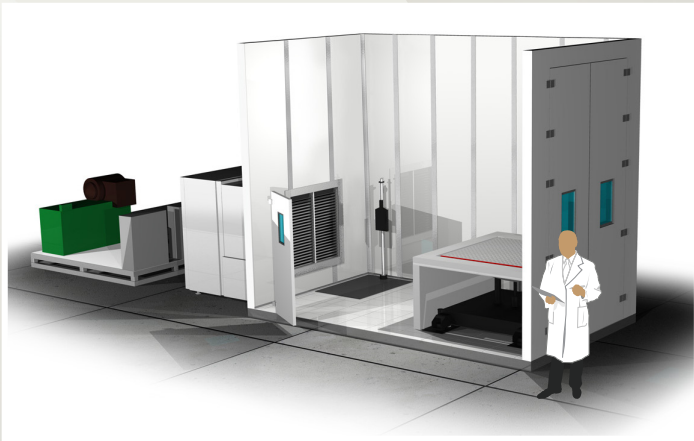


# Designing Confidence Into Your Product Pipeline.

## The Advantage Transport Simulation Laboratory™



The first laboratory to simulate concurrently:

**Temperature – Pressure  
Shock – Vibration – Humidity**

Modality Solutions' subject-matter experts provide insight into cold chain thermal package engineering, transport validation, and controlled environment logistics solutions.

**We have calibrated and validated to current Good Manufacturing Practices (cGMP) standards the only independent, third-party, multi-modal transport simulation laboratory in the world.**

Our Bloomington, Indiana-based facility offers testing that adhere to validation best-practices with ISTA and ASTM standards, or can be combined with any client-provided testing protocols. This methodology provides novel data currently unavailable to early stage innovators, researched-based developers, and formulation scientists.

- **Current Practice:** Stability studies conducted in static iso-thermal chambers to support storage and expiry.

- **Innovation:** Focus on the product stability from the patient's perspective – at the end of the supply chain. Expose product to the same conditions it will undergo prior to patient use.

- **Current Practice:** Designs of Experiments (DoEs) are restricted to the understanding of manufacturing operations only.

- **Innovation:** Foster a Quality by Design (QbD) approach by tying distribution hazards to the integrity of the product early in the formulation lifecycle when Transport DoEs can help determine the optimum formulation.

**These innovations are now available with our new multi-modal Advantage Transport Simulation Laboratory.**

In a controlled setting the impact of environmental variables of temperature, vibration, pressure, shock and humidity can be simultaneously studied on the product or the combination of product and selected protective packaging. Transport simulation laboratory testing may be contracted for at hourly or daily rates, on per engagement or assignment basis.

### Specifications

Temperature	-35°C to 60°C +/- 1°C
Humidity	80-90% RH +/- 5% RH @ 10°C 45-95% RH +/- 5% RH @ 20°C 20-95% RH +/- 5% RH @ 40°C 10-95% RH +/- 5% RH @ 60°C
Pressure	0.5 psia to 14.7 psia
Vibration	All Standard ISTA and ASTM profiles along with customized client-required profiles are available with 3500 lbs. max load
Shock	All ISTA and ASTM free-fall drop tests limited to 100 lbs.
Dimensions	Footprint 63" X 63" Max Width 83" Max Height 86" Max

We offer **best-of-breed technology solutions** integrated together into your quality management systems with proper documentation for qualification, validation, along with training aligned with the necessary procedural controls, visual controls, and monitoring.