

## INDUSTRIAL SUPPLY GRILLES AND REGISTERS

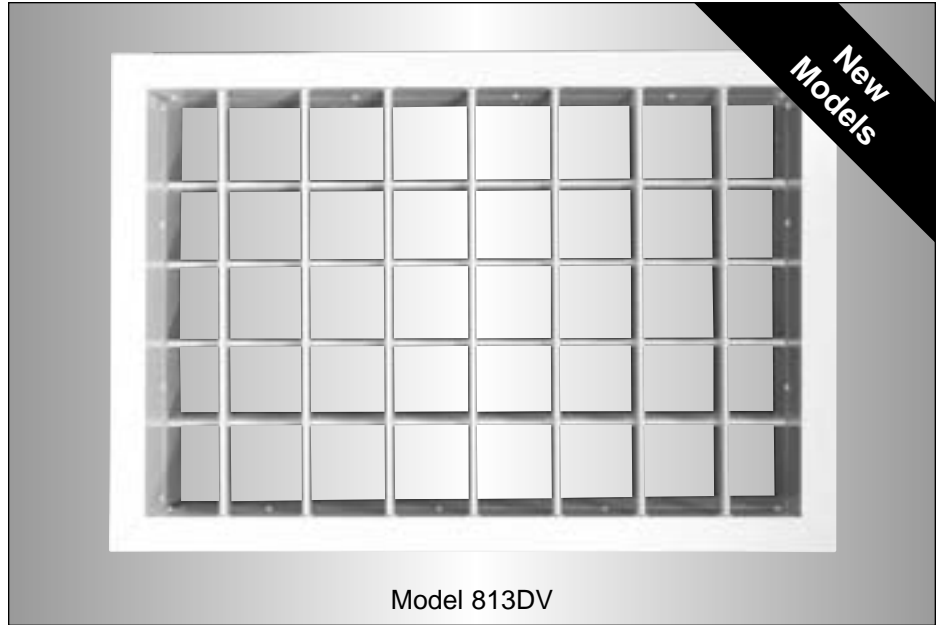
- HIGH CAPACITY
- EXTRUDED ALUMINUM
- 1 1/2" (38) OR 3" (76) SPACING

**Double Deflection Models:**  
81DV, 81DH, 813DV, 813DH

**Single Deflection Models:**  
81SV, 81SH, 813SV, 813SH

**Gang Operated Models:**  
81GDV and 81GDH

- Suffix '-O' adds a steel opposed blade damper



G

GRILLES AND REGISTERS

**Model Series 8100 Industrial Supply Grilles and Registers** have been specially designed to handle the large air volumes common in industrial applications and provide a product that is superior in design and performance when compared to the industry standard.

