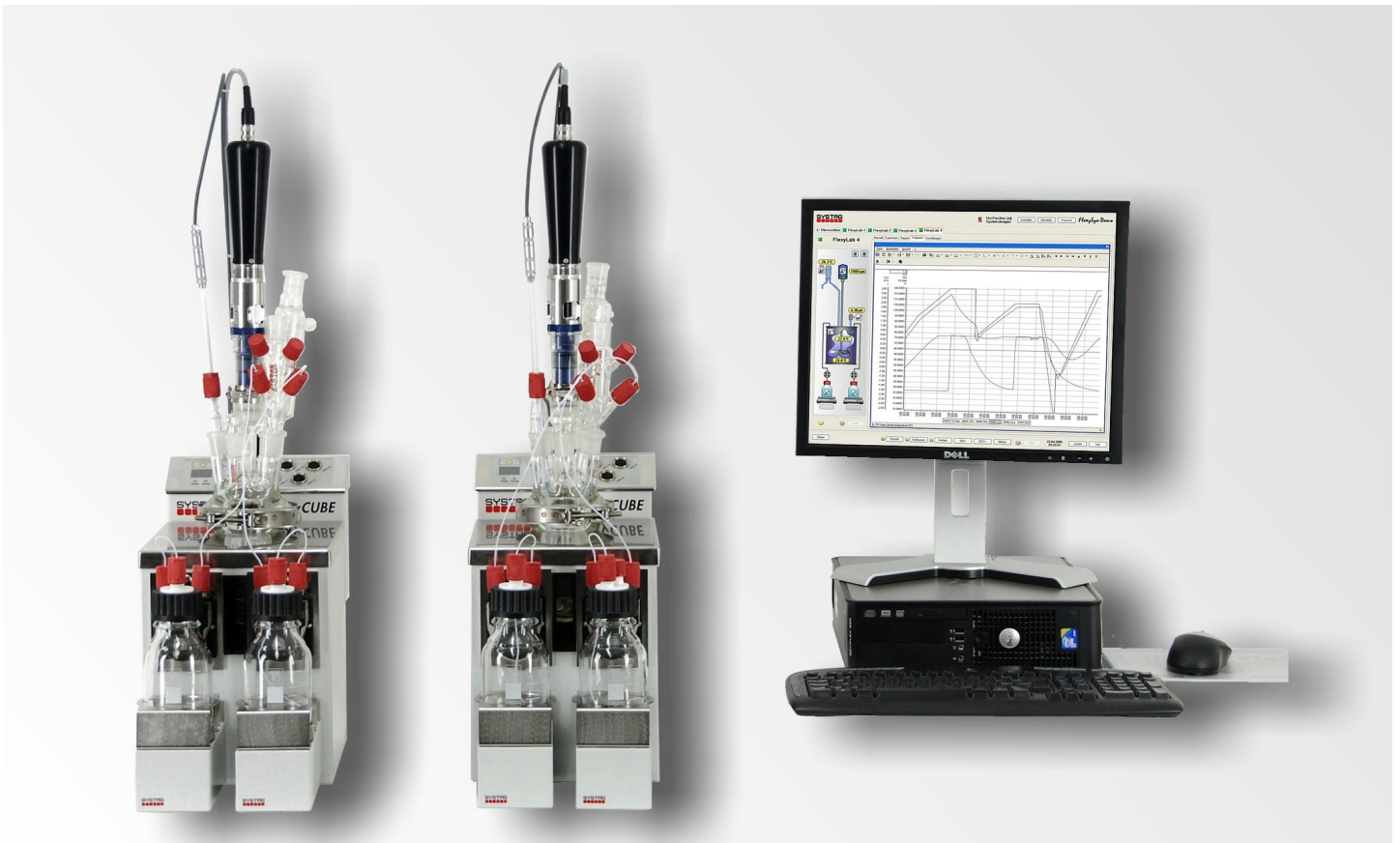


# FlexyCUBE

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



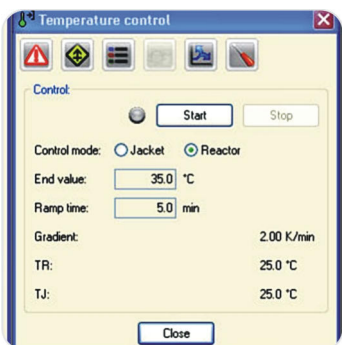
Reactor opening, designed for a single-walled vessel. Behind the interface panel and status display



