

# 3P micro series



HIGH-THROUGHPUT MICROPORE  
ANALYSIS BY UP TO THREE INDEPENDENT  
MEASURING-STATIONS

HIGH DEGREE OF AUTOMATIZATION

FAST PHYSISORPTION RESULTS

## FAST MICROPORE ANALYSIS BY SUPERIOR INSTRUMENT DESIGN

PARTICLE CHARACTERIZATION

POWDER ANALYSIS

PORE DETERMINATION



Characterization of  
particles • powders • pores

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## AUTOMATIC SORPTION ANALYSIS OF UP TO THREE SAMPLES

The specific surface area, pore size distribution and pore volume are important parameters for characterizing the surface properties of micro- and nanoporous materials. The **3P micro** series offers high performance physical adsorption of microporous materials, such like activated carbon, zeolites, MOFs and similar materials. According to the different needs of sample throughput and analysis conditions, the instruments can be equipped with one, two or three completely independent analysis ports. Each port is equipped with an independent manifold, containing a set of 1000, 10 and 1 (or 0.1) Torr transducers, an independent  $p_0$  transducer and a separate dewar or other coolant device. Imagine to carry out a parallel analysis of nitrogen, argon and carbon dioxide of the same material without any time loss! Or imagine to carry out an experiment of  $H_2$  adsorption at three different temperatures at the same time, e.g. to calculate heats of adsorption values on a promising gas storage material. This are just some two examples of the superior instrument design.

### 3P micro series

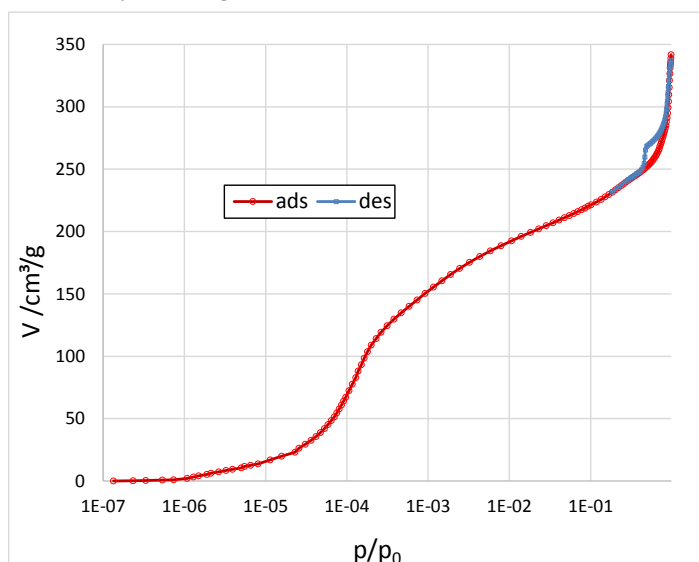


- HIGH-THROUGHPUT ANALYSIS
- HIGH DEGREE OF AUTOMATIZATION
- FAST PHYSISORPTION

- Up to three independent stations!
- Each of the measurement stations include the capability to degas the sample in-situ, this principle avoids sample contamination during sample transfer from separate degassers to the analysis port without any making any further precautions.
- Software shows kinetic real-time plot together with physisorption isotherm. You will never have under-equilibrated isotherm data without noticing!

### KEY BENEFITS

As each analysis port acts completely independent, there is zero time loss, independent if one, two or three analyses are started at the same time or if another measurement is started while others are already running.



### APPLICATIONS

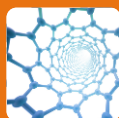
Catalysts



Glas & Ceramics



Synthetic Adsorbents



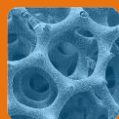
Graphite & Carbon blacks



Pharmaceutics



Porous Materials



### SPECIFICATION

Model	3P micro 100	3P micro 200	3P micro 300
Measuring range	Surface Area $\geq 0.0005 \text{ m}^2/\text{g}$ Pore Size 0.35 - 500 nm Pore Volume $\geq 0.0001 \text{ cc/g}$		
Pump	Mechanical pump + Turbo molecular pump $1 \times 10^{-11} \text{ bar}$		
Analysis ports	1	2	3
Transducers	1000, 10, 1 or 0.1 torr per station		
Degassing ports	2 + 1	2 + 2	3
$p/p_0$ range	$10^{-8} - 0.998$		
Adsorptives	$N_2, CO_2, Ar, Kr, H_2, O_2, CO, NH_3, CH_4 \dots$ (10 gas inlets)		

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Characterization of  
particles · powders · pores

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