

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 1,200 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

TechLine 877 276-7876
armstrongceilings.com/datacenter

Armstrong®
World Industries

SUSPENSION SYSTEMS – DATA CENTERS



DYNAMAX®

Structural Aluminum Suspension System



LEED® WELL™ LBC

energy management

construction waste mgmt

regional materials

design for flexibility

EPD

recyclable/extended producer resp.

50% RECYCLED CONTENT

ALUMI-NUM

biobased materials

recycled content

sourcing of raw materials

material ingredient reporting

low emitting materials

lighting quality

acoustics

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Well Building Standard™ (WELL)

Living Building Challenge® (LBC)

LOCATION DEPENDENT

VISUAL SELECTION

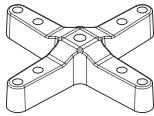
	Item No.	Description	Dimensions (Inches) H x W x L	PCS/ CTN	LF/ CTN
DynaMax® Structural Aluminum Data Center Suspension System	DM4301	Main Beam	144 x 2 x 2-3/8"	4	48
	DM4340	4' Cross Tee	48 x 2 x 2-3/8"	12	48
	DM4320	2' Cross Tee	24 x 2 x 2-3/8"	12	24
	DM4800	Perimeter Molding	144 x 2-1/8 x 2-1/2"	4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

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

PACKAGING

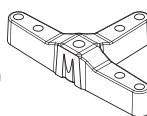
ACCESSORIES

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



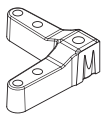
DMXB – 24 PCS

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



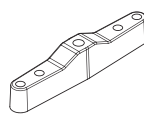
DMTB – 36 PCS

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



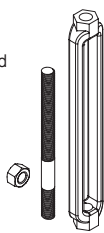
DMLB – 12 PCS

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



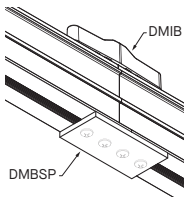
DMIB – 24 PCS

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

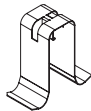
DMBSP – DynaMax Main Beam Splice Plate
Used with DMIB I-Bracket to splice together main beams that butt up against one another



DMBSP – 24 PCS

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

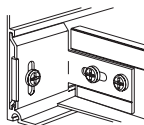
DM3FGSKT – 108 LF/roll

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

DM8FGSKT – 10LF/roll

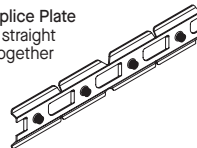
NON-STRUCTURAL CEILING ADAPTER ACCESSORIES

AXTBC – Axiom® T-Bar Connector Clip
Provides positive mechanical lock with factory-installed screw. Screw-fastened connection to suspension members that intersect the trim channel.



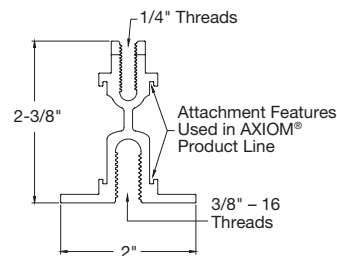
AXTBC – 1 PC

AX4SPICEB – Axiom Splice Plate with Set Screws
Join straight sections of light cove together

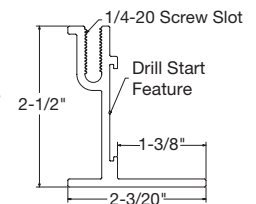


AX4SPICEB – 1 PC

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)	75	48	33.3
Mid-Span Point Load @ L/360 Deflection (LBS)	320	200	140
Maximum Static Point Load (LBS)	1200	1200	1200
Turnbuckle Maximum Load to Structure (LBS)	1200	1200	1200

