



AGRIFY™

10-VFU Customer Package

Package Contents

- ❖ **Product guide**
- ❖ **Equipment List and Info Sheets**
- ❖ **Equipment Connection Layout**
- ❖ **Equipment Utility Guide**



AGRIFY™

10-VFU Product Guide

Disclaimer

This document and any discussions about it are not a contract or promise. Any agreement between you and Agrify must be in a writing signed by both parties. The product specifications and other information in this document are subject to change.

Please contact the Agrify team to develop a more accurate and customized calculations and guidelines for your solution.

Product Introduction: Vertical Farming Units

Compartmentalized Growing Environments

Optimize and replicate strain-specific cultivation environments.

Maximizing Facility Yield

Stack VFUs vertically to create up to 6x yield/SF.

Data-Driven Insights

1 million+ data points collected per VFU annually.

LED Lighting

Built-in LED top light and inter-canopy lights.

Increase Operational Efficiency

The average operational cost per lbs. is \$350/lb.

*industry average is \$436/lb. - \$516/lb.



Product Introduction: Agrify Insights™ Cultivation Software

Precision Monitoring and Controls

Automate temperature, humidity, lighting, CO₂, irrigation, and fertigation parameters.

Create and Optimize Cultivation Plans

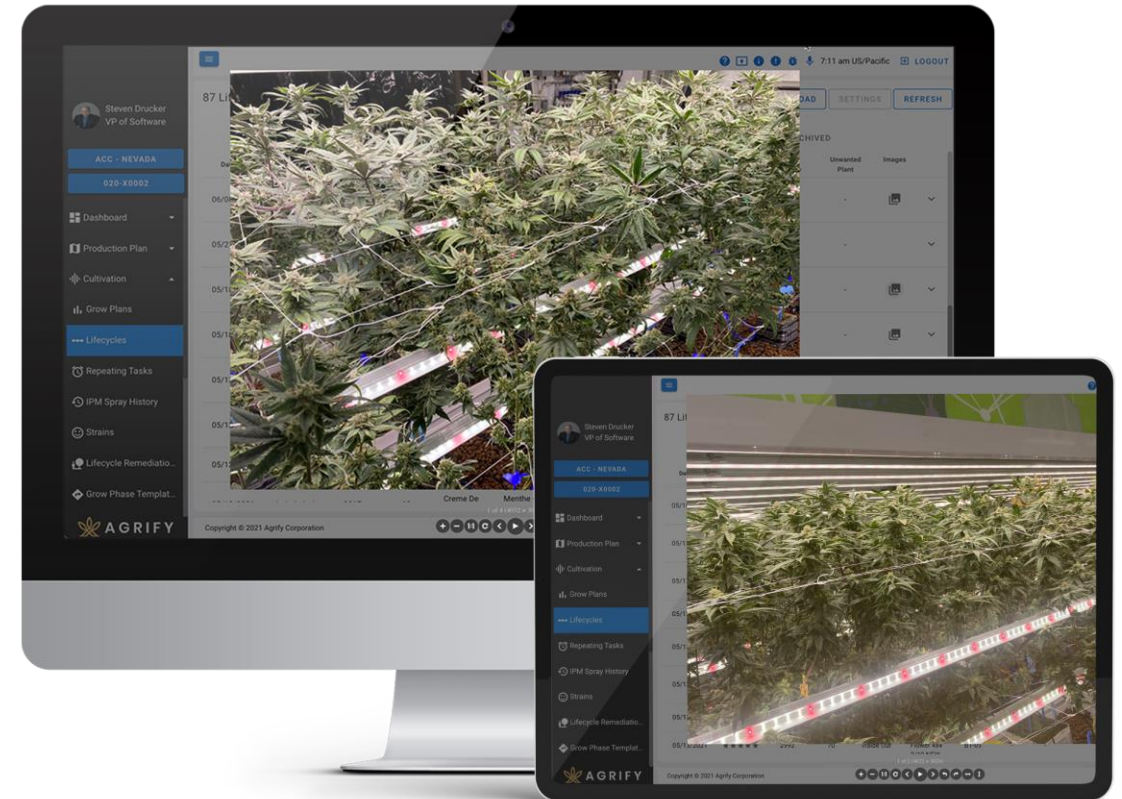
Strain-specific grow plans developed via real-time analytics.

Demand-Based Production Planning

Optimize yield with weekly harvesting and staggered growth cycles.

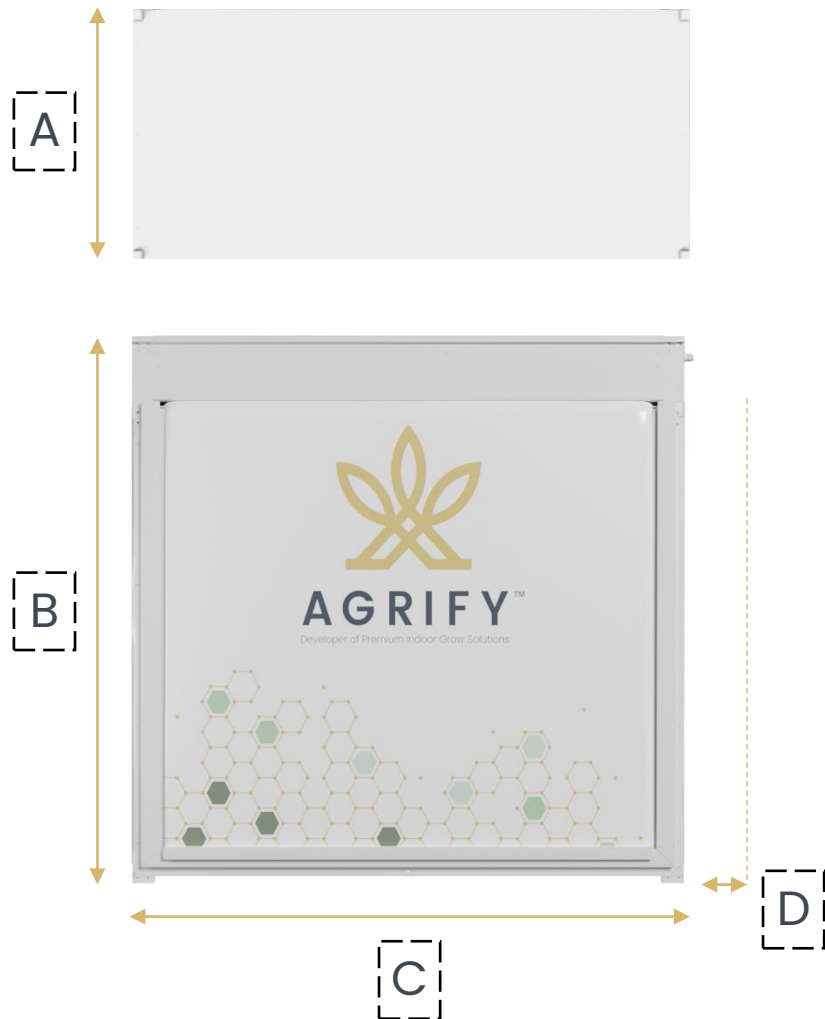
Automated Workflow

Complete ERP system with role-based dashboards to minimize human errors.



Product Dimensions – Single Unit

Dimensions for laying out VFUs



A	Overall Width	47.875"
B	Overall Height	104.375"
C	Overall Length	105.125"
D	Mechanical Chase Req.	4.5" (required only on the side with the connections)

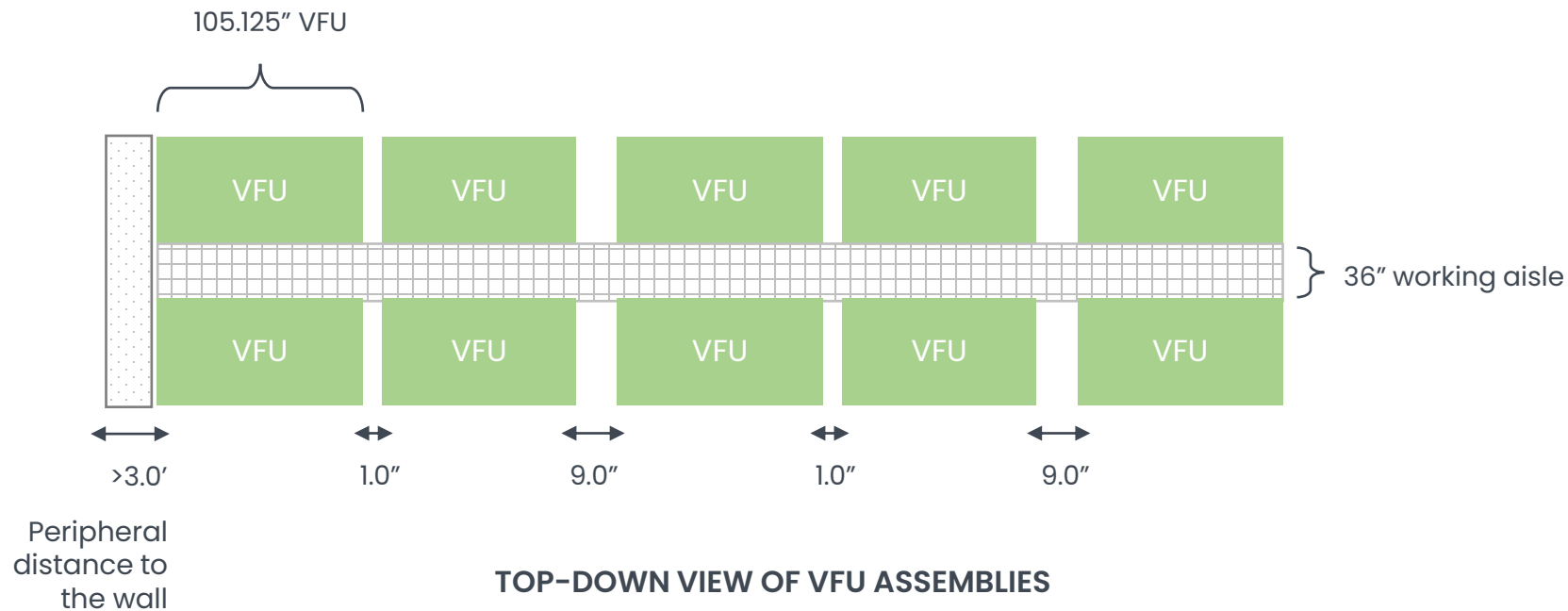
- **Overall Width** – Measured from the outside of the curtain track to the outside of the other curtain track.
- **Overall Height** – Measured from bottom of the unit to the top, not including a mounting foot.
- **Overall Length** – Measured from outside panel to panel, not including any protrusions for service attachments.
- **Mechanical Chase** – This is the additional length required to allow for service attachments and piping.

Notes:

- The curtain tracks extend from the long side of the VFU by 1.4 inches on each side – For purposes of determining clearance distances the Overall Width of the VFU is 47 7/8".
- Plumbing and Electrical connection fittings for the VFU are located on one of the short length sides – They protrude from the unit by 4 1/2" (mechanical chase D).
- Need – Clearance required between the bottom of the footer (or base plate) to the floor for drain clearance.

Product Dimensions – Multiple Units

- To reduce piping/cable run lengths it is recommended that VFUs be placed alternating in a row such that the service side with the plumbing/electrical fittings is placed next to each other – Leaving a 9-inch total service gap between units on this side (4.5"x2).
- A gap of 1 inch is recommended between the VFUs on the non-service side to allow for placement.
- The distance between curtain rails of VFUs directly opposite of each other is 36". The walkway between VFU should be no less than 37.5" from the face of the unit to the opposing face of the unit.
- A gap of at least 36 inches is recommended for the peripheral distance between the corner VFU and a wall.

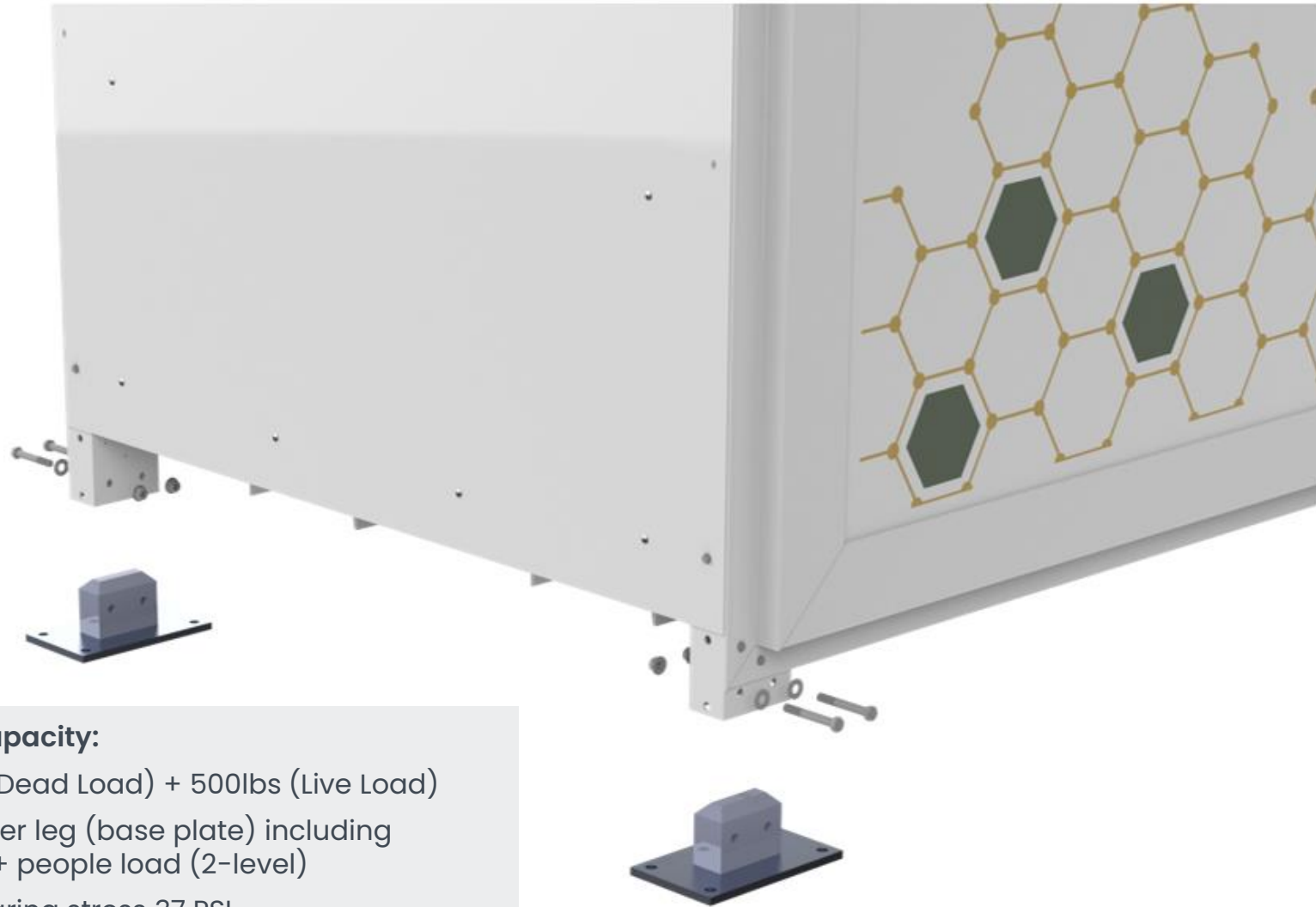
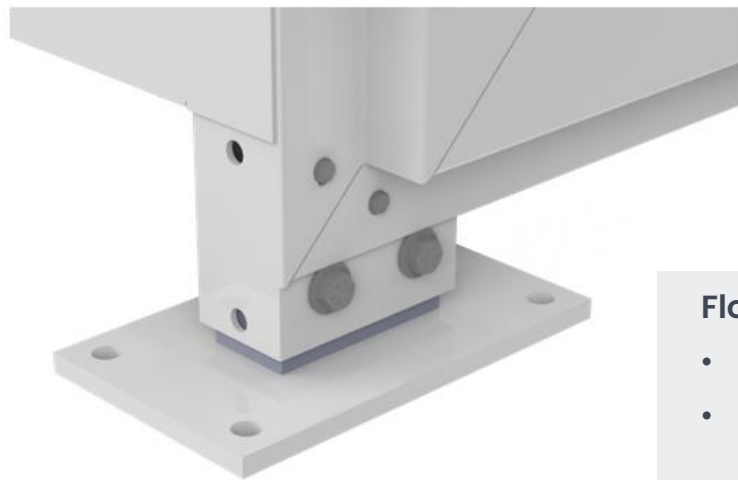


Product Dimensions – Footers

- VFUs require footer assemblies at all four corners of the unit.
- The footers need to be anchored to the ground per the appropriate local structural requirements.

