

# PROGRAMMABLE HYSTERESIS LOOP TRACER

(A.C./D.C./PULSE)

model: MBHLT

**Introduction:**

MMRSPN series of B-H Loop tracer are capable for B-H Loop characterization of hard and soft magnetic material apart from other material under varies parametric variations. It is able to identify magnetic characteristic parameters of remanence Br, coercive force HcB, intrinsic coercive force HcJ and maximum magnetic energy product (BH)max at various frequencies from 0.01 Hz to 10.0 kilo hz under varied parametric condition.

**Features:**

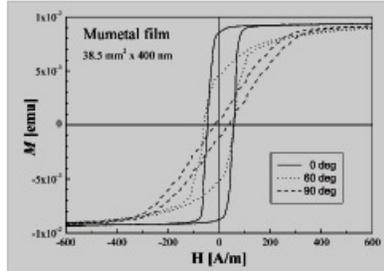
Select geometry size of sample automatically calculate the area; 2. Programmble range selection for different ; 3. Auto control excitation voltage when measuring normal permanent magnet; 4. Auto correct flux drift during the entire testing process; 5. The Hall probe nonlinear automatically compensate; 6. Electromagnet design optimization, flexibly adjust;

**Operating Principle:** Soft/hard magnetic material in circular ring, round cake, square, tile and other irregular shapes. under test is placed beneath the controlled Alternating/D.C. magnetic field. Magnetic field intensity is be measured with Hall magnetometer with high degree of accuracy interface to P.C. Magnetization force is measured with flux meter, which uses different induction coil to measure changeable magnetic flux at different frequency. Finnally Magnetization force and magnetic field are plotted under varies temperature and other parametric conditions.

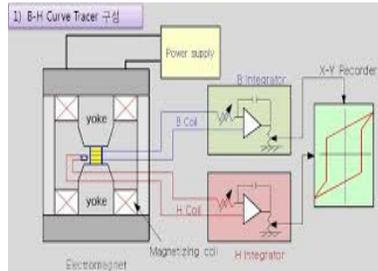
$$B = \mu_r \mu_0(H+M)$$



B-H Loop Tracer



B-H curve at different temperature



pictorial presentation of set-up  
0.0 Hz frequency < 10.0 KHz

**General Specifications of B-H Loop tracer (A.C., /D.C.)**

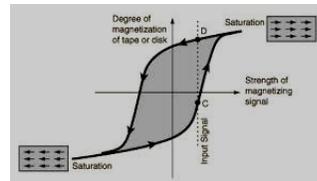
Model	Bmax gauss	Frequency Hz sine/square wave	%Duty cycle For pulse	%-Br Mili-Wb	%-Hcb AT/m	Temperature Deg-cel
MBHLT-0520	+/- 5000	0-400Hz	0-100%	0.02-20000	0.01-10000	Upto 400
MBHLT=0520	+/- 05000	0-400HZ	0-100%	0.02-20000	0.01-10000	Upto 400
MBHLT-1020	+/- 10000	0-400 HZ	0-100%	0.02-20000	0.01-10000	Upto 400
MBHLT-1020	+/- 10000	0-1000 HZ	0-100%	0.02-20000	0.01-100 00	Upto 400
MBHLT-1020	+/- 15000	0-1000HZ	0-100%	0.02-20000	0.01-10000	Upto 400
MBHLT-1020	+/- 15000	0-3000 HZ	0-100%	0.02-2 0000	0.01-10000	Upto 400
MBHLT=-1020	+/- 20000	0-3000 HZ	0-100%	0.02-20000	0.01-10000	Upto 400

**General Specifications of B-H Loop tracer(A.C.,/D.C.)**

Operating voltage: 220 volt A.C. ,50HZ.  
 Measurement range (f): 10<sup>-09</sup>-10<sup>-04</sup> ull scale); as above in different model.  
 Magnetic field signal: 10<sup>-06</sup>-10<sup>-0</sup>/10<sup>-0</sup>-10<sup>+6</sup> gauss least count- 5.0 micro gauss AC/DC

AT /M : 10<sup>-06</sup>-10<sup>-0</sup>/10<sup>-0</sup>-10<sup>+6</sup> at/m least count- 5.0 at/m C/DC

- Input capacitance: 10 nF
- Response time: 1000 sample/sec
- Burden: less than 100 micro volt/full scales current or better
- Accuracy error: 0.5/1.0/2.0 % reading
- Repeatability: 100 of reading
- Resolution: 1/5 mu.gauss & 1/5 mu.AT/M or optional and may be altered based on time behaviour of signal
- Linearity adjustment: upto 100 count
- Input imedence: ultra high (<1000 count burden),
- Filtering: low pass (adjustable)
- Offset: variable upto 10,000 nano volts (manual/auto)
- CMMR: >80 db at 50-60 Hz
- Isolation: > 100 giga ohm
- Connector: BNC-9 pinx2 and BNC-25 pinx2
- Size: 8X8x12 inches/rack mounted or portable
- Interface: RS-232
- Option: ADDITIONAL SOFTWARE to plot B/H at different temperature/frequency



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