SHP

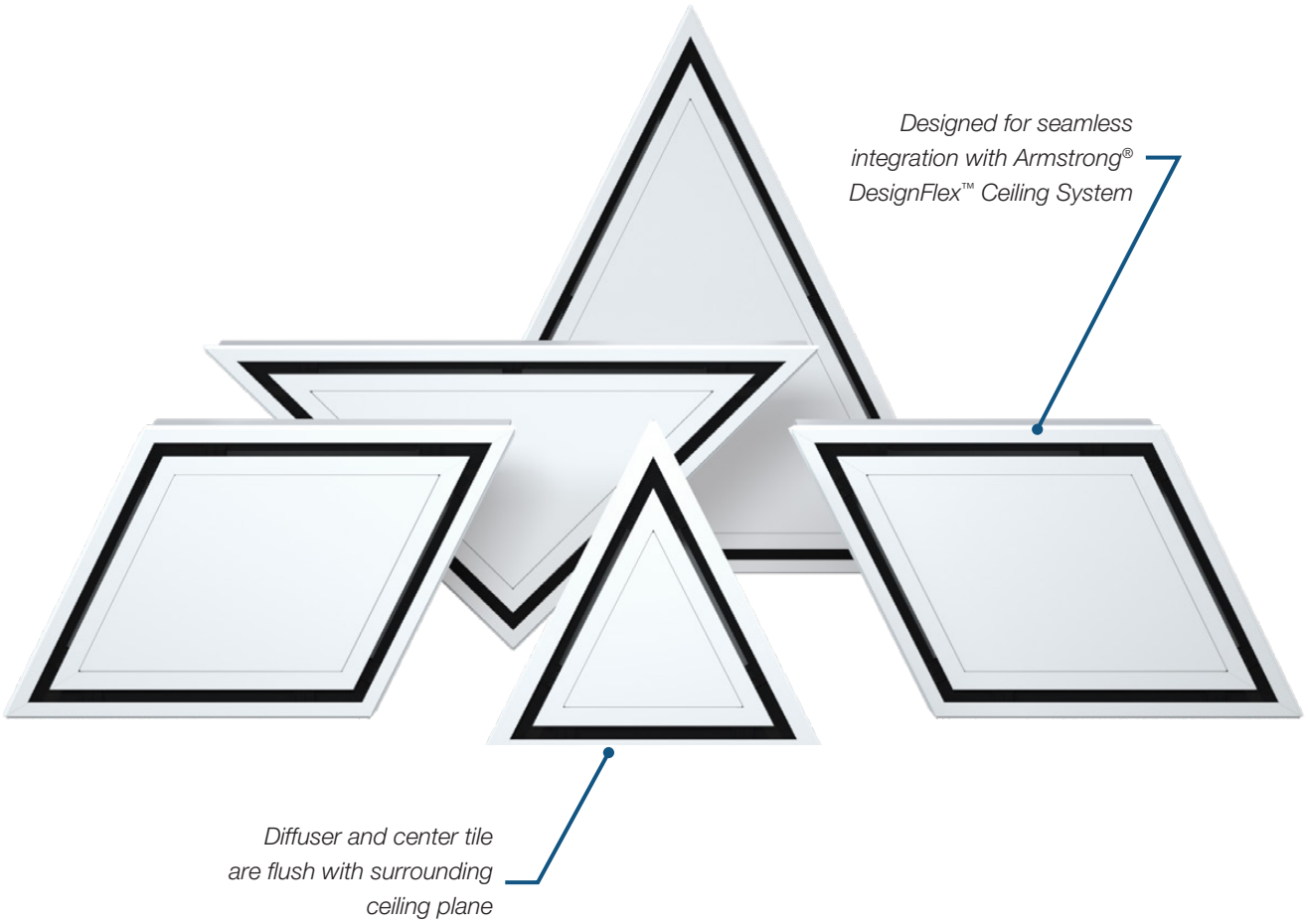
SHAPES DIFFUSERS

FOR ARMSTRONG® DESIGNFLEX™ CEILING SYSTEMS

price | DIFFUSERS

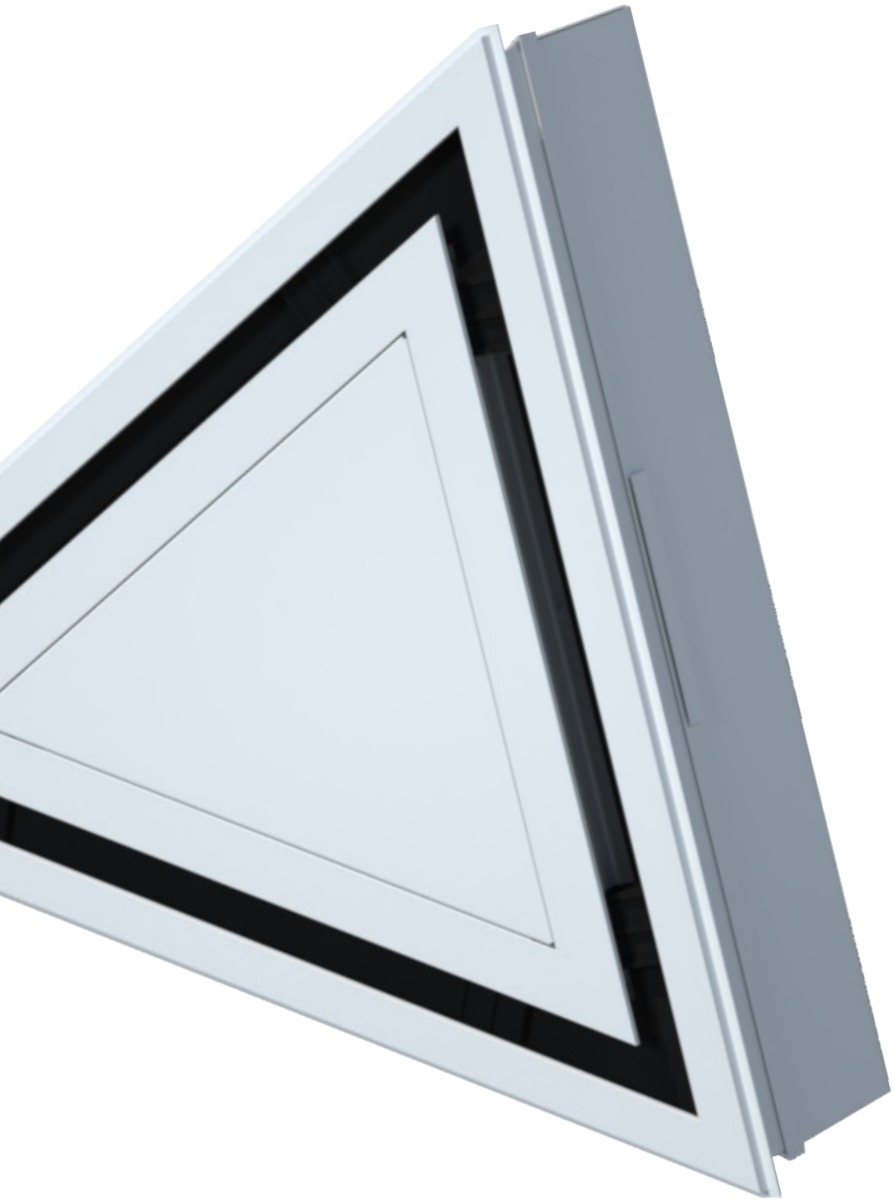
SHP
Shapes Diffusers

SHP Shapes Diffusers are designed to integrate with Armstrong® DesignFlex™ Shapes Ceiling Systems. These extruded aluminum triangular and parallelogram diffusers offer superior architectural design and engineered performance. The partnership between Armstrong Ceilings and Price Industries combines architectural and engineering expertise to provide a unique blend of aesthetics and occupant comfort.



SIMPLE DESIGN COORDINATION

+ SHP diffusers are designed specifically for integration with Armstrong® DesignFlex™ Shapes Ceiling Systems.
+ The SHP-CF is available with top or side plenum inlet locations.



TYPICAL APPLICATIONS

Shape diffusers are designed for integration with the Armstrong® DesignFlex™ Shapes Ceiling Systems. Extruded aluminum construction and a unique triangular or parallelogram shape make the Shape diffuser ideal for architectural ceiling applications. The SHP is well suited to VAV applications in low or high ceiling applications.

