

FDG-15

Flux Density Generator



Application

- 3-axial magnetic excitation of devices under test

Range of use

- Testing of components in research and development
- Possible combination with a climatic chamber

Features

- Magnetic flux generator for any spatial direction
- Accuracy of magnetic field vector with respect to sensor axis at least $\pm 1^\circ$
- Earth magnetic field cancellation $\leq 1 \mu\text{T}$
- Homogeneity of flux $\leq 1 \%$

Description

The flux density generator type FDG-15 is a reliable tool for generating a static flux density of up to 3 mT in any direction inside the coil system. The homogeneous magnetic field has a maximum deviation of only 1 percent in the specified dimension.

The flux density generator consists of 3 orthogonal Helmholtz coils. Each Helmholtz coil is connected to a DC Power Supply which generates a constant positive current.

If it is necessary to compensate also the smallest magnetic fields like the earth magnetic field, it is possible to generate flux densities of less than $1 \mu\text{T}$.

Due to the design of the exciter, it can be placed within a climatic chamber and tested regarding both parameters – magnetic excitation and variable climatic conditions.

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Flux Density Generator



Technical data

Magnetic Unit	
Frequency range	0 Hz
Maximum Flux Density	3 mT
Step width	1 μ T
Homogeneous Field Dimension Deviation	cube edge size 20 mm $\pm 1 \%$
Direction of Flux Density	Any
Dimensions (H x W x L)	367 mm x 368 mm x 380 mm
Environmental Without Temperature control of coils Maximum Temperature of coils	-40 °C ... 125 °C 150 °C
Total Weight	18 kg
Laboratory Power Supplies (KA3005P)	
Power Supply	110/230 V AC (50/60 Hz)
Output voltage	0 ... 30 V DC
Output current	0 ... 5 A DC
Resolution	10 mV / 1 mA
Environmental	IP20, 0...40 °C, ≤ 80 rH, ≤ 2000 m above sea level
PC Interface	RS232/USB
Fuse	T3 A / 250 V

All specification are at room temperature unless otherwise specified