

SPEZIFICATIONS

Sedimentation box and Mobile sieve tower



SEDIMENTATION BOX

UNIT DIMENSIONS

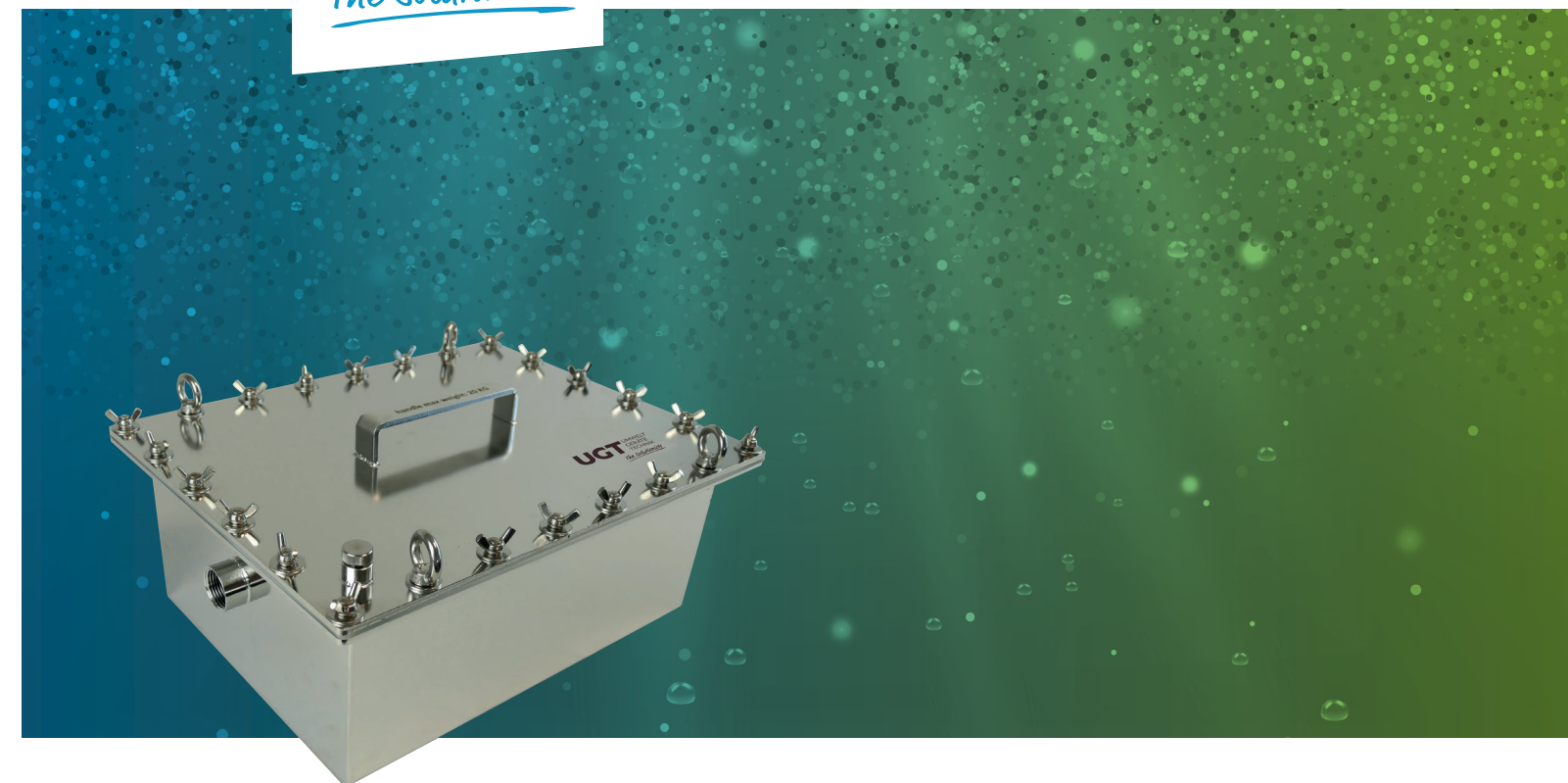
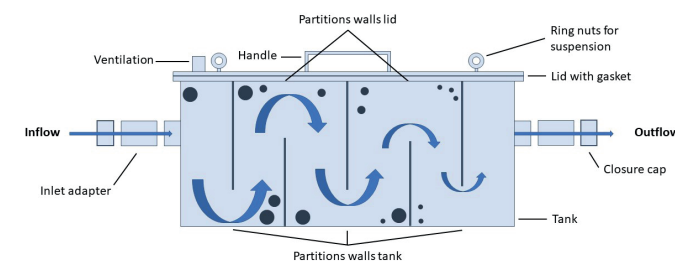
Inner dimensions (H x W x D)	165 x 400 x 300 mm
Outer dimensions (H x W x D)	208 x 450 x 350 mm
Inlet and outlet inner diameter	22 mm
Material	Stainless steel V2A, Electropolished surface
Material thickness	2 mm
Weight (empty / filled)	16.5 kg / approx. 37 kg

