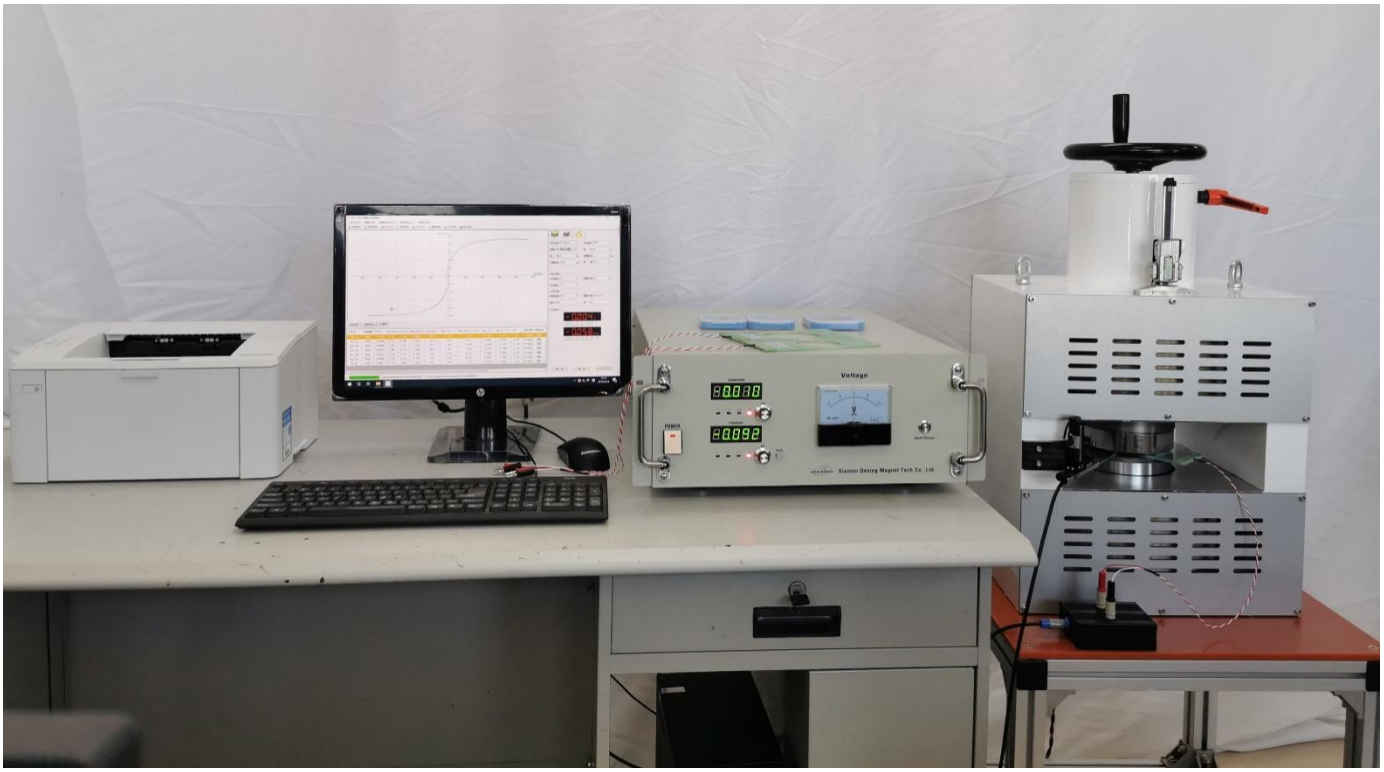
DX-2012H150BT
DC Hysteresis Graph Test System



I. Instruction

DX-2012H Automatically measure the demagnetization curve of permanent magnetic material such as ferrite, AlNiCo, NdFeB, SmCo, etc. Accurate measurement of the magnetic characteristic parameters of remanence Br, coercive force HcB, intrinsic coercive force HcJ and maximum magnetic energy product (BH)max. As per the international standard GB/T3217-92, adopts microcomputer controlling and A/D,D/A technology, automatically setting the measurement magnetic field and instrument range,self-correcting postive integral zero excursion and Hall probe non-linear, and equipped with different coils and testing methods for customers'choice, the whole measurement procedures are automatically, drawing the demagnetization curve of the specimens, hysteresisgraph loop, as well as curves in different temperature,and typing the test report in different form.

