

# DYNAMAX®

## Structural Aluminum Suspension System



DynaMax Structural Aluminum Suspension System

This fully accessible and flexible system allows you to support heavy point loads to provide a solution for various ceiling applications and requirements.

### KEY SELECTION ATTRIBUTES

- Ideal combination of a finished ceiling system with a structural solution
- Easy integration into a conventional grid system using AXTBC clip and DynaMax® boss channels
- Integrates seamlessly with select Armstrong® ceiling panels for a complete ceiling system solution
- Supports up to a 900 lb. point load rating using 3/8"-16 threaded rod at 48" x 48" connection points
- Suspension system has continuous threaded boss channel, allowing 3/8"-16 threaded rod to be installed to the suspension system at any location
- Available in 24" x 24", 24" x 48" and 48" x 48" suspension system layouts
- CNC override feature creates a tight fit minimizing air leakage between plenum and occupied space
- Fully accessible system allows for future expansion and upgrades
- Non-progressive installation gives the ability to remove or replace a section of the system without the need to dismantle those components around it
- Cross tees not bearing any load are removable for plenum access without compromising the structural integrity of the system
- 10-Year Limited Warranty; 30-Year Limited System Warranty
- X-Brackets provide attachment points for 48" x 48" suspension from building structure
- Now available with MetalWorks™ ceiling panels
- For custom layout information and technical guidelines, contact TechLine customer support at 877 276-7876

### For Data Center Applications

- Provides a suspension platform or attachment for data center cable trays, equipment, partitions and hot and cold aisle containment barriers
- Finished ceiling system offers a containment barrier to protect servers from debris from building structure to below the ceiling plane
- Controls airflow by eliminating penetrations
- Grid provides increased temperature and pressure management, reduced leakage, and enables the best hot and cold air containment at the ceiling plane when compared to other ceiling types
- Available with Ultima® AirAssure® panels with factory-gasketed edges to provide even greater temperature and pressure management
- Lighting, diffuser, and containment options are available from our Data Center lighting and MEP partners

### TYPICAL APPLICATIONS

- Data Centers
- Laboratories
- Hospitals
- Industrial Warehouses/ Distribution Centers
- Retail/Convenience Store

### COLORS

Standard



White  
(WH)



Available in  
any color!

White is standard color for main beams and cross tees. All brackets and hardware are unfinished. Custom colors and finishes are available for main beams, cross tees, perimeter molding, and ceiling panels. Contact Armstrong Customer Service 877 276-7876

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SUSPENSION SYSTEMS – DATA CENTERS



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LEED® WELL | LBC

50% RECYCLED CONTENT

energy management

construction waste mgmt

regional materials

design for flexibility

EPD

recyclable/extended producer resp.

biobased materials

recycled content

sourcing of raw materials

material ingredient reporting

low emitting materials

lighting quality

acoustics

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armstrongceilings.com/greengenie

Well Building Standard™ (WELL)

Living Building Challenge® (LBC)

LOCATION DEPENDENT

### VISUAL SELECTION

	Item No.	Description	Dimensions (Inches) H x W x L	PCS/CTN	LF/CTN
DynaMax® Structural Aluminum Data Center Suspension System	DM4301	Main Beam	144 x 2 x 2-3/8"	4	48
	DM4340	4' Cross Tee	48 x 2 x 2-3/8"	12	48
	DM4320	2' Cross Tee	24 x 2 x 2-3/8"	12	24
	DM4800	Perimeter Molding	144 x 2-1/8 x 2-1/2"	4	48

NOTE: Contact local engineer for job specific load and/or seismic requirements.  
Factory gasketing available upon request.

### ACCESSORIES

**DMXB – X-Bracket**  
Used to connect all cross tees together for rigid connection

**DMXB – 24 PCS**

**DMTB – T-Bracket**  
Used to connect main beams and cross tees to the perimeter extrusion

**DMTB – 36 PCS**

**DMLB – L-Bracket**  
Used to connect perimeter extrusion corners together

**DMLB – 12 PCS**

**DMIB – I-Bracket**  
Used to splice together main beam ends

**DMIB – 12 PCS**

**DMHWK – Hardware Kit**  
Turnbuckles and threaded rods are used to connect the X-brackets to the threaded rod to create a structural support for the grid

