

# **Accessories & Spares**

for Rocket Synergy Evaporators



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# **Table of Contents**

Introduction	4
Limitations of Use	4
Surface Finish Variation	4
Sample Holder Maintenance	4
Glassware	5
Labelling of Glassware	5
Seal Types	6
Acceptable Solvents	7
Rotors	8
Rotor Spares	9
Rotor Accessories	11
Sample Holders for Flask Rotors	12
Standard Flask	12
Standard Flask Spares	13
GC Vial System <sup>2</sup>	14
GC Vial System <sup>2</sup> Spares	15
SampleGenie⁴	18
ASE® Tube Puck	24
Flip-Flop	26
Dionex™ 250 ml ASE® Bottle Adaptor	29
Rocket Synergy - Accessories	30
Infinity Trolley	31
Rocket Synergy - General Spares	32
Pre-Synergy Rockets - Rotor Compatibility	34

#### Introduction

Genevac produce a range of sample holders, rotors and accessories that can be used to enhance performance and increase the flexibility of Rocket Synergy and Rocket 4D Synergy evaporators.

Sample holders are precision manufactured using high-quality materials such as borosilicate glass and high-grade aluminium to ensure the best possible evaporation.

#### **Limitations of Use**

This brochure contains information on a range of accessories and sample holders intended for use with Rocket Synergy and Rocket 4D Synergy evaporators. Some accessories and sample holders are compatible with earlier versions of the Rocket evaporator, although limitations of use may apply. Where limitations of use do apply, they will be indicated as shown in the following example:

#### For use with Rocket 4D Synergy only.

In this example, the accessory must not be used with any system other than that specified.

Some sample holder may not be compatible with older model Rocket evaporators. Refer to *Pre Synergy Rockets - Rotor Compatibility* in this brochure.

### **Surface Finish Variation**

For some components, the colouring of the surface finish may vary slightly from batch to batch - for example, one batch of vial adaptors may appear slightly lighter or darker than another.

Variation in the colour of the surface finish will not affect the performance or integrity of the component, or the assembly.

### **Sample Holder Maintenance**

The Rocket evaporator controls pressure in the inner and outer vacuum chambers independently. Sample holders form a vital part of the seal between these chambers, therefore it is important that a perfect seal be formed around each sample holder. To achieve this, it is critical that sample holders are maintained in good condition and are used correctly.

Refer to the *Genevac Rocket Sample Holders User Manual* for advice on day-to-day maintenance and use of Rocket sample holders.

### Glassware

Some Genevac evaporators subject samples to accelerations in excess of 500 times gravity. This ensures excellent evaporation, but places a high degree of stress on the glassware. Selection of suitable glassware is essential to avoid glassware breakage.

Always use high-quality glassware from recognised manufacturers of international repute. Experience has shown that 'own-brand' catalogue glassware can have highly variable dimensions and manufacturing quality; this kind of glassware is not recommended for use in Genevac evaporators due to excessive risk of breakage.

When selecting glassware, ensure the following:

- Reputable scientific glassware manufacturer
- High quality, machine-made borosilicate glass
- Minimum 1.2 mm wall thickness.

Re-use of glassware in centrifugal evaporators gradually reduces the strength of the glassware. Replace all glassware regularly to avoid breakage.

### **Damaged Glassware**

Even a small scratch can reduce the strength of glassware by a significant degree. Do not use glassware that is scratched, chipped, cracked or otherwise damaged. Do not use metal spatulas, wire brushes or similar hard instruments to clean glassware or remove dried samples.

# **Labelling of Glassware**

There are two common methods of labelling glassware in laboratory environments. Both types can cause problems in the evaporator.

### Paper/Thin Film Labels

The label effectively increases the diameter of the tube or flask (especially if it wraps around more than once). When the tube or flask is not fully snug in the holder, heat transfer is reduced and any raised points (e.g. tiny fragments of glass from a previous breakage, small lumps of paper towel left behind after cleaning, or the label itself) place additional stress on the glassware.

#### **Ceramic Etched**

Ceramic-etched labelling weakens the glass. Genevac recommend testing new tubes for breakage before purchasing glassware in bulk.