Note:

- Please contact licensed structural engineering to specify and provide drawings for mounting footers.



Floor load capacity:

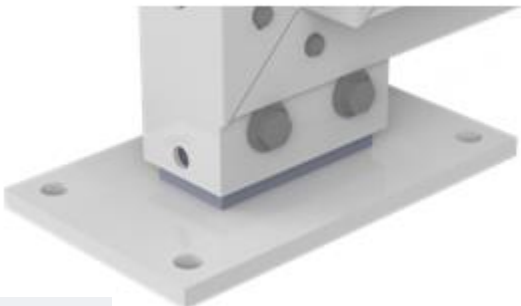
- 1000lbs (Dead Load) + 500lbs (Live Load)
- 1700lbs per leg (base plate) including catwalk + people load (2-level)
- Plate bearing stress 37 PSI

Product Dimensions

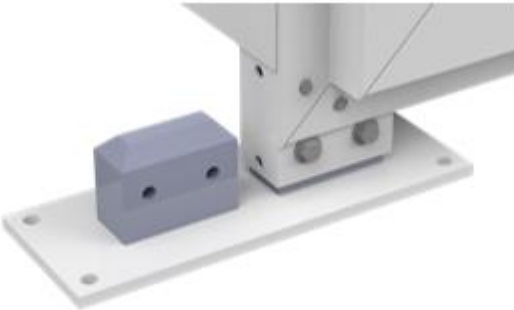
Footers

- VFUs come with three different footer styles as shown below:

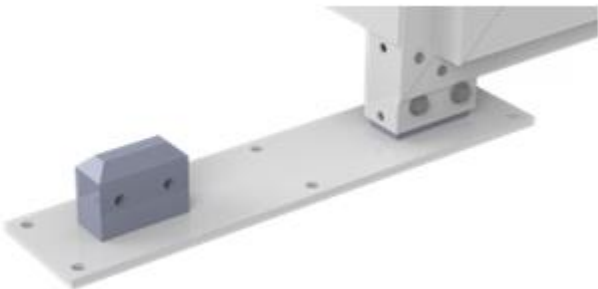
Single VFU



Double VFU – 1" Spacing



Double VFU – 9" Spacing

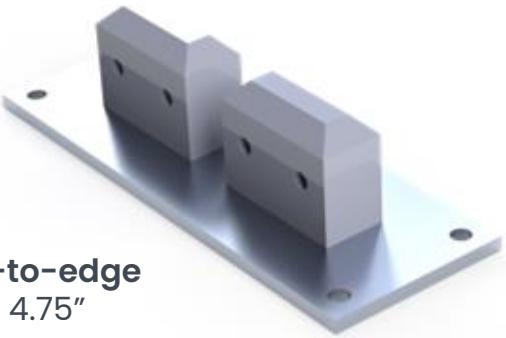


Footer Plate Thickness
0.375"



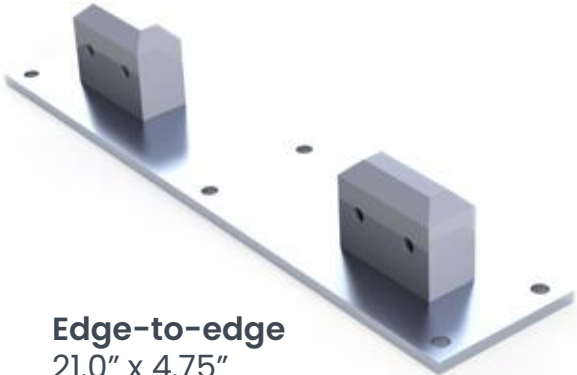
Edge-to-edge
8.0" x 4.75"

Holes Center-to-Center
6.75" x 3.50"



Edge-to-edge
13.0" x 4.75"

Holes Center-to-Center
11.75" x 3.50"

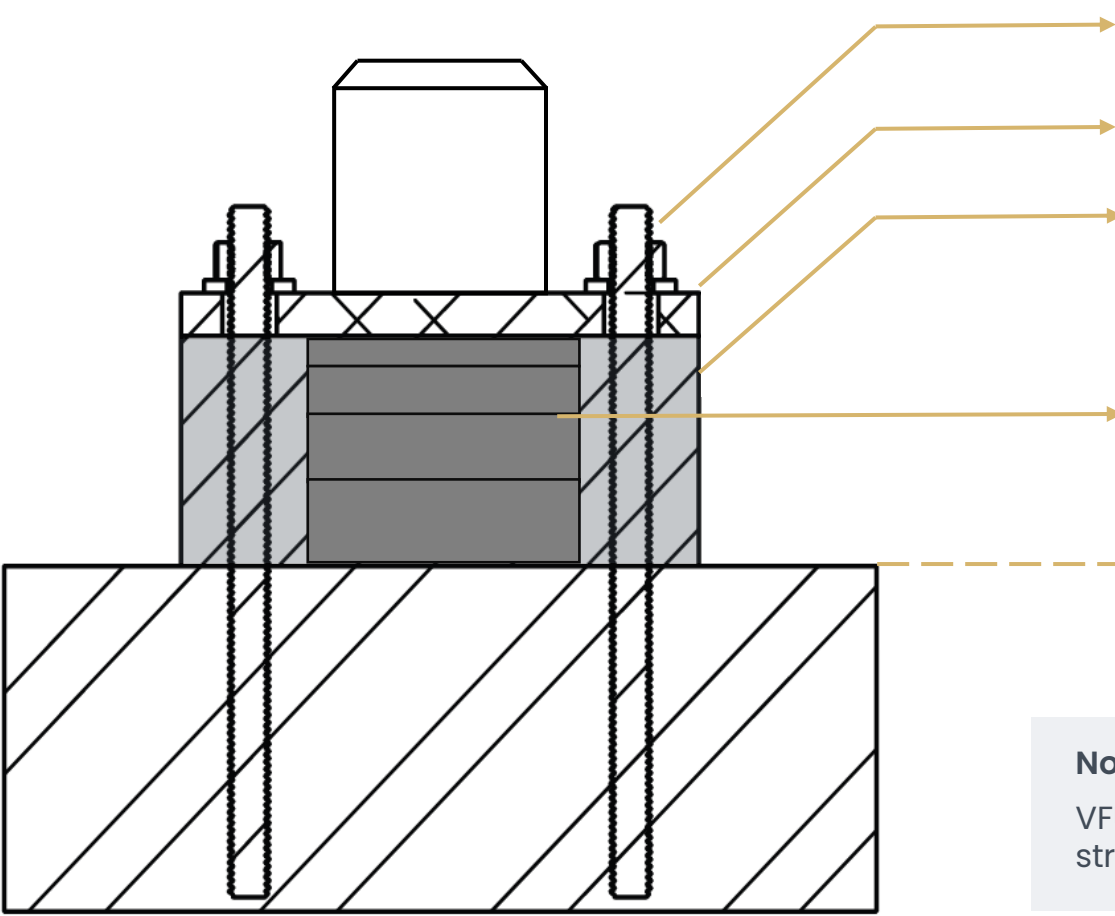


Edge-to-edge
21.0" x 4.75"

Holes Center-to-Center
9.875" x 3.50"

Product Dimensions

Footer Installation



Anchoring Bolt (0.375" x 2.75")

VFU Baseplate

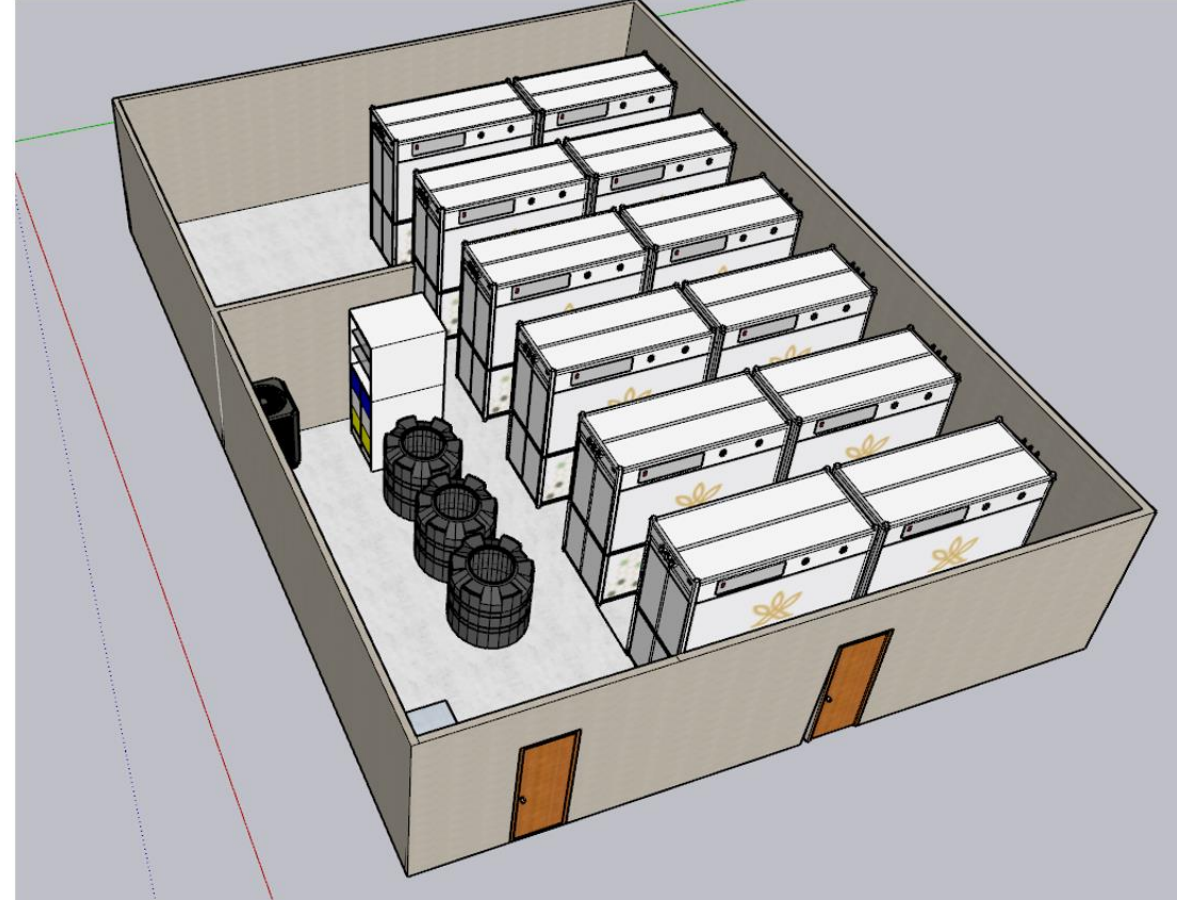
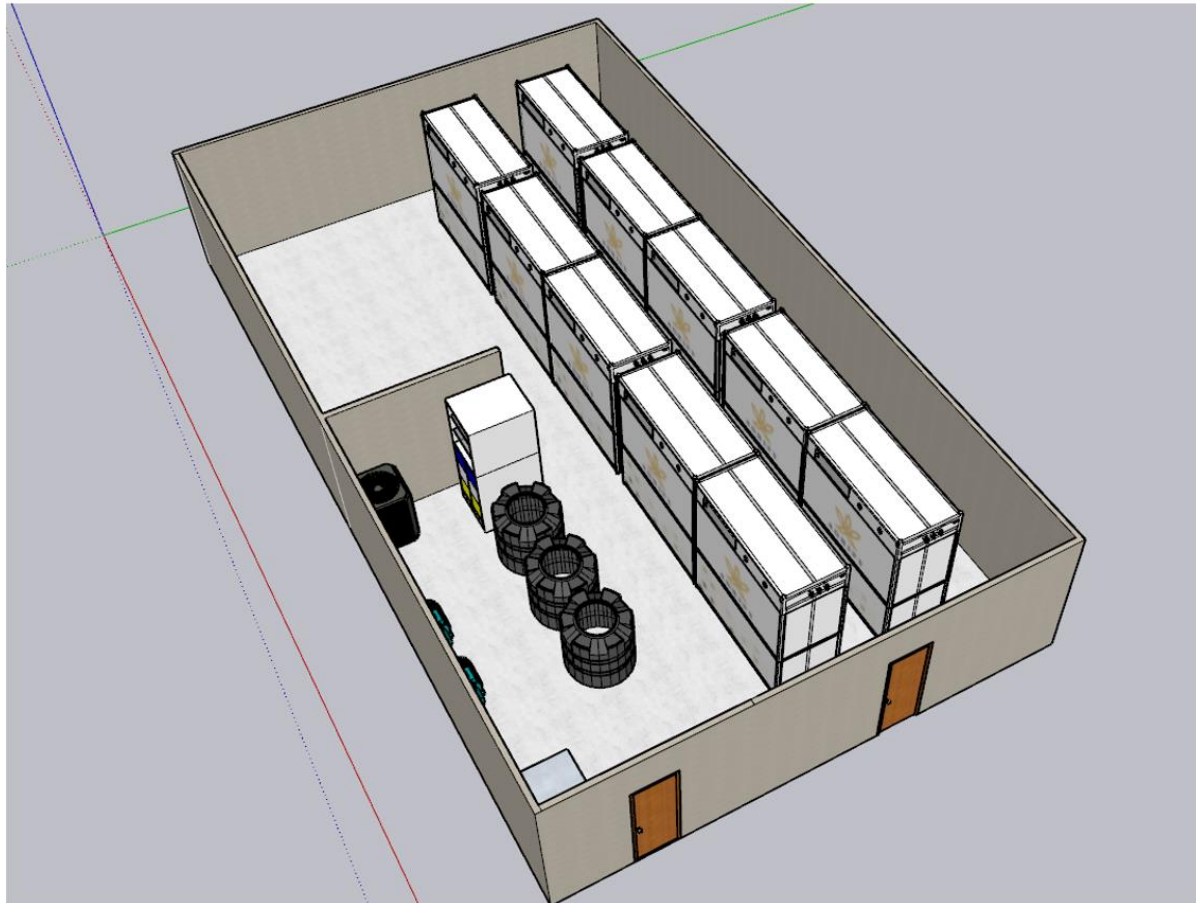
Grout
Needs to have a min. 1.5" thickness with a max. of 3.0"
For grout between 3" and 5" must have pea gravel
For grout greater than 5", a footing is required with appropriate reinforcement

Shims
Shims of 4 different thicknesses are provided for additional structural support
3" x 5" dimension with thicknesses 1/8", 1/4", 1/2" and 3/4" (2pcs each)

Floor High Point (0" Elevation)

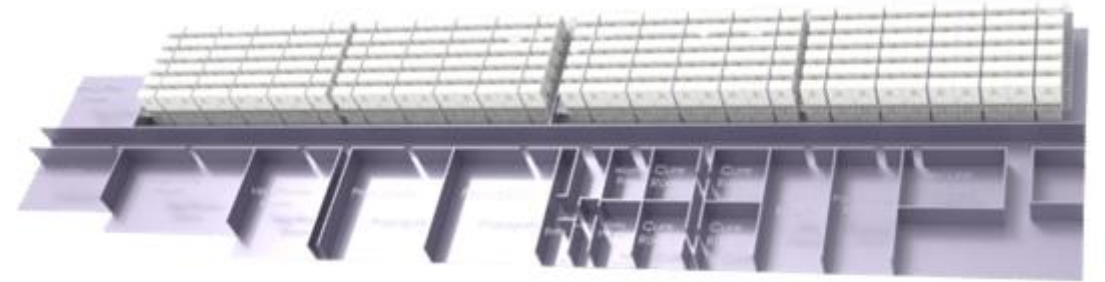
Note:
VFU baseplates need to be anchored to the floor, per adherence to local structural requirements.

