

## Performance examples of Smart Evaporator

Useful information for your selling promotion!



BioChromato, Inc. Sales Department

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## Performance examples of Smart Evaporator

【No.1】 University / Natural products chemistry

【No.2】 University/ Chemical biology

【No.3】 University “T” /Synthetic organic chemistry

【No.4】 Akita Prefectural Hospital Organization  
Akita Prefectural Research Institute for  
Brain and Blood Vessels  
Radiology Research Department  
Mr. Hiroshi Yamaguchi

【No.5】 University “T” / Natural products chemistry

【No.6】 Meiji University, Applied Chemistry  
Department of Science and Engineering Faculty  
Mr. Takeo Kurata (aroma chemical/petrochemistry)

【No.7】 Sophia University/ Organic chemistry/  
Biochemical marker

【No.8】 Drink manufacturer / Microbe/ Cell component

【No.9】 Pharmaceutical company / Drug development

【No.10】 Musashino University, Pharmaceutical Department  
of Pharmaceutical Science Faculty  
Mr. Takuya Kumamoto

【No.11】 Hamamatsu University of Medicine,  
Medicine Department of Medical Faculty  
Forensic medicine Mr. Koutaro Hasegawa

\*Some customers' names or company names are included with permission.

## Deciding factor of purchase

- ① This is easy to concentrate DMSO solution that is not applicable to freeze-drying.
- ② This achieves the drying of DMF in one hour at 40 Celsius.

**Before purchase** We struggled to concentrate DMSO solution with freeze-drying machine.

**Applications** We also apply Smart Evaporator for concentrating DMF, and this is also heated up at 40 Celsius. We put 1ml of DMF in 10cm test-tube, 10ml in a vial, 25ml in eggplant- shaped flask and all was successfully dried up within one hour.

### **Customer Feedback (extracted)**

“We used to use freeze-drying machine for DMSO evaporation, but it was difficult.

(This may be because of a high concentration of sample.)

Smart Evaporator easily achieves DMSO evaporation, and this improves our working efficiency.”

“We try a rotary evaporator at the same, and that dries up almost none even after 2 hours so we are impressed with the performance of Smart Evaporator.”



### Deciding factor of purchase

#### ① This is easy to concentrate DMSO as advertised on brochures.

**Before purchase** It was difficult to concentrate DMSO.

**Applications** We use Smart Evaporator for concentrating DMSO.  
We use rotary evaporator for big portions, and centrifugal evaporator when we examine several numbers of small portion samples.

#### **Customer Feedback (extracted)**

“ At first we have interests in brochures our agencies brought to us, then we ask for test demo to use Smart Evaporator if that can easily achieve DMSO concentration, which we struggle for many times. ”

“ We select Smart Evaporator in case when we concentrate DMSO. ”



### Deciding factor of purchase

- ① This can easily evaporate a small quantity of sample.
- ② This can be used with any type of vial.



**Before purchase** In case when using rotary evaporator, we can not directly attach it to a small vial so we had to transfer sample to a large vial. It was a troublesome procedure.

**Applications** We use Smart Evaporator when we prefer to eventually store sample in a small vial. After synthesis, the storage bulks large if sample is left in eggplant-shaped flask and also since the number of flask is limited, we prefer to transfer sample to a small vial then evaporate it.

### **Customer Feedback (extracted)**

“ I think many researchers of organic chemistry may have the same problems.

Based on experience at laboratories I used to belong to, we mostly have some troubles to do evaporation with small vials, so I think this concept has potential need of users. ”

## Deciding factor of purchase

- ① This is easy to evaporate NMP.
- ② We can put this in hot cell, and is space-saving.

**Before purchase** With rotary evaporator, we were not able to evaporate NMP at all.  
When we handled solution consisted of (18F) fluorine ion, we had to put in hot cell to not to be exposed to radiation but rotary evaporator was too bulky in hot cell.

**Applications**

- NMP: Diluted to 10 times by water, then refine with SepPak.  
For efficient procedure, evaporate 10cc of reaction solution to 1cc before diluting by water.
- Fluorine isotope: put 1ml of solution into 20cc screw vial then evaporate it.  
Evaporate until it is dried up completely. Heat it up up to 100 Celsius to shorten time.  
Complete evaporation in 15 minutes.

## **Customer Feedback (extracted)**

“ Smart Evaporator’s been very useful for evaporating NMP. It is small and space-saving, so we can put it in hot cell. ”



### Deciding factor of purchase

① It is easy and also applicable with various vials.

② It has a excellent design.



Before purchase ---

Applications We use Smart Evaporator when evaporating 10ml of sample. The organic solvent having low boiling point is heated up to 30~40 Celsius then evaporate it.

### Customer Feedback (extracted)

"It's been easier than I expected to distillate solvent, and is good that this device is applicable to various vials."

"I think students in laboratory are using it everyday"

"We seldom find such a highly designed device in laboratory. I feel this is a woman-friendly design. Of course the function has to come first, but if there are two devices with similar function, I would choose the one with a good design."

