12. Environmental-, soil-, water-, food analysis

Sample preparation for standard methods

1 behrotest® waste water mixers

With portable sample vessel. Homogenizer for pre-treatment, dividing and homogenizing Behr heterogeneous water samples according to the Federal Working Group for Water AQS standards for wastewater quality assurance and monitoring. The vessels are protected in the rack and two handles allow easy transport. Can be filled at the sampling site via a low-profile inlet connection. With graduations. In the laboratory or sample processing vehicle the transport rack is simply placed on the base plate with magnetic stirrer and the homogenizer is immediately ready for use. The magnetic stirrer speed is adjustable. Controlled removal of homogenized sample using a PTFE needle valve. Supplied with transformer suitable for car batteries (12V).



Туре	Description	PK	Cat. No.
QMR 2	Capacity 2 I	1	9.920 639
QMR 5	Capacity 5 I	1	9.920 640
QMR 10	Capacity 10 I	1	9.920 641
QMR 15	Capacity 15 l	1	9.920 642
QMR 20	Capacity 20 I	1	9.920 643
QMR 25	Capacity 25 I	1	9.920 644

2 Water sampling bottles and glass stoppers, behrotest®

Comply with DIN 12036.

Conical ground joint neck and solid glass stopper with convex base. Made of borosilicate glass 3.3.

The stoppers have two advantages:

- No bubbles are trapped at the stopper base when inserted into a filled bottle
- Less risk of breakage or cracking than conventional stoppers.

Туре	Description	PK	Cat. No.
PFL 500	Sample bottles 500 ml	1	9.920 660
PFL 1000	Sample bottles 1000 ml	1	9.920 661
PFL 2000	Sample bottles 2000 ml	1	9.920 662
MST 24	Replacement stopper NS 24	1	9.920 663
MST 29	Replacement stopper NS 29	1	9.920 664
MST 24	Replacement stopper NS 24	1 1 1	



3 Compact systems for sulphur dioxide determination, KSO/SO

For determination of sulphur dioxide (total SO₂), 2 absorption units per sample. With base unit, heating mantle, mounting frame and glassware, including 500ml reaction flasks. Systems with adsorption units or other flask sizes on request.

Behr



Туре	Description	PK	Cat. No.
KSO 2	Complete compact sytem	1	9.920 546
SO 2-6	Sytem for 6 working units	1	9.920 547

12. Environmental-, soil-, water-, food analysis Sample preparation/Sample preparation for standard methods



1 Compact system for determination of water content

Compact system for determination of water content by azeotropic distillation. Suitable for non-homogeneous and irregularly shaped food such as dried fruit and vegetables, Sauerkraut etc.

With base stand, heating mantle, mounting frame and glassware.

Туре	PK	Cat. No.
KWA 500	1	9.920 548

2 Compact distillation apparatus

Complete compact system for sample preparation for cyanide determination according to the standards. With base frame, heating unit, fl ow meter(s), mounting(s), hoses and glassware.

Behr

Behr

Туре	Description	PK	Cat. No.
KTC	Compact system for distillation during determination of total cyanide	1	9.843 780
KLFC	Compact system for air condensing of easily separated cyanide, 1-place	1	9.843 781
KLFC 2	Compact system for air condensing of easily separated cyanide, 2-place	1	9.843 782

3 Compact digestion and separation systems

With magnetic stirrer for cyanide determination.

Behr

 $Complete, compact \ systems \ for \ cyanide \ determination. \ With \ integral \ magnetic \ stirrer,$

suspended absorption vessel and dropping funnel for reagent additions, the installation corresponds with the draft document for the new DIN/DEV 38405 to D 13.

With base stand, heating mantle, magnetic stirrer, flow meter, clamps, tubing and glassware.

Description	PK	Cat. No.
Compact digestion and separation systems with magnetic stirrer for the determination of total cyanide	1	9.700 410
Magnetic stirrer for the determination of free cyanide	1	9.700 411





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12. Environmental-, soil-, water-, food analysis

Sample preparation/Sample preparation for standard methods

1 Distillation unit FBA

behrotest® distillation unit for determination of inorganic total fluoride

Behr

In highly contaminated, inorganic wastewater, having a fluoride concentration greater than 0.2mg/l, determination of inorganic total fluorine is possible after digestion and distillation of the components. These two steps are now combined in a stable unit. The control unit of the heating process allows serial analysis.

The single components of this unit are: Distillation unit from borosilicate glass for acidic steam distillation, contact thermometer, heating mantles for round bottomed flasks, volumetric flasks.

Type	Description	PK	Cat. No.
FRA	Distillation unit for total fluoride	1	9.843 806



2 Extraction unit EX 1000

ISO 9377-2. This sample bottle with stable glass stopper has been specifically designed to aid sample separation.

A graduated cylindrical funnel makes the separation of an organic phase much easier. Modular construction (bottle, stopper, funnel) which enables the user to transfer the organic phase directly to the clean-up column.

Туре	РК	Cat. No.
FX 1000	1	9.843 800



3 Clean-up Station CUS 2

The behrotest® Clean-up column has a frit made of glass and fulfils the requirements of ISO 9377-2.

Behr

A twin stand offers safe positioning of two complete Clean-up units (dropping funnel, Clean-up column and Kuderna-Danish flask). The two steps for clean-up can be achieved in one unit now, also can be used for two samples.

