



BUCHI R&D Solutions

Pharma & Chemistry



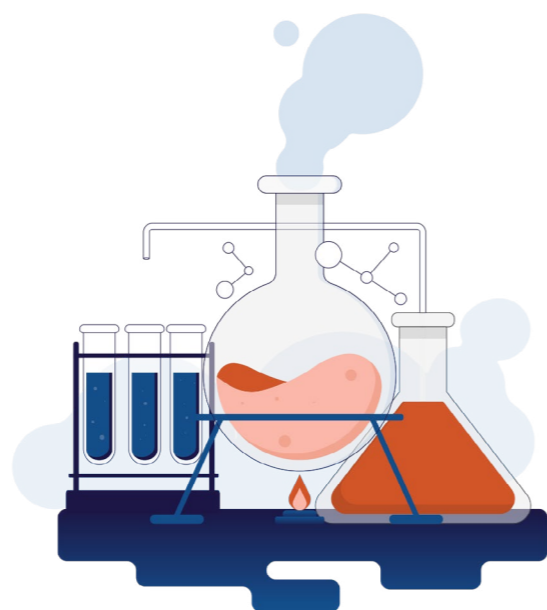
Workflow Pharma & Chemistry

Any chemical compounds or pharmaceutical ingredients, such as standard drugs, fine & specialty chemicals, or cosmetics & fragrances, undergo complex and time-consuming R&D processes and strict application testing before being produced at large scale and released to the market.



Discovery

There are several common steps during the discovery of novel therapeutics or chemical compounds. Ingredients or chemicals of interest are either extracted from natural sources or synthesized in the laboratory. Any targets of interest are processed further to achieve a single compound of high purity, which is thoroughly tested for desirable characteristics and functions.



Development

Once an active pharmaceutical ingredient (API) or chemical of interest has been identified, the development of the production process can begin. Here, the process is optimized on a larger scale to ensure a trouble-free production process. Drug formulation is the process of designing and producing drugs to be given to patients. Before being incorporated into a final formulation, ingredients need to be preformulated in either a liquid or solid form to facilitate storage.



Testing

Chemical or pharmaceutical products must undergo strict application testing before they enter the production process. The final product is typically tested for chemical stability and physical integrity under specific storage, transport, and use conditions. Clinical trials can take several years to complete and involve the evaluation of the drug mixture with animal, in vitro, and in vivo studies. If the drug is proven safe and efficient, the therapeutic can move on to the clinical research phase.



Production

Inspection of incoming goods and final quality control ensures the desired quality of any chemical or pharmaceutical products. Additionally, quality control during the production of chemicals and drugs helps to analyze the identity, purity, and content of bulk material, intermediates, impurities, and degradation products. Close monitoring of the process enables safe operation and ensures the product meets the required specifications.

Pharma & Chemistry

R&D Discovery

Synthesis, Extraction

Concentration

Separation

Drying

Analysis

Cold Extraction / Soxhlet

Evaporation

Flash Chromatography, Prep HPLC, Prep SFC

Freeze Drying

Melting Point



Rotavapor®



Rotavapor®



SyncorePlus



Pure & Pure Essential, Sepiatec SFC, Consumables



Lyovapor™



Melting Point

Application

The search for active pharmaceutical ingredients (APIs) and chemical compounds typically begins with a synthesis or an extraction step. Reflux synthesis and Soxhlet extraction can be performed via a rotary evaporator.

Since both synthesis and extraction require large amounts of solvent, a concentration step is required prior to downstream processing. Here, rotary evaporation is used to remove the solvent and concentrate the compound of interest.

The use of parallel evaporation can speed up the concentration of multiple samples. Many samples are evaporated simultaneously, which increases sample throughput.

Flash and prep HPLC (preparative high pressure liquid chromatography) & prep SFC (preparative supercritical fluid chromatography) are commonly used to purify target compounds: flash is used as a pre-purification step, whereas prep HPLC and SFC increase the purity of the target compound to the maximum.

Following the separation process, molecules of interest are highly diluted and must be concentrated before proceeding with the next steps. Freeze drying can be used to remove solvent from heat-sensitive products with minimal damage.

Melting point analysis can be used to perform quality control on the compound of interest. Determination of the novel compound's melting point serves as a useful indicator of the material's purity.

