

AW13) a-) Open cycle MHD system

In this system atmospheric air at very high temp. and pressure is passed through the magnetic field. Coal is first processed and ~~burn~~ burnt at high temp of about 2700°C and pressure about 12 ATP with pre-heated air from the plasma. Then seeding material potassium carbonate is injected to increase electrical conductivity. During this expansion of gas at high temp. The +ve and -ve ions moves to the electrodes and constitute an electric current. Since the same air cannot be used ~~again~~ again. It forms an open cycle. This is called open cycle MHD system

b-) Closed cycle MHD system

In this case inert gas or liquid metal ~~is~~ is used as working fluid to transfer the heat. The liquid metal has typically the advantage of high electrical conductivity. Hence the heat provided by the combustion material need to be too high. There is no ~~inlet~~ inlet and ~~outlet~~ outlet for atmospheric air. Hence the process is simplified to a great extent. as the same fluid is circulated time and again for effective heat transfer. It is known as closed cycle MHD system.