CONSTRUCTION

+ Shape
  - Triangle
  - Parallelogram
+ Border Style
  - 9/16 Tegular (Suprafine®)
+ Finish
  - Armstrong® Whitelume
  - Armstrong® Silverlume
  - Armstrong® Gun Metal Gray
  - Armstrong® Tech Black
  - Custom Finish

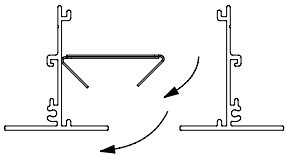
ARCHITECTURAL APPEAL

+ Unique shape and size options provide architectural flexibility in a ceiling system that is easy to design, specify and install.
+ The Tegular border option minimizes gaps to provide a flush appearance.

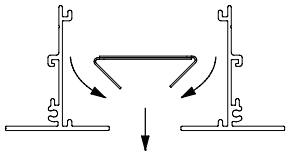
HIGHLY ADJUSTABLE

+ SHP diffusers feature a 1 in. discharge slot with dual layer pattern controllers that can be field adjusted from the diffuser face.
+ Dual layer pattern controllers allow pattern adjustment between fully horizontal and fully vertical airflow as well as air volume control and full shut off adjustment to achieve a 1, 2, 3, or 4-way air pattern.

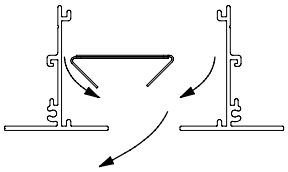
