



Extraction Solutions

Dedicated solutions for maximized throughput

BUCHI offers dedicated extraction solutions for the classical determination of fat, as well as for residue and contaminant analysis in various matrices. We cover the whole range of automated extraction methods, from Soxhlet, to hot or continuous extraction and pressurized solvent extraction (PSE). Our solutions allow for perfect integration in the workflow, thus minimizing manual steps.



Core messages to our customers

BUCHI creates added value with “Quality in your hands”

“Quality in your hands” is the guiding principle that shapes our philosophy and our actions. It challenges us to provide outstanding services that are precisely tailored to your needs. This means that we must stay in close contact with our customers. That is why we keep in touch and continue to work very hard to understand you and your business even better.

We help you by providing high-quality products, systems, solutions, applications and services that offer you added value. This allows you to focus entirely on your processes and your work.



Easy

You handle complex processes, do challenging work and want to focus on what is essential. We support you by providing carefully designed solutions as well as instruments and systems that are easy to operate.



Competent

You need products, systems, solutions, applications and services that are precisely tailored to your needs. We have the technological expertise and decades of experience needed to provide competent support and work with you to continually improve our market services.



Reliable

You want to be able to rely completely on your partner for products, systems, solutions, applications and services. We guarantee the quality and functionality of our equipment and will continue to help you quickly and efficiently whenever something does not operate to your satisfaction.



Cost-effective

You want to achieve the best possible results using efficient solutions. We help you to handle your jobs and processes economically. We strive to create a high level of economic benefit and maximum added value for you.



Safe

You are working in an environment in which safety is a high priority. By collaborating closely with you, we do everything in our power to make our products, systems, solutions, applications and services as safe as possible for people and the environment.



Global

You value personalized service and short communication channels. As an international family-owned business with our own subsidiaries and qualified distributors, we have a presence wherever our customers are located. Our local staff and the large number of satisfied customers around the world give you the assurance that you are working with the right partner.



Sustainable

You prefer a partner who acts responsibly when it comes to current environmental challenges. We support environmentally friendly processes and manufacture products that have a long service life. We utilize advanced technologies in order to conserve energy and water and leave the smallest environmental footprint possible.



We offer solutions for various extraction applications

From classical fat to residue and contaminant analysis

For more than 30 years BUCHI has been developing convenient and reliable extraction solutions. They include innovative and trusted products for the entire process workflow, personalized application support, easy-to-use data management and professional maintenance. Our strong customer base in QC and R&D laboratories is testament to our ability to understand specific demands and to design solutions that fully meet customers' expectations.

Food



Crude or total fat, lipids (after hydrolysis) / Contaminants: food, food contact materials, processing / Residues: pesticides, veterinary drugs / Flavors and odors

Feed



Crude fat, total fat

Environmental Analysis



Persistent organic pollutants (POPs) / Total petroleum hydrocarbons (TPHs) / Pharmaceuticals, personal care products (PPCPs) / Volatile organic compounds (VOCs) / Explosives

Pharmaceutical



Nutraceuticals / Herbal and dietary supplements / Plant toxins / Monitoring of active reagents

Chemicals



Polymers: additives (plasticizers, stabilizers, etc.) / Contamination / Branching fraction / Textiles: dyes / Residues: perfluorinated compounds (PFCs), phthalates, chlorinated paraffins, formaldehyde / Contaminants: pesticides, PCBs, PAHs

Academia



For a wide range of applications in the scientific research as well as for academic education

Our extraction portfolio comprises of five distinct methods. They allow you to perform classical fat determination in food and feed samples according to Soxhlet, hot extraction or continuous extraction. Furthermore, residue or contaminant analyses in various matrices are executed with flexible classical and pressurized extraction solutions. The post-extraction step is perfectly integrated in the product concept to reduce manual operation between the individual steps.

	Hydrolysis / Soxhlet	Hot extraction	Continuous extractions	Various extractions	Pressurized extraction
					
Analyte	Primary task: total fat	Primary task: crude fat	Primary task: total fat	Primary task: residue and contaminants	Primary task: residue and contaminants
Method	Soxhlet extraction after hydrolysis (Weibull-Stoldt)	Direct hot extraction (Randall)	Continuous extraction (Twisselmann)	Various classical extraction methods	Pressurized solvent extraction (PSE)
Pre-treatment	Milling, hydrolysis	Milling	Milling, hydrolysis	Homogenization	Homogenization
Extraction (details p. 16)	Soxhlet extraction	Hot extraction	Continuous extraction	Soxhlet, Soxhlet warm, hot extraction, continuous flow	PSE
Post-extraction treatment	Drying	Drying	Drying	Clean up, parallel evaporation	Clean up, parallel evaporation / concentration
Analysis	Gravimetry	Gravimetry	Gravimetry	GC or LC-MS	GC or LC-MS
Solutions by BUCHI	«Extraction Reference» p. 6	«Extraction Quick Fat» p. 8	«Extraction Economic» p. 10	«Extraction Universal» p. 12	«Extraction Throughput» p. 14

Find detailed information at:
www.buchi.com/extraction/solutions





Solution «Extraction Reference»

Total fat determination with an authentic and accelerated Soxhlet

You look for an automated way to determine the total fat content in compliance with standardized methods. We provide a fully compliant, exhaustive extraction solution with excellent reproducibility according to Weibull-Stoldt, i.e. acid hydrolysis followed by Soxhlet extraction.

