Millipore®
Preparation, Separation,
Filtration & Monitoring Products

Data Sheet

Mobius® TFF 80 System

Single-use Tangential Flow Filtration Solution, Designed for Large Scale Processing

Processing large batch sizes in one run using single-use equipment is a challenge. The Mobius® TFF 80 system has been specifically developed for large-scale tangential flow filtration, with flow rate capabilities up to 80 L/min and up to 20 m^2 of membrane area installed. The system maximizes the production yield and enables the achievement of high concentration factors, minimizing unrecoverable volume. Its single-use flow path offers the flexibility to operate in functionally or fully closed mode.

Large-scale capabilities, with no compromise on quality

- 500 L and 200 L tanks, with up to 80 L/min diaphragm pump, and matching flow path design.
- Holder for filter area up to 20 m^2 with Pellicon® cassettes and 18 m^2 with single-use Pellicon® capsule manifolds.

Designed for optimized yield and product recovery

- Tank geometry and mixing technology ensures product homogeneity, key for product quality during concentration and diafiltration.
- Large tank volume to minimum working volume ratio for high concentration factor.
- Highly drainable system with the lowest possible unrecoverable volume.

Adapts to multi-product and multi-processing modes

- Single-use sensors and flow path eliminates cleaning requirements and risks for carryover from previous batches.
- Closed mode of operation is possible with specifically designed flow path and consumables, allowing to reduce contamination risk while increasing flexibility and operator safety.

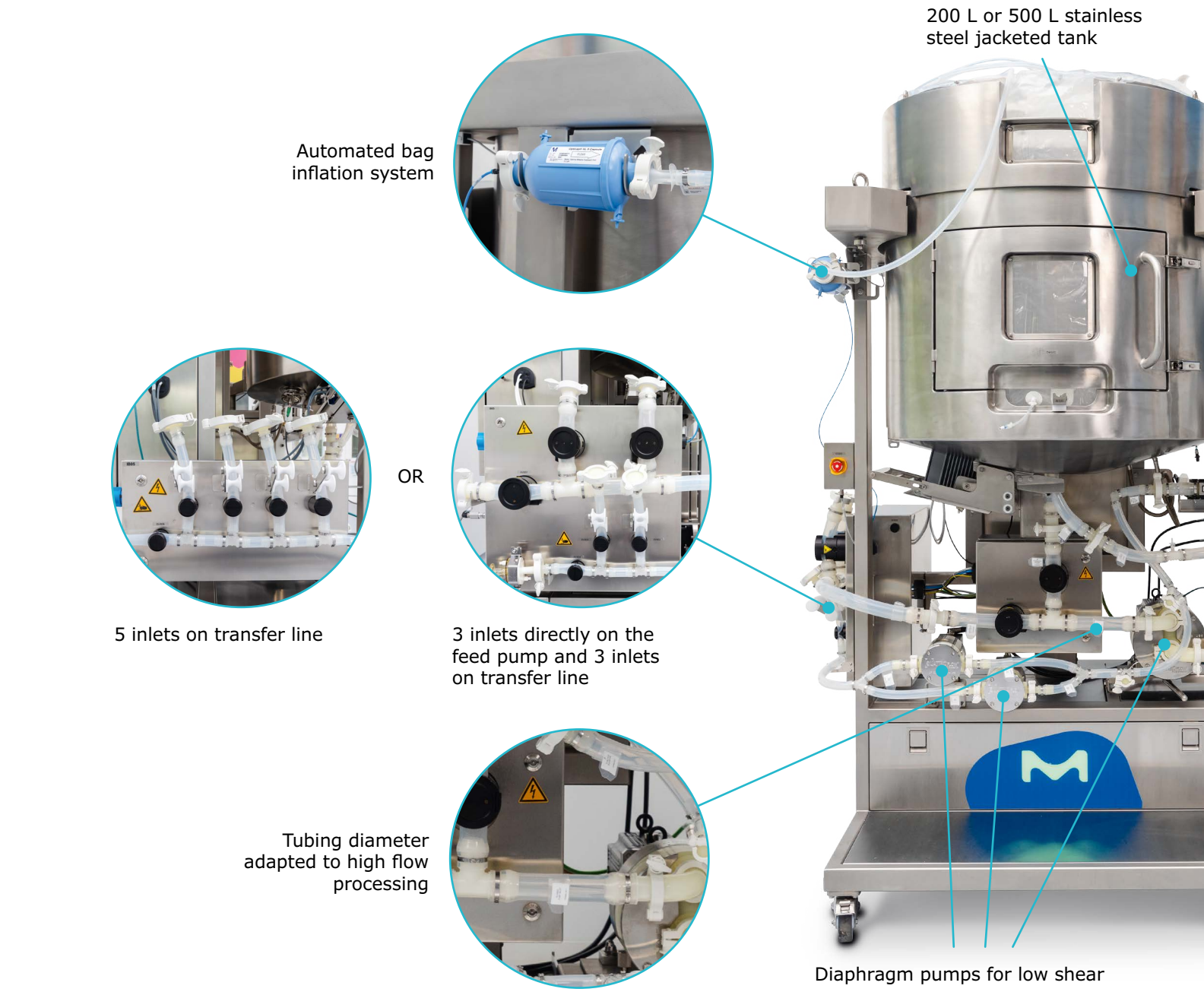
Fully automated and user friendly

- Full automation with step edition CCP® Software.
- Easy cassette installation via the central manifold segment (CMS) and hydraulic compression on the holder.
- Transparent clamshell design allows visual monitoring of process fluids within the flow path.

MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany.

