

## Data Sheet

# Mobius® FlexReady Solution for Large Scale Clarification

Fast setup.  
Maximum adaptability.  
Pre-designed and optimized.

The Mobius® FlexReady Solution for Large Scale Clarification is an easy-to-use system featuring an optimized single-use flow path designed to fully support your clarification needs.

It features our innovative, high-performance Millistak+® Pod disposable depth filters which are ideally suited for primary and secondary clarification and capable of processing up to 5 kg of protein or 2000 L volumes at 2.5 g/L expression.

The Mobius® FlexReady Solution for Large Scale Clarification consists of single-use Flexware® assemblies designed specifically for the process step, innovative separation devices and process-ready hardware systems to deliver optimal operational flexibility, from clinical production to full-scale commercial manufacturing. The self-contained and disposable nature of the system eliminates maintenance as well as cleaning validation requirements. Accompanied by extensive support and services, the Mobius® FlexReady Solution for Large Scale Clarification can help you maximize resource productivity and reduce risk.



## Benefits

- Fast setup of hardware with easy installation of optimally designed Flexware® assemblies
- Maximum adaptability to your changing operational needs with single-use flow paths
- Pre-designed and optimized solution for clarification to give you confidence and peace of mind

## Clarification for large-scale production

Mobius® FlexReady Solution for Large Scale Clarification is designed for volumes up to 2000 L at protein concentrations of 2.5 g/L, across a membrane area from 1.1 m<sup>2</sup> up to 33 m<sup>2</sup> for one grade and up to 33 / 11 m<sup>2</sup> for two grades.

### Each system has the following unique design features:

- **Low pulsation** single-use pump chamber
- **Constant speed** operation
- **High-pressure cut-off switch** for operator safety
- **Innovative low dead volume t-connectors** – enabling the use of traditional pressure transducers
- **Flexware® single-use assemblies** – designed to fit the hardware and install quickly and easily

## Millistak+® Pod Filters

The system's modular design allows users to operate the system with as few as one Millistak+® Pod filter at pilot scale, as many as 30 Millistak+® Pod filters installed at process scale, and up to 40 filters when sized with two grades and an extra rack. These options make it easy to configure a system for a specific application, and then conveniently reconfigure as process capacity requirements scale up or down.

- **Process scale holder** – accepts up to ten Millistak+® Pods per rack. Up to three racks can be stacked for process flexibility
- **Disposable adapters** – connect Millistak+® Pods to process piping, creating a disposable flow path
- **Disposable diverter plates** – enable more than one media grade on a single rack

