

Evaporators, Sealers and other Equipment

Brochure 2018

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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. 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 24-, 48-, 96-, and 384-well heads with straight or spiral needles
- Manufactured for use with SBS / ANSI standard plates with a maximum height of 80 mm (only in combination with 96-well needle head 500199, otherwise 60 mm)
- Up to 15 stored evaporation programmes
- Up to 5 programmable steps per method
- 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 configuration

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

→ Please see page 5 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	46.00	5	60
Run Test	0.00	30.00	8	60
Cool Down	0.00	10.00	1	55
Heat Test	0.00	18.00	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 24-, 48-, 96-, and 384-well heads with straight or spiral needles (see page 5)
- For heat sensitive and thermally unstable samples
- Manufactured for use with SBS / ANSI 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
- Up to 3 programmable steps per method
- Robotic plate stage automatically moves plates up in 2 drying phases
- Full colour touch screen display
- RS232 allows remote control via PC or liquid handling robot
- Can evaporate 500 µl methanol in approx. 6 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 60 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
- Clear acrylic side screens speed up solvent removal

Cat. No.	Description
500226	Ultravap™ Levante, without needle head, 110/230V
500194	Replacement fume extractor fan complete plug-in assay with housing

→ Please see page 5 for additional accessories

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



MiniVap™ Gemini, backside

- **Manual evaporator with two heads for high-throughput**
- Two individually temperature-regulated evaporation positions
- Simultaneous height adjustment of both plates
- Choice of 24-, 48-, 96-, and 384-well heads with straight or spiral needles
- Manufactured for use with SBS / ANSI standard plates
- Easy adjustments of temperature, gas flow rates and needle depth into the wells
- Compact and robust design
- Can evaporate 500 µl methanol in approx. 6 minutes
- Integrated auto-ranging power supply (110/230 V)
- 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
- 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, 110/230V

→ Please see page 5 for needle heads and additional accessories

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 229206 with 96 straight needles



MiniVap 229204 with 24 straight needles

- **Manually operated evaporator**
- Simple to install and operate
- Choice of 24-, 48-, and 96-well heads with straight or spiral needles
- Designed for SBS / ANSI 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
- Faster drying times than other standard methods such as vacuum ovens

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

Accessories and spare parts for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™

Cat. No.	Description
229409	Needle head with 24 straight needles for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™
229410	Needle head with 48 straight needles for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™
229072	Needle head with 96 spiral needles for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™
229036	Needle head with 96 straight needles for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™
229073	Needle head with 384 straight needles for Ultravap™ Mistral and Ultravap™ Levante
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, SLAS / ANSI format, for 1.5 ml standard HPLC vials (also in our programme, enquire for details)
229048	Gasket for needle manifold, for Ultravap™ Mistral, Ultravap™ Levante, MiniVap™ Gemini and MiniVap™
4045-10027	Precision RS232 Control Regulator
5056-10004	Hotwatt Air Heater 400 W (1,9 cm x 15,2 cm)

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

Parts of the MicroLute™ Systems:

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

Application:

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

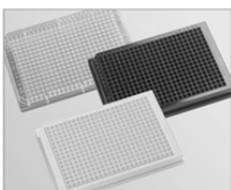


Optimal combination with evaporators of Porvair Sciences:

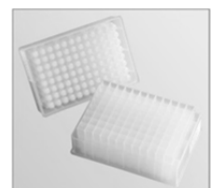
- MiniVap™ Evaporator (manual)
- MiniVap™ Gemini (manual with two evaporation positions)
- Ultravap™ Levante (full automatic)
- Ultravap™ Mistral (full automatic and robot compatible)

Advantages of the MicroLute™ system:

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



Ask for our brochure on Porvair Sciences consumables to get information about the complete range, including MicroLute™ products.



General Laboratory Equipment



MicroLute™ Manifold (Acryl Extraction System)

- Suitable for most filter plates in SBS / ANSI 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 round well PP plates (cat. no. 219002) in acrylic and in aluminium deep well manifold (cat. no. 228008 and 228020), optional	1
228012	Spacer Insert, HDPE, 350 µl, for 350 µl micro assay plates in acrylic manifold (cat. no. 228008 and 228020), optional	1
219010	Disposable reservoir, PVC	25



Universal Robotic Manifold

- Automated purification of SPE- or DNA
- Integrated valve for vacuum → direct control of vacuum
- Compatible with collecting plates of 14 mm – 44 mm height
- Suitable for plates with short, medium or long drip directors (adapter available)

Cat. No..	Description	Cs.
228020	Universal Robotic Manifold, compatible with 96-deep well collecting plates	1
228021	Adapter 1 for half skirt / medium drip director	1
228022	Adapter 2 for short skirt / long drip director	1



MatCapper

- Caps shallow and deep well polypropylene plates
- Needs minimal pressure for capping, reducing fatigue and RSI
- Powder coated to resist chemical spillage
- Universal plate "shuttle" to take shallow or deep well plates
- Fixing holes for securing to bench
- Works with glass tube racks, also 2D bar-coded
- EVA or silicone mats are reusable when treated with care

Cat. No.	Description
229078	MatCapper



AutoCapper

- Automated application of friction sealing caps
- Reproducible, even pressure every time
- Speeds up the general workflow
- Universal plate "shuttle" to take shallow or deep well plates and even glass tube racks
- Small footprint for laboratory benches

Cat. No.	Description
500246	AutoCapper (110/220 V)

For suitable cap mats ask for our separate price list "Sealer and Seals".



MiniSeal II

- Semi-automatic, no compressed air required
- Easy and secure sealing of plates in SBS format
- Sealing of plates with a height of 9 - 48 mm
- Temperature range: from ambient to 200°C (steps of 1 °C)
- Heating time for typical sealing temp. of 165 °C only 5 min
- Sealing time 0.1 to 9.9 seconds
- User friendly
- Combined display for temperature and sealing time
- Low weight (6 kg) and small bench space
- Suitable foils: please see below

Cat. No.	Description
500090	MiniSeal II Heat Plate 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

Foils for heat sealing with MiniSeal II (see above)



Foils 125 x 78 mm for heat sealing with colour coding

The new, precise manufactured foils have the required size and thickness and are easy to distinguish by colour coding. The pre-sliced foils are marked, so that you use the right side upwards. This reduces the possibility to damage the very sensitive thermo head of the heat sealer.

Cat. No.	Description	Cs.
229571	Peelable 70 µm PE/aluminium coated foil, red colour coding	100
229572	Pierceable 20 µm PP/PS coated aluminium foil, green colour coding	100
229573	Pierceable/peelable 38 µm coated aluminium foil, blue colour coding	100
229574	Stable 85 µm aluminium foil for long term storage, black colour coding	100
500090	Clear, pierceable 75 µm polyester foil, black colour coding (not peelable)	100
500010	Optical clear, peelable 105 µm polyester foil, black colour coding (not pierceable)	100