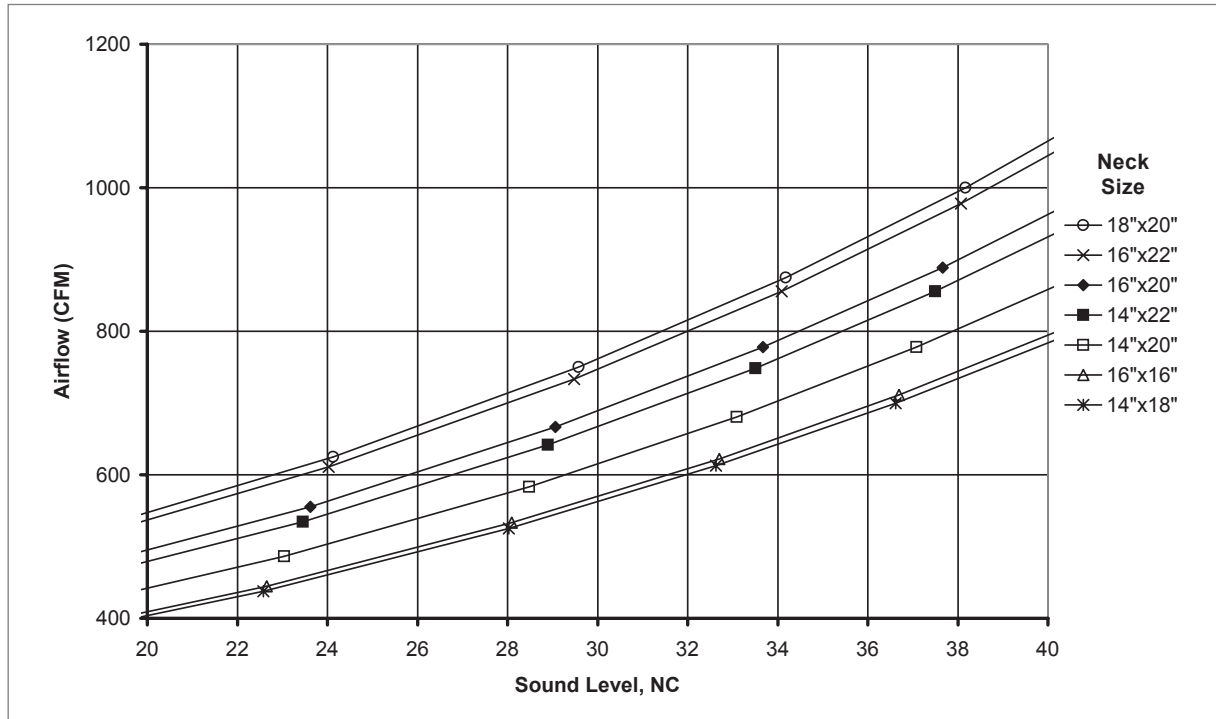


AIRFLOW VS. NC LEVEL: 1320 (NO DAMPER)

