

Overview

The Altamira AMI-400TPx is the latest generation of fully automatic chemical adsorption analyzer. This instrument is a fully automatic catalyst characterization device designed based on the concept of unattended operation, specifically for the needs and applications of catalyst researchers. It features highly reliable test control components, comprehensive data processing software, and can provide the necessary kinetic parameters for characterizing catalysts. The overall design of the AMI-400TPx is more compact, smaller in size, more economical, and at the same time provides rapid catalyst characterization capabilities. This instrument is designed for customers with limited budgets and relatively conventional application requirements.

Specification

Project	Technical indicators
Sample loading capacity	0.1-1 g
Workstation	1 Analysis Station
Temperature control range	Room temperature-1200 °C
Subambient temperature	-130 °C-1200 °C
Heating rate	1 °C/min-50 °C/min
Gas input	6-channel analysis gas, 4-channel pulse gas (optional)
Standard operating pressure	Barometric pressure
Gas flow rate	2-100 ml/min
Sample tube type	Quartz U-shaped tube, bubble-shaped tube
TCD detector	Rhenium-tungsten wire material
Tubing material	316S Stainless Steel, 1/16 inch
Sealing ring	Viton, Buna-N, Kalrez, etc
Dimensions	Width 43cm; Height 64cm; Depth 62cm

Who We Are

Founded in 1984, Altamira Instruments is a manufacturer and supplier of chemisorption and physisorption instrumentation as well as bench-scale micro-reactor systems for industrial and research use. AMI instruments have been installed at more than 300 locations around the world. Among these installations are leading national laboratories, influential academic catalyst research groups and major chemical research centers. Altamira Instruments is a company started by and is still staffed by catalysis people. We take pride in our ability to support the end-user with applications/methods development.

What We Do

Altamira offers a variety of custom designed and fully automated chemisorption and physisorption analyzers and reactor systems. From instruments that conduct temperature-programmed characterization (TPR/TPO/T-PD) to micro-reactors designed for a specific chemical process to surface area analyzers, Altamira can provide the instrument solution to your laboratory needs.



2023 Brand New Release Most Economical Catalyst Evaluation and Characterization Equipment

Catalyst Characterization Instrument AMI-400TPx



Functions:

- ✓ Temperature-programmed desorption (TPD)
- ✓ Temperature-programmed reduction/oxidation (TPR/O)
- ✓ Temperature-programmed surface reaction (TPSR)
- ✓ Pulsed chemisorption
- ✓ Pulsed titration
- ✓ Dynamic BET specific surface area

Options:

- ✓ Low-temperature module
- ✓ Mass spectrometer
- ✓ Gas chromatograph

ALTAMIRA INSTRUMENTS

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Hardware and Advantages

Seals

Using Kalrez perfluoroelastomer anti-corrosion rubber sealing rings, long-term temperature resistance can be between 250°C and 320°C.