MilliporeSigma

System Components



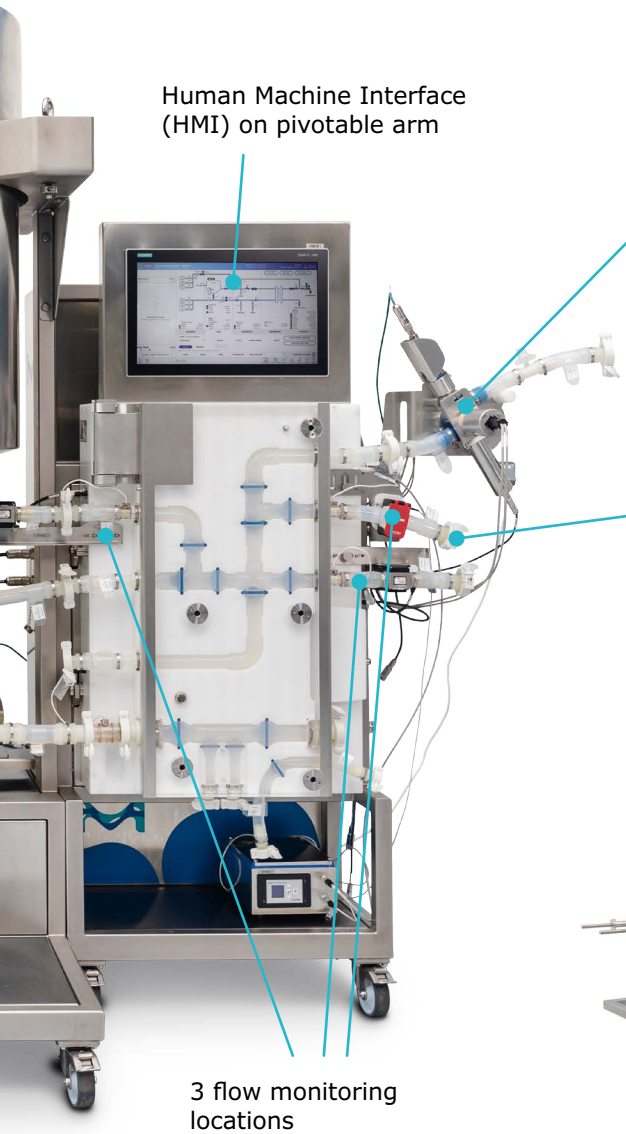
Functionally and fully closed modes

All modes of operation are supported by a specifically designed flow path, which helps reduce contamination risk and protect operators. The switch between modes of operation is straightforward.

Tank and pump cart

The tank includes a large door, facilitating bag installation and removal, and a double jacket to connect to a temperature control unit. Our efficient mixing technology paired with the vortex breaker and diverter plate in the feed bag ensures product homogeneity during concentration and diafiltration steps.

Two configurations are available for input management: a manifold with 5 inlets on the transfer pump and a manifold with 3 inlets on the transfer pump and 3 inlets on the feed pump (see detailed setup on next page).



Human Machine Interface (HMI) on pivotable arm

3 flow monitoring locations

pH, conductivity and UV monitoring on filtrate line with pre-installed fully single-use pH probe or user installed multi-use pH probe

Flexware® assembly with TC connectors

OR

Flexware® assembly with CPC® AseptiQuik® connectors enabling closed processing

Holder for up to 20 m^2 membrane area

Stand for Pellicon® capsule manifolds up to 18 m^2

Instrumentation

All Mobius® TFF 80 systems come with flow measurement on filtrate and retentate lines, temperature measurement on feed tank, UV, conductivity, and pH on filtrate line. An optional flowmeter can be added on the transfer line.

On the filtrate line a multi-use pH probe can be installed by the user or a single-use pH probe can be pre-installed and irradiated as part of the Flexware® assembly. An additional single-use pH probe can be pre-installed in the feed bag.

