# 80-FR Return Air Grille Fire Rated Assembly

## Dimensions

<table>
<thead>
<tr>
<th>Ceiling Module</th>
<th>Grille Size</th>
<th>Damper Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; (305) x 12&quot; (305)</td>
<td>11 3/4&quot; (297) x 11 3/4&quot; (297)</td>
<td>11 3/4&quot; (298) x 11 3/4&quot; (298)</td>
</tr>
<tr>
<td>12&quot; (305) x 24&quot; (610)</td>
<td>11 3/4&quot; (297) x 23 3/4&quot; (602)</td>
<td>11 3/4&quot; (298) x 23 3/4&quot; (603)</td>
</tr>
<tr>
<td>24&quot; (610) x 24&quot; (610)</td>
<td>23 3/4&quot; (602) x 23 3/4&quot; (602)</td>
<td>23 3/4&quot; (603) x 23 3/4&quot; (603)</td>
</tr>
</tbody>
</table>

## Specifications

### Material:
- Steel Construction
- Core: Aluminum Construction
- Ceiling Radiation Damper: Curtain Type, Non Asbestos
- Galvanized Steel
- Thermal Blanket: Non Asbestos

### Finish:
- B12 White
  - Optional finishes available

### Option:
- 185°F (74°C) Fusible Link (Standard)
- 212°F (100°C) Fusible Link

### Note:
- Fire Rated 3 Hour
- For 3P panel option max. nom. grille size = module size - 4 (102). Specify module and nom. grille sizes as per above.
- Duct: Steel or Flexible Duct Connections (by others) as per fire rated design requirements.
- Installation Instructions: 228794 or for panel see Submittal 233667
- Fire rated diffusers are to be installed in fire rated T-bar applications only.

## All Metric Dimensions ( ) are Soft Converted. Imperial Dimensions are Converted to Metric and Rounded to the Nearest Millimeter.

### Project:

**Price®

### Engineer:

### Customer:

### Submittal Date:

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Rev E
81-FR RETURN AIR GRILLE FIRE RATED ASSEMBLY

**MATERIAL:**
- STEEL CONSTRUCTION
  - CORE: ALUMINUM CONSTRUCTION
  - CEILING RADIATION DAMPER: CURTAIN TYPE, NON ASBESTOS GALVANIZED STEEL
  - THERMAL BLANKET: NON ASBESTOS

**FINISH:**
- B12 WHITE
  - OPTIONAL FINISHES AVAILABLE

**OPTION:**
- 165°F (74°C) FUSIBLE LINK (STANDARD)
- 212°F (100°C) FUSIBLE LINK
- 1/2" X 1/2" X 1" CORE

**NOTE:**
- FIRE RATED 3 HOUR.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY. LISTED IN UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY.
- ULC CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY. LISTED IN UNDERWRITERS OF CANADA LABORATORIES LIST OF EQUIPMENT AND MATERIALS.
- STANDARD CORE IS 1/2" X 1/2" X 1/2" STACKED
- FOR 3P PANEL OPTION MAX. NOM. GRILLE SIZE = MODULE SIZE - 4 (102). SPECIFY MODULE AND NOM. GRILLE SIZES AS PER ABOVE
- DUCT: STEEL OR FLEXIBLE DUCT CONNECTIONS (BY OTHERS) AS PER FIRE RATED DESIGN REQUIREMENTS.
- INSTALLATION INSTRUCTIONS: 228794 OR FOR PANEL SEE SUBMITTAL 233667
- FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN FIRE RATED T-BAR APPLICATIONS ONLY.

**PROJECT:**

**ENGINEER:**

**CUSTOMER:**

**SUBMITTAL DATE:**

**SPEC. SYMBOL:**

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**82-FR RETURN AIR GRILLE FIRE RATED ASSEMBLY**

<table>
<thead>
<tr>
<th>CEILING MODULE</th>
<th>GRILLE SIZE</th>
<th>DAMPER SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; (305) x 12&quot; (305)</td>
<td>11\frac{1}{2}&quot; (297) x 11\frac{1}{2}&quot; (297)</td>
<td>11\frac{3}{4}&quot; (298) x 11\frac{3}{4}&quot; (298)</td>
</tr>
<tr>
<td>12&quot; (305) x 24&quot; (610)</td>
<td>11\frac{1}{2}&quot; (297) x 23\frac{1}{2}&quot; (602)</td>
<td>11\frac{3}{4}&quot; (298) x 23\frac{3}{4}&quot; (603)</td>
</tr>
<tr>
<td>24&quot; (610) x 24&quot; (610)</td>
<td>23\frac{1}{2}&quot; (602) x 23\frac{1}{2}&quot; (602)</td>
<td>23\frac{3}{4}&quot; (603) x 23\frac{3}{4}&quot; (603)</td>
</tr>
</tbody>
</table>

