AEtrium System Maintenance



Ætrium 2.1

Grow Module Assembly Instructions

SOP6

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1. Pre-Assembly

Notes:

- Most parts are placed near their locations to be assembled as shown in the pictures. Before unpacking, please read this step-by-step assembly procedure first.
- Some parts may be found in the accessory box (separate small wooden palate). Please retrieve them based on the Part Numbers listed in that specific step.

Assembly Instructions:

The following pictures illustrates the overall status prior to assembly.

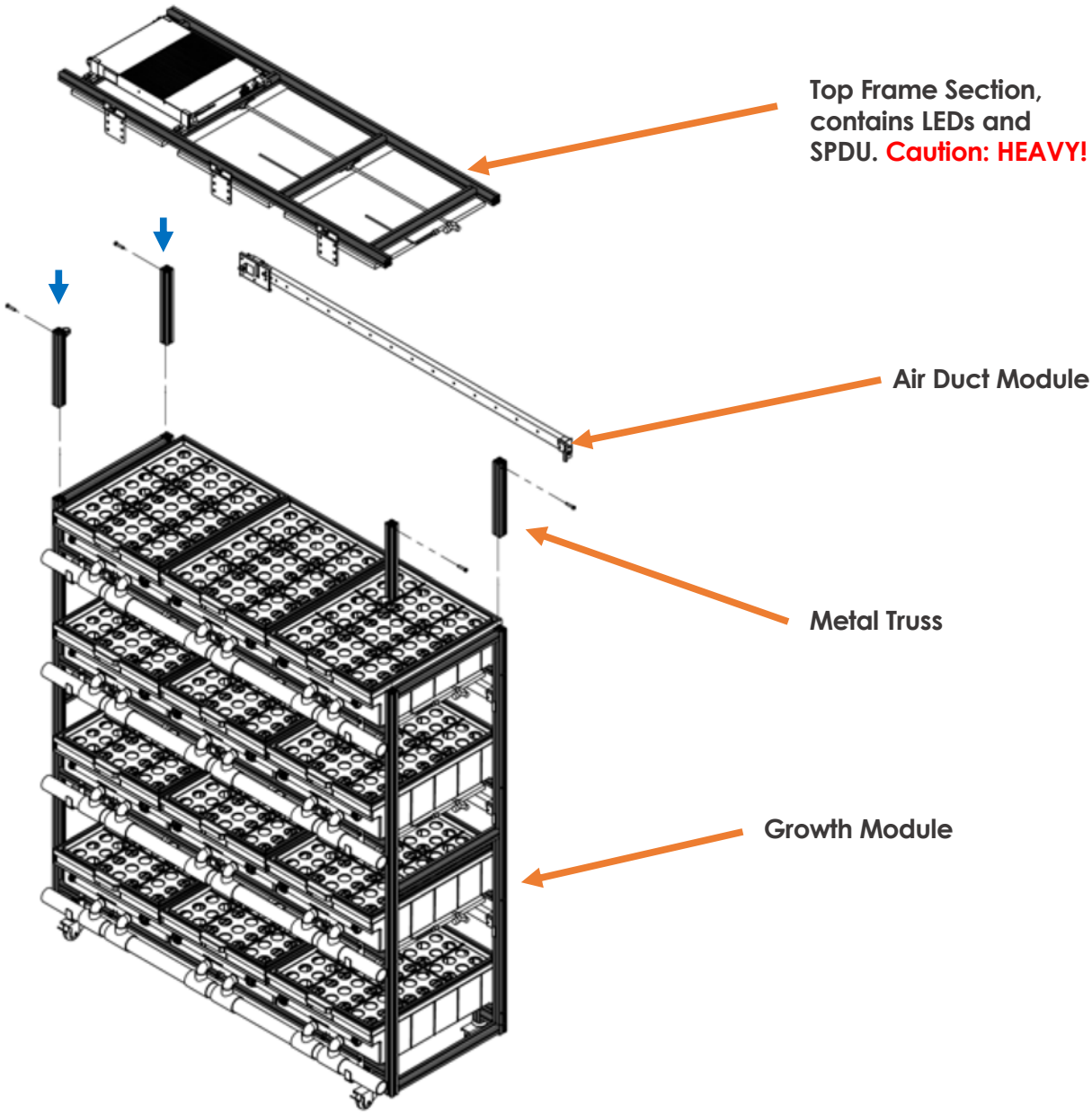




2. Section Assembly

Assemble the 4th Layer of each growth module

2a. Due to shipping height restrictions, the 4th layer must be assembled after shipment.

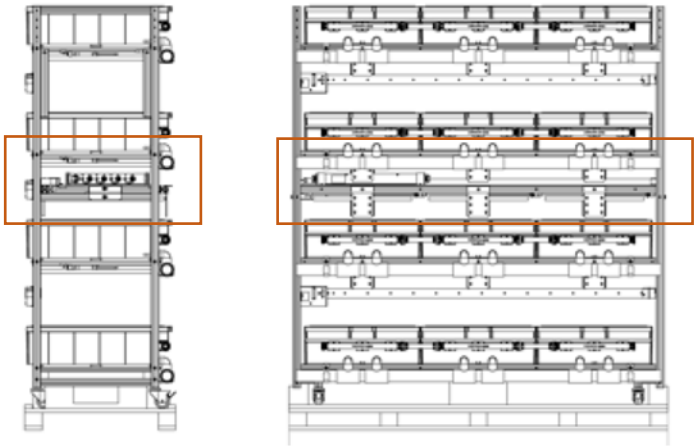


All necessary parts are stored within the space of the 2nd layer, as show next.

2. Section Assembly

Assemble the 4th Layer of each growth module

2b. The required parts to assemble the 4th layer are located in the 2nd layer of the packaged AEtrium 2.1

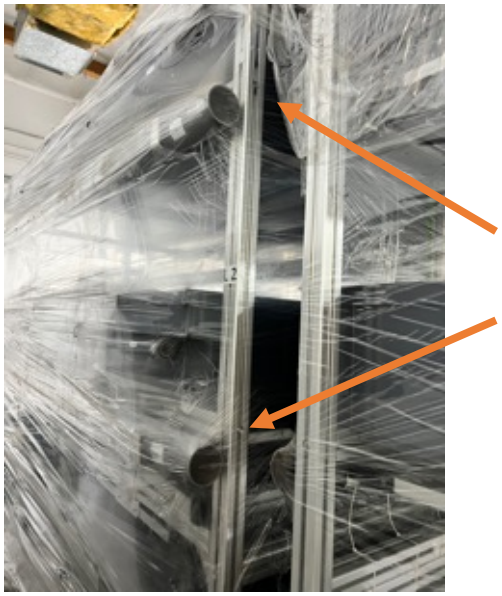




2c. To remove these components, untighten and remove the edge holding brackets on the layer (4 in total)



2d. Then, slightly loosen the holding screws on the trellis bars both above and below the layer section the assembly parts are located (tighten them back up afterwards)

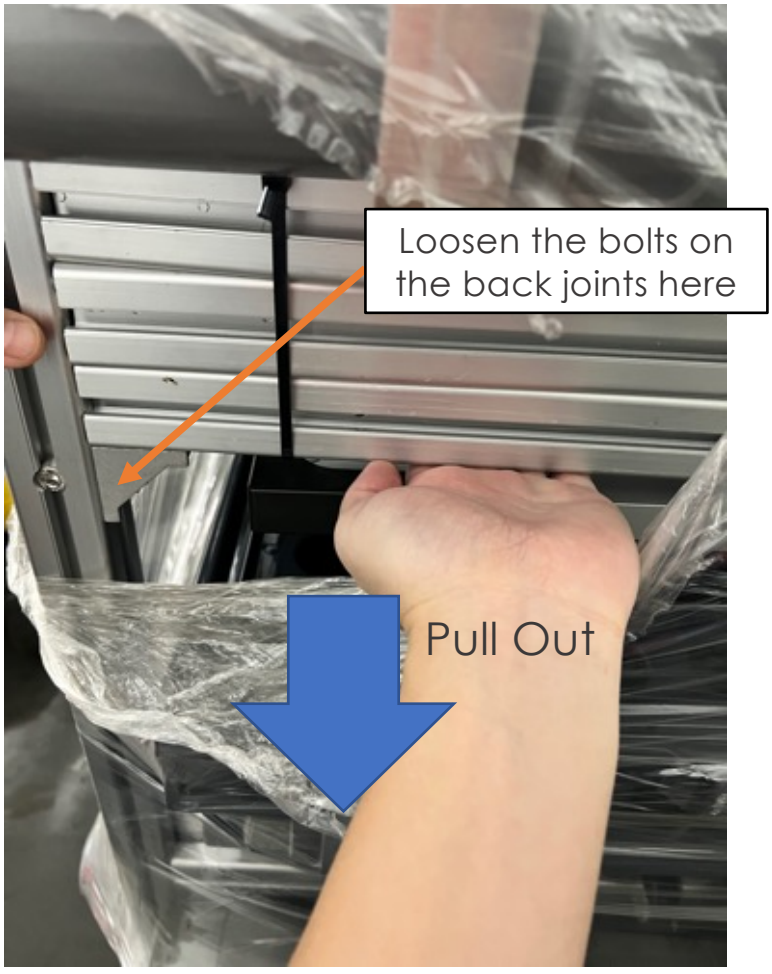


2. Section Assembly

Assemble the 4th Layer of each growth module



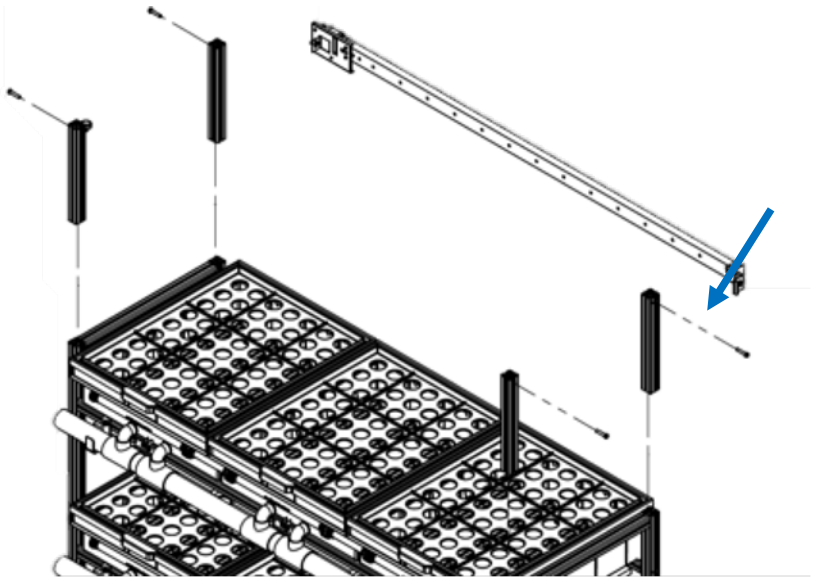
2e. Loosen the bolts and gently lift and slide out the 4th layer components out **Caution: Heavy!**



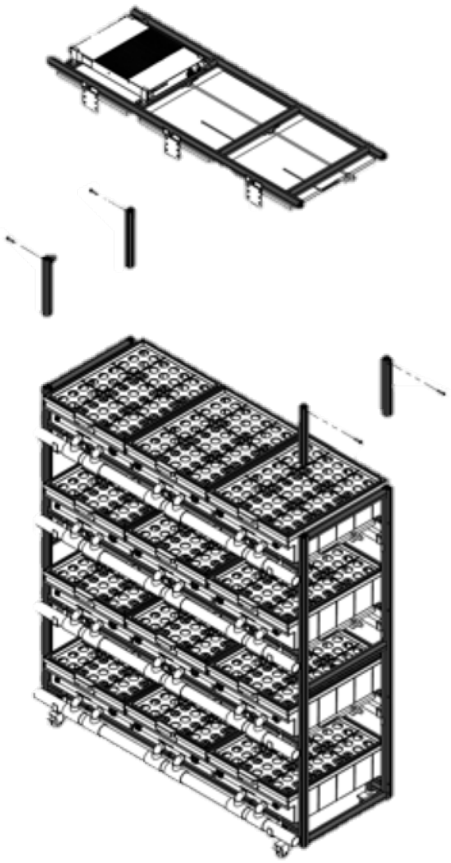
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2. Section Assembly

2f. Assemble the 4 truss pieces at the 4 top corners of the section. Pay attention to the screws.