**DMHWK – 12 PCS**

**DMBSP – DynaMax Main Beam Splice Platet**  
Used with DMIB I-Bracket to splice together main beams that butt up against one another

**DMBSP – 12 PCS**

### DETAILS

DynaMax Main Beam

DM4800 Perimeter Molding

### LOAD DATA FOR DYNAMAX SUSPENSION SYSTEMS

Member Span and Spacing (IN.)	48"	60"	72"
Maximum Allowable Uniform Area Load (LBS/SF)	56.25	45	37.5
Mid-Span Point Load @ L/360 Deflection (LBS)	320	200	140
Maximum Static Point Load (LBS)	900	900	900
Turnbuckle Maximum Load to Structure (LBS)	900	900	900

For additional load-carrying capability, ask your Armstrong® Rep about DynaMax® Plus Structural Grid System.

### OPTIONAL ACCESSORIES

**DMHDC – Hold-down Clip**  
Attaches to the suspension system to hold Lay-in panels in place

**DMHDC – 100 PCS**

**DM3FGSKT – Main Beam and Cross Tee Field Gasket for DynaMax**  
Field Gasket option for DynaMax Main Beams and Cross Tees

**DM3FGSKT – 108 LF/roll**

**DM8FGSKT – Perimeter Molding Field Gasket for DynaMax**  
Field Gasket option for DynaMax Perimeter Molding

**DM8FGSKT – 10 LF/roll**

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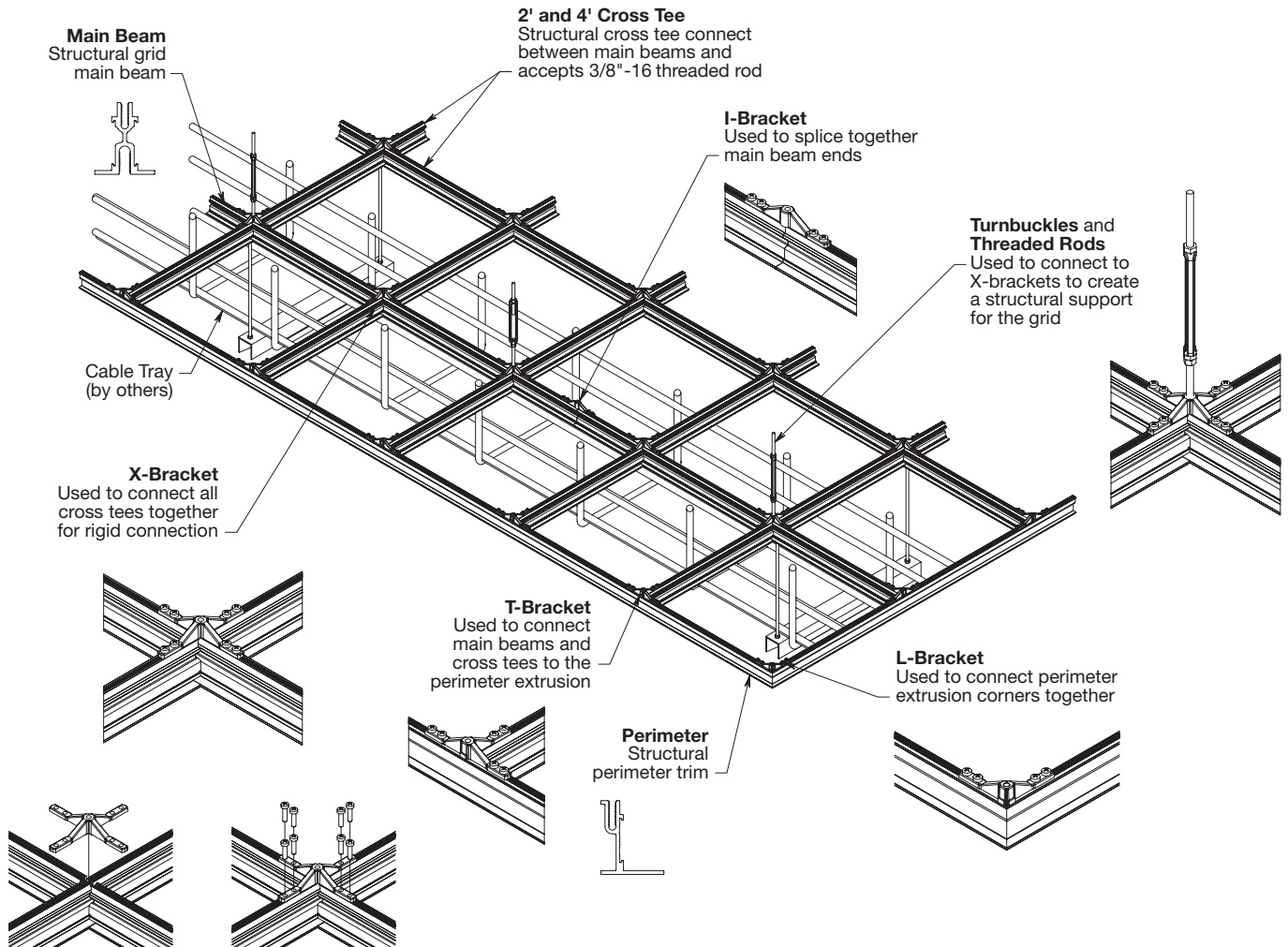
50% RECYCLED CONTENT

