

Microplate evaporators

Porvair evaporators are designed to remove the traditional laboratory 'bottleneck' of solvent evaporation from microplates prior to analysis or reconstitution in storage buffer. These evaporators give significant throughput advantages to laboratories looking to optimise microplate sample preparation productivity. Faster than centrifugal evaporation, significant increases in sample throughput are achieved through advanced evaporator head technology and an innovative manifold design, which directly injects heated nitrogen into each individual well of the microplate simultaneously. The evaporators have been designed to be simple to install, operate and maintain. Installation requires only connection to a gas supply or cylinder and mains electricity. Safety of operation is ensured as the CE marked compact units fit into all fume cupboards. Not suitable for high boiling solvents such as DMSO and water.

Both MiniVap and UltraVap may be operated with a supply of clean, dry compressed air in place of nitrogen, if the chemistry allows. An in-line gas filter must be used in this case.

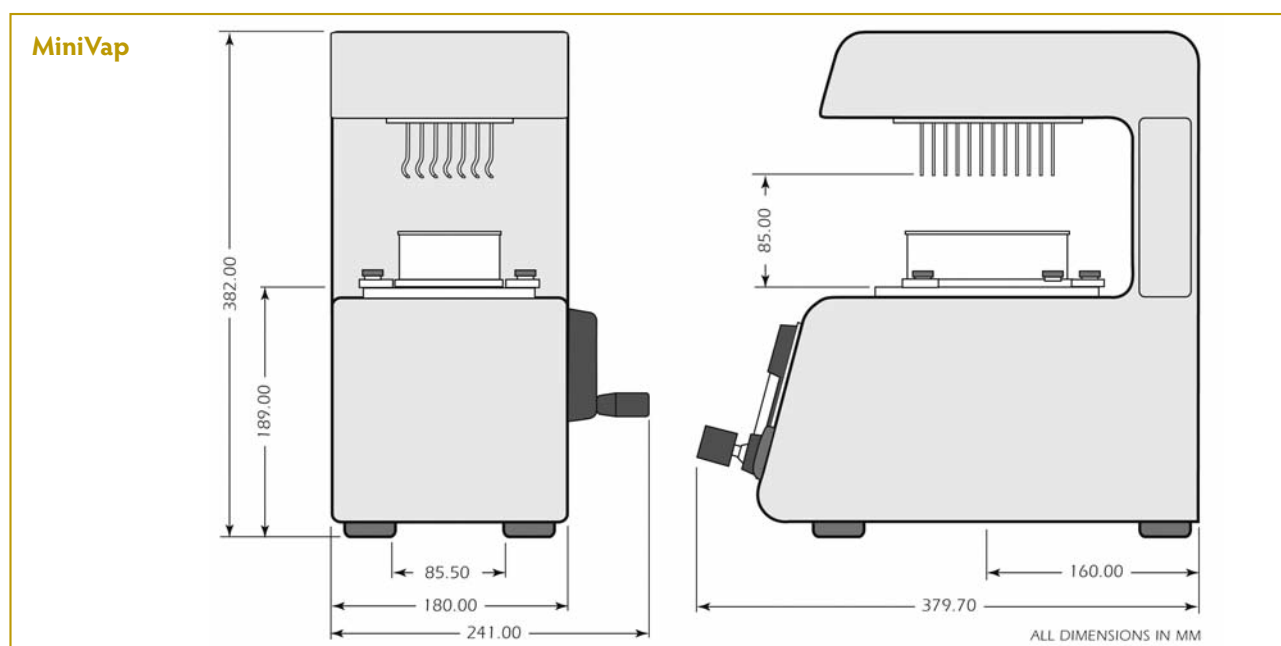
MiniVap™

The MiniVap is purpose designed for low usage research and development departments where low numbers of individual plates or vials need drying. The MiniVap is simple to operate and maintain. Installation requires only connection to a gas supply and standard mains socket. With manual control of the needle depth, gas temperature and flow rate, it allows fine control and quicker drying times than other standard methods.

