



UNITEDSIGN GROUP
ARCHITECTURAL | ENGINEERING | DIGITAL

HOLON OUTDOOR LED DISPLAYS

Product Installation Manual



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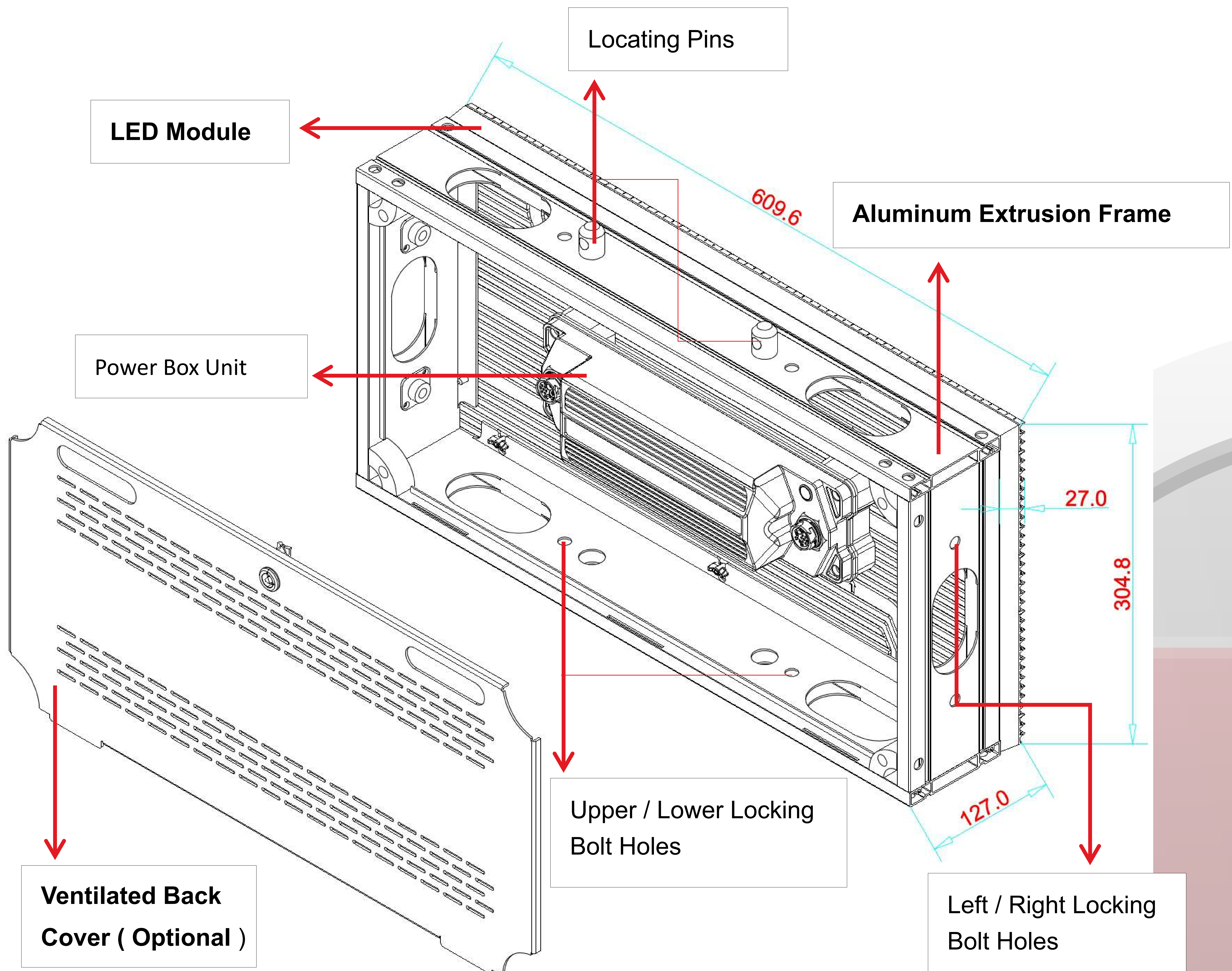
1.0 Overview

1.1 Product Introduction

The Holon series consists of modular units made up of LED modules and frames. Each unit connects to another via IP68-rated aviation connectors and can optionally include a rear cover. The structure is lightweight, highly integrated, and can be installed manually without lifting equipment — ideal for quick installations of small to medium-sized outdoor displays and for retrofitting older signs.

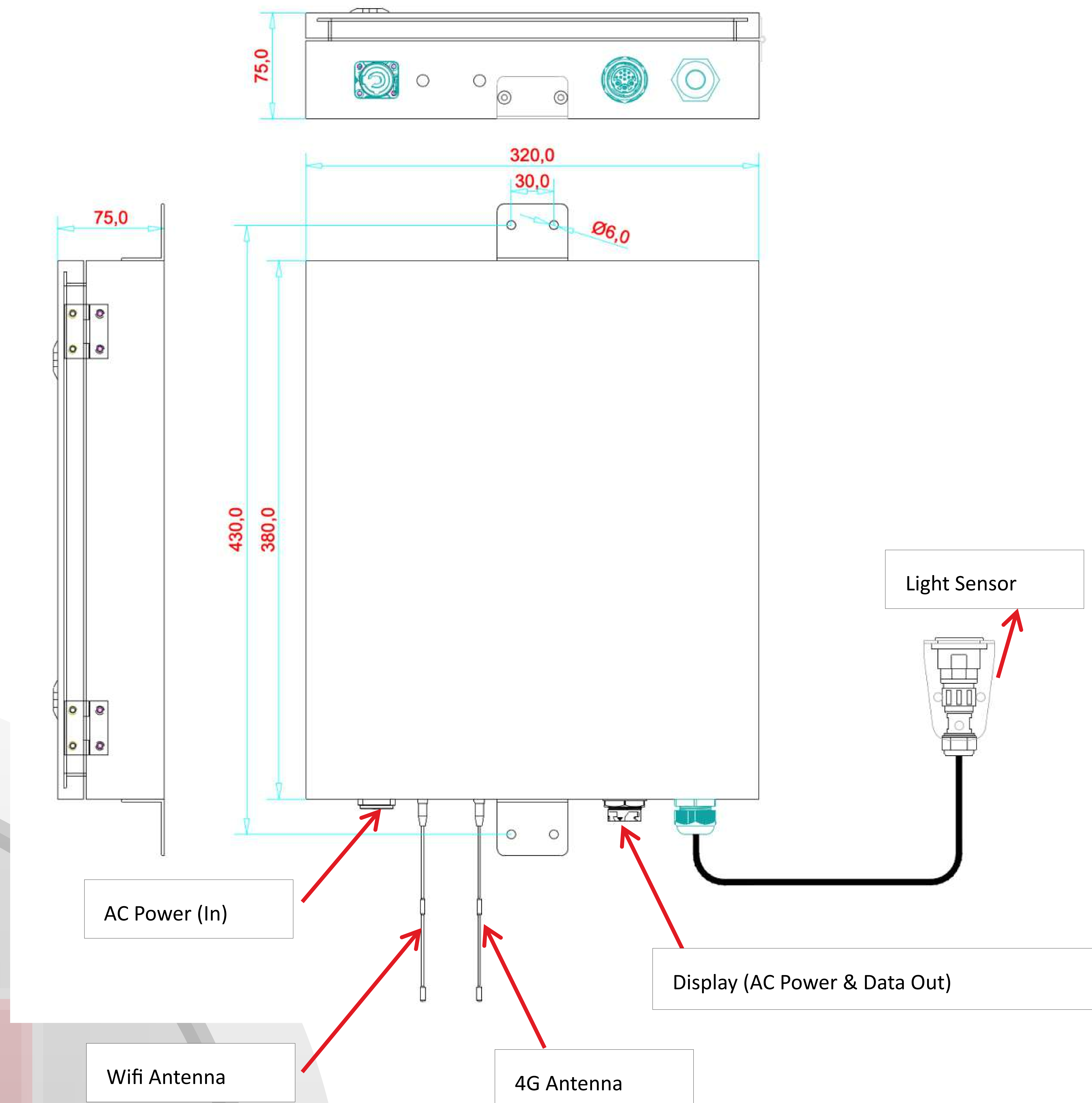
1.2 Unit Dimensions and Function Diagram

Unit: (mm)



1.3 Control Box Dimensions and Function Diagram

Unit: (mm)



1.4 Key Features

- Highly integrated modular design
- Cast aluminum power box separated from LED board for heat dissipation
- Independent module and frame design for front or rear service
- Front and rear protection up to IP67



1.5 Product Specifications

Pixel Pitch (Resolution)	6.35 mm	8.96 mm
LED Package Type	SMD+Lens	SMD+Lens
Pixels/m ² (Density)	24,800	12,444
Module Dimensions	1'x2' (304.8mmx609.6mm)	1'x2' (304.8mmx609.6mm)
Module Matrix	96x48	68x34
Module Weight	8.8LB (4KG)	8.8LB (4KG)
Driving Method	1/6 constant current	1/2 constant current
Refresh Rate	≥3,840 Hz	≥3,840 Hz
Video Frame Rate	60 frames/second	60 frames/second
Grayscale	65,536 (281 trillion colors)	65,536 (281 trillion colors)
Color Depth	16 bit	16 bit
Contrast Ratio	26,000 : 1	26,000 : 1
Brightness	≥10,000 NITS	≥10,000 NITS
Brightness Control	256 levels	256 levels
Ideal Viewing Range	18' or greater	22' or greater
Ideal Viewing Angle	120°(H) / 100°(V)	120°(H) / 100°(V)
Max. Power Consumption	54W/ft ² (580W/m ²)	54W/ft ² (580W/m ²)
Avg. Power Consumption	18W/ft ² (195W/m ²)	18W/ft ² (195W/m ²)
Input Voltage	90 - 264VAC	90 - 264VAC
Ingress Protection	IP65	IP65
Operating Temperature	-40°F-+140°F(-40°C-+60°C)	-40°F-+140°F(-40°C-+60°C)
MTBF	>5,000 hours	>5,000 hours
LED Life - Span	100,000 hours	100,000 hours
Cabinet Weight	14LB/pcs (6.2KG/pcs)	14LB/pcs (6.2KG/pcs)
Cabinet Material	Aluminum Extrusion	Aluminum Extrusion

