

## PERFORMANCE DATA:

### REVERSIBLE CORE GRILLES AND REGISTERS • 51RC SERIES

#### MODELS: 51RC, 51RCD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062
6 x 6	8 x 4 10 x 4	0.20		CFM		40	60	80	100	120	140	160	180	200
				Noise Criteria		-	-	-	-	18	23	27	30	33
				Throw	0°	2-5-10	5-7-13	7-9-16	8-12-18	10-14-20	11-15-21	12-16-23	14-17-24	15-18-25
22 1/2°	2-4-8	4-6-10	6-7-13		6-10-14	8-11-16	9-12-17	10-13-18	11-14-19	12-14-20				
8 x 6	10 x 5 12 x 4	0.27		CFM		54	81	108	135	162	189	216	243	270
				Noise Criteria		-	-	-	-	19	24	28	31	34
				Throw	0°	2-5-12	5-8-15	8-12-18	10-14-20	11-16-23	13-18-25	15-19-27	16-20-28	17-21-30
22 1/2°	2-4-10	4-6-12	6-10-14		8-11-16	9-13-18	10-14-20	12-15-22	13-16-22	14-17-24				
10 x 6	12 x 5 16 x 4	0.35		CFM		70	105	140	175	210	245	280	315	350
				Noise Criteria		-	-	-	15	20	25	29	32	35
				Throw	0°	3-6-14	6-9-18	9-13-21	10-16-24	12-19-26	15-20-28	17-21-30	19-22-31	20-23-33
22 1/2°	2-5-11	5-7-14	7-10-17		8-13-19	10-15-21	12-16-22	14-17-24	15-18-25	16-18-26				
8 x 8	14 x 5	0.38		CFM		76	114	152	190	228	266	304	342	380
				Noise Criteria		-	-	-	16	21	26	30	33	36
				Throw	0°	3-6-15	6-9-19	9-14-22	11-16-25	13-19-27	16-21-29	18-22-32	18-23-32	19-24-34
22 1/2°	2-5-12	5-7-15	7-11-18		9-13-20	10-15-22	13-17-23	14-18-26	14-18-26	15-19-27				
12 x 6	18 x 4	0.42		CFM		84	126	168	210	252	294	336	378	420
				Noise Criteria		-	-	-	16	21	26	30	33	36
				Throw	0°	3-6-15	6-9-19	9-14-22	11-16-25	13-19-27	16-21-30	18-22-32	18-23-32	19-11-16
22 1/2°	2-5-12	5-7-15	7-11-18		9-13-20	10-15-22	13-17-24	14-18-26	14-18-26	15-19-27				
14 x 6	10 x 8	0.50		CFM		100	150	200	250	300	350	400	450	500
				Noise Criteria		-	-	-	17	22	27	31	34	37
				Throw	0°	3-7-16	6-11-20	10-15-23	12-18-25	15-20-28	16-22-31	19-23-33	20-24-34	21-25-36
22 1/2°	2-6-13	5-9-16	8-12-18		10-14-20	12-16-22	13-18-25	15-18-26	16-19-27	17-20-29				
12 x 8	16 x 6 24 x 4	0.58		CFM		116	174	232	290	348	406	464	522	580
				Noise Criteria		-	-	-	18	23	28	32	35	38
				Throw	0°	3-7-17	7-11-21	10-15-24	12-19-27	15-21-30	17-23-32	20-24-34	21-26-36	22-27-38
22 1/2°	2-6-14	6-9-17	8-12-19		10-15-22	12-17-24	14-18-26	16-19-27	17-21-29	18-22-30				
10 x 10	14 x 7 26 x 4	0.61		CFM		122	183	244	305	366	427	488	549	610
				Noise Criteria		-	-	-	18	23	28	32	35	38
				Throw	0°	3-7-17	7-11-21	10-16-24	13-19-28	16-21-30	17-23-32	20-24-35	22-27-37	23-28-39
22 1/2°	2-6-14	6-9-17	8-13-19		10-15-22	13-17-24	14-18-26	16-19-28	18-22-30	18-22-31				
18 x 6	14 x 8 28 x 4 30 x 4	0.65		CFM		130	195	260	325	390	455	520	585	650
				Noise Criteria		-	-	-	19	24	29	33	36	39
				Throw	0°	3-8-18	7-12-22	11-16-25	13-20-29	16-22-32	18-24-34	21-25-36	23-27-38	24-29-40
22 1/2°	2-6-14	6-10-18	9-13-20		10-16-23	13-18-26	14-19-27	17-20-29	18-22-30	19-23-32				
12 x 10	20 x 6 24 x 5	0.74		CFM		148	222	296	370	444	518	592	666	740
				Noise Criteria		-	-	-	19	24	29	33	36	39
				Throw	0°	4-8-19	8-13-24	11-17-27	14-21-31	17-24-33	20-26-36	22-27-39	24-29-41	25-31-43
22 1/2°	3-6-15	6-10-19	9-14-22		11-17-25	14-19-26	16-21-29	18-22-31	19-23-33	20-25-34				
22 x 6	16 x 8 28 x 5 36 x 4	0.80		CFM		160	240	320	400	480	560	640	720	800
				Noise Criteria		-	-	-	20	25	30	34	37	40
				Throw	0°	4-8-20	8-13-25	11-18-28	15-22-32	18-25-35	20-27-38	23-28-41	25-30-43	26-32-45
22 1/2°	3-6-16	6-10-20	9-14-22		12-18-26	14-20-28	16-22-30	18-22-33	20-24-34	21-26-36				
12 x 12	14 x 10 18 x 8 24 x 6 38 x 4	0.90		CFM		180	270	360	450	540	630	720	810	900
				Noise Criteria		-	-	-	20	25	30	34	37	40
				Throw	0°	4-9-21	9-14-26	12-18-29	15-23-33	18-26-36	21-27-39	24-29-42	26-31-45	27-33-47
22 1/2°	3-7-17	7-11-21	10-14-23		12-18-26	14-21-29	17-22-31	19-23-34	21-25-36	22-26-38				
					45°	1-4-10	5-7-13	6-9-15	8-12-17	9-13-18	11-14-20	12-15-21	13-15-22	14-17-24

