

Evaporators, Sealers and other Equipment

Brochure 2020



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Evaporators

Porvair evaporators provide a fast evaporation of liquids (e.g. methanol, acetonitrile, or hexane) in microplates, small bottles, HPLC vials, and tubes. Faster than centrifugal evaporation for single plates, significant increases in sample throughput are achieved through advanced evaporator head technology and an innovative manifold design, which directly injects heated nitrogen or dry compressed air into each individual well of a microplate or into individual vessels simultaneously. Installation requires only a connection to a gas supply and mains electricity.

Please note: The units are not suitable for high boiling solvents such as DMSO and water, and for use with strong acids or acid chlorides.

Ultravap™ Mistral

The Ultravap™ “Mistral” from Porvair Sciences is designed to remove the typical laboratory ‘bottleneck’ of solvent evaporation from microplates. The Mistral is an automation friendly evaporator especially developed for the use with liquid handling systems. Safety of operation is ensured as this CE-marked compact unit fits into all fume cupboards and boasts full integral fume management within the unit.



Ultravap™ Mistral



Intuitive Touchscreen

- **Automatic evaporator for use with liquid handling systems**
- Plate shuttle sends/retrieves plates from robot deck, compatible with robotic liquid handlers from Agilent™, PerkinElmer®, Tecan®, Hamilton™ und Beckman Coulter®
- Adjustable shuttle position and height
- Choice of 12-, 24-, 48-, 96-, and 384-well heads with straight or spiral needles
- Manufactured for use with ANSI/SLAS standard plates with a maximum height of 80 mm (only in combination with 96-well needle head 500199, otherwise 55 mm)
- Up to 15 stored evaporation programmes
- Up to 5 programmable steps per method
- Rise and height of evaporation table, gas temperature, pressure and flow rate can be programmed individually
- Small footprint to fit into all standard fume cupboards
- Unit can be used with nitrogen or dry compressed air
- On-board digital flow controller allows accurate programming of real gas flow rates
- Intuitive graphical colour touch screen display with optional anti-splash membrane
- Also suitable for evaporation of HPLC samples in 1.5 ml HPLC vials using the 48-well head
- RS232 allows remote control via PC or liquid handling robot
- CAN bus gives possibility to main- and several secondary system configurations
- Mistral XT100 accepts plates or vials up to 100 mm high

Cat. No.	Description
500149	Ultravap™ Mistral, without needle head
500197	Ultravap™ Mistral, fitted with high plate guard, without needle head
500197EX	Ultravap™ Mistral XT100, specially designed to fit plates of 100 mm height, without needle head
500199	96-well short straight needle head for use with plates up to 80 mm high
500196	High plate guard for Ultravap™ Mistral
500194	Optional fume extractor fan complete plug-in assay with housing
500193	CAN bus interface cable with RS232 initiator and CAN terminator plugs

→ Please see page 3 for needle heads and additional accessories

Ultravap™ Levante

Fully automatic robot-ready blow-down evaporator

The Ultravap™ Levante is the latest evaporator of the successful Ultravap™ series of Porvair Sciences. The fully automatic evaporator combines stability through a robust and solvent resistant aluminium housing and the latest technology to fulfill the needs of modern laboratories. A touch screen and an easy-to-use programming allow a quick start of the device.



Ultravap™ Levante

	Start min	End min	Time min	Temp °C
Demo 1	17.50	40.00	5	60
Run Test	0.00	30.00	8	60
Cool Down	0.00	10.00	1	55
Heat Test	0.00	10.00	8	60
Demo 5	0.00	30.00	8	60

Program 5 methods with full alphanumerical code or transfer from PC via RS232 connection

