

# UltravapMistral

porvair  
sciences



## Ultravap Mistral – Saving you time every day

- Fully liquid handling robot compatible dry down station
- Plate shuttle sends/retrieve plates from robot deck
- Adjustable shuttle position and height
- Intuitive graphical colour touch screen display
- Up to 30 stored evaporation programmes
- Up to 5 programmable steps per method
- On board gas management
- Master & multiple slave configuration supported
- Remote control from PC option
- Reversible screen for integration at side of robot
- Built in fume management and duct connector
- Faster evaporation times
- Choice of 384, 96, 48 & 24 well heads
- Small footprint to fit in your hood

The Ultravap Mistral from Porvair Sciences is designed to remove the traditional laboratory 'bottleneck' of solvent evaporation from microplates. It is our most sophisticated automation-friendly model yet, giving significant throughput advantages to laboratories looking to optimise microplate sample preparation. 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 into each individual well of the microplate simultaneously. Installation requires only connection to a gas supply and mains electricity. 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.

## Nitrogen blow-down

In nitrogen blow-down, warm gas is blown down into the wells of the microplate, just above the liquid level. The effect is to speed up solvent evaporation by providing more energy for evaporation. This enables equilibrium to be reached more quickly, leading to faster drying. Nitrogen blow-down is the easiest way to automate the frequent bottlenecks caused by removal of solvent from samples that need to be concentrated, dried or reconstituted.

The UltraVap Mistral 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. The new Ultravap Mistral is the latest fully robot-compatible nitrogen blow-down evaporator, suitable for integration adjacent to several leading laboratory liquid handling robots. Designed with the demands of linear robots very much in mind, the Ultravap Mistral offers a plate shuttle which can serve and retrieve plates from the deck of Perkin Elmer, Tecan, Hamilton and Beckman liquid handlers. The colour touch-screen controlled dry down station accepts 24-, 48-, 96- or 384-well plates and comes complete with clear safety side screens and integral fume management leading to a 4 inch duct adaptor.

## Flexible programming

The Ultravap Mistral has been designed to allow robots with standard gripper arms to place and remove microplates directly onto the shuttle. In comparison with previous models, the Ultravap Mistral has a 10% smaller footprint, allowing better access and saving valuable bench space.

The evaporation table is able to rise under the control of a stepper motor as the drying process proceeds. This can be programmed at a suitable rate for each solvent type being evaporated. In addition, gas temperature, pressure and flow rate can all be programmed individually and stored in up to thirty multistep programmes on the Ultravap Mistral controller. Each programme allows the table to rise in up to five distinct ramped phases, so that a fast initial drying period can be followed by a gentler final drying phase. The new Ultravap Mistral lends itself to full integration with most robotic liquid handlers, where it is usually located on the right-hand side of the deck. Control commands are sent directly from the robot

controller to the Ultravap. These standard commands are listed in the manual, but most robot manufacturers have drivers available to control the Ultravap, making integration a seamless process.

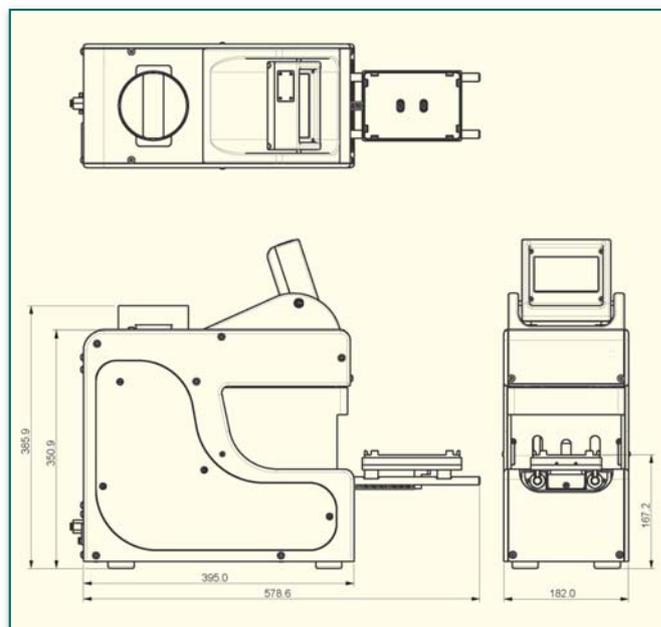
## Solvent compatibility

With a choice of 96 straight or 96 spiral needles, plus 24, 48 and 384 straight needles, the sphere of application for Ultravap Mistral is huge. Most common chromatography solvents can be evaporated with ease, such as dichloromethane, methanol, acetonitrile and hexane. The nitrogen blow-down method is not, however, suitable for high-boiling point solvents such as DMF, DMSO and water. It is also unable to be used with acids or acid chlorides, as special corrosion-resistant systems are needed for this work. The choice of straight or spiral needles allows the user to choose between faster dry down (spiral) and better final drying in V-well plates (straight). The spirals cause a vortex to form in the solvent, increasing the surface area and thus speeding up the rate of evaporation.

## Evaporator System Requirements

Gas flow rate: 28L/min minimum, 80L/min maximum at 6 bar pressure. Can be used with nitrogen or dry compressed air if the chemistry allows. Not suitable for use with strong acids or acid chlorides.

Visit [www.microplates.com/mistral](http://www.microplates.com/mistral) for more information, literature and video.



### Sales and Customer Services

#### Porvair Sciences Ltd

Clywedog Road South Wrexham Industrial Estate Wrexham  
North Wales UK LL13 9XS

Tel: +44 (0) 1978 666240/666239 Fax: +44 (0) 1978 660007  
email: [int.sales@porvair-sciences.com](mailto:int.sales@porvair-sciences.com) [www.microplates.com](http://www.microplates.com)

**porvair**  
sciences

© 2013 Porvair Sciences Ltd.  
E&OE. All trade marks acknowledged.