Pattern controller configurations



Horizontal

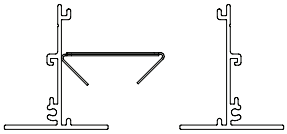


Vertical

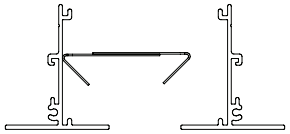


Angular

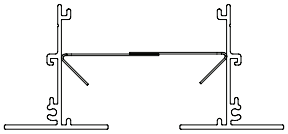
Volume adjustments



Fully open



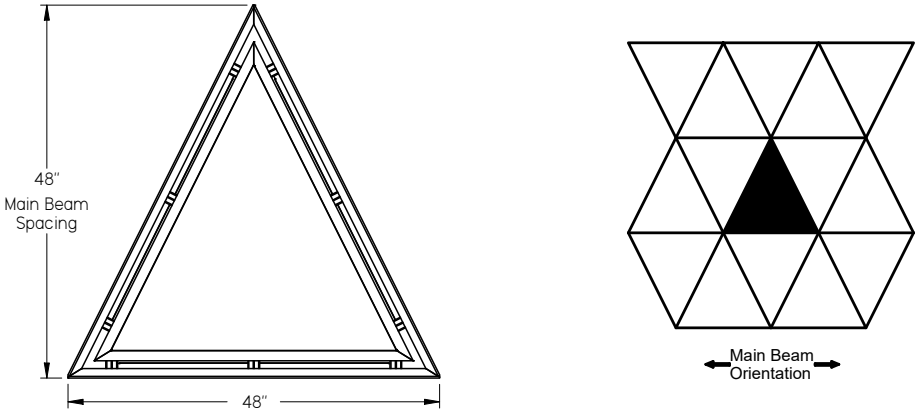
Partially dampered



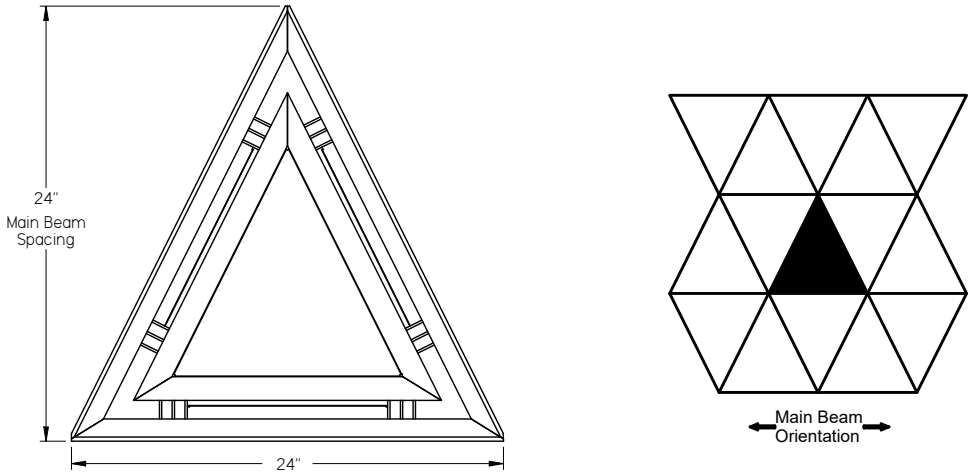
Shutoff

DIMENSIONAL DATA

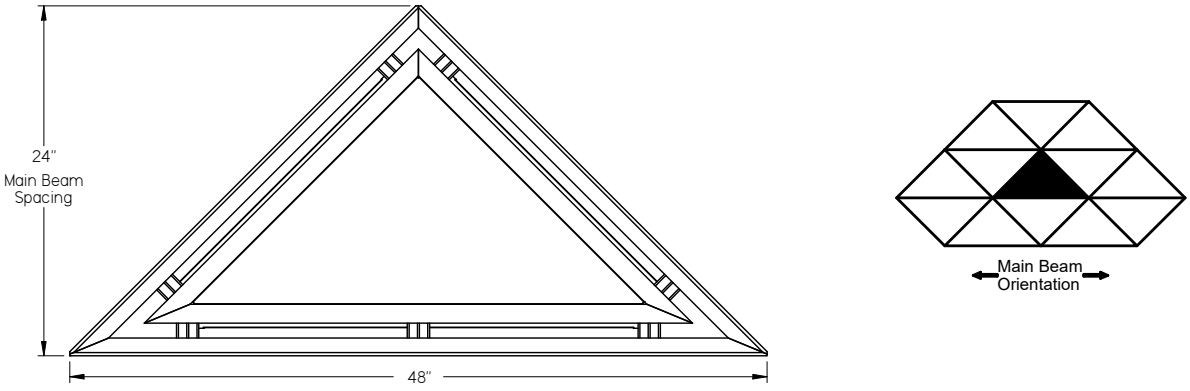
Triangles



48 in. main beam spacing x 48 in. base width triangle (60° nominal)



24 in. main beam spacing x 24 in. base width triangle (60° nominal)

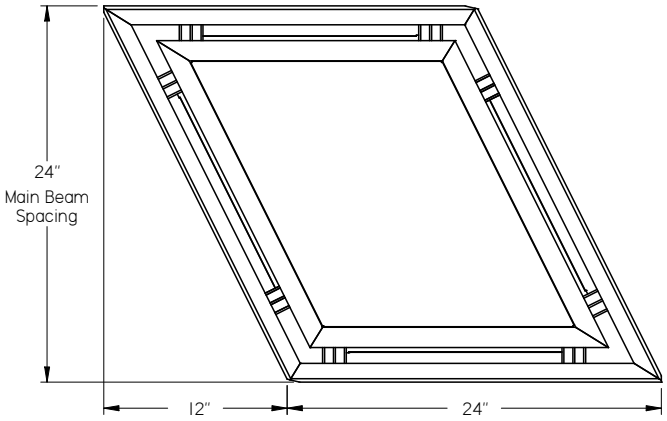


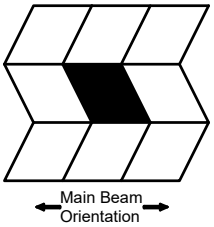
24 in. main beam spacing x 48 in. base width triangle (45° nominal)

Note: Dimensions are measured at T-bar grid centerline

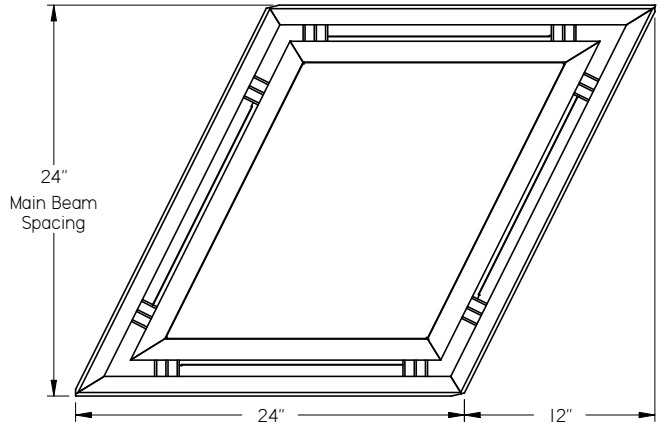
DIMENSIONAL DATA

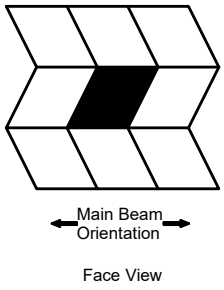
Parallelograms





24 in. main beam spacing x 24 in. base width left hand parallelogram (60° nominal)