Safety Door Design

Ensure the safety of the experiment operator

Piping

1/16 inch 316SS stainless steel piping, ensuring minimal dead volume

Insulation Valve Box

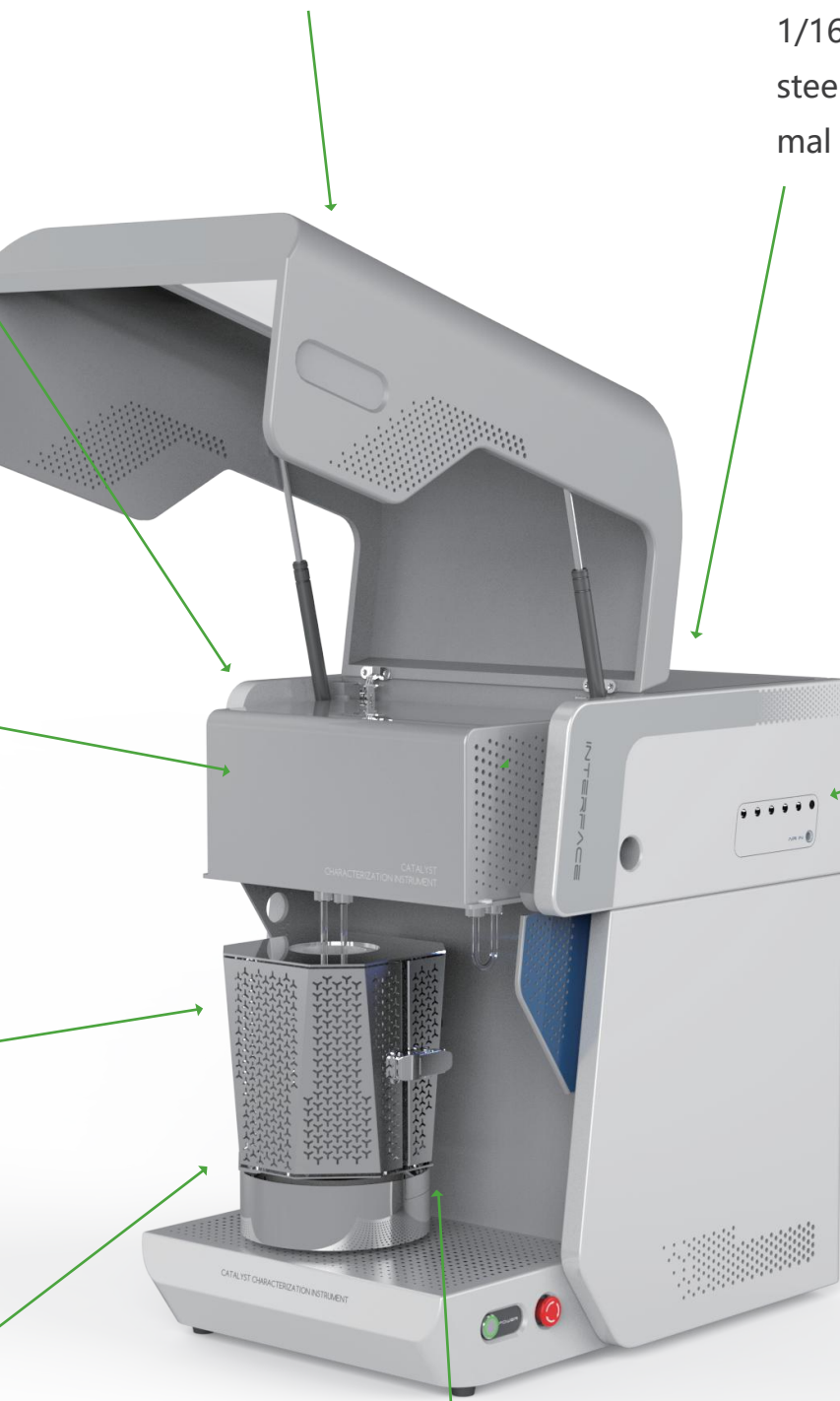
The internal pipeline of the instrument adopts air bath heating, and the integrated whole box body heating and insulation design, with a maximum temperature of 150°C, ensures that the instrument's stainless steel pipeline, valves, and TCD detector have no "cold spots."

Shell-style Heating Furnace

Easy to disassemble sample tube. Temperature control range of 1200°C, and capable of linearly increasing at a rate of 1~50°C/min.

Automatic Air Cooling Component

Automatic control, rapidly cooling the furnace by blowing air to shorten the experiment time.

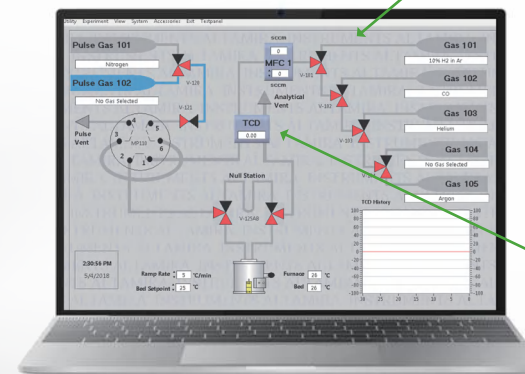


Cold Trap

A dedicated cold trap is equipped downstream of the sample tube, filled with desiccant, used to remove condensable matter before it flows through the TCD.

Intake Interface

It has 10 gas intake ports, including 6 analysis gases and 4 pulse gases.



Exhaust gas detection devices

Mass spectrometer, Gas chromatograph, Flame ionization detector, Fourier transform infrared detector

Detector

The instrument comes standard with a high-precision TCD detector. In addition, a variety of auxiliary gas detectors can be connected according to your different experimental needs.

