



PART NUMBER: 971- 4020  
971- 4022 ( 3 Phase)

#### CONFIGURABLE FEATURES

MAIN SUPPLY VOLTAGE  
VIBRATION TABLE  
LN<sub>2</sub> SYSTEM  
COMPUTER  
SOFTWARE

#### WORK SPACE

27" w x 27" d x 19.5" h  
(686 x 686 x 496mm)

#### TABLE SIZE

24" x 24"  
(610 x 610mm)

#### OUTER DIMENSIONS

38.7" w x 46" d x 79.9" h  
(983 x 1168 x 2030mm)

#### ACCELERATION

Over 50 G

#### TEMP RANGE

+ 200° C to -100° C

#### POWER REQUIREMENTS

208V, 230V(1Φ), 380V  
400V, 440V, 480V  
3Φ  
50/60Hz, 70A(1Φ)  
60A (3Φ)

#### 5 ACTUATORS

## CHAMBER TYPHOON 2.0

The Typhoon 2.0, with its 24" x 24" vibration table, is ideal for performing Highly Accelerated Life Testing (HALT) on small products, or where limited lab space is available. This compact system is built using Qualmark's Typhoon chamber technology. With its impressive thermal performance and six-degree-of-freedom, repetitive-shock vibration, and 30% to 60% savings in utility costs, the Typhoon 2.0 is a practical addition to a company's product reliability program.

## ACCESSORIES

CE KIT (INTERNATIONAL)

HALT FIXTURE KIT

MULTIPLE DEWAR KIT

CALIBRATION KIT

OXYGEN SENSORS

CABLE NOTCH

Q-LINK SOFTWARE

DOOR LOCK KIT

QUALMARK SPECTRUM ANALYZER

REDUNDANT VIBRATION ACCELEROMETER KIT

GHI SPECTRUM & FATIGUE ANALYZER

KEEPFUL VACUUM INSULATED LIQUID LEVEL

PCBV ADHESIVE-MOUNT ACCELEROMETER KIT

PCA QUICK RELEASE FIXTURE

## Typhoon-2.0 Features

### Included

- 1 year warranty
- Start-up and check out of complete system by a factory trained field service engineer
- Customer training on using the PLC control system
- Operations & Maintenance Manual
- Table Control Accelerometer and Cable
- 3 Thermocouples Provided
- Product and air chamber control thermocouples
- (8) user controllable solid state relays
- (4) auxiliary thermocouple input channels
- (3) auxiliary vibration input channels
- Control PC with Windows operating system
- 17" Monitor
- Stand



### Vibration Features

Table Top	24" x 24" (610mm x 610mm)
Table Top Hardware	(36) threaded holes 3/8-16 on 4" centers
Actuators	5 pneumatic, impulse-type vibrators
Vibration	Six degree of freedom, random, Omni-Axial™ broadband excitation
Modulation	ASX Actuators
Table Product Capacity	Recommended 100 lbs. (45kg) Maximum* 200lbs (90kg) *may require custom options
Vibration Range	50 Grms (10Hz to 5kHz) 60 Grms (10 HZ to 1kHz)

### Thermal Features

Heating System	Open-element NiChrome type
Cooling System	Liquid Nitrogen Injection
Temperature Range	+200° C to design limit -100° C to design limit (+392°F to -148°F)
Temperature Change Rate	200°C/min (max ramp rate) 70°C/min from -50°C to +150°C (typical HALT range) 60°C/min from -50°C to +120°C (example range)

### Internal Features

Interior Dimensions	27"w x 27"d x 19.5"h (686mm x 686mm x 496mm)
Interior Construction	304 Stainless Steel
Upper Corner Plenum	Adjustable airflow to direct the air to the product
Lighting	Recessed ceiling lights

### Exterior Features

Exterior Dimensions	38.7"w x 46"d x 79.9"h (983mm x 1168mm x 2030mm)
Doors	(1) door, for easy product access
External Construction	Painted stainless steel construction with stainless steel trim
Windows	16" x 16" (406mm x 406mm) multi-pane window in the door
Access Ports	(1) 4" port with phenolic cover, on side
Door Interlocks	Inhibit thermal and vibration system when any door is ajar
Electrical Requirements	208V, 1Φ, 50/60 Hz, 70A or 230V, 1Φ, 50/60 Hz, 70A 400V, 3Φ, 50/60 Hz, 60A -- 480V, 3Φ, 50/60 Hz, 60A
Air Requirements	40 SCFM Max @ 90 PSI (1.274 m <sup>3</sup> /min. at 6.205 Bar)
Sound Level	Nominally 73 dB (A) at 1 meter

### Control

Vibration/Temperature Control	PLC based, PC Driven Controller
User Interface	OVS Manager
Operating System	Microsoft Windows
Safety	Eurotherm Temperature