GRILLES AND REGISTERS

F

For performance data notes, see F137.

## PERFORMANCE DATA:

### REVERSIBLE CORE GRILLES AND REGISTERS • 51RC SERIES

#### MODELS: 51RC, 51RCD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062
				Total Pressure	0° 22 1/2° 45°	.007 .008 .013	.016 .019 .029	.029 .033 .051	.045 .052 .079	.065 .075 .113	.089 .102 .156	.117 .134 .205	.147 .169 .258	.181 .209 .318
18 x 10	30 x 6	1.13		CFM		226	339	452	565	678	791	904	1017	1130
				Noise Criteria		-	-	-	21	26	31	35	38	41
				Throw	0° 22 1/2° 45°	4-10-23 3-8-18 1-5-11	9-15-29 7-12-23 5-8-15	14-20-33 11-16-26 7-10-17	17-25-36 14-20-29 9-13-18	20-29-40 16-23-32 10-15-20	24-30-43 19-24-34 12-15-22	27-33-46 22-26-37 14-17-23	28-34-48 22-27-38 14-17-24	30-36-51 24-29-41 15-18-26
14 x 14	16 x 12 20 x 10 24 x 8 34 x 6	1.24		CFM		248	372	496	620	744	868	992	1116	1240
				Noise Criteria		-	-	-	21	26	31	35	38	41
				Throw	0° 22 1/2° 45°	5-12-26 4-10-21 2-6-13	11-18-33 9-14-26 6-9-17	16-25-39 13-20-31 8-13-20	20-29-42 16-23-34 10-15-21	24-33-47 19-26-38 12-17-24	27-36-51 22-29-41 14-18-26	31-39-54 25-31-43 16-20-27	33-40-57 26-32-46 16-20-28	35-42-60 28-34-48 18-21-30
18 x 12	16 x 14 22 x 10 28 x 8 38 x 6	1.37		CFM		274	411	548	685	822	959	1096	1233	1370
				Noise Criteria		-	-	15	22	27	32	36	39	42
				Throw	0° 22 1/2° 45°	5-12-26 4-10-21 2-6-13	11-18-33 9-14-26 6-9-17	16-25-39 13-20-31 8-13-20	20-30-43 16-24-34 10-15-22	24-33-47 19-26-38 12-17-24	28-36-51 22-29-41 14-18-26	32-39-54 26-31-43 16-20-27	33-41-58 26-33-46 16-20-29	35-43-61 28-34-49 18-22-31
24 x 10	20 x 12 30 x 8	1.52		CFM		304	456	608	760	912	1064	1216	1368	1520
				Noise Criteria		-	-	15	22	27	32	36	39	42
				Throw	0° 22 1/2° 45°	6-12-28 5-10-22 3-6-14	12-19-35 10-15-28 6-10-18	16-25-41 13-20-33 8-13-21	21-32-45 17-26-36 11-16-23	25-35-50 20-28-40 13-18-25	29-38-53 23-30-42 15-19-27	34-41-57 27-33-46 17-21-29	35-43-61 28-34-49 17-21-30	37-45-65 30-36-51 19-23-32
16 x 16	18 x 14 22 x 12 30 x 8	1.64		CFM		328	492	656	820	984	1148	1312	1476	1640
				Noise Criteria		-	-	15	22	27	32	36	39	42
				Throw	0° 22 1/2° 45°	6-13-30 5-10-24 3-6-15	12-20-37 10-16-30 6-10-19	17-26-42 14-21-34 9-13-21	22-32-47 18-26-38 11-16-24	26-37-51 21-30-41 13-19-26	31-40-56 25-32-45 16-20-28	35-42-59 28-34-47 18-21-30	37-45-64 30-36-51 18-22-32	39-47-67 31-38-54 20-24-34
24 x 12	18 x 16 20 x 14 30 x 10 36 x 8	1.85		CFM		370	555	740	925	1110	1295	1480	1665	1850
				Noise Criteria		-	-	16	23	28	33	37	40	43
