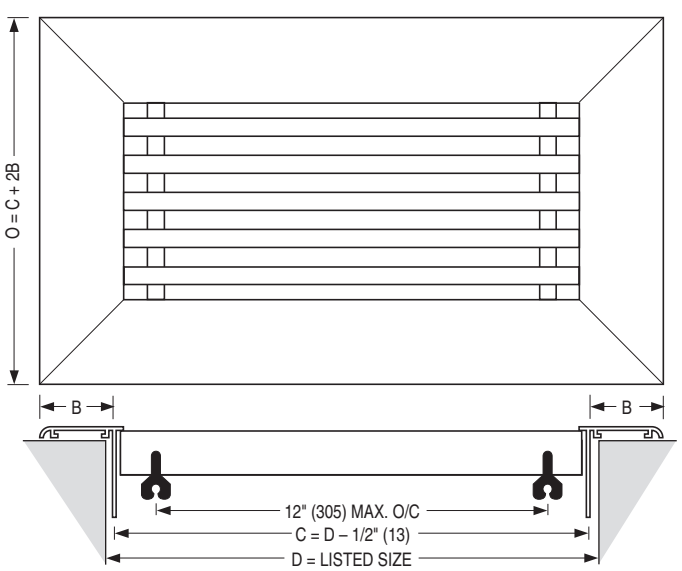
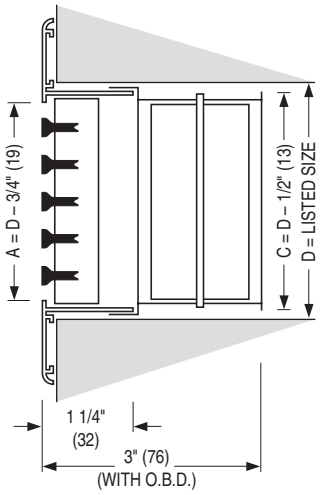
Nailor® Industries Inc.

LINEAR BAR GRILLES AND REGISTERS
ALUMINUM • FIXED CORE
MODEL SERIES: 4900





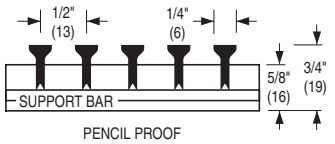
Dimensions are in inches (mm).

Series 4900 Extruded Aluminum Linear Bar Grilles and Registers are suitable for ceiling, sidewall or sill installation.
End caps are staked and mitered.
Min. nominal width = 1 1/2" (38).
Max. nominal width = 24" (610).
Available in 1/2" (13) nominal increments in width and 1" (25) in length.
Maximum single section length = 72" (1829).
Multiple-section assemblies are provided with alignment strips.

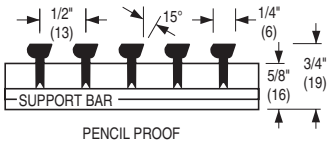
DAMPER SELECTION
(Optional)

❑ **OPPOSED BLADE**
Corrosion-resistant steel.
Minimum width = 2 1/2" (63).
(Single blade with friction hinge on 1 1/2" [38] and 2" [51] widths.)

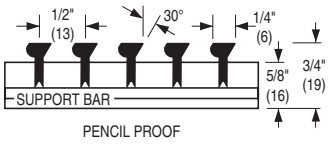
CORE SELECTION



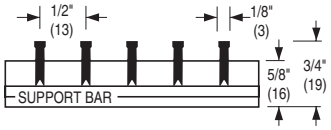
❑ 49-240 0° Deflection



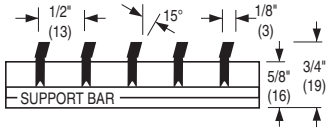
❑ 49-241 15° Deflection



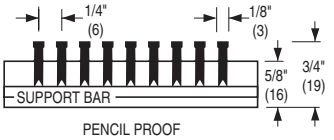
❑ 49-243 30° Deflection



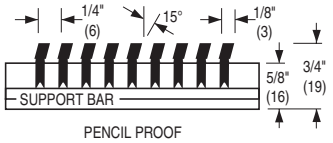
❑ 49-280 0° Deflection



❑ 49-281 15° Deflection

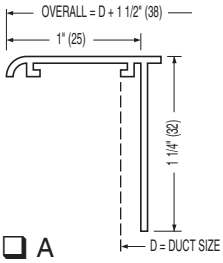


❑ 49-480 0° Deflection

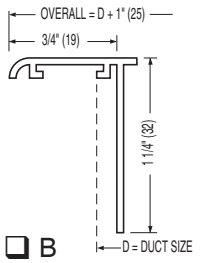


❑ 49-481 15° Deflection

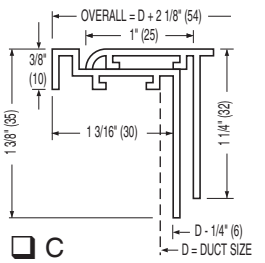
FRAME SELECTION



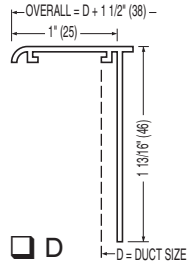
❑ A



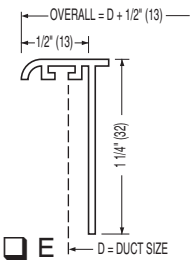
❑ B



❑ C

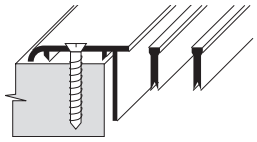


❑ D

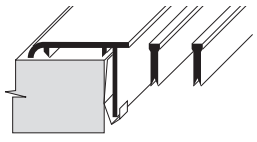


❑ E

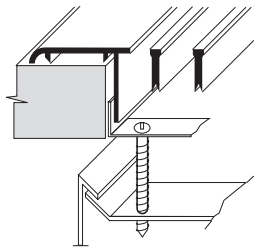
FASTENING SELECTION



❑ TYPE A
#8 Countersunk Screw Holes.
(except Frame E)



❑ TYPE B
Spring Clip
Sill applications only.



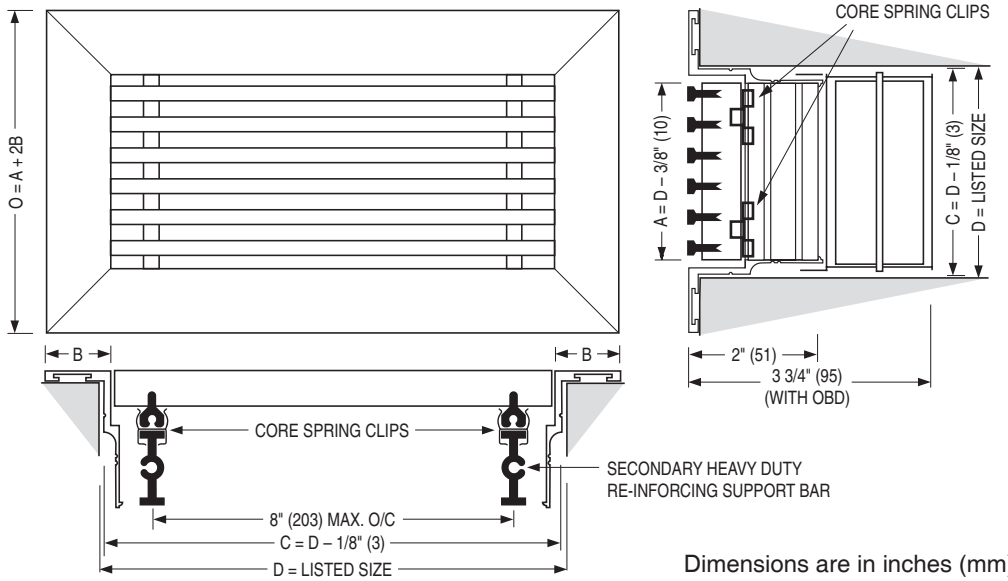
❑ TYPE C Concealed Mounting Bracket - (not recommended for cores with 1/4" (6) spacing).

FINISH:
- ❑ AW Appliance White
- ❑ AL Aluminum
- ❑ SA Satin (clear) Anodized
- ❑ BC Brushed clear-coat lacquer
- ❑ MI Mill
- ❑ SP Special

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**4 - 28 - 23**	**4900**	**9 - 18 - 20**	**4900-1**

Nailor® Industries Inc.

HEAVY DUTY LINEAR BAR GRILLES AND REGISTERS
ALUMINUM • REMOVABLE CORE
MODEL SERIES: 4900



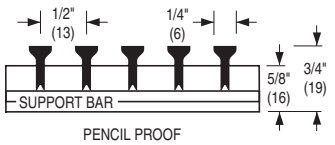
Dimensions are in inches (mm).

