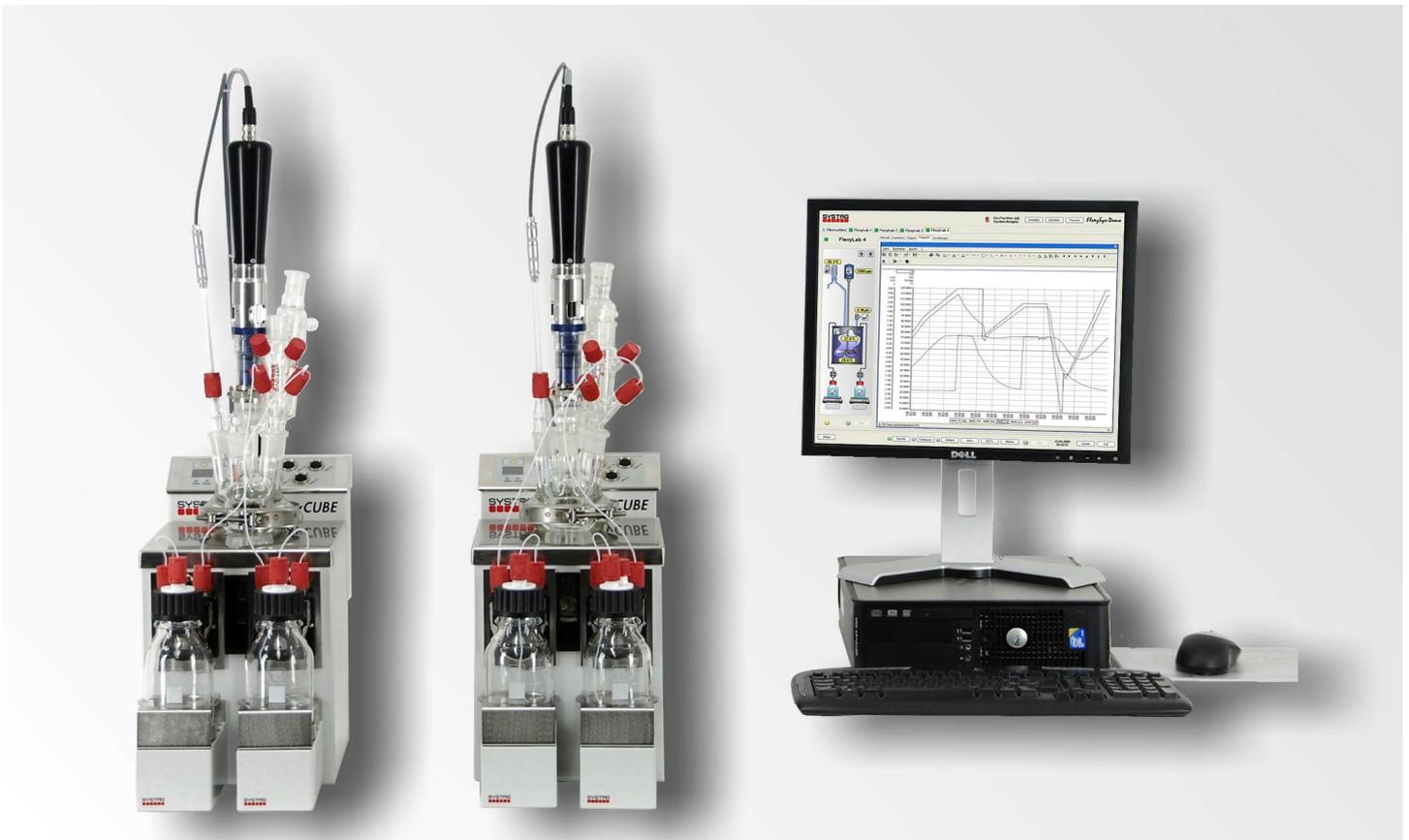


FlexyCUBE

The Modular Tool Tailored to Suit any
Laboratory Automation Needs



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



