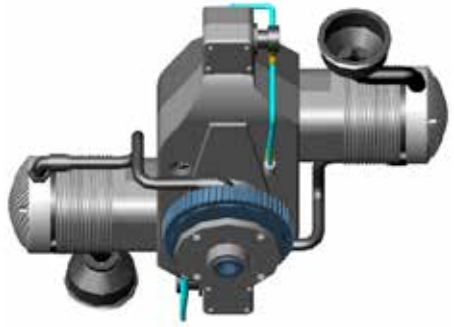
ROT RUIZ

"Give me a place to stand, and I shall move the Earth with it." (Archimedes)

Desarrollos Rotativos Ruiz

Desarrollos Rotativos Ruiz S.L. is a company created to develop products based on an innovative system, applying the abilities of the lever "**Give me a place to stand, and I shall move the Earth with it." (Archimedes)** to multiply the force and by combining it with a crankshaft make a mechanism rotate and transform a rotational movement into a linear one or vice versa, obtaining significant improvements in the machine's performance.



Compressor

At present we have developed a compressor with these characteristics, that can also function as a vacuum pump by changing the suction and discharge valves and we are working on making a driving motor, initially driven by compressed-air and subsequently making it as a heat engine as well.

The lever is connected at one end to a shaft around which it oscillates, that is fixed at the end of a crankcase made up of two casings. The crankshaft is located in the centre and is fixed to the structure that supports the mechanism. Two cylinders are fixed to the crankcase by their cylinder heads. Each cylinder contains a piston that is connected to the free end of the lever by a connecting rod. The module rotates around the crankshaft which remains stationary and acts as a fulcrum; in each rotation an admission-compression cycle of the air in the cylinders occurs.

- The advantages of this mechanism essentially derive from the use of a lever as a drive arm **("Give me a place to stand, and I shall move the Earth with it" Archimedes)** and its rotation around the crank's eccentric shaft to produce the oscillation of the free arm of the lever and as a result the linear movement of the pistons.
- All of the parts that rotate with the crankcase are balanced by another counterpart, positioned diametrically opposite.
- A **greater** ratio between the arms improves the machine's output. This means that the **resistance arm** must be made as short as possible and a balance must be found between the radial displacement of the crankshaft journals (diameter) and the **length of the effort arm** to obtain the required productivity.
- The rotation of the unit facilitates the loss of the heat generated when compressing air by adding extended surfaces (fins).
- The thrust of the pistons is practically linear, minimizing lateral loads on the cylinders.
- As the centrifugal forces that appear in the pistons, connecting rods and levers principally act radially, they are countered by the forces applied to the piston heads.

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