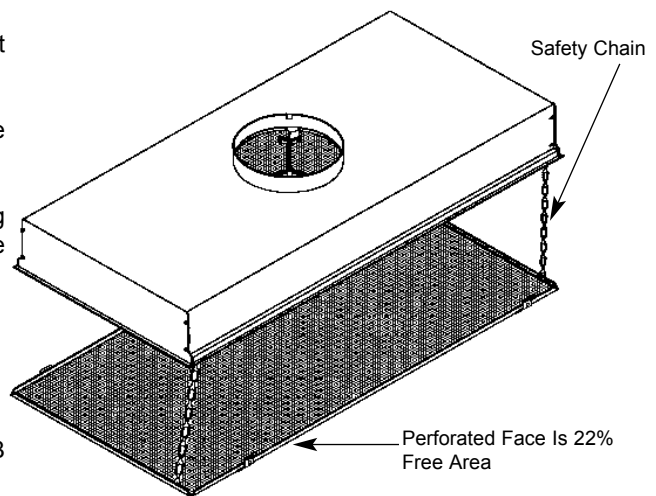


Application

Laminar Flow diffusers are used to deliver air to surface directly underneath in a non-aspirating air pattern, with the minimum possible room air entrainment. This minimizes the particulate contamination on the surface being "washed". Common applications include operating rooms, laboratories and clean rooms.

Standard Features

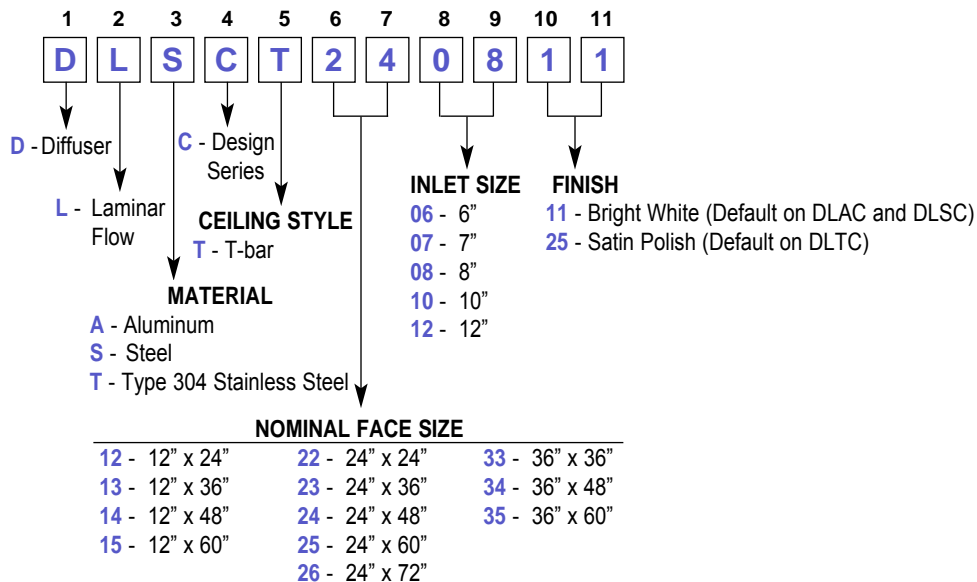
- Available in steel, type 304 stainless steel or aluminum construction.
- Available in T-bar mount, as standard.
- Fits 15/16" and 9/16" flat surface T-bar as standard, and is available to fit 1-1/2" T-bar on request.
- Perforated face is 21% free area round hole pattern.
- Face assembly is held in with tools-free latches and is removable for cleaning.
- Safety chain is standard.
- Standard finish on steel and aluminum units is electrocoat acrylic baked enamel.
- Standard color on steel and aluminum units is #11 Bright White.
- Standard finish on stainless steel unit is #25 Satin Polish.
- Collar is special leak-proof construction to eliminate contamination in ceiling plenum.
- Seismic tabs on each corner are standard.
- Balancing is done via flat blade screwdriver, by removing face and inserting blade into damper operator through the hole in the mixing disc.
- Available in a wide range of face sizes as standard.
 - 12" x 24" 12" x 36" 12" x 48" 12" x 60"
 - 24" x 24" 24" x 36" 24" x 48" 24" x 60"
 - 24" x 72" 36" x 36" 36" x 48" 36" x 60"