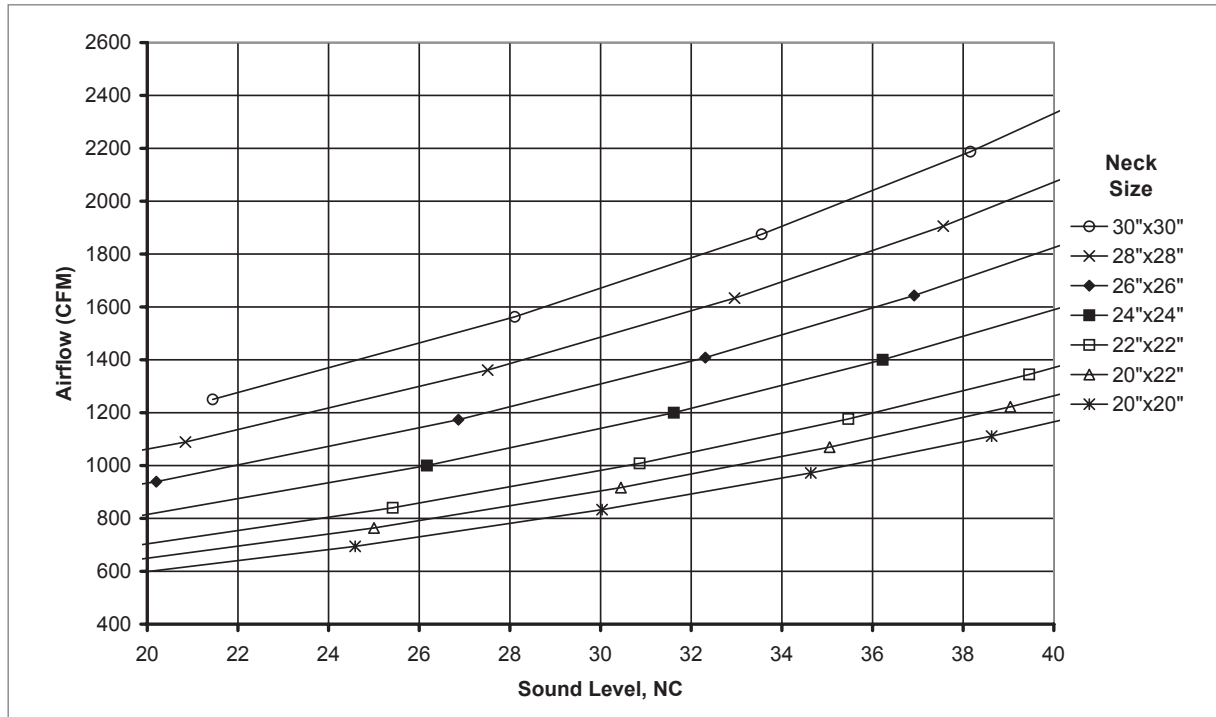


1320 Reference Charts

AIRFLOW VS. NC LEVEL: 1320 (NO DAMPER)



AIRFLOW VS. NC LEVEL: 1320 (NO DAMPER)



1320 Performance Data: Horizontal Throw

IP/METRIC DATA: 1320 (NO DAMPER)

IP Data							Metric Data						
Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw	NC	Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw	
in	ft²	FPM	CFM	"WG	ft		mm	m²	m/s	L/s	Pa	m	
6" x 4"	0.167	100	17	.012	1 - 3 - 6	-	152 x 102	0.015	0.51	8	2.9	0.4 - 0.8 - 1.9	
		150	25	.026	3 - 5 - 8	-			0.76	12	6.5	0.8 - 1.4 - 2.6	
		200	33	.046	4 - 6 - 10	-			1.02	16	11.6	1.2 - 1.9 - 3.0	
		250	42	.073	5 - 8 - 11	12			1.27	20	18.1	1.5 - 2.3 - 3.3	
		300	50	.105	6 - 8 - 12	18			1.52	24	26.0	1.9 - 2.6 - 3.6	
		350	58	.142	7 - 9 - 13	22			1.78	28	35.4	2.2 - 2.8 - 3.9	
		400	67	.186	8 - 10 - 14	26			2.03	31	46.3	2.4 - 3.0 - 4.2	
		500	83	.290	9 - 11 - 15	33			2.54	39	72.3	2.7 - 3.3 - 4.7	
		600	100	.418	10 - 12 - 17	39			3.05	47	104.1	3.0 - 3.6 - 5.2	
6" x 6"	0.250	100	25	.026	2 - 3 - 7	-	152 x 152	0.023	0.51	12	6.5	0.5 - 1.0 - 2.3	
		150	38	.026	3 - 6 - 10	-			0.76	18	6.5	1.0 - 1.7 - 3.2	
		200	50	.046	5 - 7 - 12	-			1.02	24	11.6	1.5 - 2.3 - 3.6	
		250	63	.073	6 - 9 - 13	14			1.27	29	18.1	1.9 - 2.8 - 4.1	
		300	75	.105	7 - 10 - 15	20			1.52	35	26.0	2.3 - 3.2 - 4.5	
		350	88	.142	9 - 11 - 16	24			1.78	41	35.4	2.7 - 3.4 - 4.8	
		400	100	.186	10 - 12 - 17	28			2.03	47	46.3	3.0 - 3.6 - 5.2	
		500	125	.290	11 - 13 - 19	35			2.54	59	72.3	3.3 - 4.1 - 5.8	
		600	150	.418	12 - 15 - 21	40			3.05	71	104.1	3.6 - 4.5 - 6.3	
8" x 6"	0.333	100	33	.046	2 - 4 - 9	-	203 x 152	0.031	0.51	16	11.6	0.5 - 1.2 - 2.6	
		150	50	.026	4 - 6 - 12	-			0.76	24	6.5	1.2 - 2.0 - 3.6	
		200	67	.046	6 - 9 - 14	-			1.02	31	11.6	1.8 - 2.6 - 4.2	
		250	83	.073	7 - 11 - 15	15			1.27	39	18.1	2.2 - 3.3 - 4.7	
		300	100	.105	9 - 12 - 17	21			1.52	47	26.0	2.6 - 3.6 - 5.2	
		350	117	.142	10 - 13 - 18	25			1.78	55	35.4	3.1 - 3.9 - 5.6	
