



Armstrong®
World Industries

Data Center

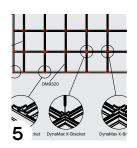
Ceiling Solutions

# Data Center Design: STRENGTH Where you need it most

Data Centers come with their own set of design challenges. See how we've made it easier to get the high-strength solutions you need for your unique project.



DynaMax®, DynaMax® LT, and DynaMax® Plus Structural Aluminum Suspension Systems



Suspension System Installation and Layout Overview



Lighting, Diffuser, and Containment Partners



Recommended Ceiling Panels for DynaMax



Continuous Load Path (CLP) for Prelude® XL®



Prelude® XL Max® 15/16" Suspension System



Recommended Ceiling Panels for Prelude XL Max

DynaMax Structural Aluminum Grid ▶





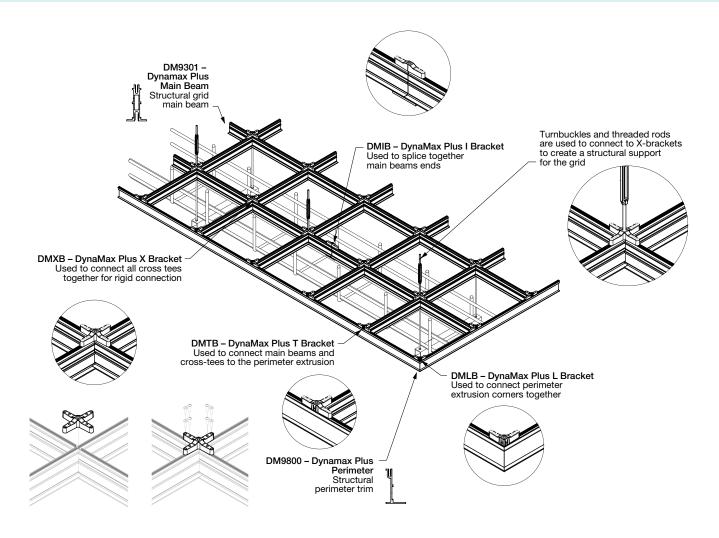
# DynaMax<sup>®</sup>, DynaMax<sup>®</sup> LT & DynaMax<sup>®</sup> Plus Suspension Systems

Provides an attachment platform for cable trays, equipment partitions, and hot and cold containment barriers from the structure to below the ceiling plane while eliminating penetrations through the ceiling.

KEY SELECTION ATTRIBUTES	DynaMax Structural Grid	DynaMax LT Structural Grid	DynaMax Plus Structural Grid
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			•
Integrate 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" $\times$ 48" connection points	•		•
Factory-cut notches on main beams for faster and easier installation	•	•	•
Factory gasketing available	•	•	•
Suspension system has continuous threaded boss channel, allowing 3/8"-16 threaded rod to be installed to the suspension system at any location	•	•	•
X-Brackets attachment points for 48" $\times$ 48" suspension from building structure	•	•	•
Available in 24" × 24", 24" × 48", and 48" × 48" suspension system layouts	•	•	•
Fully accessible system allows for future expansion and upgrade	•		•
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 Suspension System Warranty; 30-Year Limited Ceiling System Warranty	•	•	•
Allows for longer spans (6' and 8') while also providing greater load-carrying capacity			•
6' spacing allows for direct attachment to steel joists or pre-cast concrete tees			•
Eliminate 1/3 or 1/2 of threaded rods/accessories utilized today for typical 48" hanging spans			
Supports point loads of up to 1,090 lbs. at the mid-point of 4' spans (up to 1,850 lbs. for static point loads)			•
DATA CENTER-SPECIFIC ATTRIBUTES			
Provides a suspension platform or attachment for data center cable trays, equipment, partitions and hot and cold aisle containment barriers from building structure to below the ceiling plane			
Finished ceiling system offers a containment barrier to protect servers from debris			•
Controls airflow by eliminating ceiling 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			

