1 Let's Start Here!

Fusion Modular Systems

IMPORTANT ! : Each portion of the modular system should be installed following the information here, **AND** the Installation Instructions included with each modular system part.

DISCLAIMER

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DEFINITIONS

MOUNTING SYSTEM: A MOUNTING SYSTEM is the primary Chief product to which an accessory and/or component is attached.

ACCESSORY: AN ACCESSORY is the secondary Chief product which is attached to a primary Chief product, and may have a component attached or setting on it.

COMPONENT: A COMPONENT is an audiovisual item designed to be attached or resting on an accessory or mounting system such as a video camera, CPU, screen, display, projector, etc.

WARNING: A WARNING alerts you to the possibility of serious injury or death if you do not follow the instructions.

CAUTION: A CAUTION alerts you to the possibility of damage or destruction of equipment if you do not follow the corresponding instructions.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: Failure to read, thoroughly understand, and follow all instructions can result in serious personal injury, damage to equipment, or voiding of factory warranty! It is the installer’s responsibility to make sure all mounting systems and accessories are properly assembled and installed using the instructions provided.

WARNING: Failure to provide adequate structural strength for this mounting system and accessories can result in serious personal injury or damage to equipment! It is the installer’s responsibility to make sure the structure to which this mounting system and accessories are attached can support five times the combined weight of all equipment. Reinforce the structure as required before installing the mounting system and accessories.

WARNING: Exceeding the weight capacity can result in serious personal injury or damage to equipment! It is the installer’s responsibility to make sure the combined weight of all components attached to the Fusion Modular wall-mounted or Fusion Modular ceiling-mounted menu board mounting system and any accessories does not exceed maximum weights noted in Table 1.

WARNING: Use this mounting system and accessories only for its intended use as described in these instructions. Do not use attachments not recommended by the manufacturer.

WARNING: Never operate this mounting system and accessories if they are damaged. Return the mounting system and accessories to a service center for examination and repair.

WARNING: Do not use this mounting system and accessories outdoors.

IMPORTANT ! : The **Fusion Modular wall mounted menu boards system** is designed to be mounted to a:

- bare 8" thick solid concrete or 8"x8"x16" concrete block wall;
- 2" x 4" wood stud (16" on center) wall covered with drywall having a maximum thickness of 5/8"; or
- 3/4" minimum thickness plywood-backed steel stud wall covered with drywall having a maximum thickness of 5/8".

IMPORTANT ! : The **Fusion Modular ceiling mounted menu boards system** is designed to be mounted to a:

- UL Listed Chief column and Chief ceiling plate (not included) properly installed following instructions provided with the ceiling plates and extension columns.

IMPORTANT ! : Each portion of the modular systems should be installed following the information here, **AND** with the Installation Instructions included with each modular system part.

--SAVE THESE INSTRUCTIONS--

Table 1: Fusion Modular Wall/Ceiling Systems Parts Weight Capacity

Modular System Part	Max Weight Capacity for System Part
FCASFP (per pair)	**75 lbs (34.0 kg)**
FMSIML (per pair)	**125 lbs (56.7 kg)**
FMSITL (per pair)	**125 lbs (56.7 kg)**
FMSWM	**200 lbs (56.7 kg)** [16" on center wood, or concrete installations] **125 lbs (56.7 kg)** [16" on center steel or wood studs with 3/4" plywood overlay] **75 lbs (34.0 kg)** [16" on center steel studs]
FMSWA	**200 lbs (56.7 kg)** [16" on center wood, or concrete installations] **125 lbs (56.7 kg)** [16" on center steel or wood studs with 3/4" plywood overlay] **75 lbs (34.0 kg)** [16" on center steel studs]
FMSHXX	Determined by weight capacity of other parts in the modular system
FMSCM	**200 lbs (56.7 kg)**
FMSCA	**200 lbs (56.7 kg)**
FMSCAO	**Determined by weight capacity of the ceiling plate being used**

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EXTRUSION LENGTH / SCREEN CALCULATIONS

Determining Extrusion Length - for a Specific Number of Screens

Need to Know:

- Number of screens **(N)**
- Mounting pattern of screens, in mm **(P)**
- Desired spacing between screens, in inches **(S)**
- Screen width, in inches **(W)**

Formula: ((N * W) + ((N-1) * S) + 2) - (W - (P/25.4)) = Extrusion length required

In the above formula:

- the 2 represents the width of the screen interfaces
- the 25.4 converts millimeters to inches

EXAMPLE

- Number of screens: 4
- Mounting patterns of screens: 400mm
- Desired spacing between screens: 0.0625 inches
- Screen width: 40 inches

((4 * 40") + ((4 - 1) * 0.0625") + 2) - (40 - (400/25.4)) = 138" MINIMUM extrusion length required. [NOTE: Final length is rounded to the nearest whole number.]

N * W = MAXIMUM extrusion length required (so that extrusion remains hidden behind screens). [NOTE: Use a Chief extrusion length between the minimum and maximum extrusion lengths.]

Determining Maximum Screen Width for Extrusion Length

Need to Know:

- Number of screens **(N)**
- Mounting pattern of screens, in mm **(P)**
- Desired spacing between screens, in inches **(S)**
- Extrusion length, in inches **(L)**

Formula: $$\frac{L - ((N - 1) * S) - 2 - (P/25.4)}{(N-1)}$$ **= Maximum Screen Width**

In the above formula:

- the 2 represents the width of the screen interfaces
- the 25.4 converts millimeters to inches

EXAMPLE

- Number of screens: 4
- Mounting patterns of screens: 400mm
- Desired spacing between screens: 0.0625 inches
- Extrusion length: 120 inches

$$\frac{120" - ((4 - 1) * 0.0625") - 2 - (400/25.4)}{(4 - 1)}$$ **= 34" Maximum Screen Width**

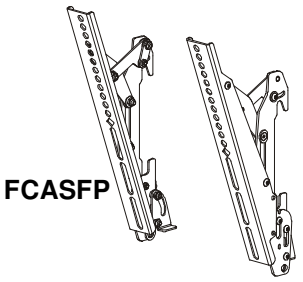
MODULAR WALL MOUNTED SYSTEM GUIDELINES

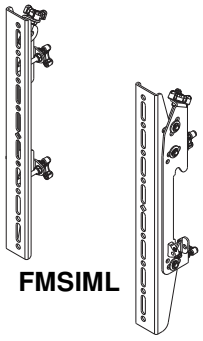
ORDER OF INSTALLATION

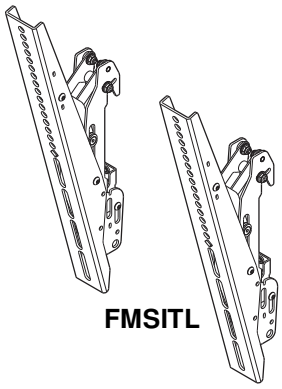
The various parts of your modular, wall-mounted menu boards system should be installed in the following order:

IMPORTANT ! : Each portion of the modular system should be installed following the information here, AND the Installation Instructions included with each modular system part.

1. Install screen interface brackets first to determine exactly where they are attached in relation to the screen.

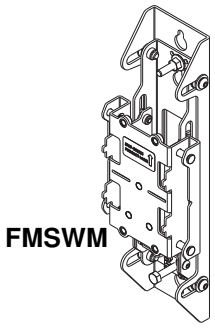


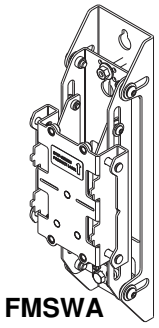




2. Decide on the complete layout of the installation, deciding screen placement, accessory placement, interface placement and wall upright bracket placement.

