

The Engineering Fundamentals renewable energy range is designed specifically for the High school and Technical college curriculums.

The equipment prepares students via practice-oriented experiments relating to the theory and practical implementation of renewable energies.

INTRODUCES STUDENTS TO THE FUNDAMENTALS OF WIND ENERGY

“EF-6.2 Wind Energy kit covers the principles of wind power generation. This allows students to understand the functions of wind power plants. Including practical experiments into how wind speed, wind direction or rotor type influences the power output.”



1 tray supplied with EF-6.2



EF-6.3 Anemometer



Features / benefits

- ▶ Tray based solution that can be easily stored in the EF-WS workstation
- ▶ Simple plug and play operation
- ▶ Specifically designed to bridge theoretical physics with practical experimentation in wind energy generation
- ▶ Includes qualitative and quantitative experiments
- ▶ Includes fundamentals of basic electronic circuits
- ▶ Supplied with comprehensive teachers and students manual
- ▶ Includes an Savonius rotor and a three-blade rotor

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USA office - email: info@armfield.inc tel: +1 (609) 208-2800 (USA only)

Issue: 1

URL: <http://www.armfield.co.uk/ef>

Applications

ME ChE CE IP

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Experimental content

- ▶ Influence of the wind speed
- ▶ Start-up wind speed of a wind turbine
- ▶ Comparison of the start-up wind speed of a Savonius and a three-blade rotor
- ▶ Change the turbine voltage by connecting a consumer
- ▶ Examine the wind speed behind the rotor
- ▶ Energy balance sheet at a wind turbine
- ▶ Calculating the efficiency of a wind turbine
- ▶ Storing electric energy
- ▶ Energy conversion in a wind turbine
- ▶ Examine colour wheels using a wind turbine
- ▶ Comparison of a Savonius rotor and a three-blade rotor
- ▶ Comparison of two, three and four-blade rotors
- ▶ Characteristic curves of a wind turbine
- ▶ Influence of the wind direction
- ▶ Influence of the rotor blade pitch
- ▶ Influence of the rotor blade pitch on the start up speed of a wind turbine
- ▶ Influence of the blade shape

Requirements

Scale

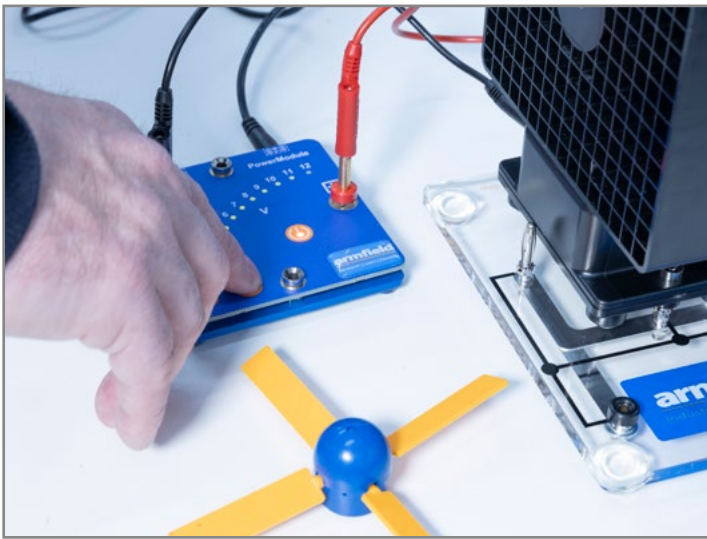


Experiment tray scale



Electrical supply: 110-230V AC 50-60Hz

- ▶ Level and stable work surface



Overall dimensions

Tray

Length	0.435m
Width	0.315m
Height	0.15m

Packed and crated shipping specifications

Volume	0.021m ³
Gross weight	2.9Kg

Related curriculums

- ▶ Physics
- ▶ Electrical Engineering
- ▶ Renewable Energies

Essential accessories / equipment

- ▶ **EF-6.3** Engineering Fundamentals - Anemometer
- ▶ **EF-6.8** Accessories Kit

Recommended accessories / equipment:

- ▶ **EF-WS** Engineering Fundamentals Work Station

Ordering specification

- ▶ 1 x Base unit large
- ▶ 1 x Resistor module
- ▶ 1 x Potentiometer module
- ▶ 1 x Savonius rotor module
- ▶ 1 x Capacitor module 220 mF, 2.5V
- ▶ 1 x LED-module 2mA, red
- ▶ 1 x Wind rotor set
- ▶ 1 x Wind machine
- ▶ 1 x Wind turbine module
- ▶ 1 x Buzzer module
- ▶ 1 x Light bulb module
- ▶ 1 x Motor module without gear
- ▶ 1 x Colour discs - Set 1

Related products

- ▶ **EF-6.1** Engineering Fundamentals - Photovoltaic Energy
- ▶ **EF-6.3** Engineering Fundamentals - Anemometer
- ▶ **EF-6.4** Engineering Fundamentals - Hydrogen Fuel Cell Technology
- ▶ **EF-6.5** Engineering Fundamentals - Biomass Fuel Technology
- ▶ **EF-6.6** Engineering Fundamentals - Battery Technology
- ▶ **EF-6.7** Engineering Fundamentals - Renewable Energy
- ▶ **EF-6.8** Accessories Kit

Operational conditions

- ▶ Storage Temperature: -10°C to +70°C
- ▶ Operating temperature range: +10°C to +50°C
- ▶ Operating relative humidity range: 0 to 95%, non-condensing

Ordering codes

- ▶ **EF-6.2** Engineering Fundamentals - Wind Energy
- ▶ **EF-6.3** Engineering Fundamentals - Anemometer
- ▶ **EF-6.8** Accessories Kit
- ▶ **EF-WS** Engineering Fundamentals Work Station

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



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Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com