

### 1.1 - GENERAL DESCRIPTION

#### System Description

italtec, has designed a new system for the application of electrical machines in experimental lessons.

This system is a complete and compact teaching mean, which can be accommodated on a standard 2 meter laboratory bench.

Thanks to its modularity, flexibility and compactness allows multiple stand-alone center and to manage multiple combinations of the components that means more curricula, and in the same laboratory, with less overall spending.

The machines are industrial-type units in compliance with the construction type B3.

The whole machines range meets the international standards DIN-VDE 0530.

#### Particular advantages of EMMS system are:

- Clearly arranged and swift set up of complete circuits;
- Safe operating by clear assignment of supply voltage and complete set of security devices:
  - no projections of rotating parts;
  - protection of all rotating parts;
  - low operation power, thereby minimising the risk of accidents;
  - standard 4 mm CE safety sockets for all inputs/outputs connections;
- very small space is required for use and for storage;
- power supply module provides also metering facilities and circuit protections;
- durability by the use of high grade materials;
- a step-by-step course of theory and experiments is described on each book included with each electrical machine;
- machines based on industrial standards, with all real features;
- all table top unit can be used in a frame system also;
- compatible with all other our programs;
- future-oriented thanks to the possibility to adapt to new technologies;
- optional overload protection with temperature sensor;

#### EMMS consist of:

- universal power supply module used for all models of previous machines;
- set of motors, generators, transformers, brakes etc. which are the equipment for practical execution of experiments and measures;
- set of meter modules designed to cover the complete range of measurements with a small number of meters;
- set of resistive, inductive and capacitive loads housed in separate modules, and designed to provide balanced or unbalanced loads;
- set of accessories as:
  - connection leads;
  - tachometers;
  - dynamometers;
  - starting and excitation rheostat;
  - optional modules for electronic regulation of d.c. and a.c. motors;
  - optional computerised system for data acquisition and data management designed to plot curves and to store the complete test;

Each machine is equipped with its own universal support, which allows a very easy way to match all machines. EMMS's machines are the same machines normally used for industry applications.

Particular solutions has been used to simplify the student's approach and the system philosophy has been designed for educational purposes.



Coupling sample

**EMMS are also available with 300W power or for 1kW or 3kW 6kW etc.**

**EMMS are available with 1500 rpm or 3000 rpm**

**EMMS are available with different operative voltages as:**

- main voltage (127/220V) 50-60Hz
- main voltage (240/415V) 50-60Hz
- main voltage (230/400V) 50-60Hz
- main voltage (24/48V) 50-60Hz