

# Typhoon 1.5



Part Number: 971-4019 (Single Phase)  
971-4021 (3 Phase)

### Standard Features

- High Rate, High Flow Typhoon Thermal System
- xLF2 Vibration Table with PSD Management
- PLC Control
- Desktop PC with a Monitor
- Typhoon Manager Software
- Optional: Vacuum Jacketed Manifold

The Typhoon™ 1.5, with its 18" x 18" vibration table, is perfect for performing Highly Accelerated Life Testing (HALT) on small products, or where limited lab space is available. This compact system is built using ESPEC's Qualmark Typhoon system technology which delivers impressive thermal performance and six-degree-of-freedom repetitive-shock vibration. The Typhoon 1.5 is a practical addition to any company's product reliability program.

|                                      |  |
|--------------------------------------|--|
| <b>Work Space</b>                    | 27.0" w x 27.0" d x 19.5" h<br>(686 mm x 686 mm x 494 mm)  |
| <b>Outer Dimensions</b>              | 38.8" w x 47.0" d x 80.9" h<br>(985 mm x 1194 mm x 2055 mm)  |
| <b>Table Size</b>                    | 18" x 18"<br>(457 mm x 457 mm)   |
| <b>Actuators</b>                     | 4 Actuators<br>Lubricant-free  |
| <b>Table Capacity<sup>1</sup></b>    | 80 lb (36 kg)  |
| <b>Acceleration<sup>2</sup></b>      | 5 – 70 gRMS  |
| <b>Temp Range</b>                    | +200°C to -100°C   |
| <b>Thermal Ramp Rate<sup>3</sup></b> | 60°C/min (Single Phase)<br>70°C/min (3 Phase)  |
| <b>Power Requirements</b>            | 208V, 230V<br>(1Φ),<br>50/60Hz,<br>70A (Service Rating)<br>380V, 400V, 440V, 480V<br>3Φ<br>50/60Hz<br>35A (Service Rating) |

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

## Typhoon 1.5 System includes:

- Two (2) year warranty
- System and software orientation
- Operations & Maintenance manual
- One (1) accelerometer for table control provided  
Three (3) additional accelerometer input channels available
- Two (2) 72" thermocouples provided - one (1) for product, one (1) for air  
Four (4) additional thermocouple input channels available
- One (1) 10 ft accelerometer cable
- Eight (8) User State Relays (USR)
- Control PC with Windows® operating system and monitor



|                           |                                     |  |
|---------------------------|-------------------------------------|--|
| <b>Vibration Features</b> | Table Top                           | 18" x 18" (457 mm x 457 mm)  |
|                           | Table Top Hardware                  | 25 threaded holes 3/8-16 on 4" centers (M10 optional)                        |
|                           | Actuators                           | 4 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> | 80 lb (36 kg)  |
|                           | Vibration Range <sup>2</sup>        | 5 - 70 gRMS (10 Hz to 5000 Hz)   |
| <b>Thermal Features</b>   | Heating System                      | Open-element nichrome type   |
|                           | Cooling System                      | Liquid nitrogen - insulated solenoid valve                                   |
|                           | Temperature Range                   | +200°C to -100°C (+392°F to -148°F)  |
|                           | Thermal Ramp Rate <sup>3</sup>      | 208V/230V Single Phase: 60°C/min<br>380V, 400V, 440V, 480V 3 Phase: 70°C/min |
| <b>Internal Features</b>  | Interior Dimension                  | 27.0"w x 27.0"d x 19.5"h (686 mm x 686 m x 494 mm)                           |
|                           | Interior Construction               | Stainless steel  |
|                           | Lighting                            | 1 recessed ceiling light   |
| <b>Exterior Features</b>  | Exterior Dimensions                 | 38.8"w x 47.0"d x 80.9"h (985 mm x 1194 mm x 2055 mm)                        |
|                           | Doors                               | 1 door, opens approximately 130°   |
|                           | External Construction               | Painted steel construction with stainless steel trim                         |
|                           | Windows                             | (1) 15" x 15" (381 mm x 381 mm) multi-pane window in the door                |
|                           | Access Ports                        | (1) 4" (102 mm) port with phenolic cover, on side                            |
|                           | Door Lock                           | Sensor-activated shut down if door opens during operation                    |
|                           | Sound                               | 73 dBA at 50 gRMS (at 1 meter)   |
| <b>Control</b>            | Vibration/Temperature Interface     | PLC based, PC<br>Typhoon Manager   |
|                           | Operating System                    | Microsoft Windows  |
|                           | Safety                              | Eurotherm temperature (independent safety)                                   |
|                           | <b>Utilities</b>                    | Electrical   |
| Air                       |                                     | 32 SCFM @ 85 psi (0.9 m <sup>3</sup> /min at 5.9 bar)                        |

1. Greater load capacities can be designed; contact ESPEC for custom options.
2. Measured on bare table; maximum gRMS level dependent on table configuration.
3. Measured as the average rate between -65°C and 85°C in open air 3" above table center (in an empty chamber); levels vary by make and model

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