Recirculating Chiller F-308



Mixer B-400



Extraction Unit
E-816 SOX

Hydrolysis Unit E-416



Vacuum Pump V-100 with
Interface I-100



Your most important benefits

Compliant and exhaustive

- Fully in accordance with the genuine Soxhlet extraction
- Assured conformity for the declaration of the total fat content according to AOAC and Weibull-Stoldt
- Excellent reproducibility thanks to efficient hydrolysis and exhaustive extraction

Easy-to-use

- Ready-to-use pre-programmed methods for unattended operation
- Combines Soxhlet extraction, rinsing and evaporation to dryness in one process without operator intervention
- Convenient transfer of the hydrolyzed sample into the Soxhlet extraction chamber with reusable glass sample tubes

Safe

- Excellent operator protection without any compromises on the supervision of the entire process
- Superior solvent recovery of more than 90% thanks to efficient condensers

Your solution «Extraction Reference»



- Extraction: Extraction Unit E-816 SOX
- Cooling: Recirculating Chiller F-308
- Milling: Mixer B-400
- Hydrolysis: Hydrolysis Unit E-416
- Suction: Vacuum Pump V-100 / Interface I-100
- Options: Water jet pump



- Comprehensive list of reference applications
- Customized application support
- Authorized IQ/OQ documentation
- Practical workshops, training and seminars
- Preventive maintenance including IQ/OQ
- Minimize downtime thanks to our service hotline

“Due to the easy handling and high reproducibility of the BUCHI Soxhlet unit we were able to significantly simplify our operation process of the fat content analysis.”

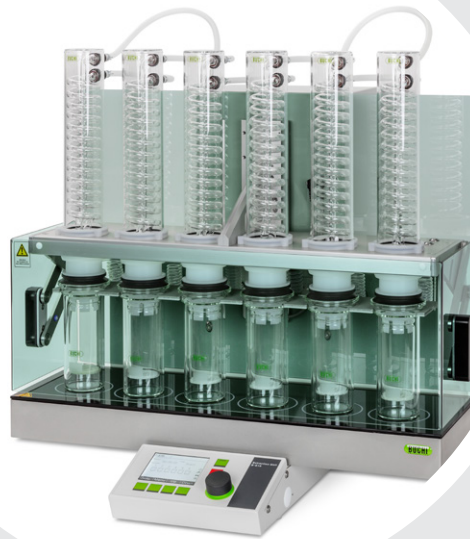
Chocolat Frey AG, Switzerland



Solution «Extraction Quick Fat» Fast crude fat determination by hot extraction

You look for an economical and fast way to determine crude fat in food and feed samples. We provide an automated hot extraction solution (Randall) that extracts 6 samples in less than 40 minutes.

Recirculating Chiller F-308



Extraction Unit
E-816 HE



Mixer B-400



Your most important benefits

Economical

- Save time and money by applying the fastest extraction technique (< 40 min) for crude fat determination
- Reduce solvent consumption thanks to automated process
- Save valuable benchtop space compared to other extraction systems
- Determine crude fat directly without time-consuming hydrolysis prior to extraction

Easy-to-use

- Ready-to-use pre-programmed methods for unattended operation
- Three-step process without operator intervention (extraction, rinsing and evaporation to dryness)

Safe

- Excellent operator protection without any compromises on the supervision of the entire process
- Minimal solvent emission thanks to efficient condensation and solvent collection in a cooled tank

Your solution «Extraction Quick Fat»



- Extraction: Extraction Unit E-816 HE
- Cooling: Recirculating Chiller F-308
- Milling: Mixer B-400
- Options: Acid hydrolysis with Hydrolysis Unit E-416 combined with the Vacuum Pump V-100 / Interface I-100



- Comprehensive list of reference applications
- Customized application support
- Authorized IQ/OQ documentation
- Practical workshops, training and seminars
- Preventive maintenance including IQ/OQ
- Minimize downtime thanks to our service hotline

“A robust piece of equipment with cost savings due to high solvent recovery rate and less solvent consumption.”

Dr. Salman Gulzar, Assistant Professor, Institute of Sustainable Halophyte, Pakistan



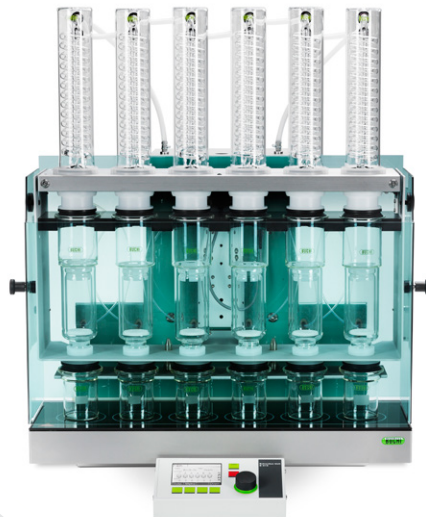
Solution «Extraction Economic» Fat determination by continuous extraction

You look for an automated and reliable way to determine the fat content in food and feed samples. We provide an economic and convenient continuous extraction solution with excellent reproducibility.

Mixer B-400



Recirculating Chiller F-308



Extraction Unit E-816 ECE



Hydrolysis Unit E-416



Vacuum Pump V-100 with
Interface I-100

Your most important benefits

Economic

- Save money thanks to reduced solvent consumption
- Superior solvent recovery of more than 90% due to cooled solvent tank

Convenient

- Quick and simple method selection thanks to intuitive solvent library
- Easy loading of the hydrolyzed sample into the extraction chamber with reusable glass tubes
- Automated two step process without operator intervention

Fast and reliable

- Up to four times faster compared to extractions using classical glassware
- High reproducibility and reliable results thanks to automated two step process and sample-extract separation
- Assured conformity in accordance with the officially approved methods (e.g. ISO, LFGB etc.)

Your solution «Extraction Economic»



- Extraction: Extraction Unit E-816 ECE
- Cooling: Recirculating Chiller F-308
- Milling: Mixer B-400
- Hydrolysis: Hydrolysis Unit E-416
- Suction: Vacuum Pump V-100 / Interface I-100
- Options: Water jet pump



- Comprehensive list of reference applications
- Customized application support
- Practical workshops, training and seminars
- Minimize downtime thanks to our service hotline

“The operation of the BUCHI extractor E-816 ECE is just as easy as the E-816 Soxhlet and provides comparable results. It is faster, more convenient and uses less solvent.”

Food inspection, canton of Zug, Switzerland



Solution «Extraction Universal» Solvent extraction with high flexibility

You need a most flexible automated solution that allows for applying various extraction techniques without changing the glass set-up. Our «Extraction Universal» solution copes with both highly demanding contaminant and residue determination as well as classical fat extraction at the push of a button.

