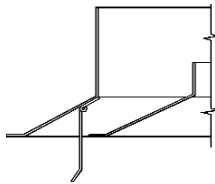
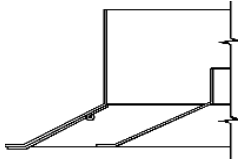


Series J: Easily Adjustable from Horizontal to Vertical**Vertical Discharge****Horizontal Discharge****Application:**

Carnes steel (SK) and aluminum (SE) louvered face diffusers are among the most versatile ceiling diffusers on the market. They provide excellent performance in low flow VAV situation and their dump-resistant performance makes them well suited for cold air applications. They are available in a wide range of sizes and blow patterns, fit a variety of ducts and come in frame styles to fit most ceiling systems on the market. The customer has a choice of materials, and can choose from fixed horizontal or adjustable discharge models.

Standard Features:

- Excellent VAV device. Maintains a horizontal air pattern down to 10% of nominal CFM. (Nominal CFM is the flow at which the NC level is 35.)
- Excellent cold air device. Resists dumping down to very low CFM's.
- Choice of steel (SK) or aluminum (SE) roll-form construction.
- Available with square or rectangular neck.
- Steel (SK) is available in neck sizes from 6" to 48" in 3-inch increments.
- Aluminum (SE) is available in neck sizes from 6" to 24" in 3-inch increments.
- 8 different mounting frames make this compatible with most ceiling systems. (see *Page A24*)
- Available in all blow patterns (1-way, 2-way opposite, 2-way corner, 3-way & 4-way).
- The inner assemblies interchange in all frames of the same size. The inner assembly is spring loaded and is removed by pushing the inner assembly toward the spring end. No tools are required, making installation and maintenance easy.
- The standard finish is Carnes No. 11 bright white electrocoat acrylic baked enamel. Many finish options are available.

Optional Features:

- Round neck adapters are available for square neck models (*Page A444*).
- Foam gaskets can be mounted around the frame edge for added leak prevention.
- Safety chains are available for use when removing the core periodically.
- Models are available with the horizontal-to-vertical pattern adjustment option (Series J).

Materials

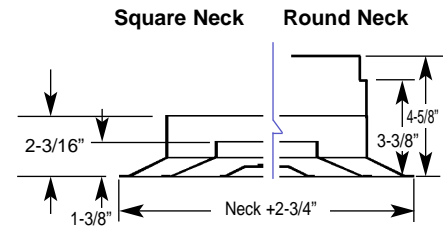
Steel (SK). Economical and durable. The model is made using precision manufacturing techniques. Our advanced tooling and manufacturing methods provide consistently high quality products. With Carnes' electrocoat technology it is highly corrosion-resistant.

Aluminum (SE). Lightweight and impervious to salt spray and high-moisture corrosion. Available in painted finishes only. Construction is of roll-formed and stamped parts, built identical to the steel model.



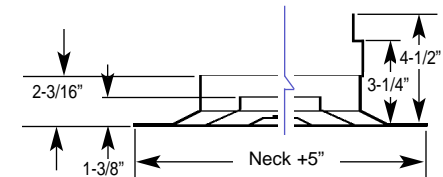
Stub Duct (E)

Used primarily when attaching to exposed stub duct. Lays directly into T-bar ceiling when the frame O.D. matches the T-bar grid size.



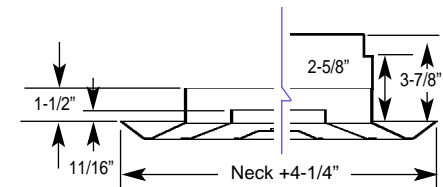
Flange (F)

Used in plaster ceilings where a near-flush (1/8") mount is desired. Recommended opening is neck size plus 2 inches.



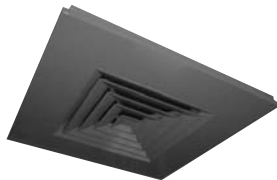
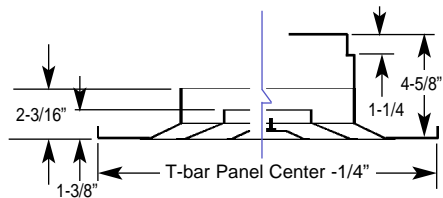
Beveled (S)

Used in plaster ceilings where a near-flush mount is not necessary or desired. Recommended ceiling opening is neck size plus 1 inch.



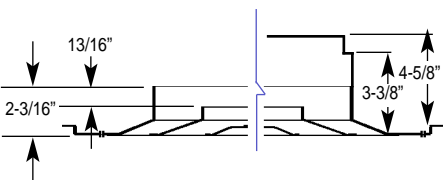
T-bar (T)

Used in T-bar suspended ceilings. The frame is sized to drop into standard 11/16" T-bar frame with no modification.



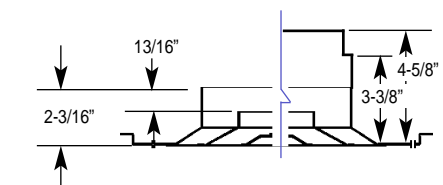
Spline (Z)

Used with Spline-type concealed suspended ceilings. It is sized to fit the ceiling grid with no modification needed.



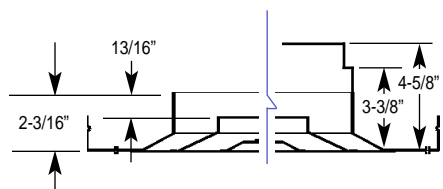
Tegular (G)

Used with tegular suspended ceilings. It is sized to fit 15/16" flat face T-bar with no modification needed. Frames to fit narrower flat tee's are available on special order.



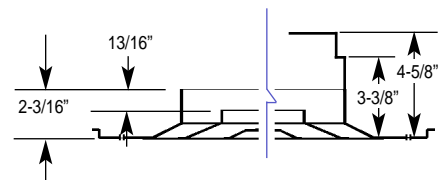
Snap-In Metal Pan (W)

Used in snap-in metal pan ceilings. It is sized to fit the ceiling structure with no modification needed.



Finline[®]-Type (L)

Used with Donn[®] Finline[®], Highline[®], Armstrong Trimlok[®], Chicago Metallic Ultraline[®] and other compatible narrow-tee suspended ceiling grids.



Sq. & Rect. Louvered Diffusers

Rapid Induction Option "V"

This option is used when rapid induction of primary air is called for (e.g. small rooms or low ceiling). The desired design outcome is to eliminate perceptible draft. Carnes accomplishes this via vanes attached to the back of louvers, which direct the air at right angles to each other as they leave the diffuser, resulting in entrainment of room air over a shorter distance.

This option is available on any steel (SK) or aluminum (SE) model. Remember to also incorporate cold air correction factors (see p. A3 for those factors) if applicable. Performance data given here is for 4-way blow patterns only.

Size	Duct Velocity ->	300	400	500	600	700	800	900
	Static Pressure ->	0.040	0.072	0.112	0.163	0.221	0.288	0.366
	Total Pressure ->	0.046	0.081	0.127	0.184	0.249	0.326	0.414
6" x 6"	Flow (CFM)	75	100	125	150	175	200	225
	Sound (NC)	--	12	18	23	29	34	37
	Throw (Ft.)	3-5-8	4-6-9	5-7-10	6-8-11	6-8-12	7-9-13	8-9-14
9" x 9"	Flow (CFM)	169	225	281	338	394	450	506
	Sound (NC)	10	17	23	29	33	39	42
	Throw (Ft.)	5-8-12	6-9-14	7-9-15	8-11-17	9-12-18	10-13-20	10-14-21
12" x 12"	Flow (CFM)	300	400	500	600	700	800	900
	Sound (NC)	12	19	25	31	36	41	45
	Throw (Ft.)	6-9-15	8-11-18	9-13-20	10-15-22	12-15-24	13-17-26	14-18-28
15" x 15"	Flow (CFM)	469	625	781	938	1094	1250	1406
	Sound (NC)	13	20	26	32	37	42	46
	Throw (Ft.)	8-12-19	10-14-22	11-16-25	13-17-28	14-19-29	15-21-31	17-22-33
18" x 18"	Flow (CFM)	675	900	1125	1350	1575	1800	2025
	Sound (NC)	14	21	27	33	38	43	47
	Throw (Ft.)	10-15-23	12-17-27	14-19-30	15-21-32	17-22-35	18-24-37	20-26-40
21" x 21"	Flow (CFM)	919	1225	1531	1838	2144	2450	2756
	Sound (NC)	15	22	28	34	39	44	48
	Throw (Ft.)	11-16-26	14-20-30	16-22-34	18-24-37	19-26-40	21-28-43	22-30-46
24" x 24"	Flow (CFM)	1200	1600	2000	2400	2800	3200	3600
	Sound (NC)	15	22	29	35	40	45	49
	Flow (Ft.)	13-19-30	15-22-34	18-25-39	20-28-42	22-29-46	34-32-48	26-34-51

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Static Pressure and Total Pressure are given in inches of water (w.g.).
- To get Velocity Pressure, subtract Static Pressure from Total Pressure.
- Sound Levels are based on a room absorption of 10 db re 10⁻¹² watts.
- A sound level of "--" indicates a level less than 10.
- Throw values are given for terminal velocities of 150, 100 and 50 fpm respectively.

NOTES:

Adjustable Discharge Corrections

Room design may call for a periodic vertical discharge from the ceiling. The Adjustable Discharge model (S __ J) is designed for locations where periodic changes in air discharge are desired. Carnes accomplishes this by attaching a hinged baffle inside the face of the frame which can be adjusted to direct the air downward. The air can be adjusted to a horizontal, intermediate, or vertical projection, depending upon the immediate requirements.

This makes it well suited for the following applications:

- High ceilings.
- Spot cooling or heating a small area.
- Cosmetic matching of vertical and horizontal discharge diffusers.
- Seasonal adjustment for heating or cooling.

To get new NC levels, ADD the numbers below to the catalog data.

