

FlexyCUBE - Key Advantages

The new Concept for Chemical Process Development

- 1 PC controls up to 6 reactor units
- Parallel (DoE) or individual operation
- Compact and space-saving design
- Intuitive operation through manual mode
- Includes all necessary tools and functions to enable the user to simulate complex processes
- Definition of SOPs (Standard Operation Procedures)
- Consistent and automatic journaling, compatible with MS-Word® or Excel® (csv format)
- Integrated calibration tools help safeguarding quality-relevant signals
- Alarm and event recording to assist service & support
- Remote support through internet

Functionality

- Reactor or jacket based temperature control
- Gravimetric dosage(s) through the use of balance, pump and/or solenoid valve
- Single-sided (standard) or double-sided* pH control, with or without mass detection
- Autom. distillation, based on detection of boiling point*
- Autom. pressure-vacuum-vent control*
- Automatically establish solubility properties through clarity or turbidity measurement*
- Isothermic heat flow calorimetry for thermal process optimisation*
- Pressure range from 10 mbar 100 bar*

* optional

FlexyCUBE - Product Specifications

Reactor(s)	Volume	250 ml (70, 100 oder 400 ml optional); 6 bar glass oder 100 bar SS optional
	Material Reactor Lid Tapers	Borosilicate glass, 6 bar or 100 bar SS/Hastelloy optional NS29 for stirrer, NS19 for each of the following items: temperature sensor, pH sensor, pressure sensor, reflux cooler and dosage adaptor with 4 GL14 connectors
Inputs and Outputs	Temperature Range	-80°C bis +280°C
	Heating	Electric heater 230-240 VAC, 500 W
	Cooling	By means of refrigerated circulator, shared among all reactors
	Stirrer	Speed controlled, 35 to 700 RPM, 10 Ncm (fast transmission) or 35 Ncm (slow)
	Equipment Venting	Using dry air or nitrogen through connectors provided at the rear of the unit
	Equipment Cooling (Surfaces)	Cooling water, 20 l/h; incl. reflux coolers, all units daisy-chained
Dosages	Number / type of dosage	Max. 2 per FlexyCUBE, alternatively with pump or valve, with balance or w/o (=volumetric)
	Dosage pump	Electronically controlled peristaltic pump, ranging from 0...100 %
	Dosage rate	Flow depending on tube dia., max. 250 ml/h
Control Unit	Electronic	Built-in electronics, no additional interface hardware required
	Network Expansion modules	LAN interface, either directly from PC or through switch General Purpose I/O, RS-232 interface, Calorimetry, etc. can be connected at the rear of the FlexyCUBE.
PC/Software	Operating system	Windows XP, Windows 7, MS-Office
	Application	FlexySys, Rel.2 and SysGraph
Tech. Specifications	Ambient temperature	10...35°C
	Power input	230-240 VAC, 5 A, 50/60 Hz, single phase
	Power rating	Single phase, 600 VA
	Dimensions and weight	330 (height) x 200 (width) x 340 (depth) mm, approx. 20 kg. Depth with pump only: 395 mm, depth with pump and balance: 490 mm

