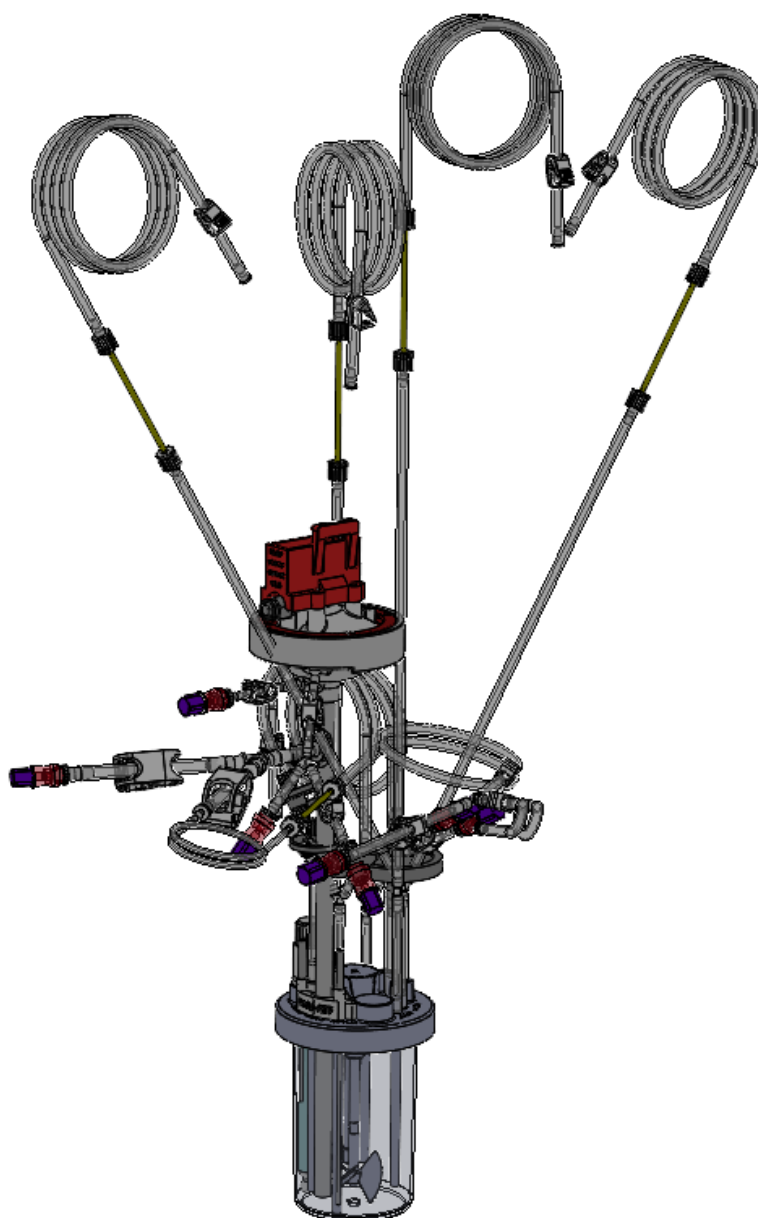


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Customer name and address	
Date of contact	
Number of SUB's	
Time of delivery, week from order	
Version: 2	
Order number	