Designed for floor or sill installations. End caps are staked, welded and mitered.
Standard heavy duty reinforced core utilizes an additional cross-bar support. Spacing does not exceed 8" (203) on centers.
Core are removable and supplied with core spring clips as standard.
Structural support designed and installed by others.
Available in 1/2" (13) nominal increments in width and 1" (25) in length.

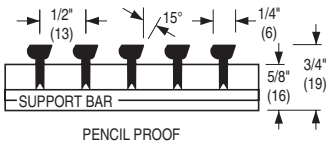
DAMPER SELECTION
(Optional)

❑ **OPPOSED BLADE**
Corrosion-resistant steel. Minimum width = 2 1/2" (63). (Single blade with friction hinge on 1 1/2" [38] and 2" [51] widths.)

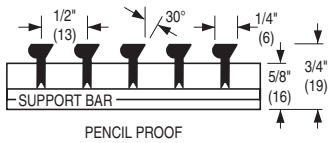
CORE SELECTION



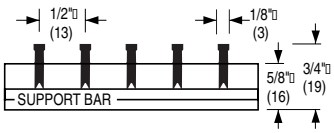
❑ 49-240 0° Deflection



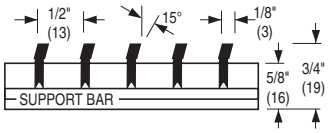
❑ 49-241 15° Deflection



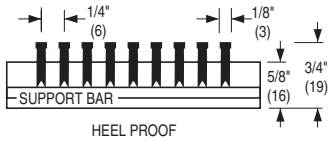
❑ 49-243 30° Deflection



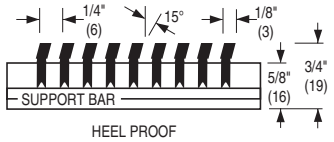
❑ 49-280 0° Deflection



❑ 49-281 15° Deflection



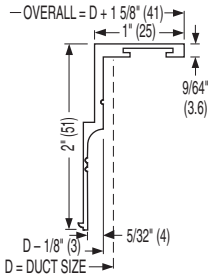
❑ 49-480 0° Deflection



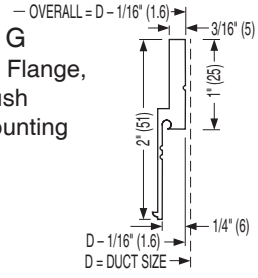
❑ 49-481 15° Deflection

FRAME SELECTION

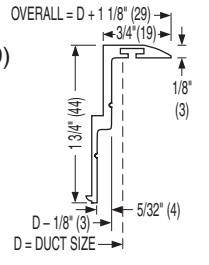
❑ **F**
1" (25) Border Flange



❑ **G**
No Flange, Flush Mounting

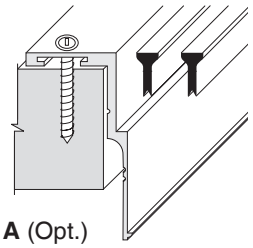


❑ **H**
3/4" (19) Border Flange

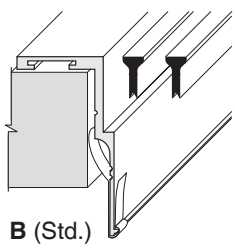


FINISH:
- ❑ AW Appliance White
- ❑ AL Aluminum
- ❑ SA Satin (clear) Anodized
- ❑ BC Brushed clear-coat lacquer
- ❑ MI Mill
- ❑ SP Special

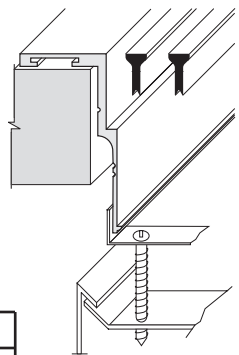
FASTENING SELECTION



❑ **A** (Opt.)
#8 Countersunk Screw Holes (Frame F only)



❑ **B** (Std.)
Spring Clip



❑ **C**
Concealed Mounting Bracket - (with core styles 480 and 481, remove core for access)

❑ **N**
None (Lay-in)

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**4 - 28 - 23**	**4900**	**10 - 28 - 21**	**4900-2**

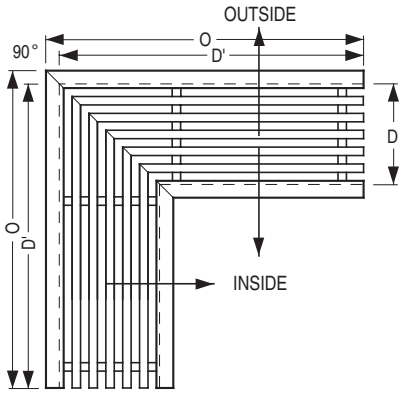
Nailor® Industries Inc.

LINEAR BAR GRILLES AND REGISTERS
ACCESSORIES
MODEL SERIES: 4900

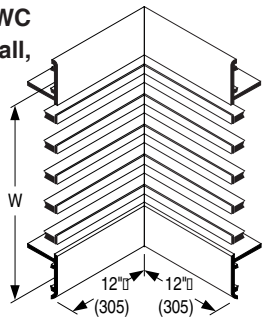
MITERED CORNER SECTIONS:

- ❑ **49-240MC** 1/2" (13) spacing, 1/4" (6) bars, 0° defl.
- ❑ **49-241MC** 1/2" (13) spacing, 1/4" (6) bars, 15° defl.
- ❑ **49-243MC** 1/2" (13) spacing, 1/4" (6) bars, 30° defl.
- ❑ **49-280MC** 1/2" (13) spacing, 1/8" (3) bars, 0° defl.
- ❑ **49-281MC** 1/2" (13) spacing, 1/8" (3) bars, 15° defl.
- ❑ **49-480MC** 1/4" (6) spacing, 1/8" (3) bars, 0° defl.
- ❑ **49-481MC** 1/4" (6) spacing, 1/8" (3) bars, 15° defl.

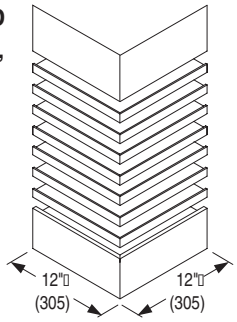
Factory welded with precision to match and align with the associated straight leg.
Standard mitered corner section for floor, ceiling or wall is 90°. Other angles are available.



❑ **Type WC Sidewall, inside**



❑ **Type WD Sidewall, outside**



SPECIAL MITERED CORNERS:

❑ **Other Angle** _____ .
*Available from 45 – 179° as SPL.
(A detailed sketch is required for co-ordination with installing contractors).

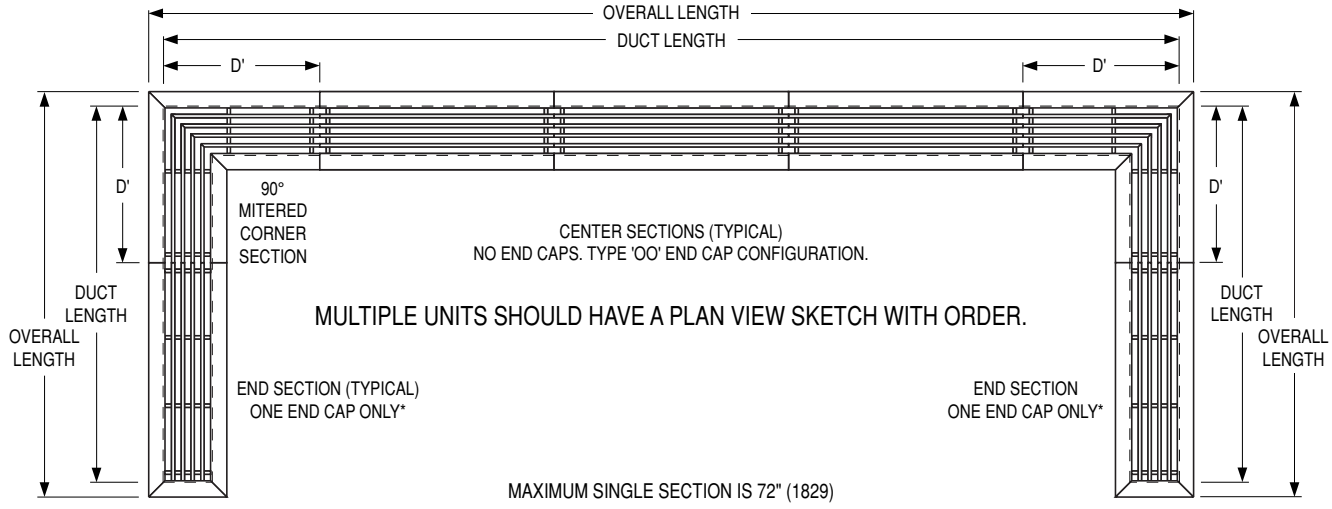
Floor, Ceiling or Sill

- ❑ **Type FO** • 0° deflection
- ❑ **Type FA** • Deflection inside
- ❑ **Type FB** • Deflection outside

90° Mitered Corner Dimension 'O'

Duct Width D	Duct Length D'	Frame Type							
		A, D	B	C	E	F	G	H	K
1 1/2" – 4"	12"	12 3/4" (324)	12 1/2" (318)	13 1/16" (332)	12 1/4" (311)	12 13/16" (325)	12" (305)	12 9/16" (319)	12 3/4" (324)
4 1/2" – 12"	18"	18 3/4" (476)	18 1/2" (470)	19 1/16" (484)	18 1/4" (464)	18 13/16" (478)	18" (457)	18 9/16" (471)	18 3/4" (476)

CONTINUOUS RUN DIMENSIONS

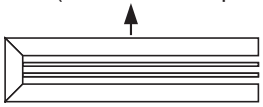


* End sections with single end caps and deflecting cores must be specified and ordered with the desired core deflection direction.