Features

- Reflux condenser for reflux synthesis
- Soxhlet accessory for Soxhlet extraction
- One instrument fits several application

- Evaporation of a single sample with evaporating flask size of 50 to 5000 mL
- Fully communicating system to avoid downtime: solvent library, dynamic distillation, drying mode, leak test, foam sensor
- Dewar accessory for freeze drying sample preparation

- Multiple samples in the range of 0.5 – 500 mL can be concentrated or dried simultaneously
- Flushback module to achieve highest analyte recovery and most reliable results
- Interchangeable racks and volume versatility

- Flash instruments for basic or advanced applications
- Flash and prep HPLC in one system (optionally)
- Integrated UV and ELS detection (optionally)
- Compact prep SFC instruments for any sample size
- Compatible with a wide range of flash cartridges, prep HPLC & SFC columns and glass columns

- High-quality freeze drying of aqueous samples (-55 °C, 6 kg)
- Easy way of controlling and monitoring of the freeze drying process

- Automatic determination of melting and boiling points
- Compliant with Pharmacopeia methods (European, USP, Japanese)
- Observation and replay of the phase transition using color display and video recording
- Parallel measurement of up to 3 samples

Pharma & Chemistry

R&D Development

Process

Formulation

Synthesis, Extraction

Concentration

Separation

Drying

Drying

Encapsulation

Cold Extraction / Soxhlet

Evaporation

Flash Chromatography, Prep HPLC, Prep SFC

Freeze Drying

Spray Drying

Prilling by Vibration



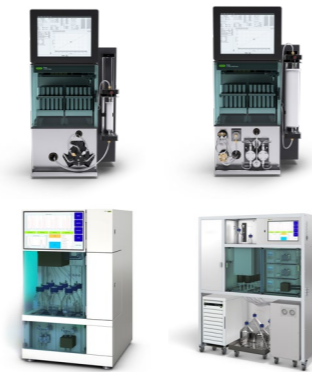
Scaling up

Rotavapor®



Scaling up

Rotavapor®



Scaling up

Pure & Pure Essential, Sepiatec SFC, Consumables



Lyovapor™



Mini Spray Dryer & Nano Spray Dryer



Encapsulator

Application

The process of synthesizing or extracting target compounds is scaled up using industrial rotary evaporation. Here, large scale evaporating flasks and Soxhlet extraction chambers are used to handle large sample sizes.

The process of concentration or drying is scaled up using industrial rotary evaporation. High heating capacities and fast distillation rates can rapidly concentrate large volumes.

As the separation process is optimized and upscaled, the sample amounts increase. With this, loading & collection equipment as well as consumables for flash chromatography, prep HPLC and SFC need to be adapted accordingly.

After separation, the molecule of interest may require concentration prior to formulation. Freeze drying is commonly used to remove the solvent without damaging the product.

Functional molecules are pre-formulated by spray drying to facilitate their storage or their incorporation into a formulation. Spray drying is one of the most common technologies used to obtain granulated substances.

Prilling by vibration (dripping) is a technique for generating small amounts of liquid-carrying polymer particles in the laboratory. This process results in coreshell particles or matrix particles.

Features

- Scale-up your process while keeping the same parameters
- Evaporating flask size: from 50 mL to 50 L
- Size of the cold extraction chamber: 200 mL and 500 mL (R-300) to 4 L (R-220 Pro)

- The Rotavapor® system is fully provided by BUCHI: Rotavapor®, pump, interface and chiller
- Evaporating flask size: from 50 mL to 50 L
- Heating capacity: from 1,5 kW up to 6kW
- The interface and parameters stay the same
- Distillation rates:
 - Acetone: from up to 7 L / h (R-300) to up to 27 L / h (R-220 Pro HP)
 - Ethanol: from up to 3 L / h (R-300) to up to 17 L / h (R-220 Pro HP)

- Wide size range of consumables:
 - Flash cartridges 4 to 5000 g
 - Prep HPLC and SFC columns 4.6 to 70 mm ID
 - Glass columns 9 to 3700 g
- Several options for sample injections: solid and liquid (syringe, loop or external pump)
- Collection vessel sizes range from a few to hundreds of mL or L (funnel racks)

- Reproducible process due to stable parameters (temperature and vacuum pressure)
- Large choice of drying chambers: heatable and unheatable shelves as well as manifold cover, stoppering cover or manifold tree and condenser temperature for safe solvent collection
- Flexible condenser capacities: 5 / 6 kg for L-250 / L-200, unlimited for L-300

- Generation of dry homogenous or matrix particles
- Continuous process and short process time
- Mild drying conditions
- Broad particle size distribution: 0.2 – 60 µm
- Three BUCHI solutions available: Spray Drying small, medium and large particles

- Generation of liquid core beads or capsules (wet) (possible to dry afterwards)
- Particle hardening in cooling or polymerization bath
- Extremely gentle conditions
- Narrow particle size distribution: 100 – 2000 µm
- Two BUCHI solutions available: Prilling by Vibration Dry and Wet



Laboratory Evaporation

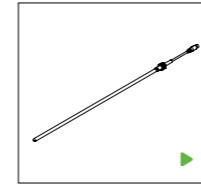
Product Details [↗](#)



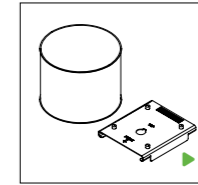
System Portfolio & Technical Features

Rotavapor® Model	Max. Flask Size	Lift System	Vacuum Pump	Chiller
R-300 ↗	1 or 5 L	electric or manual	no	no
Rotavapor® system RS-300	1 or 5 L	electric or manual	yes (final vacuum: 5 mbar)	yes (optional)
R-100 ↗	4 L	manual	no	no
Rotavapor® system RS-100	4 L	manual	yes (final vacuum: 10 mbar)	yes (optional)

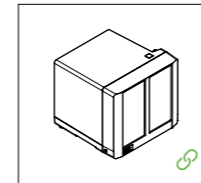
Accessories



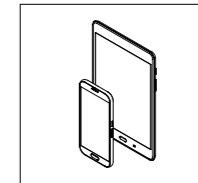
Foam Sensor
Prevents sample from foaming into the condenser by automatic short aeration of the system.