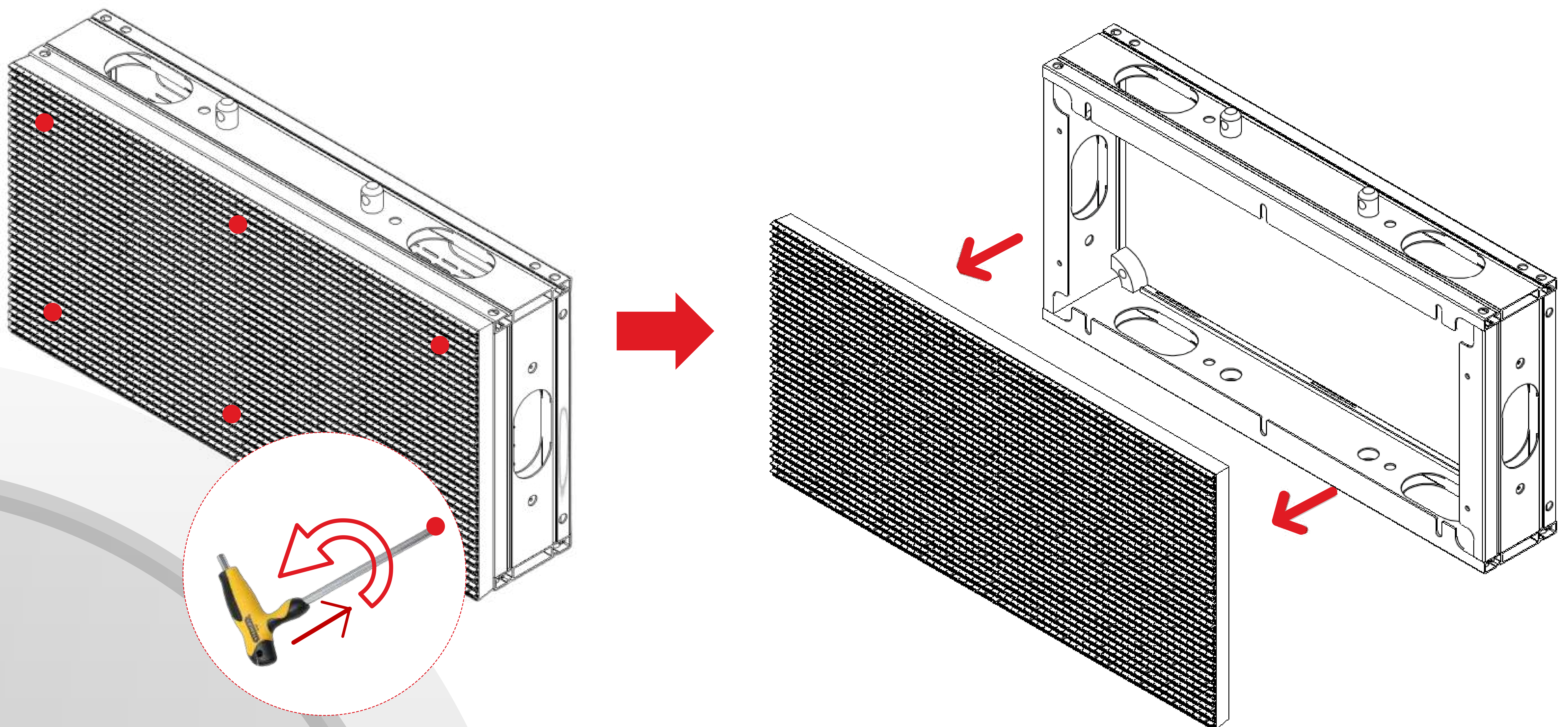


1.6 Product Maintenance

The Holon series enables dual maintenance for both front and rear, with specific operations as detailed below.

Front Maintenance:

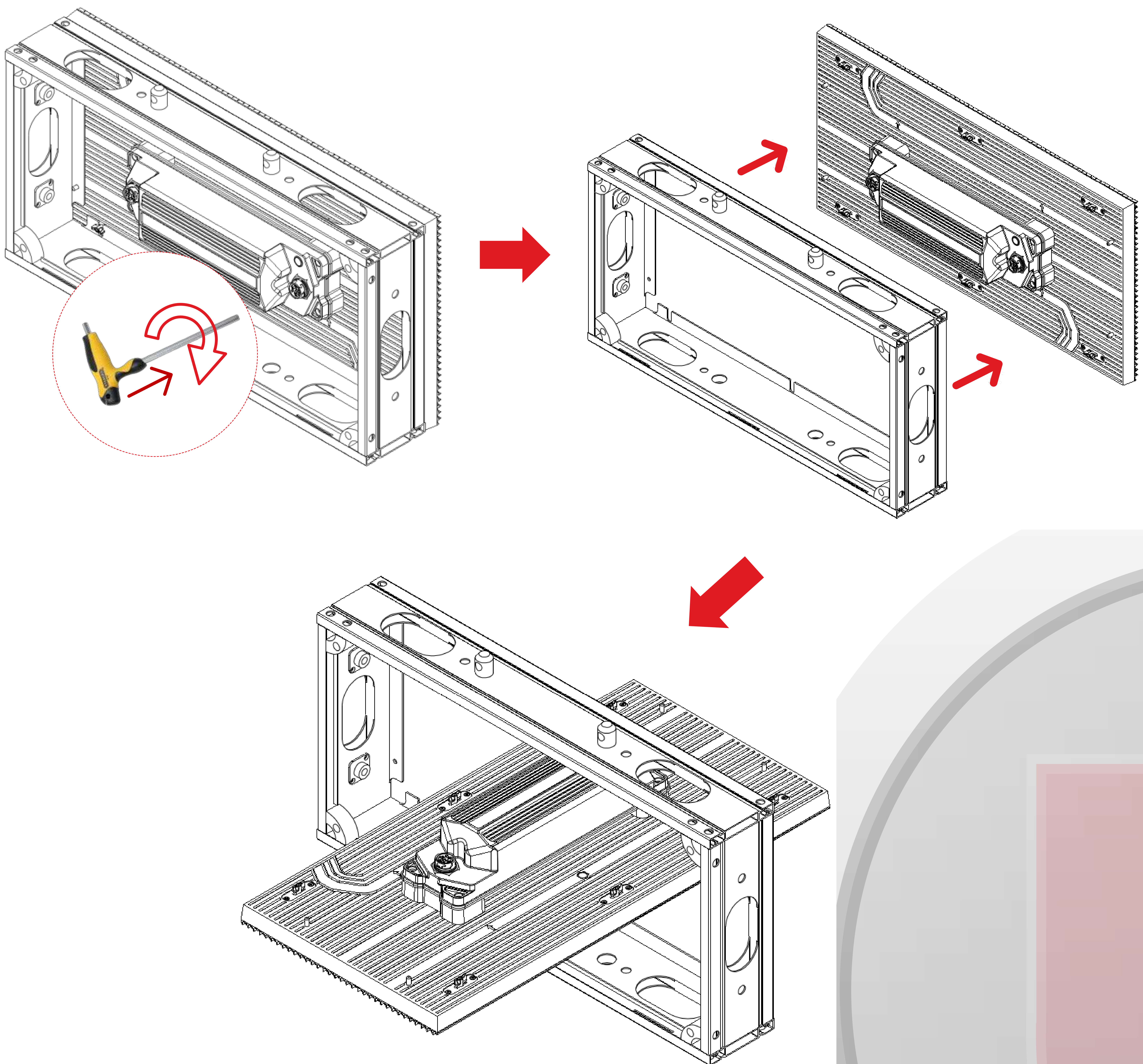
Insert an M3 hex wrench into the six holes on the front of the module and turn counterclockwise 45°. The module can then be pulled out.





Rear Maintenance:

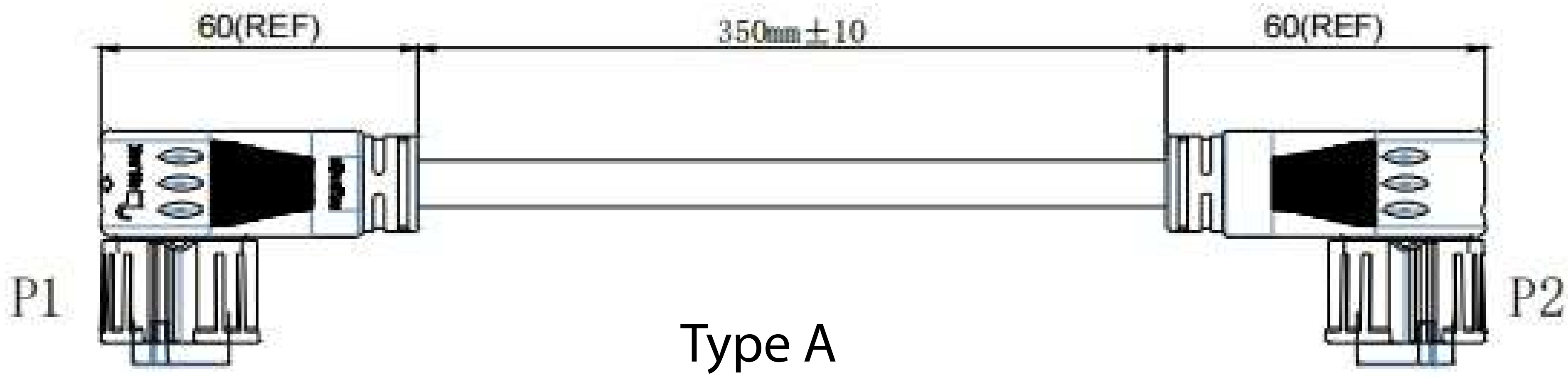
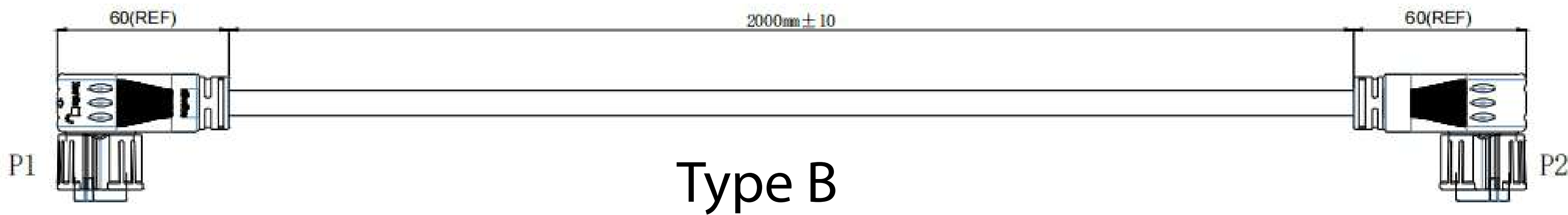
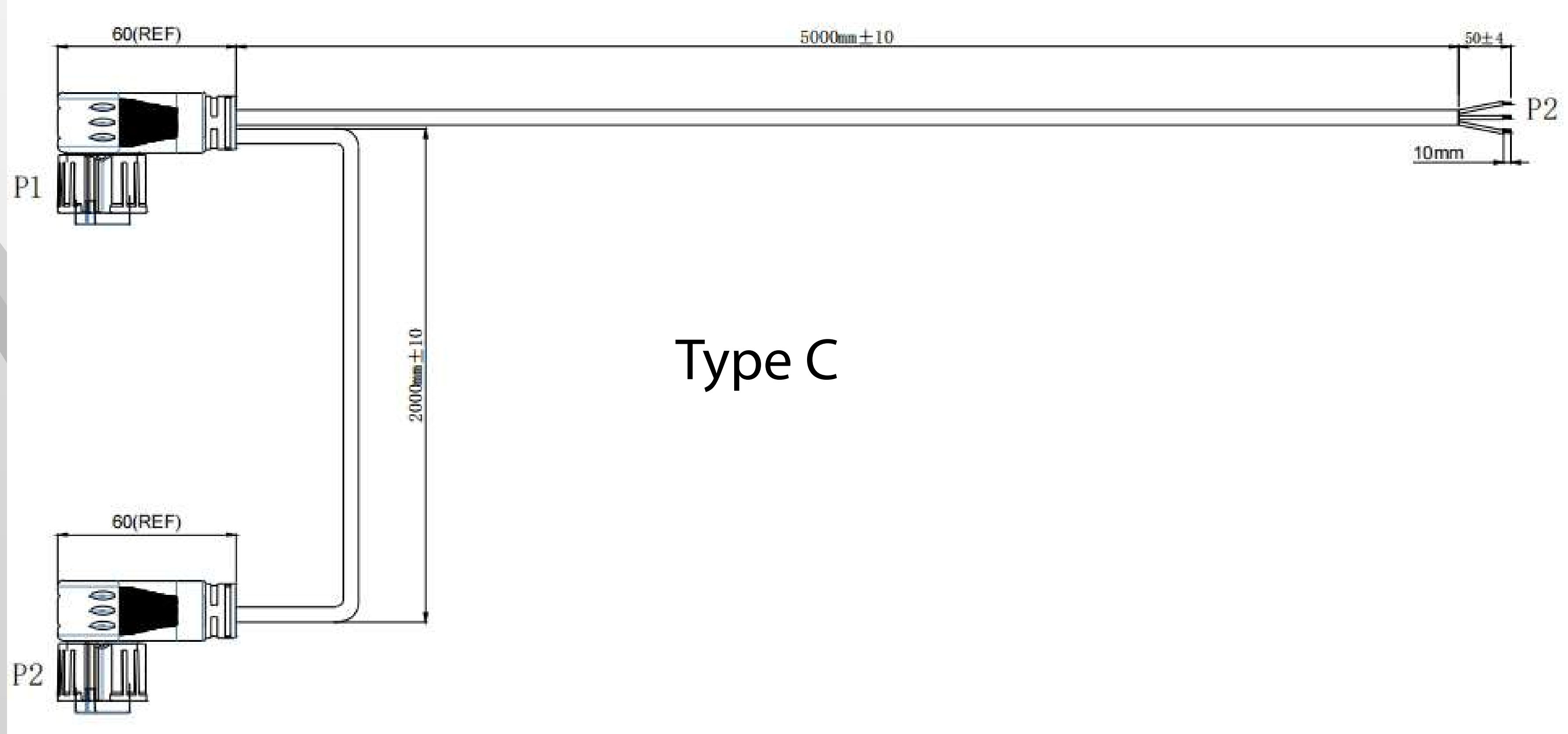
Insert the M3 hex wrench into the six fixing holes on the rear, turn clockwise 45° to the loosened position, then push the module forward by the handle to remove it.

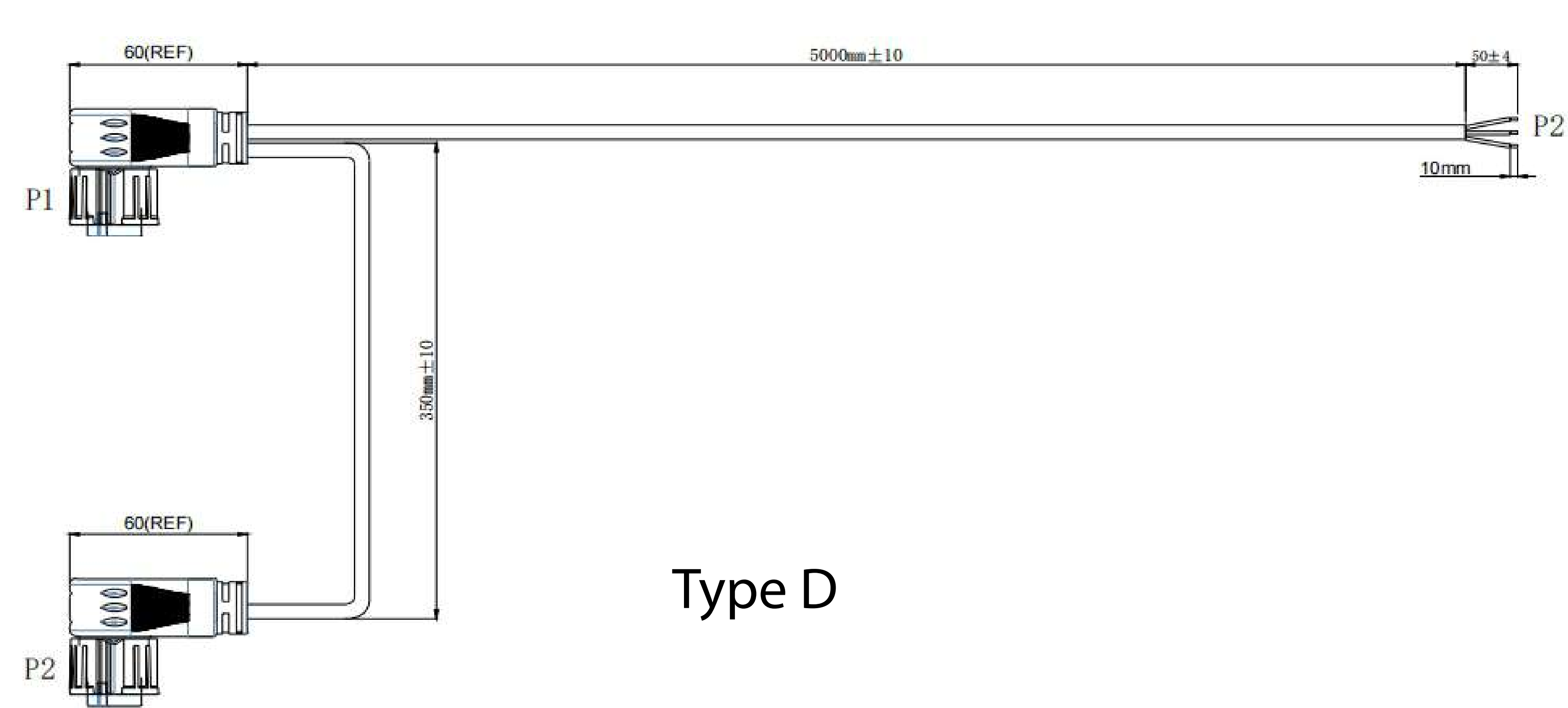
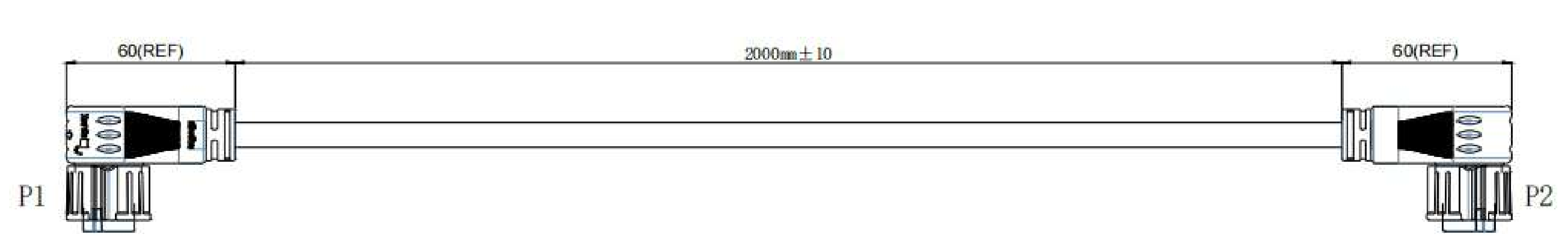