				Throw	0° 22 1/2° 45°	6-13-30 5-10-24 3-6-15	12-20-38 10-16-30 6-10-19	18-27-44 14-22-35 9-14-22	22-33-48 18-26-38 11-17-24	27-38-54 22-30-43 14-19-27	32-40-58 26-32-46 16-20-29	36-44-62 29-35-50 18-22-31	38-46-65 30-37-52 19-23-32	40-48-69 32-38-55 20-24-35
18 x 18	20 x 16 24 x 14 28 x 12 32 x 10	2.10		CFM		420	630	840	1050	1260	1470	1680	1890	2100
				Noise Criteria		-	-	16	23	28	33	37	40	43
				Throw	0° 22 1/2° 45°	6-14-32 5-11-26 3-7-16	13-21-40 10-17-32 7-11-20	19-29-47 15-23-38 10-15-24	24-36-52 19-29-42 12-18-26	29-40-57 23-32-46 15-20-29	33-43-62 26-34-50 17-22-31	38-47-66 30-38-53 19-24-33	40-49-70 32-39-66 20-24-35	42-52-74 34-42-59 21-26-37
30 x 12	20 x 18 22 x 16 26 x 14 36 x 10	2.32		CFM		464	696	928	1160	1392	1624	1856	2088	2320
				Noise Criteria		-	-	17	24	29	34	38	41	44
				Throw	0° 22 1/2° 45°	7-15-34 6-12-27 3-7-17	14-23-43 11-18-34 7-12-22	21-31-50 17-25-40 11-16-25	26-39-56 21-31-45 13-20-28	31-43-61 25-34-49 16-22-31	36-47-67 29-38-54 18-24-34	41-50-71 33-40-57 21-25-36	44-53-75 35-42-60 22-26-37	46-56-79 32-45-63 23-28-40
24 x 16	32 x 12	2.50		CFM		500	750	1000	1250	1500	1750	2000	2250	2500
				Noise Criteria		-	-	17	24	29	34	38	41	44
				Throw	0° 22 1/2° 45°	7-16-36 6-13-29 3-8-18	14-24-45 11-19-36 7-12-23	22-32-52 18-26-42 11-16-26	27-40-58 22-32-46 14-20-29	32-45-64 26-36-51 16-23-32	37-49-68 30-39-54 19-25-34	43-52-74 34-42-59 22-26-37	46-55-78 37-44-62 23-27-39	48-58-82 38-46-66 24-29-41
20 x 20	22 x 18	2.61		CFM		522	783	1044	1305	1566	1827	2088	2349	2610
				Noise Criteria		-	-	17	24	29	34	38	41	44
				Throw	0° 22 1/2° 45°	7-16-37 6-13-30 3-8-18	15-24-46 12-19-37 8-12-23	22-32-53 18-26-42 11-16-27	27-41-59 22-33-47 14-21-30	32-46-65 26-37-52 16-23-33	38-50-70 30-40-56 19-25-35	44-53-75 36-44-62 22-27-38	46-56-80 37-45-64 23-28-40	49-59-84 39-47-67 25-30-42
36 x 12	22 x 20 24 x 18 26 x 16 30 x 14	2.79		CFM		558	837	1116	1395	1674	1953	2232	2511	2790
				Noise Criteria		-	-	17	24	29	34	38	41	44
				Throw	0° 22 1/2° 45°	7-16-38 6-13-30 3-8-19	15-25-48 12-20-38 8-13-24	23-34-55 18-27-44 12-17-28	28-42-61 22-34-49 14-21-31	34-48-68 27-38-54 17-24-34	4-51-73 32-41-58 20-26-37	45-55-77 36-44-62 23-28-39	47-58-82 38-46-66 23-29-41	50-61-86 40-49-69 25-31-43
22 x 22	24 x 20 26 x 18 30 x 16 40 x 12	3.17		CFM		634	951	1268	1585	1902	2219	2536	2853	3170
				Noise Criteria		-	-	18	25	30	35	39	42	45
				Throw	0° 22 1/2° 45°	8-18-40 6-14-32 4-9-20	17-27-50 14-22-40 9-14-25	24-36-58 19-29-46 12-18-29	29-45-65 23-36-52 15-23-33	36-50-71 29-40-57 18-25-36	42-54-77 34-43-62 21-27-39	47-58-82 38-46-66 24-29-41	50-62-87 40-50-70 25-31-43	53-65-92 42-52-74 27-33-46

