

# *INDUSTRIAL*<sup>TM</sup> *PLANKTON*

## Algae Bioreactor Technical Catalog



PBR 1250L (Pages 2-4)

PBR 2500L (Pages 5-7)

PBR 100L (Pages 8-9)

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# PBR 1250L Components

# Industrial Plankton™

## PBR 1250L

- Custom 1250 L high surface area vessel, lid & stand
- Algal spectrum LED lights (2160 W)
- Touchscreen control system with PLC & software
- Real-time density sensor

## Nutrient Dosing

- 3 dosing pumps (1mL/s)
- Magnetic stir plates
- 2 nutrient filters (0.2 µm)

## Header Tank

- 250 L Header tank
- UV filter
- Water supply pump
- Ultrafilter

## Clean in Place (CIP)

- Spray Pump Trolley (not shown)
- Internal spray cleaning system



## Air & pH Control

- Air pump
- Air inlet filter (0.2 µm)
- Air vent filter (0.2 µm)
- Needle valve flowmeter
- pH probe & transmitter
- Automated CO<sub>2</sub> valve
- CO<sub>2</sub> regulator

## Flow Control

- Water filter (0.1 µm)
- In-tank volume sensor
- Harvest pump (6 L/min)
- Actuated water inlet valve
- Manual water inlet needle valve

## Temperature Control

- Temperature probe
- Heat exchanger
- 5,000 BTU chiller, or 10,000 BTU for High Ambient Temperature Option
- 300 W heater

