

**AIRGUARD®**  
the cool choice.™



**THE INDUSTRY'S LARGEST  
LINE OF CABLE SEAL GROMMETS.**

*Delivering a simple inexpensive solution to improving efficient data center cooling.*

SECTION B-B  
SCALE 1/2  
(2 PLACES)

DETAIL J  
SCALE 1:1  
(2 PLACES)



## AIR-GUARD CABLE SEALS—PROVIDING TOP DATA CENTERS AN EASY, LOW COST METHOD OF LIMITING AIRFLOW BYPASS AND REDUCING ENERGY CONSUMPTION.

Why is cooling data centers so challenging? The problem often isn't a lack of cooling capacity, but the lack of cold air delivery. Installing additional cooling capacity won't solve the problem. In order to get cold air to go where you want it, you have to stop it from going where you don't want it to go.

Most data centers have unsealed cable and pipe penetrations, especially under racks and cabinets and along walls. These unsealed penetrations can lead to numerous airflow problems including air leakage, air mixing, hot spots, and recirculation. These unsealed openings allow valuable cold air to leak out from the underfloor air plenum reducing its static pressure and its effectiveness.

A common data center best practice is to install Air-Guard grommets on your raised floor to seal the holes created by power and network data cables and other floor

penetrations. Air-Guard Cable Seals prevent airflow bypass by sealing off holes, even when cables are passing through them. The result is increased static air pressure in the under floor plenum and more cold air getting to where you want it to go.

The Air-Guard family of cable seals from PDU Cables is a full-service grommet line, (available in brush-only, gasket only, or hybrid variations) that include flush mounts, surface mounts, safety covers, a line of custom brush kits, and a line of air blocks. The options and accessories offered in the Air-Guard line provide flexibility when sealing cable holes, odd shapes, different cable routing patterns or retro-fits. Air-Guard is the only complete line of floor grommets that can accommodate any data center's unique needs.

### Air-Guard Cable Seal named new product of the year\*

Proving that sometimes the best things are the simple things, PDU Cable's Air-Guard cable seal takes the gold for helping to prevent air loss in plenum cooled floors with its simple concept and design. The overlapping brushes in Air-Guard's unique design seals the cable openings, increases static pressure under the floor and keeps debris from entering the air plenum.

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The new design incorporates a mechanical latch on the side bar allowing users to easily remove one side of the unit to remove floor tiles without disconnecting power and data cables. UL-recognized flame retardant heavy duty PVC provides a finished look. Textured surface compliments all floor coverings. Mounting hardware and cutout template are included.

Dimensions: 6.0" H x 12.0" W x 1.5" D.

The overlapping brushes in Air-Guard's unique design allow flexibility and simplicity in cable routing. The Air-Guard is easily installed in any location on the floor panel. Two Air-Guards can be interlocked and installed on the floor panel to accommodate a variety of cable sizes.

Relocating the Air-Guard is also simple and inexpensive.

*\*PDU Cables' New Air-Guard® Cable Seal was a winning entry in SearchDataCenter.com's "Product of the Year" award for 2006 in the category Data Center Cooling.*



*Air-Guard Flush Mount*

# DON'T LET AIRFLOW BYPASS ROB YOUR DATA CENTER OF ITS COOLING EFFICIENCY!

Data centers require large amounts of cool air to maintain optimal server temperature to ensure proper equipment function. Better airflow management within a data center has the potential to improve temperature control, server cooling and energy savings.

Open cable cutouts in raised floors permit cold air to blow directly up the backs of cabinets allowing hot and cold air to mix and recirculate back to the Computer Room Air Conditioner (CRAC) units away from the equipment it's intended to cool.

By using Air-Guard brushed grommets to seal cable openings under racks and cabinets, cold air is forced to the fronts of servers, where the cool air is drawn into the servers, cooling the equipment.



Air-Guard 5" Round

Overlapping brushes seal cable openings eliminating airflow bypass and limiting under-floor contamination

## Air-Guard Cable Seals— A simple inexpensive solution to promote more efficient data center cooling.

### The advantages of choosing Air-Guard Cable Seals:

- Provide an exceptional seal around cables for an effective and economical solution towards eliminating bypass airflow through cable cutouts.
- Reduces air loss in plenum cooled floors and increases under-floor static pressure.
- Improves cooling efficiencies and extends cooling equipment capacity and life.
- Seals cable openings with an overlapping brush and/or EPDM gasket material to help prevent under-floor contamination.
- Holds cables secure within the floor cutout protecting them from damage.
- Textured finish provides a quality finished look, along with a slip resistant surface that compliments all floor coverings.
- Allows flexibility and simplicity in cable routing.
- Installation is simple and inexpensive.