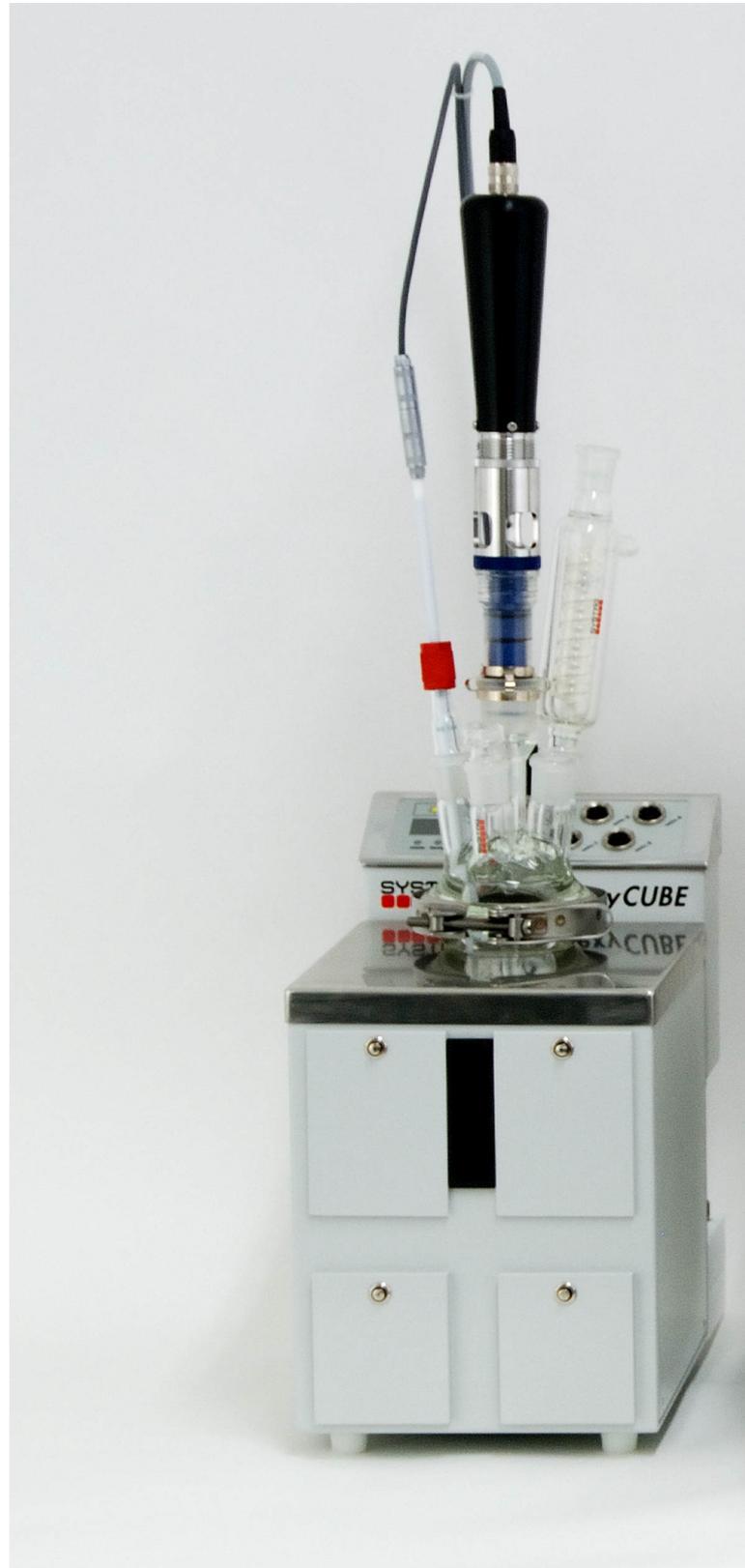
FlexyCUBE operating with a single peristaltic pump, used for volumetric dosage