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# PBR 1250L Tech-Specs

# Industrial Plankton™

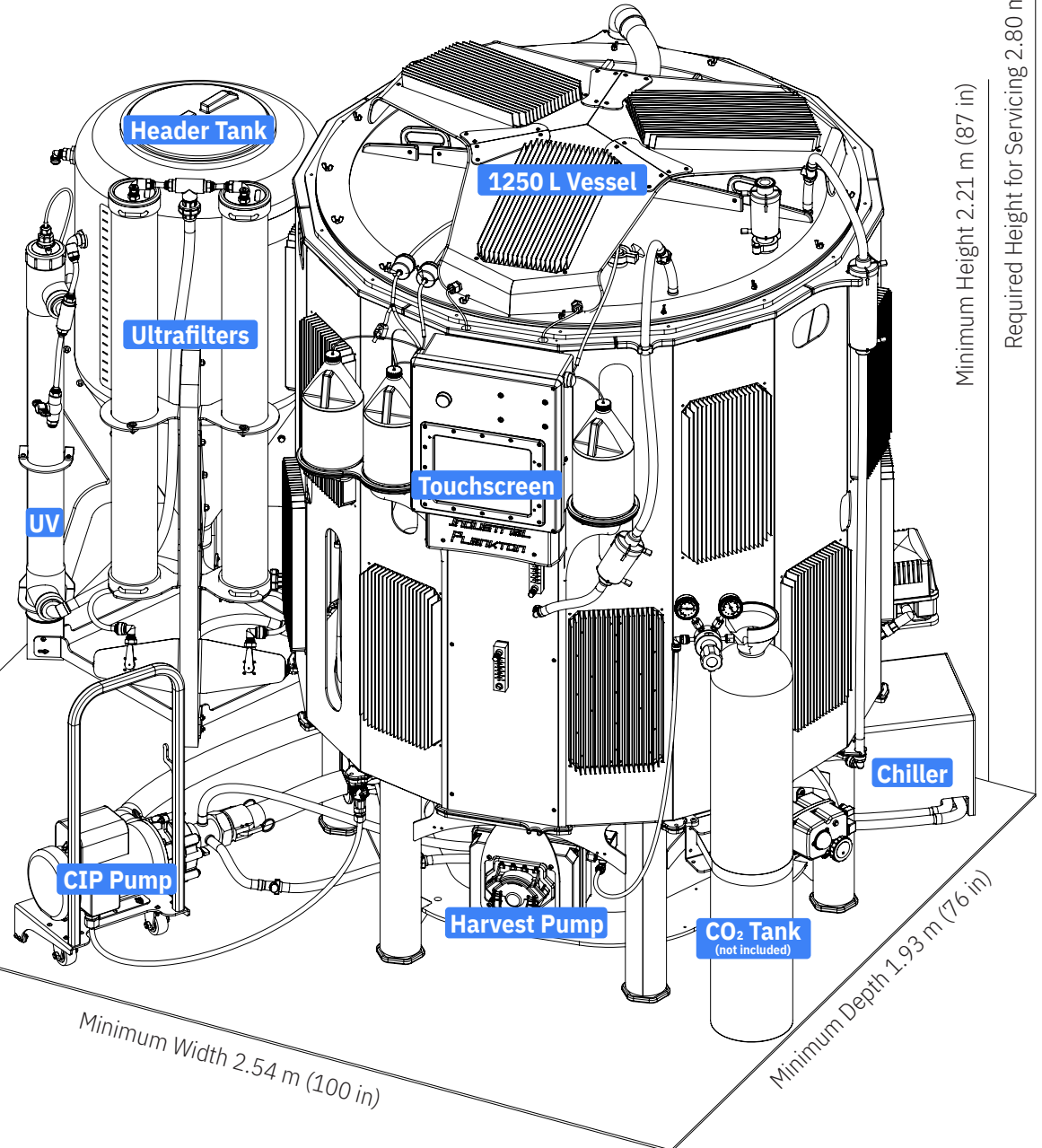
## Specifications

Volume	1250 L / 330 gal
Working Volume	1200 L / 317 gal
Minimum Volume	160 L / 42 gal
Max Power Consumption	4,170 W
Max Heat Energy	14,200 BTU / hr
Avg. Steady State Power Req.	3,160 W
Avg. Heat Energy	10,780 BTU / hr
Available Voltages (AC)	110-120 / 220-240 V
Available Frequencies	60 / 50 Hz
Ideal Working Space (LxWxH)	3.05 m x 2.44 m x 2.79 m 120 in x 96 in x 110 in
Operational Weight	2,130 kg / 4,700 lb
Doorway Clearance (WxH)	1.51 m x 2.02 m 59 <sup>1</sup> / <sub>2</sub> in x 79 <sup>7</sup> / <sub>8</sub> in
PBR 1250L as shipped (LxWxH)	1.93 m x 2.03 m x 2.18 m 76 in x 80 in x 86 in
(Wt)	910 kg / 2,000 lbs
Header Tank as shipped (LxWxH)	1.19 m x 1.19 m x 1.80 m 47 in x 47 in x 71 in
(Wt)	140 kg / 300 lbs

Specifications subject to change without notice

The standard chiller can maintain a temperature drop of 3°C below ambient temperatures up to 28°C, yielding a 25°C culture. If ambient temperatures are above 28°C ask about the High Ambient Temperature Option