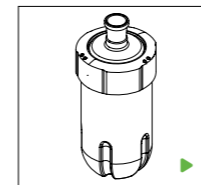
Dewar Accessory
For sample preparation in freeze drying.



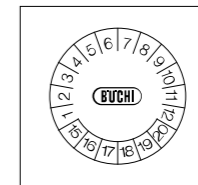
Vacuum Pump V-600
To achieve distillation of high boiling point solvent. Final vacuum: 1.5 mbar



Monitor App
Allows to monitor all BUCHI instruments on a mobile device thanks to the BUCHI Bluetooth Dongle.



Beaker Flasks
Beaker flasks with large screw-cap opening for easy retrieval of substances.



IQOQ Documentation
Installation / Operational Qualifications documentation.

Condensers



A	C	V	S	CR	E	BY	HP
Diagonal	Cold trap	Vertical	Reflux	Cold trap reflux	Expansion	Double jacket	High performance
•	••	••	•	••	•	•	••

- Reduced height
- Low boiling point
- Standard
- Foaming products
- Reflux reactions
- Increased distillation rate

Parallel Evaporation

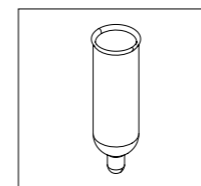
Product Details



System Portfolio & Technical Features

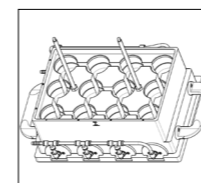
SyncorePlus Model	Method	Number of Samples	Max Temperature	Rotation
Analyst ↗	concentration to final volume	4, 6, 12	100 °C	60 – 400 rpm
Polyvap ↗	evaporation to dryness	4, 6, 12, 24, 48, 96	100 °C	60 – 400 rpm

Accessories



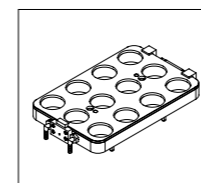
Graduated Vessels

Concentrates of up to 12 samples to a predefined residual volume using SyncorePlus Analyst, ranging from 0.3 mL, 1 mL, to 3 mL per sample.



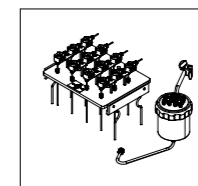
Interchangeable Racks

Broad selection of racks for SyncorePlus Polyvap to accommodate any workflow or throughput; that come in 4, 6, 12, 24, 48 and 96 positions.



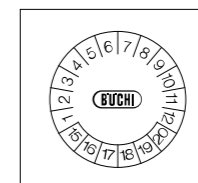
Flushback Module for R-6, R-12

Improves recovery rates by flushing back analyte that adheres to the glass walls with condensed vapor during the evaporation process.



Solid Phase Extraction Cover

All essential work-up steps including evaporation of the eluates are achieved without any sample handling between the individual steps.



IQOQ Documentation

Installation / Operational Qualifications documentation.

Automation & Workflow



Interface I-300 Pro

Full automation with the Interface I-300 Pro. Start the process and walk away. Specified evaporation methods and predefined specific solvents.



Recirculating Chiller F-305, F-308, F-314

Convenient central temperature setting, energy-saving ECOMode, and automatic start / stop.



Vacuum Pump V-300

Essential system component for quiet, eco-friendly operations and the ability to distill solvents of any volume and with any boiling point.



SpeedExtractor E-914 / E-916

Pressurized Solvent Extraction (PSE) for increased productivity by processing up to 6 samples in parallel. Streamlined workflow of the sample preparation thanks to ease of sample loading and ready to use extract collection.

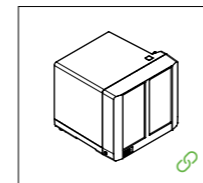


Industrial Evaporation

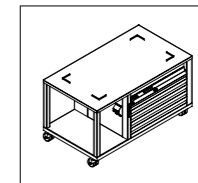
Product Details [↗](#)



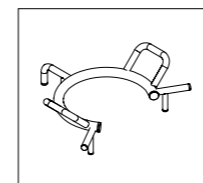
Accessories



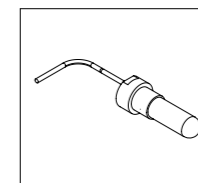
Vacuum Pump
Chemically resistant 3-stage diaphragm pump.
Final vacuum: 1.5 mbar



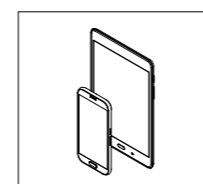
Recirculating Chiller
Chiller that also operates as a trolley and host of the Vacuum Pump V-600 for the R-220 Pro.



