Build To Spec (BTS) Kit Hot Aisle Containment (HAC) Solution

The Build To Spec Kit Hot Aisle Containment (HAC) Solution by Chatsworth Products (CPI) features a field-fabricated duct that is used 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. It is ideal for retrofit applications over a mix of cabinets, including cabinets of varying heights, widths and depths.

1 Build To Spec Kit (BTS) – Includes all of the components needed to construct a ceiling-supported or cabinet-supported duct to capture and direct airflow in the contained aisle. This design adapts to a mix of cabinets and allows cabinets to be changed when required. Used as part of a closed return for the air handling system.

2 Universal Bulb Seal– Edge seal used around drop panels to seal gaps above shorter cabinets. Cut excess panels from the BTS to fit the space between the duct and the cabinet. Bulb seal attaches directly to the edge of the panel. Additional panel material is also sold separately.

3 Full Height Cabinet Blanking Panel – Translucent panel and seal used to fill gaps where entire cabinets are omitted from the cabinet row or when adjacent cabinet rows are different lengths. Easy to install or remove in the field. The 48" (1219 mm) wide panels are easy to trim to match the required width.

4 Aisle Containment Door Assembly – Sliding double doors (shown) or single door, both with automatic closing feature and large transparent panel(s). Doors attach to the cabinets at the ends of the aisle to seal the ends of the contained aisle. To simplify installation, a reusable Floor Mounting Template is also available.

5 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 the cabinets, so that the bottom of the door is not located over the edges of floor tiles.

6 Door Top Seal Kit (not shown) – Optional kit used when doors are shorter than cabinets to seal the gap between the top of the door and the top of the cabinets.

7 Door Mounting Bracket Kit (not shown) – Adjustable height brackets used to attach the Aisle Containment Door Assembly to the tops of cabinets.

8 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
• Floor Mounting Template

Cabinets and Accessories
• Snap-In Filler Panels
• Raised Floor Grommet

SOLUTION OVERVIEW

- Field-fabricated duct accommodates site differences and existing conditions
- Compatible with a mix of cabinets – different heights, widths and depths in the same row
- Elevated, single-piece duct allows cabinets to be removed, omitted or replaced as required
- Translucent duct panels 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

BTS Kit arrives on a pallet and includes eight unique components designed for easy installation and customization on site.

BTS Kit Assembled

ORDERING INFORMATION

BTS Kit								
Part Number & Finish		Description						Ref. Row Length by Number of Tiles
		Height		Width		Length		
Black	Glacier White	in	mm	in	mm	in	mm	
33000-701	33000-E01	48	1219	96	2438	94	2388	3
33000-702	33000-E02	48	1219	96	2438	188	4775	7
33000-703	33000-E03	48	1219	96	2438	282	7163	11
33000-704	33000-E04	48	1219	96	2438	376	9550	15
33000-705	33000-E05	48	1219	96	2438	470	11 938	19
33000-706	33000-E06	48	1219	96	2438	564	14 326	23
33000-707	33000-E07	48	1219	96	2438	658	16 713	27
33000-708	33000-E08	48	1219	96	2438	752	19 101	31
33000-709	33000-E09	48	1219	96	2438	846	21 488	35
33000-710	33000-E10	48	1219	96	2438	940	23 876	39
33000-711	33000-E11	96	2438	96	2438	94	2388	3
33000-712	33000-E12	96	2438	96	2438	188	4775	7
33000-713	33000-E13	96	2438	96	2438	282	7163	11
33000-714	33000-E14	96	2438	96	2438	376	9550	15
33000-715	33000-E15	96	2438	96	2438	470	11 938	19
33000-716	33000-E16	96	2438	96	2438	564	14 326	23
33000-717	33000-E17	96	2438	96	2438	658	16 713	27
33000-718	33000-E18	96	2438	96	2438	752	19 101	31
33000-719	33000-E19	96	2438	96	2438	846	21 488	35
33000-720	33000-E20	96	2438	96	2438	940	23 876	39
33000-721	33000-E21	48	1219	144	3658	94	2388	3
33000-722	33000-E22	48	1219	144	3658	188	4775	7
33000-723	33000-E23	48	1219	144	3658	282	7163	11
33000-724	33000-E24	48	1219	144	3658	376	9550	15
33000-725	33000-E25	48	1219	144	3658	470	11 938	19
33000-726	33000-E26	48	1219	144	3658	564	14 326	23
33000-727	33000-E27	48	1219	144	3658	658	16 713	27
33000-728	33000-E28	48	1219	144	3658	752	19 101	31
33000-729	33000-E29	48	1219	144	3658	846	21 488	35
33000-730	33000-E30	48	1219	144	3658	940	23 876	39
33000-731	33000-E31	96	2438	144	3658	94	2388	3
33000-732	33000-E32	96	2438	144	3658	188	4775	7
33000-733	33000-E33	96	2438	144	3658	282	7163	11
33000-734	33000-E34	96	2438	144	3658	376	9550	15
33000-735	33000-E35	96	2438	144	3658	470	11 938	19
33000-736	33000-E36	96	2438	144	3658	564	14 326	23
33000-737	33000-E37	96	2438	144	3658	658	16 713	27
33000-738	33000-E38	96	2438	144	3658	752	19 101	31
33000-739	33000-E39	96	2438	144	3658	846	21 488	35
33000-740	33000-E40	96	2438	144	3658	940	23 876	39

