Specifications

Unit Dimensions*

67”w x 29.75”d x 79.75”h
1.71 m x 0.76 m x 2.03 m
*At least 4” (10.2cm) clearance for rear, sides and top of farm.



Shipping Dimensions

US/Canada (pallet): 72”w x 48”d x 87.5”h
Global (crate): 73.5”w x 50”d x 88”h
1.87 m x 1.27 m x 2.24 m

Weight

600 lbs (272 kg)
900 lbs *with water* (408.2 kg)
900 lbs fully palletized (408.2 kg)

Door Outswing

59” outswing (1.5m)

Power Consumption

13 kwh/day

Certifications

UL US/CA Approved - E527333
FCC - RI7LE910CXNF

Site Requirements

Electric

- 120v (or 220V, 50 Hz[1]) outlet on a dedicated 15-amp circuit
  - CE compliance requirement: outlet must be accessible to disconnect power in event of emergency
  - If GFCI Outlets or GFI Breakers are required per your building code please contact Babylon Account Manager for compatible options
- Outlet within 10 feet (3m) of receptacle on farm, located at the back, right, bottom panel of the unit
- Two Micro-Farms may share the same dedicated 20-amp circuit

HVAC

- Ambient room temperature of 67°-76°F (19.4°–24.4°C) for Galleri
- Relative humidity of 30%-60%

1 - Not UL-approved

Site Requirements

Location

- Ceiling height >84” (2.13m)
- **At least 4” (11cm) of clearance on rear, top and sides of farm**
- Level, stable flooring at least 6’ x 5’ (2m x 1.75m)
    - No transitions (e.g. wood to tile)
    - Carpet not recommended
- The floor must be able to support 900 lbs (410kg) on four leveling feet
- Sink or drain within 50’ (15m) of Micro-Farm
    - The unit does not connect to a permanent drain line
    - To drain reservoir, clients connect a hose to the unit and empty water into a nearby sink/drain
- Please contact Babylon if desired location is near a window or heat source (i.e. vent/grill/etc), as it can impact crop success
- Food-safe pest control measures in place

Connectivity

The Micro-Farm connects to the cloud via hardwired ethernet connection.

- Client to furnish a standard ethernet cable (Cat5 or better cable w/ RJ45 connector)
- Connection point located on back of unit, to the lower left, near power cord
- Contact us if you have a complex network setup, stringent firewalls, etc.
    - Verizon enabled custom wireless modem available at additional cost

Water Line

- 1/4” Outer Diameter, PEX flexible, cold water (<80°F) line run directly behind but not under farm
    - Customer to furnish water line
    - Braided or Copper lines can be accommodated if Babylon is given advance notice prior to the unit shipping
- Dedicated line, independent from other equipment
    - For locations with multiple units, separate water lines are required
- Accessible manual valve to cut water in the event of emergency
- Water pressure
    - Min: 45 psi
    - Max: 80 psi

Water Quality

Select requirements are listed below; full list available upon request.

- Water must be potable
- Water hardness not to exceed 200 ppm
- Alkalinity not to exceed 85 ppm
- Electrical conductivity not to exceed 0.8ms/cm
- Water must not be sourced from or treated by a water softener system

Babylon tests water to ensure it meets our requirements. If not, customers must install a hydroponic grade reverse osmosis filtration system and booster pump to ensure crop success. The RO filter must be connected to a permanent, dedicated drain line. Babylon offers discounted pricing on recommended RO systems but does not install or service them. Note that the Growonix RO systems we recommend are sized 1:1; one system per farm unit and cannot be shared between multiple units.

IT - Connectivity Summary

Connecting Your Farm to the Internet

Your Babylon Micro-Farm connects to the internet through a standard ethernet cable (Cat5 or better, with an RJ45 connector), plugged into the port on the back of the unit near the power entry. For most setups, it's as simple as running a cable from your router to the farm.

Please note: An ethernet cable is not included, as the length you'll need depends on your space.

Network Requirements

- **Bandwidth:** Minimum 3 MB/s upload and 5 MB/s download
- **Data usage:** Typically around 1 GB per month, though this may vary during firmware updates

Advanced Connectivity Requirements

DHCP Your farm automatically receives its IP address from your network via DHCP. Static IP addressing is not supported, so please ensure DHCP is enabled on your network.

MAC Address Information

If your network uses MAC address filtering, we can provide your farm's MAC address prior to installation, send the request to your Account Manager.

Secure Fleet Management & VPN Usage

Our farms utilize **Balena.io** for secure fleet management. This system uses an encrypted VPN to ensure that firmware updates and management commands are delivered reliably. More information about Balena's security posture can be found here https://docs.balena.io/learn/introduction/security

Required Ports

For the farm to operate correctly, the following outbound ports must be open. No direct inbound connections are required; the firewall simply allows return traffic.

System Boundary	Port	Protocol	Purpose
Balena to Farm	443	TCP	HTTPS: Updates & Cloud Link
Babylon Server to Farm	8883	TCP/IP	MQTT over SSL: Commands & Telemetry
Balena to Farm	123, 53	UDP	NTP (Time) & DNS (Resolution)
Farm to AWS S3 / CW	443	TCP/IP	Plant Images & System Health Logs

MADE IN USA

IT - Required Domains

Required Domains

The following Domains are required for the device to function properly. Below is a list of each domain + what functionality it provides to the device.

Service	Domain	Product	Description
AWS S3	https://babylon-assets.s3.amazonaws.com	Smartphone App	Used for accessing Images
FireBase	https://firestore.googleapis.com	Smartphone App	Used for accessing Images + Text Assets
Babylon Services	https://api.babylon-service.com	Smartphone App	Used for App Operation + Farm Control
Balena Services	*.balena-cloud.com, *.resin.io	IoT Farm Cabinet	Used for system diagnostics + Software Updates
AWS	a37viqgs4xlb64-ats.iot.us-east-1.amazonaws.com	IoT Farm Cabinet	Used for system communications + Logging
AWS Credentials	c1yk5g79jys8vc.credentials.iot.us-east-1.amazonaws.com	IoT Farm Cabinet	Authentication and Logging
AWS S3 Telemetry	babylon-django-uploads.s3.amazonaws.com	IoT Farm Cabinet	Telemetry and Data Storage
Connection Check	www.amazontrust.com, google.com	IoT Farm Cabinet	Network Connectivity Verification

*Privileged (P): Authorized to update application code running on a system.

*Non-Privileged (NP): Able to read/write data but cannot update system code.

IT - Accounts & Permissions

Account Permissions

The following Accounts have the following permissions associated with them.

Role	System	Roles or Functions
Support Account (NP)	Balena	View and Monitor System Status
Admin Account (P)	Balena	Trigger OS/Application updates
Application User (NP)	Babylon Server	Access own data; control settings of own devices
App Support (NP)	Babylon Server	View/control settings of user devices and update data
App Admin (NP)	Babylon Server	Update Application User and Support Permissions

NP - Non Privileged account, P - Privileged account

Machine to Machine Credentials

MQTT IoT/Server Interface	mTLS - AWS Certificates; Streams telemetry & commands
S3 / Cloudwatch Interface	mTLS + STS Certificates; Uploads images & health data