### Meeting and exceeding industry standards:

- Department of Energy recommended airflow management best practice.
- Constructed of flame retardant ABS polycarbonate material.
- ABS and Nylon Polymers carry a VO rating per the ANSI/UL94 Standard for "Tests for Flammability of Plastic Material for Parts in Devices and Appliances".
- Meets NFPA 75 standards for Information Technology Equipment.
- NEC code compliant for Article 645.5 (D)(5).
- RoHS compliant.

### The preferred choice in sealing raised floor cable openings:

- Superior sealing effectiveness
- Multiple sizes and configurations
- Ease of installation
- Maintenance free
- Durability
- Safety
- Lifetime warranty

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AIRGUARD  
The Cable Doctor

PDU Cables  
Connect with







	PART NUMBER		UL94 VO Rated Construction	Brush Technology	EPDM "Rubber" Gasket Technology	Safety Cover	Dimensional Drawings	Installation Instructions	Mounting Hardware
	<b>Flush Mount 116-800-001</b>	p 5	●	●			●	●	●
	<b>Flush Mount Safety Cover 116-800-002</b>	p 5	●			●			
	<b>Extreme 116-800-015</b>	p 6-7	●	●	●	●	●	●	●
	<b>5" Round 116-800-050</b>	p 8	●	●	●		●	●	●
	<b>Surface Mount 116-800-003</b>	p 9	●	●			●	●	●
	<b>Air-Adapt 116-800-025</b>	p 9	●				●	●	●
	<b>Surface Mount Brush Kit 116-800-100</b>	p 9	●	●			●	●	●
	<b>Brat 116-800-030</b>	p 10	●	●	●		●	●	●
	<b>Brush Kit 116-800-020 (12") 116-800-022 (24")</b>	p 10	●	●			●	●	●
	<b>Air-Block 6" Round 116-800-010</b>	p 11	●		●	●	●	●	●
	<b>Air-Block 6" Round (Brush Option) 116-800-060</b>	p 11	●	●		●	●	●	●
	<b>Air-Block 4" Square 116-800-080</b>	p 11	●		●	●	●	●	●
	<b>Air-Block 4" x 8" Rectangular 116-800-070</b>	p 11	●		●	●	●	●	●

**LIFETIME WARRANTY** PDU Cables, Inc. provides a lifetime warranty for all Air-Guard products purchased through PDU Cables, and warrants that each product is free from defects in quality and workmanship from the date of original purchase. If any Air-Guard product should fail because of a manufacturing defect, PDU Cables will repair or replace the product free of charge, provided that the product has not been subjected to abuse, misuse, accident, disaster or non-authorized modification or repair.

Under no circumstances will PDU Cables be liable in any way for damages including lost revenue or profits, or other incidental or consequential damages arising out of the use of, or inability to use, such product.

For more information contact PDU Cables at **1.866.631.4238** or **warranty@pducables.com**.

Air-Guard Flush Mount, top view

### Air-Guard® Flush Mount

Our most popular model, the Air-Guard Flush Mount, is the ideal cable seal when making new installations in your data center to maximize energy efficiency.

The Flush Mount reduces air loss in plenum cooled floors and increases under-floor static pressure. Seals cable openings with an overlapping brush cover which prevents under-floor contamination. Designed with a removable brush feature, the Flush Mount allows for easy removal of floor panels without disconnecting the cables. This feature also allows large connectors to pass through the grommet without the need for an oversized cutout.

The overlapping brushes in Air-Guard Cable Seal's unique design provide flexibility and simplicity in cable routing. The brushes seal the floor openings, preventing debris from entering the air plenum and causing damage to sensitive electronic equipment.

Two Air-Guards can be interlocked and installed on the floor panel to accommodate applications that require large bundles of cables.

Manufactured from flame retardant ABS polycarbonate material that provides a finished look on all raised floor panels, solid construction and textured surface compliments all floor coverings. The included cutout template, hardware and integrated mounting trim saves time and labor, eliminating the need to cut individual trim fittings, making the Air-Guard Flush Mount easy to install and simple and inexpensive to relocate if necessary.