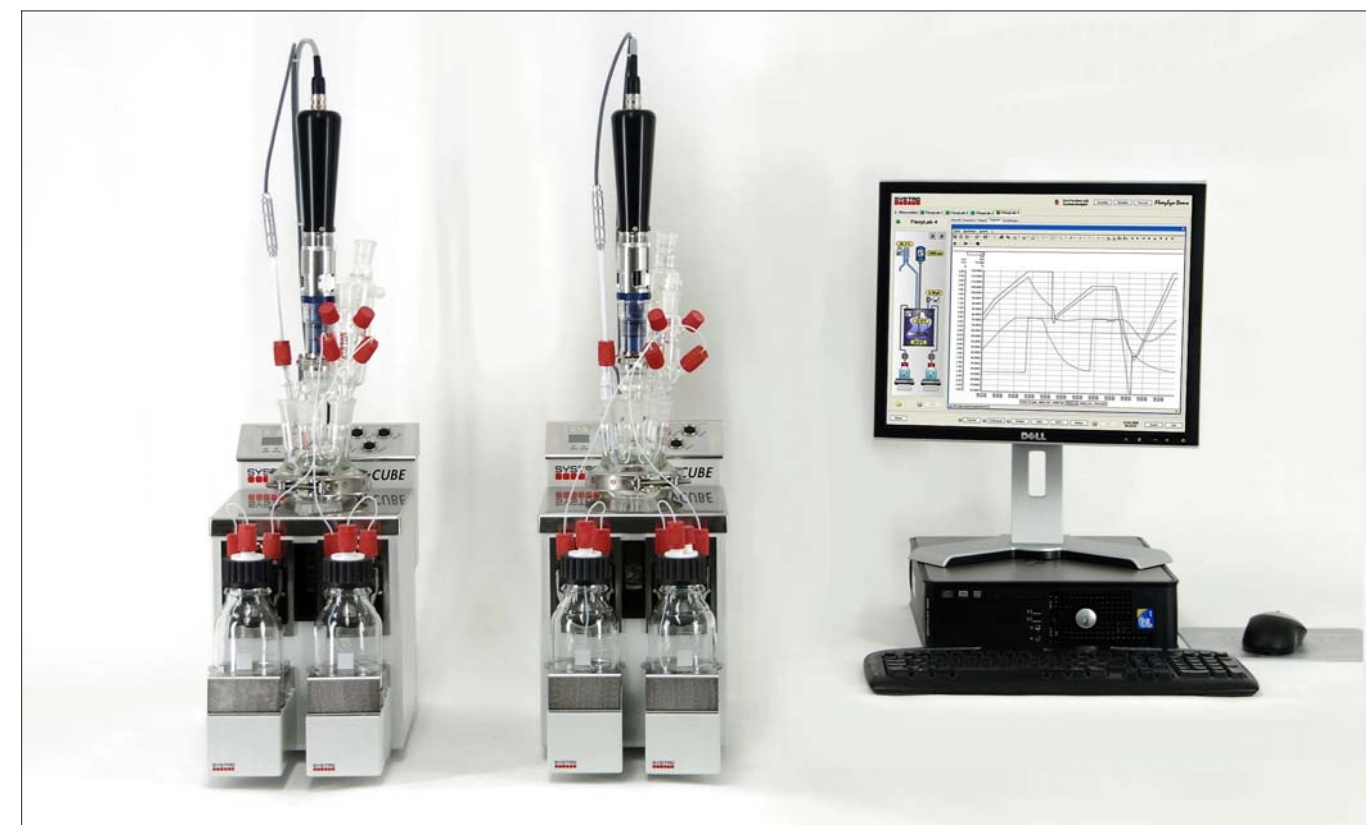
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FlexyCUBE

The Modular Tool Tailored to Suit any Laboratory Automation Needs



2 FlexyCUBE (of a maximum of 6), shown with 2 dosage pumps and balances each, controlled via FlexySys with user interface and on-line trend

Parallel Process Development

- High reproducibility and productivity, ideally suited for DoE (Design of Experiments)
- Operation resembling production environment, as required for Scale-Up and Scale-Down
- User friendly operation due to intuitive user interface
- High modularity, offering competitive pricing and allowing for demand-oriented use
- Configurable in the type and number of dosages used
- High acceptance through the use of Plug & Play technology
- Sophisticated fault diagnosis enables fast and efficient support
- A maximum temperature range is achieved by using a refrigerated circulator

FlexyCUBE



Reactor opening, designed for a single-walled vessel. Behind the interface panel and status display



FlexyCUBE operating with a single peristaltic pump, used for volumetric dosage



FlexyCUBE operating with one each pump and balance, allowing gravimetric dosage



Manual operation, for example temperature control



This combination of two FlexyCUBE units shows one FlexyCUBE without dosage equipment (left, also ideally suited for pressurised reactors), and one more unit on the right, equipped with gravimetric (left half) and volumetric (right half) dosages

at a Glance

Rear connector panel: PC networking (top), auxiliary devices, i.e. solenoid valves for cooling water and purge gas (middle), mains power and switch (bottom)



Reactor illumination and inspection opening, enabling an unobstructed view into the reactor



Convenient reactor handling; simply place the reactor assembly into the receptacle provided



Recipe controlled automation of experiments