		400	133	.186	11 - 14 - 20	29			2.03	63	46.3	3.4 - 4.2 - 6.0	
		500	167	.290	13 - 15 - 22	36			2.54	79	72.3	3.8 - 4.7 - 6.7	
		600	200	.418	14 - 17 - 24	42			3.05	94	104.1	4.2 - 5.2 - 7.3	
8" x 8"	0.444	100	44	.083	2 - 5 - 10	-	203 x 203	0.041	0.51	21	20.6	0.6 - 1.4 - 3.0	
		150	67	.026	5 - 7 - 14	-			0.76	31	6.5	1.4 - 2.3 - 4.2	
		200	89	.046	7 - 10 - 16	-			1.02	42	11.6	2.0 - 3.0 - 4.9	
		250	111	.073	8 - 12 - 18	17			1.27	52	18.1	2.5 - 3.8 - 5.4	
		300	133	.105	10 - 14 - 20	22			1.52	63	26.0	3.0 - 4.2 - 6.0	
		350	156	.142	12 - 15 - 21	27			1.78	73	35.4	3.5 - 4.5 - 6.4	
		400	178	.186	13 - 16 - 23	31			2.03	84	46.3	4.0 - 4.9 - 6.9	
		500	222	.290	15 - 18 - 25	37			2.54	105	72.3	4.4 - 5.4 - 7.7	
		600	267	.418	16 - 20 - 28	43			3.05	126	104.1	4.9 - 6.0 - 8.4	
8" x 10"	0.556	100	56	.129	2 - 5 - 11	-	203 x 254	0.052	0.51	26	32.1	0.7 - 1.6 - 3.4	
		150	83	.026	5 - 8 - 15	-			0.76	39	6.5	1.6 - 2.5 - 4.7	
		200	111	.046	7 - 11 - 18	11			1.02	52	11.6	2.3 - 3.4 - 5.4	
		250	139	.073	9 - 14 - 20	18			1.27	66	18.1	2.8 - 4.2 - 6.1	
		300	167	.105	11 - 15 - 22	23			1.52	79	26.0	3.4 - 4.7 - 6.7	
		350	194	.142	13 - 17 - 24	28			1.78	92	35.4	4.0 - 5.1 - 7.2	
		400	222	.186	15 - 18 - 25	32			2.03	105	46.3	4.4 - 5.4 - 7.7	
		500	278	.290	16 - 20 - 28	38			2.54	131	72.3	5.0 - 6.1 - 8.6	
		600	333	.418	18 - 22 - 31	44			3.05	157	104.1	5.4 - 6.7 - 9.4	
9" x 9"	0.563	100	56	.132	2 - 5 - 11	-	229 x 229	0.052	0.51	27	32.9	0.7 - 1.6 - 3.4	
		150	84	.026	5 - 8 - 16	-			0.76	40	6.5	1.6 - 2.6 - 4.7	
		200	113	.046	7 - 11 - 18	11			1.02	53	11.6	2.3 - 3.4 - 5.5	
		250	141	.073	9 - 14 - 20	18			1.27	66	18.1	2.8 - 4.3 - 6.1	
		300	169	.105	11 - 16 - 22	23			1.52	80	26.0	3.4 - 4.7 - 6.7	
		350	197	.142	13 - 17 - 24	28			1.78	93	35.4	4.0 - 5.1 - 7.2	
		400	225	.186	15 - 18 - 25	32			2.03	106	46.3	4.5 - 5.5 - 7.7	
		500	281	.290	16 - 20 - 28	38			2.54	133	72.3	5.0 - 6.1 - 8.7	
		600	338	.418	18 - 22 - 31	44			3.05	159	104.1	5.5 - 6.7 - 9.5	