**Air-Guard Flush Mount**  
**Part Number:** 116-800-001  
**Dimensions:**  
 Cutout—Center Installation—10.25" x 4.5"  
 Cutout—Edge Installation—10.25" x 5.25"  
 Usable Area—9.0" x 3.0"  
 Overall—13.0" x 6.25"

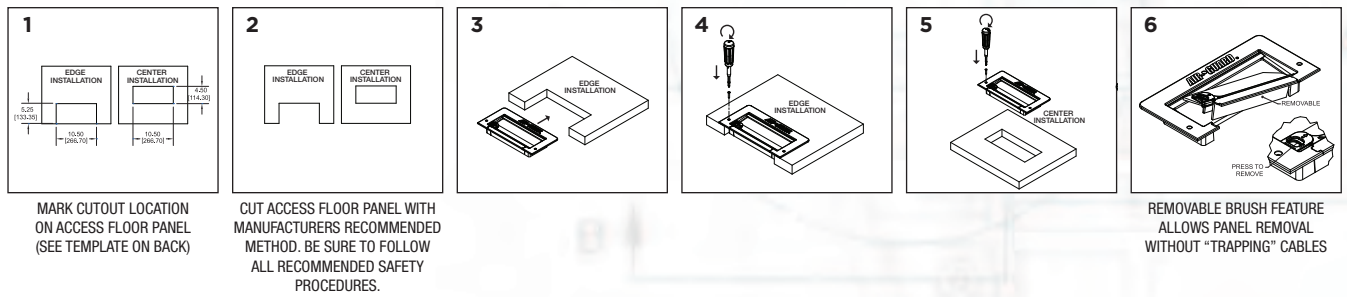
### Air-Guard® Safety Cover

The optional safety cover fits over the Flush Mount to provide a solid surface for increased durability and safety when cables are not pulled through the floor.

OSHA may require the use of Safety Covers on construction sites.\*\*

**Air-Guard Flush Mount Safety Cover**  
**Part Number:** 116-800-002  
**Dimensions:**  
 Overall—4.0" x 10.0"

### Step-by-step Installation Instructions—Flush Mount Air-Guard 116-800-001



\*\* OSHA Statute:  
 1910.23(a)(8)—Every floor hole into which persons can accidentally walk shall be guarded by either:  
 1910.23(a)(8)(i)—A standard railing with standard toe board on all exposed sides, or  
 1910.23(a)(8)(ii)—A floor hole cover of standard strength and construction. While the cover is not in place, the floor hole shall be constantly attended by someone or shall be protected by a removable standard railing.



## Air-Guard® Extreme

The Air-Guard Extreme is a heavy duty double layer gasket system, incorporating a flexible EPDM synthetic “rubber” gasket material along with Air-Guard brush technology to deliver airtight seals around cables, helping to eliminate air leakage and control air bypass in under-floor air installations.

The Air-Guard Extreme is designed to seal openings in raised floor cutouts prior to installation of communications or power cabling. Both the Air-Guard Extreme and its integrated safety cover are manufactured from flame retardant ABS polycarbonate material that provides a finished look on all raised floor panels. Solid construction and the textured surface compliment all floor coverings.

The included hardware and integrated mounting trim saves time and labor, eliminating the need to cut individual trim fittings, making the Air-Guard Extreme easy to install and integrate with the access floor static dissipative system.

- **Brush Technology**

- **The overlapping brushes prevent passage of debris and contaminants from entering the air plenum system and causing damage to sensitive electronic equipment**