### **Seal Types**

Seals for a selection of Rocket Synergy sample holders are available in two variants, to suit different solvent applications.

#### Viton®

For less aggressive applications, low-leachable white Viton seals are available.

#### Perfluoroelastomer

For applications in which Viton seals are unsuitable, highly chemical resistant perfluroelastomer seals are available.

#### Compatibility

To ensure compatibility with your application, please refer to the *Acceptable Solvents* table on the following page before purchasing. If your solvent is not listed, please contact your local Genevac representative.

### **Identifying Perfluoroelastomer Seals**

One-piece perfluoroelastomer seals (GC Vial System<sup>2</sup>, SampleGenie<sup>4</sup>, Flip-Flop) are identified by a small notch in the periphery of the seal.

Two-piece vial seals (SampleGenie4 only) consist of a holder and a split insert. The perfluoroelastomer version is indicated by a green mark on the periphery of the holder.



One-piece perfluoroelastomer vial seal showing indicator notch.





Two-piece perfluoroelastomer vial seal showing green indicator mark.

# **Acceptable Solvents**

						_
	×	GC Vial System²	40	쏭		Bottle Adaptor
	Standard Flask	/ste	SampleGenie⁴	ASE Tube Puck		e A
	<u>r</u>	<u>s</u>	ဖွဲ့	þe	<del>o</del>	ŧ
	g	/ia	혈	₽	Flip-Flop	8
Calland	tan	$\sim$	am	SE	<u>.</u>	ASE
Solvent		<u></u>	- ĭĭ			
Acetic Acid						_
Acetic Anhydride	-			-		_
Acetonitrile	-			_		_
Ammonium Hydroxide  1-Butanol	•	-		_		
2-Butanol	-	_	-	_	_	
2-Butanone	-	-	-	_	-	_
Butyl Acetate	-			_		_
	-	_	-	-	_	_
tert-Butyl Alcohol Chlorobenzene	-	_	-	_	_	-
Chloroform	-	_	-	-	_	_
Cyclohexane	-	_		-	_	
1,2-Dichloroethane	-	-	-	-	·	
Dichloromethane	•		-	_		
Diethyl ether	•		-	-		
Diisopropyl ether	•		-	-		
	•		-	-	-	
N,N-Dimethylformamide 1,4-Dioxane	-			_		
Ethanol	-		-	_	-	
Ethyl Acetate	•			_		
Formic Acid	-			_	ᅮ	
Heptane	-			_		
Hexane	-	_	_	_	_	_
Methanol	-			_		_
Methyl-tert-butyl ether						
Pentane	_			_		_
1-Pentanol				_		
Petroleum Ether						
1-Propanol						
2-Propanol						
Propanone						
Pyridine						
Sodium hydroxide (aqueous)				_		
Tetrahydrofuran						
Toluene						
Trifluoroacetic acid						
2,2,2-Trifluoroethanol						
Water						
Common Mixtures						
Water & Acetonitrile						
Water & Acetonitriie Water & Methanol	•			_		-
Water & Ammonia	•			_		-
Methanol & DCM	•			_		-
TFA & DCM	•		-	_	ᅮ	
IFA & DCIVI	_			_		

Solvent may be evaporated using sample holder. ☐ Only acceptable if sample holder has perfluoroelastomer seals.

**NOTE:** Consult your local Genevac representative for advice before using sample holders with solvents that are not listed above.

# **Rotors**

	Description	Flask Rotor	Part Number
			70-1734/S
	Details	Six-position Flask Rotor asse Synergy and Rocket 4D Syne Includes inner lid and six blank	ergy evaporators.

Description	ription Bowl Rotor - Batch	Part Number
•		70-2044/S
Details	Five-litre bowl rotor for Ro Rocket 4D Synergy. Includes b feed), batch baffles, lifting h data-key with Rocket Synergy E	atch inner lid (no nandles and USB

	Description Bowl Rotor - Feed	David Datas - Fand	Part Number
		BOWI KOLOI - Feed	70-2041/S
	Details	Five-litre bowl rotor for Ro (only). Includes feed inner lid, handles and USB data-key wit Feed Methods.	feed baffle, lifting

# **Rotor Spares**



Description	Inner Lid - Feed	Part Number
Description		70-1547/S
Details	Inner lid for feed Bowl Rotor.  For use with Rocket 4D Syne only.	ergy feed systems

<u>6</u>	Description	Batch Baffles	Part Number 70-1549/S
	Details	Set of two batch baffles for Bo	wl Rotor.

