

ULTRASEAL PRO

THE FULLY AUTOMATED HEAT SEALER
FOR PLATES AND TUBES



Porvair Sciences is pleased to introduce the Ultraseal Pro – a fully automated heat-sealing instrument designed to efficiently seal a wide range of samples in microplates and tubes.

Engineered for Protection

Ultraseal Pro is designed to safely apply a heat activated sealing film to the top surface of microwell plates or tube racks. The sealing film roll is fed and accurately cut to a desired length, and by means of heat and time-based variables, achieves a tight and secure seal. Customized sealing programs, and password protected for each plate and film combination, can be user-defined for heat sealing over a wide range of surfaces.

Robust for Reproducibility

A gas purge option allows for a heavy gas coating to be applied to the well surface prior to sealing, providing a protective barrier to the air void often left between sample and seal. With the gas applied prior to sealing, an oxygen-reduced or virtually oxygen-free space/ environment can be achieved.

Key Features:

- Fully automated
- Compact - unit saves on laboratory benchtop space
- Throughput: 6 plates per minute.
- Operator-friendly: Easy to program.
- Efficient and consistent heat sealing
- Versatile: compatible with wide range of seals, microplates and tube racks

The unit is both pneumatically and electrically operated and requires both supplies to be readily available.

Ordering Information

Product No.	Description
500290	Ultraseal Pro - Automated Heat Sealer for Tubes Racks and Plates

System Requirements	
Electric	110 / 220 VAC supplies, 6 Amp minimum
Pneumatic	Requires a supply rated to 5.5 bar/80 psi (min) – 6.5 bar/95 psi (max) @ 50 lpm/13 gpm.
Weight	Approx. 12 kgs/27 lbs
Dimensions	630 mm/25 in. (L) x 195 mm/7 in. (W) x 450 mm/18 in. (H) (inc. film roll)
Comm. Lead	3m RS232 (3 wire 2,3 and 5 connection, non-twisted)
Comm. Driver	Supplied with communication protocol
Shuttle Extension	Offers greater access to plate, shuttle extends 34 mm/1.25 in.
Gas Perm. Seal*	Requires high air supply rated to a min. of 140 lpm/37 gpm at 5.5 bar/80 psi
Gas Purge*	Requires Heavy Gas supply, 6 mm/.25 in. pipe with 0 to 10 PSI control, Monitoring of gas safety is needed or suitable fume hood
Heat Sealer	Up to 199°C/390°F
Optical Seals	Yes
Automation Level	Automatic cut and apply seals
Working Height	Plate Height 7 to 48mm

Heat Sealing Films

Porvair Sciences offers a range of heat sealing films suited for plates and tubes. Four main types of heat sealing films are available; clear, strong (Dura), heavy duty, and gas permeable. Several variations are available to add flexibility and compatibility to suit all requirements for sample storage and collection. When heat is applied, a tight seal is formed on polypropylene, polyethylene, polystyrene, polycarbonate and cyclin-olefin-copolymer (COC) plates.

Transparent Peelable Film

Optically clear films are available in a variety of formats including peelable, pierceable, and strong non-peelable. These seals are ideal for a wide range of applications including: imaging, fluorescence colorimetric assays, and PCR/qPCR. The optical clarity of this seal enables its use for sealing plates required for imaging use, including fluorescent detection methods such as qPCR and colorimetric assays.

Key Features:

- Optically clear and peelable
- Seal integrity range: -80°C to +80°C (to +110°C with a pressurized heated PCR lid)
- Applications: imaging, fluorescent detection, and colorimetric assays
- Suitable for PCR and qPCR
- Moderate solvent resistance for
- Ideal for short term compound storage at room temperature
- Seals polypropylene, polyethylene, polystyrene, polycarbonate and cyclic olefin copolymer (COC) plates
- Single use

Product No.	Description	Size
500293	Transparent Peelable Film	500M x 78m
500294	Transparent Peelable Film - Sterile	500M x 78m
500295SM	Transparent Peelable Film	5M x 78m

Transparent Pierceable Film for Abi 3730

The Transparent Pierceable Film is a thin polyester heat sealing film, easily pierceable with autosampler needles/ABI® 3730; suitable for PCR, qPCR and optical applications.

- The Clear and Pierceable heat sealing film is an optically clear polyester backed film, forming a pierceable seal to polypropylene, polyethylene, polystyrene and cyclic olefin copolymer (COC) plates.
- The optical clarity of this seal enables its use for sealing plates required for imaging use, including fluorescent detection methods such as qPCR and colorimetric assays.
- Its pierceability renders it useful for automation and for use on needle, capillary and tip based liquid handling systems.
- It is effective on the ABI® 3730 capillary sequencer, removing the need for the use of expensive septa mats.
- It demonstrates a moderate solvent resistance and can be utilized for short term compound storage.