NOTES: Throw values are given for isothermal conditions and terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s). 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 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 program for performance data not shown, including octave band data.

1320 Performance Data: Horizontal Throw

IP/METRIC DATA: 1320 (NO DAMPER)

IP Data						NC	Metric Data					
Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw		Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw
in	ft²	FPM	CFM	"WG	ft		mm	m²	m/s	L/s	Pa	m
10" x 10"	0.694	100	69	.202	3 - 6 - 12	-	254 x 254	0.065	0.51	33	50.2	0.8 - 1.7 - 3.8
		150	104	.026	6 - 9 - 17	-			0.76	49	6.5	1.7 - 2.8 - 5.3
		200	139	.046	8 - 12 - 20	12			1.02	66	11.6	2.5 - 3.8 - 6.1
		250	174	.073	10 - 16 - 22	19			1.27	82	18.1	3.2 - 4.7 - 6.8
		300	208	.105	12 - 17 - 24	24			1.52	98	26.0	3.8 - 5.3 - 7.4
		350	243	.142	15 - 19 - 26	29			1.78	115	35.4	4.4 - 5.7 - 8.0
		400	278	.186	16 - 20 - 28	33			2.03	131	46.3	5.0 - 6.1 - 8.6
		500	347	.290	18 - 22 - 32	39			2.54	164	72.3	5.6 - 6.8 - 9.6
600	417	.418	20 - 24 - 35	45	3.05	197	104.1	6.1 - 7.4 - 10.5				
10" x 12"	0.833	100	83	.012	3 - 6 - 14	-	254 x 305	0.077	0.51	39	2.9	0.8 - 1.9 - 4.2
		150	125	.026	6 - 10 - 19	-			0.76	59	6.5	1.9 - 3.1 - 5.8
		200	167	.046	9 - 14 - 22	13			1.02	79	11.6	2.8 - 4.2 - 6.7
		250	208	.073	11 - 17 - 24	19			1.27	98	18.1	3.5 - 5.2 - 7.4
		300	250	.105	14 - 19 - 27	25			1.52	118	26.0	4.2 - 5.8 - 8.2
		350	292	.142	16 - 20 - 29	29			1.78	138	35.4	4.8 - 6.2 - 8.8
		400	333	.186	18 - 22 - 31	33			2.03	157	46.3	5.4 - 6.7 - 9.4
		450	375	.235	19 - 23 - 33	37			2.29	177	58.6	5.8 - 7.1 - 10.0
500	417	.290	20 - 24 - 35	40	2.54	197	72.3	6.1 - 7.4 - 10.5				
10" x 14"	0.972	100	97	.016	3 - 7 - 15	-	254 x 356	0.090	0.51	46	3.9	0.9 - 2.1 - 4.5
		150	146	.026	7 - 11 - 20	-			0.76	69	6.5	2.1 - 3.4 - 6.2
		200	194	.046	10 - 15 - 24	13			1.02	92	11.6	3.0 - 4.5 - 7.2
		250	243	.073	12 - 18 - 26	20			1.27	115	18.1	3.7 - 5.6 - 8.0
		300	292	.105	15 - 20 - 29	25			1.52	138	26.0	4.5 - 6.2 - 8.8
		350	340	.142	17 - 22 - 31	30			1.78	161	35.4	5.2 - 6.7 - 9.5
		400	389	.186	19 - 24 - 33	34			2.03	184	46.3	5.9 - 7.2 - 10.2