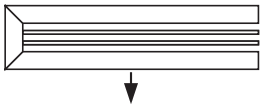
END CAP CONFIGURATIONS (mitered end cap one end and open opposite end):

❑ **Type 'MO'** = 0° deflection

❑ **Type 'MU'** = 15° or 30°



❑ **Type 'MD'** = 15° or 30°

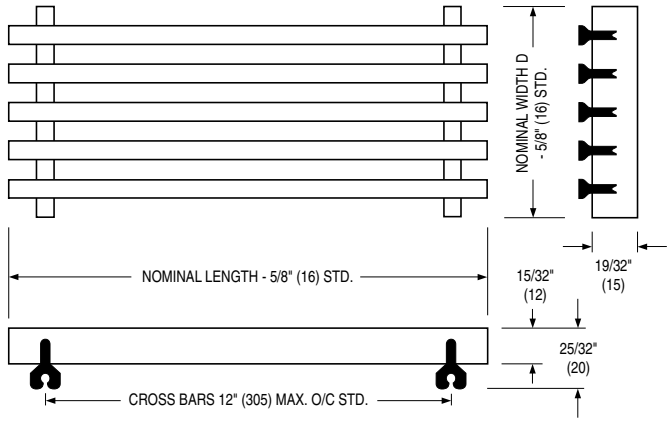


Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**11 - 12 - 18**	**4900**	**3 - 1 - 16**	**4900-3B**

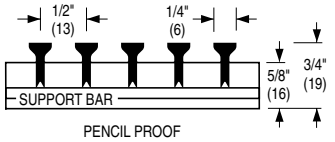
Nailor Industries Inc.

LINEAR BAR GRILLES • CORE ONLY
ALUMINUM • FIXED BARS
MODEL SERIES: 4900

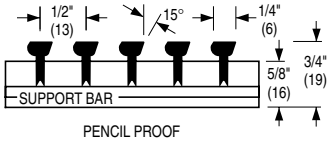


Nominal Width D	Standard Number of Bars	
	1/2" (13) Spacing	1/4" (6) Spacing
1 1/2 (38)	1	2
2 (51)	2	4
2 1/2 (63)	3	6
3 (76)	4	8
3 1/2 (89)	5	10
4 (102)	6	12
5 (127)	8	16
6 (152)	10	20

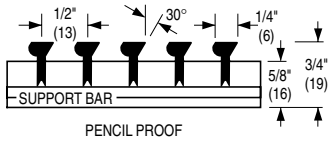
CORE SELECTION



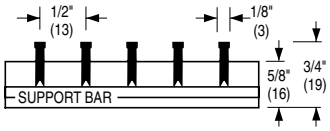
❑ 49-240 0° Deflection



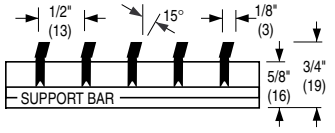
❑ 49-241 15° Deflection



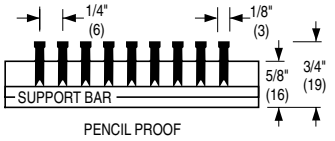
❑ 49-243 30° Deflection



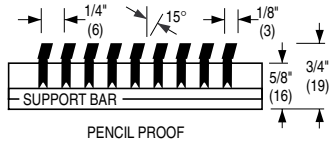
❑ 49-280 0° Deflection



❑ 49-281 15° Deflection



❑ 49-480 0° Deflection



❑ 49-481 15° Deflection

DESCRIPTION:

1. Series 4900 Extruded Aluminum Linear Bar Grille Cores may be used for various supply and/or return air applications. They are suited to ceiling, sidewall, sill or convector and forced air type enclosure applications. The longitudinal deflection bars are mechanically pressed and secured into place on the cross (support) bars.
2. The standard sizing for core only units is the same as for non-floor type cores when installed in the frames (Types A, B, C, D and E) of 4900 grilles and registers. Standard available core widths are shown above. Maximum single section length is 72" (1829).

OPTIONS:

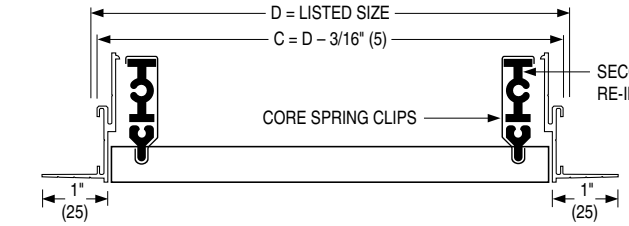
1. FINISH:
   - ❑ AW Appliance White
   - ❑ AL Aluminum
   - ❑ SA Satin (clear) Anodized
   - ❑ BC Brushed clear-coat lacquer
   - ❑ MI Mill
   - ❑ SP Special. Specify _____ .
2. ❑ HC Heavy-duty core. Cross bars are on 8" (203) max. centers.
3. ❑ CUSTOM FINISHED SIZE:

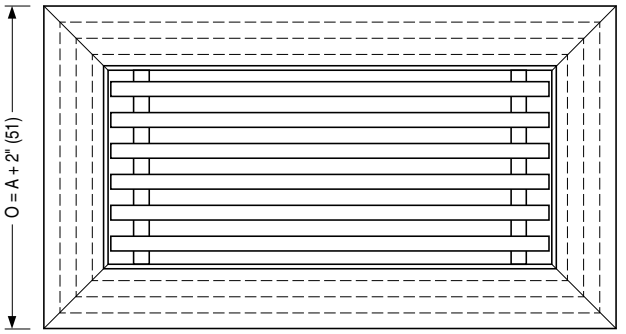
Availability subject to verification by factory. Specify.
Actual finished bar length = _____ .
Actual finished cross bar width = _____ .

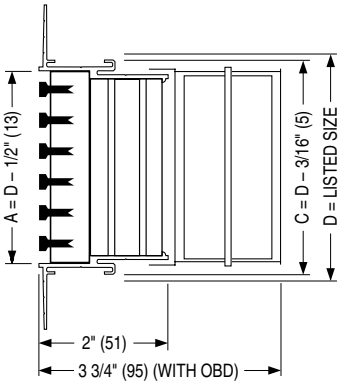
SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**16 - 9 - 99RR**	**4900**	**7 - 95**	**4900-4**

Nailor® Industries Inc.

HEAVY DUTY LINEAR BAR GRILLES AND REGISTERS
ALUMINUM • TAPE AND SPACKLE FRAME
REMOVABLE CORE
MODEL SERIES: 4900





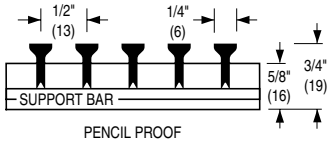


Designed for ceiling or sidewall installation.
Mitered end caps.
Standard heavy duty reinforced core utilizes an additional cross-bar support.
Core is removable and supplied with core clips as standard.
Min. nominal width = 1 1/2" (38).
Max. nominal width = 24" (610).
Available in 1/2" (13) nom. increments in width and 1" (25) in length.
Max. single section length = 72" (1829).
(Multiple-section assemblies are provided with alignment strips).

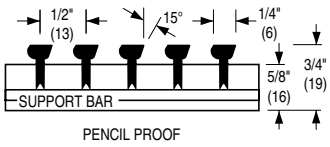
DAMPER SELECTION
(Optional)

❑ **OPPOSED BLADE**
Corrosion-resistant steel.
Minimum width = 2 1/2" (63).
(Single blade with friction hinge on 1 1/2" [38] and 2" [51] widths.)

