Eaton® Raised Floor Grommets – FG76, FG118

Installation Guide
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About this Guide

This document describes how to install the Eaton® Raised Floor Grommet in your facility. It provides instructions for installation in new or existing data center raised floor tiles, with or without power or communication cables installed.

Audience

This document is intended for installers and/or personnel who are installing the Eaton Floor Grommet in your facility.

General Conventions

Before you start the installation process, it is important to understand the conventions used in this publication.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bold type</td>
<td>Indicates notes, cautions or warnings that provide important information. Failure to follow these warnings may cause personal injury and/or product damage.</td>
</tr>
<tr>
<td><em>Italic type</em></td>
<td>Indicates titles of publications or information that the user must supply, such as filenames (if applicable).</td>
</tr>
<tr>
<td><em>Underlined type</em></td>
<td>Indicates links (if applicable).</td>
</tr>
<tr>
<td>1. Numbered lists</td>
<td>Indicates procedures that you must follow in a sequential order.</td>
</tr>
<tr>
<td><strong>ACRONYMS</strong></td>
<td>Acronyms are defined at the first occurrence in the document. The acronym definition appears first followed by its acronym in parenthesis. For example: electrostatic discharge (ESD).</td>
</tr>
<tr>
<td><img src="caution.png" alt="CAUTION" /></td>
<td><strong>CAUTION:</strong> Failure to comply with safety standards in handling your equipment may result in electrical shock.</td>
</tr>
</tbody>
</table>

Documentation

This document can be obtained from our website at [http://www.wrightline.com](http://www.wrightline.com) by following these procedures:

1. Click on the “Library” icon.
2. Click on the “Installation Manuals” link, and then select the “Data Center” option.
3. Under the Data Center section, go to the Airflow / Thermal section and click on the “Raised Floor Grommet Installation Manual” documentation link to view this manual.
Chapter 1 Before you Begin

Introduction
The Eaton Floor Grommet is intended to minimize bypass airflow within a data center. The Floor Grommet increases energy efficiency and predictability by supplying cold air where needed and also eliminating or minimizing airflow where it is not needed.

The floor grommet’s split design allows the product to be installed in live environments with communication cables installed without disruption to the data center operation. A cover is included to eliminate the risk of injury when the floor grommet is not in use.

Tools you Will Need
You will need the following tools to successfully install the floor grommet.

- Common installation tools
- Utility knife
- Powered driver
- Electric or cordless drill
- Hex sockets with extensions
- #2 Phillips screwdriver bit
- Drill bit
- #2 Phillips head screws (provided with product)
- Wrench

Cutting Raised Floor Tiles
Each raised floor tile manufacturer provides instructions to properly and safely modify their products. Observe the tile manufacturers recommendations for applicable tools, cutting procedures, the design load capacity of the cut tile, and any additional under-floor support requirements for cut raised floor tiles. Be familiar with the tile strength de-rating caused when you cut the tile.

Safety Requirements
Installers must be familiar with standard safety and risk management practices when working in raised-floor environments and when modifying floor tiles. Use of standard personal safety equipment including safety glasses, face shields, respirators, hand protection, and safety footgear is a requirement. Assurance by facilities management of basic safety training for installers on safe use of the appropriate installation tools is a requirement.

Preparation
Floor tiles must be cleaned and all tiles must be free of dust and contaminants before you mount the Eaton Raised Floor Grommet.
Chapter 2 Installing the Floor Grommet

Introduction
This chapter describes how to install the floor grommet in a raised floor at a data center facility. The grommet split design allows for installation in a new data center as well as an existing, live data center environment. This manual provides instructions for installing the grommet in a new floor installation without power or communications cables installed and an existing live installation where the power and communications cables are installed. In the new construction scenario, the installer will need to cut an opening in the floor, install the grommet, and then route the cables through the grommet. In the live environment, the floor grommet is installed around the pre-existing cable bundles.

The Eaton floor grommets are available in two sizes to accommodate all cable requirements.

- 7.5"W x 6.5"D (191mm x 165mm)
- 11"W x 8.25"D (279mm x 210mm)

For dimensions on usable cable area as well as minimum and maximum floor cutout requirements, refer to the "Dimensions and Title Cutting Requirements" table in this chapter.

Before you begin the installation process, ensure that you have the tools you need to perform the installation. Refer to the section, “Before You Begin,” for a list of tools you will need.

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Eaton Floor Grommet with Beaded Tie

In this Chapter
Refer to the following table for information on a specific topic.