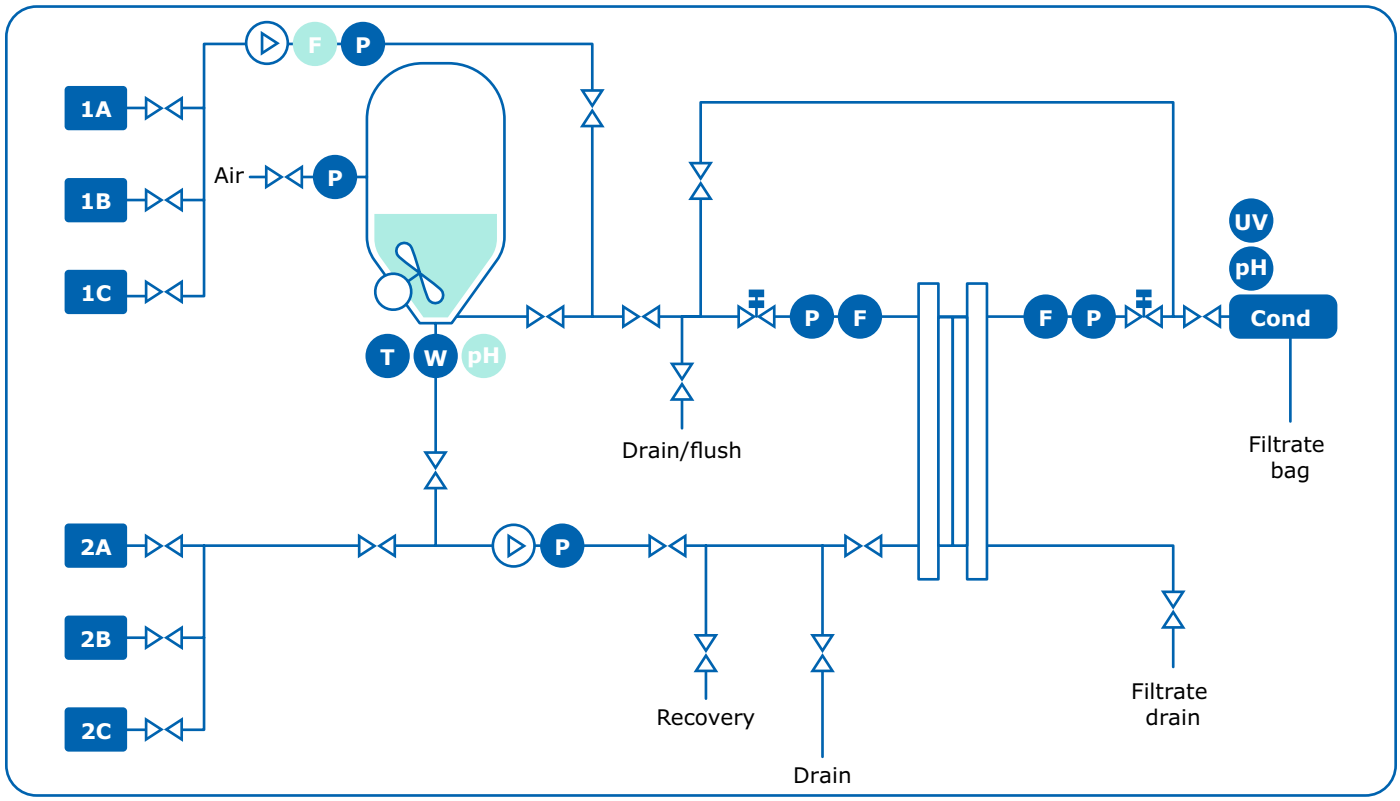
Base cart

The Mobius® TFF 80 system clamshell provides outlets for recovery, permeate, drain, and flush. The base cart is a modular piece of equipment allowing to install Mobius® Chrom 2, 10, or 20 or Mobius® TFF 80 system clamshell.

Holder and stand

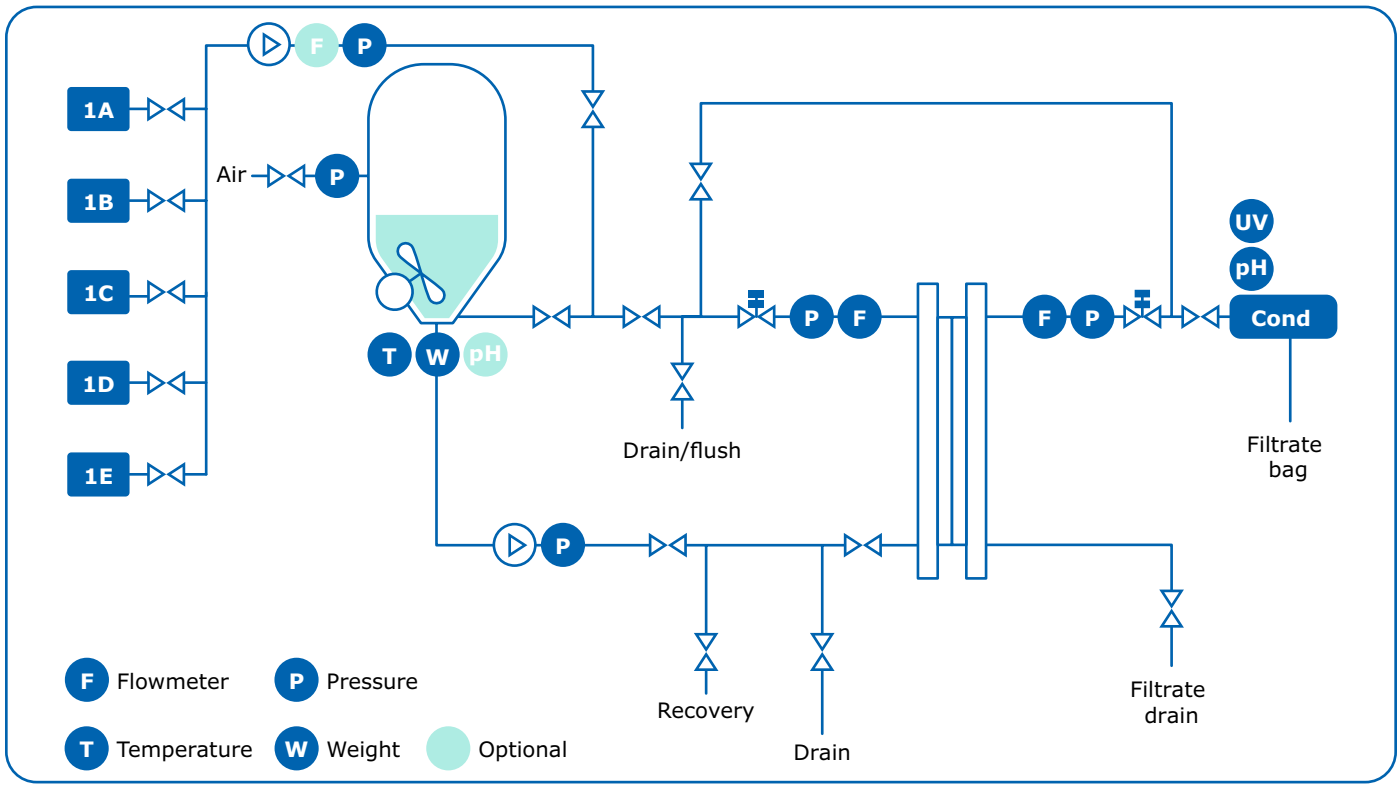
The holder allows to hydraulically compress up to 20 m^2 of Pellicon® cassettes. The stand supports up to 18 m^2 of single-use Pellicon® capsule manifolds. Both are standalone, independent carts providing flexibility for filter device preparation and floor utilization.