energy management	construction waste mgmt	regional materials	design for flexibility	ALUMI-NUM	EPD	recyclable/ biobased materials	producer resp.	recycled content	sourcing of raw materials	material ingredient reporting	low emitting/ materials	lighting quality	acoustics
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LOCATION DEPENDENT	Well Building Standard™ (WELL)	Living Building Challenge® (LBC)
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### DYNAMAX® SUSPENSION SYSTEM INSTALLATION OVERVIEW



SUSPENSION SYSTEMS – DATA CENTERS

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LOCATION DEPENDENT

Well Building Standard® (WELL)  
Living Building Challenge® (LBC)

**CEILING PANELS** Ceiling panels are specially sized and engineered for the DynaMax & DynaMax® Plus suspension systems and must be used with the systems. These panels do not fit in other suspension systems.

Dots represent high level of performance.

Edge Profile	Item No.	Dimensions (Inches) H x W x L	Sound Absorption NRC	Sound Blocking CAC	Total Acoustics¹ NRC + CAC	Articulation Class AC	Fire Performance	Light Reflect	Bio-Block Mold & Mildew Protection	Humi-Guard+ Sag Resistant	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
FINE FISSURED™ for DYNAMAX® Square Lay-in	4126	23-1/4 x 23-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	0.82	*	*	*	Std	Std	*	*
	4126BL (Black)	23-1/4 x 23-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	N/A	*	*	*	Std	Std	*	*
	4127	23-1/4 x 47-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	0.82	*	*	*	Std	Std	*	*
	4127BL (Black)	23-1/4 x 47-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	N/A	*	*	*	Std	*	*	*
CALLA® for DYNAMAX Square Lay-in	2896	23-1/4 x 23-1/4 x 1"	0.85	35	BEST	170	Class A	0.85	*	*	*	*	*	*	*
	2896BK (Black)	23-1/4 x 23-1/4 x 1"	0.85	35	BEST	170	Class A	N/A	*	*	*	*	*	*	*
	2897	23-1/4 x 47-1/4 x 1"	0.85	35	BEST	170	Class A	0.85	*	*	*	*	*	*	*
	2897BK (Black)	23-1/4 x 47-1/4 x 1"	0.85	35	BEST	170	Class A	N/A	*	*	*	*	*	*	*
DUNE™ for DYNAMAX Square Lay-in	4270	23-1/4 x 23-1/4 x 5/8"	0.50	35	N/A	N/A	Class A	0.81	*	*	*	*	*	*	*
	4271	23-1/4 x 47-1/4 x 5/8"	0.50	35	N/A	N/A	Class A	0.81	*	*	*	*	*	*	*
ULTIMA® for DYNAMAX Square Lay-in	1807	23-1/4 x 23-1/4 x 3/4"	0.75	35	BETTER	170	Class A	0.88	*	*	*	*	*	*	*
	1808	23-1/4 x 47-1/4 x 3/4"	0.75	35	BETTER	170	Class A	0.88	*	*	*	*	*	*	*
ULTIMA® AirAssure® for DYNAMAX Square Lay-in	new 1599	23-1/4 x 23-1/4 x 3/4"	0.75	35	BETTER	N/A	Class A	0.88	*	*	*	*	*	*	*
	new 1638	23-1/4 x 47-1/4 x 3/4"	0.75	35	BETTER	N/A	Class A	0.88	*	*	*	*	*	*	*
OPTIMA® PB for DYNAMAX Square Lay-in	3210PB	47-5/16 x 47-5/16 x 1"	0.95	N/A	N/A	190	Class A	0.88	*	*	*	*	*	*	*