Description	Feed Baffle	Part Number <b>04-7652/S</b>
Details	Feed baffle for Bowl Rotor. For Synergy feed systems only.	use with Rocket

Description	Inner Lid Seal	Part Number 04-7448/S
Details	Inner lid seal for Flask & Bowl I	Rotors.

	51.16.1	Part Number
Description	Flask Seals	70-1180
Details	Set of six Flask Seals. Compatib Synergy Flask Rotors.	ole with all Rocket

Description	Rotor Hub O-Ring	Part Number 04-5676
Details	O-ring (Viton) for Rotor Hub.	

	<b>Description</b> Pouring Spout Cap Seal		Part Number
		70-1556/S	
	Details	Seal kit (consisting of plug & Rotor pouring spout cap.	O-ring) for Bowl

Description	Pouring Spout Cap	Part Number
Description	rouring spour cap	70-1557/S
Details	Cap for Bowl Rotor pouring spo	out.

# **Rotor Accessories**

	Description	1116	Part Number
		Lid Stand	70-1186
	Details	Stand for Inner lid. Suitable variants.	for use with all

Description	Lifting Handles	Part Number
		70-1552/S
Details	Set of two lifting handles fo Bowl Rotor.	r Rocket Synergy

Description	Blanking Plug	Part Number
		70-2004/S
Details	Set of two blanking plugs for F	lask Rotor.

	D : C: I	Part Number
Description	Pouring Stand	70-1798
Details	Pouring Stand. Suitable for u Rotors with pouring spout.	ise with all Bowl

	Description	Synergy Methods	Part Number
			04-8844
L USB	Details	USB data-key containing eva files for Rocket Synergy Flask Rotor (feed and/or batch) met	Rotor and Bowl

# **Sample Holders for Flask Rotors**

### **Standard Flask**



Description	Charactered Flank, Annual bloom	Part Number
Description	Standard Flask Assembly	70-1321
Details	Standard Flask with collar pad Set of six.	and collar.

# **Standard Flask Spares**

Description	Standard Flask	Part Number <b>70-1170</b>
Details	Standard Flask - flask only. Set of six.	

Description	Collar Pad	Part Number
		70-1317
Details	Collar Pad for Standard Flask. Set of six. For evaporators with serial nur RK0136, flask adaptors must be the rotor.	

Description	Collar	Part Number <b>70-1319</b>
Details	Collar for standard flask. Set of six. For evaporators with serial nur RK0136, flask adaptors must it the rotor.	

# GC Vial System<sup>2</sup>



	Description	GC Vial System <sup>2</sup>	Part Number
		(Viton Seals)	70-1423
	Details	GC Vial System <sup>2</sup> flask assembly seals. Set of six.	with white Viton

Description	GC Vial System <sup>2</sup> (Perfluoroelastomer Seals)	Part Number <b>70-1424</b>
Details	GC Vial System <sup>2</sup> flask perfluoroelastomer seals. Set of six.	assembly with

# **GC Vial System<sup>2</sup> Spares**

Description	GC Vial System <sup>2</sup> Flask	Part Number <b>70-1425</b>
Details	Flask only, for GC Vial System <sup>2</sup> . Set of six.	

	Description	Vial Seal (White Viton)	Part Number <b>70-1177</b>
0	Details	White Viton vial seal for GC Via Set of six.	al System².

	Description	Vial Seal	Part Number
		(Perfluoroelastomer)	70-1178
0	Details	Perfluoroelastomer vial seal fo Set of six. NOTE: Notch in perip perfluoroelastomer.	·

Description	GC Vial Adaptor <sup>2</sup>	Part Number
		70-1800
Details	Two-piece vial adaptor with 0 System <sup>2</sup> . Set of six. <b>NOTE:</b> Backwards compatible System <sup>2</sup> flask assemblies. Re vial adaptor (70-1428).	with all GC Vial

Description	Vial Adaptor O-ring	Part Number
		70-1801
Details	O-ring for GC Vial System <sup>2</sup> \ 1800). Set of six.	/ial Adaptor (70-

	201110 . 3011 0 1	Part Number
Description	GC Vial System <sup>2</sup> Collar Pad	70-1317
Details	Collar Pad for GC Vial System <sup>2</sup> . Set of six.	

