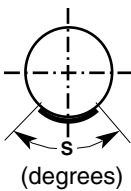
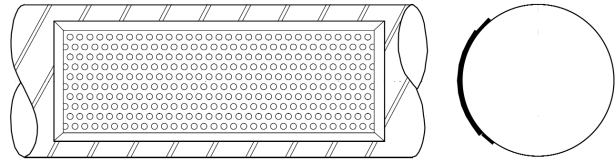


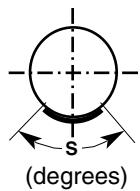
Framed Perforated Grille, DDFGF

Grille Size ⁴ (inches)	Grille Area (sq ft)	Radial Spread Angle ¹  (degrees)	Face Velocity (fpm)	200	400	600	800	1000	1200	1400
			Static Pressure (inches wg)	0.02	0.06	0.14	0.24	0.37	0.53	0.71
			Throw Distance ² (feet)	10 - 15	15 - 30	20 - 45	20 - 50	25 - 60	30 - 70	33 - 75
4 x 4	0.09	38 - 19 - 13	cfm	18	36	54	72	90	108	126
			NC ³	15	15	20	25	35	40	50
4 x 6	0.13	38 - 19 - 13	cfm	26	52	78	104	130	156	182
			NC	15	20	25	25	35	45	55
4 x 8	0.18	38 - 19 - 13	cfm	36	72	108	144	180	216	252
			NC	15	20	25	30	35	45	55
6 x 6	0.21	57 - 29 - 19	cfm	42	84	126	168	210	252	294
			NC	15	20	25	30	35	45	55
4 x 10	0.23	38 - 19 - 13	cfm	46	92	138	184	230	276	322
			NC	15	20	25	30	35	45	55
4 x 12	0.28	38 - 19 - 13	cfm	56	112	168	224	280	336	392
			NC	20	20	25	30	40	45	55
6 x 10	0.36	57 - 29 - 19	cfm	72	144	216	288	360	432	504
			NC	20	25	25	30	40	45	55
8 x 8	0.39	76 - 38 - 25	cfm	78	156	234	312	390	468	546
			NC	20	25	25	30	40	45	55
6 x 12	0.44	57 - 29 - 19	cfm	88	176	264	352	440	528	616
			NC	20	25	25	30	40	50	55
6 x 16	0.59	57 - 29 - 19	cfm	118	236	354	472	590	708	826
			NC	20	25	30	35	40	50	55
8 x 12	0.60	76 - 38 - 25	cfm	120	240	360	480	600	720	840
			NC	20	25	30	35	40	50	55
6 x 20	0.74	57 - 29 - 19	cfm	148	296	444	592	740	888	1036
			NC	25	25	30	35	40	50	60
8 x 16	0.81	76 - 38 - 25	cfm	162	324	486	648	810	972	1134
			NC	25	25	30	35	40	50	60
12 x 12	0.92	115 - 57 - 38	cfm	184	368	486	648	810	972	1134
			NC	25	25	30	35	45	50	60
8 x 24	1.22	76 - 38 - 25	cfm	244	488	732	976	1220	1464	1708
			NC	25	30	30	35	45	50	60

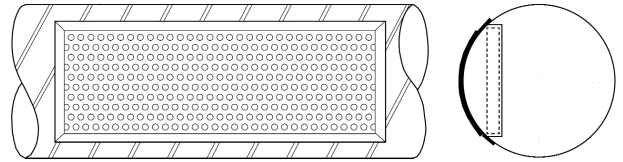
- Notes:**
- Radial spread angle given as a function of diameter of duct to which grille is attached. Spread angles shown are given in A-B-C format, where 'A' is spread angle for 12-inch, 'B' for 24-inch, and 'C' for 36-inch diameter duct. $S = 360$ (grille height) / πD .
 - Throw distance is given in x-y format, where 'x' is the throw distance for the terminal velocity of 150 fpm and 'y' is the throw distance for the terminal velocity of 50 fpm. Throw distance is measured along the discharge centerline, which is generally at an angle from 45 to 65 degrees from the duct centerline. Throw distances may actually be shorter than shown. (See *Engineering Report 159* for details.)
 - NC is noise criteria for room with 10 dB absorption in each octave band. Actual NC varies according to room absorption, room size, and distance from the diffuser to the occupants.
 - Grille sizes shown are nominal sizes of height and width. The height dimension assumes the arc length of duct to which it is attached.



Framed Perforated Grille, DDFGF

Grille Size ⁴ (inches)	Grille Area (sq ft)	Radial Spread Angle ¹  (degrees)	Face Velocity (fpm)	200	400	600	800	1000	1200	1400
			Static Pressure (inches wg)	0.02	0.06	0.14	0.24	0.37	0.53	0.71
			Throw Distance ² (feet)	10 - 15	15 - 30	20 - 45	20 - 50	25 - 60	30 - 70	33 - 75
12 x 18	1.49	115 - 57 - 38	cfm	280	560	840	1120	1400	1680	1960
			NC ³	25	30	35	35	45	55	60
12 x 24	1.88	115 - 57 - 38	cfm	376	752	1128	1504	1880	2256	2632
			NC	25	30	35	40	45	55	65
18 x 18	2.13	172 - 86 - 57	cfm	426	852	1278	1704	2130	2556	2982
			NC	15	30	35	40	45	55	65
12 x 30	2.36	115 - 57 - 38	cfm	472	944	1416	1888	2360	2832	3304
			NC	25	30	35	40	45	55	65
12 x 36	2.84	115 - 57 - 38	cfm	568	1136	1704	2272	2840	3408	3976
			NC	30	30	35	40	50	55	65
18 x 24	2.86	172 - 86 - 57	cfm	572	1144	1716	2288	2860	3432	4004
			NC	30	30	35	40	45	55	65
18 x 30	3.59	172 - 86 - 57	cfm	718	1436	2154	2872	3590	4308	5026
			NC	30	35	35	40	50	55	65
24 x 24	3.84	229 - 115 - 76	cfm	768	1536	2304	3072	3840	4608	5376
			NC	30	35	35	40	50	55	65
18 x 36	4.31	172 - 86 - 57	cfm	862	1724	2586	3448	4310	5172	6034
			NC	30	35	40	40	50	55	65
24 x 36	5.79	229 - 115 - 76	cfm	1158	2316	3474	4632	5790	6948	8106
			NC	30	35	40	45	50	60	65
18 x 54	6.50	172 - 86 - 57	cfm	1300	2600	3900	5200	6500	7800	9100
			NC	35	35	40	45	50	60	65
18 x 60	7.23	172 - 86 - 57	cfm	1446	2892	4338	5784	7230	8676	10122
			NC	35	35	40	45	50	60	>65
24 x 48	7.75	229 - 115 - 76	cfm	1550	3100	4650	6200	7750	9300	10850
			NC	35	35	40	45	50	60	>65
24 x 60	9.71	229 - 57 - 38	cfm	1942	3884	5826	7768	9710	11652	13594
			NC	35	35	40	45	50	60	>65
30 x 48	9.73	286 - 143 - 95	cfm	1946	3892	5838	7784	9730	11676	13622
			NC	35	40	40	45	50	60	>65
30 x 60	12.19	286 - 143 - 95	cfm	2438	4876	7314	9752	12190	14628	17066
			NC	35	40	40	45	55	60	>65

