

PERFORMANCE DATA

510 / 520 / 610 / 620 / 710 / 720 - Supply

Size	Core Velocity (fpm)		300		400		500		600		700		800		NC 20		NC 30		NC 40	
	Velocity Pressure (in. w.g.)		0.006	0.010	0.016	0.022	0.030	0.040	0.040	0.062	0.090	0.122	0.159	0.202	0.261	0.379	0.514	0.669	0.850	
	Total	0°	0.014	0.024	0.038	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475	0.574	0.669	0.850				
Ac = 0.15 ft ² 7 x 4 6 x 5	Pressure	22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574	0.669	0.850					
	(in. w.g.)	45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.850							
	Flow Rate (cfm)	0°	45	60	75	90	105	120	150	180	210	240	270							
Ac = 0.18 ft ² 8 x 4 7 x 5 6 x 6	Sound (NC)	0°	-	-	-	15	19	26	31	36	40	44								
	Throw (ft)	0°	4-6-12	5-8-14	7-10-16	8-12-17	9-13-19	11-14-20	13-16-22	14-17-24	15-19-26	16-20-28	17-22-30							
	22.5°	3-5-10	4-6-11	6-8-13	6-10-14	7-10-15	9-11-16	10-13-18	11-14-19	12-15-21	13-16-22	14-18-24								
Ac = 0.22 ft ² 10 x 4 8 x 5 7 x 6	45°	2-3-6	3-4-7	3-5-8	4-6-9	5-7-9	6-8-11	6-8-11	7-9-12	8-10-13	8-10-14	9-11-15								
	Flow Rate (cfm)	0°	55	70	90	110	125	145	180	215	250	290	325							
	Sound (NC)	0°	-	-	-	16	20	27	32	37	41	45								
Ac = 0.26 ft ² 12 x 4 10 x 5 8 x 6	Throw (ft)	0°	4-7-13	6-8-15	7-11-17	9-13-19	10-15-20	11-16-22	14-17-24	15-19-26	17-21-29	18-22-31	19-24-33							
	22.5°	3-6-10	5-6-12	6-9-14	7-10-15	8-12-16	9-13-18	10-14-19	11-14-19	12-15-21	14-17-23	15-18-26	16-20-27							
	45°	2-3-7	3-4-8	4-5-9	4-7-10	5-7-10	6-8-11	6-8-11	7-9-12	8-10-13	8-10-14	9-11-15	10-12-16							
Ac = 0.30 ft ² 14 x 4	Flow Rate (cfm)	0°	65	90	110	130	155	175	220	265	310	350	395							
	Sound (NC)	0°	-	-	-	17	21	27	33	38	42	45								
	Throw (ft)	0°	4-7-14	7-10-17	8-12-19	9-15-21	11-16-23	13-17-24	16-19-27	17-21-29	19-23-32	20-25-34	21-26-36							
Ac = 0.34 ft ² 16 x 4 12 x 5 10 x 6	22.5°	3-6-11	6-8-14	6-10-15	7-12-17	9-13-18	10-14-19	13-15-22	14-17-23	15-18-26	16-20-27	17-21-29								
	45°	2-4-7	3-5-9	4-6-10	5-7-10	6-8-11	6-9-12	8-10-13	9-11-15	9-12-16	10-12-17	11-13-18								
	Flow Rate (cfm)	0°	80	105	130	155	180	210	260	310	365	415	470							
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	Sound (NC)	0°	-	-	-	17	21	28	34	38	42	46								
	Throw (ft)	0°	5-8-16	7-11-19	9-13-21	10-16-23	12-17-24	14-19-26	17-21-29	19-23-32	20-25-35	22-26-37	23-27-40							
	22.5°	4-6-13	6-9-15	7-10-17	8-13-18	10-14-19	11-15-21	14-17-23	15-18-26	16-20-28	18-21-30	18-22-32								
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	45°	3-4-8	4-5-09	4-7-10	5-8-11	6-9-12	7-9-13	8-11-15	9-12-16	10-13-17	11-13-18	12-14-20								
	Flow Rate (cfm)	0°	90	120	150	180	210	240	300	360	420	480	540							
	Sound (NC)	0°	-	-	-	18	22	29	34	39	43	47								
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	Throw (ft)	0°	5-9-17	8-11-20	9-14-22	11-17-24	13-19-26	15-20-28	18-23-31	20-25-34	22-27-37	24-29-40	25-30-42							
	22.5°	4-7-14	6-9-16	7-11-18	9-14-19	10-15-21	12-16-22	14-18-25	16-20-27	18-22-30	19-23-32	20-24-34								
	45°	3-4-8	4-6-10	5-7-11	6-8-12	7-9-13	8-10-14	9-11-16	10-12-17	11-13-19	12-14-20	12-15-21								
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	Flow Rate (cfm)	0°	100	135	170	205	240	270	340	410	475	545	610							
	Sound (NC)	0°	-	-	-	19	23	29	35	40	44	47								
	Throw (ft)	0°	5-9-18	8-12-21	10-15-24	12-19-26	14-20-28	16-22-30	20-24-33	22-26-37	23-28-40	25-30-42	26-32-45							
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	22.5°	4-7-14	6-10-17	8-12-19	10-15-21	11-16-22	13-18-24	16-19-26	18-21-30	18-22-32	20-24-34	21-26-36								
	45°	3-4-9	4-6-11	5-8-12	6-9-13	7-10-14	8-11-15	10-12-17	11-13-18	12-14-20	12-15-21	13-16-22								
	Flow Rate (cfm)	0°	115	155	195	235	275	310	390	470	545	625	700							
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	Sound (NC)	0°	-	-	-	19	23	30	35	40	44	48								
	Throw (ft)	0°	6-9-19	9-13-23	11-16-25	13-19-28	15-22-30	17-23-32	21-26-36	23-27-40	25-30-42	27-33-45	28-35-48							
	22.5°	5-7-15	7-10-18	9-13-20	10-15-22	12-18-24	14-18-26	17-21-29	18-22-32	20-24-34	22-26-36	22-28-38								
Ac = 0.39 ft ² 18 x 4 14 x 5 12 x 6 8 x 8	45°	3-5-10	4-6-11	5-8-13	7-10-14	8-11-15	9-12-16	11-13-18	12-14-20	12-15-21	13-16-23	14-17-24								

