IMPROVE RELIABILITY OF YOUR DOWNHOLE EQUIPMENT

The demands on exploration and production equipment are extraordinary – especially downhole tools and equipment where harsh reservoir conditions present the ultimate challenge for sophisticated equipment. Even surface equipment can be pushed to the limit against the frigid temperatures of the Polar Regions and the scorching temperatures of the equator.

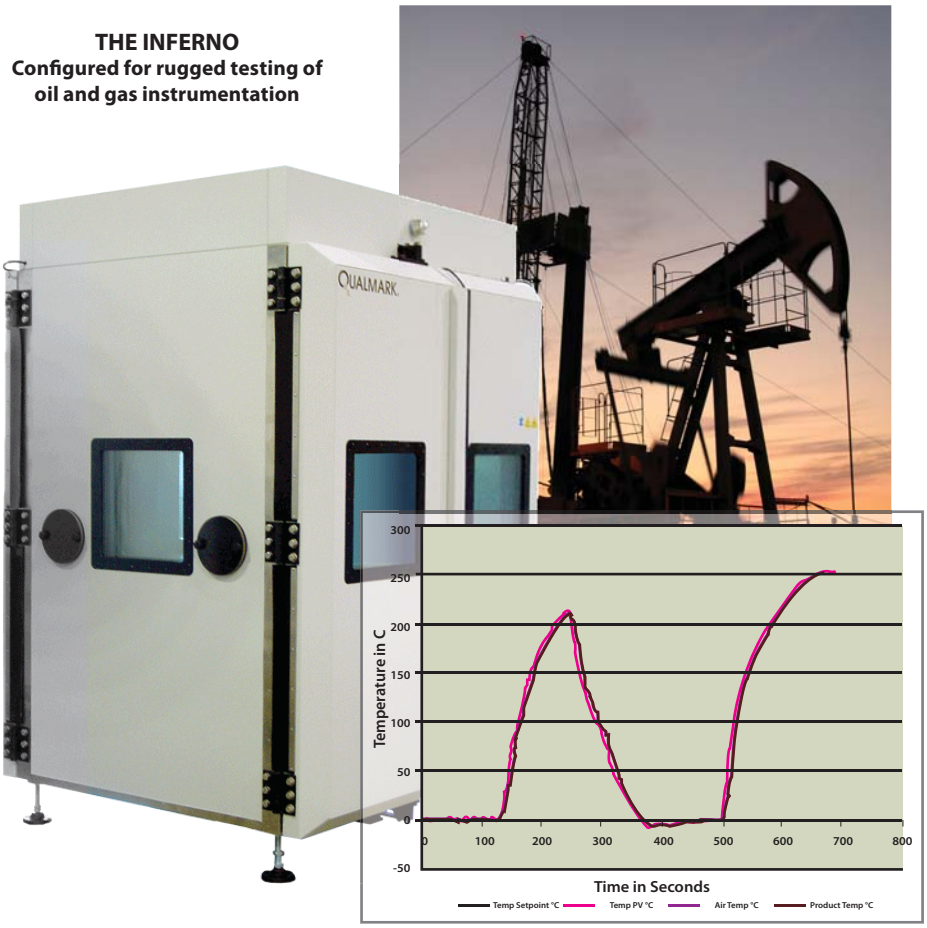
Such hostile drilling and production environments demand reliable devices - devices that have already been subjected to stress extremes and proven up to the challenge.

ACCELERATED STRESS TESTING PREPARES DEVICES FOR HOSTILE ENVIRONMENTS

With the increased business need to use complex and sophisticated technology, exploration, production, and service companies cannot afford failures in critical tools and equipment. Qualifying new devices to meet these harsh conditions is also challenging – when is enough testing enough? And how can the testing and qualification process be accelerated?

Accelerated Stress Tests (AST) delivered by HALT (Highly Accelerated Life Test) systems provide the extreme stimulation necessary to analyze design weaknesses and extend operational margins for mechanisms intended to perform in harsh environments.

THE INFERNO
Configured for rugged testing of oil and gas instrumentation



QUALMARK'S INFERNO™ SYSTEM REVEALS DESIGN and MANUFACTURING WEAKNESSES FAST

Qualmark's Inferno is a HALT system specifically configured for testing the durability of oil and gas instrumentation, tools and electronics. Qualmark's chambers can deliver a combination of +250°C to -100°C temperatures, over 60 grms , multi-axis, with 6 degrees of freedom vibration in a matter of minutes. Exposing products to such extremes rapidly reveals design and manufacturing flaws missed by traditional reliability testing methods – dramatically reducing the time line for new product introduction and substantially extending product design margins.