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

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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.	biobased materials	recycled content	sourcing of raw materials	material ingredient reporting	low emitting/ materials	lighting quality	acoustics
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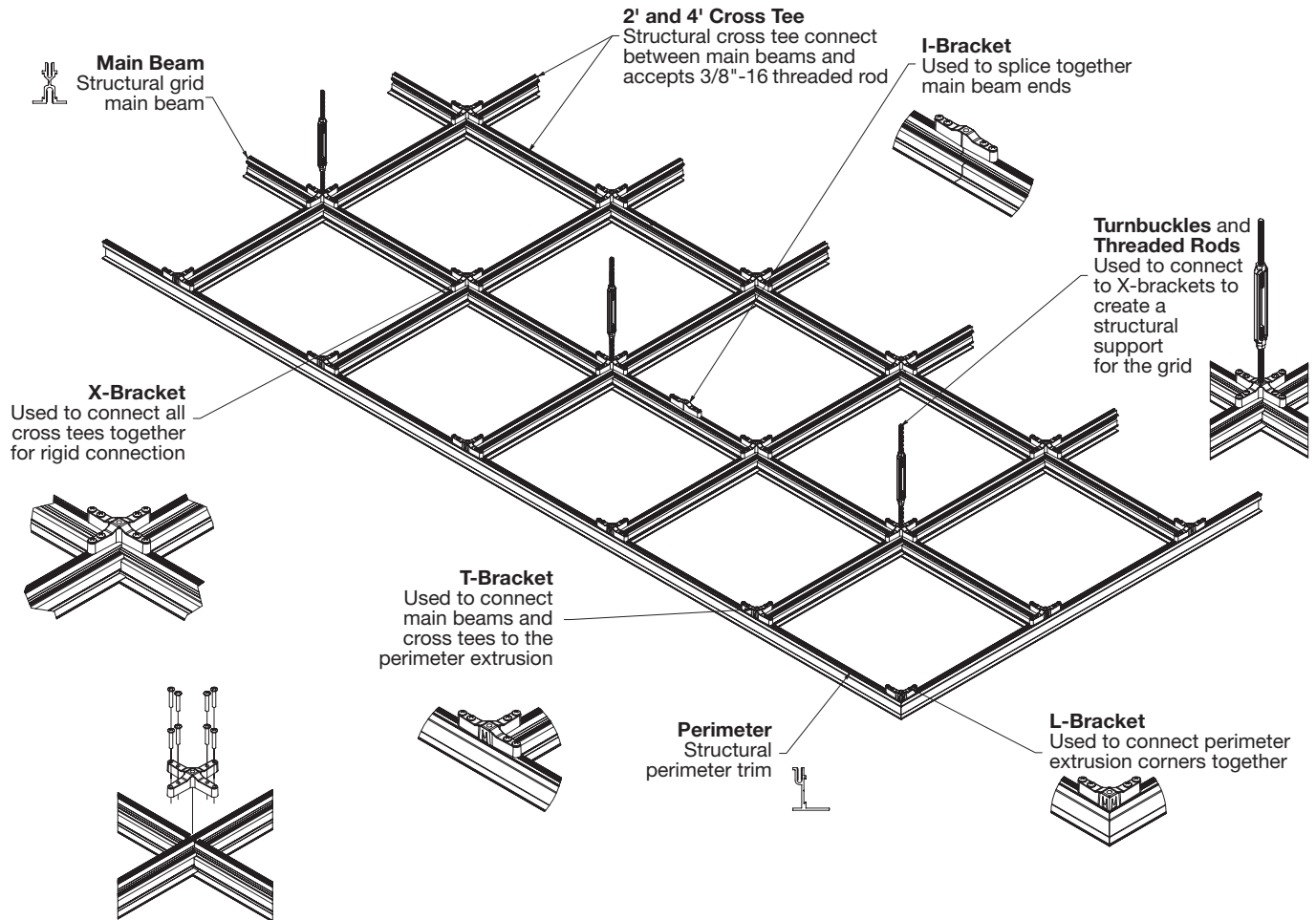
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LOCATION DEPENDENT

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

DYNAMAX® SUSPENSION SYSTEM INSTALLATION OVERVIEW



SUSPENSION SYSTEMS – DATA CENTERS

DYNAMAX®

Structural Aluminum Suspension System



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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 Acoustics ¹ 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	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	new 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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50% RECYCLED CONTENT

energy management

construction waste mgmt

regional materials

design for flexibility

EPD

recyclable/ biobased producer resp.

biobased materials

recycled content

sourcing of raw materials

material ingredient reporting

low emitting/ materials

lighting quality

acoustics

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VISUAL SELECTION

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

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* NRC achieved with acoustical infill (Item 8200T10).