- *Quicker dry down times than standard methods such as vacuum oven*
- *Tests have shown that the MiniVap can evaporate 500µl of methanol in less than 6 minutes*
- *Designed for any SBS/ANSI 96 well plate*
- *24 vial head now available*
- *Simple to install and operate*
- *Easy adjustments of temperature, gas flow rates and needle depth into the wells*
- *Compact footprint – fits all standard fume cupboards*

MiniVap™ blowdown sample concentrator

Description	Qty/pack	Cat. no.
MiniVap™ (230 Volts), with 96 spiral needles	1	229201
MiniVap™ (230 Volts), with 96 straight needles	1	229200
MiniVap™ (230 Volts), with 24 straight needles	1	229205
MiniVap™ (110 Volts), with 96 spiral needles	1	229203
MiniVap™ (110 Volts), with 96 straight needles	1	229202
MiniVap™ (110 Volts), with 24 straight needles	1	229204



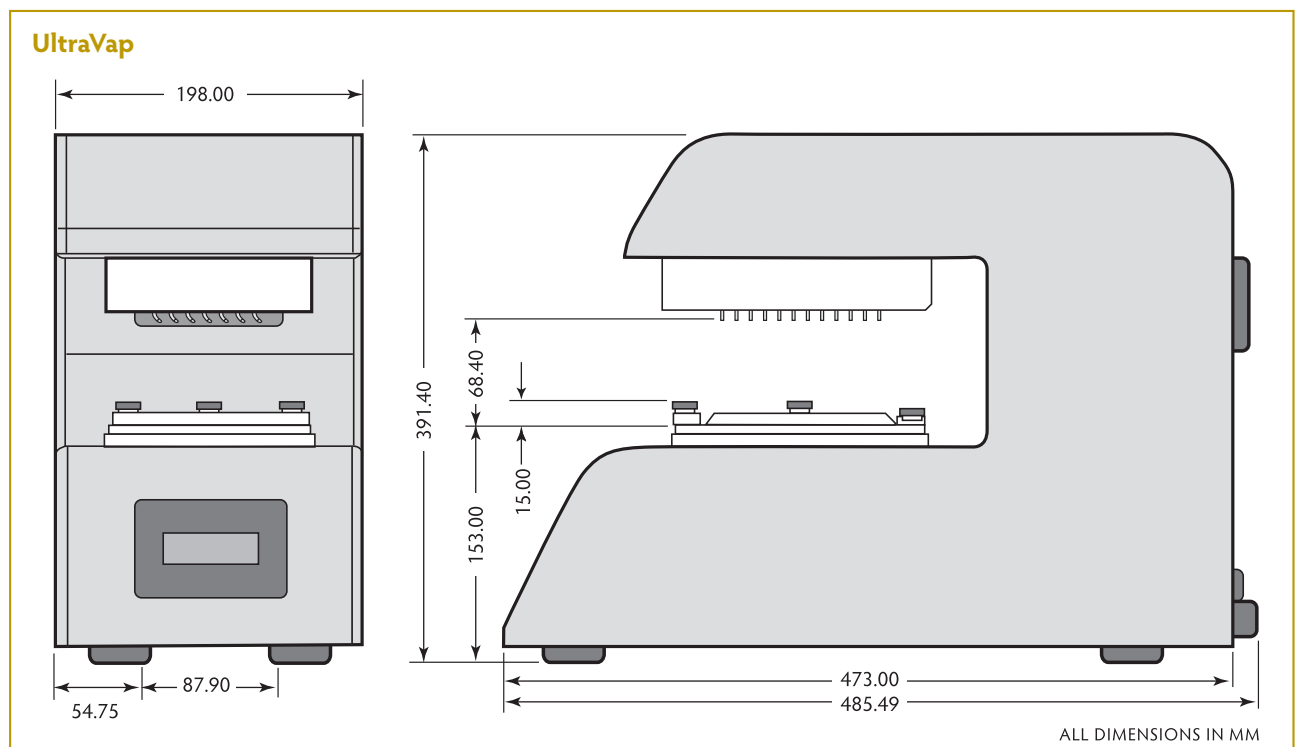
Ultravap™

Whereas the MiniVap™ is a fully manual system, the Ultravap™ is a digitally controlled programmable evaporator. It can be used as a stand alone unit or driven by a computer, often connected to a robotic liquid handler. After empirical data for dry down has been produced, this can be entered into the memory of the Ultravap for future recall and use. Each programme has three stages, with control of gas temperature, pressure and plate height at each stage. Nine different methods can be permanently stored in memory. The Ultravap will then evaporate plate contents quickly, by keeping the heated gas needles close to the liquid surface at all times in the concentration process, without further manual intervention.

