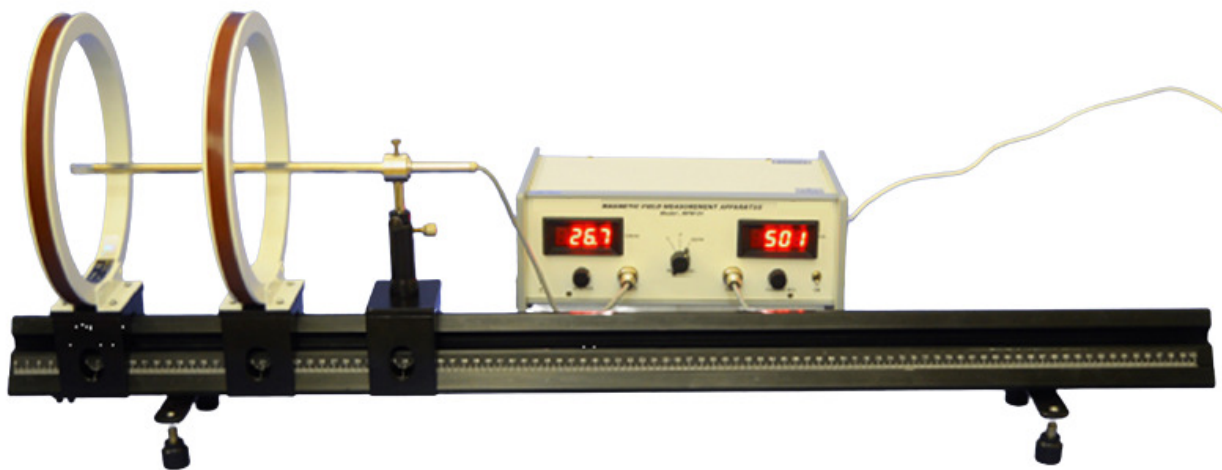


## MAGNETIC FIELD MEASUREMENT APPARTUS (Biot Savart's Law Set-up)

Model : MFM - 01



### Introduction

The experiment consists of two coils, Constant Current Power Supply and Gauss meter. The Gauss meter probe is mounted on a rail with a scale. It can move smoothly and precisely for measurement of magnetic field along the centre of the coils.

- **Weight** : 20 Kg. Approximately

### The following studies Biot Savart's Law can be carried out with the set-up:

1. Study of magnetic field due to one coil and calculation of its diameter.
2. Study of Principal of super-imposition of magnetic field due to 2 coils by keeping the distance between the coils at a,  $>a$  and  $<a$ , where  $a$  is the radius of the coil.

### Legend

Line 1 : Magnetic Profile when the distance between the coils is  $>a$

Line 2 : Magnetic Profile when the distance between coils is  $=a$

Line 3 : Magnetic Profile when the distance between coils is  $<a$  Superimposition overlaps completely

### Apparatus consists of the following

#### 1. Digital Gaussmeter

\* Range : 0-200, \* Resolution : 0.1G, \* Accuracy :  $\pm 0.5\%$ , \* Display :  $3\frac{1}{2}$  digit 7 segment LED with auto polarity.

#### 2. Two Coil

\* Diameter : 200mm, \* Number of turn : 1000

#### 3. Constant Current Power Supply

\* Current : 0-0.5A Smoothly adjustable \* Line Regulator :  $\pm 0.2\%$  for 10% mains variation.  
\* Load Regulator :  $\pm 0.2\%$  for 0 to full load \* Display :  $3\frac{1}{2}$  digit 7 Segment LED Display  
\* Protection : Against overload/ short current.

The 2 coils are mounted on platform one coil is fixed and other coil move smoothly on a rail along with the axis of the coils.

*Note: There may be any change in specification due to continuous R & D without notice.*

## **VIJAYANTA TECHNOLOGIES PVT. LTD.**

(Formerly Vijai Electronics)

Dr. Baldev Singh Marg 28/147 Civil Lines, Roorkee-247667 Distt. Haridwar, Uttarakhand

Phone No.: 01332 - 272509, 7579200827

E-Mail : vijayantatechologies@gmail.com, vijaielectronics1965@gmail.com