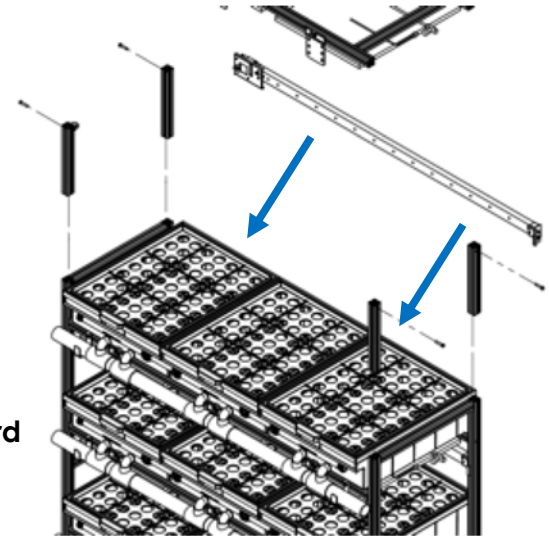
2g. Install the SPDU and LED module, **CAUTION: HEAVY!**



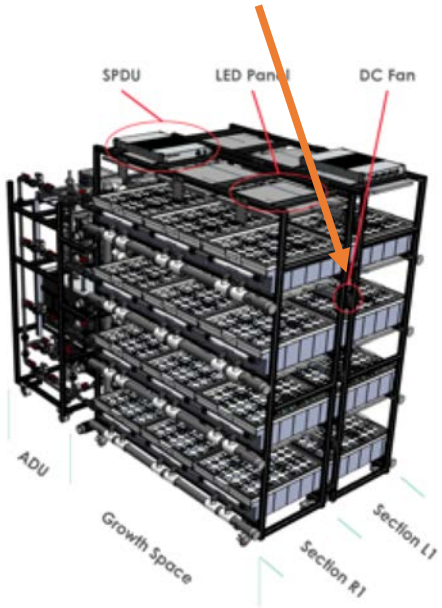
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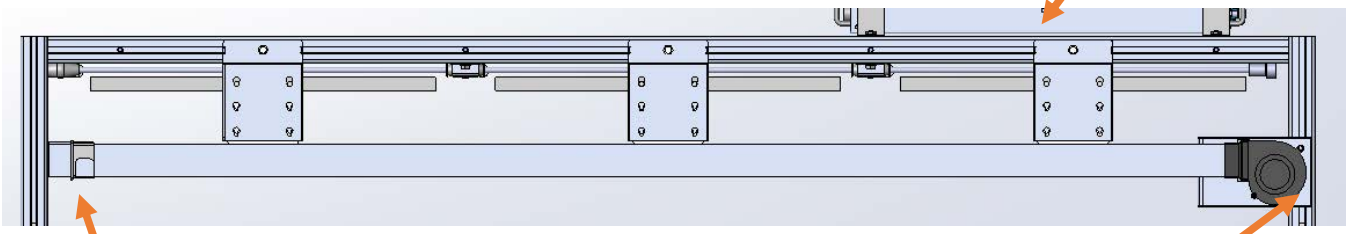
2. Section Assembly

2h. Install the air duct module, they will be on the **inside** once all growth modules are connected

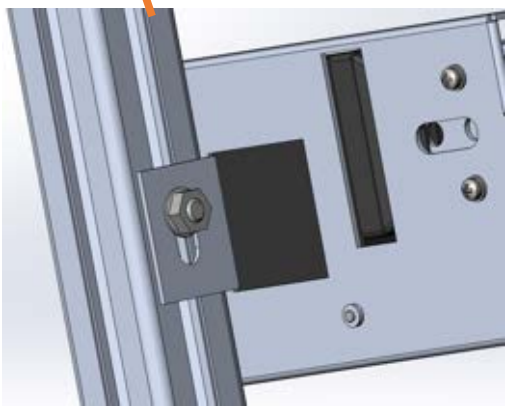


Pipes facing outward





Attach the mounts to the trellis and screw in the holding plate

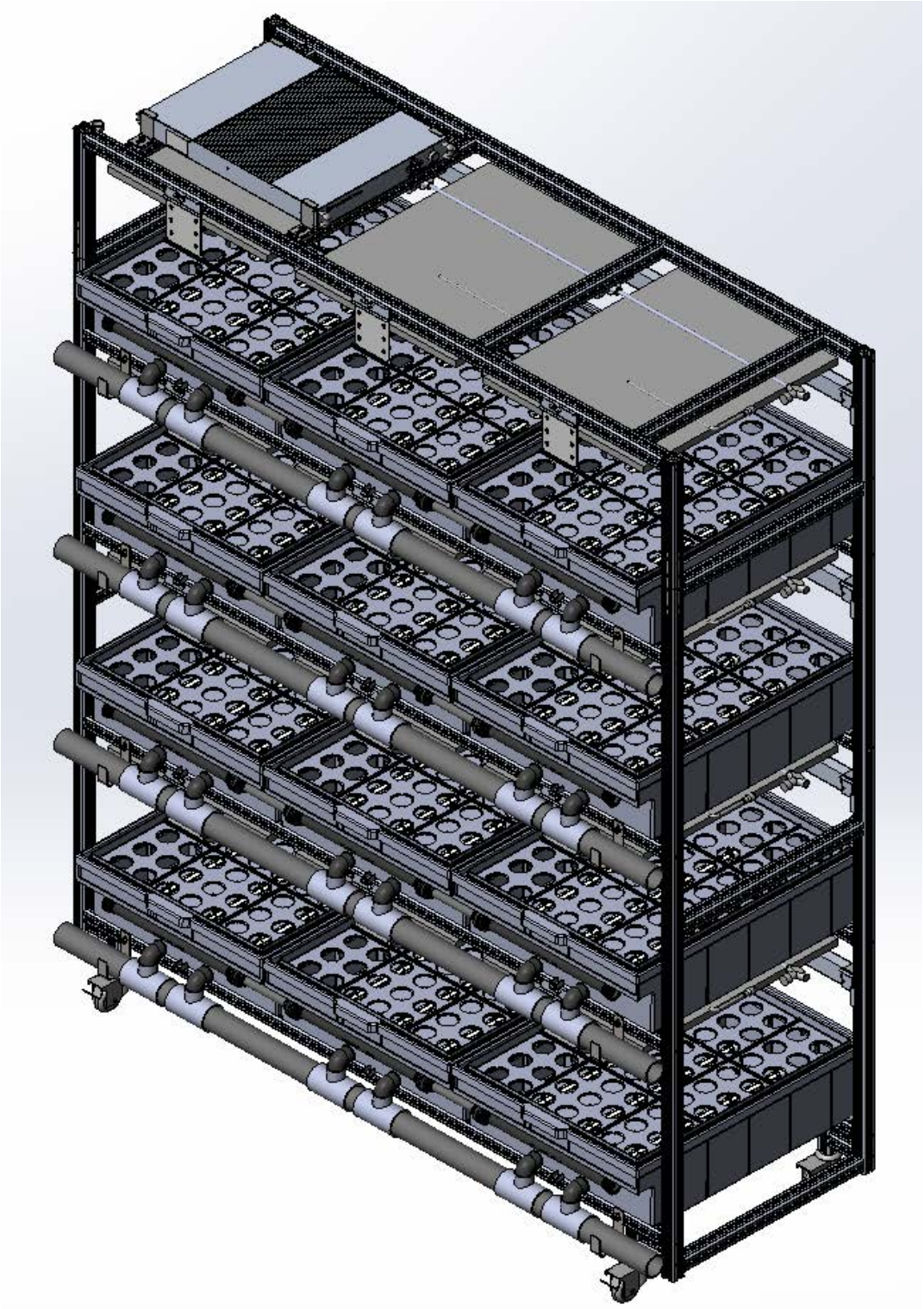




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2. Section Assembly

2i. Each growth module should look like this once assembled:



3. Connecting The Cables to the SPDU

3a. The LEDs and airducts on each module must be connected to the SPDU module on the top. Shown below are every cable needed to connect them.



3b. Each cable is grouped by specific length; the shortest cables connect to layer #4, while the longest cables connect to layer #1. Each cable is also clearly labeled as shown.



3. Connecting The Cables to the SPDU

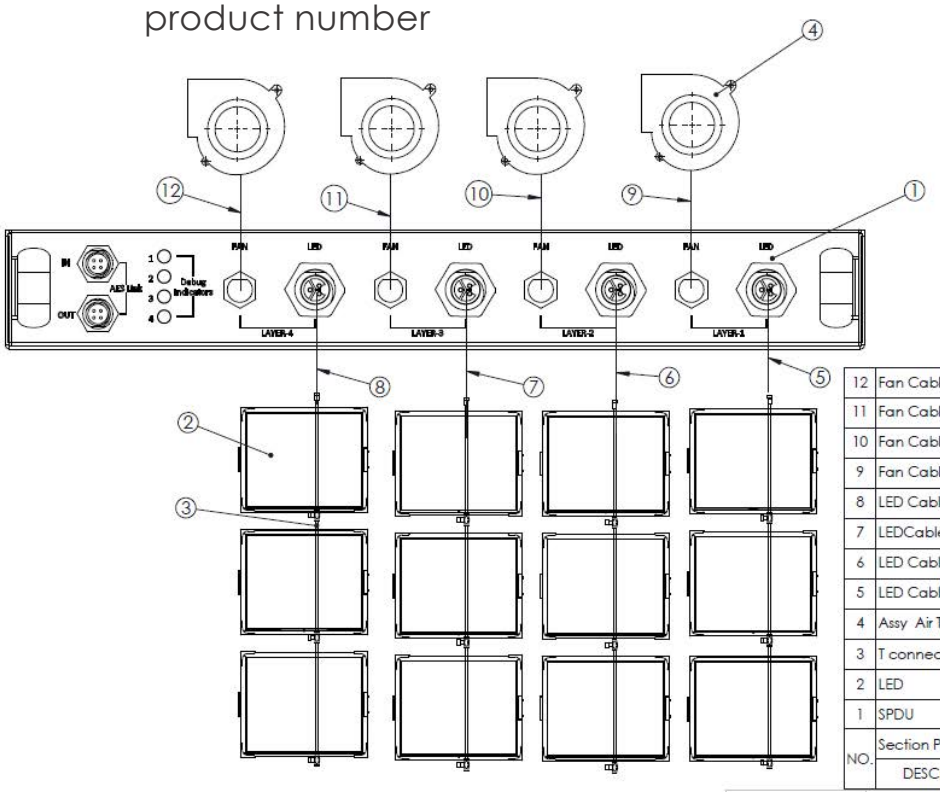
3c. Connect each cable to the corresponding port to the SPDU on top of the growth module. Each port is clearly labeled





Example: Layer 4 fan cable goes here

Below is a diagram for connecting the wiring with each product number



NO.	DESCRPITION	UL Certified Version	QTY.
12	Fan Cable Layer 4	341-00143-01	1
11	Fan Cable Layer 3	341-00142-01	1
10	Fan Cable Layer 2	341-00141-01	1
9	Fan Cable Layer 1	341-00140-01	1
8	LED Cable Layer 4	341-00153-04	1
7	LEDCable Layer 3	341-00153-03	1
6	LED Cable Layer 2	341-00153-02	1
5	LED Cable Layer 1	341-00153-01	1
4	Assy Air Tube	310-10085-01	4
3	T connection cable	340-00040-01	4
2	LED	300-00155-02	12
1	SPDU	300-00168-01	1
	Section PN	300-00137-02	

3. Assembling the Piping Clips

3d. The Piping clips are stored on the second row of the package; the same place where the parts for building the 4th Layer are.



