

MONO- AND/OR BI-ENERGY CHAMBER ENGINE WITH SUPPLEMENTARY COMPRESSED AIR AND/OR ENERGY AND ITS THERMODYNAMIC CYCLE

ABSTRACT

The inventive engine uses a top dead center piston stop device. It is fed by compressed air, which is contained in a high-pressure storage tank, via a working capacity (19), which, in the bi-energy version, comprises a device for heating the air supplied by additional energy. The active expansion chamber consists of a variable volume or charge piston sliding in a cylinder, coupled to space above the engine piston (1) by means of a passage (12). When stopped at upper dead center, the pressurized air is admitted into the expansion chamber with the smallest volume thereof and, under the effect of thrust, increases the volume thereof by producing work; the expansion chamber is then kept at a maximum volume during expansion of the engine cylinder (2) driving back the engine piston (1) in its downward stroke, providing work of its own. During exhaust, the two pistons (1 and 13) travel in an upward stroke and simultaneously reach top dead center in order to resume a new cycle. The invention can be used with land vehicles, cars, buses, motor bikes, boats, auxiliary generator sets, cogeneration units and fixed station motors.

Figure 1