

ABSTRACT OF THE INVENTION

An electric arc welder powered by a plurality of liquid organic fuel cells. The fuel cells use a methanol/water mixture as the organic feed. The fuel cells produce carbon dioxide as a reactive product which is used as a shielding gas during the arc welding process. The fuel cells are stacked together to produce the desired arc voltage and current between an electrode and the workpiece. The
5 arc welder includes a welding current to control the current wave shape through the electrode and to control or increase the voltage through the electrode.

