

# Kuhner microTOM

## Would you like to know more about your microtiter plate cultivations?

Kuhner microTOM (micro-scale **T**ransfer-Rate **O**nline **M**easurement) measures online the oxygen transfer rate (OTR) in microtiter plates to provide a comprehensive process understanding already early on in process development. With its 96 individual sensors the Kuhner microTOM offers valuable online data for high experimental throughput R&D processes. It is easily installed in Kuhner incubator shakers and can be operated with 96-deepwell microtiter plates with different well geometries.

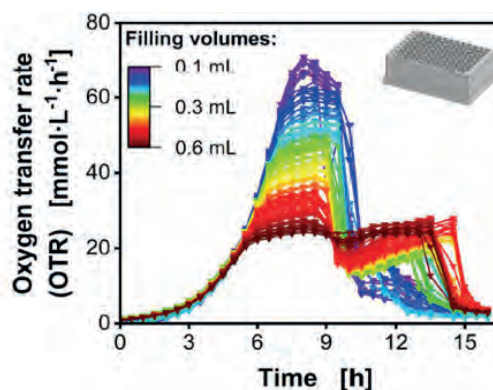


## Facts about Kuhner microTOM

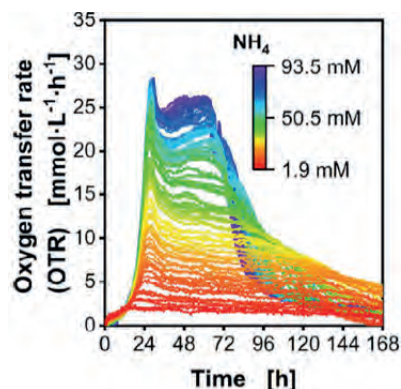
- Simultaneous online measurement of OTR in all 96 wells
- Robust construction of housing and electronics
- Compatible with Kuhner ISF1-Z, LT-X and Kuhner Kelvin+ incubators
- Suited for cell and microbial cultivations
- Reduced media consumption compared to shake flask cultivations with online measurement
- Compatible with FeedPlate® of the Kuhner Feeding Technology



**Influence of oxygen limitation** on respiratory activity at different filling volumes.  
Cultivation with *H. polymorpha* in complex YPD medium\*

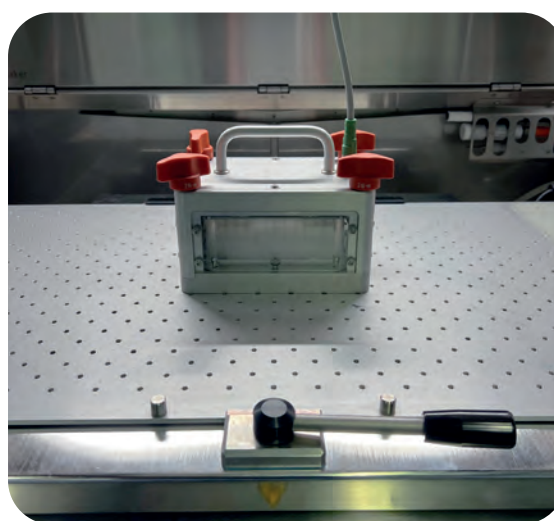


**Substrate limitation** of Ammonium during cultivation of *U. maydis* in synthetic Verduyn medium\*



### Learn more about your cells

- Growth rate
- Identification of oxygen limitation
- Substrate limitations
- Cell viability
- Cultivation progress
- Clone Screening
- Strain characterization
- Mutagenicity tests
- Toxicity tests



### Technical Data

Temperature range	25 - 40°C
Shaking speed	up to 1000 rpm
Orbital shaken diameter	3 mm - 50 mm
Maintenance	Calibration of O <sub>2</sub> sensors before every experiment Lifetime of sensor spots: 1 year
Microtiter plate format	96-Deepwell (total height of microtiter plate 43 - 44 mm)
Microtiter plate geometry	round well (RW) - square well (SW)
Filling volume	>100 µL
Sterile barrier	Gas permeable non-woven Rayon foil with acrylate adhesive
Ambient and aeration humidity	< 85% rel. humidity
O <sub>2</sub> - concentration range	max. 30% v/v in inlet gas
Warranty	Electronics and mechanical parts 2 years

Technical data subject to change

\* Dinger, R. et al. Device for respiration activity measurement enables the determination of oxygen transfer rates of microbial cultures in shaken 96-deepwell microtiter plates. Biotechnol. Bioeng. <https://doi.org/10.1002/bit.28022> (2021).