ASYMCHEM

Intelligent Lab-Scale Continuous Flow Reaction System

A Smarter Approach to R&D

Focus on Science, Not Setup

Our integrated, software-driven system minimizes manual intervention and operational errors, allowing researchers and students to focus on reaction outcomes rather than equipment coordination.

Enhanced Safety Through Process Monitoring

Continuous monitoring of key operating parameters provides real-time process insight, Improving operational safety by incorporating process analytical technology (PAT).

Compact and Adaptable Design

The system is designed for space efficiency and can be easily reconfigured to support a wide range of teaching and research applications.



All-in-One Integrated Controller

The controller translates software commands into coordinated actions across all connected hardware, ensuring synchronized operation of pumps, mixers, and sensors. Its modular design supports simple initial setups with the flexibility to expand as requirements grow.

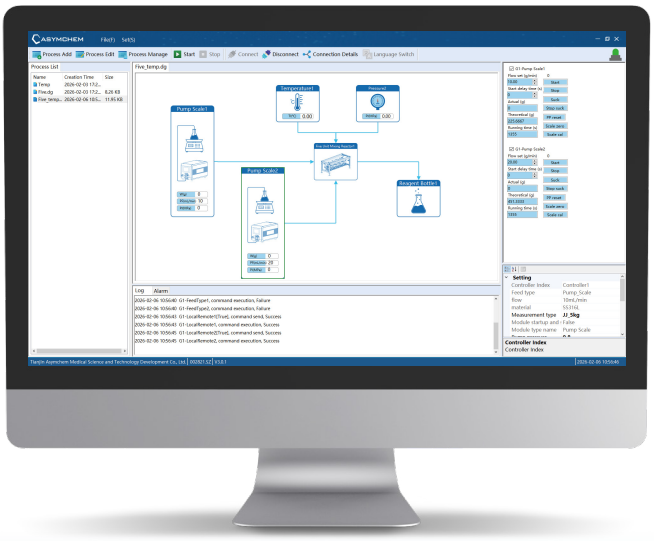
Synergistic feed system

By continuously comparing pump output to scale readings, it auto-adjusts in sub-second intervals, guaranteeing material delivery accuracy of ±1%. This closed-loop control is fundamental for achieving publishable and scalable results.

Plug-and-Play Hardware Modules

Select and connect only the modules you need:

- Automated, High-Accuracy Feed System
- High-Efficiency Mixing Reactors, CSTR, etc.
- Comprehensive Real-Time Analytics (T, P, etc.)
- Downstream Processing Units
- PAT



Specifications at a Glance

Equipment Parameters		Lab	A1	A2	A3	A4
Overall dimension (mm)		120×120	150×150	230×170	300×200	340×230
Operating temperature (℃)	SiC	-40~250	-40~250	-40~250	-40~250	-40~250
	HC-276 SS316L	-80~250	-80~250	-80~250	-80~250	-80~250
Design pressure (MPa)		2.5	2.5	2.5	2.5	2.5
Process connector (mm)		6	6	10	10	14
Heat exchange connector (mm)		10	10	14	14	25
Total liquid hold-up (mL)		2.4	8	100	200	660

Actual Reaction Data Comparison of A1 Mixing Reactor

Group	Chemical Reaction	Reaction Temperature	Purity		Recovery Rate	
			Asymchem mixer	Famous foreign brand reactor	Asymchem mixer	Famous foreign brand reactor
Group 1	Continuous diazotization	-15~-10℃	97%	92%	70.5%	60%
Group 2	Continuous lithium-halogen(iodide) exchange	-50~-40℃	94~95%	92~93%	85~90%	82~85%

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Fully Custom-Developed Software

Visual Workflow Design

Experimental process are configured through an intuitive, flowchart-based interface, enabling rapid setup and modification of workflows. Live Process Window: Temperature, pressure, flow rates, and other parameters are displayed in real time using clear, customizable graphical views. Built for Growth: The open software architecture allows seamless integration of additional devices as experimental needs evolve.

Control Anywhere

Secure wireless connectivity enables monitoring and control from anywhere within the laboratory.

High-Efficiency Mixing Reactor

Engineered for Performance

Built with industry-proven materials, the reactor is designed to accommodate diverse and challenging chemistries, delivering excellent heat transfer and mixing performance.

Predictable Scale-Up

The reactor features well-defined hydrodynamics with a narrow residence time distribution (RTD), supporting predictable process translation from milligram-scale to kilogram-scale development.