Performance Notes:

- Tested in accordance with ASHRAE Standard 70-2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Air flow is in cfm.
- All pressures are in in. w.g.
- Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
- Throw data is based on supply air and room air being at isothermal conditions.
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts @ 0° deflection and one diffuser.
- Blanks "-" indicate an NC level below 15.
- Deflection 0°-22.5°-45°**
The listed deflection settings refer to horizontal deflection. For a 20° upward deflection, use the room throw rating for a 0° setting and the total pressure for a 22.5° horizontal setting. The performance tables are based on registers with core style 520 with an opposed blade damper. The performance of other core styles, with or without dampers, can be obtained by the application of correction factors to the tabulated performance data. See correction factor table at end of section.

PERFORMANCE DATA

510 / 610 / 710 / 520 / 620 / 720 - Supply

Size	Core Velocity (fpm) Velocity Pressure (in. w.g.)	NC 20		NC 30			NC 40			NC 50		
		300	400	500	600	700	800	1000	1200	1400	1600	1800
		0.006	0.010	0.016	0.022	0.030	0.040	0.062	0.090	0.122	0.159	0.202
Total Pressure (in. w.g.)	0°	0.014	0.024	0.038	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
	22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
	45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 0.46 ft ² 20 x 4 16 x 5 14 x 6 10 x 8	Flow Rate (cfm)	140	185	230	275	320	370	460	550	645	735	830
	Sound (NC)	-	-	-	15	20	24	31	36	41	45	49
	Throw (ft)	0°	7-10-22	9-14-25	12-17-27	14-22-30	16-23-32	19-25-35	23-27-39	25-31-43	27-33-46	29-35-49
Ac = 0.52 ft ² 24 x 4 18 x 5 16 x 6	Flow Rate (cfm)	155	210	260	310	365	415	520	625	730	830	935
	Sound (NC)	-	-	-	16	20	24	31	37	41	45	49
	Throw (ft)	0°	7-11-23	10-15-26	13-19-29	15-22-32	18-25-35	20-26-37	24-30-41	27-33-45	29-35-49	31-38-52
Ac = 0.60 ft ² 28 x 4 20 x 5 18 x 6 12 x 8 10 x 10	Flow Rate (cfm)	180	240	300	360	420	480	600	720	840	960	1080
	Sound (NC)	-	-	-	16	21	25	32	37	42	46	50
	Throw (ft)	0°	7-12-24	11-16-28	14-20-31	16-24-34	19-27-37	22-29-40	26-32-45	29-35-48	31-38-52	33-40-56
Ac = 0.69 ft ² 30 x 4 24 x 5 20 x 6 14 x 8 12 x 10	Flow Rate (cfm)	205	275	345	415	485	550	690	830	965	1100	1240
	Sound (NC)	-	-	-	17	22	26	32	38	43	47	50
	Throw (ft)	0°	8-13-26	12-17-30	15-22-34	18-26-37	21-29-40	24-31-43	28-34-47	30-38-52	33-40-56	35-43-60
Ac = 0.81 ft ² 36 x 4 28 x 5 22 x 6 16 x 8 14 x 10	Flow Rate (cfm)	245	325	405	485	565	650	810	970	1130	1300	1460
	Sound (NC)	-	-	-	18	22	26	33	39	43	47	51
	Throw (ft)	0°	8-14-28	13-19-33	16-23-37	19-28-40	23-31-43	26-33-46	30-37-51	33-41-56	36-44-60	38-46-64
Ac = 0.90 ft ² 40 x 4 30 x 5 26 x 6 18 x 8 16 x 10 12 x 12	Flow Rate (cfm)	270	360	450	540	630	720	900	1080	1260	1440	1620
	Sound (NC)	-	-	-	18	23	27	34	39	44	48	51
	Throw (ft)	0°	9-15-30	14-20-34	17-25-39	21-30-42	24-33-45	27-35-48	32-39-55	35-43-59	37-46-63	40-49-68
Ac = 1.07 ft ² 48 x 4 36 x 5 30 x 6 22 x 8 18 x 10 14 x 12	Flow Rate (cfm)	320	430	535	640	750	855	1070	1280	1500	1710	1930
	Sound (NC)	-	-	-	19	24	28	34	40	45	49	52
	Throw (ft)	0°	10-16-32	15-22-38	18-28-42	22-33-46	26-36-49	29-38-53	35-43-59	38-48-64	41-50-69	43-53-74

Performance Notes:

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- Air flow is in cfm.
- All pressures are in in. w.g.
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- Throw data is based on supply air and room air being at isothermal conditions.
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts @ 0° deflection and one diffuser.
- Blanks "-" indicate an NC level below 15.
- Deflection 0°-22.5°-45°**
The listed deflection settings refer to horizontal deflection. For a 20° upward deflection, use the room throw rating for a 0° setting and the total pressure for a 22.5° horizontal setting. The performance tables are based on registers with core style 520 with an opposed blade damper. The performance of other core styles, with or without dampers, can be obtained by the application of correction factors to the tabulated performance data. See correction factor table at end of section.