¹ Total Acoustics® ceiling panels have an ideal combination of sound absorption and sound blocking in one product.  
GOOD (NRC 0.60-0.65; CAC 35+) BETTER (NRC 0.70-0.75; CAC 35+) BEST (NRC 0.80+; CAC 35+)





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Well Building Standard™ (WELL) Living Building Challenge® (LBC)

### VISUAL SELECTION

Edge Profile	Perforation	Item No.	Dimensions (Inches)
METALWORKS™ for DYNAMAX®		<b>6345W24L48M1WHA</b>	23" × 47"
Square Lay-in	M1 (Unperforated)		
		<b>6345W48L48M1WHA</b>	47" × 47"
		<b>6345W24L48M19WHA</b>	23" × 47"
	M19		
		<b>6345W48L48M19WHA</b>	47" × 47"

### PERFORMANCE

Dots represent high level of performance.

NRC with acoustical fleece	NRC with 1" fiberglass infill*	Fire Performance	Light Reflect	Mold & Mildew Protection	Certified Low VOC Emissions	Durability	Recycled Content
N/A	N/A	Class A	0.75	*	*	*	*
N/A	N/A	Class A	0.75	*	*	*	*
0.70	0.85	Class A	0.75	*	*	*	*
0.70	0.85	Class A	0.75	*	*	*	*

Ceiling panels are specially sized and engineered for the DynaMax and DynaMax Plus suspension systems and must be used with the systems. These panels do not fit in other suspension systems.  
\* NRC achieved with acoustical infill (Item 8200T10).

### COLORS

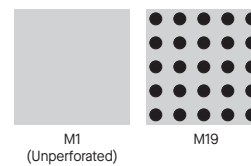
Due to printing limitations, shade may vary from actual product.

#### Painted



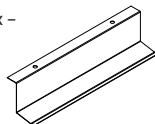
### PERFORATION OPTIONS

(1:2 scale shown)



### ACCESSORIES FOR METALWORKS LAY-IN CEILING PANELS

**6483 – MetalWorks Lay-In Perimeter Hold-down Clip for DynaMax –**  
Screw attaches to perimeter molding to hold the perimeter cut metalworks panels in place. 2 clips required per cut panel.



6483 – 10 pcs

**8200T10 – 1" Fiberglass Infill Bag –**  
24 × 24 × 1"  
Color – Black (gloss)

8200T10 – 12 PCS

### PHYSICAL DATA FOR METALWORKS LAY-IN CEILING PANELS

**Design Considerations**  
MetalWorks panels and DynaMax grid are manufactured at separate facilities that use different paint systems. Colors i.e. White and Whitelume will coordinate but are not exact color matches.

**Material**  
All MetalWorks panels: Aluminum - 0.064"

**Warranty**  
One (1) year limited warranty for MetalWorks items. Details at [armstrongceilings.com/warranty](http://armstrongceilings.com/warranty)

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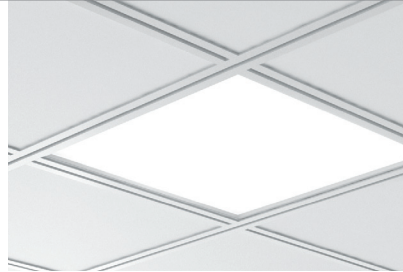
LOCATION DEPENDENT

Well Building Standard™ (WELL) Living Building Challenge® (LBC)

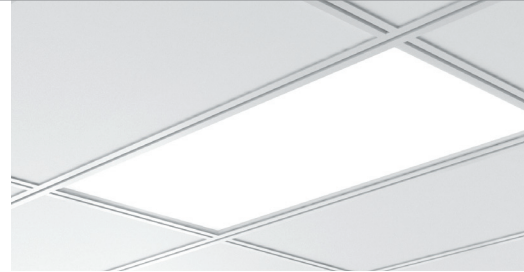
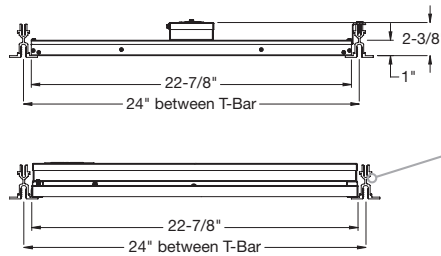
**LIGHTING PARTNERS** Lighting and diffuser solutions are available through partner companies.



