KEYSTONE
Clean Air Solutions

Blade

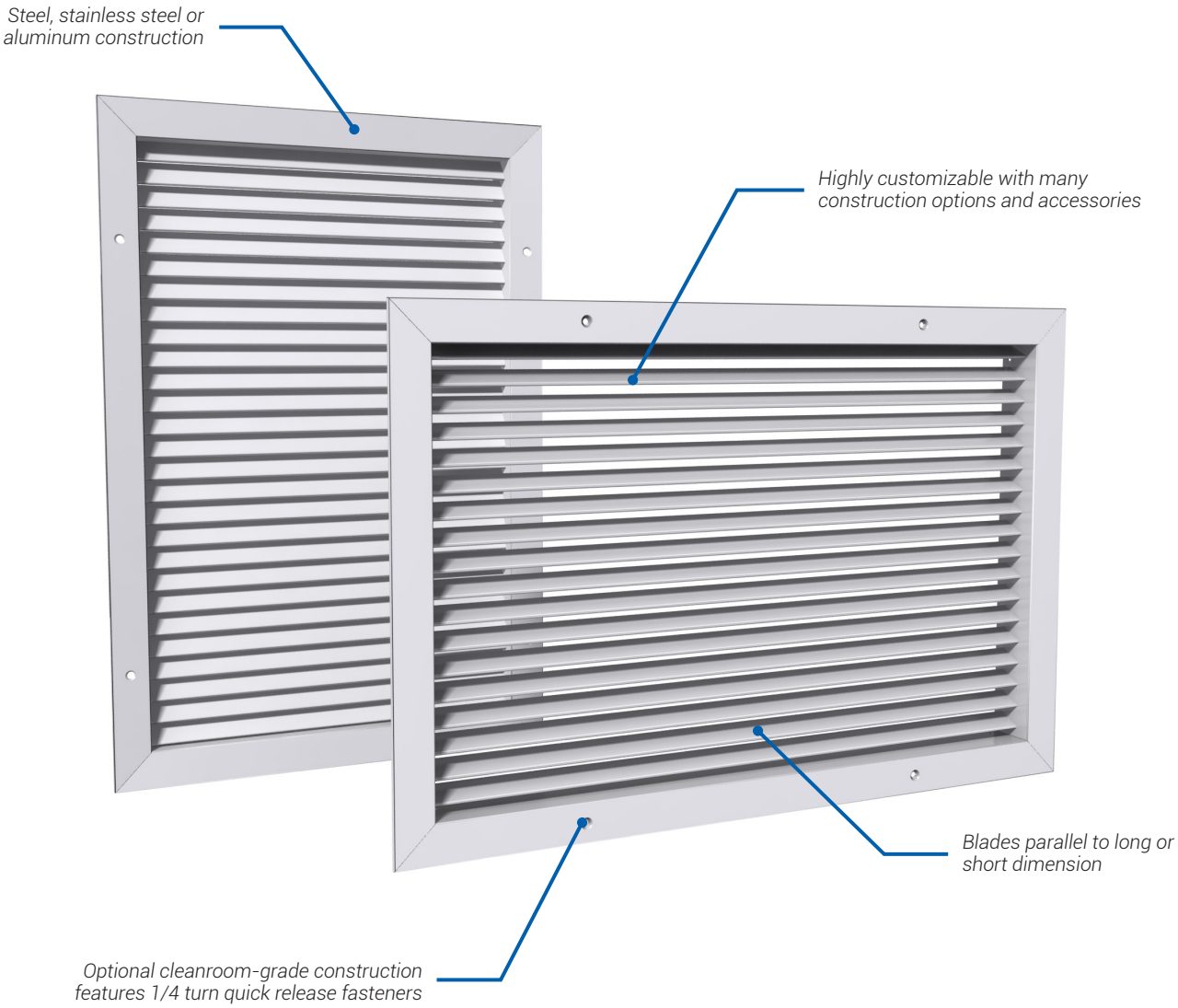
Louvered Grilles

CATALOG

v001 – Issue Date: 06/17/22

Blade Louvered Grilles

Blade Series louvered grilles use adjustable (supply) or fixed (return) blades to control airflow and provide a supply or return unit with minimal see-through.



Quality Construction

- Blade Series louvered grilles feature precise and high quality roll-formed construction.
- Both supply and return grilles feature steel border construction with reinforced, precision mitered corners.

Multiple Configurations

- Available with a variety of construction options, Blade Series louvered grilles can be customized to suit each application. Options include:
  - Blade spacing (return only)
  - Deflection
  - Blade orientation
  - Mounting type
  - Frame style
  - Fastening method
  - Finish

TYPICAL APPLICATIONS

Most commonly used in sidewall applications, Blade Series louvered grilles are available with both supply and return construction options. With a variety of different frame styles, the louvered grilles can easily be integrated into most ceiling and surface mount applications.