2. System Wiring

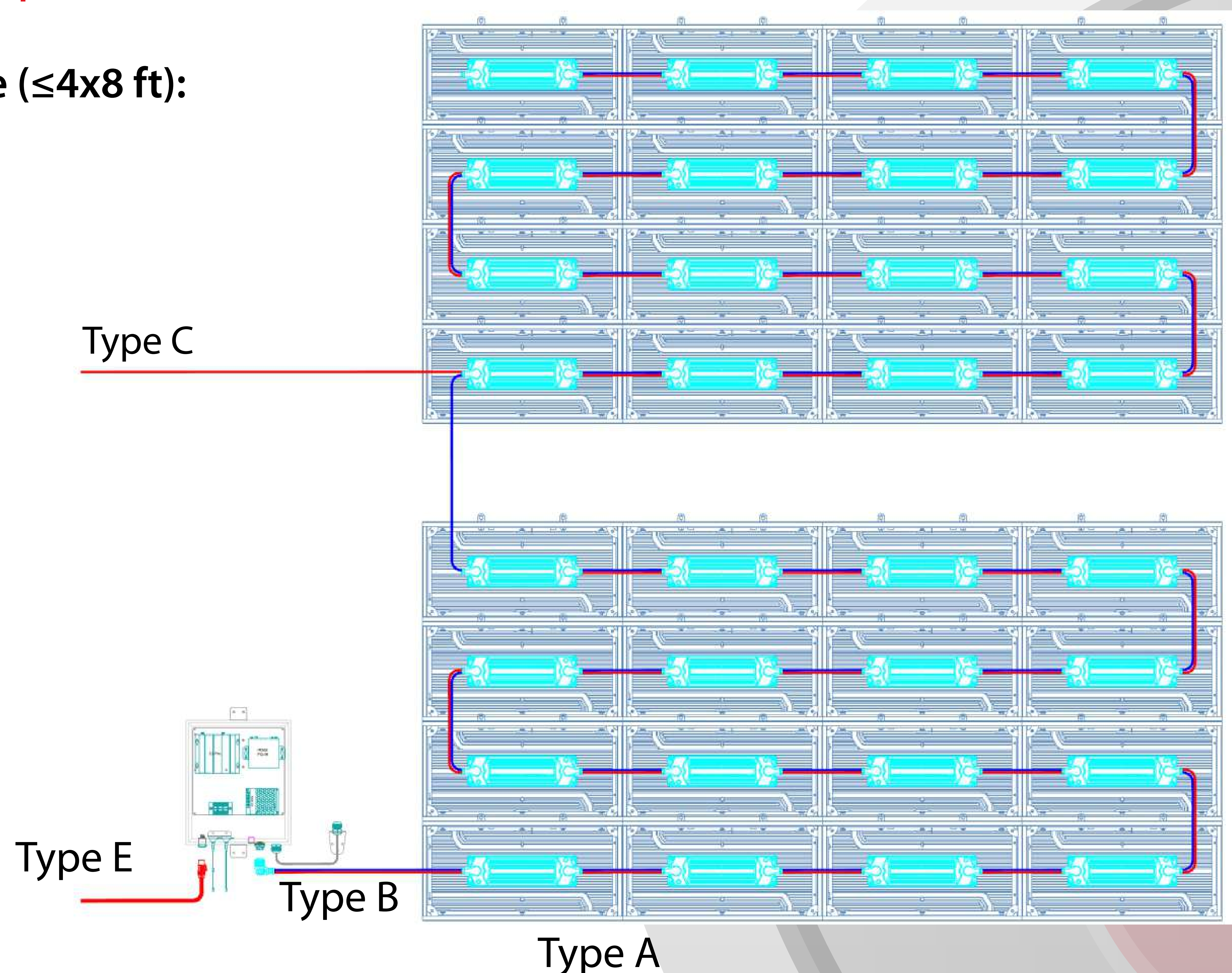
2.1 Cable Types and Definitions

Type	Connections	Transmission
A	Unit to Unit:  Type A	Power + Data
B	Control Box to Unit:  Type B	Power + Data
C	Circuit to Unit / Unit to Unit:  Type C Note: Use with double-sided screens to power the secondary side and bridge data between the primary and secondary sides.	Power + Data

Type	Connections	Transmission
D	Circuit to Unit / Unit to Unit:  Type D Note: Use with single-sided screen when the power load exceeds one circuit to supplement power and bridge the data between units.	Power + Data
E	Control Box to Unit:  Type E	Power

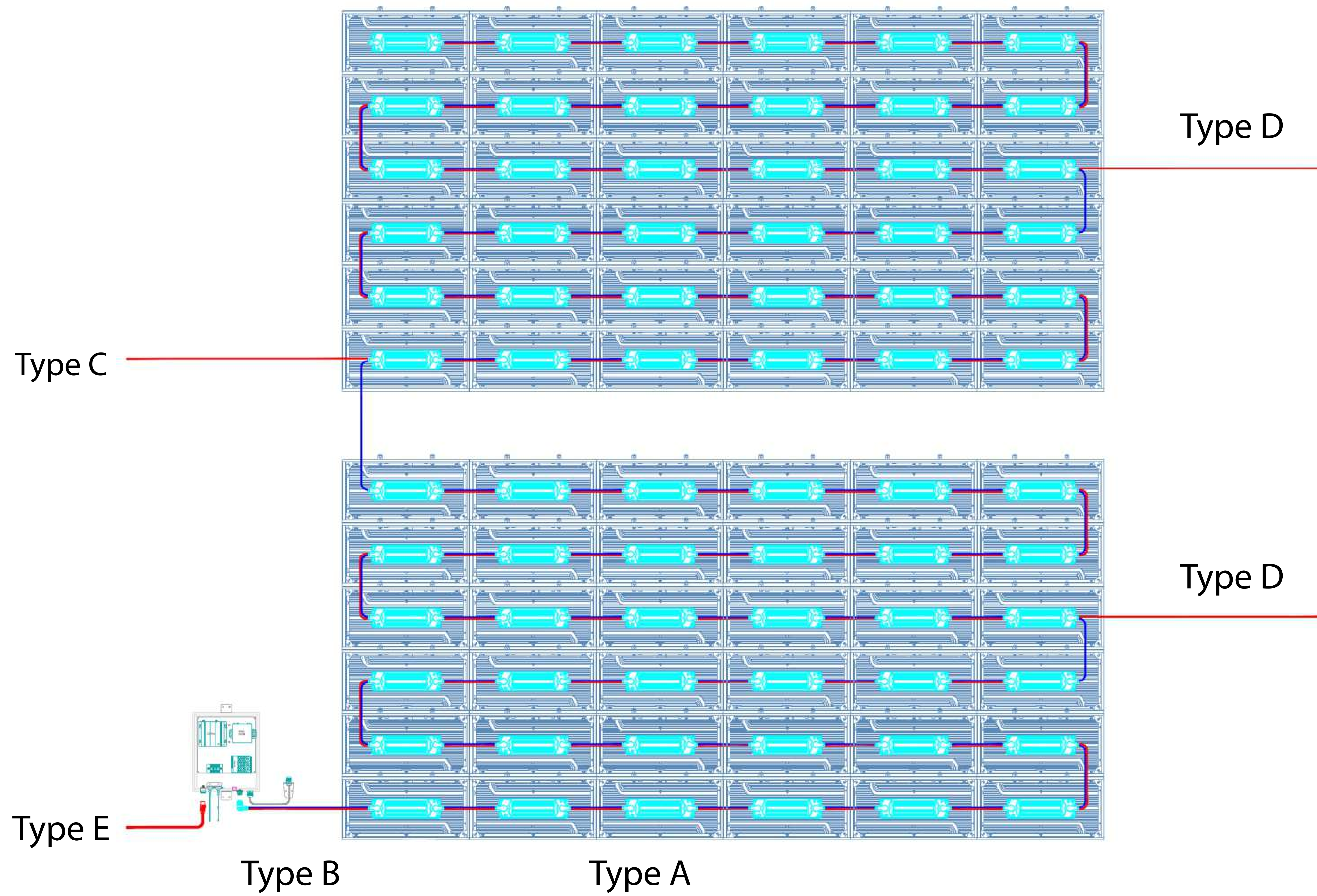
2.2 System Wiring Diagram (Example: 120V, 20A circuit)

Double-Sided Screen ≤16 units per side (≤4x8 ft):
Use cable types A, B, C, E.

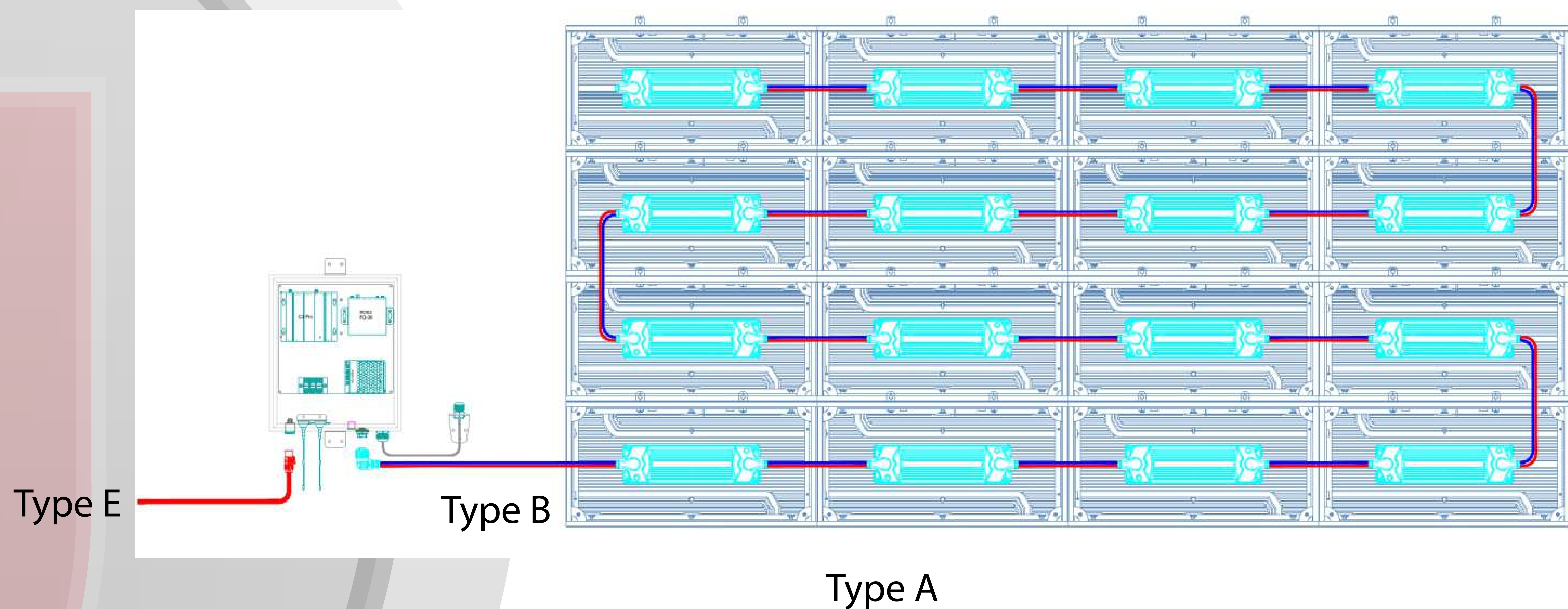




Double-Sided Screen >16 units per side:
Use A, B, C, D, E.

