

3. Welding and Joining Tools

Brief Information:

These tools are used to join metals and other materials through heat or mechanical fastening. Welding is essential in industries like automotive, aerospace, and construction.

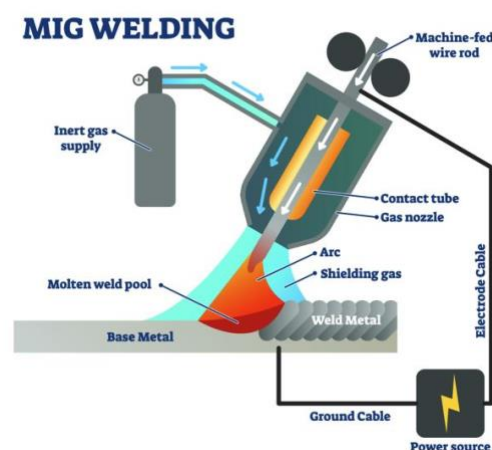
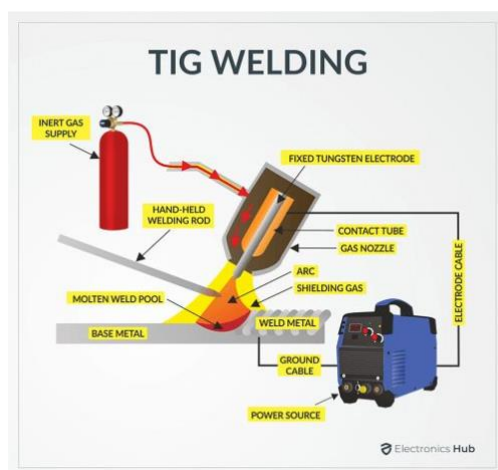
Types of Welding and Joining Tools:

1. **Welding Machines** – Fuse metals using heat and electricity.
2. **Soldering Tools** – Join small metal parts in electronics.
3. **Mechanical Fastening Tools** – Use screws, rivets, or bolts for non-permanent joining.

Examples and Their Details:

a) MIG and TIG Welding Machines

- **MIG Welding:** Uses a wire electrode for welding steel and aluminum.
- **TIG Welding:** Uses a tungsten electrode for precision welding.



b) Arc Welding Machines

- Use electric current to generate heat and fuse metals.

c) Spot Welding Machines

- Used for joining thin metal sheets, commonly in the automotive industry.

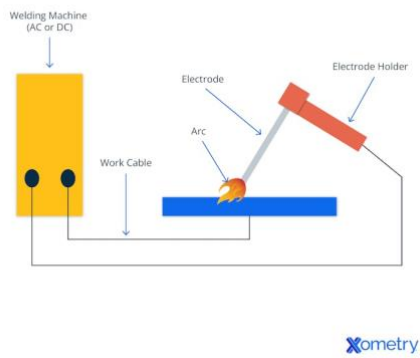
d) Soldering Irons

- Used for joining electrical components and small metal parts.

e) Riveting Tools

- Used to fasten metal sheets using rivets without welding.

Arc Welding Diagram



Spot Welding Principle

