

Electromagnetic Welding/Forming Equipments

Electromagnetic Manufacturing (EMM) process is the state of art of technology for shaping and joining metals based on EM forming and welding. In this process, forming and welding are achieved without physical contact between tool and job piece, and hence has merits over conventional processes such as brazing and welding. A 20kV/25kV, 40kJ/70kJ EME Machine has been designed, fabricated, assembled and tested to its rated value. The machine consists of a capacitor charging power supply, two modular type energy storage capacitor banks, strip line and coaxial cable delay line connections, trigatron type spark gaps switches, solid state trigger supply for firing the spark-gaps and PLC based control system. Electromagnetic manufacturing tools (strong coil and field shaper) have been developed for forming and welding applications. The system is accommodated in two racks mounted on castor wheels to facilitate the movement of the racks and table top for coil. The photograph of EMM equipment shown comprises of Power supply and PLC control rack-1, Capacitor bank rack-2 and Table top for tool.

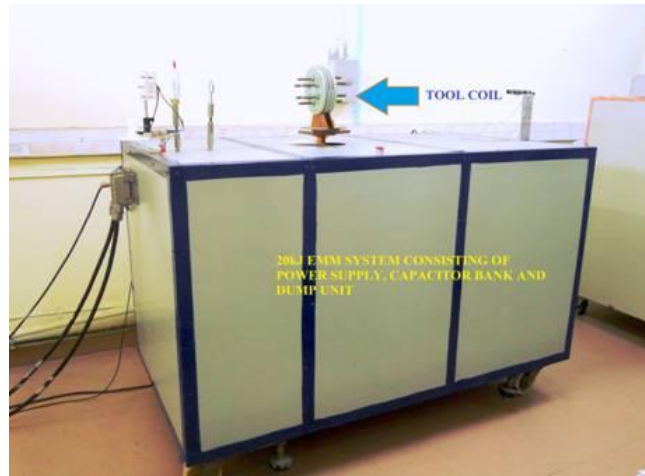
Features: Modular Design, Fiber optics and IGBT Based Trigger circuit, CCPS Based power supply, PLC based control system, Strong tool. Being a solid-state welding, it can be adopted for futuristic clad to end plug joining such as ODS.



[70kJoule Electromagnetic Manufacturing Machine](#)



[40kJoule Electromagnetic Manufacturing Machine](#)



20kJoule Electromagnetic Manufacturing Machine