	GC Vial System <sup>2</sup> Collar	Part Number
Description		70-1320
Details	Collar for GC Vial System <sup>2</sup> . Set of six.	

	CCV 15 1 3 C	Part Number
Description	GC Vial System <sup>2</sup> Cap	70-1176
Details	Cap for GC Vial System <sup>2</sup> . Set of six.	

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### **SampleGenie**<sup>4</sup>



Danadation	SI-Ci-4	Part Number
Description	SampleGenie⁴	70-1740
Details	SampleGenie <sup>4</sup> Flask assembly. For use in Rocket Synergy Rocket 4D Synergy evaporate Flask Rotor. Evaporators with lower than RK0136, flask ac removed from the rotor.	evaporators and ors with optional n serial numbers

NOTE: Excludes vial adaptor, vial adaptor pad and vial seal. When ordering, please select vial adaptor and vial seals from the tables on the following pages.

# SampleGenie<sup>4</sup> - Vial Adaptors

	Description	Vial Adaptor	Part Number
			Refer to table
DB	Details	Vial Adaptor for SampleGenie <sup>4</sup> <b>NOTE:</b> Includes Vial Adaptor Pa	

	Max Vial Diameter (mm)	Vial Length (mm)	Seal Required?	Part Number
DG	15.3	38.5 to 41.5	One-part	70-1766
DD	15.3	43.5 to 56.5	One-part	70-1763
DK	16.5	46.5 to 51.5	One-part	70-2028
DJ	17.3	45.5 to 51.5	Two-part	70-1769
DC	17.3	58.5 to 61.5	One-part	70-1762
DH	20.8	41.5 to 44.5	Two-part	70-1767
DF	23.3	44.5 to 47.5	Two-part	70-1765
DE	23.3	66.5 to 71.5	Two-part	70-1764
DI	23.8	56.5 to 59.5	Two-part	70-1767
DB	28.0	58.5 to 61.5	Two-part	70-1761
DA	28.0	70 (max)	Two-part	70-1760

# SampleGenie<sup>4</sup> - Vial Seals

	Description	T	Part Number
		Two-Part Vial Seal - Insert	70-1757
	Details	Seal Insert for SampleGenie <sup>4</sup> two-part vial seal. Set of six.	
		For use with Viton vial se perfluoroelastomer vial seal (7	` '

	Description	Two-Part Vial Seal  70-17	
	Details	Viton Vial Seal for SampleGenie <sup>4</sup> two-part vial seal. Set of six.	
		Requires Seal Insert (70-1757)	

Description	Two-Part Vial Seal	Part Number <b>70-1759</b>
Details	Perfluoroelastomer Vial Seal two-part vial seal. Set of six. Requires Seal Insert (70-1757). NOTE: Green mark in perperfluoroelastomer.	·

	Description One-Part Vial Seal		Part Number
	Description	(White Viton)	70-1196
0	Details	One-part vial seal for Sampl Viton.	legenie <sup>4</sup> in white

	Description	One-Part Vial Seal	Part Number
	Description	(Perfluoroelastomer)	70-1197
0	Details	One-part vial seal for Sperfluoroelastomer.	iamplegenie <sup>4</sup> in
		<b>NOTE:</b> Notch in perip perfluoroelastomer.	hery indicates

	Vial Adaptor Pad	Part Number
Description	16 mm	70-1745
Details	16 mm Vial Adaptor Pad for SampleGenie <sup>4</sup> . Set of six.	
	Vial Adaptor Pad	Part Number
Description	18 mm	70-1746
Details	18 mm Vial Adaptor Pad for Sample etails Set of six.	
Description	Vial Adaptor Pad 24 mm	Part Number 70-1747
Details	24 mm Vial Adaptor Pad for SampleGenie Set of six.	
	Vial Adaptor Pad	Part Number
Description	28 mm	70-1748
Details	28 mm Vial Adaptor Pad for Si	ampleGenie <sup>4</sup> .

