

## LABORATORY UNIT FOR ABSORPTION OF REACTION GASES

### GENERAL

This NORMAG unit for absorption of reaction gas distinguished by its compact construction which meets the high requirements for such units. The only used materials are Borosilicate glass 3.3 and PTFE. Additional safety give powder coated glass parts if required. Only one flange connection will contact the absorption liquid, the other connections are located in the gas part. The flange connections and all other spherical ground joints are polished and allow a long dwell time of the unit. Due to this fact, high concentrated bases as absorption liquids can be used. The connections are sealed with PTFE seals. High vacuum spindle valves made of Borosilicate glass 3.3 and PTFE serve for the locking of the gases and the absorption liquid. The unit is suitable for use under vacuum and available in different types. The sizes 6 litres and 10 litres are designed for laboratory purposes. For this unit we offer a mobile frame, made of stainless steel tube, with safety bath.

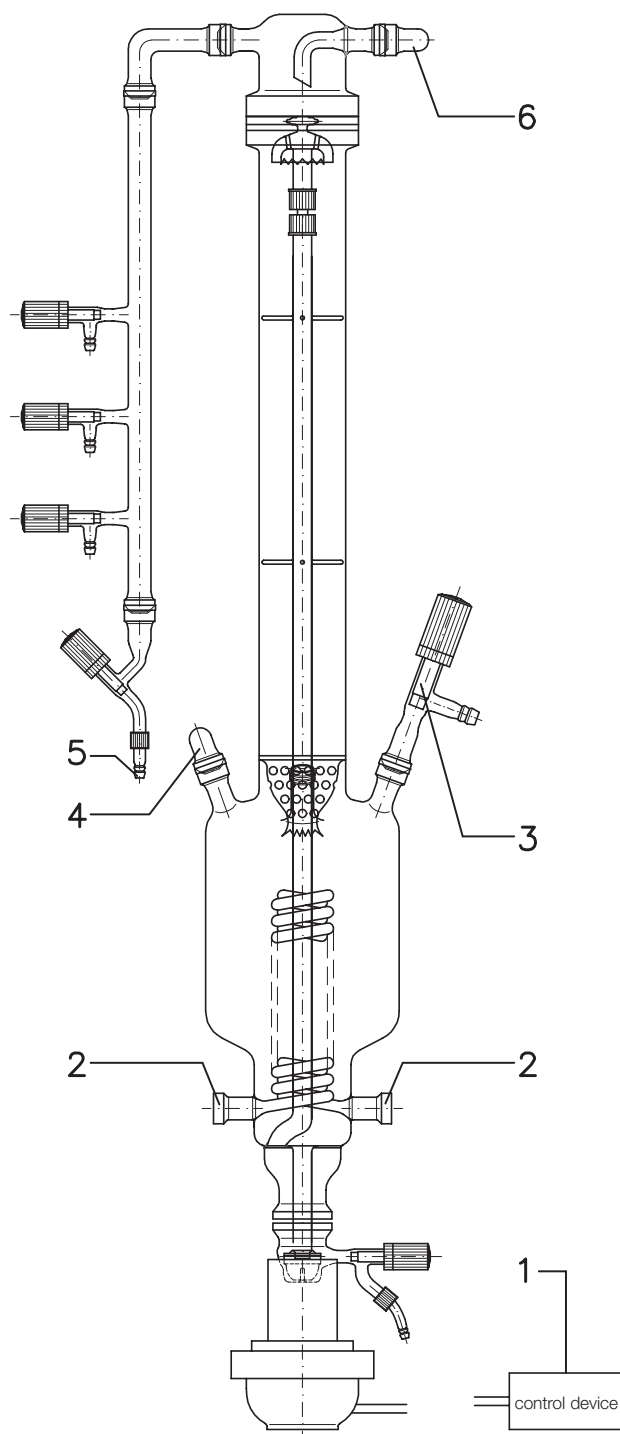


Pict. 1  
Laboratory unit  
for the absorption of reaction gases

## Construction of the absorption unit

The core of this NORMAG unit for absorption of reaction gas is the absorption column which is sealed on the receiver for the absorption liquid. The absorption liquid is cooled by a double coil, made of Borosilicate glass 3.3, inside the absorption receiver. Connections for the cooling are flanges PI 15 providing the facility to connect a thermostat hose. Two glass adapters for coupling flange PI 15 and olive D11 are part of the delivery. The NORMAG glass pump for forced liquid circulation of the absorption liquid with magnet drive is located below the receiver, guaranteeing a quick exchange. Normally, the pump volume is 120 litres/h by 1500 revs/min, but the pump volume can be changed with the control device. Due to safety reasons, the suction and pressure tubes are inside the absorption column. To increase the reaction surface, Raschig rings as packing are used. The gas to be purified is introduced via the HV spindle valve 3 into the unit and rises in the absorption column. The pumped up absorption liquid runs over the Raschig rings towards the gas and the mass transfer can start. The drain off of the purified gas is effected by the connected manifold with spindle valves. The flange and thread connections at the receiver serve for the refilling of the absorption liquid and for taking a thermometer or pH-sensor. A connection, which serves for cleaning the unit is sealed on the head of the absorption column. The used absorption liquid can be drained off by opening the spindle valve at the pump, then the unit can be cleaned and after closing the valve a new absorption liquid can be introduced. For automatic use, an addition funnel is tightly connected with the receiver, so that the absorption liquid can be refilled automatically.

We will be pleased to submit you a detailed offer.



### Legend:

- 1 Control device
- 2 Cooling water connection
- 3 Gas inlet
- 4 Connection for absorption liquid
- 5 Outlet for purified gas
- 6 Connection for cleaning the unit

Pict. 2 schematic description