

TOP text 80 - 200 ml Working Volume ATF Perfusion-SUB
2nd line text **SUBmerged™ mini Perfusion SUB**
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Author: PS

- Revolutionizing **CellRetention-300-DASbox** SUBmerge SeptraPor® HFF (Hollow-Fibre-Filter) directly into the SUB broth eliminating dead volume – even without occupying a precious PG13 port !!!!
- HFF direct coupled to inverted innovative LASER guided Thalia diaphragm Single-Use-Pump reduces shear stress, cell accumulation and clear the well-known HFF fouling

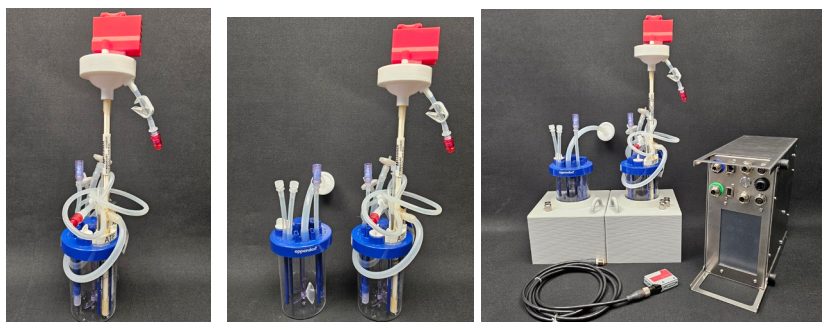


Photo shows standard bioBLU 0.3 batch SUB converted to **CellRetention-300-DASbox** operating ATF P-**SUBmerged**. Center photo one std bioBLU® batch and one CellRetention-300 with the blue head plate and visible the Thalia TM60 on top of **SUBmerged** SeptraPor®. Right photo batch, ATF SUBs and Clotho Drive Unit and LASER sensor in front of DASbox dummy.

INSIDE the P-SUB the **CellRetention-300-DASbox** features:

- SeptraPor® HFF C012 inlet positioned directly in the broth (manufactured by Meissner® Corp) with pore 0.2 µm, 110 cm² area, 1 mm lumen
- Liquid level sensor
- Upgraded from standard one hole deep tube aeration to glass micro-sparger model P40 with 16-40 µm pore for very high cell density

OUTSIDE the P-SUB the **CellRetention-300-DASbox** features:

- Based on customized BioBLU® 0.3 batch SUB designed with magnetic HPD for the DASbox. Aeration, agitation, and process control remain based on the standard BioBLU® 0.3c and chosen DASbox® configuration.
- LASER guided Thalia inverted SUP eliminates cell accumulation – choose between TM60 or TM80
- Hoses in-mass covering any need
- Included OneFerm pH sensor with K8 connection mounted in PG13 port
- One PG13 port free

The P-SUB ver-1 features:

- The complete and pre-assembled mini-P-SUB packed in dual film bags and precision irradiated – forget the autoclave
- P-SUB dim OD76 x 120 mm for Working Volume (WV) ranging from 80 ml up to 200 ml
- Part of DASbox is the MP8 peristaltic pump module - the integrated Pharmed/Biomed pump hoses are selectable ID 1.0 (media exchange) or 0.5 (addition for pH control)
- Thermal control, agitation, aeration, media addition as offered by DASbox

Benefits:

1. Clotho drive unit offer controlled alternating broth volume, number of strokes and velocity fully programmable, accurately measured and fully repeatable – no process guessing check out Clotho here - <https://perfusecell.com/perfusion-bioreactors/diaphragm-pump-drive-units-41>
2. SUBmerged™ and Direct-Fit™ HFF eliminating shear stress caused by conventional Luer-Lok™ fittings

Installation (no hood needed)

1. Unpack and insert the **CellRetention-300-DASbox** in DASbox
2. Connect all the hoses and sensors – being a big job !
3. Clamp in the LASER sensor in the red Thalia socket and connect to Clotho
4. Don't forget to pre-wet HFF, as usual, by adding 200 ml suitable liquid into the SUB. Activate Clotho for 15 strokes and pump entire volume out through the permeate port by MP8 peri pump

Find Tips & Tricks here - <https://perfusecell.com/perfusion-support/tips-tricks-in-details/tips-tricks-small-volume>

