RuboSORP MPA Series

High Pressure Volumetric Sorption Analyzer

INTRODUCTION

"Unmatched Precision in High-Pressure Sorption Measurements"

The **RuboSORP MPA** is a cutting-edge, high-pressure volumetric adsorption instrument designed for accurate and reliable pressure-composition-temperature (PCT) measurements up to 200 bar. Engineered for precision and efficiency, it provides deep insights into gas adsorption behavior, enabling researchers to analyze surface properties, storage capacity, and cycling kinetics with unmatched accuracy.

With its versatile capabilities, the **RuboSORP MPA** is the ideal solution for:

- ✓ Hydrogen storage material evaluation
- ✓ Shale gas and coal bed methane studies
- ✓ CO_2 capture and sequestration research
- ✓ Air purification and adsorbent performance testing

Built for precision, reliability, and multi-sample efficiency, the RuboSORP MPA empowers scientists and researchers in developing next-generation energy and environmental solutions. Advance your research with the RuboSORP MPA—where accuracy meets innovation.

Figure 1. ***RuboSORP MPA*** *Multiport High Pressure Sorption Analyzer*

High-Pressure Volumetric Sorption:

- PCT and other gas adsorption/ desorption isotherms
- Cycling PCT isotherm measurements
- Adsorption kinetics
- Cycling kinetic measurements
- Dead volume measurements

133 East Main Street, Twin Lakes, WI 53181• 262-877-3600 (Voice) • 262-877-3699 (Fax)
Email: sales@ami-instruments.com
Visit our Website: www.ami-instruments.com

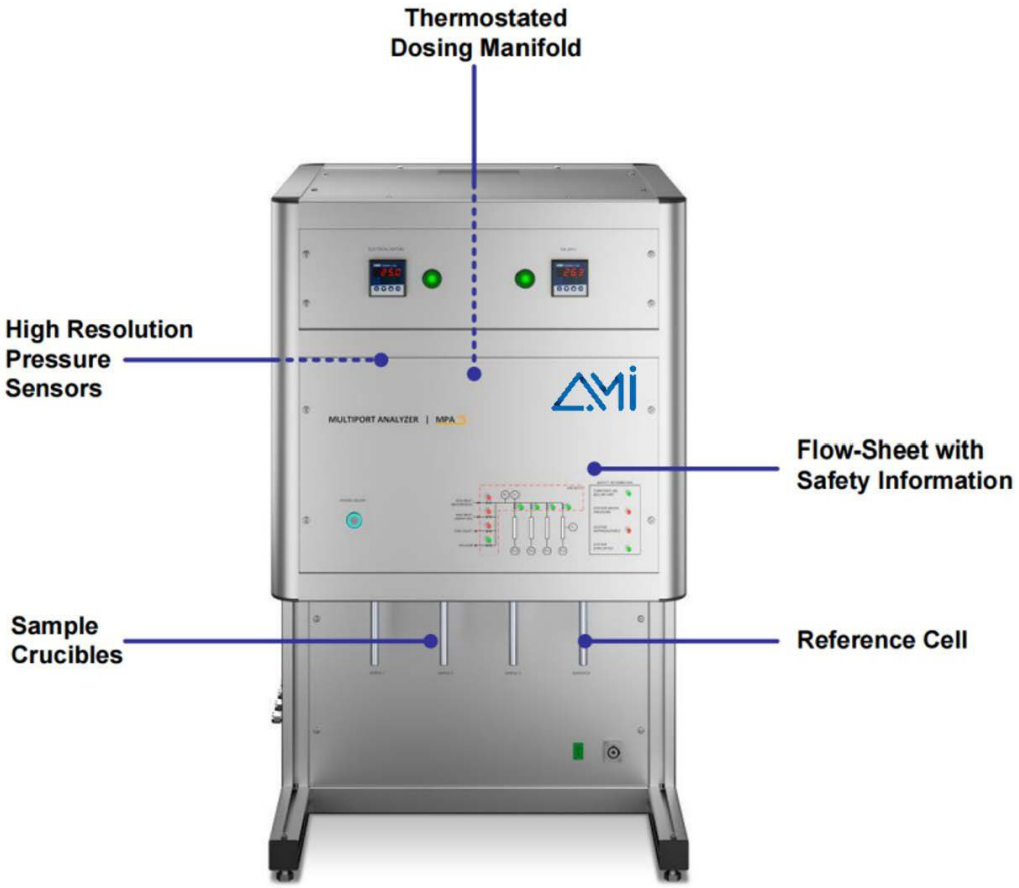
KEY FEATURES

Oven temperature control

Oven temperature control system with a range of RT-50°C and a temperature accuracy of ±0.1°C, designed to mitigate the impact of ambient

Additional volume chamber

Multiple standard volume chambers are available (100 ml, 200 ml, 500 ml, 1000 ml) for the acquisition of more precise kinetic data.



Diverse Sensor Configurations

The MPA system allows multiple stations to share sensors while also supporting the complete independence of up to three stations, offering both cost-effectiveness and high efficiency.