Detailed setup for the 2 manifold configurations



Configuration

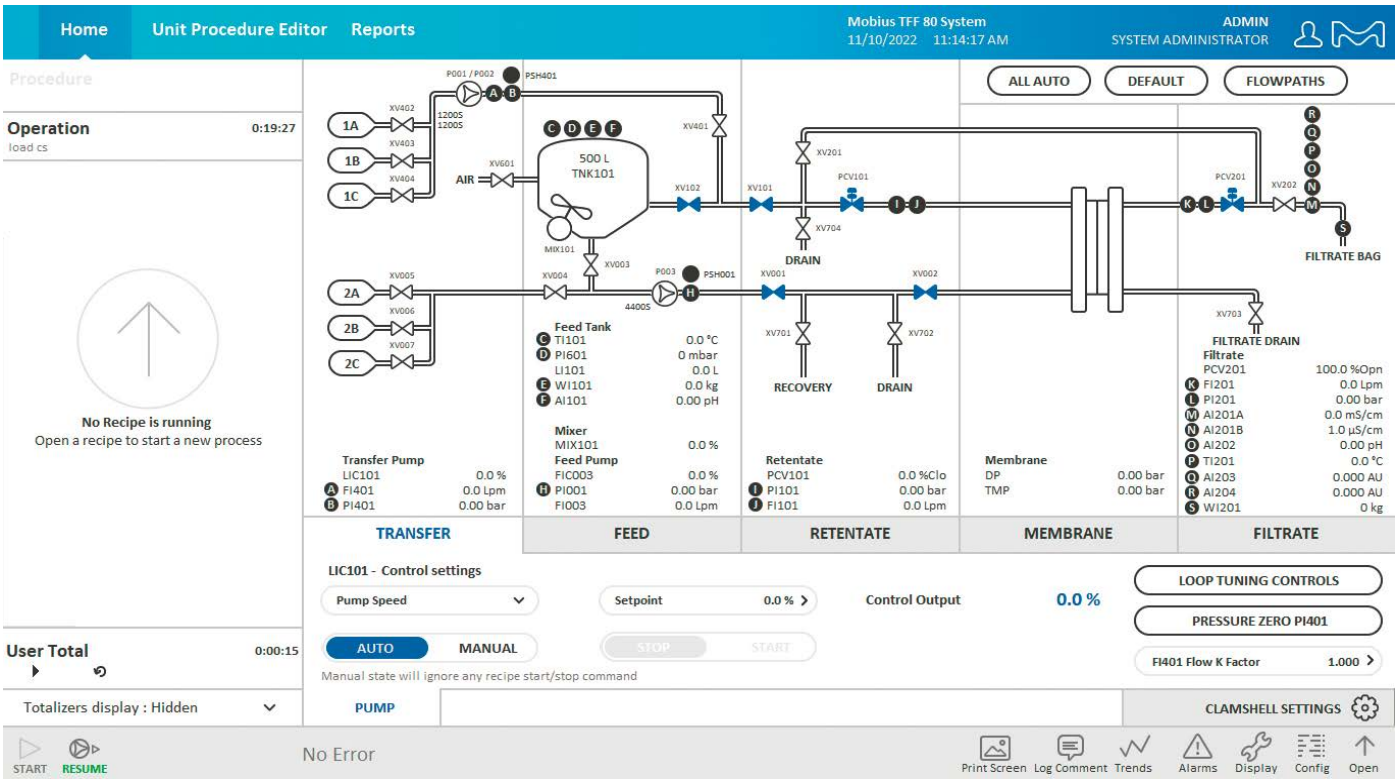
3 inlets on transfer line and 3 inlets on feed line. This design allows to bypass the tank when sanitizing or flushing filter devices. Traditional and closed processing modes can both be run with this inlet manifold design based on system configuration.



Configuration

5 inlets on transfer line. Mobius® TFF 80 system with this inlet configuration can run traditional processing only.

Common Control Platform® (CCP®) Software



CCP® software provides a single control platform across our portfolio of automated systems for a familiar look and feel at each step of your process that helps reduce training time for operators.

The software offers recipe-driven processing that eliminates manual operation, reduces process variability, and minimizes the risk of errors.

Process operations are easily created and managed using the recipe editor, each aspect of your process is monitored from the HMI (Human Machine Interface), and the report generator allows you to create state-of-the-art batch reports.

The software is designed for GMP facilities, is in line with GAMP® 5 recommendations for automation software, and fulfills FDA guidelines 21 CFR Part 11 requirements for electronic records and signatures.

Mobius® TFF 80 system performance

The Mobius® TFF 80 system performance is documented in the system performance guide. Some examples of key performance parameters are highlighted below.

The system includes several unique design features that make it suited for demanding final concentration and buffer exchange applications, where the ability to accommodate large volumes, low final volume, elevated protein viscosity, and high purity requirements is key to process success. The recycle container and flow path are designed to enable recirculation at process flow rates with a minimum product volume, while maintaining adequate mixing and avoiding vortexing or air entrainment.

Furthermore, the system can be operated in traditional or closed processing mode, based on your environmental and contamination risk mitigation strategy.

Control volume and concentration targets with accuracy

The Mobius® TFF 80 system has been specifically designed for single-use concentration of large volumes, without compromise on product quality and achievable concentration in a single step. In particular, the integration of the feed tank in the system guarantees the lowest possible minimum working volumes.

Up to a 100-fold volumetric concentration factor can be achieved in batch mode on the Mobius® TFF 80 system, utilizing a 500 L tank and full range of feed flow capacity. In fed batch, using the diaphragm transfer pump for gentle product handling, higher concentration factors will be obtained.

Automation of recovery steps, and accurate control of buffer volume inputs for system rinsing after product recovery, contribute to maintaining target concentration by avoiding over-dilution at the end of processing.