CONSTRUCTION

- Material
  - Stainless steel
  - Steel
  - Aluminum
- Models
  - Supply
  - Return
- Blade spacing
  - 1/2 in.
  - 3/4 in.
- Blade Deflection
  - 0°
  - 45°
- Size
  - Minimum: 6 in. x 4 in.
  - Maximum (single piece): 48 in. x 48 in.
  - Oversized construction available with mullions and/or duct channels
- Options
  - Fire rated
  - Filter frame
  - Filter frame, fire rated
  - Insect screen
  - Light shield
  - Square to round adaptor
  - Return air silencer

Supply Application

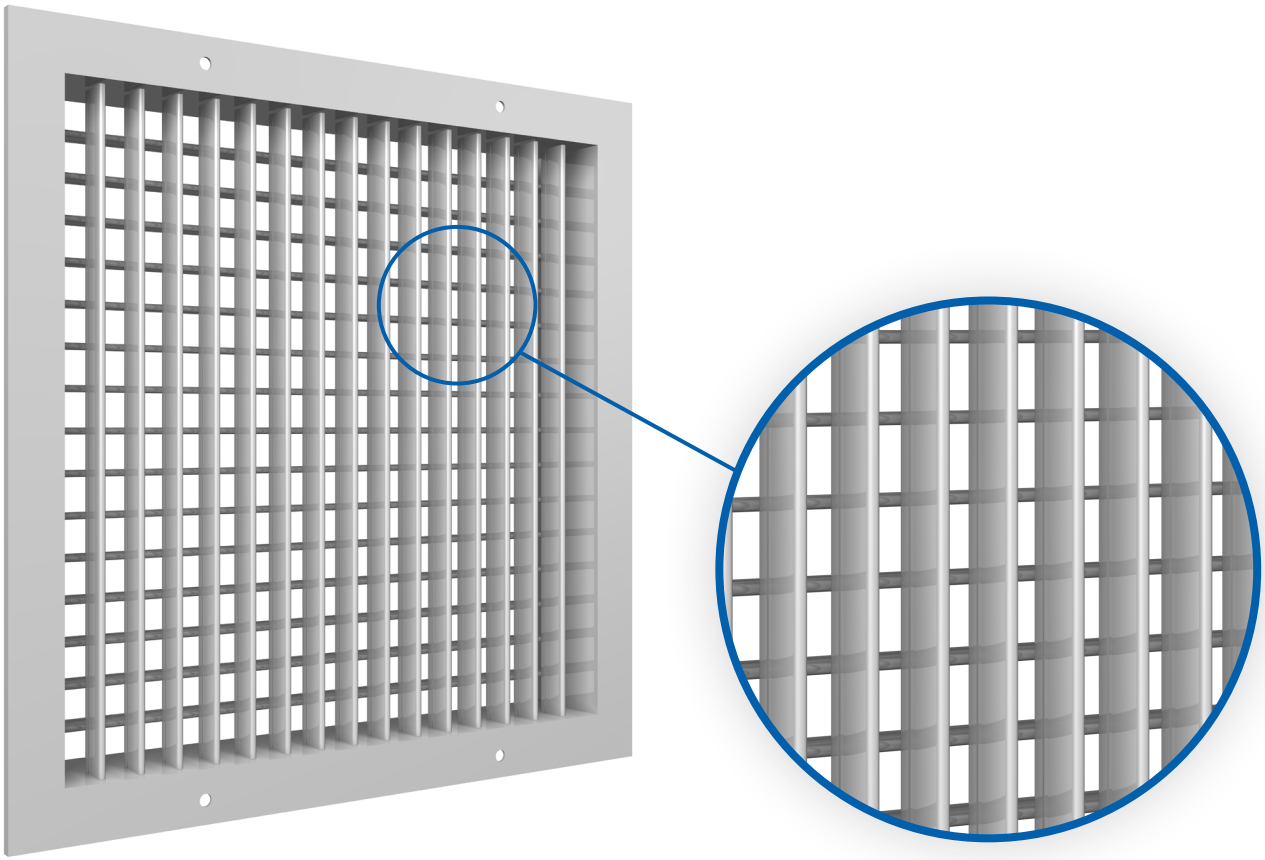
- Blade Series louvered grilles feature individually adjustable, roll-formed blades and are available as either single or double deflection, with an optional damper. Blade orientation options allow Blade Series grilles to be used in a range of applications.
- Horizontally mounted blades can be used to control the rise or drop of the airstream, typically used to minimize downdrafts or to blow warm air down in a high sidewall application.
- Vertically mounted blades control the spread of the air pattern, and are used primarily in applications where throw, rather than drop, is the prime concern.