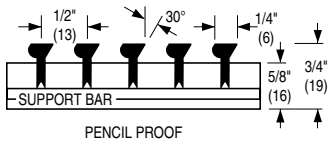
CORE SELECTION



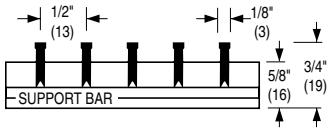
❑ 49-240 0° Deflection



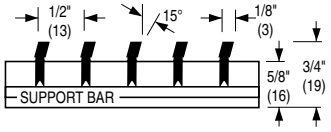
❑ 49-241 15° Deflection



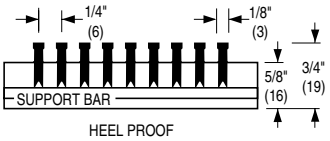
❑ 49-243 30° Deflection



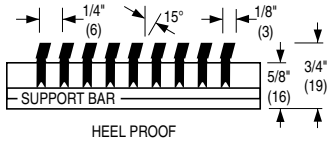
❑ 49-280 0° Deflection



❑ 49-281 15° Deflection



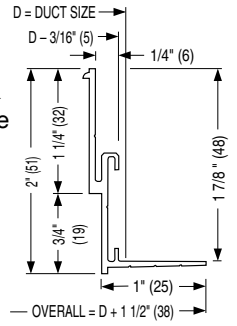
❑ 49-480 0° Deflection



❑ 49-481 15° Deflection

FRAME SELECTION

❑ K
1" (25) Tape & Spackle Border

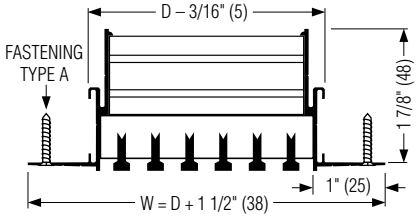


FINISH

❑ AW Appliance White
❑ AL Aluminum
❑ SA Satin (clear) Anodized
❑ BC Brushed clear-coat lacquer
❑ MI Mill
❑ SP Special

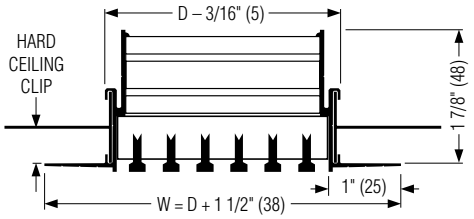
FASTENING SELECTION

❑ Type A
Countersunk screw holes
#8 drywall screws (by others)



❑ Type HC5
Hard Ceiling Clips for 1/2" (13) drywall

❑ Type HC1
Hard Ceiling Clips for 5/8" (16) drywall



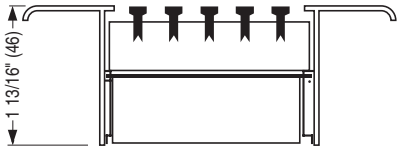
Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 3 - 25**	**4900**	**4 - 28 - 23**	**4900-6**

LINEAR BAR GRILLES AND REGISTERS
ACCESSORIES
MODEL SERIES: 4900

❑ TYPE DV DIRECTIONAL VANES

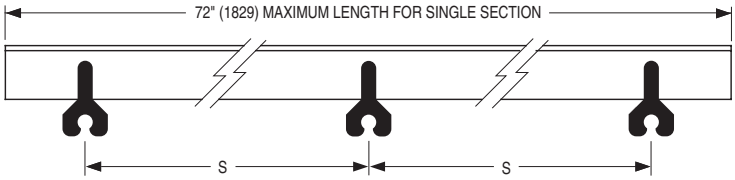
For widths 3" (76) and larger. Fully adjustable extruded aluminum blades on 3/4" (19) centers perpendicular to length.



Requires Frame Type D (deep stack), F, G, H or K.

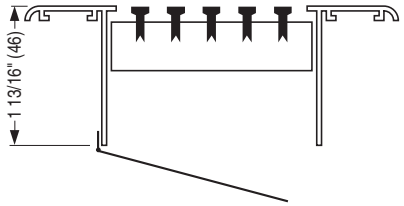
❑ TYPE HC HEAVY DUTY CORE

Standard with Heavy duty mounting frame types F and G. Optional heavy duty core has cross bars on 8" (203) maximum centers (standard duty core is 12" [305]). Structural support designed and installed by others.



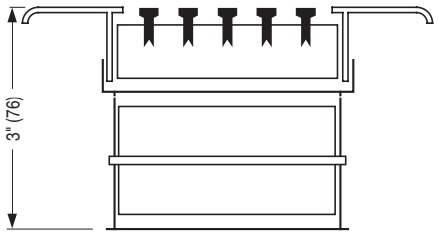
❑ TYPE O SINGLE BLADE DAMPER

Corrosion-resistant steel. Friction hinge on 1 1/2" (38) and 2" (51) widths. Screwdriver operator on 2 1/2" (64) through 4" (102).



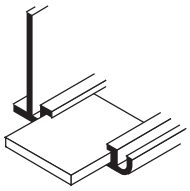
❑ TYPE OBD OPPOSED BLADE DAMPER

Corrosion-resistant steel. For linear bar grilles with a nominal duct width of 2 1/2" (64) and wider.



ALIGNMENT STRIPS

Supplied as standard on multiple-section assemblies to provide positive and accurate field alignment, except frame G which uses alignment pins.

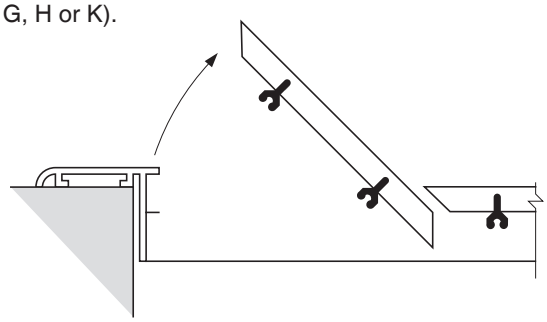


❑ MODEL BO STEEL BLANK-OFF

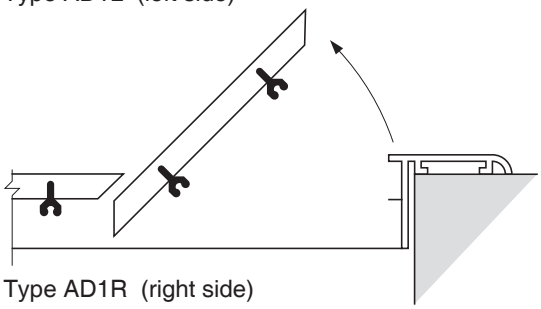
For all available widths. Supplied in 6' (1829) lengths for field cutting. Corrosion-resistant steel, painted black.

ACCESS DOORS

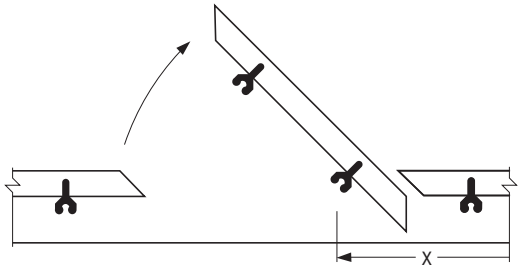
(Not available with Heavy Duty Frame/Border Types F, G, H or K).



❑ Type AD1L (left side)



❑ Type AD1R (right side)



CENTER SECTION:

❑ Type AD3L ❑ Type AD3R (not shown)
Specify 'X' dim.:
(distance from end of grille frame): _____ .

Access door is a 6" (152) core section hinged on one side. When selected with a deflected core, specify deflection:

Sill/ ❑ To the front Wall ❑ Up
Floor ❑ To the rear ❑ Down

SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**4 - 28 - 23**	**4900**	**2 - 27 - 19**	**4900-3A**

Nailor Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

Nailor offers a selection of standard colors and finishes available on our grilles, registers and diffusers. For painted finishes, our state-of-the-art paint systems provide environmentally friendly finishing solutions with uniform coverage and coating thickness. The result is an exceptionally durable finish that resists scratching, corrosion and general wear. Additional facilities for special requirements, as well as a selection of anodized or brushed finishes, complete our ability to provide unmatched beauty and durability for any application.

NAILOR POWDER COAT PROPERTIES

FILM THICKNESS	2.0 to 3.0 mils
HARDNESS	2 H
IMPACT RESISTANCE	Direct: 160 inch - lbs. Reverse 160 inch - lbs.
SALT SPRAY	1000 hours

ELECTROCOATING PROPERTIES

FILM THICKNESS	.8 to 1.2 mils
HARDNESS	HB TO H
IMPACT RESISTANCE	80 inch - lbs
SALT SPRAY	100 hours

POWDER COAT

Nailor's powder coat is a high-tech thermosetting polyester powder coating with superior physical properties that provide excellent color and gloss retention. The finish offers extreme durability and hardness that resists scratching, chipping and general wear. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse before a final powder coat finish is applied and baked. The environmentally friendly Nailor powder coat system assures uniform coverage and color consistency resulting in a long lasting superior finish. Colors, including simulated anodizing, which is far more economical than color anodizing, can be selected from Nailor's standard color chart or non-standard colors and can be matched from sample chips provided to Nailor.

