SPECIFICATION SHEET · VTC SERIES (VIBRATION THERMAL CHAMBER)

VTC-16 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.

48 × 48 in	−100 to +200 °C	70 °C/min	10–10,000 Hz	100 GRMS	500 lb
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	HighRate™ liquid nitrogen, direct atomization in the control plenum, proportional control
Heating	99 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	48 × 48 in (1,219 × 1,219 mm), ceramic-coated and insulated from its base
Mounting inserts	Stainless steel, 3/8-16 on a 4 × 4 in pattern or M10 on a 100 × 100 mm pattern
Maximum load	500 lb (227 kg)
Vibrators	Pneumatic, LubeMist™ lubricated with an adjustable ball valve on each; SoftStart™ to minimize starting shock

CHAMBER

Interior, upper table position	54 × 54 × 38 in (1,372 × 1,372 × 965 mm)
Interior, lower table position	54 × 54 × 50 in (1,372 × 1,372 × 1,270 mm)
Exterior (W × D × H)	84 × 67 × 107 in (2,134 × 1,702 × 2,718 mm)
Weight	4,250 lb (1,928 kg)
Doors	Two manual doors: one front, one rear
Windows	Two heated multi-pane windows, 20 × 20 in, one in each door
Ports	Three 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, 150 FLA
Liquid nitrogen	1/2 in supply, 40–50 psig
Compressed air	1 in supply (1.25 in with Ultra-Hi), 120 psig (8.3 bar), 100 SCFM, clean and dry
Compressed air, Ultra-Hi option	200 SCFM (twice the pneumatic vibrators)
Exhaust	Two 6 in exhaust ports, 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

- **Bi-split doors** — pneumatically operated: two doors front and two rear, split in the middle, with a 12 × 24 in window in each door.
- **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 · Tel 1-269-673-8638 · hanseenv.com/halt-hass/vtc-16 · Revised October 10, 2026

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