



# VTC-16 ECO HALT/HASS Chamber

Combined thermal and six-degree-of-freedom vibration chamber for HALT and HASS, with a 48 × 48 in vibration table. Designed, built and supported in Allegan, Michigan.



†Photo shows the VTC-16.

**48 × 48 in**

vibration table

**-100 to +200 °C**

temperature range

**70 °C/min**

product change rate\*

**10–10,000 Hz**

6-DoF repetitive shock

**100 GRMS**

maximum vibration level

**500 lb**

maximum load

## THERMAL PERFORMANCE

|                             |                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------|
| <b>Temperature range</b>    | -100 to +200 °C                                                                           |
| <b>Product change rate*</b> | 70 °C/min, -65 to +100 °C                                                                 |
| <b>Temperature control</b>  | ±1 °C after stabilization; stabilization in under 2 minutes                               |
| <b>Cooling</b>              | HighRate™ liquid nitrogen, direct atomization in the control plenum, proportional control |
| <b>Heating</b>              | 99 kW nichrome wire heaters, zero-cross SCR control                                       |
| <b>Thermocouples</b>        | One for air (control), one for product response                                           |

## VIBRATION

|                            |                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Type</b>                | Tri-axial 6-DoF repetitive shock, non-coherent broadband, 10–10,000 Hz                                       |
| <b>Vibration level</b>     | Up to 100 GRMS, unloaded table at 25–30 °C                                                                   |
| <b>Energy distribution</b> | 90% of vibration energy in 10–4,000 Hz                                                                       |
| <b>Repeatability</b>       | ±1 GRMS 1 min after settling, from 5 to 75 GRMS                                                              |
| <b>Sound level</b>         | At 10 GRMS, nominally 68 dBA at 1 m                                                                          |
| <b>Vibration table</b>     | 48 × 48 in (1,219 × 1,219 mm), ceramic-coated and insulated from its base                                    |
| <b>Mounting inserts</b>    | Stainless steel, 3/8-16 on a 4 × 4 in pattern or M10 on a 100 × 100 mm pattern                               |
| <b>Maximum load</b>        | 500 lb (227 kg)                                                                                              |
| <b>Vibrators</b>           | Pneumatic, LubeMist™ lubricated with an adjustable ball valve on each; SoftStart™ to minimize starting shock |

## CHAMBER

|                             |                                                                   |
|-----------------------------|-------------------------------------------------------------------|
| <b>Interior (W × D × H)</b> | 54 × 54 × 38 in (1,372 × 1,372 × 965 mm)                          |
| <b>Exterior (W × D × H)</b> | 81.5 × 74 × 101 in (2,070 × 1,880 × 2,565 mm)                     |
| <b>Weight</b>               | 4,000 lb (1,814 kg)                                               |
| <b>Doors</b>                | Two manual doors: one front, one rear                             |
| <b>Windows</b>              | Two heated multi-pane windows, 20 × 20 in, one in each door       |
| <b>Ports</b>                | Two 6 in and two 1 in ports for customer use                      |
| <b>Insulation</b>           | Multilayer staggered insulation, for thermal and noise insulation |

## UTILITIES

|                                        |                                                                         |
|----------------------------------------|-------------------------------------------------------------------------|
| <b>Electrical</b>                      | 480 V, 3-phase, 125 FLA                                                 |
| <b>Liquid nitrogen</b>                 | 1/2 in supply, 40–50 psig                                               |
| <b>Compressed air</b>                  | 1 in supply, 120 psig (8.3 bar), 100 SCFM, clean and dry                |
| <b>Compressed air, Ultra-Hi option</b> | 200 SCFM (twice the pneumatic vibrators)                                |
| <b>Exhaust</b>                         | Two 6 in exhaust ports, vented to outside                               |
| <b>Installation</b>                    | Unloading, rigging and utility connections are provided by the customer |

## CONTROL AND INSTRUMENTATION

|                            |                                                                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control</b>             | Watlow controller with Hanse ChamberCore software: temperature, humidity and GRMS ramps in one profile over Ethernet                                                         |
| <b>ChamberDAQ</b>          | 24 universal inputs on each Watlow F4T (thermocouple, RTD, mA, mV/V), with more F4Ts for more inputs, plus up to eight WebDAQ modules for 128 external thermocouple channels |
| <b>ChamberFFT (option)</b> | Vibration analysis on up to 16 IEPE accelerometer channels at 25,600 samples per second                                                                                      |
| <b>Accelerometer</b>       | One accelerometer with cable and three-axis mounting block                                                                                                                   |

## SAFETY

|                            |                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------|
| <b>Door interlocks</b>     | Opening a door shuts off system operation                                                        |
| <b>Emergency power off</b> | EPO shuts off system operation                                                                   |
| <b>Over/under limit</b>    | FM-approved, with its own sensor in the air stream                                               |
| <b>Interlocks</b>          | Heaters and LN2 interlocked to the fans; three-phase supply monitored for phase loss and balance |
| <b>Electrical code</b>     | Built to NEC code with UL / CE marked components                                                 |

## OPTIONS

- **Extended temperature** — down to -150 °C and up to +400 °C, as an option or custom build.
- **Humidity** — direct water injection or a steam generator, 10 to 85% RH from 25 to 65 °C, with a capacitance sensor.
- **Fixtures** — designed for your assembly, with metric or inch hole patterns.
- **More channels** — specify at order; channels are far cheaper than a retrofit.
- **Access ports** — extra ports, 6 in or custom sizes, for cabling and powered functional test.
- **Higher load capacity** — available across the range.
- **LN2 system** — complete installation, piping and controls.

## WARRANTY AND SUPPORT

- **3-year warranty** on vibrators and vibration tables.
- **1-year equipment warranty** from shipment: parts and labor for the first 90 days, then parts at no cost other than travel.
- **Supported for the long term** — including controller retrofits for older systems.

\*Measured 4" above center of table, -65 °C to +100 °C.

Specifications are subject to change without notice. Any Hanse chamber can be modified to fit your requirements.

Request a quote at [hanseenv.com/contact-hanse-environmental](https://hanseenv.com/contact-hanse-environmental) · Tel 1-269-673-8638 · [hanseenv.com/halt-hass/vtc-16-eco](https://hanseenv.com/halt-hass/vtc-16-eco) · Revised October 10, 2026