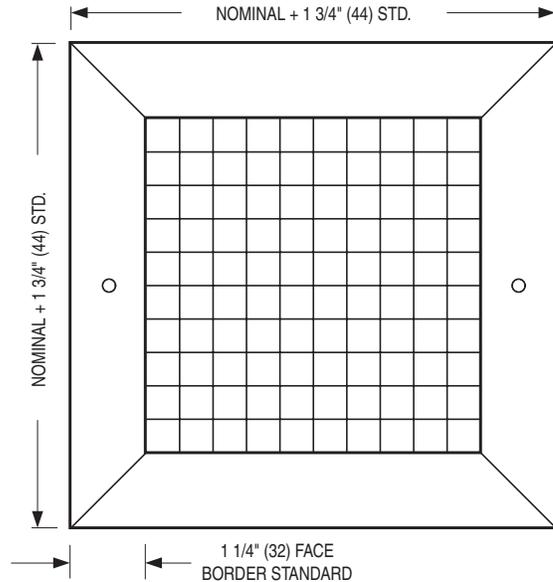
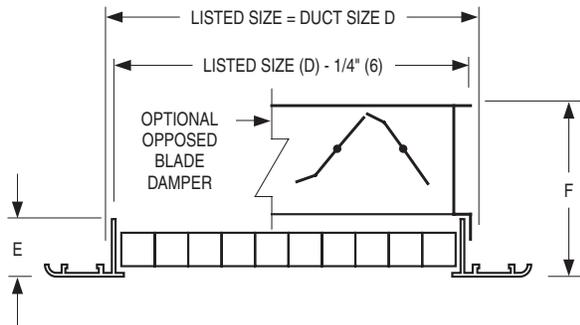
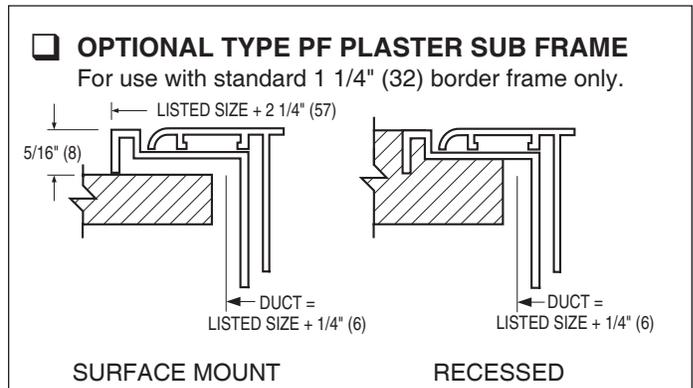
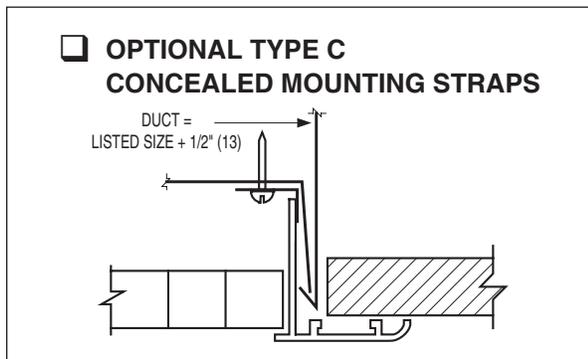




**ALUMINUM EGGCRATE RETURN GRILLES AND
REGISTERS
SURFACE MOUNT
MODELS: 51EC(-O) TYPE S**



| DIMENSION | STANDARD FRAME WITH 1/2 x 1/2 x 1/2 STD. CORE | OPTIONAL NF FRAME AND/OR OPTIONAL CORE |
|-----------|---|--|
| E | 7/8" (22) | 1 1/4" (32) |
| F | 2 5/8" (67) | 3" (76) |



- Model 51EC Grille Type S.**
For surface mount applications.
- Model 51EC-O Register Type S.**
For surface mount applications with opposed blade damper.

DESCRIPTION:

1. Construction: Extruded aluminum heavy gauge frame mechanically interlocked with hairline mitered corners for strength. 1/2 x 1/2 x 1/2 (13 x 13 x 13) aluminum grid core (code CA) is standard. A high capacity return or exhaust outlet with maximum free area for minimum pressure drop and sound generation.
2. Optional roll-formed steel opposed blade damper has a screw driver slot operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).
Maximum size one piece construction is 48" x 48" (1219 x 1219).
4. Type S Surface mount standard frame has a 1 1/4" (32) face border and a 1" (25) overlap margin. Available in multiple sections with mullions - see submittal OG-1-A.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

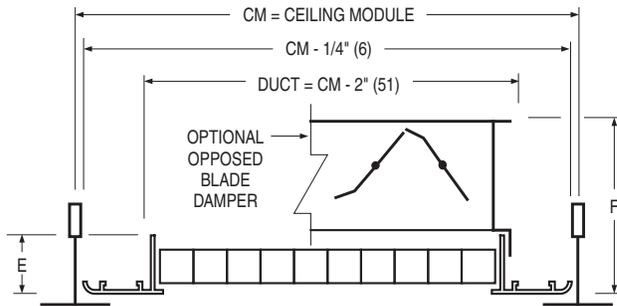
OPTIONS:

1. Finish:
 - SA Satin (clear) anodized/mill core.
 - SP Special _____.
2. Fastening:
 - Type C Concealed mounting straps
3. OA Aluminum opposed blade damper (model suffix).
4. Type NF Narrow frame with 1" (25) face border and a 3/4" (19) overlap margin. O.A. flange to flange dim. = listed size + 1 1/4" (32).
5. PF Plaster frame
6. IS Insert screen
7. Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
8. Other _____.

| | | | | |
|-----------------------|--------------------------------|-----------------|-------------------|--------------------|
| SCHEDULE TYPE: | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | |
| ENGINEER: | | | | |
| CONTRACTOR: | | | | |
| | DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| | 9 - 1 - 20 | 5100 | 2 - 1 - 11 | 51EC-1 |

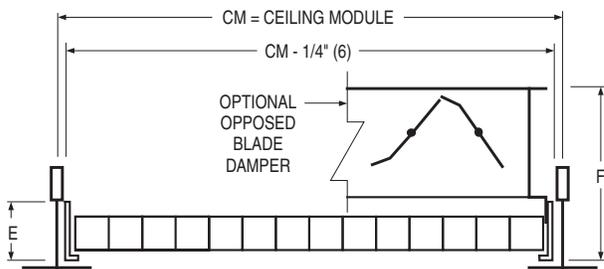


ALUMINUM EGGCRATE RETURN GRILLES AND REGISTERS LAY-IN T-BAR MODELS: 51EC(-O) TYPES L, A AND C



TYPE L ALUMINUM FRAME/BORDER

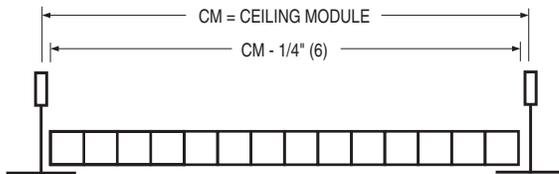
Model 51EC Grille Model 51EC-O Register



TYPE A CONCEALED ANGLE FRAME (non-ducted applications)

Model 51EC Grille Model 51EC-O Register

| DIMENSION | STANDARD FRAME WITH 1/2 x 1/2 x 1/2 STD. CORE | WITH 1/2 x 1/2 x 1 OR 1 x 1 x 1 OPTIONAL CORE |
|-----------|---|---|
| E | 7/8" (22) | 1 1/4" (32) |
| F | 2 5/8" (67) | 3" (76) |



TYPE C CORE ONLY (for non-ducted applications) Model 51EC

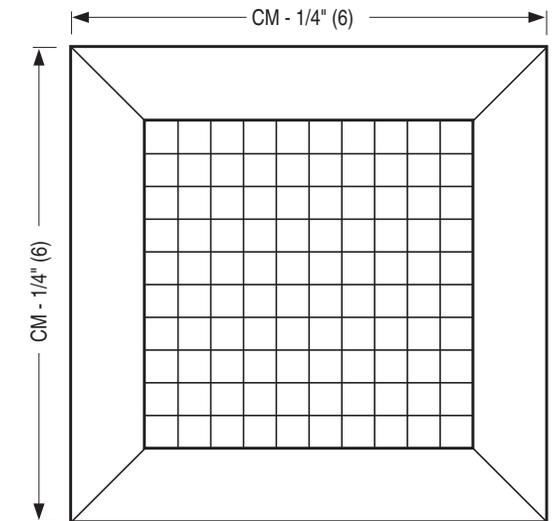
DESCRIPTION:

- Construction: Extruded aluminum heavy gauge frame mechanically interlocked with hairline mitered corners for strength on Type L. 1/2 x 1/2 x 1/2 (13 x 13 x 13) aluminum grid core (code CA) is standard on all models. A high capacity return or exhaust outlet with maximum free area for minimum pressure drop and sound generation.
- Optional roll-formed steel opposed blade damper has a screw driver slot operator accessible through face of register.
- Minimum size is 4" x 4" (102 x 102).
Maximum size is 48" x 48" (1219 x 1219) for Types L and A.
Maximum size is 48" x 24" (1219 x 610) for Type C.
Nominal List Size = Ceiling Module Size.
- Standard finish is AW Appliance White.

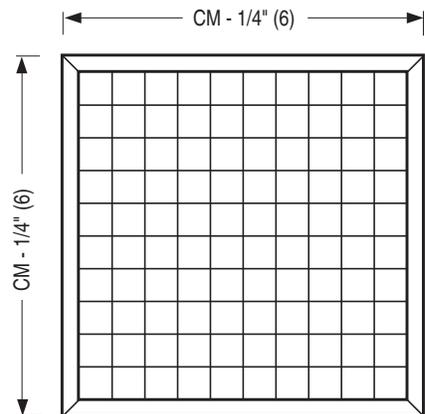
OPTIONS:

- Finish:
 - SA Satin (clear) anodized frame/mill core (Type L)
 - SP Special _____.
- OA Aluminum opposed blade damper (model suffix)
- Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
 - Other _____.

Dimensions are in inches (mm).



1 1/4" (32) FACE BORDER



1/4" (6) CONCEALED STEEL ANGLE FRAME

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

DATE

B SERIES

SUPERSEDES

DRAWING NO.