# DynaMax<sup>®</sup>, DynaMax<sup>®</sup> LT & DynaMax<sup>®</sup> Plus Suspension Systems

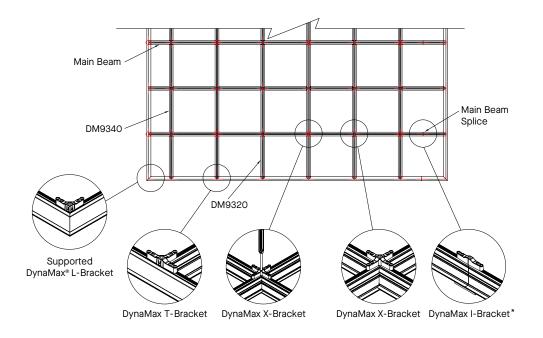
How It Works



NOTE: Although the installation layout above is shown with DynaMax Plus grid system details, the same layout and brackets are used with the standard DynaMax system. DynaMax LT uses the Main Beam Splice (DMMBS) in place of the DynaMax I-Bracket

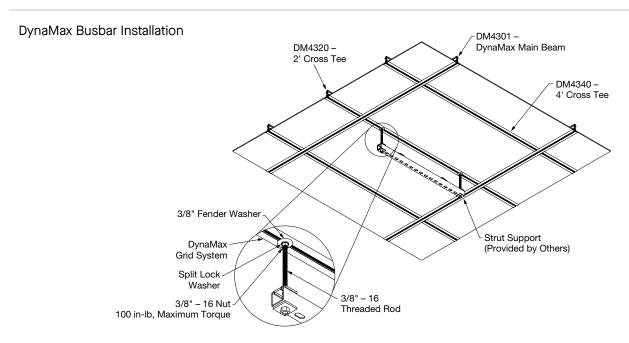
# DynaMax<sup>®</sup>, DynaMax<sup>®</sup> LT & DynaMax<sup>®</sup> Plus Suspension Systems

Installation & Layout Overview



NOTE: DynaMax Plus threaded rod drops can be spaced at increased spans of 6' or 8' due to the system's greater load-carrying capability.

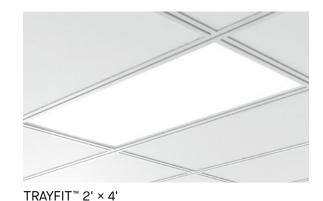
<sup>\*</sup> DynaMax LT uses the Main Beam Splice (DMMBS) in place of the DynaMax I-Bracket.



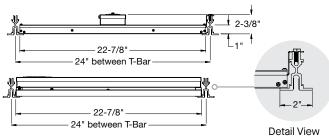
# DynaMax®, DynaMax® LT & DynaMax® Plus Integrated Lighting Solutions

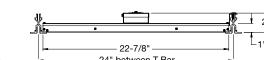


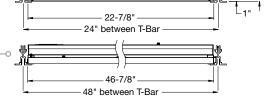




TRAYFIT™ 2' × 2'



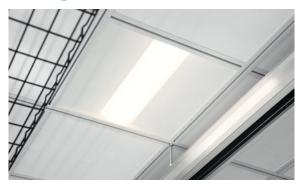




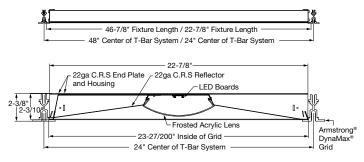
For compatible lighting details, visit axislighting.com



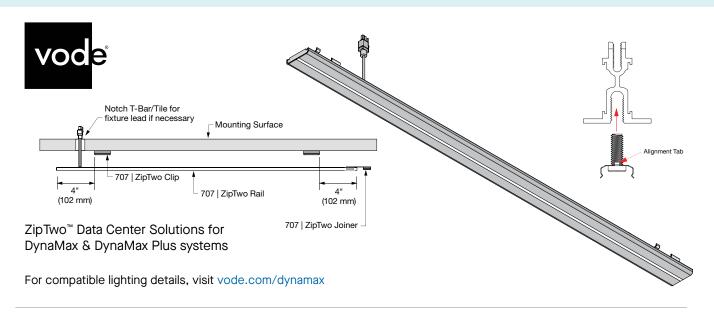
**NOTE:** In the section that follows, standard DynaMax grid is featured in the partner drawings; however, these partner solutions are all compatible with DynaMax Plus grid.

