

# PRODUCT APPLICATION

## Cabinet Supported Hot Aisle Containment (HAC) Solution

The Cabinet Supported Hot Aisle Containment (HAC) Solution by Chatsworth Products (CPI) features an exhaust duct over a contained hot aisle as part of a closed hot air return. This solution integrates with perimeter cooling, provides immediate improved cooling efficiency and is compatible with economization methods. This system can be expanded by simply adding a pair of cabinets and individual cabinet supported panels to create the duct. It is ideal for small or medium scale data center computer rooms that are gradually adopting containment for “hot zones” as they expand or retrofit the site.



**1 CPI Cabinet System** – Create cabinet rows using F-Series TeraFrame® Gen 3 Cabinets or GF-Series GlobalFrame® Gen 2 Cabinets. Configure cabinets with Thermal Management Accessories (see page 5) that block airflow through and around cabinets.

**2 Cabinet Supported Exhaust Duct Panel Kit** – Attaches to the top of the cabinet to form part of the exhaust duct over the contained aisle. Order one per cabinet to match cabinet width.

**3 Cabinet Supported Exhaust Duct Horizontal Support Beam** – Intermediate support beam used between every other cabinet to provide lateral support for the duct across the contained aisle.

**4 Cabinet Supported Exhaust Duct H-Seal** – Use to splice and seal panels on adjacent Aisle Containment Exhaust Duct Panel Kits in between Aisle Containment Exhaust Duct Horizontal Support Beams.

**5 Aisle Containment Exhaust Duct Edge Seal** – Flexible, curved seal used around the top of the duct to create a complete seal with overhead drop ceiling tiles.

**6 Cabinet Supported Exhaust Duct End Panel Kit** – Forms the end of the exhaust duct over a contained aisle.

**7 Door Mounting Bracket Kit** – Adjustable height brackets used to attach the Aisle Containment Door Assembly to the tops of cabinets.

**8 Door Standoff Kit** – Optional kit used when cabinets are placed over a raised floor to offset the door approximately 2.5” (64 mm) away from the side of cabinets so that the bottom of the door is not located over the edges of floor tiles.

**9 Aisle Containment Door Assembly** – Sliding double doors (shown) or single door, both with automatic closing feature and large transparent panel(s). Attaches to the ends of cabinets to seal the ends of the contained aisle.

**10 Aisle Containment Cabinet To Floor Seal Kit** – Cabinet-specific trim panels used along the base of cabinets to seal the gap between the floor and the bottom of the cabinet frame.

### Containment Accessories

- Adjustable Filler Panel
- Door Top Seal Kit
- GlobalFrame Door Rail Support Kit
- Floor Mounting Template

### Cabinets and Accessories

- Bottom Panel
- Air Dam
- Snap-In Filler Panels
- AisleLok™ Acrycell™ Sealing Tape
- AisleLok™ Under Floor Panel
- KoldLok® Raised Floor Grommet

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# CABINET SUPPORTED HOT AISLE CONTAINMENT (HAC) SOLUTION

## SOLUTION OVERVIEW

- Cabinet supported duct allows you to add cabinets, one pair at a time, as required
- Compatible with CPI F-Series TeraFrame Gen 3 Cabinets and GF-Series GlobalFrame Gen 2 Cabinets
- Order individual components to create a duct that matches site requirements
- Duct adjusts in height to match ceiling and can also be trimmed to accommodate shorter ceilings
- Optional accessory filler panels accommodate shorter cabinets
- Translucent duct and transparent door panels allow light to enter the contained aisle
- Doors close automatically to maintain containment and reduce recovery time
- A complete solution maximizes performance with baffles to seal around and within cabinets and the contained aisle
- Durable construction and maintenance-free design provide many years of use

## ORDERING INFORMATION

CPI Cabinet Systems		
Part Number & Finish		Description
Black	Glacier White	
F-Series TeraFrame Gen 3 Cabinet		
FF1U-113C-C42-B	FF1U-113C-E42-B	45U, 23.6"W (600 mm) x 51.2"D (1300 mm)
FF2U-113C-C42-B	FF2U-113C-E42-B	45U, 27.6"W (700 mm) x 51.2"D (1300 mm)
FF3U-113C-C42-B	FF3U-113C-E42-B	45U, 31.5"W (800 mm) x 51.2"D (1300 mm)
GF-Series GlobalFrame Gen 2 Cabinet		
GF-2A420-CB	GF-2A420-EB	45U, 23.6"W (600 mm) x 51.2"D (1300 mm)
GF-2D420-CB	GF-2D420-EB	45U, 27.6"W (700 mm) x 51.2"D (1300 mm)
GF-2C420-CB	GF-2C420-EB	45U, 31.5"W (800 mm) x 51.2"D (1300 mm)

Note: Other sizes are available.

