

CATALYST ANALYZER
BELCAT II



BELCAT II is fully-automated catalyst analyzer that was developed building on the experience and technology of the well-established and popular BELCAT series.

BELCAT II is the catalyst analyzer of choice for researchers in the according fields and enables comprehensive catalyst evaluation by using the following techniques:

- | Pulse chemisorption
- | Temperature programmed desorption (TPD)
- | Temperature programmed reduction (TPR)
- | Temperature programmed oxidation (TPO)
- | Temperature programmed reaction (TPReaction)
- | BET single point measurement

TYPICAL APPLICATIONS

- | Acidity study of cracking catalyst by ammonia or pyridine TPD
- | Basicity study of solid base catalyst
- | Metal dispersion rate evaluation of exhaust gas catalyst / fuel cell electrode catalyst
- | Determination of optimal preparation conditions of catalyst
- | Catalytic reaction study

PRODUCT ADVANTAGES

- | Affordable price
- | Small foot print
- | Precise gas control by three high performance mass flow controllers
- | Precise automatic gas injection system for calibration
- | The pulse loop with temperature/pressure sensor enables the highly reproducible result
- | A variety of options to fulfill the customers' demand
- | With the standard gas mixing equipment, mixed gases (H₂/Ar, O₂/He, etc...) are not necessary

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TYPICAL APPLICATIONS

Used in various fields such as: battery materials, catalysts, fibers, polymer materials, fuel cells , cement, pigments, ceramics, magnetic material, separation membrane, ...



To find the best solution for your particle characterization needs, visit our application database

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TECHNICAL DATA

Measurement principle	Dynamic flow method
Detector	Semi-diffusion type 4-element thermal conductivity detector (TCD)
Measurement / pretreatment port	1
Injection gas	He, Ar, N ₂ , O ₂ , H ₂ , CO, CO ₂ , NH ₃ , N ₂ O, NO, etc.
Dosing gas	Carrier: 3 Pretreatment / pulse / MIX: 8 (corrosion-resistant x 2)
Mass flow controller	Carrier: F.S.100 sccm Pretreatment / pulse: F.S.100 sccm MIX: F.S.30 sccm
Electric furnace	Maximum temperature: 1,100°C Quick cooling: 30 minutes (400°C->50°) CATCryo II (option): -120°C supported
Vapor injection (option)	H ₂ O, CH ₃ OH, C ₂ H ₅ OH, toluene, benzene, etc.
Dimensions (W x H x D)	500 x 750 x 500 mm
Weight	80 kg
Utility	Gas: Measurement gas: 0.1MPa(G), valve driving gas: 0.45~0.55MPa(G) Joint: 1/8" Swagelok connection Power: AC 100-120 V / 200-240 V, 1,300 W, 50 / 60 Hz

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