**MATERIAL:**
- STEEL CONSTRUCTION
- CORE: ALUMINUM CONSTRUCTION
- CEILING RADIATION DAMPER: CURTAIN TYPE, NON ASBESTOS
- GALVANIZED STEEL
- THERMAL BLANKET: NON ASBESTOS

**FINISH:**
- B12 WHITE
  (OPTIONAL FINISHES AVAILABLE)

**OPTION:**
- 165°F (74°C) FUSIBLE LINK (STANDARD)
- 212°F (100°C) FUSIBLE LINK

**NOTE:**
- FIRE RATED 3 HOUR.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY. LISTED IN UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY.
- ULCLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY. LISTED IN UNDERWRITERS OF CANADA LABORATORIES LIST OF EQUIPMENT AND MATERIALS.
- FOR 3P PANEL OPTION MAX. NOM. GRILLE SIZE = MODULE SIZE - 4 (102). SPECIFY MODULE AND NOM. GRILLE SIZES AS PER ABOVE.
- DUCT: STEEL OR FLEXIBLE DUCT CONNECTIONS (BY OTHERS) AS PER FIRE RATED DESIGN REQUIREMENTS.
- INSTALLATION INSTRUCTIONS: 228794 OR FOR PANEL SEE SUBMITTAL 233667
- FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN FIRE RATED T-BAR APPLICATIONS ONLY.

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED, IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

**PROJECT:**

**ENGINEER:**

**CUSTOMER:**

**SUBMITTAL DATE:**

**SPEC. SYMBOL:**

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**82-FR**

EGGCRATE CORE GRILLE
FIRE RATED ASSEMBLY

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REV E
10-FR PERFORATED RETURN AIR GRILLE FIRE RATED ASSEMBLY

<table>
<thead>
<tr>
<th>CEILING MODULE</th>
<th>GRILLE SIZE</th>
<th>DAMPER SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; (305) x 12&quot; (305)</td>
<td>11⅞&quot; (297) x 11⅞&quot; (297)</td>
<td>11¾&quot; (298) x 11¾&quot; (298)</td>
</tr>
<tr>
<td>12&quot; (305) x 24&quot; (610)</td>
<td>11⅞&quot; (297) x 23⅞&quot; (602)</td>
<td>11¾&quot; (298) x 23⅞&quot; (603)</td>
</tr>
<tr>
<td>24&quot; (610) x 24&quot; (610)</td>
<td>23⅞&quot; (602) x 23⅞&quot; (602)</td>
<td>23⅞&quot; (603) x 23⅞&quot; (603)</td>
</tr>
</tbody>
</table>

MATERIAL:
- STEEL CONSTRUCTION
- FACE: PERFORATED STEEL C/W ¾" (5)
- HOLES STAGGERED ON ¾" (6) 60° CTRS.
- CEILING RADIATION DAMPER:
- CURTAIN TYPE, NON ASBESTOS
- THERMAL BLANKET: NON ASBESTOS

FINISH:
- B12 WHITE
  (OPTIONAL FINISHES AVAILABLE)

OPTION:
- 165°F (74°C) FUSIBLE LINK (STANDARD)
- 212°F (100°C) FUSIBLE LINK

NOTE:
- FIRE RATED 3 HOUR.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS OF CANADA LABORATORIES LIST OF EQUIPMENT AND MATERIALS.
- DUCT: STEEL OR FLEXIBLE DUCT CONNECTIONS AS PER FIRE RATED DESIGN REQUIREMENTS.
- INSTALLATION INSTRUCTIONS:
  SEE SUBMITTAL 228794
- FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN FIRE RATED T-BAR APPLICATIONS ONLY.