Key Features:

- Permanent seal
- Easily pierceable with autosampler needles/ABI®3730
- Seal integrity range: -80°C to +80°C (+110°C when used with pressurized heated PCR lid)
- Moderate solvent resistance
- Optically clear

Product No.	Description	Size
500296	Clear and Pierceable (for Abi 3730)	610M x 78mm
500297	Clear and Pierceable (for Abi 3730) - Sterile	610M x 78mm
500298SM	Clear and Pierceable (for Abi 3730)	5M x 78m

Clear and Strong Heat Sealing Film

The Clear and Strong Heat Sealing Film is a optically clear heat sealing film, non-peelable, difficult to pierce; and suitable for qPCR, optical applications and storage.

The clear polymer film forms a permanent seal to polypropylene plates. The ClearASeal Weld forms a complete seal to a plate, enabling both low and very high temperature uses, including low temperature storage and high temperature incubations.

- This seal is suitable for PCR/qPCR, even without the use of a pressurized heated lid, and is 100% effective when used in water bath thermal cyclers
- The permanent nature of this seal renders it suitable for the storage and disposal of hazardous material.
- ClearASeal Weld demonstrates a good solvent resistance and can be utilized for long term compound storage.

Key features:

- Permanent seal
- Difficult to pierce
- Non-peelable
- Seal integrity range: -80°C to +110°C
- DMSO and solvent resistant
- Autoclavable (+121°C)

Product No.	Description	Size
500299	Clear and Strong	610M x 78mm
500300	Clear and Strong - Sterile	610M x 78mm
500301SM	Clear and Strong	5M x 78m

Dura Range Heat Sealing Films

These durable foil based heat sealing films are ideal for high temperature applications including PCR and low and room temperature storage.

They can be removed from polypropylene plates by peeling, even with a plate that has been removed directly from -80°C storage. A green dotted line on the sheet foil clearly indicates the non-sealing surface, for ease of seal orientation and handling.

Dura Peel Heat Sealing Film

A peelable heat sealing foil; suitable for low temperature storage, high temperature uses and PCR.

Dura Peel is a laminate seal compatible with polypropylene plates. It can be removed from polypropylene plates by peeling, even with a plate which has been removed directly from -80°C storage.

Key Features:

- Peelable from polypropylene, polyethylene and COC plates
- Seal integrity range: -80 °C to +90 °C (110 °C when used with pressurized heated lid)
- Moderate solvent resistance including DMSO
- Autoclavable (+121°C)

Product No.	Description	Size
500302	Dura Peel	610M x 78mm
500303	Dura Peel - Sterile	610M x 78mm
500304SM	Dura Peel	5M x 78m

Dura Peel – DMSO

The DMSO resistant peelable heat sealing foil is suitable for low temperature storage or high temperature uses and PCR. Dura Peel is a laminate seal compatible with *all* types of plates. It can be removed from polypropylene plates by peeling, even with a plate which has been removed directly from -80°C storage.

Key Features:

- Peelable from all plate types
- Seal integrity range: -80°C to +110°C
- Good solvent resistance including DMSO
- Autoclavable (+121°C)

Product No.	Description	Size
500305	PeelASeal Foil Super	610M x 78mm
500306	PeelASeal Foil Super - Sterile	610M x 78mm
500307SM	PeelASeal Foil Super	5M x 78m

Super Dura Peel - DMSO

Super Dura Peel is a high solvent resistant heat sealing foil, peelable; and suitable for low and room temperature compound storage. The PeelASeal DMSO Foil is a DMSO-resistant seal compatible with polypropylene and forms an excellent seal to cyclic olefin copolymer (COC) plates.

- The solvent resistance of this seal enables its use for low and room temperature compound storage in Dimethyl Sulfoxide (DMSO) and organic solvents
- 100% DMSO can be stored at room temperature for 12 months without deterioration of the seal
- It forms a weld-type seal to polyethylene plates and cannot be peeled off
- Access is by piercing, using a blade or a needle

Key Features:

- Permanent seal to polyethylene
- Peelable seal to polypropylene and COC
- Seal integrity range: -80°C to +80°C
- High solvent resistance, including 100% DMSO

Product No.	Description	Size
500308	PeelASeal DMSO Foil	500M x 78mm
500309	PeelASeal DMSO Foil - Sterile	500M x 78mm
500310SM	PeelASeal DMSO Foil	5M x 78m

Dura Pierce Heat Sealing Film

Dura Pierce Heat Sealing Film is a pierceable heat sealing foil, high solvent resistance, resealable, and suitable for PCR, compound storage, sample shipping

The Dura Pierce seal has high solvent resistancy, he ability to seal samples as low as -20°C, and is ideal for low and room temperature compound storage in DMSO and other organic solvents. The adhesive foil can be manually pierced, using a pipette tip or liquid handling robots, and can be easily removed by peeling. In addition, plates can be resealed by applying an additional Dura film directly on top of a previously pierced seal.

A green dotted line on the sheet foils clearly indicates the non-sealing surface, for ease of seal orientation and handling.

Key Features

- Pierceable and resealable
- Seal integrity range: -20°C to +120°C
- High solvent resistance
- Autoclavable (+121°C)
- Designed with seal orientation guidelines

Product No.	Description	Size
500311	Dura Pierce	610M x 78mm
500312	Dura Pierce - Sterile	610M x 78mm
500313SM	Dura Pierce	5M x 78m

Dura Pierce and Peel Heat Sealing Film

Dura Pierce and Peel Heat Sealing Film is an aluminium heat sealing foil, resealable, peelable, pierceable; and suitable for compound storage or PCR.