2 - 1 - 11

5100

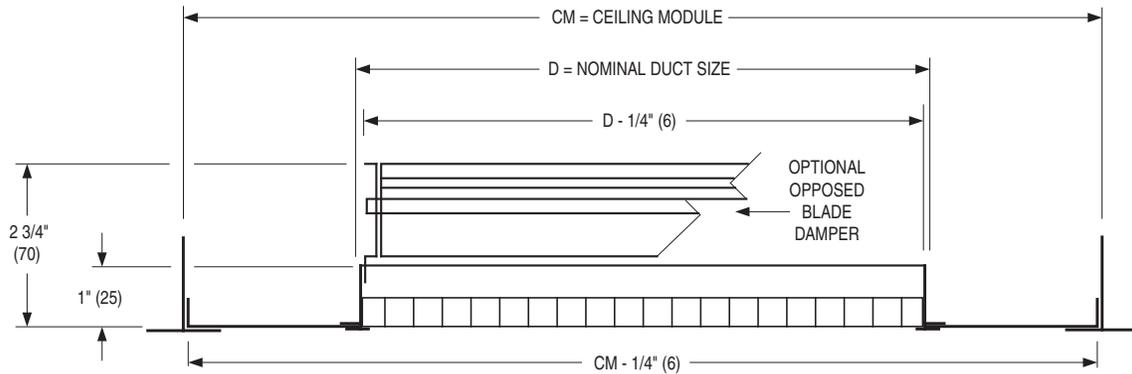
5100-48/6-30-03

51EC-2



EGGCRATE RETURN GRILLES & REGISTERS
ALUMINUM CORE AND FRAME
PANEL MOUNTED • LAY-IN T-BAR
MODELS: 51EC(-O) TYPE PLS OR PLA

FOR LAY-IN T-BAR TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

- MODEL 51EC** Eggcrate Return Air Grille
- Type PLS** Steel Panel
- Type PLA** Aluminum Panel

- MODEL 51EC-O** Eggcrate Return Air Register (Includes O. B. Damper)
- Type PLS** Steel Panel
- Type PLA** Aluminum Panel

Maximum Duct/Neck Size D = Ceiling Module - 3" (76)

DESCRIPTION:

- Material: Aluminum core and extruded frame mounted in an extended panel.
- Models 51EC and 51EC-O Type PLS or PLA have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment standard exposed grid T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

OPTIONS:

- Finish:
 - SP Special _____
- Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)
- OA Aluminum opposed blade damper (model suffix).

| | |
|-----------------------|--|
| SCHEDULE TYPE: | |
| PROJECT: | |
| ENGINEER: | |
| CONTRACTOR: | |

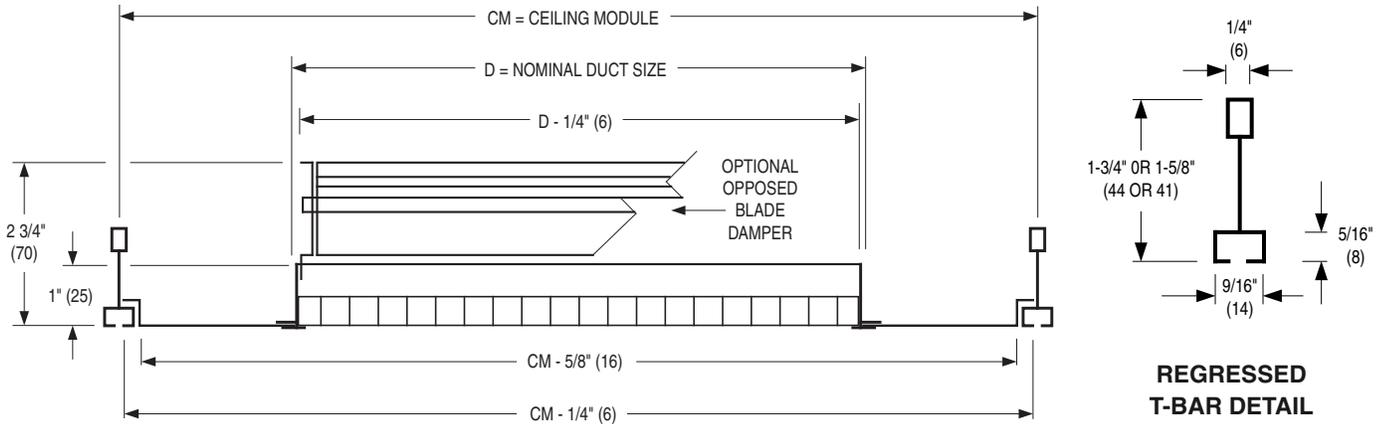
Dimensions are in inches (mm).

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|------------|----------|------------|-------------|
| 2 - 1 - 11 | 5100 | NEW | 51EC-3 |



EGGCRATE RETURN GRILLES & REGISTERS
ALUMINUM CORE AND FRAME
PANEL MOUNTED • NARROW REGRESSED T-BAR
MODELS: 51EC(-O) TYPE FPS OR FPA

FOR FINELINE® TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULES (CM) | | | AVAILABLE DUCT/NECK SIZES |
|--------------------------------|-----------------|-----------------|---|
| Imperial Modules | | Metric Modules | |
| Imperial Units (inches) | S.I. Units (mm) | S.I. Units (mm) | |
| 20 x 20 | 508 x 508 | 500 x 500 | 6" x 6" (152 x 152) up to 16" x 16" (406 x 406) in 2" (51) increments |
| 24 x 24 | 610 x 610 | 600 x 600 | 6" x 6" (152 x 152) up to 20" x 20" (508 x 508) in 2" (51) increments |

- MODEL 51EC** Eggcrate Return Air Grille
 - Type FPS** Steel Panel
 - Type FPA** Aluminum Panel

- MODEL 51EC-O** Eggcrate Return Air Register (Includes O. B. Damper)
 - Type FPS** Steel Panel
 - Type FPA** Aluminum Panel

DESCRIPTION:

1. Material: Aluminum core and extruded frame mounted in an extended panel.
2. Models 51EC and 51EC-O Type FPS or FPA have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment regressed 'narrow-tee' type T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
3. 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
4. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
5. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
 - SP Special _____ .
2. Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)
3. OA Aluminum opposed blade damper (model suffix).

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| | | | | |
|-----------------------|--------------------------------|-----------------|-------------------|--------------------|
| SCHEDULE TYPE: | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| CONTRACTOR: | 2 - 1 - 11 | 5100 | NEW | 51EC-4 |

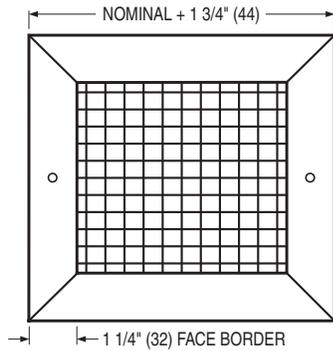


ALUMINUM EGGCRATE RETURN GRILLES & REGISTERS
 45° DEFLECTION • SIGHTPROOF
MODELS: 51EC45(-O) TYPE S AND L

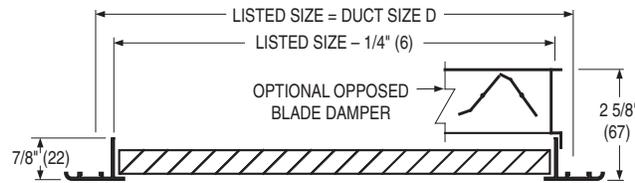
MODELS

Model 51EC45
 Eggcrate Return Air Grille

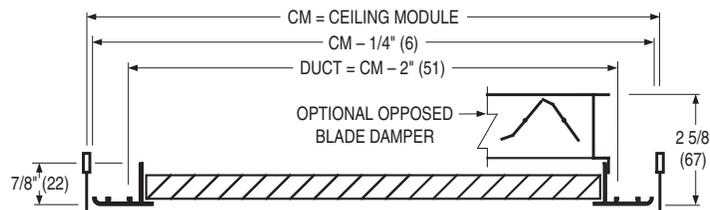
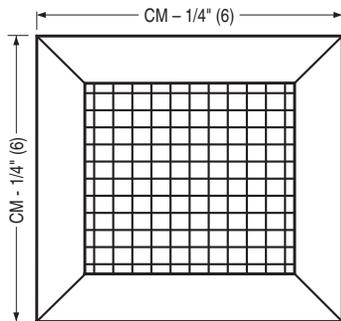
Type S Surface Mount Frame



Model 51EC45-O
 Eggcrate Return Air Register (Includes Opposed Blade Damper)



Type L Lay-in T-Bar • Full Face



Type L Available Sizes

| CM Ceiling Module Dimension | |
|-----------------------------|------------|
| inches | S. I. mm |
| 12 x 12 | 300 x 300 |
| 24 x 12 | 600 x 300 |
| 36 x 12 | 900 x 300 |
| 20 x 20 | 500 x 500 |
| 24 x 24 | 600 x 600 |
| 36 x 24 | 900 x 600 |
| 48 x 24 | 1200 x 600 |

Duct size = CM - 2" (51)

DESCRIPTION:

1. Extruded aluminum heavy gauge frame mechanically interlocked with hairline mitered corners for strength. 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core is angled at 45° to prevent "see through" from three directions.
2. Sight resistant parallel to width/long dimension.
3. Optional roll-formed steel opposed blade damper has a screwdriver slot operator. A portion of the core is removed to allow access.
4. Type S Surface Mount frame has a 1 1/4" (32) face border and a 1" (25) overlap margin. Type L Lay-in T-Bar frame has a 1 1/4" (32) face border.
5. Type S is available in nominal sizes 4" x 4" (102 x 102) through 48" x 24" (1219 x 610) in one piece construction. Fractional and metric sizes are available.
6. Standard fastening for Type S Frame is Type A countersunk screw holes.
7. Standard finish is AW Appliance White.

OPTIONS:

- IS Insect Screen (not available with opposed blade damper)
 - PF Plaster Frame (Type S only)
 - EQT Earthquake Tabs
 - OA Aluminum opposed blade damper (model suffix)
 - Other _____
 - GK Foam Gasket
- Finish:
- SP Special _____

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

12 - 10 - 15

5100

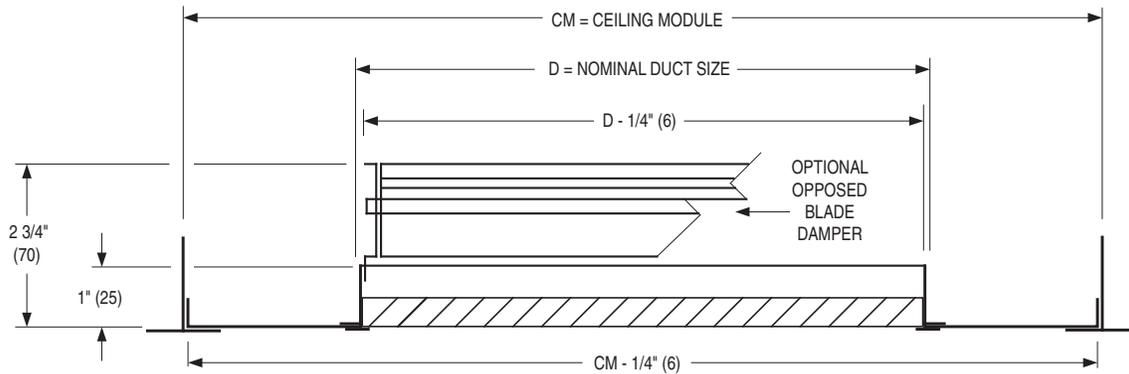
11 - 10 - 15

51EC45-1



ALUMINUM EGGCRATE RETURN GRILLES & REGISTERS
 45° DEFLECTION • SIGHTPROOF
 PANEL MOUNTED • LAY-IN T-BAR
 MODELS: 51EC45(-O) TYPE PLS OR PLA

FOR LAY-IN T-BAR TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

- MODEL 51EC45** Eggcrate Return Air Grille
 - Type PLS** Steel Panel
 - Type PLA** Aluminum Panel
- MODEL 51EC45-O** Eggcrate Return Air Register (Includes O. B. Damper)
 - Type PLS** Steel Panel
 - Type PLA** Aluminum Panel

Maximum Duct/Neck Size D = Ceiling Module - 3" (76)

DESCRIPTION:

- Material: Aluminum core and extruded frame mounted in an extended panel.
- Models 51EC45 and 51EC45-O Type PLS or PLA have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment standard exposed grid T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core is angled at 45° to prevent "see through" from three directions.
- Sight resistant parallel to width/long dimension.
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

OPTIONS:

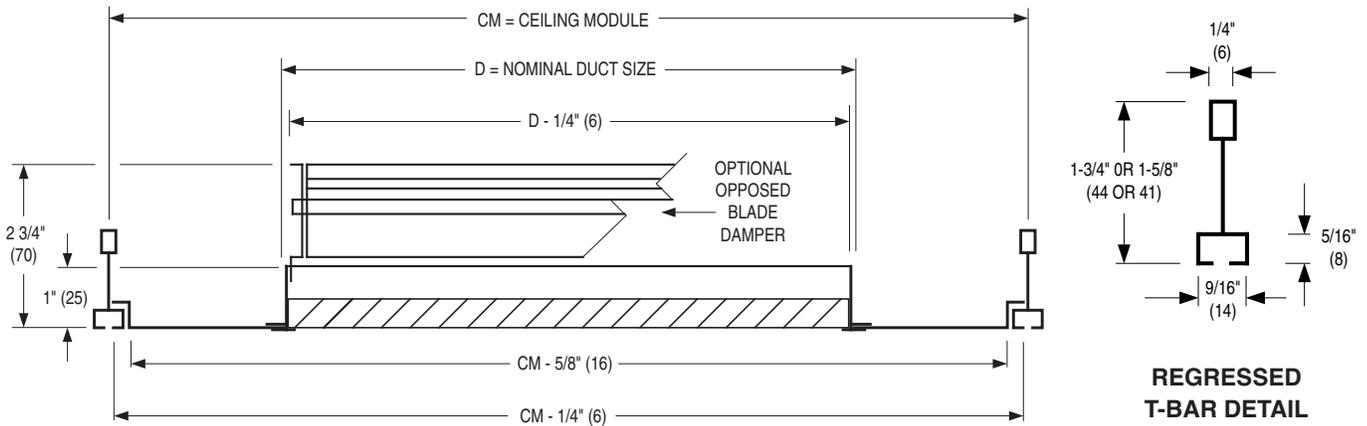
- Finish:
 - SP Special _____ .
- OA Aluminum opposed blade damper (model suffix).

| | | | | | |
|-----------------------|--------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 11 - 10 - 15 | 5100 | NEW | 51EC45-2 | |



ALUMINUM EGGCRATE RETURN GRILLES & REGISTERS
 45° DEFLECTION • SIGHTPROOF
 PANEL MOUNTED • NARROW REGRESSED T-BAR
MODELS: 51EC45(-O) TYPE FPS OR FPA

FOR FINELINE® TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULES (CM) | | | AVAILABLE DUCT/NECK SIZES |
|--------------------------------|-----------------|-----------------|---|
| Imperial Modules | | Metric Modules | |
| Imperial Units (inches) | S.I. Units (mm) | S.I. Units (mm) | |
| 20 x 20 | 508 x 508 | 500 x 500 | 6" x 6" (152 x 152) up to 16" x 16" (406 x 406) in 2" (51) increments |
| 24 x 24 | 610 x 610 | 600 x 600 | 6" x 6" (152 x 152) up to 20" x 20" (508 x 508) in 2" (51) increments |

- MODEL 51EC45** Eggcrate Return Air Grille
 - Type FPS** Steel Panel
 - Type FPA** Aluminum Panel

- MODEL 51EC45-O** Eggcrate Return Air Register (Includes O. B. Damper)
 - Type FPS** Steel Panel
 - Type FPA** Aluminum Panel

DESCRIPTION:

1. Material: Aluminum core and extruded frame mounted in an extended panel.
2. Models 51EC45 and 51EC45-O Type FPS or FPA have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment regressed 'narrow-tee' type T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
3. 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core is angled at 45° to prevent "see through" from three directions.
4. Sight resistant parallel to width/long dimension.
5. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
6. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
 - SP Special _____.
2. OA Aluminum opposed blade damper (model suffix).

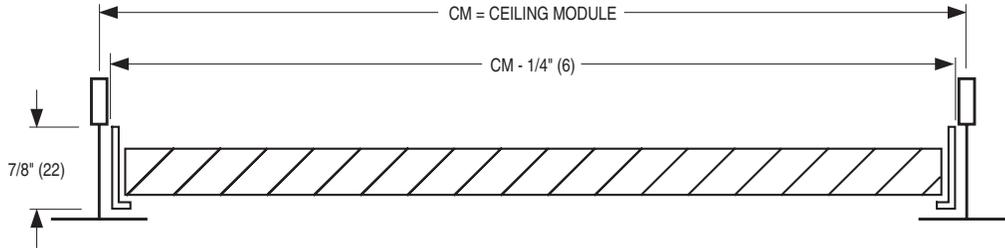
Fineline® is a registered trademark of USG Interiors Inc.

| | | | | | |
|-----------------------|--------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 11 - 10 - 15 | 5100 | NEW | 51EC45-3 | |

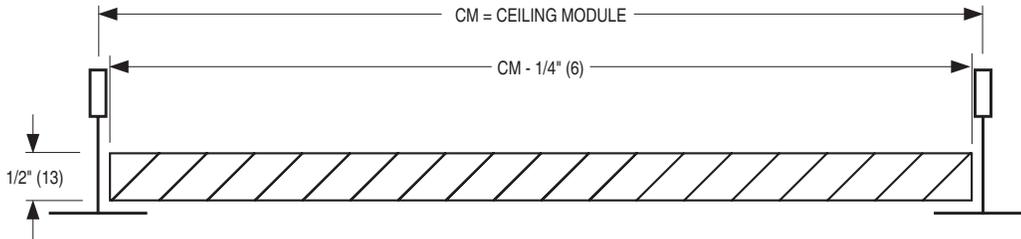


ALUMINUM EGGCRATE RETURN GRILLES
 1/2" x 1/2" x 1/2" (13 x 13 x 13) • LAY-IN T-BAR
 45° DEFLECTION • SIGHTPROOF
MODELS: 51EC45 TYPE A CONCEALED ANGLE FRAME
TYPE C (CORE ONLY)

Type A Concealed Angle Frame (for non-ducted applications)



Type C (Core Only) (for non-ducted applications)



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

DESCRIPTION:

- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core (Code CA) is angled at 45° to prevent "see through" from three directions.
- Sight resistant parallel to width/long dimension.
- Available in nominal sizes 4" x 4" (102 x 102) through 48" x 24" (1219 x 610) in one piece construction. Fractional and metric sizes are available.
Nominal List Size = Ceiling Module Size.
- Standard finish is AW Appliance White.

OPTIONS:

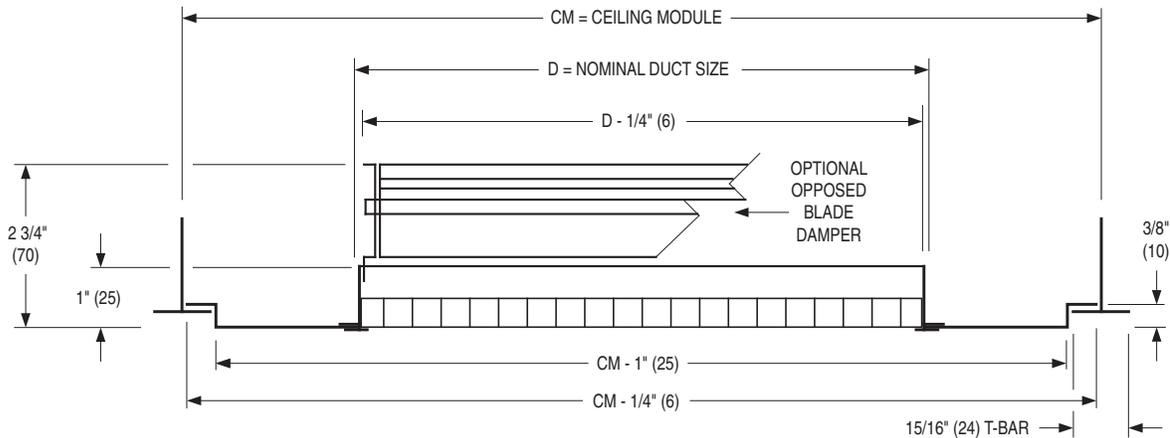
- Finish:
 - AL Aluminum
 - BK Black
 - BW British White
 - MI Mill Finish
 - PC Prime Coat
 - SP Special _____.

| | | | | |
|-----------------------|--------------------------------|-----------------|-------------------|--------------------|
| SCHEDULE TYPE: | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| CONTRACTOR: | 3 - 20 - 20 | 5100 | NEW | 51EC45-4 |



EGGCRATE RETURN GRILLES & REGISTERS
ALUMINUM CORE AND FRAME
TEGULAR PANEL MOUNTED • LAY-IN T-BAR
MODELS: 51EC(-O) TYPE TPS OR TPA

TO MATCH TEGULAR TILE LAY-IN 1" (25) T-BAR TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

Maximum Duct/Neck Size D = Ceiling Module - 3" (76)

- MODEL 51EC** Eggcrate Return Air Grille
 - Type TPS** Tegular Steel Panel
 - Type TPA** Tegular Aluminum Panel

- MODEL 51EC-O** Eggcrate Return Air Register (Includes O. B. Damper)
 - Type TPS** Tegular Steel Panel
 - Type TPA** Tegular Aluminum Panel

DESCRIPTION:

- Material: Aluminum core and extruded frame mounted in an extended panel.
- Models 51EC and 51EC-O Type TPS or TPA have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment standard 1 (25) nominal exposed grid T-Bar suspended ceiling systems utilizing tegular (drop face) ceiling tiles. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

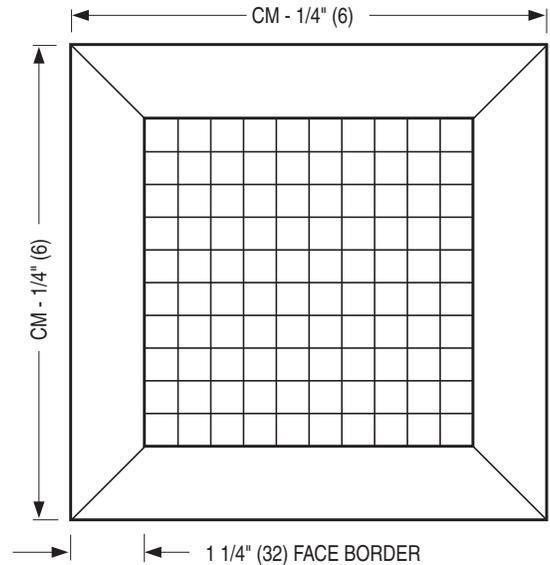
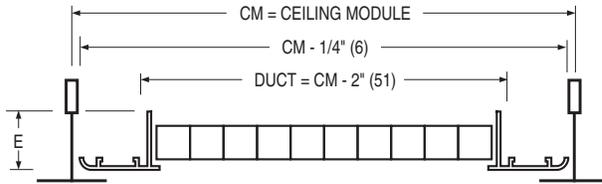
OPTIONS:

- Finish:
 - SP Special _____ .
- Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)
- OA Aluminum opposed blade damper (model suffix).

| | | | | |
|-----------------------|--------------------------------|-----------------|-------------------|--------------------|
| SCHEDULE TYPE: | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| CONTRACTOR: | 11 - 11 - 15 | 5100 | 6 - 2 - 14 | 51EC-4A |



**ALUMINUM EGGCRATE RETURN
GRILLES • 100% ALUMINUM
LAY-IN T-BAR • SUITABLE FOR MRI
MODELS: 51EC-MRI TYPE L**



TYPE L ALUMINUM FRAME/BORDER

Model 51EC-MRI Grille

| DIMENSION | STANDARD FRAME WITH 1/2 x 1/2 x 1/2 STD. CORE | WITH 1/2 x 1/2 x 1 OR 1 x 1 x 1 OPTIONAL CORE |
|-----------|---|---|
| E | 7/8" (22) | 1 1/4" (32) |

DESCRIPTION:

1. Construction: Extruded aluminum heavy gauge frame welded with hairline mitered corners for strength on Type L. 1/2 x 1/2 x 1/2 (13 x 13 x 13) aluminum grid core (code CA) is standard on all models. A high capacity return or exhaust outlet with maximum free area for minimum pressure drop and sound generation.
2. Minimum size is 4" x 4" (102 x 102). Maximum size is 48" x 48" (1219 x 1219) for Type L. Nominal List Size = Ceiling Module Size.
3. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
 - SP Special _____ .
2. Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
3. Other _____ .