Recirculating Chiller F-308



Extraction System
B-811



Syncore® Analyst R-12



Your most important benefits

Wide range of applications

- Soxhlet extraction of persistent organic pollutants from soil, sludge, sediments and air sampling cartridges (PUF, XAD)
- Extraction of residues and contaminants like pesticides, herbicides and dioxins from raw materials and food and feed samples
- Classical determination of total or crude fat in food and feed samples

Fast and flexible

- Upmost flexibility by applying four different technologies without any conversion of glassware
- Short analysis time due to fully automated extraction process and concerted hydrolysis or parallel evaporation

Safe and reliable

- Determination of low contamination levels with the help of the large sample volume (LSV) option and inert materials
- Excellent operator protection without any compromise on the supervision of the entire process
- No loss of oxidizable analytes as a result of the inert gas inlet

Your solution «Extraction Universal»



- Extraction: Extraction System B-811 / B-811 LSV
- Parallel evaporation: Syncore® Analyst R-12 / R-6
- Cooling: Recirculating Chiller F-308
- Options: Acid hydrolysis with Hydrolysis Unit B-411; Mixer B-400 for milling; Evaporation with the Multivapor™ P-12 / P-6 or Rotavapor® R-300; Syncore® SPE cover for clean up



- Comprehensive list of reference applications
- Customized application support
- Authorized IQ/OQ documentation
- Practical workshops, training and seminars
- Preventive maintenance including IQ/OQ
- Minimize downtime thanks to our service hotline

“The Extraction System B-811 makes sample preparation easier and quicker. The two benefits, time-savings and lower solvent consumption, are obvious.”

Doctor Liu Aiming, Laboratory Director of Sino-Japan Friendship Centre of Environmental Protection, China



Solution «Extraction Throughput» Most convenient PSE with highest throughput

You need analytical results as fast as possible and you have to contend with high sample loads. We offer a combined solution for pressurized solvent extraction (PSE) with unprecedented speed and throughput for a wide variety of application fields.

Sepacore® Easy Extract
purification system



SpeedExtractor E-916



Syncore® Analyst R-12



Your most important benefits

Wide range of extraction applications

- POPs from soil, sludge, sediments, air sampling cartridges (PUF, XAD), residues and contaminants from food and feed samples
- Food contact materials from packaging and food
- Additives, ingredients and contaminants in plastics, paper and textiles
- Fat and fatty acids in food, active compounds in natural products and pharmaceutical agents in drugs

Fast and fail-safe

- Shortened time to analysis as benefit of simultaneous extraction and evaporation
- Direct evaporation without manual transfer of the extracts thanks to compatible glassware
- Increased process safety due to an automated extraction cell sealing mechanism

Low running costs

- Cost savings for solvents by up to 70 % compared to extractions using classical glassware
- Low operator costs as laborious transfer of extracts from extraction to concentration is obsolete
- Avoid costly consumables compared to other similar PSE systems

Your solution «Extraction Throughput»



- PSE: SpeedExtractor E-916 / E-914
- Parallel evaporation: Syncore® Analyst R-12 / R-6
- Purification: Sepacore® Easy Extract purification system
- Options: Evaporation with the Multivapor™ P-12 / P-6 or Rotavapor® R-300; Syncore® SPE cover for clean up; Mixer B-400 for milling



- Comprehensive list of reference applications
- Customized application support
- Authorized IQ/OQ documentation
- Practical workshops, training and seminars
- Preventive maintenance including IQ/OQ
- Minimize downtime thanks to our service hotline

“Providing 6 parallel extractions and high speed, the E-916 makes our work in the laboratory easier and decreases our working pressure.”

Dr. Xie Wen Jun, Position Director, Centre of Analytical Testing, Binzhou, China

The best solution for your need

Comparison by customer needs, application and characteristics



Hydrolysis

B-411 / E-416



Classical extraction

E-816 / E-812 SOX

Needs/Solutions	Page	B-411 / E-416	E-816 / E-812 SOX
«Extraction Reference»	6	●	●
«Extraction Quick Fat»	8	optional	
«Extraction Economic»	10		
«Extraction Universal»	12	optional	
«Extraction Throughput»	14		

Analyte

Fat, lipids	●	●
Food contaminants and residues		
POP, TPH, PPCP, VOC, explosives		
Polymer constituents or contaminants		
Textile constituents or contaminants		

Characteristics

Method	Acid hydrolysis	Classical Soxhlet (e.g. Weibull-Stoldt)
Typical process time [min]	~35	~150
No. of samples per batch	4/6	6/2
Extract collection/beaker volume [mL]	300	130
Sample holder volume [mL]	120/115 (glass sample tube)	115 (glass sample tube)
Thimble size: ID x L [mm]		25 x 100; 33 x 94
Thimble material	Cellulose	Cellulose
Solvents	HCl solution	Chloroform, hexane, petroleum-/diethyl ether
Pressure [bar]	Ambient	Ambient
Temperature range [°C], boiling points	<110	<70
Materials in contact with sample	Borosilicate glass 3.3	Borosilicate glass 3.3, FPM, FEP, Fluorez®, Ematal®



Classical extraction

Pressurized solvent extraction

E-816 / E-812 HE

E-816 ECE

B-811 / B-811 LSV

E-916 / E-914

●			
	●		
		●	
			●
●	●	●	●
		●	●
		●	●
		●	●
		●	●
		●	●

Hot extraction (Randall)	Continuous extraction (Twisselmann)	Soxhlet, Soxhlet warm, hot extraction, continuous flow	Pressurized solvent extraction
~40	~60	>120	~45
6/2	6	4/4	6/4
260	130	150/250	60 – 500
115 (glass sample tube)	115 (glass sample tube)	120/200	10-40/40-120 (cells)
25 x 100; 33 x 94	25 x 100; 33 x 94	22 x 80; 25 x 100; 33 x 94; 43 x 118	15, 23.5, 25, 30 x 118
Cellulose	Cellulose	Cellulose	Cellulose and glass fiber
Chloroform, hexane, petroleum-/diethyl ether	Chloroform, hexane, petroleum-/diethyl ether	Water, organic solvents	Water, organic solvents
Ambient	Ambient	Ambient	50 - 150
<70	<70	<154	30 - 200
Borosilicate glass 3.3, FPM, FEP, Fluorez®, Ematal®	Borosilicate glass 3.3, FPM, FEP, Fluorez®, Ematal®	Borosilicate glass 3.3, PTFE, Fluorez®	FEP, FFPM, PEEK, PTFE, stainless steel, ceramic, glass

Get the right method for your task

BUCHI's unique extraction technologies

BUCHI covers the whole range of automated extraction methods for fat determination. With focus on methodical compliance, operator safety, throughput and automation BUCHI provides classical methods based on hydrolysis and exhaustive extraction techniques like hot extraction and warm Soxhlet.