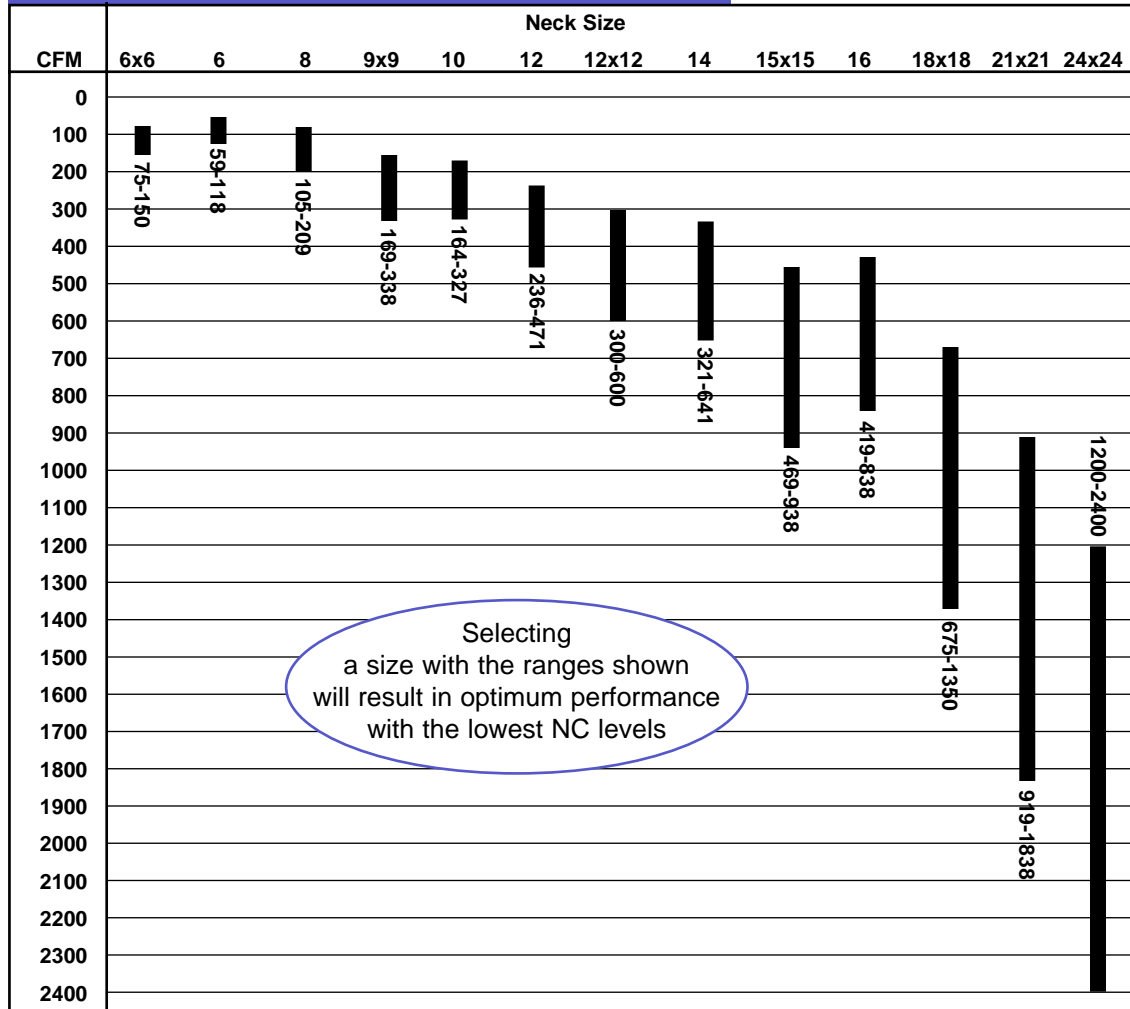
To get new Total Pressure, MULTIPLY the catalog data by the numbers below.

To get new Throw values, MULTIPLY the catalog data by the numbers below.

Neck Size	Velocity Correction	300		400		500		600		700		800		900	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
6" x 6"	NC (+)	2	6	2	6	2	6	2	6	3	7	3	7	3	7
	Ttl Press. (X)	1.2	1.8	1.2	1.8	1.2	1.8	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0
	Throw (X)	0.95	1.1	0.95	1.1	0.95	1.1	1.0	1.2	1.0	1.2	1.0	1.2	1.0	1.2
9" x 9"	NC (+)	2	6	2	6	2	6	2	6	3	7	3	7	3	7
	Ttl Press. (X)	1.2	1.8	1.2	1.8	1.2	1.8	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0
	Throw (X)	0.95	1.2	0.95	1.2	0.95	1.2	1.0	1.3	1.0	1.3	1.0	1.3	1.0	1.3
12" x 12"	NC (+)	2	6	2	6	2	6	3	7	3	7	3	7	3	7
	Ttl Press. (X)	1.2	1.8	1.2	1.8	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0	1.5	2.1
	Throw (X)	0.95	1.2	0.95	1.2	0.95	1.3	1.0	1.3	1.0	1.3	1.0	1.3	1.0	1.3
15" x 15"	NC (+)	2	6	2	6	2	6	3	7	3	7	3	7	3	7
	Ttl Press. (X)	1.2	1.8	1.2	1.8	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0	1.5	2.1
	Throw (X)	0.95	1.2	0.95	1.2	1.0	1.3	1.0	1.3	1.0	1.3	1.0	1.3	1.0	1.3
18" x 18"	NC (+)	2	6	2	6	3	7	3	7	3	7	3	7	3	7
	Ttl Press. (X)	1.3	1.9	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0	1.5	2.1	1.5	2.1
	Throw (X)	0.95	1.3	0.95	1.3	1.0	1.3	1.0	1.4	1.0	1.4	1.0	1.4	1.0	1.4
21" x 21"	NC (+)	2	6	2	6	3	7	3	7	3	7	3	7	3	7
	Ttl Press. (X)	1.3	1.9	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0	1.5	2.1	1.5	2.1
	Throw (X)	0.95	1.3	0.95	1.3	1.0	1.3	1.0	1.4	1.0	1.4	1.0	1.4	1.0	1.4
24" x 24"	NC (+)	2	6	2	6	3	7	3	7	3	7	3	7	3	7
	Ttl Press. (X)	1.3	1.9	1.3	1.9	1.3	1.9	1.4	2.0	1.4	2.0	1.5	2.1	1.5	2.1
	Throw (X)	0.95	1.3	0.95	1.3	1.0	1.3	1.0	1.4	1.0	1.4	1.0	1.4	1.0	1.4

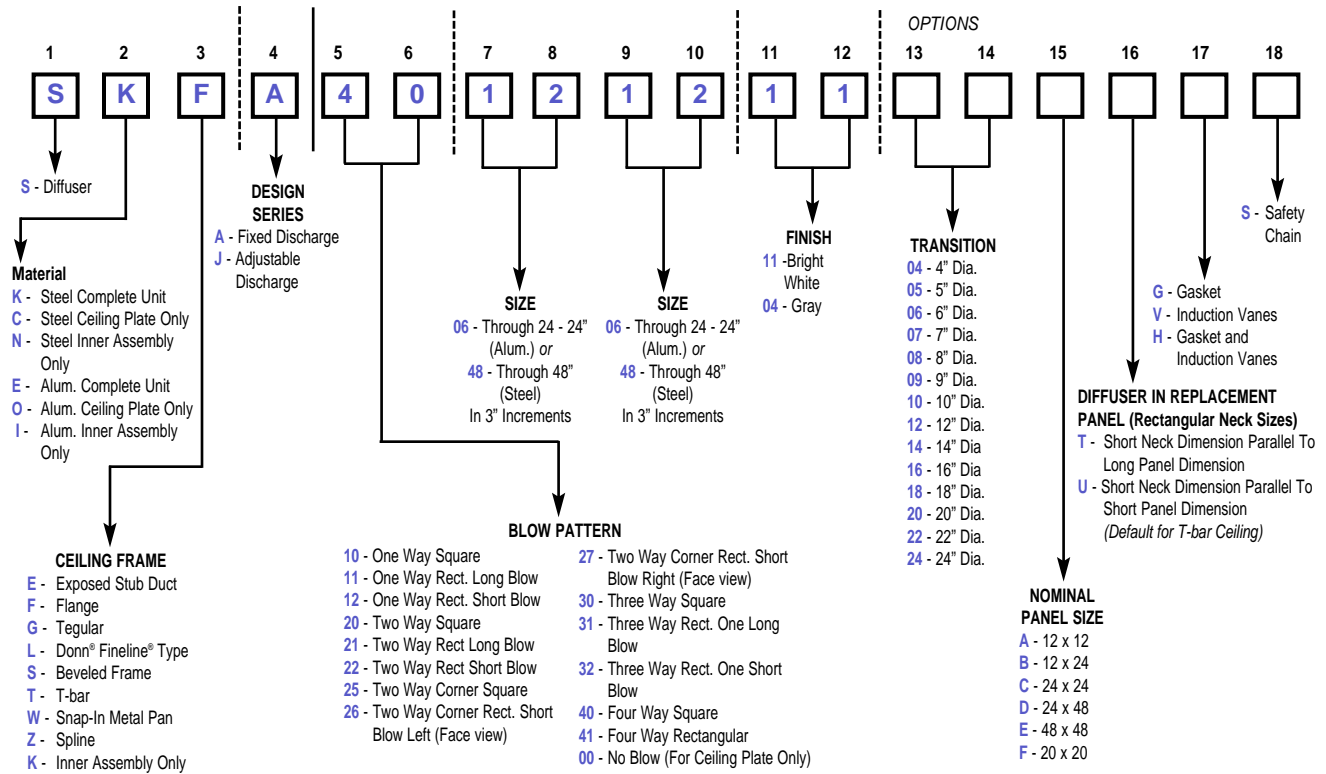
NOTES:

Quick Selection Chart for SK/SE Diffusers



NOTES:

▼ Square & Rectangular Louvered Face Diffusers



▼ Guide Specifications

General

- The contactor shall furnish and install Carnes SK (or SE) steel (or aluminum) square or rectangular diffusers.
- The entire diffuser shall be made of steel (or aluminum).
- The inner vane assembly shall be removable without the use of tools, for access to duct accessories. The inner vane assembly shall be fixed to provide the proper air distribution characteristics required.
- Ceiling frame design shall be as indicated on the plans and round necks shall be furnished where noted.
- The finish on all diffusers shall be Carnes White electrocoated baked enamel. All diffusers and accessories shall be given a heavy phosphate treatment prior to the application of the electrocoated finish.
- All diffuser necks shall be sized to fit outside of the duct. Access to damper adjustments shall be provided through the face of the diffuser.
- Performance data shall be furnished that adheres to ANSI/ASHRAE Standard 70-1991.