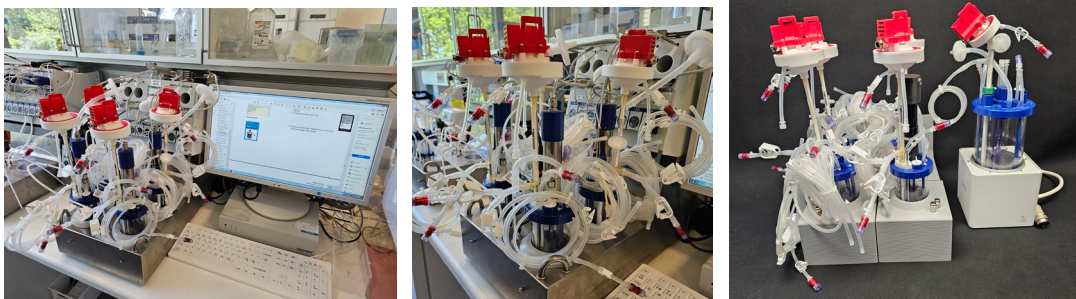
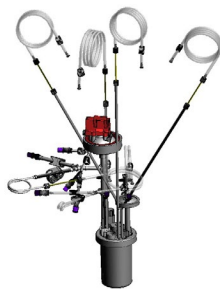
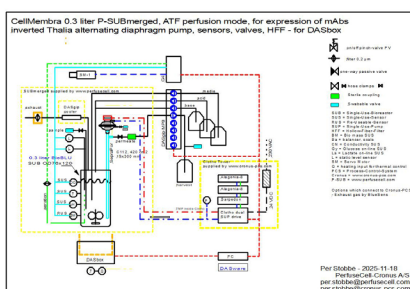


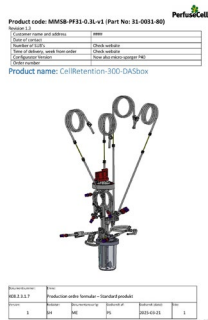
Photo show bioBLU 0.3 batch SUB converted to **CellRetention-300-DASbox** operating ATF P-SUBmerged. Right photo four CellRetention-300 with the blue head plate and visible the Thalia TM80 on top of SUBmerged SeptraPor® and one bioBLU® 1 liter equipped with the PG13-DIY-kit.



Flow-chart illustrates most important connections. Rendered JPG illustrate extensive set of hoses that fit directly to DASbox and as such require no assembling inside a hood. Photo of the complete assembly as delivered – ready to install - remember to wet/rinse the HFF before use.

Below find a complete set of product documentation

The one 3D PDF file below needs to be download and a correction to Acrobat is needed - <https://perfusecell.com/download-product-info>



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- HFF directly coupled to inverted innovative LASER guided Thru diaphragm Single Use Pump reduces shear stress, cell accumulation and clear the well-known HFF fouling



INSIDE the P-SUB the CellRetention-300-OASbox features

- Secretor[®] HFF-C002 inlet positioned directly in the broth (Messer[®] Corp) with pore 0.2 μ m, 110 μ m² area, 1 mm long

- Two liquid level sensors
- OUTSIDE** the B-51B the CellRetention-300 DASbox (a) can be

OUTSIDE the P-SUS the **CellRetention-300-DASbox** features:

- Based on customized **SiCellSL** 0.3 batch **SUS** designed with magnetic HPD for the DASbox. Aeration, agitation, and process control remain based on the standard **SiCellSL** 0.3c and chosen **DASbox**™ configuration
- LASER** guided Thales inverted **SUS** eliminates cell accumulation – choose between **TMS0** or **TMS30**
- Hoses in-mass covering any need
- 4" and 6" **SiCellSL** 400 connection mounted in 0.015 sec

- Includes in-mass covering any need
- Includes OneFerm pH sensor with X2 connection mounted

- One PG13 port free

- The complete and pre-assembled mini-P-SUB packed in dual film bags and precision irradiated – forget the autoclave
- P-SUB din C078 x 120 mm for Working Volume (WV) ranging from 80 ml up to 200

- P-SUB-200-100-100 x 120 mm for Working Volume (WV) ranging from 80 ml up to 200 ml
- Part of DASbox is the MP6 peristaltic pump module - the integrated Pharmed/Siemens pump hoses are selectable ID 1.0 (media exchange) or 0.5 (addition for pH control)
- Thermal control, aeration, aeration, media addition as offered by DASbox

- Thermal coat, agitation, aeration, media addition as offered by DA-560x

Benefits:

1. Cloth drive unit offer controlled alternating breath volume, number of strokes and velocity fully programmable, accurately measured and fully repeatable – no process

All products are patented by www.stobbe.group