Single Deflection

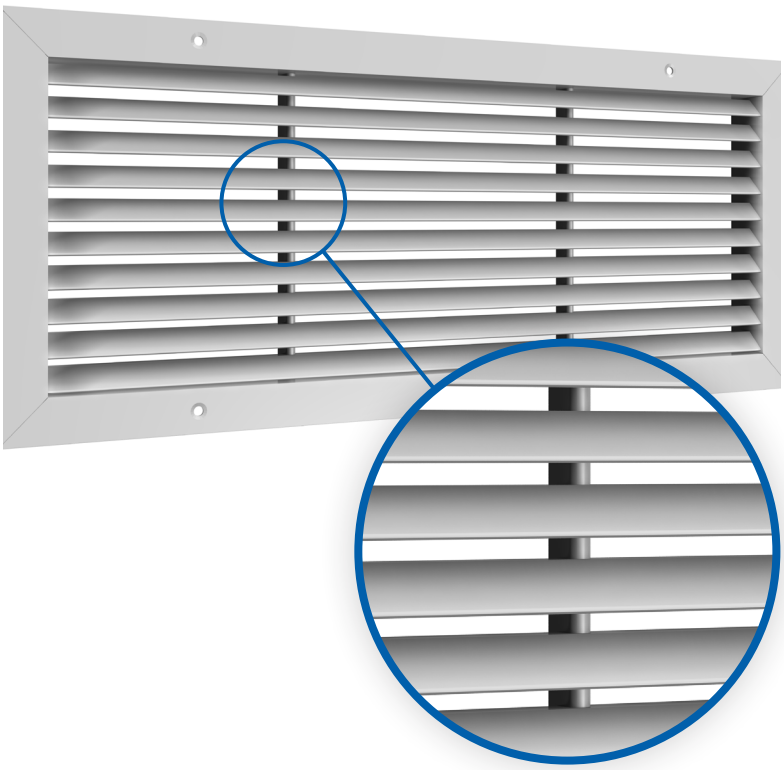
- Single deflection grilles are an economical option that contain a single set of adjustable blades to control the air pattern in one direction.

Double Deflection

- Double deflection grilles offer the most flexibility, with two sets of adjustable blades oriented perpendicular to each other, allowing for air pattern control in both the horizontal and vertical plane.



Adjustable double deflection supply grille



Fixed 45° deflection return grille

Return Application

The Blade Series return grilles match and complement the supply grilles. Return grilles are available with a 0° fixed blade deflection or a 45° fixed blade deflection for minimal see-through. Two fixed blade spacing options, 1/2 in. and 3/4 in., are available to suit performance and architectural considerations.

Cleanroom-Grade

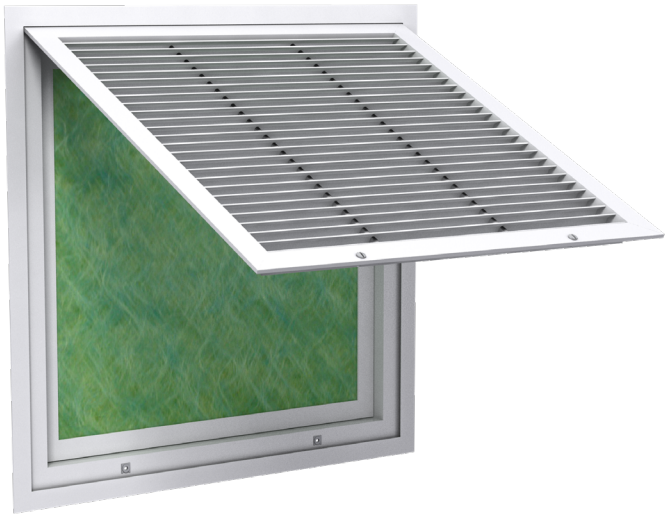
Well suited to cleanrooms, laboratories and other applications that require frequent cleaning with strong cleaning solutions, the cleanroom-grade option features a removable core with stainless steel quick-release fasteners for easy access and cleaning.

Blade Stainless Steel Grille with quick-release fasteners

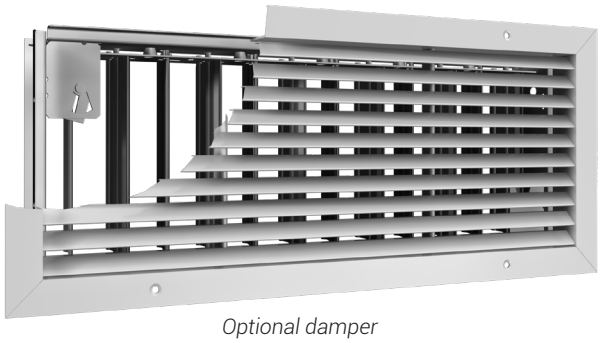
Filter Frame

The filter frame option accepts standard 1 in. and 2 in. filter media and is available in two styles that allow access to the filter for cleaning, including:

- A hinge-tab mechanism that allows hinging or complete removal of the grille
- ¼ turn quick release fasteners that allow complete removal of the grille



Optional filter frame



Optional damper

Optional return air silencer

Accessories

A complete line of accessories is available to customize Blade Series louvered grilles to meet specific project requirements:

- Return Air Silencers are designed to provide sound attenuation by reducing return air noise while still providing minimal pressure drop. The return air silencer is particularly useful for return air systems featuring ceiling or wall open-plenum returns.
- Insect screens prevent insects from entering the occupied space through the grille.
- Square-to-round adaptors allow for a wider range of connection options, permitting direct connection to round ducts.
- Opposed blade dampers are available in stainless steel construction and are supplied attached to the back of the grille for airflow adjustment.

