

# Rocket Evaporator

including concentration options





## Make time for science with the Rocket

Genevac has followed a continuous programme of collaborative research and development in order to become the world leader in laboratory evaporation science and engineering. The culmination of this work is a revolutionary evaporation technology, now incorporated into the Rocket™ Evaporator.

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**Dries or concentrates up to six 450ml flasks, or 18 ASE® tubes unattended.**

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Developed as a consequence of users' demands for an evaporator that could quickly process larger volumes of solvent in parallel and without supervision, the Rocket Evaporator is designed to dry or concentrate up to six 450ml flasks, or 18 ASE® tubes. The user is able to focus on other tasks, confident that the Rocket will achieve perfect, reproducible results every time.

The Rocket Evaporator is equipped with the advanced performance features that Genevac users expect, such as effective bumping and cross contamination protection, precise temperature regulation and very easy to use controls. A two stage cold trap is built into the Rocket Evaporator, providing very high levels of solvent recovery, even with volatile organic solvents. The cold trap auto-drains under the control of the evaporator to ensure that optimal solvent recovery is maintained, no matter what mix of solvents is being used.

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**Trials prove that the Rocket's fast, unattended operation significantly improves laboratory productivity.**

**Why spend time on evaporation when it could be used for science?**

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- **Five times faster than conventional 'intelligent' evaporators**
- **Perfect results without monitoring or supervision**
- **Unique high energy sample heating**
- **Precise sample temperature control**
- **Genevac Dri-Pure® cross contamination protection**
- **Simple controls with intelligent software**
- **Easier to use than a rotary evaporator**



## Inside the Rocket

The Rocket Evaporator uses a patented new technology, which works like this:

Samples are loaded into the rotor, spun, and placed under vacuum (point B). By pulling a vacuum on the samples, the solvent(s) will boil at a low temperature, which is proportional to the pressure. Dri-Pure technology stops any bumping and cross contamination.

To achieve very fast evaporation and precise temperature control, low temperature, low pressure steam is used to heat the samples directly. The steam condenses on the flasks/tubes, which are cold due to the solvent(s) boiling inside them. Condensate is thrown off the spinning flask, where it is recycled and boiled again to make more steam.

Steam temperature is controlled in two ways:

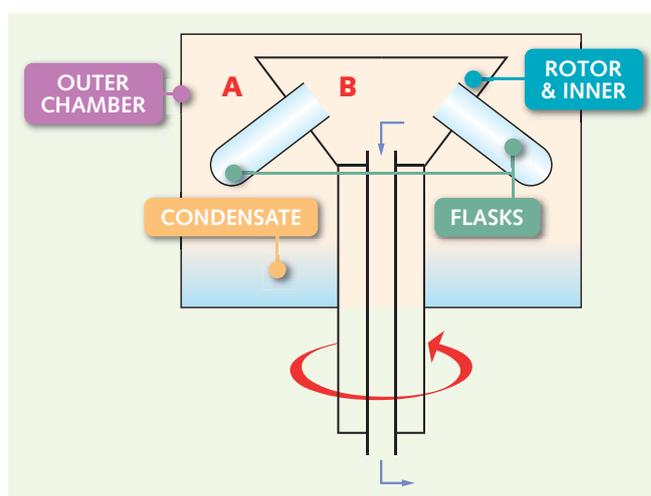
1. The pressure in the outer chamber (at point A) is set to boil water at the desired temperature.
2. The temperature of the outer chamber is precisely controlled at or below the set temperature.

To keep the two vacuum environments separate and to make sure that steam does not enter the samples, each tube or flask slides effortlessly into the rotor and the action of spinning the rotor then firmly clamps it in place.

### Controls

The controls of the Rocket Evaporator are very easy to use; highlight the desired evaporation or concentration method using the right hand knob, and hit start. Pushing the left hand knob activates the (optional) on board strobe. Rotating the strobe knob adjusts the strobe frequency and allows each of the six positions to be viewed separately in real time.

The software controlling the evaporation process can be optimised for each customer application and new methods created to enhance performance, usually in partnership with your local Genevac representative. Further details of Rocket methodology and the very high analyte recoveries that are possible are available at [www.Genevac.com/CFA](http://www.Genevac.com/CFA). New methods are supplied by email and uploaded via USB key. Data is downloaded in the same way.