Set of six.

# SampleGenie<sup>4</sup> Spares

Description	SampleGenie⁴ Flask	Part Number <b>70-1741</b>
Details	Flask assembly (only) for Samp Set of six.	leGenie⁴.

D	Collar Pad	Part Number
Description		70-1743
Details	Collar Pad (only) for SampleGe Set of six.	nie <sup>4</sup> .

Description	Collar		Part Number 70-1742
Details	Collar (only) for Sai	mpleGenie⁴.	

		Holder	Part Number
	Description		70-1744
SG4	Details	Holder for SampleGenie <sup>4</sup> Vial A	Adaptor.

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### **ASE® Tube Puck**

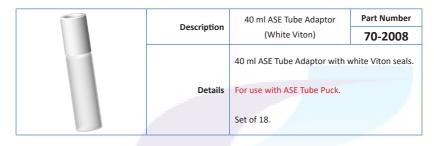


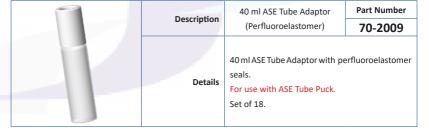
2			Part Number
0 5	Description	ASE Tube Puck	70-2000
	Details	ASE Tube Puck assembly.  Allows up to 18 Dionex A processed simultaneously.  Set of six.	SE tubes to be

#### **ASE Tube Puck Spares**

	Description	Puck Seal	Part Number
			70-1287
	Details	Seal (Viton O-ring) for ASE Tub Set of 18.	e Puck.

### **40 ml ASE Tube Adaptors**





# Flip-Flop



### **Flip-Flop Spares**

Description	Flip-Flop Tube	Part Number <b>70-1297</b>
Details	Double-ended tube for Flip-Flo Pack of 110 (100 + 10 spares).	p.

Description	Flip-Flop Tube Seal (White Viton)	Part Number 70-1304
Details	White Viton tube seal for F funnel).  Pack of 20.	lip-Flop (tube to

Description	Flip-Flop Tube Seal	Part Number
	(Perfluoroelastomer)	70-1306
Details	Perfluoroelastomer tube seal f to funnel). Pack of 20.	or Flip-Flop (tube

Description	Funnel	Part Number 70-2037
Details	Funnel for Flip-Flop.  Pack of 18.	

Description	Funnel O-Ring	Part Number
		70-2039
Details	O-ring for Flip-Flop funnel (fun Pack of 20.	nel to vial cover).

	Description	Vial Seal (White Viton)	Part Number
0	Details	White Viton Vial Seal for Flip-F Pack of 20.	<b>70-1303</b> lop.

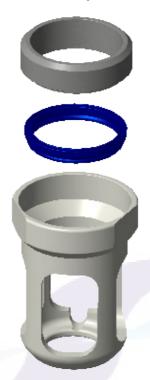
	Description	Vial Seal	Part Number
	Description	(Perfluoroelastomer)	70-1305
0	Details	Perfluoroelastomer Vial Seal for Pack of 20.  NOTE: Notch in perip perfluoroelastomer.	

Description	Ejector Peg	Part Number
		70-1301
Details	Vial Ejector Peg for Flip-Flop. Set of 18.	

Description	F; , D O D;	Part Number
Description	Ejector Peg O-Ring	70-1303
Details	O-ring for Flip-Flop Vial Ejector Pack of 20.	r Peg.

	Description	Vial Cover	Part Number
			70-1300
	Details	Vial Cover for Flip-Flop. Set of 18.	

# Dionex<sup>™</sup> 250 ml ASE<sup>®</sup> Bottle Adaptor



Description	Dionex 250 ml ASE Bottle	Part Number
Description	Adaptor	70-2010
Details	Each bottle adaptor accepts o ASE collection bottle (Part # 0 up to six bottles to be processe Set of six. Only compatible wit	056284), allowing ed simultaneously.

