

## IV-E396A Biot Savart Experimental Setup

The following studies can be carried out with the set-up:

- Study of magnetic field due to one coil and calculation of its diameter.
- Study of principal of super-imposition of magnetic field due to coils at a, greater than a and less than a, where a is the radius of the coil.

### Experiment

- Biot Savart is an instrument to find out Magnetic Field in 3 different Diameter Coils.

### Apparatus Supply:

#### 1.DIGITAL GAUSS METER

- Range: 0-200 Gauss
- Resolution: 0.1G Accuracy: 0.5%
- Display: 3 1/2 digit 7 segment LED with auto polarity.

#### 2.COIL

- Diameter:
- 200mm,150mm,100mm
- SWG: 10
- Number of turn: 1
- The 1 coils are mounted on platform one coil is fixed and other coil move smoothly on a rail along with the axis of the coils.

#### 3.CONSTANT CURRENT POWER SUPPLY

- Current: 0-20A smoothly adjustable
- Voltage: 0-30V, Fine-Coarse Adjustment
- Line Regulator: 0.2% for 10% mains variation
- Load Regulator: 0.2% for 0 to full load.
- Display: 3 1/2 digits 7 Segment LED Display.
- Protection Against overload/ short current.

#### 4.OPTICAL BENCH

- Optical Bench is made of aluminum alloy and given black anodized finish.
- Linear scale with 1mm graduation is providing on bench for quick measurement.
- Setup contains two leveling feet and five carriers (2 sliding carrier and 3 carriers).