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II. General Features of DC Hysteresis Graph (DX-2012H)

1. Automatic measurement on saturation hysteresis loop and magnetic characteristic parameters of generally permanent-magnet material such as Ferrite, Rubber & Plastic Magnet and AlNiCo, etc.: Js, Br, HcB, HcJ, (BH)max and μrec.
2. Automatic measurement on demagnetization curve and magnetic characteristic parameters of rare earth permanent-magnet materials such as NdFeB and SmCo, etc. at the second quadrant: Br, HcB, HcJ, Hk(H90) and (BH)max.
3. Test sample shapes: circular ring, round cake, square, tile and other irregular shapes.
4. Adopt B coil + fluxmeter to measure magnetic induction, zero shift of integrator can be self-corrected through software.
5. Adopt J coil + fluxmeter to measure magnetical polarization, remnant coil area of J coil can be automatically compensated through software.
6. Magnetic field intensity can be measured with Hall magnetometer, nonlinear error of hall probe can be corrected through software, within 0 -3.0T range, nonlinear error can be controlled within±0.2%.
7. Adopt H coil + fluxmeter to measure magnetic field intensity, Hall magnetometer only used to indicate zero point of magnetic field so as to thoroughly eliminate nonlinear error of hall probe.
8. Optimal range of field voltage, fluxmeter and magnetometer can be automatically set up.
9. Magnetization, testing and demagnetization of general permanent magnetic sample completed at one time, time set up 20 seconds ~ 60 seconds.
10. Rare earth permanent magnetic samples need saturation magnetizing before testing, testing time 60 seconds ~ 120 seconds.
11. The sample after tested is in demagnetization or magnetizing status, freely selected by users.
12. Select heating head and temperature controller to detect magnetic characteristics of Ferrite, AlNiCo and rare earth material under high temperature (maximal 220°C).
13. Select shoe jig for direct measurement on magnetic shoe.

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III. Software Features of DC Hysteresis Graph (DX-2012H)

△ Operate under WIN9X/ME/NT/2K/XP operating systems, Chinese/ English or pure English interface optional, conform to Windows software specification, visual and simple operation.

△Full automatic control, intelligent identification, minimize manual operation.

△Sampling waveform and instrument status under real-time monitoring, and can be stopped at any time.

△Automatic completion of data calculation, and temperature conversion of test result.

△File system adopts database format, can directly print or output test result to Excel form.

△Powerful file management functions: data saving, deletion and removal.

△ Data files contain complete sampled data, sample parameters, instrument parameters and testing schemes, adopt text format, can be conveniently typed into other software.

△ Display magnetic energy-product curves such as B(H) and J(H) magnetic hysteresis cycle or demagnetization curve and B (BH) magnetic energy-product curve, etc. and display coordinate message at every data point on curve.

△ Simultaneous display of multiple test data curve diagrams, for example: demagnetization curve or magnetic hysteresis cycle of same sample under different temperatures, demagnetization curve or magnetic hysteresis cycle of different samples, etc.

△Support various models of printers, test report accurately match printer sheet.

△Print preview function, can conveniently regulate the size and edge distance of test report.

△Test report can be directly printed, or generate JPG image file.

△JPG image file can be sent directly through E-mail, or saved into disk.

△Test reports contain complete curve diagrams, test results, test conditions and sample parameters. To facilitate adding user mark and enterprise name.