Description	Dionex 250 ml ASE Bottle	Part Number
Description	Adaptor Seal	70-2011/S
Details	Replacement seals for the Di Bottle Adaptor. Set of six.	onex 250 ml ASE

# **Rocket Synergy - Accessories**

	Description	Flask Rack	Part Number
			70-1187
	Details	Coated steel flask rack/carrier for transport of six Standard Flask flasks or SampleGenie flasks.	-

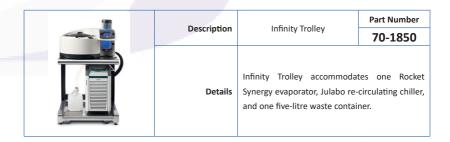
Description	Flask Holder/Balance Nest	Part Number <b>70-1797</b>
Details	Single flask stand for use as balance nest. Compatible with GC Vial System flasks or Sampl	Standard Flasks,

Description	Splash-Cap	Part Number 70-1265
Details	Viton splash-cap for use with GC Vial System flasks or Sample Set of six.	Standard Flasks,

	Description	Seal Removal Tool	Part Number
			04-8321
	Details	Tool for safe removal of SampleGenie or GC Vial Syste risk of damage to flasks or seal	em flasks without

# **Infinity Trolley**





D	1 C 1 T 11 C1 1C12	Part Number
Description	Infinity Trolley Shelf Kit	70-1635
Details	Shelf Kit for Infinity Trolley. She one Edwards nXDS6i vacuum used as a sample preparation a	pump, or may be

# **Rocket Synergy - General Spares**

Description	Outer Lid Seal	Part Number 04-5818/S
Details	Outer lid seal for Rocket Syi Synergy and pre-Synergy Rocke	•

	Description	Sample Viewing Window	Part Number
	Description	Sample viewing window	70-1182
	Details	Replacement sample viewir gasket assembly for Rocket strobe sample viewing lights.	-

Description	Waste Solvent Container (5 Litre)	Part Number 70-1247/S
Details	Waste solvent container kit co polypropylene waste contain drain hose (five metres) and fit	er, two-port cap,

Description	Feed Lid Coupling O-Rings	Part Number
		04-7943/S
Details	2 x Green perfluoroelastomer lid joint coupling.	O-rings for feed

Description	Feed Hose	Part Number 70-1553/S
Details	Replacement 6 mm OD feed he Synergy. 50 metre length.	ose for Rocket 4D

Description	Hose Fittings	Part Number 70-1651/S
Details	Hose fittings kit comprising tw and two Type 2N fittings for c exhaust hose connections.	

Description	Hose-Tails	Part Number
Description	nose-talls	70-2047/S
Details	Pair of hose-tails for connectio supply.	n to chilled water

# **Pre-Synergy Rockets - Rotor Compatibility**

Early model Rocket Chemi evaporators (up to serial number RK0136) used a Flask Rotor with 'flask adaptors' attached. Some sample holders may not be compatible with Flask Rotors that still have flask adaptors attached.

Before using any sample holder for the first time, verify compatibility using the table on the following page.

If in doubt, please contact the Genevac Technical Support team at service@spscientific.com.



From left to right: Rocket Chemi rotor with flask adaptors, Rocket Chemi rotor with flask adaptors removed, and Rocket Synergy rotor.

The quick reference guide below shows the compatibility of sample holders with variants of the Rocket evaporator. If in doubt, check the serial number of the evaporator to see if it is suitable for use with the sample holder. Use of incompatible sample holders may result in damage to the evaporator.



Read these instructions carefully and keep them near the system for ease of reference. Your attention is drawn, in particular, to the **Limitations of Use** and **Rotor Compatibility** sections.

These instructions are correct at the time of going to press and may be subject to change without notice. Some of the features described within this manual may not apply to equipment manufactured before this manual's publication date; this includes systems that have been upgraded.

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Should you need to contact Genevac for assistance, please use one of the contact methods shown. Please have the equipment serial number and any other pertinent information to hand.

Sample holders should not be discarded in your regular waste stream. Contact your representative or Genevac for proper disposal instructions.

Within the EU, it is Genevac's responsibility under the WEEE Directive to provide for the recycling of Genevac products.

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