ENVIRONMENTAL TEST CAPABILITIES





Our environmental testing services are now available externally to help build confidence in your mission.

Our spacecraft bus platforms, subsystems and components are flight proven, high-performance and reliable. Part of this successful heritage is a result of our dedication to testing like we fly.

We perform thermal vacuum testing and thermal cycling to simulate space environments, including vacuum conditions and extreme temperature swings. In addition, our vibe testing assesses impact from mechanical stresses and vibrations, helping to identify structural weaknesses and ensure durability. We also offer high-G shock testing across all three axes to verify structural integrity and hardware performance under extreme transient loads.

Our Colorado facilities include:

- 12 thermal vacuum chambers
- 25 thermal chambers
- Two vibration tables
- High-G shock testing equipment

TVAC TESTING

	EXTRA LARGE	LARGE	MEDIUM	SMALL
PRESSURE RANGE	1E-5 Torr using Cryo Pump	1E-5 Torr using Cryo Pump	1E-5 Torr using Cryo Pump	1E-4 Torr using Turbo Pump
TEMPERATURE	-190°C to +125°C	-65°C to +65°C	-65°C to +65°C	-65°C to +65°C
PLATEN SIZE	36”x64” 1/4-20 thread 2.5”x2.5” grid pattern	32”x38” 1/4-20 thread 2.5”x2.5” grid pattern	47.5”x23.5” 1/4-20 thread 2.5”x2.5” grid pattern	21”x21” 1/4-20 thread 1”x1” grid pattern
SHROUD	80” Diameter 60” Long	67” Diameter 40” Long	46”W x 25.5“H x 36” L	24”W x 24“H x 24” L
FEEDTHROUGHS	ASA1000 plates, multiple DSUB connectors, RF connections available on 2.75” CF flanges	ASA800 plates, multiple DSUB connectors, RF connections available on 2.75” CF flanges	4.5” & 4.625”CF plates, 25DSUB, 50DSUB & 72DSUB connectors, RF connections available on 2.75” CF flanges	25DSUB & 50DSUB connectors, RF connections

THERMAL CHAMBERS

	WALK-IN	LARGE	MEDIUM	SMALL
RAMP RATES	50°C/min cooling 7°C/min heating	1.5°C/min cooling 4°C/min heating	15°C/min cooling 15°C/min heating	3°C/min cooling 5°C/min heating
TEMPERATURE	-70°C to +185°C	-73°C to +175°C	-73°C to +180°C	-73°C to +180°C
INTERIOR	54”W x 81”H x 60”L	48”W x 48”H x 48”L	19.6”W x 23.6”H x 15”L, 30”W x 30”H x 30”L or 40”W x 32”H x 36.5”L	16”W x 12”H x 14”L or 19.6”W x 12”H x 11”L
ATMOSPHERE	Nitrogen purged	Nitrogen purged	Nitrogen purged	Nitrogen purged
FEEDTHROUGHS	4” - 6” ports	4” - 6” ports	4” ports	2” ports

VIBRATION TABLE

	LARGE	MEDIUM
FORCE RATING	18,000 lbf sine 18,000 lbf random	8,000 lbf sine 8,000 lbf random
AUTOMATIC LOAD SUPPORT	2,500 lbs	1,360 lbs
MAX FREE AMPLITUDE	85 g	95 g
STROKE	3”	2”
MAX VELOCITY	80 in/sec	75 in/sec
MOUNTING	36” x 36” with 3/8”-24 threads on a 4” grid pattern	28” x 28” with 3/8”-24 threads on a 4” grid pattern

SHOCK TESTING

	BCT 9000
MOUNTING PLATE	44” x 20” with 3/8” - 16 threads on 4” x 4” grid pattern
ADAPTER PLATE	12” x 12” with 2” x 2” grid pattern

Note: This data is for information only and subject to change. Please contact us for current design data.

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REV 1/2027