ELECTROCOATING

E-Coat is an environmentally friendly coating that provides complete coverage and a wide range of performance properties, formulated to meet corrosion, durability and other performance specifications. Electrocoating is a highly automated process in which paint is electrically deposited onto a metal foundation. Film build thickness is uniform and overall application efficiencies are in excess of 90%. Paint is consistent on all part-to-part surfaces, preventing sags, runs or drips. E-Coat offers flexibility, better first yield pass and quicker production times compared to other forms of paint applications. Electrocoating is an excellent solution that offers superior properties and uniform finish.

CLEAR ANODIZING (Aluminum products only)

Clear anodizing is a clear oxide coating that exemplifies an aluminum surface's natural oxide coating producing a hard, scratch resistant surface that is resistant to general wear and mild chemicals. The process provides a natural looking, virtually maintenance free finish that will endure for many years.

COLOR ANODIZING (Aluminum products only)

Color anodizing is an electrolytic process where, after standard anodizing procedures, colored metallic pigments penetrate the oxide surface pores producing a corrosion resistant, colorfast finish. The process results in a natural metallic appearance that requires little maintenance.

BRUSHED AND CLEAR COAT

Available on specific aluminum products (consult applicable product page for availability). Surface is brushed to achieve a scratch finish texture before being degreased and chemically cleaned. A clear lacquer coating is then applied to provide a durable protective finish.

#4 BRUSHED SATIN POLISHED (Stainless Steel products only)

Surface is polished to ASTM A480 #4 standard to achieve a bright durable finish that is resistant to mild chemicals and corrosion. A final coating is not required due to the inherent anti-corrosion properties of the stainless steel.

PRIME COAT

Prime coat provides a stable base for painting in the field. Surface pretreatment includes degreasing and a chemical cleaning before an alkyd prime coat is applied. After a thorough cleaning for dust, etc. that can contaminate the final finish and cause premature flaking or peeling, finish coat should be field applied as soon as possible.

PAINT PREPARED ALUMINUM (Aluminum products only)

Allows for field applied paint. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse. Finish coat should be field applied as soon as possible.

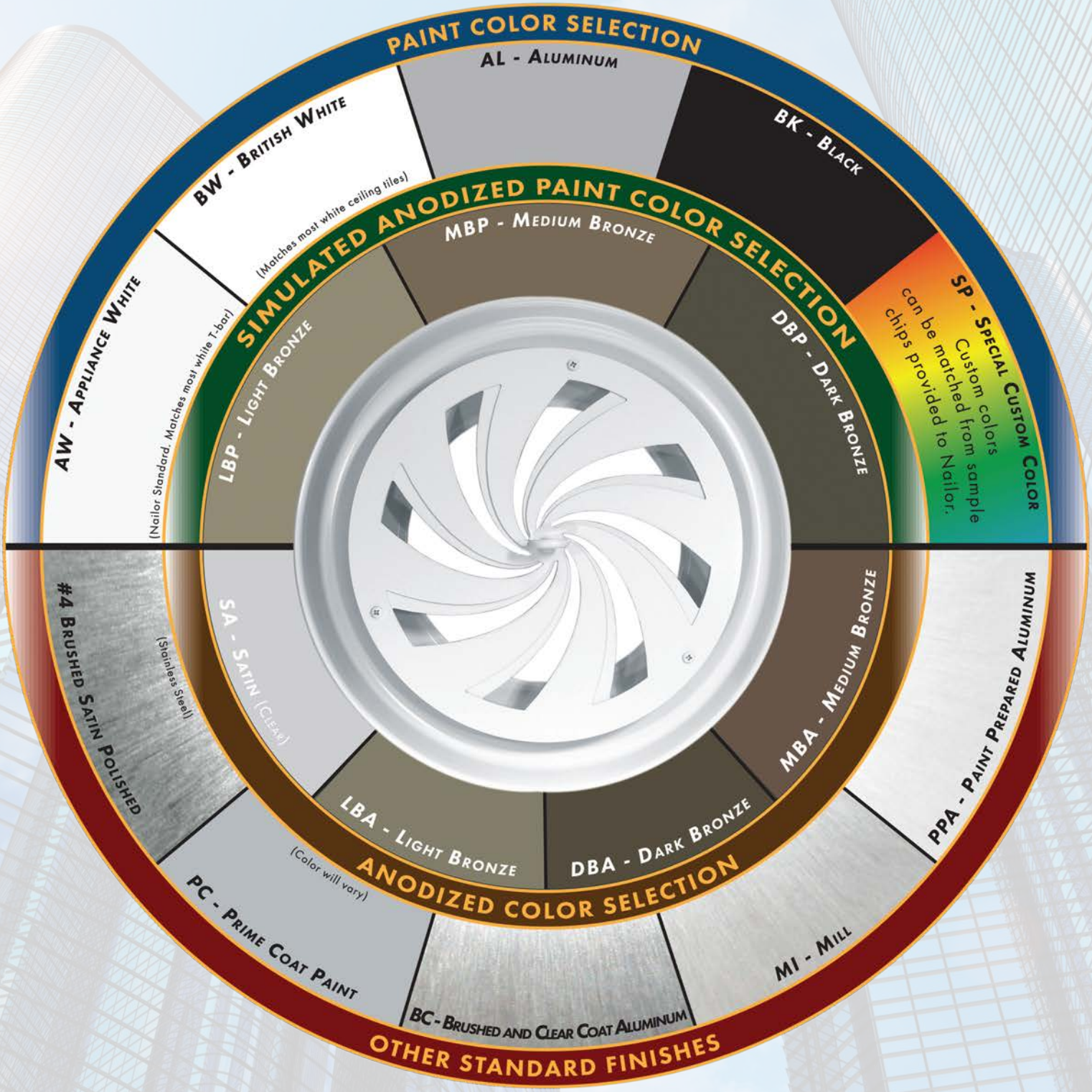
MILL FINISH

Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.

Nailor® Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

The following standard colors and finishes are available on applicable Nailor air distribution products. Consult individual product pages for availability



The pictured finishes have been represented as best as possible within printing limitations. However, actual finish may vary. Contact your Nailor representative for a color chip sample on the material specified for a more accurate representation.

DBK - Black (for registers ordered with factory mounted dampers) - ***BA*** - Perforated Diffusers (4300 series only) Appliance White (AW) face with black back pan and pattern controllers.

PERFORMANCE DATA:

MODEL 49-240 • 1/2" (13) SPACING • 1/4" (6) BARS • 0° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.010	.022	.039	.062	.087	.119	.156	.198	.245
.026	1 1/2"	Airflow, CFM/FT.		10	16	21	26	31	36	42	47	52
		Noise Criteria		–	–	–	19	24	30	34	37	40
		Throw	Sill or Floor	1-1-1	2-2-2	4-4-4	7-7-7	8-9-10	10-11-12	11-12-14	12-14-16	14-16-18
			Side Wall	2-4-6	4-7-10	5-9-13	7-12-17	8-13-19	10-16-22	11-17-24	12-19-26	14-21-29
.045	2"	Airflow, CFM/FT.		18	27	36	45	54	63	72	81	90
		Noise Criteria		–	–	–	18	23	29	33	36	39
		Throw	Sill or Floor	1-1-1	4-4-4	7-7-7	9-9-10	10-11-13	13-14-16	14-16-18	15-17-20	17-19-21
			Side Wall	3-5-7	5-9-12	7-11-16	9-14-20	11-17-23	13-19-26	14-21-28	15-22-30	17-25-33
.066	2 1/2"	Airflow, CFM/FT.		26	40	53	66	79	92	106	119	132
		Noise Criteria		–	–	–	20	26	31	35	38	41
		Throw	Sill or Floor	2-2-2	6-6-6	8-8-9	11-12-13	13-14-16	15-17-19	18-20-22	21-22-23	22-23-24
			Side Wall	4-6-9	6-9-12	8-12-17	11-16-22	13-19-25	15-21-28	18-25-32	21-28-36	22-30-39
.088	3"	Airflow, CFM/FT.		35	53	70	88	106	123	141	158	176
		Noise Criteria		–	–	15	21	27	32	36	39	42
		Throw	Sill or Floor	2-2-2	7-7-7	10-10-11	12-13-15	15-16-18	18-19-21	20-22-24	24-24-25	26-26-27
			Side Wall	5-7-10	7-11-15	10-14-19	12-17-23	15-21-27	18-24-31	20-27-34	24-31-39	26-34-41
.110	3 1/2"	Airflow, CFM/FT.		44	66	88	110	132	154	176	198	220
		Noise Criteria		–	–	16	22	28	33	37	40	43
		Throw	Sill or Floor	3-3-3	8-8-8	12-12-12	15-15-16	18-19-20	20-21-22	23-24-25	25-26-27	29-29-29
			Side Wall	5-7-10	9-12-16	12-16-20	15-20-25	18-23-28	20-26-32	23-29-36	25-32-39	29-36-43
.133	4"	Airflow, CFM/FT.		53	80	106	133	160	186	213	239	266
		Noise Criteria		–	–	17	23	29	34	38	41	44
		Throw	Sill or Floor	3-3-3	9-9-9	13-13-13	16-16-17	20-20-21	22-23-24	24-25-26	28-28-28	31-31-31
			Side Wall	6-8-11	10-13-17	13-17-21	16-21-26	20-25-30	22-28-34	24-30-37	28-35-41	31-38-45
.177	5"	Airflow, CFM/FT.		71	106	142	177	212	248	283	318	354
		Noise Criteria		–	–	18	24	30	35	39	42	45
		Throw	Sill or Floor	4-4-4	10-10-10	15-15-15	18-18-18	22-22-23	25-25-25	27-27-28	30-30-30	34-34-34
			Side Wall	8-10-13	11-14-18	15-19-23	18-22-27	22-27-32	25-31-37	27-33-39	30-37-43	34-41-47
.222	6"	Airflow, CFM/FT.		89	133	178	222	266	310	355	400	444
		Noise Criteria		–	–	20	25	31	36	40	43	46
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	19-19-19	23-23-23	25-25-25	29-29-29	31-31-31	36-36-36
			Side Wall	9-11-14	13-16-20	16-20-24	20-24-29	24-29-34	28-33-39	30-35-40	34-40-45	38-44-49

