

PUROSEP™ Pegasus

Tangential Flow Filtration System



- **Bench-top unit with SmartFlow Technologies' complete family of automation packages available**
- **Ultra low hold up volume (< 250mL)**
- **cGMP turnover package**
- **Complete drainability**
- **Modular design to accommodate OPTISEP® 1000 and 3000 holders and modules**
- **Designed to operate multiple membrane formats such as cassettes, hollow fibers, and ceramics**

State-of-the-art bench top system!

As one of the industry's leading innovators of filtration technology, SmartFlow Technologies has designed and built the PUROSEP™ Pegasus to provide a compact, easy to use, robust platform offering unparalleled flexibility and performance at a value you cannot ignore. The Pegasus is the perfect choice for process development optimization, membrane selection, and small-scale production runs under cGMP conditions. The Pegasus is designed to be compatible with separating and concentrating therapeutic molecules from genetically modified organisms.

The design of this system emulates a full-scale production solution by utilizing high-end components such as sanitary pumps, self-draining, 316L stainless steel fluid path components, and high-resolution instrumentation. Intuitive, easy to use automation packages allow for precise process control and accurate measurement of operating conditions and membrane performance to assist you when scaling up to production level or scaling down for process optimization studies.

The PUROSEP Pegasus is offered in two standard tri-clamp retentate loop sizes of 1/2" and 3/4". For an ultra-low hold up volume (< 250mL), the 1/2" retentate loop size may be used in conjunction with the OPTISEP® 1000 filter holder and module. In addition to SmartFlow Technologies' cutting edge, patented OPTISEP filter modules and holders, the Pegasus also incorporates the ability to operate other filter module formats such as hollow fiber, ceramic, cassette, and spiral. This flexibility makes the Pegasus the ideal bench top process development system.

Applications

- Ultrafiltration
- Microfiltration
- Nanofiltration
- Diafiltration

Automation Packages

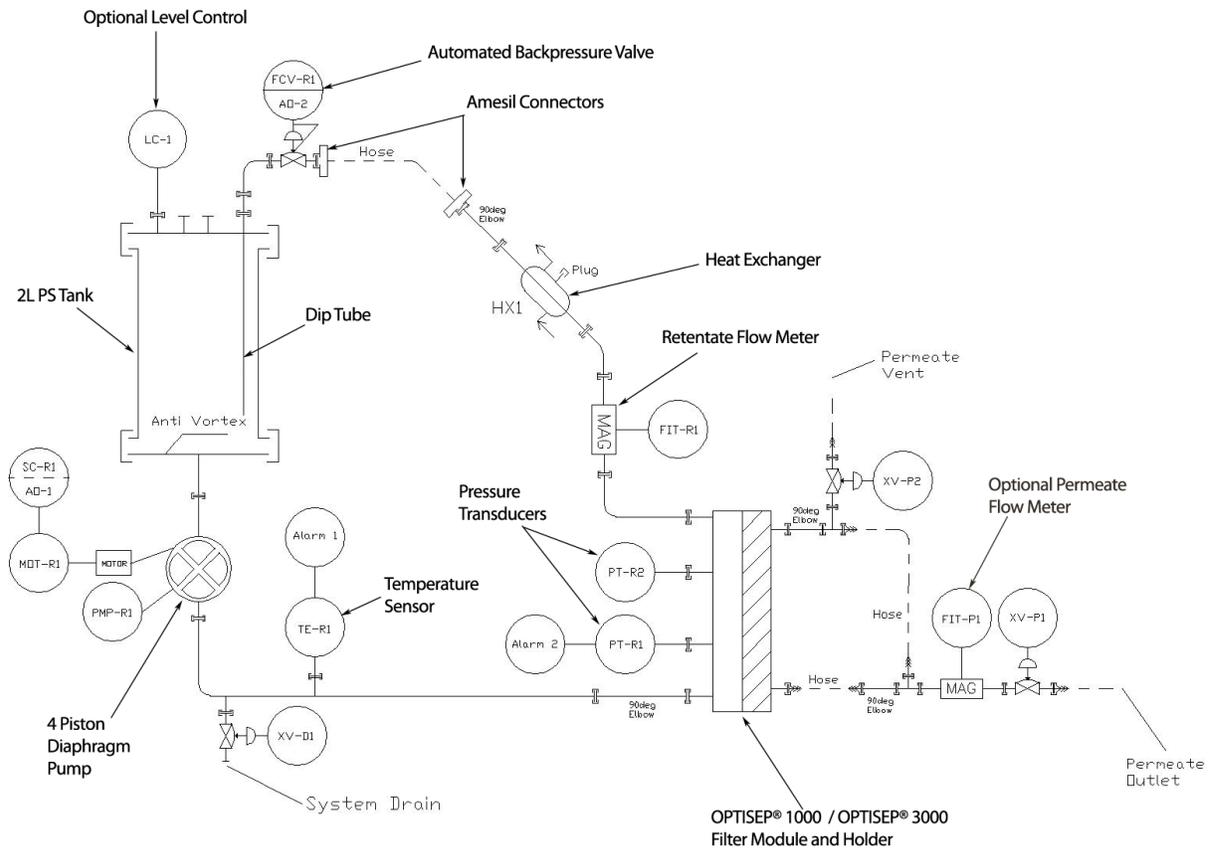
Automation Package	Benefits
Pegasus (Manual)	Economic solution providing manual control for system functions and two displays with alarms for process monitoring and protection
Pegasus Manager (Operation Level Automation)	Programmable HMI for automated control of recirculation flow and trans membrane pressure (TMP) control
Pegasus Controller (Procedure Level Automation)	Robust recipe building capabilities for complete walk away functionality
“Plus” Option (Data Recorder)	Add the “Plus” option to any of the above configurations to include integrated 21CFR Part 11 data recording
Pegasus Integrator	Completely automated process control combining the functionality of the Controller package above with integrated 21 CFR Part 11 data recording, and full PC based historian package