- **Automatic robot-compatible evaporator**
- Choice of 12-, 24-, 48-, 96-, and 384-well heads with straight or spiral needles
- For heat sensitive and thermally unstable samples
- Manufactured for use with ANSI/SLAS standard plates
- Offering multi-step ramped programming with full alphanumeric programme naming
- Possible to save data on SD-card and upload it again
- Up to 5 stored evaporation programmes with 3 programmable steps per method
- Rise and height of evaporation table, gas temperature and flow rate programmable
- Full colour touch screen display
- RS232 allows remote control via PC or liquid handling robot
- Can evaporate 500 µl methanol in approx. 5 minutes
- Compatible with robotic liquid handlers such as from Tecan®, Hamilton™ and Caliper™
- Integrated auto-ranging power supply (110/230 V) and built-in fume venting
- Accommodates plates up to 55 mm in height in a variety of configurations
- Also suitable for evaporation of HPLC samples in 1.5 ml HPLC vials using the 48-well head
- On-board digital flow controller allows accurate programming of real gas flow rates
- Can be operated from a gas cylinder, an in-house supply of nitrogen or clean dry air

Cat. No.	Description
500226	Ultravap™ Levante, without needle head
500194	Optional fume extractor fan complete plug-in assay with housing

→ Please see below for additional accessories

Accessories and spare parts for Porvair Evaporators

Cat. No.	Description
229414	Needle head with 12 straight needles with 48 mm needles for all Porvair evaporators
229415	Needle head with 12 straight needles with 38 mm needles for all Porvair evaporators
229409	Needle head with 24 straight needles for all Porvair evaporators
229410	Needle head with 48 straight needles for all Porvair evaporators
229072	Needle head with 96 spiral needles for all Porvair evaporators
229036	Needle head with 96 straight needles for all Porvair evaporators
229073	Needle head with 384 straight needles for Ultravap™ Mistral and Ultravap™ Levante only
229650	24-well rack for 12 mm vials/tubes from solid aluminium
229216	Disposable plastic vial rack with clear bottom for 24 x 13.75 mm glass vials
500109	48-well rack from black PP, ANSI/SLAS standard, for 1.5 ml standard HPLC vials (also in our programme, enquire for more details)
229048	Gasket for needle manifold for all Porvair evaporators

MiniVap™ Gemini

Two position blow-down evaporator

The new MiniVap™ Gemini brings together for the first time in the range of Porvair Sciences two individually temperature-regulated evaporation positions with a wide choice of head styles and configurations. This means you can dry down a 96-well deep well plate at the same time as 48 HPLC vials. This breakthrough in productivity will speed up the evaporation bottleneck in your laboratory, increase the sensitivity of your analyses and quicken sample processing times.



MiniVap™ Gemini with two individually temperature-regulated evaporation positions

- **Manual evaporator with two heads for high-throughput**
- Two individually temperature-regulated evaporation positions
- Simultaneous height adjustment of both plates
- Choice of 12-, 24-, 48-, 96-, and 384-well heads with straight or spiral needles
- Manufactured for use with ANSI/SLAS standard plates
- Easy adjustments of temperature, gas flow rates and needle depth into the wells
- Integrated auto-ranging power supply (110/230 V)
- Accommodates plates and vials up to 80 mm in height in a variety of configurations
- Also suitable for evaporation of HPLC samples in 1.5 ml HPLC vials using the 48-well head
- Can be operated from a gas cylinder, an in-house supply of nitrogen or clean dry air
- Heaters: Ambient to 60 °C
- Gas Pressure: min. 3 bar, max. 7 bar

Cat. No.	Description
500234	MiniVap™ Gemini, without needle head

MiniVap™ Evaporator

Designed for low usage research and development departments where low numbers of individual plates or vials need drying. With manual control of the needle depth, gas temperature and flow rate, the MiniVap™ allows fine control and quicker drying times than other standard methods such as vacuum ovens.



MiniVap™ with 96 straight needles

- **Manually operated evaporator**
- Simple to install and operate
- Choice of 12-, 24-, 48-, and 96-well heads with straight or spiral needles
- Designed for ANSI/SLAS microplates
- Evaporates 500 µl methanol in less than 6 minutes
- Easy adjustments of temperature, gas flow rates and needle depth into the wells
- Compact footprint – fits all standard fume cupboards
- Can be used with nitrogen and dry compressed air
- Also suitable for evaporation of HPLC samples in 1.5 ml HPLC vials using the 48-well head
- Accommodates plates and vials up to 80 mm in height
- Faster drying times than other standard methods such as vacuum ovens