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<th>Topic</th>
<th>See Page #</th>
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</thead>
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Installing the Floor Grommet

Unpack the Box
Before you begin the installation process, ensure that the following parts are included in your shipment. If any components are missing, please contact Technical Support at dc.support@eaton.com.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Part</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG118</td>
<td>Floor Grommet, 11”W x 8.25”D, Surface Mount</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Beaded Ties, 6” Long, Nylon, Black</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Cover</td>
<td>1</td>
</tr>
<tr>
<td>FG76</td>
<td>Floor Grommet, 7.5”W x 6.5”D, Surface Mount</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Beaded Ties, 6” Long, Nylon, Black</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Cover</td>
<td>1</td>
</tr>
<tr>
<td>FG7610</td>
<td>Package of 10 of FG76</td>
<td>N/A</td>
</tr>
<tr>
<td>FG11810</td>
<td>Package of 10 of FG118</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Dimensions and Tile Cutting Requirements
Refer to the following table and diagrams for floor grommet dimensions and tile cutting requirements. Cut-out templates are provided in this manual to assist you with marking and cutting the floor opening in preparation for the floor grommet installation.

If you are installing the FG76 floor grommet, then refer to Template A at the back of this manual. If you are installing the FG118 floor grommet, then refer to Template B at the back of this manual.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Inches (W x D)</th>
<th>Millimeters (W x D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG118, Surface Mount, Floor Grommet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall size</td>
<td>11” x 8.25”</td>
<td>279.4 mm x 209.55 mm</td>
</tr>
<tr>
<td>Cut required (minimum)</td>
<td>8.0” x 4.04”</td>
<td>203.2 mm x 102.62 mm</td>
</tr>
<tr>
<td>Cut required (maximum)</td>
<td>9.6” x 6.00”</td>
<td>243.84 mm x 152.40 mm</td>
</tr>
<tr>
<td>Usable cable area</td>
<td>7.5” x 3.5”</td>
<td>190.5 mm x 88.90 mm</td>
</tr>
<tr>
<td>FG76, Surface Mount, Floor Grommet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall size</td>
<td>7.5” x 6.5”</td>
<td>190.5 mm x 165.1 mm</td>
</tr>
<tr>
<td>Cut required (minimum)</td>
<td>6.40” x 4.85”</td>
<td>162.56 mm x 123.19 mm</td>
</tr>
<tr>
<td>Cut required (maximum)</td>
<td>6.46” x 5.20”</td>
<td>164.08 mm x 132.08 mm</td>
</tr>
<tr>
<td>Usable cable area</td>
<td>4.5” x 3”</td>
<td>114.3 mm x 76.20 mm</td>
</tr>
</tbody>
</table>
Refer to the following diagrams for inside, outside, and grommet opening dimensions.

**FG76 Floor Grommet**
7.5” W x 6.5” D (191 mm W x 165 mm D) Outside Dimensions

**FG118 Floor Grommet**
11.00” W x 8.25” D (279 mm W x 210 mm D) Outside Dimensions
**Cut the Raised Floor Tile**

Follow these instructions to cut the raised floor tile to fit the cable requirements:

1. Use the cut-out template provided to mark the cut-out cable pass-through opening in your raised floor tile in preparation for the installation of your floor grommet. Use Template A if you are installing the FG76 floor grommet (7.5"W x 6.5"D outside dimensions). Use Template B if you are installing the FG118 floor grommet (11"W x 8.25"D outside dimensions).

2. Cut the appropriately sized rectangular opening in your raised floor tile using a band saw or a hand saw.

3. Clean the area of all metal shavings and debris to ensure a proper and clean installation. Remove any burrs that resulted from cutting the floor tile with a metal file (not provided).

4. To install the floor grommet in a new floor construction, proceed to the next section. To install the floor grommet in an existing live data center floor, then proceed to the section entitled, “Install the Floor Grommet for a Live Existing Data Center Installation”.

**Install the Floor Grommet for a New Data Center**

Follow these instructions to install the Eaton floor grommet in the new data center floor:

1. Test-fit the grommet to the floor tile by making sure the grommet is flush with the floor tile. Ensure there is no binding and that the fit is even on all sides of the grommet frame.

2. Lay the floor grommet in the floor opening, ensuring that it is seated properly and flush with the floor.

3. Drill four holes in the floor tile no larger than .169" each to accommodate the four self-tapping screws you will install in the next step.

4. With the grommet properly placed in the floor tile, fasten it securely to the floor using the four (4) #10-32 x .75"L Phillips head self-tapping screws. Insert the screws in the holes you drilled in the previous step and tighten.

