



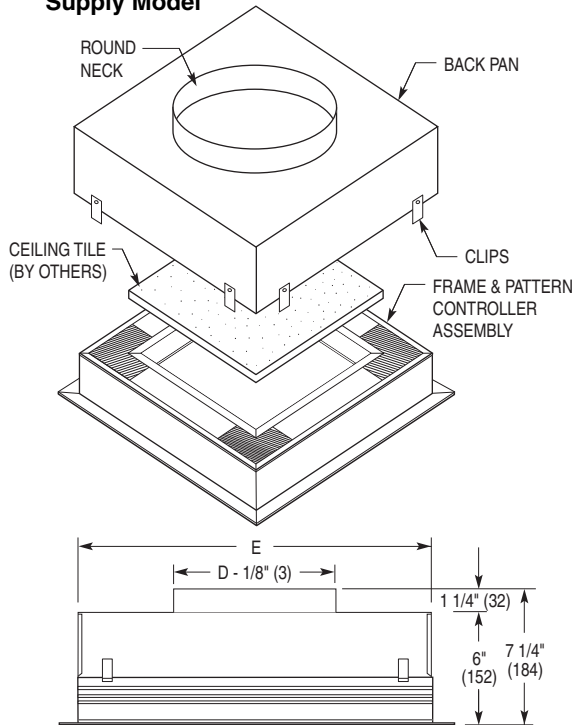
MODULAR FLOWLINE™ SQUARE CEILING DIFFUSER
COMPLIMENTS FLOWLINE™ LINEAR DIFFUSER SYSTEM
1" (25) SLOT • LAY-IN T-BAR AND HARD CEILINGS
MODEL SERIES: FM(I)10 AND FMR10

Models:

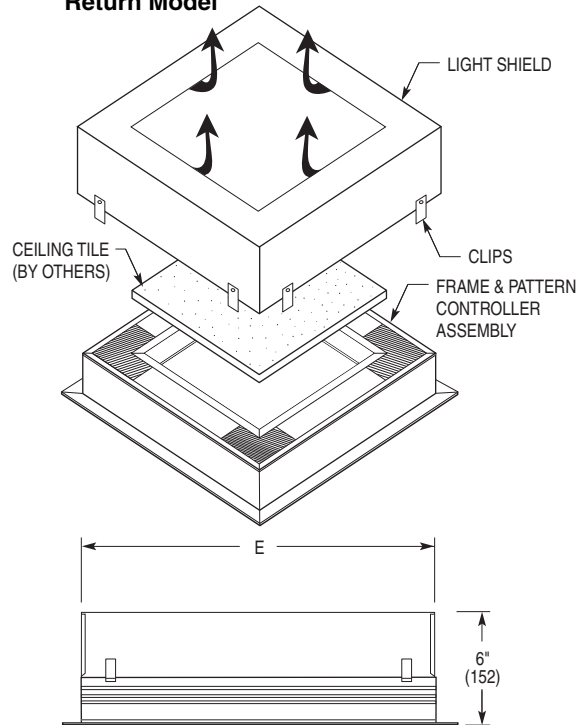
- FM10** • Supply • 1" (25) Slot • Round Neck • Uninsulated
- FMI10** • Supply • 1" (25) Slot • Round Neck • Internal Insulation
- FMR10** • Return • 1" (25) Slot

Standard Ceiling Module (CM) Sizes:
Imperial 24" x 24" (610 x 610) • Metric 600 x 600mm

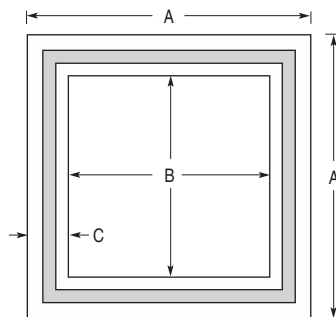
Supply Model



Return Model



Face View



Ceiling Tile Cutting Dimensions

Models	Border Type	Imperial Module 24" x 24" (610 x 610)	Metric Module 600 x 600
FM(I)10, FMR10	AA	17 3/16 x 17 3/16 (437 x 437)	427 x 427