24 in. main beam spacing x 24 in. base width right hand parallelogram (60° nominal)

Note: Dimensions are measured at T-bar grid centerline

PERFORMANCE DATA

SHP-CF – 4'X4' TRI

4 ft. Main Beam Spacing x 4 ft. Base Width Triangle (60° Nominal)

Inlet Size	Total Flow Rate (cfm)	100	150	200	250	300	350	400	450	500
	Throw (ft)	1-2-6	2-4-9	3-6-12	5-8-15	6-9-18	7-11-21	8-12-23	9-14-24	10-15-25
10	Total Pressure (in. w.g.)	0.014	0.031	0.055	0.086	0.124	0.169	0.221	0.280	0.346
	Static Pressure (in. w.g.)	0.012	0.026	0.047	0.073	0.106	0.144	0.188	0.238	0.293
	Sound (NC)	--	--	21	27	32	36	40	43	46
12	Total Pressure (in. w.g.)	0.012	0.027	0.047	0.074	0.106	0.144	0.189	0.239	0.295
	Static Pressure (in. w.g.)	0.011	0.024	0.043	0.067	0.097	0.132	0.172	0.218	0.269
	Sound (NC)	--	--	19	26	31	35	39	42	45
6x13	Total Pressure (in. w.g.)	0.009	0.021	0.037	0.059	0.084	0.115	0.150	0.190	0.234
	Static Pressure (in. w.g.)	0.007	0.016	0.029	0.045	0.065	0.089	0.116	0.147	0.181
	Sound (NC)	--	--	15	22	27	31	35	39	42
6x19	Total Pressure (in. w.g.)	0.008	0.018	0.032	0.050	0.072	0.098	0.128	0.162	0.200
	Static Pressure (in. w.g.)	0.007	0.016	0.028	0.044	0.063	0.086	0.112	0.142	0.175
	Sound (NC)	--	--	--	20	26	30	34	38	41

SHP-CF – 2'X2' TRI

2 ft. Main Beam Spacing x 2 ft. Base Width Triangle (60° Nominal)

Inlet Size	Total Flow Rate (cfm)	50	75	100	125	150	175	200	225	250
	Throw (ft)	0-1-4	1-2-9	2-4-12	3-6-15	4-9-18	5-11-21	7-12-23	9-14-24	10-15-25
6	Total Pressure (in. w.g.)	0.017	0.039	0.069	0.108	0.155	0.211	0.276	0.349	0.431
	Static Pressure (in. w.g.)	0.013	0.030	0.053	0.082	0.119	0.162	0.211	0.267	0.330
	Sound (NC)	--	15	23	29	34	38	42	45	48
8	Total Pressure (in. w.g.)	0.012	0.027	0.048	0.075	0.108	0.147	0.191	0.242	0.299
	Static Pressure (in. w.g.)	0.011	0.024	0.043	0.067	0.096	0.131	0.171	0.216	0.267
	Sound (NC)	--	--	19	25	30	35	38	42	45
4x7	Total Pressure (in. w.g.)	0.012	0.027	0.048	0.075	0.107	0.146	0.191	0.242	0.298
	Static Pressure (in. w.g.)	0.008	0.018	0.031	0.049	0.070	0.096	0.125	0.158	0.195
	Sound (NC)	--	--	18	24	30	34	38	41	45
4x13	Total Pressure (in. w.g.)	0.008	0.018	0.032	0.051	0.073	0.099	0.130	0.164	0.202
	Static Pressure (in. w.g.)	0.007	0.016	0.028	0.043	0.062	0.085	0.110	0.140	0.173
	Sound (NC)	--	--	--	20	26	30	34	38	41

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. All pressures are in inches of w.g.
3. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle), and 50 fpm (maximum).
4. Throw data is based on supply air and room air being at isothermal conditions.
5. NC values are based on a room absorption of 10 dB, re 10^{-12} Watts and one diffuser.
6. Blanks "-" indicate an NC level below 15.