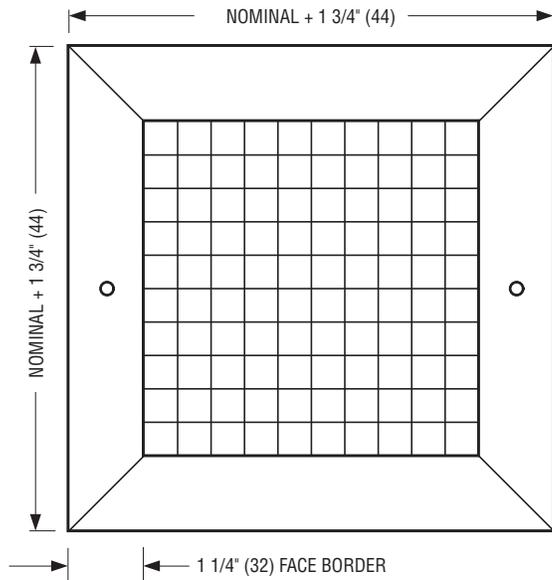
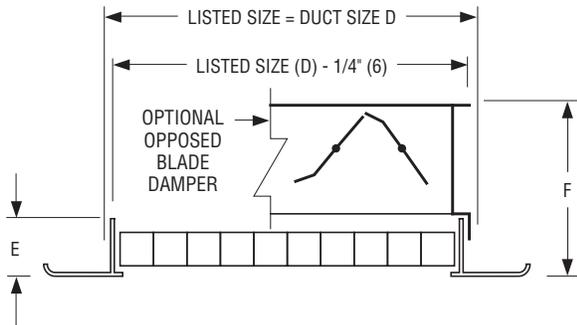
| |
|-----------------------|
| SCHEDULE TYPE: |
| PROJECT: |
| ENGINEER: |
| CONTRACTOR: |

Dimensions are in inches (mm).

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|------------|----------|------------|-------------|
| 6 - 1 - 11 | 5100 | NEW | 51EC-MRI |

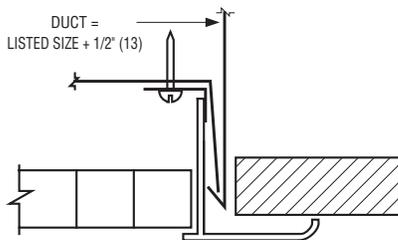


**STEEL EGGCRATE RETURN GRILLES
AND REGISTERS**
SURFACE MOUNT • ALUMINUM CORE
MODELS: 61EC(-O) TYPE S

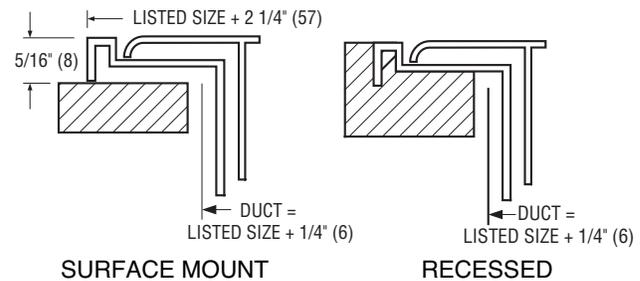


| DIMENSION | 1/2 x 1/2 x 1/2 STANDARD CORE | OPTIONAL 1/2 x 1/2 x 1 OR 1 x 1 x 1 CORE |
|-----------|----------------------------------|--|
| E | 7/8" (22) | 1 1/4" (32) |
| F | 2 5/8" (67) | 3" (76) |

**OPTIONAL TYPE C
CONCEALED MOUNTING STRAPS**



OPTIONAL TYPE PF PLASTER SUB FRAME
For use with standard 1 1/4" (32) border frame only.



MODEL 61EC Grille Type S.
For surface mount applications.

MODEL 61EC-O Register Type S.
For surface mount applications with opposed blade damper.

DESCRIPTION:

- Construction: Corrosion-resistant steel frame mechanically interlocked with hairline mitered corners for strength. 1/2 x 1/2 x 1/2 (13 x 13 x 13) aluminum grid core (code CA) is standard. A high capacity return or exhaust outlet with maximum free area for minimum pressure drop and sound generation.
- Optional roll-formed steel opposed blade damper has a screw driver slot operator accessible through face of register.
- Minimum size is 4" x 4" (102 x 102).
Maximum size is 48" x 48" (1219 x 1219).
- Type S Surface mount frame has a 1 1/4" (32) face border and a 1" (25) overlap margin.
- Standard fastening is Type A countersunk screw holes.
- Standard finish is AW Appliance White.

OPTIONS:

- Finish:
 - SA Satin (clear) anodized frame/mill core.
 - SP Special _____.
- Fastening:
 - Type C Concealed mounting straps
- PF Plaster frame
- IS Insert screen
- Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
- Other _____.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

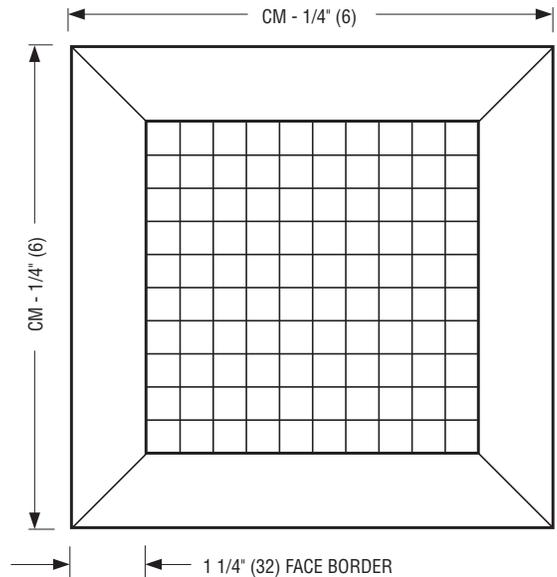
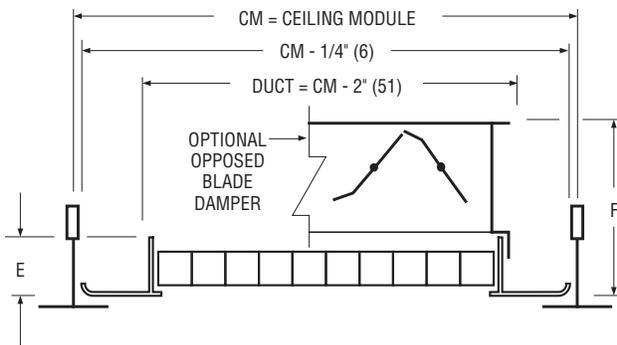
CONTRACTOR:

Dimensions are in inches (mm).

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|------------|----------|-----------------|-------------|
| 2 - 1 - 11 | 6100 | 6100-4A/8-29-05 | 61EC-1 |



**STEEL EGGCRATE RETURN GRILLES
AND REGISTERS**
LAY-IN T-BAR • ALUMINUM CORE
MODELS: 61EC(-O) TYPE L



| DIMENSION | STANDARD FRAME WITH 1/2 x 1/2 x 1/2 STD. CORE | WITH 1/2 x 1/2 x 1 OR 1 x 1 x 1 OPTIONAL CORE |
|-----------|---|---|
| E | 7/8" (22) | 1 1/4" (32) |
| F | 2 5/8" (67) | 3" (76) |

STEEL FRAME/BORDER

- MODEL 61EC TYPE L GRILLE MODEL 61EC-O TYPE L REGISTER

DESCRIPTION:

- Construction: Corrosion-resistant steel frame mechanically interlocked with hairline mitered corners for strength on Model 61EC Type L. 1/2 x 1/2 x 1/2 (13 x 13 x 13) aluminum grid core (code CA) is standard on all models. A high capacity return or exhaust outlet with maximum free area for minimum pressure drop and sound generation.
- Optional roll-formed steel opposed blade damper has a screw driver slot operator accessible through face of register.
- Minimum size is 4" x 4" (102 x 102).
Maximum size is 48" x 48" (1219 x 1219) for Model 61EC Type L.
Nominal List Size = Ceiling Module Size.
- Standard finish is AW Appliance White.

OPTIONS:

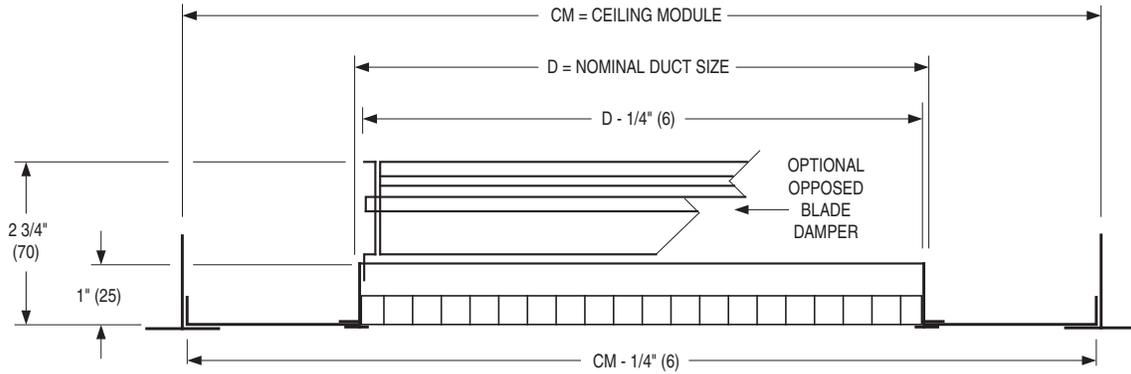
- Finish:
 - SA Satin (clear) anodized frame/mill core.
 - SP Special _____ .
- IS Insert screen
- Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
 - Other _____ .

| | | | | | |
|-----------------------|-------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 2 - 1 - 11 | 6100 | 6100-48/8-29-05 | 61EC-2 | |



EGGCRATE RETURN GRILLES & REGISTERS
 ALUMINUM CORE • STEEL FRAME
 PANEL MOUNTED • LAY-IN T-BAR
 MODELS: 61EC(-O) TYPE PLS

FOR LAY-IN T-BAR TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

Maximum Duct/Neck Size D = Ceiling Module - 3" (76)

- MODEL 61EC** Eggcrate Return Air Grille
Type PLS Steel Panel
- MODEL 61EC-O** Eggcrate Return Air Register
(Includes O. B. Damper)
Type PLS Steel Panel

DESCRIPTION:

- Material: Aluminum core with corrosion-resistant steel frame mounted in an extended panel.
- Models 61EC and 61EC-O Type PLS have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment standard exposed grid T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

OPTIONS:

- Finish:
 - SP Special _____
- Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)

| | |
|-----------------------|--|
| SCHEDULE TYPE: | |
| PROJECT: | |
| ENGINEER: | |
| CONTRACTOR: | |

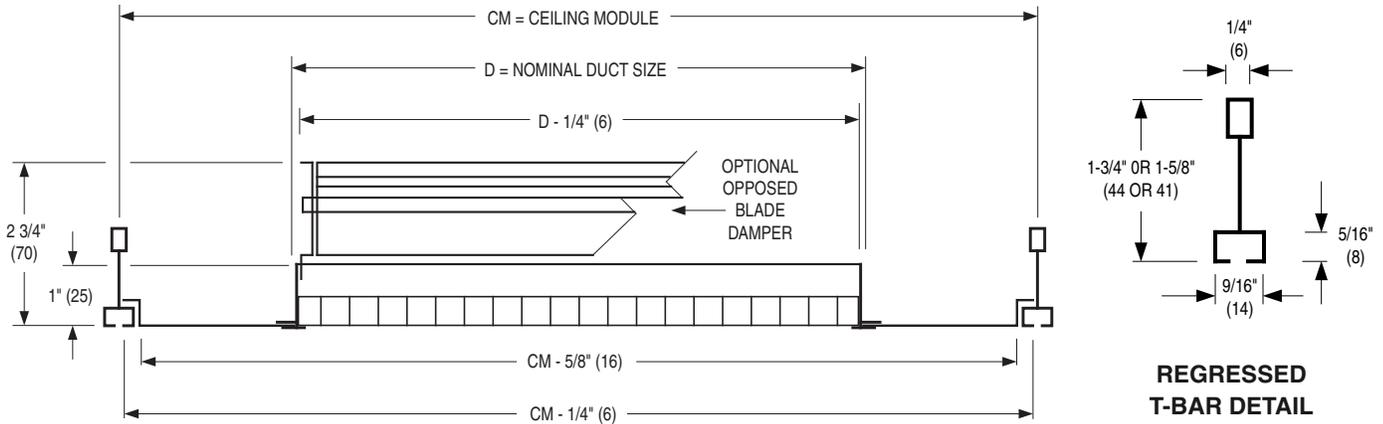
Dimensions are in inches (mm).

| | | | |
|-------------|-----------------|-------------------|--------------------|
| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| 2 - 1 - 11 | 6100 | NEW | 61EC-3 |



EGGCRATE RETURN GRILLES & REGISTERS
ALUMINUM CORE • STEEL FRAME
PANEL MOUNTED • NARROW REGRESSED T-BAR
MODELS: 61EC(-O) TYPE FPS

FOR FINELINE® TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULES (CM) | | | AVAILABLE DUCT/NECK SIZES |
|--------------------------------|-----------------|-----------------|---|
| Imperial Modules | | Metric Modules | |
| Imperial Units (inches) | S.I. Units (mm) | S.I. Units (mm) | |
| 20 x 20 | 508 x 508 | 500 x 500 | 6" x 6" (152 x 152) up to 16" x 16" (406 x 406) in 2" (51) increments |
| 24 x 24 | 610 x 610 | 600 x 600 | 6" x 6" (152 x 152) up to 20" x 20" (508 x 508) in 2" (51) increments |

- MODEL 61EC** Eggcrate Return Air Grille
Type FPS Steel Panel
- MODEL 61EC-O** Eggcrate Return Air Register
(Includes O. B. Damper)
Type FPS Steel Panel

DESCRIPTION:

- Material: Aluminum core with a corrosion-resistant steel frame mounted in an extended panel.
- Models 61EC and 61EC-O Type FPS have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment regressed 'narrow-tee' type T-Bar suspended ceiling systems. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

OPTIONS:

- Finish:
 - SP Special _____ .
- Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)

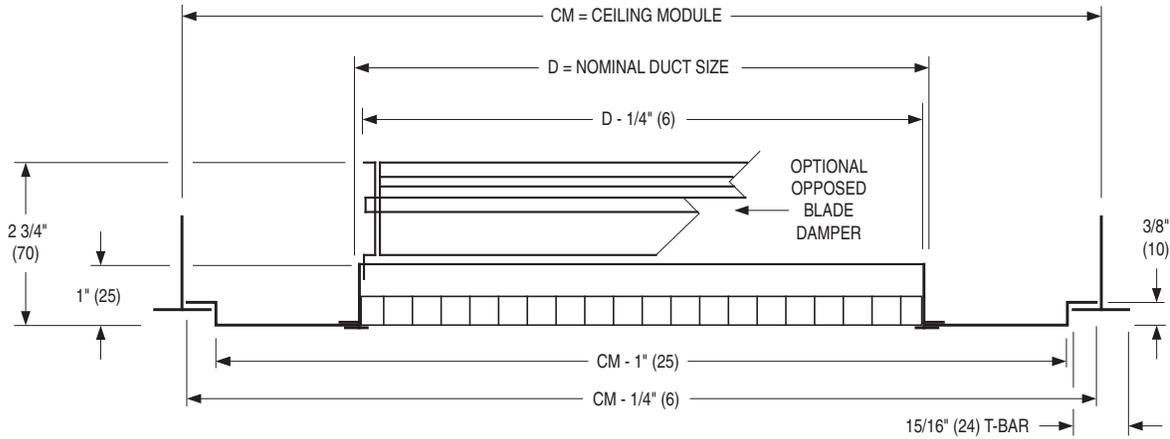
Fineline® is a registered trademark of USG Interiors Inc.

| | | | | | |
|-----------------------|-------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 2 - 1 - 11 | 6100 | 6100-4D/4-10-00 | 61EC-4 | |



EGGCRATE RETURN GRILLES & REGISTERS
ALUMINUM CORE • STEEL FRAME
TEGULAR PANEL MOUNTED • LAY-IN T-BAR
MODELS: 61EC(-O) TYPE TPS

TO MATCH TEGULAR TILE LAY-IN 1" (25) T-BAR TYPE CEILING SYSTEMS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

- MODEL 61EC** Eggcrate Return Air Grille
- Type TPS** Tegular Steel Panel

- MODEL 61EC-O** Eggcrate Return Air Register (Includes O. B. Damper)
- Type TPS** Tegular Steel Panel

Maximum Duct/Neck Size D = Ceiling Module - 3" (76)

DESCRIPTION:

1. Material: Aluminum core with corrosion-resistant steel frame mounted in an extended panel.
2. Models 61EC and 61EC-O Type TPS have been specially designed for high capacity (90% free area) return air applications and to integrate with and compliment standard 1 (25) nominal exposed grid T-Bar suspended ceiling systems utilizing tegular (drop face) ceiling tiles. The return grille or register is mechanically assembled and using a special frame captures the module sized panel, which eliminates welding and assures a clean smooth blemish free painted finish.
3. 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
4. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
5. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
 - SP Special _____ .
2. Non-standard core:
 - CB 1/2" x 1/2" x 1" (13 x 13 x 25)
 - CC 1" x 1" x 1" (25 x 25 x 25)

| | |
|-----------------------|--|
| SCHEDULE TYPE: | |
| PROJECT: | |
| ENGINEER: | |
| CONTRACTOR: | |

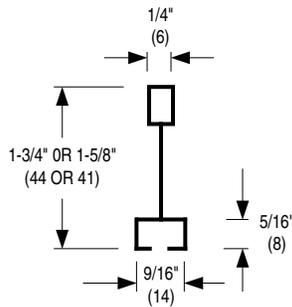
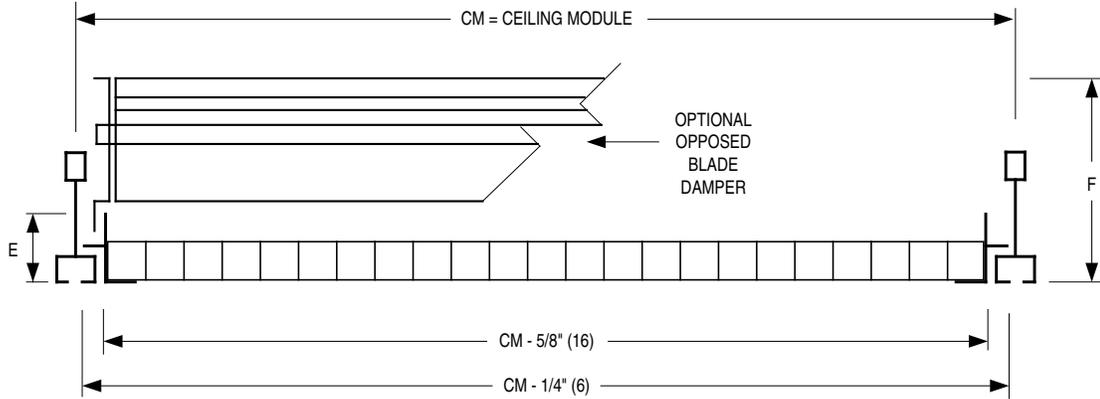
Dimensions are in inches (mm).

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|--------------|----------|------------|-------------|
| 11 - 11 - 15 | 6100 | 6 - 2 - 14 | 61EC-4A |



EGGCRATE RETURN GRILLES & REGISTERS
 ALUMINUM CORE • STEEL FRAME
 NARROW REGRESSED T-BAR • FULL FACE
MODELS: 61ECF(-O)

FOR FINELINE® TYPE CEILING SYSTEMS



REGRESSED T-BAR DETAIL

| DIMENSION | STANDARD FRAME WITH 1/2 x 1/2 x 1/2 STD. CORE | WITH 1/2 x 1/2 x 1 OR 1 x 1 x 1 OPTIONAL CORE |
|-----------|---|---|
| E | 7/8" (22) | 1 1/4" (32) |
| F | 2 5/8" (67) | 3" (76) |

| IMPERIAL MODULES | | METRIC MODULES |
|----------------------|-----------------|-----------------|
| Imperial Units (in.) | S.I. Units (mm) | S.I. Units (mm) |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 24 x 24 | 610 x 610 | 600 x 600 |

- MODEL 61ECF** Eggcrate Return Air Grille
- MODEL 61ECF-O** Eggcrate Return Air Register (Includes O. B. Damper)

NOTES:

- Construction: Aluminum core with corrosion-resistant steel frame.
- Support rail on four sides.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum grid core standard (code CA).
- Models 61ECF and 61ECF-O have been specially designed for high capacity (90% free area) return air applications to integrate with and compliment 'Fineline®' type suspended ceiling systems.
- Not recommended for ducted applications. Utilizes full area of ceiling module opening for maximum capacity in ductless return applications.
- Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
- Standard finish is AW Appliance White.

OPTIONS:

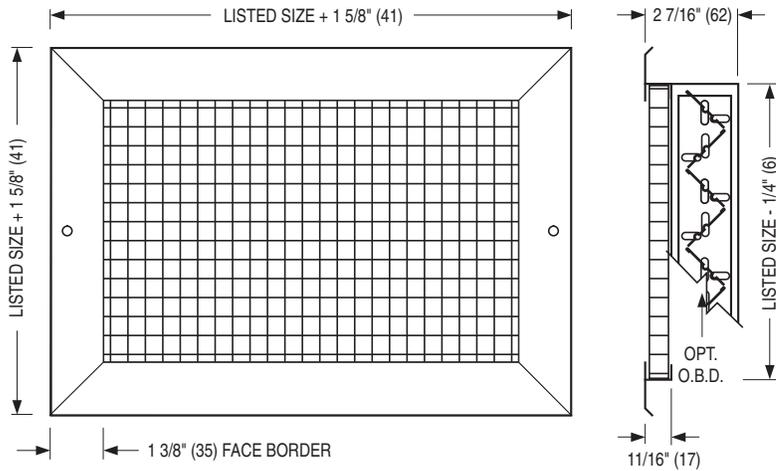
- Finish:
 - SP Special _____ .
- Non-standard core:
 - CB 1/2 x 1/2 x 1 (13 x 13 x 25)
 - CC 1 x 1 x 1 (25 x 25 x 25)
- Other _____ .

Fineline® is a registered trademark of USG Interiors Inc.

| | | | | | |
|-----------------------|-------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 10 - 3 - 13 | 6100 | 2 - 1 - 11 | 61EC-5 | |



**STAINLESS STEEL EGGCRATE RETURN
GRILLES & REGISTERS
SURFACE MOUNT
MODELS: 67EC(-O) TYPE S**



MODEL 67EC
Eggcrate Face Grille
Surface Mount

MODEL 67EC-O
Eggcrate Face Register
Surface Mount
(Includes O. B. Damper)

DESCRIPTION:

1. Construction: Type 304 stainless steel welded and reinforced frame features hairline mitered corners. 1/2" x 1/2" x 1/2" (13 x 13 x 13) stainless steel core.
2. Optional roll-formed Type 304 stainless steel opposed blade damper has a screw driver operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).
Maximum size is 48" x 36" (1219 x 914).
4. Type S Surface mount standard frame has a 1 3/8" (35) face border.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is #4 Brushed Satin Polished.