3. Install wall upright brackets.

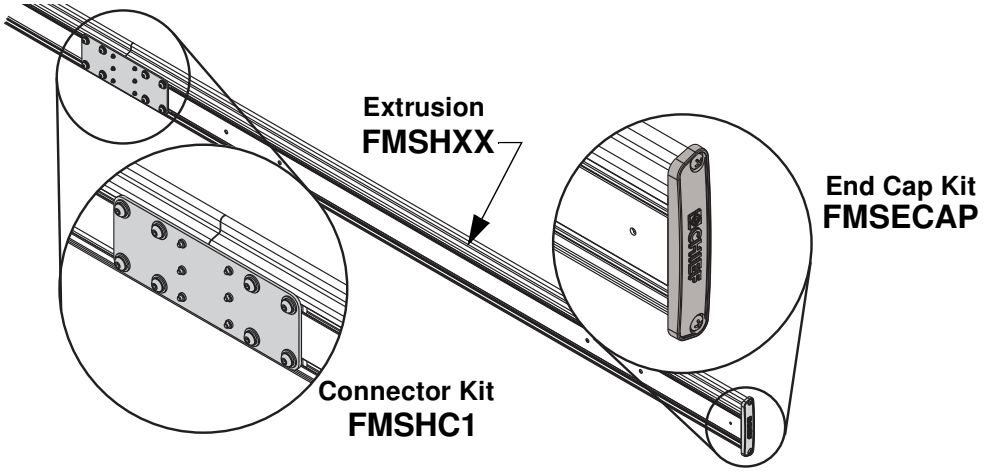




4. Place extrusion on wall uprights.

5. Level and adjust extrusion depth.

6. Determine if this would be a good time to install accessories--it usually is.



7. Place screens on extrusion (**see FMSWM** / **FMSWA** for instructions)

8. Make final depth and leveling adjustments, as necessary.

IMPORTANT ! : The total wall mounted system weight capacity is determined by the maximum weight allowed for each screen interface (FCASFP, FMSIML, FMSITL) multiplied by the number of screens; or the maximum weight allowed for each wall upright (FMSWM or FMSWA) multiplied by the number of wall uprights, with the **LESSER OF THE TWO BEING THE MAXIMUM TOTAL SYSTEM CAPACITY**.

1. The **longest span between wall attachment brackets** (center to center) is **96 inches (8 feet).** (See Figure 1)
2. The **longest overhang** (center of wall attachment bracket to end of extrusion) is **32 inches.** (See Figure 1)

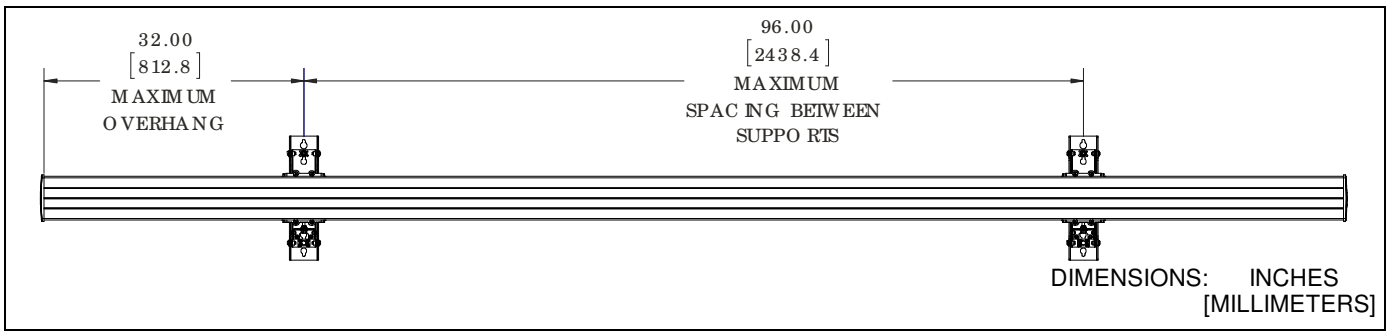


Figure 1

3. The **minimum wall attachment brackets spacing** (center to center) is when outside screens are centered on wall attachment brackets. The **centerline of outside screen must not be to the INSIDE of wall attachment brackets.** (See Figure 2)

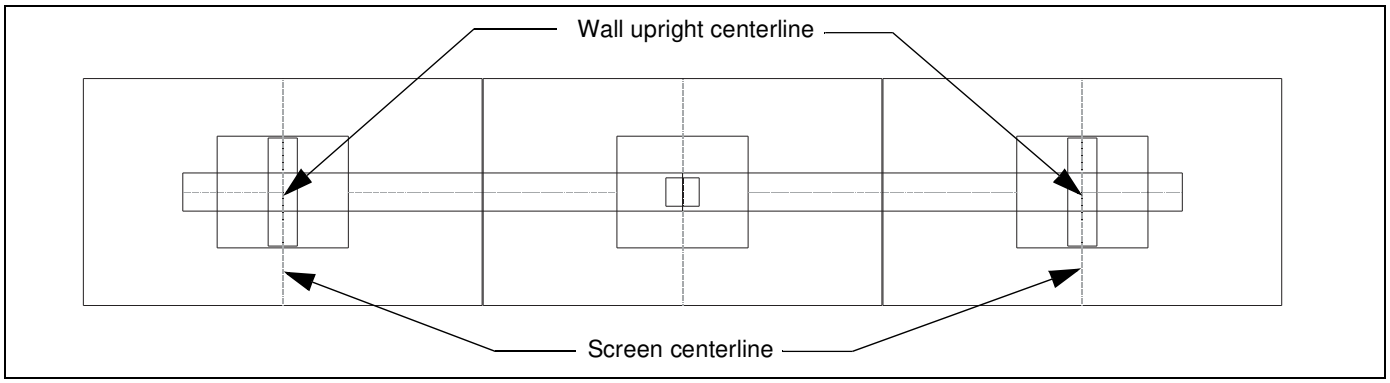


Figure 2

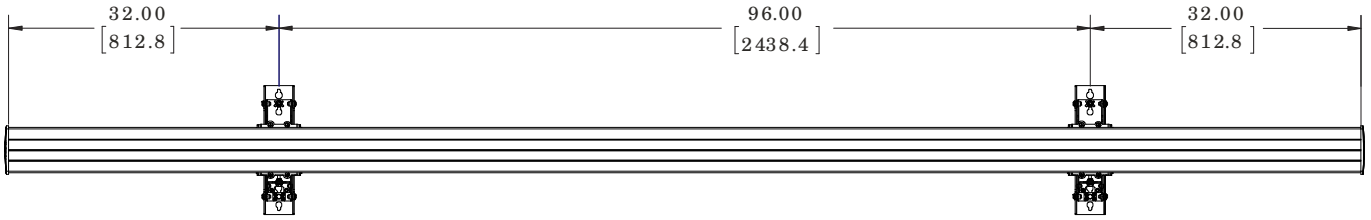
4. The **longest single extrusion with only two wall attachment brackets** is **120 inches (10 feet).**
5. The **longest combined extrusion length with only two wall attachment brackets** is **156 inches (13 feet).**
6. The **longest combined extrusion length with only three wall uprights and 1 connector kit** is **240 inches (20 feet).**
7. When using **three or more wall attachment brackets they must be evenly spaced and centered on the extrusion** as much as possible.

WALL MENU BOARDS WEIGHT LIMITATIONS (examples)

IMPORTANT ! : Weight capacity is dependent upon wall type, number of wall attachment brackets and screen interface brackets. Weight capacity is determined by the LOWEST weight capacity within the modular configuration. See Table 1, (See Figure 3), (See Figure 4) and (See Figure 5)

IMPORTANT ! : Weight MUST be distributed evenly over length of extrusion(s)!

