



High Precision Epstein Tester 25Hz TO 450Hz



Gopal EP-350

Application

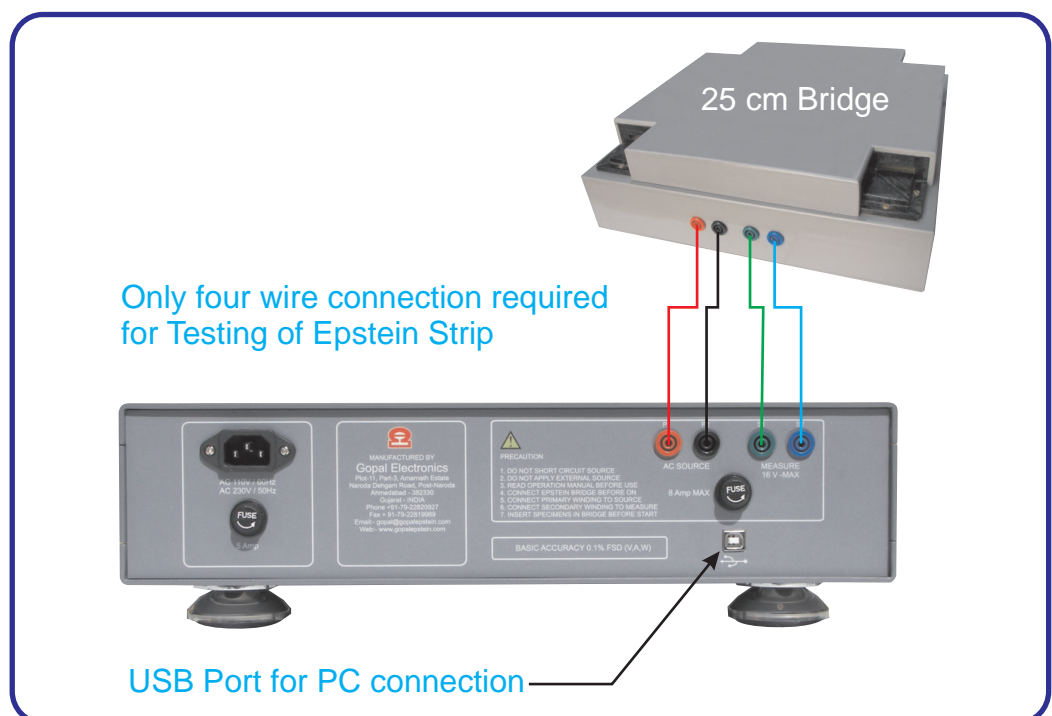
Quality Measurements of Flat Rolled Electrical Steel Sheet like CRGO, CRNGO, CRNO, HR etc...

Scope of Measurements

- 1.. Iron Loss Watt per Kg
- 2.. Iron Loss Watt per pound
- 3.. Ampere Turns per Meter
- 4.. Permeability
- 5.. B/H Curve (with Software)

Key Features

- 1.. Basic 0.1% Accuracy FSD
- 2.. Temper proof calibration
- 3.. Long terms stability
- 4.. Feather touch 24 Key
- 5.. 20 x 4 line LCD Display
- 6.. USB port to connect Software
- 7.. 25 Hz to 450 Hz Source
- 8.. 128 VA Source capacity
- 10.. Auto protection
- 11.. 700 Turns Standard Bridge
- 12.. Portable size
- 13.. Aluminum body





EP-350 is designed to achieve hassle free operation in single unit, for measurement of AC magnetic properties of flat rolled magnetic materials at high frequency by using Wattmeter, Ammeter, Voltmeter and Source. This test method is a fundamental method for evaluating the magnetic performance of flat-rolled magnetic materials in either as sheared or stress relief annealed condition. This test method is suitable for design, specification acceptance, service evaluation, and research and development.