Notes:

- The BTS Kit includes the materials needed to create the duct over the cabinets and contained aisle.
- The duct should be slightly larger than the contained aisle; a minimum of 10" (250 mm) wider and 3" (75 mm) longer, so that it overlaps the adjacent cabinets.
- All containment packages come standard with adequate brackets to accommodate a ceiling- or cabinet-supported solution. Order ceiling or cabinet installation hardware separately.
- Doors, full height cabinet blanking panels and additional materials for header/drop panels over cabinets must be ordered separately.

ORDERING INFORMATION

Universal Bulb Seal	
Part Number	**Description**
33003-001	96"L (2438 mm), Pack of 2
33003-002	96"L (2438 mm), Pack of 10

Note: Use as an edge seal around drop panels over cabinets.

Full Height Cabinet Blanking Panel For BTS Kit		
Part Number & Finish		**Description**
Black	**Glacier White**	
33002-701	33002-E01	94"H x 48"W (2387 mm x 1219 mm), Pack of 2
33002-702	33002-E02	94"H x 48"W (2387 mm x 1219 mm), Pack of 10

Note: Center panel is translucent, sides and brackets are painted.

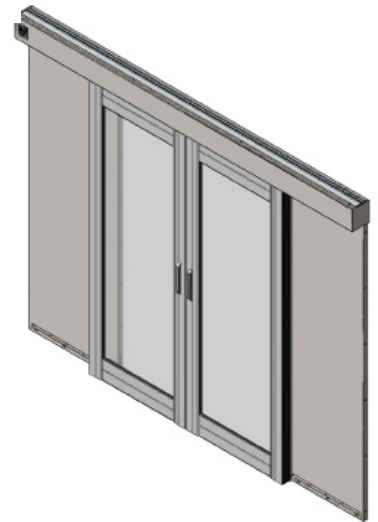| Aisle Containment Door Assembly		
Part Number & Finish		**Description**
Black	**Glacier White**	
Double Door		
32770-701	32770-E01	With Painted Door Frames
32770-702	32770-E02	With Anodized Aluminum Door Frames
Single Door, Opens To The Right		
32780-702	32780-E02	With Painted Door Frames
32780-704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

