SPECIFICATION SHEET · VTC SERIES (VIBRATION THERMAL CHAMBER)

VTC-4 HALT/HASS Chamber

Combined thermal and six-degree-of-freedom vibration chamber for HALT and HASS, with a 24 × 24 in (610 × 610 mm) vibration table. Designed, built and supported in Allegan, Michigan.

24 × 24 in (610 × 610 mm)	-100 to +200 °C	70 °C/min	10–10,000 Hz	100 GRMS	700 lb (318 kg)
vibration table	temperature range	product change rate*	6-DoF repetitive shock	maximum vibration level	maximum load

THERMAL PERFORMANCE

Temperature range	−100 to +200 °C
Product change rate*	70 °C/min, −65 to +100 °C
Temperature control	±1 °C after stabilization; stabilization in under 2 minutes
Cooling	Liquid nitrogen, direct atomization in the control plenum, proportional control
Heating	48 kW nichrome wire heaters, zero-cross SCR control
Thermocouples	One for air (control), one for product response

VIBRATION

Type	Tri-axial 6-DoF repetitive shock, non-coherent broadband, 10–10,000 Hz
Vibration level	Up to 100 GRMS, unloaded table at 25–30 °C
Energy distribution	90% of vibration energy in 10–4,000 Hz
Repeatability	±1 GRMS 1 min after settling, from 5 to 75 GRMS
Sound level	At 10 GRMS, nominally 68 dBA at 1 m
Vibration table	24 × 24 in (610 × 610 mm), ceramic-coated and insulated from its base
Mounting inserts	Stainless steel, 3/8-16 on a 4 × 4 in (102 × 102 mm) pattern, or M10 on a 100 × 100 mm pattern
Maximum load	700 lb (318 kg)
Vibrators	Pneumatic, LubeMist lubricated with an adjustable ball valve on each; SoftStart to minimize starting shock

CHAMBER

Interior (W × D × H)	30 × 30 × 36 in (762 × 762 × 914 mm)
Exterior (W × D × H)	60 × 44 × 95 in (1,524 × 1,118 × 2,413 mm)
Weight	1,900 lb (862 kg)
Doors	Two, front and rear
Windows	Two heated multi-pane windows, 20 × 20 in (508 × 508 mm), one in each door
Ports	Two 6 in and two 1 in ports for customer use
Insulation	Multilayer staggered insulation, for thermal and noise insulation

UTILITIES

Electrical	480 V, 3-phase, 60 FLA
Liquid nitrogen	1/2 in supply, 40–50 psig (2.8–3.4 bar)
Compressed air	3/4 in supply, 120 psig (8.3 bar), 45 SCFM (76 m³/h), clean and dry
Exhaust	One 4 in exhaust port, vented to outside
Installation	Unloading, rigging and utility connections are provided by the customer

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

CONTROL AND INSTRUMENTATION

Control	Watlow controller with Hanse ChamberCore software: temperature, humidity and GRMS ramps in one profile over Ethernet
ChamberDAQ	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
ChamberFFT (option)	Vibration analysis on up to 16 IEPE accelerometer channels at 25,600 samples per second
Accelerometer	One accelerometer with cable and three-axis mounting block

SAFETY

Door interlocks	Opening a door shuts off system operation
Emergency power off	EPO shuts off system operation
Over/under limit	FM-approved, with its own sensor in the air stream
Interlocks	Heaters and LN2 interlocked to the fans; three-phase supply monitored for phase loss and balance
Electrical code	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** — an electrode steam humidifier, or ultrasonic humidification as an alternative, 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 · Tel 1-269-673-8638 · hanseenv.com/halt-hass/vtc-4 · Revised October 30, 2026