EP-350 has digital controlled crystal accurate 16 Bit sine wave Generator, which provides 25 Hz to 450 Hz harmonics free non distorted power for testing of specimen. It has built in required (digital sampling) measuring meter, as Flux Voltmeter, RMS Voltmeter, RMS Ammeter, Peak Ammeter, Wattmeter and Power Factor meter. These measuring devices are (temper proof) precisely calibrated to achieve high accuracy and long term stability. Accuracy and stability of EP-350 is better than specified in national and international standards. (Reference to ASTM: 343, IEC: 60404-2, BIS: 649)

USER FRIENDLY operation and multiple use of EP-350, make its world's leader of magnetic measurement. It has two operation mode one is standard 25 cm Bridge mode and another is User Mode. User can test 30 mm wide and 305 mm long strips specimen in 25 cm Bridge mode. Convention method consist of individual mounting of source and measure so they does not link each other hence a qualified Engineer is required to handle these devices, that for most of technical people think that Epstein Tester is too much complicated method to test Electrical steel sheet. EP-350 has been removed those types of complications, so only details of specimen like Weight, Length, Density, Frequency, % of eddy current and Induction has to be enter by simply using Instrument Keys. After proper feedings of required data, only press a Start Key and Instrument shows Watt per Kg, Watt per pound, AT/m, Magnetizing force and Permeability, without any calculation, all measured details to be displayed on LCD display.

RESULT DIRECTLY DISPLAYED ON LCD AS UNDER

SETTING STATUS			
gm	500.00	B	1.5000
Lm	305.00	Hz	50.000
Dn	7.6500	%E	50.000

Entry menu of 25 cm Bridge mode

25 cm Bridge mode Entry page

gm	= weight in gram
B	= Induction in Tesla
Lm	= Strip Length in mm
Dn	= Specific density of sample
Hz	= Frequency
%E	= Percentage of eddy Current

Wkg	0.6814	Lb	0.3090
Am	48	ua	24867
Hp	40	up	29841
FINISH			

Result menu of 25 cm Bridge mode

25 cm Bridge mode result

Wkg	= Watt per kg.
Lb	= Watt per pound
Am	= Ampere Turn per meter
ua	= AC permeability
up	= Peak permeability

V	12.000	rV	12.000
I	.04562	IP	.05331
P	0.25650	PF	.46151
START			

Result menu of User mode

User mode on

V	= RMS Volt
rV	= Rectified mean Voltage
I	= RMS Current
IP	= Peak Current
P	= Power in Watt
PF	= Power Factor



EP-350 has **USB PORT** and Software to connect with Computer for performs very fast operation. Using Computer with its software, user can test a specimen with nine different Inductions in about five minutes. The Software automatic communicate with EP-350 and set required Induction and get data, then collected data automatically transferred to MS-Excel and create Test Report, which comply international standards. Test report also plots various curve to analyze magnetic property.

USER MODE provided for convenience for user, because "**25 CM BRIDGE**" **MODE** automatically perform required necessary function and calculation, hence user does not have any control on it to do some thing different beyond theory of Epstein Test method.

FOR EXAMPLE if user wants to test small Transformer, EI core, Torrid core, Ring type core, and any different shape of core, then user mode provide facility to set required Voltage and Frequency within instrument specifications, and simultaneously display Flux Volt, RMS Volt, RMS Amp, Peak Amp, Watt and Power Factor so user can analyses by self, what is Iron Loss, AT/m, Magnetizing force and Permeability. Normally this type of operation required technical person, to calculate various parameters, like core area effective weight, Flux Volt, Watt per kg etc.

When you want to check calibration or Calibration Lab wants to calibrate it, then user mode perform an excellent roll. Technician can connect a precision Power Analyzer in series of load and set source to compare and calibrate EP-350. That for EP-350 is not only Epstein Tester but it is an extraordinary testing and measuring Instrument.

