

Nitrogen Evaporator Comparison

Organomation N-EVAP vs. Biotage TurboVap



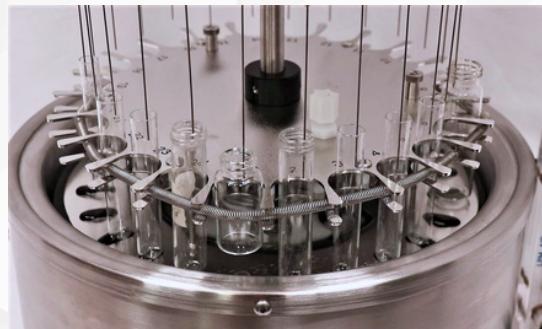
	Organomation N-EVAP	Biotage TurboVap LV
Price Range	\$3k - \$9k	\$11k - \$14k
Sample Capacity	6, 12, 24, 34, or 45 samples	24 or 48 samples
Flexibility	Can hold multiple tube sizes at once	Can only hold one tube size at a time
Gas Flow Control	Independent gas control to each <u>sample</u>	Independent gas control to each <u>row</u>
Nitrogen Consumption	15 L/min	160 L/min
Temperature Range	30 °C - 130 °C	Ambient to 90 °C
Safe With Corrosive Solvents?	Yes <i>(rated for use with up to 3M HCl)</i>	Yes <i>(rated for use with up to 0.1M HCl)</i>
Safe With Explosive Solvents?	Yes	Yes
Placement	In fume hood	In fume hood or attached to ventilation system
Warranty	1 or 2 years depending on model	1 year

The N-EVAP and TurboVap are both highly popular nitrogen evaporators that are designed to concentrate down test samples prior to analysis. Now that you've compared their main specifications, let's get into when each evaporator would be preferred.

Various Sample Sizes - N-EVAP

If you will be working with a variety of different tube types or sample volumes, which often occurs when the instrument will be shared across multiple teams, the N-EVAP will be better suited for your needs. The N-EVAP has a spring style sample holder that allows it to hold any tubes between 10-30 mm OD at the same time, without modification. The TurboVap's rack only allows one tube size to be held at once.

The N-EVAP's individual valve tube assemblies also allow you to adjust the needle height and gas flow to each sample separately for optimal control of various sample types.



Batch Evaporation - TurboVap

If you'll be working with large batches of identical samples, the TurboVap will be the better option. Although the individual valve tube assemblies of the N-EVAP offers the most amount of user control, they can make uniform batch evaporation tricky. The singular manifold on the TurboVap allows for more even and controlled evaporation when the goal is for all your samples to be complete at the same time.



Learn more about [Biotage's TurboVap vs Organamation's affordable batch evaporator](#).

Price - N-EVAP

For labs that have a limited budget such as start-ups or academic labs who are restricted by grant funding, the N-EVAP provides a much more affordable option than the TurboVap. Heated N-EVAP models start at around \$3k, but there are some unheated models that are even less. Even the highest capacity N-EVAP with additional features is less than the base model TurboVap. The simplicity of Organamation's units allow the cost of both the unit itself and the overall maintenance to remain low.

Digital Features - TurboVap

Unlike the N-EVAP which has a button-interfaced control box, the TurboVap includes a digital touch screen where you can control the heat and gas flow. The digital system allows you to save preferences and methods in the system for future use. Although entirely preference-based, the touch screen feature can provide a more modern approach to the evaporation process.



Nitrogen Consumption - N-EVAP

The N-EVAP requires much less nitrogen flow than the TurboVap making it the better option for labs who are looking to conserve their gas consumption. For comparison, the 24 position TurboVap requires 120 L/min of nitrogen while the 24 position N-EVAP only requires 8 L/min. Whether you're using nitrogen tanks or producing your own nitrogen with a generator, the minimal gas usage of the N-EVAP provides a much more affordable and economical option.



Automation - TurboVap

For labs that require a more hands-off evaporation experience, the TurboVap will be the better solution. The TurboVap LV allows the gas flow to slowly increase throughout the evaporation cycle eliminating manual adjustments, and also includes an alarm that goes off once your samples have reached a specific volume.

The high capacity N-EVAPs include a timer function that can shut the heat and gas flow off after a specified amount of time. Although it is not based on solvent volume, the timer can be just as useful once you're familiar with your evaporation rates.

Corrosive Solvents - N-EVAP

Although both units have an acid resistant version to prevent corrosion, the N-EVAP is rated for a higher concentration of strong acids or bases such as hydrochloric acid, formic acid, or tetrahydrofuran. For comparison, the N-EVAP is rated for concentrations of up to 3M of HCl while the TurboVap is only rated for concentrations of up to 0.1M HCl. If you'll be working with these types of corrosive solvents, the PTFE-coated N-EVAP will provide a longer-lasting solution.

Limited Fume Hood Space - TurboVap

The TurboVap models have the option to either be used within a fume hood, or to be connected to a ventilation system using an exhaust outlet at the back of the unit. If your lab has limited fume hood space or even no fume hood at all, the TurboVap allows you to use it on just a regular benchtop workspace.

The general recommendation is to always use the N-EVAP within a fume hood, however a portable fume extractor can also be used in instances where that's not possible.



Temperature - N-EVAP

When working with solvents that have a boiling point above 90 °C such as heptane, pyridine, or toluene, the N-EVAP will be a more suitable option as they can promote faster evaporation rates. The dry bath N-EVAPs utilize either aluminum or glass beads which allow the bath temperature to reach up to 130 °C.

Tube Visibility - TurboVap

If it's important for you to keep an eye on your test tubes throughout the evaporation process, the TurboVap would be preferred. The TurboVap's water bath has a glass casing that allows your samples to remain visible as the solvent level goes down, which can be important when drying to a specific end-point or to complete dryness.

The N-EVAP has an aluminum water bath, only allowing you to view your samples from the top. You can lift the samples out of the bath for quick visibility, but this requires you to remove them out of the heat source, possibly slowing down the evaporation process.



In Summary

N-EVAP

- Better for various tube types
- More affordable
- Less nitrogen needed
- Less prone to solvent corrosion
- Higher temperature range

TurboVap

- Better for batch evaporation
- More digital features
- More automated system
- Can be used outside the fume hood
- Easier tube visibility