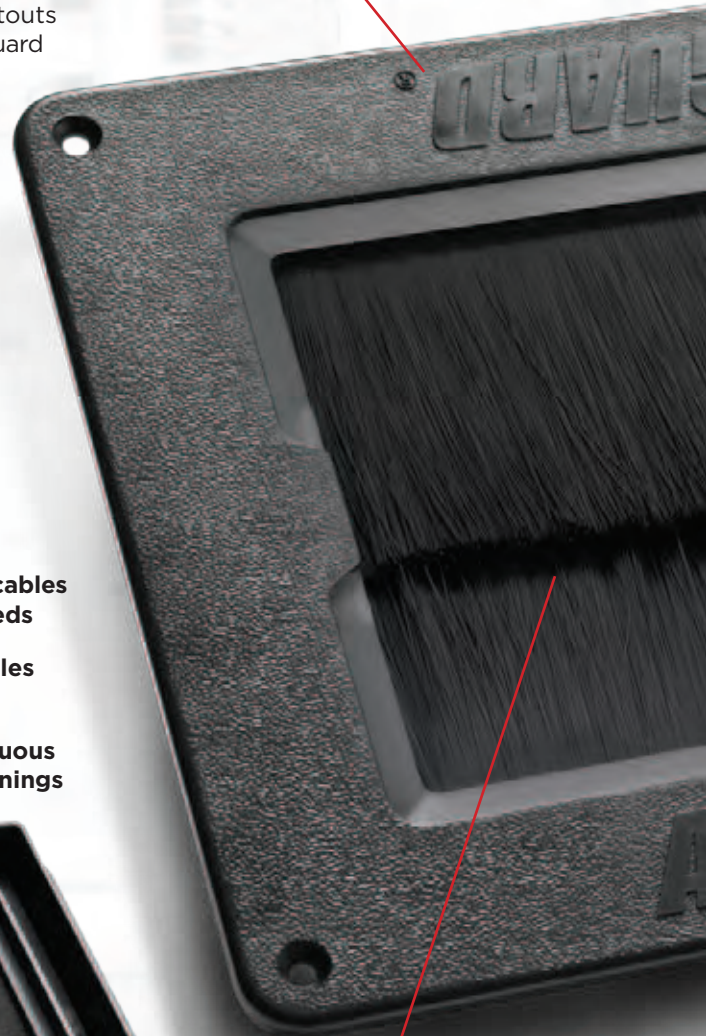
- **EPDM “Rubber” Gasket Technology**

- **Designed to accommodate either single cables or large bundles of cables through the same opening, providing flexibility for future wiring needs**

- **Dual stage rubber gasket and brush grommet technology hold cables secure in the cable seal opening**

- **Textured body and surface flush safety cover provide a safe continuous slip resistant solid surface when cables are not pulled through openings**

Textured ABS polycarbonate construction is flame retardant and provides a slip resistant surface.



Overlapping brush technology helps to prevent under-floor contamination.



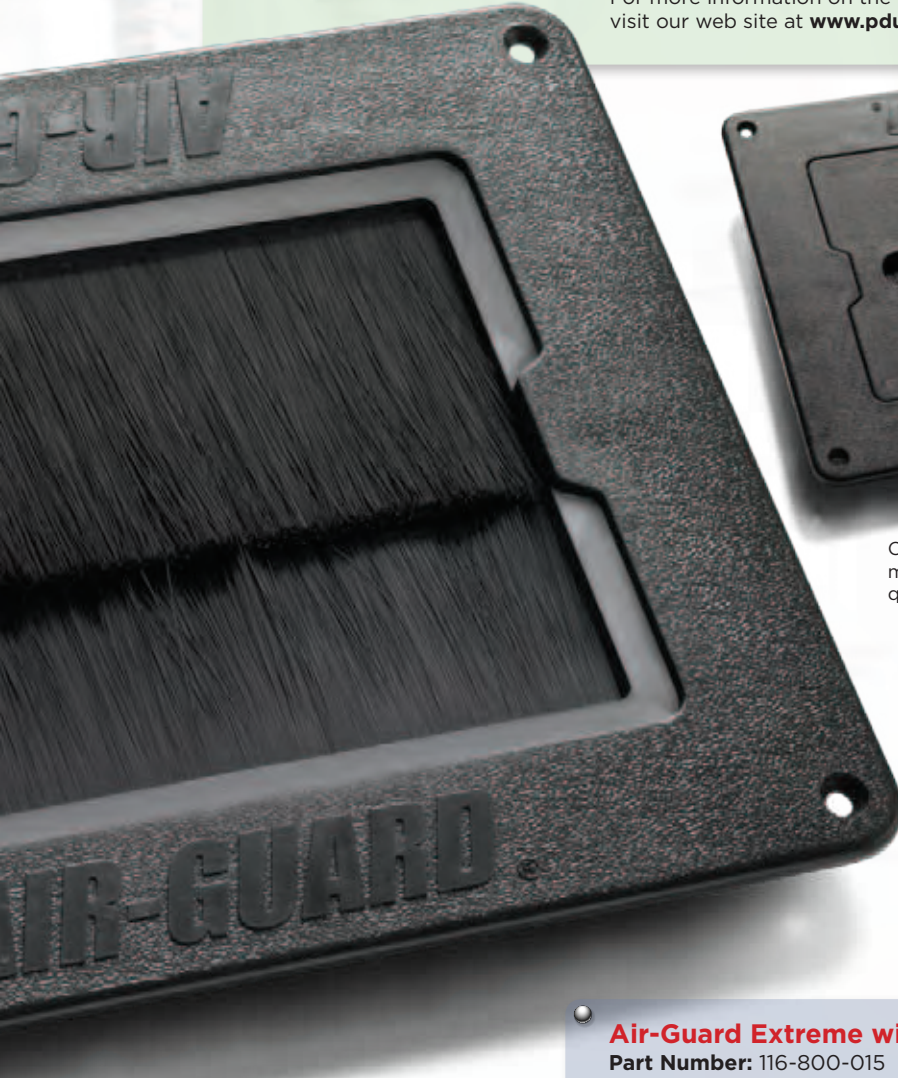
EPDM “rubber” gasket provides an exceptional seal around cables.