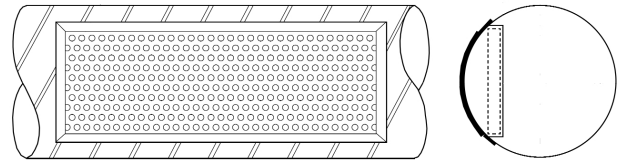
- Notes:**
- Radial spread angle given as a function of diameter of duct to which grille is attached. Spread angles shown are given in A-B-C format, where 'A' is spread angle for 12-inch, 'B' for 24-inch, and 'C' for 36-inch diameter duct. $S = 360$ (grille height) / πD .
 - Throw distance is given in x-y format, where 'x' is the throw distance for the terminal velocity of 150 fpm and 'y' is the throw distance for the terminal velocity of 50 fpm. Throw distance is measured along the discharge centerline, which is generally at an angle from 45 to 65 degrees from the duct centerline. Throw distances may actually be shorter than shown. (See *Engineering Report 159* for details.)
 - NC is noise criteria for room with 10 dB absorption in each octave band. Actual NC varies according to room absorption, room size, and distance from the diffuser to the occupants.
 - Grille sizes shown are nominal sizes of height and width. The height dimension assumes the arc length of duct to which it is attached.



Framed Perforated Grille with Opposed Blade Damper, DDFGOBD

Grille Size ⁴ (inches)	Grille Area (sq ft)	Radial Spread Angle ¹ (degrees)	Face Velocity (fpm)	200	400	600	800	1000	1200	1400
			Static Pressure (inches wg)	0.02	0.06	0.14	0.24	0.37	0.53	0.71
			Throw Distance ² (feet)	10 - 15	15 - 30	20 - 45	20 - 50	25 - 60	30 - 70	33 - 75
4 x 4 (8)	0.09	38 - 19 - 13	cfm	18	36	54	72	90	108	126
			NC ³	15	15	20	25	35	40	50
4 x 6 (8)	0.13	38 - 19 - 13	cfm	26	52	78	104	130	156	182
			NC	15	20	25	25	35	45	55
4 x 8 (8)	0.18	38 - 19 - 13	cfm	36	72	108	144	180	216	252
			NC	15	20	25	30	35	45	55
6 x 6 (10)	0.21	57 - 29 - 19	cfm	42	84	126	168	210	252	294
			NC	15	20	25	30	35	45	55
4 x 10 (8)	0.23	38 - 19 - 13	cfm	46	92	138	184	230	276	322
			NC	15	20	25	30	35	45	55
4 x 12 (8)	0.28	38 - 19 - 13	cfm	56	112	168	224	280	336	392
			NC	20	20	25	30	40	45	55
6 x 10 (10)	0.36	57 - 29 - 19	cfm	72	144	216	288	360	432	504
			NC	20	25	25	30	40	45	55
8 x 8 (12)	0.39	76 - 38 - 25	cfm	78	156	234	312	390	468	546
			NC	20	25	25	30	40	45	55
6 x 12 (10)	0.44	57 - 29 - 19	cfm	88	176	264	352	440	528	616
			NC	20	25	25	30	40	50	55
6 x 16 (10)	0.59	57 - 29 - 19	cfm	118	236	354	472	590	708	826
			NC	20	25	30	35	40	50	55
8 x 12 (12)	0.60	76 - 38 - 25	cfm	120	240	360	480	600	720	840
			NC	20	25	30	35	40	50	55
6 x 20 (10)	0.74	57 - 29 - 19	cfm	148	296	444	592	740	888	1036
			NC	25	25	30	35	40	50	60
8 x 16 (12)	0.81	76 - 38 - 25	cfm	162	324	486	648	810	972	1134
			NC	25	25	30	35	40	50	60
12 x 12 (18)	0.92	115 - 57 - 38	cfm	184	368	486	648	810	972	1134
			NC	25	25	30	35	45	50	60
8 x 24 (12)	1.22	76 - 38 - 25	cfm	244	488	732	976	1220	1464	1708
			NC	25	30	30	35	45	50	60

- Notes:**
1. Radial spread angle given as a function of diameter of duct to which grille is attached. Spread angles shown are given in A-B-C format, where 'A' is spread angle for 12-inch, 'B' for 24-inch, and 'C' for 36-inch diameter duct. $S = 360 \text{ (grille height)} / \pi D$.
 2. Throw distance is given in x-y format, where 'x' is the throw distance for the terminal velocity of 150 fpm and 'y' is the throw distance for the terminal velocity of 50 fpm. Throw distance is measured along the discharge centerline, which is approximately 90 degrees or perpendicular to the duct centerline. Throw distances may actually be shorter than shown.
 3. NC is noise criteria for room with 10 dB absorption in each octave band. Actual NC varies according to room absorption, room size, and distance from the diffuser to the occupants.
 4. Grille sizes shown are nominal sizes of height and width. The height dimension assumes the arc length of duct to which it is attached. The number shown in parentheses is the minimum applicable duct diameter for that grille size.



