

# Types of MHD cycles

1) Open cycle MHD

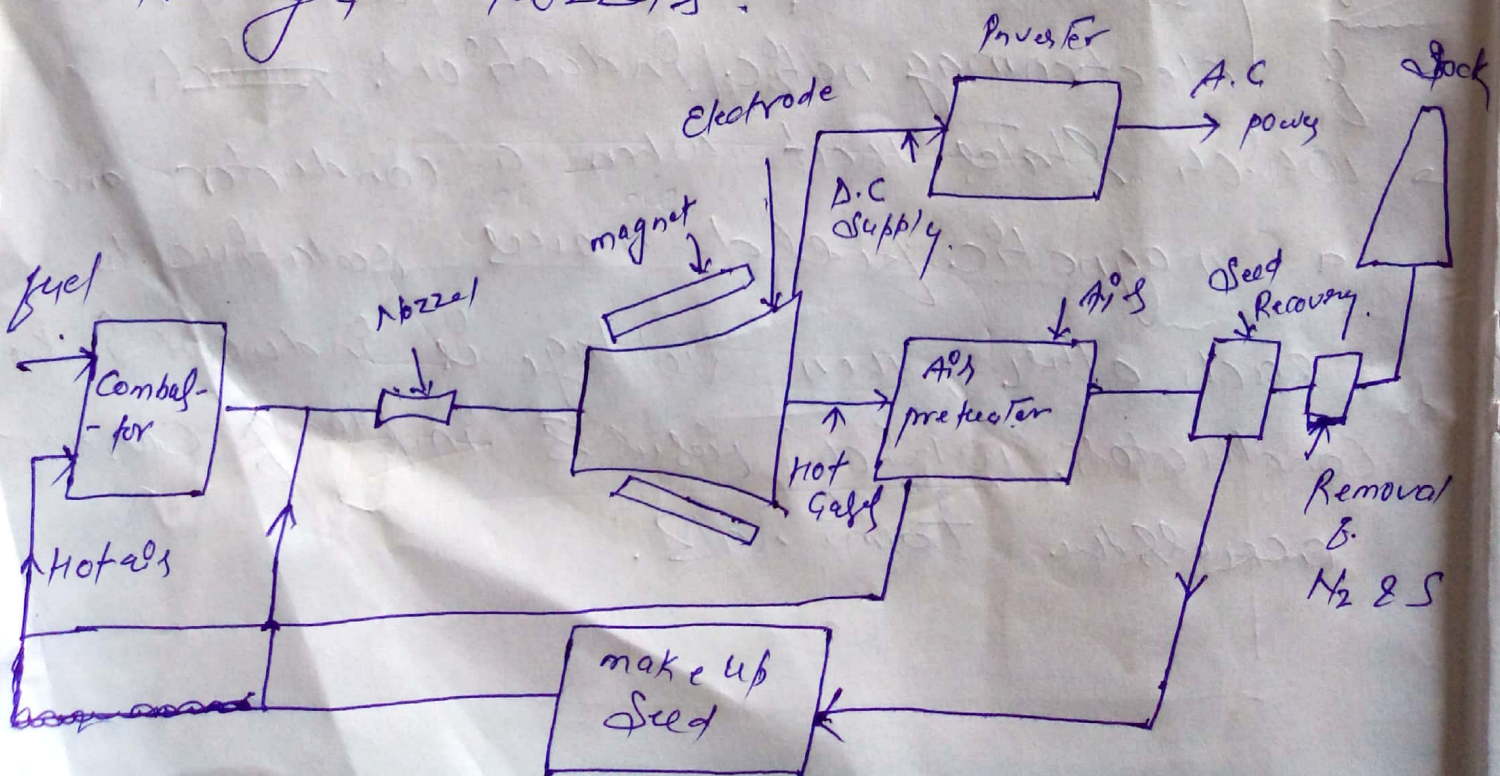
2) closed cycle MHD.

1) Open cycle MHD

→ In open cycle MHD system atmospheric air is at very high temperature and pressure is passed through the strong magnetic field.

→ Coal is first processed and burnt in combustor at a high temperature of about  $2700^{\circ}\text{C}$  and pressure about 12 ATP with pre-heated air from the plasma.

→ The resulting mixture having an electrical conductivity of about  $10 \text{ Siemens/m}$  is expanded through nozzle.



② Closed cycle MHD system :-

- As the name suggested the working fluid in closed cycle MHD is circulated in closed loop.
- In this case inert gas or liquid metal is used as the working fluid to transfer the heat.
- Contrary to the open loop system there is no inlet and outlet for the atmospheric air.
- Hence the process is simplified to a great extent, as the same fluid is circulating time and again for effective heat transfer.