*Air-Guard Extreme, bottom view*

The Air-Guard Extreme dual technology floor sealing system provides a superior seal as determined by an independent, certified testing lab.\*

Measured against a leading competitor's product, the Air-Guard Extreme was found to beat out the competition in three separate tests. In each of the three tests, the Air-Guard Extreme tested with 50% less air leakage than the Koldlok model 1010. The results demonstrate that the double layer gasket system, incorporating a flexible EPDM "rubber" gasket seal, along with the Air-Guard brush technology, provide a superior air seal. Testing results make it clear—the Air-Guard Extreme with its dual technology cable seal system is the best choice when choosing a cable grommet for your data center.

For more information on the Independent Cable Grommet Test Results visit our web site at [www.pducables.com](http://www.pducables.com).



*Air-Guard Extreme, top view*



*Air-Guard Extreme, top view with safety cover*

One piece construction with integrated mounting trim saves time and allows for quick and easy installation

- Standard with every Air-Guard Extreme, the safety cover can be easily inserted or removed using finger holes
- Flame retardant ABS polycarbonate material provides a tough, durable finish that will withstand extensive floor traffic without the worry of damage due to cart wheels or other objects

**Air-Guard Extreme with Safety Cover**  
**Part Number:** 116-800-015  
**Dimensions:**  
 Cutout—9.0" x 6.5"  
 Usable Area—7.25" x 4.75"  
 Overall—11.0" x 8.25"

## Extreme Safety Cover

The standard feature safety cover is designed to fit perfectly inside and set flush with the opening of the Air-Guard Extreme. The finger grips allow for easy access, removal and installation as needed. The safety cover removes any worry about accidental injury when grommets are installed but left unattended. The safety cover comes standard with the Air-Guard Extreme, allowing openings to be fully covered during construction.

**Double Layer gasket system, including flexible EPDM "rubber" gasket seal and Air-Guard brush technology, provide a superior seal to prevent airflow bypass and reduce energy consumption.**

**Air-Guard provides an exceptional seal for an effective and economical solution towards eliminating airflow bypass through cable cutouts.**

EXTREME



## Air-Guard® 5" Round

The perfect solution for both new and existing cable cutouts; the Air-Guard 5" Round is a data center's best option to limit airflow bypass and under floor contamination for installation of smaller bundles of power and or data cables.

Featuring the double layer technology; the Air-Guard 5" Round utilizes a heavy duty double layer brushed grommet rubber gasket system that incorporates a flexible EPDM synthetic "rubber" gasket material along with the Air-Guard brush technology to deliver airtight seals around cables, helping to eliminate air leakage and control air bypass in under-floor plenums.

Together the brushes and rubber gasket work in tandem to hold cables in the center of the cutout while limiting the passage of contaminants under the floor. The dual stage sealing system provides a superior seal to prevent airflow bypass, reduce energy consumption, and aid in the implementation of hot/cold aisle containment or floor configurations.

The Air-Guard 5" Round is the superior choice for sealing smaller cable cutouts in a data centers' raised floor.



### Air-Guard 5" Round

**Part Number:** 116-800-050

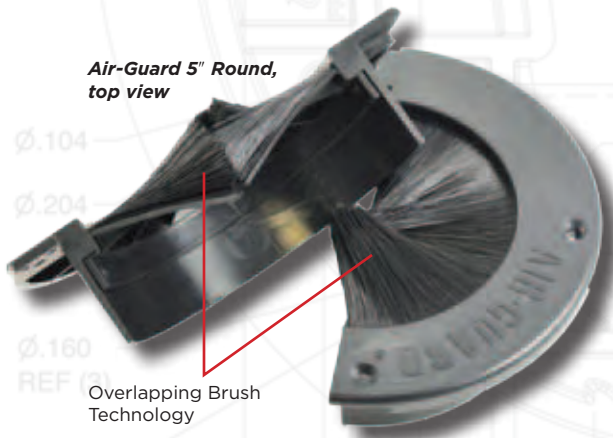
#### Dimensions:

Cutout Diameter—5.0"

Inner Diameter—4.5"