Product Architecture – Support Systems



Product Architecture – Peripheral Construction

- Sealed and conditioned grow room
 - ✓ All penetrations sealed & plugged
 - ✓ FRP/SIP panels walls
 - ✓ Epoxy sealant floor
- Conditioned space with an ideal cooling load – 350 sf/ton.
- Infrastructure for facility-level plumbing, HVAC ductwork, and electrical is also required.

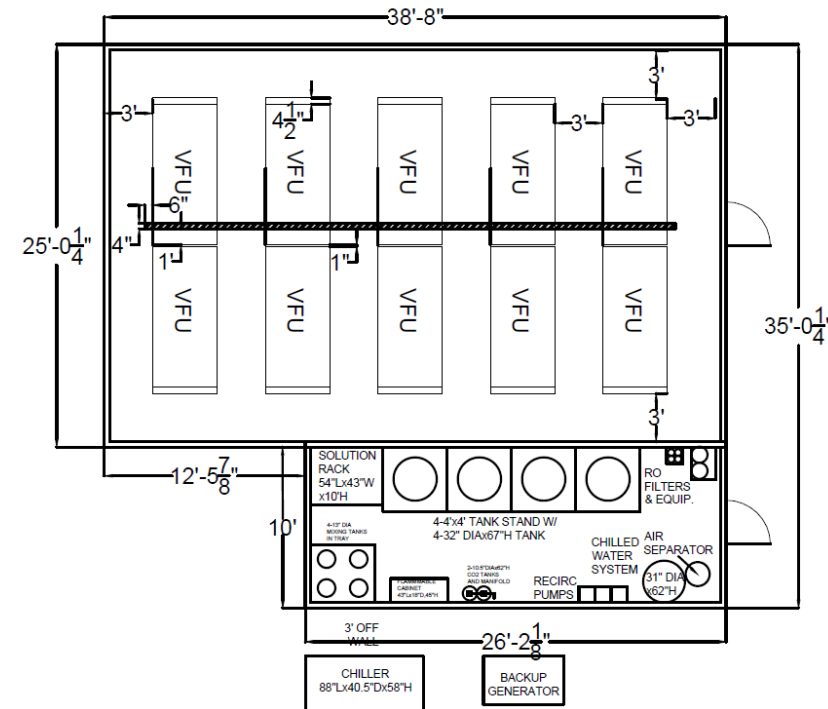
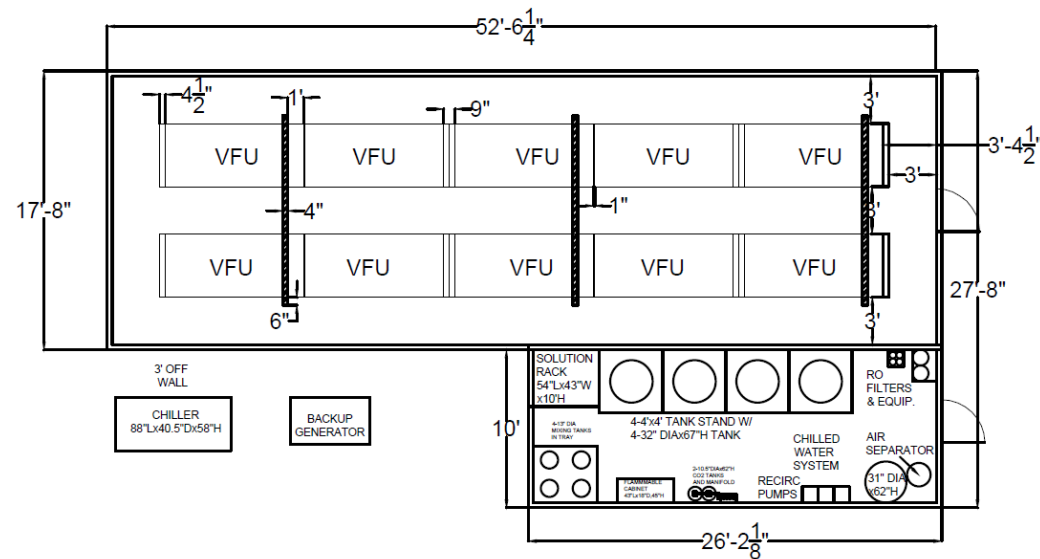


Product Architecture – Installation

Suggested Layout:

- ✓ 2 Rows of 5 VFUs per row
- ✓ 5 Rows of 2 VFUs per row.

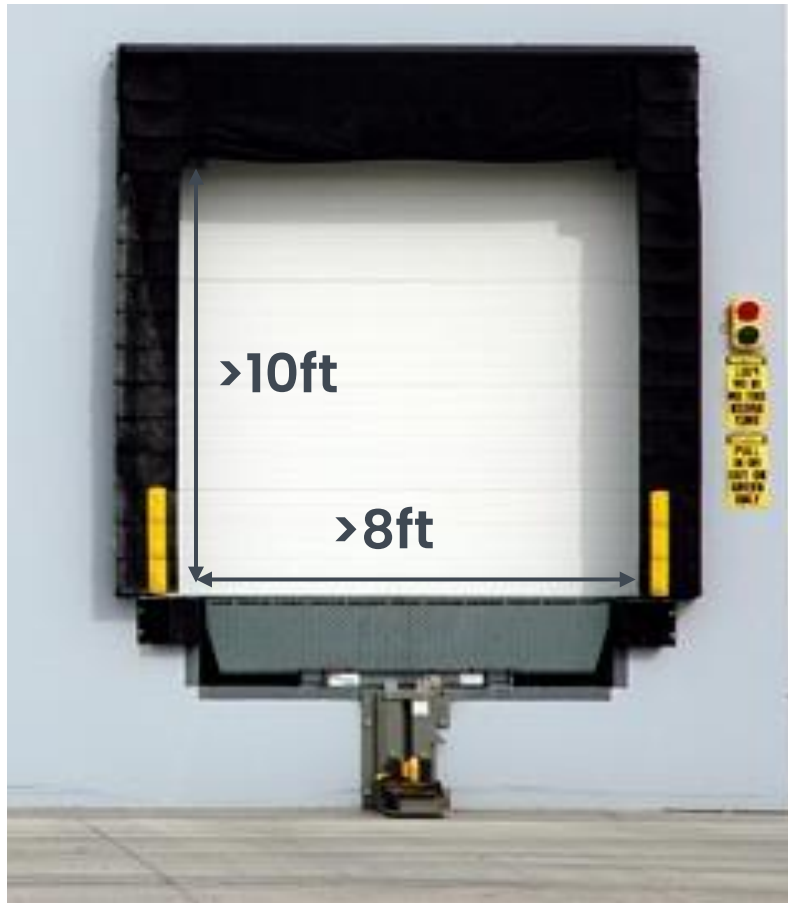
The layout and orientation of VFU would depend on size, shape, layout and any obstructions to contend.



Note:

- Infrastructure support to be in same or adjacent room.
- A minimum of 10ft ceiling clearance is required from the lowest obstruction point.
- Locations for trench drains are shown in the layout above. See the "drain" section for further information.

Product Architecture – Facility Requirements



Loading dock requirements

An opening with at least 10ft height and 8ft width is required for being able to bring VFUs into the facility for installation

Transportation method for VFUs to facility

Ground transport through trucks

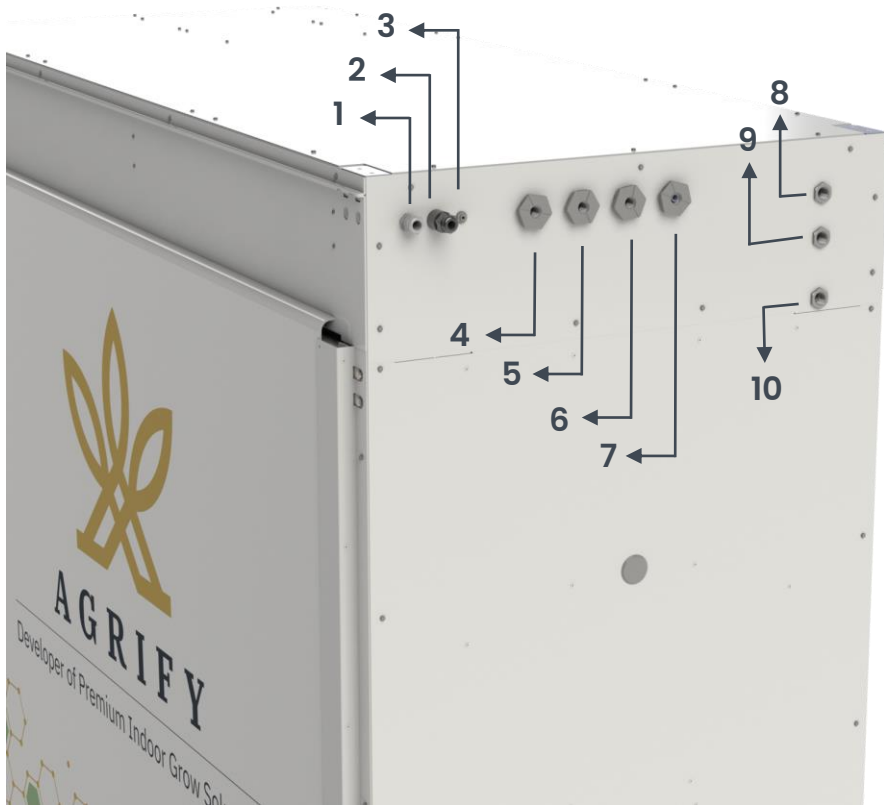
Equipment used to install VFUs

Forklifts

Typical VFU/catwalk installation time (without peripheral construction)

10 VFUs per day

Connections



11 (Not shown in the picture. Basin drain is located under the VFU)

Number	Connection	Material	Connection Type
1	Power Feed	Standard	277V NEMA 7-20P Plug
2	Network Connection	Polymer	CAT5/6 Ethernet
3	CO ₂ Supply	Polymer	0.25" Nylon PTF Bulkhead
4	Fertigation line	Polymer	1/2" NPT
5	Fertigation line	Polymer	1/2" NPT
6	Fertigation line	Polymer	1/2" NPT
7	RO Water line	Polymer	1/2" NPT
8	Chilled Water Outlet	Brass	3/4" NPT
9	Chilled Water Inlet	Brass	3/4" NPT
10	Condensate Drain	Brass	3/4" Barbed Connection
11	Basin Drain	Brass	3/4" Barbed Connection

Product Specifications - Electrical



Power Connection Type
277V Single Phase 60Hz

Estimated Total Consumption

200A Max. (Includes VFU only. See last section for peripheral equipment such as chillers and pumps)

The true power consumption for a VFU varies significantly during operation, depending on the grow recipe. The maximum power consumption shown here includes all VFU internal systems turned on at 100% functionality.

Reference VFU Power Calculation

Assumptions		
Number of VFUs		10
Flowering Stage	Number of VFUs	8 (80%)
	Lights on period	12 hrs.
Vegetative Stage	Number of VFUs	2 (20%)
	Lights on period	18 hrs.

Vegetation:

- **2 VFUs x 18 hours** (Note: photoperiod) x **2.15 kW** (Note: Stabilized VFU max power at 50% light intensity)
- **~77 kW** per day

Flower:

- **8 VFUs x 12 hours** (Note: photoperiod) x **3.5 kW** (Note: Stabilized VFU max power at 100% light intensity)
- **~336 kW** per day

Total VFU Approximate Power Consumption: 77 kW + 336 kW
413 kW per day*

*Please note that this is just an estimate and real-world consumption would vary based on usage. Electrical load calculations need to be based on max power consumption and not the reference power estimation.

Product Specifications - Lighting

- Twenty high-efficiency LED bar lights provide high levels of optimized light from the top to enhance plant growth.
- Eight additional bi-directional Inter-canopy lights provide lighting in-between the leaf canopy to boost inter canopy yield.
- Both types of lights use an optimized light spectrum with enhanced red and blue light to provide for optimal plant growth.

	Top-Down Canopy Lights	Inter-Canopy Lights
Light Intensity	2,460 $\mu\text{mol/s}$	1,008 $\mu\text{mol/s}$

Note:

- PPF ratings shown above are for each tier in the VFU.
- Every VFU allows for two tiers of canopy.