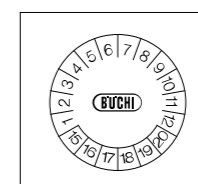
Manual Flask Handler
For easy mounting and removal of the 20 L and 50 L flasks along with safe transport.



Foam Sensor
Detects rising foam and triggers a short aeration pulse, eliminating foam.



Monitor App
Allows to monitor all BUCHI instruments on a mobile device thanks to the BUCHI Bluetooth Dongle.

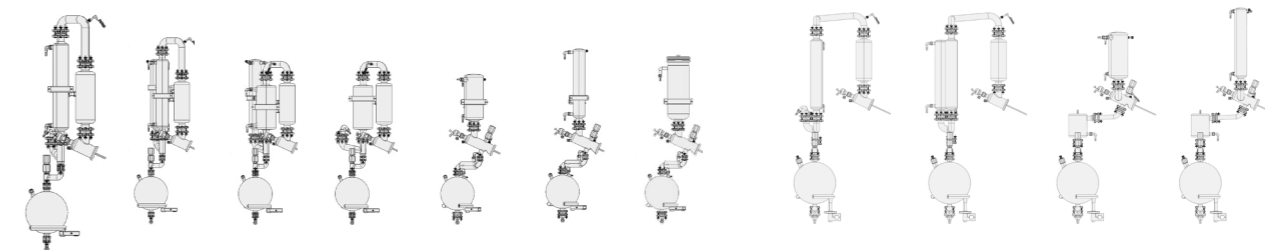


IQOQ Documentation
Installation / Operational Qualifications documentation.

Condensers

R-220 Pro

R-250 Pro



D D2 DB2 DB RB R C D2 D3 RB2 R2



Height 175 cm 175 cm 150 cm 150 cm 143 cm 163 cm 158 cm 230 cm 230 cm 210 cm 226 cm

- Low boiling points and / or foaming products
- Minimum emissions
- High boiling points
- Reflex reactions
- Very low boiling point
- Reduced height

System Portfolio & Technical Features

Rotavapor® Model	Sample Size (per batch)	Heating Bath Temperature	Distillation Rate of Ethanol	EX Protection
R-220 Pro ↗	max 12 L	up to 180 °C	up to 18 L / h	no
R-250 Pro ↗	max 30 L	up to 180 °C	up to 19 L / h	no
R-220 EX ↗	max 12 L	up to 150 °C (T3)	up to 12 L / h	yes
R-250 EX ↗	max 30 L	up to 150 °C (T3)	up to 19 L / h	yes



Flash Chromatography / Prep HPLC

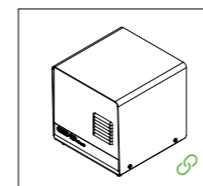
Product Details [↗](#)



System Portfolio & Technical Features

	Pure C-805 Flash ↗	Pure C-810 Flash	Pure C-815 Flash	Pure C-830 Prep	Pure C-835 Prep	Pure C-850 FlashPrep
Mode	Flash	Flash	Flash	prep HPLC	prep HPLC	Flash & prep HPLC
Flow Rate (flash mode)	250 mL / min	250 mL / min	250 mL / min			250 mL / min
Flow Rate (prep HPLC mode)				100 mL / min	100 mL / min	100 mL / min
Max Pressure (flash mode)	50 bar	50 bar	50 bar			50 bar
Max Pressure (prep HPLC mode)				300 bar	300 bar	300 bar
UV Scan Function ↗	no	yes	yes	yes	yes	yes
UV-Vis Wavelengths Range	200 – 400 nm	200 – 800 nm	200 – 800 nm	200 – 800 nm	200 – 800 nm	200 – 800 nm
ELSD ↗	no	no	yes	no	yes	yes

Accessories



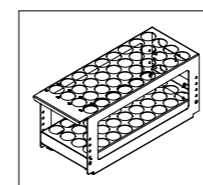
Dry Air Supply

Production of particle-free dry air on demand without the need for operator attention. Air is used in the Pure system to carry sample to the ELSD and to purge cartridges and sample loaders.



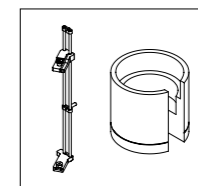
Solid Loader

Easy and flexible filling of the sample (max. 40 g) in an empty tube and connection directly to the Pure system. This equipment can handle up to 50 bar (725 psi) and therefore provides maximum flexibility.



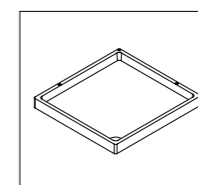
Racks

Several different sizes of racks and glass tubes, which enable an optimal collection depending on the fractions sizes. All racks get automatically identified by the Pure system via an RFID tag.