Safety design

The MPA features over-temperature and over-pressure alarms with automatic shutdown in alarm situations.

SOFTWARE

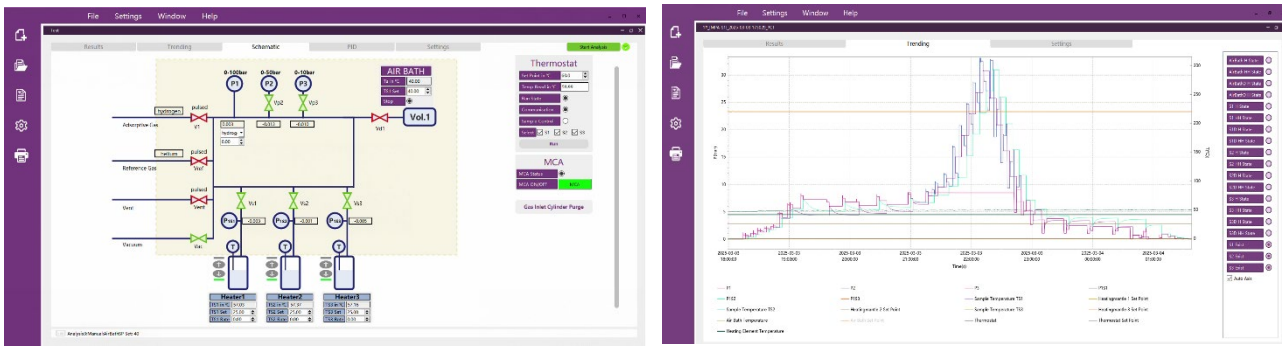


*Figure 2. **RuboSORP MPA** software interface*

The MPA is equipped with a user-friendly software interface that allows programming of all measurement parameters. The system calculates the amount of gas adsorbed by the sample in real time. Adsorption data is displayed online and fitted using appropriate isotherm models.

The MPA allows for testing up to three sample materials across a wide range of pressures and temperatures with high efficiency. The instrument is fully automated and intuitive, requiring no user supervision during operation.

APPLICATIONS

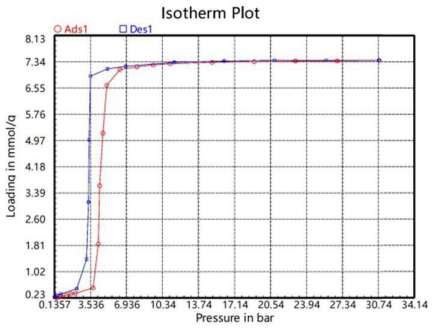


Figure 3. PCT curve of LaNi5 at 40°C

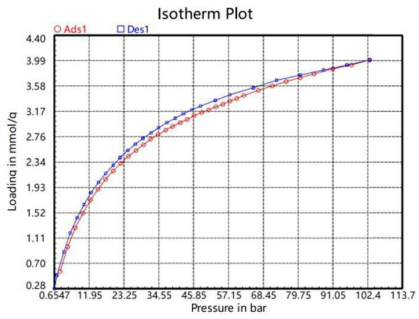


Figure 4. Isotherms of activated carbon at 40°C

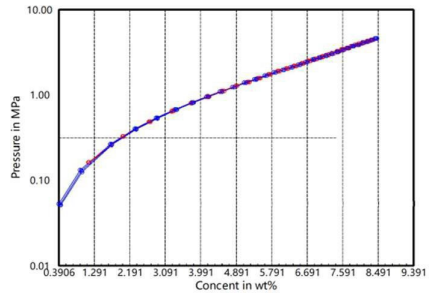


Figure 5. Cyclic testing of activated carbon at 40°C

Figure 6. Typical Materials: Solid-State H_2 Storage

SPECIFICATIONS

Analysis Ports	1/2/3				
Pretreatment	In-situ				
Pressure range	Vacuum- 200 bar				
Pressure sensor configuration	Optional ranges: 0-10 bar, 0-50 bar, 0-100 bar, 0-200 bar Accuracy: 0.01% FS.				
Gases	Non-corrosive gases : H_2, CO_2, CH_4, N_2, etc.				
Temperature range	-10°C to 95°C, RT-500°C; -196°C to 0°C (Optional); Custom higher temperatures: Available upon request (Optional)				
Sample tube volume	Standard: 10 ml (Other volume is optional)				
Sample tube temperature	Detection accuracy: ±0.01°C Control accuracy: ± 0.1°C				
Oven temperature control	Air bath, 30-50°C.				
Additional volume chamber	Up to 2 chambers, multiple volumes available (Option)				
Vacuum system	Mechanical pump; turbo molecular pump (minimal 10^{-8} Pa, Optional)				
Model	1S	2S	2P	3S	3P
Number of pressure sensors including manifold*	2	4	2	5	2
Available Options	BET Capabilities				
***Additional pressure sensors can be added per station**					

RIFERIMENTO PER L'ITALIA

Qi technologies

Qi srl
t +39 06 9105461
www.qitech.it | SalesQi@qitech.it