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Product Name :	Product Code :
Stirling Cycle Hot Air Engine	LBNY-0005-11200085

Description :

The engine has one working cylinder and a transfer cylinder arranged side by side in open communication one with another but without any intervening valve mechanism. The power cylinder has a single acting piston connected to the crankshaft while the transfer cylinder has a double acting displacer piston and regenerator operated by an eccentric, the phasing of which can be altered in relation to the crankpin of the power cylinder. The cycle on which the engine is based consists of two isothermal processes and two constant volume processes (the latter being performed with the aid of a regenerator). The source of heat is provided from a low voltage electric element so that it may readily be controlled and measured. Output is measured by the simple dynamometer supplied. The optimum phase angle can be determined and rotation can be reversed. The heating element is located at one end of the transfer cylinder, which is made of pyrex glass, so that the element and the transfer piston can be clearly seen. A variety of experiments can be carried out and the effect on performance of the use of gases of different specific heat ratio can be established. By means of the transparent cylinder the temperature of the element may be seen to fall as heat is extracted from it when the engine starts from rest. Relatively little information exists concerning the detail design of small hot air engines and this engine was designed from first principles with the aid of a computer to determine the optimum proportions of the various working elements.

Applications:
Use of gases of different specific heat ratio
Study of Hot air engine
Effect on performance
Cyclic compression and expansion of air
Closed-cycle
Regenerative heat exchanger

Temperature differential.
Technical Specification :
Stirling Cycle Hot Air Engine