- Designed for heat sensitive and thermally labile samples
- Nine different drying programmes can be retained in the memory
- Ability to upload and download methods
- Robotic plate stage automatically moves plates up and down
- RS232 allows remote control via PC or LH robot
- Removes most stubborn solvents in just minutes
- Can evaporate 500µl methanol in 5 minutes
- Compact footprint allows the Ultravap to fit into all standard fume cupboards
- Choice of straight, curved & 24, 96 or 384 needles
- Compatible with Tecan™, Hamilton™ and Beckman™ robotic liquid handlers

Ultravap™ high speed sample concentrator

Description	Qty/pack	Cat. no.
Ultravap™ 24 Straight needles, 230V, for 24-well plates and vial carriers	1	229138
Ultravap™ 96 with spiral needles, 230V, for 96-well plates	1	229070
Ultravap™ 96 with straight needles, 230V, for 96-well plates	1	229135
Ultravap™ 384 with straight needles, 230V, for 384-well plates	1	229071
Ultravap™ 24 Straight needles, 110V, for 24-well plates and vial carriers	1	229139
Ultravap™ 96 with spiral needles, 110V, for 96-well plates	1	229080
Ultravap™ 96 with straight needles, 110V, for 96-well plates	1	229136
Ultravap™ 384 with straight needles, 110V, for 384-well plates	1	229081





MiniVap 229205

UltraVap 229135

Spares and consumables for Porvair evaporators

Description	Qty/pack	Cat. no.
Replacement needle head with straight needles for MiniVap/ Ultravap™ 24	1	229409
Replacement needle head with spiral needles for MiniVap/ Ultravap™ 96	1	229072
Replacement needle head with straight needles for MiniVap/ Ultravap™ 96	1	229036
Replacement needle head with straight needles for Ultravap™ 384	1	229073
Spare needle kit, spiral. Set of 10 c/w fitting tool for MiniVap/Ultravap™ 96	1	229074
Spare needle kit, straight. Set of 10 c/w fitting tool for Ultravap™ 384	1	229075
Spare needle kit, straight. Set of 10 c/w fitting tool for Ultravap™ 96	1	229035
Gas filter, 5µm for MiniVap/Ultravap™	1	229088
Gasket for needle manifold for MiniVap/Ultravap™	1	229048

Thermal plate sealers

Of the various methods for sealing microplates, heat sealing has become the preferred option. It creates an air tight and chemically-resistant seal without the complications of adhesives being applied to a plate. Porvair Sciences has developed a range of units to meet the needs of low, medium and high throughput laboratories for microplate sealing.

MicroSeal Manual Thermal Plate Sealer

The MicroSeal is designed to be compact, easy to use and ergonomic. Heat sealing a wide range of plates is quick and simple. Heat sealing protects precious samples from evaporation and contamination when performing PCR or during storage. A built-in thermostat prevents overheating of the MicroSeal and with its small footprint and ease of use, the new MicroSeal is the obvious choice for manual sealing of PCR plates and microplates. With a pre-set temperature of 170C, ideal for most common sealing applications, and dual LED status display for power and heating, the MicroSeal is safe and easy to use. An ergonomic pull down action allows single action sealing of most common plate types. Additional adaptors are available for specific plates.



- Fast warm up time
- Consistent, single action sealing
- Pre-set temperature for ease of use
- Sealing Temperature 170°C
- Warm up time < 10 minutes

MicroSeal plate sealer

Description	Qty/pack	Cat. no.
MicroSeal plate sealer 110/230v	1	229751
Plate adaptor for ANSI/SBS deep-well plates	1	229752
Plate adaptor for rimless 96-well PCR plates	1	229753
Plate adaptor for ANSI/SBS standard 14mm plates	1	229754



MiniSeal Plus semi-automatic heat sealer

The new MiniSeal Plus builds on the proven track record of Porvair's revolutionary MiniSeal semi-automatic microplate sealer to bring you greater comfort and safety in use, together with unmatched repeatability in sealing plates of many different types and sizes.

Designed for laboratories needing to seal 20-40 plates per day, the MiniSeal Plus is compact, easy to use and simple to install. Unlike bigger automated sealers, MiniSeal Plus does NOT require a compressed air supply to operate. Instead, all operations are electronically controlled through the splash-proof keypad, meaning the MiniSeal Plus can be installed, up to temperature and sealing your plates within minutes of unpacking. The compact footprint, about the size of a sheet of A4 or letter paper, means MiniSeal Plus will fit just about anywhere on your lab bench, or inside a fume hood if required.