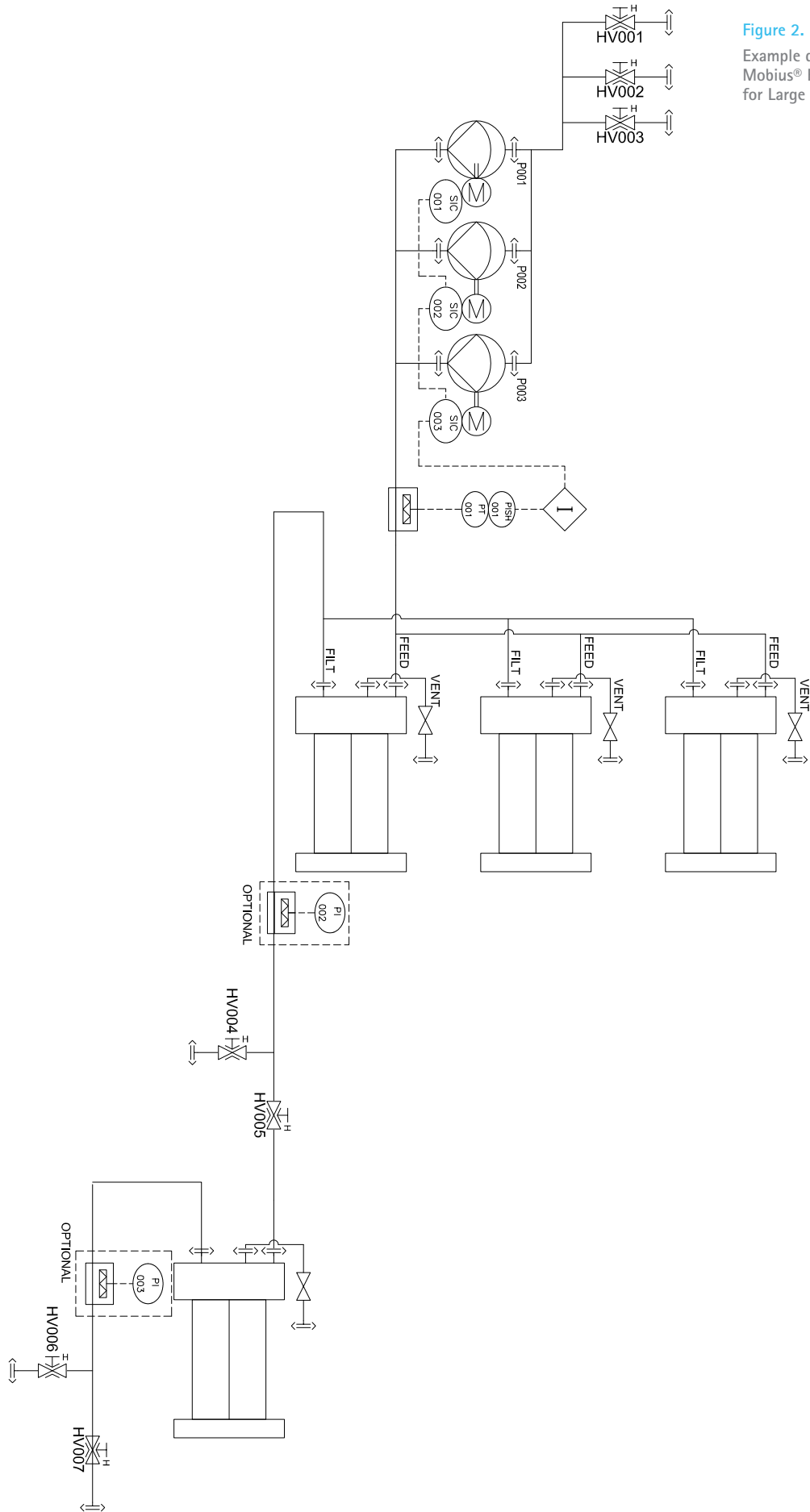
Figure 1.  
Millistak+® Pod Filters



## Specifications\*

Description	Specifications
Overall Dimensions (H x W x D) mm:	1 rack + 1 pump: 1158 x 2343 x 770 2 racks + 2 pumps: 1558 x 2543 x 770 3 racks + 3 pumps: 1605 x 2743 x 770 4 racks + 3 pumps: 1605 x 2743 x 1640
No. of Racks	1 - 4
Materials of Construction Diverter plate: End plates:	Polypropylene 304 stainless steel
End plate clamp and guide rods	17-4 PH steel
All other metal surfaces	304 stainless steel
TC gaskets	Thermoplastic Elastomer (TPE)
TC clamp	304 stainless steel 2 piece clamp
Performance Properties	Capable of supporting and sealing Pod filters up to 50 psig maximum operating pressure at 25 °C. Inlet and outlet connection to the Pods and vents are via disposable adapters.
Maximum differential pressure for Millistak+® Pod device Forward: Reverse:	3.5 bar (50 psid) at 25 °C; 1.0 bar (15 psid) at 80 °C 2.1 bar (30 psid) at 25 °C
Total Weight (approx.)	500 to 1500 kg
Wheels No. Total: No. Locking:	From 8 to 12 From 4 to 6
Utility Requirements:	
240 Vac countries	
1 pump	1 x 230 Vac, + N, + G, 50/60 Hz Power consumption: 1.4 kW
2 pumps	1 x 230 Vac, + N, + G, 50/60 Hz Power consumption: 2.1 kW
3 pumps	1 x 230 Vac, + N, + G, 50/60 Hz Power consumption: 2.8 kW
110 Vac countries	
1 pump	1 x 110 Vac, + N, + G, 50/60 Hz Power consumption: 1 kW
2 pumps	1 x 110 Vac, + N, + G, 50/60 Hz Power consumption: 1.6 kW
3 pumps	3 x 110 Vac, + G, 50/60 Hz Power consumption: 2.2 kW
Electrical Enclosure:	IP 65 (NEMA 4X)
Regulatory Compliance:	CE (2004/108 /CE, 2006/42/CE), UL 508 A
Environmental Temperature Range:	4-25°C
Humidity:	10 - 90% (non condensing)
Pressure Rating:	up to 2.1 bar (30 psig)
Process Fluid Temperature Range:	4-30°C
Process Connection Type:	TC connectors
Materials of Construction Tubing: Frame: Regulatory Information:	Different grade of silicone, polypropylene, Nylon, EPDM, Santoprene® resin Stainless steel 304 (some parts are painted) Sealing materials and plastics in contact with the product meet USP <88> biological reactivity test for Class VI Plastics and are Title 21 CFR 177.2600 and 177.1550 compliant.