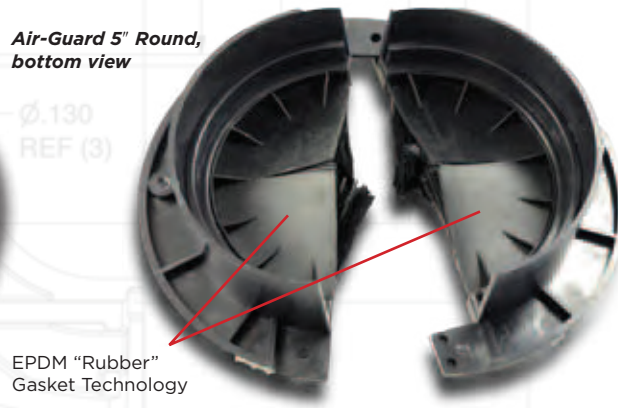
Outer Diameter—6.5"

*Air-Guard 5" Round,  
top view*



Overlapping Brush  
Technology

*Air-Guard 5" Round,  
bottom view*



EPDM "Rubber"  
Gasket Technology

## The preferred choice in sealing raised floor cable openings:

- **Overlapping brush technology limits airflow bypass**
- **Attractive textured design offers an impact and slip resistant surface**
- **Low profile lip limits tripping hazard**
- **Constructed of flame retardant and heat resistant materials**
- **EPDM "Rubber" gasket membrane keeps cables centered on the grommet**
- **Two piece assembly, designed to retrofit around existing cables**
- **ABS polycarbonate construction with UL94 VO rating**
- **The included self-threading screws make for quick and easy installation**

### LEED CERTIFICATION

Whether you are seeking LEED Certification or not, creating energy efficiency will save data center money. It has been estimated that only 40% of a cooling system's cold air goes directly to cool servers. To address this inefficiency, sealing off cable cutouts and holes in walls and raised floors will help solve the airflow bypass problem and improve energy efficiency.

With Air-Guard Cable Seal grommets, an immediate energy savings benefit is realized. Air-Guard significantly minimizes wasted cold air loss by increasing the static air pressure under a raised floor. Concentrating cold air where it is needed, makes a cooling system more effective. Increased cooling efficiency saves on operating costs and helps to prevent expensive electrical equipment from overheating in a raised floor environment.



## Air-Guard® Surface Mount

Looking for a quick fix to cover existing cable cutouts? The Air-Guard Surface Mount is designed to retro-fit around existing cables without the need to disconnect cables.

Simply remove adhesive tape from underside of the Surface Mount, position the two sides around existing cables, and press in place and finish with the included mounting screws.

**Air-Guard Surface Mount**  
**Part Number:** 116-800-003  
**Dimensions:**  
Brush Coverage—8.0" x 8.0"  
Usable Area—6.5" x 6.5"  
Overall—10.0" x 10.0"

With the Air-Guard Surface Mount, limiting air bypass and improving airflow management is easy.

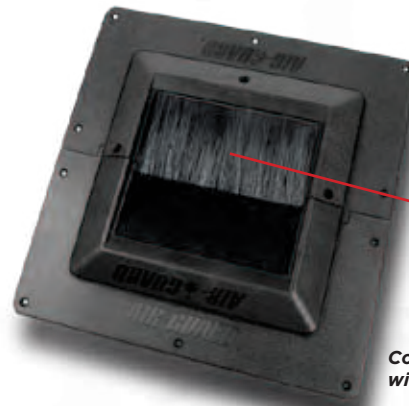


Air-Guard Surface Mount, top view



Will allow installations over cutouts of 12.5" x 12.5"

Air-Guard Air Adapt, top view



Overlapping Brush Technology

Combination Air-Adapt with Surface Mount

## Air-Guard® Air Adapt

Air-Guard Air Adapt, the perfect solution for enclosing oversize cable cutouts in existing floors. The Air-Adapt extends the Surface Mount to applications up to 12.5" x 12.5".

**Air-Guard Air Adapt**  
**Part Number:** 116-800-025  
**Dimensions:**  
Overall—14.0" x 14.0"

## Air-Guard® Surface Mount Brush Kit

Ideal for sealing holes against walls; with the Surface Mount Brush Kit, there is no need to cut floor panels to mount over odd shape or sized floor cutouts.

The Surface Mount Brush Kit contains one brush piece and two side rail clips, and all the hardware needed for a quick and easy installation.



**Air-Guard Surface Mount Brush Kit**  
**Part Number:** 116-800-100  
**Dimensions:**  
Usable Area—20.75" x 4.75"  
Overall—23.75" x 6.5"

SURFACE MOUNT

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PDU :: Cables AIRGUARD

## Air-Guard® Brat

The Air-Guard Brat, for when you need the best cable seal on the market but in a smaller size.