Supply with 3/4 in. Blade Spacing

Size														
									NC 20	NC 30			NC 40	
	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
	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	0.850
Ac = 0.15 ft² 7 x 4 6 x 5	Flow Rate (cfm)		45	60	75	90	105	120	150	180	210	240	270
	Sound (NC)		-	-	-	-	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
		45°	2-3-6	3-4-7	3-5-8	4-6-9	5-7-9	5-7-10	6-8-11	7-9-12	8-9-13	8-10-14	9-11-15
Ac = 0.18 ft² 8 x 4 7 x 5 6 x 6	Flow Rate (cfm)		55	70	90	110	125	145	180	215	250	290	325
	Sound (NC)		-	-	-	-	16	20	27	32	37	41	45
	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	11-14-19	12-15-21	14-17-23	14-18-25	15-19-26
		45°	2-3-7	3-4-8	4-5-9	4-7-10	5-7-10	6-8-11	7-9-12	8-10-13	8-10-14	9-11-15	10-12-16
Ac = 0.22 ft² 10 x 4 8 x 5 7 x 6	Flow Rate (cfm)		65	90	110	130	155	175	220	265	310	350	395
	Sound (NC)		-	-	-	-	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
		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
Ac = 0.26 ft² 12 x 4 10 x 5 8 x 6	Flow Rate (cfm)		80	105	130	155	180	210	260	310	365	415	470
	Sound (NC)		-	-	-	-	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
		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
Ac = 0.30 ft² 14 x 4	Flow Rate (cfm)		90	120	150	180	210	240	300	360	420	480	540
	Sound (NC)		-	-	-	-	18	22	29	34	39	43	47
	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 = 0.34 ft² 16 x 4 12 x 5 10 x 6	Flow Rate (cfm)		100	135	170	205	240	270	340	410	475	545	610
	Sound (NC)		-	-	-	-	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
		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
Ac = 0.39 ft² 18 x 4 14 x 5 12 x 6 8 x 8	Flow Rate (cfm)		115	155	195	235	275	310	390	470	545	625	700
	Sound (NC)		-	-	-	-	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
		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
									NC 20	NC 30		NC 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. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on room absorption of 10 dB re 10-12 Watts @ 0° deflectionand and one diffuser.
7. Blanks "-" indicate an NC level below 15.
8. **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.

Supply with 3/4 in. Blade Spacing

Size	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
	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 ft² 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	31-38-52
		22.5°	6-8-18	7-11-20	10-14-22	11-18-24	13-18-26	15-20-28	18-22-31	20-25-34	22-26-37	23-28-39	25-30-42
		45°	3-5-11	5-7-12	6-9-14	7-11-15	8-11-16	10-13-17	11-14-20	12-15-21	14-17-23	14-18-24	15-19 -26
Ac = 0.52 ft² 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	32-40-55
		22.5°	6-9-18	8-12-21	10-15-23	12-18-26	14-20-28	16-21-30	19-24-33	22-26-36	22-28-39	25-30-42	26-32-44
		45°	3-5-11	5-7-13	6-9-15	8-11-16	9-12-17	10-13-18	12-15-21	13-16-23	14-18-24	15-19-26	16-20-28
Ac = 0.60 ft² 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	35-43-59
		22.5°	6-10-19	9-13-22	11-16-25	13-19-27	15-22-30	18-23-32	21-26-36	23-28-38	25-30-42	26-32-45	28-34-47
		45°	4-6-12	5-8-14	7-10-16	8-12-17	10-13-19	11-14-20	13-16-22	14-17-24	15-19-26	16-20-28	17-21-29
Ac = 0.69 ft² 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	37-45-63
		22.5°	6-10-21	10-14-24	12-18-27	14-21-30	17-23-32	19-25-34	22-27-38	24-30-42	26-32-45	28-34-48	30-36-50
		45°	4-6-13	6-9-15	7-11-17	9-13-18	10-14-20	12-15-21	14-17-24	15-19-26	16-20-28	18-22-30	19-23-31
Ac = 0.81 ft² 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	40-49-68
		22.5°	6-11-22	10-15-26	13-18-30	15-22-32	18-25-34	21-26-37	24-30-41	26-33-45	29-35-48	30-37-51	32-39-54
		45°	4-7-14	6-9-16	8-12-18	10-14-20	11-15-22	13-17-23	15-19-26	17-20-28	18-22-30	19-23-32	20-25-34
Ac = 0.90 ft² 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	42-52-72
		22.5°	7-12-24	11-16-27	14-20-31	17-24-34	19-26-36	22-28-38	26-31-44	28-34-47	30-37-50	32-39-54	34-42-58
		45°	5-8-15	7-10-17	9-13-19	10-15-21	12-16-23	14-17-24	16-20-27	17-21-29	19-23-32	20-24-34	21-26-36
Ac = 1.07 ft² 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	46-57-79
		22.5°	8-13-26	12-18-30	14-22-34	18-26-37	21-29-39	23-30-42	28-34-47	30-37-51	33-40-55	34-42-59	37-46-63
		45°	5-8-16	7-11-19	9-14-21	11-17-23	13-18-25	14-19-26	17-21-29	19-23-32	20-25-35	22-27-37	23-28-40

NC 20 NC 30 NC 40 NC 50

Performance Notes:

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4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on room absorption of 10 dB re 10^{-12} Watts @ 0° deflection and and one diffuser.
7. Blanks "-" indicate an NC level below 15.
8. **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.