Туре	Description	PK	Cat. No.
CUS 2	Clean-up-Station, supplied as: stand, 2 graduated round, bottom flasks, 100ml, 2 columns with grade 2 frits	1	9.843 801



12. Environmental-, soil-, water-, food analysis Sample preparation/Sample preparation for standard methods



1 Nitrogen station Kosta 2

For 2-stage concentration of an organic sample reducing the volume to max. 1ml, whilst under a low pressure nitrogen atmosphere.

Behr

In the behrotest® Nitrogen station a splitter ensures the nitrogen enters via two adjustable injectors into the Kuderna-Danish-ground glass joint vessels. Therefore two samples can be treated according to ISO 9377-2 simultaneously.

Туре	PK	Cat. No.
Kosta 2	1	9.843 802



2 Equipment to determine anaerobic digestion

The complete equipment consists of:

Behr

- Tempering bath with thermostat for 6 eudiometer units incl. clamping device for eudiometer tubes
- 6 eudiometer units with laboratory bottles, 500ml, eudiometer tubes with graduation, stopcock and connecting tube and levelling bulb

Туре	Description	Dimensions (W x D x H)	Weight	РК	Cat. No.
		mm	kg		
FH 6	Tempering bath made of PVC incl. thermostat for 6 eudiometer units	850 x 330 x 360	16	1	9.843 850
FH 10	Eudiometer unit.Eudiometer tube, laboratory and levelling bottle			1	9.843 851
RM 6	Series magnetic stirrer, for use in water bath to stir 6 bottles, each with 500 ml, including separate control unit			1	9.843 852



3 Digestion Vessels with Liners, TFM, PTFE

AL W

Dimensionally stable basic vessel with exchangeable liner and screw cover made of TFM, homogenous, non-porous surface. The liner allows a more precise weighted sample and different digestions with only one basic vessel. 1 piece of sealing and rupture membranes already mounted, 10 pieces of replacement membranes included in delivery. For samples of up to max. 0.5g.

Туре	Capacity	Int. dia.	Max. pressure	Max. temp.	Int. height	PK	
	ml	mm	bar	°C	mm		
Inliner	10	24	25	160	63	1	9.6
Inliner	20	30	20	150	63	1	9.6
Inliner	50	43	20	150	77	1	9.6



4 Liners, TFM, PTFE

(AEMI)

Liners for digestion vessels made of TFM, homogenous, non-porous surface.

BOLA

Capacity ml	Weight g	PK	Cat. N
10	48	1	9.601 48
20	55	1	9.601 48
50	112	1	9,601 48

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12. Environmental-, soil-, water-, food analysis

Sample preparation/Sample preparation for standard methods

1 Sealing and Rupture Membranes, PFA, PTFE

(NEW!)

 $1\ {\rm set}\ consisting$ of $10\ {\rm sealing}\ membranes$ made of PFA and $10\ rupture$ membranes made of PTFE, for digestion vessels.

BOLA

Capacity	PK	Cat. No.
ml		
5	10	9.601 490
10 + 20	10	9.601 491
50 + 100	10	9.601 492



Microwaves - please see page 785.



2 Column elution unit for the elution of soil samples, behrotest®

Column elution unit:

Behr

Column elution acc. to LUA recommendations with adjustable-speed 4-channel peristaltic pump. The unit consists of:

- system stand
- adjustable-speed, 4-channel peristaltic pump
- supply container, 20L
- 4 elution columns, inside diameter 6cm, 32cm long, with 2 threaded openings (GL45, with PTFE inserts) to simplify filling the columns
- 4 x 2L drip collectors for column eluate with threaded opening (GL45) and vent
- Tygon and PVC supply tubing with check-valve in column supply line
- Teflon tubing lines between columns and drip collectors
- flow rate 0.003ml/min to 35ml/min
- speed range 2rpm to 100rpm
- simultaneous regulation of all 4 channels

Quartz sand behrotest®:

for column elution unit, grain diameter 1mm to 2mm acc. to DIN V 19736, bottle of 1000g

Quartz wool behrotest®:

for column elution unit, bag of 100g



Description		Cat. No.
Column elution unit B	1	9.843 741
Quartz sand for column elution unit	1	9.843 744
Glass wool for column elution unit	1	9.843 745
Glass column 60mm x 320mm	1	9.843 925

3 behrotest[®] compact equipment for elution of solid matters



Percolation equipment to jointly examine the elution behaviour of inorganic and organic substances in solid matters. Including hose pump with 2 channels and 2 different pump tubes for a flow rate of 0.25-12 ml/min. and 0.66-33 ml/min. (Other pump tubes upon request). Complete equipment, consisting of

- Percolation columns with pre-filters on sturdy stands
- Storage bottle with cap and tube
- Tube
- Eluate lead made of PTFE
- Storage vessel made of glass, cap with ventilation tube



Туре	Description	PK	Cat. No.
KEB 101	Complete equipment, elution of solid matters for one sample w/ GS 950 glass column.	1	9.843 931
	Incl. two-channel hose pump and 2 tubes for different flow rates		
KEBE 101	Supplementary equipment, elution of solid matters for one sample w/ GS 950 glass column. Incl. two-channel hose pump and 2 tubes for different flow rates	1	9.843 932
GS 950	Glass column 60 x 320 mm	1	9.843 925
GS 101	Glass column, 90 x 500 x 5 mm, thread GL 100	1	9.843 928
SRR	Tube set, 4 pump tubes made of Tygon, flow rate of 0.25 - 12 ml/min	1	9.843 929
SVV	Tube set, 4 pump tubes made of Tygon, flow rate 0.66 - 33 ml/min	1	9.843 930