Cabinet Supported Exhaust Duct Panel Kit		
Part Number & Finish		Description
Black	Glacier White	
32830-701	32830-E01	For a 23.6"W (600 mm) Cabinet
32830-702	32830-E02	For a 24.0"W (610 mm) Cabinet
32830-703	32830-E03	For a 27.6"W (700 mm) Cabinet
32830-705	32830-E05	For a 31.5"W (800 mm) Cabinet

Note: Order one per cabinet.

Cabinet Supported Exhaust Duct Horizontal Support Beam		
Part Number & Finish		Description
Black	Glacier White	
32820-701	32820-E01	Adjusts from 48"W (1200 mm) to 85"W (2159 mm)

Note: Order one every other cabinet.

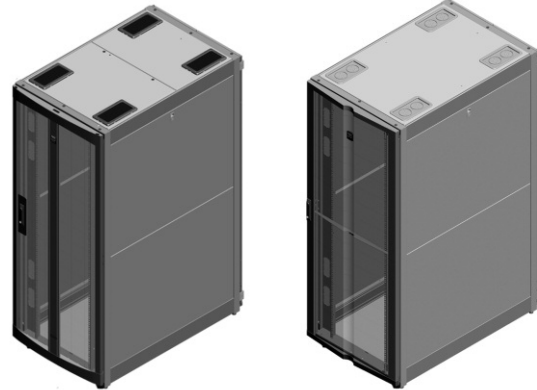
Cabinet Supported Exhaust Duct H-Seal		
Part Number & Quantity		Description
2 Pack	10 Pack	
32835-000	32835-001	4'L (1.2 m), clear plastic

Note: Order a 2 Pack every other cabinet.

Aisle Containment Exhaust Duct Edge Seal		
Part Number & Finish		Description
Pair	6 Pack	
32836-000	32836-001	8'L (2.4 m), clear plastic

Note: Order sufficient length to surround the top perimeter of the duct.

Cabinet Supported Exhaust Duct End Panel Kit		
Part Number & Finish		Description
Black	Glacier White	
32850-701	32850-E01	Adjusts from 48"W (1219 mm) to 59"W (1499 mm)
32850-702	32850-E02	Adjusts from 59"W (1499 mm) to 70"W (1778 mm)
32850-703	32850-E03	Adjusts from 70"W (1778 mm) to 81"W (2057 mm)

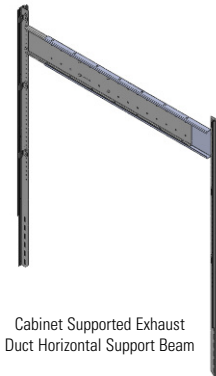


F-Series TeraFrame Gen 3 Cabinet

GF-Series GlobalFrame Gen 2 Cabinet



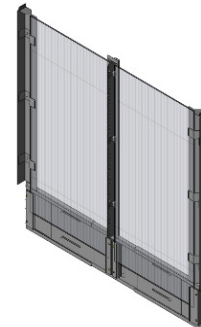
Cabinet Supported Exhaust Duct Panel Kit



Cabinet Supported Exhaust Duct Horizontal Support Beam



Cabinet Supported Exhaust Duct H-Seal



Cabinet Supported Exhaust Duct End Panel Kit



Aisle Containment Exhaust Duct Edge-Seal

# CABINET SUPPORTED HOT AISLE CONTAINMENT (HAC) SOLUTION

## ORDERING INFORMATION

Door Standoff Kit		
Part Number & Finish		Description
Black	Glacier White	
32870-701	32870-E01	For Aisle Containment Double Door Assembly
32870-702	32870-E02	For Aisle Containment Single Door Assembly