Supply with 3/4 in. Blade Spacing

Size		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
		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 = 1.18 ft²		Flow Rate (cfm)		353	470	590	710	825	945	1180	1420	1650	1890	2120
40x5 34x6 24x8 20x10 16x12	14x14	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
			22.5°	8-14-27	12-18-32	15-22-35	18-28-38	22-30-42	25-32-45	29-35-50	32-38-54	34-42-58	36-45-62	38-47-66
			45°	5-8-17	8-11-20	10-14-22	12-17-24	13-19-26	15-20-28	18-22-31	20-24-34	21-26-36	23-28-39	24-30-41
Ac = 1.34 ft²		Flow Rate (cfm)		400	535	670	805	940	1070	1340	1610	1880	2140	2410
46x5 38x6 28x8 22x10 18x12	16x14	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
			22.5°	9-14-29	13-19-34	16-24-38	19-30-41	22-32-45	26-34-47	31-38-52	34-42-58	36-45-62	38-48-66	41-50-71
			45°	6-9-18	8-12-21	10-15-23	12-18-25	14-20-28	16-21-29	19-23-33	21-26-36	23-28-39	24-30-42	26-32-44
Ac = 1.60 ft²		Flow Rate (cfm)		480	540	800	960	1120	1280	1600	1920	2240	2560	2880
44x6 43x8 26x10 22x12 18x14	16x16	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
			22.5°	10-16-32	14-21-37	18-26-41	22-31-45	25-34-48	28-37-51	34-41-58	37-45-63	39-49-68	42-52-73	45-55-78
			45°	6-10-20	9-13-23	11-16-25	13-20-28	15-22-30	17-23-32	21-26-36	23-28-39	25-30-43	26-32-46	28-35-48
Ac = 1.80 ft²		Flow Rate (cfm)		540	720	900	1080	1260	1440	1800	2160	2520	2880	3240
50x5 36x8 28x10 24x12 20x14	18x16	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
			22.5°	10-17-34	15-22-38	19-28-44	23-34-47	26-37-50	30-39-54	36-44-61	38-48-67	42-52-72	45-55-78	48-58-82
			45°	7-11-21	9-14-24	12-17-27	14-21-29	16-23-32	19-24-34	22-27-38	24-30-42	26-32-45	28-35-48	30-37-51
Ac = 2.08 ft²		Flow Rate (cfm)		625	830	1040	1250	1460	1660	2080	2500	2910	3330	3740
58x6 42x8 32x10 28x12 24x14	20x16 18x18	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
			22.5°	11-18-36	16-24-42	21-30-46	24-35-50	28-39-54	32-42-58	38-47-66	42-51-72	45-55-78	48-60-83	51-63-88
			45°	7-11-23	10-15-26	13-19-29	15-22-32	17-25-34	20-26-37	24-29-41	26-32-45	28-35-48	30-37-52	32-40-55
Ac = 2.45 ft²		Flow Rate (cfm)		735	980	1220	1470	1720	1960	2450	2940	3430	3920	4410
48x8 38x10 32x12 26x14 24x16	20x18	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
			22.5°	12-20-39	18-26-46	22-32-50	26-38-54	30-43-59	34-46-64	42-51-71	46-56-78	49-61-85	52-65-90	56-70-96
			45°	7-12-24	11-16-28	14-20-31	16-24-34	19-27-37	22-28-40	26-32-45	28-35-49	32-38-53	33-42-56	35-43-60
Ac = 2.78 ft²		Flow Rate (cfm)		835	1110	1390	1670	1950	2220	2780	3340	3890	4450	5000
56x8 40x10 36x12 30x14 26x16	24x18 22x20	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
			22.5°	13-21-42	18-27-48	23-34-54	28-40-58	32-48-63	36-49-68	44-54-76	48-60-83	52-65-90	56-70-98	59-74-102
			45°	8-13-26	12-17-30	14-21-33	17-25-37	20-28-40	23-30-42	28-34-47	30-37-52	33-40-56	35-43-61	37-46-64
							NC 20		NC 30		NC 40		NC 50	

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on room absorption of 10 dB re 10^{-12} Watts @ 0° deflectionand and one diffuser.
7. Blanks "-" indicate an NC level below 15.
8. **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.