Options

- *Vertical Projection option (S__J).*
- The diffuser shall be equipped with adjustable deflectors that direct the air downward on all sides and adjust over the entire range from horizontal to vertical.
- These shall be permanently mounted and hinged.
- *Opposed Blade Damper (KXKA) (Square Neck).*
- The damper shall be an opposed blade design, with gang operated blades, adjustable from the face of the diffuser.
- It shall be constructed of electrogalvanized steel.
- It shall function as a volume control damper as well as an equalizing grid.
- *Opposed Blade Damper (KXMB) (Round Neck).*
- The damper shall be an opposed blade design, screwdriver type actuator, remove diffuser core for access.

Sq. & Rect. Louvered Diffusers

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 6" x 6" (.25 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	75 —		100 12/14H		125 17/19H		150 22/23H		175 27/27H		200 31/31H		225 33/34H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		75	10-13-14	100	11-14-17	125	12-16-19	150	13-17-22	175	14-19-24	200	15-20-26	225	15-21-28
20 & 25	X		38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
30	X		28	5-7-10	38	6-9-12	47	7-10-13	56	8-11-15	66	9-12-16	75	10-13-17	84	10-14-19
	Y		19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
40	X		19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

Neck Size: 9" x 9" (.5625 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	169 10/10N		225 17/17N		281 22/21H		338 27/26H		394 31/30H		450 35/34H		506 38/37H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		169	15-18-21	225	16-20-25	281	18-22-28	338	19-24-31	394	20-26-34	450	21-27-37	506	22-29-40
20 & 25	X		84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23	197	13-17-26	225	14-19-28	253	15-20-30
30	X		63	7-10-14	84	9-12-16	105	10-14-18	127	11-16-21	148	12-17-23	169	13-19-25	190	14-20-26
	Y		42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22
40	X		42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22

Neck Size: 12" x 12" (1.0 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	300 12/11N		400 19/18N		500 24/23N		600 29/28N		700 33/32N		800 37/36H		900 40/39H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		300	20-24-28	400	22-27-33	500	24-29-37	600	25-32-41	700	27-34-45	800	28-36-48	900	29-38-52
20 & 25	X		150	9-14-20	200	11-16-24	250	12-19-28	300	14-21-31	350	16-23-33	400	17-25-36	450	18-27-39
30	X		113	9-14-19	150	11-16-22	188	13-18-25	225	14-21-27	263	16-23-30	300	17-25-32	338	19-26-34
	Y		75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
40	X		75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29

Neck Size: 15" x 15" (1.5625 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	469 13/12N		625 20/19N		781 25/24N		938 30/29N		1094 34/33N		1250 38/37N		1406 41/40H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		469	24-29-34	625	27-33-40	781	29-36-45	938	31-39-50	1094	32-41-54	1250	34-44-59	1406	35-46-62
20 & 25	X		234	11-18-26	313	13-21-30	391	16-24-34	469	18-26-38	547	19-29-41	625	21-31-44	703	23-34-47
30	X		176	12-17-23	234	14-20-27	293	16-23-30	352	18-25-33	410	19-28-36	469	21-30-39	527	23-33-41
	Y		117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29	273	18-22-31	313	19-24-33	352	21-25-35
40	X		117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29	273	18-22-31	313	19-24-33	352	21-25-35

Neck Size: 18" x 18" (2.25 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	675 14/13N		900 21/20N		1125 26/25N		1350 31/30N		1575 35/34N		1800 39/38N		2025 42/41H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		675	30-35-41	900	33-39-47	1125	35-42-53	1350	37-45-59	1575	39-48-64	1800	41-51-69	2025	43-53-74
20 & 25	X		338	15-21-31	450	17-25-36	563	20-29-40	675	22-31-44	788	25-34-48	900	27-37-51	1013	29-40-55
30	X		253	14-19-27	338	16-23-31	422	19-26-35	506	21-29-39	591	23-32-42	675	25-35-46	759	27-38-49
	Y		169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34	394	21-26-37	450	23-28-39	506	25-30-42
40	X		169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34	394	21-26-37	450	23-28-39	506	25-30-42

Neck Size: 21" x 21" (3.0625 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	919 15/14R		1225 22/21N		1531 28/26N		1838 32/31N		2144 36/35N		2450 40/39N		2756 43/42H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		919	33-40-47	1225	37-44-55	1531	40-48-62	1838	42-52-68	2144	44-55-74	2450	46-58-79	2756	48-61-84
20 & 25	X		459	17-24-37	613	20-29-42	766	23-32-47	919	26-36-51	1072	28-39-55	1225	31-42-59	1378	33-45-62
30	X		345	16-22-31	459	18-26-36	574	21-30-41	689	24-34-45	804	26-37-49	919	28-40-52	1034	31-44-55
	Y		230	14-19-27	306	17-23-32	383	20-25-36	459	22-28-39	536	24-30-42	613	26-33-45	689	28-35-48
40	X		230	14-19-27	306	17-23-32	383	20-25-36	459	22-28-39	536	24-30-42	613	26-33-45	689	28-35-48

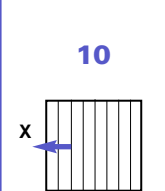
Neck Size: 24" x 24" (4.0 Sq. Ft.)

Total cfm NC/RC	Blow Ptn	Side	1200 15/15R		1600 22/22R		2000 28/27N		2400 33/32N		2800 37/36N		3200 41/39N		3600 44/43H	
			ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
10	X		1200	38-45-54	1600	41-50-62	2000	45-55-70	2400	47-58-77	2800	50-62-83	3200	52-65-89	3600	55-68-94
20 & 25	X		600	19-28-43	800	22-33-49	1000	26-37-54	1200	29-41-59	1400	32-44-63	1600	34-48-67	1800	37-51-70
30	X		450	18-26-36	600	21-30-41	750	24-35-47	900	27-39-51	1050	29-42-55	1200	32-46-59	1350	34-49-63
	Y		300	16-22-32	400	19-26-36	500	22-29-41	600	25-32-44	700	28-34-48	800	30-37-51	900	32-39-54
40	X		300	16-22-32	400	19-26-36	500	22-29-41	600	25-32-44	700	28-34-48	800	30-37-51	900	32-39-54

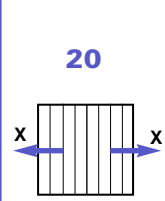
NOTES:

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
- The neck velocity is given in Feet Per Minute (FPM).
- The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
- NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
- Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

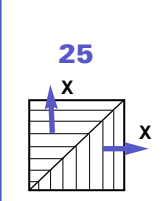
SQUARE BLOW PATTERNS



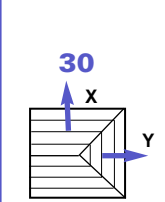
One-Way Square Long Blow



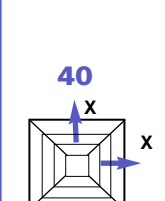
Two-Way Square Short Blows



Two-Way Square Short Blow Right



Three-Way Square Short Blow



Four-Way Square

Sq. & Rect. Louvered Diffusers

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 6" x 9" (.375 Sq. Ft.)

Total cfm		113		150		188		225		263		300		338	
NC/RC		—		15/15H		20/20H		25/25H		29/29H		33/33H		36/36H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	113	12-15-18	150	13-17-22	188	14-19-25	225	15-21-28	263	16-23-31	300	17-24-33	338	18-26-36
21 & 22	X	56	6-9-14	75	8-11-17	94	9-13-19	113	10-14-21	131	12-16-23	150	13-17-25	169	14-18-27
26 & 27	X	75	7-10-15	100	8-12-17	125	9-13-20	150	11-15-22	175	12-16-24	200	13-18-26	225	14-19-28
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22
	Y	35	5-7-10	47	6-9-12	59	7-10-14	70	8-12-15	82	9-13-17	94	10-14-18	105	11-15-20
32	X	47	7-10-13	63	8-12-16	78	10-13-18	94	11-15-20	109	12-17-22	125	13-18-24	141	14-19-25
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	38	6-9-12	50	8-10-14	63	9-11-16	75	10-13-18	88	11-13-19	100	12-15-21	113	13-17-22
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

Neck Size: 6" x 12" (.50 Sq. Ft.)

Total cfm		150		200		250		300		350		400		450	
NC/RC		10/—		17/16N		21/21H		26/26H		30/30H		34/34H		37/37H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	150	13-18-21	200	15-20-25	250	16-22-29	300	18-25-32	350	19-26-36	400	20-28-39	450	20-29-42
21 & 22	X	75	7-11-16	100	9-13-19	125	11-15-22	150	12-16-25	175	13-18-27	200	15-20-29	225	16-21-31
26 & 27	X	113	8-11-17	150	9-14-20	188	11-16-23	225	12-18-26	263	14-19-29	300	15-21-31	338	16-22-33
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
	Y	38	5-8-11	50	6-9-13	63	7-11-14	75	8-12-16	88	9-13-17	100	10-14-19	113	11-15-20
32	X	66	8-12-16	88	10-14-19	109	12-16-21	131	13-18-24	153	14-20-26	175	16-21-28	197	17-23-30
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	56	8-10-15	75	9-12-18	94	11-14-20	113	12-15-22	131	14-16-24	150	15-18-25	169	16-21-27
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

Neck Size: 6" x 15" (.625 Sq. Ft.)