PERFORMANCE DATA

SHP-CF – 2'X4' TRI

2 ft. Main Beam Spacing x 4 ft. Base Width Triangle (45° Nominal)

Inlet Size	Total Flow Rate (cfm)	80	120	160	200	240	280	320	360	400
	Throw (ft)	1-1-5	1-3-8	2-5-11	4-7-14	5-8-17	6-10-19	7-11-22	8-12-23	9-14-24
8	Total Pressure (in. w.g.)	0.016	0.037	0.065	0.102	0.146	0.199	0.260	0.329	0.406
	Static Pressure (in. w.g.)	0.013	0.029	0.052	0.081	0.117	0.159	0.208	0.263	0.325
	Sound (NC)	--	--	22	29	34	38	42	45	48
10	Total Pressure (in. w.g.)	0.012	0.028	0.049	0.077	0.110	0.150	0.196	0.248	0.306
	Static Pressure (in. w.g.)	0.011	0.025	0.044	0.068	0.098	0.134	0.175	0.221	0.273
	Sound (NC)	--	--	20	26	31	35	39	42	45
4x13	Total Pressure (in. w.g.)	0.011	0.025	0.044	0.069	0.099	0.135	0.177	0.224	0.276
	Static Pressure (in. w.g.)	0.008	0.018	0.032	0.050	0.072	0.098	0.128	0.162	0.199
	Sound (NC)	--	--	17	24	29	33	37	41	44
6x13	Total Pressure (in. w.g.)	0.009	0.019	0.034	0.054	0.077	0.105	0.137	0.174	0.215
	Static Pressure (in. w.g.)	0.007	0.016	0.029	0.045	0.065	0.088	0.116	0.146	0.181
	Sound (NC)	--	--	--	21	26	31	35	38	41

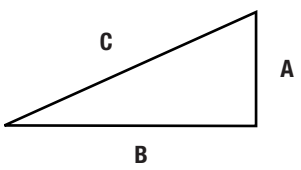
SHP-CF – 2'X4' TRI-90

2 ft. Main Beam Spacing x 4 ft. Base Width Triangle (90° Nominal)

Inlet Size	Total Flow Rate (cfm)	100		150		200		250		300		350	
8	Total Pressure (in. w.g.)	0.030		0.067		0.119		0.186		0.268		0.364	
	Static Pressure (in. w.g.)	0.025		0.055		0.099		0.154		0.222		0.302	
	Sound (NC)	--		22		32		39		44		49	
	Throw (ft)	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C
		1-1-5	1-2-7	1-3-8	2-4-11	2-5-10	3-7-14	4-7-12	5-9-16	5-8-13	7-11-17	6-9-14	9-13-19
10	Total Pressure (in. w.g.)	0.024		0.054		0.096		0.150		0.216		0.295	
	Static Pressure (in. w.g.)	0.022		0.049		0.088		0.137		0.198		0.269	
	Sound (NC)	--		17		27		34		39		44	
	Throw (ft)	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C
		1-1-5	1-2-7	1-3-8	2-4-11	2-5-10	3-7-14	4-7-12	5-9-16	5-8-13	7-11-17	6-9-14	9-13-19
4x13	Total Pressure (in. w.g.)	0.021		0.047		0.084		0.131		0.189		0.257	
	Static Pressure (in. w.g.)	0.016		0.036		0.065		0.101		0.146		0.198	
	Sound (NC)	--		--		21		29		35		40	
	Throw (ft)	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C
		0-1-3	1-2-7	1-2-5	2-4-11	2-3-7	3-7-15	3-4-8	5-9-18	3-5-9	7-11-20	4-6-9	9-13-21
6x13	Total Pressure (in. w.g.)	0.018		0.040		0.071		0.111		0.161		0.218	
	Static Pressure (in. w.g.)	0.016		0.035		0.063		0.098		0.141		0.192	
	Sound (NC)	--		--		19		26		32		37	
	Throw (ft)	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C	A	B / C
		0-1-3	1-2-7	1-2-5	2-4-11	2-3-7	3-7-15	3-4-8	5-9-18	3-5-9	7-11-20	4-6-9	9-13-21

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. All pressures are in inches of w.g.
3. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle), and 50 fpm (maximum).
4. Throw data is based on supply air and room air being at isothermal conditions.
5. NC values are based on a room absorption of 10 dB, re 10^{-12} Watts and one diffuser.
6. Blanks "-" indicate an NC level below 15.