Supply with 3/4 in. Blade Spacing

Size			Core Velocity (fpm)	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°	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 = 3.11 ft²		Flow Rate (cfm)		935	1240	1560	1870	2180	2490	3110	3730	4350	4980	5600
		Sound (NC)		-	-	18	23	28	32	39	44	49	53	57
62 x 8 48 x 10 40 x 12 34 x 14 30 x 16	26 x 18 24 x 20	Throw (ft)	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
			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
			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
Ac = 3.61 ft²		Flow Rate (cfm)		1080	1440	1800	2170	2530	2890	3610	4330	5050	5780	6500
		Sound (NC)		-	-	19	24	29	33	40	45	50	54	57
72 x 8 58 x 10 48 x 12 36 x 16 30 x 18	28 x 20 24 x 24	Throw (ft)	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
			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
			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
Ac = 4.29 ft²		Flow Rate (cfm)		1290	1720	2140	2570	3000	3430	4290	5150	6010	6860	7720
		Sound (NC)		-	-	19	24	29	33	40	45	50	54	58
68 x 10 56 x 12 48 x 14 42 x 16 36 x 18	32 x 20 28 x 24	Throw (ft)	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
			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
			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
Ac = 4.65 ft²		Flow Rate (cfm)		1400	1880	2320	2790	3260	3720	4650	5580	6510	7440	8370
		Sound (NC)		-	-	20	25	30	34	41	46	51	55	59
72 x 10 60 x 12 52 x 14 44 x 16 40 x 18	36 x 20 30 x 24	Throw (ft)	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
			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
			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
Ac = 5.58 ft²		Flow Rate (cfm)		1670	2230	2790	3350	3910	4460	5580	6700	7810	8930	10,000
		Sound (NC)		-	-	20	26	31	35	41	47	52	56	59
72 x 12 60 x 14 54 x 16 48 x 18 42 x 20		Throw (ft)	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
			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
			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
Ac = 6.25 ft²		Flow Rate (cfm)		1880	2500	3120	3750	4380	5000	6250	7500	8750	10,000	11,200
		Sound (NC)		-	-	21	27	31	35	42	48	52	56	60
72 x 14 60 x 16 54 x 18 48 x 20 40 x 24	32 x 30	Throw (ft)	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
			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
			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

NC 20 NC 30 NC 40 NC 50 NC 60

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on room absorption of 10 dB re 10^{-12} Watts @ 0° deflection and and one diffuser.
7. Blanks "-" indicate an NC level below 15.
8. **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.
9. Corrections for 500/600/700 Series Core Styles

Opposed			Multiply	Add
Core Style	Blade Damper	Defl'n	Total Pressure	NC
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

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			Flow Rate (cfm)	45	60	75	90	105	120	150	165
	6 x 5			Sound (NC)	-	-	-	17	22	27	35	38
0.18	8 x 4	6 x 6		Flow Rate (cfm)	55	70	90	110	125	145	180	215
	7 x 5			Sound (NC)	-	-	-	18	23	28	36	39
0.22	10 x 4	7 x 6		Flow Rate (cfm)	65	90	110	130	155	175	220	265
