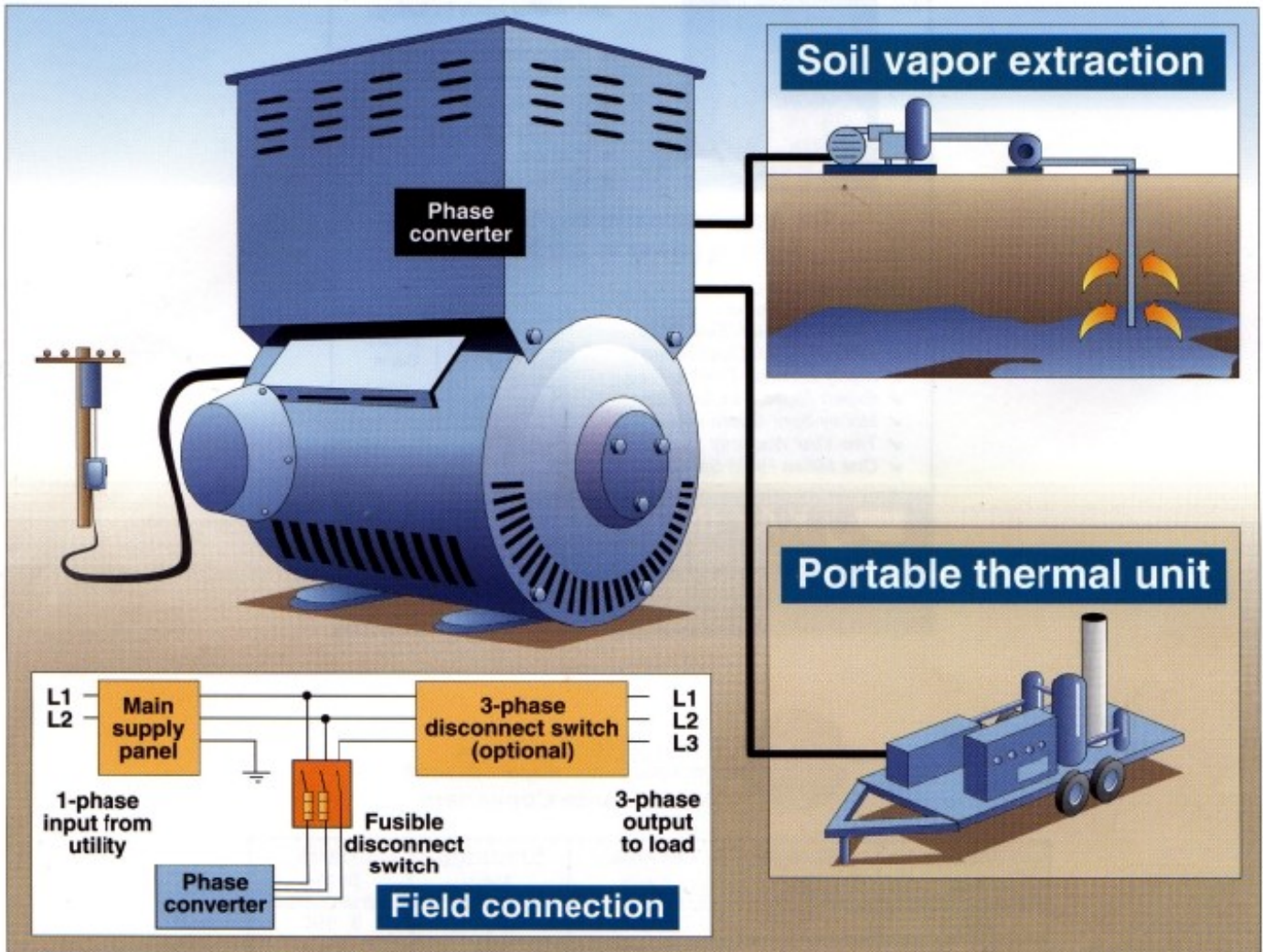


HERE'S HOW IT WORKS...

Kay Industries Phasemaster® Rotary Phase Converter



Three-phase motors are often incorporated into portable thermal treatment units, soil vapor extraction units, drilling equipment and other soil treatment machinery. Getting 3-phase power service to many soil remediation sites can be an expensive problem, especially if the utility company has to bring it in to a remote area. The Phasemaster rotary converter, from Kay Industries Inc., South Bend, Ind., converts 230 or 460 volt 1-phase service to 230 or 460 volt 3-phase power. The unit also solves the problems of 1- to 3-phase conversion for solid state power supply loads in transmitters, computers and other electronic equipment. A phase converter uses

transformer action to split off and phase shift only a portion of the 1-phase supply, with very little additional energy use. The rotary converter is a single armature device with a stator frame with a symmetrical 3-phase winding and modified squirrel-cage rotor. A large capacitor bank is placed across a coil group between one input line and the manufactured phase. When the converter is energized, 1-phase voltage is applied to one winding group. This produces an internal magnetic field proportional to that of the applied 1-phase line. The capacitor bank provides a phase-shifted voltage to an adjacent coil group which creates another internal

field which produces rotor torque. As the rotor spins, it picks up a replica of the utility supply through induction. The rotor current, in turn, creates its own field, and as the rotor passes each stator coil group, the 1-phase rotor field is replicated in the other two coil groups. The result is true 3-phase output. The Phasemaster converter provides 3-phase power to any combination of motors varying in horsepower, speed, duty cycle, etc., running individually, simultaneously, intermittently or continuously. The unit can be placed any distance from the equipment it operates, as long as sufficient size wire is used as connection, says the company.