nanometrix
ANALYTICAL INSTRUMENTS®

Flowing Gas Principle Specific Surface Area Analyzer

Fx 2400

Making world-class products

Flowing Gas Principle

The flowing gas technique to determine BET surface area has been used for over 60 years. Many facts of the technology make it a very attractive alternative to the static volumetric principle analyzers. The speed of analysis, higher cost performance and the resulting high sample throughput is also quite attractive.

As a result, for routine QA/QC analysis, there has been a renewal of interest in this technique.

The analytical technique is very easy to understand to its great similarity to chromatographic determinations.

The change in the nitrogen to helium ratio of the gas after going over the sample is measured by a thermal conductivity detector.

The simple hardware, plus the lack of any waiting time following dosing as happens in the static volumetric case, makes this a very popular tool in a product manufacturing environment.

For speed, a single point measurement is typically completed within 5 minutes.

For greater accuracy, a multi-point determination can be completed in less than 13 minutes.

Fx 2400 adopts speedy and efficient continuous flowing nitrogen adsorption principle, is a bosom friend for reference materials comparison method analysis which calculates surface area by comparing with reference materials (RM) adsorption/desorption isotherm. No need of gas adsorption/desorption amount dosing, suitable for those samples have similar adsorption performance with RM.

Fx 2400 mainly be used for quality control of production field, quick speed is its primary and pleased advantage which makes it easily stay ahead of your competition.

Schematic Diagram of Instrument Structure

Built-in mini PC inside, Wini system, dual core; high sensitive 7 inch true color display; no need to equip external PC; USB port is reserved for external peripheral; also equipped with an internet port which can turn analyzer access to www.nanometrix.com.mx

Power on/ off

Four analyzing ports, with U shape sample cells

Stainless steel Dewar with thick temperature protective foam covered

PC controlled fully automated elevator, no noise produced during up and down

Transparent cover protect whole analyzing procedures, also safe to operators

Drawer for keyboard and mouse

Features and Advantages of Fx 2400

Measuring Method	reference materials comparison method by flowing gas (nitrogen) adsorption principle
Measuring Ranges	0.01 m2 / g to no known upper limit (surface area)
Accuracy	repeatability deviations :-:::; 1 %
Sample Types	powders, particle, fiber, flakes and other species have similar adsorption performance with reference materials (RM)
Sample Ports	4 samples simultaneously
Adsorbate	He+N2 with high purity
Time	about 5 minutes for every PIP o point's adsorption and desorption; analysis data will present automated by Gold APP Instruments software™
Pressure Required	atmospheric pressure, no need vacuum, save experiment time
Data Acquisition	high precision and integration chip, minimal deviations, strong anti-interference ability
Operation System	multifunctional, fully automated, highly intelligent operation system

A. Structure Design

1. Modern esign ith compact size can save your aluable bench space.

2. Stainless steel ma "fold system obviousl improves sealing performance, eliminates deviations caused by gas molecules permeation, no ageing for manifolds, increase reliability and prolong life.

B. Control System

1. Integrated multifunctional control system; motor screw rod lifting system ensures Dewar stability.

2. Innovated balanced bridge circuit greatly improves signal voltage sensitivity, as well as realizes auto balance of signal zero drift.