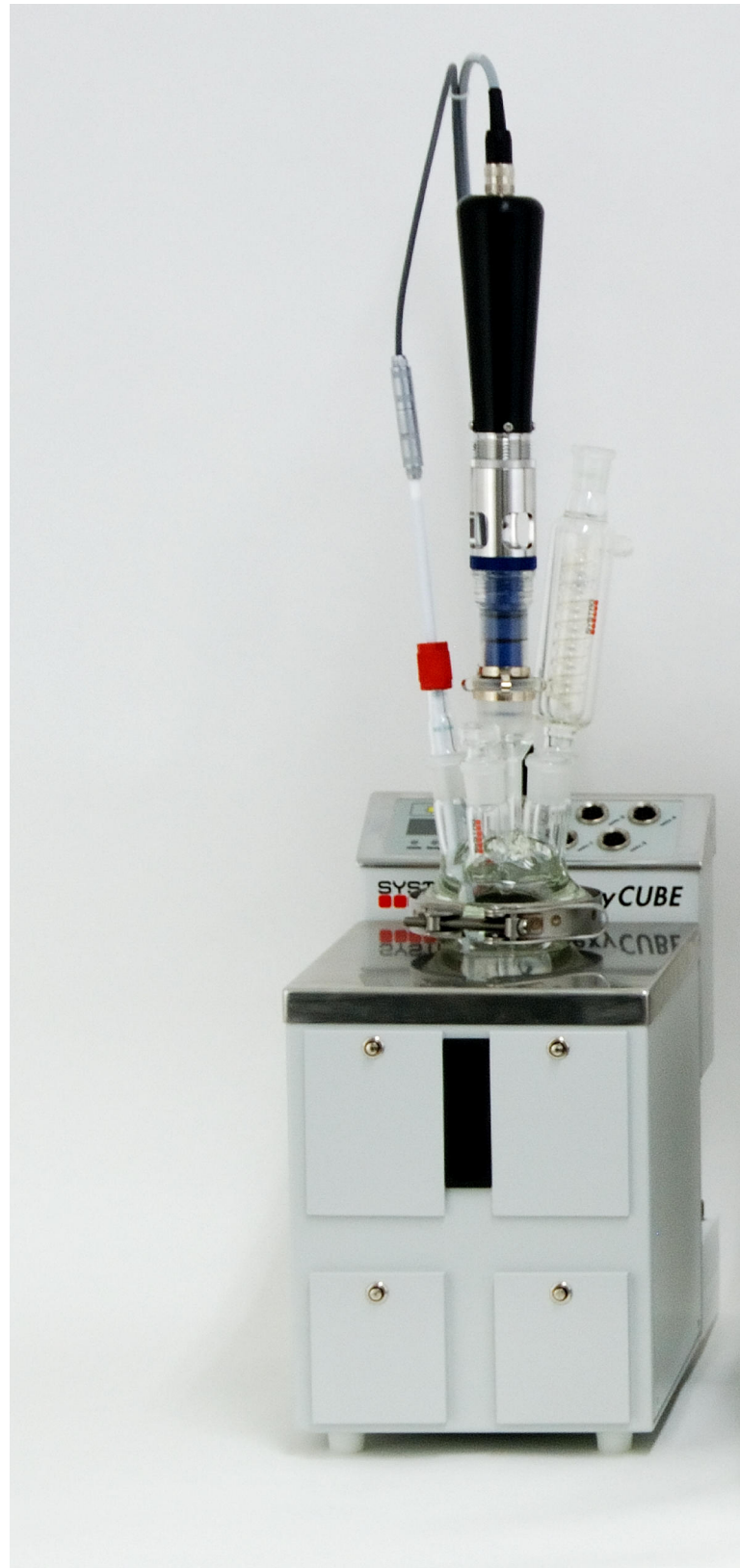
FlexyCUBE operating with a single peristaltic pump, used for volumetric dosage