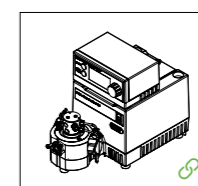
XL Consumable Holders

Allows the connection of big size cartridges (750 – 5000 g) and prep HPLC columns (50 – 70 mm ID) with Pure.



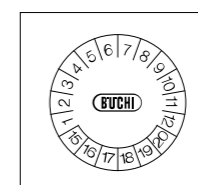
Solvent Platform

Extra solvent platform on top of the Pure system which provides space for four bottles. This allows for better use of available space and reduces risk of spills.



Sampling Pump

For large sample volumes injected manually on a large flash cartridge. Flow rates up to 250 mL / min and 50 bar.



IQOQ Documentation

Installation / Operational Qualifications documentation.

Consumables



FlashPure

A wide range of flash cartridges

Phases Silica, C18, Amino, Diol

Particle sizes 20 – 50 µm

Particle shapes Irregular, spherical

Cartridge sizes 4 – 5000 g



PrepPure

Highest performance for prep HPLC and SFC applications

Phases Silica, C18, C18WP, C18AQ, C4WP, Diol, 2-EP, PEI, Chiral phases

Particle sizes 5 – 15 µm

Particle shapes Spherical

Column sizes 4.6 – 70 mm ID, 150 & 250 mm lengths



GlasPure

Scale-up purification

Lengths 100 – 900 mm

IDs 15 – 100 mm

Silica capacities 9 – 3400 g



Flash Chromatography (basic & modular)

Product Details [↗](#)



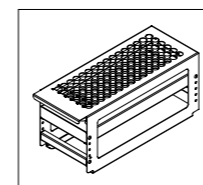
System Portfolio & Technical Features

	Pure Chromatography C-900 ↗	Pure Chromatography C-900 + Fraction Collector ↗	Pure Chromatography C-900 + UV Detector ↗	Pure Essential Chromatography System ↗
Modules	<ul style="list-style-type: none"> 3 piston flash pump with binary gradient and a controller with novel and state-of-the-art software 	<ul style="list-style-type: none"> 3 piston flash pump with binary gradient and a controller with novel and state-of-the-art software Enclosed fraction collector with active ventilation 	<ul style="list-style-type: none"> 3 piston flash pump with binary gradient and a controller with novel and state-of-the-art software Highly sensitive 4 times fixed wavelengths UV detector 	<ul style="list-style-type: none"> 3 piston flash pump with binary gradient and a controller with novel and state-of-the-art software Enclosed fraction collector with active ventilation Highly sensitive 4 times fixed wavelengths UV detector

Pure Essential Chromatography System

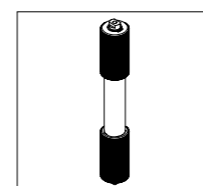
Mode	Flash
Flow rate	300 ml / min
Max pressure	50 bar
UV wavelengths	4
UV spectra	254, 275, 325, 365 nm

Accessories



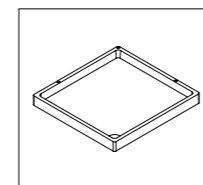
Racks

The Pure fraction collector can be equipped with two racks and is compatible with several different-sized glass tubes, funnels, and flasks, enabling an optimal collection depending on the fraction size.



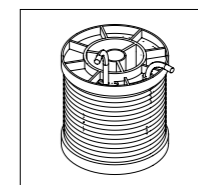
Solid loader hardware

The Pure Solid Loader allows for easy and flexible filling of the sample in an empty tube and connection directly to the Pure Essential Chromatography system. This equipment can handle up to 50 bar (725 psi), providing maximum flexibility.



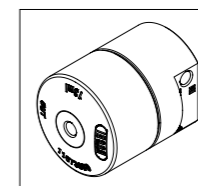
Solvent platform

The Pure fraction collector can be equipped with an extra solvent platform on top which provides space for four bottles. This allows for better use of available space and reduces risk of spills.



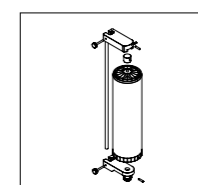
Loops and chambers

A liquid sample can be injected manually on the flash cartridge or loaded into a loop or a chamber, depending on the sample size.



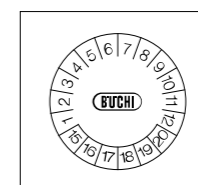
Mixing chambers

The Pure high-pressure mixing chambers ensure proper mixing of the solvents, especially when using low concentrations.



Cartridge holder

The Pure Essential Chromatography system can handle different flash cartridges (sizes vary between 4 and 5000 g) or glass columns (ID up to 100 mm and lengths up to 900 mm) depending on the quantity of sample purified.



IQOQ Documentation

Installation / Operational Qualifications documentation.