Driver Manufacturer	Inventronics
LED Manufacturer – White	Samsung
LED Manufacturer – Red	OSRAM



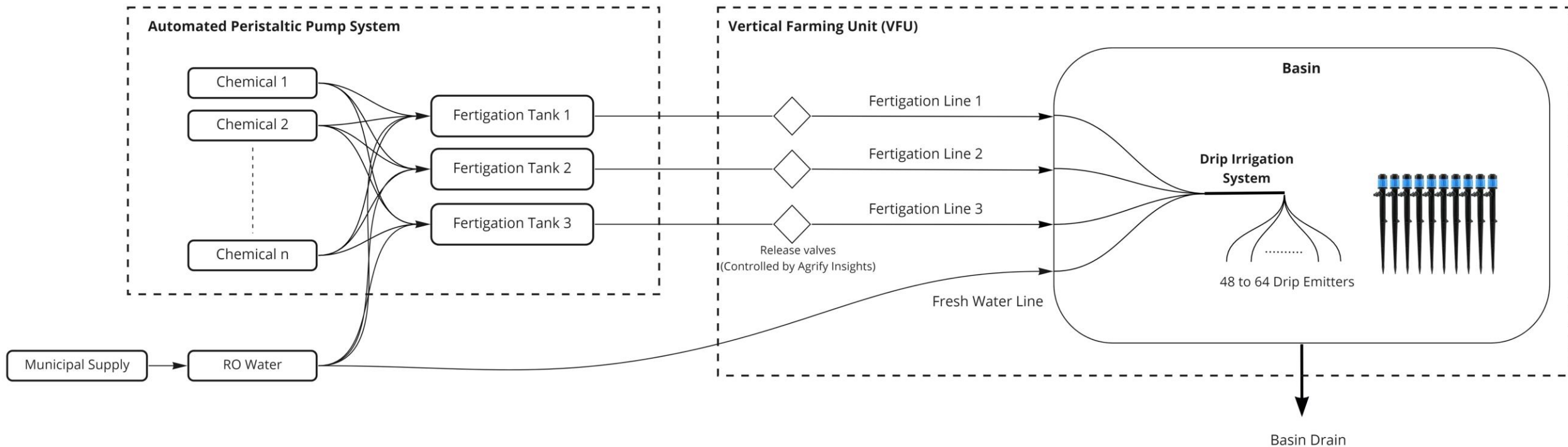
Product Specifications – Irrigation & Fertigation



- The process of loading various fertigation nutrients into the tanks through peristaltic pumps can be automated using the Autogrow® system.
- Agrify Insights integrates directly with the Autogrow® system to control the nutrient mix into the tanks.



Product Specifications – Irrigation & Fertigation



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- Agrify Insights integrates directly with the Autogrow system to control the nutrient mix into the tanks.

Product Specifications – Irrigation & Fertigation



(1) RO Water Line

Typical flow rate	1 GPH
Maximum flow rate	33 GPH
Flow Pressure	40 PSI

(3) Fertigation Mix Lines

Typical flow rate	1 GPH
Maximum flow rate	33 GPH
Flow Pressure	40 PSI

Product Specifications – Water Consumption

Please refer to Agrify for estimated water consumption calculations

Below are estimates through Agrify's consumption calculator

Note:

- A good estimate for typical water consumption is that 20% of VFUs will be in vegetation and 80% in flowering stage at any given time
- Please note that these are **estimates only**.
- Water consumption would be at the highest if all 10 VFUs are in the same vegetative stage simultaneously.

Total Approximate Water Consumption:

245 gpd (Typical)

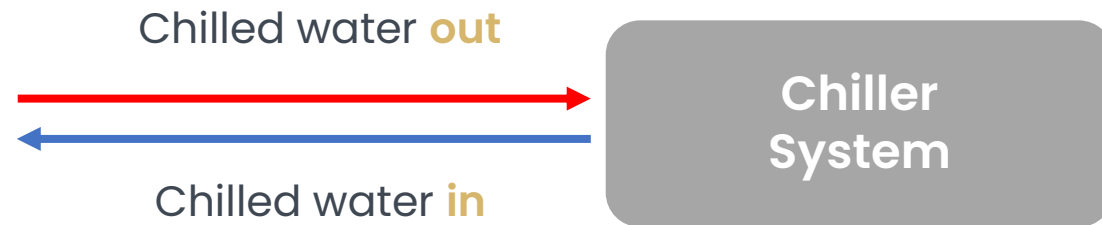
325 gpd (Veg Only)

Product Specifications – Chiller

- Temperature control functionality in a VFU occurs through a chilled water system.
- Chilled water lines need to be insulated to maintain the water temperature.

Chiller sizing:

1.5-ton chiller per VFU including buffer



Typical flow rate	2.8 GPM
Maximum flow rate	3.4 GPM
Temperature set point	44°F

Product Specifications – Ambient Requirements

- Normal operation of VFUs require them to be placed in an environmentally conditioned room.
- While most of the heat generated by VFUs is removed by the chilled water system, some residual heat is released into the room that needs to be considered during facility HVAC sizing.

Facility HVAC Sizing Requirements:

- VFUs would need to be in an environment of 68F (+/-4F) & 50% RH (+/-5%) for normal operation
- 1 ton of cooling is required per every 0.75 sqft of floor area to compensate for the heat released from VFUs
- Additionally, the room should be conditioned per ASHRAE 55 Manual N requirements for standard human comfort at 1 ton of cooling required per every 350 sqft of floor area, or corresponding measurement required to match the ambient VFU temperature & relative humidity requirements

Product Specifications – Data



- All data collected by Agrify Insights is hosted on Amazon Web Services.
- In case of network outages, data is stored locally in the VFU and is uploaded back to the cloud upon reconnection.
- Bandwidth requirements: 100 Mbps or higher.

→ All VFUs need an RJ45 CAT5/6 ethernet connection

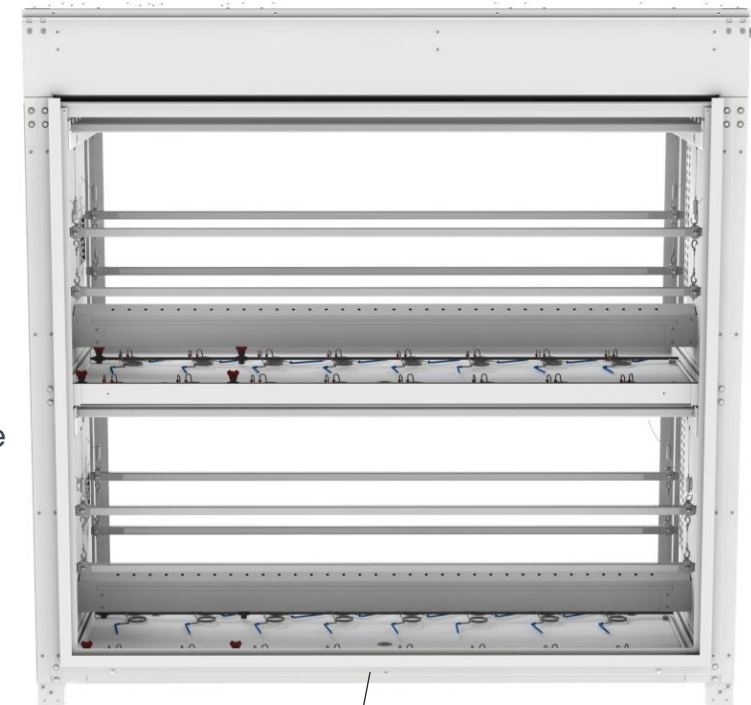
Product Specifications – Drain

Flow rate *per drain*

Typical flow rate	Varies with usage ~10% of fertigation
Maximum flow rate	2 GPH

There are two drain locations per VFU as shown below:

- **Condensate drain** – Residual waste from dehumidification. Typically re-used for irrigation after the water treatment process
- **Basin drain** – Residual waste from irrigation & fertigation. Refer to local laws on how to handle residual waste from the basin drain. Some regulations require the user to treat the wastewater before it can be released to the sewer.



Note:

Typical flow rate from the drains vastly varies with usage. Maximum flow rate of 2GPH per drain shown here is **not a constant flow throughout the day** and is only shown for sizing the plumbing connections appropriately.

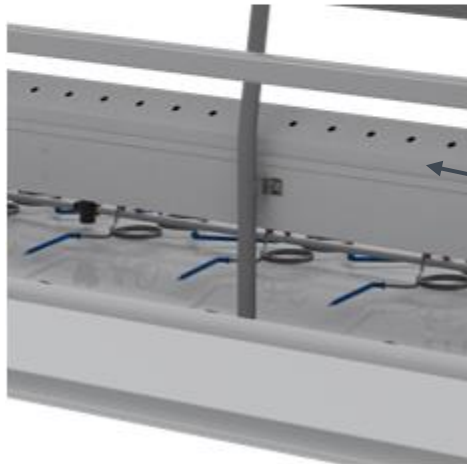
Product Specifications – Drain

- Upper basin drain is connected to the lower basin drain through a pipe as shown in the reference pictures below.

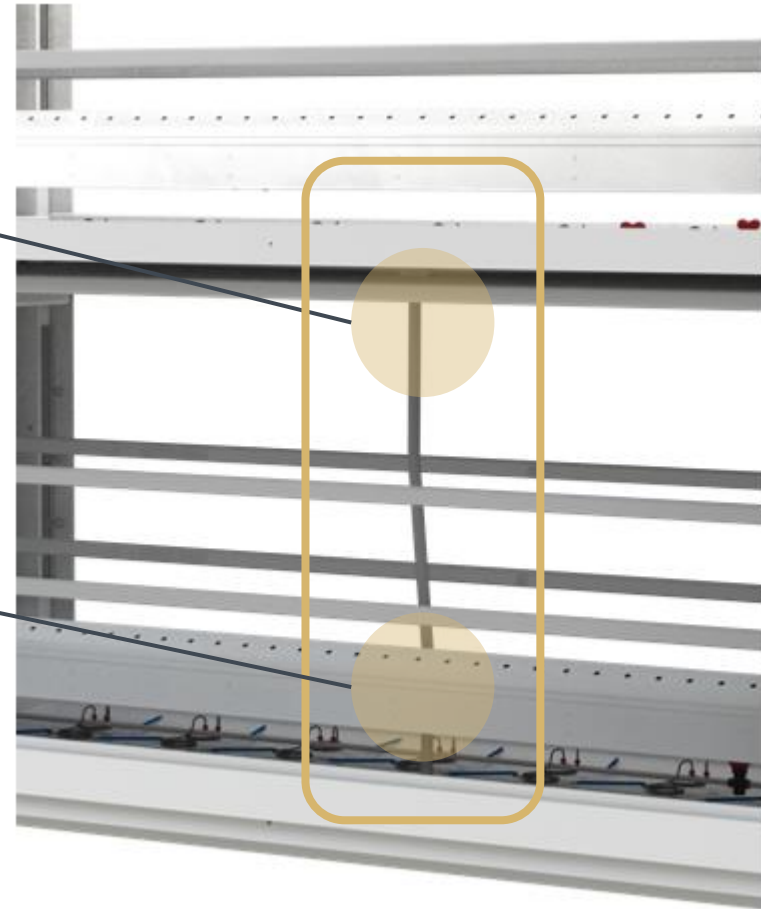
Plumbing connection
under the upper basin



Plumbing connection
to the bottom basin



(Pipe is not physically connected
to the lower basin drain)



Product Specifications – Drain

- In a multiple VFU setup, the basin and condensate drains would need to be connected as shown here.
- The 10-VFU package is designed such that all the drainage either goes through a trench system or goes to a central sump tank that will need to be connected to the facility's drain collection system. Further details shown on later pages.



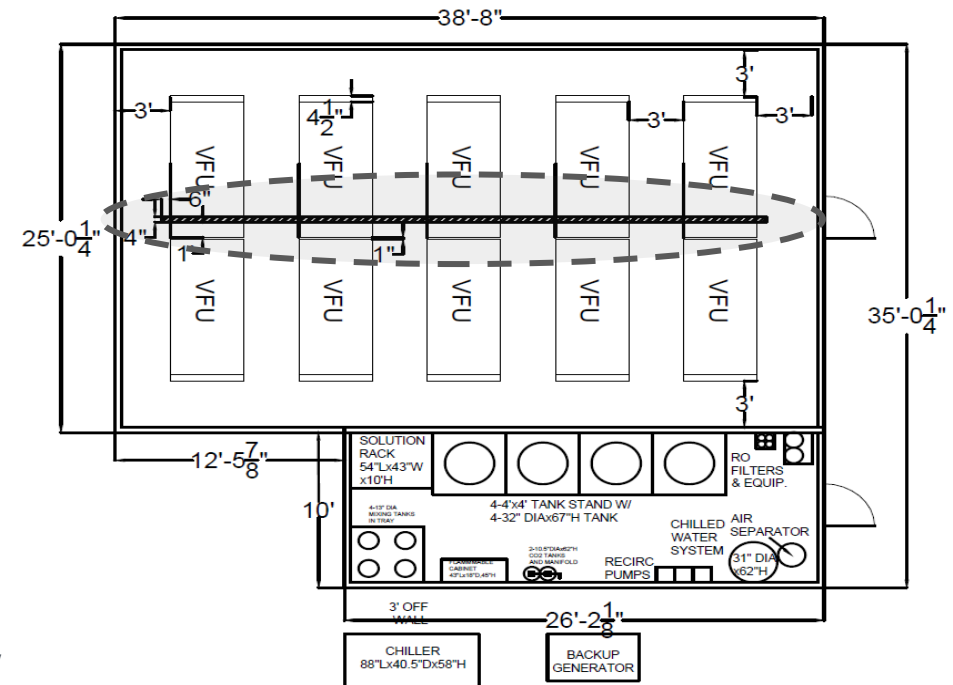
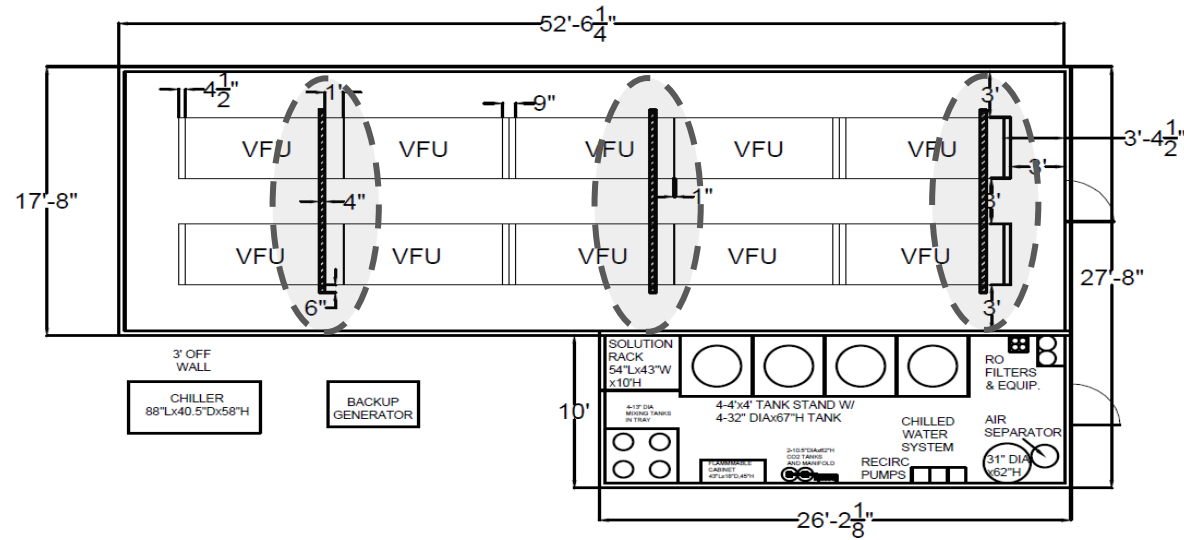
Estimated Total Wastewater: 47gpd (Typ) & 60gpd (Max)

Estimated Total Condensate Drain: 220 gpd

Product Specifications – Drain

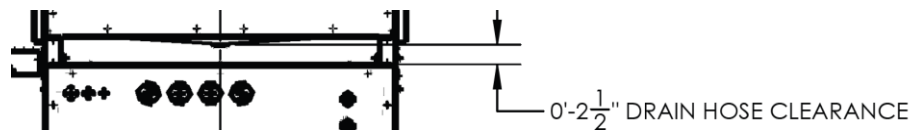
Option 1:

- Trench drain system under the VFUs, located in the highlighted sections shown below
- Agrify needs to be consulted for any deviations to this trench locations



VFU Drain Location Clearance

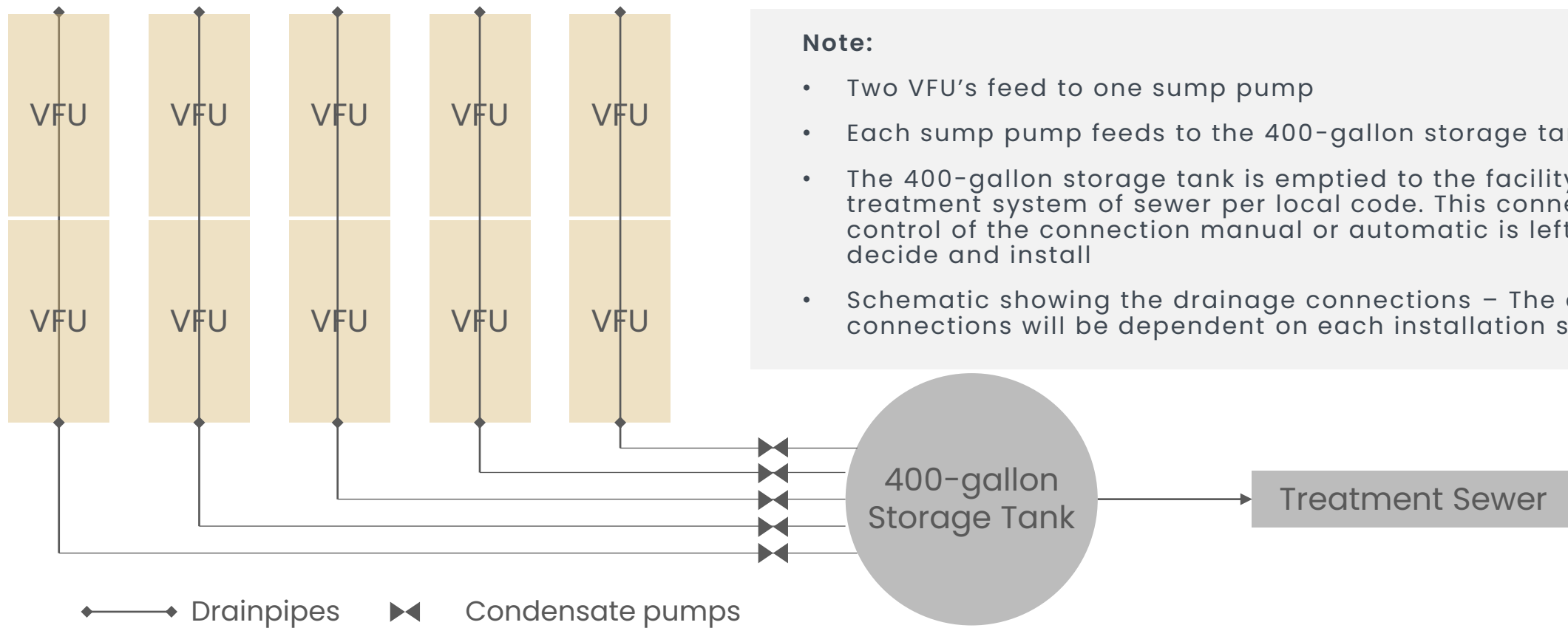
- VFUs have a 2.5" clearance for drain piping, as shown in the section below



Product Specifications – Drain

Option 2:

- All drain connections are connected to sump pumps and a central storage tank, that would need to be connected to the facility's sewer handling system.



Product Specifications – CO₂

VFU Interior Volume

308 cu ft.

CO₂ per VFU (Typical)¹

1100 ppm

CO₂ Consumption Total

22.3 lbs. per day

CO ₂ Line Ratings	40 PSI & 1.1 SCFM
CO ₂ Consumption per day (VFUs) ²	180.29 cu ft.
CO ₂ Consumption per day (Room) ³	14.52 cu ft.
CO ₂ Consumption per day (Total)	194.8 cu ft. or 22.3 lbs.

Assumptions:

¹ Nominal plant target is ~1500 ppm with ambient air at ~400 ppm

² CO₂ will last at enriched level for approximately 2 hours

³ Room size modeled at 55' x 20' x 12'

Note:

VFU curtains are not designed to be airtight, resulting in air exchange with the ambient room. As ambient CO₂ increases, the amount that is needed to be added to the VFUs will decrease.

Each VFU is managed by Agrify Insights software, which can partition the facility into zones and then using time division, manage max demand in a zone. This leasing mechanism is designed to limit the number of VFUs flowing CO₂ at any one time.

Hardware Component Breakdown

Note:
Plumbing materials for piping, valves and connections are not included in this package and are covered under the construction setup.

Components Included in the 10-VFU Package		Quantity	Description
VFU Assemblies		10	Agrify's Vertical Farming Unit assemblies
Chiller System	Chiller (20-ton)	1	A chiller is required to regulate the VFU temperature and minimize heat released into the ambient environment
	Storage Tank (119 gal)	1	
	Expansion Tank (7.4 gal)	1	
	Recirculation/Booster Pumps	2	
Fertigation/PAA Flush Package	Fill Tanks (160 gal)	3	VFUs have three inputs to deliver fertigation mix to the plants. While two of the inputs are typically used to deliver fertigation mix, the third input can be used either to deliver either fertigation mix or as a PAA flush system.
	Tank Stands (160 gal)	3	
	Concentrate Tanks (15 gal)	3	
	Recirculation/Booster Pumps	3	
	Autogrow Dose System	3	
RO Water Package	RO Water System	1	VFUs have a dedicated line for RO water to provide humidification in the system.
	Fill Tanks (160 gal)	1	
	Tank Stands (160 gal)	1	
	Recirculation/Booster Pumps	1	
Drain Package	Sump Pumps	5	This system includes a drain collection system from the VFU's condensation and basin drains that can be connected to the facility's drain collection system
	Storage Tank (400 gal)	1	
CO₂	CO ₂ Alarm System	1	CO ₂ tanks are not included in the package per the assumption that customer has an existing CO ₂ connection in the facility
Data/Network Package	24-port Data Switch	1	This system includes a network connection package, with more configuration details shown in the later slides. CAT 5/6 cables are not included in this package.
	Mounting Rack	1	
	Uninterrupted Power Supply	1	
	Unified Security Gateway	1	

Construction Breakdown

Package	Description
Plumbing	<p>Includes the following:</p> <ul style="list-style-type: none">• Plumbing connections from the fertigation, RO tanks to the VFUs.• Plumbing connections from the chiller system• Dosing and mixing connections for the fertigation supply system• RO water connections for the RO filtration system
Electrical	<p>Includes adding electrical connections for each VFU, chiller system and automated fertigation pump system.</p> <p>Assumes the facility has an existing house panel with the required breakers to support the 10-VFU package's electrical requirements.</p>
Data	<p>Includes pulling CAT5/6 data connections from the facility's network hub.</p> <p>Assumes the facility has an existing network infrastructure to support the 10-VFU bandwidth requirements.</p>
CO2	<p>Includes the installation of a CO2 monitoring and detection system with multiple sensors placed across the room.</p>
Installation & Commissioning	<p>Includes installing and commissioning the VFU assemblies to be ready for operation</p>

Note:
This package only includes the construction required for the VFU operation. Any facility level construction items are not included here.



AGRIFY™

10-VFU Equipment List

Hardware Component Breakdown

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Components Included in the 10-VFU Package		Quantity	Description
VFU Assemblies		10	Agrify's Vertical Farming Unit assemblies
Chiller System	Chiller (20-ton)	1	A chiller is required to regulate the VFU temperature and minimize heat released into the ambient environment
	Storage Tank (119 gal)	1	
	Expansion Tank (7.4 gal)	1	
	Recirculation/Booster Pumps	2	
Fertigation/PAA Flush Package	Fill Tanks (160 gal)	3	VFUs have three inputs to deliver fertigation mix to the plants. While two of the inputs are typically used to deliver fertigation mix, the third input can be used either to deliver either fertigation mix or as a PAA flush system.
	Tank Stands (160 gal)	3	
	Concentrate Tanks (15 gal)	3	
	Recirculation/Booster Pumps	3	
	Autogrow Dose System	3	
RO Water Package	RO Water System	1	VFUs have a dedicated line for RO water to provide humidification in the system.
	Fill Tanks (160 gal)	1	
	Tank Stands (160 gal)	1	
	Recirculation/Booster Pumps	1	
Drain Package	Sump Pumps	5	This system includes a drain collection system from the VFU's condensation and basin drains that can be connected to the facility's drain collection system
	Storage Tank (400 gal)	1	
CO₂	CO ₂ Alarm System	1	CO ₂ tanks are not included in the package per the assumption that customer has an existing CO ₂ connection in the facility
Data/Network Package	24-port Data Switch	1	This system includes a network connection package, with more configuration details shown in the later slides. CAT 5/6 cables are not included in this package.
	Mounting Rack	1	
	Uninterrupted Power Supply	1	
	Unified Security Gateway	1	

Chiller System – Chiller

Manufacturing	Carrier
Type	AquaSnap 20-ton Air-Cooled Chiller
Model	30RAP0206D-02100
Product Web Link	https://www.carrier.com/marine-offshore/en/worldwide/products chillers/30rap/

Product Info Sheet




Adobe Acrobat Document

Mark For	Qty	Model Number	Description
CH-1	1	30RAP0206D-02100	Carrier Air Cooled Chiller The following items are included: <ul style="list-style-type: none"> • Voltage: 460-3-60 • Unit Size: 20 Tons • Evaporator Heater • MCHX Condenser Coils • Digital Scroll Compressors • Fixed Speed Condenser Fan • Low Sound • Single Point Power • CCS Startup • 1st-Year Complete Unit Parts-Only Warranty, ending (12) months from start-up or (18) months from date of shipment, whichever occurs first. • Compressor Parts Only Warranty Years 2-5
CH-1	1	30RA-900---065	Wind Baffle Field Installed By Others (Required For Low Ambient Operation)
CH-1	1	38AP-900---021	MotomasterV Low Ambient Controller
CH-1	1	38AP-900---022	Energy Management Module (EMM)
CH-1	1	33CNTRAN485-01-R	Carrier Bacnet Translator
CH-1	1	30RA-900---058	Convenience Outlet Kit



Chiller System – Storage Tank

Manufacturing	State Industries
Type	119-gallon jacketed storage tank
Model	PVG-0120-0OVT
Product Web Link	https://www.statewaterheatersme.com/product/industrial-storage-tank-pvg/
Product Info Sheet	 Adobe Acrobat Document


SPECIFICATIONS

Model	Nominal Gallon Capacity	ASME	Standard Working Pressure	Approx. Ship. Wt.	Refer to Figure	Dimensions In Inches						
						A	B	C	D	E	F	G
PVG 0080 OOVt - Jacketed Vertical Only	80	No	150	236	1	63½	25½	16	44½	3½	2	—
PVG 0120 OOVt - Jacketed Vertical Only	119	No	150	320	3	62	29½	4½	6½	54	2	42
PVG 0080 OOVTA125	80	Yes	150	369	2	50½	25¼	10¾	42¾	9¾	2	—
PVG 0120 OOVTA125	120	Yes	150	411	4	63¼	28	11	6½	55¾	2	44½
PVG 0200 OOVSA125	175	Yes	150	560	5	77	32	12	6	63½	2½	—

Model #	Gal	Cap	A Dim	B Dim	Weight
PVG 0080 OOVt - Jacketed Vertical Only	80	1.74	63-1/2	25-1/2	236
PVG 0120 OOVt - Jacketed Vertical Only	119	3.00	62	29-1/2	320
PVG 0080 OOVTA125	80	-	50-1/2	25-1/4	369
PVG 0120 OOVTA125	120	-	63-1/4	28	411
PVG 0200 OOVTA125	175	-	77	32	560

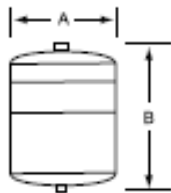


Chiller System – Expansion Tank


Manufacturing	Amtrol
Type	Extrol EX-60 7.4-gallon Inline
Model	EX-60
Product Web Link	https://www.amtrol.com/product/extrol-hydronic-expansion-tanks/
Product Info Sheet	 Adobe Acrobat Document



EX Series Specifications							
Model Number	Tank Volume (Gallons)	Max. Acceptance Factor (Gallons)	A Diameter (Inches)	B Height (Inches)	System Connection (NPTM)	Shipping Weight (lbs.)	
EX-15	2.0	1.0	8	13	1/2"	5	
EX-30	4.4	2.5	11	15	1/2"	9	
EX-60	7.4	2.5	11	23	1/2"	14	
EX-90	14.0	11.3	15	21	1/2"	23	



Chiller System – Recirculation / Booster Pumps


Manufacturing	Grundfos
Type	MAGNA3 Circulator Pump
Model	MAGNA3 40-180F 216 (PN: MAGNA3 40-180F 216)
Product Web Link	https://product-selection.grundfos.com/us/products/magna-north-america/magna3-north-america/magna3-40-180-f-98126836?tab=variant-curves
Product Info Sheet	 Adobe Acrobat Document

Specifications

Product name	MAGNA3 40-180 F	Installation	
Product No.	98126836	Range of ambient temperature	32 .. 104 °F
EAN	5710629499981	Maximum operating pressure	174.05 psi
Technical		Flange standard	GF
Rated flow	62.1 US gpm	Pipe connection	GF15/26/40/43
Rated head	31.5 ft	Pressure stage	PN12
Head max	59.06 ft	Port-to-port length	8 9/16 in
TF class	110	Liquid	
Approvals on nameplate	98544605	Pumped liquid	Water
Model	D	Liquid temperature range	14 .. 230 °F
Materials		Selected liquid temperature	140 °F
Pump housing	Cast iron	Density	61.35 lb/ft ³
	EN-GJL-250	Electrical data	
	ASTM A48-250B	Power input - P1	16 .. 600 W
Impeller	PES 30%GF	Main frequency	60 Hz
		Rated voltage	1 x 208-230 V
		Maximum current consumption	0.18 .. 2.65 A
		Enclosure class (IEC 34-5)	X4D
		Insulation class (IEC 85)	F



Fertigation System – Fill Tank


Manufacturing	Norwesco
Type	160-gallon 45-degree Cone Bottom Tank
Model	43845
Product Web Link	https://norwesco.com/products/above-ground-tanks/cone-bottom
Product Info Sheet	 Adobe Acrobat Document

Cone Bottom Tanks									
Gallon Capacity	Diameter	Overall Height	Slope	Fill Opening	Outlet/Drain Spec	Premium Weight Part No. White	Avail	Heavy Weight Part No. Blue	Avail
*125 w/stand	48"	41"	15°	8"-(63480)	2"-(60405) 2" street elbow (62199)	43161	B	NA	-
160	36"	52"	45°	16"-(63485)	2"-(60405)	43845	I	NA	-

2-inch threaded outlet with translucent molded liner



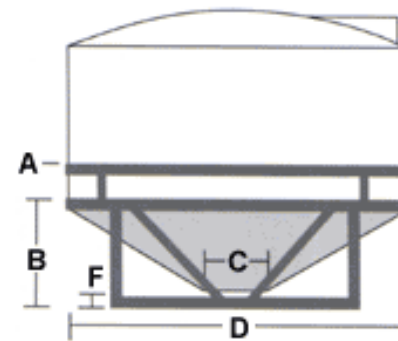
Fertigation System – Fill Tank Stand

Manufacturing	Norwesco
Type	160-gallon 45-degree Cone Bottom Tank Stand
Model	63932
Product Web Link	https://norwesco.com/products/above-ground-tanks/cone-bottom-stands
Product Info Sheet	 Adobe Acrobat Document

Steel Cone Bottom Stands

Norwesco cone bottom stands are manufactured from structural steel and offer a full dish for uniform support.

