

# Typhoon 4.0 +



Part Number: 971-4006

### Standard Features

- High Rate, High Flow Typhoon Thermal System
- xLF2 Vibration Table with PSD Management
- Vacuum Jacketed Manifold
- Allen-Bradley PLC Control
- Desktop PC with Flat Panel Monitor
- Typhoon Manager Software

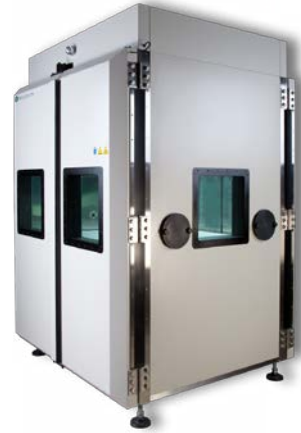
This system is designed specifically for the task of performing Highly Accelerated Stress Screening (HASS) and Highly Accelerated Life Test (HALT) on large products. Its 48" x 48" vibration table is capable of supporting hundreds of pounds of products, fixturing and mounts at two different heights. The Typhoon 4.0 + provides optimal thermal and vibration performance to drive out failures fast, yet is amazingly quiet.

<b>Work Space</b>	Lower Table Position 53.8" w x 54.0" d x 53.6" h (1366 x 1372 x 1362mm) Upper Table Position 53.8" w x 54.0" d x 34.6" h (1366 x 1372 x 879mm)
<b>Outer Dimensions</b>	69.8" w x 78.3" d x 108.4" h (1772 x 1989 x 2640mm)
<b>Table Size</b>	48" x 48" (1219 x 1219mm)
<b>Actuators</b>	12 Actuators Lubricant-free
<b>Table Capacity<sup>1</sup></b>	600 lb (272 kg)
<b>Acceleration<sup>2</sup></b>	5 – 75 gRMS
<b>Temp Range</b>	+200°C to -100°C
<b>Thermal Ramp Rate<sup>3</sup></b>	70°C/min average
<b>Power Requirements</b>	380V, 400V, 440V, 480V 3Φ 50/60Hz, 100A (Service Rating) 125A (Service Rating)

*See Qualmark product catalog for configuration options, accessories, and post warranty service and maintenance plans. All specifications are subject to change without notice.*

## Typhoon 4.0 + System includes:

- Two (2) year warranty
- Operations & Maintenance manual
- One (1) accelerometer for table control provided;  
Three (3) additional accelerometer input channels available
- Two 72" thermocouples provided - one (1) for product, one (1) for air;  
Four (4) additional thermocouple input channels available
- One (1) 20 ft accelerometer cable
- Eight (8) User State Relays (USR)
- Control PC with Windows® operating system and flat panel monitor



<b>Vibration Features</b>	Table Top	48" x 48" (1219 x 1219mm)
	Table Top Hardware	144 threaded holes 3/8-16 on 4" centers; M10 optional
	Actuators	12 pneumatic, impulse-type, lubricant-free actuators
	Vibration	Six degree of freedom, random, OmniAxial™ broadband excitation
	PSD Management	Monitor and reset to factory specification for Power Spectral Density (PSD)
	Table Product Capacity <sup>1</sup>	600 lb (272 kg)
	Vibration Range <sup>2</sup>	5 - 75 gRMS (10 Hz to 5000 Hz)
<b>Thermal Features</b>	Heating System	Open-element nichrome type
	Cooling System	Vacuum jacketed liquid nitrogen injection
	Temperature Range	+200°C to -100°C (+392°F to -148°F)
	Thermal Ramp Rate <sup>3</sup>	70°C /minute average
<b>Internal Features</b>	Interior Dimension	Table in Lower Position: 53.8"w x 54.0"d x 53.6"h (1366 x 1372 x 1362mm) Table in Upper Position: 53.8"w x 54.0"d x 34.6"h (1366 x 1372 x 879mm)
	Interior Construction	Stainless steel
	Plenum Exit	Flexible aluminum ducting directs air to the product
	Lighting	2 recessed ceiling lights; 1 optional fiber optic light
<b>Exterior Features</b>	Exterior Dimensions	69.8"w x 78.3"d x 108.4"h (1772 x 1989 x 2753mm)
	Doors	4 automated locking doors, two on each side; each door opens 150°
	External Construction	Painted steel construction with stainless steel trim
	Windows	(4) 17" x 17" (432 x 432mm) multi-pane windows, 1 in each door (1) 17" x 17" (432 x 432mm) multi-pane window in the front wall
	Access Ports	(4) 6" (152mm) round ports with phenolic covers, 2 in front and 2 in back
	Door Lock	Interlocking system prohibits system operation when any door is ajar
	Sound	73 dBA at 50 gRMS (at 1 meter)
<b>Control</b>	Vibration/Temperature Interface	PLC based, PC
	Operating System	Typhoon Manager
	Safety	Microsoft Windows
		Eurotherm temperature (independent safety)
<b>Utilities</b>	Electrical	380V, 400V, 440V, 480V, 3Φ, 60 Hz, 100A
	Air	96 SCFM Max @ 85 psi (2.7 m <sup>3</sup> /min. at 5.9 bar)

1. Greater load capacities can be designed; contact Qualmark for custom options.
2. Measured on bare table; maximum gRMS level dependent on table configuration.
3. Measured -65°C to 85°C in open air 3" above table center; levels vary by make and model

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