# SciLog® TFF Standard Systems

- intelligent bioprocessing system
- fully-automated tangential flow filtration

The SciLog® TFF Standard System is a fully automated tangential flow filtration system capable of utilizing any brand of hollow fiber or cassette in single-use or reusable format. This pre-configured system is designed to fit within a set range of process specifications.

Parker's years of industry experience in engineering and building Tangential Flow Filtration systems have allowed us to streamline the design and build process. This enables Parker to deliver commercial off-the-shelf systems faster than our competitors.

There are three standard TFF systems capable of feed flow rates of 0.25 L/min to 83 L/min, using either peristaltic or diaphragm feed pumps.

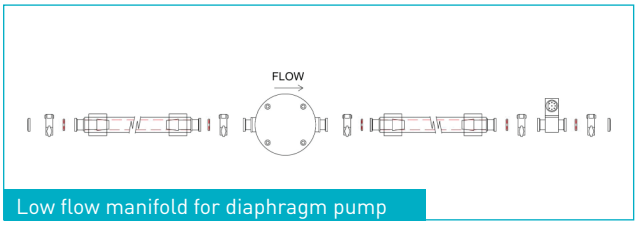
By designing our manifolds in tandem with our systems we have minimized hold up volumes to maximize yield.


Note: SciLog® is a registered trademark of Parker Hannifin Corporation.

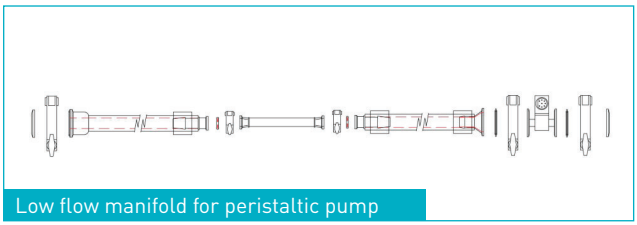
## Features and Benefits

- Capable of processing at flow rates of 0.2-83 L/min depending on format
- Operating pressure up to 60 PSI
- Suitable for ultrafiltration (3kD-750kD) and microfiltration (750 kD- 0.65 µm) applications and comes standard with diafiltration capabilities
- Recipe based control of process in either discrete steps or batch mode
- Touch-screen HMI with intuitive graphical interface
- Fully programmable alarms and interlocks
- 21CFR Part 11 Ready
- Easy integration into DCS/SCADA systems
- Direct connection to scales and mixers or integration via DCS
- User access level control via local or active directory
- Minimizes retentate vessel size using batch fed concertation mode
- Smallest footprint on the market

## Sample Manifold Design




Low flow manifold for diaphragm pump

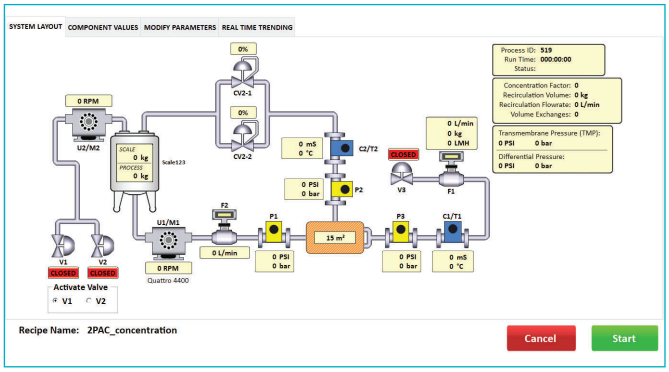


Low flow manifold for peristaltic pump

Parker's single-use manifolds are designed and manufactured to optimize the filtration process and minimize product loss. Overmolded connections are used to prevent leaks in areas of high pressure. Parker will incorporate any components specified regardless of manufacturer and can supply the manifolds gamma irradiated.

## Control Options

- Parker SciSoft
- DeltaV
- Wonderware
- Siemens S7




SciLog TFF Systems can be operated as a standalone system with process control, data collection and user levels remaining on the local system.

Parker has experience integrating systems with all major plant control systems using OPC, Profibus and Ethernet IP communication protocols.