PERFORMANCE DATA

510 / 610 / 710 / 520 / 620 / 720 - Supply

Size	NC 20				NC 30		NC 40		NC 50				
	Core Velocity (fpm)	300	400	500	600	700	800	1000	1200	1400	1600	1800	
	Velocity Pressure (in. w.g.)	0.006	0.010	0.016	0.022	0.030	0.040	0.062	0.090	0.122	0.159	0.202	
Ac = 1.18 ft ² 40 x 5 34 x 6 24 x 8 20 x 10 16 x 12	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 1.34 ft ² 46 x 5 38 x 6 28 x 8 22 x 10 18 x 12	Flow Rate (cfm)		353	470	590	710	825	945	1180	1420	1650	1890	2120
	Sound (NC)		-	-	-	19	24	28	35	40	45	49	53
	Throw (ft)	0°	10-17-34	15-23-40	19-28-44	23-35-48	27-38-52	31-40-56	36-45-62	40-48-67	43-52-73	45-56-78	48-59-83
Ac = 1.60 ft ² 44 x 6 43 x 8 26 x 10 22 x 12 18 x 14	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 1.80 ft ² 50 x 5 36 x 8 28 x 10 24 x 12 20 x 14	Flow Rate (cfm)		400	535	670	805	940	1070	1340	1610	1880	2140	2410
	Sound (NC)		-	-	-	20	24	28	35	41	45	50	53
	Throw (ft)	0°	11-18-36	16-24-42	20-30-47	24-37-51	28-40-56	32-43-59	39-47-65	42-52-72	45-56-78	48-60-83	51-63-89
Ac = 2.08 ft ² 58 x 6 42 x 8 32 x 10 28 x 12 24 x 14	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 2.45 ft ² 48 x 8 38 x 10 32 x 12 26 x 14 24 x 16	Flow Rate (cfm)		480	540	800	960	1120	1280	1600	1920	2240	2560	2880
	Sound (NC)		-	-	15	21	25	29	36	42	46	50	54
	Throw (ft)	0°	13-20-40	18-26-46	22-32-51	27-39-56	31-43-60	35-46-64	42-51-72	46-56-79	49-61-85	53-65-91	56-69-97
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 2.08 ft ² 58 x 6 42 x 8 32 x 10 28 x 12 24 x 14	Flow Rate (cfm)		540	720	900	1080	1260	1440	1800	2160	2520	2880	3240
	Sound (NC)		-	-	16	21	26	30	37	42	47	51	54
	Throw (ft)	0°	13-21-42	19-28-48	24-35-55	29-43-59	32-46-63	37-49-68	45-55-76	48-60-84	52-65-90	56-69-87	60-73-103
Ac = 2.45 ft ² 48 x 8 38 x 10 32 x 12 26 x 14 24 x 16	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Flow Rate (cfm)		625	830	1040	1250	1460	1660	2080	2500	2910	3330	3740
	Sound (NC)		-	-	16	22	26	30	37	43	47	51	55
	Throw (ft)	0°	14-23-45	20-30-52	26-38-58	30-44-63	35-49-68	40-53-73	48-59-82	52-64-90	56-69-97	60-75-104	64-79-110
Ac = 2.45 ft ² 48 x 8 38 x 10 32 x 12 26 x 14 24 x 16	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Flow Rate (cfm)		735	980	1220	1470	1720	1960	2450	2940	3430	3920	4410
	Sound (NC)		-	-	17	22	27	31	38	43	48	52	56
	Throw (ft)	0°	15-25-49	22-33-57	27-40-62	32-48-68	38-54-74	43-57-80	52-64-89	57-70-97	61-76-106	65-81-113	70-87-120
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Flow Rate (cfm)		835	1110	1390	1670	1950	2220	2780	3340	3890	4450	5000
	Sound (NC)		-	-	17	23	28	32	38	44	49	53	56
	Throw (ft)	0°	16-26-52	23-34-60	29-42-67	35-50-73	40-57-79	45-61-85	55-68-95	60-75-104	65-81-112	70-87-122	74-93-128
Ac = 2.78 ft ² 56 x 8 40 x 10 36 x 12 30 x 14 26 x 16	Total Pressure (in. w.g.)	0°	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475
		22.5°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574
		45°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85

Performance Notes:

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- Air flow is in cfm.
- All pressures are in in. w.g.
- Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
- Throw data is based on supply air and room air being at isothermal conditions.
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts @ 0° deflection and one diffuser.
- Blanks "-" indicate an NC level below 15.
- Deflection** 0°-22.5°-45°
The listed deflection settings refer to horizontal deflection. For a 20° upward deflection, use the room throw rating for a 0° setting and the total pressure for a 22.5° horizontal setting. The performance tables are based on registers with core style 520 with an opposed blade damper. The performance of other core styles, with or without dampers, can be obtained by the application of correction factors to the tabulated performance data. See correction factor table at end of section.