	8 x 5			Sound (NC)	-	-	-	18	24	29	36	40
0.26	12 x 4	8 x 6		Flow Rate (cfm)	80	105	130	155	180	210	260	310
	10 x 5			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		Flow Rate (cfm)	100	135	170	205	240	270	340	410
	12 x 5			Sound (NC)	-	-	-	20	26	30	38	41
0.39	18 x 4	12 x 6		Flow Rate (cfm)	115	155	195	235	275	310	390	470
	14 x 5	8 x 8		Sound (NC)	-	-	-	21	26	31	39	42
0.46	20 x 4	14 x 6		Flow Rate (cfm)	138	184	230	276	322	368	460	506
	16 x 5	10 x 8		NC Sound (NC)	-	-	15	21	27	32	39	43
0.52	24 x 4	16 x 6		Flow Rate (cfm)	156	208	260	312	364	416	520	572
	18 x 5			Sound (NC)	-	-	16	22	27	32	40	43
0.60	28 x 4	18 x 6	10 x 10	Flow Rate (cfm)	180	240	300	360	420	480	600	660
	20 x 5	12 x 8		Sound (NC)	-	-	16	23	28	33	40	44
0.69	30 x 4	20 x 6	12 x 10	Flow Rate (cfm)	207	276	345	414	483	552	690	759
	24 x 5	14 x 8		Sound (NC)	-	-	17	23	29	33	41	44
0.81	36 x 4	22 x 6	14 x 10	Flow Rate (cfm)	243	324	405	486	567	648	810	891
	28 x 5	16 x 8		Sound (NC)	-	-	17	24	29	34	42	45
0.9	40 x 4	26 x 6	16 x 10	Flow Rate (cfm)	273	364	455	546	637	728	910	1001
	32 x 5	18 x 8	12 x 12	Sound (NC)	-	-	18	24	30	34	42	45
1.07	42 x 4	30 x 6	18 x 10	Flow Rate (cfm)	321	428	535	642	749	856	1070	1177
	36 x 5	22 x 8	14 x 12	Sound (NC)	-	-	19	25	30	35	43	46
1.18	34 x 6	20 x 10	14 x 14	Flow Rate (cfm)	354	472	590	708	826	944	1180	1298
	24 x 8	16 x 12		Sound (NC)	-	-	19	25	31	35	43	47
1.34	38 x 6	22 x 10	16 x14	Flow Rate (cfm)	402	536	670	804	938	1072	1340	1474
	28 x 8	18 x 12		Sound (NC)	-	-	19	26	31	36	44	47
1.60	44 x 6	26 x 10	18 x 14	Flow Rate (cfm)	480	640	800	960	1120	1280	1600	1760
	32 x 8	22 x 12	16 x 16	Sound (NC)	-	-	20	27	32	37	44	48
1.80	50 x 6	30 x 10	20 x 14	Flow Rate (cfm)	540	720	900	1080	1260	1440	1800	1980
	36 x 8	24 x 12	18 x 16	Sound (NC)	-	-	21	27	32	37	45	48
2.08	58 x 6	34 x 10	24 x 14	Flow Rate (cfm)	624	832	1040	1248	1456	1664	2080	2288
	42 x 8	28 x 12	20 x 16	Sound (NC)	-	-	21	28	33	38	45	49
2.45	50 x 8	32 x 12	24 x 16	Flow Rate (cfm)	735	980	1225	1470	1715	1960	2450	2695
	38 x 10	28 x 14	20 x 18	Sound (NC)	-	-	22	28	34	38	46	49
2.78	56 x 8	36 x 12	26 x 16	Flow Rate (cfm)	834	1112	1390	1668	1946	2224	2780	3058
	44 x 10	30 x 14	24 x 18	Sound (NC)	-	15	22	29	34	39	47	50
3.11	48 x 10	34 x 14	26 x 18	Flow Rate (cfm)	933	1244	1555	1866	2177	2488	3110	3421
	40 x 12	30 x 16	24 x 20	Sound (NC)	-	15	23	29	35	39	47	50
3.61	56 x 10	40 x 14	30 x 18	Flow Rate (cfm)	1083	1444	1805	2166	2527	2888	3610	3971
	48 x 12	34 x 16	28 x 20	Sound (NC)	-	16	24	30	35	40	48	51
4.29	56 x 12	40 x 16	32 x 20	Flow Rate (cfm)	1287	1716	2145	2574	3003	3432	4290	4719
	48 x 14	36 x 18	30 x 22	Sound (NC)	-	16	24	31	36	41	48	52
4.65	60 x 12	44 x 16	36 x 20	Flow Rate (cfm)	1395	1860	2325	2790	3255	3720	4650	5115
	50 x 14	40 x 18	32 x 22	Sound (NC)	-	17	25	31	36	41	49	52
5.58	60 x 14	48 x 18	38 x 22	Flow Rate (cfm)	1674	2232	2790	3348	3906	4464	5580	6138
	54 x 16	42 x 20	36 x 24	Sound (NC)	-	17	25	32	37	42	50	53
6.25	72 x 14	52 x 18	40 x 24	Flow Rate (cfm)	1875	2500	3125	3750	4375	5000	6250	6875
	60 x 16	48 x 20	32 x 30	Sound (NC)	-	18	26	32	37	42	50	53