OPTIONS:

1. Construction:
 - 316 Type 316 stainless steel.
2. Finish:
 - AW Appliance White.
 - SP Special _____ .
3. PFS Stainless Steel Plaster frame
4. Other _____ .

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

5 - 11 - 15

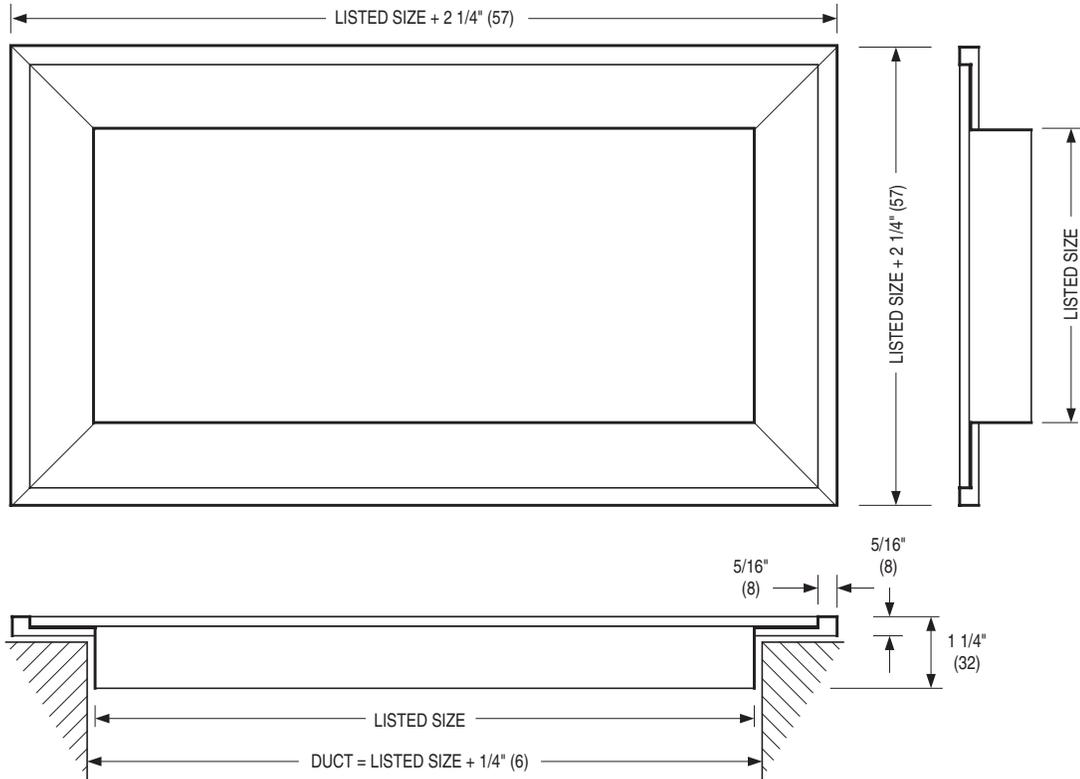
6700

9 - 22 - 11

67EC-1

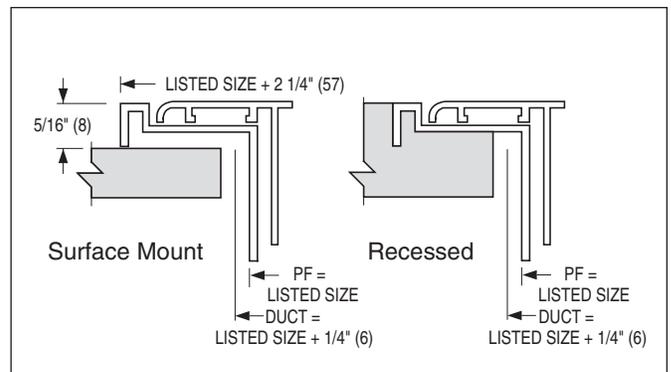


**GRILLES AND REGISTERS ACCESSORY
PLASTER/MOUNTING FRAME**
(FOR USE WITH MODEL SERIES 5100, 6100, AND 7100)
MODEL: PF



DESCRIPTION:

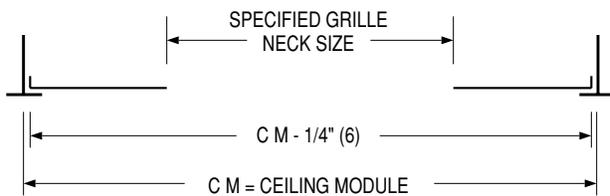
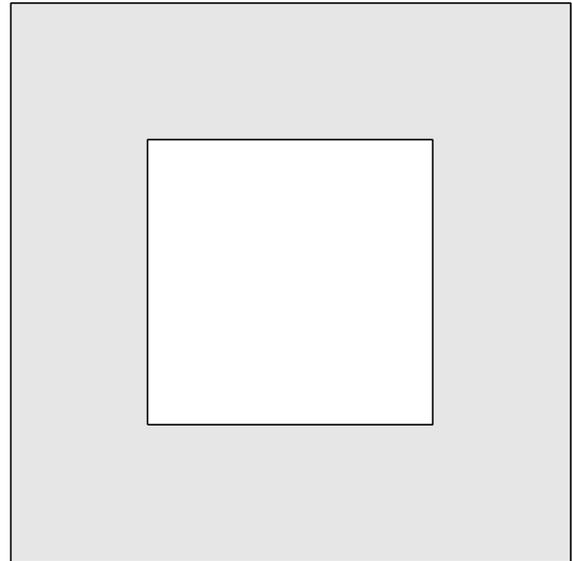
1. Construction: Extruded aluminum frame with staked and mitered mitered corners for strength.
2. Model PF Plaster frame provides a convenient and professional method for finishing off a grille or register opening. It provides a stable anchor for attachment, while enabling the grille or register to be readily removed and replaced without disturbing the finished surface of the wall or ceiling.
3. Frames can be installed before plastering and installed in a recessed fashion or surface mounted afterwards on plaster or other material.
4. Duct openings should be 1/4" (6) larger than nominal listed size to accommodate frame.
5. Finish: Baked enamel finish to match grille or register.



| | | | | | |
|-----------------------|--------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 10 - 24 - 01 | ACC-GR | 5100-11 | ACC-PF | |



ALUMINUM T-BAR MOUNTING PANEL
 (FOR USE WITH ALUMINUM RETURN
 GRILLES AND REGISTERS)
TYPE PLA



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

DESCRIPTION:

1. Material: Aluminum.
2. Type PLA mounting panels are for use with aluminum return grilles and registers, Model Series 51C, 5100, 51EC, 51PR and 7100 to fit standard exposed grid T-bar ceiling systems.
3. Grilles or registers are factory mounted in the auxiliary panel.
4. Maximum grille neck size = Ceiling Module - 3" (76).

5. Standard finish is AW Appliance White to match supply or return grille and register.

OPTIONS:

Finish:
 SP Special _____ .

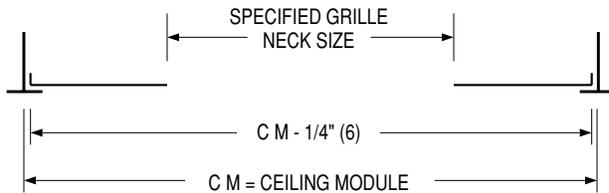
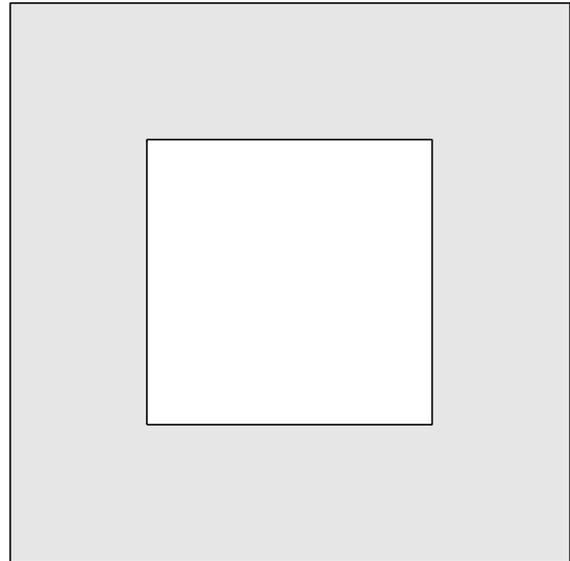
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|-----------------------|
| SCHEDULE TYPE: |
| PROJECT: |
| ENGINEER: |
| CONTRACTOR: |

Dimensions are in inches (mm).

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|---------------|----------|--------------|-------------|
| 13 - 10 - 00R | ACC-GR | 4-93/5100-PL | ACC-PLA |



STEEL T-BAR MOUNTING PANEL
 (FOR USE WITH STEEL OR ALUMINUM
 RETURN GRILLES AND REGISTERS)
TYPE PLS



| AVAILABLE CEILING MODULE SIZES | | |
|--------------------------------|-------------------|-----------------|
| Imperial Modules | | Metric Modules |
| Imperial Units (in.) | Metric Units (mm) | S.I. Units (mm) |
| 12 x 12 | 305 x 305 | 300 x 300 |
| 24 x 12 | 610 x 305 | 600 x 300 |
| 36 x 12 | 914 x 305 | 900 x 300 |
| 48 x 12 | 1219 x 305 | 1200 x 300 |
| 20 x 20 | 508 x 508 | 500 x 500 |
| 24 x 24 | 610 x 610 | 600 x 600 |
| 36 x 24 | 914 x 610 | 900 x 600 |
| 48 x 24 | 1219 x 610 | 1200 x 600 |

DESCRIPTION:

1. Material: Heavy gauge corrosion-resistant steel.
2. Type PLS mounting panels are for use with steel or aluminum return grilles and registers, Model Series 51C, 5100, 51EC, 51PR, 61C, 6100, 61EC, 61PR and 7100 to fit standard exposed grid T-bar ceiling systems.
3. Grilles or registers are factory mounted in the auxiliary panel.
4. Maximum grille neck size = Ceiling Module - 3" (76).

5. Standard finish is AW Appliance White to match supply or return grille and register.

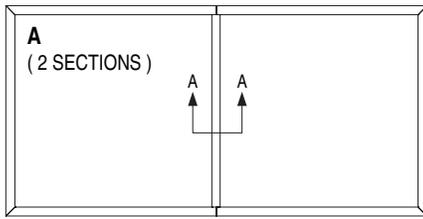
OPTIONS:

Finish:
 SP Special _____ .