OPERATING PARAMETERS

Max. flow volume	5 l/min
Optimum flow volume	2 - 2.5 l/min

FUNCTION PRINCIPLE

Slowing down the speed by widening the flow cross-section.
Sedimentation of light particles on the lid and heavy particles on the bottom of the tank ($<1 \text{ g/cm}^3$ and $>1 \text{ g/cm}^3$, microplastics):



SEDIMENTATION BOX & MOBILE SIEVE TOWER

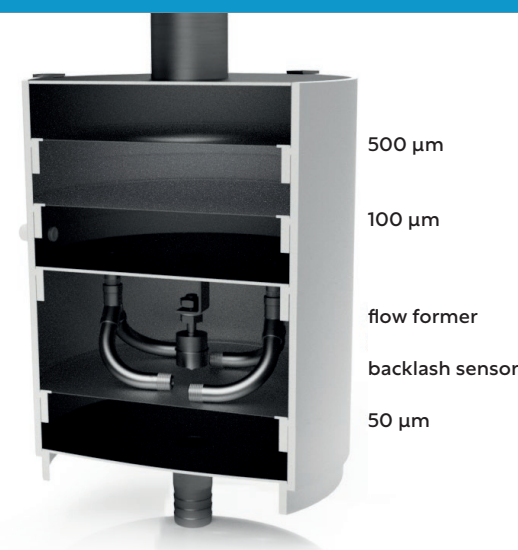
MOBILE SIEVE TOWER - FIELD USE AND LABORATORY

TOWER STRUCTURE

- Two sieve towers
- Pump
- Backwater detection
- Optical-acoustic signaling unit
- Option of sampling the outlet water
- Switching output
- Quick couplings

OPERATING PARAMETERS

Max. flow rate	20 l/min
Mesh size	500, 100, 50 μm
24V Power supply	



Sampling for
microplastics



Microplastic particles are found in high concentrations in all natural waters. The identification, quantification and effective removal of loads in the urban water cycle will become an integral part of urban water management. Representative sampling is the first step in the investigation of spread, loads, type and origin of microplastics in the aquatic environment.

SEDIMENTATION BOX

Standardized integrative detection of suspended solids from running waters or technical plants

- ✓ Two modes of operation:
 - active flow in measuring stations by means of an external pump and flow measurement in the outflow – reliable quantitative detection of suspended solids
 - passive flow in the watercourse: qualitative detection of suspended matter, integrative sampling over longer periods of time
- ✓ In contrast to active sampling, impact loads can be recorded with integrative sampling
- ✓ Robust and contamination-free stainless steel construction
- ✓ Dimensionally stable and pressure-tight
- ✓ Simple sampling



In the RUSEKU project, first tests to determine the flow rate dependant deposition rate were conducted successfully.

Previous tests have shown that the sedimentation box is suitable for integrative suspended matter sampling including microplastics.



The high spatial and temporal variability requires a combination of integrative sampling and random sampling. Mobile and space-saving devices are also required that can be used for active and passive polymer-specific sampling in existing measuring stations and in open waters. Together with the UBA, the UGT has implemented standardized sampling.

MOBILE SIEVE TOWER

For use in the field and in the laboratory for momentary sampling incl. fractionation of sediment loads

- ✓ Prototype as a further development of the classic filter tower: optimized flow guidance to prevent clogging, reduced filter cake formation
- ✓ Mobile design for field applications
- ✓ Sensor for backwater detection, with optical-acoustic signaling unit
- ✓ Two sieve cascades for continuous use during sieve exchange
- ✓ Longer sampling times than with a flow-through centrifuge, recording of complete daily cycles
- ✓ Precise quantification of the collected substrate quantity by weighing on a laboratory precision balance
- ✓ Incl. aliquot sampling in the effluent for later analysis of even finer fractions

