Pneumatic Die Grinders

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

Photo: U.S. Navy photo by Mass Communication Specialist 3rd Class Shawn J. Stewart — Public domain — via Wikimedia Commons (US_Navy_101102-N-1004S-065_Machinery_Repairman_Fireman_Mark_Lepore,_from_Rochester,_N.Y.,_uses_a_pneumatic_die_grinder_to_cut_wiring_hol

A pneumatic die grinder is a high-speed air rotary tool for grinding, deburring, shaping and polishing metal and hard materials, using mounted points, carbide burrs or sanding discs. Compressed air makes it powerful for its size and it runs cool for continuous work.

Key Features

- Free speeds 20,000-30,000 rpm typical
- Collets for 3 mm and 6 mm shanks
- Straight and right-angle bodies
- Rear exhaust keeps the work area clear
- Trigger or lever throttles

Typical Uses in the Workshop

- Deburr and finish metal edge work
- Grind welds and shaping with carbide burrs
- Polish and finish with mounted points
- Work in tight corners and ports

Safe Operation

1. Match air pressure to the tool rating
2. Fit the burr or point fully in the collet
3. Start touching the work lightly then increase
4. Move the tool steadily for even removal
5. Ease off at edges to avoid gouging

SAFETY NOTES

- Wear eye protection and a face shield - wheels shatter
- Never exceed the wheel rated speed
- Keep hands clear of the spinning collet
- Disconnect air before changing tools
- Do not press hard; let the abrasive work

Maintenance & Consumables

- Oil the air tool daily through the inlet
- Check collets and replace worn ones
- Clean abrasive dust from the body
- Check the hose for leaks and damage
- Keep burrs and points in a labelled tray

Specification & Buying Notes

A straight die grinder with 3 and 6 mm collets plus a starter pack of carbide burrs and mounted points covers school metalwork. Check the compressor supplies the required air flow.