		450	438	.235	20 - 25 - 35	38			2.29	206	58.6	6.2 - 7.6 - 10.8
500	486	.290	22 - 26 - 37	41	2.54	229	72.3	6.6 - 8.0 - 11.4				
12" x 12"	1.000	100	100	.017	3 - 7 - 15	-	305 x 305	0.093	0.51	47	4.2	0.9 - 2.1 - 4.5
		150	150	.026	7 - 11 - 21	-			0.76	71	6.5	2.1 - 3.4 - 6.3
		200	200	.046	10 - 15 - 24	13			1.02	94	11.6	3.0 - 4.5 - 7.3
		250	250	.073	12 - 19 - 27	20			1.27	118	18.1	3.8 - 5.7 - 8.2
		300	300	.105	15 - 21 - 29	26			1.52	142	26.0	4.5 - 6.3 - 8.9
		350	350	.142	17 - 22 - 32	30			1.78	165	35.4	5.3 - 6.8 - 9.7
		400	400	.186	20 - 24 - 34	34			2.03	189	46.3	6.0 - 7.3 - 10.3
		450	450	.235	21 - 25 - 36	38			2.29	212	58.6	6.3 - 7.7 - 10.9
500	500	.290	22 - 27 - 38	41	2.54	236	72.3	6.7 - 8.2 - 11.5				
12" x 14"	1.167	100	117	.023	3 - 7 - 16	-	305 x 356	0.108	0.51	55	5.7	1.0 - 2.2 - 4.9
		150	175	.026	7 - 12 - 22	-			0.76	83	6.5	2.2 - 3.7 - 6.8
		200	233	.046	11 - 16 - 26	14			1.02	110	11.6	3.3 - 4.9 - 7.9
		250	292	.073	13 - 20 - 29	21			1.27	138	18.1	4.1 - 6.1 - 8.8
		300	350	.105	16 - 22 - 32	26			1.52	165	26.0	4.9 - 6.8 - 9.7
		350	408	.142	19 - 24 - 34	31			1.78	193	35.4	5.7 - 7.4 - 10.4
		400	467	.186	21 - 26 - 37	35			2.03	220	46.3	6.4 - 7.9 - 11.1
		450	525	.235	22 - 27 - 39	38			2.29	248	58.6	6.8 - 8.4 - 11.8
500	583	.290	24 - 29 - 41	42	2.54	275	72.3	7.2 - 8.8 - 12.5				
12" x 16"	1.333	100	133	.030	4 - 8 - 17	-	305 x 406	0.124	0.51	63	7.4	1.1 - 2.4 - 5.3
		150	200	.026	8 - 13 - 24	-			0.76	94	6.5	2.4 - 3.9 - 7.3
		200	267	.046	12 - 17 - 28	15			1.02	126	11.6	3.5 - 5.3 - 8.4
		250	333	.073	14 - 22 - 31	21			1.27	157	18.1	4.4 - 6.6 - 9.4
		300	400	.105	17 - 24 - 34	27			1.52	189	26.0	5.3 - 7.3 - 10.3
		350	467	.142	20 - 26 - 37	31			1.78	220	35.4	6.1 - 7.9 - 11.1
		400	533	.186	23 - 28 - 39	35			2.03	252	46.3	6.9 - 8.4 - 11.9
		450	600	.235	24 - 29 - 42	39			2.29	283	58.6	7.3 - 8.9 - 12.6
500	667	.290	25 - 31 - 44	42	2.54	315	72.3	7.7 - 9.4 - 13.3				

NOTES: Throw values are given for isothermal conditions and terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s). 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 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 program for performance data not shown, including octave band data.