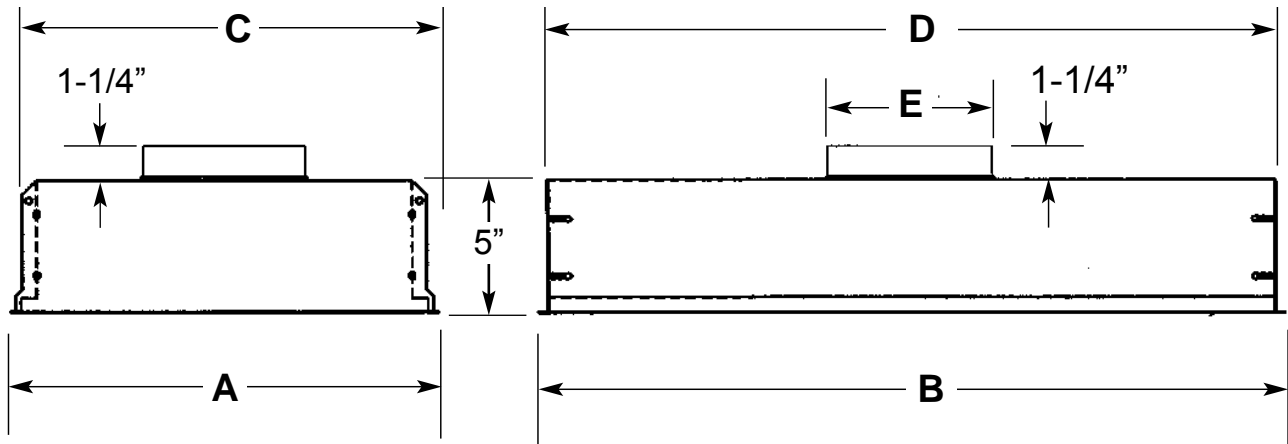


Recommended Accessories

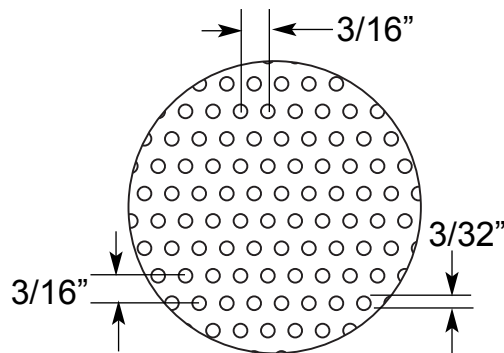
- Recommended balancing damper is model KXMB (p. A429).
- For surface mount applications use auxiliary frame Model KXFA (p. A447).

Model Numbering System





Detail of Hole Pattern



Nominal Face Size	Dim. A	Dim. B	Dim. C	Dim. D
12" x 24"		23-3/4"		23-1/16"
12" x 36"	11-3/4"	35-3/4"	9-7/8"	35-1/16"
12" x 48"		47-3/4"		47-1/16"
12" x 60"		59-3/4"		59-1/16"
24" x 24"		23-3/4"		23-1/16"
24" x 36"		35-3/4"		35-1/16"
24" x 48"	23-3/4"	47-3/4"	21-7/8"	47-1/16"
24" x 60"		59-3/4"		59-1/16"
24" x 72"		71-3/4"		71-1/16"
36" x 36"		35-3/4"		35-1/16"
36" x 48"	35-3/4"	47-3/4"	33-7/8"	47-1/16"
36" x 60"		59-3/4"		59-1/16"

Notes:

- This is sized to fit 15/16" and 9/16" flat-face T-bar.
- Sizing to fit 1-1/2" T-bar is available on request.
- Inlet is undersized by 1/8" to fit inside duct.

Nominal Inlet Size	Inlet O. D. (Dim. E)
6"	5-7/8"
7"	6-7/8"
8"	7-7/8"
10"	9-7/8"
12"	11-7/8"

12" x 24" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band						Sound Summary (NC/RC)	
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	40	20	0.005	10	*	*	*	*	*	41	--	--	--	--	--	--	--/--
	50	25	0.007	18	*	*	*	*	*	42	20	--	--	--	--	--	--/--
	60	30	0.011	30	22	*	*	*	*	41	--	--	--	--	--	--	--/--
	70	35	0.015	47	38	28	*	*	*	41	--	--	--	--	--	--	--/--
	80	40	0.019	52	44	34	25	*	*	42	20	--	--	--	--	--	--/--

