

# TRAWAS®

Portable Kit for testing raw, recreational and waste water as well as beverages. One box containing everything you need to perform fast water tests on site.

**Sandberg & Schneidewind**

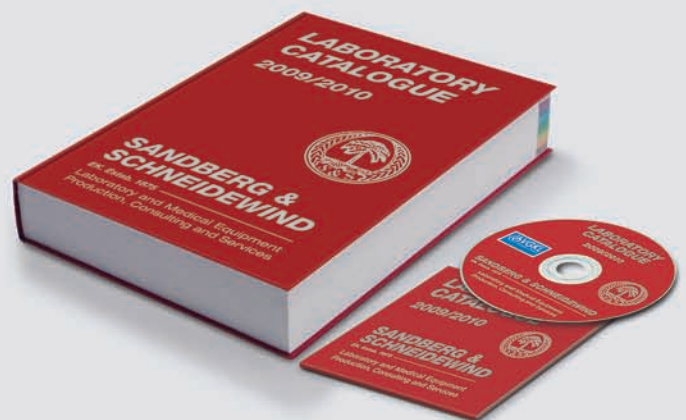
Volksdorfer Str. 12 22081 Hamburg Germany Tel.: +49 (40) 227260-0 Fax: +49 (40) 2201390  
info@sandberg.de www.sandberg.de



**The start-up kit consists of:**

Portable Water Testing Kit, No. 180.102

- 1 Electronically controlled Coolbox
- 2 Portable incubator INCUS.3®/3 E with heated lid and 2 stainless steel racks
- 3 Connection cable, 12 V DC, with plug to coolbox
- 4 Power adapter 230 V AC / 12 V DC
- 5 Battery adapter, with crocodile clamps
- 6 Nutrient pad set, i.e. ENDO (acc. to choice)\*
- 7 Membrane filter, sterile
- 8 Minisart® 0.2 µm, syringe filter unit
- 9 Vacuum filter holder, stainless steel
- 10 Manual vacuum pump, large displacement, with gauge
- 11 Electrical vacuum pump VACUS.1 (optionally)
- 12 3-way valve with syringe
- 13 1-liter vacuum bottle
- 14 pH test strips
- 15 Alcohol burner, stainless steel (optionally: gas burner)
- 16 Scissors, forceps, stainless steel
- 17 Beaker, PP, 25 ml
- 18 Bottles, for alcohol and water
- 19 Turbidity tube (optionally)
- 20 Bags, for collecting samples
- 21 Thermometer
- 22 Checkit® Chlorine
- 23 Magnifier, 7x (optionally)
- 24 Permanent Marker
- 25 Working platform
- 26 Pictogram



Please ask for our general catalogue

\*Further Nutrient Pads etc. can be obtained from SARTORIUS worldwide dealer's network.

Dimensions of TRAWAS Kit: 61 x 40 x 47 cm. Weight: 17.0 kg

### Advantages of TRAWAS

- Integrated work area
- No need for any preparation before going into the field
- Easy to use; no special technical knowledge required
- One laboratory assistant onsite is sufficient
- Allows different microorganisms to be analyzed, depending on the nutrient pads

- Vacuum filter holder made of stainless steel, thus sterilizable by flaming
- No autoclave is necessary
- Just moisten nutrient pads with sterile water
- No freezer required for storage. Nutrient pads can be stored at room temperature

- Incubator with 2 chambers for different temperatures, easy to operate, 4 languages
- Automatic cooling if ambient temperature is too high
- Various power modes with adapter available
- Optionally with memory to save data from up to 10 test cycles. Print-out to PC

### Advantages of Filtration Method

- Eliminates time-consuming and labour-intensive preparation of culture media
- This eliminates handling errors when preparing media culture
- Nutrient pads are sterile, dehydrated culture media. Once they are moistened with sterile and demineralized (or distilled) water, they are ready for use immediately
- Conforms to ISO 9308-1

- The visible colonies can be related directly to the sample volume. They give quantitative results. Compared with the direct method, considerably larger sample volumes can be tested. This concentration effect increases the accuracy of microbiological detection
- Adequate for the determination of E. coli and coliforms, Enterobacteria, Salmonellae, wild yeasts, yeast and mold, etc. utilizing the different nutrient pad types