Consumables



FlashPure

A wide range of flash cartridges

Phases	Silica, C18, Amino, Diol
Particle sizes	20 – 50 µm
Particle shapes	Irregular, spherical
Cartridge sizes	4 – 5000 g



GlasPure

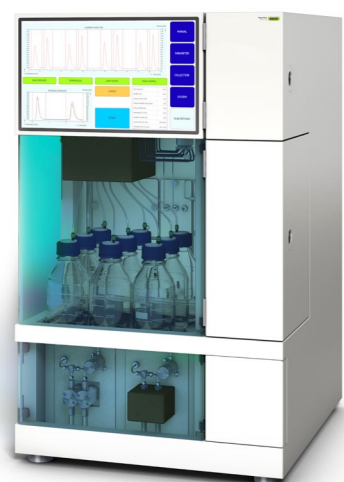
Scale-up purification

Lengths	100 - 900 mm
IDs	15 – 100 mm
Silica capacities	9 – 3400 g



Prep SFC

Product Details [↗](#)



System Portfolio & Technical Features

	Sepiatec SFC-50 ↗	Sepiatec SFC-250 ↗	Sepiatec SFC-660 ↗
Mode	prep SFC	prep SFC	prep SFC
Columns			
Dimensions	4 – 16 mm ID, max 250 mm lengths	15 – 30 mm ID, max 250 mm lengths	30 – 50 mm ID, max 800 mm lengths
Pumps			
CO ₂ pump flow rate and pressure	Max 30 mL / min, 400 bar	Max 150 mL / min, 400 bar	Max 400 mL / min, 400 bar
Max operating pressure	400 bar	400 bar	400 bar
Total flow rate at 40 % modifier	50 mL / min	250 mL / min	660 mL / min
Detectors			
DAD wavelengths range	190 – 720 nm	190 – 720 nm	190 – 720 nm
DAD wavelengths selectable	8	8	8
Sample injection			
Syringe	1 mL Other volumes on request	5 mL Other volumes on request	25 mL Other volumes on request
Loop	0.5 mL	2.5 mL	10 mL
Stack injection	Standard	Standard	Standard
System controller			
Back pressure regulator	80 – 250 bar	80 – 250 bar	80 – 250 bar

Accessories

Add-on pump

The add-on pump is useful for separations at modifier concentrations below 10 %. The pump adds modifier to the separated sample and avoids precipitation of the sample in the gas-liquid separator.

Chiller

The chiller cools the pump heads of the CO₂ pump and is connected simultaneously to the pre-cooling and the CO₂ pump. The cooling is needed to keep the CO₂ in a liquid state.

Mass spectrometer (MS)

All Sepiatec SFC instruments can be connected with an external MS detector. Further info are given on request.

Evaporative light scattering detector (ELSD)

All Sepiatec SFC instruments can be connected with an external ELS detector. Further info are given on request.

Consumables



PrepPure
Highest performance
for prep HPLC & SFC
applications

Phases	Silica, C18, C18WP, C4WP, C18AQ, Diol, PEI, 2-EP, Chiral phases
Particle sizes	5 – 15 µm
Particle shapes	Spherical
Column sizes	4.6 – 70 mm ID, 150 & 250 mm lengths

Chiral phases

Phase

Immobilized polysaccharides

iADMPC (Amylose tris-(3,5-dimethylphenylcarbamate))

iCDMPC (Cellulose tris-(3,5-dimethylphenylcarbamate))

iCDCPC (Cellulose tris-(3,5-dichlorophenylcarbamate))

Coated polysaccharides

cCDMPC (Cellulose tris-(3,5-dimethylphenylcarbamate))

cADMPC (Amylose tris-(3,5-dimethylphenylcarbamate))

Brush type

iBT (immobilized brush-type phase)

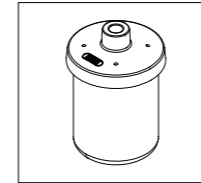


Freeze Drying

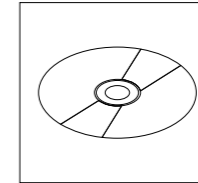
Product Details [↗](#)



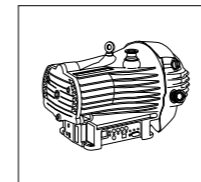
Accessories [↗](#)



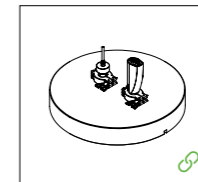
Glassware
Large variety of glassware such as beaker flasks to meet laboratory needs.



Lyovapor Software
Easy way of controlling and monitoring the Freeze Drying process and generating reports.



Edwards Scroll Pump
Stable and high-quality vacuum pump for freeze drying of organic solvents.



Sensors
Choice of product temperature and vacuum sensors for end point determination.

Drying Chambers

The Lyovapor™ has a large choice of drying chambers that can be used in any combination.



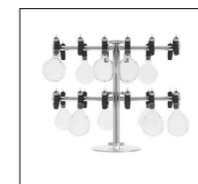
Acrylic chamber with heated shelves and stoppering for vial drying.



