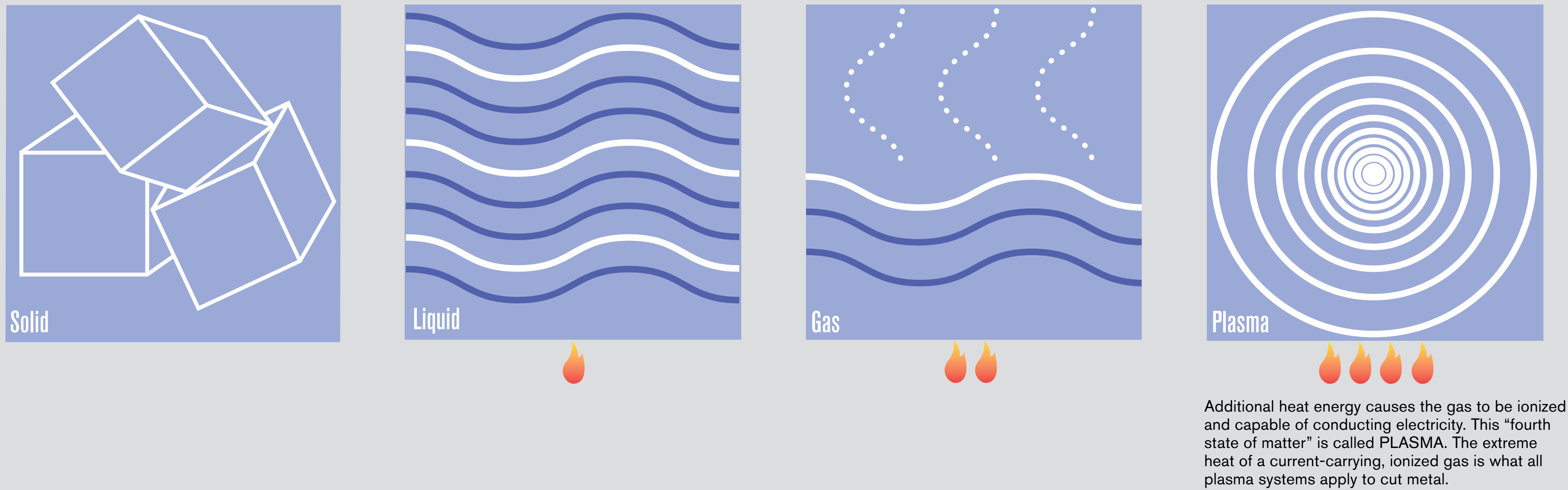


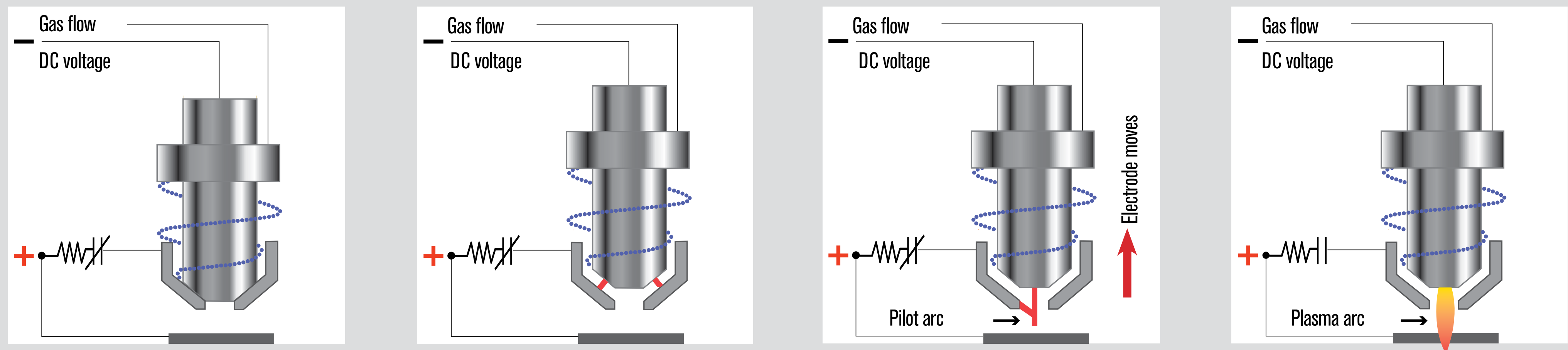
What is plasma cutting?

4 states of matter



www.hypertherm.com/PlasmaEducation

Theory of operation



Open circuit voltage and gas flow

A start signal is sent to the DC power supply. This produces the open circuit voltage (OCV) and the gas flow to the torch.

Initial pilot arc creation

In a contact start system, gas flows between the electrode and nozzle and forces them to separate. A small arc forms and ionizes the air passing through it.

Pilot arc

This electrically conductive gas creates a current path between the electrode and the nozzle and results in the formation of a pilot arc.

Arc transfer

When the pilot arc is brought into contact with the workpiece, it will attach to the workpiece. The plasma arc melts the metal, and the high velocity gas removes the molten material.