Utilizing the same dual stage technology that made the Air-Guard Extreme a test proven superior product, and featuring the removable back brush of the larger Air-Guard Flush Mount sealing system, the Brat is another industry favorite for eliminating air bypass and controlling air leakage in an under floor air cooled data center system.

Ideal for smaller cutout cable openings, or smaller cable bundles, the Brat's removable brush allows panel removal without "trapping" cables.

### Air-Guard Brat

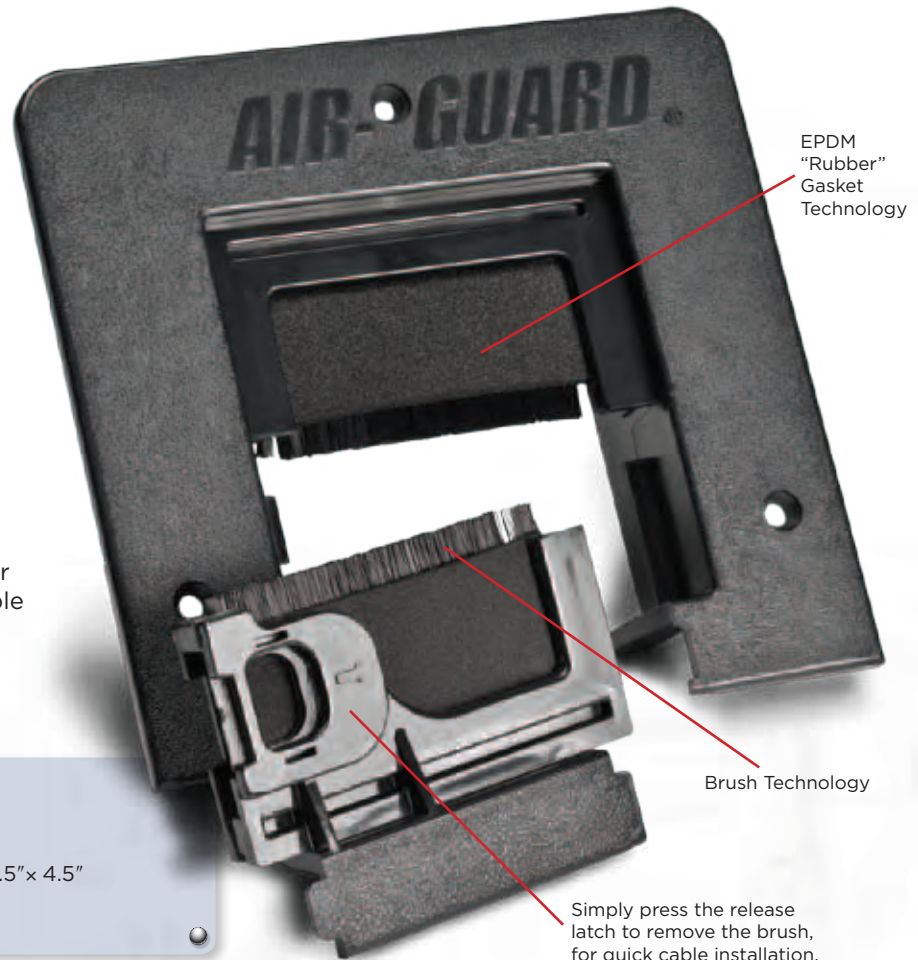
**Part Number:** 116-800-030

**Dimensions:**

Cutout—Center Installation—4.5" x 4.5"

Usable Area—3.3" x 3.2"

Overall—6.9" x 6.4"



EPDM  
"Rubber"  
Gasket  
Technology

Brush Technology

Simply press the release latch to remove the brush, for quick cable installation.

*Air-Guard Brat, top view*

## Air-Guard® Flush Mount Brush Kit

The Air-Guard Brush Kit is designed to seal odd sized cutouts using brush technology. Brush Kits can be cut to fit any custom floor cutout size, the perfect application for sealing existing cable cutouts.

Engineered side rail clips provide cable protection as required by code (NFPA 75, Section S-4, 4). Available in 12 and 24 inch lengths, Air-Guard Brush Kits are provided with factory applied adhesive strips, making them fast and easy to install.

The Flush Mount Brush Kit contains two brush pieces and four side rail clips.

A perfect solution for sealing off hard conduit and pipes running through floors along walls.

