

A B S T R A C TA GAS COMPRESSOR

The invention relates to gas compressors for supplying compressed gas such as air in gas turbine plants for the generation of electricity. One problem associated with gas turbine plants is how to maximise the conversion of heat energy into mechanical energy so that less fuel is required for a given power output. A gas compressor is provided comprising a chamber to contain gas to be compressed, a piston in the chamber and means to drive the piston into the chamber to compress the gas. The compressor also comprises means to form a spray of liquid in the chamber to cool the gas on compression therein, so that the gas may be compressed approximately isothermally. Valve means are provided to allow compressed gas to be drawn from the chamber. The means to drive the piston comprises means to deliver driving energy stored in a fluid directly to the piston. In one embodiment, the driving energy is provided by a combustible fuel. The heat of compression is rejected at the lowest temperatures and the hot exhaust gas from the combustion process may be used to preheat the isothermally compressed gas.

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