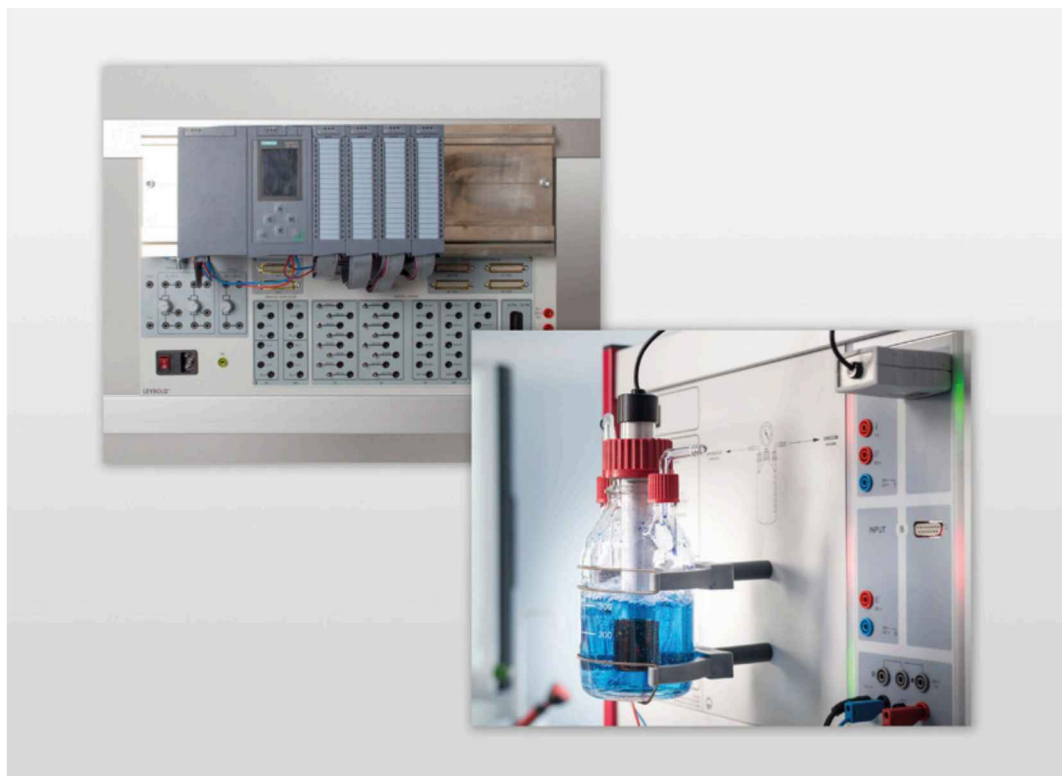## E6.7.3

CHEMICAL PROCESS ENGINEERING

E6.7.3.1
Blue-Bottle Process with PLC

Blue-Bottle Process with PLC (E6.7.3.1)

Cat. No.	Description	E6.7.3.1
524 013	Sensor-CASSY 2	1
524 220	CASSY Lab 2	1
524 069	Immersion photometer S	1
666 425	Panel frame C50, two-level, for CPS	1
666 438	Woulff's bottle with manometer, CPS	1
667 3095	Screw cap, GL 45, with hole	1
667 3107	Silicone seal GL 45/26, 10 pcs	1
666 482	Aeration pump, controllable, CPS	1
501 44	Connecting leads, 19 A, 25 cm, red/blue, pair	1
667 7977	Electronic Balance 440-3N, 200 g : 0.01 g	1
664 157	Watch glass dish, 125 mm diam.	2
666 966	Spoon-ended spatula, PP, 180 mm	2
666 003	Pipetting ball (Peleus ball)	1
665 996	Graduated pipette, 5 ml	1
665 756	Measuring cylinder, 500 ml, with plastic base	1
604 501	PVC tubing, 7 mm diam., 1 m	1
604 460	Hose clamp, 8...12 mm	1
602 347	Laboratory bottle, 500 ml, GL 45 thread	1
673 2920	Methylene blue solution, 100 ml	1
673 6800	Sodium hydroxide, pellets, 100 g	1
672 1100	D(+)-Glucose, 100 g	1
675 3400	Water, pure, 1 l	1
500 441	Connecting lead 19 A, 100 cm, red	8
500 442	Connecting lead 19 A, 100 cm, blue	8
773 072	Simatic PLC S7-1512C-1 PN TP	1*

Cat. No.	Description	E6.7.3.1
773 075	Simatic PLC S7-1512C-1 PN +DP TP	1*
773 077	Simatic S7-1516 PN/DP TP	1*
	additionally required: 1 PC with Windows 7/8/10	

* additionally recommended

Blue-Bottle Process with PLC

The student learns to monitor and control a real chemical process in chemical engineering with a clear reaction.

Educational objectives

- Control and optimisation of a redox process
- Experimental transfer of the process into a controller
- Operation of an SPC and optimisation of the program for a real system.
- Function review

Topics

- Basics of SPC programming.
- Optimisation of process systems
- Controlling processes

Experiments are operated and evaluated with CASSY Lab 2.