COLORS

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

Painted



Whitelume (WHA)



Custom Colors Available

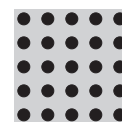
For custom options contact ASQuote, ASQuote@armstrongceilings.com

PERFORATION OPTIONS

(1:2 scale shown)



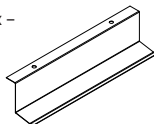
M1 (Unperforated)



M19

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

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50% RECYCLED CONTENT



LOCATION DEPENDENT

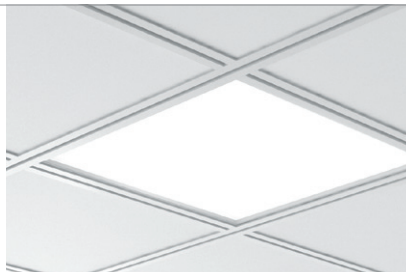
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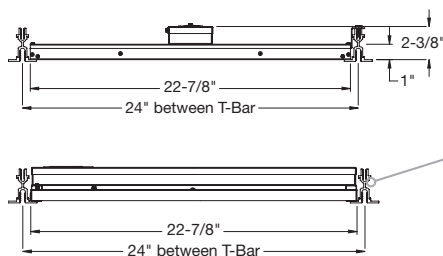
LIGHTING PARTNERS Lighting and diffuser solutions are available through partner companies.



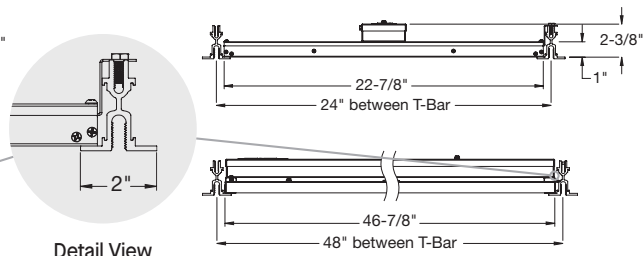
For compatible lighting details, visit axislighting.com



TRAYFIT™ 2' x 2'



TRAYFIT™ 2' x 4'



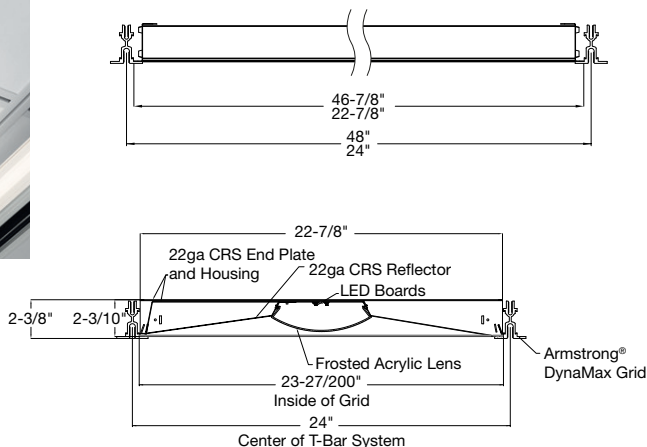
Detail View



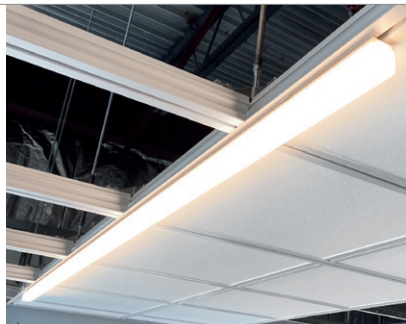
For compatible lighting details, visit hew.com/products/PTDC