Steel Cone Bottom Stands						
Gallon Capacity	A	B	C	D	F	Part No.
160 - 45°	NA	29"	7"	43"	15"	63932



Fertigation System – Concentrate Drums

Manufacturing	ULINE
Type	15 Gallon Open Top Blue Drum with Lid
Model	S-24088
Product Web Link	https://www.uline.com/Product/Detail/S-24088/Drums/Plastic-Drum-with-Lid-15-Gallon-Open-Top-Blue

Product Info Sheet

DIMENSIONS:

- Diameter:
 - Lid (Outside- Including Metal Band): 14 7/8"
 - Drum (Outside):
 - Opening: 14 1/2"
 - Bottom: 12 3/4"
 - Drum (Inside):
 - Opening: 14 1/8"
 - Bottom: 12 1/2"
- Height:
 - Drum With Lid: 27 3/4"
 - Drum Only (Outside): 27 1/2"
 - Drum Only (Inside): 27 1/4"
 - Each nested drum adds 11" to height.

THICKNESS:

- Minimum: 2.2 mm

MATERIAL:

- Lid & Drum: HDPE (High Density Polyethylene)
- Lever Lock Ring: Galvanized steel

TEMPERATURE:

- 0° - 120° F

COMPATIBILITY:

- Compatible with [H-1552 Drum Plug Opener](#).

FEATURES:

- Openings:
 - Caps are not vented.
 - Urethane rubber gasket to keep out moisture.
 - (1) 3/4" Fine/NPS threading
 - (1) 2" Fine/NPS threading

RECYCLING:

- Recycling Code: #2
- If local recycling center does not take drum:
 - US/CAN:
 - National Container (National Recycling Center) at 1-800-774-6956.
 - Mexico:
 - National Container (National Recycling Center) at 800-774-6956.



Fertigation System – Recirculating / Booster Pumps

Manufacturing	Grundfos
Type	SCALA2 Booster Pump
Model	3-45 A (P/N: 98562818)
Product Web Link	https://product-selection.grundfos.com/us/products/scala/scala2/scala2-3-45-98562818?tab=variant-curves

Product Info Sheet



Adobe Acrobat Document

Product name	SCALA2 3-45 A	Installation	
Product No.	98562818	Range of ambient temperature	32 .. 113 °F
EAN	5711497233875	Maximum operating pressure	145 psi
Technical		Maximum permissible inlet pressure	87 psi
Rated flow	13.2 US gpm	Type of inlet connection	NPT(M)
Rated head	88.59 ft	Type of outlet connection	NPT(M)
Head max	147.6 ft	Size of suction port	1 inch
	147.6 ft	Size of outlet port	1 inch
Primary shaft seal	CARBON/CERAMIC	Pressure rating for connection	PN 10
Approvals	CULUS	Liquid	
Approvals for drinking water	cULus NSF372,cULus DW NSF61	Pumped liquid	Water
Curve tolerance	ISO9906:2012 3B	Liquid temperature range	32 .. 113 °F
Model	A	Selected liquid temperature	68 °F
Materials		Density	62.29 lb/ft³
Pump housing	Composite	Electrical data	
Pump	NORYL FE1630PW PPE+PS-GS30	Power input - P1	550 W
Impeller	Composite	Rated power - P2	0.603 HP
	NORYL FE1630PW PPE+PS-GS30	Main frequency	60 Hz
Material code	A	Rated voltage	1 x 115 V
		Rated current	4.9 A
		Enclosure class (IEC 34-5)	ENCLOSURE TYPE 3
		Insulation class (IEC 85)	F
		Length of cable	6.56 ft
		Power plug	Type B (NEMA 5-15) US plug 115V



Fertigation System – Autogrow Dosing

Manufacturing	Autogrow
Type	3 components – IntelliDose Kit, IntelliLink Kit, peristaltic pumps
Model	HKIT-ID-001-03 IntelliDose kit HACC-ILINK-001-01 Intellilink Kit HPMP-SING-002-01 peristaltic pump kit
Product Web Link	https://autogrow.com/products/intellidose-system https://autogrow.com/products/intellilink https://shop.autogrow.com/products/peristaltic-pump
Product Info Sheet	

IntelliDose specs

- > 9 outputs 24VDC
- > Nutrient measurement units EC, CF or TDS (500/640/700)
- > Measured range 0.00 to 9.99EC, 0.1 to 99.99CF, 0 to 7000PPM
- > Nutrient resolution to .01mS/cm, 0.1CF
- > Nutrient measurement accuracy +/-0.1EC, 1.0CF or 10PPM - Temperature compensated
- > Nutrient dosing range 0.00 to 5.99EC, 0.1 to 59.9CF, 0 to 4200PPM
- > pH resolution and accuracy - 0.1pH
- > pH measurement range 2pH to 12pH
- > pH dosing range 4.5 to 8 pH
- > Nutrient and pH dosing times settable from 1 second to 30 minutes
- > Dosing interval settable from 0 minutes (continuous dosing) to 244 minutes
- > Sequential dosing to prevent power surges
- > Temperature resolution and accuracy 1C/2F
- > Temperature range 0-50C/32-125F
- > Operating temperature range 0-50C/32-125F (not in direct sunlight)
- > Power source - mains supplied 24VDC with 120V pigtail... specify if mains voltage and pin type vary
- > Outputs will have the same voltage as the supplied voltage from the power pack
- > Nutrient sensor using DiPulse™ technique to resist fouling
- > Dosing shut off:
 - > if nutrient is below 0.1EC, 1.0CF, 10PPM
 - > if pH is below 4.5 or above 8.0
 - > if dosing effect is counterintuitive (by dosing pH lower, the measured pH goes up)
 - > if sensor fault is detected
- > Supplied with 3m USB cable

Intellilink specs

Overview	Tech Specs	Videos	Reviews
Features			
Brand	Autogrow Systems		
SKU	HACC-ILINK-001-01		
Weight (lb.)	3		
Lead Time	This product ships in 48 hours		
Length (in.)	3.9		
Width (in.)	4.7		
Height (in.)	4.7		
Prop 65	No		
UL Listed	No		

Peristaltic pump specs

Tech specs:

- Rated at 350ml/min
- Runs on 24V DC
- Pressure roller (2H+2R)
- PP made NPT fitting x2
- 1500mm PVC tube x2
- ABS enclosure x1
- DC power wire with 200+1800mm(L)
- Autogrow Rating Label
- 0.25" in/out tubing



RO Water System – RO Generator

Manufacturing	Watts
Type	Frame mounted LC series, 380 GPD Reverse Osmosis System
Model	LC-380PP
Product Web Link	https://www.watts.com/products/water-quality-rainwater-harvesting-solutions/filtration-solutions/backwashing-systems/lc

Product Info Sheet

The LC Series is suitable for the following applications:

- Manufacturing
- Pharmaceutical
- Food Processing industries
- Shopping centers
- Schools
- Hotels

Overview:

- Light Commercial RO System
- Free Standing
- Rated for 380 GPD
- Membrane elements: 3
- Membrane Type: Thin Film
- Operation Pressure: 0-125 psi
- Operation temperature: 40-110 F

Standard Features:


- Powder coated frame made of light weight and rust proof aluminum alloy with U shaped bracket for better support.
- High rejection thin film membrane, typical rejection rate of 99%. Each membrane is 100 gpd @ 100 psi.
- Two 20" pre-treatment filters: 5 microns sediment and extruded carbon block.
- One 20" post treatment filter, standard coconut shell granular carbon.
- Stainless Steel liquid filled pressure gauge.
- Electrical shut-off valve to prevent clogging following the sediment filter.
- Low energy high flow booster pump with transformer: fills product tank faster and saves waste water.
- Aluminum rivets to provide durable tightness
- Stainless Steel check valve to prolong membrane life

Models

MODEL NO.	GPD	PUMP	STAGE 1	STAGE 2	STAGE 3	STAGE 4	CARTON DIMENSIONS	SHIP WT. (LBS.)
LC-200P-MINI	200	1	FPMB5-978	FI-CTO010	W-1812-100 (2)	S7708	21 X 21 X 10	40
LC-200P	200	1	FPMB5-20	FI-CTO020/2	W-1812-100 (2)	FI-GAC020HP	36 x 21 x 10	46
LC-300P	300	1	FPMB5-20	FI-CTO020/2	W-1812-100 (3)	FI-GAC020HP	36 x 21 x 10	48
LC-380PP	380	2	FPMB5-20	FI-CTO020/2	W-1812-100 (3)	FI-GAC020HP	36 x 21 x 10	53



RO Water System – Fill Tank


Manufacturing	Norwesco
Type	160-gallon 45-degree Cone Bottom Tank
Model	43845
Product Web Link	https://norwesco.com/products/above-ground-tanks/cone-bottom
Product Info Sheet	 Adobe Acrobat Document

Cone Bottom Tanks									
Gallon Capacity	Diameter	Overall Height	Slope	Fill Opening	Outlet/Drain Spec	Premium Weight Part No. White	Avail	Heavy Weight Part No. Blue	Avail
*125 w/stand	48"	41"	15°	8"-(63480)	2"-(60405) 2" street elbow (62199)	43161	B	NA	-
160	36"	52"	45°	16"-(63485)	2"-(60405)	43845	I	NA	-

2-inch threaded outlet with translucent molded liner



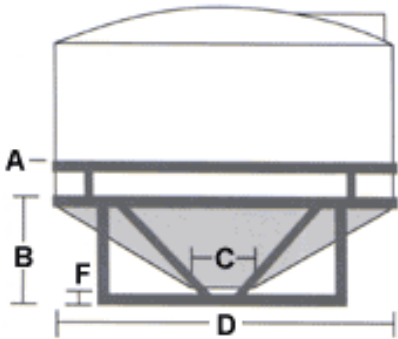
RO Water System – Fill Tank Stand

Manufacturing	Norwesco
Type	160-gallon 45-degree Cone Bottom Tank Stand
Model	63932
Product Web Link	https://norwesco.com/products/above-ground-tanks/cone-bottom-stands
Product Info Sheet	 Adobe Acrobat Document

Steel Cone Bottom Stands

Norwesco cone bottom stands are manufactured from structural steel and offer a full dish for uniform support.

Steel Cone Bottom Stands						
Gallon Capacity	A	B	C	D	F	Part No.
160 - 45°	NA	29"	7"	43"	15"	63932



RO Water System – Recirculating / Booster Pumps

Manufacturing	Grundfos
Type	SCALA2 Booster Pump
Model	3-45 A (P/N: 98562818)
Product Web Link	https://product-selection.grundfos.com/us/products/scala/scala2/scala2-3-45-98562818?tab=variant-curves

Product Info Sheet



Adobe Acrobat
Document

Product name	SCALA2 3-45 A	Installation	
Product No.	98562818	Range of ambient temperature	32 .. 113 °F
EAN	5711497233875	Maximum operating pressure	145 psi
Technical		Maximum permissible inlet pressure	87 psi
Rated flow	13.2 US gpm	Type of inlet connection	NPT(M)
Rated head	88.59 ft	Type of outlet connection	NPT(M)
Head max	147.6 ft	Size of suction port	1 inch
	147.6 ft	Size of outlet port	1 inch
Primary shaft seal	CARBON/CERAMIC	Pressure rating for connection	PN 10
Approvals	CULUS	Liquid	
Approvals for drinking water	cULus NSF372,cULus DW NSF61	Pumped liquid	Water
Curve tolerance	ISO9906:2012 3B	Liquid temperature range	32 .. 113 °F
Model	A	Selected liquid temperature	68 °F
Materials		Density	62.29 lb/ft ³
Pump housing	Composite	Electrical data	
Pump	NORYL FE1630PW PPE+PS-GS30	Power input - P1	550 W
Impeller	Composite	Rated power - P2	0.603 HP
	NORYL FE1630PW PPE+PS-GS30	Main frequency	60 Hz
Material code	A	Rated voltage	1 x 115 V
		Rated current	4.9 A
		Enclosure class (IEC 34-5)	ENCLOSURE TYPE 3
		Insulation class (IEC 85)	F
		Length of cable	6.56 ft
		Power plug	Type B (NEMA 5-15) US plug 115V



CO₂ Alarm System – Control Tablet

Manufacturing	CO2METER.COM
Type	8" Control Tablet
Model	CM7005
Product Web Link	https://www.co2meter.com/blogs/news/cm-7000-co2-multi-sensor-system-update-adds-new-sensor-groupings-features
Product Info Sheet	 <p>Adobe Acrobat Document</p>

CO₂ Multi-Sensor System Specifications

CO₂ Measurement Range	0-5% (0-50,000 ppm)
CO₂ Measurement	NDIR (Non-dispersive Infrared)
Alarms	5,000 TWA, 5,000 Instantaneous, 1.5%, 3% (fully customizable)
Measurement Interval	2 seconds (0.5 Hz)
Operating Temperature	32-122° F (0-50° C)
Calibration	Zero with Nitrogen or Factory Calibration
Connections	Input/Output/Strobe — CAT5 8-pin connector
Sensor Life Expectancy	>15 years

Electrical and Mechanical Specifications

Power Supply	110-220 VAC 50/60 Hz to 12 VDC power adapter
Power Input	4.5-5.25 VDC
Power Consumption	300 mA peak, 30 mA average
Horn Strobes	90-120 dB 3KHz, 110 cD



CO₂ Alarm System – CO₂ Sensor

Manufacturing	CO2METER.COM
Type	8" Control Tablet
Model	CM7003
Product Web Link	https://www.co2meter.com/blogs/news/cm-7000-co2-multi-sensor-system-update-adds-new-sensor-groupings-features
Product Info Sheet	 Adobe Acrobat Document

Sensor Specifications

- CO2 Measurement Range: 0-5% (400-50,000ppm)
- CO2 Measurement: Non Dispersive Infrared (NDIR)
- Sensor Reading Frequency: 0.5Hz
- Response time: 90% at 2 minutes
- Measurement Interval: 2 seconds
- Communication: UART Modbus
- Sensor Life Expectancy: > 15 years
- Maintenance Interval: no maintenance required
- Self-Diagnostics: complete function check on startup



CO₂ Alarm System – CO₂ Sensor

Manufacturing	CO2METER.COM
Type	Horn and Strobe add on
Model	CM7004
Product Web Link	https://www.co2meter.com/blogs/news/cm-7000-co2-multi-sensor-system-update-adds-new-sensor-groupings-features
Product Info Sheet	 Adobe Acrobat Document