MEET THE DEMANDS OF DEEP WELL DRILLING BY EXCEEDING THE STRESSES WITH THE INFERNO

The Inferno's ability to uniquely deliver the combination of all-axis vibration with aggressive temperature cycling and rapid power cycling is the most effective way to expose failure modes in complex electrical equipment expected to perform in the extreme environments encountered in oil and gas exploration and production. Contact Qualmark today to learn more about the Inferno and our other accelerated stress test systems.

sales@qualmark.com
WWW.QUALMARK.COM
10390 East 48th Avenue | Denver, Colorado 80238 USA | +1.303.254.8800

Inferno Features

- 1 Year Warranty
- Start-up Of a Complete System by a Service Engineer
- Customer Training with The PLC Control System
- Operations & Maintenance Manual
- One Accelerometer for Table Control Provided; and (3) additional accelerometer input channels available.
- Two 72" thermocouples provided; (1)for Product, (1)for Air, and (4) additional thermocouple input channels available.
- (1) 10 ft Accelerometer Cable
- (8) User Controllable Solid State Relays
- Control PC with Windows Operating System and a 17" Flat Screen Monitor

Work Space

Upper Table Position
53.7"w x 53.3"d x 36"h
(1364 x 1353 x 914mm)

Lower Table Position
53.7"w x 53.3"d x 55"h
(1364 x 1353 x 1397mm)

Outer Dimensions

80.1"w x 72.4"d x 109"h
(2035 x 1838 x 2768mm)

Temp Range

+ 250° C to -100° C

Table Size

48" x 48"
(1220 x 1220mm)

Acceleration

Over 60 GRMS
*Higher GRMS available by special order

Table Capacity

Recommended 600 lbs (272.16kg)
Maximum* 1200 lbs (544.31kg)
*may require custom options

Power Requirements

380V, 400V, 440V, 480V
3Φ
50/60Hz,
150A (Service Rating)

Vibration Features	Table Top	48" x 48" (1220mm x 1220mm)
	Table Top Hardware	(144) Threaded Holes 3/8-16 On 4" Centers (M10 Optional)
	Actuators	12 Pneumatic, Impulse-type Acuators
	Vibration	Six Degree Of Freedom, Random, Omni-Axial™ Broadband Excitation
	Table Product Capacity	Recommended 600 lbs. (272.16kg) Maximum* 1200lbs (544.31kg) *may require custom options
	Vibration Range	50 - 60 gRMS (10HZ to 5000 HZ Bare Table)
Thermal Features	Heating System	Open-element Nichrome Type
	Cooling System	Vacuum Jacketed Liquid Nitrogen Injection
	Temperature Range	+250°C to -100°C (+392°F to -148°F)
Requirements	Electrical Requirements	380V, 400V, 440V, 480V, 3Φ, 60 Hz, 100A
	Air Requirements	96 SCFM Max @ 80 PSI (2.72 m3/min. at 5.52 bar)
	Sound Level	Nominally 73 dB (A) at 1 meter
Internal Features	Interior Dimensions	53.7"w X 53.3"d X 36"h, Upper Position (1364mm X 1353mm X 914mm) 53.7"w X 53.3"d X 55"h, Lower Position (1364mm X 1353mm X 1397mm)
	Interior Construction	Stainless Steel
	Side Plenum	Adjustable Airflow To Direct The Air To The Product
	Lighting	(2) Recessed Ceiling Light
Exterior Features	Exterior Dimensions	80.1"w X 69.6"d X 109"h (2035mm X 1768mm X 2768mm)
	Doors	(4) Automated Locking Doors Two On Each Side Open 95º For Easy Access To Product Under Stimulation
	External Construction	Painted Steel Construction With Stainless Steel Trim
	Windows	(4) 18" X 18" (457mm X 457mm) Multi-pane Windows (One Window On Each Door)
	Access Ports	(4) 6" X 10" (152mm X 254mm) Ports With Phenolic Covers 2 On Front & 2 On Back
	Door Interlocks	Inhibit Thermal And Vibration System Operation When Any Door Is Ajar
Control	Vibration/Temperature	PLC Based, PC
	User Interface	Typhoon Manager
	Operating System	Microsoft Windows
	Safety	Eurotherm Temperature (Independant Safety)

The Inferno is a Typhoon 4 (part #: 971-4006) with a 250°C option (part #956-0178)

Contact Qualmark for latest Inferno specifications

sales@qualmark.com

09/2010

10390 East 48th Avenue | Denver, Colorado 80238 USA | +1.303.254.8800