### Air-Guard 12" Flush Mount Brush Kit

**Part Number:** 116-800-020

**Dimensions:**

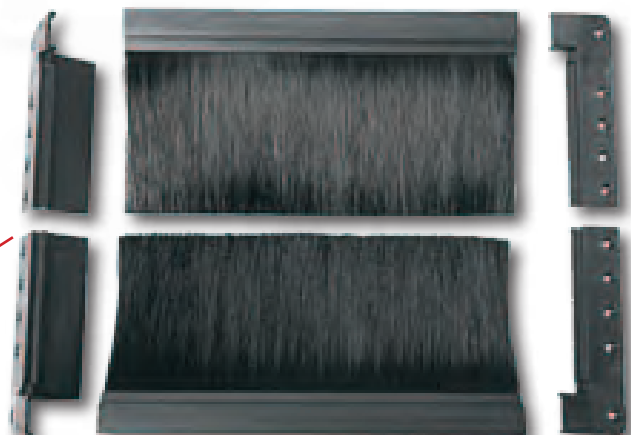
Brush Coverage—12.0" x 9.0"

### Air-Guard 24" Flush Mount Brush Kit

**Part Number:** 116-800-022

**Dimensions:**

Brush Coverage—24.0" x 9.0"



*Air-Guard Brush Kit components, top view*

Brushes and rails can be cut to fit any size cable cutout



## Air-Block™

The Air-Block is a heavy duty split EPDM rubber gasket cable grommet system for sealing around cable openings going through access flooring. Housed in flame retardant and inherently anti-static ABS polycarbonate, featuring EPDM rubber gasket technology, each Air-Block offers multiple cable knockouts configurations to control bypass air by forming an airtight seal around cables, helping to eliminate air leakage in under-floor air installations.

The two-piece design removes the need for an outer housing ring, and facilitates quick and easy installation of the grommet. The Air-Block mechanically locks into an access floor panel hole via screw toggles located on the top surface of the grommet. Exposed screws are finished with a cap plug that matches the grommet surface.

Grommet splits into two sections for quick and easy installation, no fishing cables through the grommet.

**Air-Block—6" (Brush Option)**  
**Part Number:** 116-800-060  
**Dimensions:**  
 Diameter Hole—6.0"  
 Useable Area—4.0" x 1.5"

**Air-Block—6"**  
**Part Number:** 116-800-010  
**Dimensions:**  
 Diameter Hole—6.0"  
 Knock-Outs—(2) 0.5" and (2) 0.75"



The safety cover is designed to eliminate jobsite safety issues and protect the cable and gasket area when the grommet is not in use.

*Air-Block 6", separated view  
(Brush Option Shown)*

*Air-Block — Rectangular,  
top view*



*Air-Block—Rectangular,  
bottom view*

Five—0.5" Knock-Outs  
(expandable to 0.75")

**Air-Block—4" x 8" Rectangular**  
**Part Number:** 116-800-070  
**Dimensions:**  
 External—8.875" x 5.375"  
 Cutout—7.875" x 4.375"  
 Knock-Outs—(5) 0.5" (expandable to 0.75")

*Air-Block—Square, top  
view*



*Air-Block—Square,  
bottom view*

EPDM "Rubber"  
Gasket Technology

**Air-Block—4" Square**  
**Part Number:** 116-800-080  
**Dimensions:**  
 External—4.875" x 4.875"  
 Cutout—4.0" x 4.0"  
 Knock-Outs—(2) 0.5" (expandable to 0.75")

AIR-BLOCK



## Lower Data Center Operating Costs by Focusing on Airflow Management

The 2006 ACEEE (American Council for an Energy-Efficient Economy) summer study on energy efficiency in buildings, determined that data centers can be over 40 times as energy intensive as conventional office buildings.

A significant portion of any data center's energy consumption is the CRAC (computer room air conditioning) units. Yet it has been estimated that only 40% of a cooling systems cold air goes directly to cool servers. A key problem affecting air management is when cooled air circulates back to air conditioning units through openings in raised floors such as cable openings or misplaced floor tiles with openings.

A well designed air distribution system can reduce energy consumption, reduce investment in CRAC equipment, allow for increased utilization, and improve reliability by reducing processing interruptions or equipment degradation due to overheating. A well designed data center air distribution system includes Air-Guard Cable Seal products to provide an exceptional seal around cables for reduced bypass airflow through cable cutouts.



5401 Smetana Drive | Minnetonka, Minnesota 55343  
Toll-Free 1.866.631.4238 | Fax 1.800.336.2801 | [www.pducables.com](http://www.pducables.com)

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