- Compact footprint
- No compressed air needed
- Semi-automatic operation
- Adjustable temperature and sealing time
- LED display of time, temperature and status
- Unique safety features
- Portable, lightweight design
- Dual voltage 110V/230V

Rapid heat-up, a real-time display of the sealing head temperature, automatic plate height detection and pre-cut sealing films combine to simplify plate sealing. The "drawer" design ensures quiet operation and eliminates any health & safety risks, whilst an energy saving mode protects the environment. Full microprocessor control allows you to programme the optimal sealing time and temperature for each plate type in use, whilst preventing damage caused by "over sealing".

The MiniSeal Plus can be used with any standard SBS footprint plate up to 48mm high and with most currently available PCR plates. Adaptors may be required for operation with certain types of plates. Sealing can be achieved with plates formed from polystyrene, polypropylene and the new COC / COP cyclo-olefin polymers.

Films come in a range of materials suitable for storage, transport, temporary or long-term sealing and piercing. Height of the MiniSeal Plus is just 310mm.

MiniSeal Plus automatic single plate sealer

Description	Qty/pack	Cat. no.
Miniseal Plus 110v / 230v	1	229670
PCR Plate Adapter & Sealing Frame	1	229671
Standard SBS plate Adapter	1	229672
Spare Sealing Frame (PCR)	1	229673
Spare weighted Platen	1	229674
Fuses (110V)	1 pack	229675
Fuses (230V)	1 pack	229676

TriSeal™ heat sealer

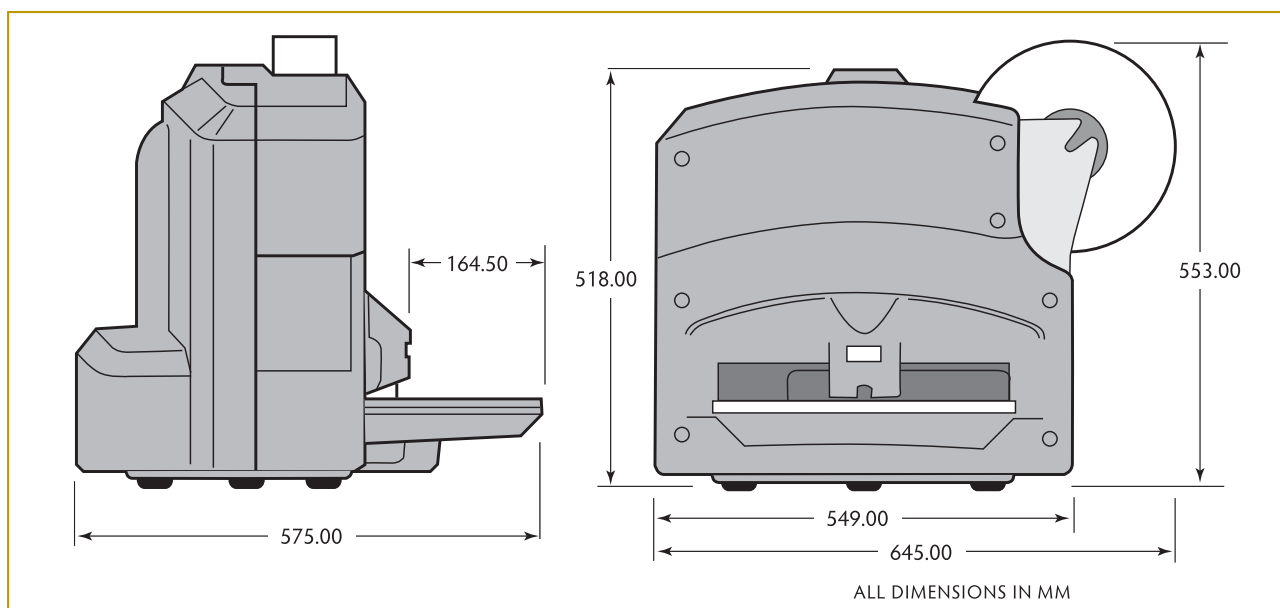
TriSeal is an automated plate sealer that can produce an accurate and tight seal on any SBS-standard microplate up to a maximum height of 45mm. The maximum obtainable throughput is an impressive five plates per minute. This is achieved using a unique turntable design, which allows simultaneous loading, unloading and sealing.

