



TetraTek Products, Inc.
We Put It All Together

Environmental Test Systems

Electronic Product
Environmental Test Facilities

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Environmental Systems

Optimized for Electronic Product Testing

Our TetraTek BR40 Dual-Door Temperature and Humidity Burn-in and Thermal Stress Screening Chamber is ideal for electronic testing.

With a full forty cubic feet (40" wide by 40" high by 43-1/2" deep) of workspace and BOTH FRONT AND BACK:

- ❖ Chamber access doors.
- ❖ 19-inch relay rack style mounting of test instrumentation.
- ❖ Inside chamber rail mounting of your device test fixtures.



You have everything you need to successfully test your products, all in half the space needed by conventional designs.

These systems are designed for testing convenience and manufactured using the best components for durability and precision. The environmental conditioning section of the BR40 includes:

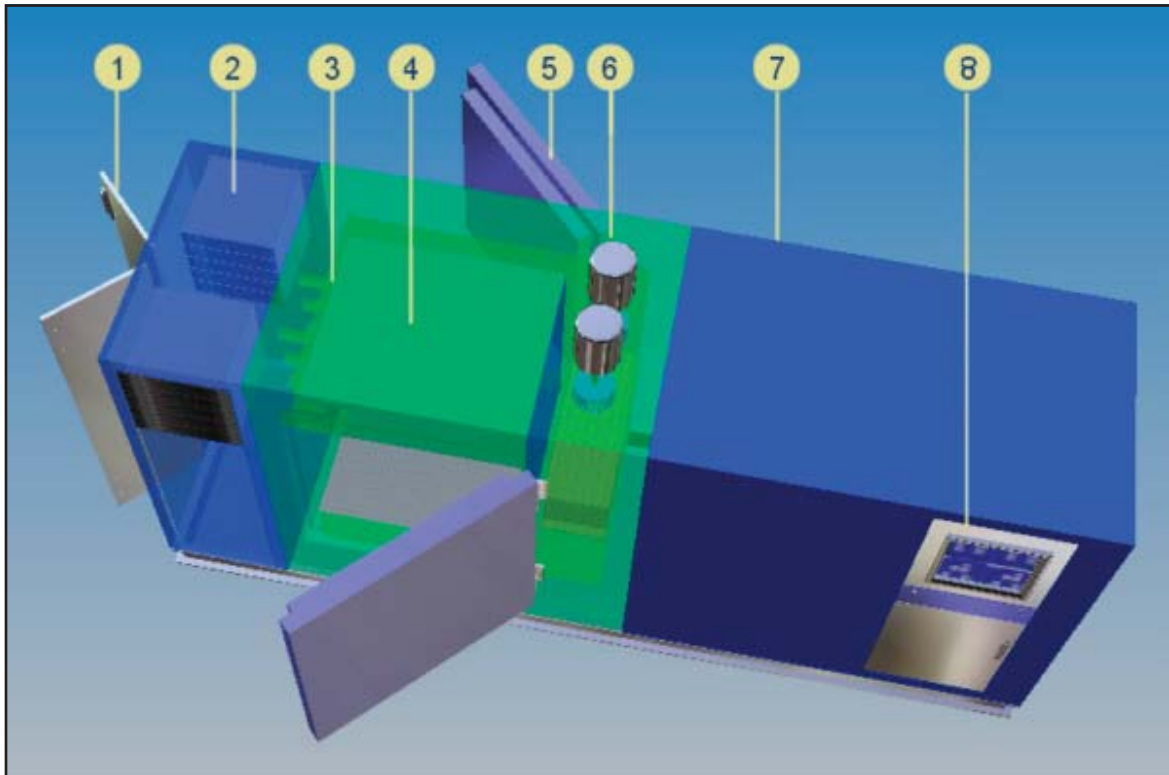
- ❖ Vertical air flow for convenient electronic component, circuit board, and assembly testing.
- ❖ Cooling by either a single stage or cascade, non-ozone depleting, water cooled refrigeration system.
- ❖ Heating by fast response nichrome electric elements controlled by zero-cross-over solid state relays.
- ❖ Fully proportional modulation of cooling (no solenoids) for precise control of system conditions.
- ❖ Optional humidification using a special thermally clamped, fast response, TetraTek vapor generator.
- ❖ Optional low dewpoint dehumidification using a heatless, regenerative, compressed air desiccant drier.





