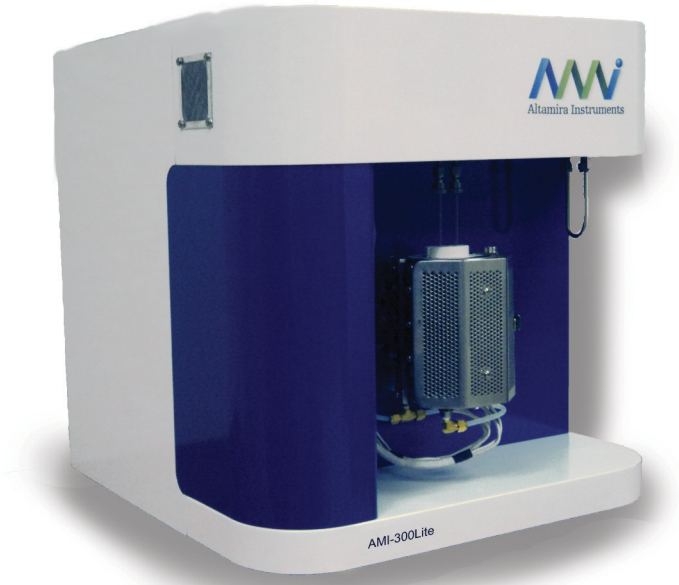
ALTAMIRA INSTRUMENTS

The First Name in Custom Reactor Systems

AMI-300Lite Catalyst Characterization Instrument



Based on our successful AMI-300 instrument, the **AMI-300Lite** provides rapid catalyst characterization in a compact, affordable package. The **AMI-300Lite** was designed specifically for the price-conscious customers with applications that are more routine or less demanding. As always, full automation and powerful data-handling software assure data accuracy and improve laboratory efficiency.

The AMI-300Lite

The **AMI-300Lite** represents a new affordable standard in automated chemisorption analysis. Developed by and for catalyst researchers, it and its predecessors, the AMI-1/100/200, were first in the industry to offer a fully automated system capable of performing all the major dynamic techniques required for fully characterizing a catalyst. The **AMI-300Lite** utilizes proven technology for performing the following procedures:

- Temperature programmed desorption (TPD)
- Temperature programmed reduction/oxidation (TPR/O)
- Pulse chemisorption
- Catalyst treatment
- Pulse calibration
- Single point BET

Up to 99 procedures can be linked together back-to-back to provide a complete characterization experiment. Routine experiments can be designed and stored for easy retrieval.

Hardware and Operation

The **AMI-300Lite** is a fully automated, atmospheric pressure system. Through software control, it can switch gas streams, control gas flow rates, control temperature and temperature ramps, and collect desorption data in order to quantify the adsorption and desorption of gas molecules for a catalyst surface.

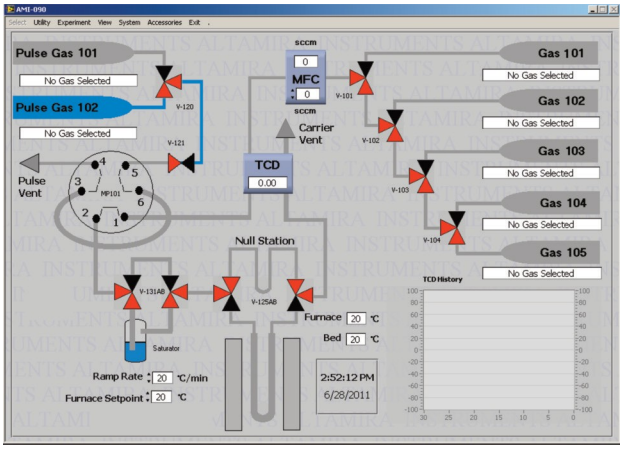
To improve the quality of data, the **AMI-300Lite** utilizes a high-precision electronic mass flow controller for both the carrier and treatment gases. This ensures constant treatment flow and a stable baseline with changing temperatures. Dead volume is minimized by using 1/16 inch plumbing in order to reduce peak spreading. The furnace can heat the sample to 1000°C (1200 °C optional) with linear temperature ramps to 50°C/minute.

The **AMI-300Lite** is fitted with a highly linear thermal conductivity detector (TCD). A choice of filament types is offered to maximize the sensitivity for your particular analysis.

Computer Control and Data Acquisition

The **AMI-300Lite** is fully-automated for ease of use and reliability. The control portion of the software controls and regulates all valve positions, temperatures, flow rates, and detector parameters. Data acquisition occurs at a selected rate for optimum performance. An "Overview" screen shows the status of the unit at a glance. This screen provides information on the position of all valves, type of gas connected to each port, temperatures, and detector signal.

Also included are industry leading safety features with auto abort available from software.

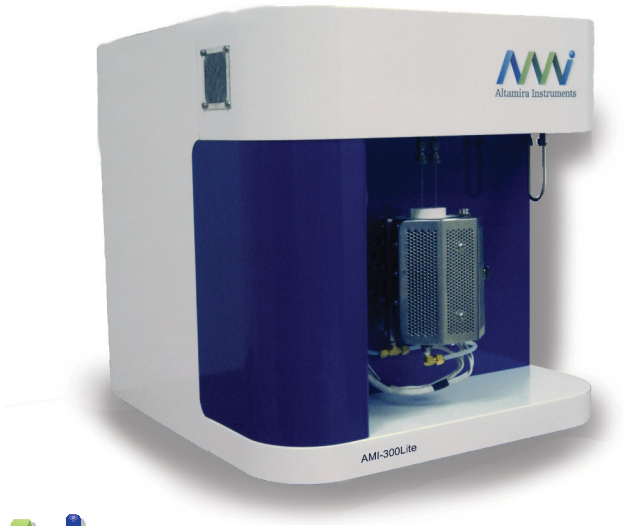


Operating Screen - A complete overview of all experimental parameters

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

Specifications:

Catalyst charge:	0.1 - 1 g
Temperature range:	25-1000°C (1200 C option)
Ramp rate:	1 - 50°C/minute
Operating pressure:	atmospheric
Gases:	5 carrier/treatment & 2 pulse gases; including H2, CH4, C2H4, CO2, CO, NO, O2, N2, SO2, NH3, N2O, He, Ar
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, Viton or Kalrez
Dimensions:	W:61cm H:64cm D:61cm
Options:	Extra MFC for blending Sub-ambient operation (-130C) Sample pre-treatment station



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