Door Mounting Bracket Kit		
Part Number & Finish		Description
Black	Glacier White	
For Use With Door Standoff Kit		
32805-703	32805-E03	3"H (75 mm), For 85.3"H (2167 mm) to 91.4"H (2322 mm) Cabinets
32805-704	32805-E04	5"H (125 mm), For 82.6"H (2098 mm) to 94.2"H (2393 mm) Cabinets
32805-705	32805-E05	10"H (254 mm), For 77.8"H (1976 mm) to 98.9"H (2512 mm) Cabinets
For Use Without Door Standoff Kit		
32805-700	32805-E00	3"H (75 mm), For 85.3"H (2167 mm) to 91.4"H (2322 mm) Cabinets
32805-701	32805-E01	5"H (125 mm), For 82.6"H (2098 mm) to 94.2"H (2393 mm) Cabinets
32805-702	32805-E02	10"H (254 mm), For 77.8"H (1976 mm) to 98.9"H (2512 mm) Cabinets

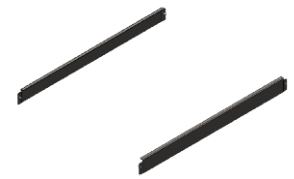
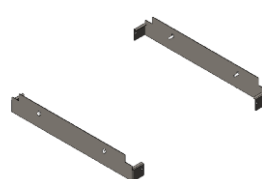
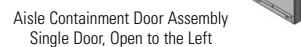
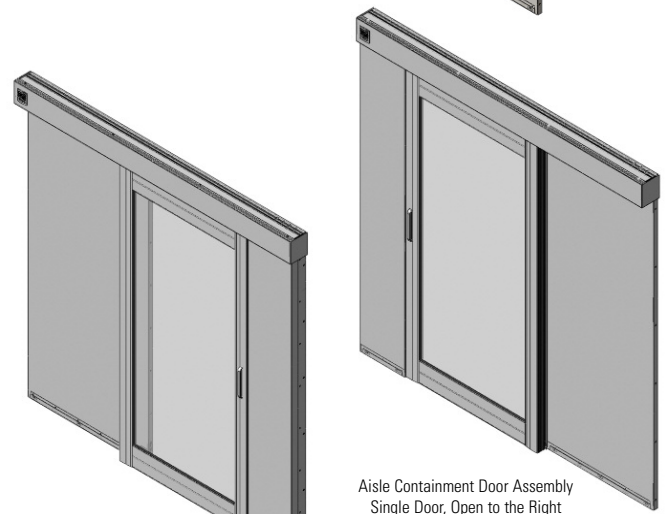
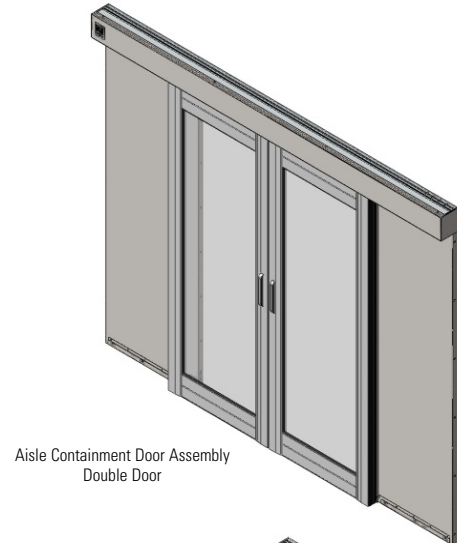
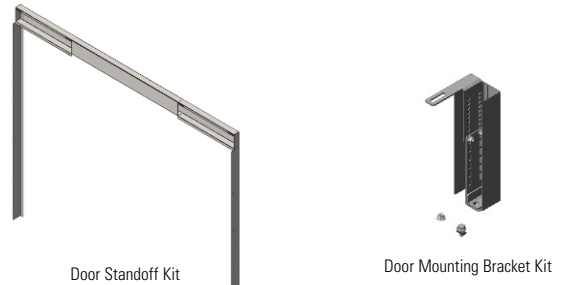
Note: Two versions, select for use with or without Door Standoff Kit.