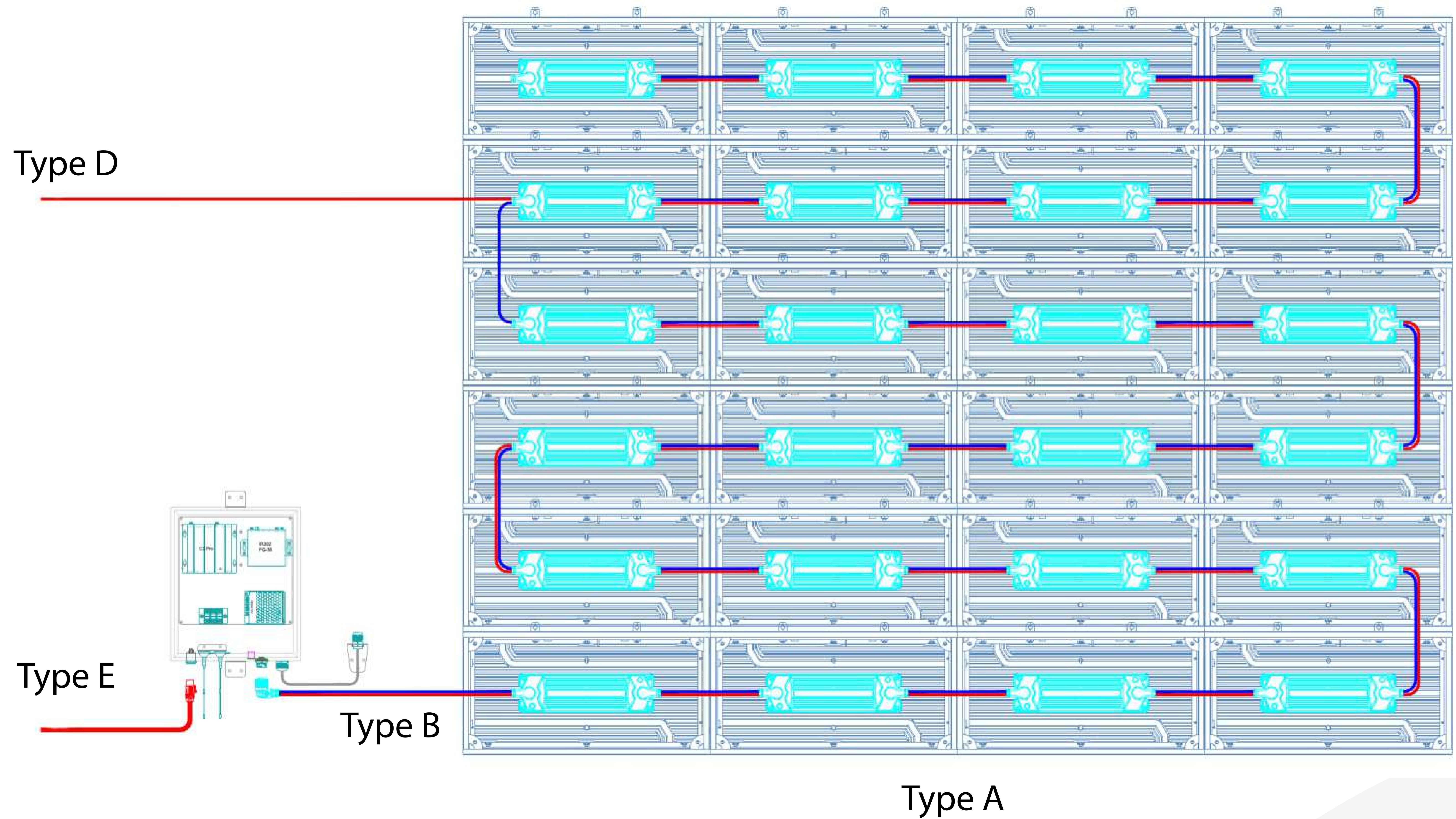


Single-Sided Screen ≤16 units (≤4x8 ft):
Use A, B, E.





Single-Sided Screen >16 units (>4x8 ft):
Use A, B, D, E.



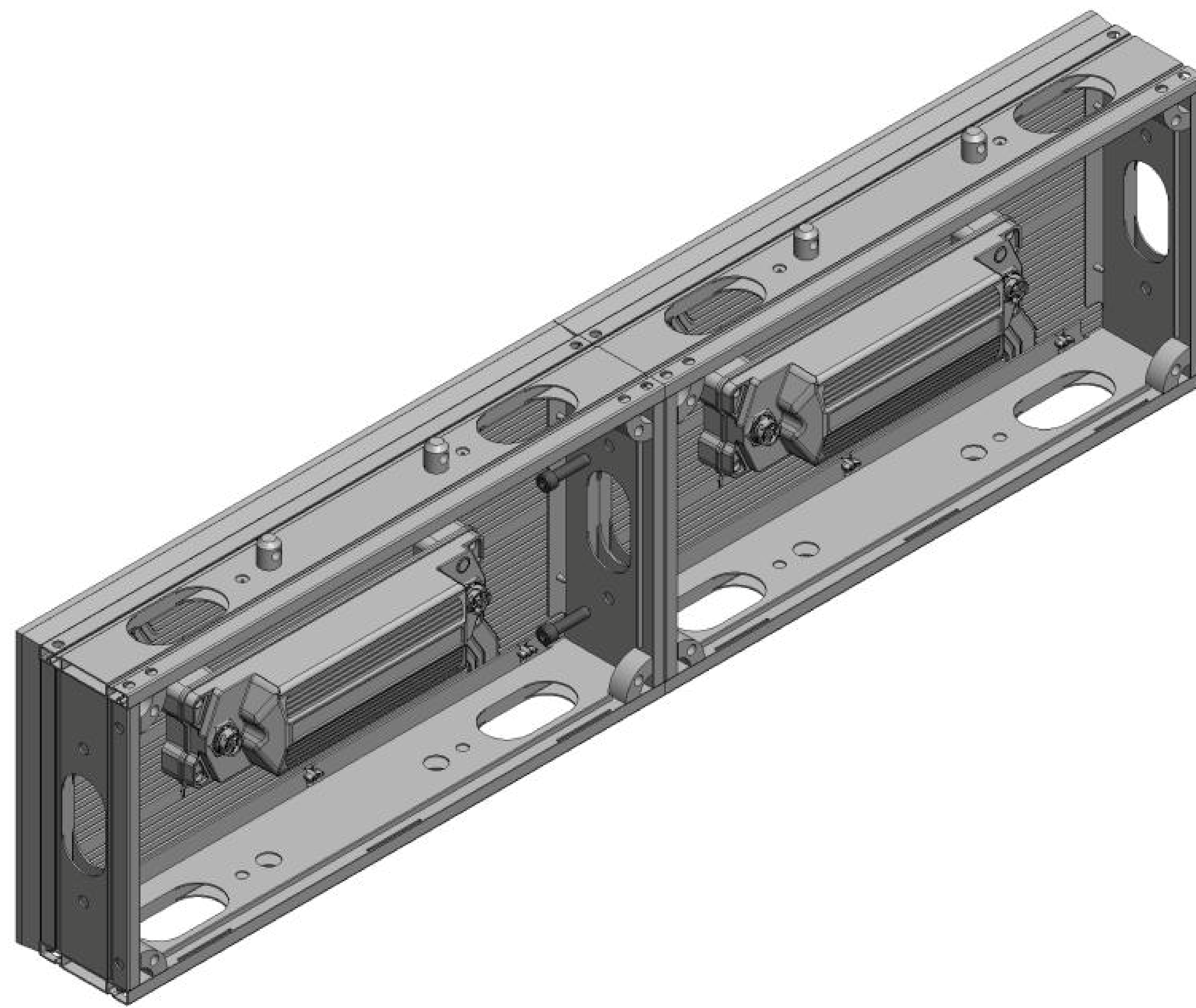
Note: For 220–240V input, each circuit can carry up to 32 units. Actual wiring should follow on-site circuit specs and unit power data.

3. Installation

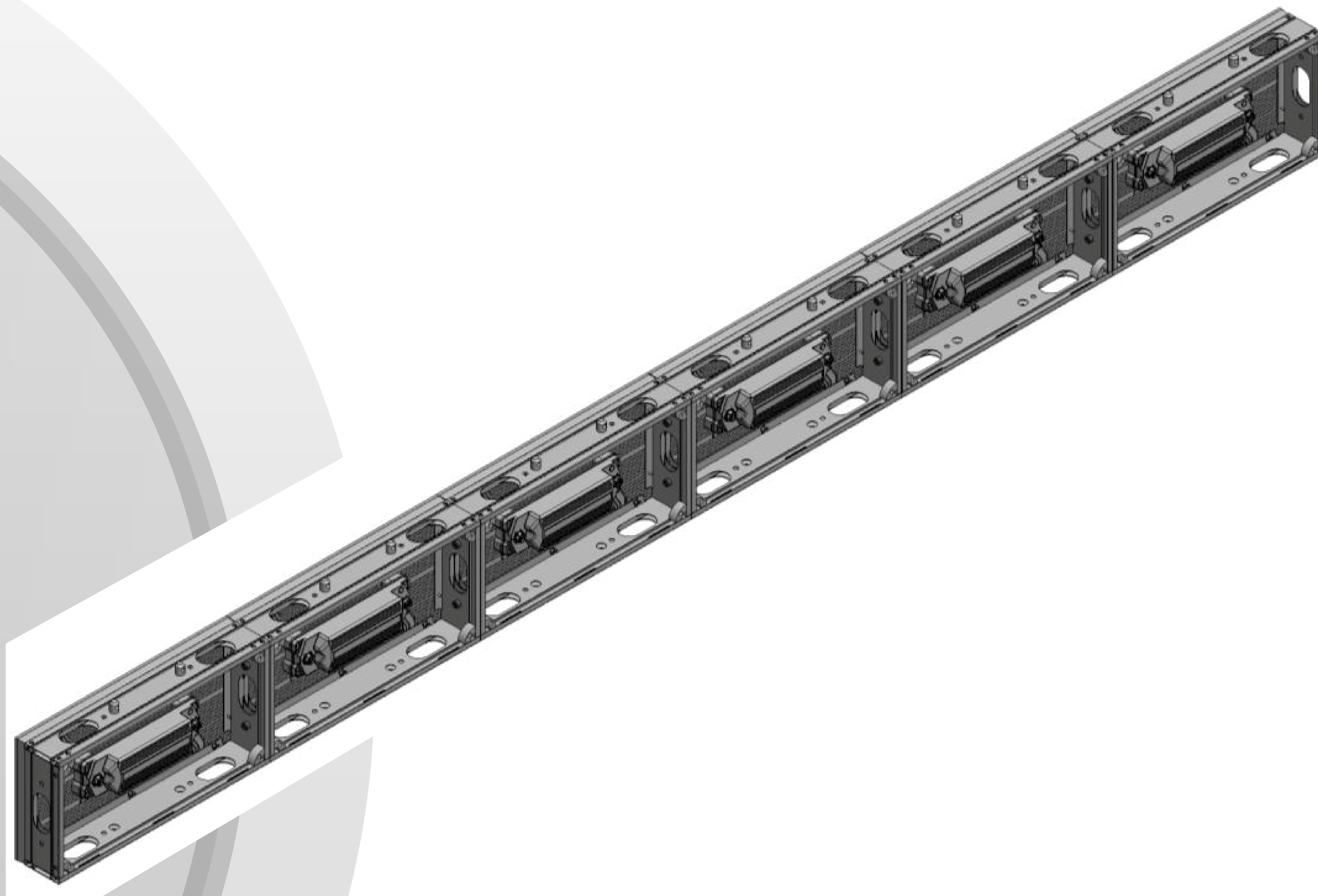
For screen size $\leq 7'H \times 12'W$ (2.13 m $\times$ 3.66 m), i.e. ≤ 42 units per face.

3.1 Unit Assembly

1. Start from the bottom center, align two units horizontally, ensure top and front are flush, then tighten the side bolts.