SmartFlow Technologies makes configuring the optimal system for your process easy by providing standard automation packages comprised of all required components to ensure the best solution possible. These packages include manual control (Manual), automated flow and TMP control (Manager Package), and fully automated control with recipe mode for complete walk away functionality (Controller Package). Integration with your existing SCADA or process network is also possible with these automation packages. In addition to the standard automation offerings, SmartFlow Technologies offers a host of additional hardware accessories to accommodate the most demanding process. These optional accessories include:

- 2 or 5 Liter Stainless Steel Jacket Tanks
- Dual Point Level Control
- Permeate Flow Meter
- pH / UV / Conductivity Sensors
- 21 CFR Part 11 Compliant Video Recorder
- OPTISEP 1000 and OPTISEP 3000 Filter Holders and Modules

By incorporating the dual point level control, the functionality of controlling a second pump or system is added. With this configuration, the liquid level within the PUROSEP Pegasus tank would control an electrical outlet on the back of the system capable of activating an ancillary pump to add starting material or buffer to the tank as the process requires. This feature also adds the advanced capability of automating diafiltration processes or simultaneous processing with two or more systems. In addition to providing the most robust and technically superior low volume solution, the Pegasus is also backed by SmartFlow Technologies’ professionally trained applications and technical support staff.

When partnering with SmartFlow Technologies, you gain the advantage of decades of innovation and quality enhancements in both systems and filter modules. For a complete, high quality, turn-key solution, you can trust SmartFlow Technologies to deliver.



Specifications

Tank	2L PS Standard / 2L or 5L Stainless Steel Jacketed Tank Optional
Pump	4-Diaphragm Piston Pump (Quattroflow 1200S)
Pump Performance LPM at Pressure	16.6 LPM @ 0 psig (0 Bar) 15.0 LPM @ 90 psig (6 Bar)
Motor	0.5 HP (0.373 kW)
Flow Meter	Magnetic, local and remote display on video recorder / 4-20 mA
Retentate Flow Path	316L SS, 15 Ra electro-polished (EP) ID, 32 Ra max OD / Sanitary, re-sealable silicone tubing, 1/2" or 3/4" loop sizes available
Filter Holder	SmartFlow Technologies OPTISEP 1000/ OPTISEP 3000 / hollow fiber, cassettes, ceramic, and spiral
Retentate Loop Size	Ultra Low Hold Up Volume 1/2" Loop (< 250mL) 3/4" Loop with OPTISEP 1000 / OPTISEP 3000
Optional Level Control	Dual channel control for conductive liquids
Electrical Requirements	115 VAC, 10 amp, 1 phase, 60Hz OR 220 VAC, 10 amp, 1 phase, 50Hz
Dimensions	Length: 33in. (83.8cm) Width: 25in. (63.5cm) Height: 42 in. (106.7cm) Weight: 260 lbs. (118kg)



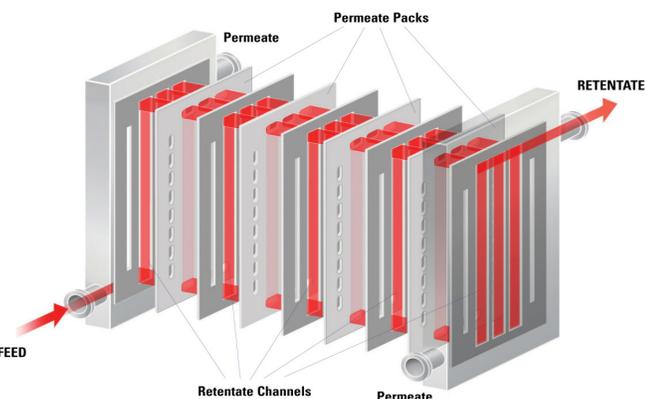
System and Options

Validation and Support

In addition to its market leading Applications and Technical Support, SmartFlow Technologies also offers Validation Support. These programs provide experienced and dedicated Application Specialists, Process Engineers, and Validation Support Engineers to assist you with process development and process optimization programs as well as integrating PUROSEP systems and OPTISEP filter modules into your process so that you can more easily and quickly realize the benefits provided by *SmartFlow-TFF*.

Description	Catalogue Number
PUROSEP Pegasus	2Q-BR15-0001
OPTISEP® 1000 Holder ½" Inlet / Outlet	30-900-2050
OPTISEP 3000 Holder ¾" Inlet / Outlet	50-900-2075
2L SS Jacketed Tank	29JT-ST-01
5L SS Jacketed Tank	59JT-ST-01
Level Control	LTLT-BR15-01
UV Absorbance Sensor	NSUB-05-01
pH & Conductivity Sensor	NSUB-05-30
Permeate Flow Meter	LTFM-BR15-01

To Place an Order or Receive Additional Information, please contact our global headquarters:



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SmartFlow™ TFF: “Delivering the promise of TRUE TFF Functionality”

The *SmartFlow™* performance advantage comes from the patented *SmartFlow* tangential flow filtration technology. The *SmartFlow* technology in the OPTISEP® filter modules is comprised of two primary developments: 1) unique flow channels and 2) diagonally opposed inlet and outlet ports provide uniform fluid dynamics. These advancements allow for consistent fluid distribution across the entire membrane surface. The benefits of *SmartFlow* technology include: improved cleaning, increased flux rate, true linear scalability, and increased yields resulting in more efficient downstream processes than in traditional TFF.