Fat determination

Total fat – Soxhlet or continuous extraction (Twisselmann)

Authentic, accelerated Soxhlet: E-816 SOX

Classical Soxhlet extraction for exhaustive total fat extraction with preceding hydrolysis:

- Sample ① is soaked in distilled solvent.
- Solvent level ② is adjusted to minimize solvent and time consumption.
- Cycles and/or extraction time are programmed to achieve excellent reproducibility.

Economic fat extraction: E-816 ECE

Continuous extraction for simple and exhaustive fat extraction:

- Sample ① is kept in hot solvent vapor while being rinsed with distilled solvent.
- Extraction time is programmed to achieve excellent reproducibility.
- Extraction time: <60 min.
- Optionally to be combined with hydrolysis for total fat determination.

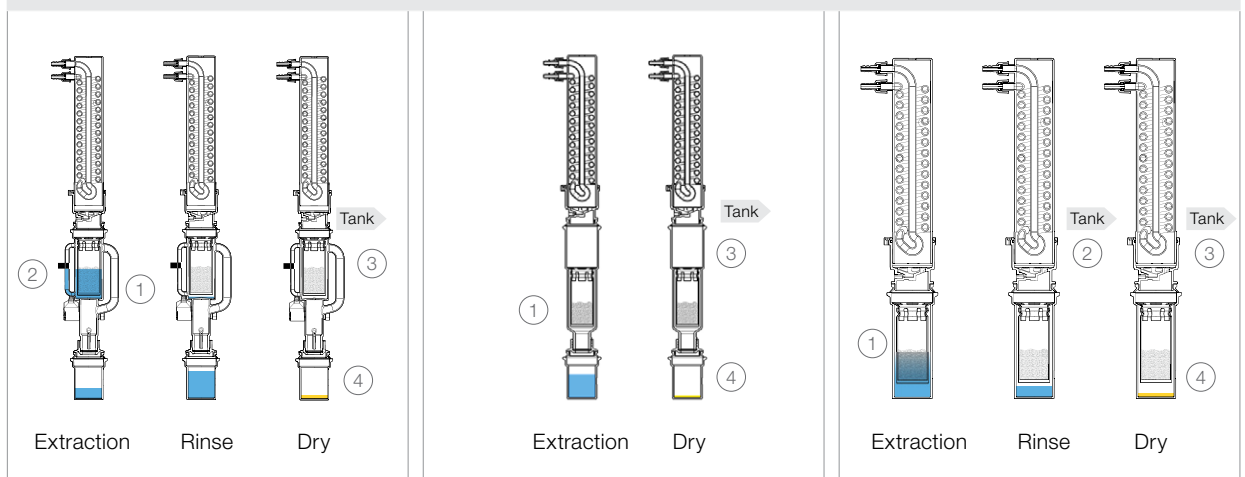
Crude fat – hot extraction

Fast fat extraction : E-816 HE

Hot extraction (Randall) for direct determination of accessible lipids (crude fat):

- Sample is immersed in boiling solvent ①.
- While lowering the solvent level with clearance to tank ② the sample is rinsed.
- To dry the extract draining into the tank is completed.
- Extraction time: <40 min.
- Optionally to be combined with hydrolysis for total fat determination.

- Solvent is evaporated and transferred to tank ③ while the extract is gently drying.
- Beaker ④ containing the extracted fat is dried in an oven.



BUCHI offers well-directed solutions for solid-liquid extractions for residue and contaminant analysis to meet the challenging demands of today's laboratories. Whether classical or pressurized solvent extraction (PSE), BUCHI streamlines the workflow of sample preparation ensuring the highest degree of safe analysis and maximized throughput.

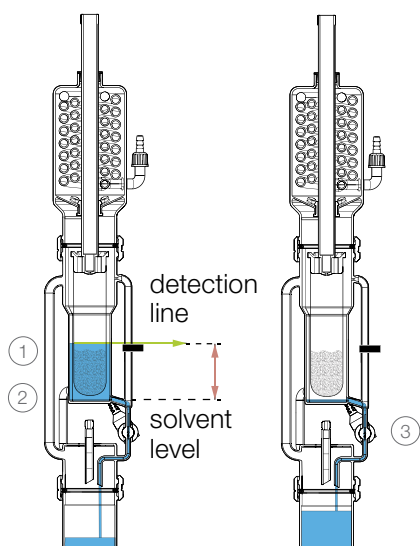
Residue and contaminants

Various classical extraction techniques

Four-in-one: B-811 or B-811 LSV

Four extraction methods are available without conversion of glass assembly. Sample is placed into extraction chamber ①. Extraction, rinse and dry are performed in four distinct ways:

- Soxhlet Standard: classical Soxhlet in analogy to E-816 SOX.
- Soxhlet Warm: solvent in extraction chamber ① is heated up ② to accelerate the Soxhlet process.
- Hot Extraction: sample ① is dipped in hot solvent
- Continuous Flow: sample is rinsed with freshly distilled solvent (valve ③ is open).