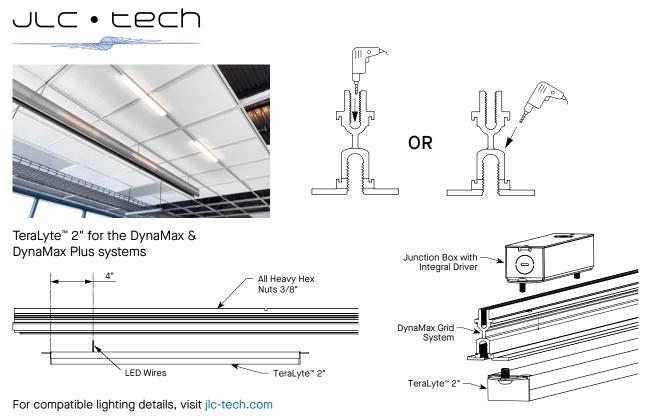


PTDC – Shallow Plenum LED Troffer for DynaMax & DynaMax Plus Systems



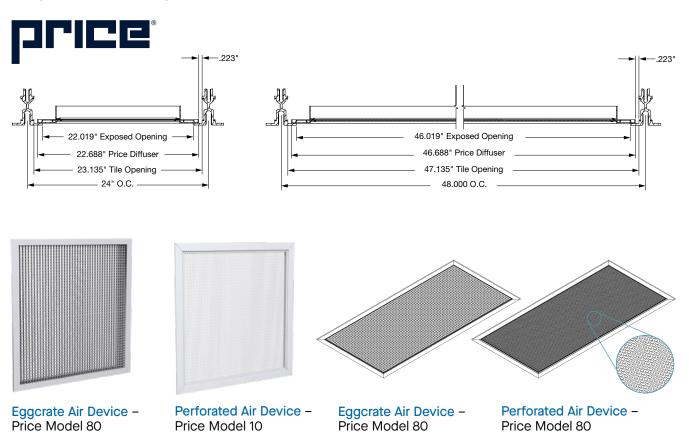
# DynaMax®, DynaMax® LT & DynaMax® Plus Integrated Lighting Solutions





# DynaMax<sup>®</sup>, DynaMax<sup>®</sup> LT & DynaMax<sup>®</sup> Plus Additional Solution Partners

#### INTEGRATED MEP PARTNERS



For compatible diffuser details, visit priceindustries.com/diffusers

# High Performance

Ceiling Panel Selections for DynaMax®, DynaMax® LT & DynaMax® Plus Suspension Systems