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

   For other lengths, use the correction factor table shown.
3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.
6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.035	.030
2"	.054	.046
2 1/2"	.075	.064
3"	.098	.083
3 1/2"	.120	.102
4"	.143	.121
5"	.187	.159
6"	.233	.198

PERFORMANCE DATA:

MODEL 49-241 • 1/2" (13) SPACING • 1/4" (6) BARS • 15° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.012	.025	.047	.074	.105	.142	.187	.237	.294
.031	1 1/2"	Airflow, CFM/FT.		12	19	25	31	37	43	50	56	62
		Noise Criteria		–	16	24	32	37	42	46	49	52
		Throw	Sill or Floor	1-1-1	3-3-3	5-5-5	7-7-7	9-9-10	10-11-12	12-13-15	13-15-17	14-16-18
			Side Wall	2-4-6	4-7-10	6-10-14	7-12-17	9-14-20	10-16-23	12-18-25	13-20-27	14-22-30
.048	2"	Airflow, CFM/FT.		19	29	38	48	58	67	77	86	96
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	4-4-4	7-7-7	9-9-10	11-12-13	13-14-15	15-16-18	16-18-20	17-19-22
			Side Wall	3-5-7	5-8-12	7-11-16	9-14-20	11-17-24	13-19-26	15-22-29	16-23-31	17-25-34
.067	2 1/2"	Airflow, CFM/FT.		27	40	54	67	80	94	107	120	134
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	5-5-5	9-9-9	11-11-12	13-14-15	15-16-18	17-19-21	20-21-22	22-22-23
			Side Wall	4-6-8	6-9-13	9-13-17	11-16-21	14-19-25	15-21-27	17-24-31	20-27-35	22-29-38
.086	3"	Airflow, CFM/FT.		34	52	69	86	103	120	138	155	172
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	2-2-2	6-6-6	10-10-11	12-13-14	15-16-18	18-19-20	20-21-23	23-24-25	25-25-25
			Side Wall	4-6-9	8-11-15	10-14-19	13-18-23	16-21-27	18-24-31	21-28-35	23-30-38	26-34-41
.105	3 1/2"	Airflow, CFM/FT.		42	63	84	105	126	147	168	189	210
		Noise Criteria		–	–	20	28	33	38	42	45	48
		Throw	Sill or Floor	2-2-2	8-8-8	11-11-12	15-15-15	17-18-19	21-21-22	22-23-25	25-25-26	28-28-29
			Side Wall	6-8-11	9-12-16	12-16-21	14-19-24	18-23-29	21-27-33	23-29-36	25-32-39	28-36-43
.127	4"	Airflow, CFM/FT.		51	76	102	127	152	178	203	228	254
		Noise Criteria		–	–	21	29	34	39	43	46	49
		Throw	Sill or Floor	3-3-3	9-9-9	13-13-13	16-16-17	19-20-21	22-22-23	24-25-26	27-27-27	30-30-30
			Side Wall	6-9-12	10-13-17	13-17-22	15-20-25	19-24-30	22-28-34	25-31-38	28-36-41	30-37-44
.167	5"	Airflow, CFM/FT.		67	100	134	167	200	234	267	301	334
		Noise Criteria		–	–	21	29	34	39	43	46	49
		Throw	Sill or Floor	4-4-4	10-10-10	14-14-14	18-18-18	21-21-22	24-24-25	26-27-28	30-30-30	32-32-32
			Side Wall	8-11-14	11-15-19	15-19-24	19-23-28	21-26-32	24-30-36	26-32-39	29-36-42	33-39-46
.210	6"	Airflow, CFM/FT.		84	126	168	210	252	294	336	378	420
		Noise Criteria		–	15	23	31	36	41	45	48	51
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	19-19-19	23-23-23	25-25-25	28-28-29	31-31-31	35-35-35
			Side Wall	9-12-15	14-17-21	17-21-25	20-24-29	24-29-34	27-32-38	29-35-40	32-38-43	36-42-47

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

   For other lengths, use the correction factor table shown.
3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.
6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.037
2"	.058	.051
2 1/2"	.076	.066
3"	.095	.080
3 1/2"	.115	.098
4"	.137	.113
5"	.177	.148
6"	.230	.189

PERFORMANCE DATA:

MODEL 49-243 • 1/2" (13) SPACING • 1/4" (6) BARS • 30° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.012	.025	.047	.074	.105	.142	.187	.237	.294
.031	1 1/2"	Airflow, CFM/FT.		12	19	25	31	37	43	50	56	62
		Noise Criteria		–	16	24	32	37	42	46	49	52
		Throw	Sill or Floor	1-1-1	3-3-3	5-5-5	7-7-7	9-9-10	10-11-12	12-13-15	13-15-17	14-16-18
			Side Wall	2-4-6	4-7-10	6-10-14	7-12-17	9-14-20	10-16-23	12-18-25	13-20-27	14-22-30
.048	2"	Airflow, CFM/FT.		19	29	38	48	58	67	77	86	96
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	4-4-4	7-7-7	9-9-10	11-12-13	13-14-15	15-16-18	16-18-20	17-19-22
			Side Wall	3-5-7	5-8-12	7-11-16	9-14-20	11-17-24	13-19-26	15-22-29	16-23-31	17-25-34
.067	2 1/2"	Airflow, CFM/FT.		27	40	54	67	80	94	107	120	134
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	5-5-5	9-9-9	11-11-12	13-14-15	15-16-18	17-19-21	20-21-22	22-22-23
			Side Wall	4-6-8	6-9-13	9-13-17	11-16-21	14-19-25	15-21-27	17-24-31	20-27-35	22-29-38
.086	3"	Airflow, CFM/FT.		34	52	69	86	103	120	138	155	172
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	2-2-2	6-6-6	10-10-11	12-13-14	15-16-18	18-19-20	20-21-23	23-24-25	25-25-25
			Side Wall	4-6-9	8-11-15	10-14-19	13-18-23	16-21-27	18-24-31	21-28-35	23-30-38	26-34-41
.105	3 1/2"	Airflow, CFM/FT.		42	63	84	105	126	147	168	189	210
		Noise Criteria		–	–	20	28	33	38	42	45	48
		Throw	Sill or Floor	2-2-2	8-8-8	11-11-12	15-15-15	17-18-19	21-21-22	22-23-25	25-25-26	28-28-29
			Side Wall	6-8-11	9-12-16	12-16-21	14-19-24	18-23-29	21-27-33	23-29-36	25-32-39	28-36-43
.127	4"	Airflow, CFM/FT.		51	76	102	127	152	178	203	228	254
		Noise Criteria		–	–	21	29	34	39	43	46	49
		Throw	Sill or Floor	3-3-3	9-9-9	13-13-13	16-16-17	19-20-21	22-22-23	24-25-26	27-27-27	30-30-30
			Side Wall	6-9-12	10-13-17	13-17-22	15-20-25	19-24-30	22-28-34	25-31-38	28-36-41	30-37-44
.167	5"	Airflow, CFM/FT.		67	100	134	167	200	234	267	301	334
		Noise Criteria		–	–	21	29	34	39	43	46	49
		Throw	Sill or Floor	4-4-4	10-10-10	14-14-14	18-18-18	21-21-22	24-24-25	26-27-28	30-30-30	32-32-32
			Side Wall	8-11-14	11-15-19	15-19-24	19-23-28	21-26-32	24-30-36	26-32-39	29-36-42	33-39-46
.210	6"	Airflow, CFM/FT.		84	126	168	210	252	294	336	378	420
		Noise Criteria		–	15	23	31	36	41	45	48	51
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	19-19-19	23-23-23	25-25-25	28-28-29	31-31-31	35-35-35
			Side Wall	9-12-15	14-17-21	17-21-25	20-24-29	24-29-34	27-32-38	29-35-40	32-38-43	36-42-47