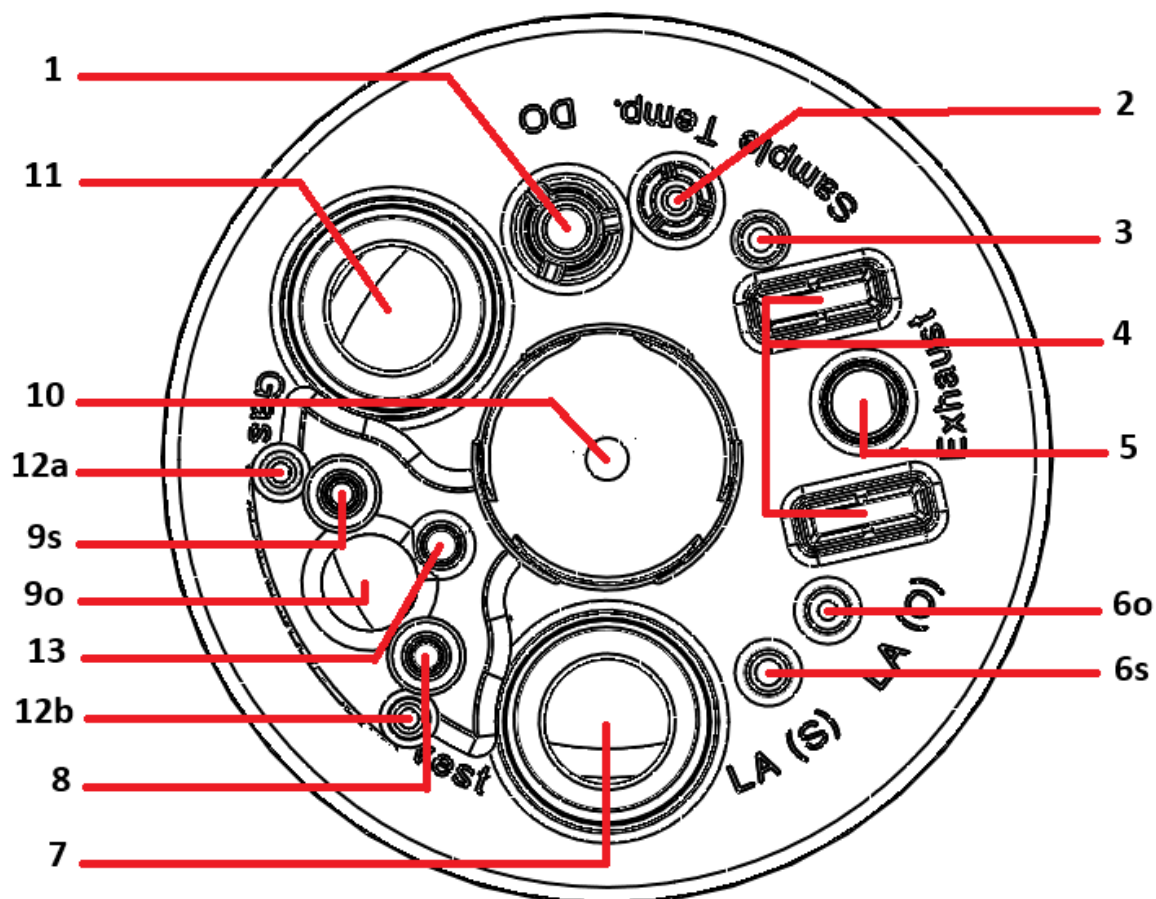


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Head plate layout:



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Port description:

Port #	Label	Purpose	Tubing
1	DO	DO sensor port. (Eppendorf specific)	N/A.
2	Temp.	Temperature sensor. (Eppendorf specific)	N/A.
3	Sample	Liquid removal (Sampling) ID2,4mm dip-tube, close to bottom. A) Manual Sampling B) Auto sampling Line (e.g. MAST) C) Sterile Air Filter	OD6 x ID3 x 50mm silicone hose, Y-connection (Y230): A. OD6 x ID3 x 50 mm silicon hose, clamp, female Luer lock (FTLL230), sterile filter OD25 (8 cm²), and closed with male Luer plug. (MTTLP) OD6 x ID3 x 30 mm silicon hose, Y-connection (Y230): B. OD6.4 (1/4") x ID3.2 (1/8") x 500 mm C-flex hose, clamp and closed with a plug. (PIP230) C. OD6 x ID3 x 50 mm silicon hose, clamp, female Luer lock (FTLL230), swabable valve and plug. See "Sample line" for more information.
4	N/A	Mounting position for exhaust hose cooler. (Eppendorf specific)	N/A.
5	Exhaust	Exhaust line	Eppendorf original silicone hose, OD50 (16cm ²) sterile filter.
6 O	LA (O)	Liquid Addition -Overlay/headspace ID2mm with drip-guide. A) Media. (Perfusion) B) Glucose.	Eppendorf original 70 mm silicone hose (OD 1/4" x ID1/8"), Y-connection (Y230): A. OD6 x ID3 x 300 mm silicone hose, male Luer-Lock (MTLL230), Bioprene pump-head tubing (ID1.0 mm x OD3.1 mm), male Luer-Lock (MTLL230), OD6.4 (1/4") x ID3.2 (1/8") x 1000 mm C-flex hose, clamp and closed with a plug. (PIP230) B. OD6 x ID3 x 300 mm silicone hose, male Luer-Lock (MTLL230), Bioprene pump-head tubing (ID1.0 mm x OD3.1 mm), male Luer-Lock (MTLL230), OD6.4 (1/4") x ID3.2 (1/8") x 1000 mm C-flex hose, clamp and closed with a plug. (PIP230)
6 S	LA(S)	Liquid Addition/ Removal – submerge ID2,7mm Dip-tube, close to bottom A) Cell Bleed	Eppendorf original 70 mm silicone hose (OD 1/4" x ID1/8"), straight through connector (N230), OD6 x ID3 x 300 mm silicone hose, male Luer-Lock (MTLL230), Bioprene pump-head tubing (ID1.0 mm x OD3.1 mm), male Luer-Lock (MTLL230), OD6.4 (1/4") x ID3.2 (1/8") x 1000 mm C-flex hose, clamp and closed with a plug. (PIP230)

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Port #	Label	Purpose	Tubing
7	PG13,5 port	Spare Sensor port	Eppendorf PG13.5 plug and O-ring. Spare PG13.5 port , e.g. for any 120 mm sensor
8	N/A	Fluid Addition /Removal – Overlay/headspace ID2,7mm drip guide A) Anti-foam addition B) Inoculation C) Overlay Gassing	OD6 x ID3 x 50mm silicone hose, Y-connection (Y230): A. OD6 x ID3 x 50 mm silicon hose, clamp, female Luer lock (FTLL230), sterile filter OD25 (8 cm ²), and closed with male Luer plug. (MTTLP) • OD6 x ID3 x 30 mm silicon hose, Y-connection (Y230): B. OD6.4 (1/4") x ID3.2 (1/8") x 500 mm C-flex hose, clamp and closed with a plug. (PIP230) C. OD6 x ID3 x 50 mm silicon hose, clamp, female Luer lock (FTLL230), swabable valve and plug. See "Sample line" for more information.
9 O	N/A	Perfusion port (ATF Suction/Return) <i>SUBmerged HFF</i> 11 mm from the bottom (Parallel to tube sparger 9S)	See "ATF assembly" for more information. See "Single use pump" for more information
9 S	N/A	Aeration - submersed ID2.4mm dip tube Open tube gas sparger 11 mm from the bottom	OD6 x ID3 x 70 mm silicone hose, female Luer-Lock (FTLL230), sterile filter OD25 (8 cm ²), and closed with male Luer plug. (MTTLP)
10	N/A	Magnetic coupling for Overhead drive (DASbox)	N/A.
11	PG13.5 port	Sensor port (pH)	Hamilton OneFerm SU pH sensor, K8 electrical connector, 120 mm long
12 A	N/A	SS level-sensor Liquid level monitoring (Estimated 65 mm from bottom, at 200ml mark)	For 2mm banana plug
12 B	N/A	SS level-sensor Liquid level monitoring (Estimated 9 mm from bottom)	For 2mm banana plug
13	N/A	Liquid Addition - SUBmerge. ID3.2mm dip tube A) Base	OD6 x ID3 x 300 mm silicone hose, male Luer-Lock (MTLL230), Bioprene pump-head tubing (ID1.0 mm x OD3.1 mm), male Luer-Lock (MTLL230), OD6.4 (1/4") x ID3.2 (1/8") x 1000 mm C-flex hose, clamp and closed with a plug. (PIP230)