Total cfm		188		250		313		375		438		500		563	
NC/RC		10/10N		18/17N		22/22N		27/26N		31/31H		35/35H		38/38H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	188	15-20-24	250	17-23-28	313	18-25-32	375	20-28-36	438	21-29-40	500	22-31-43	563	23-33-46
21 & 22	X	94	8-12-18	124	10-14-21	156	12-16-24	188	13-18-27	219	15-20-30	250	16-22-32	281	18-24-35
26 & 27	X	150	9-13-19	200	10-15-22	250	12-17-26	300	14-19-29	350	15-21-32	400	17-23-34	450	18-25-37
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	113	10-14-20	150	12-16-23	188	14-18-26	225	16-20-28	263	17-22-30	300	19-23-33	338	21-25-35
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
32	X	84	9-13-18	113	11-16-21	141	13-18-24	169	15-20-27	197	16-22-29	225	18-24-32	253	19-26-34
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	75	9-12-18	100	11-14-20	125	13-16-23	150	14-18-25	175	16-19-27	200	17-21-29	225	19-24-31
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

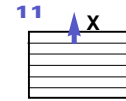
Neck Size: 6" x 18" (.75 Sq. Ft.)

Total cfm		225		300		375		450		525		600		675	
NC/RC		11/10N		18/17N		23/22N		28/26N		32/31H		36/35H		39/38H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	225	16-22-26	300	18-25-31	375	20-27-35	450	22-30-40	525	23-32-44	600	24-34-47	675	25-36-51
21 & 22	X	113	9-13-20	150	11-16-23	188	13-18-27	225	15-20-30	263	16-22-33	300	18-24-35	338	20-26-38
26 & 27	X	188	9-13-20	250	11-16-24	313	13-18-28	375	15-21-31	438	16-23-34	500	18-25-37	563	19-27-39
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	150	12-16-22	200	14-18-26	250	16-21-30	300	18-23-32	350	20-25-35	400	22-27-37	450	23-29-40
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
32	X	103	10-15-20	138	13-18-23	172	14-20-26	206	16-22-30	241	18-25-32	275	20-27-35	309	21-29-38
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	94	10-13-20	125	12-16-23	156	14-18-26	188	16-20-28	219	18-21-31	250	19-23-33	281	21-27-35
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

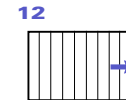
NOTES:

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
- The neck velocity is given in Feet Per Minute (FPM).
- The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
- NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
- Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

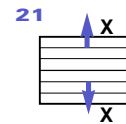
RECTANGULAR BLOW PATTERNS



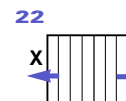
One-Way Rectangular Long Blow



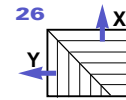
One-Way Rectangular Short Blow



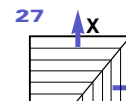
Two-Way Rectangular Long Blow



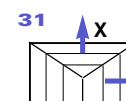
Two-Way Rectangular Short Blow



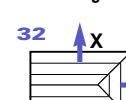
Two-Way Corner Rect. Short Blow Left



Two-Way Corner Rect. Short Blow Right



Three-Way Rect. One Long Blow



Three-Way Rect. One Short Blow



Four-Way Rectangular

Sq. & Rect. Louvered Diffusers

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 6" x 21" (.875 Sq. Ft.)

Total cfm		263		350		438		525		613		700		788	
NC/RC		12/11N		19/18N		24/23N		29/27N		33/32N		37/36H		39/39H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	263	18-23-28	350	20-27-33	438	22-29-38	525	23-33-43	613	25-35-47	700	26-37-51	788	27-39-55
21 & 22	X	131	10-14-21	175	12-17-25	219	14-19-29	263	16-22-32	306	18-24-35	350	19-26-38	394	21-28-41
26 & 27	X	225	10-14-21	300	12-17-25	375	14-19-29	450	16-22-32	525	17-24-36	600	19-26-38	675	20-28-41
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	188	13-18-25	250	15-20-29	313	18-23-32	375	20-25-35	438	22-27-38	500	24-29-41	563	26-31-43
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
32	X	122	11-16-21	163	14-19-26	203	16-22-29	244	18-24-32	284	20-27-35	325	21-29-38	366	23-31-41
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	113	11-15-22	150	13-17-25	188	15-20-28	225	17-22-31	263	19-23-33	300	21-26-36	338	23-29-38
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

Neck Size: 6" x 24" (1.0 Sq. Ft.)

Total cfm		300		400		500		600		700		800		900	
NC/RC		12/11N		19/18N		24/23N		29/28N		33/32N		37/36H		40/39H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	300	19-25-30	400	21-28-35	500	23-31-41	600	25-35-46	700	26-37-50	800	28-39-54	900	29-42-59
21 & 22	X	150	11-15-23	200	13-18-27	250	15-21-31	300	17-23-35	350	19-26-38	400	21-28-41	450	23-30-44
26 & 27	X	263	10-15-22	350	12-18-26	438	14-20-30	525	16-23-34	613	18-25-37	700	20-27-40	788	21-29-4
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
31	X	225	14-19-27	300	17-22-31	375	19-25-35	450	22-28-39	525	24-30-42	600	26-32-44	675	28-34-47
	Y	38	5-7-11	50	6-9-13	63	7-10-15	75	8-11-17	88	9-12-18	100	10-13-20	113	10-14-21
32	X	141	12-17-23	188	15-20-27	234	17-23-31	281	19-26-35	328	21-29-38	375	23-31-41	422	25-33-44
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15
41	X	131	12-16-23	175	14-19-27	219	17-21-30	263	19-23-33	306	21-25-36	350	23-28-39	394	25-32-41
	Y	19	4-6-9	25	5-7-10	31	6-8-11	38	7-9-12	44	8-9-13	50	9-10-14	56	10-11-15

Neck Size: 9" x 12" (.75 Sq. Ft.)

Total cfm		225		300		375		450		525		600		675	
NC/RC		11/10N		18/17N		23/22N		28/26N		32/31H		36/35H		39/38H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	225	16-20-25	300	18-23-29	375	19-25-33	450	21-27-37	525	22-29-41	600	23-31-43	675	24-33-47
21 & 22	X	113	9-12-18	150	11-15-22	188	12-17-25	225	14-20-28	263	15-21-30	300	17-23-33	338	18-24-35
26 & 27	X	141	9-13-19	188	11-15-23	234	13-18-27	281	14-19-29	328	16-21-32	375	17-23-34	422	19-25-37
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23	197	13-17-26	225	14-19-28	253	15-20-30
31	X	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
	Y	75	8-11-15	100	9-13-18	125	10-15-20	150	12-17-22	175	13-19-24	200	14-20-26	225	15-22-28
32	X	91	9-13-17	122	11-15-20	152	12-17-23	183	14-20-26	213	15-21-28	244	17-23-30	274	18-25-33
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22
41	X	70	8-11-16	94	10-13-19	117	12-15-20	141	13-17-23	164	14-18-25	188	16-20-27	211	17-21-29
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22

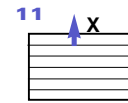
Neck Size: 9" x 15" (.9375 Sq. Ft.)

Total cfm		281		375		469		563		656		750		844	
NC/RC		12/11N		19/18N		24/23N		29/28N		33/32N		37/36H		40/39H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	281	18-23-28	375	20-26-33	469	22-28-37	563	23-31-41	656	25-33-45	750	26-35-49	844	27-37-53
21 & 22	X	141	10-14-21	188	12-16-24	234	14-19-28	281	15-22-31	328	17-23-34	375	19-25-36	422	20-27-39
26 & 27	X	197	10-14-21	263	12-17-25	328	14-20-30	394	16-22-32	459	18-24-36	525	19-26-39	591	21-28-41
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23	197	13-17-26	225	14-19-28	253	15-20-30
31	X	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29	273	18-22-31	313	19-24-33	352	21-25-35
	Y	82	8-11-16	109	8-14-18	137	11-16-21	164	12-17-23	191	13-19-25	219	14-21-26	246	15-22-28
32	X	120	10-15-19	159	12-18-23	199	14-20-26	239	16-22-29	279	18-25-32	319	19-27-35	359	21-28-37
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22
41	X	98	10-14-19	131	12-16-22	164	14-18-24	197	15-20-28	230	17-22-30	263	19-24-32	295	20-25-34
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18	98	11-14-19	113	12-15-21	127	13-16-22

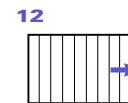
NOTES:

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
- The neck velocity is given in Feet Per Minute (FPM).
- The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
- NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
- Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

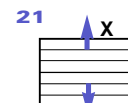
RECTANGULAR BLOW PATTERNS



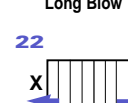
One-Way Rectangular Long Blow



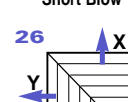
One-Way Rectangular Short Blow



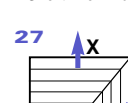
Two-Way Rectangular Long Blow



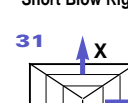
Two-Way Rectangular Short Blow



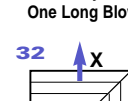
Two-Way Corner Rect. Short Blow Left



Two-Way Corner Rect. Short Blow Right



Three-Way Rect. One Long Blow



Three-Way Rect. One Short Blow



Four-Way Rectangular

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 9" x 18" (1.125 Sq. Ft.)