Acrylic chamber with 12 manifold top and shelves for bulk, vial and flask drying.



Acrylic chamber with heated shelves for bulk and vial drying.



Manifold with 12, 24 or 36 valves for flask or beaker drying.

System Portfolio & Technical Features

Lyovapor Model	Condenser Capacity	Lowest Condenser Temperature	Condensing Capacity	Min. System Vacuum	Drying Shelf Temperature
L-200 ↗	6 kg	-55 °C + / -3 °C	6 kg / 24 h	30 mTorr / 0.04 mbar	Up to 60 °C+ / -1 °C
L-250 ↗	5 kg	-85 °C + / - 2 °C	4 kg / 24 h	30 mTorr / 0.04 mbar	Up to 60 °C + / -1 °C
L-300 ↗	Infinite	-105 °C + / -3 °C	12 kg / 24 h	30 mTorr / 0.04 mbar	Up to 60 °C + / -1 °C



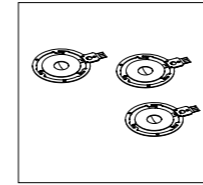
Spray Drying Product Details



System Portfolio & Technical Features

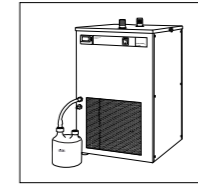
	Nano Spray Dryer B-90 HP ↗	Mini Spray Dryer S-300 ↗
Particle Size	200 nm - 5 µm	2 - 25 µm (60 µm with ultrasonic package)
Particle Nature	dry	dry
Particle Size Sistribution	narrow	broad
Max. Sample Throughput	200 mL / h	1 L / h
Min. Sample Amount	200 mg / 2 mL	5 g / 10 mL
Yield	up to 90 %	up to 70 %
Sample Viscosity	up to 5 cps	up to 300 cps
Sample Composition	aqueous and organic solutions, suspensions or emulsions NO acidic or alkaline	aqueous, organic, acidic and alkaline solutions, suspensions or emulsions NO acidic or alkaline organic mixture
Application	drying micronisation, agglomeration matrix encapsulation amorphous solid dispersion	

Accessories Nano Spray Dryer B-90 HP [↗](#)



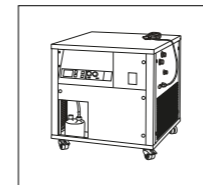
Nebulizers Set

Nebulizers in the sizes small, medium and large allow the finding of the perfect balance between small particles and high throughput (up to 200 mL / h).



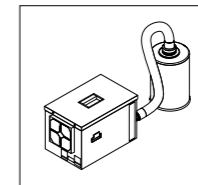
Dehumidifier S-396

An efficient way to obtain constant parameters by conditioning the inlet air allowing to work with organic solvents and water mixtures in combination with the Inert Loop.



Inert Loop S-395

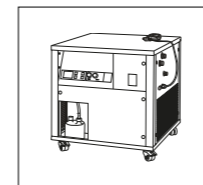
Used to work in closed mode, under nitrogen atmosphere with the BUCHI Spray Dryers. Furthermore it condenses the organic solvents and recirculates the nitrogen.



Aspirator

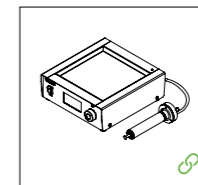
If no compressed air is available, the BUCHI Aspirator unit with inlet filter can be used to establish the required drying air flow rate. In "closed loop" mode, with the Nano Spray Dryer advanced, the Aspirator is required to build up the gas stream.

Accessories Mini Spray Dryer S-300 [↗](#)



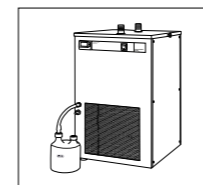
Inert Loop S-395

Used to work in closed mode, under nitrogen atmosphere with the BUCHI Spray Dryers. Furthermore it condenses the organic solvents and recirculates the nitrogen.



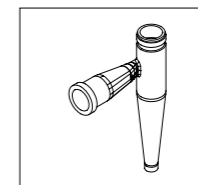
Ultrasonic Package

Allows the Mini Spray Dryer to produce particles in the size range from 10 – 60 µm.



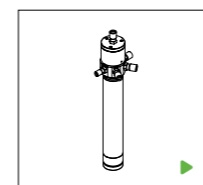
Dehumidifier

An efficient way to obtain constant parameters by conditioning the inlet air allowing you to work with organic solvents and water mixtures in combination with the Inert Loop.



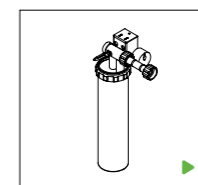
High Performance Cyclone

Specially optimized to collect small particles in high yields from the Mini Spray Dryer.



Two-fluid nozzle

The two fluid nozzle equipped with an effective nozzle cleaning mechanism and a ruby stone to guarantee reproducibility offers a high degree of flexibility.