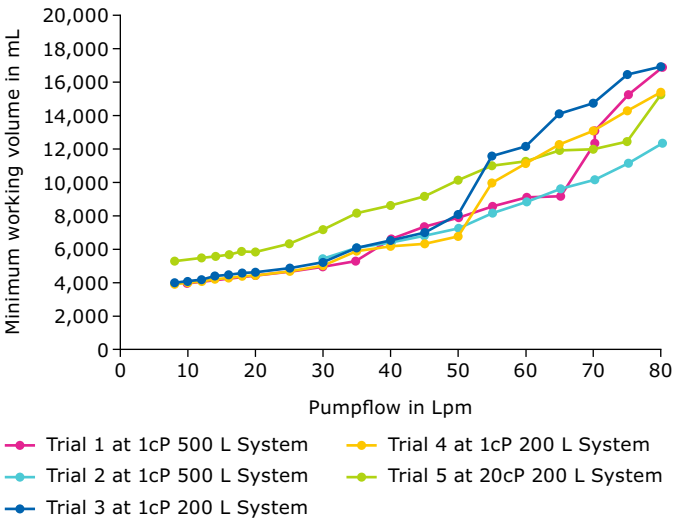


Figure 1.

Minimum Working Volume versus Flow Rate and Viscosity for Mobius® TFF 80 system – Excluding filtration device volume.

Benefit from integrated mixing to ensure product quality

A critical aspect to concentration and diafiltration operations is to ensure feed homogeneity at all times, since it will affect their efficiency, duration, and ultimately product quality. Common design principles across scales also ensure seamless transposition of process parameters determined at small scale to large-scale manufacturing. For those reasons, particular attention has been paid to the feed tank design: the active agitation via a bottom-mounted impeller brings homogeneity down to low feed volumes with no vortex creation, while the retentate line return to tank takes place at the bottom of the tank and is diverted to avoid preferential path or short-cuts. The result is a homogeneous feed to filtration devices, at all times during the process.

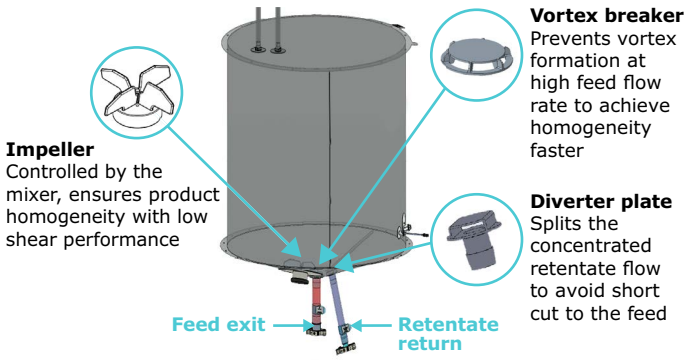


Figure 2.

Feed tank components for optimal homogeneity.

Switch between processing modes seamlessly

Mobius® TFF 80 system is designed to allow different types of processing using the same system. The gamma irradiated Flexware® assemblies offer fully single-use sensors (pressure, UV, conductivity, pH, flow cells) and aseptic connections to facilitate implementation of closed processing. The system design ensures fluid inputs on 2 locations: 3 inlets on the transfer pump and 3 inlets directly on the feed pump, with dedicated flush lines to bypass the feed bag. All typical steps of a TFF run have been taken into consideration so that they can be performed without line connection or disconnection in process.

For functionally closed processing, typically performed using flat sheet devices such as Pellicon® cassettes, a sanitization step of the flowpath is required for closure. To ensure a biostatic state, all portions of the flowpath not sanitized are gamma-irradiated and closure is maintained through aseptic connections.

For a fully closed processing mode, the flowpath adapts to the single-use Pellicon® capsule manifolds. The dedicated stand ensures proper support and optimized installation for manifolds from 4.5 to 18 m².

All processing modes can be run using one unique hardware with the correct configuration, and software for automation of each step, whichever mode is selected.

Related products to support your TFF process

Pellicon® 2 and Pellicon® 3 Cassettes

These advanced, high-performance cassettes are ideal for high titer therapeutic antibodies, as well as more demanding filtration processes that require higher operating pressures, temperatures, and caustic cleaning regimes. Our Mobius® TFF 80 system can operate with Pellicon® 2 and Pellicon® 3 cassettes up to 20 m^2 with the standalone holder.

Cogent® Lab Systems for TFF Process Development

Think big, start small. Our family of Cogent® Lab systems uses similar design, sensing technologies, and accessories as our manufacturing-scale equipment. With a homogeneous design and flow range from 20 to 6,000 mL/min, they have been specifically created to simplify process development. These systems offer linear performance and a uniform and intuitive software experience, reducing training requirements and ensuring smooth scale-up and scale-down.

Pellicon® Capsule Manifolds

Our innovative TFF capsules are ideal for processing biopharmaceuticals that require single-use capabilities, including enhanced ease-of-use, process flexibility, rapid product turnaround, and reduced operator exposure. First-of-its-kind, the capsule has a holderless and self-contained design for fast and flexible product changeover. Provided gamma sterilized and with aseptic connectors, Pellicon® Capsule manifolds are ideally paired with our Mobius® TFF 80 system, up to 18 m^2, to offer robust and consistent performance in a closed process for clinical or commercial manufacturing.

Mobius® FlexReady Solution for TFF

For seamless scalability up and down, smaller sized batches are ideally processed on the Mobius® FlexReady Solution with Smart Flexware® assemblies for TFF. The TF2S is available with 50, 100, or 200 L tank and feed flow up to 20 L/min for filtration surfaces up to 5 m^2. Closed mode of operation is enabled with specifically designed hardware and flowpath, ensuring operators' protection from harmful products and product's protection from environmental contamination.

Mobius® TFF 80 Systems Service

The pharmaceutical and biotechnology industries are highly regulated, and we offer a wide range of services to help you navigate this challenging environment. These services help you save time, lower costs, and comply with regulations. For your peace of mind, all our services are performed by our global experts who have an intimate knowledge of our equipment backed by decades of experience.

Qualification Services

Our qualification services are designed to make the integration of our system into your process as seamless as possible and ensure your equipment is properly installed and functioning per your pre-defined requirements.