Dimensional Data:

Models	Imperial Module 24" x 24" (610 x 610)				Metric Module 600 x 600			
	A	B	C	E	A	B	C	E
FM(I)10, FMR10	23 3/4 (603)	16 5/8 (422)	3 9/16 (90)	22 15/16 (583)	594	413	90	573

Standard Round Inlet Sizes (Supply Units): (Nominal D Dia.) 6", 8", 10" (152, 203, 254).

Description:

1. Extruded aluminum construction with corrosion resistant steel pattern controllers.
2. Factory precision welding on all mitered corners.
3. Pattern controllers are individually adjustable for horizontal or vertical discharge air patterns.
4. Can be field adjusted for one, two, three or four-way blow direction air patterns.
5. Adjustable dual pattern controller design permits both dampering and full shut-off without adding blank-offs.
6. Supply diffusers have a round neck for flexible or hard duct connection.
7. Matching return air units for ductless plenum return applications incorporate a light shield to block out light and prevent see-through.
8. Plenum is secured with steel S-clips and is easily removed for installation of a field-cut ceiling tile (by others) into the face of the diffuser.
4. Standard finish is AW Appliance White face with black pattern controllers. Other finishes are available.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2
 Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

1 - 11 - 11

FM

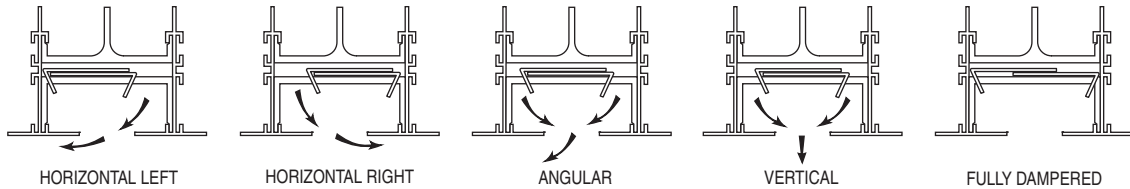
NEW

FM10-1

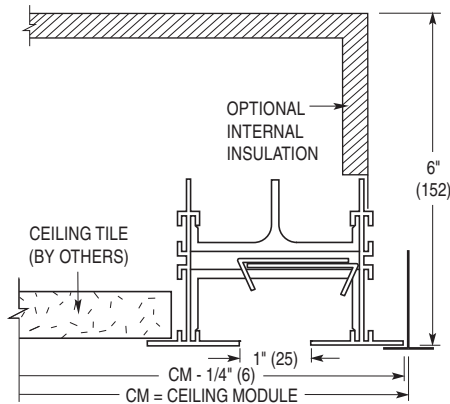


MODULAR FLOWLINE™ SQUARE CEILING DIFFUSER
 COMPLIMENTS FLOWLINE™ LINEAR DIFFUSER SYSTEM
 1" (25) SLOT • LAY-IN T-BAR AND HARD CEILINGS
 MODEL SERIES: FM(I)10 AND FMR10

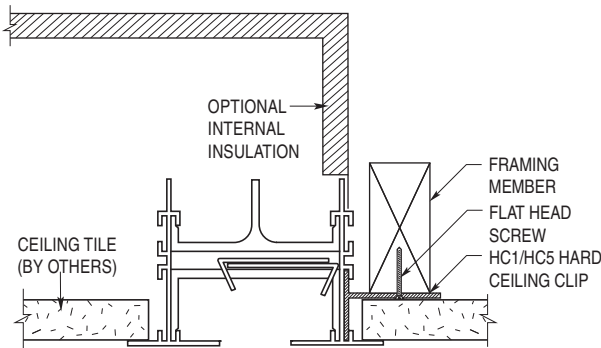
FM Series Horizontal High Throw Adjustment