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: 2015/04/01

SPEC. SYMBOL: 10-FR PERFORATED AIR GRILLE FIRE RATED ASSEMBLY

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REV D
530-FR RETURN AIR GRILLE, FIRE RATED ASSEMBLY

CEILING MODULE

DUCT SIZE = CEILING MODULE - 2" (51)

MAX. OPEN POSITION DAMPER BLADES WITH OPTIONAL VOLUME CONTROLLER

FUSELINK (NON-ADJUSTABLE)

FUSIBLE LINKS WITH OPTIONAL ADJUSTABLE VOLUME CONTROLLER

1 1/4" (32)

OPENING = DUCT SIZE - 3/8" (19)
OVERALL = DUCT SIZE + 1 1/4" (44)

□ 3P T-BAR PANEL

MODULE SIZE | DUCT SIZE | H
---|---|---
12 X 12 | 10 X 10 | 4
(305 X 305) | (254 X 254) | (102)
24 X 12 | 22 X 10 | 4
(610 X 305) | (559 X 254) | (102)
24 X 24 | 22 X 22 | 10
(610 X 610) | (559 X 559) | (254)

MATERIAL:
- STEEL CONSTRUCTION
- CEILING RADIATION DAMPER:
  GALVANIZED STEEL, BUTTERFLY TYPE
- THERMAL BLANKET:
  NON-ASBESTOS

FINISH:
□ B12 WHITE
(OPTIONAL FINISHES AVAILABLE)

OPTION:
□ 165°F (74°C) FUSEABLE LINK (STANDARD)
□ 212°F (100°C) FUSEABLE LINK
□ ADJUSTABLE VOLUME CONTROLLER
  (SPEED BALL ALLEN KEY ADJUSTABLE)

NOTE:
- FIRE RATED 3 HOUR.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS OF CANADA LABORATORIES LIST OF EQUIPMENT AND MATERIALS.
- 530-FR/FR - FRONT BLADES PARALLEL TO LONG DIMENSION
- 530-FR/S - FRONT BLADES PARALLEL TO SHORT DIMENSION
- 530-FR/L TYPE SHOWN ABOVE
- SIZES: MIN. CEILING MODULE 12"X12" (305 X 305)
  CEILING MODULE 12"X24" (305 X 610)
  MAX. CEILING MODULE 24"X24" (610 X 610)
  FOR 3P PANEL OPTION MAX. NOM. DUCT = H/4 - 4" (102)
  SPECIFY MODULE SIZE AND NOM. DUCT AS ABOVE
- DUCT STEEL OR FLEXIBLE DUCT CONNECTIONS (BY OTHERS) AS PER FIRE RATED DESIGN REQUIREMENTS.
- INSTALLATION INSTRUCTIONS: 228793 OR FOR PANEL SEE SUBMITTAL 233667
- FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN FIRE RATED T-BAR APPLICATIONS ONLY.

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED, IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: 2015/04/01

SPEC. SYMBOL: 530-FR

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**535-FR RETURN AIR GRILLE, FIRE RATED ASSEMBLY**

CEILING MODULE

DUCT SIZE = CEILING MODULE - 2" (51)

FUSELINK (NON-ADJUSTABLE)

MAX. OPEN POSITION DAMPER BLADES WITH OPTIONAL VOLUME CONTROLLER

FUSIBLE LINKS WITH OPTIONAL ADJUSTABLE VOLUME CONTROLLER

OPENING = DUCT SIZE - 3/4" (19)

OVERALL = DUCT SIZE + 1 1/4" (44)

3P T-BAR PANEL

---

**MATERIAL:**
- STEEL CONSTRUCTION
- CEILING RADIATION DAMPER: GALVANIZED STEEL, BUTTERFLY TYPE
- THERMAL BLANKET: NON ASBESTOS

**FINISH:**
- B12 WHITE
  (OPTIONAL FINISHES AVAILABLE)

**OPTION:**
- 165°F (74°C) FUSIBLE LINK (STANDARD)
- 212°F (100°C) FUSIBLE LINK
- ADJUSTABLE VOLUME CONTROLLER (SPEED BALL ALLEN KEY ADJUSTABLE)

