

FT 122/121 Fibertec™ and FC 221/223 FiberCap™ Crude & Detergent Fibre Solution



Labtec™ Line

The FT 122/121 Fibertec™ comprises Hot and Cold Extraction Units for simple determination of crude fibre and detergent fibre and related parameters according to standard reference 'crucible' methods such as Weende, van Soest etc., for use in the laboratory.

The FC 221/223 FiberCap systems are designed to provide a low cost, high capacity solution for fibre determination in accordance with the Weende and van Soest methods, crude and detergent fibre.

Sample	Parameters
Raw materials and finished products in Feed and Agriculture	Crude Fibre (CF), Neutral Detergent Fibre (NDF), amylase treated Neutral Detergent Fibre (aNDF), Acid Detergent Fibre (ADF) and Acid Detergent Lignin (ADL)



Reliable Fibre analysis

The FT 122 Fibertec™ is a fibre analysis system that determines fibre content according to Weende, van Soest and other recognised methods, using externally preheated reagents. Batch handling tools improve operator safety when handling hot crucibles, processing up to 6 samples at a time. Single or sequential extractions including boiling, rinsing and filtration are performed under reproducible and controlled conditions for reliable fibre analysis.

Laboratories around the globe have invested in Fibertec instruments that go on working year after year, making Fibertec a solution that will keep your lab up to speed, well into the future.

Effective laboratory operations

The Fibertec systems handle samples in specially designed filter crucibles that are used as an integral part of the assembly during extraction, rinsing and filtration. More versatility and reduced operational cost is achieved with crucibles that can also be used as sample vessels during weighing, drying and ashing along with a range of innovative features to make your laboratory operations even simpler:

- Six samples processed simultaneously
- Accessories for batch handling
- Integral extraction and filtration
- No sample transfer and no loss of sample
- Separate unit for solvent dehydration, lignin determination and defatting
- High reproducibility of conditions and results
- Saves time and laboratory space
- Minimal downtime and service with long-life components

Laboratory staff will be grateful for the reliability, ease of use and time-saving facilities that make everyday operations simpler, safer and more convenient.

Flexible system for Fibre analysis

The FC 221/223 FiberCap is a manual system that determines fibre in accordance with Weende, van Soest and other recognized methods.

The capsule design permits reagent to extract the sample in the capsule, while the air that is formed is led out through the lid. The FiberCap system will, with up to six models, give a capacity of 36 samples extracted simultaneously.

It is a low investment cost system requiring a consumable capsule for each analysis.

Batch handling, with no sample transfer, is used throughout the procedure. Defatting, boiling, rinsing and filtration are performed under reproducible and controlled conditions.

The system offers substantial savings both in manual handling and time as well as improved analytical precision compared to manual methods.

- 6 and 18 position system available
- Results in agreement with official procedures
- Low investment cost giving unique performance/price ratio
- FiberCap capsule design ensures accurate analysis and superior precision
- Batch handling with no sample transfer
- Rapid filtration of all sample types saves time
- Multiple systems are easily operated for high throughput
- Small bench space needed



Technology

The basic modules of a Fibertec are:

FT 122 Fibertec Hot Extraction Unit, for hot hydrolysis and extraction with built-in systems for heating and filtration.

FT 121 Fibertec Cold Extraction Unit, for defatting samples, extraction at ambient temperature e.g. lignin determination and for solvent dehydration of fibre residues.

Both units are adapted to the same crucible system that permits the sample, whenever required, to be dried and weighed between extractions. In the system the samples are handled in specially designed filter crucibles, which are used both as an integral part of an extraction assembly during extraction, rinsing and filtering, and as a sample vessel during the weighing, drying and ashing steps.

The Fibertec permits handling of six samples at a time by the use of accessory tools for batch handling. Filtration problems are overcome by the unique vacuum/reverse air flow system. The Fibertec™ offers a most time saving and convenient solution for more reproducible fibre determinations.

The FiberCap system

The FiberCap systems consist of a hotplate and an extraction beaker.

The capsule is a polypropylene container with a simple snap on lid, once sealed, there is no sample transfer. The different

chemical properties of the membranes used in the capsule and the lid ensure free flow of reagent through the FiberCap during analysis. This feature guarantees repeatable conditions for all sample types, even high starch samples can easily be determined. Filtration or washing is done in seconds for all sample types.

Two versions of capsules are available, having different mesh size, offers the possibility to match results either with the filter paper method (white capsule) or the crucible method (green capsule).

The FiberCap is available in either 18 or 6 position.

