SciLog® SciFlex® NFF

- intelligent bioprocessing system
- semi-automated NFF

Parker domnick hunter

The SciLog® SciFlex® NFF is a proven semi-automated single-use platform to use in discovery to production-scale normal flow applications.

The SciFlex® NFF automated single-use normal flow filtration (NFF) system automatically monitors, adjusts and documents pressures and flow rate to optimize processing times, and maximize filter life and efficiency. Using the onboard sensors and automation we eliminate the need for constant monitoring during production runs. The SciFlex® system's 'Open Architecture' design means there is no need to change existing filter or membrane types / manufacturers because this system will work with any supplier's filter.

Via a colour, touch screen and pre-installed operational software, users have the ability to execute a normal flow filtration process via four different control methods. User-selectable end points and alarms enable walk-away operation and ensure safe, consistent process performance. Patented, proprietary technology enables automated system response to in-line SciPres® pressure sensor feedback and the selectable maintenance of a user-definable flow rate, inlet filter pressure, or both. The system can optimize your filtration throughput by up to 30% while communicating real time process parameters via OPC to a plant historian. Up to two optional integrated scales can be used to deliver filtration precision by gravimetrically controlling operations.

Features and Benefits

- Walk-away automation improves filter throughput using patented rate pressure controlled feed
- Options for fully disposable, semi-disposable, or stainless CIP flowpaths
- Configurable for multiple or flexible processes
- Accommodates any commercially available filter
- Touch-screen interface with optional OPC connectivity for process documentation or remote control
- Mobile and compact base
- User configurable alarms and interlocks
- Optional integrated scale for highly accurate filtration endpoints

The SciFlex® NFF semi-automated system offers four modes of process control:

- Constant Rate NFF:
  Maintain rate, monitor pressure.
  The system will ensure pressure does not exceed a high limit set point.
- Constant Pressure NFF:
  Maintain pressure, monitor rate.
  The system will ensure rate does not exceed a minimum set point.
- R/P Stat Method:
  The system maintains a constant rate, monitoring pressure until a selectable pressure is reached. At this pressure, the system immediately switches to constant pressure, monitoring rate (see Figure 1.) until a minimum set point is reached.
- Manual Operation:
  User definable motor set point

Batch control is ensured:

Recipes can be conveniently stored and recalled at the time of execution to save time and reduce the risk of parameters being installed incorrectly.

- Up to 10 sequential steps can be stored to provide continuous processing.

Applications

- Viral filtration
- Cell harvesting
- Chromatography column loading
- Clarification and sterilization

Performance Characteristics

R/P Stat Method

The SciFlex® NFF system incorporates the patented R/P Stat Method, an innovation which has resulted in significant improvements in filter life expectancy. This is done by selecting three simple process variables including initial flow rate, maximum inlet pressure, and minimum flow rate. By using the R/P Stat Method, as the membrane begins to foul, the SciFlex® NFF system dynamically adjusts the flow rate which allows additional product to pass through the filter before the membrane fouls.

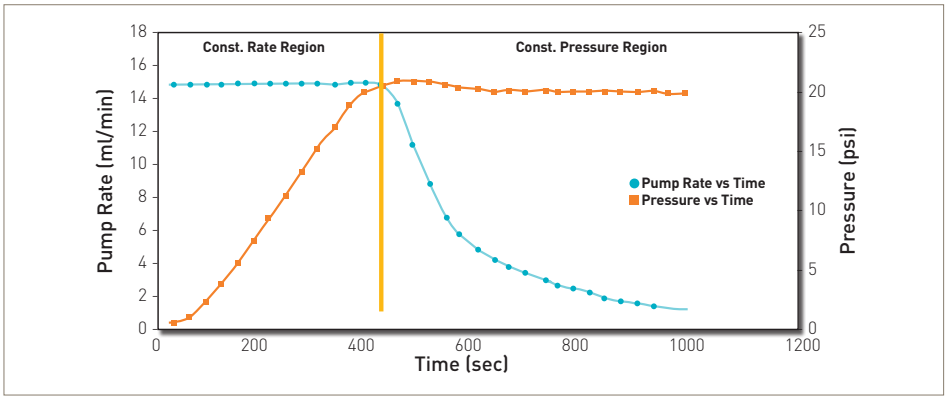

Fig. 1 - Normal Flow Filtration by R/P Stat Method

Specifications

	Description
Dimension	Footprint as small as 20" x 30" (0.50m x 0.76m), varies by model.
Enclosure & Rating	304 stainless steel framework, mobile platform with pharmaceutical grade casters, NEMA 4X, IP65 rated cabinet.
Pressure Sensors	Accommodates 3 x disposable pressure sensors.
Power	208V single phase, 60Hz, 20A; or 208V three phase, 60Hz, 20A; or 220V +/- 10% single phase, 50 Hz, 20A.
I/O Ports	Connections for 3 x SciPres® pressure sensors, connections for 2 x scales to monitor flux of media through filter.
Operational Mode	Constant rate, R/P Stat Method, constant pressure and manual mode.

Options and Accessories

- IQ/OQ documentation package to support validation efforts
- SciLog® sensors
- Single-use bioprocessing containers and manifolds
- WeighStation™
- Test manifold
- Several possible pump configurations

Ordering Information

Please contact your local Parker domnick hunter representative to discuss how these systems can be configured for your needs.

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