



Challenge Smart Tangential Flow Filtration System

Automatic TMP Control

The Challenge Smart Series is a newly launched, compact, and elegantly designed membrane filtration system, offering unmatched flexibility and ease of use. This high-performance, cost-effective solution seamlessly integrates tangential flow filtration (TFF) and depth filtration technologies, perfectly addressing daily filtration needs. With its intuitive operation and one-touch start, the Smart Series eliminates the hassle of complex parameter settings, streamlining your filtration process for faster and more efficient results.



Challenge Smart Product Features

01 Dual TFF and NFF Modes

The Smart Series integrates both Tangential Flow Filtration (TFF) and Normal Flow Filtration (NFF) technologies, enabling seamless mode switching to meet diverse process requirements. This versatility ensures it can handle a wide range of filtration needs with ease.

02 Flexible and User-Friendly

Featuring the Challenge Navigator control software, the Smart Series simplifies operation by removing the need for complex parameter setups. With a single touch, the system adapts to user preferences, streamlining filtration tasks for quicker and more efficient workflows.

03 Advanced Electronic Data Management

The system automatically records all operational data, eliminating the need for manual data capture during experiments. Compliant with 21 CFR Part 11, it ensures data integrity, authenticity, and traceability. The built-in data analysis module provides real-time charting and report generation, with easy export options for comprehensive data handling.

04 Sleek and Compact Design

Designed to be small yet powerful, the system includes an external display and a compact layout, making it ideal for use in biosafety cabinets and other constrained environments. Its minimalist aesthetic combines functionality with a clean, modern appearance.

Challenge Smart

Specifications and Models

Specifications	Main Pump	Flow Rate Range	Enviroment
Challenge Smart 3P	Peristaltic Pump	0-2.3L/min	0-40°C 10%-90%
Challenge Smart 3D	Diaphragm Pump	0-3L/min	
Challenge Smart 20P	Peristaltic Pump	0-13L/min	
Challenge Smart 20D	Diaphragm Pump	0-20L/min	

Challenge Smart 3P

Parameter Information

Item	Description	Specifications or Descriptions	
Filter	Filter type	Hollow Fiber	Plate Membrane Pack
	Recommended sample processing volume	20ml-10L	20ml-15L
	Filter Recommended membrane area	50cm²-3700cm²	50cm²-5000cm²
Accessories	Main Pump	Easy-load pump,with a maximum flow rate of 2.3LPM, compatible with tubes of sizes 13#, 14#, 16#, 25#, 17#, 18#.	
	Pressure sensor	Single-Use pressure sensor, PSU material, pressure range -7~75psi(-0.48~5.2bar).	
	Computer	IPC: stable and reliable; pre-installed with Challenge Navigator Control Software.	
	Display Screen	External 24" HD Display.	
	Automatic back pressure valve	Automatic and precise TMP Adjustment.	
	Weighing unit	Measuring range :0-20Kg,±0.1g .	
	Magnetic stirring	Fitted Weighing Unit with adjustable speed.	
	Adaptation	Based on process requirements, platinum-cured silicone tubing and thermoplastic piping that comply with specification standards can be utilized. This system is compatible with 13#, 14#, 16#, 25#, 17#, and 18# piping.	
	Holder	Integrated hollow fiber cartridge holder.	
Enviroment Required	Temperature	10-40°C	
	Humidity	10-90%	
	Body Design	IP33, the entire unit is wipeable and washable.	
	Power Supply	AC220V	
Dimension	Main Module	490*415*415 (mm)	
Supporting Service	Installation	Installation and debugging training services, 1-2 Days	
	3Q(IQ, OQ, PQ) certification	After purchasing the 3Q certification service, certified engineers will conduct the 3Q certification on-site or on-line, within 1-2 days.	
	Regular Maintenance	Purchase an annual maintenance, providing monthly and yearly online maintenance services.	

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