Maximum Spacing With Two Wall Attachment Brackets



Wood Stud wall or Concrete wall: 2 wall attachment brackets x 200 lbs = **400 lbs (181.4 kg)**

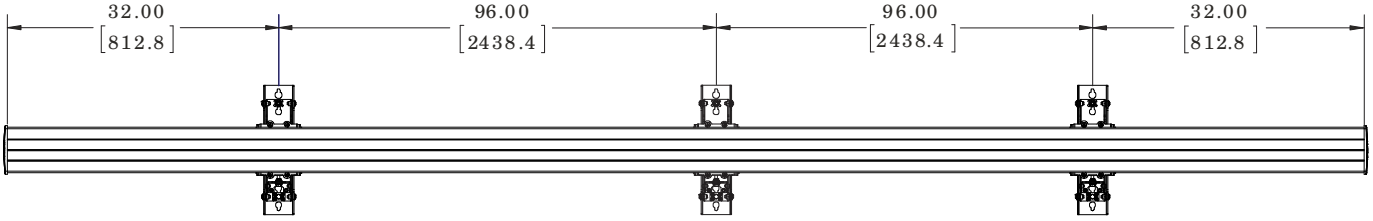
3/4" Plywood over Steel Stud wall: 2 wall attachment brackets x 125 lbs = **250 lbs (113.4 kg)**

Steel Stud wall: 2 wall attachment brackets x 75 lbs = **150 lbs (68.0 kg)**

DIMENSIONS: INCHES [MILLIMETERS]

Figure 3

Maximum Spacing With Three Wall Attachment Brackets



Wood Stud wall or Concrete wall: 3 wall attachment brackets x 200 lbs = **600 lbs (272.2 kg)**

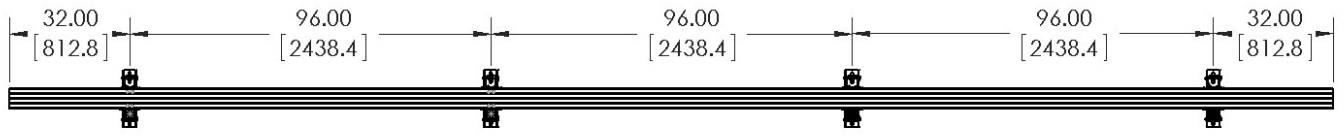
3/4" Plywood over Steel Stud wall: 3 wall attachment brackets x 125 lbs = **375 lbs (170.1 kg)**

Steel Stud wall: 3 wall attachment brackets x 75 lbs = **225 lbs (102.1 kg)**

DIMENSIONS: INCHES [MILLIMETERS]

Figure 4

Maximum Spacing With Four Wall Attachment Brackets



Wood Stud wall or Concrete wall: 4 wall attachment brackets x 200 lbs = **800 lbs (362.9 kg)**

3/4" Plywood over Steel Stud wall: 4 wall attachment brackets x 125 lbs = **500 lbs (226.8 kg)**

Steel Stud wall: 4 wall attachment brackets x 75 lbs = **300 lbs (136.1 kg)**

DIMENSIONS: INCHES [MILLIMETERS]

Figure 5

INSTALLATION EXAMPLES

NOTE: The examples are listed for installation into a wood stud or concrete wall with a system using standard 400mm interfaces.

Example 1

- 2-screen interfaces x 125 lbs/interface = 250 lbs
- 2-wall uprights x 200 lbs/upright = 400 lbs
- Maximum capacity is limited by the screen interfaces = 125 lbs/screen

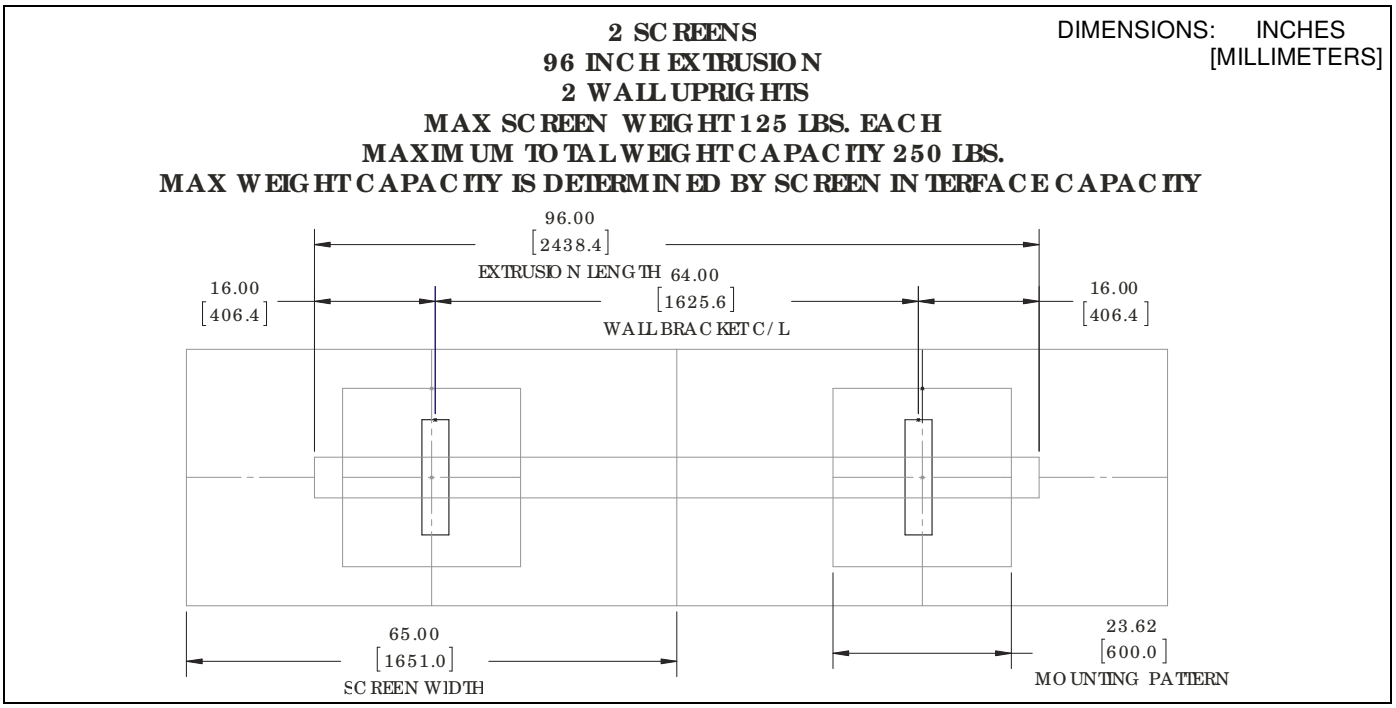


Figure 6

Example 2

- 3-screen interfaces x 125 lbs/interface = 375 lbs
- 2-wall uprights x 200 lbs/upright = 400 lbs
- Maximum capacity is limited by the screen interfaces = 125 lbs/screen

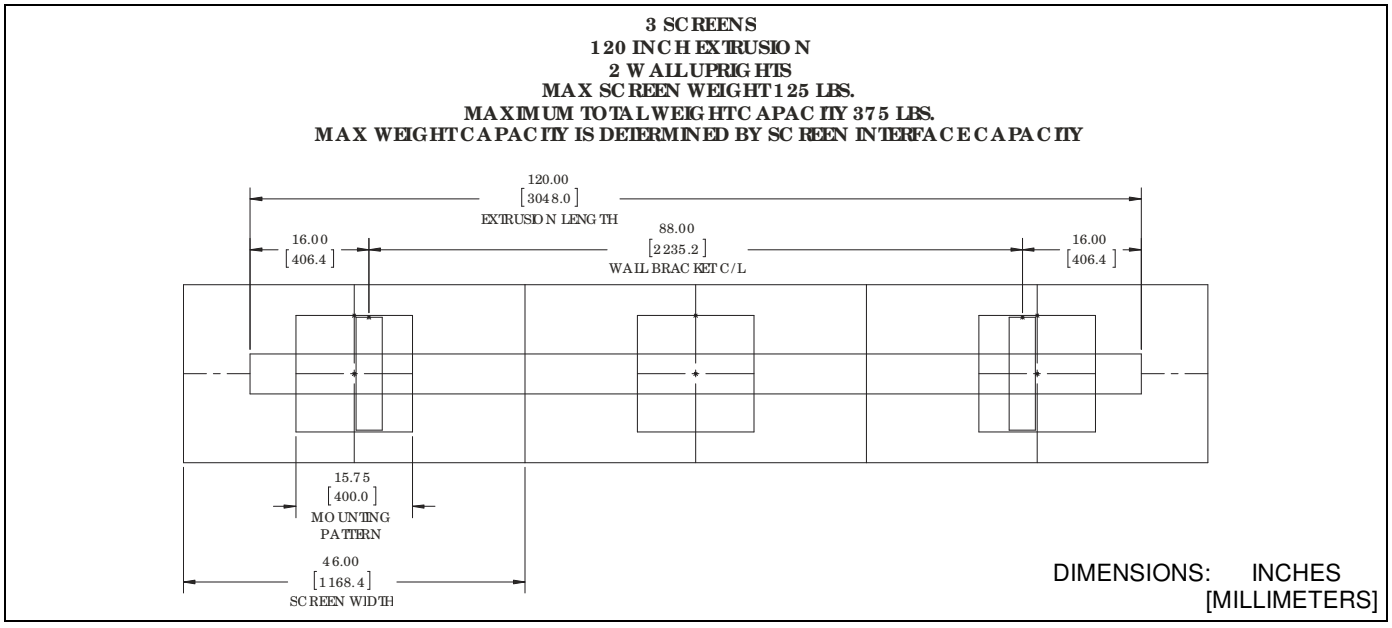


Figure 7

Example 3

- 4-screen interfaces x 125 lbs/interface = 500 lbs
- 2-wall uprights x 200 lbs/upright = 400 lbs
- Maximum capacity is limited by the screen interfaces = 125 lbs/screen

