

A desalinator is disclosed for removing dissolved solids from sea water or brackish water. The desalinator (10) comprising a casing (12) into which a pump (14) driven by a motor (16) pumps sea water or brackish water under pressure. A desalination cartridge (76) within the casing (12) includes semi-permeable material which acts as a reverse osmosis membrane and through which permeate is forced to separate it from the sea water or brackish water. The solids dissolved in the brackish water or sea water are retained in the salt retention passages of the cartridge (76). Three electrical coils (94, 96 and 98) encircle the cartridge (76) and are embedded in the walls of the casing (12). The coils are supplied with current from a supply (112) which is preferably a 50 Hertz, 380 Volt three phase supply. The coils are also connected by lines (108) to an adjustable frequency AC drive (110) which is in turn connected to the motor (16). The coils (94, 96 and 98) impose a magnetic field on the sea water or brackish water in the salt retention passages which enhances the rate at which water permeates through the reverse osmosis membrane and also inhibits fouling. The coils (94, 96 and 98) additionally act as chockes for the motor (16).