Cat. No.	Description
229206	MiniVap™, without needle head

→ Please see page 3 for additional accessories

MicroLute™ Manifold (Acryl Extraction System)



- Machined from crystal clear acrylic (top plate) and acetal polymer (plenum chamber)
- Suitable for most filter plates in ANSI/SLAS standard with long drip directors and for SPE plates, i. e. MicroLute™ (see price list "Porvair Consumables")
- Valve controlling knob (on-off) for precise control of vacuum
- Compatible with deep well collecting plates with square wells of 350 µl, 1 ml or 2 ml and plates with a height up to 44 mm
- Airtight sealing through O-ring, removable cover plate
- Medium resistance to alcohols and weak acids

Cat. No	Description	Cs.
228008	Standard MicroLute™ Manifold for 96-well collecting plates	1
228010	Spacer Insert, PP, 1 ml, for use of round well PP plates (cat. no. 219002), optional	1
228012	Spacer Insert, HDPE, for use of 15 mm high plates, optional	1
219010	Disposable reservoir, PVC	25

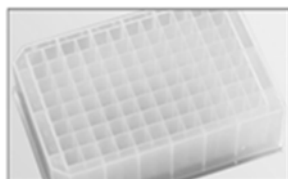
Universal Robotic Manifold



- Designed to be easily assembled and disassembled by robotic manipulators
- Compatible with any filter plate type with short, medium or long drip directors (adapter available)
- Automated purification of SPE- or DNA clean-up procedures
- Integrated valve for vacuum to provide complete control of vacuum pressure
- Fully compatible with most commercial robotic liquid handling systems
- Able to accommodate collection plates of 14 mm - 44 mm in height

Cat. No	Description	Cs.
228020	Universal Robotic Manifold, compatible with 96-deep well collecting plates	1
228021	Adapter 1 for plates with half skirt / medium drip director	1
228022	Adapter 2 for plates with short skirt / long drip director	1
228010	Spacer Insert, PP, 1 ml, for use of round well PP plates (cat. no. 219002), optional	1
228012	Spacer Insert, HDPE, for use of 15 mm high plates, optional	1

Deep Well Collection Plates



- DNase / RNase-free
- Made from virgin PP, storage down to -80 °C possible
- V-shaped, pyramid bottom to aid sample concentration, reconstitution and centrifugation
- 44 mm in height
- All three plate have the same geometry and only differ in well depth

Cat. No	Description	Cs.
219009	96 Deep square well, 2 ml/well	50
219008	96 Deep square well, 1 ml/well	50
219006	96 Deep square well, 350 µl/well	50

Looking for suitable filtration plates?

We offer a full range of 48-, 96- and 384-well microplates with a choice of glass fibre, PES, PVDF, polypropylene or polyethylene filter materials and well volumes ranging from 300 µl to 5 ml.

Please ask for our separate price list!



MicroLute™

– the complete 96-well sample preparation system from Porvair Sciences

Parts of the MicroLute™ Systems:

- Filter plate
- Deep-Well Block or other storage container
- Vacuum Manifold
- Optional: MicroLute™ P³-Plate



Optimal combination with evaporators of Porvair Sciences:

- MiniVap™ Evaporator (manual)
- MiniVap™ Gemini (manual with two evaporation positions)
- Ultravap™ Levante (full automatic)
- Ultravap™ Mistral (full automatic and robot compatible)



Application:

- Purification of biological samples
- Protein purification
- Cleaning of phospholipids
- Protein precipitation

Advantages of the MicroLute™ system:

- Manifold from clear acrylic for easy handling
- Plates from 100% polypropylen prevents contamination
- 3 standard sizes (350 µl, 1 ml and 2 ml) for optimal yield
- Consistent height of storage containers

→ For more information, please contact us



MatCapper

- Produces an accurate and tight seal on shallow and deep well plates
- Needs minimal pressure for capping, reduces fatigue and RSI
- Special across plate pressure system ensures always a perfect seal
- Also works with glass tube racks and their closure mats
- Powder coated to resist chemical spillage
- Anti-slip base and fixing holes for securing to bench
- EVA or silicone mats are reusable with care

Cat. No **Description**
229078 **MatCapper**, applicator for storage and assay plates as well as tube racks



