

Random Orbital Sanders

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Machinery & Power Tools



Photo: Dave Pape — Public domain — via Wikimedia Commons (Random_orbit_sander.jpg)

A random orbital sander combines orbital motion with a spinning pad, so its abrasive scratches are random and leave a swirl-free, smooth finish. It is the standard power sander for preparing wood and painted surfaces between grits and before finishing.

Key Features

- Pad sizes 125 mm and 150 mm common
- Random orbit action leaves no swirl marks
- 9,000-12,000 orbits per minute typical
- Hook-and-loop disc fixing
- Through-pad dust extraction ports

Typical Uses in the Workshop

- Prepare timber surfaces before varnish or paint
- Remove old finishes quickly and evenly
- Sand MDF and plywood to a fine finish
- Blend repairs and fillers flush

Safe Operation

1. Fit a disc and set the extraction
2. Work through grits from coarse to fine
3. Keep the sander flat and moving with the grain
4. Use light pressure - the machine does the cutting
5. Check progress often to avoid over-sanding

SAFETY NOTES

- Wear a dust mask and eye protection
- Connect dust extraction or a bag at all times
- Keep the pad off edges that it will round over
- Switch off before lifting the sander
- Disconnect power when changing discs

Maintenance & Consumables

- Empty and clean the dust container regularly
- Check the pad backing for wear
- Vacuum the extraction hose after use
- Check the hook-and-loop hook disc for clogging
- Store with a clean pad fitted

Specification & Buying Notes

A 125 mm random orbital with good dust extraction and variable speed suits school finishing. Buy quality abrasives; the disc determines the finish more than the machine.