

behrotest[®] devices for the

determination of fibers



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Fibers

Fibers are an important element of human nutrition and are directly connected with the natural components of foodstuff. Basically, the term refers to a group of fundamental food components that enter the stomach and small intestines undigested and reach the colon nearly unaltered. Fibers are comprised of indigestible plant parts and consist mainly of various types of starch-free polysaccharides (NSP) and lignin.

Determination of the fiber content of food

Fibers play an important role in human nutrition. The fiber content is generally determined by means of the classic AOAC 985.29 total crude fiber analysis (the so-called Prosky method) and the AOAC 991.43 total crude fiber analysis (applicable for the determination of total crude fiber content in grain, beans, vegetables and fruits and complies with the German "Official analysis procedure L00.00-18 for the determination of total fiber content" in acc. with § 64 LFGB).

Both methods subject the sample to a series of enzymatic digestions that simulate the actual digestion process that takes place in the human and animal digestive system. They calculated the undigested residues that remain at the end of the analysis.

behrotest® filtration unit EN 6-V

The filtration unit EN 6-V performs the last filtration and rinsing phase required by the enzymatic method for the determination of fibers.

- » Practical addition and removal of max. 6 behrotest® crucibles
- » Space-saving equipment: perfect sizes for any conventional lab table
- » Simple extraction of sample in the designated collection bottle

- » Low filtration times: behrotest® Diaphragm vacuum pump, with high chemical resistance, to facilitate work during filtration and rinsing

- » Glass funnels facilitate the introduction of digested samples and solvents in the equipment.

Combined with the behrotest® shaking water bath WBMR, the behrotest® EN 6-V reduces the required time in comparison to the manual process considerably.



EN 6-V

Type	Art.-No.
EN 6-V behrotest® Filtrationseinheit mit 6 Stellen	B00720183

behrotest® water bath with magnetic stirrer

The behrotest® temperature controlled water bath with magnetic stirrer is used for the simulation of enzymatic digestions, exactly according to these methods. With the multiple digestions of sample copies/duplicates at predefined temperatures using various enzymes (α-amylase for gelification, protease to remove proteins, amyloglucosidase to remove starch). Uninterrupted and even sample mixing (shaking) ensures that the samples do not overheat.

Technical data

Volume in l	20
Temperature setting range	5 °C to 99 °C
Temperature stability	±0.1 °C
Shaking speed	50 rpm up to 600 rpm
Tension	220-240 V – 50/60 Hz
Power	Max. 1400 Watt
W x D x H in cm	35 x 60 x 34



WBMR

Type	Art.-No.
WBMR behrotest® temperature controlled water bath with magnetic stirrer and lid	B00696814

This could also be of interest to you:



Extraction units for crude fiber

Extraction units for crude fat

Determination of crude protein according to Kjeldahl:

- Infrared rapid digestion units with manual and programmable operation
- Block digestion systems, also with fully automated lift
- Steam distillation units for (nearly) all requirements
- Titration units



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behrotest[®] Equipment for the Determination of

Crude Fibre



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Crude Fibre

Crude fibre:

Fat-free organic substances in feedingstuffs which are insoluble in acid and alkaline media.

Crude fibre is a measure of the quantity of indigestible cellulose, pentosans, lignin, and other components of this type in present foods.

It is the residue of plant materials remaining after solvent extraction followed by digestion with dilute acid and alkali. These components have little food value but provide the bulk necessary for proper peristaltic action in the intestinal tract.



Determination of Crude Fibre with behr: AOAC and AACC Compliant

The determination of the crude fibre content of food and animal feed is mandatory worldwide. Standard methods – i.e. AACC Method 32-10.01, Crude Fiber in Flours, Feeds, and Feedstuffs or AOAC Official Method 962.09, ISO 5498:1981, (AAFCO code 004.00), Fiber (Crude) in Animal Feed and Pet Food and, of course ISO6865:2000 (AAFCO code 004.06) – describe the procedure.

A sample – de-fatted where necessary – is treated successively with boiling solutions of sulphuric acid and

potassium hydroxide of specified concentrations. The residue is separated by filtration on a sintered-glass filter washed, dried, weighed and ashed within a range of 475-500 °C.

The loss of weight resulting from ashing corresponds to the crude fibre present in the sample.

behrotest® Equipment for the Determination of Crude Fibre: Basic Line

behrotest® apparatus for crude fibre separation

Crude fibre separation apparatus with 4 or 6 sample positions.

Complete with:

- 600 ml beaker
- Water-cooled condenser with cool water distribution
- Condenser stand with drip tray
- Heating positions individually infinitely adjustable
- Main power switch with pilot light

Fully assembled complete device with all the necessary accessories.

behrotest® apparatus for crude fibre separation

Type	Item description	Item no.
EXR 4	with 4 sample positions	B00218446
EXR 6	with 6 sample positions	B00218448



EXR 4

behrotest® filtration unit for crude fibre separation

Filtration unit for crude fibre separation with 4 or 6 sample positions.