Total cfm NC/RC		338 12/11N	450 19/18N	563 24/23N	675 29/28N	788 33/32N	900 37/36H	1013 40/39H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	338	20-25-30	450	22-28-36	563	24-31-41	675	26-33-45
21 & 22	X	169	11-15-22	225	13-18-27	281	15-21-30	338	17-24-34
26 & 27	X	253	11-16-23	338	13-19-28	422	15-21-33	506	17-24-35
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23
31	X	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34
	Y	84	8-11-15	113	10-13-18	141	11-15-20	169	12-17-23
32	X	148	11-16-22	197	14-19-26	246	16-22-29	295	18-25-33
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18
41	X	127	11-15-22	169	13-18-25	211	15-20-27	253	17-23-31
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18

Neck Size: 9" x 21" (1.3125 Sq. Ft.)

Total cfm NC/RC		394 13/12N	525 20/19N	656 25/24N	788 30/29N	919 34/33N	1050 38/37H	1181 41/40H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	394	21-27-33	525	24-30-39	656	26-34-44	788	28-36-49
21 & 22	X	197	12-16-24	263	14-19-29	328	16-22-33	394	18-26-36
26 & 27	X	309	12-17-25	413	14-20-29	516	16-23-35	619	18-25-37
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23
31	X	225	14-19-27	300	17-22-32	375	19-25-35	450	22-28-39
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23
32	X	176	13-18-24	234	15-21-28	293	17-24-32	352	19-27-36
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18
41	X	155	12-17-24	206	15-20-28	258	17-22-30	309	19-25-35
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18

Neck Size: 9" x 24" (1.5 Sq. Ft.)

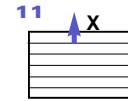
Total cfm NC/RC		450 13/12N	600 20/19N	750 25/24N	900 30/29N	1050 34/33N	1200 38/37N	1350 41/40H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	450	23-29-35	600	25-32-41	750	27-36-47	900	29-39-52
21 & 22	X	225	12-18-26	300	15-21-31	375	17-24-35	450	20-28-39
26 & 27	X	366	12-17-26	488	15-21-31	609	17-24-37	731	19-26-39
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23
31	X	281	16-21-31	375	19-25-35	469	21-28-39	563	24-31-43
	Y	84	7-10-15	113	9-12-18	141	10-14-22	169	12-16-23
32	X	204	13-19-25	272	16-23-30	340	19-26-34	408	21-29-38
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18
41	X	183	13-18-26	244	16-22-31	305	19-24-32	366	21-27-38
	Y	42	6-9-13	56	7-10-15	70	9-11-16	84	10-13-18

Neck Size: 12" x 15" (1.25 Sq. Ft.)

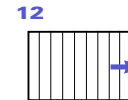
Total cfm NC/RC		375 13/12N	500 20/19N	625 25/24N	750 30/29N	875 34/33N	1000 38/37H	1125 40/40H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	375	21-26-32	500	24-29-38	625	26-32-42	750	27-35-47
21 & 22	X	188	10-16-23	250	12-19-27	313	14-21-31	375	16-24-35
26 & 27	X	225	11-16-24	300	13-19-28	375	15-22-32	450	16-24-36
	Y	150	9-14-20	200	11-16-24	250	12-19-28	300	14-21-31
31	X	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29
	Y	129	10-14-20	172	12-17-23	215	13-19-26	258	15-22-28
32	X	150	11-16-22	200	13-19-25	250	15-22-29	300	17-25-32
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23
41	X	113	10-14-20	150	12-17-23	188	14-19-27	225	16-21-29
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23

- NOTES:
- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
 - The neck velocity is given in Feet Per Minute (FPM).
 - The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
 - NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
 - Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

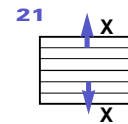
RECTANGULAR BLOW PATTERNS



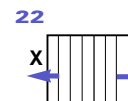
One-Way Rectangular Long Blow



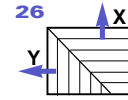
One-Way Rectangular Short Blow



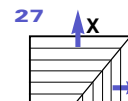
Two-Way Rectangular Long Blow



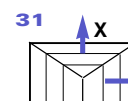
Two-Way Rectangular Short Blow



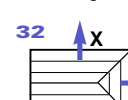
Two-Way Corner Rect. Short Blow Left



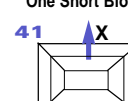
Two-Way Corner Rect. Short Blow Right



Three-Way Rect. One Long Blow



Three-Way Rect. One Short Blow



Four-Way Rectangular

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 12" x 18" (1.5 Sq. Ft.)

Total cfm NC/RC		450 13/12N		600 20/19N		750 25/24N		900 30/29N		1050 34/33N		1200 38/37N		1350 41/40H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	450	23-28-35	600	26-32-41	750	28-35-46	900	30-38-52	1050	32-41-56	1200	33-43-60	1350	34-45-64
21 & 22	X	225	11-17-25	300	14-20-30	375	16-23-34	450	18-26-38	525	20-29-42	600	21-31-45	675	23-33-48
26 & 27	X	300	12-18-26	400	14-21-31	500	16-24-35	600	18-27-39	700	20-29-43	800	22-32-47	900	23-34-50
	Y	150	9-14-20	200	11-16-24	250	12-19-28	300	14-21-31	350	16-23-33	400	17-25-36	450	18-27-39
31	X	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34	394	21-26-37	450	23-28-39	506	25-30-42
	Y	141	10-14-20	188	12-17-23	234	14-19-26	281	16-22-29	328	17-24-32	375	19-26-34	422	20-28-36
32	X	188	12-18-24	250	15-22-28	313	17-24-32	375	19-28-36	438	21-30-39	500	23-33-42	563	25-36-45
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
41	X	150	12-16-23	200	14-19-27	250	17-22-31	300	19-24-34	350	21-27-37	400	22-29-39	450	24-31-42
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29

Neck Size: 12" x 21" (1.75 Sq. Ft.)

Total cfm NC/RC		525 13/12N		700 20/19N		875 25/24N		1050 30/29N		1225 34/33N		1400 38/37N		1575 41/40H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	525	25-31-38	700	28-35-44	875	30-38-50	1050	32-41-56	1225	34-44-60	1400	36-47-65	1575	37-49-70
21 & 22	X	263	12-19-28	350	15-22-32	438	17-25-37	525	19-28-41	613	21-31-45	700	23-33-49	788	25-36-52
26 & 27	X	375	12-19-28	500	15-22-33	625	17-26-38	750	19-29-42	875	21-31-46	1000	23-34-50	1125	25-37-53
	Y	150	9-14-20	200	11-16-24	250	12-19-28	300	14-21-31	350	16-23-33	400	17-25-36	450	18-27-39
31	X	230	14-19-27	306	17-23-32	383	20-25-36	459	22-28-39	536	24-30-42	613	26-33-45	689	28-35-48
	Y	148	10-15-21	197	12-17-24	246	14-20-27	295	16-22-29	345	17-24-32	394	19-26-34	443	20-29-36
32	X	225	14-20-27	300	16-24-31	375	19-27-35	450	21-30-39	525	23-33-43	600	25-36-46	675	27-39-49
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
41	X	188	13-18-26	250	16-21-30	313	19-24-34	375	21-27-38	438	23-30-41	500	25-32-44	563	27-34-47
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29

Neck Size: 12" x 24" (2.0 Sq. Ft.)

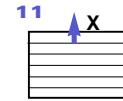
Total cfm NC/RC		600 14/13N		800 21/20N		1000 26/25N		1200 31/30N		1400 35/34N		1600 39/38N		1800 42/41H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	600	27-33-41	800	30-37-47	1000	32-41-54	1200	34-44-60	1400	36-47-65	1600	38-50-69	1800	40-52-74
21 & 22	X	300	13-20-29	400	16-24-35	500	18-27-39	600	20-30-44	700	23-33-48	800	24-36-52	900	26-38-55
26 & 27	X	450	13-20-29	600	16-24-35	750	18-27-40	900	20-30-44	1050	23-33-48	1200	24-36-52	1350	26-38-56
	Y	150	9-14-20	200	11-16-24	250	12-19-28	300	14-21-31	350	16-23-33	400	17-25-36	450	18-27-39
31	X	300	16-22-32	400	19-26-36	500	22-29-41	600	25-32-44	700	28-34-48	800	30-37-51	900	32-39-54
	Y	150	10-15-21	200	12-17-24	250	14-20-27	300	15-22-30	350	17-24-32	400	18-27-34	450	20-29-37
32	X	263	15-21-29	350	18-25-34	438	20-29-38	525	23-33-43	613	25-36-46	700	27-39-50	788	30-42-53
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29
41	X	225	15-20-29	300	18-24-33	375	20-27-38	450	23-30-41	525	25-33-45	600	27-35-48	675	30-38-51
	Y	75	8-11-16	100	10-13-19	125	11-15-21	150	13-17-23	175	15-18-25	200	16-20-27	225	17-21-29

Neck Size: 15" x 18" (1.875 Sq. Ft.)