Aisle Containment Door Assembly		
Part Number & Finish		Description
Black	Glacier White	
Double Door		
32770-701	32770-E01	With Painted Door Frames
32770-702	32770-E02	With Anodized Aluminum Door Frames
Single Door, Opens To The Right		
32780-702	32780-E02	With Painted Door Frames
32780-704	32780-E04	With Anodized Aluminum Door Frames
Single Door, Opens To The Left		
32780-701	32780-E01	With Painted Door Frames
32780-703	32780-E03	With Anodized Aluminum Door Frames

Notes: Double door spans two to three tile aisles and has a 42"W (1067 mm) door opening. Single door is right or left opening, spans two tile aisles and has a 32"W (812 mm) door opening. Order one Floor Mounting Template for each site, see Containment Accessories, page 4.

Aisle Containment Cabinet To Floor Seal Kit for F-Series TeraFrame® Gen 3 Cabinet and GF-Series GlobalFrame® Gen 2 Cabinet		
Part Number & Finish		Description
Black	Glacier White	
Front Seal Kits		
39208-700	39208-E00	Front Seal, For 23.6"W (600 mm) Cabinet
39208-701	39208-E01	Front Seal, For 27.6"W (700 mm) Cabinet
39208-703	39208-E03	Front Seal, For 29.5"W (750 mm) Cabinet
39208-702	39208-E02	Front Seal, For 31.5"W (800 mm) Cabinet
Side Seal Kits		
39209-700	39209-E00	Side Seal, For 31.5"D (800 mm) frame
39209-708	39209-E08	Side Seal, For 39.4"D (1000 mm) frame
39209-710	39209-E10	Side Seal, For 41.3"D (1050 mm) frame
39209-712	39209-E12	Side Seal, For 43.3"D (1100 mm) frame
39209-716	39209-E16	Side Seal, For 47.2"D (1200 mm) frame

Note: Order one Front Seal Kit for each cabinet. Order one Side Seal Kit for each end of the cabinet row. Other sizes are available. For existing cabinets, check with CPI Technical Support to identify the correct Floor Seal Kit.



## ACCESSORIES

### Containment Accessories

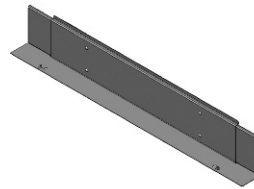
The following accessories are used in specific applications, when cabinet heights vary, if cabinets are taller than the Aisle Containment Door and to help install the doors.

Adjustable Filler Panel		
Part Number & Finish		Description
Black	Glacier White	
<b>For up to 6U High Cabinet Height Difference</b>		
32825-700	32825-E00	For a 23.6"W (600 mm) Cabinet
32825-702	32825-E02	For a 24.0"W (610 mm) Cabinet
32825-704	32825-E04	For a 27.6"W (700 mm) Cabinet
32825-708	32825-E08	For a 31.5"W (800 mm) Cabinet
<b>For up to 9U High Cabinet Height Difference</b>		
32825-701	32825-E01	For a 23.6"W (600 mm) Cabinet
32825-703	32825-E03	For a 24.0"W (610 mm) Cabinet
32825-705	32825-E05	For a 27.6"W (700 mm) Cabinet
32825-709	32825-E09	For a 31.5"W (800 mm) Cabinet



Adjustable Filler Panel

Door Top Seal Kit		
Part Number & Finish		Description
Black	Glacier White	
<b>For Use With Door Standoff Kit</b>		
32817-704	32817-E04	Adjusts from 48"W (1219 mm) to 59"W (1500 mm)
32817-705	32817-E05	Adjusts from 59"W (1500 mm) to 70"W (1775 mm)
32817-706	32817-E06	Adjusts from 70"W (1775 mm) to 81"W (2050 mm)
<b>For Use Without Door Standoff Kit</b>		
32817-701	32817-E01	Adjusts from 48"W (1219 mm) to 59"W (1500 mm)
32817-702	32817-E02	Adjusts from 59"W (1500 mm) to 70"W (1775 mm)
32817-703	32817-E03	Adjusts from 70"W (1775 mm) to 81"W (2050 mm)



Door Top Seal Kit

Note: Use when the tops of cabinets are over 88" (2235 mm) tall.

Floor Mounting Template		
Part Number & Finish		Description
Black	Glacier White	
32875-701	N/A	For Aisle Containment Double-Door
32875-702	N/A	For Aisle Containment Single Door

Note: Reusable, order one per site.