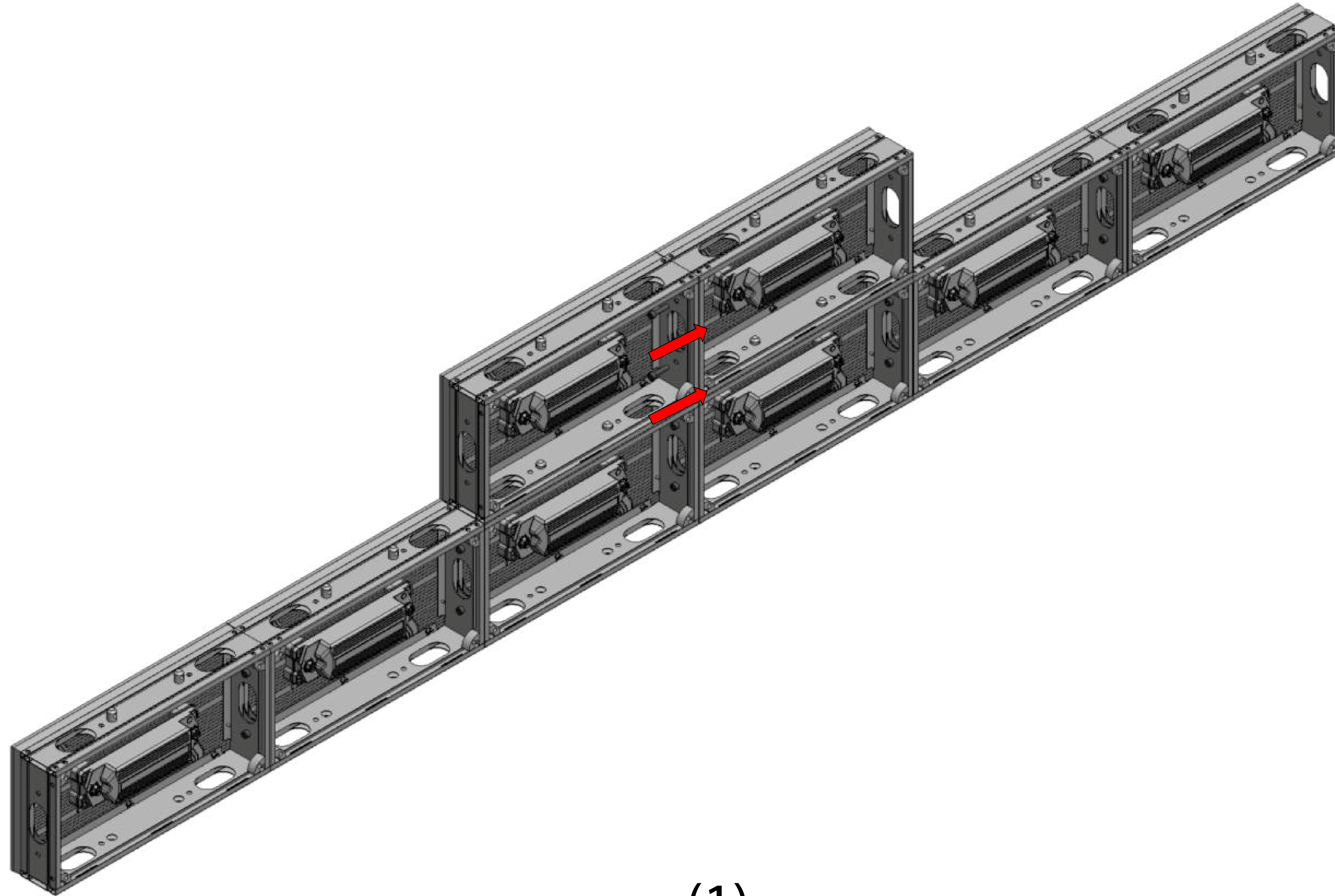


2. Complete the bottom row, checking alignment of the top surface and the front face.

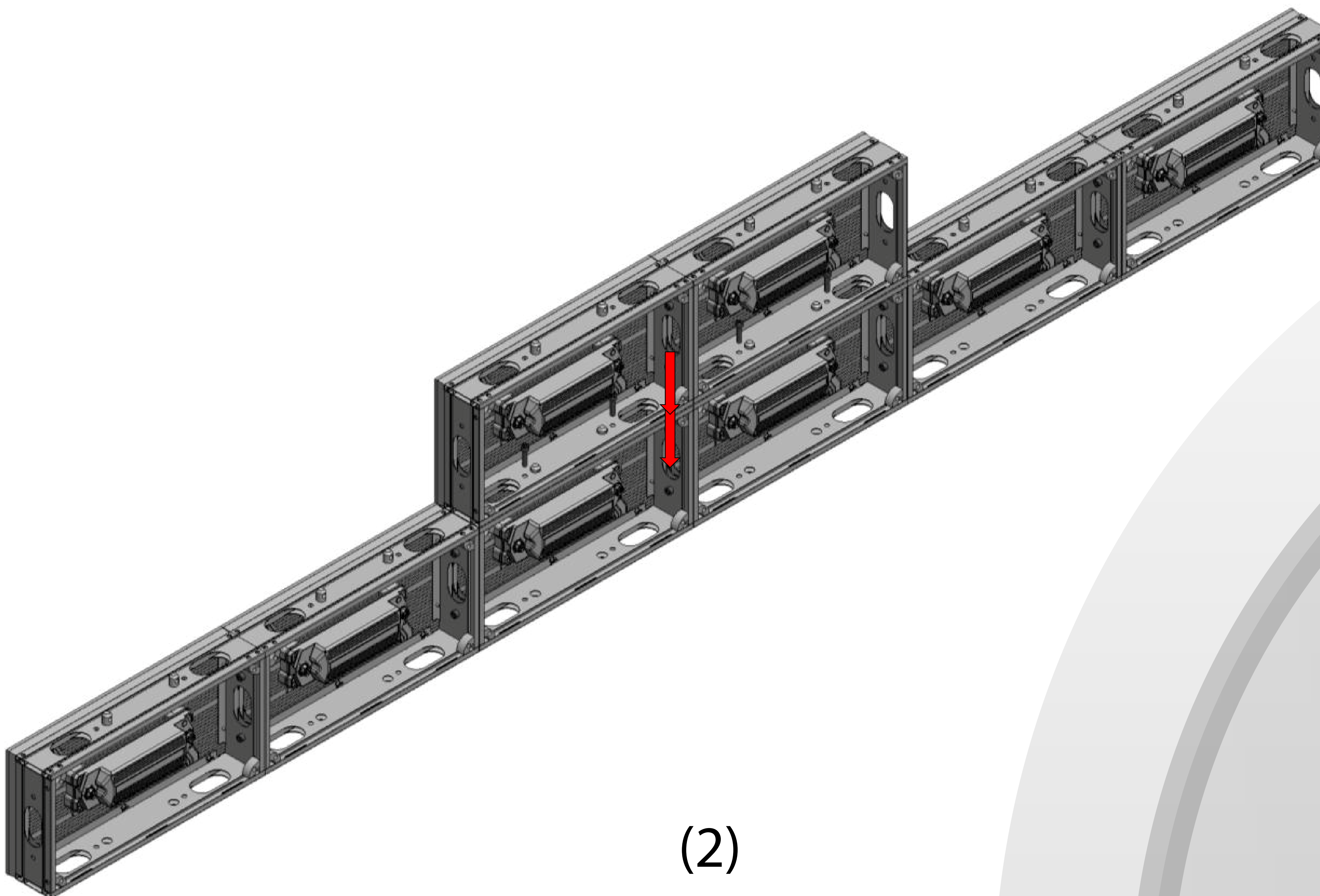




3. Continue with the second row, align with the first row, then tighten upper and lower bolts.



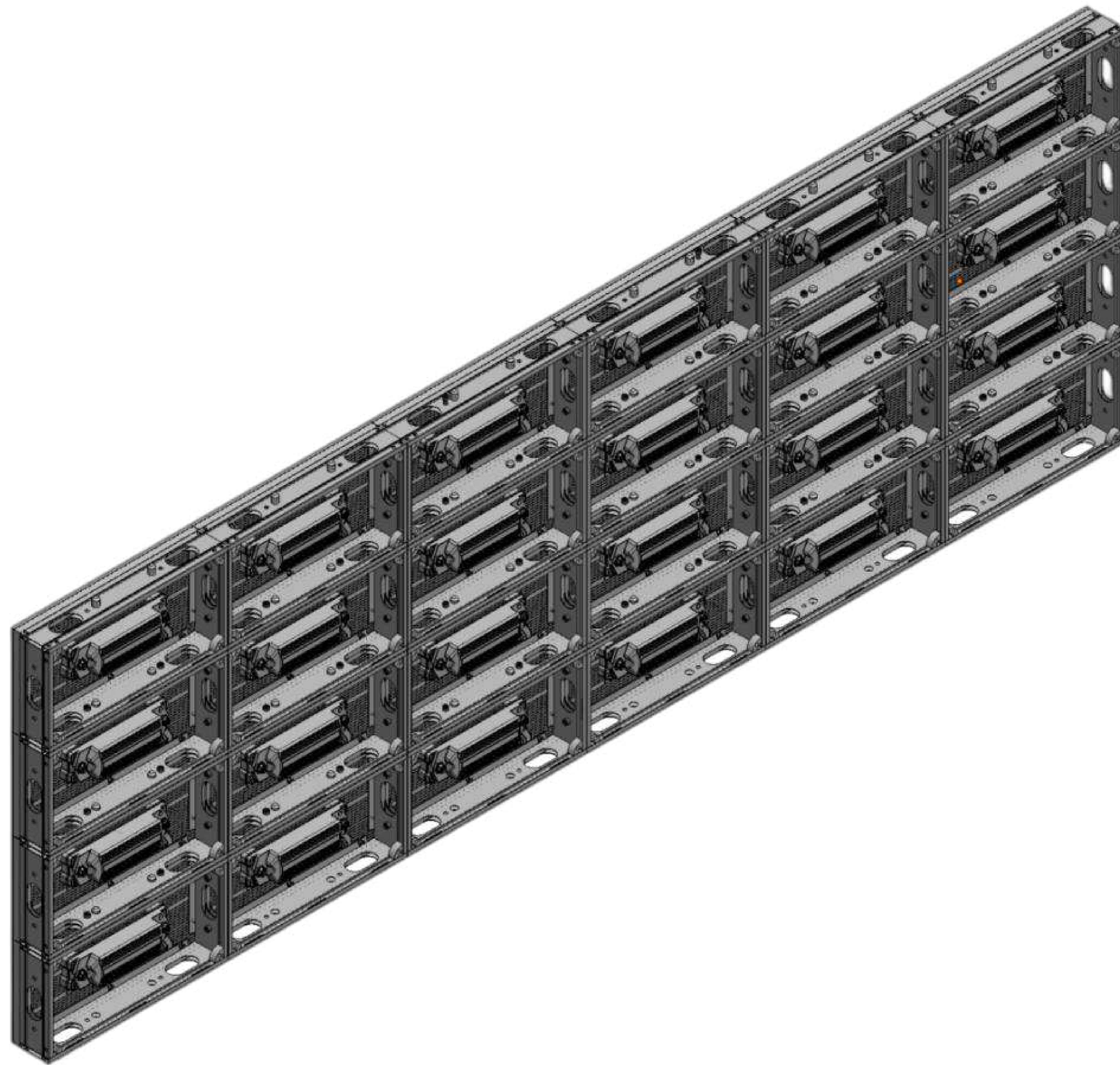
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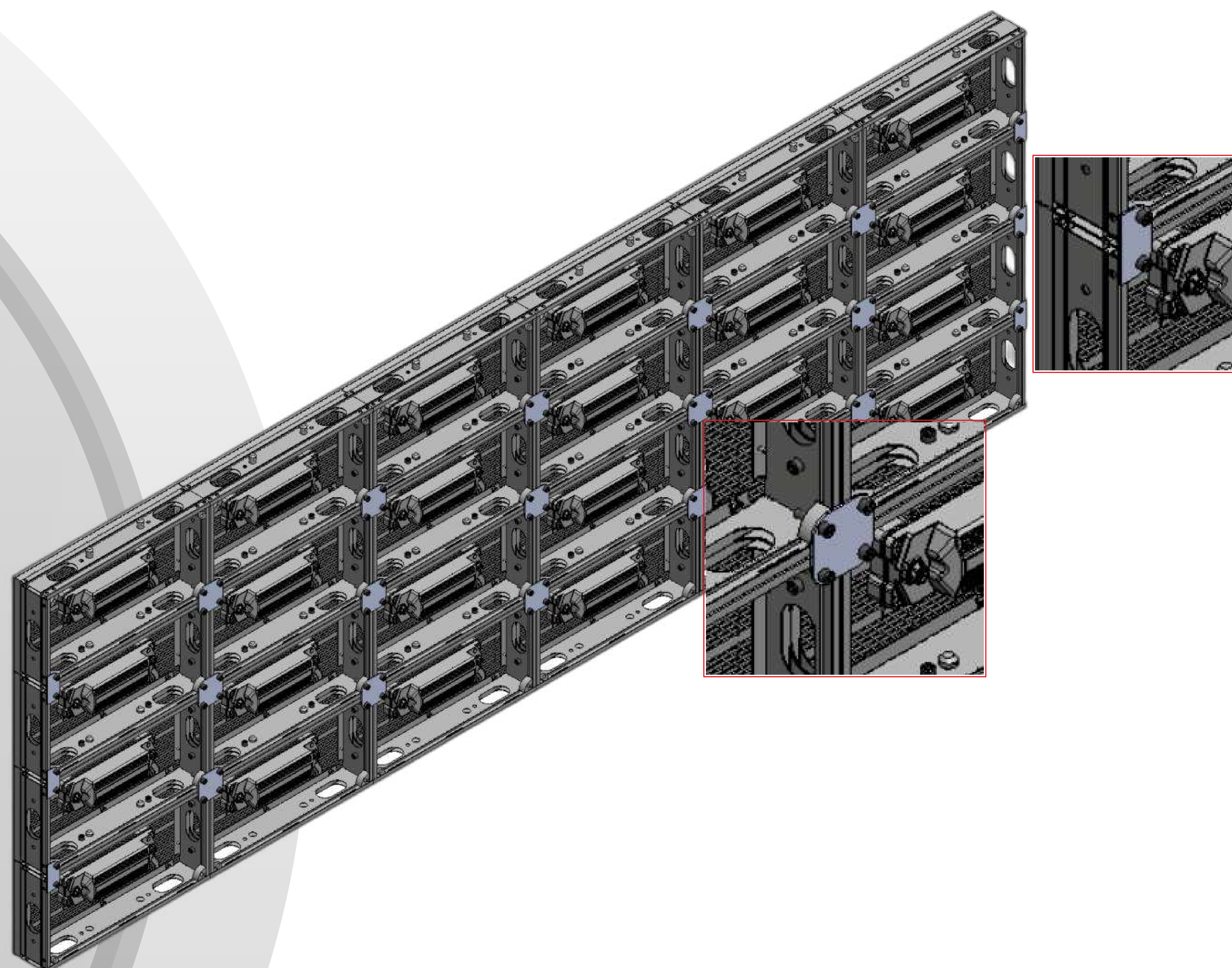
(2)



4. Repeat until all units are connected.