## Choice of formats for the best results

The Rocket Evaporator can be used either to dry samples completely, or to concentrate them to a small volume. To help achieve the best results in the desired sample format, there are several options:

### 1 Evaporation Flasks

These are for drying or concentrating samples – if dried, samples require re-dissolving and then removing via pipette. 450ml volume.

### 2 SampleGenie™ Flasks

For a wide range of vials, from 12mm to 28mm diameter and up to 70mm tall. The SampleGenie system allows drying of the sample directly into the storage vial. 250ml (plus vial) volume.

### 3 SampleGenie™ for GC Vials

Specifically for concentrating into GC autosampler vials, this special version of SampleGenie insulates the vial so that only the solvent in the flask evaporates, leaving a small volume in the vial.

### 4 Puck for ASE® Tubes

The Puck insert replaces the flasks and allows up to 18 ASE® tubes to be evaporated at one time.

### 5 Flip-Flop system

Samples are collected directly from the extraction system in the special double-ended tube. A SampleGenie adaptor with GC vial is then fitted. The tube is flipped over and placed into the Puck in the Rocket Evaporator and the cap removed. The samples are then concentrated directly into the GC vial.



### The genius of SampleGenie

SampleGenie enables samples to be concentrated or dried directly into the storage or autosampler vial without the need for manual transfers or graduated washing steps. SampleGenie saves time and eliminates handling errors. In effect, it achieves sample transfer automation, but without the robotics.



Six position rotor

Built in solvent resistant vacuum pump

Plastic coated glass cold trap

Easy to use controls

Steam chamber

Real time strobe viewing window

USB upload/download of methods and data

Automatic cold trap drain

### Mechanical data

Maximum speed	1800rpm
Maximum G-force	700g
Drive system	Direct drive
Maximum Sample load	6 x 450ml
Maximum imbalance	50g

### Vacuum system

Pressure display	0-1200mbar
Pressure control	Automatic, 3mbar to atmosphere
System ultimate vacuum	3mbar
Bumping protection	Dri-Pure®

### Temperature and control

Control range	Ambient +5°C to 60°C
Control accuracy	±1°C
Temperature sensing	via thermistor
Display range	0°C to 60°C
End of method	Time or automatic
Visualisation	Via built in strobe (optional)

### Solvent compatibility

Boiling point range	40°C to 160°C at ambient
Includes	Alcohols, DCM/methylene chloride, DMF, ethyl acetate, water, TFA
HCl	Not compatible
Di-ethyl ether	Only with Inert Gas Purge option

### Dimensions

Width x Depth x Height	720 x 640 x 530mm
Headspace required	755mm (lid open)
Weight	75kg

### Services

UK & Europe	230V (±10%), 50Hz, 13A
USA	120V (±10%), 60Hz, 15A
Japan	100V (±10%), 50Hz or 60Hz, 15A
USB A	For data upload / download
Deionised water	50K to 1M Ohm, approx 100ml per day

### Safety

Conforms to UL 61010-A-1:2002 & BS EN 61010-1:2001 for laboratory equipment.  
CE certified.

### Cold trap cooling requirement

Temp range	-20°C to +10°C dependent upon application
Heat removal	700 Watts at +10°C (max)
Flow rate	1 to 2 l/min
Pressure	1 (min) to 7 bar (max) static
Connections	8mm nylon hardwall tube (chiller). ¼ inch (6.5mm ) hose barb for cold water connection (standard). Connection hoses not supplied.
RS232 connection	Provided for Genevac supplied chiller

### Recirculating chiller

A powerful and compact recirculating chiller is available with the Rocket evaporation system, which is specified to complement the evaporator. The evaporation system can be connected to the chiller via RS232 link, enabling the evaporator to control the chiller, which can provide improved solvent recovery and better drying of samples than by using a static cooled supply. A connection kit with insulated pipe work is available to accompany this chiller.



### Specification

Width x Depth x Height	320 x 500 x 600mm
Weight	48kg
Cooling Power	500W at 10°C
Electrical connections	As evaporator

### Maintenance

All seals are user replaceable. Easy access is provided to the pump, which can be maintained by trained users.



Genevac Ltd Farthing Road Ipswich UK IP1 5AP Tel +44 (0)1473 240000 Fax +44 (0)1473 742987

Genevac Inc. 815 Route 208 Gardiner NY 12525 USA Tel 1 (845) 267 2211 Fax 1 (845) 267 2212

[www.Genevac.com](http://www.Genevac.com)

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Genevac has a continuous development programme aimed at further improving and developing its products and all specification are, therefore, subject to change.

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