

Best suited for measuring magnetic properties of soft magnetic materials such as silicon steel plates, ferrites, and amorphous materials



B-H Analyzer SY-8218



B-H Analyzer SY-8219

- Measurement frequency : 10Hz to 10MHz(SY-8218),10Hz to 1MHz(SY-8219)
- Equipped Pulse excitation signal (Duty 50:50) output
- USB port is provided for copying the screen and saving data
- Optional Items
 - Power Amplifiers
 - DC bias power supply*
 - Single plate measurement function*
 - Low frequency excitation*
 - Scanner Chamber System for temperature characteristics test

* underdevelopment

Main features

- ① 10Hz to 10MHz(SY-8218) wide measurement frequency for evaluation of materials which are used in high-frequency (10Hz to 1MHz : SY-8219).
- ② High precision measurement with sufficient resolution (16 bits) and accuracy compensation in the frequency domain (CROSS-POWER method)
- ③ Simultaneous display of the reference and measured waveforms

■Main specifications

	SY-8218	SY-8219
Measurement method	CROSS-POWER method (conformance to IEC62044-3)	
Measurement mode	B-H measurement, Pc measurement, μ measurement	
Measurement item	Characteristics value B-H measurement : Max. magnetic flux density (Bm), residual magnetic flux density (Br), max. magnetic field (Hm), coercive force (Hc), squareness ratio (Br/Bm), amplitude permeability (μ_a), core loss (Pc, Pcv, Pcm), current/voltage phase (θ), total magnetic flux change ($2\Phi_m$) Pc measurement : Max. magnetic flux density (Bm), residual magnetic flux density (Br), max. magnetic field (Hm), coercive force (Hc), amplitude permeability (μ_a), core loss (Pc, Pcv, Pcm), phase (θ), apparent power (VA) μ measurement : Max. magnetic flux density (Bm), max. magnetic field (Hm), impedance permeability (μ_z), complex permeability (μ, μ''), amplitude permeability (μ_a), core loss (Pc), phase (θ), loss coefficient ($\tan \delta$), inductance (L), resistance (R), impedance (Z), quality coefficient (Q)	
Waveform display	B-H curve, waveforms of excitation current, induced voltage, magnetic field, magnetic flux density	
Measurement frequency	10Hz ~ 10MHz	10Hz ~ 1MHz
Magnetic field signal detection	Voltage drop at both edges of non-inductive resistor Maximum signal detection current: 6A	
Magnetic flux density signal detection	Voltage detection at both edges of induced voltage detection coil Maximum signal detection voltage: ± 200 V	
Digitizer resolution	16 bits (8,192 points/cycle)	
Sample connection method	2 or 1 wire method	
Display	Color LCD display (800 x 600 pixels)	
Power supply	AC100 V to 240 V, 50/60 Hz, Power consumption: Approx. 130 VA MAX	
Weight and dimensions	Main unit: Approx. 12.5 kg, 420 (W) x 266 (H) x 480 (L) ± 2 mm (without the projection section)	
Interface	USB (data storage)	

■Options

Options & system example of B-H Analyzers

DC Bias Power Supply SY-931

- Suitable for evaluation of minor loop loss under DC bias.

Current output : 10A max, 1mH
Frequency : 1MHz max



Constant Temperature Chamber Scanner System SY-320 / SY-321

- For evaluation of temperature characteristics of magnetic material. Automatic measurement by the SY-810 (option software) can be performed.

Temperature range : -30°C to +150°C
Max. number of samples 20 : SY320
Max. number of samples 41 : SY-321
GPIB interface for remote control



Options

Single Plate Measurement Jig

SY-937 Custom Order

- For μ , iron loss and B-H curve measurement of silicon steel plates which are used for motors, solenoids, actuators and sensors.

Sample size : Thickness 0.2mm to 1.0mm
Width 10mm to 30mm
Length 60mm or more

Measurement frequencies : 50Hz, 60Hz



Turntable

SY-510 / SY-511

- For automatic measurement of multiple samples.

Max. number of samples 20 : SY-510
Max. number of samples 41 : SY-511



Power Amplifier

HSA4101-IW

- For excitation of measurement samples.

DC to 10MHz, $\pm 1A$, $\pm 70V$, 50VA



Power Amplifier

HSA4014-IW

- For excitation of measurement samples.

DC to 1MHz, $\pm 5A$, $\pm 75V$, 200VA



Temperature chamber for measurement of magnetic properties in high temperature

IE-1210

- High temperature chamber system.

Room temperature to $+300^{\circ}C$



Power Amplifier

IE-1125

- For excitation of measurement samples.

DC to 3MHz, $\pm 5A$, $\pm 140V$, 350VA



PC Software

SY-810*

- Automatic programmable measurement software.

(included SY-509 and Bulk Head [female to female] Adaptor)
*PC software SY-810 requires an optional control PC with USB-GPIB interface manufactured by National Instruments.



USB-GPIB conversion adaptor

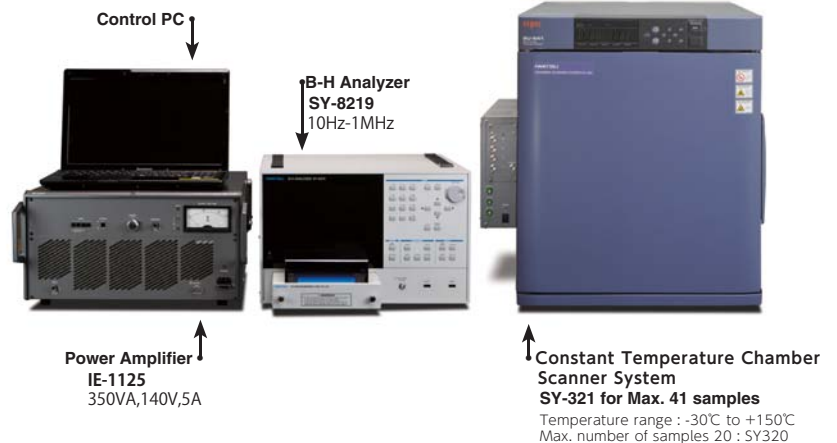
SY-509

(Standard accessory for SY-810)



Example of Full-automatic B-H Analyzer with Constant Temperature Scanner System for various evaluations

- Temperature range : $-30^{\circ}C$ to $+150^{\circ}C$
- Max. number of samples 20 : SY-320
Max. number of samples 41 : SY-321
Remote control PC software SY-810(option)



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