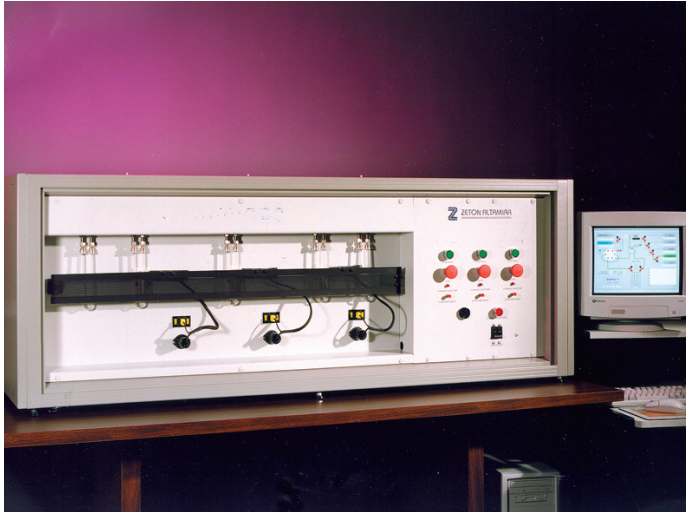


The AMI-390 / 590 Catalyst Characterization Instruments



The AMI 390 / AMI-590

Responding to our customers who have expressed a need for increased throughput in their catalyst screening experimentation, Zeton Altamira has developed two new fully automated instruments respectively featuring three station and five station capability. Each station within either the **AMI-390** or **AMI-590** is an independent **AMI-90** instrument, with all stations housed within the same cabinet and all stations controlled from the same computer. The Pentium-driven computer runs **Zeton Altamira's** powerful, feature-packed, user-friendly, analytical software designed to ensure data accuracy and improve laboratory efficiency. Up to 99 procedures can be linked together, back-to-back, to perform the most complex characterization experiment. Standard and frequently used experiments can be easily designed and stored for subsequent retrieval by an instrument operator. Both the **AMI-390** and **AMI-590** are capable of performing all of the major dynamic techniques required to fully characterize a catalyst, including the following standard procedures:

- Temperature Programmed Desorption (TPD)
- Temperature Programmed Reduction/Oxidation (TPR/TPO)
- Pulse Chemisorption
- Catalyst Treatment
- Pulse Calibration

- Higher Throughput Catalyst Characterization
- Fully Automated Operation
- 3 Station or 5 Station Capability
- All major characterization tests
 - TPD,TPR, TPO
 - Pulse Chemisorption
 - Catalyst treatment
 - Pulse Calibration
- Powerful data-handling software
- Compact, affordable package

Hardware

The **AMI-390 / AMI-590** features the same rugged cabinet and premium hardware found on the venerable AMI-1, which was introduced in 1985, setting the industry standard for fully automated characterization instruments. The same quality is found in the computer that accompanies the instrument. A name brand CPU powered by a Pentium processor provides the power to run all three or five stations simultaneously using **Zeton Altamira's** proven software.

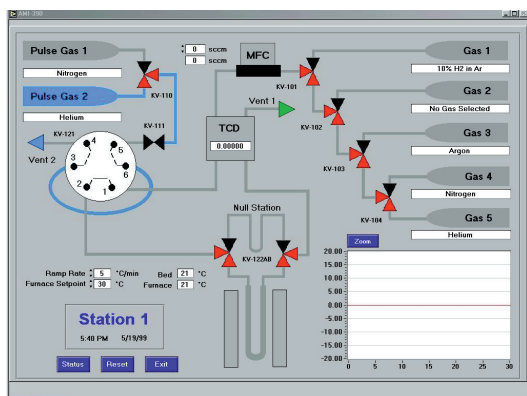
To improve the quality of data, each station of the **AMI-390 / AMI-590** utilizes a high-precision electronic mass flow controller for both the carrier and treatment gases. This ensures constant treatment flow and a stable baseline with changing temperatures. Dead volume is minimized by using 1/16 inch tubing in order to reduce peak spreading. Each furnace in the **AMI-390 / AMI-590** can heat the sample to 700°C and is capable of maintaining linear temperature ramps from 1°C/minute to 20°C/minute.

Each station of the **AMI-390 / AMI-590** is fitted with a highly linear Thermal Conductivity Detector (TCD). A choice of filament types is offered to maximize the sensitivity of the instrument, depending on the application.

Software

The **AMI-390 / AMI-590** is a fully automated, atmospheric pressure system. Using modern point and click software control, it can be easily programmed to switch gas streams, control gas flow rates, control temperatures and temperature ramps, and collect data in order to quantify the adsorption and desorption of gas molecules to and from a catalyst surface.

Ease of use and reliability are constants for the **AMI-390 / AMI-590**. All valve positions, temperatures, flow rates, and detector parameters are fully automated. Data acquisition occurs at a rate selected for optimum performance. An "Overview" screen shows the status of each station of the instrument at a glance. This screen provides information on the position of each valve, type of gas connected to each port, temperatures, and detector signal.



The data-handling package allows the user to display and integrate signal peaks, calculate chemisorption parameters, and overlay data.

Customer Choice

With the **AMI-390 / AMI-590** the customer can utilize the standard TCD or choose a preferred alternative detector. **Zeton Altamira** can also provide an integrated mass spectrometer for use in addition to the TCD. In fact, **Zeton Altamira** will incorporate into the system, any detector that provides an analog output or which can communicate via Dynamic Data Exchange (DDE).

Zeton Altamira specializes in providing customer choice. When a standard instrument does not exactly fit the application, **Zeton Altamira** has the staff and the experience to customize any instrument or system to meet the unique needs of the customer.

Specifications for the AMI-90/390/590

Catalyst charge: (per station)	0.1 - 1 g
Temperature range:	25 to 700°C (25 to 1200°C)*
Ramp rate:	1 - 30°C/minute
Operating pressure:	atmospheric
Gases:	5 carrier/treatment 2 pulse gases
Gas flow rates:	5 - 50 Scc/minute
Reactor types:	quartz u-tubes
Detector:	4 filament TCD with choice of filament type (W, Au/W)
Materials of construction:	stainless steel; seals are either Buna-N or Viton according to customer requirements
Dimensions:	W: 56 cm; H: 60 cm; D: 61 cm
Weight:	approx. 100 lbs (45 kg)
Power requirements:	110-120 V/15 A or 220-240 V/7.5 A 50/60 Hz
Computer minimum specs:	Pentium/600 Mhz Windows 98/NT 64 MB RAM
Comments:	*With an optional high temperature furnace and air cooling is also available.



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