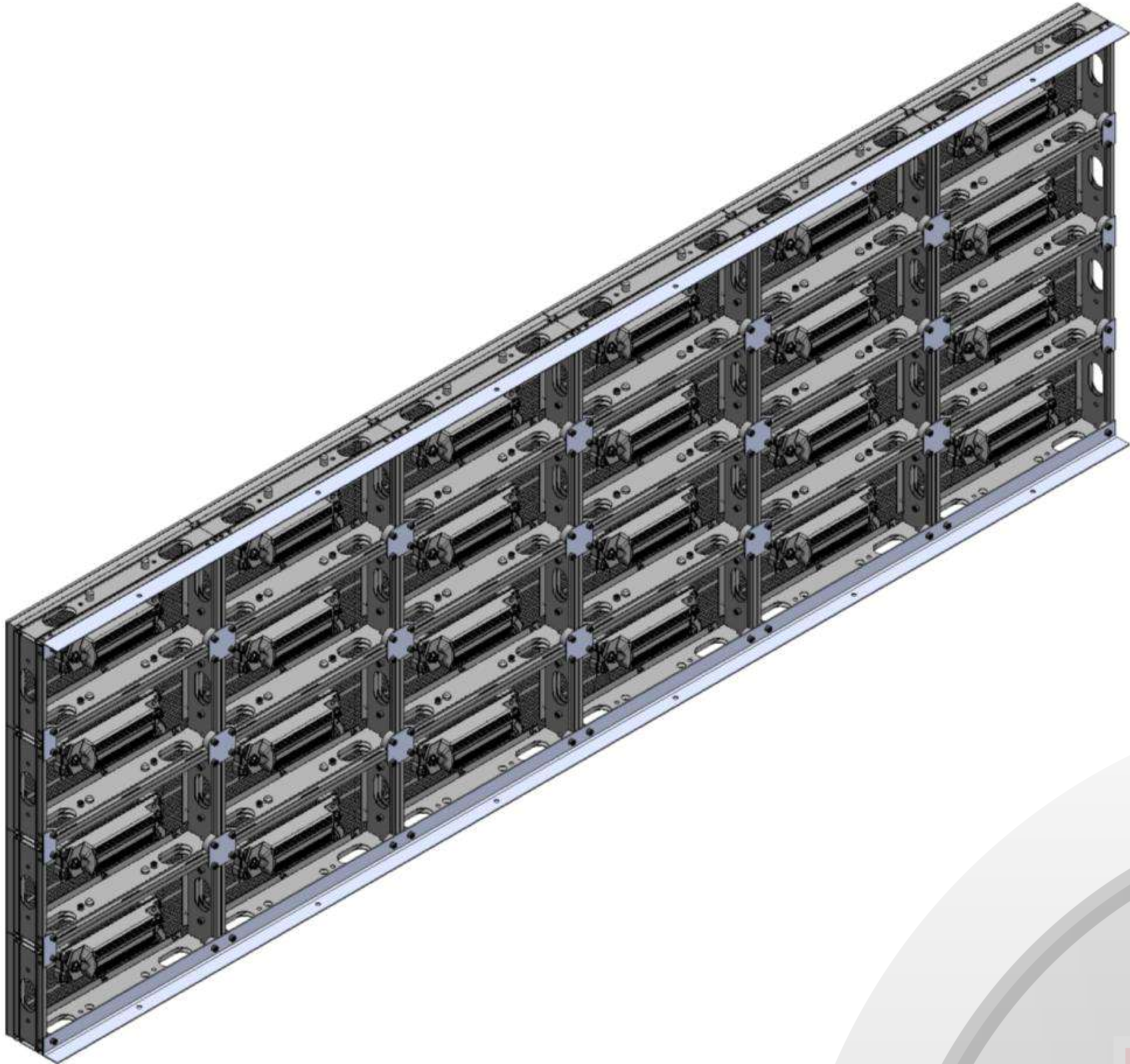


5. Secure the connection plates between units.
Use 2-hole plates for vertical connections at both sides.





6. Use angle irons instead of plates at top and bottom.
Angle iron dimensions — to be fabricated and provided by installer.



- Tip:
- a. For front installation or handheld assembly, remove modules first and assemble frames, then re-install modules.
 - b. Rear cover is recommended only for single-face screens.