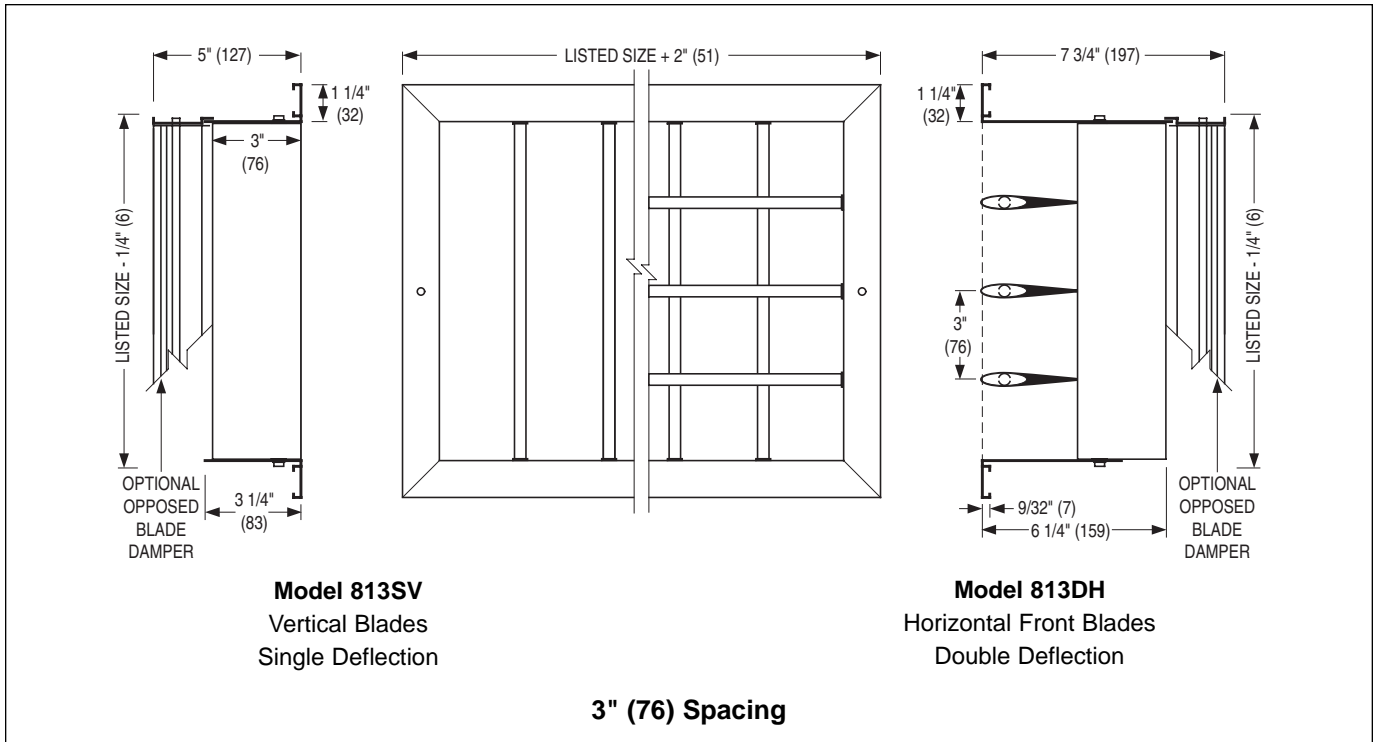
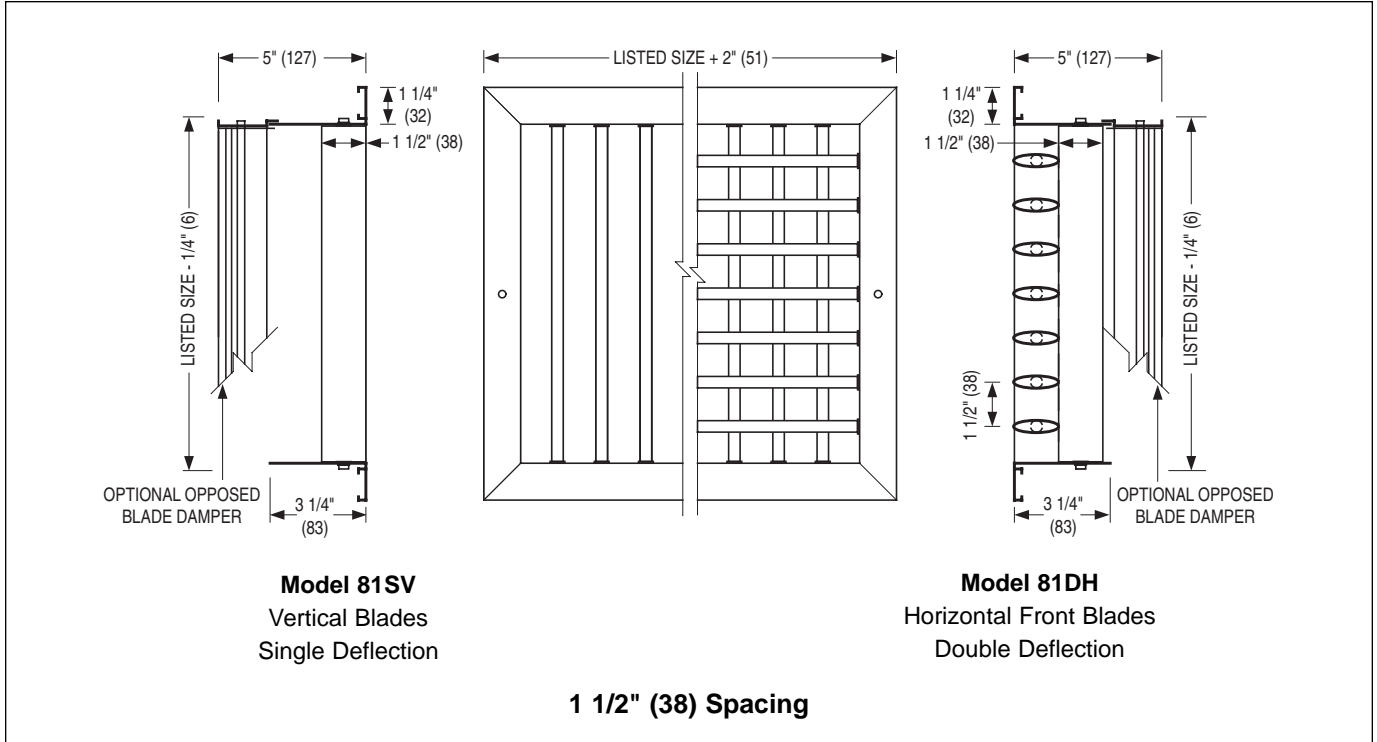
The exclusive use of heavy gauge extrusions and attention to assembly detail ensure the product is well suited to handling the higher face velocities commonly associated with industrial applications where longer throws are desired. Such applications include factories, warehouses, textile mills and commercial projects where longer than normal throws or a more robust grille design are required.

### FEATURES:

- High quality, extruded aluminum construction.
- Surface mount 1 1/4" (32) face border frame, furnished with screw holes and painted screws.
- Heavy gauge, extruded frame with reinforced mitered corners.
- The single deflection models have one set of blades and the double deflection have two sets of perpendicular blades. Blades are individually friction pivoted on screws and nylon washers to securely hold deflection setting.
- Models with 1 1/2" (38) blade spacing on centers, feature 1 1/2" (38) deep, smooth contoured airfoil blades with a minimum wall thickness of 0.05" (1.27) for optimum performance.
- The double deflection 1 1/2" (38) blade spacing models are available with front or rear gang operated blades to allow directional control of airflow in remote mounted locations. A pole operated lever on the face of the unit permits deflection of the ganged blades 45° from either side of center. The second set of perpendicular blades are individually adjustable from the face of the grille for additional directional control.
- Models with 3" (76) blade spacing, feature robust 3" (76) deep, smooth contoured airfoil blades.
- Optional opposed blade damper has a screwdriver slot operator.
- AW Appliance White baked enamel finish is standard. Other finishes are available.
- The 1 1/2" (38) blade spacing models are available in sizes 6" x 4" (152 x 102) through 36" x 36" (914 x 914) in single section construction. The 3" (76) blade spacing models are available in sizes 12" x 12" (305 x 305) through 48" x 48" (1219 x 1219) in single section construction. Multiple sections are furnished for larger sizes.