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
   s.p. = Static Pressure
4. NC values are based on room absorption of 10 dB re 10^{-12} Watts and one grille.
5. Performance data is for a grille complete with opposed blade damper in the full open position.
6. Blanks "-" indicate an NC level below 15.
7. Correction factors to be applied to table for no damper: loss - multiply by 0.82, NC - subtract 12.

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

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

NC 20 NC 30 NC 40 NC 50

Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Performance data is for grille complete with opposed blade damper in the full open position.
5. NC values are based on room absorption of 10 dB re 10^{-12} Watts and one grille.
6. Blanks "-" indicate an NC level below 15.
7. Correction factors to be applied to table for no damper: pressure loss - multiply by 0.91, NC - subtract 5.
8. Does not include pressure drop on FF models.
9. Does not include effects of ceiling radiation damper (530-FR, 530 FF-FR)

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

Core Area (sq. ft.)	Nominal Size			Core Velocity (fpm)	200	300	400	500	600	700	800	900	1000	1100
				Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.075
				Neg. Static Pressure (in. w.g.)	0.015	0.035	0.062	0.097	0.139	0.190	0.248	0.314	0.387	0.468
0.15	7 x 4			Flow Rate (cfm)	30	45	60	75	90	105	120	135	150	165
	6 x 5			Sound (NC)	-	-	-	19	24	28	32	36	39	41
0.18	8 x 4	6 x 6		Flow Rate (cfm)	36	54	72	90	108	126	144	162	180	198
	7 x 5			Sound (NC)	-	-	-	19	25	29	33	36	39	42
0.22	10 x 4	7 x 6		Flow Rate (cfm)	44	66	88	110	132	154	176	198	220	242
	8 x 5			Sound (NC)	-	-	-	20	25	30	34	37	40	43
0.26	12 x 4	8 x 6		Flow Rate (cfm)	52	78	104	130	156	182	208	234	260	286
	10 x 5			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	10 x 6		Flow Rate (cfm)	68	102	136	170	204	238	272	306	340	374
	12 x 5			Sound (NC)	-	-	16	22	27	32	35	39	42	45
0.39	18 x 4	12 x 6		Flow Rate (cfm)	78	117	156	195	234	273	312	351	390	429
	14 x 5	8 x 8		Sound (NC)	-	-	16	22	28	32	36	39	42	45
0.46	20 x 4	14 x 6		Flow Rate (cfm)	92	138	184	230	276	322	368	414	460	506
	16 x 5	10 x 8		Sound (NC)	-	-	17	23	28	33	37	40	43	46
0.52	24 x 4	16 x 6		Flow Rate (cfm)	104	156	208	260	312	364	416	468	520	572
	18 x 5			Sound (NC)	-	-	17	24	29	33	37	40	43	46
0.60	28 x 4	18 x 6	10 x 10	Flow Rate (cfm)	120	180	240	300	360	420	480	540	600	660
	20 x 5	12 x 8		Sound (NC)	-	-	18	24	29	34	38	41	44	47
0.69	30 x 4	20 x 6	12 x 10	Flow Rate (cfm)	138	207	276	345	414	483	552	621	690	759
	24 x 5	14 x 8		Sound (NC)	-	-	18	25	30	34	38	42	45	47
0.81	36 x 4	22 x 6	14 x 10	Flow Rate (cfm)	162	243	324	405	486	567	648	729	810	891
	28 x 5	16 x 8		Sound (NC)	-	-	19	25	31	35	39	42	45	48
0.90	40 x 4	26 x 6	16 x 10	Flow Rate (cfm)	182	273	364	455	546	637	728	819	910	1001
	30 x 5	18 x 8	12 x 12	Sound (NC)	-	-	19	26	31	35	39	43	46	48
1.07	42 x 4	30 x 6	18 x 10	Flow Rate (cfm)	214	321	428	535	642	749	856	963	1070	1177
	36 x 5	22 x 8	14 x 12	Sound (NC)	-	-	20	26	32	36	40	43	46	49
1.18	34 x 6	20 x 10	14 x 14	Flow Rate (cfm)	236	354	472	590	708	826	944	1062	1180	1298
	24 x 8	16 x 12		Sound (NC)	-	-	20	27	32	36	40	44	47	49
1.34	38 x 6	22 x 10	16 x 14	Flow Rate (cfm)	268	402	536	670	804	938	1072	1206	1340	1474
	28 x 8	18 x 12		Sound (NC)	-	-	21	27	33	37	41	44	47	50
1.60	44 x 6	26 x 10	18 x 14	Flow Rate (cfm)	320	480	640	800	960	1120	1280	1440	1600	1760
	32 x 8	22 x 12	16 x 16	Sound (NC)	-	-	22	28	33	38	41	45	48	51
1.80	50 x 6	30 x 10	20 x 14	Flow Rate (cfm)	360	540	720	900	1080	1260	1440	1620	1800	1980
	36 x 8	24 x 12	18 x 16	Sound (NC)	-	-	22	28	34	38	42	45	48	51
2.08	58 x 6	34 x 10	24 x 14	Flow Rate (cfm)	416	624	832	1040	1248	1456	1664	1872	2080	2288
	42 x 8	28 x 12	20 x 16	Sound (NC)	-	-	23	29	34	39	42	46	49	52
2.45	50 x 8	32 x 12	24 x 16	Flow Rate (cfm)	490	735	980	1225	1470	1715	1960	2205	2450	2695
	38 x 10	28 x 14	20 x 18	Sound (NC)	-	15	23	30	35	39	43	46	50	52
2.78	56 x 8	36 x 12	26 x 16	Flow Rate (cfm)	556	834	1112	1390	1668	1946	2224	2502	2780	3058
	44 x 10	30 x 14	24 x 18	Sound (NC)	-	15	24	30	35	40	44	47	50	53
3.11	48 x 10	34 x 14	26 x 18	Flow Rate (cfm)	622	933	1244	1555	1866	2177	2488	2799	3110	3421
	40 x 12	30 x 16	24 x 20	Sound (NC)	-	16	24	31	36	40	44	47	50	53
3.61	56 x 10	40 x 14	30 x 18	Flow Rate (cfm)	722	1083	1444	1805	2166	2527	2888	3249	3610	3971
	48 x 12	34 x 16	28 x 20	Sound (NC)	-	17	25	31	36	41	45	48	51	54
4.29	56 x 12	40 x 16	32 x 20	Flow Rate (cfm)	858	1287	1716	2145	2574	3003	3432	3861	4290	4719
	48 x 14	36 x 18	30 x 22	Sound (NC)	-	17	25	32	37	41	45	49	52	54
4.65	60 x 12	44 x 16	36 x 20	Flow Rate (cfm)	930	1395	1860	2325	2790	3255	3720	4185	4650	5115
	50 x 14	40 x 18	32 x 22	Sound (NC)	-	17	26	32	37	42	46	49	52	55
5.58	60 x 14	48 x 18	38 x 22	Flow Rate (cfm)	1116	1674	2232	2790	3348	3906	4464	5022	5580	6138
	54 x 16	42 x 20	36 x 24	Sound (NC)	-	18	26	33	38	42	46	50	53	55
6.25	72 x 14	52 x 18	40 x 24	Flow Rate (cfm)	1250	1875	2500	3125	3750	4375	5000	5625	6250	6875
	60 x 16	48 x 20	32 x 30	Sound (NC)	-	19	27	33	39	43	47	50	53	56

NC 20 NC 30 NC 40 NC 50

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4. Performance data is for grille complete with opposed blade damper in the full open position.
5. NC values are based on room absorption of 10 dB re 10^{-12} Watts and one grille.
6. Blanks "-" indicate an NC level below 15.
7. Correction factors to be applied to table for no damper: pressure loss - multiply by 0.81, NC - subtract 2.
8. Does not include pressure drop on FF models.
9. Does not include effects of ceiling radiation damper (535-FR, 535FF-FR)

Product Improvement is a continuing endeavour at Keystone Clean Air Solutions. Therefore, specifications are subject to change without notice. Consult Keystone directly for current specifications or more detailed information. Not all products may be available in all geographic areas. All goods described in this document are warranted as described in the Limited Warranty shown at **KeystoneCleanAir.com**. The complete Keystone product offering can be viewed online at **KeystoneCleanAir.com**.