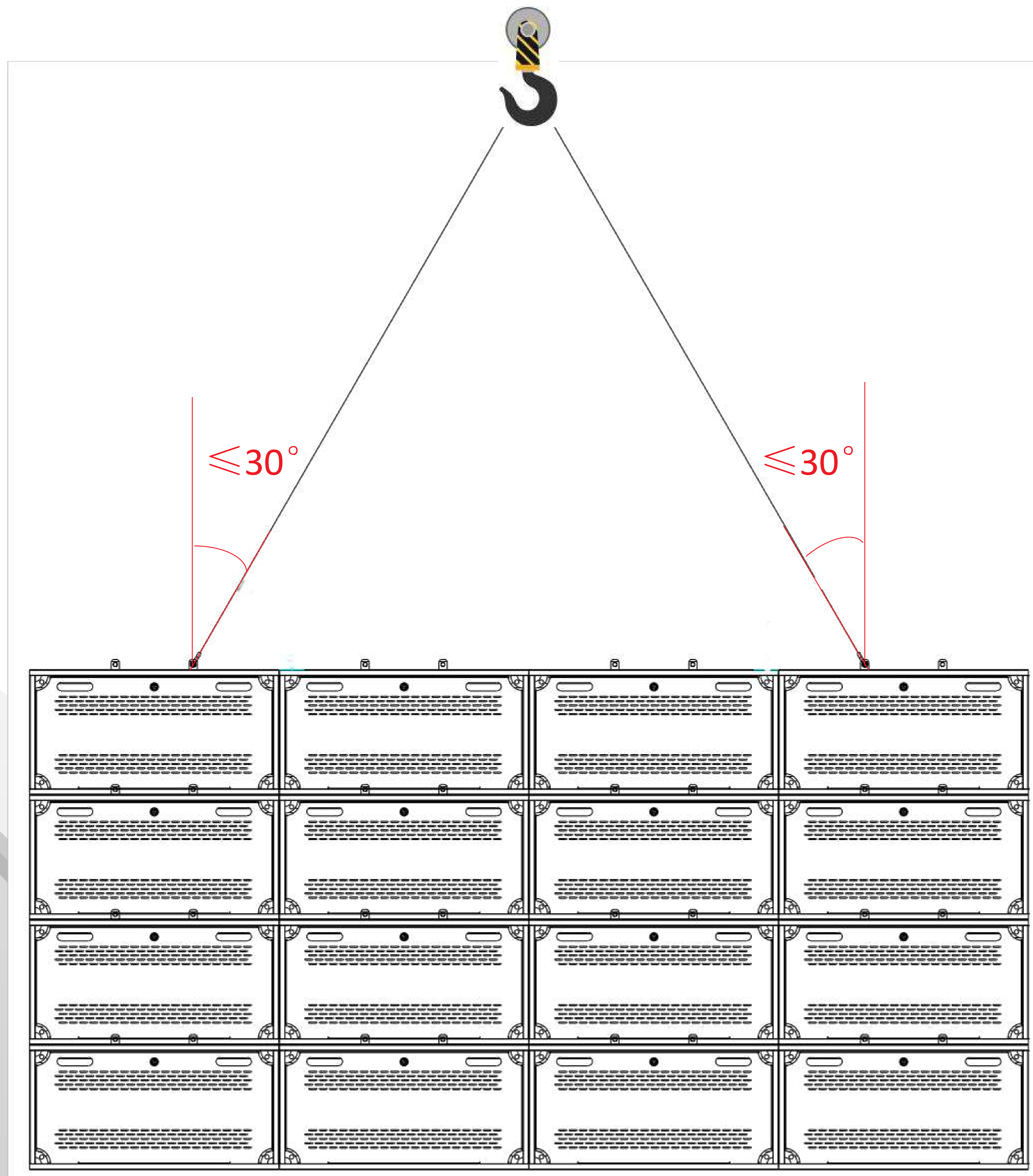


3.2 Hoisting

Each unit's two top locating pins serve as lifting points.
Attach shackles securely; each lifting point supports up to 100 kg.
Ensure all bolts and plates are tightened before lifting.

1. Simplified Hoisting:

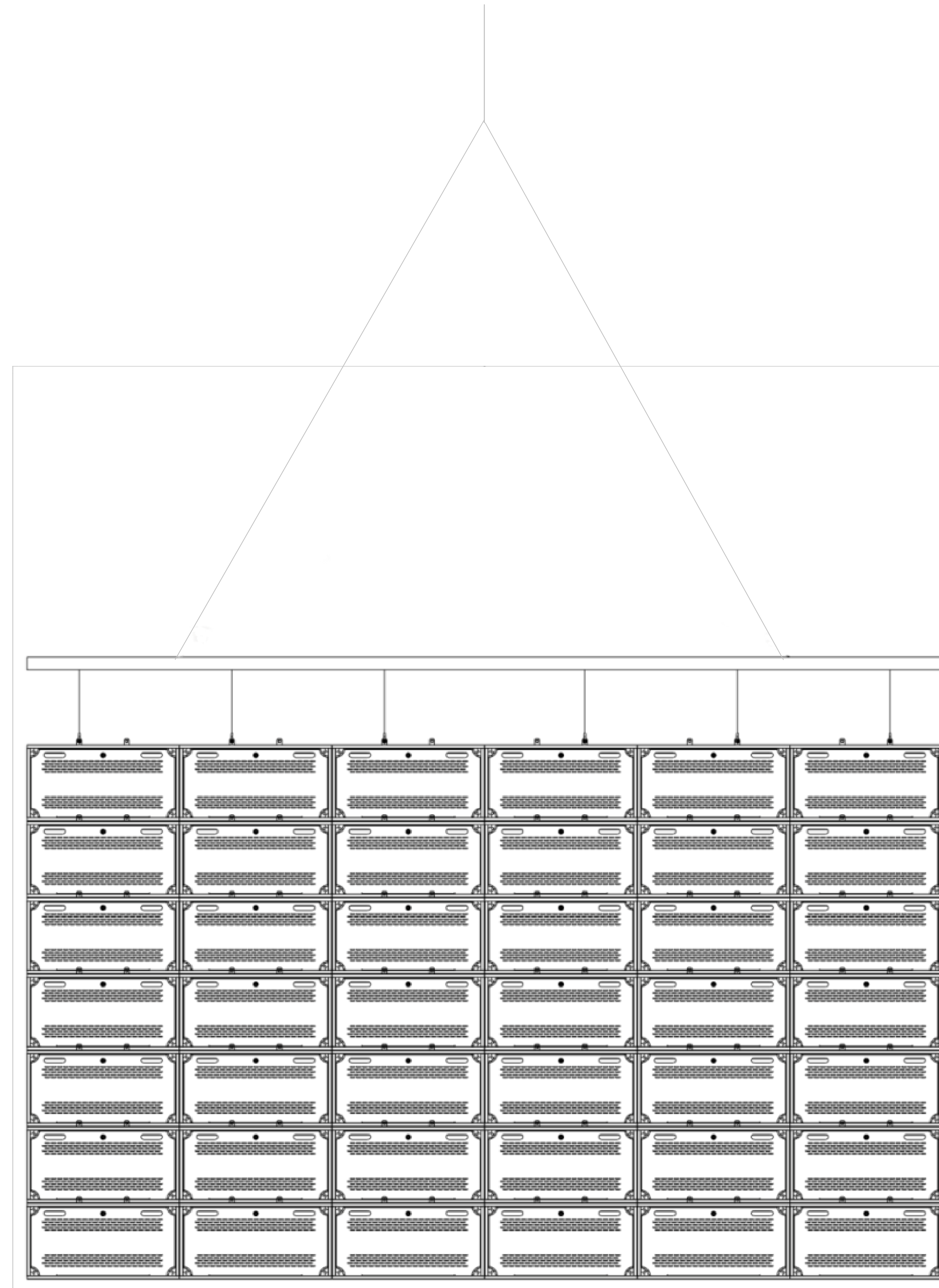
For ≤ 20 units — 2 lifting points, sling angle $\leq 30^\circ$.





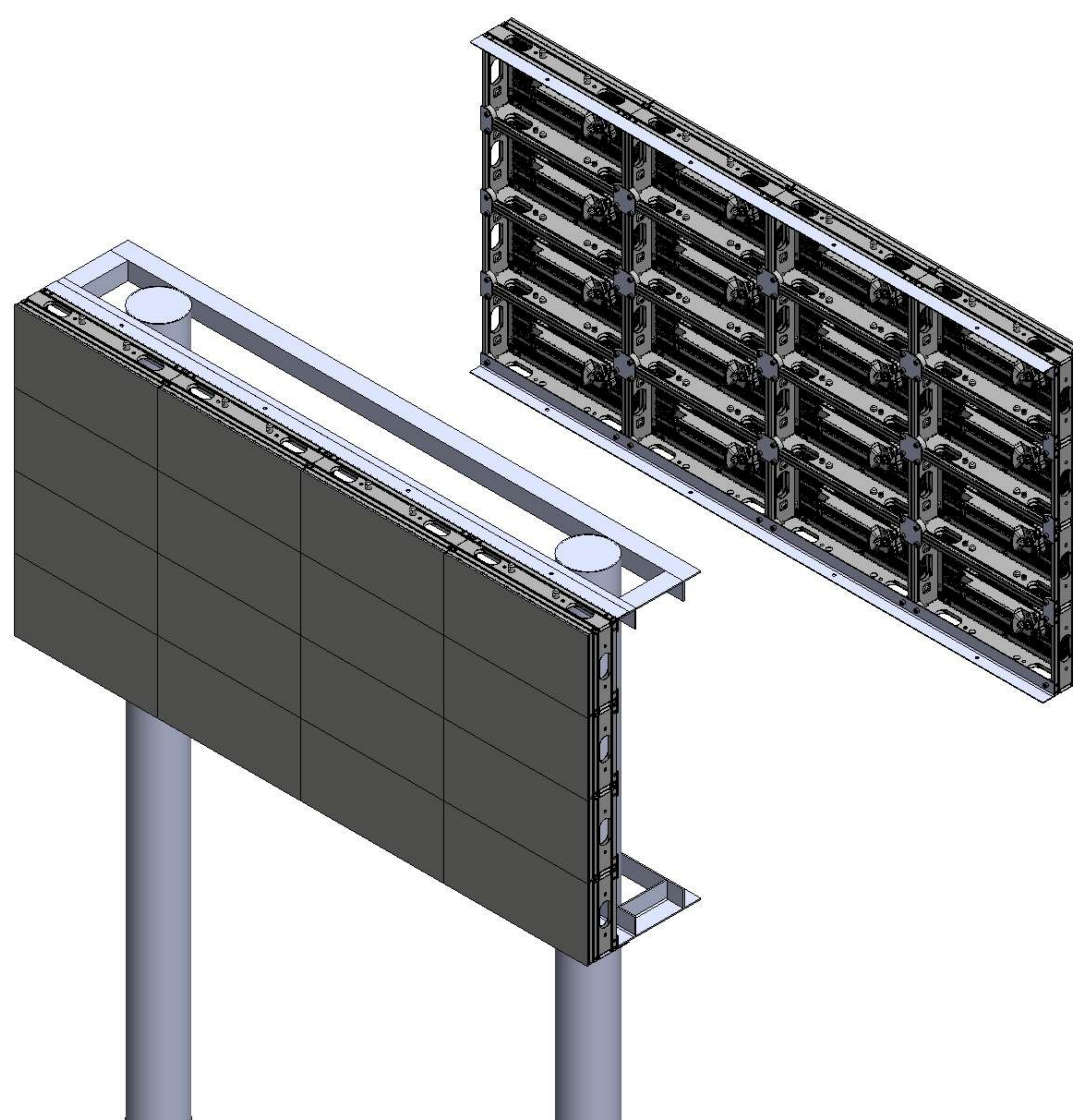
2. Standard Hoisting:

For >20 units — use a lifting beam; each lifting point supports ≤ 10 units.



3.3 Structural Fixing

Weld or bolt the angle irons to the supporting structure.





4. Troubleshooting

Problem	Solution
Entire screen abnormal	1.Check power circuits
	2.Check signal input
	3.Check software and brightness settings
Portion of screen abnormal	1.Check connection between normal and abnormal units
	2.Check output of the normal unit
	3.Check input of the abnormal unit
Single unit abnormal	Replace unit

Any fault can be resolved on-site by replacing the module or cable.
After replacement, contact your Dakco representative for further analysis or repair.