- Factory acceptance test (FAT)
- Installation qualification/operational qualification (IQ/OQ)
- Full test package: this service is an alternative to standard IQ/OQ for customers who wish to have tests from FAT performed again at their site
- Performance qualification support (PQ)

For additional information on qualification tests, please contact your local sales representative to get the detailed Test Matrix document (CA11658EN).

Instructor-Led Training Services

Appropriate training for users is not only a GMP requirement, but it also ensures your staff has the expertise to operate and manage the system as part of your manufacturing process. Our training offering has been designed to make your staff more autonomous in managing your system and your process while saving time and money.

Our training services cover system use and programming with interactive hands-on sessions and, depending on the training you select, may also include:

- Installing the Flexware® assemblies
- Interacting with the Human Machine Interface
- Manual and automatic system operation
- Troubleshooting issues
- Creating and managing your own recipes
- Process recommendations

These trainings can be delivered either at your site or in our M Lab™ Collaboration Centers. Please contact your local representative or email ilearn@milliporesigma.com to discuss our training offering.

Virtual Reality Training Services

Virtual Reality training immerses users in a highly realistic simulated environment, allowing operators and engineers to train as often as needed without requiring physical systems or consumables. Our VR training covers system operation and troubleshooting, helping you develop and maintain essential skills to ensure the success of your projects.

Key Benefits:

- Reduced costs
- Optimized training management
- Accelerated time to proficiency

Specialized Services

CCP® Software Recipe Design

Every process is unique and, to ensure that your system is optimized to deliver the best performance, our biomanufacturing engineers will configure your process into your own CCP® software recipe. This allows your system to run fully automatic, resulting in consistency and reduced operator error.

For catalog numbers, please refer to the ordering information at the end of the document.

System Service Reliance Plans

To help you ensure optimum equipment uptime while mitigating risks, we have developed a wide range of services and support that allow you to select a coverage level that best fits your needs. Our System Service Reliance Plans, a complete range of services for your systems, offer priority access to support while ensuring your equipment is properly maintained.

For additional details, please refer to the System Service Reliance Plans Data Sheet (DS7881EN). Available at **SigmaAldrich.com/services-plans**

Repair Services and Spare Parts

Repair Services

In the event your system experiences a problem, our worldwide engineering organization will provide on-site or repair center technical support to get you back up and running as quickly as possible.

Spare Parts

Purchasing spare parts directly from us is the only way we can guarantee that you get the right parts every time, with the same level of performance as the original. For details and ordering information, check the illustrated spare parts list (CA9379EN).

Specifications

General specifications		
Maximum fluid pressure	Pressurized flow path and feed pump	0–4 bar
	Non pressurized flow path	0–2 bar
	Feed bag and bags	Atmospheric pressure
Temperature range	System	Ambient (4–30 °C)
	Fluid	4–45 °C
Humidity	Non-condensing	10–90%
Dimensions (H × W × D in cm)	Tank Cart 200 L	202 × 137 × 137
	Tank Cart 500 L	225 × 137 × 137 (with tank upper part) 202 × 137 × 137 (without tank upper part)
	Base cart	170 × 103 × 81 (instrumentation included)
	Pellicon® cassettes holder	100 × 167 × 50
	Pellicon® capsule stand	97 × 120 × 87 (for storage) 97 × 120 × 128 (in use)
Weight	Tank cart 200 L	560 kg
	Tank cart 500 L	715 kg
	Base cart	375 kg
Power supply	Base cart	220–240 VAC, 50/60 Hz, 1 phase, 6.5 A, OR 100–120 VAC, 50/60 Hz, 1 phase, 13.6 A, maximum consumption: 1.6 kW
	Tank cart	380–400 V~ +N, 50/60 Hz, 3-phase, 6 A at 400 V~ 50 Hz, OR 200–208 V~ +N, 50/60 Hz, 3-phase, 10 A at 200 V~ 50 Hz, maximum consumption: 2.4 kW
Mixer	Instrument Range	200 L: 50–500 rpm, tolerance ± 10 rpm 500 L: 50–250 rpm, tolerance ± 10 rpm
Pneumatic supply		Compressed air ≥6 bar, ≤10 bar instrument air filtered to ≤5 mm, -20 °C dew point, oil free

System		
Pump flow rate	Feed pump	8 to 80 L/min
	Transfer pump	4 to 40 L/min
Membrane holder capacity	Pellicon® cassettes	4 to 20 m^2
	Pellicon® capsules	4.5 to 18 m^2
Tank volume	Stainless steel jacketed tank	200 L, 500 L
Inlets	5 for transfer pump (air plus 4 fluids) OR 3 for feed pump and 3 for transfer pump	
Outlets	1 recovery, 1 filtrate, 2 drain, 1 flush	
Minimum working volume	Lowest volume in recirculation loop, tank included, filtration device excluded (mixing off, feed pump on, no air suction)	4 L
Recirculation loop volume	Volume in feed and retentate line	3.85 L
Unrecoverable volume	After buffer displacement	Virtually zero

Sensors	Process range	Accuracy
Pressure sensors feed, retentate, filtrate	0–4 bar	± 0.2 bar
Pressure sensor transfer line	0–2 bar	± 0.2 bar
Temperature (tank)	4–45 °C	± 1 °C
Weight load cells (tank)	0–200 kg (200 L tank)	± 0.3% FS
	0–500 kg (500 L tank)	± 0.3% FS
Filtrate flowmeter (ultrasonic)	1–50 L/min	± 7% MV above 8 L/min ± 3% MV, ± 400 mL/min below 8 L/min
Retentate flowmeter (magnetic)	7–80 L/min	± 3% MV above 8 L/min ± 5% MV below 8 L/min
Transfer flowmeter (magnetic)	4–40 L/min	± 3% MV above 8 L/min ± 5% MV below 8 L/min
Conductivity sensor	0–200 mS/cm (process)	± 3% MV + 0.4 mS/cm
	5–100 µS/cm (cleaning)	± 3% MV + 0.4 µS/cm
UV sensor (wavelength: 254/280 nm, OPL: 10 mm)	0–2 AU	± 2% FS
Single-use pH sensor (tank, filtrate)	3–9 pH	0–18 months ± 0.15 pH After product calibration ± 0.10 pH at ± 1 pH around calibration point 18–24 months ± 0.20 pH After product calibration ± 0.15 pH at ± 1 pH around calibration point
Multi-use pH sensor	3–9 pH	± 0.10 pH