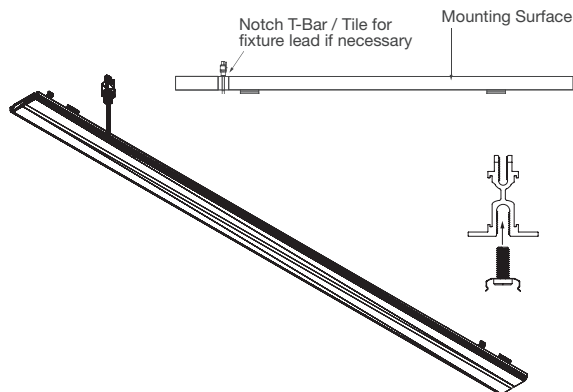
PTDC – Shallow Plenum LED Troffer for DynaMax® System



For compatible lighting details, visit vode.com/dynamax



ZipTwo® Data Center Solutions



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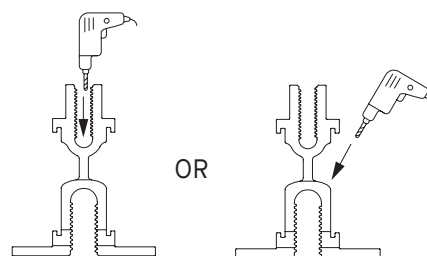
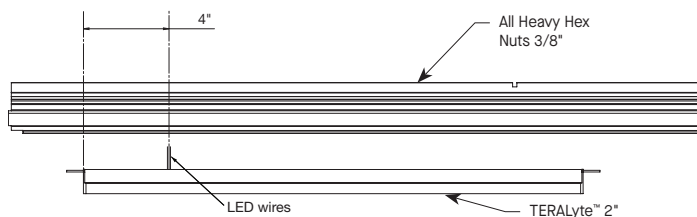
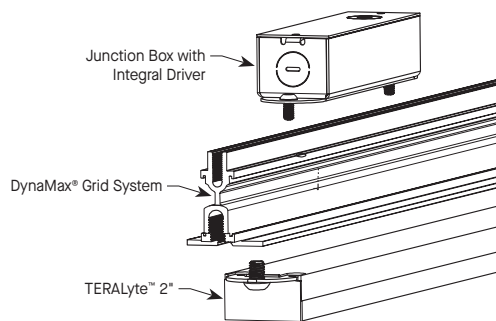
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LIGHTING PARTNERS (CONTINUED)



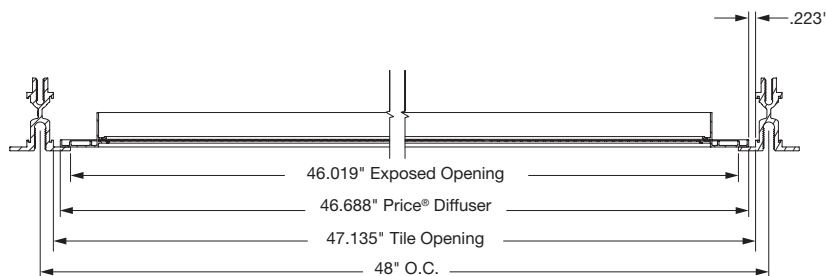
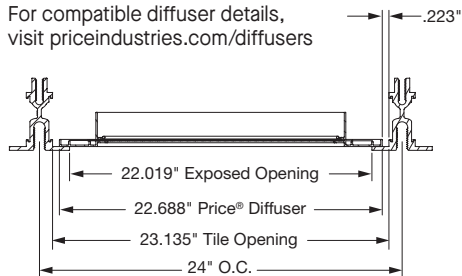
For compatible lighting details, visit jlc-tech.com



MEP PARTNER



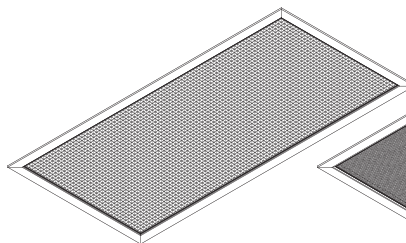
For compatible diffuser details, visit priceindustries.com/diffusers