Complete with:

- Filter crucible
- Filtration advancers
- Seals
- Connection fittings
- Drainage pipe with connecting nozzle for vacuum or water suction pump

e.g. to determine the crude fibre content according to EN ISO6865

Typ	Item description	Item no
SC 4-2	with 4 positions	B00693906
SC 6-2	with 6 positions	B00688191



SC 4-2

MVP 46 - complete extraction unit for SC 4 and SC 6

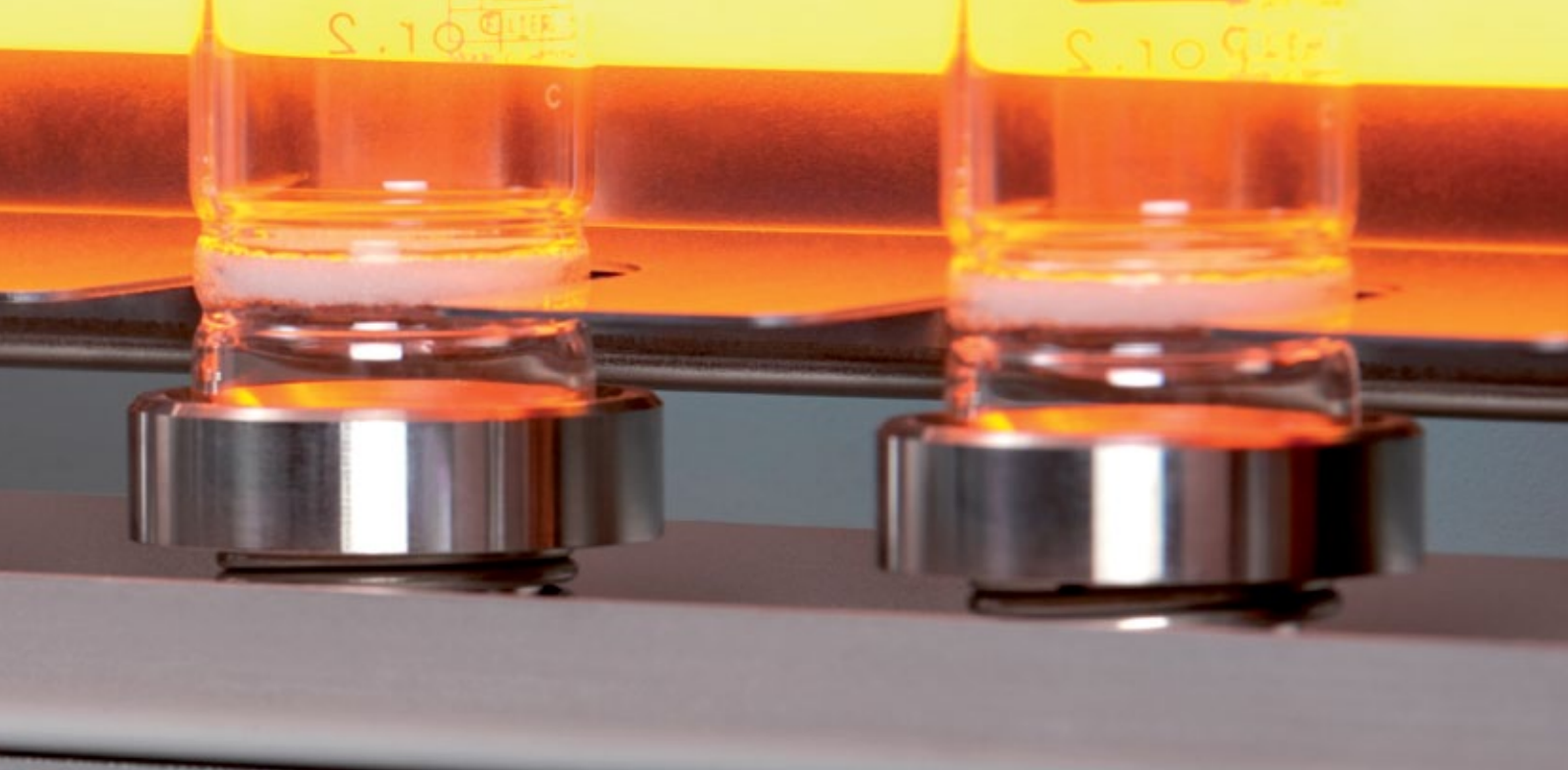
Complete with:

- Diaphragm vacuum pump
- 2 ltr. collection bottle
- Tubes

Type	Item description	Item no.
MVP 46	Complete extraction unit	B00515390



MVP 46



behrotest® Equipment for the Determination of Crude Fibre: Comfort Line

The behrotest® Comfort Line equipment for the determination of crude fibre offer

- Rapid analysis
- boiling, rinsing and filtration in one unit
- no loss of sample during determination
- processing of multiple or single samples
- reliable results and
- high reproducibility

They are ideally suited for

- total crude fibre determination (part of the Weender animal feed analysis as performed in Europe)
- neutral detergent fibre and acid detergent fibre determination (NDF and ADF according to Van Soest)
- acid detergent lignin determination (ADL according to Van Soest)
- different fractions of fibre (cellulose, hemicellulose and pectin)



behrotest® CF 6 Semi-automatic

Semi-automatic Models

behrotest® CF 2+2 Semi-automatic Crude Fibre Extraction Unit

Max. 2+2 sample places.