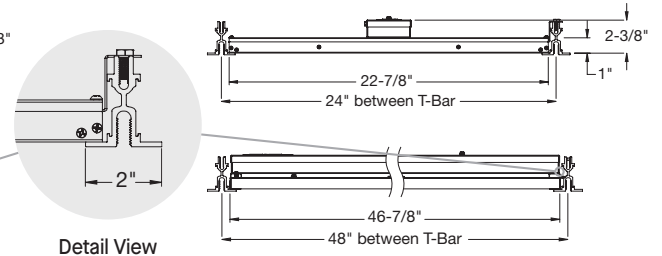
For compatible lighting details, visit [axislighting.com](http://axislighting.com)



TRAYFIT™ 2' x 2'



TRAYFIT™ 2' x 4'



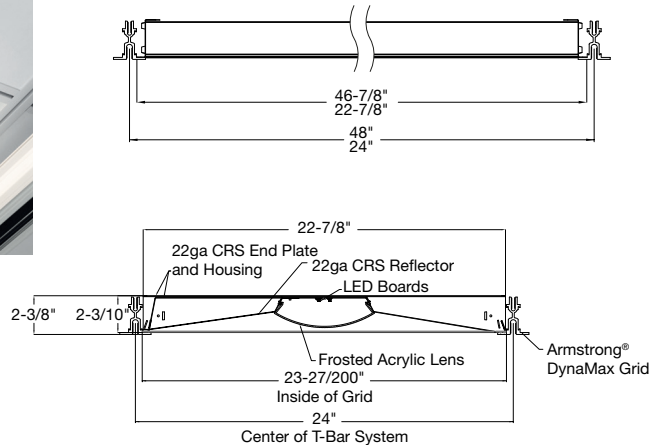
Detail View



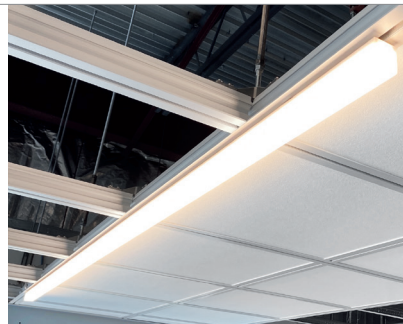
For compatible lighting details, visit [hew.com/products/PTDC](http://hew.com/products/PTDC)



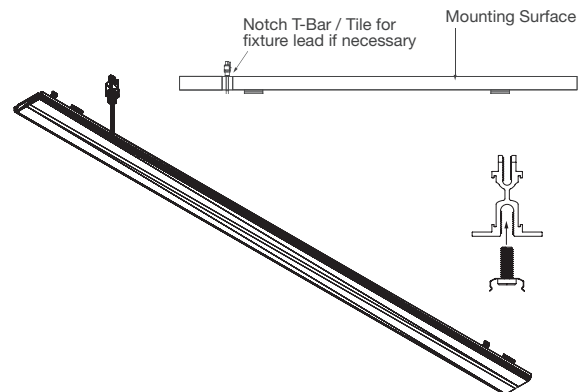
PTDC - Shallow Plenum LED Troffer for DynaMax® System



For compatible lighting details, visit [vode.com/dynamax](http://vode.com/dynamax)