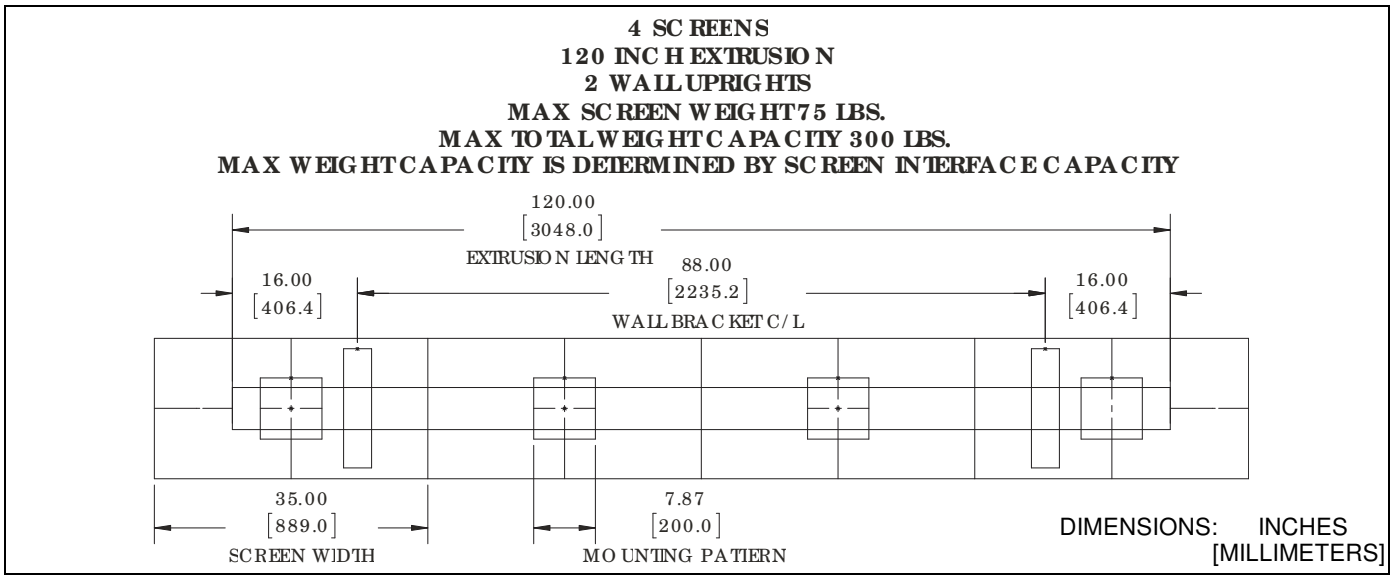


Figure 8

Example 4

- 5-screen interfaces x 125 lbs/interface = 625 lbs
- 3-wall uprights x 200 lbs/upright = 600 lbs
- Maximum capacity is limited by the wall uprights

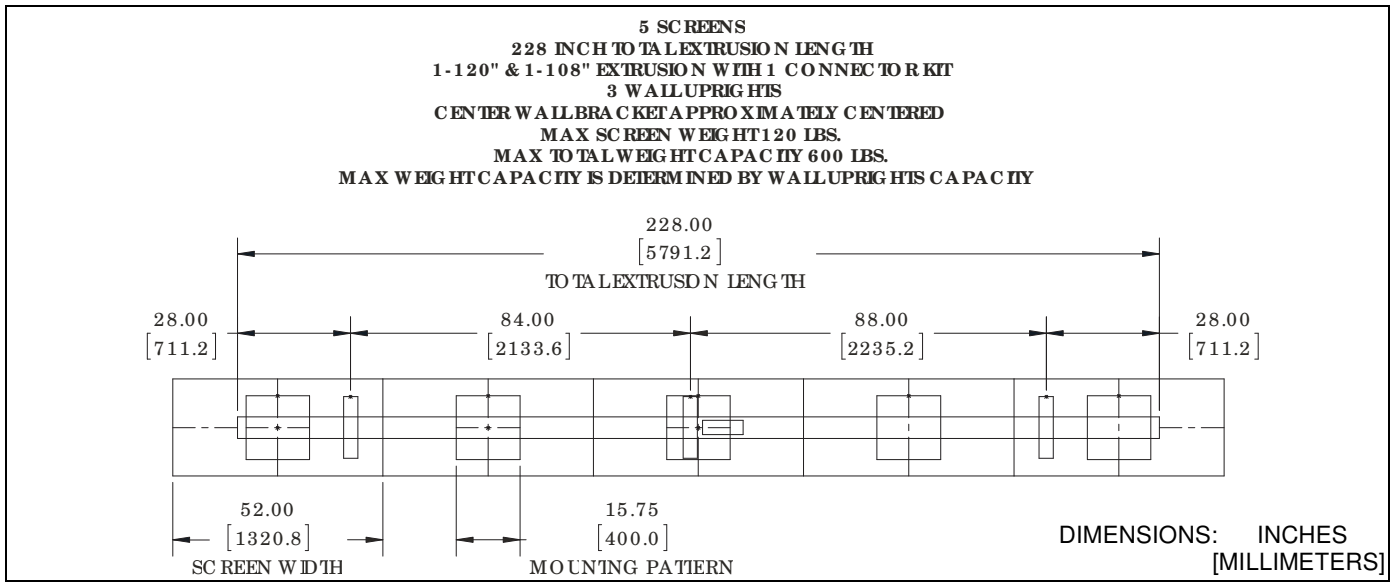


Figure 9

Example 5

- 6-screen interfaces x 125 lbs/interface = 750 lbs
- 3-wall uprights x 200 lbs/upright = 600 lbs
- Maximum capacity is limited by the wall uprights