Outlet filter

Collects the residual particles from the cyclone and protects the user, the environment and the instrument. Available with a polyester deep filter and a PTFE filter membrane. Recommended for all Mini Spray Dryers.



Prilling by Vibration

Product Details [↗](#)

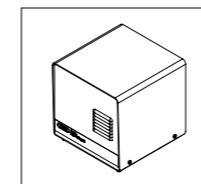


System Portfolio & Technical Features

Encapsulator B-390 / 395 Pro [↗](#)

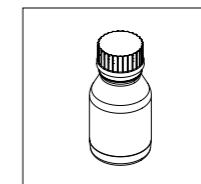
Particle Size	150 – 2000 μm
Particle Nature	wet (hydrogel beads / capsules)
Particle Size Distribution	uniform
Max. Sample Throughput	600 mL / h
Min. Sample Amount	5 mL
Yield	up to 100 %
Sample Viscosity	up to 300 cps
Sample Composition	aqueous organic solutions, suspensions or emulsions wax / melt
Application	agglomeration matrix encapsulation liquid core encapsulation

Accessories



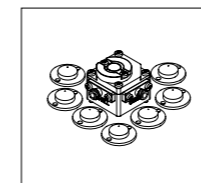
Dry Air Supply Cpl.

Brings dry and clean air to work with pressure bottle on the Encapsulator.



Alginate Powder

The alginate is tested for microencapsulation procedures and will make your lab work more reproducible.



Concentric Nozzle

Used for the core-shell capsule production. Includes a pulsation chamber plus a set of 7 external nozzles with high precision opening of 0.2, 0.3, 0.4, 0.5, 0.6, 0.7 and 0.9 mm.

Melting Point

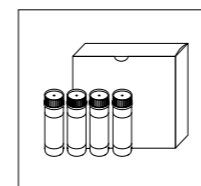
Product Details [↗](#)



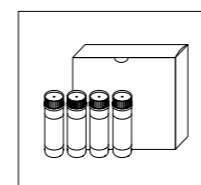
System Portfolio & Technical Features

Melting Point Model	Compliant with Pharmacopeia Methods	Automatic Detection	Sample Loader
M-560 ↗	yes	no	no
M-565 ↗	yes	yes	no
M-565 + Sample Loader M-569 ↗	yes	yes	yes

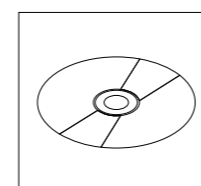
Accessories



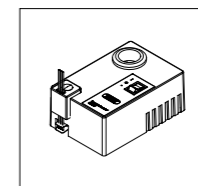
Verification Kit
Kit of three BUCHI certified standards for verification of the Melting Point M-560 and M-565.



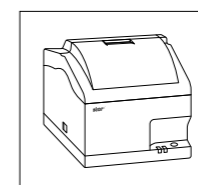
Calibration Kit
Kit of four BUCHI certified standards for calibration of the Melting Point M-560 and M-565.



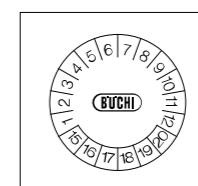
MeltingPoint Monitor Software with License
Software CD, Tutorial and single PC license. For installation under Windows 7 Professional / Enterprise / Ultimate (32-bit or 64-bit, SP1), Windows 8.1 Professional / Enterprise (64-bit), Windows 10 Professional / Enterprise (64-bit).



Sample Loader
Instrument for fast and efficient loading of samples into melting point capillaries.

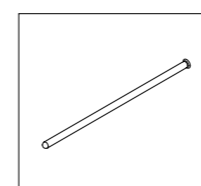


Printer and Keyboard
For documenting calibration results and melting and boiling point determinations and convenient straightforward input of parameters.

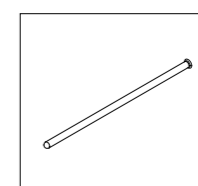


IQOQ Documentation
Installation / Operational Qualifications documentation.

Consumables



Melting Point Capillaries
The precision glass capillaries ensure highly reproducible melting point determinations.



Boiling Point Tube A Boiling Point Capillary B
The precision capillaries B generate perfect gas bubbles within tube A for reproducible boiling point determinations.

Core messages to our customers

BUCHI creates added value

“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.



Competent

We have the technological expertise and decades of experience needed to provide competent support and work with you to continually improve our services.



Reliable

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.



Safe

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.



Cost-effective

We strive to create a high level of economic benefit and maximum added value for you.



Global

As an international family-owned business with own subsidiaries and qualified distributors, we have a presence wherever you are located.



Easy

We support you by providing carefully designed solutions as well as instruments and systems that are easy to operate.



Sustainable

We support environmentally friendly processes and manufacture products that have a long service life. We utilize advanced technologies to leave the smallest environmental footprint possible.

We are represented by more than 100 distribution partners worldwide.
Find your local representative at:

www.buchi.com

Quality in your hands