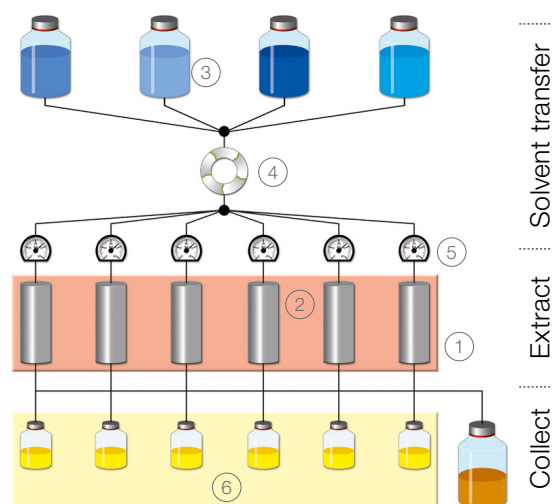


Pressurized solvent extraction (PSE)

Accelerated extraction: E-916/914

In PSE the samples are exposed to elevated pressure and temperature.

- Sample is placed into metal cells ①.
- Cells are heated by an oven ②.
- Solvent mixture ③ is transferred into cells by pump ④.
- Each cell is individually monitored ⑤ to eliminate cross-contamination.
- After extraction extracts are discharged into various types of vials ⑥.
- Vials ⑥ fit BUCHI's parallel or rotary evaporators for evaporation or concentration. No transfer of liquids is required.



Benefit from over 30 years of experience

Frequently asked questions

BUCHI supports you in your daily work by providing high quality solutions. We also share application expertise and experience with you along your entire workflow. Customized applications help you to optimize your extraction processes while high capacity throughput improves your overall response times.

Why is hydrolysis important for exhaustive fat extractions?

In many matrices fat is naturally encased or chemically bound. Therefore, hydrolysis is required to transform lipids into extractable forms. Hydrochloric acid disrupts cell walls, hydrolyses proteins / polysaccharides, and breaks lipid-carbohydrate bonds.

Fat recovery (%)	Soxhlet only	Weibull-Stoldt
Cornflakes	0.21	0.88
Milk chocolate	21.00	32.40
Nuts	37.60	56.00
Full milk powder	1.08	25.80

Comparison between fat extraction without (Soxhlet only) and with hydrolysis (Weibull-Stoldt)

What is the maximum sample amount for fat determination?

The sample weight has to be chosen according to the approximate fat content. Usually 0.7 - 1.2 g of fat will be determined. Therefore the following sample amount will be applied:

Fat content (%)	Sample weight (g)
< 10 %	7 - 10
10 - 20 %	3.5 - 7
20 - 50 %	1.5 - 3.5
50 - 80 %	1 - 1.5
80 - 100 %	0.7 - 1

Fat content of sample and corresponding sample weight

When is it recommended to work with a recirculating chiller?

When you use a solvent like petroleum ether, a recirculating chiller (e.g. Recirculating Chiller F-308) should be implemented especially if the tap water is warmer than 15°C. The temperature difference between the boiling point of the solvent and the cooling water temperature should be 20 - 25°C in order to achieve complete condensation of the solvent and to maintain an excellent solvent recovery.



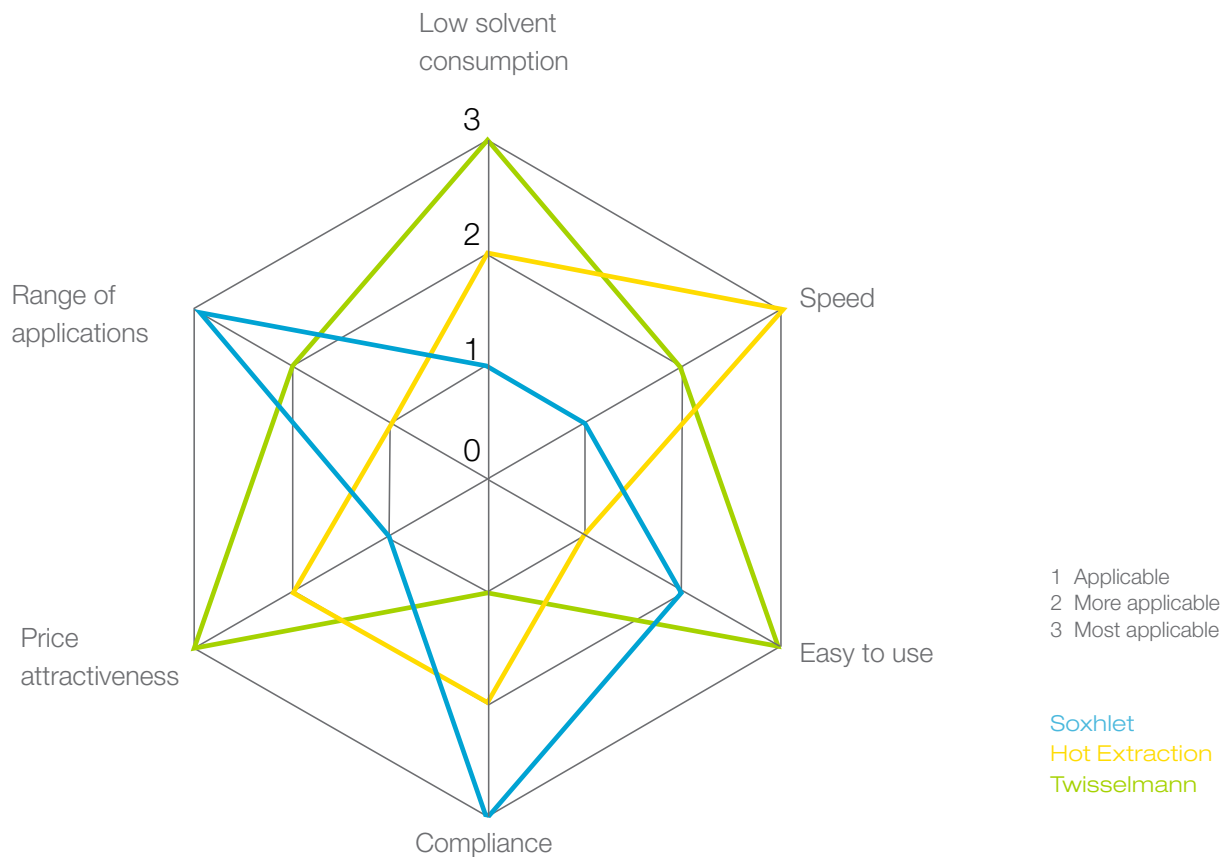
Why to change from glassware to automated classical extraction?