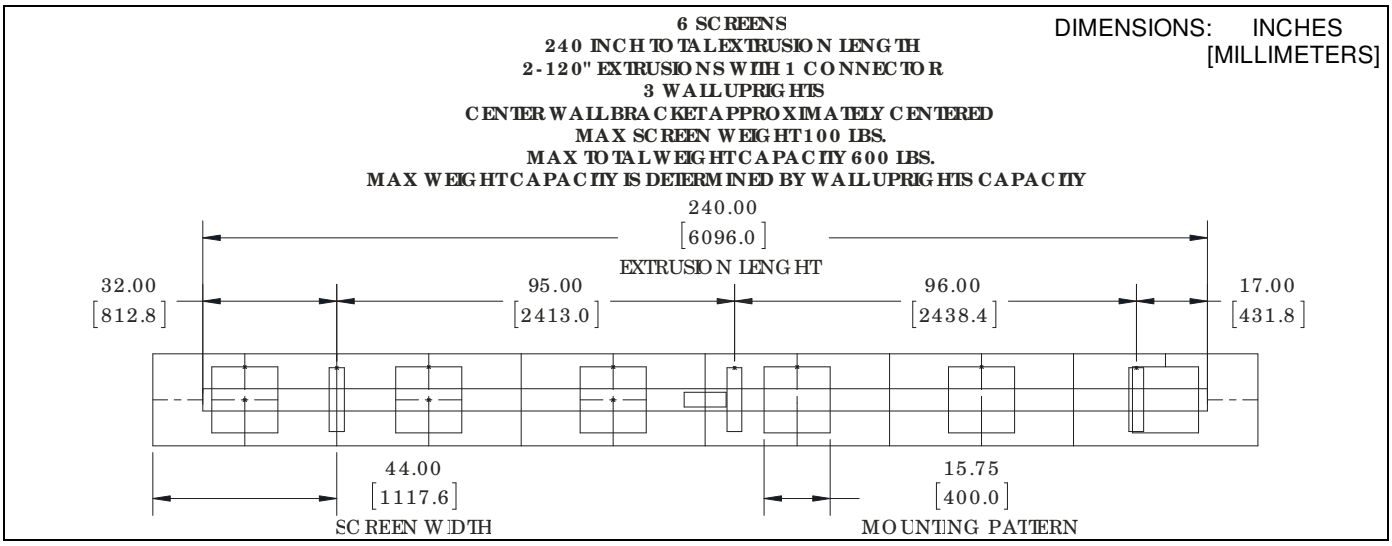


Figure 10

Example 6

- 8-screen interfaces x 75 lbs/interface = 600 lbs
- 3-wall uprights x 200 lbs/upright = 600 lbs
- Maximum capacity is limited by the screen interfaces = 125 lbs/screen

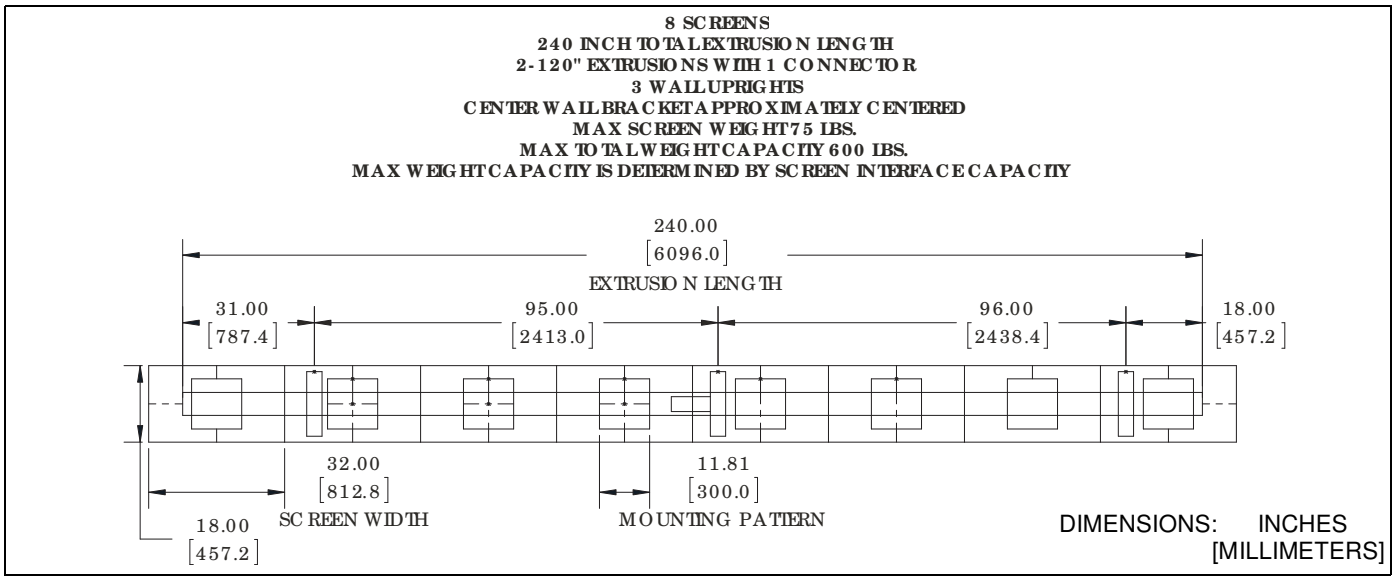


Figure 11

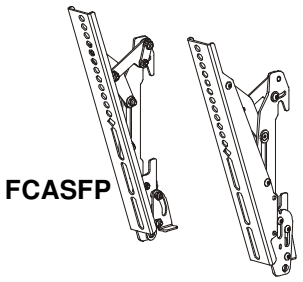
MODULAR CEILING MOUNTED SYSTEM GUIDELINES

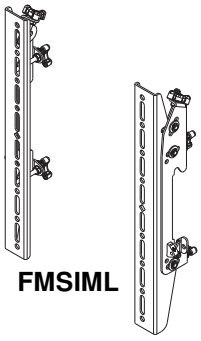
ORDER OF INSTALLATION

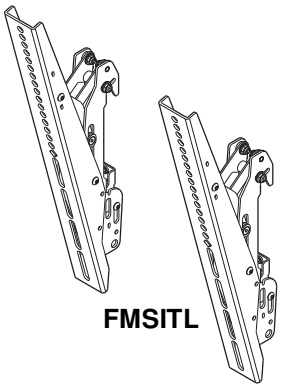
The various parts of your modular, ceiling mounted menu boards system should be installed in the following order:

IMPORTANT ! : Each portion of the modular system should be installed following the information here, AND the Installation Instructions included with each modular system part.

1. Install screen interface brackets first to determine exactly where they are attached in relation to the screen.



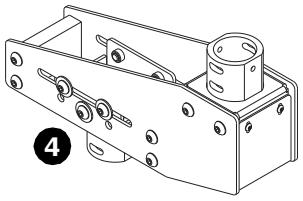


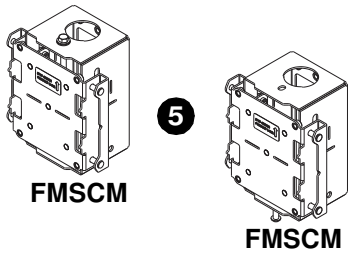


2. Decide on the complete layout of the installation, deciding screen placement, accessory placement, screen interface placement and ceiling column placement.

3. Install ceiling plates and columns.

4. Install ceiling array offset





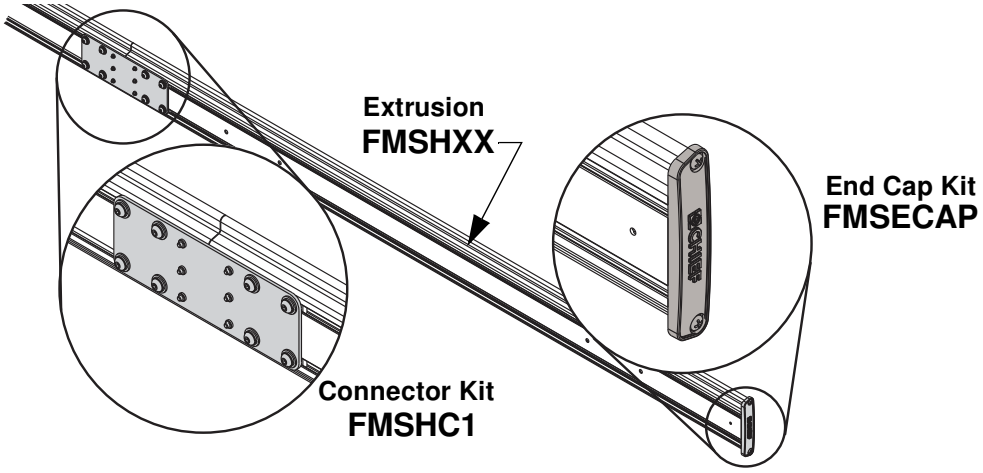
5. Install ceiling heads at same height on each column.