## Dimensional Data

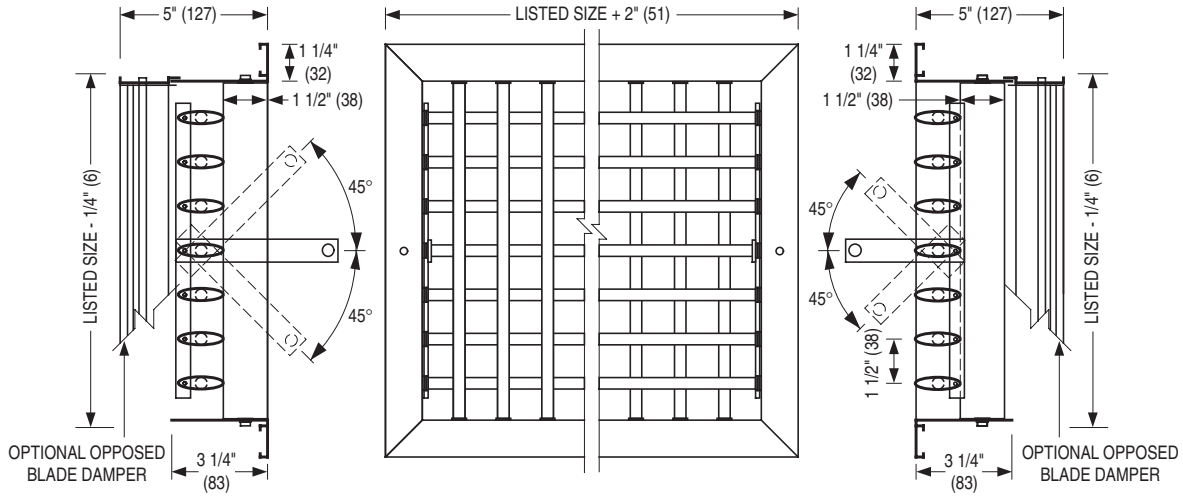
### Model Series 8100 Supply Industrial



GRILLES AND REGISTERS

## Dimensional Data

### Model Series 81GD Gang Operated Industrial Supply



**Model 81GDV**

Vertical Front Blades with  
Ganged Horizontal Rear Blades

**Model 81GDH**

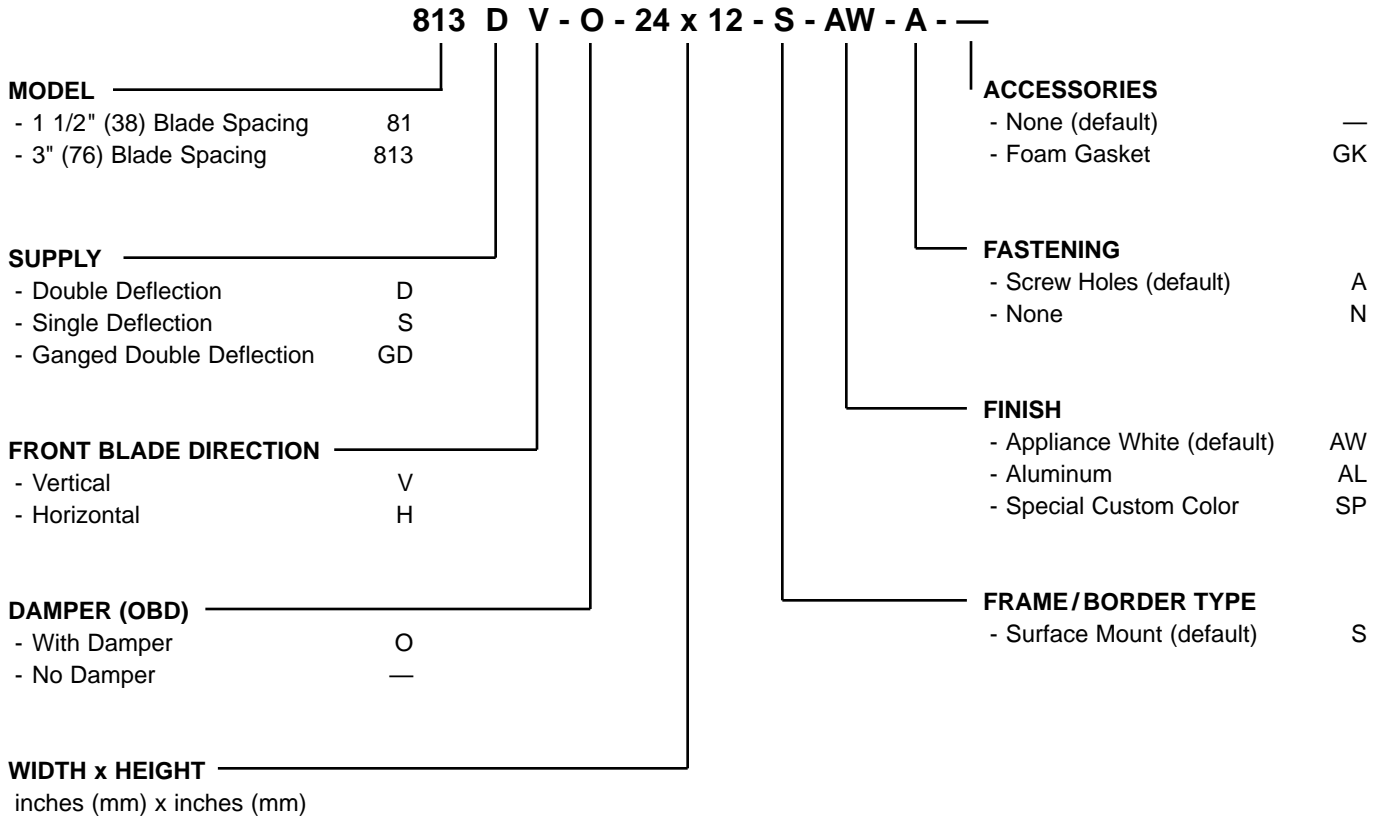
Ganged Horizontal Front Blades  
with Vertical Rear Blades



## HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

### Aluminum Industrial Supply Grilles and Registers – Model Series 8100



**G**  
GRILLES AND REGISTERS

**Notes:**

1. On double deflection gang operated models, the horizontal blades (parallel to width) are ganged, whether front (81GDH) or rear (81GDV). The other set are individually adjustable.
2. For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, a double deflection register with 3" (76) blade spacing, vertical front blades, and a damper is Model 813DV-O. Unit will be supplied with screw holes and AW Appliance White baked enamel finish.
3. The larger dimension must always be specified first; for example, 24 x 12 (610 x 305), not 12 x 24 (305 x 610).