SPECIFICATION

EP-350 MAIN UNIT

1. Sine wave Generator	= 25 to 450 Hz
2. Accuracy of frequency	= 0.03% which instrument can set
3. Source capacity	= 11.2 Amp Peak
4. Source max. Voltage	= 16.0 Volt RMS
5. Distortion of Sine wave	= 0.025%
6. Protection (Auto)Source	= > 8.0 Amp RMS + Fuse
7. Protection of power input	= Fuse
8. Input voltage	= 230V @ 50 Hz 3 Amp \pm 10% or 110V @ 60 Hz 4 Amp \pm 10%
9. Operation temperature	= 20° to 45° Celsius
10. Operation humidity	= less than 70%
11. Dimensions	= Wide =425mm Depth =557mm Height =100 mm +Leg
12. Weight	= 14.5 Kg
13. Accuracy of Voltmeter	= 0.1% FSD True RSM Volt
14. Accuracy of Flux meter	= 0.2% FSD Rectified mean Volt
14. Accuracy of Ammeter	= 0.1% FSD True RMS
15. Accuracy of Peak Ammeter	= 0.2% FSD
16. Accuracy of Power meter	= 0.1% FSD From 0.15PF to 1.00PF
17. Accuracy of PF meter	= 0.2% From 0.15PF to 1.00PF

STANDARD ACCESSORIES

1. 25 CM Epstein Bridge	= 1
2. Bridge interface wire	= 4
3. Standard corner weight	= 4
4. Standard test sample	= 1
5. Mains AC Wire	= 1
6. USB interface wire	= 1
7. Operation manual	= 1
8. Calibration certificate(our lab)	= 1

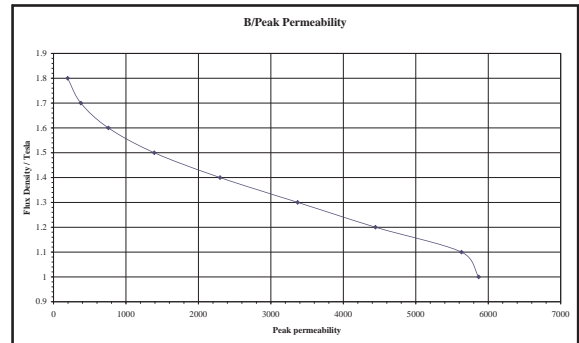
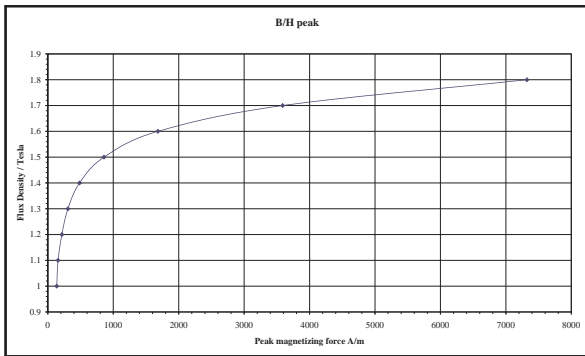
25 cm EPSTEIN BRIDGE

1. Bridge Size	= 25 cm (94 cm mean length)
2. Number of turns	= 700 (Primary = Secondary)
3. Specimen size	= 30 x 280 to 305 mm
4. Specimen weight	= 250gm to 500gm
5. Bridge weight	= 7.3 Kg approx.
6. Dimension	= 35 x 32.5 x 11.5 cm
7. Air flux compensating coil mounted inside the Bridge	

COMPARISON OF ACCURACY OF EP-350 WITH DIFFERENT STANDARDS REQUIREMENT

Parameter	Accuracy of EP-350 ±	Accuracy required by		
		ASTM-343 ± %	IEC-60404-2 ±%	IS:649 ±%
RMS Voltmeter	0.10	0.25	0.2	0.2
RMS Ammeter	0.10	1.00	0.2	1.0
Watt meter	0.10	0.25	0.5	0.3
Flux Voltmeter	0.20	0.25	0.2	0.2
Peak Ammeter	0.20	1.00	0.5	0.3
Repeatability	0.50	1.00	1.0	1.0

WHEN USE WITH OUR SOFTWARE CURVES CREATED AS



SPECIFICATION AND APPEARANCE MAY BE CHANGE WITHOUT NOTICE FOR FURTHER DEVELOPMENT



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