

Air Compressors

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



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An air compressor stores pressurised air in a tank and supplies it to pneumatic tools such as nailers, impact wrenches, die grinders and blow guns. It is the power source for the pneumatic side of a workshop and needs matching capacity for the tools it drives.

Key Features

- Tank sizes from 24 L portable to 100+ L workshop
- Motor power 1.5-3 kW typical for school use
- Pressure switch set around 8-10 bar max
- Oil-free or lubricated pump designs
- Regulators and gauges for tool pressure

Typical Uses in the Workshop

- Power brad nailers, staplers and blow guns
- Drive impact wrenches and air hammers
- Inflate tyres and air dusters
- Power spray guns for finishing

Safe Operation

1. Check the oil level before starting a lubricated pump
2. Open the tank drain to clear moisture
3. Set the regulator for the tool's working pressure
4. Let the tank fill before heavy use
5. Drain the tank after the day's work

SAFETY NOTES

- Never point the air line or blow gun at people
- Fit a safety valve that opens correctly
- Keep hoses out of walkways and check them for wear
- Do not exceed the tool's rated pressure
- Vent the tank pressure before servicing

Maintenance & Consumables

- Drain condensation from the tank daily
- Check and change the air filter
- Inspect hoses and fittings for leaks
- Tighten bolts and check belts monthly
- Keep the intake filter away from dust

Specification & Buying Notes

Match tank and flow to the tools: nailers need little flow, die grinders and spray guns need much more. A 50 L 2.2 kW compressor covers a school shop. Oil-free pumps need less maintenance but are noisier.