**NOTE:**
- FIRE RATED 3 HOUR.
- UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY.
- ULC CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY, LISTED IN UNDERWRITERS CANADA LABORATORIES LIST OF EQUIPMENT AND MATERIALS.
- 535-FR/L-FRONT BLADES PARALLEL TO LONG DIMENSION
- 535-FR/S-FRONT BLADES PARALLEL TO SHORT DIMENSION
- 535-FR/L TYPE SHOWN ABOVE
- SIZES: MIN. CEILING MODULE 12"x12" (305 x 305)
  CEILING MODULE 12"x24" (305 x 610)
  MAX. CEILING MODULE 24"x24" (610 x 610)
- FOR 3P PANEL OPTION MAX. NOM. DUCT = CM-4" (102)
- SPECIFY MODULE SIZE AND NOM. DUCT AS ABOVE
- DUCT-STEEL OR FLEXIBLE DUCT CONNECTIONS (BY OTHERS) AS PER FIRE RATED DESIGN REQUIREMENTS.
- INSTALLATION INSTRUCTIONS: 228793 OR FOR PANEL SEE SUBMITTAL 233667
- FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN FIRE RATED T-BAR APPLICATIONS ONLY.

All metric dimensions ( ) are soft converted, imperial dimensions are converted to metric and rounded to the nearest millimeter.

**PROJECT:**

**ENGINEER:**

**CUSTOMER:**

**SUBMITTAL DATE:**

228738

2015/04/01

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REV F
# 530FF-FR, 535FF-FR Steel Filter Grilles, Fire Rated Assembly

<table>
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<tr>
<th>Module Size</th>
<th>Duct Size</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 x 12 (305 x 305)</td>
<td>10 x 10 (254 x 254)</td>
<td>4 (102)</td>
</tr>
<tr>
<td>24 x 12 (610 x 305)</td>
<td>22 x 10 (559 x 254)</td>
<td>4 (102)</td>
</tr>
<tr>
<td>24 x 24 (610 x 610)</td>
<td>22 x 22 (559 x 559)</td>
<td>10 (254)</td>
</tr>
</tbody>
</table>

**Material:**
- Steel construction
- Ceiling radiation damper: butterfly type
- Thermal blanket: non-asbestos

**Finish:**
- B12 White
  - (optional finishes available)

**Option:**
- 165°F (74°C) fusible link (standard)
- 212°F (100°C) fusible link

**Note:**
- Fire rated 3 hour.
- UL classified fire rated ceiling diffuser assembly, listed in Underwriters Laboratories fire resistance directory.
- UL classified fire rated ceiling diffuser assembly, listed in Underwriters of Canada laboratories list of equipment and materials.
- Quarter turn fastener (Q)/hinge tab location per factory standard.
- The filter frame is designed to take a 1" (25)
- Thick filter, filters are supplied by others.
- Sizes: min. ceiling module 12" x 12" (305 x 305) max. ceiling module 24" x 24" (610 x 610)
- Fire rated diffusers are to be installed in fire rated T-bar applications only.

**Core Styles:**
- 530/L
- 530/S
- 535/L
- 535/S

All metric dimensions ( ) are soft converted. Imperial dimensions are converted to metric and rounded to the nearest millimeter.

**Project:**

<table>
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<tr>
<th>Engineer:</th>
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<tr>
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<tbody>
<tr>
<td>22/8739</td>
<td>2015/04/01</td>
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</tbody>
</table>

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REV C
10FF-FR, 80FF-FR STEEL FILTER GRILLES FIRE RATED ASSEMBLY

MAX. OPEN POSITION DAMPER BLADES WITH OPTIONAL VOLUME CONTROLLER

THERMAL BLANKET

2" (51)

1" (25)

2 13/32" (75)

15 3/16" (24)

DUCT SIZE

FUSELINK (NON-ADJUSTABLE)

OVERALL = DUCT SIZE + 3 3/4" (95)

Q FASTENER SHOWN
OPPOSITE SIDE USES HINGE TABS

CEILING MODULE = DUCT SIZE + 4" (102)

MATERIAL:
• STEEL CONSTRUCTION
  (EXCEPT 80FF-FR ALUMINUM CORE)
• CEILING RADIATION DAMPER:
  BUTTERFLY TYPE.
• THERMAL BLANKET: NON ASBESTOS

FINISHES:
□ B12 WHITE
  (OPTIONAL FINISHES AVAILABLE)

OPTION:
□ ADJUSTABLE VOLUME CONTROLLER
  (ALLEN KEY ADJUSTABLE)
□ 165°F (74°C) FUSIBLE LINK (STANDARD)
□ 212°F (100°C) FUSIBLE LINK