A cover is provided to eliminate the risk of injury when the floor grommet is not in use.
Installing the Floor Grommet

You have now successfully installed the floor grommet in your floor surface (as illustrated below). Proceed to the section entitled, “Route Cables through the Floor Grommet” for instructions on routing the cables through the installed grommet.

Install the Floor Grommet for an Existing Data Center

Follow these instructions and refer to the figure below to install the floor grommet in an existing data center floor with power and communication cables installed.

1. Ensure that the existing floor tile opening is sufficient for the floor grommet installation. If not, then cut the raised floor tile per the instructions in the previous section entitled, “Cut the Raised Floor Tile.”

2. Holding the grommet in the face-up position, manually loosen and separate each of the non-permeable rubberized, serrated grommet fingers from the first layer. When the first layer is separated, turn the grommet in the face-down position and repeat the same process until all fingers for the second layer are separated.

3. Holding the floor grommet with two hands, gently pull apart the grommet, separating the grommet fingers so that you end up with two halves as shown below.

4. Lay one of the floor grommet halves in the floor opening, ensuring that it is seated properly, firmly positioned against the edge of the opening, and flush with the floor as shown.

5. Arrange the serrated fingers around the cable bundle to prevent air leakage.
Installing the Floor Grommet

6. Drill two holes in the floor tile no larger than .169" each to accommodate the self-tapping screws you will install in the next step.

7. Insert two (2) #10-32 x .75"L Phillips head self-tapping screws in the holes you drilled in the previous step and tighten as shown in the figure on the previous page.

8. Repeat steps 5 through 7 with the other half of the floor grommet.

The installation of the Floor Grommet is now complete. Skip to the section entitled, “Create a Tighter Seal” for instructions on creating a lasting seal to prevent any additional air leakage.

Route Cables through the Floor Grommet

Now that the floor grommet(s) are installed in their proper location, you will need to route the cables through the grommet and create a seal to prevent or minimize airflow.

Follow these instructions to route the cables through the grommet opening:

1. Insert the cable bundle through the floor grommet.

2. Arrange the serrated grommet fingers around the cable bundle(s) to eliminate or minimize bypass airflow.

The instructions on routing cables through the floor grommet are now complete. Proceed to the next section for instructions on tying the cables together to create a seal.
Create a Tighter Seal
Follow these instructions to create a tighter seal around the cable bundle, which in turn provides adjustable tension against the cabling and will prevent any additional air leakage.

To create an air-tight seal around the cable bundle(s), do the following:

1. Determine which fingers you want to tie together, giving you the maximum seal protection.

2. Using a beaded tie (shown below), pop out each of the pre-formed serrated finger holes by depressing the tapered end of the tie through the hole cutout. Repeat this procedure for all the fingers you want to tie together.

3. Once the necessary holes are cut-out, insert the tapered end through the receiving end (hook end) as illustrated above. Pull the tie to the desired tension and push up and position the tapered end in the slot until it locks in place, creating a hook tie binding.

4. Repeat steps 1 through 3 until all of the fingers surrounding the cable(s) are tightly sealed, preventing additional air flow leakage.

You have now successfully completed the installation of the floor grommet.
Chapter 3  Service and Support

If you have any questions or problems with this product, contact us at:

**Technical Support**
Send an email and detailed description of the problem as well as contact information to Technical Support at to.support@eaton.com.

**Sales Representative**
Contact your Eaton Sales representative by one of the methods below.

**Phone**
Call us toll free at 800.225.7348 (US Only) or 508.852.4300

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Worcester, MA 01606

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Documentation
For documentation pertaining to this product and related Eaton products, visit our website at http://www.wrightline.com.
Template A: Floor Opening for FG76 Floor Grommet Installation

Use this template to mark the floor opening for the FG76 floor grommet installation. This template provides the minimum cut-out dimensions of 6.4"W x 4.85"D and maximum cut-out of 6.46"W x 5.2"D. Use the appropriate template that best fits the cabling requirements for your data center.

Minimum Cut-Out: 6.4"W x 4.85"D

Maximum Cut-Out: 6.46"W x 5.2"D
Use this template to mark the floor opening for the FG118 floor grommet installation. This template provides the minimum cut-out dimensions of 8"W x 4"D and maximum cut-out of 9.6"W x 6"D. Use the appropriate template that best fits the cabling requirements for your data center.

Minimum Cut-Out: 8"W x 4"D

Maximum Cut-Out: 9.6"W x 6"D