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

   For other lengths, use the correction factor table shown.
3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.
6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.037
2"	.058	.051
2 1/2"	.076	.066
3"	.095	.080
3 1/2"	.115	.098
4"	.137	.113
5"	.177	.148
6"	.230	.189

PERFORMANCE DATA:

MODEL 49-280 • 1/2" (13) SPACING • 1/8" (3) BARS • 0° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.009	.020	.035	.056	.078	.107	.140	.178	.220
.035	1 1/2"	Airflow, CFM/FT.		14	21	28	35	42	49	56	63	70
		Noise Criteria		–	–	16	22	28	32	36	39	42
		Throw	Sill or Floor	1-1-1	2-2-2	4-4-4	7-7-7	8-9-10	10-11-12	11-12-14	12-14-17	13-15-18
			Side Wall	2-4-6	4-7-10	6-7-13	7-12-17	8-13-19	10-16-22	11-17-24	12-19-26	13-21-29
.055	2"	Airflow, CFM/FT.		22	33	44	55	66	77	88	99	110
		Noise Criteria		–	–	–	18	23	28	32	35	38
		Throw	Sill or Floor	1-1-1	4-4-4	7-7-7	9-9-10	11-11-12	13-14-16	14-16-18	15-17-20	17-19-21
			Side Wall	3-5-7	5-8-12	7-11-16	9-14-20	11-17-23	13-19-26	14-21-28	15-22-30	17-25-33
.074	2 1/2"	Airflow, CFM/FT.		30	44	59	74	89	104	118	133	148
		Noise Criteria		–	–	–	17	22	27	31	34	37
		Throw	Sill or Floor	1-1-1	5-5-5	9-9-9	11-11-12	13-14-15	15-16-17	18-19-20	20-21-23	23-24-25
			Side Wall	4-6-8	6-9-13	9-13-17	11-16-21	13-18-24	15-21-28	17-24-31	20-27-35	23-31-39
.096	3"	Airflow, CFM/FT.		38	58	77	96	115	134	154	173	192
		Noise Criteria		–	–	–	17	22	27	31	34	37
		Throw	Sill or Floor	2-2-2	7-7-7	10-10-11	12-13-14	15-16-17	18-19-20	20-21-23	23-24-25	25-25-26
			Side Wall	5-7-10	7-10-14	10-14-19	12-17-23	15-20-26	18-24-30	20-27-34	23-30-38	25-33-41
.116	3 1/2"	Airflow, CFM/FT.		46	69	93	116	139	162	186	209	232
		Noise Criteria		–	–	–	17	22	27	31	34	37
		Throw	Sill or Floor	3-3-3	8-8-8	12-12-12	15-15-16	18-19-20	20-21-23	23-24-25	25-26-27	29-29-29
			Side Wall	5-7-10	9-12-16	12-16-20	15-20-25	18-23-28	20-26-32	23-29-36	25-32-39	29-36-43
.139	4"	Airflow, CFM/FT.		56	83	111	139	167	195	222	250	278
		Noise Criteria		–	–	–	18	23	28	32	35	38
		Throw	Sill or Floor	3-3-3	9-9-9	13-13-13	16-16-17	20-20-21	23-23-24	24-25-26	27-27-27	30-30-30
			Side Wall	6-8-11	10-13-17	13-17-21	16-20-25	20-25-30	22-28-34	24-30-37	28-35-41	31-38-44
.179	5"	Airflow, CFM/FT.		72	107	143	179	215	250	286	322	358
		Noise Criteria		–	–	–	18	23	28	32	35	38
		Throw	Sill or Floor	4-4-4	10-10-10	14-14-14	18-18-18	22-22-23	24-24-24	27-27-28	30-30-31	32-32-32
			Side Wall	8-10-13	11-14-18	15-19-23	18-22-27	22-27-32	24-30-36	27-33-39	30-37-43	34-41-47
.221	6"	Airflow, CFM/FT.		88	133	177	221	265	310	354	398	442
		Noise Criteria		–	–	–	20	24	29	33	36	39
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	18-18-18	23-23-23	25-25-25	28-28-28	31-31-31	32-32-32
			Side Wall	9-12-15	13-16-20	16-20-24	20-24-29	24-29-34	28-33-39	30-35-40	34-40-45	38-44-49

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

   For other lengths, use the correction factor table shown.
3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.
6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.047	.040
2"	.066	.055
2 1/2"	.084	.073
3"	.107	.089
3 1/2"	.127	.113
4"	.150	.127
5"	.190	.163
6"	.232	.197

PERFORMANCE DATA:

MODEL 49-281 • 1/2" (13) SPACING • 1/8" (3) BARS • 15° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.009	.020	.035	.056	.078	.107	.140	.178	.220
.039	1 1/2"	Airflow, CFM/FT.		16	23	31	39	47	55	62	70	78
		Noise Criteria		–	18	27	33	38	43	47	50	53
		Throw	Sill or Floor	1-1-1	3-3-3	5-5-5	8-8-8	9-9-10	10-11-13	12-13-15	13-15-17	14-16-18
			Side Wall	2-4-6	4-7-10	6-10-14	8-13-18	9-14-20	10-16-23	12-18-25	13-20-27	14-22-30
.056	2"	Airflow, CFM/FT.		22	34	45	56	67	78	90	101	112
		Noise Criteria		–	–	20	26	31	36	40	44	47
		Throw	Sill or Floor	1-1-1	4-4-4	7-7-7	9-9-10	11-12-13	12-14-16	14-16-18	15-17-20	18-19-21
			Side Wall	3-5-7	5-8-12	7-11-16	9-14-20	11-17-23	12-18-25	14-20-27	15-22-30	18-26-34
.075	2 1/2"	Airflow, CFM/FT.		30	45	60	75	90	105	120	135	150
		Noise Criteria		–	–	18	24	30	35	39	43	46
		Throw	Sill or Floor	1-1-1	5-5-5	8-8-9	11-11-12	13-14-15	15-16-18	17-19-21	20-21-22	22-22-23
			Side Wall	4-6-8	6-9-13	8-12-17	11-16-21	13-19-25	15-21-27	17-24-31	20-27-35	22-30-38
.093	3"	Airflow, CFM/FT.		37	56	74	93	112	130	149	167	186
		Noise Criteria		–	–	17	23	29	34	38	42	45
		Throw	Sill or Floor	2-2-2	6-6-6	10-10-10	12-12-13	15-16-17	18-19-20	20-21-23	23-23-24	25-25-25
			Side Wall	4-6-9	7-10-14	10-13-18	12-17-22	15-20-26	18-24-30	20-26-33	23-30-37	25-32-39
.113	3 1/2"	Airflow, CFM/FT.		45	68	90	113	136	158	181	203	226
		Noise Criteria		–	–	17	23	29	34	38	42	45
		Throw	Sill or Floor	2-2-2	7-7-7	12-12-12	14-14-15	17-18-19	20-21-22	22-23-24	25-25-26	27-27-27
			Side Wall	5-7-10	8-11-15	12-16-20	14-18-23	17-22-27	20-25-31	22-28-35	25-32-39	27-34-41
.133	4"	Airflow, CFM/FT.		53	80	106	133	160	186	212	239	266
		Noise Criteria		–	–	18	24	30	35	39	43	46
		Throw	Sill or Floor	3-3-3	8-8-9	13-13-13	15-15-16	19-19-20	22-22-23	24-24-25	26-26-27	30-30-30
			Side Wall	6-8-11	9-12-16	13-17-21	15-19-24	19-24-29	22-27-33	24-30-36	26-33-39	30-37-43
.173	5"	Airflow, CFM/FT.		69	104	138	173	208	242	277	312	346
		Noise Criteria		–	–	18	24	30	35	39	43	46
		Throw	Sill or Floor	4-4-4	9-9-9	14-14-14	17-17-17	20-21-22	24-24-24	26-26-27	29-29-29	32-32-32
			Side Wall	8-10-13	11-14-18	15-19-23	17-21-26	20-25-31	24-29-35	26-33-38	29-35-41	32-39-45
.212	6"	Airflow, CFM/FT.		85	127	170	212	254	296	339	382	424
		Noise Criteria		–	–	18	24	30	35	39	43	46
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	18-18-18	23-23-23	25-25-25	28-28-28	30-30-30	34-34-34
			Side Wall	9-11-14	13-16-20	16-20-24	20-24-28	23-27-32	25-30-36	28-33-39	31-37-42	35-41-46

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

For other lengths, use the correction factor table shown.

3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.