Tubing Sizes:	5/8" ID up to 20 LPM 3/4" ID up to 40 LPM 1" ID up to 60 LPM
Inlets:	Up to 3 inlets on manifold (TC)
Outlets:	Up to 2 drain lines (TC) + 1 collection (TC)
Membrane Holder Capacity Primary grade:	From 1.1 to 33m <sup>2</sup>
Recommended grade aspect ratio	1:3
Available flux (LMH) w/ 11m <sup>2</sup>	109 to 327 L/h/m <sup>2</sup>
Available flux (LMH) w/ 22m <sup>2</sup>	109 to 163 L/h/m <sup>2</sup>
Available flux (LMH) w/ 33m <sup>2</sup>	Up to 109 L/h/m <sup>2</sup>

Description	Specifications
Pumps	Brand: Quattroflow™/Almatech Model: 1200S Number: 1 to 3 Flow range: 2 to 60LPM
Valves	Type: Manual Brand: Pinch Valve Biovalve Model: 1/2-1
Pressure Switch	Type: Non intrusive Location: <i>After pumps</i> Brand: Labom Model: Pascal CV 3110 Range: 0 - 6 bar Loop accuracy: ± 0.2 bar
Sensors	
Pressure (Optional):	
Type :	Gauge (or transmitter if recorder option), non intrusive
Location:	Before recovery
Brand:	Labom
Model:	Type Series BH52 or CC60
Range:	0 - 6 bar
Loop accuracy:	± 0.2 bar
Pressure (Optional):	
Type :	Gauge (or transmitter if recorder option), non intrusive
Location:	Between both grades
Brand:	Labom
Model:	Type Series BH52 or CC60
Range:	0 - 6 bar
Loop accuracy:	± 0.2 bar
Weight scale (Optional):	
Location:	Filtrate line for recovery bag
Brand:	Mettler Toledo
Model:	PFA579-FM3000
Range:	0-3000 kg
Loop accuracy:	± 0.1% FS
Control Loops:	N/A
Automation:	Fully manual system Recorder as an option (analog values)
Documentation:	User Manual: 1 paper copy + on CD Technical Documentation: on CD QA documentation: on CD



**Figure 2.**  
 Example diagram:  
 Mobius® FlexReady Solution  
 for Large Scale Clarification

## To Place an Order or Receive Technical Assistance

In Europe, please call Customer Service:

France: 0825 045 645

Germany: 01805 045 645

Italy: 848 845 645

Spain: 901 516 645 Option 1

Switzerland: 0848 645 645

United Kingdom: 0870 900 4645

For other countries across Europe,  
please call: +44 (0) 115 943 0840

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