Easy operation: The analyst is guided through the procedure by messages on the display.

behr ABP (“acknowledge before proceeding”) method for optimum analytical safety.

Possible manual operation of air and suction pumps.

Practical tray for transfer of crucibles prevents any possible sample loss, as the same crucibles can be processed by the DG 2+2 cold extraction unit.

Technical Data

Power consumption	1000 VA
Dimensions (w x h x d) in cm	59 x 67 x 56
Weight in kg	43

Type	Item no.
CF 2+2	B00659292



CF 2+2

behrotest® CF 6 Semi-automatic Crude Fibre Extraction Unit

Max. 6 sample places

Easy operation: The analyst is guided through the procedure by messages on the display.

behr ABP (“acknowledge before proceeding”) method for optimum analytical safety.

Possible manual operation of air and suction pumps.

Practical tray for transfer of crucibles prevents any possible sample loss, as the same crucibles can be processed by the DG 6 cold extraction unit.

Technical Data

Power consumption	1400 VA
Dimensions (w x h x d) in cm	75 x 67 x 56
Weight in kg	51

Type	Item no.
CF 6	B00659293



CF 6



Cold Extraction

behrotest® DG 2+2 and DG 6

Cold Extraction Units for De-fattening

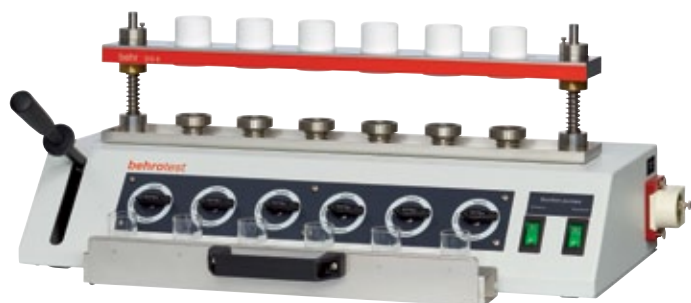
Necessary condition for a reliable crude fibre determination is a low fat content (<10%) of the sample. Samples exceeding this value require a preliminary fat extraction with acetone and hexane or petroleum.

The behrotest® DG 2+2 and DG 6 perform a rapid fat extraction directly in the same glass crucibles used in the CF 2+2 and CF 6. The user can start crude fibre extraction immediately after completing fat extraction.

Practical tray for transfer of crucibles prevents any possible sample loss, as the same crucibles can be processed by the CF extraction units.



DG 2+2



DG 6

Technical Data

	DG 2+2	DG 6
Power consumption	200 VA	200 VA
Dimensions (w x h x d) in cm	64 x 30 x 60	88 x 30 x 60
Weight in kg	18	23

Type	Item no.
DG 2+2	B00659296
DG 6	B00659297

behrotest® Muffle Furnace

For daily use in the laboratory behrotest® muffle furnace MO 8 is the right choice for heat treatment of different materials such as filter crucibles for the determination of the crude fibre content. The modern design, the excellent workmanship and a high degree of reliability characterizes this universal muffle furnace.

- Maximum temperature in the oven chamber up to 1100 °C
- Temperature stability at 500 °C: +/- 10°C
- Chamber volume of 8 Liters
(Inner Diameter H x B x T in cm: 19.5 x 31.0 x 13.5)
- Heating elements are embedded on four sides of the chamber in vacuum-formed fiber insulation
- Housing manufactured from stainless steel
- The door opens upwards
- Optional: behrotest crucible rack with removable handle for 6 filter crucibles



MO 8

Technical Data

	MO 8
Abmessungen in cm (W x D x H)	66 x 49,50 x 44,50
Controller	No
Adjustment	temperature control
Temperature range max. (in °C)	1100
Power consumption (in W)	1800
Frequency (in Hz)	50
Current consumption (in A)	8

Type	Item no.
MO 8	B00696792

Desiccator/ Silica gel

Type	Item description	Item no.
EXK 300	behrotest® Desiccator, borosilicate glass 3.3, with plastic knob and porcelain plate (DN 300)	B00711550
SG 500	behrotest® Silica gel, self-indicating (orange gel) 1-3 mm, 500 g	B00726297
SG 1000	behrotest® Silica gel, self-indicating (orange gel) 1-3 mm, 1000 g	B00726298



EXK 300

This may also interest you



Extraction units for crude lipid

Determination of the crude protein according to Kjeldahl:

- Infrared digestion devices with manual operation and also programmable
- Block digestion unit, also with fully-automatic lift
- Steam distillation units for (almost) any requirement
- Titration devices



207208

ISO 9001
BUREAU VERITAS
Certification



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Subject to technical changes without notice. Errors and omissions excepted.

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