The fully automated classical extraction process offers the following benefits compared to classical glassware:

- Reduced extraction time due to cycle and/or time monitoring. The adjustable optical sensor of the E-812 / E-816 SOX allows to work with smaller sample volumes and less solvent.
- Lower solvent consumption guarantees cost saving thanks to adapted dimensions and highest solvent recovery.
- Unattended operation and minimal operator intervention leads to increased operator availability.
- Excellent operator protection thanks to safety features and shielding.

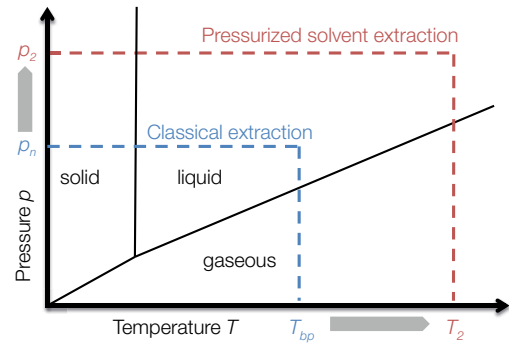
What are the strengths of the classical extraction methods?

Different factors play a decisive role in the selection of the most suitable method for total or crude fat determination. Whereas Soxhlet is a proven method for all kind of samples, hot extraction excels in speed, and Twisselmann is matchless in terms of user-friendliness and solvent consumption.



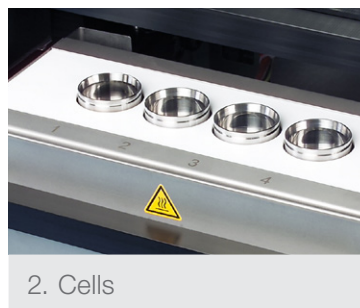
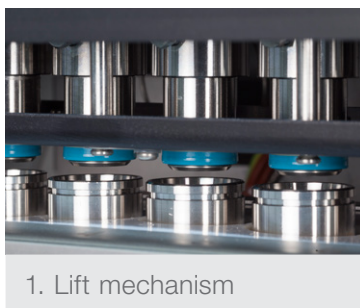
Why does high pressure increase the extraction efficiency?

The combination of elevated temperature and pressure results in faster extraction compared to other extraction technologies. This is the result of an improved mass transfer because of higher analyte solubility and enhanced penetration. An increase from normal pressure p_n to p_2 is thereby necessary to keep the sample in the liquid state at T_2 .



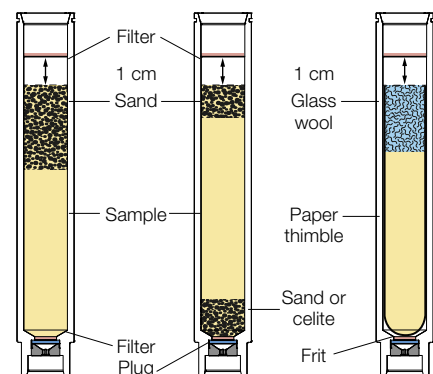
What is so convenient about the SpeedExtractor's sealing system?

BUCHI's unique extraction cell design is absolutely fail-safe, reliable and yields reproducible results. A lift mechanism (1) automatically closes the cells (2) at the push of a button. Hence, covering the sample with a filter paper (3) is sufficient to make the sample ready for extraction.



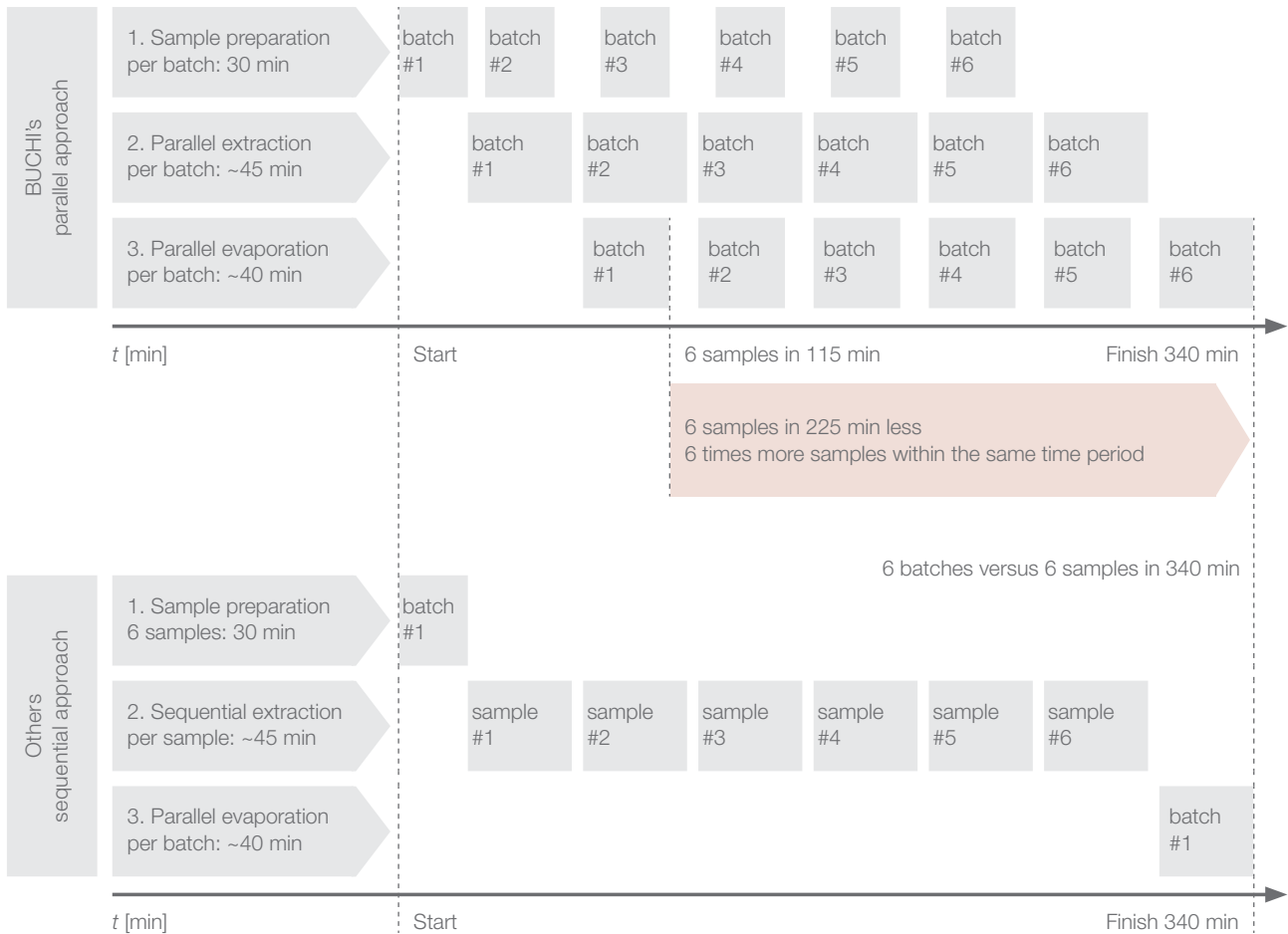
Is it possible to do the clean-up during extraction?