VISUAL SELECTION					PERFORMANCE SELECTION Dots represent high level of performance.										
Edge Profile		Item No.	Dimensions (Inches)	Sound Absorption +	Sound Blocking	Total Acoustics¹	Fire Performance	Light Reflect*	Midew Apolga Protection Apolg	Sag +brand Resistant	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
	hen	1508	23-1/4 × 23-1/4 × 3/4"	0.75	35	BETTER	Class A	0.82	•	•	•	Std	0	•	•
Square Lay-in	hen	1508BK	23-1/4 × 23-1/4 × 3/4"	0.75	35	BETTER	Class A	N/A	٠	0	٠	Std	•	•	0
	hen	1509	23-1/4 × 47-1/4 × 3/4"	0.75	35	BETTER	Class A	0.82	۰	•	٠	Std	0	۰	•
	hen	1509BK	23-1/4 × 47-1/4 × 3/4"	0.75	35	BETTER (III)	Class A	N/A	•	۰	٠	Std	•	•	0
	hen	1566	23-1/4 × 23-1/4 × 3/4"	0.90	N/A	N/A	Class A	0.82	•	۰	٠	Std	•	•	•
	hen)	1566BK	23-1/4 × 23-1/4 × 3/4"	0.90	N/A	N/A	Class A	N/A	۰	•	۰	Std	0	۰	•
	hen	1567	23-1/4 × 47-1/4 × 3/4"	0.90	N/A	N/A	Class A	0.82	٠	۰	۰	Std	0	۰	۰
	few	1567BK	23-1/4 × 47-1/4 × 3/4"	0.90	N/A	N/A	Class A	N/A	۰	۰	0	Std	0	۰	•
	hen	1568	47-1/4 × 47-1/4 × 1"	0.90	N/A	N/A	Class A	0.82	٠	۰	٠	Std	0	۰	۰
ULTIMA® AirAssure® for DYNAMAX		1599	23-1/4 × 23-1/4 × 3/4"	0.75	35	BETTER	Class A	0.88	۰	٠	٠	۰	۰	۰	۰
Square Lay-in		1638	23-1/4 × 47-1/4 × 3/4"	0.75	35	BETTER	Class A	0.88	•	•	•	•	•	•	•

<sup>\*</sup> Advertised values for light reflectance are applicable to white tiles only

Ceiling panels are specially sized and engineered for the DynaMax suspension systems and must be used with the systems. These panels do not fit in other suspension systems.

<sup>&</sup>lt;sup>1</sup> 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+)



## High Performance

MetalWorks™ Ceiling Panel Selections for DynaMax® & DynaMax® Plus Suspension Systems

VISUAL SELEC	PERFORMANCE Dots represent high level of performance.										
Edge Profile	Perforation	Item No.	Dimensions (Inches)	NRC with acoustical fleece	NRC with 1.1 fiberglass infill*	Fire Performance	Light Reflect	Mold & Mildew Protection	Certified Low VOC Emissions	Durability	Recycled Content
METALWORKS" for DYNAMAX® & DYNAMAX PLUS Square Lay-in		6345W24L48M1WHA	23" × 47"	N/A	N/A	Class A	0.75		٠	•	•
	M1 (Unperforated)	6345W48L48M1WHA	47" × 47"	N/A	N/A	Class A	0.75	٠			٠
	• • • • •	6345W24L48M19WHA	23" × 47"	0.70 *	0.85	Class A	0.75	٠	•		
	M19	6345W48L48M19WHA	47" × 47"	0.70 *	0.85	Class A	0.75	٠	٠		

NOTE: 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. For additional info, please contact your local Armstrong rep.

<sup>\*</sup> NRC achieved with acoustical infill (Item 8200T10).



## Continuous Load Path (CLP)

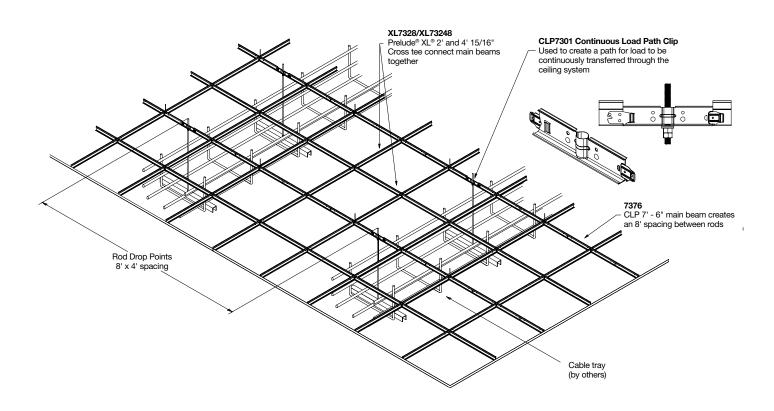


NOTE: The load is completely supported by the threaded rod to the deck and is not transferred to the suspension system. The CLP with coordinating 7'-6" and 9'-6" main beams creates typical 8' and 10' layouts.