## Dimensions



# PBR 1250L High Ambient Temperature Option

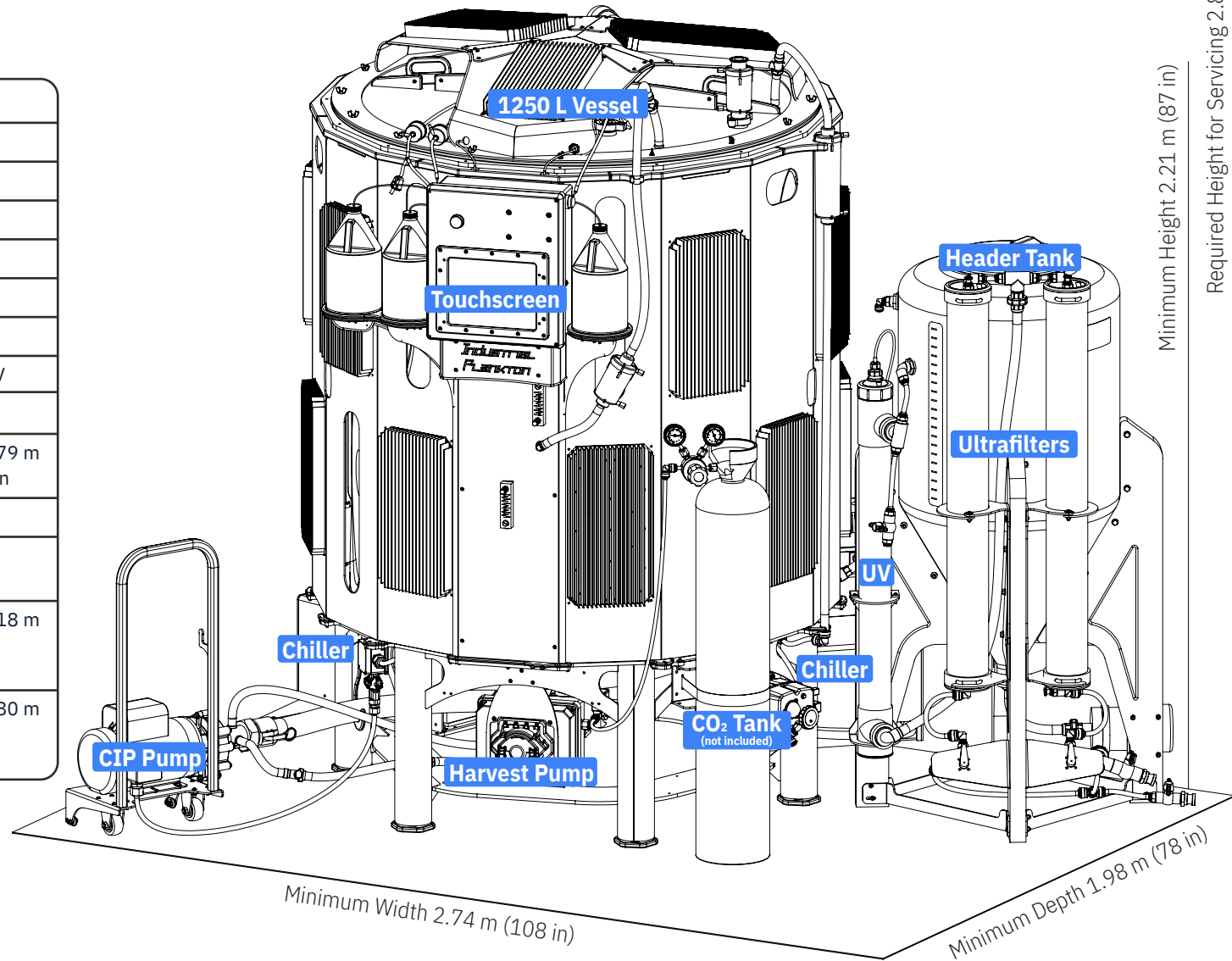


## Dimensions

## Specifications

Volume	1250 L / 330 gal
Working Volume	1200 L / 317 gal
Minimum Volume	160 L / 42 gal
Max Power Consumption	5,200 W
Max Heat Energy	17,700 BTU / hr
Avg. Steady State Power Req.	4,130 W
Avg. Heat Energy	14,100 BTU / hr
Available Voltages (AC)	110-120 / 220-240 V
Available Frequencies	60 / 50 Hz
Ideal Working Space (LxWxH)	3.05 m x 2.44 m x 2.79 m 120 in x 96 in x 110 in
Operational Weight	2,220 kg / 4,900 lb
Doorway Clearance (WxH)	1.70 m x 2.02 m 67 in x 79 <sup>7</sup> / <sub>8</sub> in
PBR 1250L as shipped (LxWxH) (Wt)	1.93 m x 2.29 m x 2.18 m 76 in x 90 in x 86 in 1,000 kg / 2,200 lbs
Header Tank as shipped (LxWxH) (Wt)	1.19 m x 1.19 m x 1.80 m 47 in x 47 in x 71 in 140 kg / 300 lbs

Specifications subject to change without notice





# PBR 2500L Components

# Industrial Plankton™

## PBR 2500L

- 2 independent 1250 L high surface area closed vessels
- Algal spectrum LED lights (4320 W)
- 2 independent touchscreen control systems with PLCs & software
- Real-time density sensors

## Temperature (per vessel)

- Temperature probe
- Heat exchanger
- 5,000 BTU chiller, or 10,000 BTU for High Ambient Temperature Option
- 300 W heater

## Header Tank

- 1 Header tank (250 L)
- Water supply pump
- Ultrafilter
- UV filter

## Clean in Place (CIP)

- 1 Spray Pump Trolley
- 2 internal spray cleaning systems (1 per vessel)

## Flow Control (per vessel)

- Water filter (0.1 µm)
- In-tank volume sensor
- Harvest pump (6 L/min)
- Actuated water inlet valve
- Manual flow valve

## Air & pH Control (per vessel)

- Air pump
- Air inlet filter (0.2 µm)
- Air vent filter (0.2 µm)
- Needle valve flowmeter
- pH probe & transmitter
- Automated CO<sub>2</sub> valve
- CO<sub>2</sub> regulator

## Nutrient Dosing (per vessel)

- 3 dosing pumps (1mL/s)
- Magnetic stir plates
- 2 nutrient filters (0.2 µm)