Yes, because the unique extraction cell design of the SpeedExtractor allows for various sample loadings. It is also possible to insert cleaning agents such as Florisil, silica gel, charcoal etc. for in-cell clean up, or to apply different filling techniques. This significantly facilitates the classical clean up procedures subsequent to extraction.



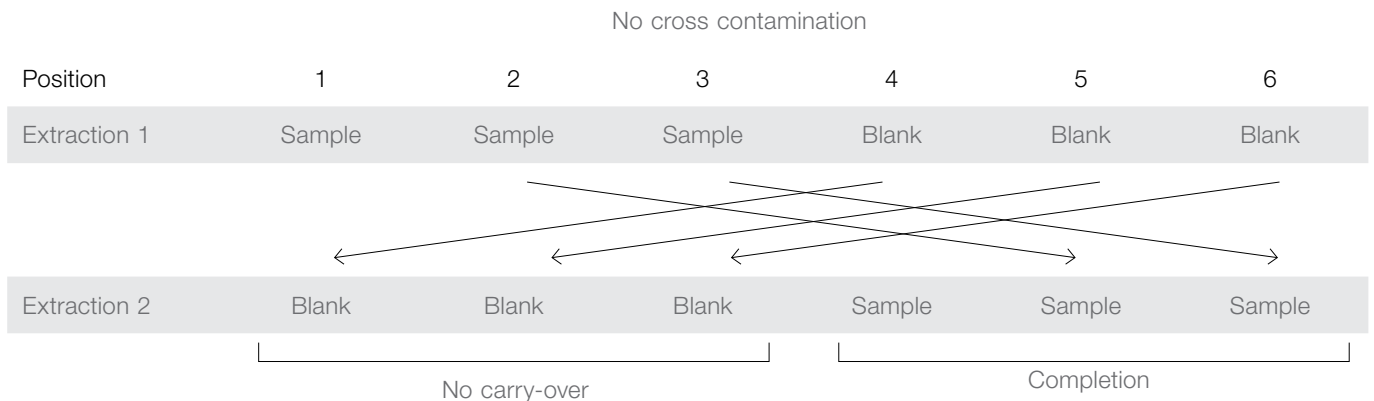
What is the benefit of a parallel extraction/evaporation approach?

Speed up your process and reduce the time to analysis significantly. Thanks to the concerted parallel extraction / parallel evaporation sample throughput is increased six times as opposed to a sequential approach. An incoming batch of six samples is ready for the analysis after 115 minutes.



Isn't there any chance of cross-contamination for adjacent positions?

No, because each position has its own inlet and outlet valve as well as individual pressure sensors. Even in case of blockage of one position cross-contamination is excluded as an integrated troubleshooting wizard automatically relieves the pressure. All other positions can be finished while the faulty position is deactivated.



Experiments were carried out by the Fraunhofer Institute for Process Engineering and Packaging IVV in Freising, Germany.

Mixer



The Mixer B-400 combines optimal homogenization efficiency with simple operation and flexibility.

Recirculating chiller



Sustainable cooling in accordance with economical and ecological needs is achieved with the Recirculating Chillers F-308 and F-314.

Parallel evaporation



The Syncore® Analysts R-6 / R-12 evaporates extracts to pre-defined residual volumes. Optionally, it combines SPE clean-up with concentration of the elutes.

Disposables



The extraction thimbles and filter papers are tailored to BUCHI's extraction units. Trouble-free operation is guaranteed.

Chemicals



Use the BUCHI approved extraction sand and diatomaceous earth for reliable operation and effective drying.

Glassware



BUCHI precision glass vessels stand for extended lifetime, trouble-free operation, and safe processing. Various vessels are compatible for both PSE and evaporation.

Rotary evaporation



The Rotavapor® R-300 is the product of choice for gentle evaporation of large volumes of extracts coming from the B-811 LSV or the E-914.

Chromatography



The Sepacore® Easy Extract purification system is perfectly suitable for further clean-up of complex extracts prior to analysis.

Trace metal analysis



Trace metal analysis is achieved by reflux digestion units even when large sample quantities are required (300 mL tubes).

Kjeldahl determination



Dedicated Kjeldahl solutions are the ideal companion to Soxhlet and hot extraction for protein determination in food analysis and labeling.

NIR Spectroscopy



Near Infrared Spectroscopy is the preferred technology to complement classical fat determination with a fast screening method.

