

# TurboVap® II Ramp Method with End-Point Detection for Semi-Volatiles



## What is the Ramp Method?

A ramp method uses a gradient flow ramp where an initial low flow rate of nitrogen is applied to minimize splashing with large volume samples. As the evaporation method progresses, the flow rate is gradually increased over a defined amount of time to compensate for the decreasing solvent levels in your sample and reduce your total evaporation time.

The TurboVap® II supports ramped (and stepped) methods with up to 3 steps where you can independently set the time (min.) and gas flow (L/min.) for each step.

## What is End-Point Detection?

With End-Point detection enabled, the TurboVap® II sensors will trigger an audible indicator when the sensor detects a liquid level has been achieved (depending on the tube's stem) and the extracts are then ready to be removed from the water bath. Combined with End-Point detection, a ramp method reduces the risk of overconcentrating key target compounds.

The method illustrated in Figure 1 (8270 Ramp) shows a ramped method developed and tested at Biotage® for improved concentration of semi-volatile compounds. These settings can be translated directly into any TurboVap® II system with End-Point detection via the edit method function and can be used for concentration immediately.

## Why use the Ramp with End-Point Detection for 625.1/8270?

Extract volumes tend to be quite large when performing a 625.1/8270 extractions which increases the overall evaporation time when evaporating at a fixed flow rate. However, by

applying your own a ramp method, or the Biotage® 8270 Ramp with End-Point detection in figure 1, the sample is gently blown down when the extract volume is greatest inside the evaporation tube (reducing the chance for any loss of target compounds due to splashing). As the volume decreases the gas flow is gradually increased to maintain evaporation rates. This increase in gas flow leads to a noticeable decrease in the time needed to concentrate the extracts to their final volume, allowing you to increase your sample throughput with the TurboVap® II with End-Point detection and avoid overconcentrating your analytes.

Using a ramped method and End-Point detection will ultimately improve the average %recovery and %RSD for a majority of the semi-volatile compounds tested. For additional information on ramped methods and semi-volatile compounds, please consult application note AN879, "Concentrating a Suite of Semi-Volatile Compounds from EPA Method 625 Using the New Biotage TurboVap® II".

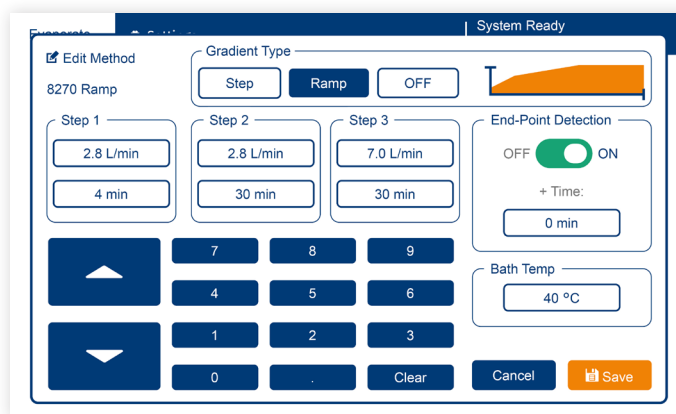


Figure 1. Edit Method Screen on the Biotage TurboVap® II software.

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