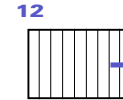
Total cfm NC/RC		563 13/13N		750 20/20N		938 25/25N		1125 30/30N		1313 35/34N		1500 39/38N		1688 41/41H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	563	26-32-38	750	28-36-44	938	31-39-50	1125	33-42-55	1313	34-45-60	1500	36-47-64	1688	38-49-68
21 & 22	X	281	13-19-29	375	15-23-33	469	18-26-38	563	20-29-42	656	22-32-45	750	24-35-49	844	25-37-52
26 & 27	X	328	13-20-29	438	15-23-34	547	18-27-39	656	20-30-43	765	22-33-46	875	24-35-50	984	26-38-53
	Y	234	11-18-26	313	13-21-30	391	16-24-34	469	18-26-38	547	19-29-41	625	21-31-44	703	23-34-47
31	X	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34	394	21-26-37	450	23-28-39	506	25-30-42
	Y	197	12-17-24	263	15-20-28	328	17-23-31	394	18-26-34	459	20-28-37	525	22-31-40	591	24-33-43
32	X	223	13-19-26	297	16-23-30	371	18-26-34	445	20-29-37	520	22-32-40	594	24-35-43	668	26-37-46
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29	273	18-22-31	313	19-24-33	352	21-25-35
41	X	164	12-17-24	219	15-20-28	273	17-22-31	328	19-25-34	383	21-27-37	438	23-29-40	492	24-31-42
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29	273	18-22-31	313	19-24-33	352	21-25-35

- NOTES:**
- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
 - The neck velocity is given in Feet Per Minute (FPM).
 - The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
 - NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
 - Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

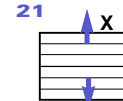
RECTANGULAR BLOW PATTERNS



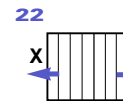
One-Way Rectangular Long Blow



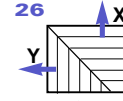
One-Way Rectangular Short Blow



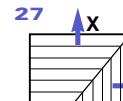
Two-Way Rectangular Long Blow



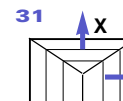
Two-Way Rectangular Short Blow



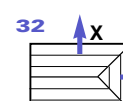
Two-Way Corner Rect. Short Blow Left



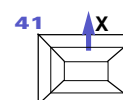
Two-Way Corner Rect. Short Blow Right



Three-Way Rect. One Long Blow



Three-Way Rect. One Short Blow



Four-Way Rectangular

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 15" x 21" (2.1875 Sq. Ft.)

Total cfm NC/RC		656 14/13N	875 21/20N	1094 26/25N	1313 31/30N	1531 35/34N	1750 39/38N	1969 42/41H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	656	28-34-41	875	31-38-48	1094	33-42-54	1313	35-45-59
21 & 22	X	328	14-21-31	438	16-25-36	547	19-29-41	656	21-32-45
	Y	328	14-21-31	438	16-25-36	547	19-29-41	656	21-32-45
26 & 27	X	422	14-21-32	563	16-25-37	703	19-29-42	844	22-32-46
	Y	234	11-18-26	313	13-21-30	391	16-24-34	469	18-26-38
31	X	230	14-19-27	306	17-23-32	383	20-25-36	459	22-28-39
	Y	213	12-18-25	284	15-21-29	355	17-24-32	427	19-27-35
32	X	270	15-21-29	359	17-25-33	449	20-29-37	539	22-32-41
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29
41	X	211	14-19-27	281	17-22-31	352	19-25-35	422	22-28-39
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29

Neck Size: 15" x 24" (2.5 Sq. Ft.)

Total cfm NC/RC		750 14/13R	1000 21/20N	1250 26/25N	1500 31/30N	1750 35/34N	2000 39/38N	2250 42/41H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	750	30-37-44	1000	33-41-51	1250	35-45-58	1500	38-48-64
21 & 22	X	375	15-22-33	500	18-27-39	625	20-31-44	750	23-34-48
	Y	375	15-22-33	500	18-27-39	625	20-31-44	750	23-34-48
26 & 27	X	516	15-23-33	688	17-27-39	859	20-31-44	1031	23-34-49
	Y	234	11-18-26	313	13-21-30	391	16-24-34	469	18-26-38
31	X	300	16-22-32	400	19-26-36	500	22-29-41	600	25-32-44
	Y	225	12-18-25	300	15-21-29	375	17-25-33	450	19-27-36
32	X	316	16-23-31	422	19-27-36	527	22-31-41	633	24-35-45
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29
41	X	258	15-21-30	344	18-25-35	430	21-28-39	516	24-31-43
	Y	117	10-14-20	156	12-16-23	195	14-19-26	234	16-20-29

Neck Size: 18" x 21" (2.625 Sq. Ft.)

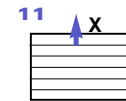
Total cfm NC/RC		788 14/13R	1050 21/20N	1313 27/25N	1575 32/30N	1838 36/34N	2100 40/38N	2363 43/41H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	788	31-37-44	1050	34-41-51	1313	37-45-58	1575	39-48-64
21 & 22	X	394	16-23-33	525	19-27-39	656	22-31-43	788	25-34-48
	Y	394	16-23-33	525	19-27-39	656	22-31-43	788	25-34-48
26 & 27	X	450	16-23-34	600	19-28-39	750	22-32-44	900	24-35-49
	Y	338	15-21-31	450	17-25-36	563	20-29-40	675	22-31-44
31	X	230	14-19-27	306	17-23-32	383	20-25-36	459	22-28-39
	Y	279	14-20-28	372	17-24-33	465	19-27-37	558	22-31-40
32	X	309	16-21-30	413	19-26-35	516	21-29-39	619	24-33-43
	Y	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34
41	X	225	14-20-28	300	17-23-32	375	19-26-36	450	22-28-39
	Y	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34

Neck Size: 18" x 24" (3.0 Sq. Ft.)

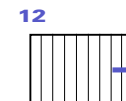
Total cfm NC/RC		900 15/14R	1200 22/21N	1500 27/26N	1800 32/31N	2100 36/35N	2400 40/39N	2700 43/42H	
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw
11 & 12	X	900	34-39-47	1200	37-44-55	1500	40-48-62	1800	42-51-68
21 & 22	X	450	17-25-35	600	20-29-41	750	23-33-46	900	26-37-51
	Y	450	17-25-35	600	20-29-41	750	23-33-46	900	26-37-51
26 & 27	X	563	17-25-36	750	20-30-42	938	23-34-47	1125	26-37-52
	Y	338	15-21-31	450	17-25-36	563	20-29-40	675	22-31-44
31	X	300	16-22-32	400	19-26-36	500	22-29-41	600	25-32-44
	Y	300	14-21-29	400	17-25-34	500	19-28-38	600	22-32-42
32	X	366	17-23-32	488	20-28-38	609	23-32-43	731	26-36-47
	Y	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34
41	X	281	16-22-31	375	19-25-36	469	22-29-40	563	24-32-44
	Y	169	12-17-24	225	15-20-28	281	17-22-32	338	19-24-34

- NOTES:
- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
 - The neck velocity is given in Feet Per Minute (FPM).
 - The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
 - NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
 - Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

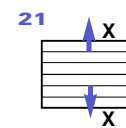
RECTANGULAR BLOW PATTERNS



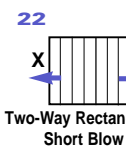
One-Way Rectangular Long Blow



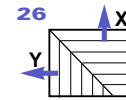
One-Way Rectangular Short Blow



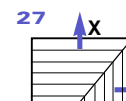
Two-Way Rectangular Long Blow



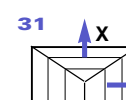
Two-Way Rectangular Short Blow



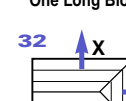
Two-Way Corner Rect. Short Blow Left



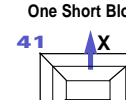
Two-Way Corner Rect. Short Blow Right



Three-Way Rect. One Long Blow



Three-Way Rect. One Short Blow



Four-Way Rectangular

Sq. & Rect. Louvered Diffusers

Neck Velocity	300	400	500	600	700	800	900
Static Pressure	.033	.059	.092	.134	.182	.237	.301
Total Pressure	.039	.069	.108	.156	.212	.277	.351

Neck Size: 21" x 24" (3.5 Sq. Ft.)

Total cfm NC/RC	1050 15/14R	1400 22/21R	1750 27/26N	2100 32/31N	2450 36/35N	2800 41/39N	3150 43/42H
Blow Ptn Side	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw
11 & 12	X 1050 35-42-50	1400 38-47-59	1750 41-51-66	2100 44-55-73	2450 46-58-79	2800 49-61-86	3150 51-64-91
21 & 22	X 525 18-26-39	700 22-31-44	875 25-35-50	1050 28-38-54	1225 31-42-59	1400 33-45-62	1575 36-48-66
26 & 27	X 591 19-28-42	788 23-32-48	984 26-37-53	1181 29-41-58	1378 32-44-63	1575 35-48-67	1772 38-51-71
	Y 459 17-24-37	613 20-29-42	766 23-32-47	919 26-36-51	1072 28-39-55	1225 31-42-59	1378 33-45-62
31	X 300 16-22-32	400 19-26-36	500 22-29-41	600 25-32-44	700 28-34-48	800 30-37-51	900 32-39-54
	Y 375 16-24-32	500 19-28-38	625 22-32-43	750 24-35-47	875 27-39-51	1000 29-42-54	1125 31-45-58
32	X 410 17-25-34	547 21-30-40	684 24-34-45	820 26-38-49	957 29-41-53	1094 31-45-57	1230 34-48-60
	Y 230 14-19-27	306 17-23-32	383 20-25-36	459 22-28-39	536 24-30-42	613 26-33-45	689 28-35-48
41	X 295 16-22-31	394 19-26-36	492 22-29-40	591 24-32-44	689 26-34-48	788 28-37-51	886 30-39-54
	Y 230 14-19-27	306 17-23-32	383 20-25-36	459 22-28-39	536 24-30-42	613 26-33-45	689 28-35-48

6" Round Inlet (.196 ft.²) on a 6" x 6" Diffuser

Total cfm	59	79	98	118	137	157	177
Static Pressure	.038	.063	.092	.127	.163	.203	.248
Total Pressure	.044	.073	.108	.149	.193	.243	.298
NC/RC	—	—/12H	14/16H	19/21H	24/25H	28/29H	32/32H
Blow Ptn Side	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw
10	X 59 9-11-12	79 10-13-15	98 11-14-17	118 12-16-19	137 13-17-21	157 13-18-22	177 14-19-24
20 & 25	X 29 4-6-9	39 5-7-11	49 6-9-13	59 7-10-14	69 7-11-16	79 8-11-17	88 9-12-18
30	X 22 4-6-9	29 5-7-10	37 6-9-12	44 7-10-13	52 7-11-14	59 8-11-15	66 9-13-16
	Y 15 3-5-8	20 4-6-9	25 5-7-10	29 6-7-11	34 6-8-12	39 7-9-13	44 8-9-14
40	X 15 3-5-8	20 4-6-9	25 5-7-10	29 6-7-11	34 6-8-12	39 7-9-13	44 8-9-14