Floor Mounting Template

## ACCESSORIES

### Cabinet Thermal Management Accessories

Because it is critical to block airflow through and around cabinets, CPI offers cabinet-specific baying kits, seal kits and internal airflow baffles. Additionally, use Snap-In Filler Panels to block airflow around equipment within the cabinet and AisleLok™ Acrycell™ Sealing Tape to seal any other gaps between and within cabinets.

Air Dam, Bottom Panel and Rail Grommets for F-Series TeraFrame Gen 3 and GF-Series GlobalFrame Gen 2 Cabinets		
Part Number & Finish		Description
Black	Glacier White	
<b>Air Dam For 45U High Cabinets</b>		
39085-C03	39085-E03	For 23.6"W (600 mm) Cabinets
39085-C14	39085-E14	For 27.6"W (700 mm) Cabinets
39085-C25	39085-E25	For 31.5"W (800 mm) Cabinets
<b>Bottom Panel For F-Series TeraFrame Gen 3 Cabinet</b>		
39132-C00	39132-E00	For 23.6"W (600 mm) Cabinets
39132-C01	39132-E01	For 27.6"W (700 mm) Cabinets
39132-C02	39132-E02	For 31.5"W (800 mm) Cabinets
<b>Bottom Panel For GF-Series GlobalFrame Gen 2 Cabinet</b>		
39080-C00	39080-E00	For 23.6"W (600 mm) Cabinets
39080-C01	39080-E01	For 27.6"W (700 mm) Cabinets
39080-C02	39080-E02	For 31.5"W (800 mm) Cabinets
<b>Equipment Rail Grommet Kit</b>		
39133-001		For 27.6"W (700 mm) and 31.5"W (800 mm) GF-Series GlobalFrame Gen 2 Cabinet, Pack of 8

Note: Match cabinet color. Other sizes available.

Snap-In Filler Panels		
Part Number & Finish		Description
Black	Glacier White	
34537-002	34537-E02	1U x 19"EIA, Pack of 50
34538-002	34538-E02	2U x 19"EIA, Pack of 50

Note: Also sold individually and in packs of 6 each.

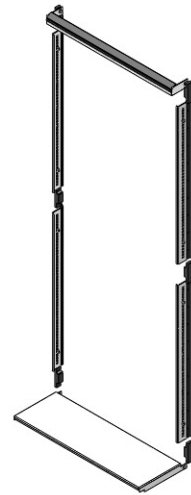
AisleLok™ Acrycell™ Sealing Tape		
Part Number & Finish	Description	
Black		
13876-000	Expands .2" (5 mm) to .5" (12.7 mm), 5 rolls, 32.8' L (10 m)	
13876-001	Expands .47" (12 mm) to 1" (25.4 mm), 5 rolls, 18.4' L (5.6 m)	
13876-002	Expands .87" (22 mm) to 2" (50.8 mm), 5 rolls, 8.5' L (2.6 m)	

AisleLok™ Under Rack Panel		
Part Number & Finish	Description	
Black		
13877-002	4.5"H (115 mm) x 27.5"W (699 mm) x 1"D (25 mm), Pack of 10	
13877-003	4.5"H (115 mm) x 31.5"W (800 mm) x 1"D (25 mm), Pack of 10	

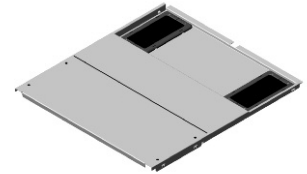
Note: Floor seal for other cabinets and equipment. Do not use with F-Series TeraFrame or GF-Series GlobalFrame Cabinets.

KoldLok® Raised Floor Grommets		
Part Number & Finish	Description	
Black		
13671-002	Split Integral Grommet, 8"W (203 mm) x 4"D (102 mm) opening, 10 each	
13872-002	Mini Grommet, 5"W (127 mm) x 2-1/2" (64 mm) opening, 10 each	
13874-002	Round Grommet, 3.5" (89 mm) Diameter, 10 each	

Note: Other styles and sizes available. Also sold individually.



Air Dam



Bottom Panel



Equipment Rail Grommet Kit



Snap-In Filler Panel



AisleLok™ Acrycell™ Sealing Tape



AisleLok™ Under Rack Panel



KoldLok® Raised Floor Grommets

# CABINET SUPPORTED HOT AISLE CONTAINMENT (HAC) SOLUTION

## HOW TO GET STARTED

The specific combination of components needed to create a complete Cabinet Supported Hot Aisle Containment (HAC) Solution will depend on a number of factors including room layout, ceiling height, whether there is a slab or raised access floor and what types of cabinet models are selected.

