



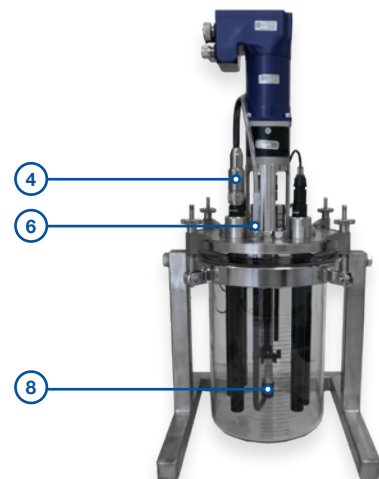
## MICROCOSM PLANT

The microcosm plant is used in soil and environmental research to study geochemical processes. Important hydrochemical boundary conditions can be set. The microcosm plant consists of a base unit and two reactors that can be used independently of each other.

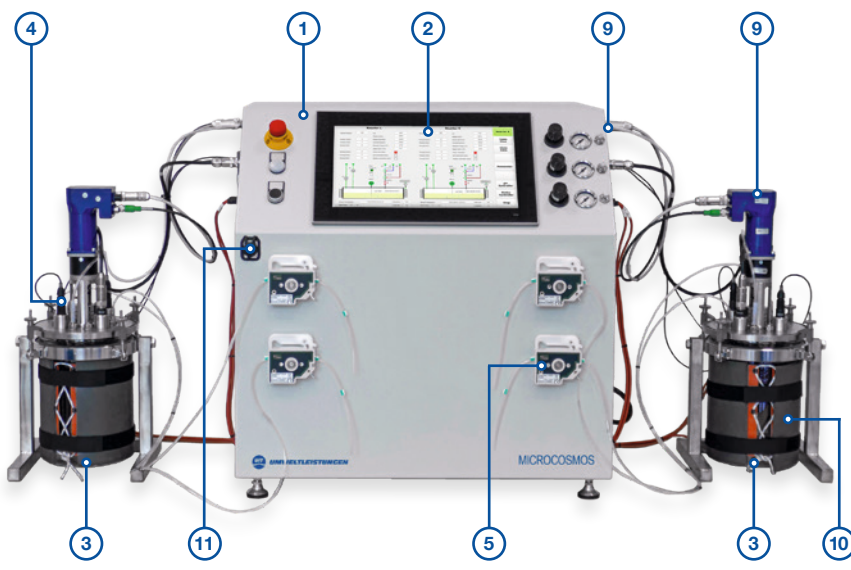
### Areas of applications

A typical application of the microcosm plant is the study of the solubility of heavy metals under defined redox potential and pH conditions.

- ✓ Control of pH value in the reactor
- ✓ Control of temperature in the reactor
- ✓ Control of redox potential in the reactor (oxidation and reduction conditions)
- ✓ Mixing soil suspension with a powerful agitator
- ✓ Gas sampling in combination with the AS2 autosampler system



### Components overview



- ① MRE base unit - data acquisition and control unit
- ② Touch Panel PC
- ③ Microcosmos reactor 1 and 2
- ④ Sensors (pH, Eh, conductivity, ISE)
- ⑤ Tube pumps
- ⑥ Inlet for acid and lye
- ⑦ Gas inlet (N<sub>2</sub>; Air; O<sub>2</sub>)
- ⑧ Aeration system
- ⑨ Mixer unit
- ⑩ Heating mat
- ⑪ USB-Interface



## MICROCOSM PLANT

### Configuration

<b>Basis unit</b>	MRE base unit with touch panel PC – data acquisition, control unit with 2x2 tube pumps, aeration system and signal amplifiers
<b>Sensors</b>	Redox potential (ORP) -2000...+2000 mV; pH 1-14; temperature conductivity 0-0,2/2/20/200 mS/cm; option ISE, other sensors on request
<b>pH-control</b>	Included pH-control system
<b>Aeration system</b>	Suitable for 3 gases (N <sub>2</sub> ; Air; O <sub>2</sub> ) with pressure regulator for gas outlet
<b>Microcosmos reactor</b>	2 pieces; volume 3000 ml; DN 150; cylindrical shape with gas-tight shaft-feedthrough; sparkling system; other reactor sizes on request
<b>Mixer</b>	Speed range up to 1000 rpm
<b>Heating mat</b>	Silicone heating mat with control system, max. temperature 40°C, other temperature on request
<b>Dimensions / weight</b>	1400 x 600 x 700 mm (L x W x H) / 70 kg
<b>Scope of delivery</b>	The actual scope of equipment will be defined within the related proposal. The data sheet described optional equipment.

### Combination with Autosampler AS2

The additional use of an AS2 enables the automatic extraction of gas samples from the microcosm reactor.

The Autosampler AS2 is available in gas and fluid sampling versions and can be used to supplement UIT's bioreactor and microcosm systems.

*More info on the Autosampler AS2 data sheet.*



Information on Microcosm Plant



Information on Autosampler AS2