NOTE:
• FIRE RATED 3 HOUR.
  • UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY
    LISTED IN UNDERWRITERS LABORATORIES
    FIRE RESISTANCE DIRECTORY.
  • UL CLASSIFIED FIRE RATED CEILING DIFFUSER ASSEMBLY
    LISTED IN UNDERWRITERS OF CANADA LABORATORIES
    LIST OF EQUIPMENT AND MATERIALS.
  • MOUNTING HOLES IN FILTER FRAME BY INSTALLER.
  • QUARTER TURN FASTENER (Q)/HINGE TAB LOCATION PER FACTORY STANDARD.
  • THE FILTER FRAME IS DESIGNED TO TAKE A 1" (25)
    THICK FILTER. FILTERS ARE SUPPLIED BY OTHERS.
  • SIZES: MIN. CEILING MODULE 12"X12" (305 X 305)
    CEILING MODULE 12"X24" (305 X 610)
    MAX. CEILING MODULE 24"X24" (610 X 610)
  • DUCT: STEEL OR FLEXIBLE DUCT CONNECTIONS
    AS PER FIRE RATED DESIGN REQUIREMENTS.
  • INSTALLATION INSTRUCTIONS:
    SEE SUBMITTAL 228794
  • FIRE RATED DIFFUSERS ARE TO BE INSTALLED IN
    FIRE RATED T-BAR APPLICATIONS ONLY.

CORE STYLES:
□ 80FF-FR

ALUMINUM CORE
1/2"X 1/2"X 1/2" – (13 X 13 X 13)

□ 10FF-FR

PERFORATED: HOLES ARE
3/16" (5)DIA X 1/4" (6) O/C - 60° – STAGGERED

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER: 

CUSTOMER: 

SUBMITTAL DATE: SPEC. SYMBOL: 

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TBD-FR SERIES, SUPPLY & RETURN INSTALLATION INSTRUCTIONS

1) Verify that the grid module in which the diffuser is to be installed is suspended according to the recommendations of the fire rated tee bar manufacturer.

2) If the standard ceiling representation does not match the dimensions of the diffuser, an extra cross tee must be securely mounted using the brackets shown in detail A & B. Under those conditions, the following mounting brackets, backing plate, and tee bar configuration must be used:

   - The diffuser may be installed directly over the cross bar joint as shown in detail A.
   - If the diffuser is to be mounted side by side in series, then the cross tee mounted between them requires the use of two mounting brackets and a backing plate at each cross tee joint as shown in detail A.
   - If the diffuser is to be installed individually, then one mounting bracket and two backing plates are required for each cross tee bar joint as shown in detail B.
   - To install the brackets, drill 3/8" holes (30 D10, 1/2" D12) in the tee bar using the bracket as a guide and fasten the brackets and backing plates in place using 1/4" x 3/4" long steel pop rivets (specified on B sheet metal screws).

3) Ensure that all four corners of the grid module, that the diffuser is to be installed are supported by 12 ga. galvanized steel wire.

4) Place the diffuser into the grid and ensure that all the remaining safety clips have engaged over top of the tee bar.

5) Without using the diffuser off the grid module, the full weight of the unit must be supported using 12 ga. galvanized steel wire which is looped through the mounting holes in the top of the diffuser and attached to an approved ceiling support. Care must be taken to ensure that no wires are kinked or slack.

6) The two side tee bars must be screw mounted to the diffuser at the midpoints. Drill a 1/8" hole (30 D10) through the tee bar and diffuser side clip using the nominal of the safety clip as a guide, fasten the tee bar and clip by using 1/4" 379 sheet metal screws.

7) The diffuser can be connected to the supply duct by using a solid or flexible duct connection. If a flexible connection is used, make sure that it bears the UL classification, classes 1 or 2.