ZipTwo® Data Center Solutions



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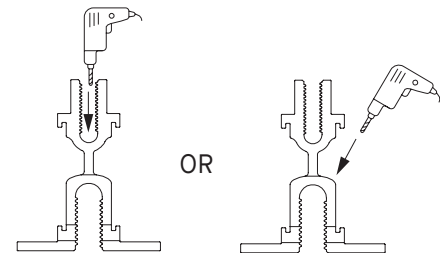
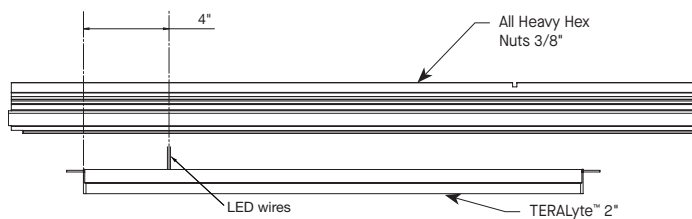
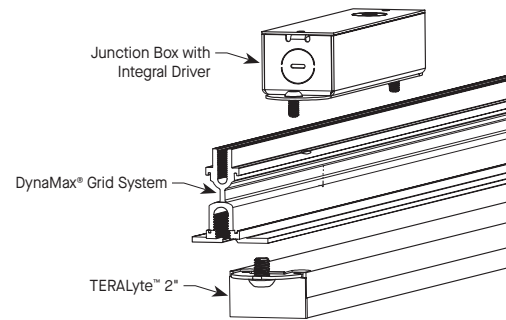
LOCATION DEPENDENT

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### LIGHTING PARTNERS (CONTINUED)



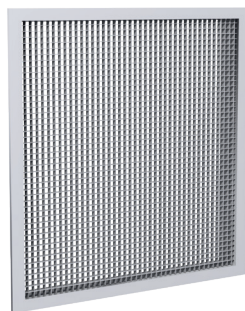
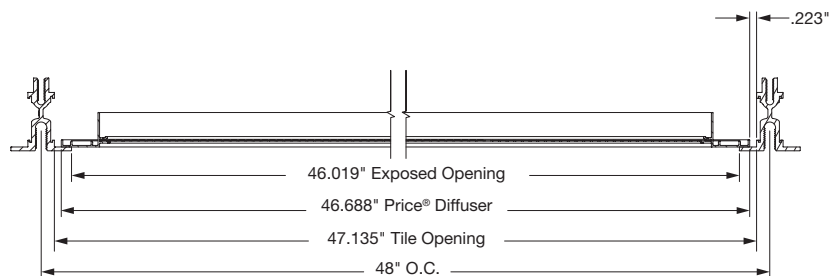
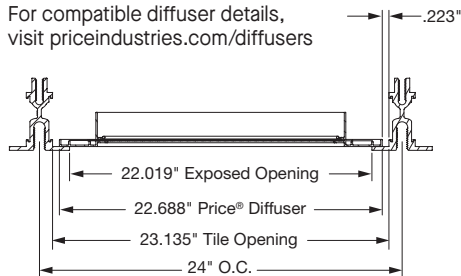
For compatible lighting details, visit [jlc-tech.com](http://jlc-tech.com)



### MEP PARTNER



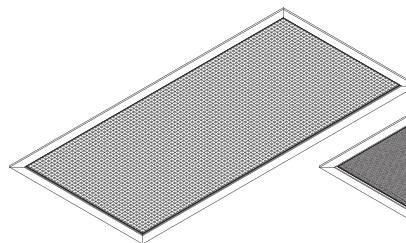
For compatible diffuser details, visit [priceindustries.com/diffusers](http://priceindustries.com/diffusers)



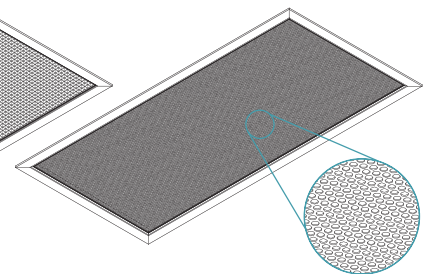
Eggcrate Air Device - Price® Model 80



Perforated Air Device - Price® Model 10



Eggcrate Air Device - Price® Model 80



Perforated Air Device - Price® Model 10

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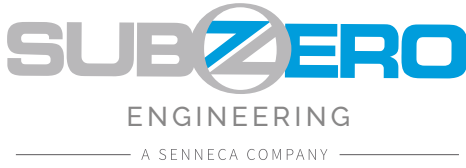
ALUMI-NUM

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LOCATION DEPENDENT

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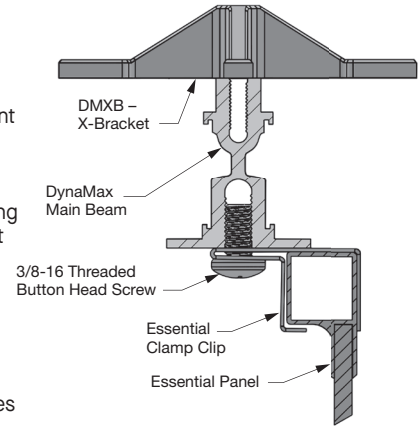
### DATA CENTER CONTAINMENT PARTNER