Typical Applications:

- **EN ISO 6865 (AOAC 978.10)** which refers to Analysis of Crude Fibre (CF) in Feed, describes an analytical procedure based on the crucible or Fibertec™ method.
- **EN ISO 16472 (AOAC 2002:04)** which refer to Analysis of Neutral Detergent Fibre (NDF) in Feed, describes an analytical procedure based on the crucible or Fibertec™ method.
- **EN ISO 13906 (AOAC 973.18)** which refers to the Analysis of Acid Detergent Fibre (ADF) and Lignin (ADL) in Feed, describes an analytical procedure based on the crucible or Fibertec™ method.



Secure your investment with a FossCare™ Support Agreement

Let FOSS take care of you for a maximum return on your analytical investment. Get a four year warranty as part of the new FossCare Premium Preventive Maintenance Agreement or two years as part of any other FossCare agreement. In addition to the peace of mind afforded by the warranty period, the continual preventive maintenance pays off by keeping your analytical instruments working perfectly every day, year after year.

Why preventive maintenance?

As with any analytical solution, it is essential that your FOSS instrument receives regular maintenance to ensure optimal performance and extended lifetime. Avoiding expensive downtime is a matter of following factory standards and preventively replacing parts before they wear out. In turn, this helps ensure reliable and consistent results at the highest level.

Preventive and predictive maintenance combined with global support from 300 dedicated service, application, software and calibration specialists keeps your instrument running perfectly all year round.



Benefits of a FossCare™ Support Agreement:

- Extended Warranty (two or four years depending on the chosen agreement)
- Regular maintenance; the instrument is diagnosed, cleaned, adjusted, tested, fine tuned and recalibrated
- Minimal downtime from replacing components before they are worn out
- Consistent, accurate and reliable results you can always trust
- Preventative maintenance visits when it suits you (your business)
- 24/7 phone support - no need to worry about closing hours or PO
- Low, fixed service budget prevents unexpected expenses
- Discounts on additional services, spares, training, reagents, consumables and software upgrades

Contact your local Foss office for more information.

System description



FT 122 Fibertec, (200-230V):

- Hot Extraction Unit comprising: Hot Extractor, Reflector, Reagent Bottles, Hot Water Sprayer, Beaker, Funnel, Water Suction Pump, Antifoaming Agent, Tubing, Holder for 6 crucibles, Stand for 6 crucibles, Crucibles (P2 standard, 2 sets of 6), Manual.



FT 121 Fibertec:

- Cold Extraction Unit comprising: Cold Extractor, Spray Bottle, Tubing, T-tube, Spare Part Kit, Stand for 6 crucibles, Crucibles (P2 standard 40 - 100 µm, set of 6), Antifoaming Agent (octanol), Celite, 1 l.

Also choose from the following accessories:

CT 193 Cyclotec™, Sample mill, cyclone mill
 CM 190 Cemotec™, Sample mill, moisture mill
 HM 294 Homogenizer, blender type
 HM 297 Homogenizer, blender type
 KN 195 Knifetec™, water cooled sample mill

Filter Crucibles:

Crucible, P1 (100 - 160 µm), set of 6
 Crucible, P2 (40 - 100 µm), set of 6, standard
 Crucible, P3 (16 - 40 µm), set of 6
 Crucible, P0 (160 - 250 µm), set of 6
 Crucible P2 US, (40 - 60 µm) set of 6

Performance data:	
Sample size:	0.5 - 3 g
Measuring range:	0.1% - 100%
Capacity per batch:	Up to 6 samples simultaneously
Capacity per day:	Up to 36 analyses (crude fibre method acc. to Weende) per day
Repeatability:	±1 % relative at 5% - 30% fibre level
Accuracy:	According to official methods

Installation requirements:					
Equipment	Power supply	Power consumption	Dimensions w × d × h	Weight	Water supply
FT 122 Fibertec Hot Extraction Unit	200 - 230V ± 10% 50 - 60 Hz	1.000 kW	56 × 38 × 57	28 kg	Tap water for condensers (appr. 2 l/min) and water aspirator (during filtration)
FT 121 Fibertec Cold Extraction Unit	-	-	56 × 38 × 28	4 kg	Tap water for water aspirator (during filtration)

System description



FT 221 FiberCap™:

FC 221 FiberCap (6 position) 230 V, 50 Hz.

Including all accessories necessary for analysis whereof 100 pcs of capsules (white)



FT 223 FiberCap™:

FC 223 FiberCap (18 position) 230 V, 50 Hz.