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ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT: PRICE

ENGINEER: KL

CUSTOMER: 228795

SUBMITTAL DATE: SPEC. SYMBOL: MARCH 1999

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REV E
SQ. CONE & PERF. FIRE RATED DIFFUSER INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

1. FOLLOW STEPS "A" & "B" AS SHOWN.
2. THE FLEXIBLE AIR DUCT SHALL BE CLASS "O" OR
   CLASS "1" UL CERTIFIED (SEE UL GAS & OIL
   EQUIPMENT DIRECTORY). THE MAX LENGTH SHALL
   NOT EXCEED 14'-0" (4267). WHERE FLEX. AIR
   DUCT SUPPORT IS REQUIRED, USE STEEL STRAPS
   AND #12 SWG STEEL HANGER WIRE.
3. THE 4'-0" CROSS TEES MUST HAVE SLOTS IN THE
   WEB FOR CONNECTING THE 2'-0" CROSS TEES.
   END TABS OF THE 2'-0" CROSS TEE MUST BE
   BENT BACK AGAINST THE WEB OF THE 4'-0" TEES.
4. SUSPEND CEILING TEES INDEPENDENTLY AT THE 4
   CORNERS OF DIFFUSER ASSEMBLY. USE #12 SWG
   GALVANIZED STEEL HANGER WIRE AND SECURE
   TO THE FLOOR OR ROOF ABOVE.
5. MAXIMUM ROUND NECK SIZE OF THE FIRE RATED
   DIFFUSER ASSEMBLY IS 15" (381) DIAMETER.
6. NO DIFFUSER & CEILING RADIATION DAMPER
   ASSEMBLY SHALL BE LOCATED IN AN ADJACENT
   24" x 48" (610 x 1219) CEILING MODULE.
7. INSTALLATION OF 12" x 12" (304 x 304) DIFFUSER
   ASSEMBLY IS SIMILAR TO THE ABOVE. REWORK TEE
   BAR AND Grid TO PROVIDE 4- CORNER TEE
   SUSPENSION OF 12" x 12" (304 x 304) ASSEMBLY.
   END TABS OF ALL CROSS TEE BARS MUST ENTER
   SLOTS IN CONNECTING TEES AND MUST BE BENT
   BACK AGAINST THE WEB OF THE CONNECTING TEES.
8. INSTALLATION OF THERMAL BLANKET ON THE DIFFUSER
   ASSEMBLY IS DONE AT THE FACTORY. HOWEVER IF
   IT NEEDS TO BE REMOVED AND REINSTALLED, FIT THE
   BLANKET OVER THE DIFFUSER NECK BEFORE DUCT IS
   FASTENED. THERMAL BLANKET MUST TOTALLY COVER
   THE BACKPAN.

TYPICAL COMPONENTS

BY PRICE INDUSTRIES:
1. SQUARE CONE DIFFUSER C/W
   CEILING RADIATION DAMPER
2. THERMAL BLANKET CK-2000-B
BY OTHERS:
3. STEEL (NECK) CLAMP – OR WIRE.
4. AIR DUCT (FLEXIBLE OR RIGID)
5. MAIN TEE RUNNER
6. CROSS TEE BAR 4'-0" OR 1200mm
7. CROSS TEE BAR 2'-0" OR 600mm
8. SUSPENSION HANGER WIRE.
9. CEILING TILE OR PANEL

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:
CUSTOMER:
SUBMITTAL DATE: SPEC. SYMBOL: MARCH 1999

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SQ. MODULAR FIRE RATED ASSEMBLY INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

1. FOLLOW STEPS A & B AS SHOWN.
2. THE FLEXIBLE AIR DUCT SHALL BE CLASS A OR CLASS C UL CERTIFIED (SEE UL GAS & OIL EQUIPMENT DIRECTORY). THE MAX LENGTH SHALL NOT EXCEED 14'-0" (4.27m)
WHERE FLEX. AIR DUCT SUPPORT IS REQUIRED, USE STEEL STRAPS & #12 SWG STEEL HANGER WIRE.
3. THE 4"-47 CROSS TEE MUST HAVE SLOTS IN THE WEB FOR CONNECTING THE 2'-47 CROSS TEES. END TIPS OF THE 2'-47 CROSS TEE MUST BE BENT BACK AGAINST THE WEB OF THE 4"-47 TEES.
4. SUSPEND CEILING TEE'S INDEPENDENTLY AT THE 4 CORNERS OF DIFFUSER ASSEMBLY. USE #12 SWG GALVANIZED STEEL HANGER WIRE AND SECURE TO THE FLOOR OR CEILING ABOVE.
5. ROUND NOSES ARE AVAILABLE AS AN OPTION AND ARE AVAILABLE UP TO 15" (381) DIAMETER. MAXIMUM SQUARE NECK SIZE OF THE FIRE RATED DIFFUSER ASSEMBLY IS 10" X 10" (254X254).
6. NO DIFFUSER & CEILING RADIATION DAMPER ASSEMBLY SHALL BE LOCATED IN ANY AIR DUCTS OF 24" X 48" (610 X 1219) CROSS SECTIONAL DETAIL OF DIFFUSER INSTALLATION.
7. INSTALLATION OF 12" (304) & 20" (508) SQUARE DIFFUSER ASSEMBLY IS SIMILAR TO THE ABOVE. REWORK TEE BAR AND GRID TO PROVIDE 4" CORNER TEE SUSPENSION OF 12" (304) OR 20" (508) SQUARE ASSEMBLY END TIPS OF ALL CROSS TEE BARS MUST ENTER SLICES IN CONNECTING TEES AND MUST BE BENT BACK AGAINST THE WEB OF THE CONNECTING TEES.
8. INSTALLATION OF THERMAL BLANKET ON THE DIFFUSER ASSEMBLY IS DONE AT THE FACTORY. IF IT NEEDS TO BE REMOVED AND INSTALLED, FIT THE BLANKET OVER THE DIFFUSER NECK WITH CRADLES UP BEFORE DUCT IS FASTENED AND TUCK EDGES TO TEE BARS. THE THERMAL BLANKET MUST FULLY COVER THE BACKPACK.

