eppendorf

New Brunswick™ BioFlo® Pro Fermentor System

Pre-Installation Checklist

M1364-0099-A/062017

1 Introduction

1.1 BioFlo® Pro Pre-Installation Checklist

The purpose of this Pre-Installation Checklist is to document that the customer's laboratory contains all of the necessary facility supplied connections required for the instrument to function as designed. Verifying the required connections will prepare the facility.

Eppendorf Contact Name: _____

Eppendorf Signature:_____

Customer Information:

Company Name: _____

Address: _____

Contact Name: _____

Signature: _____

Telephone Number: _____

Model: BioFlo Pro _____ L

Serial Number: _____ (N/A if not known)

The supply services mentioned below, including mounted regulators and filters, must be available to be connected to the unit(s) in its/their final position(s), prior to the arrival of a Service Engineer to perform a system installation. Multiple unit installations require regulators and filters for each unit.

If a Service Engineer is not able to complete the Installation, Start-Up and Training due to lack of facility connections / not being ready, the customer is liable for charges for a return trip.

Signature: _____

2 Physical location

The requirements for the BioFlo Pro are:

- A smooth, level and sturdy surface where utilities are readily available.
- A surface that can bear the weight of the BioFlo Pro Fermentor contents and any applicable ancillary equipment.
- Enough space around the back and the front of the BioFlo Pro Fermentor for proper operation and for access to mains/power switch and ancillary port accessibility.
- Easy access to the power plug and power outlet to facilitate unplugging the unit, as needed.
- At least 90 cm (3 feet) of clearance behind the cabinet for heat dissipation, installation, and servicing.

Tab. 2-1: Unit Dimensions

Vessel size —>	**60L**	**120L**	**240L**	**400L**
Height	244 cm (96 inch)		312 cm (123 inch)	
Width	203 cm (80 inch)			
Depth	122 cm (48 inch)		160 cm (63 inch)	
Vessel Weight	125 kg (275 lbs)	159 — 181 kg (350 — 400 lbs)	181 — 227 kg (500 — 600 lbs)	227 — 364 kg (700 — 850 lbs)
Electrical Skid Weight	227 kg (500 lbs)			
Piping Skid Weight	113 — 136 kg (250 — 300 lbs)		136 — 159 kg (300 — 500 lbs)	

Vessel size —>	**800L**	**1200L**	**2400L**
Height	472.4 cm (186 inch)		534 cm (210 inch)
Width	216 cm (85 inch)		250 cm (98 inch)
Depth	203 cm (80 inch)	216 cm (85 inch)	260 cm (102 inch)
Vessel Weight	295 — 364 kg (650 — 800 lbs)	318 — 386 kg (700 — 850 lbs)	1636 kg (3600 lbs)
Electrical Skid Weight	227 kg (500 lbs)		273 kg (600 lbs)
Piping Skid Weight	181 — 227 kg (400 — 500 lbs)		341 — 455 kg (750 — 1000 lbs)

3 Environment

Ambient Temperature Range	5 °C - 40 °C
Relative Humidity	Up to 80% Non-Condensing
Altitude Limits	2,000 meters