12" x 36" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band						Sound Summary (NC/RC)	
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	60	20	0.010	13	*	*	*	*	*	36	--	--	--	--	--	--	--/--
	75	25	0.015	27	18	*	*	*	*	37	--	--	--	--	--	--	--/--
	90	30	0.021	33	28	*	*	*	*	38	20	--	--	--	--	--	--/--
	105	35	0.029	48	33	14	*	*	*	38	20	--	--	--	--	--	--/--
	120	40	0.037	59	34	18	*	*	*	39	21	--	--	--	--	--	--/--
8"	60	20	0.004	13	*	*	*	*	*	38	--	--	--	--	--	--	--/--
	75	25	0.007	27	18	*	*	*	*	38	--	--	--	--	--	--	--/--
	90	30	0.009	33	28	*	*	*	*	40	--	--	--	--	--	--	--/--
	105	35	0.014	48	33	14	*	*	*	40	20	--	--	--	--	--	--/--
	120	40	0.017	59	34	18	*	*	*	41	20	--	--	--	--	--	--/--

12" x 48" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band						Sound Summary (NC/RC)	
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	80	20	0.013	21	*	*	*	*	*	38	--	--	--	--	--	--	--/--
	100	25	0.021	28	12	*	*	*	*	39	20	--	--	--	--	--	--/--
	120	30	0.030	53	28	*	*	*	*	39	21	--	--	--	--	--	--/--
	140	35	0.041	68	36	16	*	*	*	40	22	20	--	--	--	--	--/--
	160	40	0.052	73	42	24	18	*	*	40	23	21	--	--	--	--	--/--
8"	80	20	0.007	21	*	*	*	*	*	38	--	--	--	--	--	--	--/--
	100	25	0.010	28	12	*	*	*	*	39	20	--	--	--	--	--	--/--
	120	30	0.015	53	28	*	*	*	*	39	20	--	--	--	--	--	--/--
	140	35	0.020	68	36	16	*	*	*	39	20	--	--	--	--	--	--/--
	160	40	0.026	73	42	24	18	*	*	39	20	--	--	--	--	--	--/--

12" x 60" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band						Sound Summary (NC/RC)	
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
8"	100	20	0.009	18	*	*	*	*	*	40	21	--	--	--	--	--	--/--
	125	25	0.014	36	28	*	*	*	*	42	22	--	--	--	--	--	--/--
	150	30	0.021	53	48	34	24	*	*	43	24	--	--	--	--	--	--/--
	175	35	0.028	66	63	43	33	*	*	45	25	--	--	--	--	--	--/--
	200	40	0.036	87	82	56	40	31	18	46	26	--	--	20	--	--	--/--

Notes on Performance Data

- 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.
- Sound levels are based on a room absorption of 10 db re 10⁻¹² watts.
- A "--" indicates a sound level less than 20.
- A "*" indicates velocity less than 10 fpm.

Units of Measure Used

- Air flow is given in cubic feet per minute (cfm).
- Pressure is given in inches of water (w.g.)
- Velocity is given in feet per minute (fpm).
- Sound levels are given in both NC (Noise Criteria) and RC (Room Criteria). NC is the first with RC second, separated by a slash.

24" x 24" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	80	20	0.015	24	*	*	*	*	*	37	--	--	--	--	--	--	-- / --
	100	25	0.025	30	28	22	*	*	*	39	20	--	--	--	--	--	-- / --
	120	30	0.036	38	40	28	24	24	18	41	22	20	20	--	--	--	-- / --
	140	35	0.050	43	48	44	33	30	27	42	24	24	23	--	--	--	-- / --
	160	40	0.066	57	63	58	53	48	44	44	25	26	25	--	--	--	-- / --
8"	80	20	0.007	24	*	*	*	*	*	37	--	--	--	--	--	--	-- / --
	100	25	0.012	30	28	22	*	*	*	39	20	--	--	--	--	--	-- / --
	120	30	0.018	38	40	28	24	24	18	40	21	--	--	--	--	--	-- / --
	140	35	0.025	43	48	44	33	30	27	42	21	--	--	--	--	--	-- / --
	160	40	0.034	57	63	58	53	48	44	43	22	--	--	--	--	--	-- / --

24" x 36" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	120	20	0.032	18	*	*	*	*	*	37	22	--	--	--	--	--	-- / --
	150	25	0.052	38	36	*	*	*	*	40	21	25	24	--	--	--	-- / --
	180	30	0.076	54	52	47	42	20	*	41	27	28	31	25	--	--	-- / --
	210	35	0.106	72	68	65	58	42	38	42	28	32	38	29	21	--	25 / 23N
	240	40	0.141	92	88	81	73	54	44	43	31	35	43	34	23	--	32 / 27N
8"	120	20	0.015	18	*	*	*	*	*	40	23	--	--	--	--	--	-- / --
	150	25	0.024	38	36	*	*	*	*	41	24	--	--	--	--	--	-- / --
	180	30	0.034	54	52	47	42	20	*	42	25	19	20	--	--	-- / --	
	210	35	0.046	72	68	65	58	42	38	42	25	22	22	--	--	-- / --	
	240	40	0.060	92	88	81	73	54	44	43	26	24	24	--	--	--	-- / --