- Typical application examples are not only the detection of microorganisms in water, but also in beer, foods, milk, pharmaceuticals, soft drinks and wine
- The incubated membrane filters are easy to file as a permanent record for convenient traceability
- Sartorius\* Membrane Filters are manufactured under GMP conditions, ensuring consistent quality and high reproducibility from batch to batch and within each batch  
\*www.Sartorius.com



### Incubator INCUS.3

No.180.053

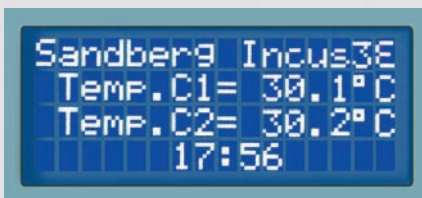
Can be operated stand-alone or with the coolbox in automatic mode

#### Incubator Specifications:

- Temp. range: +30°C....+50°C ± 0.2
- Count-down timer max. 36 hours
- Microprocessor controlled, alphanumeric 4-line display, 4 languages
- Heated lid, for highest temp. precision
- Two red LED's indicating heating cycle
- Each chamber independently controlled by temp. sensor
- Third temp. sensor for outside temperature control
- Warm-up time: approx. 30 min
- Capacity: 2 x 250 ml (10 Petri dishes)
- Dimensions: 200x180x150 mm
- Weight: 2.5 kg
- Optional as model INCUS.3E with RS232 data output and built-in data-logger, incl. adapter\*

#### Power requirements:

- Vehicle battery 12 VDC (with coolbox approx. 5 Amp)
- 110/230 V AC mains power adapter
- Rechargeable 12 V battery, with charger
- Solar power station on request



## Bacteriological quality of drinking water<sup>a</sup> according to World Health Organisation (WHO)\*

Organisms	Guideline Value
All water directly intended for drinking <i>E. coli</i> or thermotolerant coliform bacteria <sup>b,c</sup>	Must not be detectable in any 100 ml sample
Treated water entering the distribution system <i>E. coli</i> or thermotolerant coliform bacteria <sup>b</sup>	Must not be detectable in any 100 ml sample
Treated water in the distribution system <i>E. coli</i> or thermotolerant coliform bacteria <sup>b</sup>	Must not be detectable in any 100 ml sample

<sup>a</sup> Immediate investigative action must be taken if *E. coli* are detected.

<sup>b</sup> Although *E. coli* is the more precise indicator of faecal pollution, the count of thermotolerant coliform bacteria is an acceptable alternative. If necessary, proper confirmatory tests must be carried out. Total coliform bacteria are not acceptable indicators of the sanitary quality of water supplies, particularly in tropical areas, where many bacteria of no sanitary significance occur in almost all untreated supplies.

<sup>c</sup> It is recognized that the great majority of rural water supplies, especially in developing countries, faecal contamination is widespread. Especially under these conditions, medium-term targets for the progressive improvement of water supplies should be set.

\* "Guidelines for drinking water quality", Vol 1, Recommendations, 3rd Edition, WHO, Geneva, 2004

## Recommended Accessories:



### AL 10 pH

- high quality, portable, pH meter
- with a measuring range 0-14 pH : 0.01 pH
- protective casing and built-in electrode holder
- designed for extreme ambient conditions
- automatic battery check feature
- gel electrode, battery an pH buffer (4.0/7.0) included
- BNC connector, rugged plastic case, complete set



### Turbidity Meter AL 250T-IR

- infrared light source 90°, backlit LCD
- measuring range : 0.01 – 1100 NTU (auto range) accuracy: 0,01 NTU
- for use with various media, from drinking water to waste water
- complete with 4 turbidity standards, battery and test vial in case



### AL 10 Con

- compact conductivity meter, battery operated
- with a measuring range 0.001 – 1.999 / 0.01 – 19.99 mS/cm
- protective casing and built-in electrode holder
- designed for extreme ambient conditions
- temperature compensation feature
- conductivity sensor, rugged case, complete set



N.I.S.T. traceability

### Photometer AL 400

- economic, reliable, mobile (batteries)
- graphical display
- optical source : longlife LEDs
- 6 interference filters
- internal memory for 1000 data sets
- easy handling, 7 languages
- for more than 40 different chemical parameters
- optionally IR interface
- complete set in case without reagents

## Sandberg & Schneidewind

Volksdorfer Str. 12 22081 Hamburg Germany Tel.: +49 (40) 227260-0 Fax: +49 (40) 2201390  
 info@sandberg.de www.sandberg.de