TYPICAL COMPONENTS

BY PRICE INDUSTRIES:
1. SQUARE MODULAR DIFFUSER C/W CEILING RADIATION DAMPER
2. THERMAL BLANKET CK-2000-

BY OTHERS:
3. STEEL (NOSES) CLAMP - OR WIRE.
4. AIR DUCT (FLEXIBLE OR RIGID)
5. MAIN TEE RUNNER
6. CROSS TEE BAR 4'-0" OR 1200mm
7. CROSS TEE BAR 2'-0" OR 600mm
8. SUSPENSION HANGER WIRE.
9. CEILING TEE OR PANEL.

NOTE: THERMAL BLANKET BEFORE DUCT.

INSTALLATION OF 12" X 12" OR 300mm x 300mm.

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

MARCH 1999

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REV B
500-FR SERIES INSTALLATION INSTRUCTIONS

1. FOLLOW STEPS "A" & "B" AS SHOWN.
2. IF REQUIRED THE FLEXIBLE DUCT SHALL BE CLASS "0" OR CLASS "1" UL/ULC CERTIFIED (SEE UL GAS & OIL EQUIPMENT DIRECTORY) THE MAX. LENGTH SHALL NOT EXCEED 14'-0" (4267). WHERE FLEX AIR DUCT SUPPORT IS REQUIRED, USE STEEL STRAPS AND #12 SUPPORT IS SWG STEEL HANGER WIRE.
3. THE 4'-0" CROSS TEES MUST HAVE SLOTS IN THE WEB FOR CONNECTING THE 2'-0" CROSS TEES. END TABS OF THE 2'-0" CROSS TEE MUST BE BENT BACK AGAINST THE WEB OF THE 4'-0" TEES.
4. SUSPEND CEILING TEES INDEPENDENTLY AT THE 4 CORNERS OF RETURN AIR GRILLE; USE #12 SWG GALVANIZED STEEL HANGER WIRE AND SECURE TO THE FLOOR OR ROOF ABOVE.
5. MAXIMUM SIZE OF THE 530-FR OR 535-FR RETURN AIR GRILLE ASSEMBLY IS NOMINAL 24" x 24" (610 x 610).
6. NO RETURN AIR GRILLE ASSEMBLY SHALL BE LOCATED IN AN ADJACENT 24" x 48" (610 x 1219) CEILING MODULE.
7. INSTALLATION OF A 12" x 12" (305 x 305), 12" x 24" (305 x 610) OR 300 x 300mm & 300 x 600mm 530-FR OR 535-FR RETURN GRILLE ASSEMBLY IS SIMILAR TO ABOVE. REWORK THE TEE BAR GRID AND PROVIDE 4-CORNER SUSPENSION OF RETURN AIR GRILLE AND CD-RO ASSEMBLY. END TABS OF ALL CROSS TEE BARS MUST ENTER SLOTS IN CONNECTING TEES AND MUST BE BENT BACK AGAINST THE WEB OF THE CONNECTING TEES.
8. THERMAL BLANKET MUST TOTALLY COVER THE FRAME AND NECK UP TO THE DAMPER BLADES. THERMAL BLANKET IS SECURED WITH THE DAMPER MOUNTING SCREWS.
9. INSTALLATION METHOD IS TYPICAL FOR MODEL 530-FR AND MODEL 535-FR, RETURN AIR GRILLE FIRE RATED ASSEMBLIES.