**SUGGESTED SPECIFICATION:****81DV, 81DH Double Deflection – 1 1/2" (38) Blade Spacing**

Furnish and install **Nailor Model** (select one) **81DV** or **81DH Double Deflection Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a double set of perpendicular extruded aluminum adjustable blades that are airfoil shaped and spaced on 1 1/2" (38) centers. The frame is to be constructed from heavy gauge extruded aluminum with reinforced mitered corners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**81SV, 81SH Single Deflection – 1 1/2" (38) Blade Spacing**

Furnish and install **Nailor Model** (select one) **81SV** or **81SH Single Deflection Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a single set of extruded aluminum adjustable blades that are airfoil shaped and spaced on 1 1/2" (38) centers. The frame is to be constructed from heavy gauge extruded aluminum with reinforced mitered corners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**813DV, 813DH Double Deflection – 3" (76) Blade Spacing**

Furnish and install **Nailor Model** (select one) **813DV** or **813DH Double Deflection Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a double set of perpendicular extruded aluminum adjustable blades that are airfoil shaped and spaced on 3" (76) centers. The frame is to be constructed from heavy gauge extruded aluminum with reinforced mitered corners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**813SV, 813SH Single Deflection – 3" (76) Blade Spacing**

Furnish and install **Nailor Model** (select one) **813SV** or **813SH Single Deflection Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a single set of extruded aluminum adjustable blades that are airfoil shaped and spaced on 3" (76) centers. The frame is to be constructed from heavy gauge extruded aluminum with reinforced mitered corners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**81GDV, 81GDH Double Deflection Gang Operated – 1 1/2" (38) Blade Spacing**

Furnish and install **Nailor Model** (select one) **81GDV** or **81GDH Double Deflection Gang Operated Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a double set of perpendicular extruded aluminum adjustable blades that are airfoil shaped and spaced on 1 1/2" (38) centers. The horizontal blades shall be gang operated. The frame is to be constructed from heavy gauge extruded aluminum with reinforced mitered corners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Industrial Supply Grilles and Registers • 8100 Series

Models: 81DV, 81DH, 81SV, 81SH, 813DV, 813DH, 813SV, 813SH, 81GDV, 81GDH

Listed Duct Size (inches)	Neck Velocity, FPM		500	600	700	800	1000	1200	1400	1600	1800	
	VP		0.016	0.022	0.031	0.040	0.062	0.090	0.122	0.160	0.202	
	TP		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	
	NC		—	—	—	—	26	30	34	38	41	
	0.33	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	
Ak	T	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	
	NC		—	—	—	23	29	34	38	41	44	
	0.71	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	
Ak	T	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	
	NC		—	—	22	25	31	36	40	43	46	
	0.98	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	
Ak	T	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	
	NC		—	—	23	26	32	37	41	44	48	
	1.47	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	
Ak	T	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	
	NC		—	21	25	28	34	39	43	46	49	
	2.22	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	
Ak	T	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	
	NC		—	22	26	30	36	40	44	48	51	
	3.03	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	
Ak	T	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	
	NC		—	23	27	31	37	41	45	49	52	
	3.80	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	
Ak	T	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	
	NC		—	24	28	32	38	42	46	50	53	
	4.59	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	
Ak	T	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	
	NC		20	25	29	32	38	43	47	50	54	
	4.79	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	
Ak	T	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 Data

### Industrial Supply Grilles and Registers • 8100 Series

Models: 81DV, 81DH, 81SV, 81SH, 813DV, 813DH, 813SV, 813SH, 81GDV, 81GDH

Listed Duct Size (inches)	Neck Velocity, FPM		500	600	700	800	1000	1200	1400	1600	1800
	VP		0.016	0.022	0.031	0.040	0.062	0.090	0.122	0.160	0.202
	TP	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
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	14400
	NC		21	26	30	33	39	44	48	51	54
	Ak	6.10	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
5.90		T 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
4.71		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
	NC		22	26	30	34	40	44	48	52	55
	Ak	6.94	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
6.72		T 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
5.36		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	66-82-110

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GRILLES AND REGISTERS

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

**Ak** - flow factor

#### Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Total pressures are based upon a grille without an opposed blade damper. Correction for grille with OBD - Multiply total pressure by 1.12.

3. NC values are based upon a grille without an opposed blade damper and a 0° deflection.

Correction for grille with OBD - Add 5 dB to NC.

Correction for 22 1/2° deflection - Add 1 dB to NC.