6. Place extrusion on ceiling heads.

7. Level and adjust extrusion depth.

8. Determine if this would be a good time to install accessories. It usually is-

9. Install endcaps on extrusion.



10. Place screens on extrusion (**see FMSCM** / **FMSCA** for instructions)

11. Make final depth and leveling adjustments, as necessary.

IMPORTANT ! : The total ceiling mounted system weight capacity is determined by the maximum weight allowed for each screen interface (FCASFP, FMSIML, FMSITL) multiplied by the number of screens; or the maximum weight allowed for each ceiling plate (not included) multiplied by the number of ceiling drops, with the **LESSER OF THE TWO BEING THE MAXIMUM TOTAL SYSTEM CAPACITY**. The weight capacity of the mounting system is limited to the lowest weight capacity of any other part or accessory used within the mounting

NOTE: The installation procedure of the Fusion modular ceiling mounted system assumes that Chief UL Listed CPA or CMA ceiling plates (not included) and extension columns (not included) have been properly installed following instructions provided with ceiling plates and extension columns.

1. The **longest span between ceiling heads** (center to center) is **96 inches (8 feet).** (See Figure 12)
2. The **longest overhang** (center of ceiling head to end of extrusion) is **32 inches.** (See Figure 12)

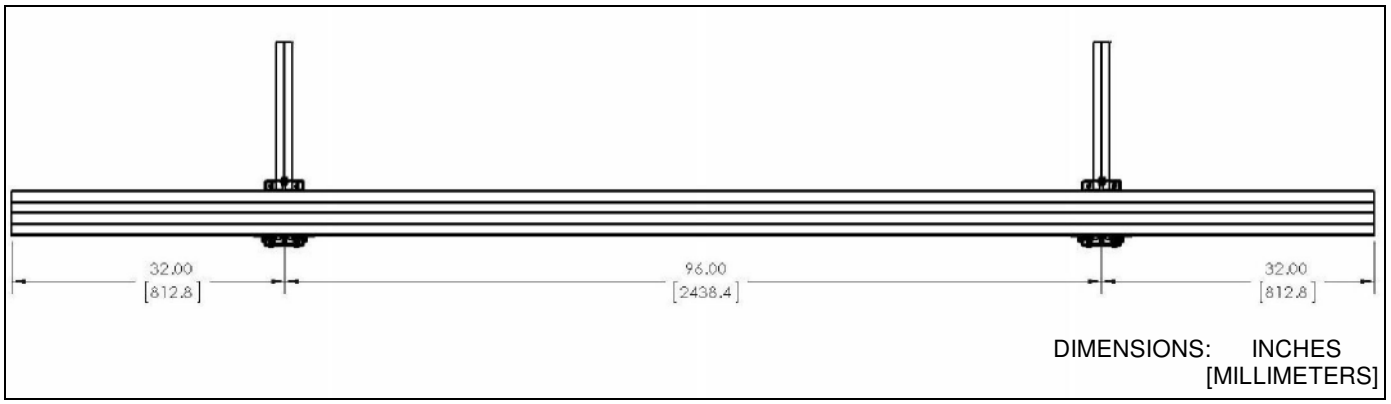


Figure 12

3. The **longest SINGLE extrusion with only two ceiling heads** is **120 inches (10 feet).**
4. The **longest COMBINED extrusion length with only two ceiling heads** is **144 inches (12 feet).**
5. The **longest combined extrusion length with only three ceiling heads and 1 connector kit** using standard extrusion lengths is **228 inches (19 feet).**
6. When using **three or more ceiling heads they must be evenly spaced and centered on the extrusion** as much as possible.

CEILING MENU BOARDS WEIGHT LIMITATIONS (examples)

IMPORTANT ! : Weight capacity is dependent upon number of ceiling heads, and screen interface brackets. Weight capacity is determined by the LOWEST weight capacity within the modular configuration. (See Figure 13), (See Figure 14), and (See Figure 15).

IMPORTANT ! : Weight MUST be distributed evenly over length of extrusion(s)!