Framed Perforated Grille with Opposed Blade Damper, DDFGOBD

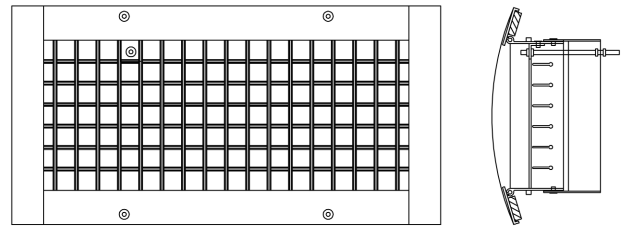
Grille Size ⁴ (inches)	Grille Area (sq ft)	Radial Spread Angle ¹ (degrees)	Face Velocity (fpm)	200	400	600	800	1000	1200	1400
			Static Pressure (inches wg)	0.02	0.06	0.14	0.24	0.37	0.53	0.71
			Throw Distance ² (feet)	10 - 15	15 - 30	20 - 45	20 - 50	25 - 60	30 - 70	33 - 75
12 x 18 (18)	1.49	115 - 57 - 38	cfm	280	560	840	1120	1400	1680	1960
			NC ³	25	30	35	35	45	55	60
12 x 24 (18)	1.88	115 - 57 - 38	cfm	376	752	1128	1504	1880	2256	2632
			NC	25	30	35	40	45	55	65
18 x 18 (24)	2.13	172 - 86 - 57	cfm	426	852	1278	1704	2130	2556	2982
			NC	15	30	35	40	45	55	65
12 x 30 (18)	2.36	115 - 57 - 38	cfm	472	944	1416	1888	2360	2832	3304
			NC	25	30	35	40	45	55	65
12 x 36 (18)	2.84	115 - 57 - 38	cfm	568	1136	1704	2272	2840	3408	3976
			NC	30	30	35	40	50	55	65
18 x 24 (24)	2.86	172 - 86 - 57	cfm	572	1144	1716	2288	2860	3432	4004
			NC	30	30	35	40	45	55	65
18 x 30 (24)	3.59	172 - 86 - 57	cfm	718	1436	2154	2872	3590	4308	5026
			NC	30	35	35	40	50	55	65
24 x 24 (32)	3.84	229 - 115 - 76	cfm	768	1536	2304	3072	3840	4608	5376
			NC	30	35	35	40	50	55	65
18 x 36 (24)	4.31	172 - 86 - 57	cfm	862	1724	2586	3448	4310	5172	6034
			NC	30	35	40	40	50	55	65
24 x 36 (32)	5.79	229 - 115 - 76	cfm	1158	2316	3474	4632	5790	6948	8106
			NC	30	35	40	45	50	60	65
18 x 54 (24)	6.50	172 - 86 - 57	cfm	1300	2600	3900	5200	6500	7800	9100
			NC	35	35	40	45	50	60	65
18 x 60 (24)	7.23	172 - 86 - 57	cfm	1446	2892	4338	5784	7230	8676	10122
			NC	35	35	40	45	50	60	>65
24 x 48 (32)	7.75	229 - 115 - 76	cfm	1550	3100	4650	6200	7750	9300	10850
			NC	35	35	40	45	50	60	>65
24 x 60 (32)	9.71	229 - 57 - 38	cfm	1942	3884	5826	7768	9710	11652	13594
			NC	35	35	40	45	50	60	>65
30 x 48 (40)	9.73	286 - 143 - 95	cfm	1946	3892	5838	7784	9730	11676	13622
			NC	35	40	40	45	50	60	>65
30 x 60 (40)	12.19	286 - 143 - 95	cfm	2438	4876	7314	9752	12190	14628	17066
			NC	35	40	40	45	55	60	>65

- Notes:**
1. Radial spread angle given as a function of diameter of duct to which grille is attached. Spread angles shown are given in A-B-C format, where 'A' is spread angle for 12-inch, 'B' for 24-inch, and 'C' for 36-inch diameter duct. $S = 360$ (grille height) / πD .
 2. Throw distance is given in x-y format, where 'x' is the throw distance for the terminal velocity of 150 fpm and 'y' is the throw distance for the terminal velocity of 50 fpm. Throw distance is measured along the discharge centerline, which is approximately 90 degrees or perpendicular to the duct centerline. Throw distances may actually be shorter than shown.
 3. NC is noise criteria for room with 10 dB absorption in each octave band. Actual NC varies according to room absorption, room size, and distance from the diffuser to the occupants.
 4. Grille sizes shown are nominal sizes of height and width. The height dimension assumes the arc length of duct to which it is attached. The number shown in parentheses is the minimum applicable duct diameter for that grille size.



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Single Deflection Register, DDFRSDS⁵
Double Deflection Register, DDFRDDS⁵