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

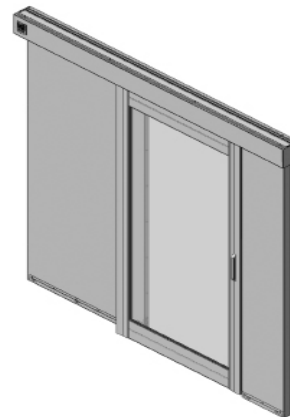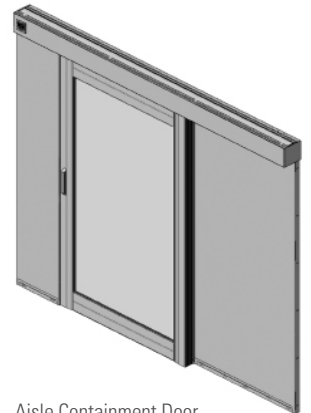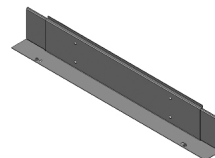| Door Top Seal Kit		
Part Number & Finish		**Description**
Black	**Glacier White**	
For Use With Door Standoff Kit		
32817-704	32817-E04	Adjusts from 48"W to 59"W (1219 mm to 1500 mm)
32817-705	32817-E05	Adjusts from 59"W to 70"W (1500 mm to 1775 mm)
32817-706	32817-E04	Adjusts from 70"W to 81"W (1775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

Universal Bulb Seal

Aisle Containment Door Assembly Double Door

Aisle Containment Door Assembly Single Door, Open to the Left

Aisle Containment Door Assembly Single Door, Open to the Right

Door Top Seal Kit

ORDERING INFORMATION

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"–91.4"H (2167 mm–2322 mm) Cabinets
32805-704	32805-E04	5"H (125 mm), For 82.6" -94.2"H (2098 mm -2393 mm) Cabinets
32805-705	32805-E05	10"H (254 mm), For 77.8"–98.9"H (1976 mm–2512 mm) Cabinets
For Use Without Door Standoff Kit		
32805-700	32805-E00	3"H (75 mm), For 85.3"–91.4"H (2167 mm–2322 mm) Cabinets
32805-701	32805-E01	5"H (125 mm), For 82.6" -94.2"H (2098 mm -2393 mm) Cabinets
32805-702	32805-E02	10"H (254 mm), For 77.8"–98.9"H (1976 mm–2512 mm) Cabinets

Door Mounting Bracket Kit
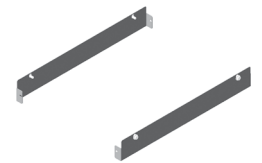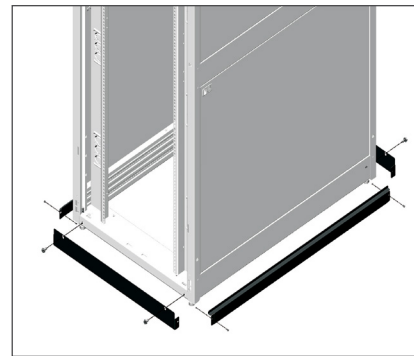
Note: Two versions, select for use with or without Door Standoff Kit.
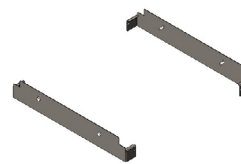
Cabinet To Floor Seal Kits
Place at the bottom of cabinets to seal the space between the bottom of the cabinet and the floor when leveling feet or casters are in use. Ideal for aisle containment applications.

Aisle Containment Cabinet To Floor Seal Kits		
Part Number & Finish		**Description**
Black	**Glacier White**	
Floor Seal Kits for ZetaFrame Cabinet		
39996-700	39996-E00	Front & Rear, For 23.6"W (600 mm) Cabinet
39996-701	39996-E01	Front & Rear, For 27.6"W (700 mm) Cabinet
39996-702	39996-E02	Front & Rear, For 29.5"W (750 mm) Cabinet
39996-703	39996-E03	Front & Rear, For 31.5"W (800 mm) Cabinet
39997-700	39997-E00	Side Seals, For 31.5"D (800 mm) Cabinet
39997-708	39997-E08	Side Seals, For 39.4"D (1000 mm) Cabinet
39997-710	39997-E10	Side Seals, For 41.3"D (1050 mm) Cabinet
39997-712	39997-E12	Side Seals, For 43.3"D (1100 mm) Cabinet
39997-X16	39997-E16	Side Seals, For 47.2"D (1200 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
Floor Seal Kits for F-Series TeraFrame and GF-Series GlobalFrame Cabinets		
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
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

Aisle Containment
Cabinet to Floor Front Seal Kit
for ZetaFrame Cabinet

39208-XXX, Aisle Containment
Cabinet to Floor Front Seal Kit

39209-XXX Aisle Containment
Cabinet to Floor Side Seal Kit

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
Use the Floor Mounting Template to locate door mounting holes on the floor.