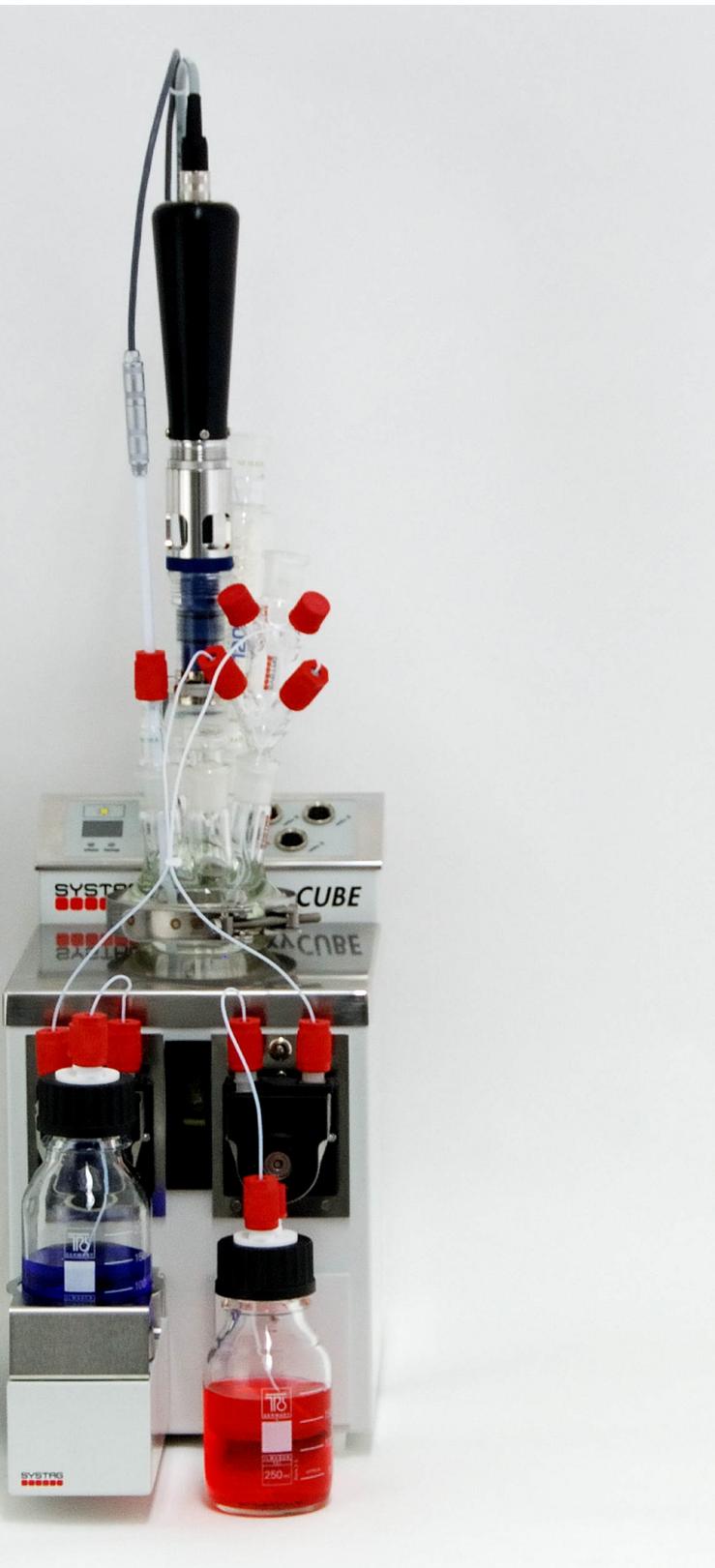
FlexyCUBE operating with one each pump and balance, allowing gravimetric dosage



Manual operation, for example temperature control



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)



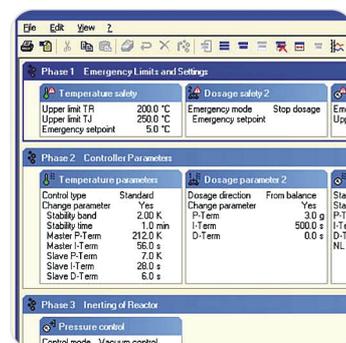
Reactor illumination and inspection opening, enabling an unobstructed view into the reactor



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



Recipe controlled automation of experiments



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*
 - Isothermal heat flow calorimetry for thermal process optimisation*
 - Pressure range from 10 mbar 100 bar*
- * optional

FlexyCUBE - Product Specification

Reactor(s)	Volume Material Reactor Lid Tapers Temperature Range Heating Cooling Stirrer Equipment Venting Equipment Cooling (Surfaces)	250 ml (70, 100 or 400 ml optional); 6 bar glass or 100 bar SS optional 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 -80°C to +280°C Electric heater 230 VAC, 500 W By means of refrigerated circulator, shared among all reactors Speed controlled, 80 to 650rpm/35 Ncm High-Torque version: 80 to 650rpm/approx. 100Ncm, or 200-2000rpm/approx. 60Ncm Using dry air or nitrogen through connectors provided at the rear of the unit Cooling water, 20 l/h; incl. reflux coolers, all units daisy-chained
In-/Outputs	Types (number) Measurement Actuators Balances	Pt-100 (2x), 4-20 mA (4x), 24 VDC (2x) TR, TH, pH, pressure/vacuum ... with automatic recognition of sensor and units Cooling water and purging gas solenoid valves Max. weight 2000 g, 0.1 g resolution
Dosages	Number / type of dosage Dosage pump Dosage rate Dosage tubes	Max. 2 per FlexyCUBE, alternatively with pump or valve, with balance or w/o (=volumetric) Electronically controlled peristaltic pump, ranging from 0...100 % Flow depending on tube dia., max. 250 ml/h Material: Silicon, Viton, Novoprene (standard), Chemsure (PTFE-like)
Control Unit	Electronic Network Expansion modules	Built-in electronics, no additional interface hardware required LAN interface, either directly from PC or through switch Universal I/O-modules, RS-232 interface, Calorimetry, etc. can be connected at rear of FlexyCUBE
PC Software	Operating system Application	Windows XP, Windows 7/8, MS-Office FlexySys Rel. 2.x / Release 3.x, SysGraph
Techn. Specification	Ambient temperature Power input Power input / unit Dimensions and weight	10°C...35°C 230 VAC, 5 A, 50/60 Hz, single phase Single phase, 600 VA 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

Technical details are subject to change without notice

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