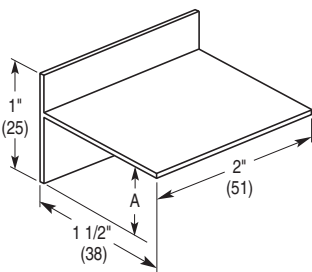
Standard Mounting Style
Lay-in T-Bar Ceiling • Type AA Frame
 For Installation with 15/16" (24) or 9/16" (14) Flat T-Bar only



Optional Mounting Styles
Surface Mount Application in Hard Ceiling • Type AA Frame



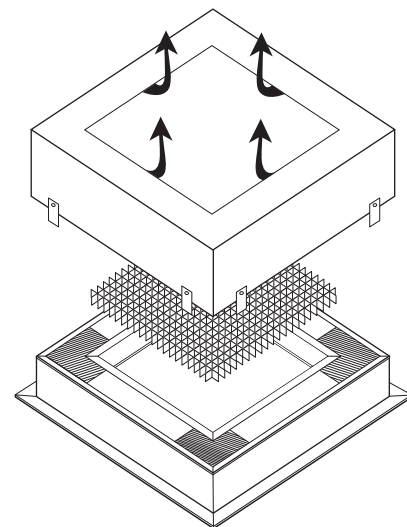
- HC1 Hard Ceiling Clip** 5/8" (16)
- HC5 Hard Ceiling Clip** 1/2" (13)



	A Dim.
HC1	5/8" (16)
HC5	1/2" (13)

The HC1 and HC5 Hard Ceiling Clip can be used to mount the FlowLine™ Square Ceiling Diffuser with frame/border Type AA, where standard 5/8" (16) or 1/2" (13) gypsum wallboard (drywall) is used.

- High Capacity Return (Optional)**
 1/2" x 1/2" x 1/2" (13 x 13 x 13) Aluminum Grid Face



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 11 - 11	FM	NEW	FM10-1

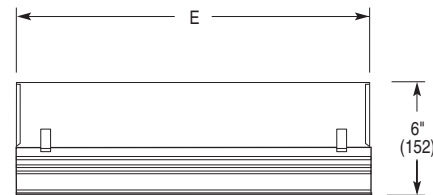
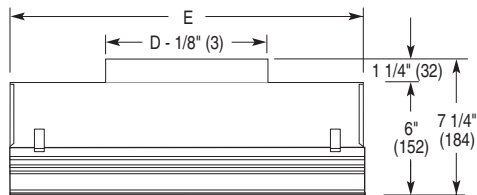
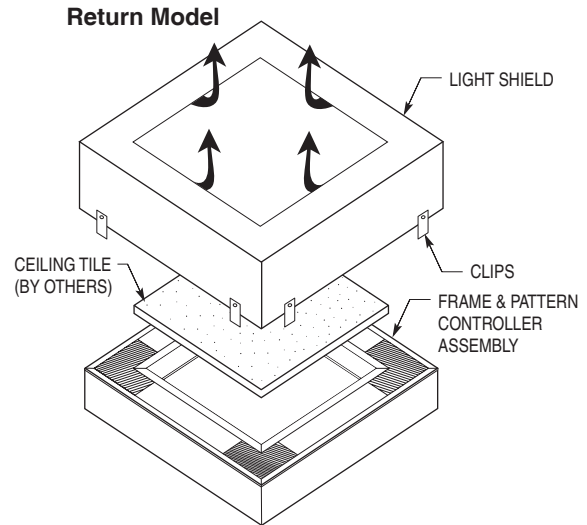
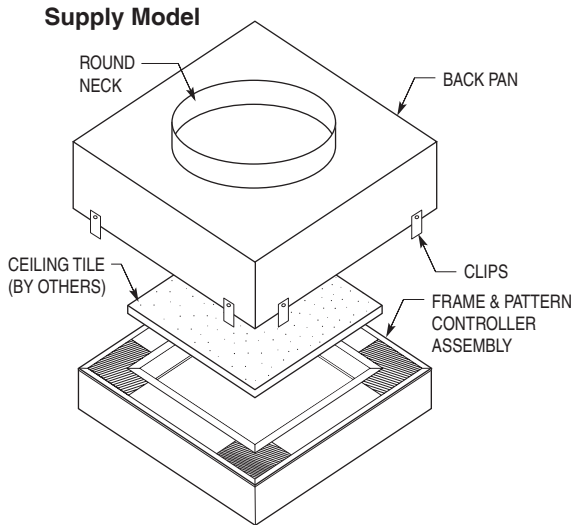