3. Assembling the Piping Clips

3e. Unpack and install the piping clips

1



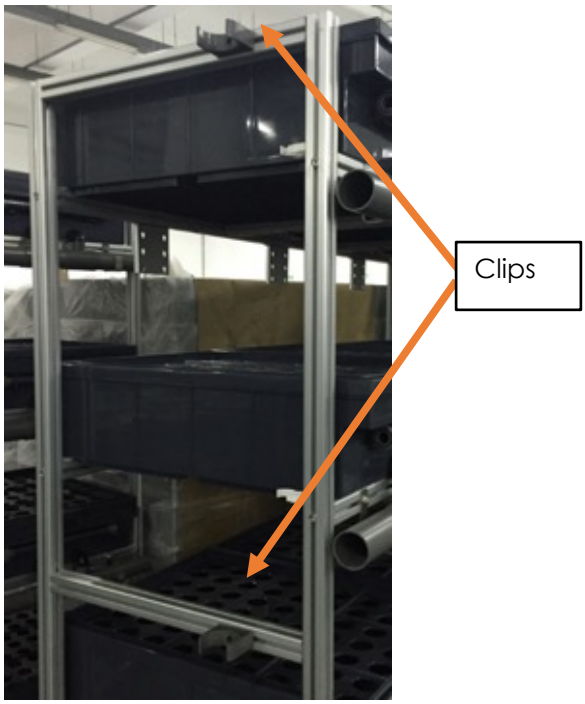
2



3



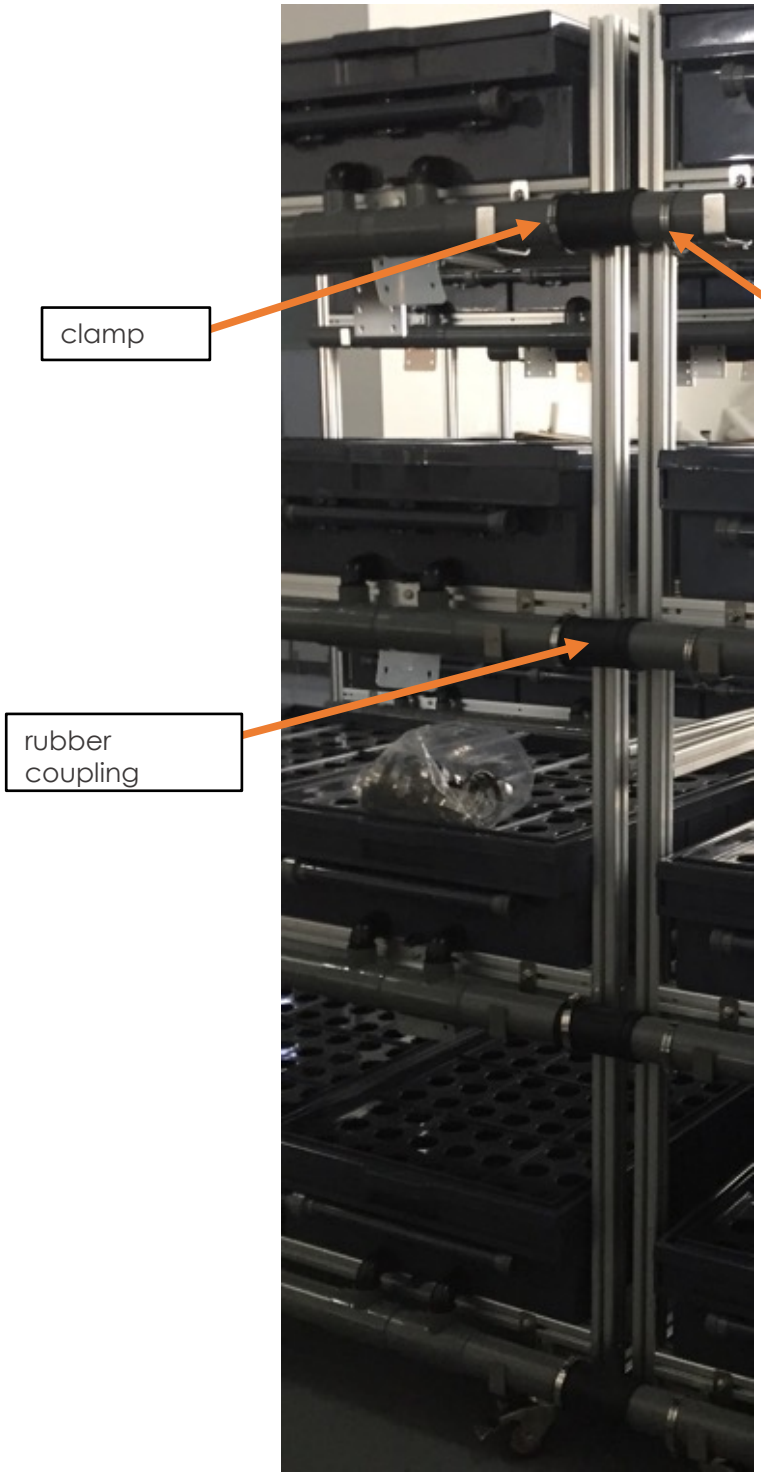
4



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4. Connecting two Row Sections Together

4a. Install 2 clamps and 1 rubber hose coupling for each growth layer. Tighten up both clamps afterwards.





Bag of clamps

Ætrium 2.1 Growth Space Assembly Instruction

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4. Connecting two Row Sections Together

4b. Install the spacers at the back.





4. Connecting two Row Sections Together

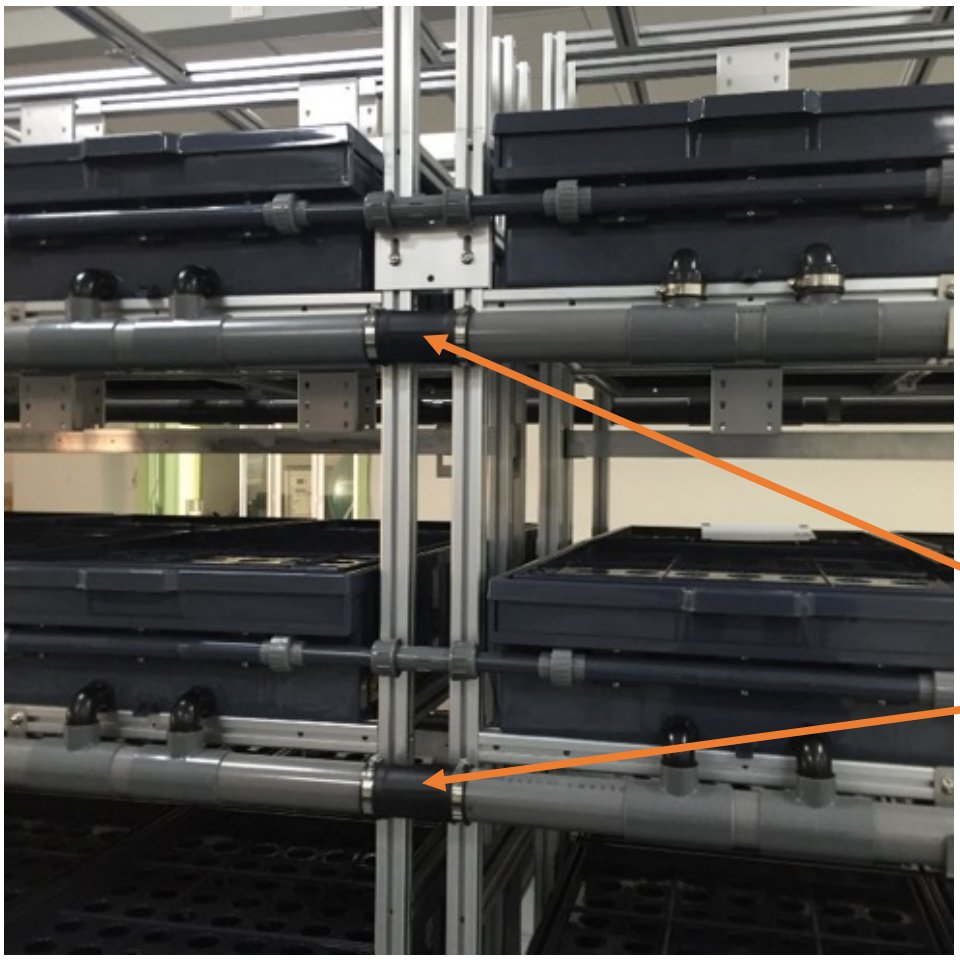
4c. Install spacer at the rear



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4. Connecting two Row Sections Together

