

Micro-Flask by Duetz, cultivation in microtiter plates

The Micro-Flask system facilitates reproducible and reliable culturing on microtiter plates. The system consists of sandwich covers, cover clamps and cryo-replicator. The Micro-Flask enables a single person to grow and test thousands of strains simultaneously with a minimum of repetitive handling.

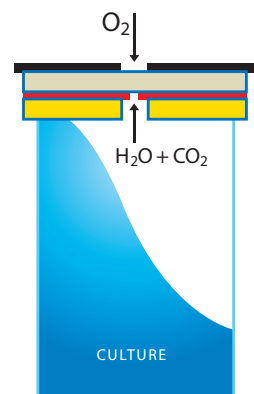


Features

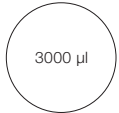
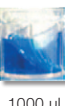
- Conversion of 24 and 96 microtiter plates (both deep- and low-well plates) into individual micro-reactors
- Low and uniform evaporation rates for every well
- Sterile barrier for individual wells prevents cross contamination
- Oxygen transfer rates similar to shake flasks in standard orbital shakers
- Simultaneous and reproducible sampling of 96 frozen glycerol stocks

Applications

- High throughput screening and distribution of mutant and construct libraries e.g. in *E. coli* or yeast
- Metabolic flux studies and high-throughput screening for high activity prokaryotic or eukaryotic mutants
- Comparative studies, e.g. clinical isolates
- Growth medium optimization for cell lines or production strains



Specifications

Type of microtiter plate	Well volume	Culture volume	Orbital shaking frequency	Shaking amplitude	O ₂ -transfer rate (30°C, air, 1 bar)	Headspace refreshment rate	Evaporation rate per well (at 30°C)	Mixing pattern at 300 rpm ampl. ampl.	
								25 mm	50 mm
24-square deep-well polypropylene, 17x17 mm, depth 40 mm		2500 µl	300 rpm	50 mm	51 mmol O ₂ / l / h	2.5 ml / min (1 VVM)	50% humidity: 50 µl H ₂ O per day 75% humidity: 25 µl H ₂ O per day		
		2500 µl	300 rpm	25 mm	39 mmol O ₂ / l / h				
		2500 µl	220 rpm	50 mm	35 mmol O ₂ / l / h				
		4000 µl	300 rpm	50 mm	24 mmol O ₂ / l / h	2.5 ml / min (0.6 VVM)			
		4000 µl	220 rpm	25 mm	24 mmol O ₂ / l / h				
24-round low-well polystyrene, Ø 16 mm, depth 18 mm		750 µl	300 rpm	50 mm	40 mmol O ₂ / l / h	1.1 ml / min (1.4 VVM)	50% humidity: 30 µl H ₂ O per day 75% humidity: 15 µl H ₂ O per day		
		750 µl	300 rpm	25 mm	25 mmol O ₂ / l / h				
		1000 µl	300 rpm	50 mm	30 mmol O ₂ / l / h	1.1 ml / min (1.1 VVM)			
		1000 µl	300 rpm	25 mm	19 mmol O ₂ / l / h				
96-square deep-well polypropylene, 8x8 mm, depth 40 mm		500 µl	300 rpm	50 mm	38 mmol O ₂ / l / h	1 ml / min (2 VVM)	50% humidity: 22 µl H ₂ O per day 75% humidity: 11 µl H ₂ O per day		
		500 µl	300 rpm	25 mm	12 mmol O ₂ / l / h				
		750 µl	300 rpm	50 mm	24 mmol O ₂ / l / h	1 ml / min (1.3 VVM)			
		750 µl	300 rpm	25 mm	7 mmol O ₂ / l / h				
		1000 µl	300 rpm	50 mm	18 mmol O ₂ / l / h	1 ml / min (1 VVM)			
96-round low-well polystyrene, Ø 6.5 mm, depth 11 mm		100 µl	300 rpm	50 mm	39 mmol O ₂ / l / h	250 µl / min (2.5 VVM)	50% humidity: 6 µl H ₂ O per day 75% humidity: 3 µl H ₂ O per day		
		100 µl	300 rpm	25 mm	20 mmol O ₂ / l / h				
		150 µl	300 rpm	50 mm	32 mmol O ₂ / l / h	250 µl / min (1.7 VVM)			
		150 µl	300 rpm	25 mm	16 mmol O ₂ / l / h				
		200 µl	220 rpm	50 mm	12 mmol O ₂ / l / h	250 µl / min (1.3 VVM)			
		200 µl	300 rpm	25 mm	12 mmol O ₂ / l / h				