Including all accessories necessary for analysis whereof 100 pcs of capsules (white)

Accessories:

- 2022 Hot Plate 230 V, 50 Hz
- Boiling Stand
- Capsule Tray, 6 position
- Capsule Tray, 18 position
- Extraction Beaker, 6 position
- Extraction Beaker, 18 position
- Drying Stand
- FiberCap capsules, 100 pcs white or green
- FiberCap capsules, 500 pcs white or green
- Stopper, 6 position
- Stopper, 18 position
- defatting beaker 6 positions
- defatting beaker 18 positions
- upgrading kit from 6 to 18 positions system

Performance data FiberCap:	
Sample size:	0.5 - 3 g
Measuring range:	0.1% - 100%
Capacity per batch:	6 samples or 18 samples simultaneously
Capacity per day (6 batches):	Up to 216 analyses (Crude fibre) using six FC 221 FiberCap™ systems in parallel, 108 analyses (Crude fibre) using one FC 223 FiberCap™.
Repeatability:	±1 % relative at 5% - 30% fibre level
Accuracy:	In agreement with official methods

Installation requirements FiberCap:					
Equipment	Power supply	Power consumption	Dimensions w x d x h	Weight	Water supply
2022 Hot Plate	230 V, 50 Hz	500 kW	20 x 30 x 35	2,5 kg	0,4 l/min

Applications:

- Crude Fibre (acc. to Weende).
- Neutral Detergent Fibre.
- Acid Detergent Fibre.
- Acid Detergent Lignin.

FT 122 Fibertec:

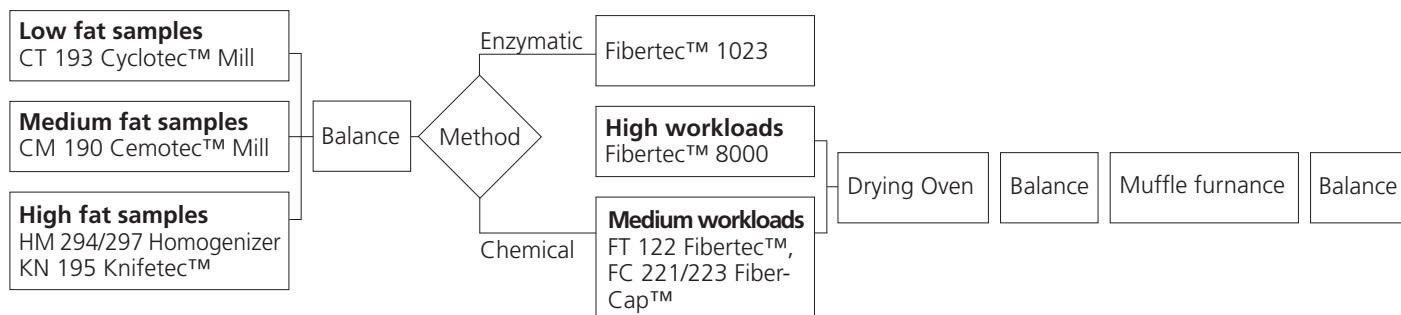
In addition, most other chemical extraction methods except methods including acetic acid, trichloroacetic acid and/or nitric acid, may be employed. For specific method information, please ask for detailed FOSS Analytical Application Notes.

FiberCap:

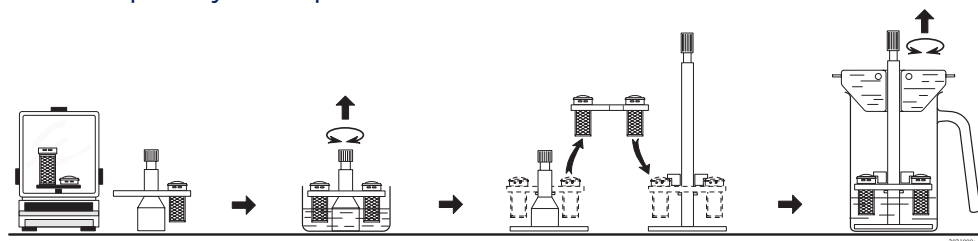
The FC 221/223 FiberCap™ System are also suitable for use with almost any chemical.

Materials used are glass, PTFE; PEEK, PP, PET & PA.

Fibertec™ Systems for any fibre determination needs:



FiberCap™ system procedure:



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Москва
ул. Магаданская, д. 7, к. 3 ■ тел./факс: (495) 745-0508 ■ sales@dia-m.ru

www.dia-m.ru

С.-Петербург
+7 (812) 372-6040
spb@dia-m.ru

Новосибирск
+7 (383) 328-0048
nsk@dia-m.ru

Воронеж
+7 (473) 232-4412
vrn@dia-m.ru

Йошкар-Ола
+7 (927) 880-3676
nba@dia-m.ru

Красноярск
+7 (923) 303-0152
krsk@dia-m.ru

Казань
+7 (843) 210-2080
kazan@dia-m.ru

Ростов-на-Дону
+7 (863) 303-5500
rnd@dia-m.ru

Екатеринбург
+7 (912) 658-7606
ekb@dia-m.ru

Кемерово
+7 (923) 158-6753
kemerovo@dia-m.ru

Армения
+7 (094) 01-0173
armenia@dia-m.ru