MODULAR FLOWLINE™ SQUARE CEILING DIFFUSER
COMPLIMENTS FLOWLINE™ LINEAR DIFFUSER SYSTEM
1" (25) SLOT • BOLT SLOT (FINELINE™) T-BAR
MODEL SERIES: FMB(I)10 AND FMBR10

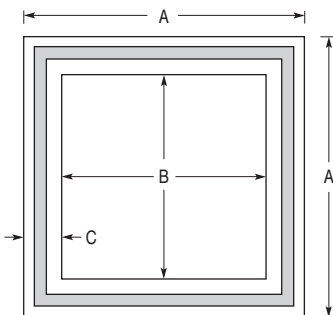
Models:

- FMB10** • Supply • 1" (25) Slot • Round Neck • Uninsulated
- FMBI10** • Supply • 1" (25) Slot • Round Neck • Internal Insulation
- FMBR10** • Return • 1" (25) Slot

Standard Ceiling Module (CM) Sizes:
Imperial 24" x 24" (610 x 610) • Metric 600 x 600mm



Face View



Ceiling Tile Cutting Dimensions

Models	Border Type	Imperial Module 24" x 24" (610 x 610)	Metric Module 600 x 600 mm
FMB(I)10, FMBR10	AG	17 5/8 x 17 5/8 (448 x 448)	438 x 438

Dimensional Data:

Models	Imperial Module 24 x 24 (610 x 610)				Metric Module 600 x 600 mm			
	A	B	C	E	A	B	C	E
FMB(I)10, FMBR10	23 3/8 (594)	17 1/16 (433)	3 5/32 (80)	23 3/8 (594)	584	423	80	584

Standard Round Inlet Sizes (Supply Units): (Nominal D Diameter) 6" (152), 8" (203), 10" (254).

Description:

1. Extruded aluminum construction with corrosion resistant steel pattern controllers.
2. Factory precision welding on all mitered corners.
3. Pattern controllers are individually adjustable for horizontal or vertical discharge air patterns.
4. Can be field adjusted for one, two, three or four-way blow direction air patterns.
5. Adjustable dual pattern controller design permits both dampering and full shut-off without adding blank-offs.
6. Supply diffusers have a round neck for flexible or hard duct connection.
7. Matching return air units for ductless plenum return applications incorporate a light shield to block out light and prevent see-through.
8. Plenum is secured with steel S-clips and is easily removed for installation of a field-cut ceiling tile (by others) into the face of the diffuser.
4. Standard finish is AW Appliance White face with black pattern controllers. Other finishes are available.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2
 Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 30 - 21