The CLP 6" main beam component integrates with the Prelude® XL® suspension system, creating a pathway for the threaded rod to pass through the ceiling plane without unwarranted air penetration.

- Allows a threaded rod to connect to the deck without interrupting the ceiling plane
- Designed to accommodate 1/2" and 3/8" threaded rods with point loads of up to 1,800 lbs. per 3/8" threaded rod and up to 3,300 lbs per 1/2" rod with no weight transferred to the ceiling system
- Provides flexibility to design data halls that require heavier loads by using standard Prelude XL ceiling system in main or high load trunk lines
- Helps to manage air flow without unwarranted air penetrations in the ceiling grid or panels
- Reduces number of hanger wires

### Load Path (CLP) How It Works







# Prelude® XL Max®

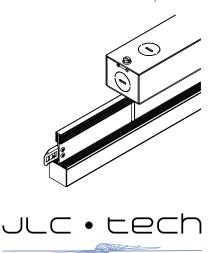
The Prelude® XL Max® suspension system supports single point loads up to 300 lbs. for cable trays, busbars, hot aisle containment, and more.

Load connector clips attach to the face of the suspension system to eliminate unsightly threaded rod penetrations through the ceiling plane minimizing unwanted air infiltration while improving access, cable tray layout options, and aesthetics.

Integrated hanging clips allow connection to 3/8" threaded rod for flexible and reconfigurable overhead cable tray and electrical distribution without a separate strut channel system.

