



OUTLINE

DAC-IR-3 is designed to measure electromagnetic steel sheet for Core Loss. Compared with a conventional Epstein Testing Method, DAC-IR-3 is easier and also saves time.

DAC-IR-3 provides a Direct Reading of Core Loss in W/kg or W/lb from a single sheet sample.

RS232C Interface is equipped as standard and can be controlled by Personal Computer. Besides, measured results can be printed with an optional thermal printer.

FEATURES

By placing a U-shaped yoke, which is wound with an exciting coil and a magnetic flux detection coil, on a test sample, a magnetic path is formed. When the sectional area of the U-shaped yoke's magnetic path is sufficiently larger than that of the sample, and impressing a voltage to the exciting coil effects excitation, the loss calculated by multiplying the current flowing in the exciting coil by the voltage generated in the flux detection coil can be considered the loss within the sample.

This tester adjusts the flux density of the sample automatically for measurement and gives a direct readout of iron loss value, simply by using selector switches to set the sheet thickness and flux density measurement desired.

$$\text{Core Loss} = \frac{\text{Loss in the test sample}}{\text{Effective weight of the magnetic path in the test sample}}$$

The effective weight of the magnetic path in the test sample is the product of the sample thickness, and the magnetic path width, length and density in the sample.

In this tester the width and length of the magnetic path are constant, so that the core loss can be obtained by simply setting the sheet thickness and flux density.

SPECIFICATIONS

Measuring Range	0.10 – 19.99W/kg 0.05 – 9.000W/lb
Flux Density	1T, 1.5T, 1.7T (Selectable)
Thickness of Steel Sheet	0.05 – 0.90 mm
Specimen	Electromagnetic Steel Sheet (Nonoriented, CRML and Grain-Oriented Core)
Accuracy	±5% (Compared with the measured value of JIS and ASTM Epstein Test)
Frequency	50Hz / 60Hz (synchronized to power supply frequency)
AC Mains	AC100V – AC240V
Size	W188 × H103 × D287 mm (without projection)
Weight	Approx. 5.0kg

COMPONENTS

Main Units	1 set
Standard Core (S&G) for Calibration	1 pc each
Standard and Small Probe	1 pc each
Probe Cord	1 pc
AC Mains Cord (with earth lead and 3P inlet)	1 pc

OPTION

How to use:

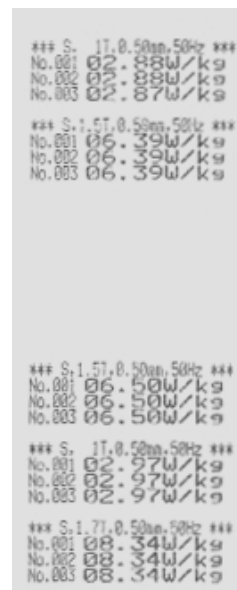
- ① Setup parameters, Core Type, Flux Density, Thickness and Frequency to print out automatically.
Example: S, 1.0T, 0.50mm, 50Hz
- ② Press MEAS ON Button after the measured value is stable and test result is printed out.
- ③ Test results are printed out from No. 001 to max. No.999 if the setup is not changed.
- ④ If setup is changed, new setup status is automatically printed and starts to print from No. 001.

Components

- Main Unit (Printer)
- AC Cord (Possible to use by Battery)
- RS232C Cable
(Connecting Lead to Main Unit.)
- Printer Paper (1 roll)

Size (W x D x H) and Weight

135 × 100 × 38 (mm) / Approx. 390g



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Example of Print out