FM

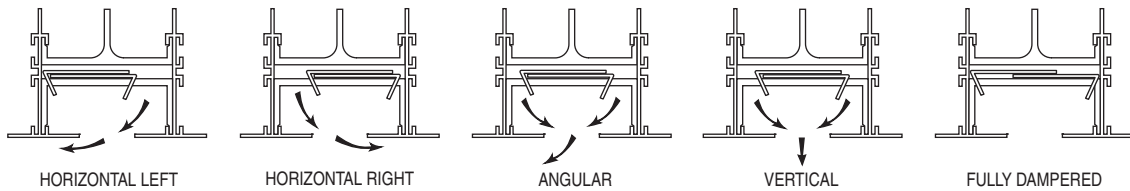
1 - 11 - 11R

FMB10-1

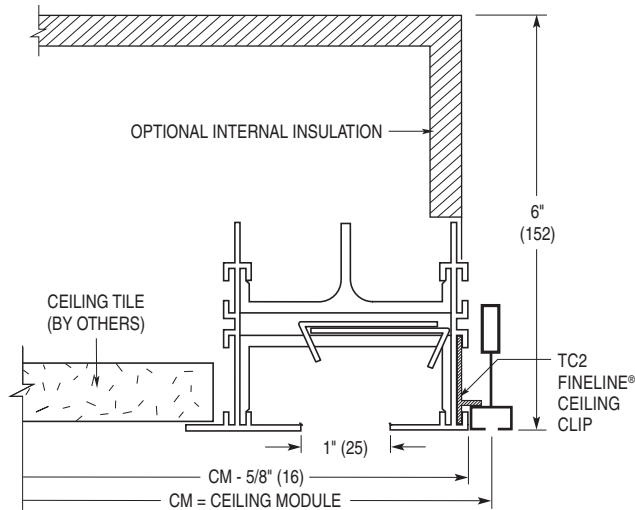


MODULAR FLOWLINE™ SQUARE CEILING DIFFUSER
 COMPLIMENTS FLOWLINE™ LINEAR DIFFUSER SYSTEM
 1" (25) SLOT • BOLT SLOT (FINELINE™) T-BAR
 MODEL SERIES: FMB(I)10 AND FMBR10

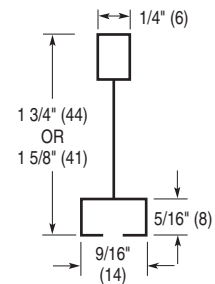
FM Series Horizontal High Throw Adjustment



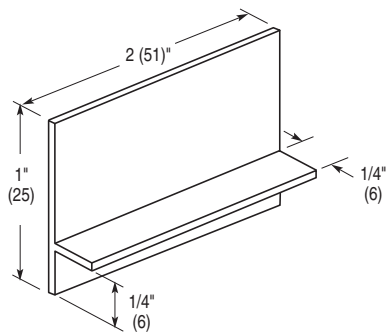
Standard Mounting Style
Bolt-Slot (Fineline® Type) Ceiling • Type AG Frame



Typical Bolt-Slot (Fineline® Type) T-Bar Detail

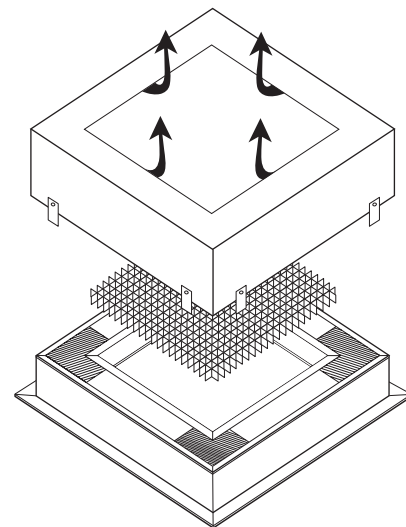


TC2 Fineline® T-Bar Clip (Standard)



The TC2 Fineline™ T-Bar Clips are used to support and level the FlowLine™ assembly in Bolt Slot (Fineline™ type) suspension systems.

High Capacity Return (Optional)
 1/2" x 1/2" x 1/2" (13 x 13 x 13) Aluminum Grid Face



*Fineline® is a registered trademark of USG Interiors Inc.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

DATE	B SERIES	SUPERSEDES	DRAWING NO.
3 - 30 - 21	FM	1 - 11 - 11R	FMB10-1

Page 2 of 2
 Dimensions are in inches (mm).