# PBR 2500L Tech-Specs

# Industrial PLANKTON™

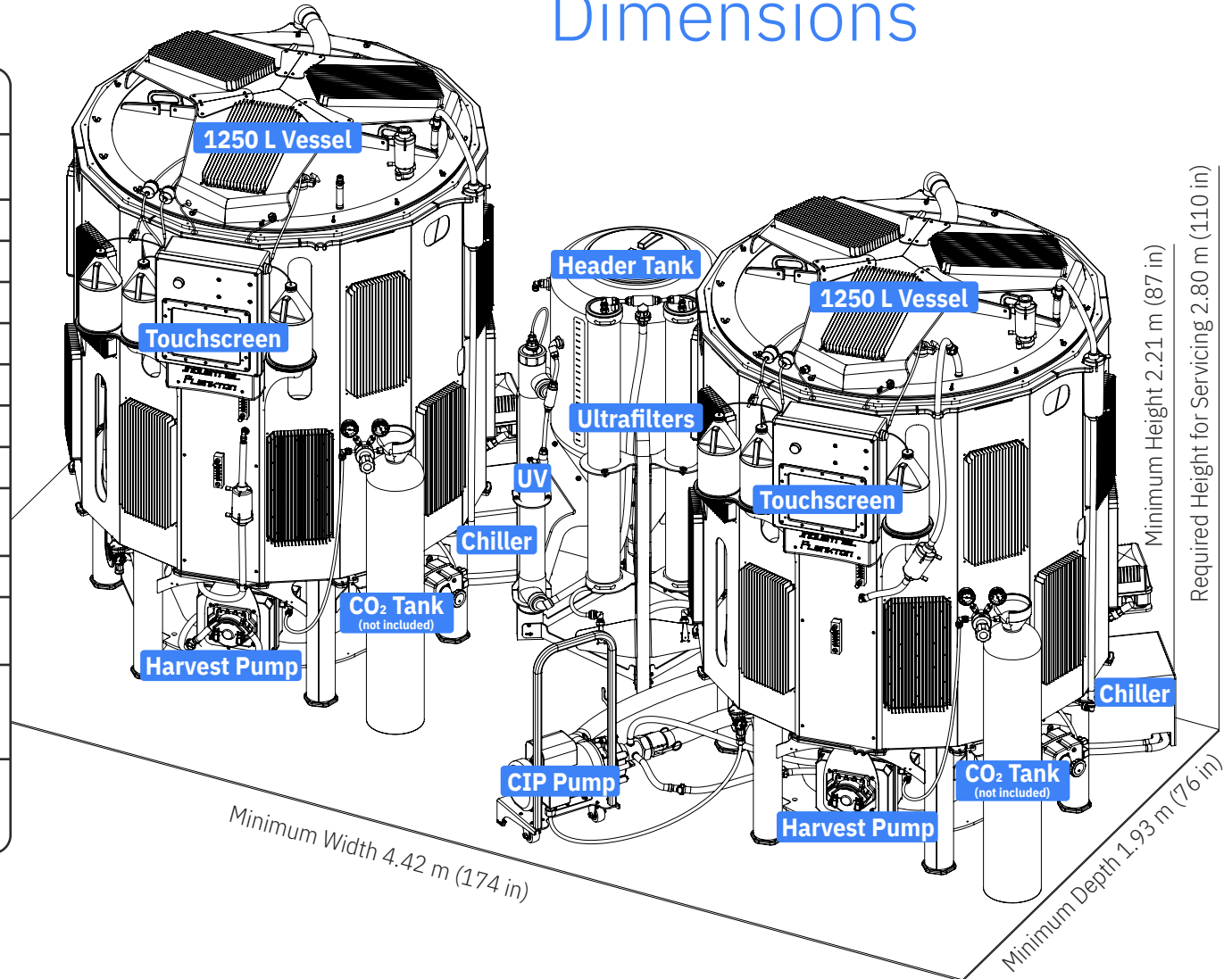
## Specifications

Volume	2500 L / 660 gal (2 x 1250 L / 2 x 330 gal)
Working Volume	2400 L / 634 gal (2 x 1200L / 2 x 317 gal)
Minimum Volume (per vessel)	160 L / 42 gal
Max Power Consumption	7,900 W
Max Heat Energy	26,950BTU / hr
Avg. Steady State Power Req.	6,070 W
Avg. Heat Energy	20,700 BTU / hr
Available Voltages (AC)	110-120 / 220-240 V
Available Frequencies	60 / 50 Hz
Ideal Working Space (LxWxH)	5.33 m x 2.44 m x 2.79 m 210 in x 96 in x 110 in
Operational Weight	4,260 kg / 9,400 lb
Doorway Clearance (WxH)	1.51 m x 2.02 m 59½ in x 79⅞ in
PBR 1250L as shipped (2x)	1.93 m x 2.03 m x 2.18 m 76 in x 80 in x 86 in (Wt) 910 kg / 2,000 lbs
Header Tank as shipped (1x)	1.19 m x 1.19 m x 1.80 m 47 in x 47 in x 71 in (Wt) 140 kg / 300 lbs

Specifications subject to change without notice

The standard chillers can maintain a temperature drop of 3°C below ambient temperatures up to 28°C, yielding a 25°C culture. If ambient temperatures are above 28°C ask about the High Ambient Temperature Option

## Dimensions



Minimum Width 4.42 m (174 in)

Minimum Depth 1.93 m (76 in)

Minimum Height 2.21 m (87 in)  
Required Height for Servicing 2.80 m (110 in)