PERFORMANCE DATA

510 / 520 / 610 / 620 / 710 / 720 - Supply

Size	Core Velocity (fpm)	NC 20				NC 30		NC 40		NC 50			
		300	400	500	600	700	800	1000	1200	1400	1600	1800	
	Velocity Pressure (in. w.g.)	0.006	0.01	0.016	0.022	0.03	0.04	0.062	0.09	0.122	0.159	0.202	
	Total Pressure (in. w.g.)	0.014	0.024	0.036	0.052	0.071	0.094	0.146	0.212	0.287	0.374	0.475	
	0°	0.017	0.028	0.045	0.063	0.085	0.114	0.176	0.256	0.347	0.452	0.574	
	22.5°	0.025	0.042	0.067	0.093	0.126	0.168	0.261	0.379	0.514	0.669	0.85	
	45°												
Ac = 3.11 ft ²	Flow Rate (cfm)	935	1240	1560	1870	2180	2490	3110	3730	4350	4980	5600	
62 x 8	Sound (NC)	-	-	18	23	28	32	39	44	49	53	57	
48 x 10	0°	17-27-55	24-35-63	34-45-71	41-53-78	47-60-84	48-64-90	58-72-100	64-79-110	69-86-118	74-92-128	79-97-135	
40 x 12	22.5°	14-22-44	19-29-50	27-35-57	33-42-62	38-48-67	38-51-72	46-58-80	51-63-88	55-69-94	59-74-102	63-78-108	
26 x 18	45°	8-14-28	12-18-31	17-22-35	20-26-39	23-30-42	24-32-45	29-36-50	32-40-55	35-43-59	37-46-64	40-49-67	
34 x 14													
30 x 16													
Ac = 3.61 ft ²	Flow Rate (cfm)	1080	1440	1800	2170	2530	2890	3610	4330	5050	5780	6500	
72 x 8	Sound (NC)	-	-	19	24	29	33	40	45	50	54	57	
58 x 10	0°	18-29-59	26-38-68	32-47-76	38-56-84	44-65-90	51-69-97	63-78-108	69-88-118	75-93-128	80-99-137	86-105-146	
48 x 12	22.5°	14-23-47	21-30-54	26-38-61	30-45-67	35-52-72	41-55-78	50-62-86	55-69-94	60-74-102	64-79-110	69-84-117	
36 x 16	45°	9-14-29	13-19-34	16-23-38	19-28-42	22-32-45	25-35-48	31-39-54	35-43-59	38-46-64	40-50-69	43-52-73	
30 x 18													
Ac = 4.29 ft ²	Flow Rate (cfm)	1290	1720	2140	2570	3000	3430	4290	5150	6010	6860	7720	
68 x 10	Sound (NC)	-	-	19	24	29	33	40	45	50	54	58	
56 x 12	0°	19-31-64	28-41-74	35-50-83	42-60-91	49-71-98	56-76-106	69-85-118	76-93-130	82-102-140	88-108-149	92-115-158	
48 x 14	22.5°	15-25-51	22-33-59	28-40-66	34-48-73	39-57-78	45-81-85	55-68-94	61-74-104	66-82-112	70-86-119	74-92-126	
42 x 16	45°	10-15-32	14-20-37	17-25-42	21-30-46	24-35-49	28-38-53	34-43-59	38-47-65	41-51-70	44-54-75	46-57-79	
36 x 18													
Ac = 4.65 ft ²	Flow Rate (cfm)	1400	1880	2320	2790	3260	3720	4650	5580	6510	7440	8370	
72 x 10	Sound (NC)	-	-	20	25	30	34	41	46	51	55	59	
60 x 12	0°	20-33-67	29-43-78	36-54-87	44-65-95	51-74-103	58-79-110	77-89-123	79-97-135	86-105-146	91-113-156	96-120-164	
52 x 14	22.5°	16-26-54	23-34-62	29-43-70	35-52-76	41-59-82	46-63-88	58-71-98	63-78-108	69-84-117	73-90-125	77-96-131	
44 x 16	45°	10-16-33	15-22-39	18-27-43	22-32-48	25-37-52	29-40-55	36-44-61	39-49-67	43-52-73	46-56-78	48-60-82	
40 x 18													
Ac = 5.58 ft ²	Flow Rate (cfm)	1670	2230	2790	3350	3910	4460	5580	6700	7810	8930	10,000	
72 x 12	Sound (NC)	-	-	20	26	31	35	41	47	52	56	59	
60 x 14	0°	22-36-73	31-47-85	40-59-95	47-72-104	55-81-113	63-87-122	79-97-135	87-107-148	93-116-160	100-125-171	106-132-180	
54 x 16	22.5°	18-29-58	25-38-68	32-47-76	38-58-83	44-65-90	50-70-98	63-78-108	70-86-118	74-93-130	80-100-137	85-105-140	
48 x 18	45°	11-18-37	16-23-43	20-30-48	23-36-52	28-41-57	31-44-61	39-49-67	43-53-74	47-53-80	50-62-86	53-66-90	
42 x 20													
Ac = 6.25 ft ²	Flow Rate (cfm)	1880	2500	3120	3750	4380	5000	6250	7500	8750	10,000	11,200	
72 x 14	Sound (NC)	-	-	21	27	31	35	42	48	52	56	60	
60 x 16	0°	23-37-78	33-49-90	42-62-100	50-75-103	58-86-119	67-93-128	84-104-143	92-113-156	96-123-169	106-132-180	112-140-192	
54 x 18	22.5°	18-30-62	26-39-72	34-50-80	40-60-82	46-69-95	54-74-102	67-83-114	74-90-125	78-98-135	85-105-140	90-112-153	
48 x 20	45°	12-19-39	17-25-45	21-31-50	25-37-51	29-43-60	34-46-64	42-52-72	46-57-78	49-61-85	53-66-90	56-70-96	
40 x 24													

Performance Notes:

- Tested in accordance with ASHRAE Standard 70-2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Air flow is in cfm.
- All pressures are in in. w.g.
- Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
- Throw data is based on supply air and room air being at isothermal conditions.

