**System Design**

The Auto TGA System consists of a Thermal Analyst Controller, an Auto TGA 2950 Thermogravimetric Analyzer, Auto-analysis Software, and a Printer.

**Thermal Analyst Controller**

The controller (computer) provides the programming and data processing for the system. The Thermal Analyst Controllers are based on state of the art computers and combine the latest in high quality TA measurement and analysis functions with the most advanced computing and information management PC technology available. The Thermal Analyst Controllers, are multitasking allowing the user to analyze data from one experiment while setting up a second experiment or autosampler sequence. The optional multimodule software enables these controllers to operate an Auto TGA 2950 module concurrent with up to 7 other thermal analysis modules (e.g., DSC, TMA, SDT, DMA, or DEA).

**Auto TGA 2950 Thermogravimetric Analyzer**

The Auto TGA 2950 is comprised of two components - a TGA 2950 Thermogravimetric Analyzer and an add-on (factory or field-installed) Autosampler Accessory. The TGA 2950 is a state-of-the-art Thermogravimetric Analyzer which combines a vertical balance assembly configuration with a horizontal purge gas flow. This unique combination provides high sensitivity, wide dynamic weight range, good sample/atmosphere interaction without buoyancy effects, and direct measurement of sample temperature. A separate brochure, is available which describes this module and its performance specifications in more detail. The performance of the TGA 2950 is not affected by the addition of the Auto-sampler Accessory. The Auto TGA 2950 is available with the High Resolution option, and is ideal for method development work with the High Resolution technique.

The TGA Autosampler accessory replaces the standard TGA 2950 single position sample platform and automated positioning arm. The autosampler consists of a positioning arm with a central motor-driven pivot and a 16 position sample platform (carousel). During an automated sequence, this circular sample platform moves horizontally and rotates around the central motor-driven pivot to bring the appropriate sample into position for pickup by the balance hang-down wire. Three additional platforms are available as an optional package to allow up to 64 samples to be evaluated with minimal...
operator interaction. Each platform contains an optically-read “key” which ensures that samples are evaluated in the correct sequence.

The autosampler is designed to provide the versatility for handling all TA Instruments’ TGA pans, as well as the flexibility to add samples to an existing automated sequence. The design is simple and reliable. The simplicity of the design provides all the benefits of precise automated operation without the problems and prolonged loading times associated with more complex arrangements.

**SYSTEM BENEFITS**

**Productivity**
The Auto TGA System evaluates up to 16 samples unattended. The operator simply loads the autosampler sample platform, initiates the system, and returns later to evaluate the results. This makes the system ideal for overnight operation in standard or Hi-Res™ mode. The Thermal Analyst controller with multimodule software operates the Auto TGA 2950 System concurrent with up to 7 other thermal analysis modules.

**Versatility**
The TA Instruments Auto TGA 2950 System is the most versatile available. The operator can choose from an unlimited number of experimental methods to evaluate each specific sample. The resultant data file can then be analyzed using any one of an unlimited number of data analysis routines. When running multiple samples, this versatility means that all the samples can be thermally treated and the resultant data analyzed exactly the same way, or each sample in the sequence can be treated and analyzed differently. The result is a system that can provide increased productivity for any materials characterization laboratory, whether it be involved in research and development, analytical support, or quality control. The TGA Autosampler accessory can be purchased factory installed or as a field retrofit, making it easy to upgrade an existing TGA 2950 as laboratory needs change.

**Superior Results**
The Auto TGA 2950 System combines the excellent performance characteristics of the TA Instruments TGA 2950 (or Hi-Res™ TGA 2950), the reliable mechanics of a simple yet rugged autosampler, and the power of Thermal Solutions software in a fashion that provides improved productivity without any reduction in the accuracy or precision of results.

**Ease-of-Use**
The simple design of the autosampler eliminates the need for extensive set-up and calibration procedures. In addition, the operational aspects of the Auto TGA 2950 System are identical to those for TA Instruments Automated DSC Systems. Hence, an operator who has used one of the automated systems requires minimal training to become productive on the other technique.

### SPECIFICATIONS

- **Maximum number of samples:** 16*
- **Sample pans:**
  - 50µl, 100µl platinum;
  - 100µl, 250 µl, 500µl ceramic;
  - 100µl aluminum
- **Control:** Automatic from Thermal Analyst Controller
- **Temperature range:** Ambient to 1000°C
- **Cool-down time:** 1000°C to ambient in less than 20 minutes with compressed air
- **Thermal methods, maximum:** unlimited
- **Thermal segments, maximum:** 60/method
- **Data analysis methods:** unlimited

*Optional sample platform kit expands maximum to 64. Specifications are subject to change.

**TA INSTRUMENTS COMMITMENT**
The Auto TGA 2950 System is designed and engineered to assure easy, reliable, trouble-free operation. It is supported by a full range of services, including an applications laboratory, publications, training courses, technical seminars, applications CD's, an internet website, and a telephone Hotline for customer consultation. Highly qualified service personnel specializing in thermal analyzer/rheology maintenance and service are available throughout the world. All of these items reflect TA Instruments commitment to providing thermal analysis & rheology products and related support services that deliver maximum value for your investment.

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