

Free-piston external combustion engine contains at least one free-piston linear generator with two cold cylinders, namely the left and right, each of which has its own pistons with neodymium magnets, which are rigidly fixed on a rod with the possibility of movement together with it relative to the side walls of the cylinders and the stator, on which coils with windings are placed, and Hall sensors are fixed on the housings of the right and left cold cylinders. Wherein the right and left cold cylinders are connected separately each by means of right and left bypass pipes, each of which has check valves, with the right and left coolers through the right and left shut-off double valves. Each cooler is located in a separate casing, which has pipes for supplying water for cooling. Between the coolers in the housing is a duplex valve system, which has a rod with plates at the ends, solenoid coils, a neodymium magnet and pipes, by means of which the duplex valve is connected to the left and right regenerators with a porous structure of sintered thin metal meshes inside. Above the regenerators is a heater, which has an upper collector with left and right tubes, as well as a lower left collector and a lower right collector, to which the left and right regenerators are connected.