6" Round Inlet (.196 ft.²) on a 9" x 9" Diffuser

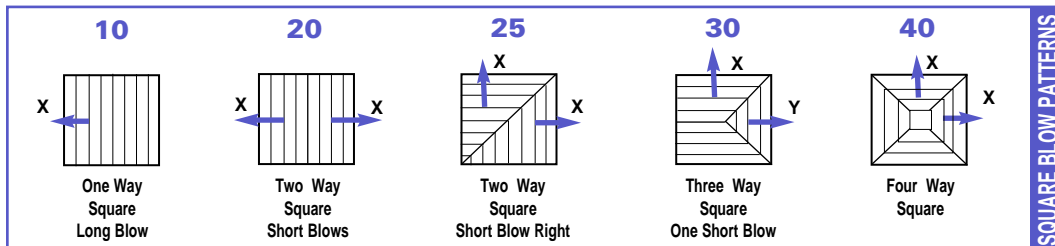
Total cfm	59	79	98	118	137	157	177
Static Pressure	.005	.008	.011	.014	.017	.019	.023
Total Pressure	.011	.018	.027	.036	.047	.059	.073
NC/RC	—	—	—	11/11N	13/13N	15/15N	18/18H
Blow Ptn Side	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw
10	X 59 10-11-12	79 11-13-14	98 12-14-15	118 13-15-17	137 13-16-19	157 14-17-20	177 15-18-21
20 & 25	X 29 4-5-8	39 4-6-10	49 5-7-11	59 6-8-13	69 6-9-14	79 7-10-15	88 8-11-16
30	X 22 4-5-7	29 4-7-9	37 5-8-10	44 6-8-11	52 6-9-12	59 7-10-13	66 7-11-14
	Y 15 3-5-7	20 3-6-8	25 4-6-9	29 5-7-10	34 5-8-11	39 6-8-12	44 6-9-13
40	X 15 3-5-7	20 3-6-8	25 4-6-9	29 5-7-10	34 5-8-11	39 6-8-12	44 6-9-13

8" Round Inlet (.349 ft.²) on a 9" x 9" Diffuser

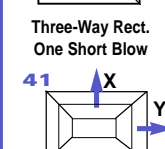
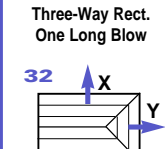
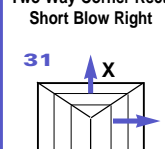
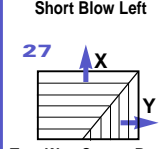
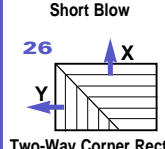
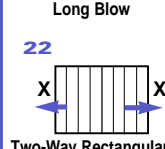
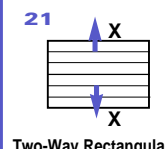
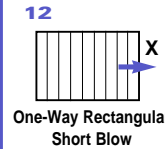
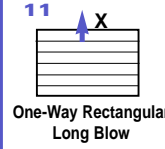
Total cfm	105	140	175	209	244	279	314
Static Pressure	.023	.038	.055	.076	.100	.131	.147
Total Pressure	.029	.048	.071	.098	.130	.171	.197
NC/RC	—	11/11N	16/15N	20/19H	25/24H	29/28H	32/31H
Blow Ptn Side	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw
10	X 105 12-14-16	140 14-16-19	175 15-18-21	209 16-20-24	244 17-21-26	279 17-22-28	314 18-23-30
20 & 25	X 52 5-8-12	70 7-9-14	87 8-11-16	105 8-12-18	122 9-13-19	140 10-14-21	157 11-15-22
30	X 39 5-8-10	52 6-9-12	65 7-11-14	79 8-12-16	92 9-13-17	105 10-14-18	118 11-15-20
	Y 26 4-6-10	35 5-8-11	44 6-9-13	52 7-10-14	61 8-11-15	70 9-11-16	79 9-12-17
40	X 26 4-6-10	35 5-8-11	44 6-9-13	52 7-10-14	61 8-11-15	70 9-11-16	79 9-12-17

Neck Size 8" Dia. (.349 ft.²) 12" x 12" Diffuser

Total cfm	105	140	175	209	244	279	314
Static Pressure	.005	.008	.011	.014	.017	.019	.023
Total Pressure	.011	.018	.027	.036	.047	.059	.073
NC/RC	—	—	10/10N	12/12N	15/14N	17/16N	20/19N
Blow Ptn Side	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw	ea. cfm throw
10	X 105 14-15-16	140 15-17-19	175 16-19-21	209 17-20-23	244 18-22-25	279 19-23-27	314 20-24-29
20 & 25	X 52 5-7-11	70 6-9-13	87 6-10-15	105 7-11-17	122 8-12-18	140 9-13-20	157 9-14-21
30	X 39 5-7-10	52 6-9-12	65 7-10-14	79 7-11-15	92 8-12-17	105 9-13-18	118 10-14-19
	Y 26 4-6-9	35 5-7-11	44 5-8-12	52 6-10-14	61 7-10-15	70 8-11-16	79 8-12-17
40	X 26 4-6-9	35 5-7-11	44 5-8-12	52 6-10-14	61 7-10-15	70 8-11-16	79 8-12-17



RECTANGULAR BLOW PATTERNS



Sq. & Rect. Louvered Diffusers

- NOTES:
- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
 - The neck velocity is given in Feet Per Minute (FPM).
 - The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
 - NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
 - Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

Neck Velocity	300	400	500	600	700	800	900
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9" Round Inlet (.442 ft.²) on a 9" x 9" Diffuser

Total cfm		133	177	221	265	309	353	398							
Static Pressure		0.038	0.063	0.092	0.127	0.163	0.203	0.248							
Total Pressure		0.044	0.073	0.108	0.149	0.193	0.243	0.298							
NC/RC		—/—	14/13N	20/19H	24/23H	29/27H	33/31H	36/35H							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	133	13-16-18	177	15-18-22	221	16-20-24	265	17-22-27	309	18-23-30	353	19-25-32	398	20-26-34
20 & 25	X	66	6-9-13	88	8-11-16	110	9-13-18	133	10-14-20	155	11-15-22	177	12-16-24	199	13-18-26
30	X	50	7-9-12	66	7-11-14	83	8-12-16	99	10-14-18	116	10-15-20	133	11-16-21	149	12-17-23
	Y	33	5-7-11	44	6-9-13	55	7-10-14	66	8-11-16	77	9-12-17	88	10-13-18	99	11-14-19
40	X	33	5-7-11	44	6-9-13	55	7-10-14	66	8-11-16	77	9-12-17	88	10-13-18	99	11-14-19

10" Round Inlet (.545 ft.²) on a 12" x 12" Diffuser

Total cfm		164	218	273	327	382	436	491							
Static Pressure		.018	.030	.042	.057	.073	.089	.109							
Total Pressure		.024	.040	.058	.079	.103	.129	.159							
NC/RC		—/—	12/11N	16/15N	20/19N	25/23N	28/27N	32/31N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	164	16-18-21	218	18-21-24	273	19-23-27	327	20-25-30	382	22-26-32	436	23-28-35	491	23-29-37
20 & 25	X	82	6-10-14	109	7-11-17	136	8-13-19	164	10-15-22	191	11-16-24	218	11-17-25	245	12-18-27
30	X	61	6-10-13	82	8-11-16	102	9-13-18	123	10-14-19	143	11-16-21	164	12-17-23	184	13-18-24
	Y	41	5-8-12	55	6-9-14	68	7-11-16	82	8-12-17	95	9-13-19	109	10-14-20	123	11-15-21
40	X	41	5-8-12	55	6-9-14	68	7-11-16	82	8-12-17	95	9-13-19	109	10-14-20	123	11-15-21

10" Round Inlet (.545 ft.²) on a 15" x 15" Diffuser

Total cfm		164	218	273	327	382	436	491							
Static Pressure		.005	.008	.011	.014	.017	.019	.023							
Total Pressure		.011	.018	.027	.036	.047	.059	.073							
NC/RC		—/—	—/—	10/10N	13/13N	16/15N	18/17N	21/20N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	164	17-19-20	218	19-22-23	273	20-24-26	327	21-26-28	382	23-27-31	436	24-29-33	491	25-30-35
20 & 25	X	82	6-9-15	109	7-11-17	136	8-13-19	164	9-14-21	191	10-16-23	218	11-17-25	245	12-18-27
30	X	61	6-9-13	82	7-10-16	102	8-12-17	123	9-13-19	143	10-15-21	164	11-16-22	184	12-17-24
	Y	41	5-8-12	55	6-9-14	68	7-10-15	82	8-12-17	95	9-12-18	109	10-13-19	123	10-14-21
40	X	41	5-8-12	55	6-9-14	68	7-10-15	82	8-12-17	95	9-12-18	109	10-13-19	123	10-14-21

12" Round Inlet (.785 ft.²) on a 12" x 12" Diffuser

Total cfm		236	314	393	471	550	628	707							
Static Pressure		.038	.063	.092	.127	.163	.203	.248							
Total Pressure		.044	.073	.108	.149	.193	.243	.298							
NC/RC		10/10N	16/15N	22/20N	26/25N	30/29N	34/33N	38/37H							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	236	18-21-25	314	20-24-29	393	22-27-31	471	23-29-36	550	24-30-39	628	26-32-42	707	27-34-45
20 & 25	X	118	8-12-18	157	9-14-21	196	11-16-24	236	12-18-27	275	13-20-29	314	14-21-31	353	16-23-34
30	X	88	8-12-16	118	10-14-19	147	11-16-22	177	12-18-24	206	14-20-26	236	15-21-28	265	16-23-30
	Y	59	7-10-14	79	8-12-17	98	10-13-19	118	11-15-21	137	12-16-22	157	13-17-24	177	15-18-26
40	X	59	7-10-14	79	8-12-17	98	10-13-19	118	11-15-21	137	12-16-22	157	13-17-24	177	15-18-26

