

Wind Turbine Demonstration Generators

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping



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Wind turbine demo kits use small generators with rotors, masts and load circuits to show how moving air makes electricity, measuring output against wind speed and blade design. They bring renewable energy physics into the workshop.

Key Features

- Small PM generators with rotors
- Masts, mounts and base plates
- Load circuits with LEDs and meters
- Blade set variations
- Anemometer and measuring tools

Typical Uses in the Workshop

- Measure generator output vs wind speed
- Compare blade pitch and count
- Charge batteries from wind
- Teach generator physics

Safe Operation

1. Assemble the turbine on the stand
2. Blow air or use the fan at a set speed
3. Measure the output voltage and current
4. Change blades and compare
5. Record the data and analyse

SAFETY NOTES

- Keep hands and hair clear of rotating blades
- Do not over-speed the generator
- Secure the mast firmly
- Keep the electrical circuit within ratings
- Supervise fan and blade testing

Maintenance & Consumables

- Check the rotor and hub
- Lubricate the bearings lightly
- Clean the generator connections
- Check the blades for cracks
- Store the kit disassembled

Specification & Buying Notes

Kits with interchangeable blades and an anemometer show the most physics. Quality generators spin freely without cogging; cheap ones stall in classroom fans.