- NC values are based on room absorption of 10 dB re 10⁻¹² Watts @ 0° deflection and one diffuser.
- Blanks "-" indicate an NC level below 15.
- Deflection** 0°-22.5°-45° The listed deflection settings refer to horizontal deflection. For a 20° upward deflection, use the room throw rating for a 0° setting and the total pressure for a 22.5° horizontal setting. The performance tables are based on registers with core style 520 with an opposed blade damper. The performance of other core styles, with or without dampers, can be obtained by the application of correction factors to the tabulated performance data.

Corrections for 500/600/700 Series Core Styles

Core Style	Opposed		Total Pressure	NC
	Blade Damper	Defl'n		
520/620/720	Yes	0°	1	0
		22.5°	1	2
		45°	1	6
510/60/720	Yes	0°	1	-4
		22.5°	1	-1
		45°	1	4
520/620/720	No	0°	0.85	-7
		22.5°	0.92	-3
		45°	0.93	3
510/610/710	No	0°	0.77	-10
		22.5°	0.8	-6
		45°	0.82	1

PERFORMANCE DATA

510Z / 610Z / 710Z

Return with 0° Deflection and 3/4 in. Blade Spacing

Core Area (sq. ft.)	Nominal Size		Core Velocity (fpm)	300	400	500	600	700	800	1000	1100
			Velocity Pressure (in. w.g.)	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.075
			Neg. Static Pressure (in. w.g.)	0.012	0.022	0.035	0.050	0.068	0.089	0.138	0.167
0.15	7 x 4 6 x 5		Flow Rate (cfm)	45	60	75	90	105	120	150	165
			Sound (NC)	-	-	-	17	22	27	35	38
0.18	8 x 4 6 x 6 7 x 5		Flow Rate (cfm)	55	70	90	110	125	145	180	215
			Sound (NC)	-	-	-	18	23	28	36	39
0.22	10 x 4 7 x 6 8 x 5		Flow Rate (cfm)	65	90	110	130	155	175	220	265
			Sound (NC)	-	-	-	18	24	29	36	40
0.26	12 x 4 8 x 6 10 x 5		Flow Rate (cfm)	80	105	130	155	180	210	260	310
			Sound (NC)	-	-	-	19	25	29	37	40
0.30	14 x 4		Flow Rate (cfm)	90	120	150	180	210	240	300	330
			Sound (NC)	-	-	-	20	25	30	38	41
0.34	16 x 4 10 x 6 12 x 5		Flow Rate (cfm)	100	135	170	205	240	270	340	410
			Sound (NC)	-	-	-	20	26	30	38	41
0.39	18 x 4 12 x 6 14 x 5 8 x 8		Flow Rate (cfm)	115	155	195	235	275	310	390	470
			Sound (NC)	-	-	-	21	26	31	39	42
0.46	20 x 4 14 x 6 16 x 5 10 x 8		Flow Rate (cfm)	138	184	230	276	322	368	460	506
			NC Sound (NC)	-	-	15	21	27	32	39	43
0.52	24 x 4 16 x 6 18 x 5		Flow Rate (cfm)	156	208	260	312	364	416	520	572
			Sound (NC)	-	-	16	22	27	32	40	43
0.60	28 x 4 18 x 6 10 x 10 20 x 5 12 x 8		Flow Rate (cfm)	180	240	300	360	420	480	600	660
			Sound (NC)	-	-	16	23	28	33	40	44
0.69	30 x 4 20 x 6 12 x 10 24 x 5 14 x 8		Flow Rate (cfm)	207	276	345	414	483	552	690	759
			Sound (NC)	-	-	17	23	29	33	41	44
0.81	36 x 4 22 x 6 14 x 10 28 x 5 16 x 8		Flow Rate (cfm)	243	324	405	486	567	648	810	891
			Sound (NC)	-	-	17	24	29	34	42	45
0.9	40 x 4 26 x 6 16 x 10 32 x 5 18 x 8 12 x 12		Flow Rate (cfm)	273	364	455	546	637	728	910	1001
			Sound (NC)	-	-	18	24	30	34	42	45
1.07	42 x 4 30 x 6 18 x 10 36 x 5 22 x 8 14 x 12		Flow Rate (cfm)	321	428	535	642	749	856	1070	1177
			Sound (NC)	-	-	19	25	30	35	43	46
1.18	34 x 6 20 x 10 14 x 14 24 x 8 16 x 12		Flow Rate (cfm)	354	472	590	708	826	944	1180	1298
			Sound (NC)	-	-	19	25	31	35	43	47
1.34	38 x 6 22 x 10 16 x 14 28 x 8 18 x 12		Flow Rate (cfm)	402	536	670	804	938	1072	1340	1474
			Sound (NC)	-	-	19	26	31	36	44	47
1.60	44 x 6 26 x 10 18 x 14 32 x 8 22 x 12 16 x 16		Flow Rate (cfm)	480	640	800	960	1120	1280	1600	1760
			Sound (NC)	-	-	20	27	32	37	44	48
1.80	50 x 6 30 x 10 20 x 14 36 x 8 24 x 12 18 x 16		Flow Rate (cfm)	540	720	900	1080	1260	1440	1800	1980
			Sound (NC)	-	-	21	27	32	37	45	48
2.08	58 x 6 34 x 10 24 x 14 42 x 8 28 x 12 20 x 16		Flow Rate (cfm)	624	832	1040	1248	1456	1664	2080	2288
			Sound (NC)	-	-	21	28	33	38	45	49
2.45	50 x 8 32 x 12 24 x 16 38 x 10 28 x 14 20 x 18		Flow Rate (cfm)	735	980	1225	1470	1715	1960	2450	2695
			Sound (NC)	-	-	22	28	34	38	46	49
2.78	56 x 8 36 x 12 26 x 16 44 x 10 30 x 14 24 x 18		Flow Rate (cfm)	834	1112	1390	1668	1946	2224	2780	3058
			Sound (NC)	-	15	22	29	34	39	47	50
3.11	48 x 10 34 x 14 26 x 18 40 x 12 30 x 16 24 x 20		Flow Rate (cfm)	933	1244	1555	1866	2177	2488	3110	3421
			Sound (NC)	-	15	23	29	35	39	47	50
3.61	56 x 10 40 x 14 30 x 18 48 x 12 34 x 16 28 x 20		Flow Rate (cfm)	1083	1444	1805	2166	2527	2888	3610	3971
			Sound (NC)	-	16	24	30	35	40	48	51
4.29	56 x 12 40 x 16 32 x 20 48 x 14 36 x 18 30 x 22		Flow Rate (cfm)	1287	1716	2145	2574	3003	3432	4290	4719
			Sound (NC)	-	16	24	31	36	41	48	52
4.65	60 x 12 44 x 16 36 x 20 50 x 14 40 x 18 32 x 22		Flow Rate (cfm)	1395	1860	2325	2790	3255	3720	4650	5115
			Sound (NC)	-	17	25	31	36	41	49	52
5.58	60 x 14 48 x 18 38 x 22 54 x 16 42 x 20 36 x 24		Flow Rate (cfm)	1674	2232	2790	3348	3906	4464	5580	6138
			Sound (NC)	-	17	25	32	37	42	50	53
6.25	72 x 14 52 x 18 40 x 24 60 x 16 48 x 20 32 x 30		Flow Rate (cfm)	1875	2500	3125	3750	4375	5000	6250	6875
			Sound (NC)	-	18	26	32	37	42	50	53