4d. install flexible pipes, for all 4 layers



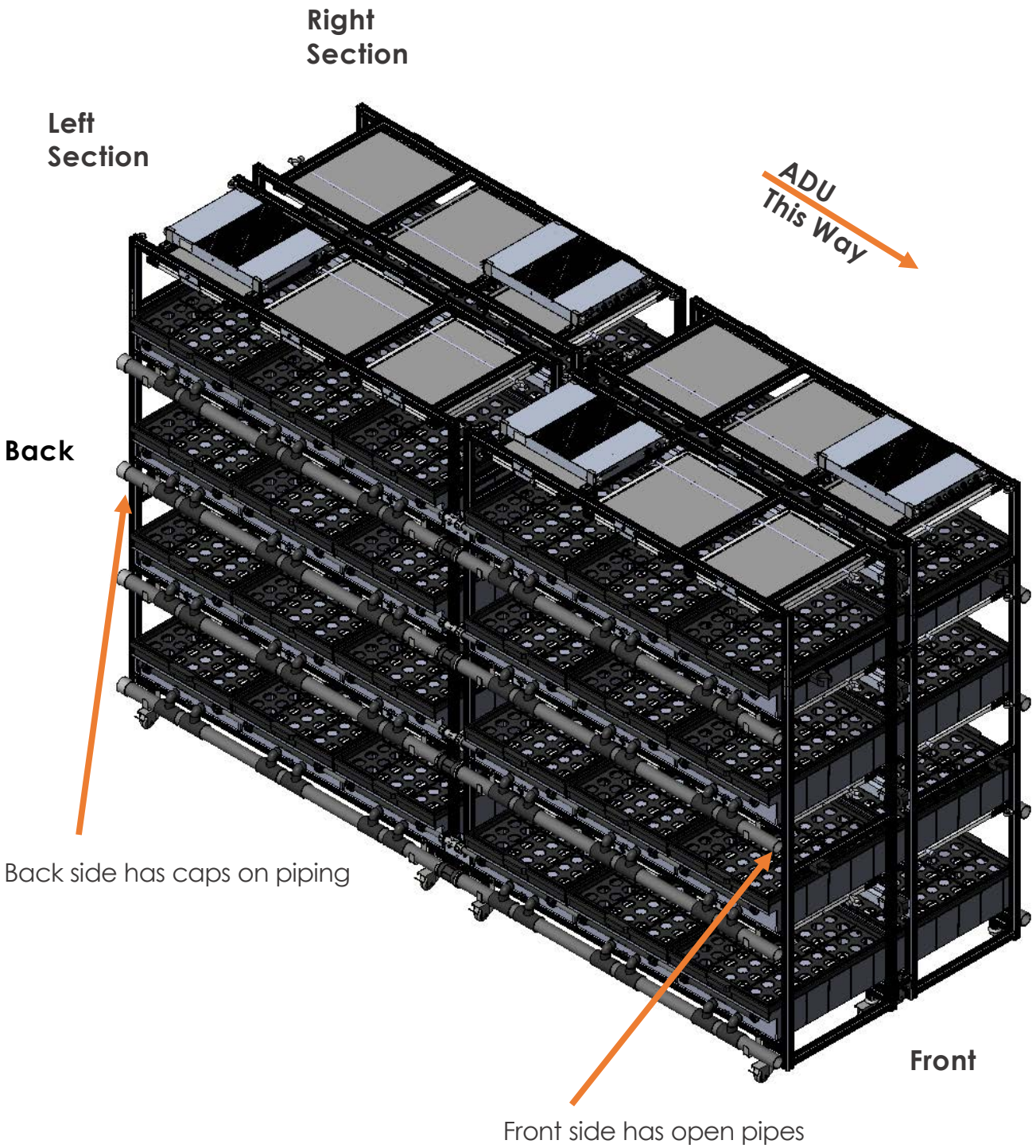
4. Connecting two Row Sections Together

4e. Repeat the same process to have all row sections connected



5. Connecting the Left and Right Growth Module Sections Together

5a. Push the two sections together and orient them in a way that has the open pipes pointing towards the ADU.



5. Connecting the Left and Right Growth Module Sections Together

5b. Install the and secure the back joints connecting the two sides together



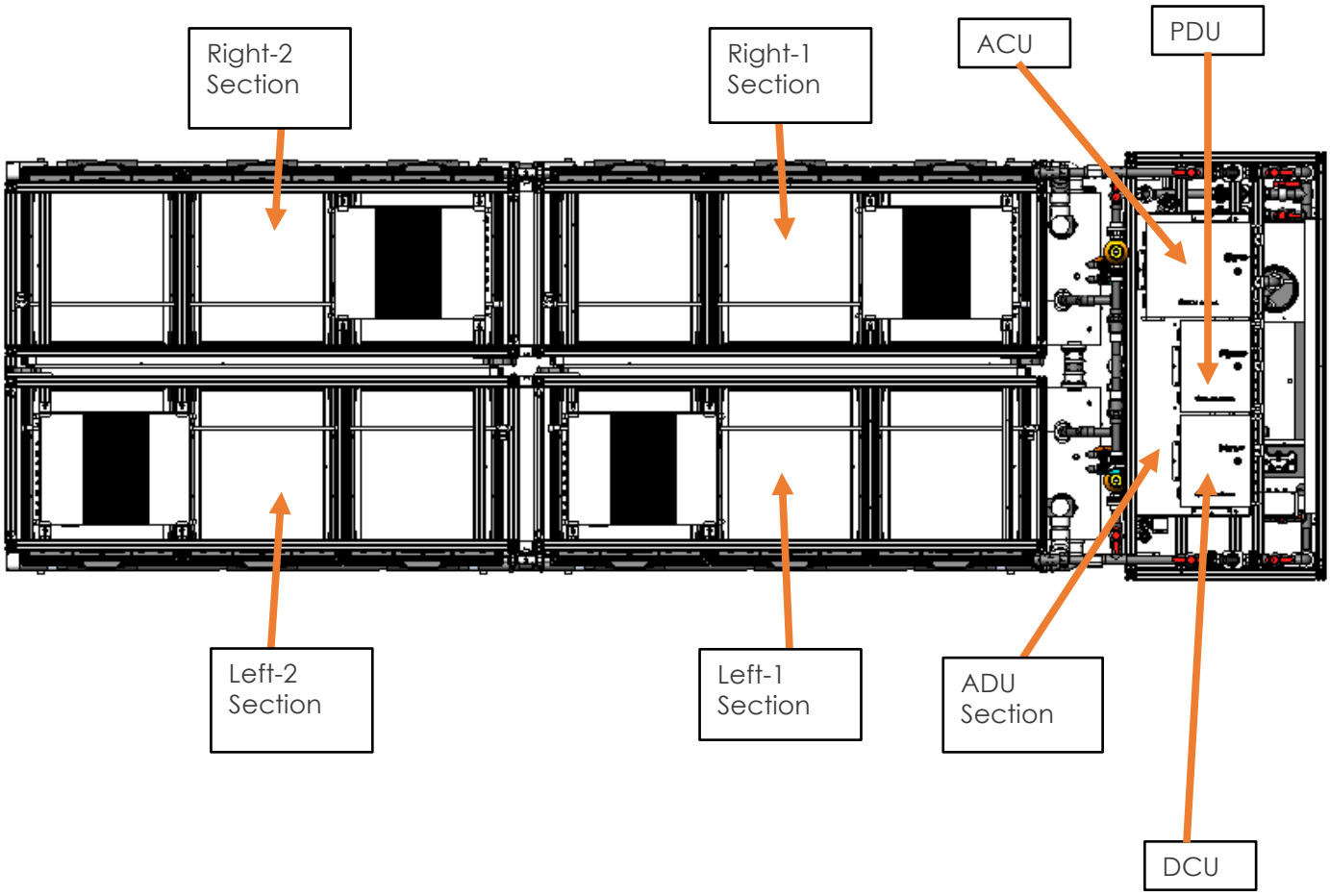
Install and screw in both sides



Repeat for each growth layer

5. Installing the back to back joints

5c. This is what the orientation should look like relative to the ADU position

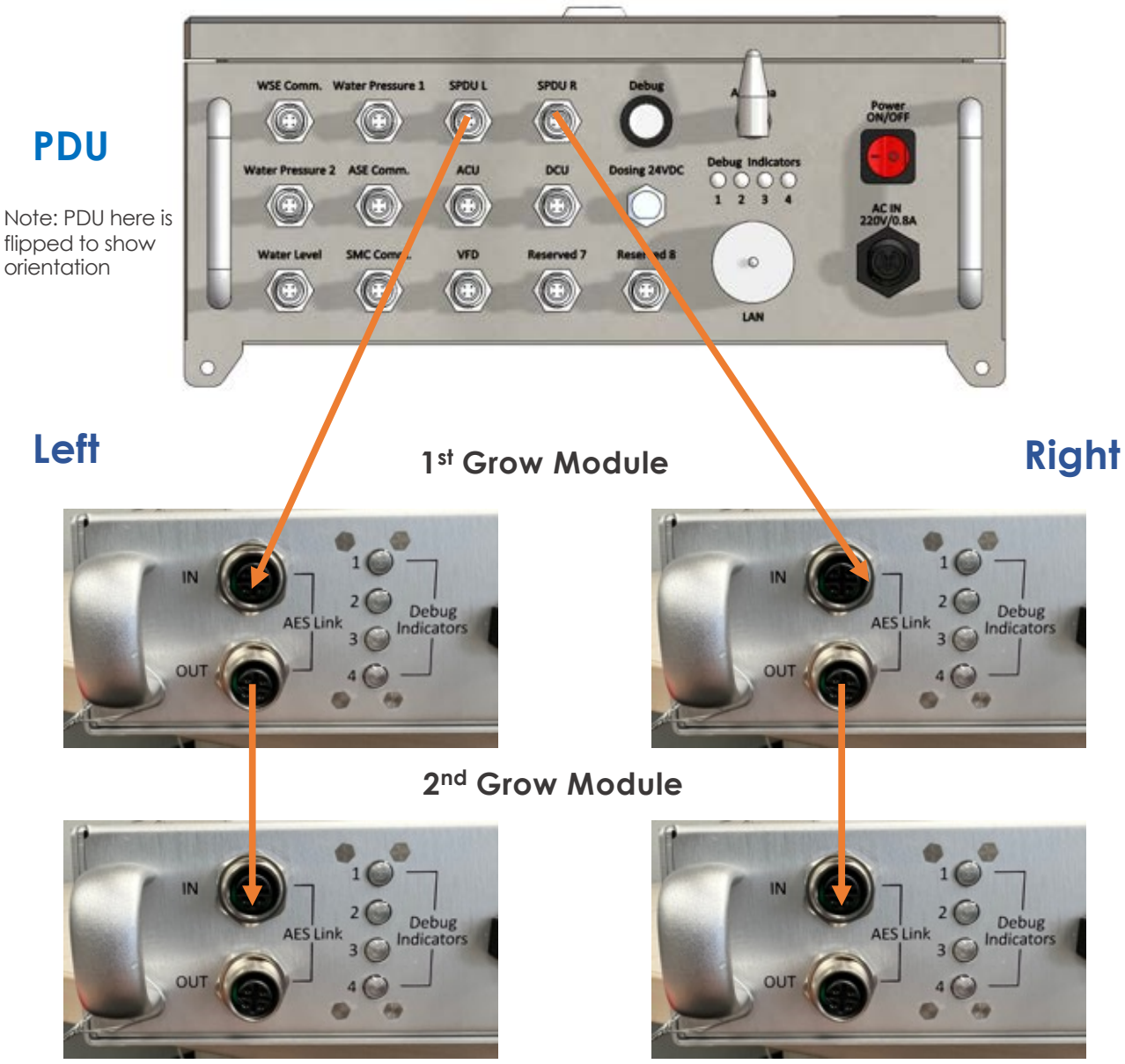


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6. Installing RS485 Communication Cable

6a. The RS485 cable is connected in a *daisy chain* configuration with each grow module on each side. It starts from the ADU (specifically the **PDU** box) and then connects to each grow module on each side.

Diagram 1



The First Grow module's **OUT** connector goes to the next Grow module's **IN** connector, and so on.