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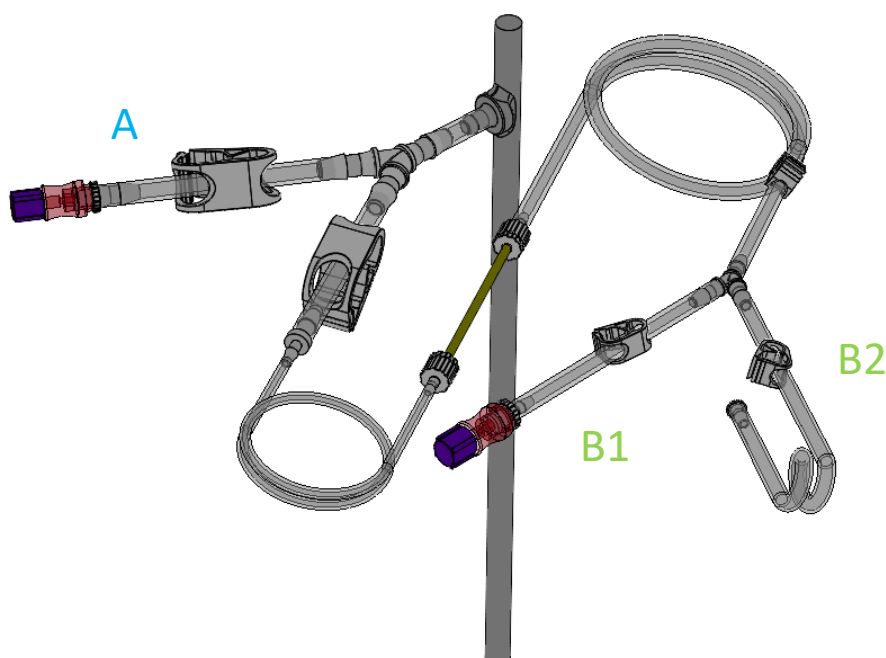
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ATF assembly:

HFF: Custom Meissner SeptraPor®: "XFCM20C012-XX1X" - 0.2µm pore size with ID1.0 mm fibers (# lumen/fibers = 13), Length (L) = 300mm, with a surface area of 110 cm². 1x Permeate port

Permeate; OD8 x ID5 x 40 mm silicone hose, Y-connection (260-6005):

- A. **Wash-Line:** OD8 x ID5 x 100 mm silicone hose, clamp, female Luer-Lock (FTLL360) and swabable valve.
- B. **Harvest-Line:** OD8 x ID5 x 100 mm silicone hose, clamp, straight through reducer (3050), ID1.6 x OD4.8 x 450 mm silicone hose, male Luer-Lock (MTLL220), Bioprene pump-head tubing (ID1.0 mm x OD3.1 mm), male Luer-Lock (MTLL230), ID3.2 (1/8") x OD6.4 (1/4") x 600 mm C-flex hose, clamp, Y-connection (240-6005):
 - 1. ID3.2 (1/8") x OD6.4 (1/4") x 100 mm C-flex hose, clamp, female Luer-Lock (FTLL230), and swabable valve.
 - 2. ID3.2 (1/8") x OD6.4 (1/4") x 400 mm C-flex hose, clamp and plug. (PIP230)