Performance Notes:

- Tested in accordance with ASHRAE Standard 70-2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Air flow is in cfm.
- All pressures are in in. w.g.
s.p. = Static Pressure
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts and one grille.
- Performance data is for a grille complete with opposed blade damper in the full open position.
- Blanks "-" indicate an NC level below 15.
- Correction factors to be applied to table for no damper: loss - multiply by 0.82, NC - subtract 12.

PERFORMANCE DATA

530 / 530FF / 630 / 630FF / 730 / 730FF / 730H

Return with 45° Deflection 3/4 in. Blade Spacing

Core Area (sq. ft.)	Nominal Size	Core Velocity (fpm) Velocity Pressure (in. w.g.) Neg. Static Pressure (in. w.g.)	NC 20					NC 30				
			200	300	400	500	600	700	800	900	1000	1100
			0.002	0.006	0.01	0.016	0.022	0.031	0.040	0.050	0.062	0.075
			0.011	0.025	0.044	0.069	0.100	0.136	0.177	0.224	0.277	0.335
0.15	7 x 4 6 x 5	Flow Rate (cfm)	30	45	60	75	90	105	120	135	150	165
		Sound (NC)	-	-	-	19	24	28	32	35	38	40
0.18	8 x 4 6 x 6 7 x 5	Flow Rate (cfm)	36	54	72	90	108	126	144	162	180	198
		Sound (NC)	-	-	-	19	24	28	32	35	38	41
0.22	10 x 4 7 x 6 8 x 5	Flow Rate (cfm)	44	66	88	110	132	154	176	198	220	242
		Sound (NC)	-	-	-	20	25	29	33	36	39	41
0.26	12 x 4 8 x 6 10 x 5	Flow Rate (cfm)	52	78	104	130	156	182	208	234	260	286
		Sound (NC)	-	-	-	20	25	29	33	36	39	42
0.30	14 x 4	Flow Rate (cfm)	60	90	120	150	180	210	240	270	300	330
		Sound (NC)	-	-	15	21	26	30	33	37	40	42
0.34	16 x 4 10 x 6 12 x 5	Flow Rate (cfm)	68	102	136	170	204	238	272	306	340	374
		Sound (NC)	-	-	15	21	26	30	34	37	40	43
0.39	18 x 4 12 x 6 14 x 5 8 x 8	Flow Rate (cfm)	78	117	156	195	234	273	312	351	390	429
		Sound (NC)	-	-	15	21	26	31	34	37	40	43
0.46	20 x 4 14 x 6 16 x 5 10 x 8	Flow Rate (cfm)	92	138	184	230	276	322	368	414	460	506
		Sound (NC)	-	-	16	22	27	31	35	38	41	43
0.52	24 x 4 16 x 6 18 x 5	Flow Rate (cfm)	104	156	208	260	312	364	416	468	520	572
		Sound (NC)	-	-	16	22	27	31	35	38	41	44
0.60	28 x 4 18 x 6 10 x 10 20 x 5 12 x 8	Flow Rate (cfm)	120	180	240	300	360	420	480	540	600	660
		Sound (NC)	-	-	16	23	28	32	35	39	42	44
0.69	30 x 4 20 x 6 12 x 10 24 x 5 14 x 8	Flow Rate (cfm)	138	207	276	345	414	483	552	621	690	759
		Sound (NC)	-	-	17	23	28	32	36	39	42	45
0.81	36 x 4 22 x 6 14 x 10 28 x 5 16 x 8	Flow Rate (cfm)	162	243	324	405	486	567	648	729	810	891
		Sound (NC)	-	-	17	23	28	33	36	40	42	45
0.90	40 x 4 26 x 6 16 x 10 32 x 5 18 x 8 12 x 12	Flow Rate (cfm)	182	273	364	455	546	637	728	819	910	1001
		Sound (NC)	-	-	18	24	29	33	37	40	43	45
1.07	42 x 4 30 x 6 18 x 10 36 x 5 22 x 8 14 x 12	Flow Rate (cfm)	214	321	428	535	642	749	856	963	1070	1177