Two Ceiling Heads Maximum Weight and Maximum Spacings

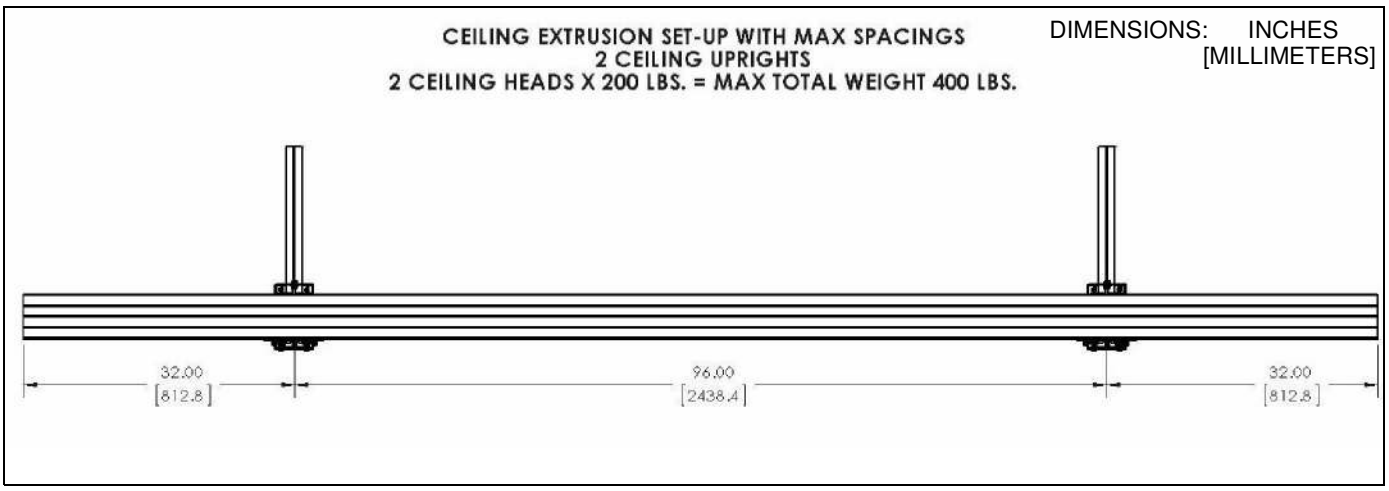


Figure 13

Three Ceiling Heads Maximum Weight and Maximum Spacings

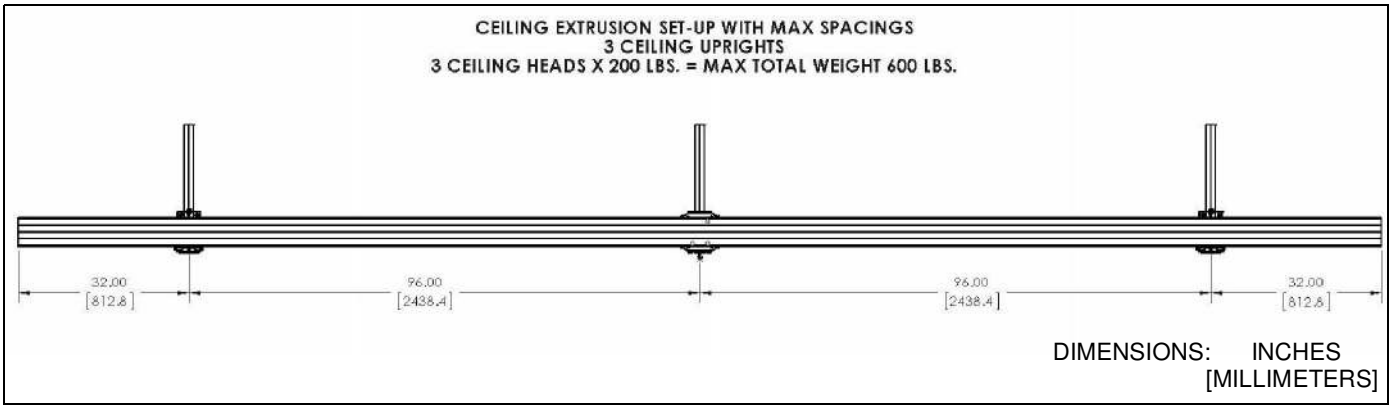


Figure 14

Four Ceiling Heads Maximum Weight and Maximum Spacings

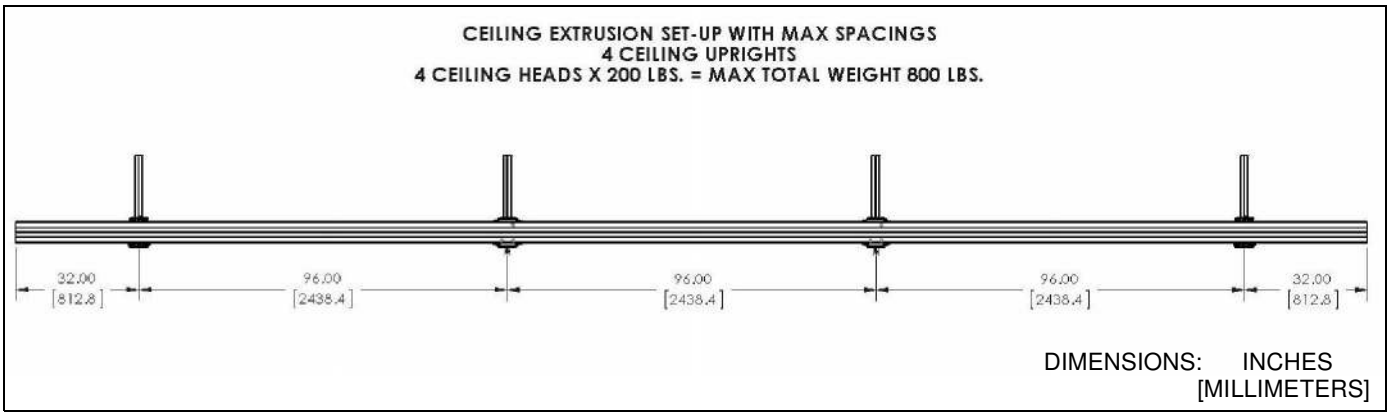


Figure 15

INSTALLATION EXAMPLES

The examples are listed for installation into a Chief UL listed ceiling plate and column.

Example 1

- 2-screen interfaces x 125 lbs/interface = 250 lbs
- 2-ceiling heads x 200 lbs/ceiling head = 400 lbs
- Maximum weight capacity is limited by the screen interfaces = 125 lbs/screen

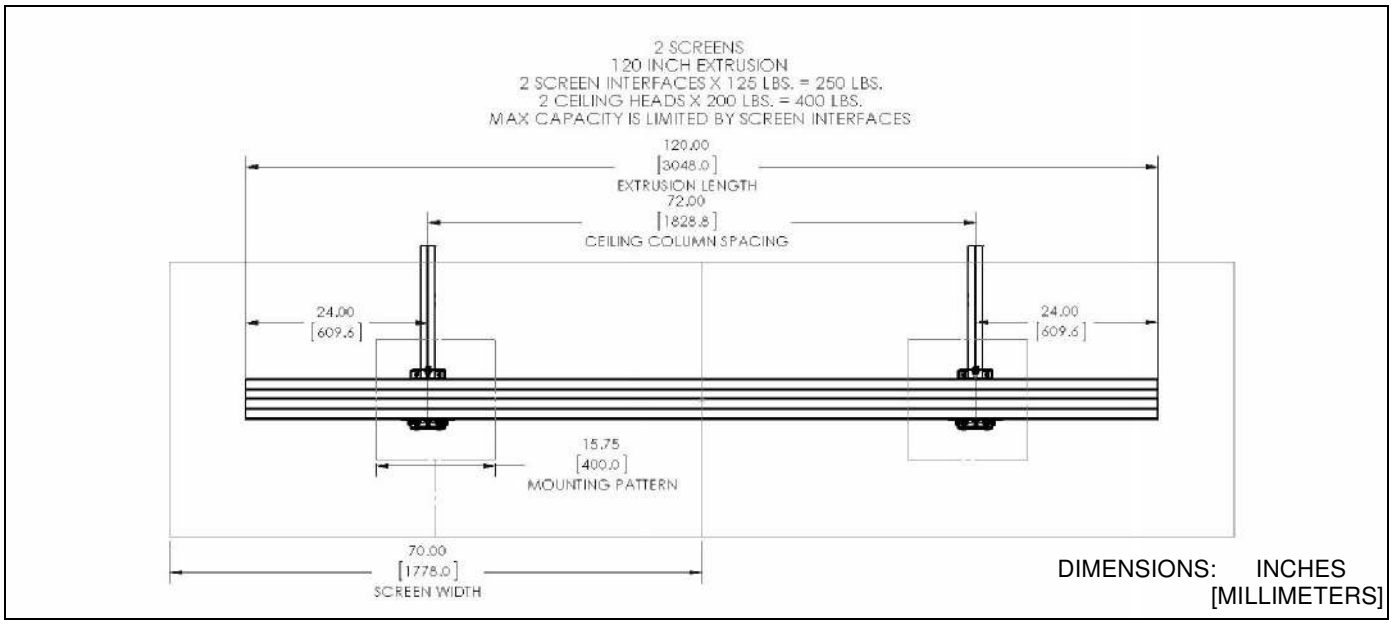


Figure 16

Example 2

- 3-screen interfaces x 125 lbs/interface = 375 lbs
- 2-ceiling heads x 200 lbs/ceiling head = 400 lbs
- 2-ceiling plates x 500 lbs/ceiling plate = 1000 lbs
- Maximum weight capacity is limited by the screen interfaces = 125 lbs/screen

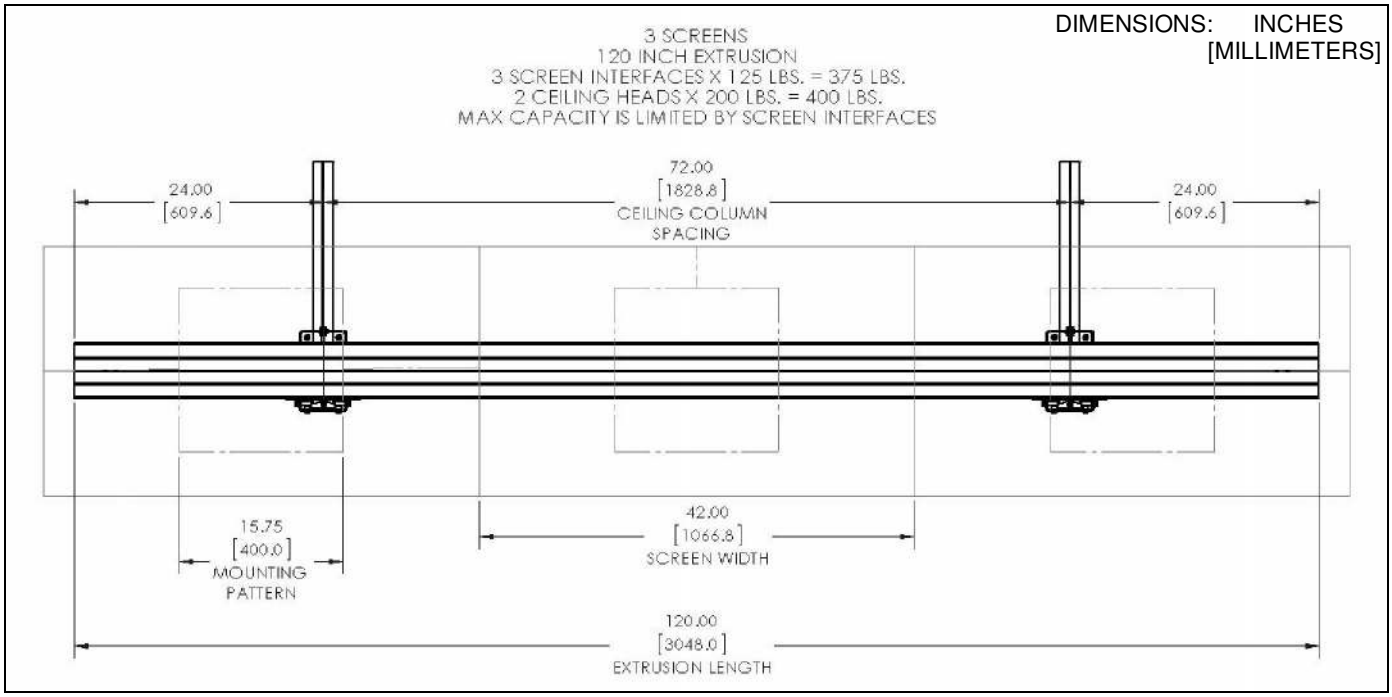


Figure 17

Example 3

- 5-screen interfaces x 125 lbs/interface = 625 lbs
- 3-ceiling heads x 200 lbs/ceiling head = 600 lbs
- Maximum weight capacity is limited by the ceiling columns