This peelable version of the Dura Pierce seal has moderate solvent resistance and has the ability to seal samples as low as -80°C. It is ideal for low temperature compound storage in DMSO and other organic solvents. The adhesive foil can be manually pierced, using a pipette tip or liquid handling robots, and can be easily removed by peeling. In addition, plates can be resealed by applying an additional Dura film directly on top of a previously pierced seal.

Key Features:

- Pierceable, peelable & foil-on-foil resealable
- Seal integrity range: -80°C to +120°C
- Moderate solvent resistance
- Autoclavable (+121°C)

Product No.	Description	Size
500314	Dura Pierce and Peel	610M x 78mm
500315	Dura Pierce and Peel- Sterile	610M x 78mm
500316SM	Dura Pierce and Peel	5M x 78m

Dura Pierce - PS

Dura Pierce - PS is a peelable heat sealing foil that seals to polystyrene plates. It is resealable, pierceable; and suitable for compound storage.

Specifically designed to heat seal polystyrene plates, this seal has moderate solvent resistance and is ideal for low temperature compound storage, in DMSO and organic solvents, and short-term room temperature storage. The adhesive foil can be manually pierced, using a pipette tip or liquid handling robots, and removed by peeling (from polystyrene only). In addition, plates can be resealed by applying an additional Dura film directly on top of a previously pierced seal.

Key Features:

- Pierceable
- Peelable from polystyrene plates
- Resealable foil-on-foil
- Seal integrity range: -20°C to +110°C
- Moderate solvent resistance

Product No.	Description	Size
500317	Dura Pierce - PS	610M x 78mm
500318	Dura Pierce - PS - Sterile	610M x 78mm
500319SM	Dura Pierce - PS	5M x 78m

HD Heat Seal

The heavy duty, strong yet peelable heat seal is perfect for long-term storage and transportation.

The strongest protective seal, in this range, that offers high solvent resistance, wider integrity range (-200°C to +110°C) for polypropylene plates that are impenetrable by pipette tips and liquid handling systems.

Key Features:

- Peelable and pierceable using a blade
- Seal integrity range: -200 °C to +110°C
- High solvent resistance
- Autoclavable (+121°C)

Product No.	Description	Size
500320	HD Heat Seal	500M x 78mm
500321	HD Heat Seal - Sterile	500M x 78mm
500322SM	HD Heat Seal	5M x 78m

Bio Pierce and Peel 1

Bio Pierce and Peel 1 is a non-woven gas permeable seal that limits evaporation. It is peelable, pierceable; and designed for cell culture and suitable for seed and insect storage. Use this with polypropylene and polystyrene plates only.

Its porous properties allow gas exchange to occur while providing an inert surface, since it has no adhesive to interfere with the well contents. This can be used for effective overnight incubations, where it demonstrates significant reductions in evaporation when compared to lids.

Key Features:

- Peelable
- Pierceable
- Seal integrity range: -20°C to +80°C
- Autoclavable (+121°C)

Product No.	Description	Size
500323	Gas PermASeal	200M x 78mm
500324	Gas PermASeal - Sterile	200M x 78mm
500325SM	Gas PermASeal	5M x 78m

Bio Pierce and Peel II

Bio Pierce and Peel II is an inert, porous and gas permeable heat-sealing film for applications requiring gas exchange. It is ideal for insect and seed storage. It seals polypropylene, polyethylene, polystyrene and cyclic olefin copolymer (COC) plates

The film is composed of paper, with a grid lacquer coating, to give a porous and gas permeable properties while providing an inert surface with no adhesive to interfere with the well contents. The adhesive foil can be manually pierced, using a pipette tip or liquid handling robots, and removed simply by peeling.

Key Features:

- Pierceable and peelable
- Seal integrity range: -20°C to +80°C
- Gas permeable

Product No.	Description	Size
500326	Gas Pierce and Peel	610M x 78mm
500327	Gas Pierce and Peel - Sterile	610M x 78mm
500328SM	Gas Pierce and Peel	5M x 78m

Bio Pierce and Peel - Clear

Bio Pierce and Peel is a perforated heat sealing film, optically clear, with 3mm slits for gas transfer. It is suitable for insect studies, seed storage and cell culture.

The Bio Pierce and Peel sealing film is an extension of the Clear and Peel seal, modified with 3mm slits added across the seal to enable gas exchange to occur while minimizing evaporation. It is ideal as an alternative to plastic lids for biological sample storage.

Key Features:

- Seal integrity range: -80°C to +110°C
- 3mm slits for gas transfer

Product No.	Description	Size
500329	ClearASeal Perf	610M x 78mm
500330	ClearASeal Perf - Sterile	610M x 78mm
500331SM	ClearASeal Perf	5M x 78m

All rolls of films (78mm wide) are available in 5m sample rolls. Please contact sales to request. Compatible with Wasp, Chameleon XT, Kube, Flexiseal, ThermoALPS300/3000, and REMP (PHS) heat sealing equipment.

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