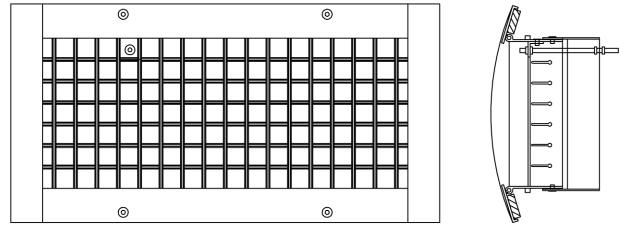


Average discharge velocity (fpm)		300	400	500	600	700	800	900	1000	1100	1200
12 x 4 ⁶ Ak= 0.23 ⁴	CFM	70	90	115	140	160	185	205	230	255	275
	Static Pressure ¹	0.008	0.015	0.023	0.033	0.045	0.059	0.075	0.093	0.112	0.134
	Horizontal Throw ²	5-3	7-4	9-4	10-5	12-6	14-7	16-8	17-9	19-9	21-10
	Noise Criteria ³	-	-	-	-	-	-	-	<20	20	25
12 x 6 ⁶ Ak= 0.33 ⁴	CFM	100	130	165	200	230	265	295	330	365	395
	Static Pressure ¹	0.008	0.015	0.023	0.033	0.045	0.059	0.075	0.093	0.112	0.133
	Horizontal Throw ²	6-3	8-4	10-5	12-6	14-7	16-8	18-9	20-10	21-11	23-12
	Noise Criteria ³	-	-	-	-	-	-	-	<20	20	25
14 x 8 ⁶ 18 x 6 ⁶ Ak= 0.52 ⁴	CFM	155	210	260	310	365	415	470	520	570	625
	Static Pressure ¹	0.008	0.014	0.023	0.032	0.044	0.058	0.073	0.090	0.109	0.130
	Horizontal Throw ²	7-4	10-5	12-6	14-7	17-8	19-10	22-11	24-12	27-13	29-14
	Noise Criteria ³	-	-	-	-	-	-	<20	20	25	30
16 x 8 ⁶ 20 x 6 ⁶ Ak= 0.59 ⁴	CFM	175	235	295	355	415	470	530	590	650	710
	Static Pressure ¹	0.008	0.014	0.022	0.032	0.044	0.057	0.072	0.089	0.108	0.128
	Horizontal Throw ²	8-4	10-5	13-6	15-8	18-9	20-10	23-11	26-13	28-14	31-15
	Noise Criteria ³	-	-	-	-	-	<20	20	25	25	30
24 x 6 ⁶ 18 x 8 ⁶ Ak= 0.67 ⁴	CFM	200	270	335	400	470	535	605	670	735	805
	Static Pressure ¹	0.008	0.014	0.022	0.032	0.044	0.057	0.072	0.089	0.107	0.128
	Horizontal Throw ²	8-4	11-5	14-7	17-8	19-10	22-11	25-12	28-14	30-15	33-16
	Noise Criteria ³	-	-	-	-	<20	20	25	30	30	35
20 x 8 ⁶ 16 x 10 ⁶ Ak= 0.74 ⁴	CFM	220	295	370	445	520	590	665	740	815	890
	Static Pressure ¹	0.008	0.014	0.022	0.032	0.043	0.057	0.072	0.089	0.107	0.128
	Horizontal Throw ²	9-4	11-6	14-7	17-8	20-10	23-11	26-13	28-14	31-15	34-17
	Noise Criteria ³	-	-	-	<20	20	20	25	25	30	35
18 x 10 ⁶ Ak= 0.82 ⁴	CFM	245	330	410	490	575	655	740	820	900	985
	Static Pressure ¹	0.008	0.014	0.022	0.031	0.042	0.055	0.070	0.087	0.105	0.124
	Horizontal Throw ²	9-4	12-6	15-7	18-9	21-10	24-12	27-13	30-15	32-16	35-17
	Noise Criteria ³	-	-	-	<20	20	25	30	30	35	40
20 x 10 ⁶ 24 x 8 ⁶ Ak= 0.93 ⁴	CFM	280	370	465	560	650	745	835	930	1025	1115
	Static Pressure ¹	0.008	0.014	0.022	0.031	0.042	0.055	0.070	0.086	0.100	0.123
	Horizontal Throw ²	10-5	13-6	16-8	19-9	22-11	25-12	29-14	32-16	35-17	38-19
	Noise Criteria ³	-	-	<20	20	25	30	35	40	40	45

McGill AirFlow LLC

An enterprise of United McGill Corporation — Founded in 1951

Single Deflection Register, DDFRSDS⁵ Double Deflection Register, DDFRDDS⁵



Average discharge velocity (fpm)		300	400	500	600	700	800	900	1000	1100	1200
24 x 10 ⁶ 20 x 12 ⁶ Ak= 1.11 ⁴	CFM	335	445	555	665	775	890	1000	1110	1220	1330
	Static Pressure ¹	0.008	0.014	0.022	0.032	0.043	0.055	0.071	0.086	0.104	0.123
	Horizontal Throw ²	10-5	14-7	17-8	21-10	24-12	28-14	31-15	34-17	38-19	41-20
	Noise Criteria ³	-	<20	20	25	30	30	35	40	45	45
24 x 12 ⁶ Ak= 1.35 ⁴	CFM	405	540	675	810	945	1080	1215	1350	1485	1620
	Static Pressure ¹	0.008	0.014	0.022	0.031	0.043	0.054	0.071	0.086	0.104	0.122
	Horizontal Throw ²	11-6	15-7	19-9	23-11	27-13	30-15	34-17	38-19	42-21	46-22
	Noise Criteria ³	-	<20	20	25	30	35	35	40	45	>45
30 x 12 ⁶ Ak= 1.67 ⁴	CFM	500	670	835	1000	1170	1335	1505	1670	1835	1620
	Static Pressure ¹	0.008	0.014	0.022	0.031	0.043	0.054	0.071	0.086	0.104	0.122
	Horizontal Throw ²	13-6	17-8	21-10	25-12	29-14	33-16	38-19	42-21	46-23	50-25
	Noise Criteria ³	-	20	25	30	35	40	40	45	>45	>45

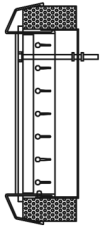
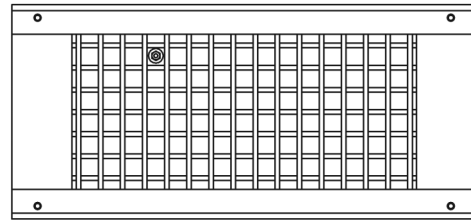
- Notes:**
1. Static Pressure in inches water column
 2. Throw data are in feet at terminal velocities of 75 and 150 fpm, respectively.
 3. Noise Criteria (NC) based on a 10 dB room absorption evaluated at 125 Hz through 4000 Hz octave bands.
 4. Ak = Effective area in square feet
 5. Units come standard with air scoop.
 6. Width x Height is the nominal hole size in the duct. Width is the longer dimension.



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Universal, Single Deflection Register, DDFRUSDS⁵

Universal, Double Deflection Register, DDFRUDDS⁵



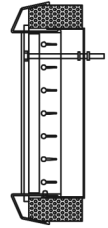
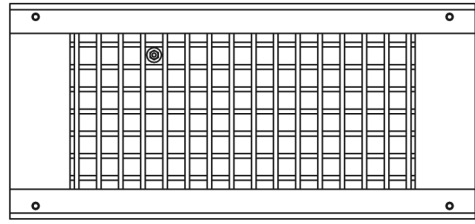
Average discharge velocity (fpm)		300	400	500	600	700	800	900	1000	1100	1200
12 x 4 ⁶ 16 x 3 ⁶ Ak= 0.16 ⁴	CFM	49	65	81	98	114	130	146	163	179	195
	Static Pressure ¹	0.010	0.020	0.020	0.030	0.050	0.060	0.080	0.090	0.110	0.140
	Horizontal Throw ²	5-2	6-3	8-4	10-5	11-6	13-6	15-7	16-8	18-9	19-10
	Noise Criteria ³	-	-	-	<20	21	25	28	32	33	37
10 x 6 ⁶ 20 x 3 ⁶ Ak= 0.22 ⁴	CFM	65	86	108	129	151	172	194	215	237	258
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.050	0.060	0.080	0.090	0.110	0.130
	Horizontal Throw ²	6-3	8-4	10-5	11-6	13-8	15-7	17-8	19-9	20-10	22-11
	Noise Criteria ³	-	-	-	<20	22	26	29	33	36	38
12 x 6 ⁶ 24 x 3 ⁶ 18 x 4 ⁶ Ak= 0.27 ⁴	CFM	81	108	135	162	189	216	243	270	297	324
	Total Pressure ¹	0.010	0.010	0.020	0.030	0.050	0.060	0.080	0.090	0.110	0.130
	Horizontal Throw ²	6-3	8-4	10-5	11-6	15-7	17-8	19-9	21-10	23-11	25-12
	Noise Criteria ³	-	-	-	<20	23	27	31	34	37	39
14 x 6 ⁶ Ak= 0.33 ⁴	CFM	98	131	164	196	229	262	295	327	360	393
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.050	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	7-3	9-5	11-6	14-7	16-8	18-9	21-10	23-11	25-13	27-14
	Noise Criteria ³	-	-	-	<20	24	27	31	34	37	40
16 x 6 ⁶ 24 x 4 ⁶ Ak= 0.39 ⁴	CFM	116	155	193	232	271	309	348	387	425	464
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.050	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	7-4	10-5	12-6	15-7	17-9	20-10	22-11	25-12	27-14	30-15
	Noise Criteria ³	-	-	-	<20	24	28	32	35	38	40
14 x 8 ⁶ Ak= 0.47 ⁴	CFM	141	188	234	281	328	375	422	469	516	563
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.040	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	8-4	11-6	14-7	16-8	19-10	22-11	25-12	27-14	30-15	33-16
	Noise Criteria ³	-	-	<20	20	25	29	32	36	39	41
20 x 6 ⁶ 30 x 4 ⁶ Ak= 0.51 ⁴	CFM	153	204	256	307	358	409	460	511	562	613
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.040	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	9-4	11-6	14-7	17-9	20-10	23-11	26-13	29-14	31-16	34-17
	Noise Criteria ³	-	-	<20	21	25	29	32	36	39	41
18 x 8 ⁶ 24 x 6 ⁶ 36 x 4 ⁶ Ak= 0.64 ⁴	CFM	193	257	321	385	449	513	578	642	706	770
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.040	0.060	0.070	0.090	0.110	0.113
	Horizontal Throw ²	10-5	13-6	16-8	19-10	22-11	26-13	29-14	32-16	35-18	38-19
	Noise Criteria ³	-	-	<20	22	26	30	35	37	40	43

McGill AirFlow LLC

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Universal, Single Deflection Register, DDFRUSDS⁵

Universal, Double Deflection Register, DDFRUDDS⁵

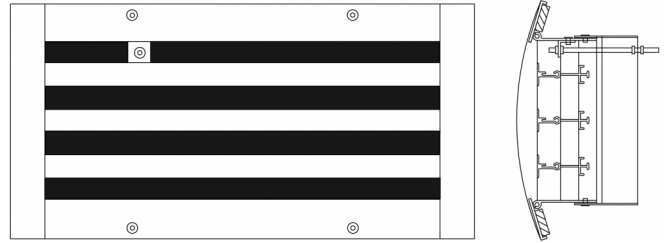


Average discharge velocity (fpm)		300	400	500	600	700	800	900	1000	1100	1200
16 x 10 ⁶ 20 x 8 ⁶ Ak= .73 ⁴	CFM	220	293	366	439	512	586	659	732	805	878
	Static Pressure ¹	0.010	0.010	0.020	0.03	0.04	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	10-5	14-7	17-9	21-10	24-12	27-14	31-15	34-17	38-19	41-21
	Noise Criteria ³	-	-	<20	23	27	31	35	38	41	44
30 x 6 ⁶ Ak= .85 ⁴	CFM	254	339	424	509	594	678	763	1018	1485	1620
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.040	0.060	0.070	0.090	0.110	0.130
	Horizontal Throw ²	11-6	15-7	18-9	22-11	26-13	29-15	33-17	37-19	41-20	44-22
	Noise Criteria ³	-	-	<20	23	27	31	35	38	41	44
36 x 6 ⁶ 18 x 12 ⁶ Ak= 1.06 ⁴	CFM	319	426	532	639	745	852	958	1065	1171	1278
	Static Pressure ¹	0.010	0.010	0.020	0.030	0.040	0.060	0.070	0.090	0.110	0.120
	Horizontal Throw ²	12-6	17-8	21-10	25-12	29-14	33-17	37-19	41-21	45-23	50-25
	Noise Criteria ³	-	-	<20	24	28	32	36	39	42	44
24 x 10 ⁶ 20 x 12 ⁶ 30 x 8 ⁶ Ak= 1.21 ⁴	CFM	364	486	607	729	850	972	1093	1215	1336	1456
	Static Pressure	0.010	0.010	0.020	0.030	0.040	0.050	0.070	0.090	0.100	0.120
	Horizontal Throw	13-7	18-9	22-11	26-13	31-15	35-18	40-20	44-22	48-24	53-26
	Noise Criteria	-	-	<20	24	29	33	36	39	42	45
30 x 12 ⁶ 36 x 10 ⁶ Ak= 2.02 ⁴	CFM	605	806	1008	1209	1411	1612	1814	2016	2217	2419
	Static Pressure	0.010	0.010	0.020	0.030	0.040	0.050	0.060	0.080	0.090	0.110
	Horizontal Throw	17-9	23-11	28-14	37-17	40-20	45-23	51-26	57-26	62-31	68-34
	Noise Criteria	-	-	20	26	30	34	38	41	44	47

- Notes:**
1. Static Pressure in inches water column
 2. Throw data are in feet at terminal velocities of 75 and 150 fpm, respectively.
 3. Noise Criteria (NC) based on a 10 dB room absorption evaluated at 125 Hz through 4000 Hz octave bands.
 4. Ak = Effective area in square feet
 5. Units come standard with air scoop.
 6. Width x Height is the nominal hole size in the duct. Width is the longer dimension.



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Linear Slot Register, DDFRLS⁷
 (1/2-, 3/4-, and 1-inch-wide slots)

1/2-inch Slots	1 Slot	Airflow Rate ²	7	10	13	17	20	23	27	30	33	37
		Static Pressure ²	0.002	0.003	0.006	0.009	0.016	0.018	0.024	0.030	0.037	0.045
		Horizontal Throw ^{2,4,5}	7-4-2	11-6-4	15-7-5	19-9-6	22-11-7	26-13-9	30-15-10	33-17-11	37-19-12	41-20-14
		Noise Criteria ^{3,6}	<15	<15	<15	<15	<15	<15	19	21	23	25
	2 Slot	Airflow Rate ²	10	17	23	30	37	43	50	57	63	70
		Static Pressure ²	0.001	0.002	0.004	0.007	0.011	0.015	0.020	0.026	0.032	0.039
		Horizontal Throw ^{2,4,5}	6-3-2	9-5-3	13-6-4	17-8-6	20-10-7	24-12-8	28-14-9	31-16-10	35-18-12	39-19-13
		Noise Criteria ^{3,6}	<15	<15	<15	<15	<15	<15	19	23	27	31
	3 Slot	Airflow Rate ²	13	23	33	43	53	63	73	83	93	103
		Static Pressure ²	0.001	0.002	0.004	0.006	0.009	0.012	0.017	0.021	0.027	0.033
		Horizontal Throw ^{2,4,5}	5-3-2	10-5-3	14-7-5	18-9-6	22-11-7	26-13-9	30-15-10	34-17-11	38-19-13	42-21-14
		Noise Criteria ^{3,6}	<15	<15	<15	<15	<15	18	21	25	30	33
	4 Slot	Airflow Rate ²	17	30	43	57	70	83	97	110	123	137
		Static Pressure ²	0.001	0.002	0.003	0.005	0.008	0.012	0.016	0.020	0.025	0.031
		Horizontal Throw ^{2,4,5}	6-3-2	10-5-3	15-8-5	20-10-7	24-12-8	29-14-10	31-17-11	38-19-13	43-21-14	47-24-16
		Noise Criteria ^{3,6}	<15	<15	<15	<15	18	20	22	27	32	34
3/4-inch Slots	1-Slot	Airflow Rate ²	10	15	20	25	30	35	40	45	50	55
		Static Pressure ²	0.002	0.004	0.007	0.011	0.015	0.020	0.027	0.034	0.042	0.050
		Horizontal Throw ^{2,4,5}	6-3-2	9-5-3	12-6-4	15-8-5	18-9-6	22-11-7	25-12-8	28-14-9	31-15-10	34-17-11
		Noise Criteria ^{3,6}	<15	<15	<15	<15	19	21	25	30	34	39
	2-Slot	Airflow Rate ²	15	25	35	45	55	65	75	85	95	105
		Static Pressure ²	0.001	0.003	0.005	0.008	0.012	0.017	0.022	0.029	0.036	0.044
		Horizontal Throw ^{2,4,5}	5-2-2	8-4-3	11-5-4	14-7-6	17-8-6	20-10-7	23-12-8	26-13-9	29-15-10	32-16-11
		Noise Criteria ^{3,6}	<15	<15	<15	<15	19	26	32	35	38	41
	3-Slot	Airflow Rate ²	20	35	50	65	80	95	110	125	140	155
		Static Total Pressure ²	0.001	0.002	0.004	0.007	0.010	0.014	0.019	0.024	0.030	0.037
		Horizontal Throw ^{2,4,5}	5-2-2	8-4-3	11-6-4	15-7-5	18-9-6	22-11-7	25-12-8	28-14-9	32-16-11	38-18-12
		Noise Criteria ^{3,6}	<15	<15	<15	18	23	28	33	37	40	43
	4-Slot	AirFlow Rate ²	25	45	65	85	105	125	145	165	185	205
		Static Pressure ²	0.001	0.002	0.004	0.006	0.009	0.013	0.017	0.023	0.028	0.035
		Horizontal Throw ^{2,4,5}	5-2-2	9-4-3	13-6-4	16-8-5	20-10-7	24-12-8	28-14-9	32-16-11	38-19-12	40-20-13
		Noise Criteria ^{3,6}	<15	<15	17	22	25	29	33	37	40	43

McGill AirFlow LLC

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Linear Slot Register, DDFRLS⁷ (1/2-, 3/4-, and 1-inch-wide slots)

1-inch Slots	1 Slot	Airflow Rate ²	13	20	27	33	40	47	53	60	67	73
		Static Pressure ²	0.002	0.005	0.009	0.014	0.020	0.027	0.036	0.045	0.056	0.067
		Horizontal Throw ^{2,4,5}	5-2-2	7-4-2	10-5-3	12-6-4	15-7-5	17-9-6	20-10-7	22-11-7	25-12-8	27-14-9
		Noise Criteria ^{3,6}	<15	<15	<15	20	25	31	37	41	43	45
	2 Slot	Airflow Rate ²	20	33	47	60	79	87	100	113	127	140
		Static Pressure ²	0.001	0.003	0.007	0.011	0.016	0.023	0.030	0.038	0.048	0.059
		Horizontal Throw ^{2,4,5}	4-2-1	6-3-2	9-4-3	11-6-4	14-7-5	16-8-5	19-9-6	21-10-7	23-12-8	26-13-9
		Noise Criteria ^{3,6}	<15	<15	<15	23	32	35	40	44	48	51
	3 Slot	Airflow Rate ²	27	47	67	87	107	127	147	167	187	207
		Static Pressure ²	0.001	0.003	0.005	0.009	0.013	0.019	0.025	0.032	0.040	0.049
		Horizontal Throw ^{2,4,5}	4-2-1	6-3-2	9-5-3	12-6-4	15-7-5	17-9-6	20-10-7	23-11-8	38-19-13	28-14-9
		Noise Criteria ^{3,6}	<15	<15	<15	23	32	35	40	44	48	51
	4 Slot	Airflow Rate ²	33	60	87	113	140	167	193	220	247	273
		Static Pressure ²	0.001	0.002	0.005	0.008	0.012	0.017	0.023	0.030	0.038	0.046
		Horizontal Throw ^{2,4,5}	4-2-1	7-3-2	10-5-3	13-7-4	16-8-5	19-10-8	22-11-7	25-13-8	29-14-10	32-16-11
		Noise Criteria ^{3,6}	<15	16	22	27	31	37	42	46	50	54

Notes: 1. Tests conducted in accordance with ANSI/ASHRAE 7-1991 at isothermal conditions.

2. Engineering Units: Airflow Rate = cfm per linear foot
 Static Pressure = inches water column
 Throw = feet at 50, 100, and 150 fpm terminal velocity

3. Noise Criteria (NC) is based on a 10 dB room absorption evaluated at 125 through 4000 Hz octave bands.

4. Throw data are based on a horizontal discharge in one direction only. For 2-way discharge pattern, the throw is determined from the published engineering data based on the number of slots and cfm per linear foot discharge in each direction.

5. Throw data are for 4-foot active diffuser lengths. For other active lengths, throw may be determined by applying the following multiplication factors:

Diffuser Length (feet)	Multiplication Factor
1	0.50
2	0.85
3	0.95
4	1.00

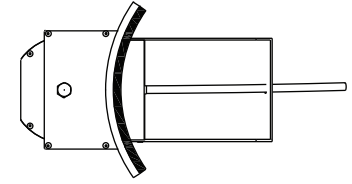
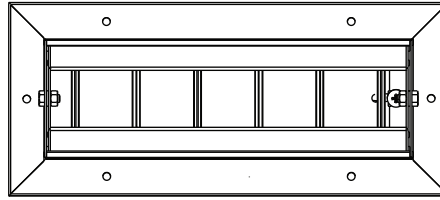
6. Noise Criteria are for 4-foot active diffuser lengths. For other lengths, add or deduct the following values to or from the reported NC level:

Diffuser Length (feet)	NC Correction
1	-2
2	-2
3	-1
4	0

7. The air scoop is standard equipment on units with 1-inch-wide slots and is not available on units with 1/2- or 3/4-inch-wide slots.

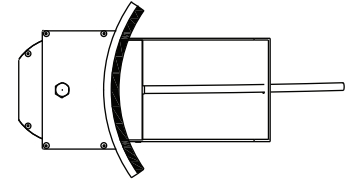
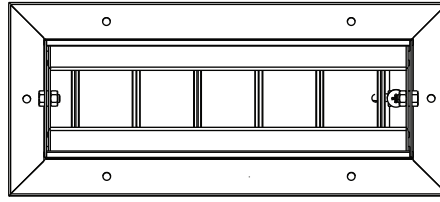
8. Width x height is the nominal hole size in the duct. Width is the longer dimension.

Drum Register, DDFRDS



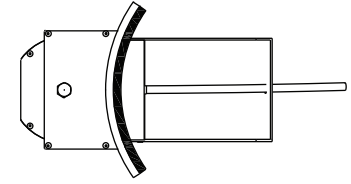
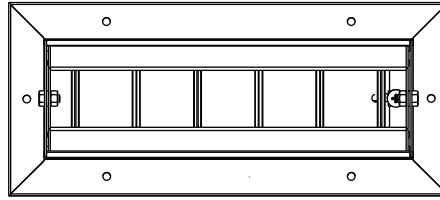
Average discharge velocity (fpm)		500	720	1000	1500	2000	2500
12 x 4 ⁶ Ak= 0.14 ⁴	CFM	72	107	143	215	286	358
	Total Pressure ¹	0.021	0.047	0.084	0.189	0.334	0.523
	Horizontal Throw ²	3-5-10	4-8-16	5-10-22	8-17-31	11-22-36	11-28-41
	Noise Criteria	<15	<15	<15	21	29	39
18 x 4 ⁶ Ak= 0.23 ⁴	CFM	114	171	228	342	456	570
	Total Pressure ¹	0.024	0.055	0.098	0.219	0.391	0.611
	Horizontal Throw ²	4-8-16	5-12-25	8-18-32	13-26-40	18-32-46	22-36-52
	Noise Criteria ³	<15	<15	<15	23	33	41
24 x 4 ⁶ Ak= 0.29 ⁴	CFM	146	218	291	437	583	728
	Total Pressure ¹	0.023	0.051	0.091	0.204	0.365	0.570
	Horizontal Throw ²	5-10-23	8-16-30	11-23-37	17-32-46	22-37-53	25-41-65
	Noise Criteria ³	<15	<15	<15	24	34	42
30 x 4 ⁶ Ak= 0.37 ⁴	CFM	183	274	366	549	731	914
	Total Pressure ¹	0.024	0.052	0.095	0.208	0.379	0.590
	Horizontal Throw ²	7-14-29	10-21-35	14-29-41	22-36-50	25-41-59	28-47-65
	Noise Criteria ³	<15	<15	<15	25	35	43
36 x 4 ⁶ Ak= 0.44 ⁴	CFM	220	330	440	660	880	1100
	Total Pressure ¹	0.024	0.052	0.095	0.208	0.379	0.590
	Horizontal Throw ²	8-17-32	12-24-39	17-32-46	24-40-55	28-46-64	31-50-72
	Noise Criteria ³	>15	>15	<15	28	38	47
42 x 4 ⁶ Ak= 0.51 ⁴	CFM	257	386	514	772	1029	1286
	Total Pressure ¹	0.024	0.054	0.095	0.215	0.381	0.593
	Horizontal Throw ²	10-20-35	15-27-42	20-35-49	26-42-60	30-49-70	33-55-78
	Noise Criteria ³	<15	<15	<15	27	37	46
48 x 4 ⁶ Ak= 0.59 ⁴	CFM	294	442	589	883	1178	1472
	Total Pressure ¹	0.024	0.054	0.096	0.215	0.384	0.593
	Horizontal Throw ²	12-23-37	17-30-45	22-37-53	28-46-65	32-53-74	36-59-83
	Noise Criteria ³	<15	<15	<15	28	38	47
60 x 4 ⁶ Ak= 0.74 ⁴	CFM	369	553	738	1106	1475	1844
	Total Pressure ¹	0.024	0.054	0.097	0.216	0.385	0.603
	Horizontal Throw ²	14-29-42	19-35-50	25-42-59	31-50-72	26-59-83	40-66-92
	Noise Criteria ³	<15	<15	>15	29	38	48

Drum Register, DDFRDS



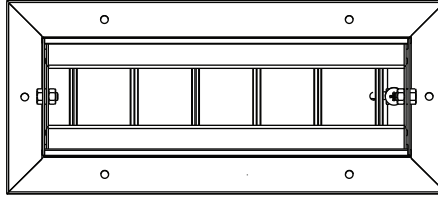
Average discharge velocity (fpm)		500	720	1000	1500	2000	2500
12 x 6 ⁶ Ak= 0.27 ⁴	CFM	135	203	270	338	405	540
	Total Pressure ¹	0.028	0.044	0.112	0.176	0.253	0.450
	Horizontal Throw ²	5-10-20	8-16-31	10-2036	12-25-39	15-31-43	21-36-50
	Noise Criteria	<15	<15	16	24	30	41
18 x 6 ⁶ Ak= 0.41 ⁴	CFM	205	308	410	513	615	820
	Total Pressure ¹	0.030	0.067	0.119	0.189	0.267	0.476
	Horizontal Throw ²	8-16-31	12-24-38	15-31-43	19-34-48	23-38-54	27-43-62
	Noise Criteria ³	<15	<15	18	26	32	42
24 x 6 ⁶ Ak= 0.55 ⁴	CFM	276	413	551	689	827	1102
	Total Pressure ¹	0.030	0.69	0.123	0.192	0.276	0.492
	Horizontal Throw ²	11-21-36	15-31-44	21-36-50	24-40-56	27-44-62	31-50-72
	Noise Criteria ³	<15	<15	20	28	34	44
30 x 6 ⁶ Ak= 0.69 ⁴	CFM	346	518	691	864	1037	1382
	Total Pressure ¹	0.031	0.070	0.126	0.195	0.281	0.504
	Horizontal Throw ²	13-26-41	20-35-49	24-40-56	27-44-63	30-49-70	35-56-80
	Noise Criteria ³	<15	<15	21	29	35	45
36 x 6 ⁶ Ak= 0.83 ⁴	CFM	416	624	832	1040	1248	1664
	Total Pressure ¹	0.032	0.071	0.128	0.199	0.285	0.510
	Horizontal Throw ²	16-31-44	23-38-54	27-44-62	30-49-69	33-54-77	38-62-88
	Noise Criteria ³	<15	<15	22	30	36	46
42 x 6 ⁶ Ak= 0.97 ⁴	CFM	487	730	973	1216	1460	1948
	Total Pressure ¹	0.032	0.072	0.129	0.201	0.287	0.512
	Horizontal Throw ²	19-34-48	25-41-59	29-48-67	32-53-75	36-59-83	41-67-95
	Noise Criteria ³	<15	<15	23	31	37	47
48 x 6 ⁶ Ak= 0.1.11 ⁴	CFM	557	835	1113	1391	1670	2226
	Total Pressure ¹	0.032	0.072	0.129	0.202	0.290	0.514
	Horizontal Throw ²	22-36-52	27-44-62	31-52-72	35-57-80	39-62-89	44-72-102
	Noise Criteria ³	<15	<15	23	32	38	48
60 x 6 ⁶ Ak= 0.1.40 ⁴	CFM	698	1046	1396	1744	2093	2790
	Total Pressure ¹	0.033	0.073	0.131	0.204	0.293	0.522
	Horizontal Throw ²	24-41-58	31-49-70	35-58-80	39-64-89	43-70-98	49-80-114
	Noise Criteria ³	<15	<15	24	32	39	49

Drum Register, DDFRDS

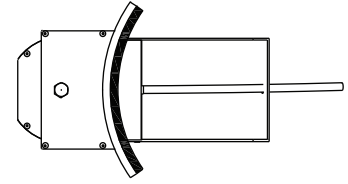


Average discharge velocity (fpm)		500	720	1000	1500	2000	2500
12 x 8 ⁶ Ak= 0.40 ⁴	CFM	200	300	400	500	600	800
	Total Pressure ¹	0.034	0.075	0.135	0.210	0.303	0.538
	Horizontal Throw ²	8-16-30	12-23-37	15-30-43	18-33-48	22-37-53	26-43-61
	Noise Criteria	<15	<15	21	29	36	46
18 x 8 ⁶ Ak= 0.61 ⁴	CFM	304	456	608	760	912	1216
	Total Pressure ¹	0.036	0.081	0.143	0.223	0.322	0.572
	Horizontal Throw ²	12-23-37	17-32-46	23-37-53	25-41-59	28-46-65	32-53-76
	Noise Criteria ³	<15	<15	23	31	37	47
24 x 8 ⁶ Ak= 0.82 ⁴	CFM	408	612	816	1020	1224	1632
	Total Pressure ¹	0.037	0.083	0.147	0.230	0.332	0.585
	Horizontal Throw ²	15-31-43	23-38-54	27-43-61	29-48-68	32-54-76	38-61-88
	Noise Criteria ³	<15	15	25	33	39	48
30 x 8 ⁶ Ak= 1.02 ⁴	CFM	512	768	1024	1280	1536	2048
	Total Pressure ¹	0.037	0.084	0.149	0.234	0.335	0.595
	Horizontal Throw ²	2-35-49	26-42-60	30-49-70	33-54-77	37-60-85	42-70-98
	Noise Criteria ³	<15	16	26	34	40	49
36 x 8 ⁶ Ak= 1.23 ⁴	CFM	617	925	1233	1541	1850	2466
	Total Pressure ¹	0.038	0.085	0.151	0.237	0.340	0.604
	Horizontal Throw ²	23-38-54	29-47-66	33-54-76	36-60-84	40-66-92	47-76-107
	Noise Criteria ³	<15	17	27	35	41	50
42 x 8 ⁶ Ak= 1.44 ⁴	CFM	721	1081	1441	1801	2162	2882
	Total Pressure ¹	0.038	0.086	0.153	0.239	0.345	0.613
	Horizontal Throw ²	25-41-58	31-50-71	35-58-82	39-64-91	43-71-101	50-82-116
	Noise Criteria ³	<15	18	28	35	42	52
48 x 8 ⁶ Ak= 1.65 ⁴	CFM	825	1237	1649	2061	2474	3298
	Total Pressure ¹	0.039	0.087	0.155	0.241	0.347	0.619
	Horizontal Throw ²	27-44-62	33-54-76	38-62-88	42-69-98	47-76-108	55-88-124
	Noise Criteria ³	<15	19	29	36	43	53
60 x 8 ⁶ Ak= 2.07 ⁴	CFM	1033	1550	2066	2583	3099	4132
	Total Pressure ¹	0.039	0.088	0.156	0.244	0.350	0.622
	Horizontal Throw ²	30-49-70	37-60-85	42-70-98	47-77-109	52-85-120	60-98-139
	Noise Criteria ³	<15	20	30	37	44	54

Drum Register, DDFRDS



Performance Data



Performance Adjustment Factors for Various Deflection Angles

Deflection Angle	0 Degree	15 Degrees	30 Degrees	45 Degrees
Total Pressure (times)	1.0	1.2	1.8	2.4
Horizontal Throw (times)	1.0	0.8	0.7	0.5
Noise Criteria (add)	+0	+3	+7	+12

- Notes:**
1. Total Pressure in inches water column
 2. Throw data are in feet at terminal velocities of 200, 100, and 50 fpm, respectively.
 3. Noise Criteria (NC) based on a 10 dB room absorption evaluated at 125 Hz through 4000 Hz octave bands.
 4. Ak = Effective area in square feet
 5. Units come standard with air scoop
 6. Width x Height is the nominal hole size in the duct. Width is the longer dimension.
 7. Discharge velocity is in fpm.