24" x 48" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
6"	160	20	0.056	22	*	*	*	*	*	40	24	27	29	--	--	--	-- / --
	200	25	0.089	30	23	16	*	*	*	39	27	32	37	27	--	--	25 / 22N
	240	30	0.130	41	54	49	45	38	26	41	31	35	42	36	27	--	31 / 28N
	280	35	0.180	54	73	66	56	48	37	43	34	38	46	43	33	--	34 / 32H
	320	40	0.237	61	82	63	63	49	44	43	36	40	51	48	37	--	40 / 36H
8"	160	20	0.020	22	*	*	*	*	*	38	--	--	--	--	--	--	-- / --
	200	25	0.032	30	23	16	*	*	*	38	22	21	23	--	--	--	-- / --
	240	30	0.049	41	54	49	45	38	26	38	24	25	26	20	--	--	-- / --
	280	35	0.068	54	73	66	56	48	37	37	25	28	29	21	--	--	-- / --
	320	40	0.090	61	82	78	63	49	44	38	27	32	33	22	--	--	21 / --
10"	160	20	0.012	22	*	*	*	*	*	39	21	--	--	--	--	--	-- / --
	200	25	0.019	30	23	16	*	*	*	40	22	--	--	--	--	--	-- / --
	240	30	0.029	41	54	49	45	38	26	40	22	--	--	--	--	--	-- / --
	280	35	0.040	54	73	66	56	48	37	40	23	21	20	--	--	--	-- / --
	320	40	0.053	61	82	78	63	49	44	40	23	24	22	--	--	--	-- / --

Notes on Performance Data

- 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.
- Sound levels are based on a room absorption of 10 db re 10⁻¹² watts.
- A "--" indicates a sound level less than 20.
- A "*" indicates velocity less than 10 fpm.

Units of Measure Used

- Air flow is given in cubic feet per minute (cfm).
- Pressure is given in inches of water (w.g.)
- Velocity is given in feet per minute (fpm).
- Sound levels are given in both NC (Noise Criteria) and RC (Room Criteria). NC is the first with RC second, separated by a slash.

24" x 60" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
8"	200	20	0.030	16	*	*	*	*	*	41	22	22	--	--	--	-- / --	
	250	25	0.048	27	16	*	*	*	*	42	27	27	25	--	--	-- / --	
	300	30	0.069	51	34	29	17	17	*	43	30	31	32	24	22	20 / --	
	350	35	0.095	58	54	51	41	30	17	44	33	34	37	28	24	25 / 23N	
	400	40	0.124	77	65	54	44	39	29	44	36	37	42	32	26	31 / 27N	
10"	200	20	0.020	16	*	*	*	*	*	44	--	--	--	--	--	-- / --	
	250	25	0.031	27	16	*	*	*	*	45	24	--	--	--	--	-- / --	
	300	30	0.045	51	34	29	17	17	*	45	26	24	23	--	--	-- / --	
	350	35	0.061	58	54	51	41	30	17	45	29	29	29	23	19	-- / --	
	400	40	0.078	77	65	54	44	39	29	45	32	33	34	26	21	22 / 21N	
12"	200	20	0.013	16	*	*	*	*	*	43	20	--	--	--	--	-- / --	
	250	25	0.020	27	16	*	*	*	*	43	22	--	--	--	--	-- / --	
	300	30	0.029	51	34	29	17	17	*	43	24	--	--	--	--	-- / --	
	350	35	0.039	58	54	51	41	30	17	44	25	20	--	--	--	-- / --	
	400	40	0.051	77	65	54	44	39	29	44	26	22	--	--	--	-- / --	

24" x 72" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
10"	240	20	0.025	19	*	*	*	*	*	44	22	--	--	--	--	-- / --	
	300	25	0.039	35	32	*	*	*	*	46	27	21	21	--	--	-- / --	
	360	30	0.057	57	46	43	35	21	13	47	30	26	27	20	--	-- / --	
	420	35	0.078	61	58	51	44	29	13	48	33	30	33	25	22	21 / --	
	480	40	0.103	72	63	57	47	40	22	48	35	34	38	27	23	25 / 23N	
12"	240	20	0.014	19	*	*	*	*	*	44	24	21	23	22	20	-- / --	
	300	25	0.023	35	32	*	*	*	*	45	25	22	21	21	--	-- / --	
	360	30	0.033	57	46	43	35	21	13	46	28	24	23	21	--	-- / --	
	420	35	0.046	61	58	51	44	29	13	46	29	25	23	20	--	-- / --	
	480	40	0.060	72	63	57	47	40	22	47	31	26	24	20	--	-- / --	