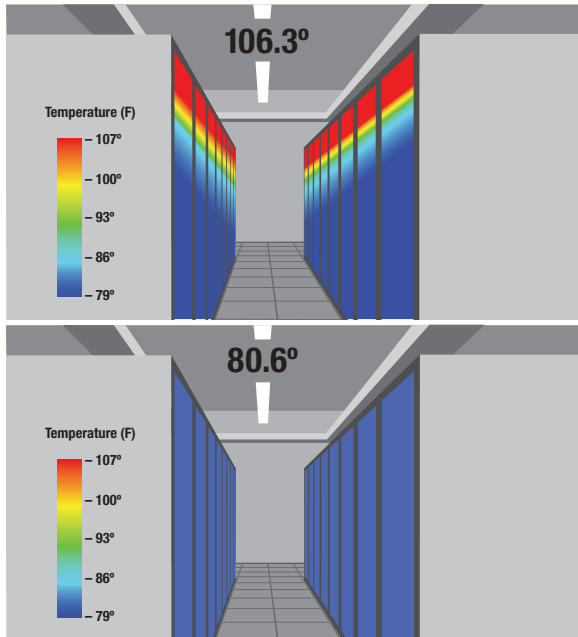
For more data center containment details, visit [subzeroeng.com](http://subzeroeng.com)

The Subzero Engineering and Armstrong World Industries partnership is the latest development in the portfolio expansion of data center products and services, seamlessly combining structural ceiling solutions with high performing and energy efficient air containment systems.

The Subzero Essential Clamp Clip (shown right) was designed specifically for integrating Subzero Essential Series Wall Panels with DynaMax® main beams. This provides easier attachment and improved installation efficiency.



### TEMPERATURE AND PRESSURE CONTROL ADVANTAGES



DynaMax structural grid system provides increased pressure management, reduced leakage, and enables the best hot and cold air containment at the ceiling plane when compared to other ceiling types.

Unlike drilled hole or slotted strut ceilings, the integration of DynaMax grid and Armstrong® Ceiling panels keeps ceiling planes closed for improved pressure and temperature control where it matters most, such as data center halls.

A 2021 Computational Fluid Dynamics (CFD) simulation showed that, on average, the top of data center cabinet equipment is approx. 26°F warmer when a slotted strut ceiling (top left) is in place and approx. 6°F warmer with drilled hole ceiling (not shown) than with the DynaMax structural grid system (bottom left).

### PHYSICAL DATA

**Material**  
Aluminum

**Surface Finish**  
Baked polyester paint or powder coated

Manufactured and tested in accordance with ASTM C635 and E3090

**Face Dimension**  
2"

**Profile**  
Exposed tee

**Cross Tee/Main Beam Interface**  
Override

**End Detail**  
Main Beam: Butt cut

**Cross Tee: Override**

**Duty Classification**  
Heavy-duty

### CEILING PANELS PHYSICAL DATA

**Ceiling Panels ASTM E1264 Classification**

Type XII, Form 2, Pattern E

Fire Class A

500 SF minimum

**Pieces/Carton;**

**Square Feet/Carton**

4126 - 16 PCS/CTN; 58 SF/CTN

4126BL - 16 PCS/CTN; 58 SF/CTN

4127 - 12 PCS/CTN; 90 SF/CTN

4127BL - 12 PCS/CTN; 90 SF/CTN

2896 - 10 PCS/CTN; 36 SF/CTN

2896BK - 10 PCS/CTN; 36 SF/CTN

2897 - 6 PCS/CTN; 44 SF/CTN

2897BK - 6 PCS/CTN; 44 SF/CTN

4270 - 16 PCS/CTN; 58 SF/CTN

4271 - 8 PCS/CTN; 58 SF/CTN

1807 - 12 PCS/CTN; 44 SF/CTN

1808 - 6 PCS/CTN; 44 SF/CTN

1599 12 PCS/CTN; 44SF/CTN

1638 6 PCS/CTN; 44 SF/CTN

3210PB - 6 PCS/CTN; 93 SF/CTN

TechLine / 1 877 276-7876  
[armstrongceilings.com/datacenter](http://armstrongceilings.com/datacenter)  
BPCS-6273-124

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