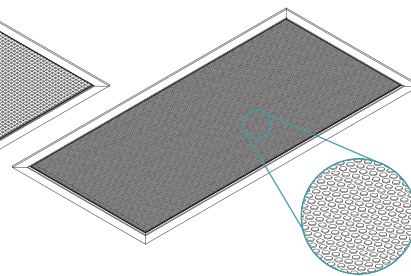
Eggcrate Air Device - Price® Model 80



Perforated Air Device - Price® Model 10



Eggcrate Air Device - Price® Model 80



Perforated Air Device - Price® Model 10

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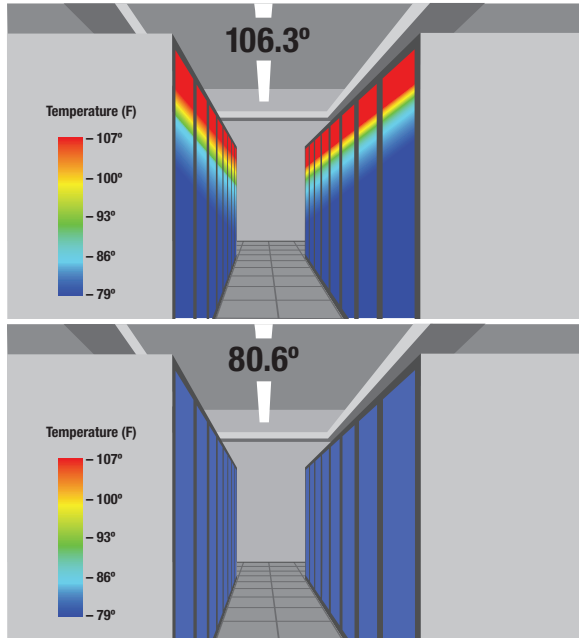
acoustics

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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	Cross Tee/Main Beam Interface
Aluminum	Override
Surface Finish	End Detail
Baked polyester paint or powder coated	Main Beam: Butt cut
Manufactured and tested in accordance with ASTM C635 and E3090	Cross Tee: Override
Face Dimension	Duty Classification
2"	Heavy-duty
Profile	System Weight
Exposed tee	2' x 2' Grid 1.25 LBS/SF
	2' x 4' Grid 0.94 LBS/SF

CEILING PANELS PHYSICAL DATA

Ceiling Panels ASTM E1264 Classification	2896BK – 1.0 LBS/SF; 10 PCS/CTN; 36 SF/CTN
Type XII, Form 2, Pattern E	2897 – 1.0 LBS/SF; 6 PCS/CTN; 44 SF/CTN
Fire Class A	2897BK – 1.0 LBS/SF; 6 PCS/CTN; 44 SF/CTN
500 SF minimum	4270 – 0.94 LBS/SF; 16 PCS/CTN; 58 SF/CTN
Pieces/Cartron;	4271 – 0.88 LBS/SF; 8 PCS/CTN; 58 SF/CTN
Square Feet/Cartron	1807 – 1.08 LBS/SF; 12 PCS/CTN; 44 SF/CTN
4126 – 1.05 LBS/SF; 16 PCS/CTN; 58 SF/CTN	1808 – 1.08 LBS/SF; 6 PCS/CTN; 44 SF/CTN
4126BL – 1.05 LBS/SF; 16 PCS/CTN; 58 SF/CTN	1599 – 1.08 LBS/SF; 12 PCS/CTN; 44SF/CTN
4127 – 1.05 LBS/SF; 12 PCS/CTN; 90 SF/CTN	1638 – 1.08 LBS/SF; 6 PCS/CTN; 44 SF/CTN
4127BL – 1.05 LBS/SF; 12 PCS/CTN; 90 SF/CTN	3210PB – 0.45 LBS/SF; 0.45 LBS/SF; 6 PCS/CTN; 93 SF/CTN
2896 – 1.0 LBS/SF; 10 PCS/CTN; 36 SF/CTN	