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

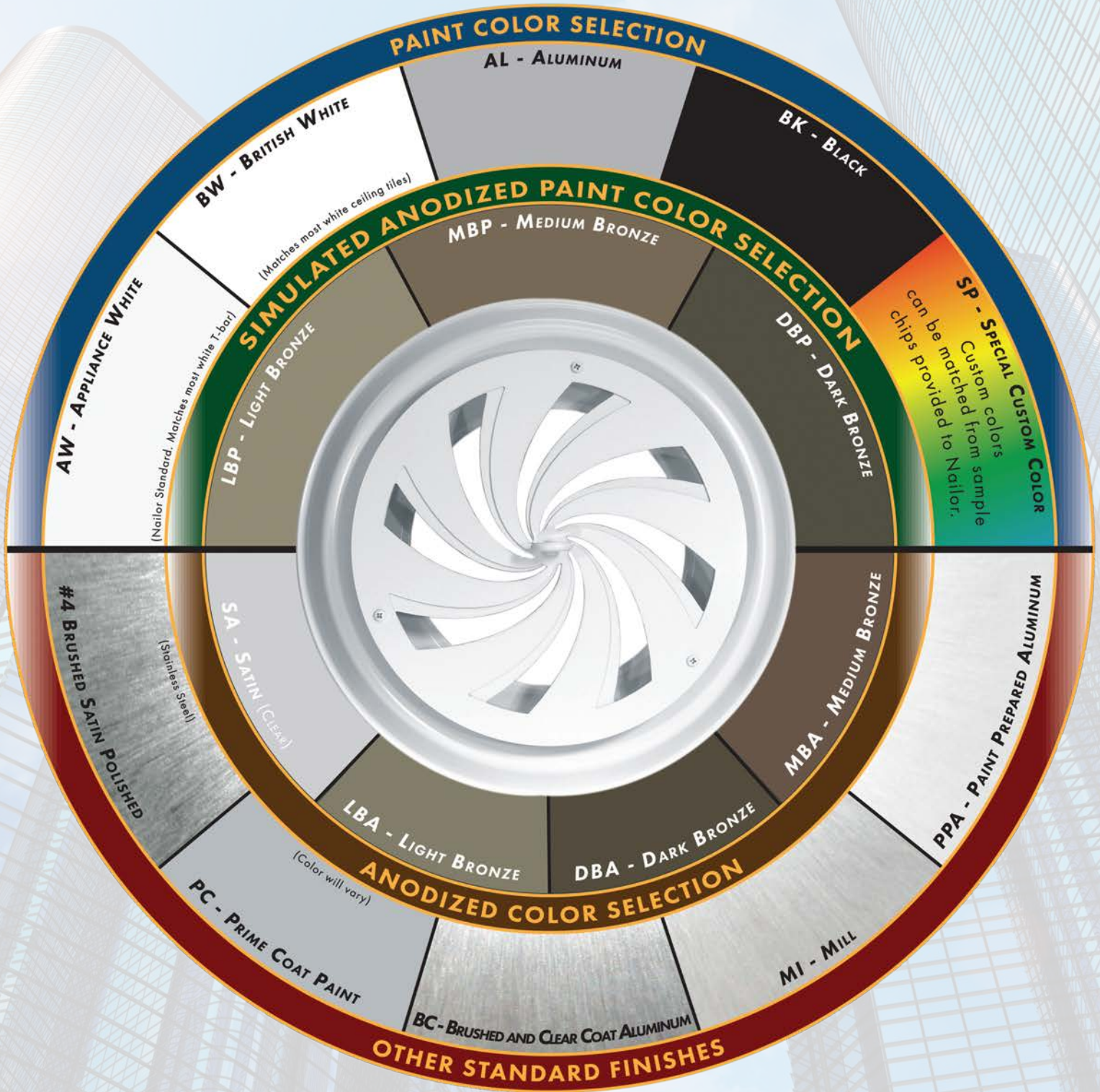
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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.

