



Rocket Synergy 2 Evaporator

ROCKET SYNERGY 2

The Rocket Synergy 2 high speed evaporator is designed to dry or concentrate up to six flasks, each containing a maximum of 450ml of solvent, or 18 ASE® vials, with no user intervention or attention. The removable flask rotor may also be replaced with a 5 liter stainless steel vessel for batch processing. It is five times faster than other 'intelligent' evaporators and is capable of replacing several rotary evaporators, saving valuable bench space.

Rocket controls are very easy to use. Load your samples, select the correct method, press start and walk away. The evaporator is equipped with high performance features that prevent foaming, bumping and cross-contamination. A built-in cold trap provides very high levels of solvent recovery, even with volatile organic solvents. Auto-draining, under the control of the Rocket, ensures optimal solvent recovery is maintained under all conditions.

Using SampleGenie™ or Flip-Flop™ sample handling systems further extends the scope of the Rocket Synergy 2. These enable up to 400ml to be concentrated or dried directly into a smaller vial, increasing sample recovery and inter-sample reproducibility, while eliminating the drudgery associated with manual transfers. Methods on the Rocket Synergy 2 can easily be optimized, and new methods uploaded via USB key. Data is downloaded in the same way. The Rocket has an on-board strobe that allows each of the six flask positions to be viewed separately in real time.



Main Benefits

- No waiting – five times faster than other 'intelligent' evaporators
- Perfect results – no monitoring or intervention required for excellent sample recovery
- Error free – eliminates foaming, bumping and cross-contamination
- Easy to use – simple controls and intelligent software
- Space saving – one Rocket replaces several rotary evaporators
- Sample volumes – from 60ml up to 5 liters
- Environmentally friendly – cold traps and advanced methodology provide very high solvent recovery

Revolutionary Rocket Synergy 2

Rocket Evaporators use patented vacuum technology to evaporate solutions to dryness, or a concentrate, rapidly and safely. The latest Synergy series offers integrated, flexible solutions for processing a wide range of sample volumes. Interchangeable rotors will accommodate tubes, flasks and batch volumes of up to 5L.

Rocket Technology

Using a single, common vacuum pump, the Rocket creates two vacuum environments:

- 1 A low vacuum causes the solvents in the sample to boil at a low temperature, often below 0°C.
- 2 A second vacuum environment boils deionised water to make low temperature, low pressure steam. The temperature of the steam heating the vessel or flasks in the Rocket is controlled in this way, while the temperature of the aluminium outer chamber is also carefully controlled at the user's set temperature.

Solvents boiling in the flasks or vessel will cause cooling, therefore the steam created by the Rocket will condense on the cold outer surface of the flask or vessel.

Condensation of steam releases energy into the samples to speed evaporation, without heating the samples themselves. Condensed steam is thrown off due to the rotational force and re-boiled to make more steam.

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Rocket Synergy 2 Features:

- A Removable 316 stainless steel vessel – holds up to 5 liters of sample (batch mode; Rocket Synergy 2)
- B Removeable flask rotor will accommodate the full range of sample handling solutions including tubes, flasks and SampleGenie
- C Auto-draining frost-free solvent condenser, collects all solvents as liquids; plastic coated glass for safety and visibility
- D Easy to use controls; select the method for the solvents to be evaporated, set the maximum safe temperature and start
- E USB upload of new methods and software and download of recorded data
- F Waste solvent drains



The Secret Of Perfect Results

ΔT Rocket software monitors the temperature of coolant entering the condenser and compares it with the temperature of that leaving the condenser. The difference (Delta T) equates to the heat energy transferred from the evaporated solvent to the condenser and is proportional to the flow rate of solvent vapor entering the condenser. As samples approach concentration or dryness, the change in ΔT is used to determine the auto stop point.

- G High power heaters with temperature control for outer chamber
- H Strobe viewing window and strobe controls enable monitoring of the progress of evaporation, without stopping to open the lid; each flask may be viewed separately, in real time
- I Glass evaporation/SampleGenie flasks
- J Deionised water in sump – used to make low temperature, low pressure steam for efficient high speed evaporation
- K Direct drive motor for high rotational speeds of 500 x gravity or more, to control boiling and help eliminate bumping and foaming
- L Inner chamber lid separates the outer steam environment from the samples
- M Outer chamber lid
- N Low temperature, low pressure steam fills the outer chamber and heats the vessel/flasks directly



Evaporation Flasks

For drying or concentrating up to 450ml solvent.

- 450ml volume
- Dried sample is re-dissolved and removed using a pipette



250ml SampleGenie™

For drying the sample directly into a range of vials from 12mm to 28mm diameter and up to 70mm tall. SampleGenie™ eliminates the need for manual transfers, saving time and preventing sample handling errors.

- 250ml volume plus vial
- Direct drying of sample into vial
- Eliminates manual transfers



400ml SampleGenie™

For concentrating the sample directly into 2ml GC autosampler vials. The vial is protected from the steam, so that only the solvent in the flask evaporates.

- Insulated vial
- Sample in the flask evaporates – not in the vial
- Eliminates manual transfers, graduated washing steps and errors

Puck

Enables up to 18 ASE® vials to be dried in one operation, in place of flasks.



Flip-Flop™

For users of ASE® vials who wish to concentrate samples and also have them presented in a GC autosampler vial. It consists of a special double-ended tube with SampleGenie™ adaptor and 2ml GC vial.

- Works in combination with the Puck to enable direct concentration into a 2ml GC vial



250ml Evaporation Bottles

Ideal for drying and storing samples.

- 250ml volume



Mechanical Data

Maximum rotor speed	1760rpm
Maximum G-force	700g
Drive system	Direct drive
Maximum sample load	6 x 450ml / 5 liters

Vacuum System

Pressure display	0-1200mbar
Pressure control	Automatic / 3mbar / to atmosphere
System ultimate vacuum	3mbar
Bumping / foaming protection	Dri-Pure [®]

Temperature And Control

Control range	Ambient +7°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
Process visualization	Strobe & Delta T

Solvent Compatibility

Boiling point range	40°C to 160°C at ambient
Includes	Alcohols, DCM/methylene chloride, DMF, ethyl acetate, water
HCl	Not compatible
Diethyl ether	Requires Inert Gas Purge option (compatible with flask rotor only)

Dimensions

Width x Depth x Height	780 x 640 x 530mm
Height with lid open	782mm
Weight	75kg

Services

Rocket Synergy 2 requires one mains power outlet

UK & Europe	230V (±10%), 50Hz, 13A
USA	120V (±10%), 60Hz, 15A
Japan	100V (±10%), 50Hz or 60Hz, 15A
USB A	For data upload and download
For chamber water	Approx. 50ml per day

Cold Trap Cooling Requirement

Temp range	-15°C to +10°C dependent upon application
Heat removal	700 Watts at +10°C
Flow rate	1.5 to 2.5 l/min
Pressure	1 (min) to 2 bar (max) static
Connections (to chiller):	8mm nylon hardwall tube for Genevac supplied chiller

Recirculating Chiller

A powerful recirculating chiller is available for the Rocket Synergy 2 evaporation system. The system can control the chiller via an RS232 link, thereby providing improved solvent recovery and better drying of samples compared with using a static cooled supply. A connection kit with insulated pipe work is available to accompany the chiller.



Maintenance

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

Safety

Complies with BS EN 61010-1:2010 and is CE marked.

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