12" Round Inlet (.785 ft.²) on a 15" x 15" Diffuser

Total cfm		236	314	393	471	550	628	707							
Static Pressure		.015	.024	.034	.047	.059	.071	.088							
Total Pressure		.021	.034	.050	.069	.089	.111	.138							
NC/RC		—/—	12/11N	15/14N	19/18N	23/23N	28/27N	31/30N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	236	19-22-24	314	21-25-28	393	23-27-31	471	24-30-33	550	26-32-38	628	27-33-40	707	28-35-43
20 & 25	X	118	7-12-18	157	9-14-21	196	10-16-24	236	11-18-26	275	12-19-28	314	14-21-30	353	15-22-33
30	X	88	8-11-16	118	9-13-19	147	10-15-21	177	12-17-23	206	13-18-25	236	14-19-27	265	15-21-29
	Y	59	6-10-14	79	8-11-16	98	9-13-18	118	10-14-20	137	11-15-22	157	12-16-23	177	13-18-25
40	X	59	6-10-14	79	8-11-16	98	9-13-18	118	10-14-20	137	11-15-22	157	12-16-23	177	13-18-25

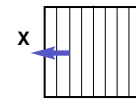
12" Round Inlet (.785 ft.²) on a 18" x 18" Diffuser

Total cfm		236	314	393	471	550	628	707							
Static Pressure		.005	.008	.011	.014	.017	.019	.023							
Total Pressure		.011	.018	.027	.036	.047	.059	.073							
NC		—/—	—/—	11/11N	14/13N	16/16N	19/18N	22/21N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	236	20-22-23	314	23-26-27	393	25-28-30	471	27-30-33	550	28-32-36	628	29-34-39	707	30-35-42
20 & 25	X	118	8-12-18	157	9-14-20	196	10-16-23	236	12-17-25	275	13-19-28	314	14-20-30	353	15-22-31
30	X	88	8-10-15	118	9-11-17	147	10-14-20	177	11-15-22	206	12-17-24	236	13-18-26	265	14-19-28
	Y	59	6-9-14	79	7-11-16	98	9-12-18	118	10-14-20	137	11-15-22	157	12-16-23	177	13-17-24
40	X	59	6-9-14	79	7-11-16	98	9-12-18	118	10-14-20	137	11-15-22	157	12-16-23	177	13-17-24

- NOTES:**
- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
 - The neck velocity is given in Feet Per Minute (FPM).
 - The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
 - NC and RC levels are based on a room absorption of 10db re 10-12 watts. A "—" indicates an NC or RC level of less than 10.
 - Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

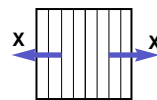
SQUARE BLOW PATTERNS

10



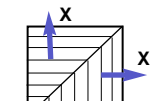
One-Way Square Long Blow

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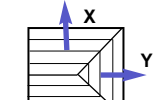
Two-Way Square Short Blows

25



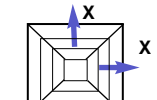
Two-Way Square Short Blow Right

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Three-Way Square One Short Blow

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Four-Way Square

Neck Velocity	300	400	500	600	700	800	900
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14" Round Inlet (1.069 ft.²) on a 15" x 15" Diffuser

Total cfm		321	428	535	641	748	855	962							
Static Pressure		.029	.046	.069	.095	.120	.150	.182							
Total Pressure		.035	.056	.085	.117	.150	.190	.232							
NC/RC		11/10N	15/14N	20/19N	25/25N	29/28N	33/32N	37/36N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	321	21-25-28	428	23-29-33	535	25-31-37	641	27-33-41	748	28-35-44	855	30-38-48	962	32-39-51
20 & 25	X	160	9-14-21	214	11-17-25	267	12-19-28	321	14-21-31	374	15-23-34	428	16-25-36	481	18-27-38
30	X	120	9-13-19	160	11-16-22	200	13-18-26	241	14-20-27	281	15-22-30	321	17-24-32	361	18-26-34
	Y	80	8-11-17	107	10-13-19	134	11-15-22	160	12-17-24	187	14-18-26	214	15-19-27	241	16-21-29
40	X	80	8-11-17	107	10-13-19	134	11-15-22	160	12-17-24	187	14-18-26	214	15-19-27	241	16-21-29

14" Round Inlet (1.069 ft.²) on a 18" x 18" Diffuser

Total cfm		321	428	535	641	748	855	962							
Static Pressure		.013	.021	.029	.039	.051	.062	.073							
Total Pressure		.019	.031	.045	.061	.081	.102	.123							
NC/RC		—	12/12N	15/15N	19/19N	23/22N	27/27N	31/30N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	321	24-26-27	428	26-29-32	535	28-32-36	641	29-34-40	748	31-36-43	855	32-38-46	962	33-40-49
20 & 25	X	160	9-14-21	214	11-16-24	267	13-19-27	321	14-21-30	374	15-23-32	428	17-24-35	481	18-26-37
30	X	120	9-12-18	160	11-14-21	200	12-16-24	241	14-18-26	281	15-20-28	321	16-22-30	361	17-24-32
	Y	80	8-11-16	107	9-13-19	134	11-15-21	160	12-16-23	187	13-18-25	214	14-19-27	241	15-20-29
40	X	80	8-11-16	107	9-13-19	134	11-15-21	160	12-16-23	187	13-18-25	214	14-19-27	241	15-20-29

16" Round Inlet (1.396 ft.²) on a 18" x 18" Diffuser

Total cfm		419	559	698	838	977	1117	1257							
Static Pressure		.023	.038	.055	.076	.100	.131	.147							
Total Pressure		.029	.048	.071	.098	.130	.171	.197							
NC/RC		10/10N	15/14N	19/18N	24/23N	29/28N	32/31N	38/35N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	419	26-29-31	559	28-32-37	698	30-35-41	838	32-38-46	977	34-40-50	1117	35-42-53	1257	36-44-57
20 & 25	X	209	11-16-24	279	13-19-28	349	15-22-31	419	17-24-34	489	18-26-37	559	20-28-40	628	21-30-42
30	X	157	11-14-21	209	13-17-24	262	14-19-27	314	16-22-30	367	17-24-33	419	19-26-35	471	20-28-38
	Y	105	9-13-19	140	11-15-22	175	12-17-24	209	14-19-27	244	15-21-29	279	17-22-31	314	18-24-33
40	X	105	9-13-19	140	11-15-22	175	12-17-24	209	14-19-27	244	15-21-29	279	17-22-31	314	18-24-33

18" Round Inlet (1.7672 ft.²) on a 18" x 18" Diffuser

Total cfm		530	707	884	1060	1237	1414	1590							
Static Pressure		0.038	0.063	0.092	0.127	0.163	0.203	0.248							
Total Pressure		0.044	0.073	0.108	0.149	0.193	0.243	0.298							
NC/RC		12/12N	18/17N	23/23N	28/26N	32/31N	37/35N	40/39H							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	530	28-32-36	707	30-35-42	884	32-39-47	1060	34-41-52	1237	35-44-56	1414	38-46-60	1590	39-48-64
20 & 25	X	265	13-19-27	353	15-22-31	442	17-25-35	530	19-27-39	619	21-30-42	707	23-32-45	795	25-35-48
30	X	199	12-16-23	265	14-20-27	331	16-22-31	398	18-25-34	464	20-28-37	530	22-30-40	596	23-32-46
	Y	133	10-15-21	177	13-17-24	221	15-19-27	265	16-21-30	309	18-23-32	353	20-25-35	398	21-26-37
40	X	133	10-15-21	177	13-17-24	221	15-19-27	265	16-21-30	309	18-23-32	353	20-25-35	398	21-26-37

20" Round Inlet (2.1817 ft.²) on a 21" x 21" Diffuser

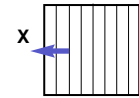
Total cfm		654	873	1091	1309	1527	1745	1963							
Static Pressure		0.031	0.051	0.075	0.102	0.132	0.165	0.202							
Total Pressure		0.037	0.061	0.091	0.124	0.162	0.205	0.252							
NC/RC		12/12R	17/16R	22/21N	28/27N	32/31N	36/35N	40/38N							
Blow Ptn	Side	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw	ea. cfm	throw						
10	X	654	30-35-40	873	33-39-46	1091	35-43-52	1309	38-46-57	1527	40-48-62	1745	41-51-66	1963	43-53-70
20 & 25	X	327	14-20-31	436	16-24-36	545	19-27-40	654	21-30-43	764	23-32-47	873	25-35-50	982	27-37-53
30	X	245	13-18-26	327	15-22-31	409	17-25-34	491	19-28-38	573	21-30-41	654	23-33-44	736	26-35-47
	Y	164	12-16-23	218	14-18-27	273	16-21-30	327	18-23-33	382	20-25-36	436	21-27-38	491	23-29-40
40	X	164	12-16-23	218	14-18-27	273	16-21-30	327	18-23-33	382	20-25-36	436	21-27-38	491	23-29-40

NOTES:

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991. Actual performance in the field may vary. Testing was conducted in isothermal conditions.
- The neck velocity is given in Feet Per Minute (FPM).
- The Static Pressure and Total Pressure are given in inches of water. To arrive at Velocity Pressure, subtract Static Pressure. (P (Total) - P (Static) = P (Velocity)).
- NC and RC levels are based on a room absorption of 10db re 10⁻¹² watts. A "—" indicates an NC or RC level of less than 10.
- Throw values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.

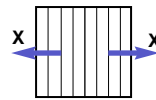
SQUARE BLOW PATTERNS

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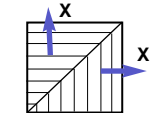
One-Way Square Long Blow

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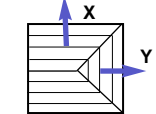
Two-Way Square Short Blows

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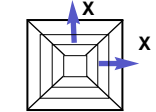
Two-Way Square Short Blow Right

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Three-Way Square One Short Blow

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Four-Way Square