1320 Performance Data: Horizontal Throw

IP/METRIC DATA: 1320 (NO DAMPER)

IP Data							Metric Data						
Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw	NC	Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw	
in	ft²	FPM	CFM	"WG	ft		mm	m²	m/s	L/s	Pa	m	
14" x 14"	1.361	100	136	.031	4 - 8 - 17	-	356 x 356	0.126	0.51	64	7.7	1.1 - 2.4 - 5.3	
		150	204	.026	8 - 13 - 24	-			0.76	96	6.5	2.4 - 4.0 - 7.4	
		200	272	.046	12 - 17 - 28	15			1.02	128	11.6	3.5 - 5.3 - 8.5	
		250	340	.073	15 - 22 - 31	21			1.27	161	18.1	4.4 - 6.6 - 9.5	
		300	408	.105	17 - 24 - 34	27			1.52	193	26.0	5.3 - 7.4 - 10.4	
		350	476	.142	20 - 26 - 37	32			1.78	225	35.4	6.2 - 8.0 - 11.3	
		400	544	.186	23 - 28 - 40	36			2.03	257	46.3	7.0 - 8.5 - 12.0	
		450	613	.235	24 - 30 - 42	39			2.29	289	58.6	7.4 - 9.0 - 12.8	
		500	681	.290	26 - 31 - 44	42			2.54	321	72.3	7.8 - 9.5 - 13.5	
14" x 16"	1.556	100	156	.040	4 - 9 - 19	-	356 x 406	0.145	0.51	73	10.1	1.2 - 2.6 - 5.7	
		150	233	.026	9 - 14 - 26	-			0.76	110	6.5	2.6 - 4.3 - 7.9	
		200	311	.046	12 - 19 - 30	15			1.02	147	11.6	3.8 - 5.7 - 9.1	
		250	389	.073	16 - 23 - 33	22			1.27	184	18.1	4.7 - 7.1 - 10.2	
		300	467	.105	19 - 26 - 37	28			1.52	220	26.0	5.7 - 7.9 - 11.1	
		350	544	.142	22 - 28 - 40	32			1.78	257	35.4	6.6 - 8.5 - 12.0	
		400	622	.186	24 - 30 - 42	36			2.03	294	46.3	7.4 - 9.1 - 12.9	
		450	700	.235	26 - 32 - 45	40			2.29	330	58.6	7.9 - 9.7 - 13.6	
		500	778	.290	27 - 33 - 47	43			2.54	367	72.3	8.3 - 10.2 - 14.4	
14" x 18"	1.750	100	175	.012	4 - 9 - 20	-	356 x 457	0.163	0.51	83	2.9	1.2 - 2.8 - 6.0	
		150	263	.026	9 - 15 - 27	-			0.76	124	6.5	2.8 - 4.5 - 8.4	
		200	350	.046	13 - 20 - 32	16			1.02	165	11.6	4.0 - 6.0 - 9.7	
		250	438	.073	16 - 25 - 35	23			1.27	206	18.1	5.0 - 7.5 - 10.8	
		300	525	.105	20 - 27 - 39	28			1.52	248	26.0	6.0 - 8.4 - 11.8	
		350	613	.142	23 - 30 - 42	33			1.78	289	35.4	7.0 - 9.0 - 12.8	
		400	700	.186	26 - 32 - 45	37			2.03	330	46.3	7.9 - 9.7 - 13.6	
		450	788	.235	27 - 34 - 48	40			2.29	372	58.6	8.4 - 10.2 - 14.5	
		500	875	.290	29 - 35 - 50	43			2.54	413	72.3	8.8 - 10.8 - 15.3	
16" x 16"	1.778	100	178	.012	4 - 9 - 20	-	406 x 406	0.165	0.51	84	3.0	1.2 - 2.8 - 6.1	
		150	267	.026	9 - 15 - 28	-			0.76	126	6.5	2.8 - 4.5 - 8.4	
		200	356	.046	13 - 20 - 32	16			1.02	168	11.6	4.0 - 6.1 - 9.7	
		250	444	.073	17 - 25 - 36	23			1.27	210	18.1	5.1 - 7.6 - 10.9	
		300	533	.105	20 - 28 - 39	28			1.52	252	26.0	6.1 - 8.4 - 11.9	
		350	622	.142	23 - 30 - 42	33			1.78	294	35.4	7.1 - 9.1 - 12.9	
		400	711	.186	26 - 32 - 45	37			2.03	336	46.3	7.9 - 9.7 - 13.8	
		450	800	.235	28 - 34 - 48	40			2.29	378	58.6	8.4 - 10.3 - 14.6	
		500	889	.290	29 - 36 - 51	43			2.54	420	72.3	8.9 - 10.9 - 15.4	
14" x 20"	1.944	100	194	.014	4 - 10 - 21	-	356 x 508	0.181	0.51	92	3.6	1.3 - 2.9 - 6.3	
		150	292	.026	10 - 16 - 29	-			0.76	138	6.5	2.9 - 4.8 - 8.8	
		200	389	.046	14 - 21 - 33	16			1.02	184	11.6	4.2 - 6.3 - 10.2	
		250	486	.073	17 - 26 - 37	23			1.27	229	18.1	5.3 - 7.9 - 11.4	
		300	583	.105	21 - 29 - 41	28			1.52	275	26.0	6.3 - 8.8 - 12.5	
		350	681	.142	24 - 31 - 44	33			1.78	321	35.4	7.4 - 9.5 - 13.5	
		400	778	.186	27 - 33 - 47	37			2.03	367	46.3	8.3 - 10.2 - 14.4	
		450	875	.235	29 - 35 - 50	41			2.29	413	58.6	8.8 - 10.8 - 15.3	
		500	972	.290	31 - 37 - 53	44			2.54	459	72.3	9.3 - 11.4 - 16.1	
14" x 22"	2.139	100	214	.017	4 - 10 - 22	-	356 x 559	0.199	0.51	101	4.3	1.4 - 3.0 - 6.6	
		150	321	.026	10 - 16 - 30	-			0.76	151	6.5	3.0 - 5.0 - 9.2	
		200	428	.046	15 - 22 - 35	17			1.02	202	11.6	4.4 - 6.6 - 10.7	
		250	535	.073	18 - 27 - 39	23			1.27	252	18.1	5.5 - 8.3 - 11.9	
		300	642	.105	22 - 30 - 43	29			1.52	303	26.0	6.6 - 9.2 - 13.1	
		350	749	.142	26 - 33 - 46	34			1.78	353	35.4	7.8 - 10.0 - 14.1	
		400	856	.186	29 - 35 - 50	37			2.03	404	46.3	8.7 - 10.7 - 15.1	
		450	963	.235	30 - 37 - 53	41			2.29	454	58.6	9.2 - 11.3 - 16.0	
		500	1069	.290	32 - 39 - 55	44			2.54	505	72.3	9.7 - 11.9 - 16.9	

