



ESS Inc. Product Line 2007



Mechanically Refrigerated Thermal Platform (MRTP)

The MRTP thermal platform systems rely upon a closed loop mechanical refrigeration cooling system. This eliminates the need for expendable refrigerants such as liquid nitrogen (LN₂) and liquid carbon dioxide (LCO₂). Proprietary design features provide fast ramp rates with efficient heat removal. The system is small, lightweight and portable. A single AC outlet is all that is needed to operate it. MRTP systems have rapid heating with good cooling rates down to about -30° C or -60° C depending on the type (single or cascade refrigeration loop). Two configurations are available. The first one has a flexible umbilical that connects the thermal platform to the chiller cabinet. In the second one, the platform can be used right on top of the cabinet or on a rack shelf.



Cryogenically Cooled Thermal Platforms (T600 and T650)

A complete line of thermal platforms (Hot/Cold plates) in a variety of standard sizes. Heating is provided by resistance elements and cooling by the expansion of liquid Carbon Dioxide (LCO₂) or liquid Nitrogen (LN₂). Very fast temperature ramp rates. Ground and anodized aluminum thermal platform and corrosion proof stainless steel chassis. RC900, 96 or F4 temperature controller is used with the T600 series and the model 96 controller is integrated into the T650 series.



Thermo-Electric Module Platform (TEMP)

The TEMP system relies upon an electrical energy process called the Peltier effect rather than a refrigerant to remove heat from the thermal platform. Although phase change refrigerant systems are capable of removing larger amounts of heat over a wider temperature range, the TEMP system is ideally suited to the testing of commercial electronic devices that dissipate less than 60 watts of power over a temperature range of 0° to 70°C.



Space Simulation Thermal Chamber (SSTC)

The SSTC has been developed to allow simultaneous thermal vacuum testing of electronic components that may be heated and cooled by direct conduction. The SSTC is a fast, portable and cost effective solution for testing components that must be thermally screened and subjected to a high altitude or high vacuum environment (ATM to 120,000' or ATM to 10E-6 Torr/mBar). A host of vacuum feed throughs is available to satisfy almost any interconnect requirement. Optional features such as dual high altitude/high vacuum operation, DUT (Device Under Test) Safety Systems, and custom fixturing for mounting are available. Available with mechanical refrigeration or cryogenic cooling.



RC 900 Controller

The RC 900 temperature controller boasts a host of standard advanced features in a compact package. Cascade software delivers rapid thermal ramp rates with minimal overshoot and minimizes temperature error between the device under test and the thermal platform. Easily programmable ramp and soak profiling that allows three set points and three soak periods is available from the front panel. EIA-232 serial communications is standard for interfacing to remote computers and an IEEE-488 GPIB interface can be factory or field installed.

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Series F4 Controller

The F4 programmable ramping controller represents the state of the art in process control. Developed specifically for environmental test applications, it is unparalleled in function and versatility. Available in both single and dual loop configurations, the F4 features a 4-line high-resolution LCD display, guided set-up and programming software, 16-bit μ P, up to 256 steps in 40 profiles, programmable I/O, Cascade control software, Autotune and multiple PID sets.



RC 900S (Sigma Compatible) Controller

The RC900S was specifically developed as a retrofit controller for Sigma Systems thermal platforms. It replaces all Sigma Systems model C, CC-3, C4 and C5 controllers. The RC900S has all of the same features as the RC900 with the addition of 500-ohm RTD support and comes with sensor and control cables that plug directly into the Sigma Systems thermal platform.



TC 96

The Model TC96 is our full-featured entry-level process controller offering an array of standard features. It comes with dual LED display, ramp to set point, programmable ramp and soak profiling, EIA 232 serial communications, Autotune and optional IEEE-488 GPIB all in a half rack width 2U (3.5") tall instrument case.



Accessories

For the different thermal platform systems, optional accessories are available such as an adapter plate, hold down clamp, dry-box desiccator, a low pressure nitrogen purge kit and a high pressure nitrogen purge kit.

Dry-box Desiccator



Adapter Plate



Hi/Low Pressure Nitrogen Purge Kits



Hold Down Clamp

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