		Sound (NC)	-	-	18	24	29	33	37	40	43	46
1.18	34 x 6 20 x 10 14 x 14 24 x 8 16 x 12	Flow Rate (cfm)	236	354	472	590	708	826	944	1062	1180	1298
		Sound (NC)	-	-	18	25	29	34	37	41	43	46
1.34	38 x 6 22 x 10 16 x 14 28 x 8 18 x 12	Flow Rate (cfm)	268	402	536	670	804	938	1072	1206	1340	1474
		Sound (NC)	-	-	19	25	30	34	38	41	44	46
1.60	44 x 6 26 x 10 18 x 14 32 x 8 22 x 12 16 x 16	Flow Rate (cfm)	320	480	640	800	960	1120	1280	1440	1600	1760
		Sound (NC)	-	-	19	25	30	35	38	41	44	47
1.80	50 x 6 30 x 10 20 x 14 36 x 8 24 x 12 18 x 16	Flow Rate (cfm)	360	540	720	900	1080	1260	1440	1620	1800	1980
		Sound (NC)	-	-	20	26	31	35	39	42	45	47
2.08	58 x 6 34 x 10 24 x 14 42 x 8 28 x 12 20 x 16	Flow Rate (cfm)	416	624	832	1040	1248	1456	1664	1872	2080	2288
		Sound (NC)	-	-	20	26	31	35	39	42	45	48
2.45	50 x 8 32 x 12 24 x 16 38 x 10 28 x 14 20 x 18	Flow Rate (cfm)	490	735	980	1225	1470	1715	1960	2205	2450	2695
		Sound (NC)	-	-	20	27	32	36	39	43	46	48
2.78	56 x 8 36 x 12 26 x 16 44 x 10 30 x 14 24 x 18	Flow Rate (cfm)	556	834	1112	1390	1668	1946	2224	2502	2780	3058
		Sound (NC)	-	-	21	27	32	36	40	43	46	48
3.11	48 x 10 34 x 14 26 x 18 40 x 12 30 x 16 24 x 20	Flow Rate (cfm)	622	933	1244	1555	1866	2177	2488	2799	3110	3421
		Sound (NC)	-	-	21	27	32	36	40	43	46	49
3.61	56 x 10 40 x 14 30 x 18 48 x 12 34 x 16 28 x 20	Flow Rate (cfm)	722	1083	1444	1805	2166	2527	2888	3249	3610	3971
		Sound (NC)	-	-	22	28	33	37	41	44	47	49
4.29	56 x 12 40 x 16 32 x 20 48 x 14 36 x 18 30 x 22	Flow Rate (cfm)	858	1287	1716	2145	2574	3003	3432	3861	4290	4719
		Sound (NC)	-	-	22	28	33	37	41	44	47	50
4.65	60 x 12 44 x 16 36 x 20 50 x 14 40 x 18 32 x 22	Flow Rate (cfm)	930	1395	1860	2325	2790	3255	3720	4185	4650	5115
		Sound (NC)	-	-	22	28	33	38	41	44	47	50
5.58	60 x 14 48 x 18 38 x 22 54 x 16 42 x 20 36 x 24	Flow Rate (cfm)	1116	1674	2232	2790	3348	3906	4464	5022	5580	6138
		Sound (NC)	-	15	23	29	34	38	42	45	48	50
6.25	72 x 14 52 x 18 40 x 24 60 x 16 48 x 20 32 x 30	Flow Rate (cfm)	1250	1875	2500	3125	3750	4375	5000	5625	6250	6875
		Sound (NC)	-	15	23	29	34	38	42	45	48	51

Performance Notes:

- Tested in accordance with ASHRAE Standard 70-2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Air flow is in cfm.
- All pressures are in in. w.g.
- Performance data is for grille complete with opposed blade damper in the full open position.
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts and one grille.
- Blanks "-" indicate an NC level below 15.
- Correction factors to be applied to table for no damper: pressure loss - multiply by 0.91, NC - subtract 5.
- Does not include pressure drop on FF models.
- Does not include effects of ceiling radiation damper (530-FR, 530 FF-FR)