Correction for 45° deflection - Add 7 dB to NC.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## INDUSTRIAL SUPPLY GRILLES AND REGISTERS

- MODULAR CORE
- HIGH CAPACITY

### Models:

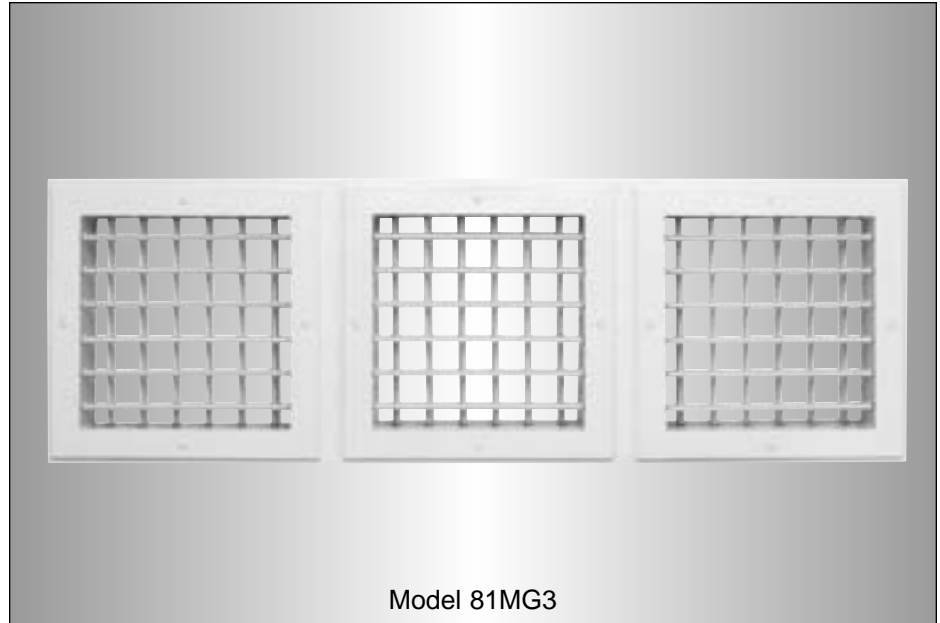
**81MG1 - One Module**

**81MG2 - Two Modules**

**81MG3 - Three Modules**

**81MG4 - Four Modules**

- Suffix '-O' adds an opposed blade damper



**Model Series 81MG Industrial Supply Grilles and Registers** have been specially designed to incorporate the industry leading characteristics of the 8100 Series into a unique modular mounting arrangement. The double deflection blade design incorporates two sets of heavy duty extruded aluminum, individually adjustable airfoil blades on 1 1/2" (38) centers allowing maximum flexibility. Quick release fasteners on each module allow them to be quickly removed and adjusted or rotated to control the spread, throw distance and air pattern.

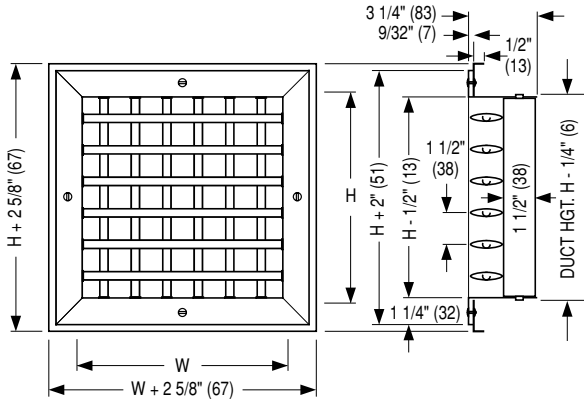
Ideal for use in applications such as factories, warehouses, shopping malls, atriums and stadiums, the removable modules can be easily readjusted to suit almost any application.

### FEATURES:

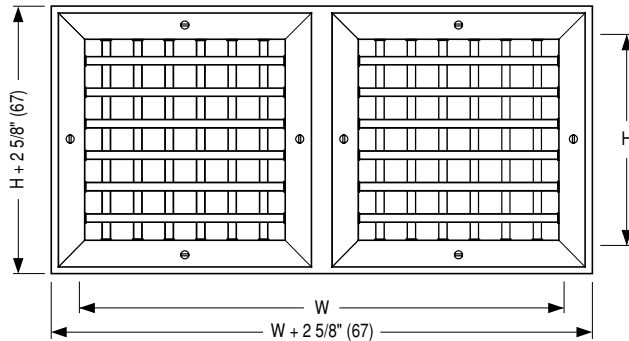
- Heavy duty 18 gauge galvanized steel frame accommodates up to four individual grilles.
- Each grille features a heavy duty extruded aluminum frame with reinforced mitered corners.
- Grilles are attached to modular frame by quick release 1/4 turn fasteners. Modular frame has pre-punched holes for attachment to flanged duct.
- Streamlined airfoil shaped, individually adjustable, heavy duty aluminum blades 1 1/2" (38) deep with a minimum wall thickness of 0.05" (1.27) on 1 1/2" (38) centers for optimum performance.
- Blades are friction pivoted on screws and nylon washers to securely hold deflection setting.
- Optional opposed blade damper has a screwdriver slot operator.
- AW Appliance White baked enamel finish is standard. Other finishes are available.
- Individual grille modules are available in sizes 8" x 8", 10" x 10", 12" x 12" and 15" x 15", (203 x 203, 254 x 254, 305 x 305 and 381 x 381).