Alarm Horn / Strobe

- Halogen Amber Lens Strobe
- Piezo Electric Horn
- Amber Lens Included
- Blue Lens Available for Purchase



Horn Strobe

Drainage System – Drainage Condensate Pumps


Manufacturing	Franklin Electric
Type	LittleGIANT VCCA-20ULS low-profile Condensate pump
Model	VCCA-20ULS
Product Web Link	https://www.littlegiant.com/products/condensate-removal-pumps/low-profile-condensate-pumps/vcca-20uls/
Product Info Sheet	 Adobe Acrobat Document

Features & Benefits

- 1/30 hp motor
- Float switch for automatic start/stop operation
- Safety switch
- 1/2-gallon tank capacity
- Motor thermal overload protection
- Low-profile condensate pump for small spaces




Drainage System – Storage Tank

Manufacturing	Snyder Industries
Type	400-gallon Plastic Horizontal Tank
Model	1350000C95003
Product Web Link	https://shop.snydernet.com/transport-tanks/400-gallon-white-plastic-horizontal-tank-snyder-1350000c95002.asp
Product Info Sheet	 Adobe Acrobat Document

- Capacity: 400 Gal
- Diameter: 42 in
- Height: 42 in
- Weight: 99 lb
- Material: High Density Polyethylene (HDPE)
- Color: Natural
- Specific Gravity: 1.9 Heavy Duty



Data/Network System – Data Switch

Manufacturing	Ubiquiti Inc.
Type	UniFi Switch Pro 24 PoE data switch
Model	USW-Pro-24-PoE
Product Web Link	https://store.ui.com/collections/unifi-network-switching/products/usw-pro-24-poe
Product Info Sheet	 Adobe Acrobat Document


Features:

- (1) 1.3" LCM color touchscreen with AR switch management
- (16) GbE, 802.3at PoE+ RJ45 ports
- (8) GbE, 802.3bt PoE++ RJ45 ports
- (2) 10G SFP+ ports
- (1) USP RPS DC input
- 400W total PoE supply
- Near-silent cooling
- Layer 3 switching features

Managed with the UniFi Network application: Version 5.10.5 and later



Data/Network System – Power Supply

Manufacturing	Ubiquiti Inc.
Type	UniFi SmartPower USP-RPS Redundant Power System
Model	USP-RPS
Product Web Link	https://store.ui.com/collections/unifi-network-switching/products/usp-rps
Product Info Sheet	 Adobe Acrobat Document

Features:

- (6) USP DC output ports
- (1) GbE RJ45 port
- 1U-sized, rack-mountable device (kit included)
- 1.3" LCM color touchscreen that displays device status information
- (1) SmartPower Cable

Managed with the UniFi Network application: Version 5.12.11 and later



Data/Network System – Mounting Rack

Manufacturing	Dynotech
Type	DynoTech 9U - 600 x 450 x 500mm Wall Mount Rack Cabinet
Model	DYN-300705
Product Web Link	http://dynotechaudio.com/19-racks/wall-mount-rack-cabinet-9u-with-fan-black.html
Product Info Sheet	

Specifications:

Dimensions:	19" W x 24" L x 21" H
Included:	Pack of 10/32 Screws
Weight:	55 lbs

Features

- 600 x 450 x 500mm
- Key and Lock
- Tempered Glass Flat Door
- Single Section
- 2 L Styles
- 2 Fan Holes
- 1 Fan
- Pack of 10/32 Screws



Data/Network System – Security Gateway

Manufacturing	Dynotech
Type	USG Security Gateway
Model	USG
Product Web Link	https://store.ui.com/products/unifi-security-gateway
Product Info Sheet	 Adobe Acrobat Document

Model: USG

The USG features a compact form factor and fanless operation for discreet integration.

- (3) 10/100/1000 RJ45 Ports*
- (1) RJ45 Serial Console Port
- Quiet, Fanless Operation
- Wall-Mounting Capability
- Layer 3 Forwarding Performance
 - Packet Size of 64 Bytes: 1,000,000 pps
 - Packet Size of 512 Bytes or Larger: 3 Gbps (Line Rate)





AGRIFY™

10-VFU R&D Pilot Connection-Layout Guide

Connection Layout Guide

[Document Link](#)



Adobe Acrobat
Document

- **Plumbing (Fertigation/RO Water/CO2/Chilled Water)**
- **Plumbing Layout Plan (P2.0) Alternate Layout Plan (P2.1)**
- **Plumbing P&ID Plan (P2.2)**

- **Electrical**
- **Electrical Connection List**

- **Data/Networking**
- **Data Connection Schematic**

- **Drainage**
- **VFU Wastewater Drainage Schematic**

It will be the responsibility of the construction contractor to provide the actual piping and valves for connection of the various equipment pieces per the local plumbing codes.

It will be the responsibility of the construction contractor to provide the actual wiring connection of the various equipment pieces to supplies per the local electrical codes.

It will be the responsibility of the construction contractor to provide the Ethernet Cabling required to connect the VFU's to the customer servers/routers per the local electrical codes.

It will be the responsibility of the construction contractor to provide the piping and valves for connection of the VFU's to the wastewater collection tanks and the customer wastewater removal systems per the local plumbing codes.

PIPING LEGEND	
	AG ABOVE GROUND PIPING (SINGLE LINE)
	CW COLD WATER PIPING
	HW HOT WATER PIPING
	GG GROSS GENERATION
	CHWS CHILLED WATER SUPPLY
	CHWR CHILLED WATER RETURN
	CGS CARBON DIOXIDE GAS
	RD REVERSE OSMOSIS

- GENERAL NOTES**
- REFER TO DRAWING P1.0 FOR GENERAL ASSUMPTIONS & GENERAL NOTES
- PLAN NOTES**
- VFUS TO BE LOCATED IN TEMPERATURE CONTROLLED ENVIRONMENT, MAINTAINED AT 70°F
- SHEET NOTES:**
- ALL DOMESTIC COLD & HOT WATER CONNECTIONS BY FACILITY OPERATOR
 - WATER HEATER AND ALL ASSOCIATED CONNECTIONS BY FACILITY OPERATOR
 - HOT WATER RECYCLATORS PUMP #4-3 BY FACILITY OPERATOR



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603.931.9424

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NORTH

STAMP

ANYWHERE
USA

AGRIFY
10 VFU
PROTOTYPE

REVISIONS:

Date	Description

FOR REVIEW

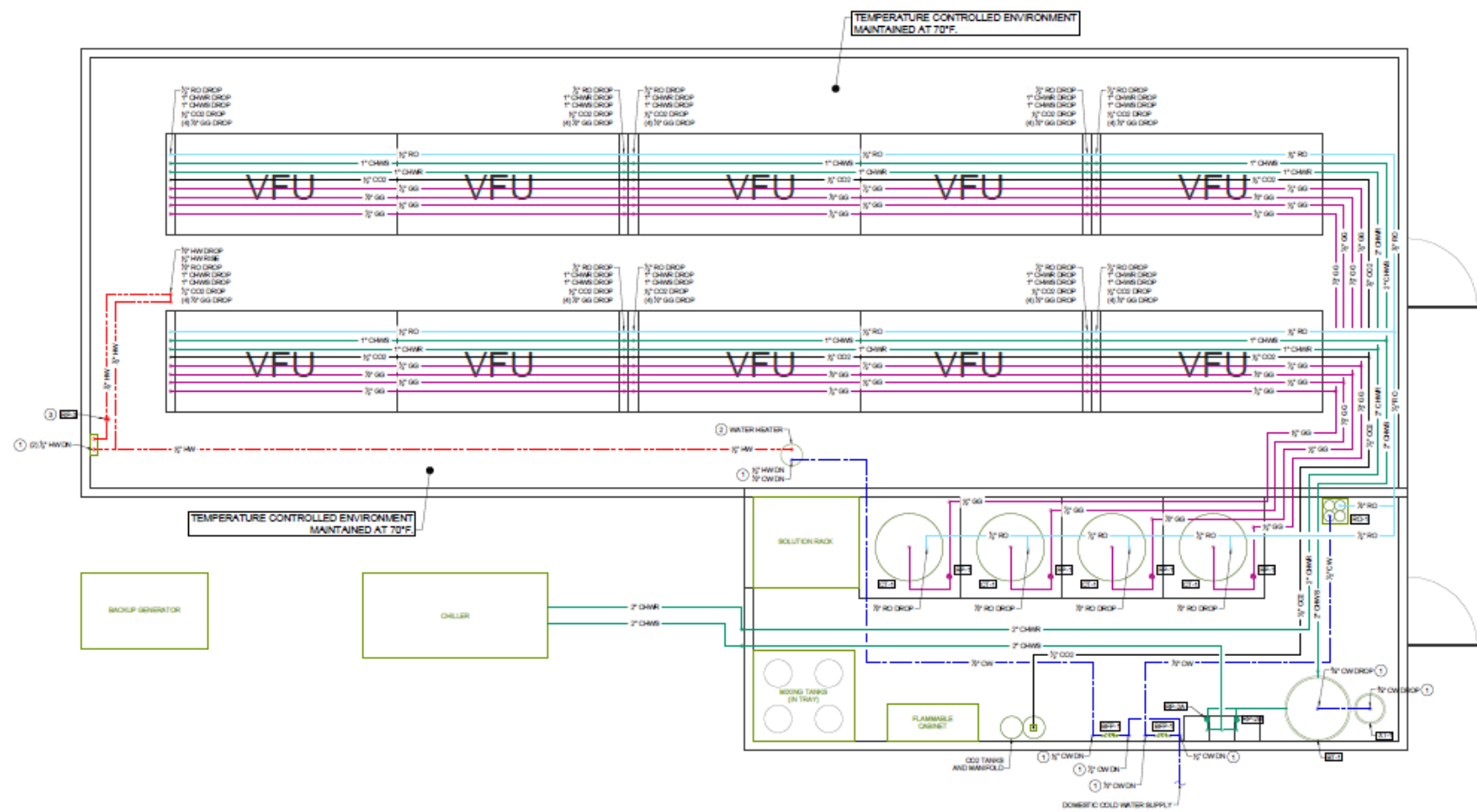
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Drawn By: JAC
Checked By: JAC
Date: 03/26/2023

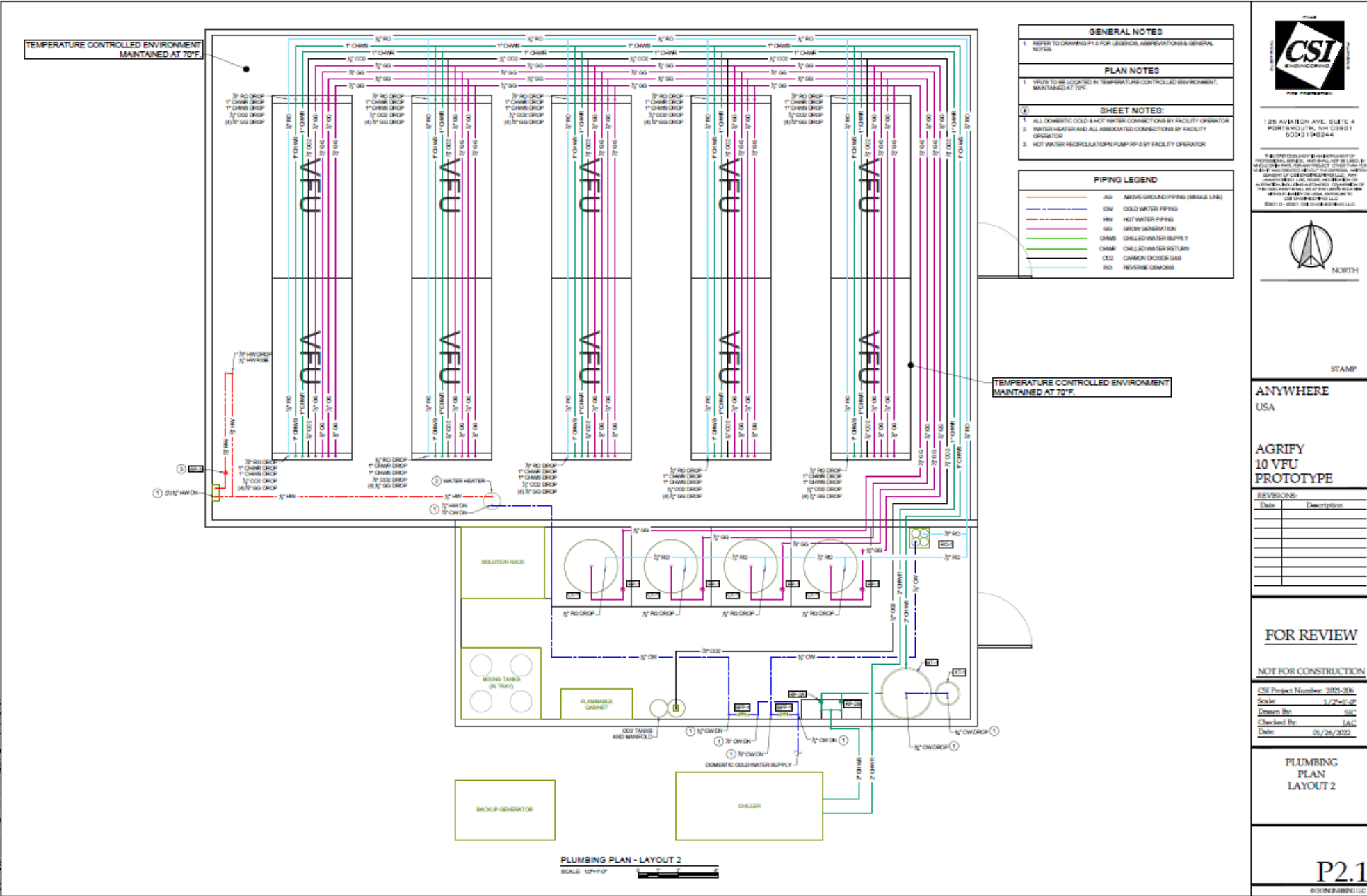
PLUMBING
PLAN
LAYOUT 1

P2.0

CSI ENGINEERING LLC



PLUMBING PLAN - LAYOUT 1
SCALE: 1/2"=1'-0"



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STAMP

ANYWHERE
USA

AGRIFY
10 VFU
PROTOTYPE

REVISIONS:

Date	Description

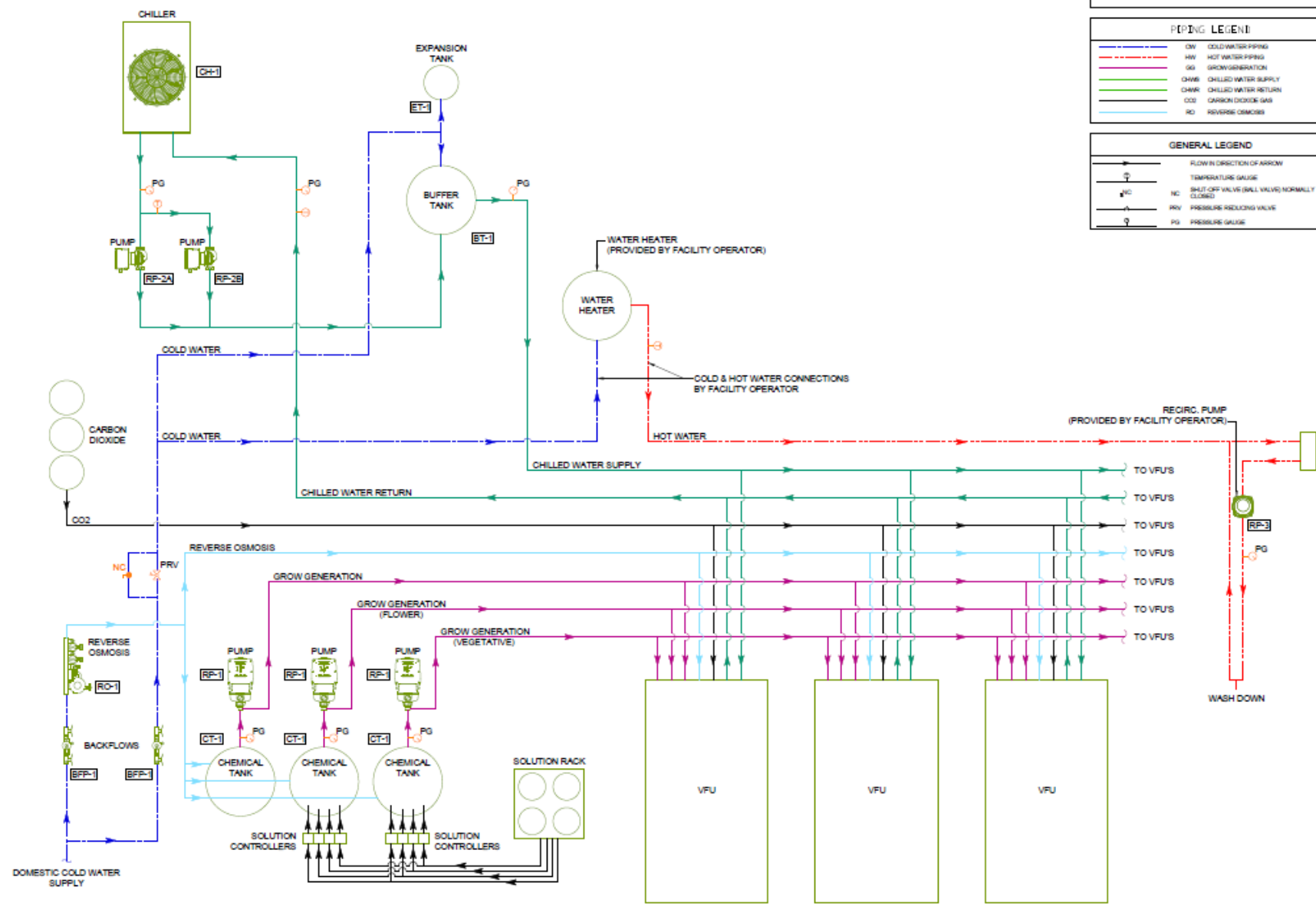
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Scale: 1/8"=1'-0"
Drawn By: JAC
Checked By: JAC
Date: 05/26/2022

PLUMBING
PLAN
LAYOUT 2

P2.1
603.931.9434



GENERAL NOTES
 1. REFER TO DRAWING P&ID FOR LEGEND, ABBREVIATIONS & GENERAL NOTES.

PIPING LEGEND

	0W	COLD WATER PIPING
	HW	HOT WATER PIPING
	GG	GROW GENERATION
	CHWS	CHILLED WATER SUPPLY
	CHWR	CHILLED WATER RETURN
	CO2	CARBON DIOXIDE GAS
	RO	REVERSE OSMOSIS

GENERAL LEGEND

		FLOW IN DIRECTION OF ARROW
		TEMPERATURE GAUGE
	NC	BALL-OFF VALVE (BALL VALVE) NORMALLY CLOSED
	PRV	PRESSURE REDUCING VALVE
	PG	PRESSURE GAUGE



125 AVIATION AVE. SUITE 4
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STAMP

ANYWHERE
 USA

AGRIFY
 10 VFU
 PROTOTYPE

REVISIONS:

Date	Description

FOR REVIEW

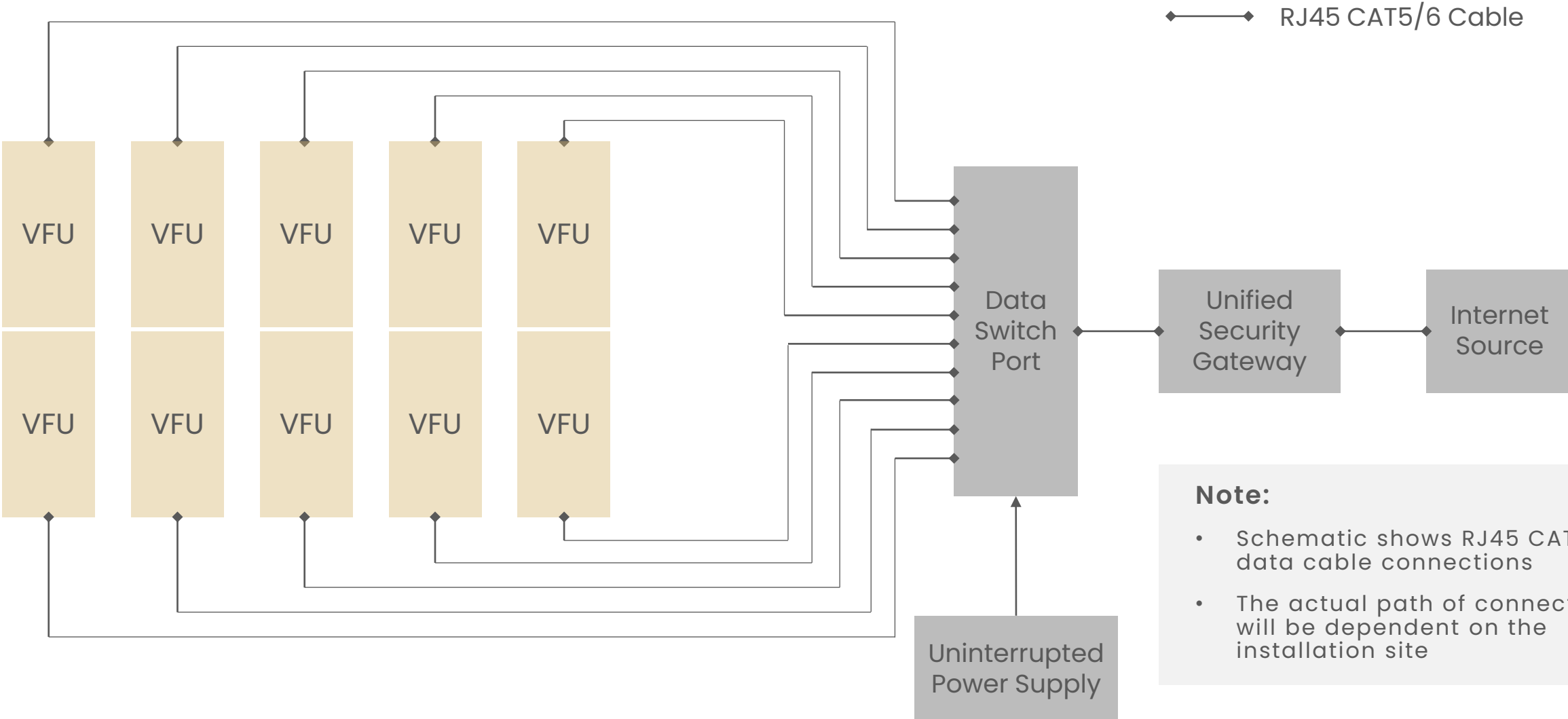
NOT FOR CONSTRUCTION

CSI Project Number: 2021-206
 Scale: N/A
 Drawn By: JAC
 Checked By: JAC
 Date: 01/26/2022

PLUMBING
 P&ID PLAN

P3.0

Data/Network Connections



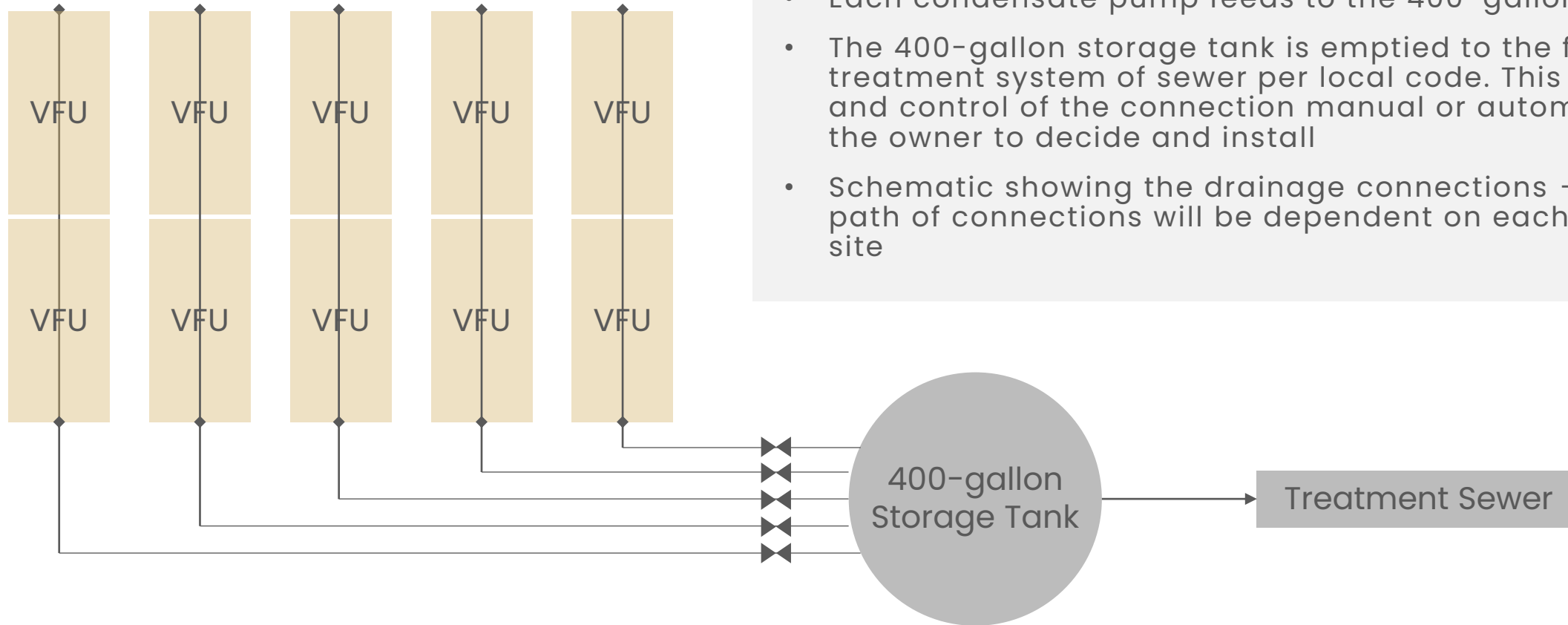
Note:

- Schematic shows RJ45 CAT5/6 data cable connections
- The actual path of connections will be dependent on the installation site

Drain Connections

◆—◆ Drainpipes

✕ Condensate pumps



Note:

- Two VFU's feed to one condensate pump
- Each condensate pump feeds to the 400-gallon storage tank
- The 400-gallon storage tank is emptied to the facility waste treatment system of sewer per local code. This connection and control of the connection manual or automatic is left to the owner to decide and install
- Schematic showing the drainage connections – The actual path of connections will be dependent on each installation site



AGRIFY™

10-VFU Utility Guide

Electrical Connection List

Note:

This is the connection provided on the equipment – To connect in some instances the mating plug will be required – For example if Male 120V plug is listed then the corresponding Female 120V plug will be required to make the connection to the listed equipment.

Item	Input Voltage Required	Power Required	Max Current	Connection*
Model 3.6 VFU	277V _{AC} Single Phase 60Hz	35kW	Max 20 A per VFU (200 A total max)	Male – 277V NEMA 7-20P Plug
20-ton Chiller	460V _{AC} Three Phase 60Hz	21.9 kW	60 A	Single Point, Non-fused Disconnect, no cooler heater hardwired
Magna3 Chiller recirculation/booster pumps	115V _{AC} or 230V _{AC} 60Hz	606W @ 115V AC 600W @ 230V AC	0.26A - 5.26 A per pump @ 115V AC 0.18A - 2.65 A per pump @ 230V AC	M20 cable gland for hardwiring
SCALA2 Fertigation Recirculation/booster pumps	115V _{AC} or 230V _{AC} 60Hz	550W	4.9A	M20 cable gland for hardwiring
Autogrow Dose system	120V _{AC} or 240V _{AC}	NA (24V DC Voltage)	5A	Male 3-prong
RO Water system	No power required (Pressure based system)			
CO ₂ Alarm System Tablet	120V _{AC} or 220 V _{AC}	NA (12V DC Voltage)	300mA at peak	Male 3-prong
Drain/Condensate pumps	115V _{AC} or 230V _{AC} 60Hz	93W	1.5A	115V pig tail
24 Switch Data Port	100V _{AC} or 240V _{AC}	450W	8A	Male 3-prong
Uninterrupted Power Supply	100V _{AC} - 240V _{AC}	995W	< 15A	Male 3-prong
USG Security Gateway	100V _{AC} - 240V _{AC}	40W	2.5 A	Male 3-prong

Utility Guide

Note:

The information shown below regarding consumption are estimates only and could vary with usage

Item	Assumptions	Capacity	Connections	Notes
RO Water	<ul style="list-style-type: none"> 64 plants per VFU 120 ml fertigant dose per feeding 16 feedings /day (Veg) + 11 Feedings /day (Flower) Max 1 VFU irrigating at one time 	<p>Typical Consumption: 245 gpd</p> <p>Max Consumption: 325 gpd (All 10 VFUs in veg)</p>	Inlet of 160-gallon RO storage tank	160-gallon RO storage tank will require filling 4 times per day
Electricity	<ul style="list-style-type: none"> Electrical connections need to be provided 	<p>Typical Consumption: 62kW</p> <p>Max Current: 305A</p>	<p>120V Single Phase Required for VFUs</p> <p>460V Three Phase Required for Chiller</p> <p>120V Outlets Required for all the remaining equipment</p>	Breakdown of electrical information by equipment shown in the previous section
Drainage	<ul style="list-style-type: none"> 15% irrigation run through 10gpd consumption for VFU washdown Water consumption for VFU washdown not considered in the consumption calculation above, but included in the drainage calculation 	<p>Typical Generation: 267 gpd</p> <p>Max Generation: 280 gpd (All 10 VFUs in veg)</p>	Inlet of 400-gallon storage tank for Option 2	400-gallon storage tank – requires emptying approximately every 1.5 days
CO ₂	<ul style="list-style-type: none"> Typical CO₂ level in VFU – 1100ppm Room size modeled at 55' x 20' x 12' CO₂ will last at enriched level for approximately 2 hours 	<p>Typical Consumption 194.8 cuft or 22.3 lbs per day</p>	Outlet of facility's existing CO ₂ supply line	CO ₂ tanks are not included in the package
Data	<ul style="list-style-type: none"> Stable high-speed internet connection is required at the facility for VFU functionality 	<p>Bandwidth Requirements > 100 Mbps</p>	Through standard internet service provider	Connection configuration shown in the previous section