6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.052	.047
2"	.067	.060
2 1/2"	.086	.075
3"	.103	.091
3 1/2"	.123	.103
4"	.143	.126
5"	.183	.157
6"	.222	.188

PERFORMANCE DATA:

MODEL 49-480 • 1/4" (6) SPACING • 1/8" (3) BARS • 0° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.011	.024	.043	.068	.096	.130	.171	.218	.269
.031	1 1/2"	Airflow, CFM/FT.		12	19	25	31	37	43	50	56	62
		Noise Criteria		–	–	–	20	24	29	33	36	39
		Throw	Sill or Floor	1-1-1	2-2-2	4-4-4	6-6-6	8-8-9	9-10-11	10-11-13	12-13-15	13-15-18
			Side Wall	2-4-6	4-7-10	6-9-13	7-11-16	8-13-19	9-15-21	10-16-23	12-18-25	13-20-28
.047	2"	Airflow, CFM/FT.		19	28	37	47	56	66	75	84	94
		Noise Criteria		–	–	–	18	23	29	32	36	39
		Throw	Sill or Floor	1-1-1	4-4-4	6-6-6	9-9-9	11-11-12	12-13-15	14-15-17	15-17-19	16-18-20
			Side Wall	3-5-7	5-8-11	7-11-15	9-14-19	11-16-22	12-18-25	14-20-27	15-22-29	16-24-32
.065	2 1/2"	Airflow, CFM/FT.		26	39	52	65	78	91	104	117	130
		Noise Criteria		–	–	–	20	24	30	34	37	40
		Throw	Sill or Floor	1-1-1	5-5-5	8-8-8	10-10-11	13-14-15	15-16-17	16-18-20	20-20-21	22-22-22
			Side Wall	4-6-8	6-9-12	8-12-16	10-15-20	13-18-24	15-21-27	16-22-30	20-27-34	22-30-38
.083	3"	Airflow, CFM/FT.		33	50	66	83	100	116	133	149	166
		Noise Criteria		–	–	–	20	26	31	35	38	41
		Throw	Sill or Floor	2-2-2	6-6-6	9-9-10	12-12-13	15-16-17	18-19-20	20-21-22	23-23-23	25-25-25
			Side Wall	4-6-9	7-10-14	9-13-18	12-17-22	15-20-25	18-23-29	20-26-33	23-30-37	25-32-39
.102	3 1/2"	Airflow, CFM/FT.		41	61	82	102	122	143	163	184	204
		Noise Criteria		–	–	15	21	27	32	36	39	42
		Throw	Sill or Floor	2-2-2	7-7-7	10-10-11	15-15-15	17-18-19	20-21-22	22-23-24	25-25-26	27-27-27
			Side Wall	5-7-10	8-11-15	10-15-20	15-19-24	17-22-27	20-25-31	22-28-35	25-32-39	27-34-41
.122	4"	Airflow, CFM/FT.		49	73	98	122	146	171	195	220	244
		Noise Criteria		–	–	16	22	29	33	37	40	43
		Throw	Sill or Floor	3-3-3	8-8-8	12-12-13	15-15-16	19-19-20	21-21-23	24-24-25	26-26-27	29-29-30
			Side Wall	6-8-11	9-12-16	12-16-20	15-20-25	19-24-29	21-26-32	24-30-36	26-33-39	30-37-46
.157	5"	Airflow, CFM/FT.		63	94	125	157	188	220	251	282	314
		Noise Criteria		–	–	16	22	28	33	37	40	43
		Throw	Sill or Floor	4-4-4	9-9-9	14-14-14	17-17-17	21-21-22	24-24-24	27-27-27	29-29-29	32-32-32
			Side Wall	7-9-12	11-14-18	14-18-22	17-21-26	21-26-31	24-29-35	27-33-39	30-36-42	33-40-46
.194	6"	Airflow, CFM/FT.		78	116	155	194	233	272	310	349	388
		Noise Criteria		–	–	18	24	30	35	38	42	43
		Throw	Sill or Floor	5-5-5	10-10-10	15-15-15	18-18-18	23-23-23	25-25-25	28-28-29	31-31-31	34-34-34
			Side Wall	8-10-13	12-15-19	15-19-23	20-24-28	23-27-32	26-31-37	29-34-39	33-39-44	37-43-48

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

For other lengths, use the correction factor table shown.

3. Total Pressure is in inches w.g..
4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
5. Return Air Applications:

   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.

6. Dash (–) in space indicates an Noise Criteria level of less than 15.
7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

Noise Criteria Correction for Length

Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.034
2"	.056	.048
2 1/2"	.074	.064
3"	.092	.078
3 1/2"	.111	.098
4"	.131	.111
5"	.166	.143
6"	.203	.173

PERFORMANCE DATA:

MODEL 49-481 • 1/4" (6) SPACING • 1/8" (3) BARS • 15° DEFLECTION

Free Area Square Feet per Lineal Foot	Nominal Duct Width	Total Pressure		.012	.026	.049	.077	.109	.148	.195	.247	.304
.034	1 1/2"	Airflow, CFM/FT.		14	20	27	34	41	48	54	61	68
		Noise Criteria		–	–	22	30	35	39	43	46	49
		Throw	Sill or Floor	1-1-1	3-3-3	4-4-4	7-7-7	9-9-10	10-11-12	12-13-15	13-14-16	14-16-18
			Side Wall	2-4-6	4-7-10	6-10-14	7-12-17	9-14-20	10-16-22	12-18-25	13-20-27	14-22-30
.049	2"	Airflow, CFM/FT.		20	29	39	49	59	69	78	88	98
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	4-4-4	6-6-6	9-9-9	11-11-12	12-13-15	14-16-18	15-17-19	16-18-20
			Side Wall	3-5-7	5-8-11	7-11-15	9-14-19	11-16-22	12-18-25	14-20-27	15-22-29	16-24-32
.065	2 1/2"	Airflow, CFM/FT.		26	39	52	65	78	91	104	117	130
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	1-1-1	5-5-5	8-8-8	10-10-11	13-14-15	14-15-17	17-18-20	19-20-21	21-21-22
			Side Wall	4-6-8	6-9-12	8-12-16	10-15-20	13-19-24	14-20-26	17-23-30	19-26-33	21-28-36
.082	3"	Airflow, CFM/FT.		33	49	66	82	98	115	131	148	164
		Noise Criteria		–	–	20	27	32	37	41	44	47
		Throw	Sill or Floor	2-2-2	6-6-6	9-9-9	12-12-13	15-15-16	17-18-19	20-21-22	21-22-23	23-23-24
			Side Wall	4-6-9	7-10-13	9-13-17	12-16-21	15-20-25	17-22-28	20-26-32	21-28-35	23-31-39
.099	3 1/2"	Airflow, CFM/FT.		40	59	79	99	119	138	158	178	198
		Noise Criteria		–	–	20	28	33	37	41	44	47
		Throw	Sill or Floor	2-2-2	8-8-8	11-11-11	13-13-14	16-17-18	19-20-21	22-22-23	23-24-25	26-26-26
			Side Wall	5-7-9	8-11-14	11-15-19	13-17-22	16-21-26	19-24-30	22-28-34	23-30-37	26-33-40
.117	4"	Airflow, CFM/FT.		47	70	94	117	140	164	187	220	234
		Noise Criteria		–	–	21	28	34	38	42	45	48
		Throw	Sill or Floor	3-3-3	9-9-9	12-12-12	15-15-15	18-19-20	21-21-22	23-24-25	25-25-26	28-28-28
			Side Wall	5-7-10	9-12-15	12-16-20	15-19-24	18-23-28	21-26-32	23-29-35	25-32-39	29-36-42
.152	5"	Airflow, CFM/FT.		61	91	121	152	182	212	243	274	304
		Noise Criteria		–	–	22	29	34	39	43	46	49
		Throw	Sill or Floor	3-3-3	9-9-9	13-13-13	16-16-17	20-20-21	23-23-24	25-25-26	28-28-28	31-31-31
			Side Wall	7-9-12	10-13-17	14-18-22	16-21-26	20-25-30	23-28-34	25-31-37	28-34-40	31-38-44
.186	6"	Airflow, CFM/FT.		74	111	149	186	223	260	298	335	372
		Noise Criteria		–	–	22	30	35	40	43	47	50
		Throw	Sill or Floor	4-4-4	10-10-10	14-14-14	18-18-18	22-22-22	25-25-25	28-28-28	30-30-30	33-32-32
			Side Wall	8-10-13	11-14-18	15-19-23	19-23-27	23-27-31	25-30-35	28-33-39	31-37-42	34-40-45

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.
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4. Noise Criteria [NC] values are based on a 10 foot active section. For other lengths, use the correction factor table shown.
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   Noise Criteria value is increased by + 4.

   Negative Static Pressure = 0.8 x Total Pressure.
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7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

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Active Length, ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.045	.041
2"	.059	.053
2 1/2"	.074	.065
3"	.091	.080
3 1/2"	.108	.091
4"	.126	.108
5"	.161	.138
6"	.195	.166