36" x 36" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
10"	180	20	0.016	32	13	*	*	*	*	44	22	--	--	--	--	-- / --	
	225	25	0.024	66	29	*	*	*	*	44	23	--	--	--	--	-- / --	
	270	30	0.033	89	51	40	30	27	*	44	23	20	20	--	--	-- / --	
	315	35	0.045	112	81	63	49	41	32	44	23	22	22	--	--	-- / --	
	360	40	0.057	121	100	79	64	48	35	44	24	24	23	--	--	-- / --	
12"	180	20	0.011	32	13	*	*	*	*	38	21	--	--	--	--	-- / --	
	225	25	0.016	66	29	*	*	*	*	39	21	--	--	--	--	-- / --	
	270	30	0.023	89	51	40	30	27	*	41	21	--	--	--	--	-- / --	
	315	35	0.031	112	81	63	49	41	32	42	21	20	--	--	--	-- / --	
	360	40	0.040	121	100	79	64	48	35	42	21	22	--	--	--	-- / --	

Notes on Performance Data

- 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.
- Sound levels are based on a room absorption of 10 db re 10⁻¹² watts.
- A "--" indicates a sound level less than 20.
- A "*" indicates velocity less than 10 fpm.

Units of Measure Used

- Air flow is given in cubic feet per minute (cfm).
- Pressure is given in inches of water (w.g.)
- Velocity is given in feet per minute (fpm).
- Sound levels are given in both NC (Noise Criteria) and RC (Room Criteria). NC is the first with RC second, separated by a slash.

36" x 48" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
10"	240	20	0.026	50	32	14	*	*	*	39	20	--	--	--	--	--	-- / --
	300	25	0.041	64	55	40	20	12	*	39	23	22	22	--	--	--	-- / --
	360	30	0.058	98	68	58	37	25	18	39	26	26	29	21	--	--	-- / --
	420	35	0.079	123	93	75	60	49	35	40	29	31	35	25	--	--	23 / 20N
	480	40	0.103	148	117	84	68	56	48	40	31	34	40	29	20	--	29 / 24N
12"	240	20	0.016	50	32	14	*	*	*	38	25	--	--	--	--	--	-- / --
	300	25	0.025	64	55	40	20	12	*	39	26	21	--	--	--	--	-- / --
	360	30	0.036	98	68	58	37	25	18	39	28	26	24	20	20	--	-- / --
	420	35	0.050	123	93	75	60	49	35	40	29	29	28	23	23	--	-- / --
	480	40	0.065	148	117	84	68	56	48	40	30	33	32	25	25	--	20 / 20N

36" x 60" Face

Nom. Inlet Size	Total Air Flow (cfm)	Air Flow (cfm) per Ft ²	Total Press. (Pt)	Avg Terminal Velocity at this distance below face						Sound Power by Octave band							Sound Summary (NC/RC)
				1'	2'	3'	4'	5'	6'	2	3	4	5	6	7		
10"	300	20	0.026	49	30	20	*	*	*	42	21	25	23	--	--	--	-- / --
	375	25	0.064	73	35	23	17	12	*	43	25	30	31	22	--	--	-- / --
	450	30	0.090	99	76	56	41	28	21	43	29	34	38	29	21	--	25 / 24H
	525	35	0.122	124	92	76	59	45	32	43	32	37	43	35	24	--	32 / 28H
	600	40	0.158	139	116	78	62	52	35	43	34	40	48	40	26	--	37 / 33H
12"	300	20	0.022	49	30	20	*	*	*	42	22	23	20	--	--	--	-- / --
	375	25	0.035	73	35	23	17	12	*	43	24	27	28	--	--	--	-- / --
	450	30	0.050	99	76	56	41	28	21	43	24	29	28	--	--	--	-- / --
	525	35	0.070	124	92	76	59	45	32	44	26	32	35	24	--	--	23 / 20H
	600	40	0.092	139	116	78	62	52	35	44	28	35	40	27	--	--	29 / 24H

Notes on Performance Data

- 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.
- Sound levels are based on a room absorption of 10 db re 10⁻¹² watts.
- A “-” indicates a sound level less than 20.
- A “*” indicates velocity less than 10 fpm.

Units of Measure Used

- Air flow is given in cubic feet per minute (cfm).
- Pressure is given in inches of water (w.g.)
- Velocity is given in feet per minute (fpm).
- Sound levels are given in both NC (Noise Criteria) and RC (Room Criteria). NC is the first with RC second, separated by a slash.

NOTES: