

## PERFORMANCE DATA:

### MODEL SERIES 8100 AND 81GD • INDUSTRIAL SUPPLY GRILLES AND REGISTERS

#### MODELS: 81DV, 81DH, 81SV, 81SH, 813DV, 813DH, 813SV, 813SH, 81GDV, 81GDH

Listed Duct Size (inches)	Ak Factor	Neck Velocity, FPM	500	600	700	800	1000	1200	1400	1600	1800	
		Velocity Pressure	.016	.022	.031	.040	.062	.090	.122	.160	.202	
		Total Pressure	0°	.035	.050	.068	.088	.138	.198	.271	.354	.448
			22 1/2°	.039	.056	.076	.099	.155	.222	.305	.398	.503
			45°	.059	.084	.115	.149	.233	.334	.458	.598	.757
18 x 4 14 x 5 12 x 6		CFM		250	300	350	400	500	600	700	800	900
		Noise Criteria		–	–	–	–	26	30	34	38	41
		Throw	0°	13-20-28	15-22-31	17-24-34	19-26-36	22-28-39	24-30-42	26-32-45	28-34-48	30-36-51
			22 1/2°	10-16-22	12-18-24	13-20-26	15-21-28	17-23-31	18-25-33	20-27-35	22-29-37	23-31-39
			45°	7-10-13	8-11-14	9-12-16	10-12-17	11-13-19	12-14-20	13-15-22	14-16-23	15-17-25
26 x 6 18 x 8 16 x 10 12 x 12		CFM		500	600	700	800	1000	1200	1400	1600	1800
		Noise Criteria		–	–	–	23	29	34	38	41	44
		Throw	0°	17-26-37	20-29-41	23-32-45	26-35-49	29-38-53	33-42-58	36-45-62	39-48-66	42-51-70
			22 1/2°	14-20-29	16-23-32	19-25-36	21-28-39	24-31-43	26-33-46	28-36-49	31-39-53	33-42-56
			45°	9-12-18	10-14-20	12-15-22	13-17-24	15-19-26	16-20-29	17-22-31	19-24-33	20-26-35
24 x 8 20 x 10 16 x 12 14 x 14		CFM		750	900	1050	1200	1500	1800	2100	2400	2700
		Noise Criteria		–	–	22	25	31	36	40	43	46
		Throw	0°	24-35-48	28-38-53	31-42-58	35-45-63	39-49-69	42-52-74	46-56-79	50-59-84	53-63-89
			22 1/2°	19-28-38	22-31-42	25-34-46	27-36-50	30-39-55	33-42-59	36-45-63	39-48-67	42-51-71
			45°	12-17-24	14-19-26	16-21-29	17-23-31	19-25-34	21-27-36	23-29-39	25-31-41	27-33-44
36 x 8 30 x 10 24 x 12 20 x 14 18 x 16		CFM		1000	1200	1400	1600	2000	2400	2800	3200	3600
		Noise Criteria		–	–	23	26	32	37	41	44	48
		Throw	0°	25-37-54	29-41-60	34-46-66	39-51-73	43-55-79	48-60-85	52-64-92	57-69-98	61-73-104
			22 1/2°	20-30-44	24-33-49	27-37-54	31-41-58	35-44-63	38-48-68	42-51-73	46-55-78	50-58-83
			45°	12-18-27	14-20-30	17-23-33	19-25-36	22-28-39	24-30-42	26-32-45	29-35-48	31-37-51
36 x 12 30 x 14 26 x 16 24 x 18		CFM		1500	1800	2100	2400	3000	3600	4200	4800	5400
		Noise Criteria		–	21	25	28	34	39	43	46	49
		Throw	0°	30-44-66	36-50-74	42-56-81	47-62-89	53-68-97	59-74-104	65-80-112	71-86-120	77-92-127
			22 1/2°	24-35-53	28-40-59	33-45-65	37-50-71	42-55-78	46-60-84	51-65-90	55-70-96	60-75-102
			45°	15-22-33	18-25-37	21-28-41	23-31-44	26-34-48	29-37-52	32-40-56	35-43-60	38-46-64
48 x 12 36 x 16 30 x 20 24 x 24		CFM		2000	2400	2800	3200	4000	4800	5600	6400	7200
		Noise Criteria		–	22	26	30	36	40	44	48	51
		Throw	0°	33-49-76	40-56-85	47-63-94	53-70-102	60-77-111	67-85-120	74-92-129	81-99-138	88-106-147
			22 1/2°	27-40-61	32-45-68	38-51-75	43-57-82	49-62-89	54-68-96	59-73-103	65-79-110	70-84-117
			45°	16-25-38	19-28-42	23-32-47	27-35-51	30-39-56	34-42-60	37-45-64	41-49-69	44-52-73
60 x 12 54 x 14 48 x 16 42 x 18 36 x 20 30 x 24		CFM		2500	3000	3500	4000	5000	6000	7000	8000	9000
		Noise Criteria		–	23	27	31	37	41	45	49	52
		Throw	0°	38-56-87	45-64-96	52-72-105	60-79-115	67-87-124	74-95-133	82-103-143	89-111-152	96-119-161
			22 1/2°	30-45-70	36-51-77	42-57-85	47-63-92	53-70-100	59-76-107	65-83-114	71-89-122	77-95-129
			45°	19-28-44	23-32-48	26-36-53	30-39-58	34-43-62	37-47-67	41-51-71	45-55-76	49-59-80
72 x 12 60 x 14 54 x 16 48 x 18 36 x 24		CFM		3000	3600	4200	4800	6000	7200	8400	9600	10800
		Noise Criteria		–	24	28	32	38	42	46	50	53
		Throw	0°	42-62-95	50-70-105	58-79-115	66-88-126	74-96-136	82-105-146	90-113-157	98-122-167	106-130-177
			22 1/2°	33-50-75	39-57-83	46-64-91	53-70-99	59-77-107	66-84-115	72-91-123	79-98-131	85-105-139
			45°	21-32-48	25-36-53	29-40-58	33-44-63	37-48-68	41-53-74	45-57-79	49-61-84	53-65-89
72 x 14 60 x 16 54 x 18 48 x 20 30 x 30		CFM		3500	4200	4900	5600	7000	8400	9800	11200	12600
		Noise Criteria		20	25	29	32	38	43	47	50	54
		Throw	0°	44-55-101	53-66-112	62-77-124	70-88-136	79-99-147	88-111-159	97-122-170	106-133-182	115-144-193
			22 1/2°	35-53-80	42-60-89	49-68-98	57-76-108	64-83-117	71-91-126	79-98-136	86-106-145	93-113-154
			45°	22-32-50	26-37-56	31-42-62	35-47-67	40-52-73	44-57-79	48-62-85	53-67-91	57-72-97

#### Performance Notes:

- All pressures are in inches w.g..
- Throw values are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- Total pressures are based upon a grille without an opposed blade damper. Correction for grille with opposed blade damper – Multiply total pressure by 1.12.

- Noise Criteria values are based upon a grille without an opposed blade damper and a 0° deflection. Correction for grille with opposed blade damper – Add 5 dB to Noise Criteria. Correction for 22 1/2° deflection – Add 1 dB to Noise Criteria. Correction for 45° deflection – Add 7 dB to Noise Criteria.

- Noise Criteria (NC) values are based upon 10dB room absorption, re 10<sup>-12</sup> watts @ 0° deflection. Dash (–) in space indicates a Noise Criteria of less than 15.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023..

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		Total	0°	.035	.050	.068	.088	.138	.198	.271	.354	.448
		Pressure	22 1/2°	.039	.056	.076	.099	.155	.222	.305	.398	.503
			45°	.059	.084	.115	.149	.233	.334	.458	.598	.757
64 x 18 58 x 20 54 x 22 48 x 24 44 x 26 38 x 30		CFM	4000	4800	5600	6400	8000	9600	11200	12800	14000	
		Noise Criteria	21	26	30	33	39	44	48	51	54	
	6.10 5.90 4.71	Throw	0°	47-59-108	56-71-120	66-83-132	75-94-145	85-106-157	94-118-169	103-130-182	113-142-194	122-154-206
			22 1/2°	37-57-85	45-65-95	53-73-105	60-81-115	68-89-125	76-97-135	84-105-145	92-113-155	100-121-165
			45°	23-34-53	28-39-59	33-44-65	37-50-72	42-55-78	47-60-84	52-66-91	57-71-97	62-76-103
72 x 18 60 x 22 54 x 24 48 x 28 36 x 36		CFM	4500	5400	6300	7200	9000	10800	12600	14400	16200	
		Noise Criteria	22	26	30	34	40	44	48	52	55	
	6.94 6.72 5.36	Throw	0°	50-63-115	60-76-128	70-88-141	80-101-154	90-113-167	100-126-181	110-139-194	120-151-207	130-164-220
			22 1/2°	39-61-91	47-69-101	56-78-112	64-87-123	73-95-133	81-104-144	89-112-154	98-121-165	106-129-175
			45°	25-36-56	30-42-63	35-47-69	40-53-76	45-59-83	51-64-89	56-70-96	61-76-103	68-82-110

#### Performance Notes:

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Correction for grille with opposed blade damper – Add 5 dB to Noise Criteria.  
Correction for 22 1/2° deflection – Add 1 dB to Noise Criteria.  
Correction for 45° deflection – Add 7 dB to Noise Criteria.

5. Noise Criteria (NC) values are based upon 10dB room absorption, re 10<sup>-12</sup> watts @ 0° deflection. Dash (-) in space indicates a Noise Criteria of less than 15.
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