

# Plasma Cutting Torches

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Welding & Thermal Cutting

A plasma cutter uses an electric arc and compressed air to slice through conductive metals - steel, stainless and aluminium - with a fast, clean cut and a narrow kerf. Handheld and machine torches bring production-quality cutting to the workshop.

## Key Features

- Cutting capacities 10-40 mm steel typical
- Compressed air or gas plasma systems
- Handheld and CNC-capable models
- Pilot arc starting
- Cut quality down to clean edges

## Typical Uses in the Workshop

- Cut steel plate, sheet and tube quickly
- Cut stainless and aluminium with ease
- Follow marked lines and templates
- Prepare parts for welding and fabrication

## Safe Operation

1. Connect the earth clamp to the work
2. Set the cut current for the material thickness
3. Hold the torch at the right height and speed
4. Keep a steady travel for a clean kerf
5. Let the pilot arc cycle and finish the cut

### SAFETY NOTES

- Arc light and sparks - full welding PPE required
- Plasma fumes are hazardous - ventilate strongly
- Never touch the nozzle or work during cutting
- Check the air supply is clean and dry
- Keep the torch cable away from the arc

## Maintenance & Consumables

- Replace consumables (nozzle, electrode) as they wear
- Drain the air filter regularly
- Check the torch lead and trigger
- Keep the machine vents clear of dust
- Clean the torch head after heavy use

## Specification & Buying Notes

For school work a 40 A air plasma cutter with both handheld and CNC operation covers cutting up to 12 mm. Buy a consumable kit and a quality air filter with the machine.