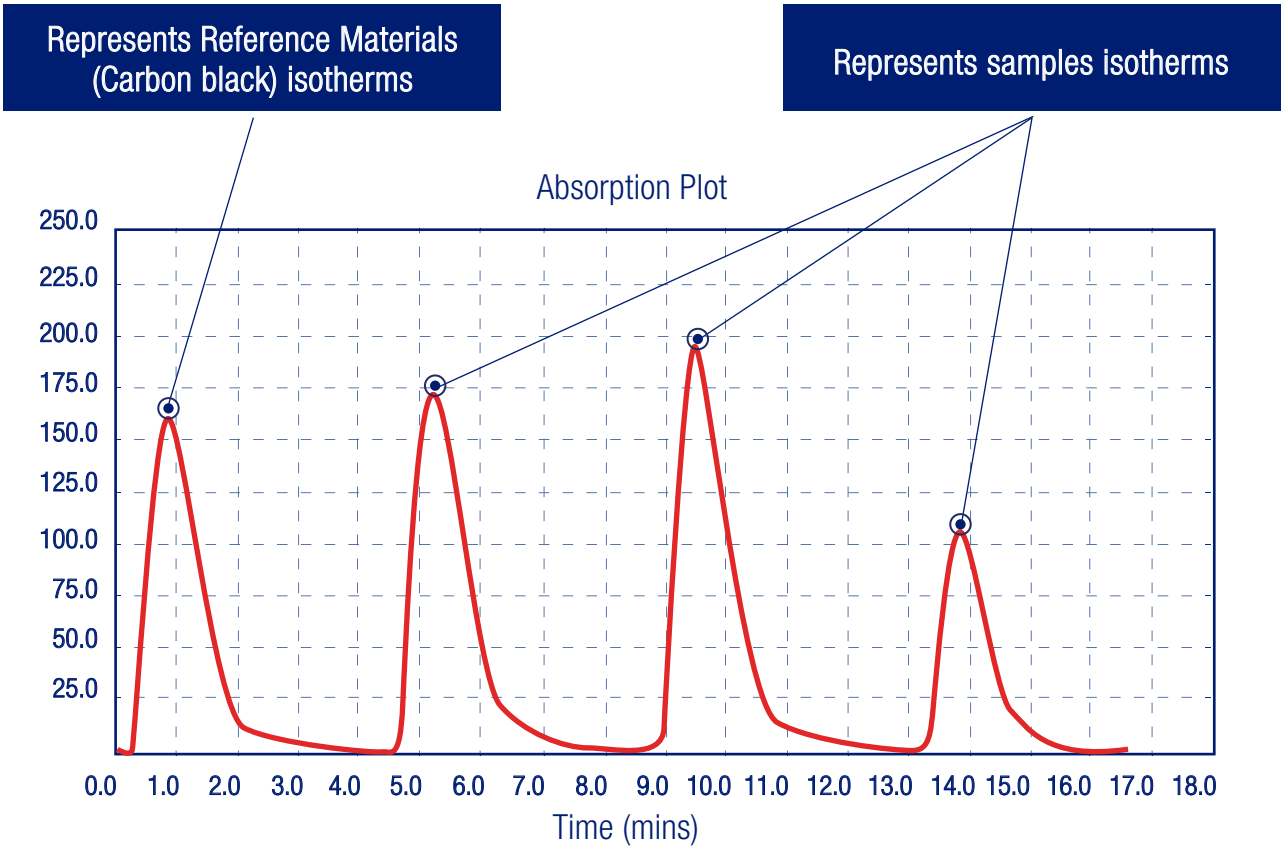
3. Fully-auto operation, minimal user involvement and work efficiency improved.

C. Data Acquisition and Reduction

1. High precision data acquisition and signal amplification, high integration AID transformation system, strong anti-interference ability and high real time, can reduce environmental influence on analysis procedures.

2. Independently innovated Windows compatible software, versatile applications, flexible customer tailor interface, ease of use; Self developed data reduction module can efficiently eliminate system deviations and improve accuracy.

3. Customer made data reports, diversified forms module, convenient for data analyzing; powerful data archiving and searching capacity helps a lot for data management.



Analysis Data			
Sample Name	Mass (mg)	Ishoterms Area	SSA (m^2/g)
Carbon Black F8	969.00	9.198561	36.8000
H-Freshed-1#	344.20	10.229059	115.2064
H-Freshed-2#	394.20	11.712378	115.1808
H-Aged	531.70	5.552483	40.4830

Fx 2400 not only possesses a very quick (within 5 ruins) testing speed but also produce an easy to read data report. Only one thing need operators to do is weighting your sample mass and input it into software, then click "start" to wait the final data come out. By comparing with reference materials isotherm, operators can clearly and easily calculate their samples SSA (specific surface area), therefore, Fx 2400 is very popular among manufacturing enterprises for their quality QC. Especially for some powder, porous and particle factories as below:

- *activated carbon,*
- *silica gel,*
- *active alumina oxide,*
- *molecular sieve,*
- *sepiolite,*
- *zeolite,*
- *aluminia oxide,*
- *silicates,*
- *quartz,*
- *silicon carbide,*
- *lithium cobalt oxide,*
- *lithium manganese oxide,*
- *black lead,*
- *lithium nickel and cobalt,*
- *cabaltous oxide,*
- *lithium iron phosphate,*
- *lithium titanate,*
- *polymer,*
- *corrosion resister,*
- *silica,*
- *nano-calcium*
- *carbonate,*
- *zinc oxide,*
- *magensium oxide,*
- *barium oxide,*
- *iron oxide,*
- *copper oxide,*
- *ferroferric oxide,*
- *ferrite,*
- *silver/iron/copper/*
- *tungsten nickel/*
- *aluminate powder,*
- *filler,*
- *inorganic filler,*
- *calcium carbonate,*
- *silica deposited matter*
- *suspended matter,*
- *titanium dioxide,*
- *rare earth,*
- *coal,*
- *cement,*
- *energy storage*
- *materials,*
- *catalyse,*
- *diatomaceous earth,*
- *cleansing agent,*
- *filter*

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