For performance data notes, see F137.

## PERFORMANCE DATA:

### REVERSIBLE CORE GRILLES AND REGISTERS • 51RC SERIES

#### MODELS: 51RC, 51RCD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062
42 x 12	36 x 14	3.27	1.95 1.81 1.68	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
30 x 18	24 x 22 34 x 16 40 x 14	3.54	2.10 1.95 1.81	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
24 x 24	26 x 22 28 x 20 32 x 18 36 x 16	3.79	2.25 2.09 1.93	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
36 x 18	32 x 20 40 x 16 46 x 14	4.29	2.53 2.36 2.18	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
26 x 26	28 x 24 48 x 14	4.47	2.62 2.44 2.25	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
30 x 24	32 x 22 36 x 20 40 x 18	4.77	2.81 2.62 2.42	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
28 x 28	30 x 26 36 x 22 40 x 20	5.20	3.09 2.88 2.66	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
36 x 24	40 x 22 44 x 20	5.74	3.38 3.15 2.91	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
42 x 24	36 x 28 42 x 24 46 x 22	6.72	3.95 3.68 3.40	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
36 x 30	38 x 28	7.22	4.23 3.94 3.64	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	
48 x 24	34 x 34 36 x 32 38 x 30 42 x 28	7.69	4.51 4.20 3.88	CFM	0°	.007	.016	.029	.045	.065	.089	.117	.147	.181
				Noise Criteria	22 1/2°	.008	.019	.033	.052	.075	.102	.134	.169	.209
				45°	.013	.029	.051	.079	.113	.156	.205	.258	.318	

#### Performance Notes:

1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Tabulated data includes opposed blade damper. Without OBD, multiply Total Pressure (TP) by x 0.8. Subtract 4 Noise Criteria (NC) from the Noise Criteria value shown.
4. Throw values are given for terminal velocities

- of 150, 100 and 50 fpm under isothermal conditions.
5. Noise Criteria (NC) values were obtained using a 0° horizontal deflection rear blade setting. For deflection settings of 22 1/2° and 45°, add 2 and 7 NC to the tabulated NC level respectively.
6. When used as a return grille, the negative static pressure is obtained by multiplying the

- tabulated Total Pressure @ 0° deflection by x 0.8. Add 4 Noise Criteria to the Noise Criteria value shown.
7. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10<sup>-12</sup> watts. Dash (-) in space denotes a Noise Criteria level of less than 15.
8. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.