## Deciding factor of purchase

### ①This can evaporate valuable sample without worry of sample loss.

**Before purchase** We used to use rotary evaporator for most case, but when handling sample with big portion we struggle with bumping as it's gradually evaporated and condensed. Also it was difficult to remove solvent completely, and the left solvent in vial disturbed the analyzing.

**Applications** We evaporate solvent in order not to effect to examination result.  
We even use 2ml vial for evaporation.

### **Customer Feedback (extracted)**

“Smart Evaporator is helpful because I can leave the machine until the evaporation is done.”

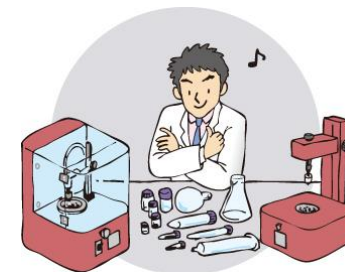
“We could also transfer sample into 2ml vial and vacuum with a pump, but it still needs a careful adjustment otherwise it is sucked in. So we used to have troubles of loss of valuable sample.”





## Deciding factor of purchase

### ①A problem of sample scattering when using nitrogen blow-down is solved with Smart Evaporator.



**Before purchase** To store sample in vials, we used nitrogen blow-down evaporator. When handling powdery sample, it was troublesome that sample was scattered.

**Applications** We use Smart Evaporator for exsiccating final compounds of natural products synthesis.

### **Customer Feedback (extracted)**

“We looked through brochure of Smart Evaporator C1, and readily decided to purchase it because of its easy operation, high functionality and also price.”

“Then we actually start using it and found that it has good functions as advertised on brochure.

We don’t have sample scattering problem anymore.”

“We switch from nitrogen blow-down evaporator to Smart Evaporator for evaporating sample in small quantity.”

### Deciding factor of purchase

- ① This solves contamination of other sample.
- ② This is able to replace gas to prevent oxidization.



**Before purchase** In our company, researchers shared to use centrifugal evaporator, but many times it was occupied by others and contamination of different samples was concerned.

**Applications** We own two units of Smart Evaporator for different purpose and use these almost everyday. We also handle solvent having high-boiling point such as DMSO. We do evaporation under nitrogen atmosphere in order to prevent oxidization of sample.

### **Customer Feedback (extracted)**

“So far we never have contaminations with Smart Evaporator, but to be more assured we purchase another C1.”  
“We do evaporation under nitrogen atmosphere in order to prevent oxidization of sample, and this function is useful for sample storage.”

## Deciding factor of purchase

- ① Smart Evaporator achieves easy DMSO/DMF evaporations,  
and this shortens working days by 2~3days.



**Before purchase** After we use solvent for synthesis or sample preparation, we do evaporation of various solvent with rotary evaporator for storage. We had trouble evaporating DMSO or DMF.

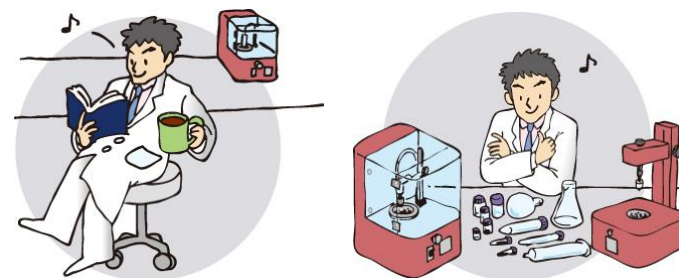
**Applications** ---

### **Customer Feedback (extracted)**

“It is very easy to evaporate DMSO or DMF with Smart Evaporator! Last time when we struggled to evaporate those solvent with ordinary method, we used to spend 2~3days for resynthesis so Smart Evaporator significantly shortens working days.”

### Deciding factor of purchase

- ① No bumping of solvent having low-boiling point.
- ② Easy operation
- ③ Can be used with various sizes of vials for sample collection.



Before purchase ---

Applications First we use rotary evaporator for the initial evaporation. After sample evaporates to certain amount, we transfer sample from eggplant-shaped flask to vial, then dry up completely. We use solvent having low-boiling point such as methylene chloride or ethyl acetate.

### Customer Feedback (extracted)

“Because the mechanism of Smart Evaporator is not sealed type, it’s great that it does not cause bumping of solvent with low-boiling point.”

“This is helpful for us who are willing to use centrifuge tube made of glass. There are not many evaporators which can attach to those types of containers. Like rotary evaporators which decompress air before use, most likely it bumps because the vial is very narrow. And also in case using resin container, the air decompression changes shape of containers.”

### Deciding factor of purchase

- ① Temperature control is built-in and it is easy to use.
- ② Evaporation speed is faster than blow-down evaporator.



**Before purchase** We used 9ml of test tubes or 4ml of vials, then evaporate it with blow-down evaporator. It was troublesome that we needed to have fine adjustment to set heat block or containers everytime.

**Applications** We own two Smart Evaporators, and one for each researcher.

### **Customer Feedback (extracted)**

“ We’ve been looking for built-in device, and our agency gave us ideas of Smart Evaporator. This is applicable to various size of container and I also like its small footprint. I think this device is good for method development. ”