"Complete Air Control and Distribution Solutions."

WGDSOF2015

www.nailor.com

PERFORMANCE DATA • MODULAR SQUARE CEILING DIFFUSERS

MODELS: FM10 AND FMB10

	Inlet Size	Neck Velocity, FPM	300	400	500	600	700	800	900
		Velocity Pressure, (in. w.g.)	.006	.010	.016	.022	.031	.040	.050
1" Slot Width	6" Dia. Inlet	Airflow, CFM	59	79	98	118	137	157	177
		Static Pressure	.015	.026	.041	.059	.080	.104	.132
		Noise Criteria	<15	<15	<15	16	20	24	28
		Throw	0-1-5	1-2-07	2-4-10	2-5-11	3-6-12	4-7-13	5-8-14
	8" Dia. Inlet	Airflow, CFM	105	140	175	209	244	279	314
		Static Pressure	.029	.052	.081	.117	.160	.209	.264
		Noise Criteria	<15	18	25	30	35	39	43
		Throw	1-4-10	2-6-13	5-8-14	6-10-16	7-12-17	8-13-18	10-13-19
	10" Dia. Inlet	Airflow, CFM	164	218	273	327	382	436	491
		Static Pressure	.050	.089	.139	.201	.273	.357	.452
		Noise Criteria	22	30	37	43	47	51	55
		Throw	4-7-13	7-11-16	8-12-18	11-13-19	12-14-20	13-16-23	13-17-24

Performance Notes:

- All pressures are in inches w.g..
- Throw values are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- Noise criteria values are based on 10 dB room absorption, re 10⁻¹² watts.
- Pressure, throw and NC values are based on 4-way air pattern.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

HOW TO ORDER

MODEL SERIES: FM

FLOWLINE™ MODULAR SQUARE CEILING DIFFUSERS

EXAMPLE: FM10 - 24 x 24 - 08 - AA - AW - —

- | | | |
|--|---|--|
| <ol style="list-style-type: none"> Models
 Supply – 1" (25)
 FM(l)10 Standard T-Bar
 FMB(l)10 Bolt-Slot T-Bar
 (l) Adds Internal Insulation
 Return – 1" (25)
 FMR10 Standard T-Bar
 FMBR10 Bolt-Slot T-Bar | <ol style="list-style-type: none"> Inlet Size
 (Supply Models only)
 06 6" (152) Round
 08 8" (203) Round
 10 10" (254) Round | <ol style="list-style-type: none"> Options and Accessories |
| <ol style="list-style-type: none"> Ceiling Module Size
 Imperial Sizes
 inches
 24 x 24
 Metric Sizes
 mm
 600 x 600 | <ol style="list-style-type: none"> Frame/Border Type
 AA Flange Frame
 (Models FM & FMR only) (default)
 AG Flange/Flangeless Frame
 (Models FMB & FMBR only) (default) | <ol style="list-style-type: none"> Optional
 (Return Models only)
 HCR High Capacity Return |
| | <ol style="list-style-type: none"> Finish
 AW Appliance White (default)
 BW British White
 SP Special custom color | <ol style="list-style-type: none"> Outside Mounting Hardware
 – None (default)
 HC1* Hard Ceiling Clip – 5/8" (16) drywall
 HC5* Hard Ceiling Clip – 1/2" (13) drywall
 TC2** Finline® T-Bar Mounting Clip |

Note:

- Mounting clips are not removable once mounted at factory.
- *HC1 and HC5 Hard Ceiling Clips are optional on FM models, where installation is required in a hard ceiling. Standard FM models are for lay-in flat T-Bar ceilings.
- **TC2 Finline T-Bar Clips are supplied as standard on FMB Bolt-Slot models and allow unit to sit flush and level in ceiling grid.
- HCR High Capacity return option available for models FMR10 and FMBR10 includes a 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid face.