- Automatically adjusts to plate height
- Three position turntable design
- Easy foil or film loading
- Adjustable sealing temperature from 50°C up to 195°C
- Adjustable sealing time from 1.0 to 30.0 seconds
- Universal power supply, no transformer needed
- Only 8 bar of compressed air needed
- Easy automation with stacker/loaders or with LH robot via RS 232 port
- Stand alone keypad for easy operation and programming
- CE marked
- Built in self-test and fault diagnosis software



TriSeal

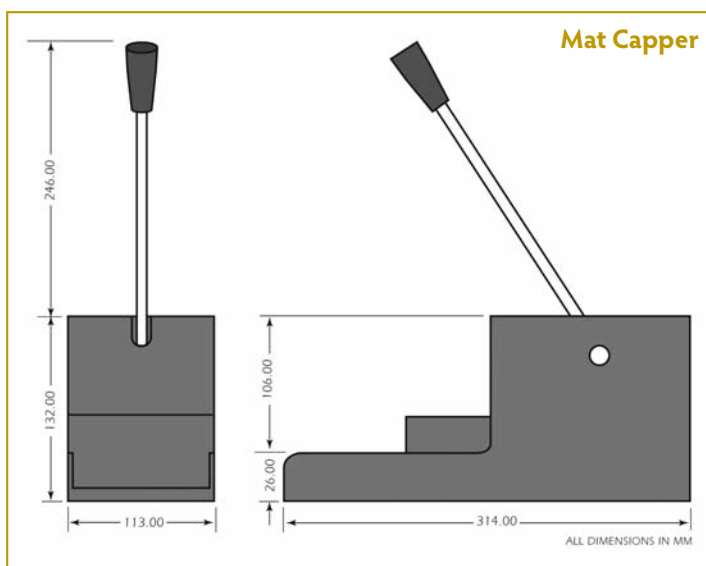
Description	Qty/pack	Cat. no.
TriSeal heat sealer 110/220v	1	229400
Fully automatic TriSeal system with Scorpion stacker/loader (right hand side)	1	Contact Porvair
UHTS TriSeal system with two Scorpion stacker/loaders (right & left hand sides)	1	Contact Porvair
Scorpion stacker/loader 110/230v	1	229600
Scorpion/TriSeal integration plate	1	229605



Mat Capper

For laboratories having to seal medium numbers of microplates the Mat Capper offers an affordable solution. Compact and portable, the Mat Capper is very easy to use, requiring only one operation of the system to produce an accurate and tight seal on a wide range of both collection and shallow well microplates. The seals used are EVA or silicone mats, which work by friction fit and are re-usable with care. For a wide range of friction seals, please see page 56.

- Caps shallow and deep well polypropylene storage 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