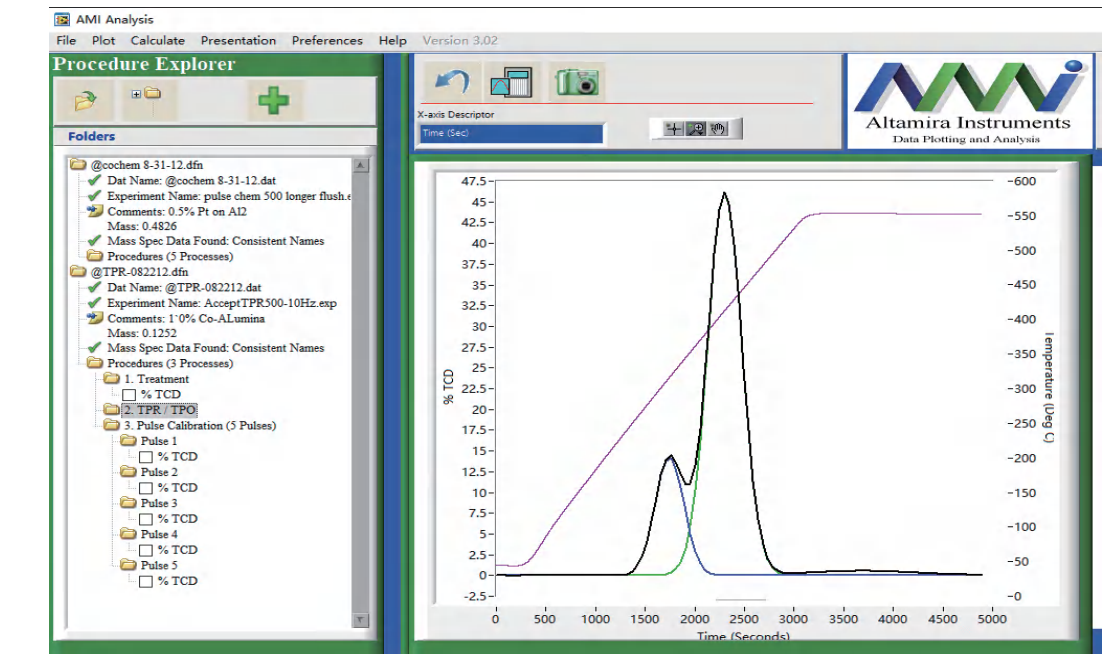
Mass Flow Controller

Configure high-precision mass flow controllers (MFCs) to control flow rates, with a flow rate range of 2-100 SCCM. Built-in mixing tank, featuring

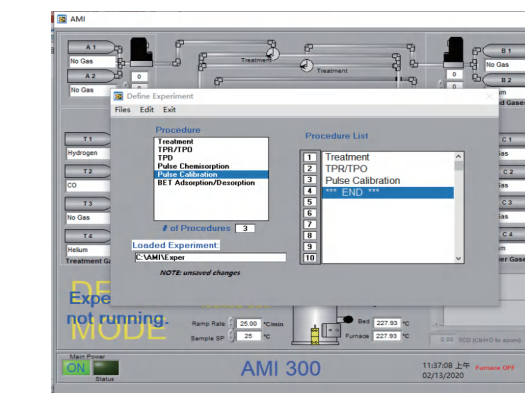
"Overview" software interface

This interface provides a clear display of the device status, showing the position of all valves, the type of gas at each port, temperature, and detector signals, among other information. The change in line colors indicates the current flow path.

Programmable Software



During the experiment, it is not necessary to have an operator on duty at all times. It can be installed on a computer with a Windows system, can be connected to the Internet, and in addition to controlling the instrument, the computer can also manage other laboratory tasks.



Experimental program setup interface
Flexible selection or editing of TPD, TPO, TPR, TPRS, pulse calibration, etc., can set up to 99 programs to achieve full automation of adsorption, desorption, and chemical reactions. The complete experiment setup can be completed within a few minutes.



Security protection program settings interface
The software has an alarm program, which can realize various safety protection mechanism settings. In manual mode, you can switch any valve by simply clicking on the icon with the mouse. Gas flow rate and temperature values can be entered from the page.