Flow path		
Wetted materials	Tubing (inc. tubing manifolds)	Silicone, Silicone and braided silicone (in closed assemblies)
	Pump Chambers	EPDM, Santoprene® and Polypropylene
	AseptiQuik® Connectors	Polycarbonate
	TC connectors (and gasket)	HDPE, polypropylene (silicon)
	Magnetic flowmeter	Polysulfone, Hastelloy C22
	UV, conductivity (SUC)	Polysulfone Quartz, EPDM and Stainless Steel 316L (pins only)
	pH probes	Glass and VMQ (Silicone elastomer)
	Inline sampler	HDPE, Polyethersulfone, Silicon
	Tank bag	Pureflex™ Film and HDPE fittings
	CMS assembly	Glass Filled Polysulfone and silicon gaskets
Regulatory compliance	Single-use Flexware® assemblies	USP 88 class VI and/or USP <87> and/or ISO10993-5, animal origin free or compliant with EMA 410/01, USP 661, USP 85, USP 788

Ordering Information

Hardware

To tailor the Mobius® TFF 80 system to your needs select:

- A configuration based on the tank volume, processing mode, and options needed for your process
- The holder for flat sheet devices or the stand for single-use Pellicon® capsules
- The system power cord and accessories
- The Flexware® assemblies kits according to your system configuration and processing mode

		200 L							500 L						
System catalog number (catalog number ends with V2 for tank cart power supply 200–208 V V4 for tank cart power supply 380–400 V)		MTFF80200M5NN2V2 MTFF80200M5NN2V4	MTFF80200M3NN2V2 MTFF80200M3NN2V4	MTFF80200M3FN2V2 MTFF80200M3FN2V4	MTFF80200M3NN1V2 MTFF80200M3NN1V4	MTFF80200M3NP1V2 MTFF80200M3NP1V4	MTFF80200M3FN1V2 MTFF80200M3FN1V4	MTFF80200M3FP1V2 MTFF80200M3FP1V4	MTFF80500M5NN2V2 MTFF80500M5NN2V4	MTFF80500M3NN2V2 MTFF80500M3NN2V4	MTFF80500M3FN2V2 MTFF80500M3FN2V4	MTFF80500M3NN1V2 MTFF80500M3NN1V4	MTFF80500M3NP1V2 MTFF80500M3NP1V4	MTFF80500M3FN1V2 MTFF80500M3FN1V4	MTFF80500M3FP1V2 MTFF80500M3FP1V4
Processing mode	Traditional	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Functionally closed		•	•	•	•	•	•		•	•	•	•	•	•
	Fully closed				•	•	•	•				•	•	•	•
Inlet manifold configuration	5 inlets on transfer line	•							•						
	3 inlets on feed and 3 inlets on transfer line		•	•	•	•	•	•		•	•	•	•	•	•
Filtrate single-use cell configuration UV/conductivity/pH	User supplied multi-use pH probe	•	•	•					•	•	•				
	Pre-installed single-use pH probe				•	•	•	•				•	•	•	•
Options	Transfer flowmeter			•			•	•			•			•	•
	Single-use pH probe on feed bag					•		•					•		•

Holders and Stands

Description	Part number	Additional information
Mobius® TFF 80 Cassette holder	MBFILTHDRTFF80	Hydraulic compression for 4 to 20 m^2 membrane area of flat sheet devices
Mobius® TFF 80 Capsule stand	MBCAPSTDTFF80	Support up to 2 parallel Pellicon® capsule manifolds (up to 18 m^2)

Power Cord

Description	Part number
Switzerland	SPKMBPWCCH
China	SPKMBPWCCN
Europe	SPKMBPWCEU
Japan	SPKMBPWCJP
Korea	SPKMBPWCKR
North America	SPKMBPWCNA
United Kingdom	SPKMBPWCUK

Power cord to connect base cart (flying leads power cord to connect tank cart is included).

Accessories

Description	Part number	Additional information
Keyboard support	MBSPKBTFF80	
Clamshell lift 110V	MBCLAMLIFT110V	For use with Mobius® TFF 80 and Mobius® Chrom 20 systems
Clamshell lift 230V	MBCLAMLIFT230V	For use with Mobius® TFF 80 and Mobius® Chrom 20 systems
Storage rack for clamshell	MBCLAMST0RE	To store Mobius® TFF 80 systems clamshells
Maintenance cable	MBCLAMCABLE	
Multi-use pH probe	SPKMBSMTSEN007	To be used on filtrate single-use cell
Pellicon® 2 gaskets 10-pack	SPKMBTFFHLD003	Intercassette silicone gasket with hook for Mobius® TFF 80 system holder