## Dimensional Data

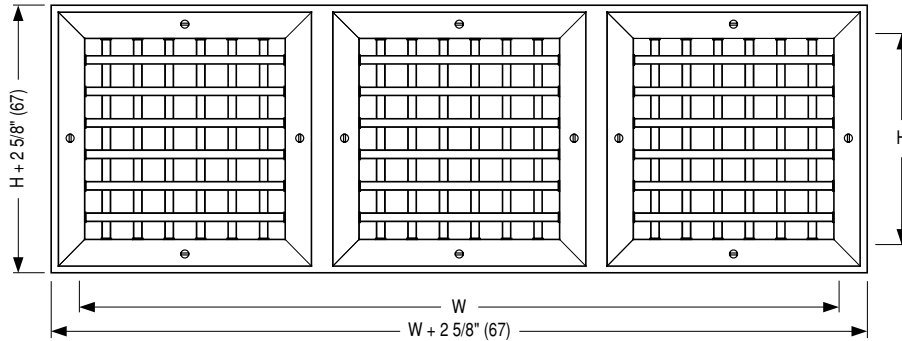
### 81MG Modular Core Models



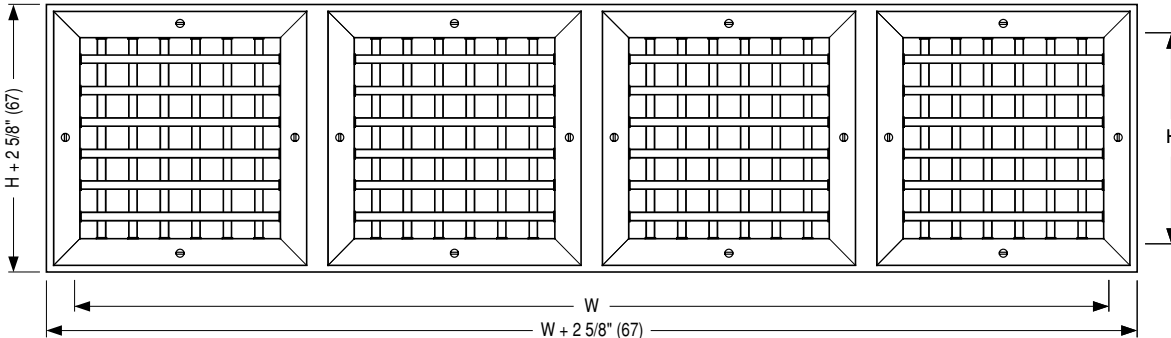
**Model 81MG1 – One Module**



**Model 81MG2 – Two Modules**



**Model 81MG3 – Three Modules**



**Model 81MG4 – Four Modules**

### Dimensional Data/Imperial (inches)

H - Listed Size (Duct)	W- Listed Size (Duct)			
	1 Module	2 Modules	3 Modules	4 Modules
8	8	19	30	41
10	10	23	36	49
12	12	27	42	57
15	15	33	51	69

### Dimensional Data/Metric (mm)

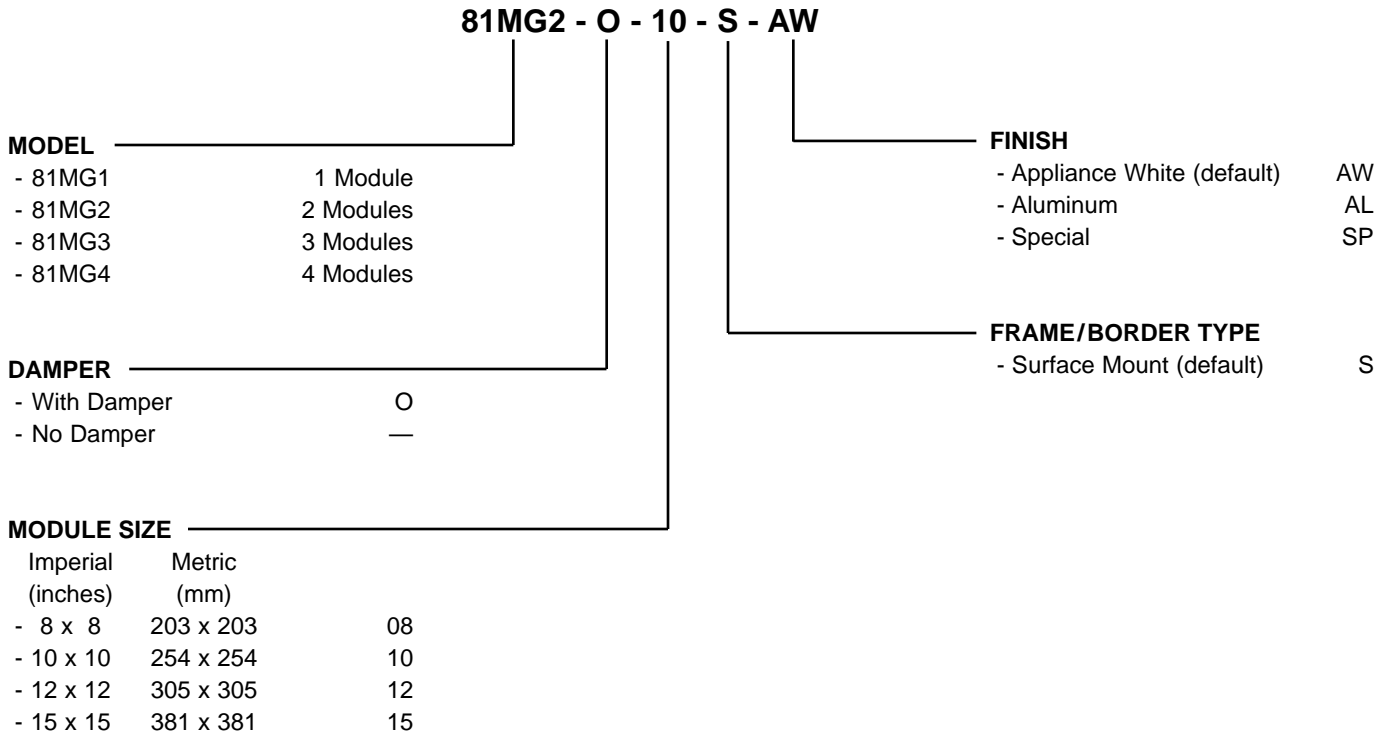
H - Listed Size (Duct)	W- Listed Size (Duct)			
	1 Module	2 Modules	3 Modules	4 Modules
203	203	483	762	1041
254	254	584	914	1245
305	305	686	1067	1448
381	381	838	1295	1753



## HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

### Industrial Modular Core Grilles and Registers – Model Series 81MG



**GRILLES AND REGISTERS**

**Notes:**

- For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, a two module register with a damper is Model 81MG2-O. Unit will be supplied with AW Appliance White baked enamel finish.

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **81MG1, 81MG2, 81MG3** or **81MG4 Double Deflection Modular Core Industrial Supply Grilles** of the type and size as shown on the plans and air distribution schedules. The grilles shall have a double set of perpendicular extruded aluminum adjustable blades that are airfoil shaped and spaced on 1 1/2" (38) centers. The frame is to be constructed from heavy gauge extruded aluminum and have reinforced mitered corners. Grilles are to be attached to a modular frame by quick release 1/4 turn fasteners. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, adjustable from the face of the grille, shall be provided with all units. Dampers shall be attached to the grille core and be completely removable.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Industrial Grilles and Registers • 81MG Series

#### Model 81MG1 • One Module

Listed Duct Size (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity, FPM		500	600	700	800	1000	1200	1400	1600	1800	
			VP		.016	.022	.031	.040	.062	.090	.122	.160	.202	
			TP	0°	.036	.052	.071	.092	.144	.208	.283	.370	.468	
				22 1/2°	.042	.060	.081	.106	.166	.239	.325	.425	.538	
				45°	.061	.088	.119	.156	.244	.351	.478	.624	.790	
8	0.38			CFM	190	228	266	304	380	456	532	608	684	
				NC	—	—	16	19	25	29	33	37	41	
				T	0°	11-18-25	12-19-27	14-21-29	16-22-30	19-24-33	21-26-36	23-28-39	25-30-41	27-32-44
				22 1/2°	9-14-20	10-16-22	11-17-23	13-17-24	15-19-26	17-21-29	18-22-31	20-24-33	22-25-35	
				45°	5-9-12	6-9-13	7-10-14	8-10-14	9-11-16	10-12-17	11-13-18	12-14-20	13-15-21	
				CFM	305	366	427	488	610	732	854	976	1098	
10	0.61			NC	—	15	18	21	27	31	35	39	42	
				T	0°	14-22-30	17-24-33	19-26-36	22-28-39	25-30-42	27-33-45	29-35-49	31-37-52	33-40-55
				22 1/2°	11-17-24	14-19-26	15-21-29	18-22-31	20-24-34	22-26-36	23-28-39	25-30-41	26-32-44	
				45°	7-10-14	8-11-16	9-12-17	11-13-19	12-15-20	13-16-22	14-17-23	15-18-25	16-19-26	
				CFM	450	540	630	720	900	1080	1260	1440	1620	
				NC	—	16	20	23	29	33	37	41	43	
12	0.90			T	0°	17-27-37	20-29-40	22-31-43	25-33-46	28-36-50	31-39-54	34-42-58	37-44-62	40-47-66
				22 1/2°	14-21-30	16-23-32	18-25-34	20-26-37	22-29-40	25-31-43	27-33-46	30-35-50	32-37-53	
				45°	8-13-18	10-14-19	11-15-21	12-16-22	13-17-24	15-19-26	16-20-28	18-21-30	19-22-32	
15	1.44			CFM	720	864	1008	1152	1440	1728	2016	2304	2592	
				NC	—	17	21	24	30	35	39	42	45	
				T	0°	23-33-46	27-37-52	31-41-57	34-44-61	38-48-67	42-52-72	45-55-77	49-59-82	52-63-87
				22 1/2°	18-26-37	22-30-42	25-33-46	27-35-49	30-39-54	33-41-58	36-44-62	39-47-66	42-50-70	
				45°	11-16-22	13-18-25	15-20-27	16-21-29	18-23-32	20-25-35	22-27-37	23-28-39	25-30-42	

#### Model 81MG2 • Two Modules

8	0.76			CFM	380	456	532	608	760	912	1064	1216	1368	
				NC	—	—	18	22	28	33	37	40	44	
				T	0°	15-23-32	18-26-36	20-29-40	22-31-43	26-33-46	29-36-50	31-39-54	34-41-57	36-44-61
				22 1/2°	12-18-26	14-21-29	16-23-32	18-25-34	21-26-37	23-29-40	25-31-43	27-33-46	29-35-49	
				45°	7-11-15	9-12-17	10-14-19	11-15-21	12-16-22	14-17-24	15-18-26	16-20-27	17-21-29	
				CFM	610	732	854	976	1220	1464	1708	1952	2196	
10	1.22			NC	—	16	20	24	30	34	38	41	45	
				T	0°	18-30-42	22-34-47	27-37-52	30-40-56	34-43-60	37-46-65	41-50-69	44-53-74	47-55-78
				22 1/2°	14-24-34	18-27-38	22-30-42	24-32-45	27-35-48	30-37-52	32-40-55	35-42-59	38-44-62	
				45°	9-15-20	11-16-23	13-18-25	14-19-27	16-21-29	18-22-31	19-24-33	21-25-35	23-27-37	
				CFM	900	1080	1260	1440	1800	2160	2520	2880	3240	
				NC	—	18	22	25	31	36	40	43	47	
12	1.80			T	0°	24-37-52	28-42-59	32-46-64	36-49-68	41-54-75	45-57-81	50-61-86	54-65-92	58-69-97
				22 1/2°	19-30-42	22-34-47	26-37-51	29-39-54	33-43-60	36-46-64	40-49-69	43-52-73	46-55-78	
				45°	12-18-25	13-20-28	15-22-31	17-24-33	20-26-36	22-27-39	24-29-41	26-31-44	28-33-47	
15	2.87			CFM	1435	1722	2009	2296	2870	3444	4018	4592	5166	
				NC	15	20	24	27	33	38	42	45	48	
				T	0°	29-47-65	35-52-72	40-57-80	45-62-87	51-67-95	57-73-102	63-78-110	69-83-117	75-88-124
				22 1/2°	23-37-52	28-41-58	32-45-64	36-49-70	41-54-76	46-58-82	50-62-88	55-66-93	60-70-99	
				45°	14-22-31	17-25-35	19-27-38	22-30-42	24-32-46	27-35-49	30-37-53	33-40-56	36-42-60	

**G**  
GRILLES AND REGISTERS

## Performance Data

### Industrial Grilles and Registers • 81MG Series

#### Model 81MG3 • Three Modules

Listed Duct Size (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity, FPM		500	600	700	800	1000	1200	1400	1600	1800	
			VP	TP	.016	.022	.031	.040	.062	.090	.122	.160	.202	
8	1.13		CFM	NC	0°	17-29-40	21-32-44	25-35-49	28-38-53	31-41-57	34-44-61	38-47-66	41-50-70	44-53-74
					22 1/2°	14-23-32	17-25-35	20-28-39	22-31-42	25-33-46	27-35-49	30-38-52	33-40-56	35-42-59
					45°	8-14-19	10-15-21	12-17-24	13-18-25	15-20-27	16-21-29	18-23-31	20-24-33	21-25-36
						565	678	791	904	1130	1356	1582	1808	2034
10	1.83		CFM	NC	0°	24-37-52	28-42-59	32-46-64	36-50-69	41-55-76	45-58-82	50-62-88	54-66-93	58-70-99
					22 1/2°	19-30-42	22-34-47	26-37-51	29-40-55	33-44-61	36-46-65	40-50-70	43-53-75	46-56-79
					45°	12-18-25	13-20-28	15-22-31	17-24-33	20-26-36	22-28-39	24-30-42	26-32-45	28-34-48
						915	1098	1281	1464	1830	2196	2562	2928	3294
12	2.70		CFM	NC	0°	29-45-63	35-50-70	40-55-77	45-60-84	50-65-92	56-70-99	61-76-107	67-81-114	72-86-121
					22 1/2°	23-36-50	28-40-56	32-44-62	36-48-67	40-52-74	44-56-79	49-60-85	53-65-91	58-69-97
					45°	14-22-30	17-24-34	19-27-37	22-29-40	24-31-44	27-34-48	29-36-51	32-39-55	35-41-58
						1350	1620	1890	2160	2700	3240	3780	4320	4860
15	4.31		CFM	NC	0°	35-58-82	42-63-89	49-69-97	55-75-105	62-82-115	69-88-124	77-95-134	84-101-143	91-108-152
					22 1/2°	28-47-66	34-51-71	39-55-78	44-60-84	50-65-92	55-71-99	61-76-107	67-81-114	73-86-122
					45°	17-28-39	20-30-43	24-33-47	26-36-50	30-39-55	33-42-60	37-45-64	40-49-69	44-52-73
						2155	2586	3017	3448	4310	5172	6034	6896	7758

#### Model 81MG4 • Four Modules

8	1.51		CFM	NC	0°	24-34-48	28-38-53	31-41-58	35-45-63	39-49-69	42-53-74	46-56-79	50-60-84	53-63-89
					22 1/2°	19-27-38	22-30-42	25-33-46	28-36-50	31-39-55	34-42-59	37-45-63	40-48-67	42-51-71
					45°	12-16-23	13-18-25	15-20-28	17-21-30	19-24-33	20-25-36	22-27-38	24-29-40	25-30-43
						1220	1464	1708	1952	2440	2928	3416	3904	4392
10	2.44		CFM	NC	0°	27-43-60	32-47-66	37-52-73	41-57-80	47-62-87	52-67-94	58-71-101	63-76-107	68-81-114
					22 1/2°	22-34-48	26-37-53	30-41-58	33-45-64	38-49-70	42-53-75	46-57-80	50-61-86	54-65-91
					45°	13-20-29	15-22-32	18-25-35	20-27-38	23-30-42	25-32-45	28-34-48	30-37-51	33-39-55
						1795	2154	2513	2872	3590	4308	5026	5744	6462
12	3.59		CFM	NC	0°	32-53-73	39-57-80	45-63-89	51-69-97	57-75-105	64-81-114	71-87-122	77-93-131	84-99-139
					22 1/2°	26-42-58	31-45-64	36-51-71	41-55-78	46-60-84	51-64-91	56-69-98	62-74-104	67-79-111
					45°	15-25-35	19-27-38	22-30-43	24-33-47	27-36-50	31-39-54	34-42-59	37-44-63	40-48-67
						2870	3444	4018	4592	5740	6888	8036	9184	10332
15	5.74		CFM	NC	0°	39-66-92	47-72-102	55-80-112	63-87-123	71-94-133	79-102-143	87-109-154	95-116-164	103-127-174
					22 1/2°	31-53-74	38-58-82	44-64-90	50-70-98	57-76-106	63-81-115	70-87-123	76-93-131	82-102-139
					45°	19-32-44	23-35-49	26-38-54	30-42-59	34-45-64	38-49-69	42-52-74	46-56-79	49-61-84
						2870	3444	4018	4592	5740	6888	8036	9184	10332

- CFM** - cubic feet per minute
- FPM** - feet per minute velocity
- TP** - total pressure - inches w.g.
- VP** - velocity pressure - inches w.g.
- T** - throw in feet
- NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.
- Ak** - flow factor

- Performance Notes:**
1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
  2. Total pressures are based upon a grille without an opposed blade damper. Correction for grille with OBD- Multiply total pressure by 1.12.
  3. NC values are based upon a grille without an opposed blade damper and a 0° deflection.

- Correction for grille with OBD - Add 5 dB to NC.
- Correction for 22 1/2° deflection - Add 1 dB to NC.
- Correction for 45° deflection - Add 7 dB to NC.
- 4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

GRILLES AND REGISTERS