

## RE 310 EDUCATIONAL WIND TURBINE



### GENERAL DESCRIPTION

The unit is for a study of wind turbine characteristics.

It consists of an adjustable blade axial flow fan with a speed control, transparent casing test section, a wind turbine, a DC generator with resistance load, a dynamometer, and measuring instruments. The turbine wheel can accommodate up to 6 blades and blade angle can be adjusted using a special device. The unit can also be used for testing different blade design by students.

### TYPICAL EXPERIMENTS

- Calculation of wind power.
- Turbine output VS wind speed.
- Turbine efficiency.
- Effect of blade angle.
- Effect of number of blades.

### TECHNICAL DATA

- Fan
  - Diameter : 500 mm. inside diameter.
  - Maximum wind speed : 20 mps.
- Wind speed control : Inverter.
- Turbine casing : Acrylic tube.
- Blade accommodation : 1 ea. for 2, 3 or 4 blades with 6 blades including spares.
- Turbine blade angle setting device : 1 ea.
- Generator : 1 ea.
- Electrical load : 1 ea.
- Dynamometer : Mechanical.
- Turbine mechanical power : 130 w.
- Measuring instruments
  - Wind speed : Sensor and indicator.
  - Speeds : Digital display for turbine and generator.
  - Torque : Digital display.
  - Electrical output power : Voltage and current digital display.
- Power supply : 220V. 1 ph. 50 Hz. Other power supply is available on request.

### OPTIONAL EQUIPMENT

- RE310-050 Computer Interface
  - Computer interface unit with software for data display and analysis by computer (separately supplied).
- Larger diameter unit is available on request.

**Net (unpacked) shipping dimensions WxLxH** : 65 x 120 x 100 cm.  
**Net weight** : Approx 90 kg.