Stroboscopes for Motion Analysis

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Measuring & Inspection

A stroboscope flashes a bright light at adjustable frequencies, making fast-rotating or vibrating parts appear frozen in motion when the flash frequency matches their speed. It measures rpm without contact and reveals vibration, wobble and balance issues.

Key Features

- Flash rates 30-100,000 rpm
- LED or xenon light sources
- Phase and x1/x2 multipliers
- Digital flash readouts
- Trigger inputs

Typical Uses in the Workshop

- Measure shaft and fan rpm without contact
- Inspect blades and pulleys at speed
- Check for wobble and imbalance
- Slow-motion analyses for teaching

Safe Operation

1. Aim the strobe at the rotating part
2. Adjust the flash rate until it freezes
3. Read the rpm from the display
4. Use phase shift to inspect blades
5. Record the consistent frequency

SAFETY NOTES

- High-intensity strobes can trigger photosensitive conditions
- Do not stare into the flash
- Keep clear of the machine while observing
- Check the workspace lighting warnings
- Store charged and capped

Maintenance & Consumables

- Clean the lens and housing
- Check the batteries or spare pack
- Verify the flash rate accuracy
- Store in the case
- Replace the lamp type when needed

Specification & Buying Notes

A LED digital stroboscope with an rpm display suits school motion analysis. Quality units flash consistently - cheap ones drift and mislead. Buy with a phase feature for blade checks.