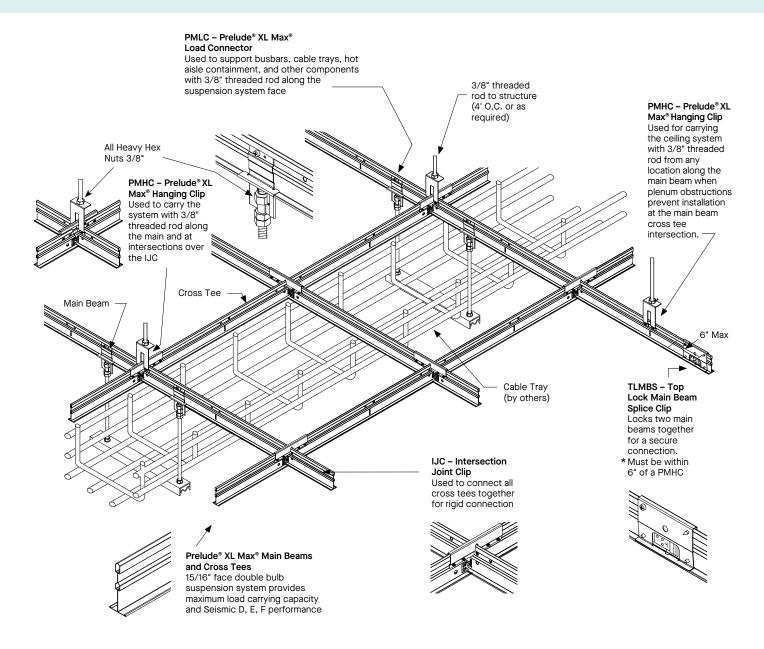
#### Prelude XL Max Lighting Solutions

TeraLyte<sup>™</sup> 1" for Prelude XL Max System





# Prelude® XL Max® How It Works



## High Performance

#### Ceiling Panel Selections for Prelude® XL Max® Suspension Systems

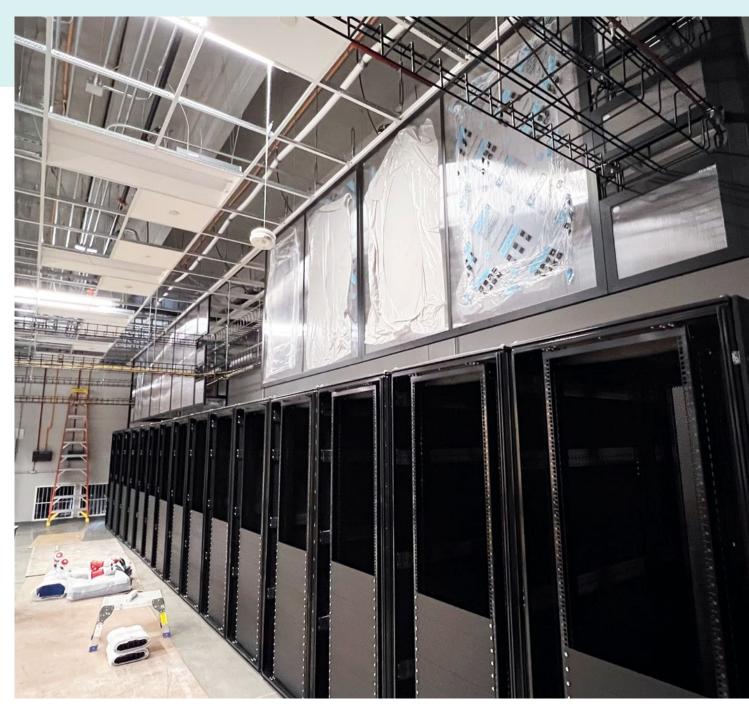
VISUAL SELECTION	PERFORMANCE SELECTION Dots represent high level of performance.													
	ltem No.	Dimensions (Inches)	১০০০ Sound Absorption	Sound Blocking	Total Total Acoustics	Fire Performance	Light Reflect	Anti-Mold/ Mildew Mildew	Sag Resistant +	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
DataZone <sup>™</sup> for Prelude <sup>®</sup> XL Max <sup>®</sup>	1569	23-13/16 × 23-13/16 × 3/4"	0.75	35	BETTER (III)	! Class A	0.82	۰	۰	•	Std	۰	0	•
Square Lay-in	1570	23-13/16 × 47-13/16 × 3/4"	0.75	35	~	Class A	0.82	•	•	0	Std	٠	•	•
Clean Room™ FL for Prelude® XL Max®	1815*	23-13/16 × 23-13/16 × 3/4"	0.55	35	N/A	Class A	0.79	٠	٠	0	٠	٠	-	0
Square Lay-in	1816*	23-13/16 × 47-13/16 × 3/4"	0.55	35	N/A	Class A	0.79	•	•	0	٠	٠	-	•
	1720 (Border Panel)	24 × 24 × 5/8"	0.55	35	N/A	Class A	0.79	۰	٠	0	٠	٠	-	0
	1721 (Border Panel)	24 × 48 × 5/8"	0.55	35	N/A	Class A	0.79	۰	٠	0	٠	٠	-	•

NOTE: Specify Items 1720 and 1721 for borders.
Ceiling panels are specially sized and engineered for Prelude XL Max and must be used with the system. These panels do not fit in other suspension systems.

<sup>\*</sup> Clean Room FL items 1815 and 1816 cannot be cut for borders and can only be used as full size panels.

Total Acoustics\* ceiling panels have an ideal combination of noise reduction and sound blocking performance 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+)



▲ DynaMax® Structural Grid

# Notes

# Notes

#### TAKE THE NEXT STEP

#### 877 276-7876

Customer Service Representatives 7:45 a.m. to 5:00 p.m. EST Monday through Friday

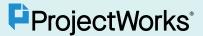
**Tech**Line – Technical information, detail drawings, CAD design assistance, installation information, other technical services – 8:00 a.m. to 5:30 p.m. EST, Monday through Friday.

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