Environmental Test Systems

Use Both Sides for a Compact Solution



The BR40 illustration shows:

1. Access doors with top and bottom recessed locking cam-action locks. 19-inch EIA style drilled and tapped rails on the front and back of the relay rack are standard.
2. Optional power supplies, instruments, and distribution panels to power, stimulate, and monitor your devices under test.
3. Optional access sleeve array for convenient connection to your test items.
4. Chamber workspace with both top and bottom air distribution baffles to assure even air flow distribution around your test items.
5. Front and rear, plug type, access doors with heavy duty hardware and latches for a tight seal.
6. Dual counter-rotating blowers to assure a uniform environment and even heat transfer around your test items.
7. System conditioning apparatus.
8. Control panel with touch-screen, 256-color, human machine interface.

Operational specifications:

Temperature range:

Single stage system: -20 C to 150 C
Cascade cooling system: -65 C to 150 C

Optional humidity range:

15 to 95% limited by a 0 C dewpoint
Direct RH measuring sensor standard.
Desiccant drier dehumidification standard.

Standard heating rate:

-20 C to 150 C in 30 minutes empty.

Standard cooling rate single stage:

150 C to 0 C in 30 minutes empty.

Standard cooling rate cascade cooling:

150 C to -55 C in 60 minutes empty.



Environmental Test Systems

Select Exactly What You Need

Standard features include:

- ❖ Programmable Logic Control (PLC) process control.
- ❖ RS-485 communications interface.
- ❖ A 10-inch color touch screen Human Machine Interface (HMI).
- ❖ A non-ozone polluting, water cooled, refrigeration system.
- ❖ Silfoss and silver soldered copper refrigeration piping.
- ❖ Hinged access panels and heavy duty industrial hardware.
- ❖ Programmable control of chamber environmental profiles.
- ❖ Digital display of system conditions and control parameters.
- ❖ Oil-tight illuminated master switch and reset pushbutton.
- ❖ A 300 series stainless steel continuous helicarv welded interior.
- ❖ A heavy gauge cold rolled steel outer case and frame.
- ❖ Refrigeration gauges, pressure switches and safety sensors.
- ❖ An average of 6-inches of vapor sealed fiberglass insulation.
- ❖ Two full opening, in-fitting chamber access doors.
- ❖ A separate high temperature safety control.
- ❖ Stainless steel door drip pans.

Normal required utilities are tower water at a maximum temperature of 85 F and a minimum pressure of 20 psig, three phase power, deionized water when optional humidity is selected and drain. All utilities except for electrical power are terminated on a convenient anodized aluminum panel on the rear of the system.

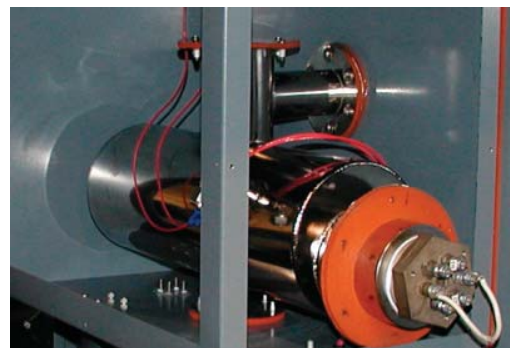


Optional humidity systems include:

- ❖ A TetraTek stainless steel electric heated vapor generator.
- ❖ A dual tower, heatless, compressed air desiccant drier.
- ❖ A wide range precision direct relative humidity sensor.

Available options include:

- ❖ Discrete system process controls to suit your preference.
- ❖ A digital one or two pen Yokogawa strip chart recorder.
- ❖ A 24-hour or 7-day circular chart recorder.
- ❖ Burn-in rated power supplies, distribution panels, and bus bars.
- ❖ Environmentally rated shelves, card cages, and supports.
- ❖ Access ports, connectors, and feedthroughs.
- ❖ Interior windows and lights.
- ❖ Product load and test stimulation electronics.
- ❖ Data acquisition and product monitoring equipment.



Information and Quotations from TetraTek:

Other environmental chamber configurations and custom equipment are available. For additional information, you may wish to review our Industrial Equipment web site <http://www.tetratekproducts.com>.

We are happy to share our expertise with you. Quotations are prepared promptly based upon your specific needs. We also supply budget information for future planning purposes. If you need advice on a current or upcoming project, please contact us. In most cases, there is no charge.

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