Key features

- The B-H loop, also known as the hysteresis loop, is a graphical representation of the relationship between magnetic flux density (B) and magnetic field strength (H) in a ferromagnetic material, such as iron, when subjected to a cycle of magnetization and demagnetization. When this is done with an anchor ring (toroid) specimen, it allows for the determination of hysteresis loss.

- **Ferromagnetic Materials and Hysteresis:**

  Ferromagnetic materials, like iron, exhibit hysteresis, meaning that their magnetization lags behind the applied magnetic field. When a magnetic field is applied to a ferromagnetic material, the material becomes magnetized. Even when the external magnetic field is removed, the material retains some magnetization.

- **The B-H Loop:**

  The B-H loop is obtained by plotting the magnetic flux density (B) against the magnetic field strength (H) as the material is cyclically magnetized and demagnetized.

- **Anchor Ring (Toroid) Specimen:**

  The experiment uses an anchor ring (or toroid) shape for the ferromagnetic material. This shape is chosen because it provides a closed magnetic path, minimizing stray magnetic fields and allowing for a more accurate measurement of the magnetic properties of the material.

- **Experimental Setup:**

  The setup typically involves an anchor ring specimen, a primary coil (carrying the magnetizing current), and a secondary coil connected to a ballistic galvanometer. The ballistic galvanometer is used to measure the magnetic flux through the secondary coil, which is related to the magnetic flux density in the ring.

- **Measuring the B-H Loop:**

  By varying the current in the primary coil and measuring the corresponding galvanometer deflections, points on the B-H loop can be obtained. The area enclosed by

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

the B-H loop represents the energy loss due to hysteresis, known as hysteresis loss.

- **Applications:**

  The B-H loop is crucial for understanding the magnetic properties of materials and is used in various applications, including the design of transformers, motors, generators, and other electromagnetic devices.

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Export Sales: +91-9829132777
India Sales: +91-9588842361

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Jaipur-302022, India.

info@tesca.in
www.**tescaglobal**.com

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