PERFORMANCE DATA

535 / 535FF / 635 / 635FF / 735 / 735FF / 735H

Return with 45° Deflection and 1/2 in. Blade Spacing

Core Area (sq. ft.)	Nominal Size	Core Velocity (fpm) Velocity Pressure (in. w.g.) Neg. Static Pressure (in. w.g.)	NC 20					NC 30				NC 40		
			200	300	400	500	600	700	800	900	1000	1100		
			0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.075		
0.15	7 x 4 6 x 5	Flow Rate (cfm)	30	45	60	75	90	105	120	135	150	165		
		Sound (NC)	-	-	-	19	24	28	32	36	39	41		
0.18	8 x 4 7 x 5	Flow Rate (cfm)	36	54	72	90	108	126	144	162	180	198		
		Sound (NC)	-	-	-	19	25	29	33	36	39	42		
0.22	10 x 4 8 x 5	Flow Rate (cfm)	44	66	88	110	132	154	176	198	220	242		
		Sound (NC)	-	-	-	20	25	30	34	37	40	43		
0.26	12 x 4 10 x 5	Flow Rate (cfm)	52	78	104	130	156	182	208	234	260	286		
		Sound (NC)	-	-	-	21	26	31	34	38	41	43		
0.30	14 x 4	Flow Rate (cfm)	60	90	120	150	180	210	240	270	300	330		
		Sound (NC)	-	-	15	21	27	31	35	38	41	44		
0.34	16 x 4 12 x 5	Flow Rate (cfm)	68	102	136	170	204	238	272	306	340	374		
		Sound (NC)	-	-	16	22	27	32	35	39	42	45		
0.39	18 x 4 14 x 5	Flow Rate (cfm)	78	117	156	195	234	273	312	351	390	429		
		Sound (NC)	-	-	16	22	28	32	36	39	42	45		
0.46	20 x 4 16 x 5	Flow Rate (cfm)	92	138	184	230	276	322	368	414	460	506		
		Sound (NC)	-	-	17	23	28	33	37	40	43	46		
0.52	24 x 4 18 x 5	Flow Rate (cfm)	104	156	208	260	312	364	416	468	520	572		
		Sound (NC)	-	-	17	24	29	33	37	40	43	46		
0.60	28 x 4 20 x 5	Flow Rate (cfm)	120	180	240	300	360	420	480	540	600	660		
		Sound (NC)	-	-	18	24	29	34	38	41	44	47		
0.69	30 x 4 24 x 5	Flow Rate (cfm)	138	207	276	345	414	483	552	621	690	759		
		Sound (NC)	-	-	18	25	30	34	38	42	45	47		
0.81	36 x 4 28 x 5	Flow Rate (cfm)	162	243	324	405	486	567	648	729	810	891		
		Sound (NC)	-	-	19	25	31	35	39	42	45	48		
0.90	40 x 4 30 x 5	Flow Rate (cfm)	182	273	364	455	546	637	728	819	910	1001		
		Sound (NC)	-	-	19	26	31	35	39	43	46	48		
1.07	42 x 4 36 x 5	Flow Rate (cfm)	214	321	428	535	642	749	856	963	1070	1177		
		Sound (NC)	-	-	20	26	32	36	40	43	46	49		
1.18	34 x 6 24 x 8	Flow Rate (cfm)	236	354	472	590	708	826	944	1062	1180	1298		
		Sound (NC)	-	-	20	27	32	36	40	44	47	49		
1.34	38 x 6 28 x 8	Flow Rate (cfm)	268	402	536	670	804	938	1072	1206	1340	1474		
		Sound (NC)	-	-	21	27	33	37	41	44	47	50		
1.60	44 x 6 32 x 8	Flow Rate (cfm)	320	480	640	800	960	1120	1280	1440	1600	1760		
		Sound (NC)	-	-	22	28	33	38	41	45	48	51		
1.80	50 x 6 36 x 8	Flow Rate (cfm)	360	540	720	900	1080	1260	1440	1620	1800	1980		
		Sound (NC)	-	-	22	28	34	38	42	45	48	51		
2.08	58 x 6 42 x 8	Flow Rate (cfm)	416	624	832	1040	1248	1456	1664	1872	2080	2288		
		Sound (NC)	-	-	23	29	34	39	42	46	49	52		
2.45	50 x 8 38 x 10	Flow Rate (cfm)	490	735	980	1225	1470	1715	1960	2205	2450	2695		
		Sound (NC)	-	15	23	30	35	39	43	46	50	52		
2.78	56 x 8 44 x 10	Flow Rate (cfm)	556	834	1112	1390	1668	1946	2224	2502	2780	3058		
		Sound (NC)	-	15	24	30	35	40	44	47	50	53		
3.11	48 x 10 40 x 12	Flow Rate (cfm)	622	933	1244	1555	1866	2177	2488	2799	3110	3421		
		Sound (NC)	-	16	24	31	36	40	44	47	50	53		
3.61	56 x 10 48 x 12	Flow Rate (cfm)	722	1083	1444	1805	2166	2527	2888	3249	3610	3971		
		Sound (NC)	-	17	25	31	36	41	45	48	51	54		
4.29	56 x 12 48 x 14	Flow Rate (cfm)	858	1287	1716	2145	2574	3003	3432	3861	4290	4719		
		Sound (NC)	-	17	25	32	37	41	45	49	52	54		
4.65	60 x 12 50 x 14	Flow Rate (cfm)	930	1395	1860	2325	2790	3255	3720	4185	4650	5115		
		Sound (NC)	-	17	26	32	37	42	46	49	52	55		
5.58	60 x 14 54 x 16	Flow Rate (cfm)	1116	1674	2232	2790	3348	3906	4464	5022	5580	6138		
		Sound (NC)	-	18	26	33	38	42	46	50	53	55		
6.25	72 x 14 60 x 16	Flow Rate (cfm)	1250	1875	2500	3125	3750	4375	5000	5625	6250	6875		
		Sound (NC)	-	19	27	33	39	43	47	50	53	56		

Performance Notes:

- Tested in accordance with ASHRAE Standard 70-2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Air flow is in cfm.
- All pressures are in in. w.g.
- Performance data is for grille complete with opposed blade damper in the full open position.
- NC values are based on room absorption of 10 dB re 10⁻¹² Watts and one grille.
- Blanks "-" indicate an NC level below 15.
- Correction factors to be applied to table for no damper: pressure loss - multiply by 0.81, NC - subtract 2.
- Does not include pressure drop on FF models.
- Does not include effects of ceiling radiation damper (535-FR, 535FF-FR)