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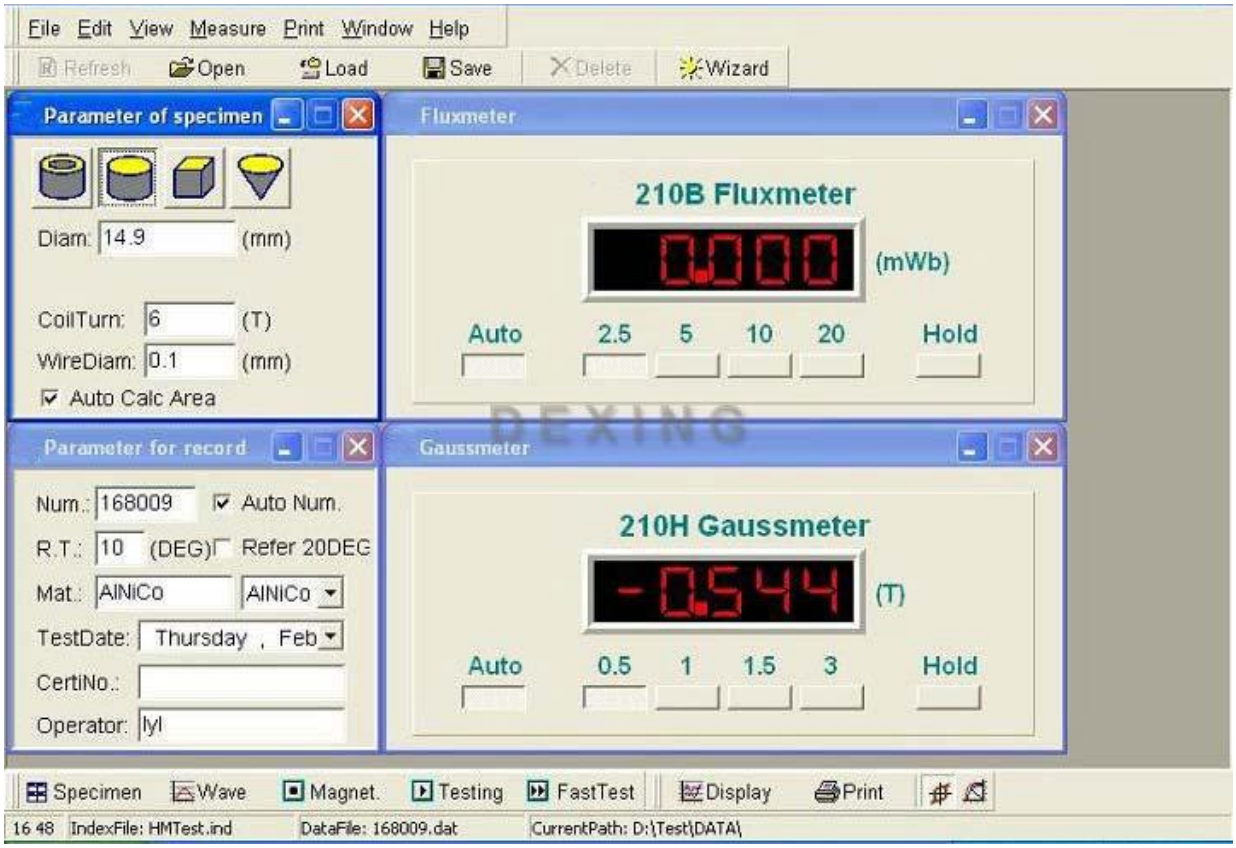
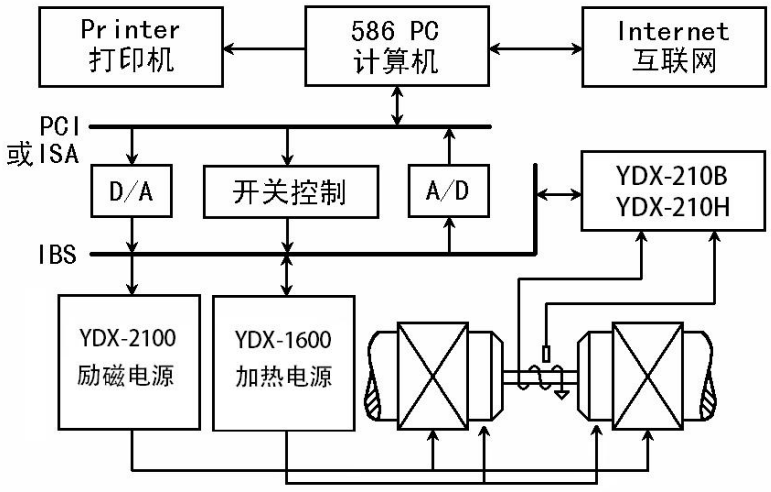
IV. Software Screen of DC Hysteresis Graph (DX-2012H)