AutoCapper

- Automated application of friction sealing caps to deep-well plates and tube racks
- Reproducible and even every time
- Speeds up work flow
- Only requires a main power supply
- Small foot print for laboratory benches

Cat. No **Description**
500246 **AutoCapper**, electrically operated mat capper for storage plates and vial racks

→ Large selection of plates in our programme: please ask for our separate pricelist

Sealing Mats



Cat. No	Description	pierceable	Material	Cs.
360014	Mat for 24 well (Porvair: 360013)	yes	Santoprene	100
360006	Mat for 48 well (Porvair: 360002, 360004); DNase-/RNase-free	yes	Santoprene	100
219004	Mat for 96 square well (Porvair: 219009, 219030, 219031), DNase-/RNase-free	yes	EVA	50
219036	Mat for 96 round well (Porvair: 219002); DNase-/RNase-free	no	EVA	50

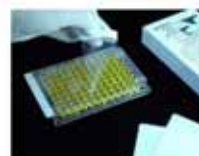
→ Many more seals in our programme: please ask for our separate pricelist

Do you want to seal your plates?

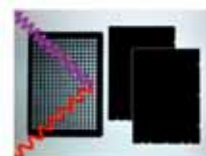
Our portfolio includes a wide variety of sealing mats, thermal seals as well as foils, and sealing films.

Whether you want to do automation, long-term storage, sonication, ELISA, PCR, qPCR, HPLC or protein crystallography, whether you need to seal single strips, single or multiple plates, we will find the right seal for you!

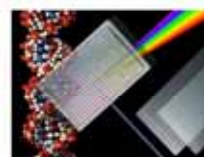
Please ask for our selection chart and separate price list!



Seal Plate®



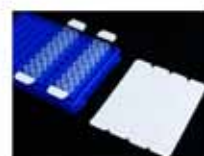
AbsorbMax™



ThermalSeal RT™



X-Pierce™



MiniStrip™



RollMate™

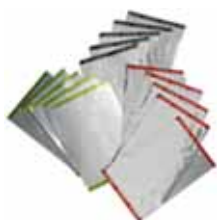


MiniSeal II

- Method of choice for fast, air tight and secure sealing without transferring disrupting adhesives to the plate
- Semi-automatic, no compressed air required
- Sealing of plates with a height of 9 to 48 mm
- Temperature range: ambient to 200 °C (steps of 0.1 °C)
- Sealing time 0.1 to 9.9 sec
- User-friendly with combined display for temperature and sealing time
- Low weight (6 kg) and small foot print

Cat. No	Description
500090	MiniSeal II Heat Sealer , inclusive 2 adapters for standard plates in SBS-format, deep well and PCR plates, brass plate weight
500083	Adapter for rimless 96-well plates
500084	Adapter for 384-well PCR plates with flat surface
500110	Spare plate weight to hold film down during sealing – for Recessed plates only
500213	Spare plate weight to hold film down during sealing – for Standard & Rimless plates

Thermal seals for Mini Seal II



- Easily distinguished by colour code
- The pre-sliced foils are marked to ensure the use with the right side up thus reducing the risk to damage the sensitive thermo head of the heat sealer
- Solvent resistant, including DMSO and TFA
- Temperature range: -80 °C to 120 °C
- Dimensions: 78 x 125 mm

Cat. No	Material	Thickness	peelable	pierceable	Colour code	Cs.
229571	EVA laminated Al	70 µm	yes	no	red	100
229572	PP/PS lacquered Al	20 µm	no	yes	green	100
229573	Acryl lacquered Al	38 µm	yes	yes	blue	100
229574	Acryl lacquered Al	85 µm	no	no	black	100
500090	EVA/PE	75 µm	No	yes	black	100
500010	EVA/PE	105 µm	yes	no	black	100

Abbreviations:	Al: Aluminium
	DMSO: Dimethylsulfoxide
	EVA: Ethylenvinylacetat
	PE: Polyethylene
	PP: Polypropylene
	PS: Polystyrene
	PTFE: Polytetrafluorethylene
	Si: Silicone
	TFA: Trifluoric acetic acid