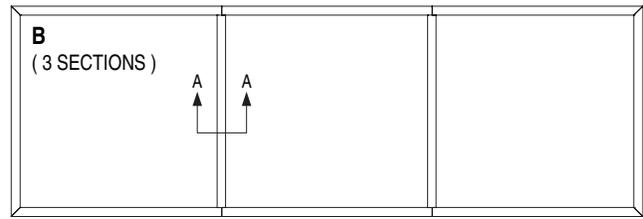
| | | | | | |
|-----------------------|---------------|--------------------------------|-------------------|--------------------|--|
| SCHEDULE TYPE: | | Dimensions are in inches (mm). | | | |
| PROJECT: | | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. | |
| CONTRACTOR: | 13 - 10 - 00R | ACC-GR | 4-93/6100-PL | ACC-PLS | |



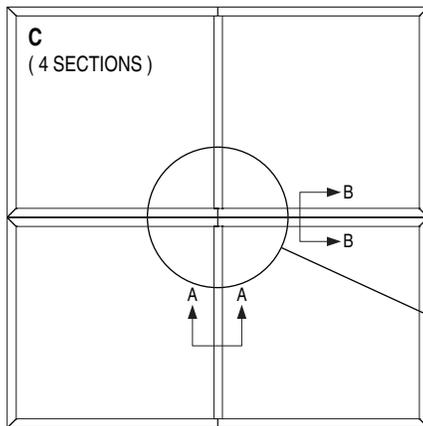
**OVERSIZED GRILLE CONSTRUCTION
ALUMINUM SUPPLY AND RETURN GRILLES
FOR DUCTS OR OPENINGS LARGER THAN 48" (1219)
MODEL SERIES: 5100 AND 7100**



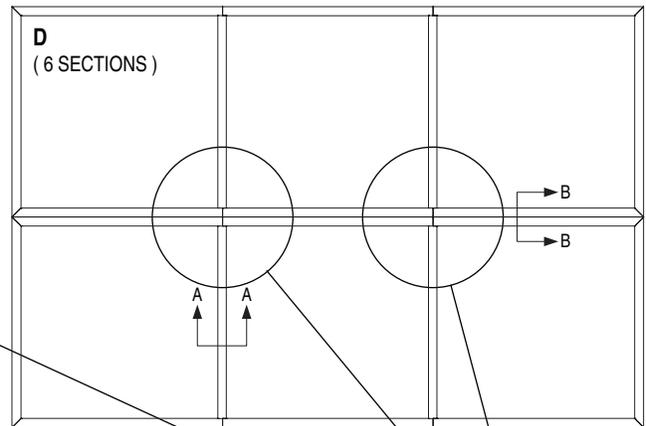
OVER 48" (1219) IN WIDTH UP TO 96" x 48" (2438 x 1219)



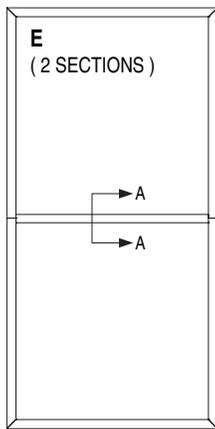
OVER 96" (2438) IN WIDTH UP TO 144" x 48" (3658 x 1219)



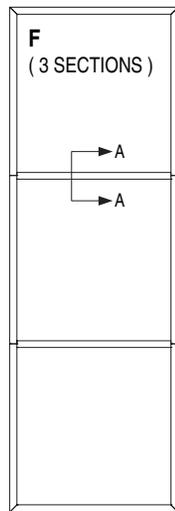
OVER 48" (1219) IN WIDTH AND HEIGHT UP TO 96" x 96" (2438 x 2438)



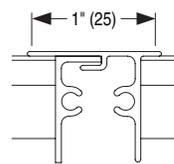
OVER 96" x 48" (2438 x 1219) UP TO 144" x 96" (3658 x 2438)



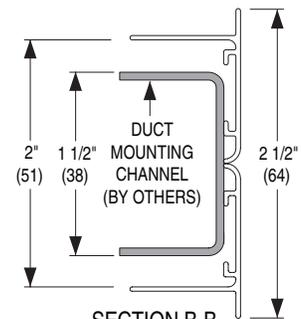
UP TO 48" (1219) IN WIDTH AND
UP TO 96" (2438) IN HEIGHT



UP TO 48" (1219) IN WIDTH AND
UP TO 144" (3658) IN HEIGHT



SECTION A-A
FACE MULLION WITH
ALIGNMENT TAB
OVERLAP DETAIL



SECTION B-B
DOUBLE FRAME / BORDER DETAIL

NOTES:

1. Maximum single section size is 48" x 48" (1219 x 1219).
2. Detail A-A frame joints are sheared and butted together. Alignment tabs interlock and keep the face surfaces parallel.
3. Detail B-B shows two separate grille frames butted together.
4. Mounting countersunk screw holes are located per the standard screw hole chart on grille frames, but not on face mullion.
5. Sections ship loose for field installation.
6. Additional structural support (Duct mounting support channels by others) is required for diagrams C and D.
7. This detail applies to Type S Surface Mount Frame/Border only.

| | | | | |
|-----------------------|-------------|-----------------|-------------------|--------------------|
| SCHEDULE TYPE: | | | | |
| PROJECT: | | | | |
| ENGINEER: | DATE | B SERIES | SUPERSEDES | DRAWING NO. |
| CONTRACTOR: | 4 - 27 - 20 | GR | NEW | OG-1-A |

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

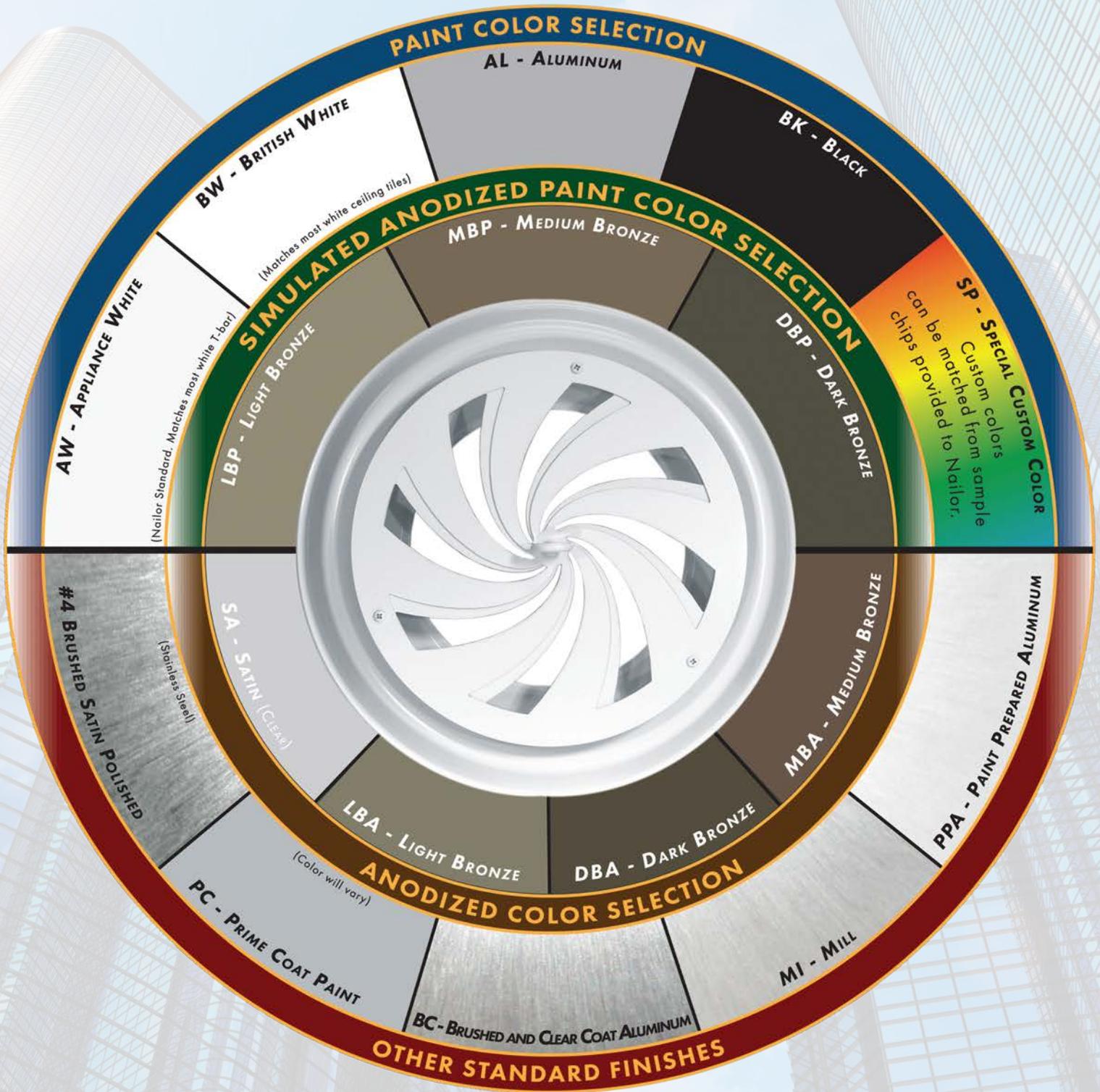
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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:

EGGCRATE RETURN AND EXHAUST GRILLES AND REGISTERS • 5100, 6100 & 6700 SERIES

MODELS: 51EC, 61EC, 67EC, 51FE, 61FE

| Listed Duct Size (inches) | Alternate Sizes (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity Velocity Pressure Neg. Static Pressure | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1200 | 1400 |
|---------------------------|------------------------------------|---------------------|-----------|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | | | .006 .012 | .010 .021 | .016 .033 | .022 .048 | .031 .065 | .040 .085 | .050 .107 | .062 .132 | .090 .190 | .122 .259 |
| 6 x 6 | 8 x 4 10 x 4 | 0.20 | 0.25 | CFM Noise Criteria | 60 - | 80 - | 100 - | 120 - | 140 - | 160 15 | 180 20 | 200 23 | 240 29 | 280 34 |
| 8 x 6 | 10 x 5 12 x 4 | 0.27 | 0.33 | CFM Noise Criteria | 81 - | 108 - | 135 - | 162 - | 189 - | 216 17 | 243 21 | 270 24 | 324 30 | 378 35 |
| 10 x 6 | 12 x 5 16 x 4 | 0.35 | 0.41 | CFM Noise Criteria | 105 - | 140 - | 175 - | 210 - | 245 - | 280 18 | 315 22 | 350 25 | 420 31 | 490 36 |
| 8 x 8 | 14 x 5 | 0.38 | 0.44 | CFM Noise Criteria | 114 - | 152 - | 190 - | 228 - | 266 15 | 304 18 | 342 23 | 380 26 | 456 32 | 532 37 |
| 12 x 6 | 18 x 4 | 0.42 | 0.50 | CFM Noise Criteria | 126 - | 168 - | 210 - | 252 - | 294 15 | 336 19 | 378 23 | 420 26 | 504 32 | 588 37 |
| 12 x 8 | 16 x 6 24 x 4 | 0.58 | 0.66 | CFM Noise Criteria | 174 - | 232 - | 290 - | 348 - | 406 17 | 464 20 | 522 24 | 580 27 | 696 33 | 812 38 |
| 10 x 10 | 14 x 7 26 x 4 | 0.61 | 0.69 | CFM Noise Criteria | 183 - | 244 - | 305 - | 366 - | 427 17 | 488 20 | 549 25 | 610 28 | 732 34 | 854 39 |
| 18 x 6 | 14 x 8 30 x 4 28 x 4 | 0.65 | 0.74 | CFM Noise Criteria | 195 - | 260 - | 325 - | 390 - | 455 17 | 520 21 | 585 25 | 650 28 | 780 34 | 910 39 |
| 12 x 10 | 16 x 8 20 x 6 24 x 5 | 0.74 | 0.82 | CFM Noise Criteria | 222 - | 296 - | 370 - | 444 - | 518 18 | 592 21 | 666 25 | 740 29 | 888 35 | 1036 40 |
| 12 x 12 | 14 x 10 24 x 6 18 x 8 38 x 4 | 0.90 | 0.99 | CFM Noise Criteria | 270 - | 360 - | 450 - | 540 - | 630 18 | 720 22 | 810 26 | 900 30 | 1080 36 | 1260 41 |
| 14 x 14 | 16 x 12 24 x 8 20 x 10 34 x 6 | 1.24 | 1.35 | CFM Noise Criteria | 372 - | 496 - | 620 - | 744 - | 868 19 | 992 23 | 1116 27 | 1240 31 | 1488 37 | 1736 42 |
| 18 x 12 | 16 x 14 28 x 8 20 x 10 38 x 6 | 1.37 | 1.49 | CFM Noise Criteria | 411 - | 548 - | 685 - | 822 - | 959 20 | 1096 24 | 1233 27 | 1370 31 | 1644 37 | 1918 42 |
| 24 x 10 | 20 x 12 30 x 8 | 1.52 | 1.65 | CFM Noise Criteria | 456 - | 608 - | 760 - | 912 15 | 1064 20 | 1216 24 | 1368 28 | 1520 32 | 1824 38 | 420 43 |
| 16 x 16 | 18 x 14 30 x 8 22 x 12 | 1.64 | 1.76 | CFM Noise Criteria | 492 - | 656 - | 820 - | 984 15 | 1148 20 | 1312 24 | 1476 28 | 1640 32 | 1968 38 | 2296 43 |
| 24 x 12 | 18 x 16 30 x 10 20 x 14 36 x 8 | 1.85 | 1.98 | CFM Noise Criteria | 555 - | 740 - | 925 - | 1110 15 | 1295 20 | 1480 24 | 1665 28 | 1850 32 | 2220 38 | 2590 43 |
| 18 x 18 | 20 x 16 28 x 12 24 x 14 32 x 10 | 2.10 | 2.23 | CFM Noise Criteria | 630 - | 840 - | 1050 - | 1260 15 | 1470 20 | 1680 25 | 1890 28 | 2100 32 | 2520 38 | 2940 43 |
| 30 x 12 | 20 x 18 26 x 14 22 x 16 36 x 10 | 2.32 | 2.48 | CFM Noise Criteria | 696 - | 928 - | 1160 - | 1392 16 | 1624 20 | 1856 26 | 2088 29 | 2320 33 | 2784 39 | 3248 44 |
| 20 x 20 | 24 x 18 30 x 14 26 x 16 36 x 12 | 2.61 | 2.75 | CFM Noise Criteria | 783 - | 1044 - | 1305 - | 1566 16 | 1827 20 | 2088 26 | 2349 29 | 2610 33 | 3132 39 | 3654 44 |
| 22 x 22 | 24 x 20 30 x 16 26 x 18 36 x 14 | 3.17 | 3.33 | CFM Noise Criteria | 951 - | 1268 - | 1585 - | 1902 17 | 2219 21 | 2536 26 | 2853 30 | 3170 34 | 3804 40 | 4438 45 |
| 30 x 18 | 24 x 22 40 x 14 34 x 16 | 3.54 | 3.71 | CFM Noise Criteria | 1062 - | 1416 - | 1770 - | 2124 17 | 2478 22 | 2832 26 | 3186 30 | 3540 34 | 4248 40 | 4956 45 |
| 24 x 24 | 26 x 22 32 x 18 28 x 20 36 x 16 | 3.79 | 3.96 | CFM Noise Criteria | 1137 - | 1516 - | 1895 - | 2274 18 | 2653 23 | 3032 27 | 3411 31 | 3790 35 | 4548 41 | 5306 46 |
| 36 x 18 | 32 x 20 46 x 14 40 x 16 | 4.29 | 4.46 | CFM Noise Criteria | 1287 - | 1716 - | 2145 - | 2574 18 | 3003 23 | 3432 27 | 3861 31 | 4290 35 | 5148 41 | 6006 46 |
| 26 x 26 | 28 x 24 48 x 14 | 4.47 | 4.65 | CFM Noise Criteria | 1341 - | 1788 - | 2235 - | 2682 19 | 3129 24 | 3576 28 | 4023 32 | 4470 36 | 5364 42 | 6258 47 |
| 30 x 24 | 28 x 26 36 x 20 32 x 22 40 x 18 | 4.77 | 4.95 | CFM Noise Criteria | 1431 - | 1908 - | 2385 15 | 2862 19 | 3339 24 | 3816 29 | 4293 32 | 4770 36 | 5724 42 | 6678 47 |
| 28 x 28 | 30 x 26 40 x 20 36 x 22 | 5.20 | 5.39 | CFM Noise Criteria | 1560 - | 2080 - | 2600 - | 3120 19 | 3640 24 | 4160 29 | 4680 32 | 5200 36 | 6240 41 | 7280 46 |
| 36 x 24 | 30 x 28 44 x 20 40 x 22 | 5.74 | 5.94 | CFM Noise Criteria | 1722 - | 2296 - | 2870 - | 3444 20 | 4018 25 | 4592 29 | 5166 33 | 5740 37 | 6888 43 | 8036 48 |
| 30 x 30 | 34 x 26 48 x 20 38 x 24 | 5.99 | 6.19 | CFM Noise Criteria | 1797 - | 2396 - | 2995 - | 3594 20 | 4193 25 | 4792 29 | 5391 33 | 5990 37 | 7188 43 | 8386 48 |

For performance data notes, see F107.

PERFORMANCE DATA:

EGGCRATE RETURN AND EXHAUST GRILLES AND REGISTERS • 5100, 6100 & 6700 SERIES

MODELS: 51EC, 61EC, 67EC, 51FE, 61FE

| Listed Duct Size (inches) | Alternate Sizes (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity Velocity Pressure Neg. Static Pressure | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1200 | 1400 |
|---------------------------|------------------------------------|---------------------|-----------|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | | | .006 .012 | .010 .021 | .016 .033 | .022 .048 | .031 .065 | .040 .085 | .050 .107 | .062 .132 | .090 .190 | .122 .259 |
| 32 x 32 | 36 x 30 46 x 22 38 x 28 | 6.84 | 7.0 | CFM | 2052 | 2736 | 3420 | 4104 | 4788 | 5472 | 6156 | 6840 | 8208 | 9576 |
| | | | | Noise Criteria | — | — | 15 | 20 | 26 | 30 | 34 | 37 | 44 | 49 |
| 48 x 24 | 34 x 34 38 x 30 36 x 32 48 x 28 | 7.69 | 7.92 | CFM | 2307 | 3076 | 3845 | 4614 | 5383 | 6152 | 6921 | 7690 | 9228 | 10776 |
| | | | | Noise Criteria | — | — | 16 | 21 | 26 | 30 | 35 | 38 | 44 | 49 |
| 36 x 36 | 38 x 34 46 x 28 42 x 30 48 x 26 | 8.69 | 8.91 | CFM | 2607 | 3476 | 4345 | 5214 | 6083 | 6952 | 7821 | 8690 | 10428 | 12166 |
| | | | | Noise Criteria | — | — | 16 | 22 | 27 | 31 | 35 | 38 | 44 | 49 |
| 38 x 38 | 42 x 34 48 x 30 44 x 34 | 9.70 | 9.93 | CFM | 2910 | 3880 | 4850 | 5820 | 6790 | 7760 | 8730 | 9700 | 11640 | 13580 |
| | | | | Noise Criteria | — | — | 16 | 22 | 27 | 31 | 36 | 39 | 45 | 50 |
| 40 x 40 | 42 x 36 48 x 32 46 x 34 | 10.77 | 11.00 | CFM | 3231 | 4308 | 5385 | 6462 | 7539 | 8616 | 9693 | 10770 | 12924 | 15078 |
| | | | | Noise Criteria | — | — | 16 | 22 | 28 | 32 | 37 | 40 | 46 | 51 |
| 42 x 42 | 44 x 40 48 x 36 46 x 38 | 11.89 | 12.13 | CFM | 3567 | 4756 | 5945 | 7134 | 8323 | 9512 | 10701 | 11890 | 14260 | 16646 |
| | | | | Noise Criteria | — | — | 17 | 23 | 28 | 32 | 37 | 40 | 46 | 51 |
| 44 x 44 | 46 x 42 | 13.07 | 13.31 | CFM | 3921 | 5228 | 6535 | 7842 | 9149 | 10456 | 11763 | 13070 | 15684 | 18298 |
| | | | | Noise Criteria | — | — | 17 | 23 | 28 | 33 | 37 | 40 | 46 | 51 |
| 46 x 46 | | 14.30 | 14.55 | CFM | 4290 | 5720 | 7150 | 8580 | 10010 | 11440 | 12870 | 14300 | 17160 | 20020 |
| | | | | Noise Criteria | — | — | 18 | 24 | 29 | 33 | 37 | 40 | 46 | 52 |
| 48 x 48 | | 15.59 | 15.84 | CFM | 4677 | 6236 | 7795 | 9354 | 10913 | 12472 | 14031 | 15590 | 18708 | 21826 |
| | | | | Noise Criteria | — | — | 18 | 24 | 29 | 33 | 37 | 40 | 46 | 52 |

Performance Notes:

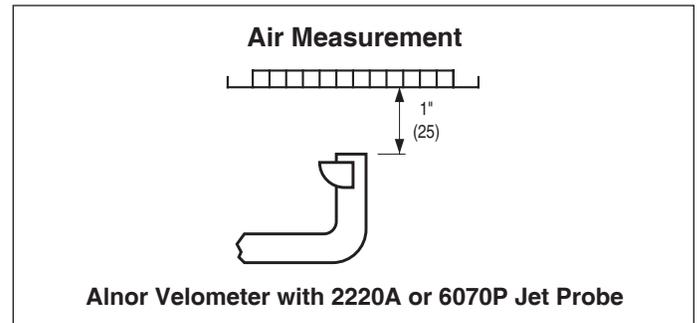
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille tested without damper. Apply the following correction factors for addition of opposed blade damper to grille.

Neg. Static Pressure Listed Value x 1.25.

Noise Criteria Add + 6 to listed value.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (—) in space denotes a Noise Criteria level of less than 15.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023.



Airflow Measurements

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.
3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).
4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.

$$\text{Airflow (CFM)} = \text{Average velocity (Vk)} \times \text{Ak}$$

PERFORMANCE DATA:

SIGHT-PROOF EGGCRATE RETURN AND EXHAUST GRILLES AND REGISTERS • 5100

MODEL: 51EC45

| Listed Duct Size (inches) | Nominal Duct Area (sq. ft.) | Duct Velocity, FPM Velocity Pressure Neg. Static Pressure | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 |
|---------------------------|-----------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | .002 .016 | .004 .025 | .006 .037 | .008 .050 | .010 .065 | .013 .082 | .016 .101 | .019 .123 | .022 .146 | .026 .171 |
| 10 x 10 | 0.69 | Airflow, CFM | 139 | 174 | 208 | 243 | 278 | 313 | 347 | 382 | 417 | 451 |
| | | Noise Criteria | – | – | 16 | 20 | 24 | 27 | 30 | 33 | 35 | 37 |
| 22 x 10 | 1.53 | Airflow, CFM | 306 | 382 | 458 | 535 | 611 | 688 | 764 | 840 | 917 | 993 |
| | | Noise Criteria | – | – | 18 | 22 | 26 | 30 | 33 | 36 | 38 | 41 |
| 22 x 22 | 3.36 | Airflow, CFM | 672 | 840 | 1008 | 1176 | 1344 | 1513 | 1681 | 1849 | 2017 | 2185 |
| | | Noise Criteria | – | 16 | 22 | 27 | 31 | 34 | 38 | 41 | 43 | 46 |
| 46 x 22 | 7.03 | Airflow, CFM | 1406 | 1757 | 2108 | 2460 | 2811 | 3163 | 3514 | 3865 | 4217 | 4568 |
| | | Noise Criteria | 21 | 26 | 30 | 34 | 37 | 40 | 42 | 45 | 47 | 49 |

Performance Notes:

1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille tested without damper. Apply the following correction factors for addition of opposed blade damper to grille.

Neg. Static Pressure Listed Value x 1.10.

Noise Criteria Add 5 dB to listed value.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (–) in space denotes a Noise Criteria level of less than 15.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023.