TYPICAL COMPONENTS

BY E.H.PRICE:
1. ☐ 530-FR LOUVERED RETURN AIR GRILLE ASSEMBLY
   - OR -
   ☐ 535-FR LOUVERED RETURN AIR GRILLE ASSEMBLY

BY OTHERS:
2. ☐ MAIN TEE RUNNER
3. ☐ CROSS TEE BAR 4'-0" OR 1200mm
4. ☐ CROSS TEE BAR 2'-0" OR 600mm
5. ☐ SUSPENSION HANGER WIRE.
6. ☐ CEILING TIE OR PANEL

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: SPEC. SYMBOL: AUG 1999

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PRICE®

228793

500-FR SERIES RETURN GRILLES & REGISTERS
FIRE RATED ASSEMBLY INSTALLATION INSTRUCTIONS

REV D
80FR, 10FR INSTALLATION INSTRUCTIONS

1. FOLLOW STEPS "A" & "B" AS SHOWN.

2. IF REQUIRED THE FLEXIBLE DUCT SHALL BE CLASS "A" OR CLASS "1" UL/UULC CERTIFIED (SEE UL GAS & OIL EQUIPMENT DIRECTORY) THE MAX. LENGTH SHALL NOT EXCEED 14'-0" (4267). WHERE FLEX AIR DUCT SUPPORT IS REQUIRED, USE STEEL STRAPS AND #12 SWG STEEL HANGER WIRE.

3. THE 4'-0" CROSS TEES MUST HAVE SLOTS IN THE WEB FOR CONNECTING THE 2'-0" CROSS TEES. END TABS OF THE 2'-0" CROSS TEE MUST BE BENT BACK AGAINST THE WEB OF THE 4'-0" TEES.

4. SUSPEND CEILING TEES INDEPENDENTLY AT THE 4 CORNERS OF RETURN AIR GRILLE. USE #12 SWG GALVANIZED STEEL HANGER WIRE AND SECURE TO THE FLOOR OR ROOF ABOVE.

5. MAXIMUM SIZE OF THE 80FR OR 10FR RETURN AIR GRILLE ASSEMBLY IS NOMINAL 24"X24" (610X610).

6. NO RETURN AIR GRILLE ASSEMBLY SHALL BE LOCATED IN AN ADJACENT 24"X48" (610X1219) CEILING MODULE.

7. INSTALLATION OF A 12"x12" (305 x 305), 12"x24" (305 x 610) OR 300 x 300mm & 300 x 600mm 80FR OR 10FR RETURN GRILLE ASSEMBLY IS SIMILAR TO ABOVE. REWORK THE TEE BAR GRID AND PROVIDE 4 CORNER SUSPENSION OF RETURN AIR GRILLE AND CFS ASSEMBLY. END TABS OF ALL CROSS TEE BARS MUST ENTER SLOTS IN CONNECTING TEES AND MUST BE BENT BACK AGAINST THE WEB OF THE CONNECTING TEES.

8. INSTALLATION METHOD IS TYPICAL FOR MODEL 80FR AND MODEL 10FR RETURN AIR GRILLE FIRE RATED ASSEMBLIES.

STEP "B" INSTALLATION OF 80FR OR 10FR
(80 FR SHOWN)

TYPICAL COMPONENTS

BY E.H. PRICE:

1. ☐ 80FR RETURN AIR GRILLE ASSEMBLY
   OR
   ☐ 10FR PERFORATED RETURN AIR GRILLE ASSEMBLY

BY OTHERS:

2. ☐ MAIN TEE RUNNER
3. ☐ CROSS TEE BAR 4'-0" OR 1200mm
4. ☐ CROSS TEE BAR 2'-0" OR 600mm
5. ☐ SUSPENSION HANGER WIRE
6. ☐ CEILING TILE OR PANEL

ALL METRIC DIMENSIONS ( ) ARE SOFT CONVERTED. IMPERIAL DIMENSIONS ARE CONVERTED TO METRIC AND ROUNDED TO THE NEAREST MILLIMETER.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE: SPEC. SYMBOL:

228794 MARCH 1999

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REV B