4 Utilities

Tab. 4-1: 60 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1/2	Tri-Clamp	3.19 SCFM (90 SLPM) 30-35 PSIG
❑	Oxygen (optional)	1/2	Tri-Clamp	3.19 SCFM (90 SLPM) 35 PSIG
❑	Exhaust	1/2	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	1/2	Tri-Clamp	2 SCFM (56.5 SLPM) 80 - 100 PSIG
❑	Process Steam	1/2	Tri-Clamp	10 lbs/hr 4.5 kg/hr) 35 PSIG
❑	Utility Steam	3/4	Tri-Clamp	50 lbs/hr (22.7 kg/hr) 35 PSIG
❑	**Water Supply	3/4	Tri-Clamp	4 GPM (0.91 m^3/hr) 30 PSIG
❑	Water Return	3/4	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1	FNPT	Gravity drain
❑	Biowaste	1	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1/2	Tri-Clamp	14 GPM (3.18 m^3/hr)
❑	Glycol Supply (optional)	1/2	FNPT	2 GPM (0.45 m^3/hr) 30 PSIG
❑	Power	208 - 230 VAC 1 phase 50 - 60Hz 20 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-2: 120 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1/2	Tri-Clamp	6.38 SCFM (180 SLPM) 30-35 PSIG
❑	Oxygen (optional)	1/2	Tri-Clamp	6.38 SCFM (180 SLPM) 35 PSIG
❑	Exhaust	1/2	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	1/2	Tri-Clamp	2 SCFM (56.5 SLPM) 80 - 100 PSIG
❑	Process Steam	1/2	Tri-Clamp	25 lbs/hr (11.36 kg/hr) 35 PSIG
❑	Utility Steam	3/4	Tri-Clamp	125 lbs/hr (56.7 kg/hr) 35 PSIG
❑	**Water Supply	3/4	Tri-Clamp	6 GPM (1.37 m^3/hr) 30 PSIG
❑	Water Return	3/4	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1	FNPT	Gravity drain
❑	Biowaste	1	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1/2	Tri-Clamp	14 GPM (3.18 m^3/hr)
❑	Glycol Supply (optional)	1/2	FNPT	3 GPM (0.68 m^3/hr) 30 - 35 PSIG
❑	Power	208 - 230 VAC 1 phase 50 - 60Hz 20 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-3: 240 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1/2	Tri-Clamp	12.75 SCFM (360 SLPM) 30-35 PSIG
❑	Oxygen (optional)	1/2	Tri-Clamp	12.75 SCFM (360 SLPM) 35 PSIG
❑	Exhaust	1/2	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	1/2	Tri-Clamp	2 SCFM (56.5 SLPM) 80 - 100 PSIG
❑	Process Steam	1/2	Tri-Clamp	40 lbs/hr (18 kg/hr) 35 PSIG
❑	Utility Steam	3/4	Tri-Clamp	200 lbs/hr (90.8 kg/hr) 35 PSIG
❑	**Water Supply	3/4	Tri-Clamp	10 GPM (2.27 m^3/hr) 30 PSIG
❑	Water Return	3/4	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1	FNPT	Gravity drain
❑	Biowaste	1	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1/2	Tri-Clamp	14 GPM (3.18 m^3/hr) 20 - 25 PSIG
❑	Glycol Supply (optional)	1/2	FNPT	3 GPM (0.68 m^3/hr) 30 PSIG
❑	Power	208 - 230 VAC 3 phase 50 - 60Hz 20 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-4: 400 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1/2	Tri-Clamp	21.28 SCFM (600 SLPM) 30-35 PSIG
❑	Oxygen (optional)	1/2	Tri-Clamp	21.28 SCFM (600 SLPM) 35 PSIG
❑	Exhaust	3/4	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	1/2	Tri-Clamp	2 SCFM (56.5 SLPM) 80 - 100 PSIG
❑	Process Steam	1/2	Tri-Clamp	45 lbs/hr (20.4 kg/hr) 35 PSIG
❑	Utility Steam	3/4	Tri-Clamp	225 lbs/hr (102 kg/hr) 35 PSIG
❑	**Water Supply	3/4	Tri-Clamp	12 GPM (2.73 m^3/hr) 30 PSIG
❑	Water Return	3/4	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1	FNPT	Gravity drain
❑	Biowaste	1	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1/2	Tri-Clamp	16 GPM (3.63 m^3/hr) 20 - 25 PSIG
❑	Glycol Supply (optional)	1/2	FNPT	10 GPM (2.28 m^3/hr) 30 PSIG
❑	Power	208 - 230 VAC 3 phase 50 - 60Hz 30 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-5: 800 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1	Tri-Clamp	42.5 SCFM (1200 SLPM) 30-35 PSIG
❑	Oxygen (optional)	1	Tri-Clamp	42.5 SCFM (1200 SLPM) 35 PSIG
❑	Exhaust	1½	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	3/4	Tri-Clamp	27 SCFM (763 SLPM) 80 - 100 PSIG
❑	Process Steam	1	Tri-Clamp	70 lbs/hr (31.75 kg/hr) 35 PSIG
❑	Utility Steam	1½	Tri-Clamp	350 lbs/hr (158.8 kg/hr) 35 PSIG
❑	**Water Supply	1½	Tri-Clamp	20 GPM 4.55 m^3/hr) 30 PSIG
❑	Water Return	1½	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1½	FNPT	Gravity drain
❑	Biowaste	1½	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1	Tri-Clamp	31 GPM (7.04 m^3/hr)
❑	Glycol Supply (optional)	1½	FNPT	21 GPM (4.77 m^3/hr) 30 PSIG
❑	Power	460 - 480 VAC 3 phase 50 - 60Hz 70 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-6: 1200 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1	Tri-Clamp	63.8 SCFM (1800 SLPM) 30-50 PSIG
❑	Oxygen (optional)	1	Tri-Clamp	63.8 SCFM (1800 SLPM) 35 PSIG
❑	Exhaust	1½	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	3/4	Tri-Clamp	27 SCFM (763 SLPM) 80 - 100 PSIG
❑	Process Steam	1	Tri-Clamp	80 lbs/hr (36.3 kg/hr) 35 PSIG
❑	Utility Steam	1½	Tri-Clamp	400 lbs/hr (182 kg/hr) 35 PSIG
❑	**Water Supply	1½	Tri-Clamp	25 GPM (5.68 m^3/hr) 30 PSIG
❑	Water Return	1½	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1½	FNPT	Gravity drain
❑	Biowaste	1½	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1	Tri-Clamp	34 GPM (7.72 m^3/hr)
❑	Glycol Supply (optional)	1½	FNPT	31 GPM (7.04 m^3/hr) 30 PSIG
❑	Power	460 - 480 VAC 3 phase 50 - 60Hz 70 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Tab. 4-7: 2400 Liter Utility Check List