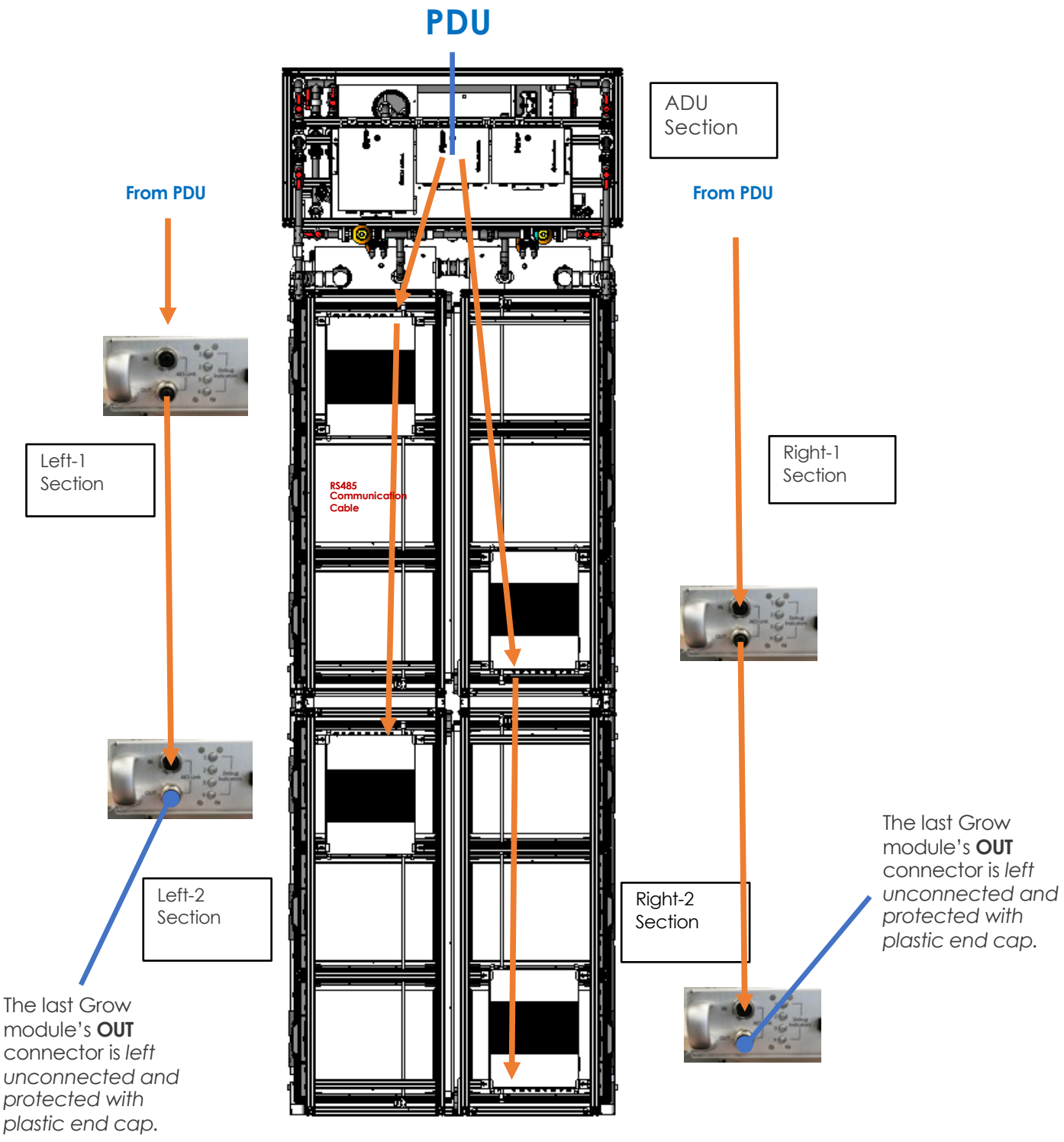
The last Grow module's **OUT** connector is *left unconnected and protected with plastic end cap.*

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6. Installing the AC Power Cable & RS485 Communication Cable

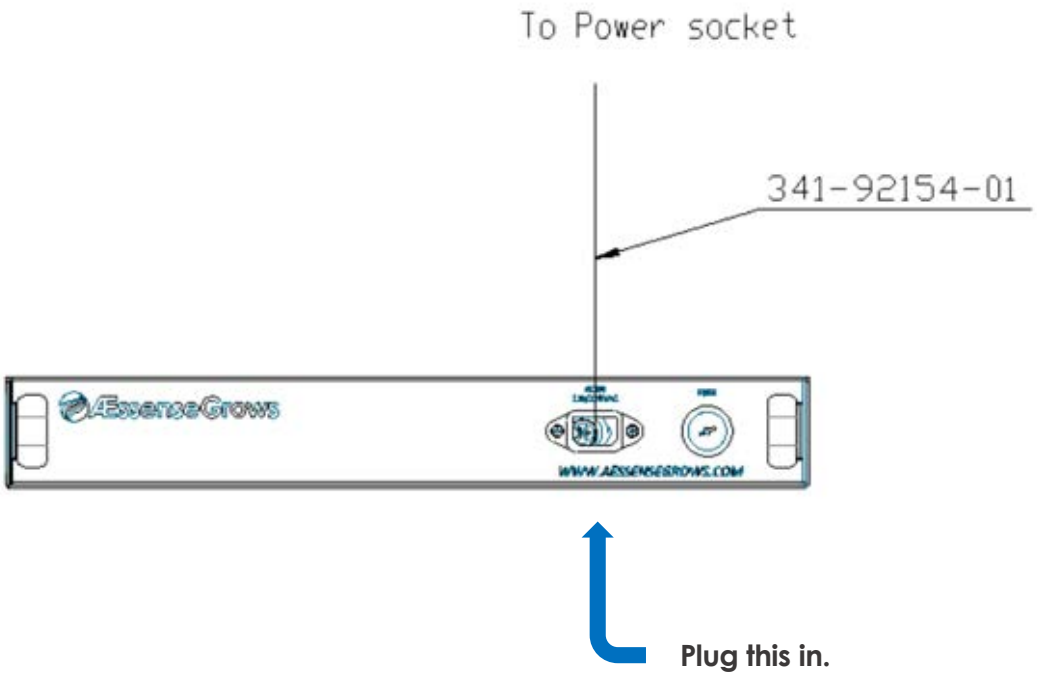
Diagram 2

Here's another example from a bird's eye view



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7. Connecting the AC Power Cable

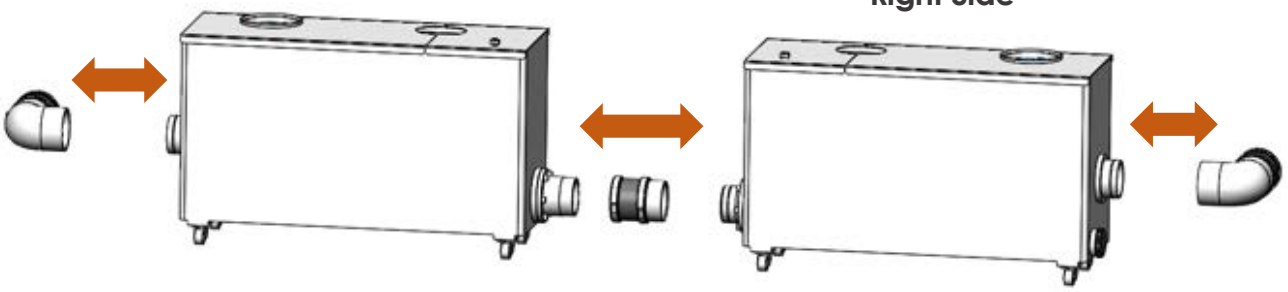


8. Assembling The Return Water Reservoir

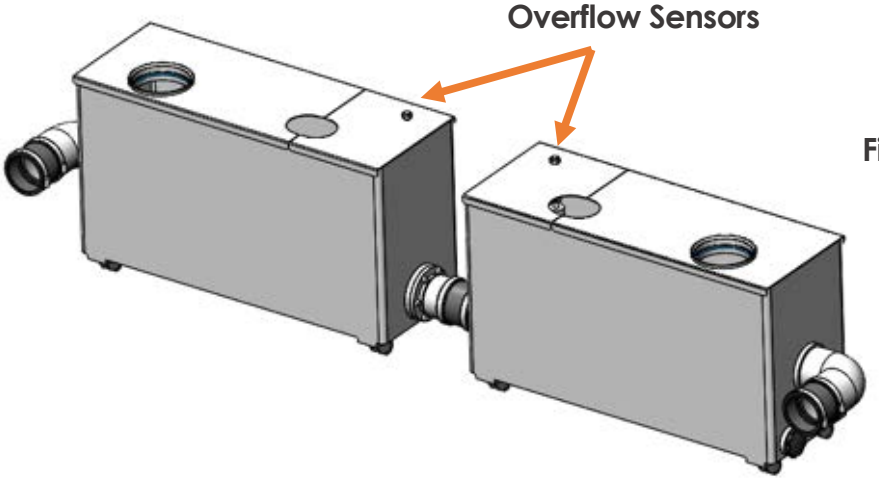
8a. Connect the left and right return water tanks as shown in the picture below.

Left Side

Right Side

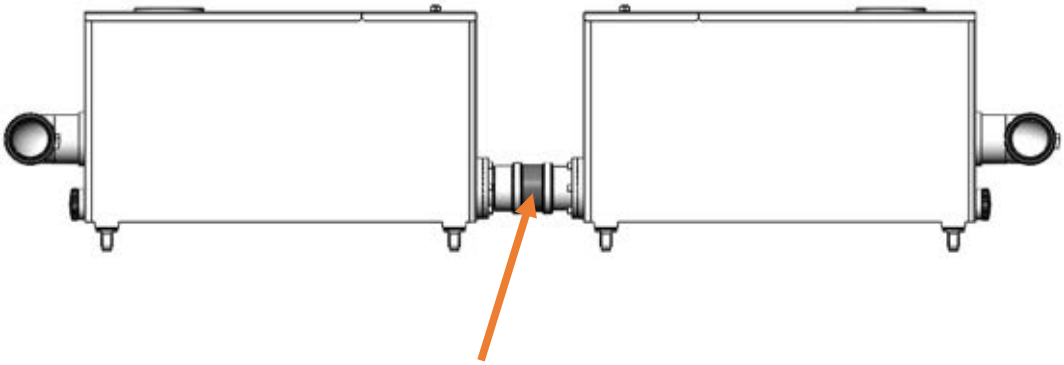


Overflow Sensors



Finished Assembly

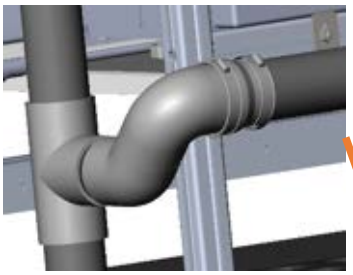
Side View



After assembly, pour in a gallon of water and check for leaks from the central pipe