NOTES: Throw values are given for isothermal conditions and terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s). 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 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 program for performance data not shown, including octave band data.

1320 Performance Data: Horizontal Throw

IP/METRIC DATA: 1320 (NO DAMPER)

IP Data						NC	Metric Data					
Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw		Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw
in	ft²	FPM	CFM	"WG	ft		mm	m²	m/s	L/s	Pa	m
16" x 20"	2.222	100	222	.019	5 - 10 - 22	-	406 x 508	0.206	0.51	105	4.7	1.4 - 3.1 - 6.8
		150	333	.026	10 - 17 - 31	-			0.76	157	6.5	3.1 - 5.1 - 9.4
		200	444	.046	15 - 22 - 36	17			1.02	210	11.6	4.5 - 6.8 - 10.9
		250	556	.073	19 - 28 - 40	24			1.27	262	18.1	5.6 - 8.5 - 12.2
		300	667	.105	22 - 31 - 44	29			1.52	315	26.0	6.8 - 9.4 - 13.3
		350	778	.142	26 - 33 - 47	34			1.78	367	35.4	7.9 - 10.2 - 14.4
		400	889	.186	29 - 36 - 51	38			2.03	420	46.3	8.9 - 10.9 - 15.4
		450	1000	.235	31 - 38 - 54	41			2.29	472	58.6	9.4 - 11.5 - 16.3
		500	1111	.290	33 - 40 - 57	44			2.54	524	72.3	9.9 - 12.2 - 17.2
16" x 22"	2.444	100	244	.023	5 - 11 - 23	-	406 x 559	0.227	0.51	115	5.6	1.4 - 3.3 - 7.1
		150	367	.026	11 - 18 - 32	-			0.76	173	6.5	3.3 - 5.3 - 9.9
		200	489	.046	16 - 23 - 38	17			1.02	231	11.6	4.7 - 7.1 - 11.4
		250	611	.073	19 - 29 - 42	24			1.27	288	18.1	5.9 - 8.9 - 12.8
		300	733	.105	23 - 32 - 46	29			1.52	346	26.0	7.1 - 9.9 - 14.0
		350	856	.142	27 - 35 - 50	34			1.78	404	35.4	8.3 - 10.7 - 15.1
		400	978	.186	31 - 38 - 53	38			2.03	461	46.3	9.3 - 11.4 - 16.1
		450	1100	.235	32 - 40 - 56	42			2.29	519	58.6	9.9 - 12.1 - 17.1
		500	1222	.290	34 - 42 - 59	45			2.54	577	72.3	10.4 - 12.8 - 18.0
18" x 20"	2.500	100	250	.024	5 - 11 - 24	-	457 x 508	0.232	0.51	118	5.9	1.5 - 3.3 - 7.2
		150	375	.026	11 - 18 - 33	-			0.76	177	6.5	3.3 - 5.4 - 10.0
		200	500	.046	16 - 24 - 38	17			1.02	236	11.6	4.8 - 7.2 - 11.5
		250	625	.073	20 - 30 - 42	24			1.27	295	18.1	6.0 - 9.0 - 12.9
		300	750	.105	24 - 33 - 46	30			1.52	354	26.0	7.2 - 10.0 - 14.1
		350	875	.142	28 - 35 - 50	34			1.78	413	35.4	8.4 - 10.8 - 15.3
		400	1000	.186	31 - 38 - 54	38			2.03	472	46.3	9.4 - 11.5 - 16.3
		450	1125	.235	33 - 40 - 57	42			2.29	531	58.6	10.0 - 12.2 - 17.3
		500	1250	.290	35 - 42 - 60	45			2.54	590	72.3	10.5 - 12.9 - 18.2
20" x 20"	2.778	100	278	.012	5 - 11 - 25	-	508 x 508	0.258	0.51	131	2.9	1.5 - 3.5 - 7.6
		150	417	.026	11 - 19 - 35	-			0.76	197	6.5	3.5 - 5.7 - 10.5
		200	556	.046	17 - 25 - 40	18			1.02	262	11.6	5.1 - 7.6 - 12.2
		250	694	.073	21 - 31 - 45	25			1.27	328	18.1	6.3 - 9.5 - 13.6
		300	833	.105	25 - 35 - 49	30			1.52	393	26.0	7.6 - 10.5 - 14.9
		350	972	.142	29 - 37 - 53	35			1.78	459	35.4	8.8 - 11.4 - 16.1
		400	1111	.186	33 - 40 - 57	39			2.03	524	46.3	9.9 - 12.2 - 17.2
		450	1250	.235	35 - 42 - 60	42			2.29	590	58.6	10.5 - 12.9 - 18.2
		500	1389	.290	37 - 45 - 63	45			2.54	655	72.3	11.1 - 13.6 - 19.2
20" x 22"	3.056	100	306	.014	5 - 12 - 26	-	508 x 559	0.284	0.51	144	3.5	1.6 - 3.6 - 7.9
		150	458	.026	12 - 20 - 36	-			0.76	216	6.5	3.6 - 6.0 - 11.0
		200	611	.046	17 - 26 - 42	18			1.02	288	11.6	5.3 - 7.9 - 12.8
		250	764	.073	22 - 33 - 47	25			1.27	361	18.1	6.6 - 9.9 - 14.3
		300	917	.105	26 - 36 - 51	30			1.52	433	26.0	7.9 - 11.0 - 15.6
		350	1069	.142	31 - 39 - 55	35			1.78	505	35.4	9.3 - 11.9 - 16.9
		400	1222	.186	34 - 42 - 59	39			2.03	577	46.3	10.4 - 12.8 - 18.0
		450	1375	.235	36 - 44 - 63	43			2.29	649	58.6	11.0 - 13.5 - 19.1
		500	1528	.290	38 - 47 - 66	46			2.54	721	72.3	11.6 - 14.3 - 20.2
22" x 22"	3.361	100	336	.017	6 - 13 - 27	-	559 x 559	0.312	0.51	159	4.2	1.7 - 3.8 - 8.3
		150	504	.026	13 - 21 - 38	-			0.76	238	6.5	3.8 - 6.3 - 11.6
		200	672	.046	18 - 27 - 44	19			1.02	317	11.6	5.6 - 8.3 - 13.4
		250	840	.073	23 - 34 - 49	25			1.27	397	18.1	6.9 - 10.4 - 15.0
		300	1008	.105	27 - 38 - 54	31			1.52	476	26.0	8.3 - 11.6 - 16.4
		350	1176	.142	32 - 41 - 58	35			1.78	555	35.4	9.7 - 12.5 - 17.7
		400	1344	.186	36 - 44 - 62	39			2.03	635	46.3	10.9 - 13.4 - 18.9
		450	1513	.235	38 - 47 - 66	43			2.29	714	58.6	11.6 - 14.2 - 20.1
		500	1681	.290	40 - 49 - 70	46			2.54	793	72.3	12.2 - 15.0 - 21.1

