

# Acute Chamber

## Short duration metabolic phenotyping research

The Acute Chamber is ideal for short-term experiments, typically lasting 1-4 hours. This compact, low-volume chamber offers optimal conditions for capturing rapid and immediate changes in metabolism, often caused by various interventions. The minimalist design, cannula aperture, and rapid response to changes make it perfect for studying tethered mice used in optogenetic or chemo-genetic studies or any study requiring a cannula such as blood sampling or glucose clamp procedures.

It is also a perfect fit for very small mammals, such as shrews, or for dams with litters of young mice, where accurate metabolic measurement at low flow rates (under 2LPM) is critical. Unlike traditional mouse cage lids, which are not designed for these lower flow rates, the acute chamber supports these specialized needs.



### FEATURES

Compact design for precision metabolic measurement

Optimized for multiple applications: optogenetic, therapeutic intervention, and physical stimuli

Adaptable for very small mammals

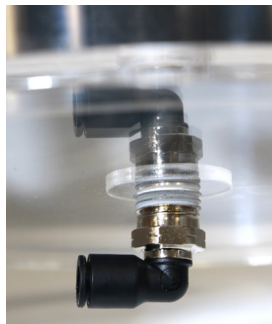
Short experiment turnaround time

Rapid experiments

Integrates with Promethion Core and Sable Classic Line systems



Top View



Exhaust Port on Bottom

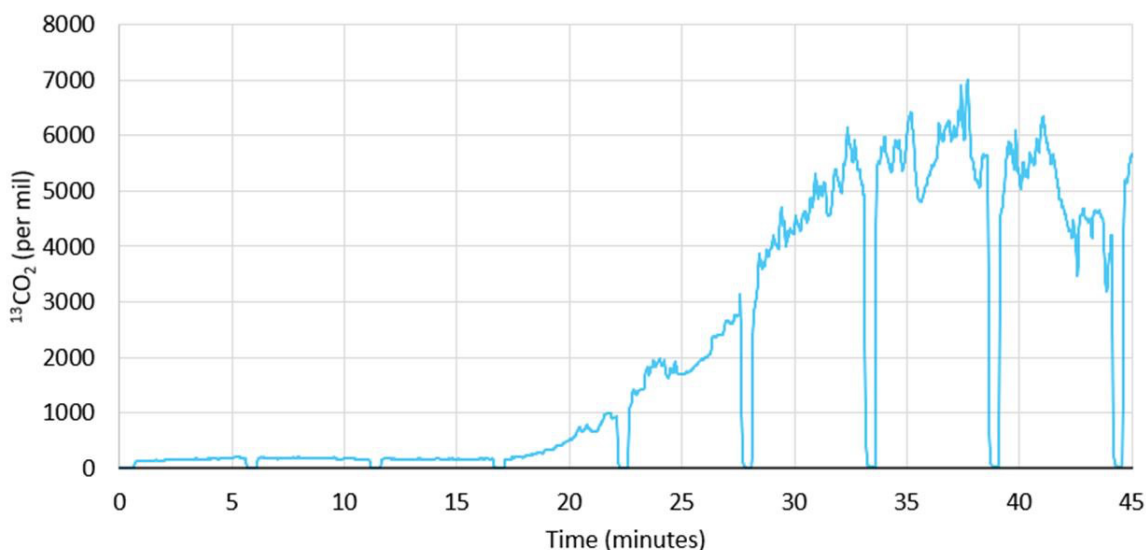
# Acute Chamber

With its smaller volume – half the size of a standard mouse cage – it provides increased sensitivity and accuracy, making it a valuable tool for cutting-edge metabolic research. Up to 16 chambers can be connected to our Promethion Core system for high throughput analysis of short-term studies. The chamber can be rapidly cleaned for a fast turnaround time enabling multiples runs in a single day.

The graph below shows rapid measurement of  $^{13}\text{CO}_2$  in response to infusion of 13-C labeled glucose tracer in an insulin clamp experiment. Data from Vanderbilt MMPC, MMPC@vanderbilt.edu.

## SPECIFICATIONS

<b>Time Constant</b>	1.25 minutes
<b>Volume</b>	2.5 Liter
<b>Dimensions</b>	H: 19.5cm, W: 19.2 cm
<b>Weight</b>	2.1 lbs (0.95kg)
<b>Multiplex Dwell Time (if in use with Promethion Core CGF)</b>	15 seconds to continuous, dependent on how accurate the measures need to be
<b>Flow Rate Recommendation</b>	2 LPM
<b>Max Flow Rate</b>	3 LPM
<b>Min Flow Rate</b>	1.5 LPM



## ABOUT US

Sable Systems International designs and manufactures leading-edge gas, metabolic and behavioral measurement systems for calorimetry, respirometry, metabolic/behavioral phenotyping, and gas analysis. Our products enable the highest precision and resolution, optimum workflow and reliable performance – giving you utmost confidence in your results. Scientists the world over rely on Sable technology for their research needs in physiological, biomedical, environmental, and gas analysis applications.



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