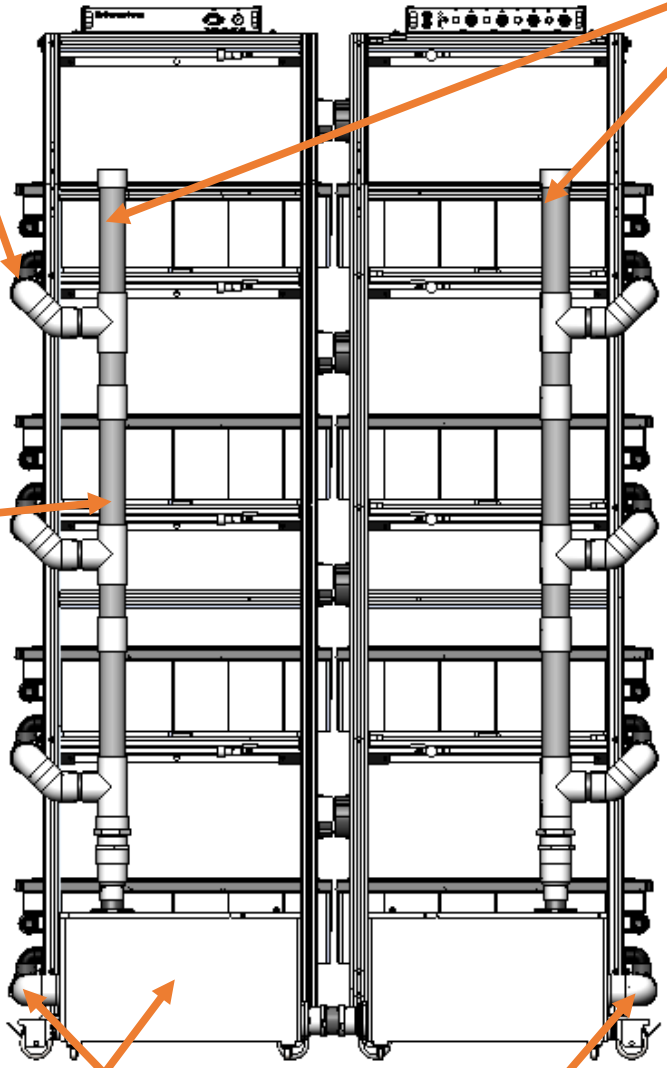
8. Assembling The Return Water Reservoir

8b. Install the large drain pipe lines and return water reservoir as shown in the picture below.



Connect each pipe





Drain Pipe line

Left Section

Right Section

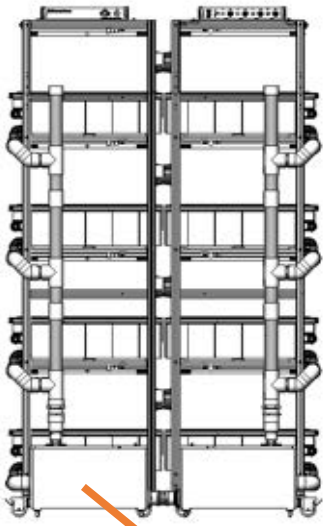
Return water reservoir

Connect Drain Piping

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8. Assembling The Return Water Reservoir

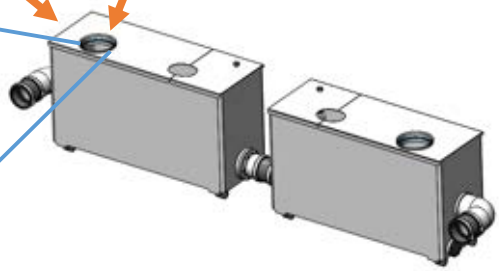
8c. Connect the bottom pieces of the return piping to the top of the return water reservoir tanks





Connect the bottom piece of the large return pipe to here



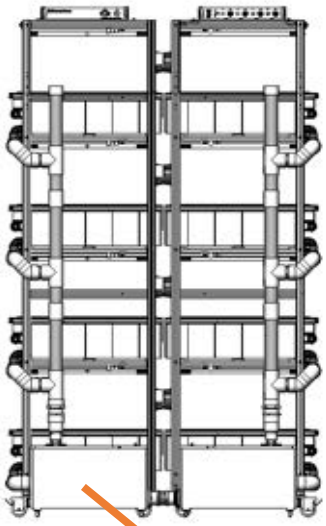


Return water reservoir



8. Assembling The Return Water Reservoir

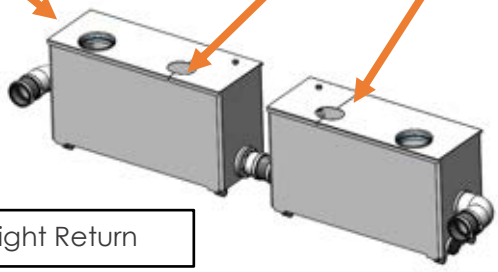
8d. Install the return pumps into the return water reservoirs that connects to the ADU





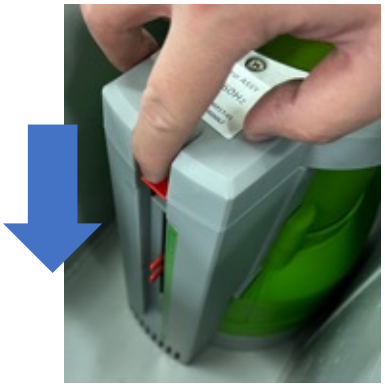
Cable will connect to the ACU in Step 12

Return Pump x2



Right Return

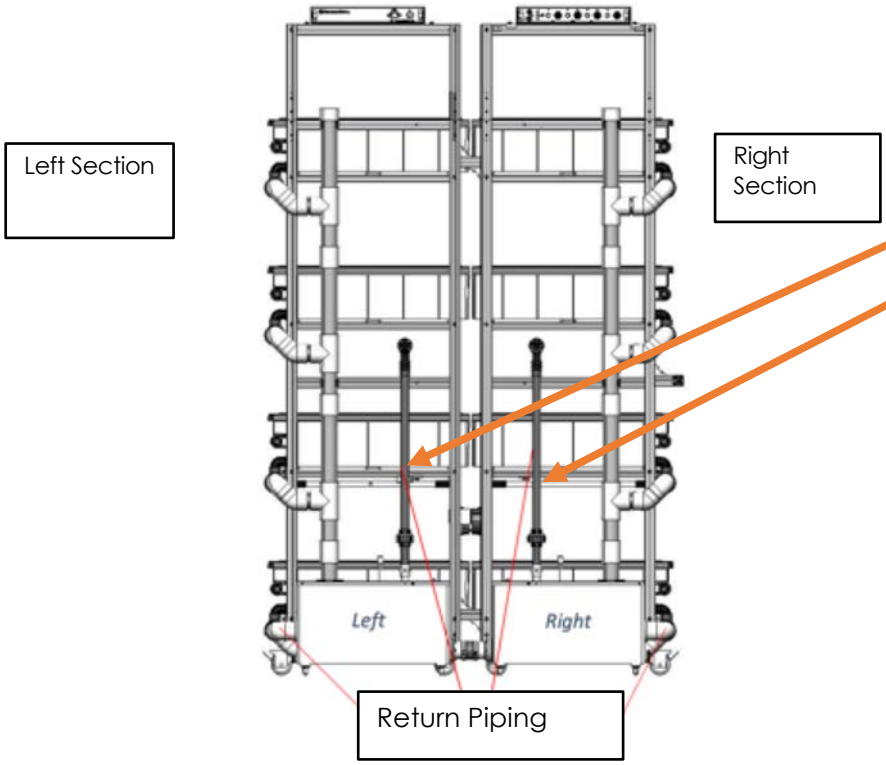
Left Return



Push the switch down to set to automatic

8. Assembling The Return Water Reservoir

8e. Install the return piping that connects to the ADU







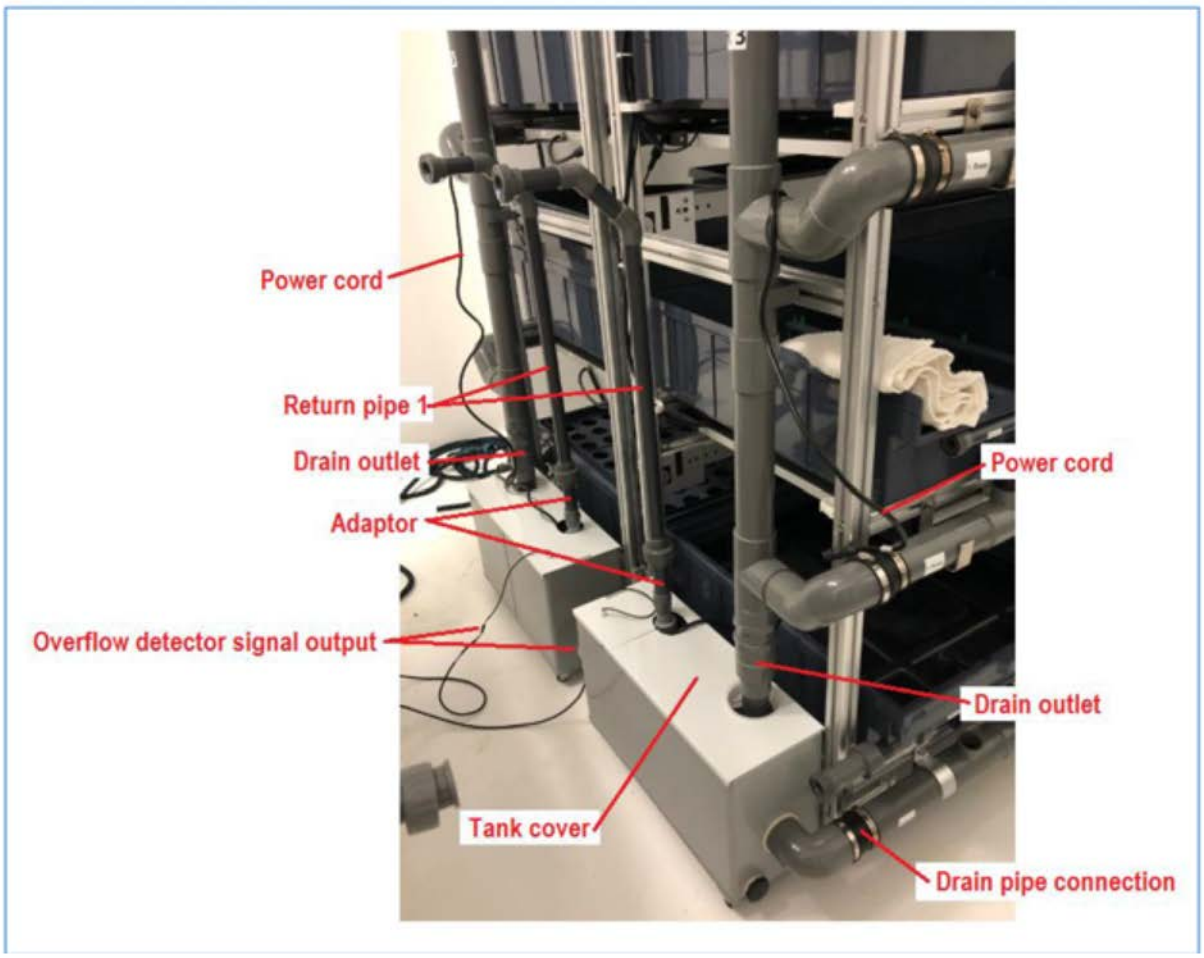


The bottom of the return pipe attaches to the return pump in the tank

The top section will connect to the ADU, in **Part 10**

8. Assembling The Return Water Reservoir

8f. The end result should look something like this:



8. Assembling The Return Water Reservoir

8g. On top of each Return Tank Reservoir, there is an Overflow detection sensor with a cable hooked up.