To ensure you have a complete solution that addresses site- and cabinet-specific requirements, please contact CPI Technical Support for assistance developing a Bill of Materials (BOM).

Based on your input, CPI Technical Support will propose a complete solution with a drawing and detailed BOM. They will take the time to explain each selection, so you have a complete understanding of how the CPI solutions will provide the desired results.

Example Bill Of Materials (BOM)				
Item	Part Number	Description	Qty	
<b>Cabinet Supported Hot Aisle Containment (HAC) Solution</b>				
1	FF1U-113C-E42-B	F-Series TeraFrame Gen 3 Cabinet, 45U, 23.6"W (600 mm) x 51.2"D (1300 mm), Glacier White	20	
2	32830-E01	Cabinet Supported Exhaust Duct Panel Kit, 23.6"W (600 mm), Glacier White	20	
3	32820-E01	Cabinet Supported Exhaust Duct Horizontal Support Beam, Glacier White	5	
4	32835-000	Cabinet Supported Exhaust Duct H-Seal, 4'L (1.2 m), 2 Pack, Clear	4	
5	32836-001	Aisle Containment Exhaust Duct Edge Seal, 8'L (2.4 m), 6 Pack, Clear	1	
6	32850-E01	Cabinet Supported Exhaust Duct End Panel Kit, 48"W (1200 mm), Glacier White	2	
7	32805-E04	Door Mounting Bracket Kit, 5"H (125 mm), With Offset, Glacier White	2	
8	32870-E01	Door Standoff Kit, For Double Door, Glacier White	2	
9	32770-E02	Aisle Containment Double Door Assembly, Clear Doors, Glacier White	2	
10	39208-E00	Cabinet To Floor Front Seal Kit, F-Series TeraFrame Gen 3, 23.6"W (600 mm)	20	
	39209-E16	Cabinet To Floor Side Seal Kit, F-Series TeraFrame Gen 3, 51.0"D (1297 mm)	4	
<b>Recommended Accessories</b>				
	32875-701	Installation Template, Aisle Containment Double Door Assembly	1	
	39132-E00	Bottom Panel for F-Series TeraFrame Gen 3, Glacier White	20	
	39085-E03	Air Dam For F-Series TeraFrame Gen 3 Cabinets, Glacier White	20	
	34537-E02	Snap-In Filler Panel, 1U x 19"EIA, 50 Pack, Glacier White	2	
	34538-E02	Snap-In Filler Panel, 2U x 19"EIA, 50 Pack, Glacier White	2	
	13671-002	KoldLok Split Integral Raised Floor Grommet, 10 Pack, Black	2	



*Notes: This example BOM is based on a solution for 20 each 45U, 23.6"W (600 mm) x 51.2"D (1300 mm) F-Series TeraFrame® Gen 3 Cabinets organized in two adjacent 10 cabinet rows. Parts listed under Items 2, 7 and 10 are cabinet-specific. Recommended Accessories include Cabinet Thermal Management Accessories. Contact CPI Technical Support to develop a BOM for your site.*

For a more detailed analysis of your site, CPI offers a Pre-Installation Site Survey, a service where a CPI Technical Representative visits your site to provide a more detailed recommendation. To help ensure an optimized aisle containment installation, CPI offers On-Site Installation Supervision Services, which includes related training and examination of the initial pods. Both Pre-Installation Site Surveys and On-Site Installation Supervision Support are especially important if there are special conditions, concerns or required customization.

All suggestions and performance statements are based on using an overall approach to airflow containment through the use of CPI Products and solutions. For more information about CPI's Aisle Containment Services or products, call **800-834-4969**, email **techsupport@chatsworth.com** or contact your Regional Sales Manager.

All products quoted are subject to availability based on manufacturing capacity, and shipping dates should be considered estimates only. While every effort has been made to ensure the accuracy of all information, CPI does not accept liability for any errors or omissions and reserves the right to change information and descriptions of listed services and products.

**Not exactly what you need?** Additional products, sizes and configurations are available from CPI. Visit **www.chatsworth.com** or call **+1-800-834-4969**.