# PBR 2500L High Ambient Temperature Option

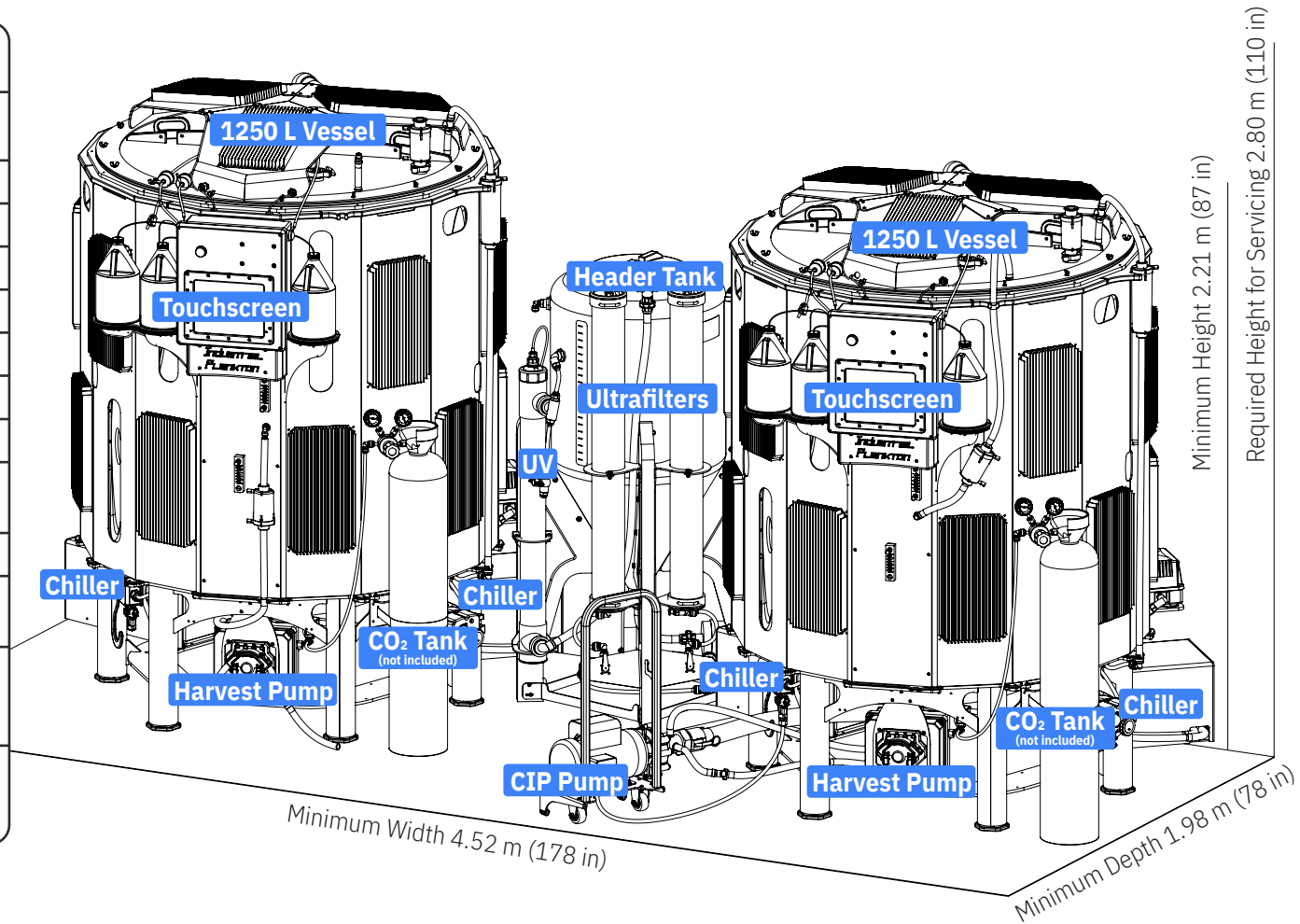


## Specifications

Volume	2500 L / 660 gal (2 x 1250 L / 2 x 330 gal)
Working Volume	2400 L / 634 gal (2 x 1200L / 2 x 317 gal)
Minimum Volume (per vessel)	160 L / 42 gal
Max Power Consumption	9,950 W
Max Heat Energy	33,950 BTU / hr
Avg. Steady State Power Req.	7,800 W
Avg. Heat Energy	26,600 BTU / hr
Available Voltages (AC)	110-120 / 220-240 V
Available Frequencies	60 / 50 Hz
Ideal Working Space (LxWxH)	5.33 m x 2.44 m x 2.79 m 210 in x 96 in x 110 in
Operational Weight	4,260 kg / 9,400 lb
Doorway Clearance (WxH)	1.70 m x 2.02 m 67 in x 79 <sup>7</sup> / <sub>8</sub> in
PBR 1250L as shipped (2x) (LxWxH) (Wt)	1.93 m x 2.29 m x 2.18 m 76 in x 90 in x 86 in 1,000 kg / 2,200 lbs
Header Tank as shipped (1x) (LxWxH) (Wt)	1.19 m x 1.19 m x 1.80 m 47 in x 47 in x 71 in 140 kg / 300 lbs

Specifications subject to change without notice

## Dimensions





# PBR 100L Components

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## Clean in Place (CIP)

- Spray Pump Trolley (not shown)
- Internal spray cleaning system

## Air & pH Control

- Air pump
- Air inlet filter (0.2  $\mu\text{m}$ )
- Air vent filter (0.2  $\mu\text{m}$ )
- Needle valve flowmeter
- pH probe & transmitter
- Automated CO<sub>2</sub> valve
- CO<sub>2</sub> regulator

## Flow Control

- Water filter (0.1  $\mu\text{m}$ )
- In-tank volume sensor