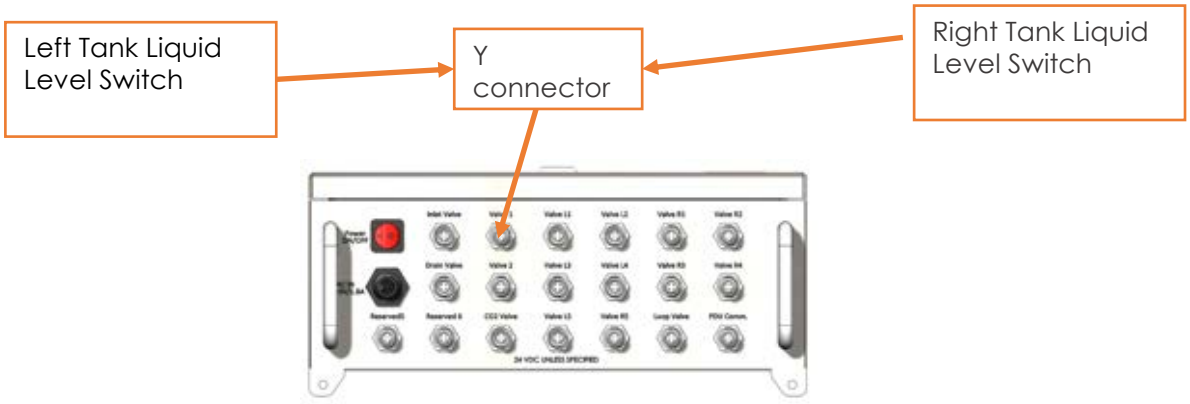


Connect both overflow detection sensors with the included Y-Connector Cable shown below (#340-00044-01)



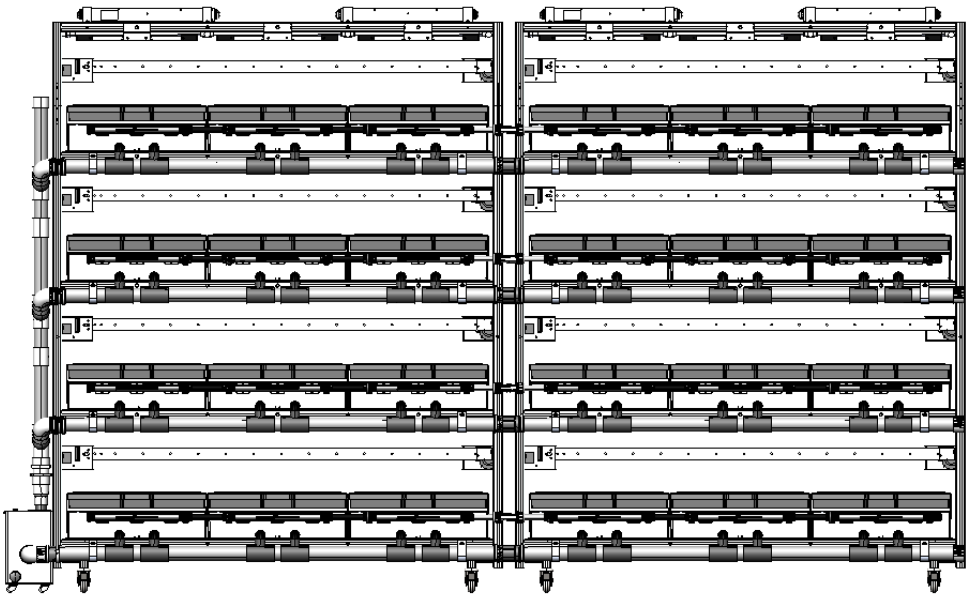
Y-Connector Cable

Afterwards, connect the single end to the Valve 1 port into the DCU box, once the ADU section has been connected to all the growth modules **SEE: Step 12**



9. Connecting the ADU with the Growth Modules

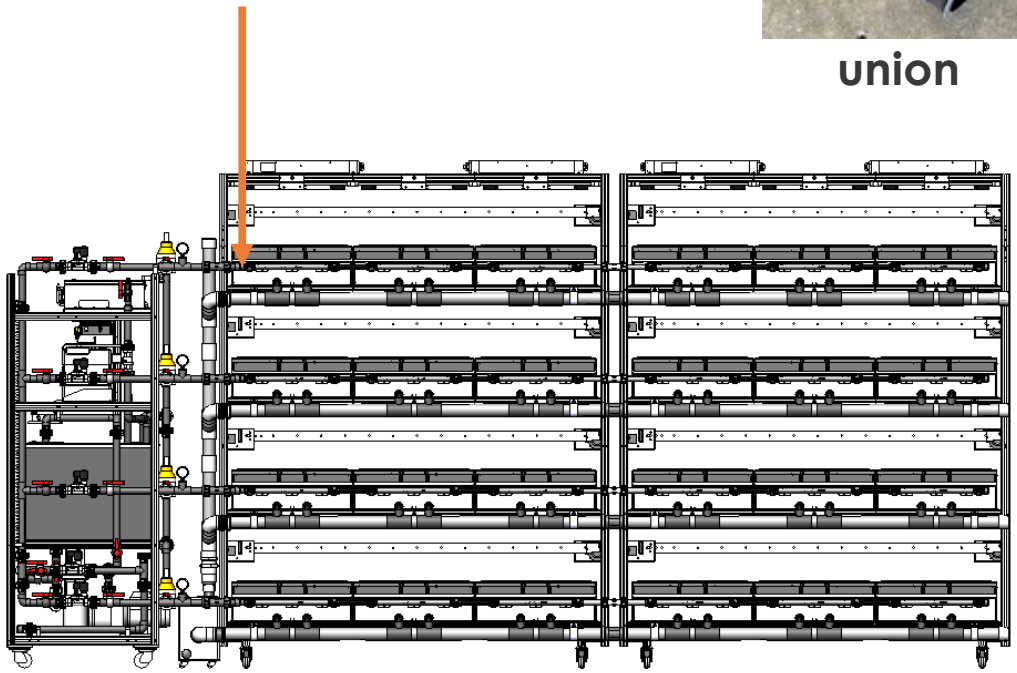
9a. Connect ADU section with its Growth module



9b. Move the ADU close to the Growth Space and connect Inlet pipes. Do not tighten up the unions (4x) just yet

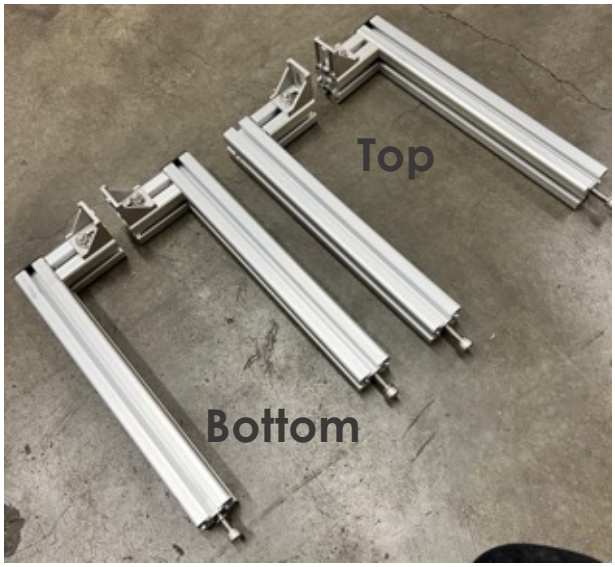


union



9. Connecting the ADU with the Growth Modules

9c. Assemble the Interface Joint Bars (4 pieces total) on the left and right sides of the Dosing Unit and connect them to the Growth Modules



Interface Joint Bars



Attach on the Top and Bottom

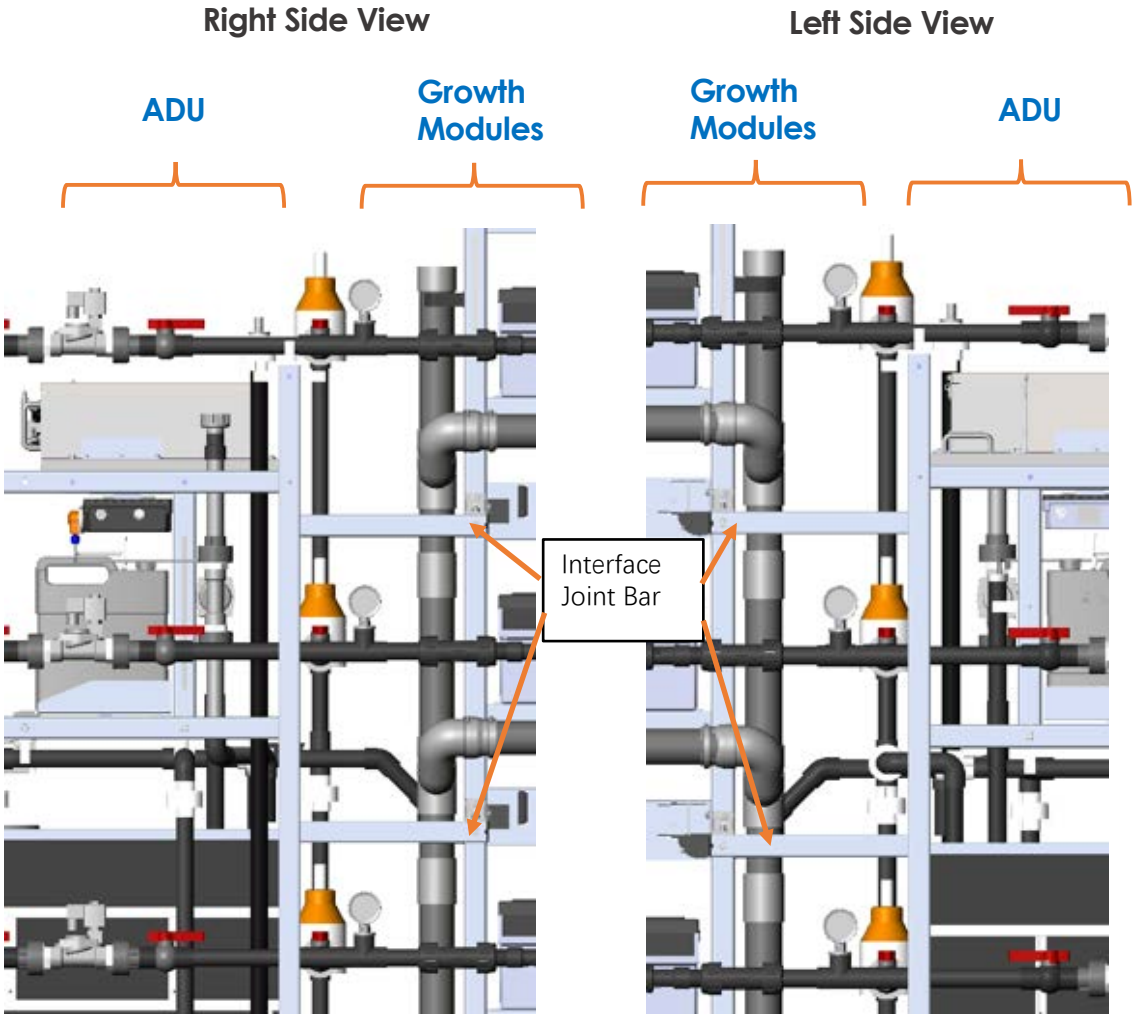


Corner pointed out

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9. Connecting the ADU with the Growth Modules