Dumas combustion



The DuMaster D-480 enables unattended and flexible determination of nitrogen or protein according to the Dumas combustion method.



Support and customer service

From feasibility to preventive maintenance

You value an efficient and personalized service. Our network of professional application specialists and service technicians as well as a large number of satisfied customers around the world give you the assurance that you are working with the right partner.



Improve your applications

A team of highly qualified specialists continually improve our reference Application Notes. Ready-to-use detailed descriptions comprise of the entire process from milling to extraction, clean up, evaporation and analysis. Customized solutions are developed in close collaboration whenever you face new requirements, changing circumstances or new parameters to be determined.

Find more than 120 application notes at:
www.buchi.com/applications



Learn more about extraction

Over more than 30 years of experience in the development of official and customized applications is summarized in practical guides. In addition, "The Laboratory Assistant" provides the theoretical background of essential sample preparation steps as well as practical tips. Profit from a myriad of information.

Discover our literature at:
www.buchi.com/literature



Make use of innovative apps

Strong customer relationships result in a growing number of practical apps facilitating your daily routine. We are continuously developing new apps which facilitate the finding of optimal process parameters, or the interpretation of experimental results. The apps can be tested live on our website.

Experience our apps online:
www.buchi.com/apps





Profit from workshops, trainings and seminars

We regularly offer practical seminars and workshops, often in co-operation with other partners in the field of sample preparation and analysis. Customer contributions thereby underline how our solutions facilitate the daily routine. We also attend many local and international scientific and industrial congresses.

Find an overview of our activities:
www.buchi.com/events



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BUCHI Affiliates:

Europe

Switzerland/Austria

BÜCHI Labortechnik AG
 CH – 9230 Flawil
 T +41 71 394 63 63
 F +41 71 394 65 65
 buchi@buchi.com
 www.buchi.com

Italy

BUCHI Italia s.r.l.
 IT – 20010 Cornaredo (MI)
 T +39 02 824 50 11
 F +39 02 575 12 855
 italia@buchi.com
 www.buchi.it

Benelux

BÜCHI Labortechnik GmbH
 Branch Office Benelux
 NL – 3342 GT Hendrik-Ido-Ambacht
 T +31 78 684 94 29
 F +31 78 684 94 30
 benelux@buchi.com
 www.buchi.be

Russia

BUCHI Russia/CIS
 Russia 127287 Moscow
 T +7 495 36 36 495
 F +7 495 98 10 520
 russia@buchi.com
 www.buchi.ru

France

BUCHI Sarl
 FR – 94656 Rungis Cedex
 T +33 1 56 70 62 50
 F +33 1 46 86 00 31
 france@buchi.com
 www.buchi.fr

United Kingdom

BUCHI UK Ltd.
 GB – Oldham OL9 9QL
 T +44 161 633 1000
 F +44 161 633 1007
 uk@buchi.com
 www.buchi.co.uk

Germany

BÜCHI Labortechnik GmbH
 DE – 45127 Essen
 T +800 414 0 414 0 (Toll Free)
 T +49 201 747 49 0
 F +49 201 747 49 20
 deutschland@buchi.com
 www.buechigmbh.de

Germany

BÜCHI NIR-Online
 DE – 69190 Walldorf
 T +49 6227 73 26 60
 F +49 6227 73 26 70
 nir-online@buchi.com
 www.nir-online.de

America

Brazil

BUCHI Brasil Ltda.
 BR – Valinhos SP 13271-200
 T +55 19 3849 1201
 F +55 19 3849 2907
 brasil@buchi.com
 www.buchi.com

USA/Canada

BUCHI Corporation
 US – New Castle, DE 19720
 T +1 877 692 8244 (Toll Free)
 T +1 302 652 3000
 F +1 302 652 8777
 us-sales@buchi.com
 www.mybuchi.com

Asia

China

BUCHI China
 CN – 200052 Shanghai
 T +86 21 6280 3366
 F +86 21 5230 8821
 china@buchi.com
 www.buchi.com.cn

India

BUCHI India Private Ltd.
 IN – Mumbai 400 055
 T +91 22 667 75400
 F +91 22 667 18986
 india@buchi.com
 www.buchi.in

Indonesia

PT. BUCHI Indonesia
 ID – Tangerang 15321
 T +62 21 537 62 16
 F +62 21 537 62 17
 indonesia@buchi.com
 www.buchi.co.id

Japan

Nihon BUCHI K.K.
 JP – Tokyo 110-0008
 T +81 3 3821 4777
 F +81 3 3821 4555
 nihon@buchi.com
 www.nihon-buchi.jp

Korea

BUCHI Korea Inc.
 KR – Seoul 153-782
 T +82 2 6718 7500
 F +82 2 6718 7599
 korea@buchi.com
 www.buchi.kr

Malaysia

BUCHI Malaysia Sdn. Bhd.
 MY – 47301 Petaling Jaya,
 Selangor
 T +60 3 7832 0310
 F +60 3 7832 0309
 malaysia@buchi.com
 www.buchi.com

Singapore

BUCHI Singapore Pte. Ltd.
 SG – Singapore 609919
 T +65 6565 1175
 F +65 6566 7047
 singapore@buchi.com
 www.buchi.com

Thailand

BUCHI (Thailand) Ltd.
 TH – Bangkok 10600
 T +66 2 862 08 51
 F +66 2 862 08 54
 thailand@buchi.com
 www.buchi.co.th

BUCHI Support Centers:

South East Asia

BUCHI (Thailand) Ltd.
 TH-Bangkok 10600
 T +66 2 862 08 51
 F +66 2 862 08 54
 bacc@buchi.com
 www.buchi.com

Middle East

BÜCHI Labortechnik AG
 UAE – Dubai
 T +971 4 313 2860
 F +971 4 313 2861
 middleeast@buchi.com
 www.buchi.com

Latin America

BUCHI Latinoamérica Ltda.
 BR – Valinhos SP 13271-200
 T +55 19 3849 1201
 F +55 19 3849 2907
 latinoamerica@buchi.com
 www.buchi.com

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