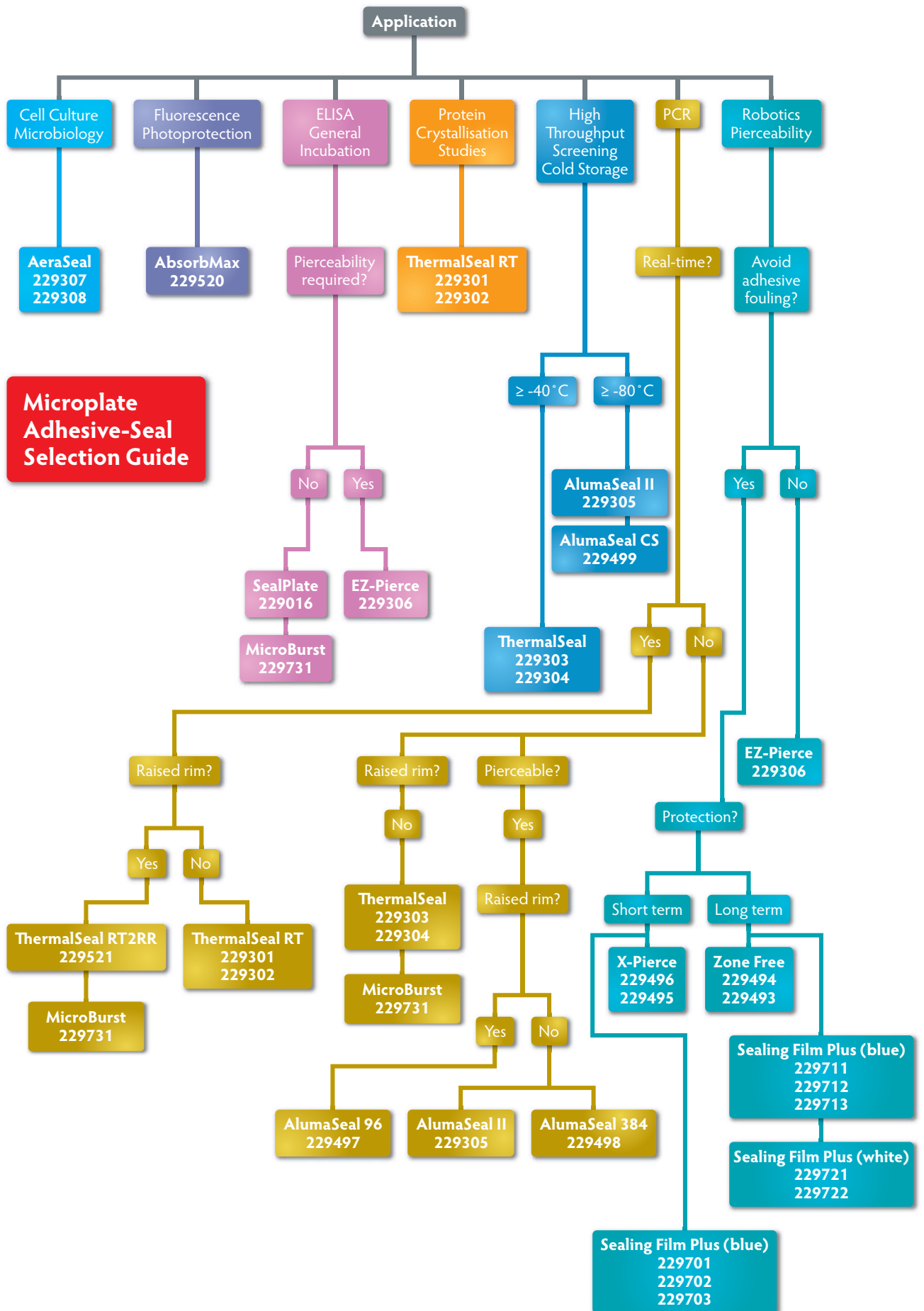


MicroLute™ De-capper

The MicroLute™ De-capper is for use with any MicroLute™ plate fitted with a drain cap. It enables the quick and easy removal of the protective lower drain cap, enabling the plate to be used.

Mat Capper and MicroLute™ De-capper

Description	Qty/pack	Cat. no.
Mat Capper, applicator for storage and assay plates	1	229078
MicroLute™ De-capper, for use with drain caps	1	229110



Microplate Adhesive-Seal Selection Guide

ThermalSeal RT2RR 229521
MicroBurst 229731

ThermalSeal RT 229301 229302

ThermalSeal 229303 229304
MicroBurst 229731

AlumaSeal 96 229497

AlumaSeal II 229305

AlumaSeal 384 229498

X-Pierce 229496 229495

Zone Free 229494 229493

Sealing Film Plus (blue) 229711 229712 229713

Sealing Film Plus (white) 229721 229722

Sealing Film Plus (blue) 229701 229702 229703

Porvair seals and foils

Porvair Sciences has a comprehensive range of seals and foils for thermal and adhesive sealing of microplates. In addition, a full range of re-usable cap mats is available for friction sealing of plates.

Foils and seals for the MicroSeal and MiniSeal Plus are supplied as cut sheets, 125mm x 78mm, in packs of 100. For the automated TriSeal system, these come in roll form. Sample rolls are 5m long, whilst production rolls are either 500m or 610m long, enough to seal 5-6,000 plates on average.

All Porvair heat seals have a sealing integrity range of -80°C to +120°C and are resistant to DMSO and TFA as well as most other solvents.

Heat seals for use with TriSeal or other automated sealers

Description	Qty/pack	Cat. no.
<i>All foils and films are 78mm width, sheet length is 125mm</i>		
Peel-Seal peelable sealing foil	1 x 610m 1 x 5m	229420 229450
Pierce-Seal pierceable sealing foil	1 x 610m 1 x 5m	229421 229451
Clear Seal optically clear film for fluorescence/colorimetric assays	1 x 500m 1 x 5m 100 sheets	229422 229452 229472
Pierce-Seal easily pierced foil for PCR	1 x 610m 1 x 5m	229440 229460
Thermal bond strong peelable sealing foil	1 x 500m 1 x 5m	229442 229462
Clear Weld-Seal strong permanent seal	1 x 610m 1 x 5m 100 sheets	229441 229461 229481
Gas-permeable Rayon seal for cell culture	1 x 200m 1 x 5m 100 sheets	229443 229463 229553