## Specifications

| MODEL | SciLog TFF LOW | | SciLog TFF MEDIUM | | SciLog TFF HIGH | |
|---|---|---|---|---|---|---|
| Recirc Pump Type | DIAPHRAGM | PERISTALTIC | DIAPHRAGM | PERISTALTIC | DIAPHRAGM | PERISTALTIC |
| Footprint | 30¨L (76.2cm) x 48.5¨W (123.19cm) | | 30¨L (76.2cm) x 48.5¨W (123.19cm) | | 30¨L (76.2cm) x 58.5¨W (123.19cm) | |
| Recirculation pump model | Quattro 1200SU 3° Cam | Watson Marlow 620RE4 | Quattro 1200SU 5° Cam | Watson Marlow 701RE | Quattro 4400SU 6° Cam | Watson Marlow 701RE Duplex |
| Recirculation pump flow range (L/Min) | 0.25 - 13 | 0.25 - 6 | 0.5 - 20 | 0.5 - 22 | 1.0 - 83 | 0.5- 45 |
| Recommended membrane area | up to 2.5 $m^2$ | up to 1.25 $m^2$ | up to 5 $m^2$ | up to 5 $m^2$ | up to 20 $m^2$ | up to 10 $m^2$ |
| Filter type | Flat Sheet or Hollow Fiber | | Flat Sheet or Hollow Fiber | | Flat Sheet or Hollow Fiber | |
| Maximum pressure | 60 psi | 60 psi | 60 psi | 22 psi | 60 psi | 22 psi |
| Diafiltration pump model | Watson Marlow 620R | | Watson Marlow 620R | | Watson Marlow 620R or 701R | |
| Permeate pump model | Watson Marlow 620RE4 (Optional) | | Watson Marlow 620RE4 (Optional) | | Watson Marlow 620RE4 (Optional) | |
| Permeate totalizer - single use Coriolis flow meter | Malema 0.25 - 5 kg/min | | Malema 0.45 - 9 kg/min | | Malema 0.45 - 9 kg/min | |
| Flow measurement | Single use coriolis flow meters in the feed & permeate lines | | Single use coriolis flow meters in the feed & permeate lines | | Single use coriolis flow meters in the feed & permeate lines | |
| Pressure measurement | x3 SciPres II Sensors Included | | x3 SciPres II Sensors Included | | x3 SciPres II Sensors Included | |
| Conductivity measurement | x2 SciCon II Sensors Included | | x2 SciCon II Sensors Included | | x2 SciCon II Sensors Included | |
| # of Automated inlet valves | 3 | | 3 | | 3 | |
| # of Automated permeate valves | 1 | | 1 | | 1 | |
| Software compliance | 21CFR11 | | 21CFR11 | | 21CFR11 | |
| User interface | SciSoft with ability to connect to plant control system (e.g. DeltaV™ on request) | | SciSoft with ability to connect to plant control system (e.g. DeltaV™ on request) | | SciSoft with ability to connect to plant control system (e.g. DeltaV™ on request) | |
| Connection to plant control system | OPC, Profibus, Ethernet IP | | OPC, Profibus, Ethernet IP | | OPC, Profibus, Ethernet IP | |
| Electrical standards | Meets Stds for CE/UL/CSA, RoHS, REACH | | Meets Stds for CE/UL/CSA, RoHS, REACH | | Meets Stds for CE/UL/CSA, RoHS, REACH | |
| Electrical requirements | 200-240V single-phase, 208V and 480V 3-phase | | 200-240V single-phase, 208V and 480V 3-phase | | 200-240V single-phase, 208V and 480V 3-phase | |
| Pneumatic requirements | 90 PSI instrument air or nitrogen | | 90 PSI instrument air or nitrogen | | 90 PSI instrument air or nitrogen | |

## Retentate Vessel Options

WeighStation - 50 L Bag


WeighCart - 100-200 L

## Documentation and Support

### Included with System

- FAT and SAT
- Hands-on training at FAT
- Certificate of Compliance
- System operations manual
- P&ID and General Arrangement Drawing with P&ID Callouts
- Electrical schematic
- Calibration certificates
- Critical spares list with manuals or datasheets
- Frame material certificates

### Additional Options

- GAMP document package
  Includes:
  - Functional specification
  - Software design specification
  - Hardware design specification
  - IQ/OQ document package
- Service package
- On-site training
- IQ/OQ document package
- PQ document package

## Model Information

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| System Description |
|---|
| TFFLOW |
| TFFMED |
| TFFHIGH |

| Pump Options |
|---|
| **Diaphragm** |
| Dia2P |
| Dia3P |
| **Peristaltic** |
| Per2P |
| Per3P |

| Electrical Options |
|---|
| 208-1 |
| 208-3 |
| 240-1 |
| 480-3 |

**Please contact your local Parker representative to discuss your application in detail or email bioprocess.systems@parker.com**





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