PERFORMANCE DATA

SHP-CF – 2'X2' PRL

2 ft. Main Beam Spacing x 2 ft. Base Width Parallelogram (60° Nominal)

Inlet Size	Total Flow Rate (cfm)	70	100	130	160	190	220	250	280	310
	Throw (ft)	0-1-4	1-2-9	2-4-12	3-6-14	4-8-17	5-10-20	6-11-22	8-13-23	9-14-24
6	Total Pressure (in. w.g.)	0.025	0.052	0.088	0.133	0.188	0.252	0.325	0.408	0.500
	Static Pressure (in. w.g.)	0.018	0.036	0.061	0.092	0.129	0.174	0.224	0.281	0.345
	Sound (NC)	--	19	26	32	36	40	44	47	50
8	Total Pressure (in. w.g.)	0.015	0.031	0.053	0.080	0.113	0.151	0.195	0.245	0.300
	Static Pressure (in. w.g.)	0.013	0.026	0.044	0.067	0.094	0.126	0.163	0.205	0.251
	Sound (NC)	--	--	20	26	30	34	38	41	44
4x7	Total Pressure (in. w.g.)	0.018	0.036	0.061	0.092	0.130	0.175	0.226	0.283	0.347
	Static Pressure (in. w.g.)	0.010	0.020	0.033	0.050	0.071	0.095	0.123	0.154	0.189
	Sound (NC)	--	--	21	27	32	36	40	43	46
4x13	Total Pressure (in. w.g.)	0.010	0.021	0.035	0.054	0.076	0.102	0.131	0.165	0.202
	Static Pressure (in. w.g.)	0.008	0.016	0.027	0.042	0.059	0.079	0.101	0.127	0.156
	Sound (NC)	--	--	--	20	25	30	33	37	40

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. All pressures are in inches of w.g.
3. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle), and 50 fpm (maximum).
4. Throw data is based on supply air and room air being at isothermal conditions.
5. NC values are based on a room absorption of 10 dB, re 10^{-12} Watts and one diffuser.
6. Blanks "-" indicate an NC level below 15.

PERFORMANCE DATA

SHP-PR

Shapes Perforated Return

Face Velocity (fpm)	**100**	**150**	**200**	**250**	**300**	**325**	**350**	**375**	**400**
Neg. Static Pressure (in. w.g)	0.023	0.052	0.093	0.145	0.208	0.244	0.283	0.325	0.370
Velocity Pressure (in. w.g.)	0.001	0.001	0.002	0.004	0.006	0.007	0.008	0.009	0.010
Face Area = 2 sq. ft.									
2'X2' TRI	*2 ft. Main Beam Spacing x 2 ft. Base Width Triangle (60° Nominal)*								
Total Flow Rate (cfm)	200	300	400	500	600	650	700	750	800
Sound (NC)	-	-	-	-	12	16	20	23	26
Face Area = 4 sq. ft.									
2'X2' PRL	*2 ft. Main Beam Spacing x 2 ft. Base Width Parallelogram (60° Nominal)*								
2'X4' TRI	*2 ft. Main Beam Spacing x 4 ft. Base Width Triangle (45° Nominal)*								
2'X4' TRI-90	*2 ft. Main Beam Spacing x 4 ft. Base Width Triangle (90° Nominal)*								
Total Flow Rate (cfm)	400	600	800	1000	1200	1300	1400	1500	1600
Sound (NC)	-	-	-	-	13	17	21	24	27
Face Area = 8 sq. ft.									
4'X4' TRI	*4 ft. Main Beam Spacing x 4 ft. Base Width Triangle (60° Nominal)*								
Total Flow Rate (cfm)	800	1200	1600	2000	2400	2600	2800	3000	3200
Sound (NC)	-	-	-	-	15	19	23	26	29

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 “Method of Testing for Rating the Performance of Air Outlets and Inlets.”
2. All pressures are in inches of w.g.
3. Blanks "-" indicate an NC level below 10.
4. NC values are based on a room absorption of 10 dB, re 10^{-12} Watts and one diffuser.

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