FRONTIER BY LACO TECHNOLOGIES

BAKE-OUT SYSTEMS FOR SMALLSAT

Perform pre-launch test requirements in-house and on schedule with Frontier's Standard TVAC Bake-Out Systems. Designed and built by the industry leaders in space simulation testing, our TVAC Bake-Out Systems meet NASA GSFC-STD-7000 standards for vacuum bake-out, including contaminant outgassing and data collection for pre-launch test reports. Perfect for CubeSats and other space-bound components, this TVAC system gives you control of your testing process with an integrated system that is upgradeable, configurable, and budget-friendly.

Put TVAC testing in your hands with Frontier's

STANDARD BAKE-OUT SYSTEMS

- Achieve successful compliance of pre-launch bake-out requirements and specifications
- Outgas contaminants and impurities to ensure product viability and success
- Collect test data efficiently for pre-launch reports
- Integrate optional chiller for convenient thermal cycling system upgrade

Cube or cylindrical style stainless steel chamber with 6-inch glass viewport and internal LED lighting

Aluminum platen features single-zone uniform conduction heating via resistive heaters located inside platen–upgradeable chiller option available

Test chamber accommodates configurations up to 6U

Fully integrated and enclosed system mounted on ruggedized mobile cart

Programmable test recipes and data logging for vacuum, pressure, and temperature

FSB-1824B Bake-Out System *FSB-2020B Bake-Out System*

ISO 100 spare port

Turbo pump

NW40 spare port

NW16 spare port

Chiller ports for easy upgrade to thermal cycling test system

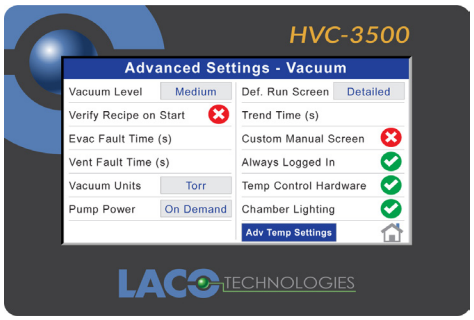
VERSATILE TESTING AND BAKEOUT

Enjoy flexible test options with pre-configured standard ports and feedthroughs. Customize your system with additional ports and feedthroughs, radiant heating and cooling shrouds, emissivity coating, platen mounting inserts, and chillers.

Engineered TVAC Systems You Can Trust.

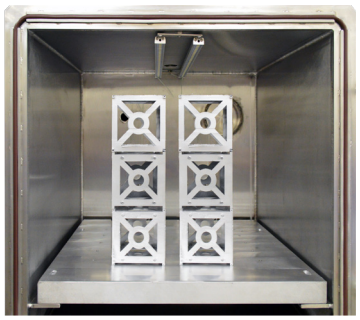
MORE INFO

SYSTEM CONTROLLER



LACO's HVC-3500 Thermal Vacuum Controller provides automated vacuum and temperature control, customizable software, and adjustable test recipes.

HIGH VOLUME TEST SPACE



High volume test area with conductive thermal control platen accommodates products up to 6U in size.

FSB-2020B Standard Bake-Out Test System

FRONTIER STANDARD TVAC TEST SYSTEM SPECIFICATIONS		
	TVAC BAKE-OUT SYSTEMS	
PART NUMBER	FSB-1824B (cylindrical)	FSB-2020B (cube)
CHAMBER DIMS (INSIDE)	17.5" DIA X 24.0" D	20.0" W X 20.0" H X 20.0" D
WORKING DIMS (INSIDE)	16.0" DIA X 22.0" D	19.1" W X 15.3" H X 19.0" D
TEMPERATURE RANGE	Ambient to 150 °C (300 °F)	
THERMAL CONTROL	Single-zone conduction electrical heating via platen. (Platen includes internal cooling channels for optional chiller upgrade)	
WATTAGE	Electric heater: 3000W	
POWER	System: 208-240V, 60HZ (single phase), 20 AMPS	
UPGRADE OPTIONS	Chiller, feedthroughs, thermal shrouds, emissivity coating, platen mounting inserts	Chiller, feedthroughs, platen mounting inserts

STANDARD SPECIFICATIONS FOR BAKE-OUT AND THERMAL CYCLING SYSTEMS			
TEST CAPACITY	Capacity up to 6U—appropriate for testing nano, CubeSat, FlatSat, and small satellites	VALVE CONTROL (PNEUMATIC)	Auto and manual control valves–manual mode with turbo pump valve sequencing to protect turbo pump
VACUUM LEVEL	Capable of vacuum levels in the 10^{-6} Torr range	RECIPES	Vacuum, vent, hold and heat (up to 20 recipe configurations)
PUMPING SYSTEM	Dry pump: 9 CFM Turbomolecular pump: 1 X 10^{-6} Torr, 290 l/sec N2	DATA STORAGE	Ethernet, internal microSD card, USB drive
SPARE PORTS	CF 2.75 / ISO 100 / NW40 / NW16	TEMPERATURE CONTROL	Setpoint PID, 1 Zone
CONTROLLER	LACO's HVC-3500 thermal vacuum controller. 7-inch color touchscreen with graphical display of vacuum system, vacuum pressure, and temperature	TEMPERATURE MEASUREMENT	3 each additional RTD probes

Maximize your uptime & ask us about our 2-year Service Plan!