Floor Mounting Template	
Part Number	**Description**
32875-701	For Aisle Containment Double-Door, Black
32875-702	For Aisle Containment Single Door, Black

Note: Reusable, order one per site.

Floor Mounting Template

Thermal Management Accessories
To maximize performance of the containment solution, it is critical to seal any gaps within and between cabinets and any openings in the floor or duct. CPI offers a number of options, including Snap-In Filler Panels and Raised Floor Grommets. For new installations that use CPI Cabinets, cabinet-specific panels are also 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.

Snap-In Filler Panel

Raised Floor Grommets	
Part Number	**Description**
13671-001	Raised Floor Grommets, Each, Black
13671-002	Raised Floor Grommets, Pack of 10, Black
13874-001	4" (102 mm) Round Raised Floor Grommet, with Hardware, Single, Black
13874-002	4" (102 mm) Round Raised Floor Grommet, with Hardware, 10 Pack, Black

Raised Floor Grommet

4" Round Grommet

HOW TO GET STARTED

The specific combination of components needed to create a complete BTS Hot Aisle Containment (HAC) Solution depends on a number of factors, including room layout, ceiling height and what types of cabinets 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 CPI solutions will provide desired results.

Item	Part Number	Description	Qty.
		Example Bill Of Materials (BOM) / BTS Hot Aisle Containment (HAC) Solution	
1	33000-713	BTS Kit, 96"H x 96"W x 282"L (2438 mm x 2438 mm x 7163 mm), Black	1
2	33003-002	Universal Bulb Seal, 96"L (2438 mm), Pack of 10	1
3	33002-701	Full Height Cabinet Blanking Panel, 94"H x 48"W (2387 mm to 1219 mm), Pack of 2	1
4	32770-702	Aisle Containment Double Door Assembly, Black with Anodized Door Frames	2
5	32870-701	Door Standoff Kit, for Double Door Assembly	2
6	32817-706	Door Top Seal Kit, For Use With Door Standoff Kit, 70"W to 81"W (1775 mm to 2050 mm)	2
7	32805-703	Door Mounting Bracket Kit, 3"H (75 mm)	2
		Recommended Accessories	
	32875-701	Installation Template, Aisle Containment Double Door Assembly	1
	34537-702	Snap-In Filler Panel, 1U x 19"EIA, Black, Pack of 50	2
	34538-702	Snap-In Filler Panel, 2U x 19"EIA, Black, Pack of 50	2
	13671-002	Raised Floor Grommet, 10 Pack, Black	2

Notes: This example BOM is based on a solution for the mix of 16 cabinets shown in the image to the right. Example calculations for determining the correct BTS Kit part number are listed below the image. Recommended Accessories include Thermal Management Accessories to seal the gaps within and around cabinets. Contact CPI Technical Support (techsupport@chatsworth.com) to develop a BOM for your site.

Required Measurements:
1. Floor to Ceiling Height   144" (3658 mm)
2. Maximum Cabinet Height   89.9" (2282 mm))
3. Maximum Cabinet Aisle Width   66" (1676 mm)
4. Cabinet Row Length   210" (5334 mm)

Required Calculations:
5. Containment Duct Height   54.1" (1476 mm)
   Floor to Ceiling Height minus Maximum Cabinet Height.
6. Containment Aisle Width   76" (1930 mm)
   Maximum Cabinet Aisle Width plus 10" (250 mm).
7. Containment Row Length   213" (5410 mm)
   Cabinet Row Length plus 3" (75 mm).

For a more detailed analysis of your site, CPI offers a Preinstallation 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 Preinstallation 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.

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