- Harvest pump (6 L/min)
- Actuated water inlet valve
- Manual flow valve

## PBR 100L

- Closed 100 L borosilicate glass tank
- Adjustable spectrum LED lights (600 W)
- Real-time density sensor
- Touchscreen, PLC and control software

## Temperature

- Temperature probe
- Heat exchanger
- 2,800 BTU chiller
- 300 W heater

## Nutrient Dosing

- 3 dosing pumps
- Magnetic stir plates
- 2 nutrient filters (0.2  $\mu\text{m}$ )

## Header Tank

- Cone bottom tank
- UV filter
- Water supply pump
- Ultrafilter



## Specifications

Volume	115 L / 30 gal
Working Volume	100 L / 27 gal
Minimum Volume	16 L / 4.2 gal
Max Power Consumption	2,460 W
Max Heat Energy	8,400 BTU / hr
Avg. Steady State Power Req.	1,500 W
Avg. Heat Energy	5,100 BTU / hr
Available Voltages (AC)	110-120 / 220-240 V
Available Frequencies	60 / 50 Hz
Ideal Working Space (LxWxH)	2.03 m x 2.54 m x 1.98 m 80 in x 100 in x 78 in
Operational Weight	500 kg / 1,100 lb
Doorway Clearance (WxH) <small>*Some disassembly required</small>	0.86 m x 1.79 m 33 <sup>3</sup> / <sub>4</sub> in x 70 <sup>1</sup> / <sub>2</sub> in
PBR 100L as shipped (LxWxH) (Wt)	1.70 m x 1.22 m x 2.08 m 67 in x 48 in x 82 in 363 kg / 800 lbs
Header Tank as shipped (LxWxH) (Wt)	1.19 m x 1.19 m x 1.80 m 47 in x 47 in x 71 in 140 kg / 300 lbs

Specifications subject to change without notice

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## Dimensions