Porvair colour-coded thermal seals

Description	Qty/pack	Cat. no.
Easily pierced 20µm PP/PS lacquered aluminium foil – colour coded green		
125mm x 78mm sheets printed with colour coding and Right Side Up for ease of use	100	229572
Peelable 70µm polyester/aluminium laminate sealing foil – colour coded red		
125mm x 78mm sheets printed with colour coding and Right Side Up for ease of use	100	229571
Pierceable/Peelable 38µm lacquered aluminium foil – colour coded blue		
125mm x 78mm sheets printed with colour coding and Right Side Up for ease of use	100	229573
Strong 85µm thick aluminium foil for long term storage – colour coded black		
125mm x 78mm sheets printed with colour coding and Right Side Up for ease of use	100	229574

Adhesive seals (suitable for use down to -40°C unless shown)

Description	Qty/pack	Cat. no.
SealPlate® clear adhesive film for PP or PS plates	100	229016
ThermalSeal RT2™ thermal cyler film for real-time PCR polyester 50µm thickness	100	229301
ThermalSeal RT5™ thermal cyler film for real-time PCR polyester 125µm thickness	100	229302
ThermalSeal A® thermal cyler film for standard PCR	100	229303
ThermalSeal A® thermal cyler film for standard PCR, sterile	100	229304
ThermalSeal RT2RR™ thermal cyler film for real-time PCR – 50µm films	100	229521
AlumaSeal II™ aluminium seal for PCR and storage down to -40°C	100	229305
AlumaSeal 96® aluminium seal for PCR and storage in 96-well plates with raised rims	100	229497
AlumaSeal 384™ aluminium seal for PCR and storage in 384-well rimless plates	100	229498
AlumaSeal CS™ aluminium seal for long term cold storage -80°C	100	229499
Absorb Max™ optically-black film for light-sensitive assays	100	229520
EZ-Pierce™ easily pierceable polyethylene film	100	229306
Aeraseal™ gas-permeable, hydrophobic Rayon seal for cell culture (-20°C only)	100	229307
Aeraseal™ gas-permeable, hydrophobic Rayon seal for cell culture, sterile (-20°C only)	50	229308
X-pierce™ pre-scored film 96 Well Round – sterile	50	229495
X-pierce™ pre-scored film 96 Well Round	100	229496



Porvair MicroBurst™ Microencapsulated clear sealing film

Using adhesive seals whilst wearing laboratory gloves can prove to be difficult. The glued surface of the seal can easily stick to your glove rather than your microplate. Porvair MicroBurst™ films eliminate this problem. When first handled, MicroBurst™ is not tacky and will not stick to anything. Only when you are satisfied that the film is in the correct place do you press down hard to activate the MicroBurst™ adhesive. Millions of tiny spheroids contain the adhesive and these “microcapsules” burst under applied pressure to release the adhesive just where you want it and not all over your gloves!

The patented MicroBurst™ technology is being offered for the first time in a Life Science laboratory by Porvair Sciences. The clear film has excellent optical properties and once activated, produces a very firm seal which quickly strengthens to form a near-permanent seal on your plates. MicroBurst™ film can be pierced by pipette tips or robot liquid handlers and is temperature stable – making it ideal for PCR work.

MicroBurst™ non-sticky adhesive seal

Description	Qty/Pack	Cat. No.
Microburst™ clear seal with microencapsulated adhesive coating	100	229731
Adhesive film application paddle	5	229732
Adhesive film application roller	1	229733

Adhesive seals

229711

229712

229713

229494

229016

Zone-Free™ & well area adhesive-free films

Description	Qty/pack	Cat. no.
EZ-Pierce™ sealing film 96 Well Round – sterile	50	229493
EZ-Pierce™ sealing film 96 Well Round	50	229494
Sealing Film Plus – Blue Adhesive Polypropylene 100um 96 Well Square	100	229701
Sealing Film Plus – Blue Adhesive Polypropylene 100um 384 Well Square	100	229702
Sealing Film HT Autoclavable White Adhesive PTFE 50um 96 Square	100	229721
Sealing Film HT Autoclavable White Adhesive PTFE 50um 96 Well Round	100	229722
Sealing Film Plus – Blue Adhesive Polypropylene 100um 96 Well Round	100	229703
Sealing Film Plus – Blue Adhesive PTFE 50um 96 Well Round	100	229713
Sealing Film Plus – Blue Adhesive PTFE 50um 96 Well Square	100	229711
Sealing Film Plus – Blue Adhesive PTFE 50um 384 Well Square	100	229712