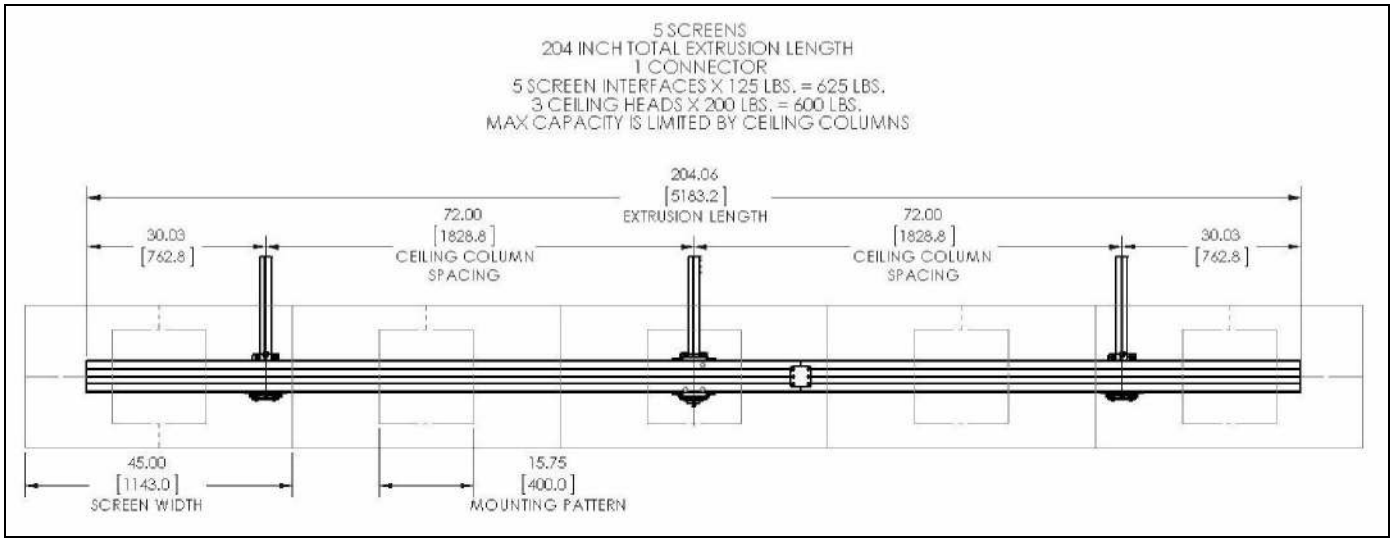


Figure 18

Example 4

- 6-screen interfaces x 75 lbs/interface = 450 lbs
- 3-ceiling heads x 200 lbs/ceiling head = 600 lbs
- Maximum weight capacity is limited by the screen interfaces = 125 lbs/screen

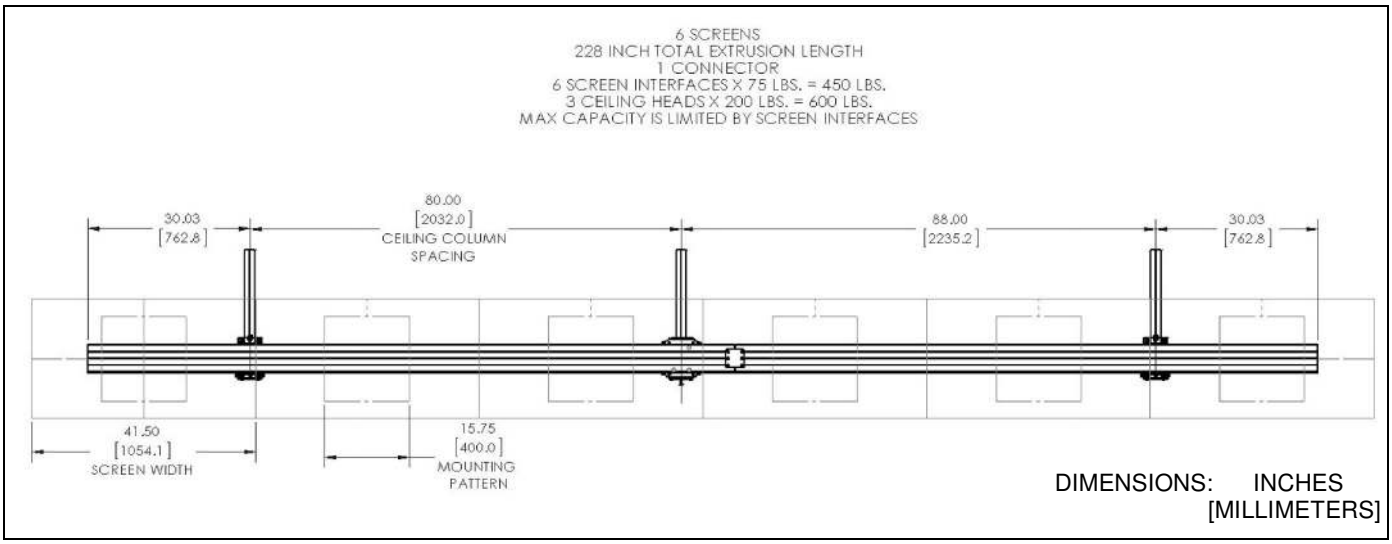


Figure 19

Example 5

- 8-screen interfaces x 75 lbs/interface = 600 lbs
- 4-ceiling heads x 200 lbs/ceiling head = 800 lbs
- Maximum weight capacity is limited by the screen interfaces = 125 lbs/screen

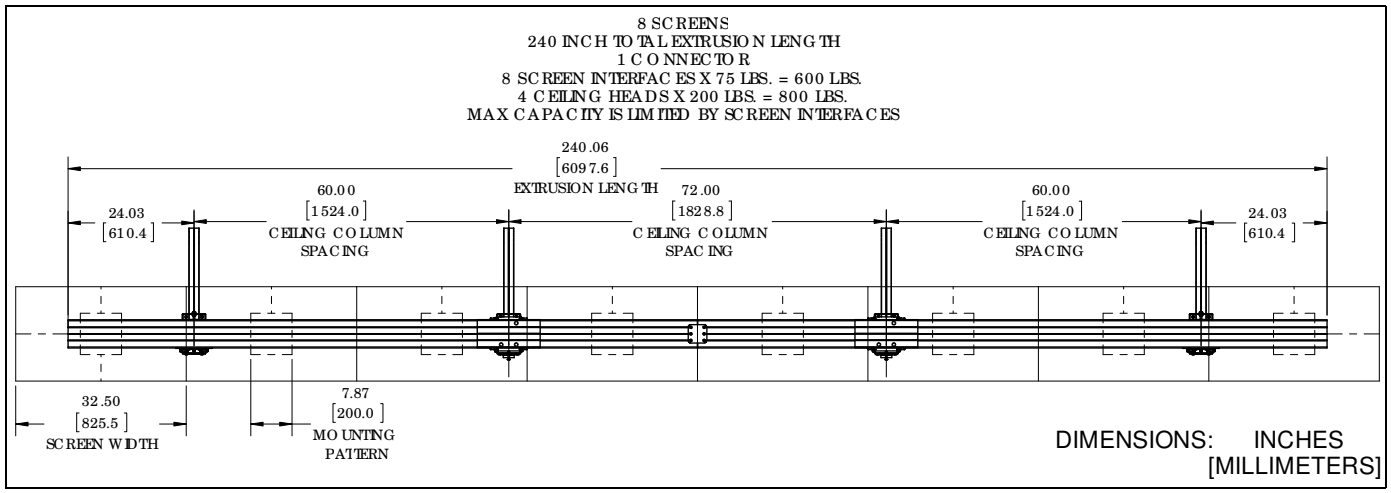


Figure 20

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