

ABSTRACT

DESIGN AND FABRICATION OF TRIANGLE AIR COMPRESSOR WITH COMMON COMPRESSION CHAMBER

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The compressor is mechanical equipment which is used to increase the pressure with the help of the piston. Need to improve the performance of compressor by several methods. The main aim of the project is to make tri-cylinder air compressor to generate large amount of air with less power and low vibration. In tri cylinder air compressor the three cylinders are kept at 120 degree to each other. The three cylinders are placed radically and equally apart such that the cylinder opening tends to meet on a common triangular compression chamber. The three pistons are made to compress air simultaneously on to common tri angular chamber over shorter stroke and the isothermal efficiency will be better than single cylinder with one piston. The motor is connected to the chain drive to drive the three crank shaft which is used to move the piston. If space is smaller the pressure will be more and bigger the lower. If compressor is made to work at 1400 rpm air taken will be $147.18 \times 1400 = 206052$ liters at 7 atmospheres pressure. The advantage with triangular compressor will be low vibration, smaller unit giving more output and so cheaper to make, ideal for air compressor is Air conditioning and Refrigeration, Vacuum pumps and general purpose usage.



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