❑	Utility	Line Size (inch)	Connection	Requirement
❑	*Process Air	1½	Tri-Clamp	127.6 SCFM (3600 SLPM) 30-50 PSIG
❑	Oxygen (optional)	1½	Tri-Clamp	127.6 SCFM (3600 SLPM) 35 PSIG
❑	Exhaust	2	Tri-Clamp	0.5 PSIG maximum backpressure
❑	*Instrument Air	3/4	Tri-Clamp	29 SCFM (821 SLPM) 80 - 100 PSIG
❑	Process Steam	1	Tri-Clamp	140 lbs/hr (63.5 kg/hr) 35 PSIG
❑	Utility Steam	2	Tri-Clamp	1200 lbs/hr (544.3 kg/hr) 35 PSIG
❑	**Water Supply	2	Tri-Clamp	40 GPM (9.1 m^3/hr) 30 PSIG
❑	Water Return	2	Tri-Clamp	20 PSIG maximum backpressure
❑	Clean Condensate	1½	FNPT	Gravity drain
❑	Biowaste	1½	Tri-Clamp	Gravity drain
❑	CIP Fluids (optional)	1	Tri-Clamp	56 GPM (12.7 m^3/hr)
❑	Glycol Supply (optional)	2	FNPT	65 GPM (14.8 m^3/hr) 30 PSIG
❑	Power	460 - 480 VAC 3 phase 50 - 60Hz 70 Amps		

* Air should be dry (to -40 °C dew point) and contain less than 0.001 ppmw oil aerosol mist.

** Water temperature must be at least 10 °C below growth temperature.

Kit Description		Part Number
60/120L	Water Prefilter / Regulator Kit	M1290-0650
240/400L	Water Prefilter / Regulator Kit	M1290-0654
800/1200L	Water Prefilter / Regulator Kit	M1290-0656
2400L	Water Prefilter / Regulator Kit	M1290-0657
60/120L	Main Steam Prefilter / Regulator Kit	M1290-0660
240/400L	Main Steam Prefilter / Regulator Kit	M1290-0664
800/1200L	Main Steam Prefilter / Regulator Kit	M1290-0666
2400L	Main Steam Prefilter / Regulator Kit	M1290-0667
60/120L	Process Steam Prefilter / Regulator Kit	M1290-0670
240/400L	Process Steam Prefilter / Regulator Kit	M1290-0674
800/1200L	Process Steam Prefilter / Regulator Kit	M1290-0676
2400L	Process Steam Prefilter / Regulator Kit	M1290-0677
All Sizes	Instrument Air Prefilter / Regulator Kit	M1290-0760

Evaluate Your Manual

Give us your feedback.
www.eppendorf.com/manualfeedback

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · 22331 Hamburg · Germany
eppendorf@eppendorf.com · www.eppendorf.com