LABOR- und PROZESSTECHNIK

NORMAG - batch reaction and mixing unit

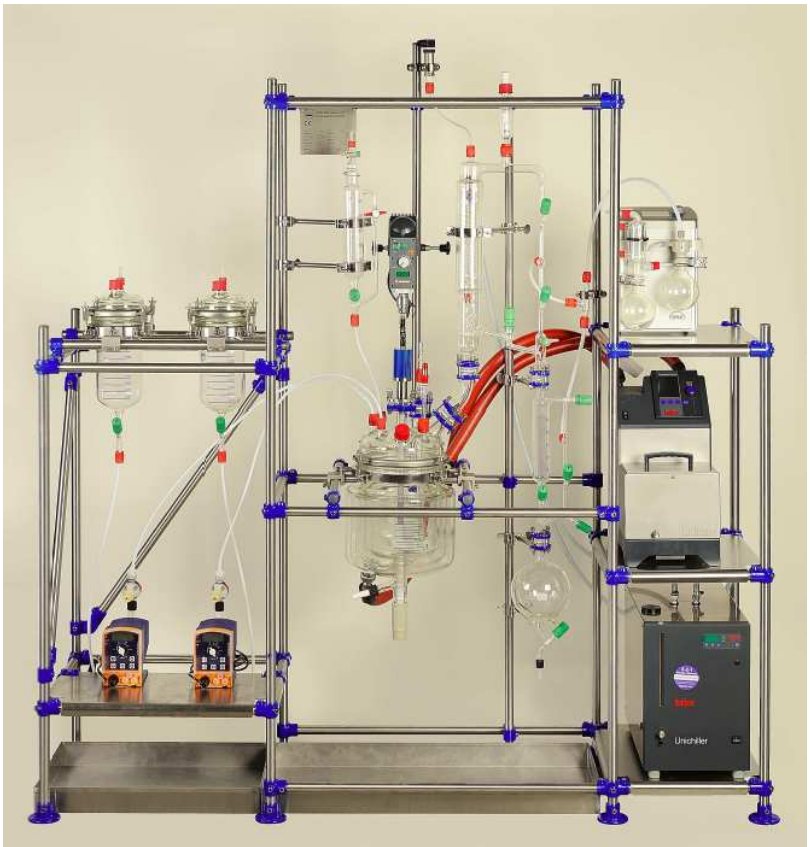
- **Customer and training specific design and software**
- **3 wall stirrer tanks for a wide operating temperature range including low temperature applications**
- **Manual reflux separator**
- **Dosage systems with adjustable, precise dosage speed setting**
- **NORMAG laboratory stirrer**
  - with magnetic stirrer seal
  - with speed and torque measurement
- **Plant can be delivered in various sizes in line with customer requirements**
- **Data logger with 9 measuring inputs and software**
- **Options:**
  - distillate fractionation
  - vacuum operation
  - numerous processes can be combined

Teaching units ensure hands-on, modern training. The **NORMAG** batch reaction and mixing plant covers a wide range of processes and is suitable for discontinuous and semi-discontinuous procedures.

The following processes are possible: Homogenization, dissolution, distillation, crystallization, boiling under reflux and reaction processes

The data logger system records and archives process data. For training purposes, targeted customer-typical issues that the trainee will have to resolve later in production are entered into the controller.

Only high quality components are used to ensure safe, trouble-free operation permit. The plant is shipped fully assembled and tested.



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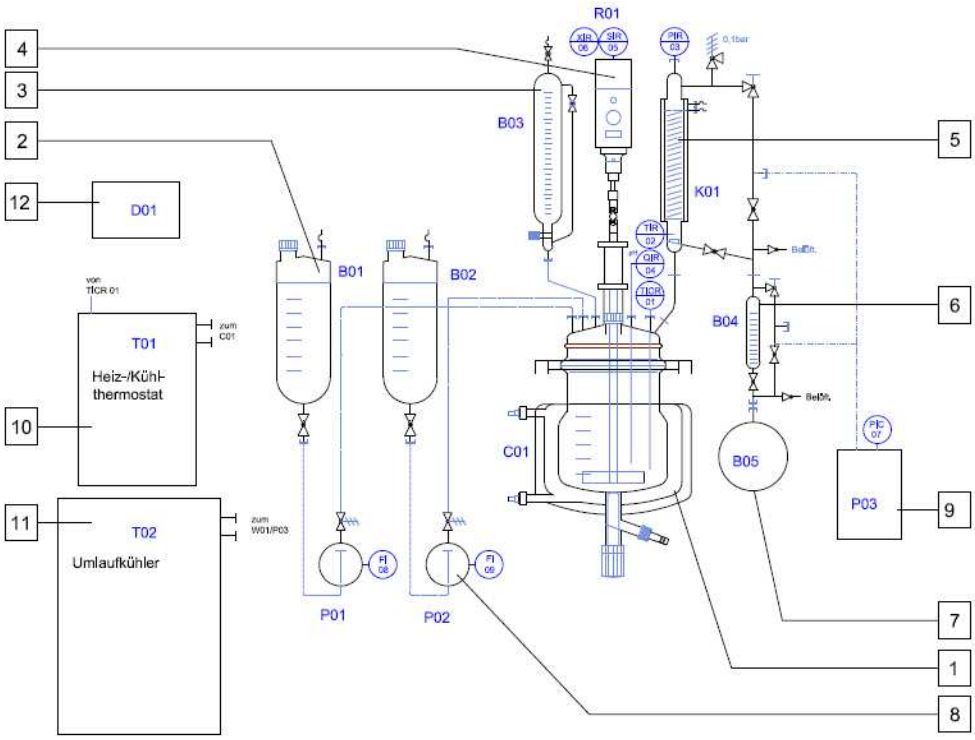

1 C01 reaction container, 4 l
- can be tempered
- with insulating jacket

2 B01, B02 feed receivers,
- 2.000 ml

3 B03 dosing dropping funnel,
- 1.000 ml

4 R01 stirrer
- 140 W, 12 – 800 rpm
- digital speed and torque display
- magnetic stirrer seal
- diagonal blade stirrer

5 K01 distillation attachment
- manual Reflux separator
- Condenser

6 B04 Anschütz-Thiele rec.
- 500 ml

7 B05 distillate receiver
- 1,000 ml

8 P01, P02 dosing pumps
- PVDF diaphragms
- precisely adjustable dosing speed

9 P03 vacuum pump stand
- chemical-resistant design
- 2 mbar final pressure, 2.2 m³/h

10 T01 heating/cooling thermostat
- -40 ... 200 °C
- 2/4 kW heating/cooling capacity

11 T02 circulating chiller
- 1 kW at 15 °C

Technical specification:	
Materials coming into contact with products:	borosilicate glass, PTFE, PFA, PVDF
Reaction space:	4 l three-walled reaction container
Process temperatures:	-40 … 180 °C
Process pressures:	-1 / + 0.5 barg
Dimensions:	3500 x 1500 x 2800
Energies:	
Electrical power:	230/400 VAC, 50/60 Hz

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