Heat seals and foils



Friction sealing strips and PCR cap mats



Friction seals

229090



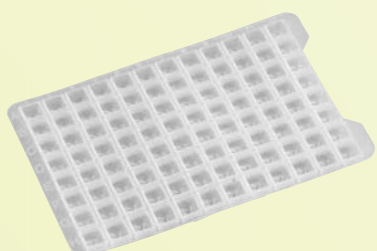
229093



219003



219004



360006



229091



Friction seals (cap mats)

Description	Cross reference to Porvair Sciences plates	Qty/pack	Cat. no.
Silicone sealing mat to fit 384-well plates	219040, 219041	50	380001
EVA sealing mat to fit 96-square well plates	219006, 219008, 219009	50	219004
EVA sealing mat to fit 96-square well plates, sterile	219025, 219026, 219027	50	219019
Pierceable Santoprene mat for 96-square well plates	219006, 219008, 219009	100	360010
EVA sealing mat for 96-round well plates	219002, 219032	50	219036
EVA sealing mat for 96-round well plates, black	219002, 219032	50	219038
EVA sealing mat for 96-round well plates, sterile	219012	50	219042
Pierceable Santoprene seal strip to fit 24-well plates	360013	50	360014
Pierceable Santoprene seal mat to fit 48-well plates	360002, 360004	100	360006
Pierceable Santoprene seal strip to fit 96-well plates	360001	400	360007
Pierceable sealing cap, round 96-well	219002	50	219044
Mat for round 96-well plates (standard silicone)	DNase/ RNase free, individually packed	50	229090
Mat for square 96-well plates (standard silicone)	229230 and square plates	5	229091
Mat for round 96-well plate (PTFE coated silicone)		5	229092
Mat for square 96-well plate (PTFE coated silicone)		5	229093
Polystyrene clear lid for all 96-well SBS standard plates	Fits all plates	100	229125
Polypropylene lid for all 96-well SBS standard plates	Fits all plates	100	229128
Cap mat for 1.1ml low profile storage plate	219250	5	219251
96-well PCR sealing mat, Natural		50	286113
96-well PCR sealing mat, Rubber, Natural		50	286114
8-well PCR sealing strip, 125 strips per pack, 10 packs per case		1250	286116

MicroStream™ tube rack and microplate thawing station

The latest addition to the Porvair Sciences range of microplate equipment is this handy single-rack microplate thawing station. Ambient air is continuously and gently circulated across the base of the frozen microplate or tube rack, ensuring gentle, even thawing without the risk of damage to your precious samples. Economical, quiet in use and boasting a small footprint on the bench, the MicroStream™ is an ideal addition to your microplate or tube-rack sample management.



MicroShake™ orbital shaker

The MicroShake™ orbital shaker is specially designed for use with Porvair Sciences' MicroLute™ P3 protein precipitation plates. To ensure rapid and complete mixing of serum samples with acetonitrile, simply place the MicroLute™ P3 plate on the dedicated plate holder and agitate for up to 30 seconds. The MicroShake™ has been tested with our P3 plates to ensure that no breakthrough of supernatant liquid can occur and has been shown to be the fastest way to ensure protein precipitation throughout the sample. MicroShake™ uses a 15 volt power supply and is fitted with a speed adjuster. This compact and quiet unit is barely bigger than a standard SBS microplate and will fit on any bench, in any fume hood or even the deck of your liquid handler. For added peace of mind and to eliminate any risk of contamination, the P3 plates can be fitted with a re-usable silicone cap mat. A simple adjustment enables the MicroShake™ to be used with any SBS footprint microplate.



MicroStream™ microplate thawing station

Description	Qty/pack	Cat. no.
MicroStream™ microplate thawing station 110/220v	1	229510

MicroShake™ orbital microplate shaker

Description	Qty/pack	Cat. no.
MicroShake™ variable speed orbital SBS microplate shaker 110V US plug	1	229651
MicroShake™ variable speed orbital SBS microplate shaker 230V UK plug	1	229652
MicroShake™ variable speed orbital SBS microplate shaker 230V EU plug	1	229653
MicroLute™ SPE & MicroLute™ P3 plate adaptor for MicroShake™	1	229654
Optional clear lid for MicroShake™ for use with 14mm high SBS microplates	1	229655