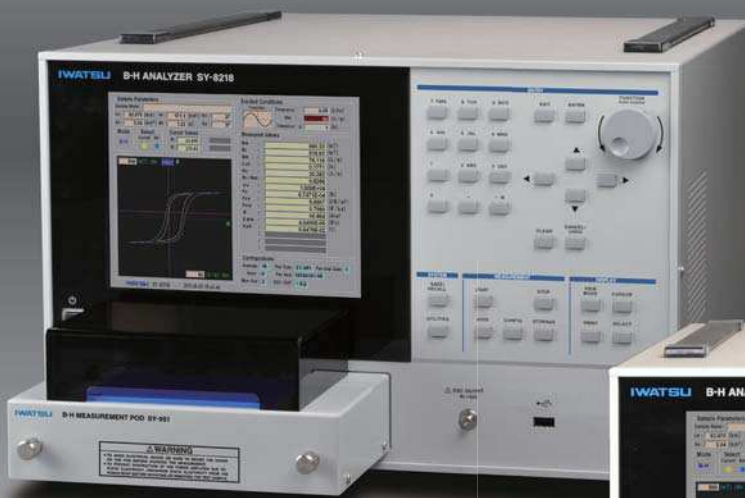


**Best suited for measuring magnetic properties of soft magnetic materials such as silicon steel plates, ferrites, and amorphous materials**



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, $\mu$ 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 ( $\mu_a$ ), core loss (Pc, Pcv, Pcm), current/voltage phase ( $\theta$ ), 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 ( $\mu_a$ ), core loss (Pc, Pcv, Pcm), phase ( $\theta$ ), apparent power (VA)  $\mu$ measurement : Max. magnetic flux density (Bm), max. magnetic field (Hm), impedance permeability ( $\mu_z$ ), complex permeability ( $\mu, \mu''$ ), amplitude permeability ( $\mu_a$ ), core loss (Pc), phase ( $\theta$ ), 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: $\pm 200$ 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) $\pm 2$ 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  $\mu$ , 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

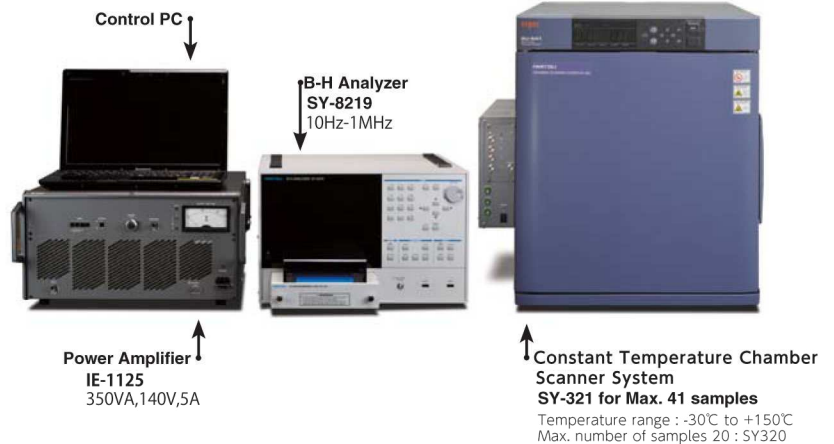
### SY-509

(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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