V. Measurement Principle



VI. Standard Configuration(DX-2012H150)

No.	Name	Model	Unit	Qty	Specification
1	Test power supply	DX-2012H	PC	1	Input Power: 220±10V Output volt.: 0～±100V； Output current: ±30A； Stability: Better than 0.05%.
2	Fluxmeter	DX-210B	PC	1	1. Range: 2.5, 5, 10, 20mWb Analog Output: 0-±5V Full Range Precision: 0.2% 2. Auto. clue on the range according to the input material type and size, press the range by manual. 3. Zero Shift: 2μWb /30 seconds (2.5mWb) Resistance: 1kΩ Shift adjustment is by manual. 4. Max. Input Signal: 10V.
3	Magnetometer	DX-210H	PC	1	140 Range: 0.5, 1, 1.5, 3T Output: 0 ～±5V, FullRange Precision: 0.5% 2. Non-Linearity:±0.2% (software correction) Hall Temp. Coefficient: 0.06%/℃ 3. The high temperature endured probe Linearity correction range:0～2.5T
4	Instruction Manual		PC	1	
5	AD/DA Card (USB interface)		PC	1	Resolution and linear: 12Bit±1/2LSB Shitfiting time:< 25μs 1.Use AD acquire the analog output H,B of the gauss meter and fluxmeter separately. 2.Software Control the excitation waves and excitation volt. Extent, and power shift of excitation direction. 3. Resolution and linear: 16Bit±1/2LSB Excitation Time: 60~90s/cycle; 4. Shift time of B.H: < 25μs

6	Electromagnet	DXMH-150	PC	1	Power operated, water cooling
7	Shrinkage Pole Head		Prs	1	Material: FeCo 150 Shrink to Ø70mm: 1 pairs. Magnetic Field: >2.5T at 10mm air gap. >2.75T at 5mm air gap.
8	Flat pole head		Prs	1	Dia.: 110mm Material: Pure Iron
9	Computer	Lenovo	SET	1	With 19 inches LCD monitor
10	Laser printer	HP1007	PC	1	
11	Standard specimen	NdFeB	PC	1	
12	Standard specimen	Ferrite	PC	1	
13	Fixed coil	J coil	PC	4	According to the magnet sizes the customers provided by customers, it's no need to coil the wires on the magnets when measuring.
14	Measurement Test Software		SET	1	Chinese and English Interface.
15	Heating Power	Optional	SET	1	heating power input: 220V / 5A; control range: 50 ~ 220 ℃ test probe: / piece; temperature uncertainty: ± 1 ℃
16	Heating Pole Head	Optional	SET	1	Dia.110mm Material: Pure Iron

VII. Technical Specifications:

(Measurement License: MC13000003, Test Report for AlNiCo magnets at RT）

Parameters measured	Br(%)	HcB (%)	HcJ (%)	(BH)max(%)
Uncertainty (k=2)	0.5	0.5	0.5	1.0
Repeatability (constant temperature)	±0.3	±0.3	±0.3	±0.5

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