Flexware® assemblies kits according to system configuration and processing mode

	Processing modes	**Traditional**	**Functionally closed**	**Fully closed**	
	Filtration device	**Pellicon® cassettes**	**Pellicon® cassettes**	**Pellicon® capsule manifold from 4.5 to 9 m²**	**Pellicon® capsule manifold from 12 to 18 m²**
	System part numbers	**Flexware® assemblies kits part numbers**			
200 L	MTFF80200M5NN2V2 MTFF80200M5NN2V4	FXWTFF80M5N1 FXWTFF80PMP FXWTFF80200NS2			
	MTFF80200M3NN2V2 MTFF80200M3NN2V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80200NS2	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C200NS2		
	MTFF80200M3FN2V2 MTFF80200M3FN2V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80200NS2	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C200NS2		
	MTFF80200M3NN1V2 MTFF80200M3NN1V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80200NS1	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C200NS1	FXWTFF80FCM3N2 FXWTFF80FCPMP FXWTFF80FC200NS1	FXWTFF80FCM3N3 FXWTFF80FCPMP FXWTFF80FC200NS1
	MTFF80200M3NP1V2 MTFF80200M3NP1V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80200PS1	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C200PS1	FXWTFF80FCM3N2 FXWTFF80FCPMP FXWTFF80FC200PS1	FXWTFF80FCM3N3 FXWTFF80FCPMP FXWTFF80FC200PS1
	MTFF80200M3FN1V2 MTFF80200M3FN1V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80200NS1	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C200NS1	FXWTFF80FCM3F2 FXWTFF80FCPMP FXWTFF80FC200NS1	FXWTFF80FCM3F3 FXWTFF80FCPMP FXWTFF80FC200NS1
	MTFF80200M3FP1V2 MTFF80200M3FP1V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80200PS1	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C200PS1	FXWTFF80FCM3F2 FXWTFF80FCPMP FXWTFF80FC200PS1	FXWTFF80FCM3F3 FXWTFF80FCPMP FXWTFF80FC200PS1
500 L	MTFF80500M5NN2V2 MTFF80500M5NN2V4	FXWTFF80M5N1 FXWTFF80PMP FXWTFF80500NS2			
	MTFF80500M3NN2V2 MTFF80500M3NN2V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80500NS2	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C500NS2		
	MTFF80500M3FN2V2 MTFF80500M3FN2V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80500NS2	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C500NS2		
	MTFF80500M3NN1V2 MTFF80500M3NN1V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80500NS1	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C500NS1	FXWTFF80FCM3N2 FXWTFF80FCPMP FXWTFF80FC500NS1	FXWTFF80FCM3N3 FXWTFF80FCPMP FXWTFF80FC500NS1
	MTFF80500M3NP1V2 MTFF80500M3NP1V4	FXWTFF80M3N1 FXWTFF80PMP FXWTFF80500PS1	FXWTFF80CM3N1 FXWTFF80CPMP FXWTFF80C500PS1	FXWTFF80FCM3N2 FXWTFF80FCPMP FXWTFF80FC500PS1	FXWTFF80FCM3N3 FXWTFF80FCPMP FXWTFF80FC500PS1
	MTFF80500M3FN1V2 MTFF80500M3FN1V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80500NS1	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C500NS1	FXWTFF80FCM3F2 FXWTFF80FCPMP FXWTFF80FC500NS1	FXWTFF80FCM3F3 FXWTFF80FCPMP FXWTFF80FC500NS1
	MTFF80500M3FP1V2 MTFF80500M3FP1V4	FXWTFF80M3F1 FXWTFF80PMP FXWTFF80500PS1	FXWTFF80CM3F1 FXWTFF80CPMP FXWTFF80C500PS1	FXWTFF80FCM3F2 FXWTFF80FCPMP FXWTFF80FC500PS1	FXWTFF80FCM3F3 FXWTFF80FCPMP FXWTFF80FC500PS1

Services

Qualification Services	
Mobius® TFF 80 Factory Acceptance Test	SSVFATSFT
Mobius® TFF 80 IQOQ execution protocol in English and travel	SSVQUAF80
Mobius® TFF 80 Full test package	SSVFTPF80
Training Services	
Mobius® TFF 80 system – operator training	OPTRMOBTFF
Mobius® TFF 80 system – CCP® software V.6 training	PTRMOBTFFCCP1
Mobius® TFF 80 system – CCP® software V.6, system use and troubleshooting training	PTRMOBTFFCCP2
Mobius® TFF 80 system – CCP® software V.6, system use, troubleshooting and process design training	PTRMOBTFFCCP3
Specialized Support	
CCP® recipe design (3 recipes)	SSVRPCCPB
VR Training Yearly Subscription – Essential Program for Mobius® TFF 80 systems – System use	VRPTRMBSTFFESS
VR Training Yearly Subscription – Advanced Extension – additional to Essential Program for Mobius® TFF 80 – Self Troubleshooting	VRPTRMBSTFFADC
System Service Reliance Plans	
Mobius® TFF 80 System Essential Reliance Plan	SSVESPSFT
Mobius® TFF 80 System Advanced Reliance Plan	SVESPSFT + SSVADCSFT
Mobius® TFF 80 System Total Reliance Plan	SSVESPSFT + SSVTOCSFT
Repair and spare parts	
Please refer to spare part list CA9379EN available at sigmaaldrich.com Contact your local representative for repairs.	

Flexware® assemblies kits to be purchased prior to qualification and preventive maintenance services:

Catalog numbers	PMFXWKITTFF80	PMFXWKITTFF80PMP	PMFXWKITTFF802	PMFXWKITTFF805
Description	Mobius® TFF 80 system Flexware® assembly service base kit	Mobius® TFF 80 system Flexware® assembly service pump kit	Mobius® TFF 80 system Flexware® assembly service 200 L kit	Mobius® TFF 80 system Flexware® assembly service 500 L kit
Comment	Base kit	Pump kit	Kit for 200 L	Kit for 500 L
For 200 L system	x	x	x	
For 500 L system	x	x		x

Note: Service kits to be ordered separately prior the qualification services (FAT or IQ/OQ or Full Test Package) or yearly maintenance services. Please order one base kit, one pump kit, and one kit corresponding to your tank size (200 L or 500 L).

For additional information, please visit **SigmaAldrich.com/TFF-systems**
To place an order or receive technical assistance, please visit
SigmaAldrich.com/contactAF

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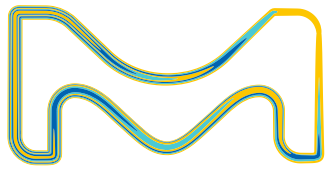

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