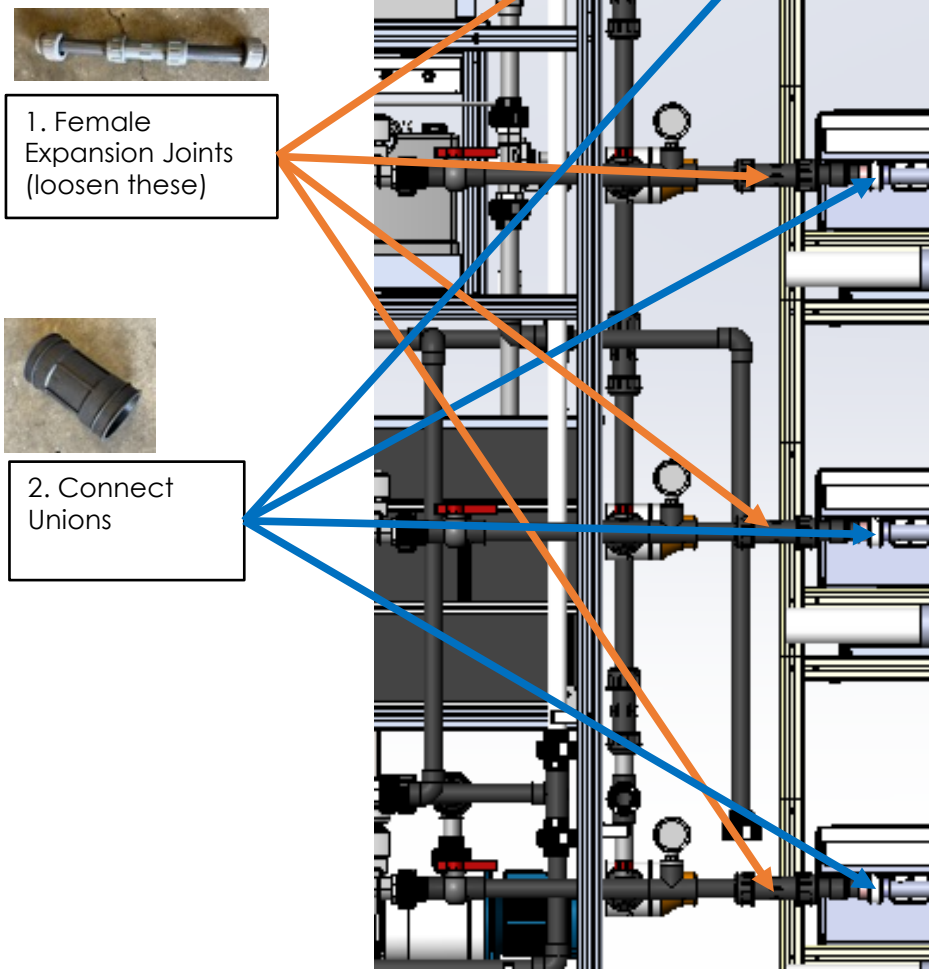
9d. Below are side diagrams showing the location of the Interface Joint Bars, relative to the Growth Modules



9. Connecting the ADU with the Growth Modules

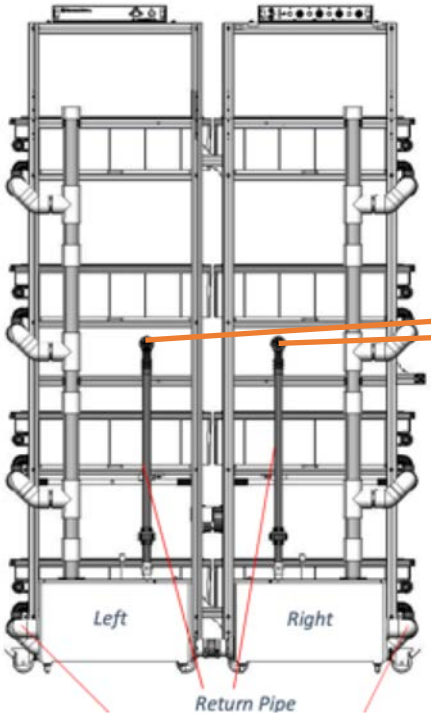
9e. Connect all 4 inlet pipes

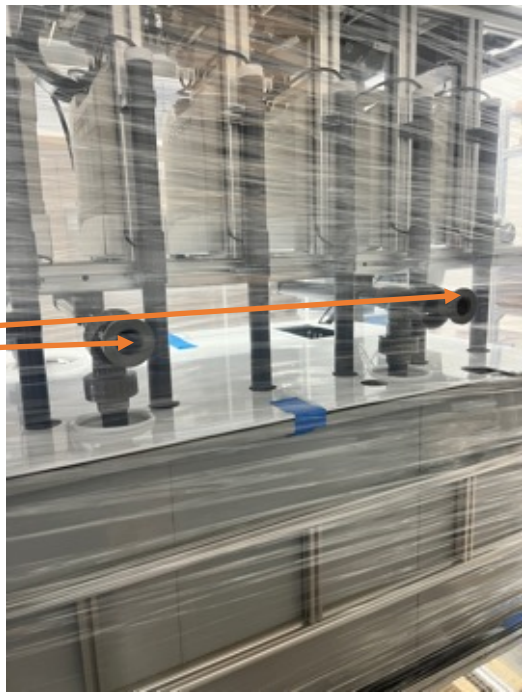
1. Loosen the female expansion joint (1) close to ADU
2. Assemble unions (2) and connect with Tub
3. Once connected, re-tighten the female expansion joints
4. Repeat same process for other 3 layers



10. Connecting the Drain Pump & Pipe to the ADU

10a. Connect the top of the return pipes from the Growth modules to the ADU shown here.





ADU



Tighten the connection

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11. Checking the Electrical Connections

11a. The cables for the PDU, ADU, and SDU are all pre-connected in the package, but some connectors may come loose during shipment, necessitating this check-up.

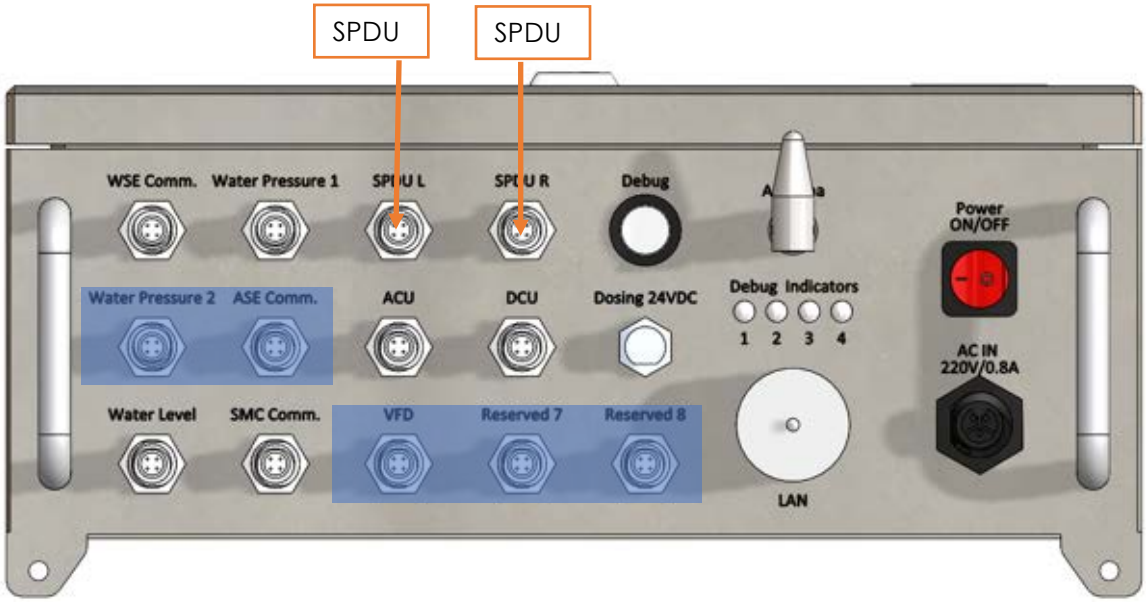




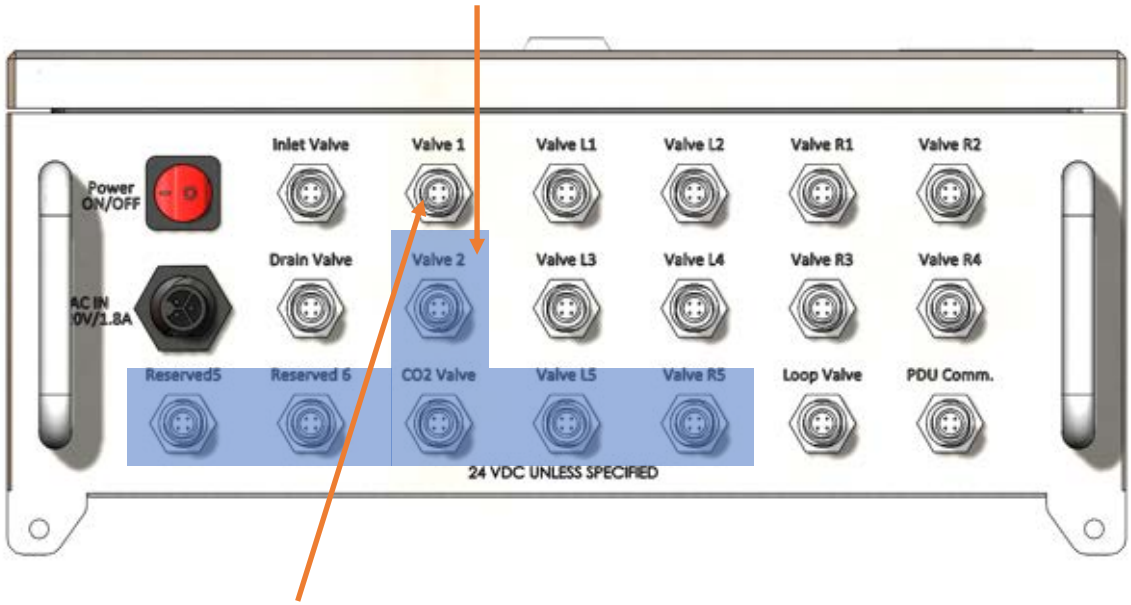
12b. Each cable is clearly labeled for where they should be connected to as well as the part number should they need to be replaced.

11. Checking the Electrical Connections

11b. Here is a diagram of PDU – certain that are not being used will be capped (in blue).



11c. Here is a diagram of DCU – certain ports that are not being used will be capped (in blue).



From 8g: Valve 1 connects to the Overflow Y-cable for the water return tanks

11d. Here is a diagram of ACU – Each port is labeled. Reserved 1 220V/2.4A is used for the Left Return Pump and Reserved 220V/2.4A is used for the Right Return Pump.



Right Return pump





Left Return pump

AEssenseGrows.com

Contact

A 1281 Reamwood Ave.
Sunnyvale, CA 94089

P 1.800.369.8673

O 1.650.564.3058

E info@aessensegrows.com