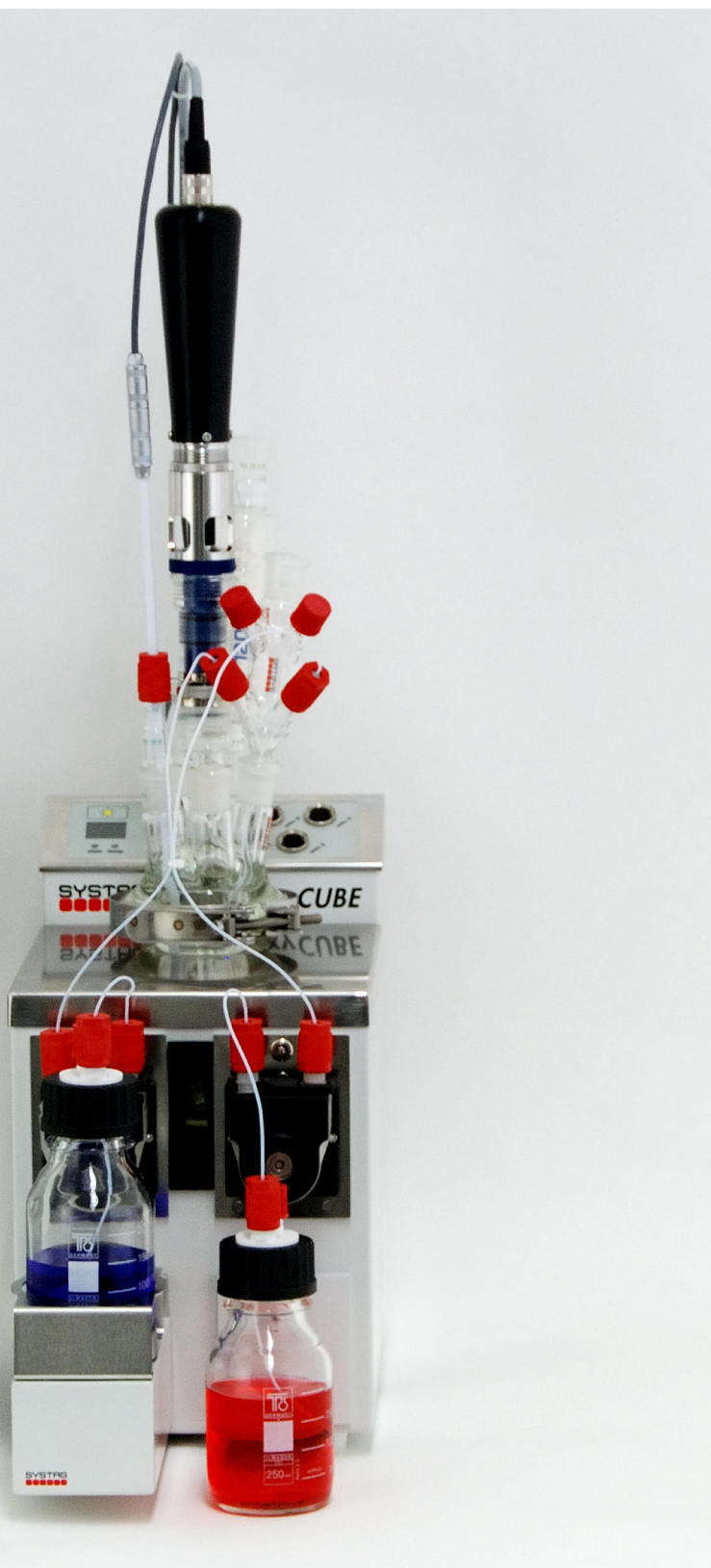
FlexyCUBE operating with one each pump and balance, allowing gravimetric dosage



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)



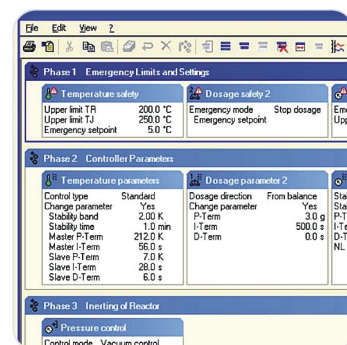
Reactor illumination and  
inspection opening, enab-  
ling an unobstructed  
view into the reactor



Convenient reactor han-  
dling; simply place the  
reactor assembly into the  
receptacle provided



Recipe controlled auto-  
mation 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

<b>Reactor(s)</b>	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/200-1600rpm, 10 Ncm (fast transmission) or 35 Ncm (slow) 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
<b>In-/Outputs</b>	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
<b>Dosages</b>	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)
<b>Control Unit</b>	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
<b>PC Software</b>	Operating system Application	Windows XP, Windows 7/8, MS-Office FlexySys Rel. 2.x / Release 3.x, SysGraph
<b>Techn. Specification</b>	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