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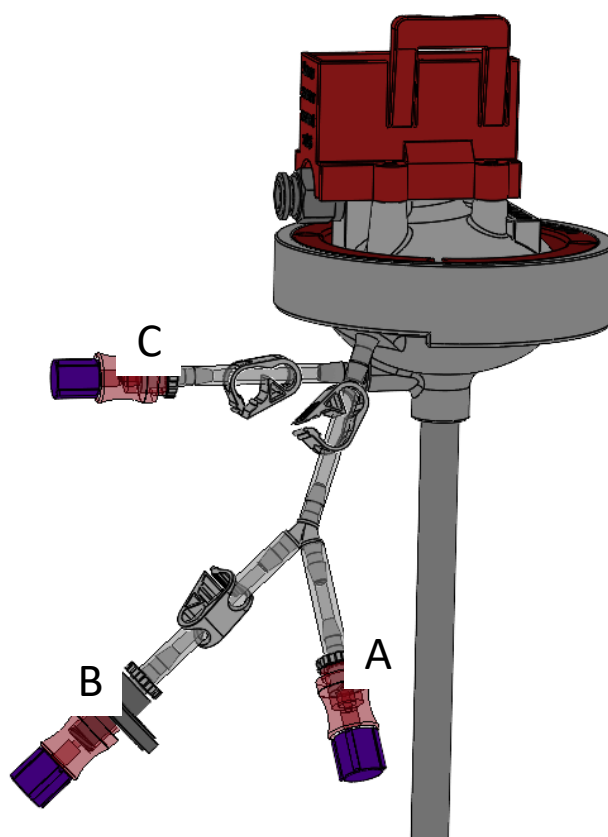
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Single-Use-Pump:

The LASER guided diaphragm pump used for this product is medical grade Nylon selectable Thalia TM80 or TM60 with Meissner SeptraPor® (HFF) SUBmerged directly in the vessel. Designed to masterd bt Clotho drive unit.

<https://perfusecell.com/perfusion-bioreactors/cellretention-atf-submerged-31/cellretention-300-bioblu>



Pump “de-gassing” Port:

OD6 x ID3 x 50 mm silicone hose, hose clamp, Y-connection (Y230):

- A) OD6 x ID3 x 30 mm silicone hose, female Luer connection (FTLL230), swabable valve and male Luer-Lock cap (Qosina 65372).
- B) OD6 x ID3 x 50 mm silicone hose, clamp, female Luer connection (FTLL230), OD25 sterile filter, swabable valve and male Luer-Lock cap (Qosina 65372).
- C) OD6 x ID3 x 50 mm silicone hose, clamp, female Luer connection (FTLL230), swabable valve and male Luer-Lock cap (Qosina 65372).

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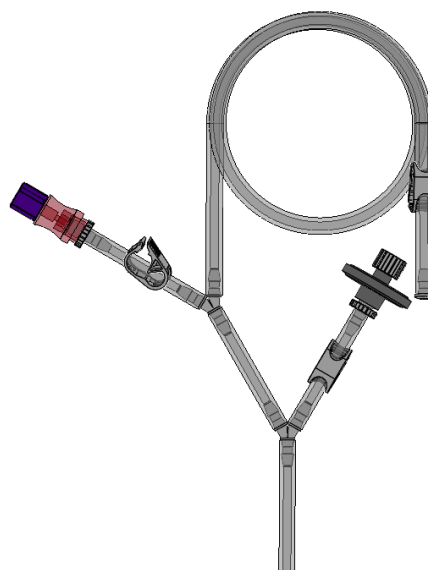
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Sampling Line:

OD6 x ID3 x 50mm silicone hose, Y-connection (Y230):

- A. OD6 x ID3 x 50 mm silicon hose, clamp, female Luer lock (FTLL230), sterile filter OD25 (8 cm²), and closed with male luer plug. (MTTLP)
- OD6 x ID3 x 30 mm silicon hose, Y-connection (Y230):
 - B. OD6.4 (1/4") x ID3.2 (1/8") x 500 mm C-flex hose, clamp and closed with a plug. (PIP230)
 - C. OD6 x ID3 x 50 mm silicon hose, clamp, female luer lock (FTLL230), swabable valve and plug.



Additional Information:

- Include level marks on vessel outside (in front of Exhaust port)

Designed and manufactured by

PerfuseCell-Cronus-PCS A/S

Noerrelundvej 10

DK-2730 Herlev

Denmark

www.perfusecell.com

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