NOTES: Throw values are given for isothermal conditions and terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s). 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 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 program for performance data not shown, including octave band data.

1320 Performance Data: Horizontal Throw

IP/METRIC DATA: 1320 (NO DAMPER)

IP Data							Metric Data					
Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw	NC	Nom Duct	Duct Area	Neck Vel	Air Flow	Pt	Throw
in	ft²	FPM	CFM	"WG	ft		mm	m²	m/s	L/s	Pa	m
24" x 24"	4.000	100	400	.024	6 - 14 - 30	-	610 x 610	0.372	0.51	189	6.0	1.9 - 4.2 - 9.1
		150	600	.026	14 - 22 - 42	11			0.76	283	6.5	4.2 - 6.8 - 12.6
		200	800	.046	20 - 30 - 48	20			1.02	378	11.6	6.1 - 9.1 - 14.6
		250	1000	.073	25 - 37 - 54	26			1.27	472	18.1	7.6 - 11.4 - 16.3
		300	1200	.105	30 - 42 - 59	32			1.52	566	26.0	9.1 - 12.6 - 17.9
		350	1400	.142	35 - 45 - 63	36			1.78	661	35.4	10.6 - 13.6 - 19.3
		400	1600	.186	39 - 48 - 68	40			2.03	755	46.3	11.9 - 14.6 - 20.6
		450	1800	.235	42 - 51 - 72	44			2.29	850	58.6	12.6 - 15.5 - 21.9
		500	2000	.290	44 - 54 - 76	47			2.54	944	72.3	13.3 - 16.3 - 23.1
26" x 26"	4.694	100	469	.033	7 - 15 - 32	-	660 x 660	0.436	0.51	222	8.3	2.0 - 4.5 - 9.9
		150	704	.026	15 - 24 - 45	12			0.76	332	6.5	4.5 - 7.4 - 13.7
		200	939	.046	22 - 32 - 52	20			1.02	443	11.6	6.6 - 9.9 - 15.8
		250	1174	.073	27 - 41 - 58	27			1.27	554	18.1	8.2 - 12.3 - 17.7
		300	1408	.105	32 - 45 - 64	32			1.52	665	26.0	9.9 - 13.7 - 19.4
		350	1643	.142	38 - 49 - 69	37			1.78	775	35.4	11.5 - 14.8 - 20.9
		400	1878	.186	42 - 52 - 74	41			2.03	886	46.3	12.9 - 15.8 - 22.4
		450	2113	.235	45 - 55 - 78	44			2.29	997	58.6	13.7 - 16.8 - 23.7
		500	2347	.290	47 - 58 - 82	48			2.54	1108	72.3	14.4 - 17.7 - 25.0
28" x 28"	5.444	100	544	.045	7 - 16 - 35	-	711 x 711	0.506	0.51	257	11.1	2.2 - 4.9 - 10.6
		150	817	.026	16 - 26 - 48	12			0.76	385	6.5	4.9 - 8.0 - 14.7
		200	1089	.046	23 - 35 - 56	21			1.02	514	11.6	7.1 - 10.6 - 17.0
		250	1361	.073	29 - 44 - 63	28			1.27	642	18.1	8.8 - 13.3 - 19.0
		300	1633	.105	35 - 48 - 69	33			1.52	771	26.0	10.6 - 14.7 - 20.9
		350	1906	.142	41 - 52 - 74	38			1.78	899	35.4	12.4 - 15.9 - 22.5
		400	2178	.186	46 - 56 - 79	42			2.03	1028	46.3	13.9 - 17.0 - 24.1
		450	2450	.235	48 - 59 - 84	45			2.29	1156	58.6	14.7 - 18.1 - 25.5
		500	2722	.290	51 - 63 - 89	48			2.54	1285	72.3	15.5 - 19.0 - 26.9
30" x 30"	6.250	100	625	.059	8 - 17 - 37	-	762 x 762	0.581	0.51	295	14.6	2.3 - 5.2 - 11.4
		150	938	.026	17 - 28 - 52	13			0.76	442	6.5	5.2 - 8.5 - 15.8
		200	1250	.046	25 - 37 - 60	21			1.02	590	11.6	7.6 - 11.4 - 18.2
		250	1563	.073	31 - 47 - 67	28			1.27	737	18.1	9.5 - 14.2 - 20.4
		300	1875	.105	37 - 52 - 73	34			1.52	885	26.0	11.4 - 15.8 - 22.3
		350	2188	.142	44 - 56 - 79	38			1.78	1032	35.4	13.3 - 17.1 - 24.1
		400	2500	.186	49 - 60 - 85	42			2.03	1180	46.3	14.9 - 18.2 - 25.8
		450	2813	.235	52 - 64 - 90	46			2.29	1327	58.6	15.8 - 19.3 - 27.4
		500	3125	.290	55 - 67 - 95	49			2.54	1475	72.3	16.7 - 20.4 - 28.8

NOTES: Throw values are given for isothermal conditions and terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s). 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 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 program for performance data not shown, including octave band data.

1320 Suggested Specification & Configuration

1320

The maximum security grille shall be a Krueger model 1320. The face of the maximum security grille shall be 3/16" thick steel with a 3/16" thick backer plate and have 2"x2" square holes with 1" fret. A 10 gage x #2 steel wire mesh screen shall be placed between the face and the backer plate. The backer plate shall have 2" square holes on 3" centers to match the face of the maximum security grille and stitch welded to the sleeve. The sleeve shall be 3/16" thick and stitch welded to the face of the maximum security grille and along the entire length of the sleeve.

Optional front or rear operated steel opposed blade damper available.

Other options include two loose 1 1/2"x1 1/2"x3/16" steel angles, steel angle frame 1 1/2"x1 1/2"x3/16" welded at the corners, 3/4" diameter x 3" long steel anchor bars and 3/4" diameter steel security bars.

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.

- 1. SERIES: (XXXX)**
1320 - Steel Supply and Return Security Grille
- 2. WIDTH: (XX)**
6" - 30" in 2" Increments or 9" *
- 3. HEIGHT: (XX)**
4" - 30" in 2" Increments or 9" *
- 4. SLEEVE LENGTH: (XX)**
6", 8", 10", 12", 14", 16", or 18"
- 5. DAMPER: (XX)**
00 - No Damper
3F - Front Operated Steel OBD **
3R - Rear Operated Steel OBD **
- 6. ACCESSORIES: (XX) (XX)**
00 - No Accessories
0L - Angle Frame Shipped Unpainted and Loose for Field Installation
01 - Security Bars, 3/4" Diameter Round Steel Bar on 6" Centers
02 - Anchor Bars, 3/4" Diameter x 3" Long
07 - 2 Loose Angles, Shipped Separately for Field Installation
- 7. FINISH: (XX)**
01 - Mill
44 - British White

* If selecting 9" width, height must also be 9".
** Damper welded in sleeve.

SAMPLE CONFIGURATION: 1320 - 16x28 - 18 - 00 - 01 - 07 - 44