DRIVING OPTIMAL PERFORMANCE
FOR THE AUTOMOTIVE AND HVAC TEST INDUSTRIES
All ETC equipment conforms to the following standards:
| ISO 9001 | ISO 907 | SAE - various | NEMA | NFPA – 79 |
| NEC Codes | EN 14511 | HS 1738 | ASHRAE 37, 41 |

In the automotive industry, standards are continually raised with an increasing demand in environmentally friendly and cost-effective products. To enable engine researchers and developers to produce the best quality products possible, ETC offers a complete line of state-of-the-art test equipment with the sole focus of assisting each Client to achieve their goals—regardless of the challenge.

For over 40 years, ETC has provided customized test equipment for a variety of testing applications. Our unique line of products provide the ability to replicate the most diverse environmental test conditions for test repeatability, while providing the highest degree of accuracy.

All ETC test equipment is developed with each individual Client’s unique set of requirements in mind. At the same time, great consideration is given to how each piece of equipment will be implemented into an existing facility, often with limited space.

Let ETC assist you in developing your set of specifications and design a cost-effective solution that meets the needs of your test program.

The highly competitive HVAC industry calls upon producers to be one step ahead of the competition. With a more mindful consideration of the environment and the ability to simulate specialized environmental conditions, ETC’s HVAC test equipment provides manufacturers the ability to achieve their objectives efficiently and cost-effectively with a high degree of accuracy.

ETC’s HVAC test equipment is engineered with the buyers needs and objectives in mind. Our engineering group works with each Client to technically define the application and objectives to produce the most customized equipment available—optimizing your R&D, test and validation program.

ETC’S 40 YEAR HISTORY ILLUSTRATES OUR ABILITY TO PROVIDE THE MOST OPTIMAL SYSTEMS. CONTACT OUR TEAM ABOUT YOUR NEEDS AND LET US ENGINEER THE BEST SOLUTION FOR YOUR TECHNICAL CHALLENGES.
EXTREME TEMPERATURE AIR HANDLER
The Extreme Temperature Air Handler precisely controls temperature, humidity and flow rate. (www.TestingandSimulation.com/AirHandler)

APPLICATIONS
- Individualized – whenever very low to very high temperatures are needed
- Engine / test cell transmission

ADVANTAGES
- Completely custom configuration
- Great for limited space
- Easy to maintain, cost effective
- Dx or Brine
- Heavy duty, rugged construction

CONDITIONED AIR SUPPLY
The Conditioned Air Supply (CAS) System provides air at precisely controlled temperature, humidity, pressure and flow rate to perform a variety of engine research and development, and emissions testing. (www.TestingandSimulation.com/CAS)

APPLICATIONS
- Engine research and development testing – steady and transient state
- Emissions certification testing
- Dilution tunnel air supply system
- Fuels and lubrication development

ADVANTAGES
- Custom designs including fully enclosed, open or split skids
- Outdoor or indoor suitable
- DX or chilled water cooling with trim to achieve tight control
- Patented EPC (Engine Pressure Control) valve accurately controls intake pressure.

ALTITUDE SIMULATION SYSTEMS & ALTITUDE CHAMBERS
Simulates altitudes up to 50,000 ft. at both the intake and exhaust manifolds with temperatures throughout the range of -40°C to 100°C. Programmable Logic Controller (PLC) communicates with the customer Dynamometer Control System. (www.TestingandSimulation.com/TestChambers)

APPLICATIONS
- Engine R&D
- Emissions
- Transient & steady state

ADVANTAGES
- Low-cost alternative to testing in Denver
- Repeatable and accurate results

DRIVE-IN TEST CHAMBERS
ETC supplies Drive-In Test Chambers with a wide range of options to enable full vehicle testing, while offering Dynamometer compatibility for the most ideal full vehicle test chamber available. (www.TestingandSimulation.com/TestChambers)

APPLICATIONS
- Light and heavy duty vehicles
- Emissions and R&D Testing

ADVANTAGES
- Rugged design
- Custom designed for specific applications
- NI Labview data acquisition for accurate, repeatable testing

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AUTOMOTIVE A/C SYSTEM TEST ROOM

APPLICATIONS
• A/C System and Component Testing

ADVANTAGES
• Mirrors “in-dash” configuration
• Modular construction for easy installation
• NI Labview data acquisition system for accurate, repeatable testing

These test chambers simulate the various temperature, humidity, refrigerant and coolant conditions of the entire automotive A/C system. The test room mirrors the exact in-dash configuration (length, system orientation, etc.) reducing the set-up time typically required. It can simultaneously test vehicles with dual HVAC systems such as minivans, mini-buses and sport utility vehicles. (www.TestingandSimulation.com/automotive-ac-test-rooms)

ETC’s psychrometric and balanced ambient test rooms offer a variety of configurations for performing component, system performance, and validation tests. By providing independent indoor and outdoor room air conditioning equipment, each room can simultaneously provide a variety of pressure, temperature, and humidity conditions. (www.TestingandSimulation.com/psychrometric-test-rooms)

APPLICATIONS
• Air conditioners, heat pumps, split systems and window units
• Industrial air-handling units
• Side by side or over/under configurations

ADVANTAGES
• Accurate and repeatable testing
• Custom-designed for unique test requirements
• Modular construction for easy integration into existing test facility

PSYCHROMETRIC AND BALANCED AMBIENT TEST ROOM

APPLICATIONS
• Various applications for a wide range of environmental conditions (including extreme conditions) for the Automotive, Pharmaceutical, Electronics and Refrigeration Industries.

ADVANTAGES
• Modular construction
• NI Labview data acquisition system for accurate, repeatable testing

Specializing in very large chambers with unique operating parameters, ETC provides chambers capable of temperature ranges from -65° to 90°C with a relative humidity of between 2% and 98%. No requirement is too challenging. (www.TestingandSimulation.com/environmental-test-rooms)

APPLICATIONS
• A/C System and Component Testing

ADVANTAGES
• Mirrors “in-dash” configuration
• Modular construction for easy installation
• NI Labview data acquisition system for accurate, repeatable testing

ETC equipment is controlled by Allen Bradley Programmable Logic Controllers (PLCs). Utilizing the PLC’s creates a virtually seamless interface with most Building Management Systems (BMSs), Ethernet communication or discrete I/O configurations. In some instances where data recording is required, a system will also utilize National Instruments’ LabVIEW as a standard software interface. LabVIEW is in real-time.

What is NI LabVIEW?*

Created by National Instruments, LabVIEW is a graphical programming environment used by millions of engineers and scientists to develop sophisticated measurement, test, and control systems using intuitive graphical icons and wires that resemble a flowchart. It offers unrivalled integration with thousands of hardware devices and provides hundreds of built-in libraries for advanced analysis and data visualization – all for creating virtual instrumentation. The LabVIEW platform is scalable across multiple targets and operating systems, and since its introduction in 1986 has become an industry leader.

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Contact ETC Testing & Simulation Systems Representative Theresa Wagner for a one-on-one consultation.

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