

# Farmer Friendly Biogas Compressor

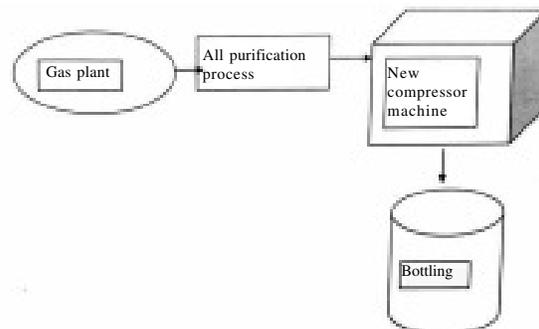
□ Ajay Kumar Sharma

In India, the generation of Biogas is huge but bottling it is a big problem. Due to lack of bottling of biogas in cylinders, villagers/biogas plant owners are not able to commercialize biogas they produce. If these people can do bottling of biogas on their own, then they can earn some money from it and expand their business.



mention that it is not compulsory to use two motors. It depends on source of energy, if source is DC from solar then we need DC motor, or else we can convert DC power to AC from solar system then we need only one motor i.e. AC motor.

3. A few gears are added in the product to increase torque/force and to reduce consumption of electricity/input energy. There is a flywheel (14 inches diameter) installed in the machine to make manual operation easy and minimum input.
4. I have designed a new cylinder for compressor machine of 4-6 inches stroke at low rpm. This cylinder creates required pressure at low rpm for manual operation. This cylinder works on electricity (motor driven) and manual system, both.



## About the innovation

I have made a portable, energy efficient and cost efficient biogas bottling compressor machine, this machine compresses the biogas from 0-200psi in a biogas tank. It operates on electricity, solar energy and also manually. This new “Farmer Friendly Biogas Compressor Machine” deals with a new idea with some innovation. We can do bottling directly from biogas plant/digester (after purification) and there is no need to store large volume of biogas to create high pressure for bottling by large tank.

## How Does it Work?

1. There are two types of compressor cylinders installed in this product, one is for manual operation and the other is for high-pressure compression on electricity or solar energy. (Note: this operation can also be done by only one compressor cylinders, manual or electrical and it depends on consumer needs or source of energy available)
2. There is one AC Motor ( 1.5hp, 1400 rpm) for 3 hp compressor and a DC motor for Solar energy/power ( 12-24 V, 1000W, 3000rpm). Here it is important to

## Innovative Features of this Product

1. This product saves 50% electricity or input energy.
2. This compressor machine can also work without fossil fuels, so it can be said as a man powered driven system. We can do a modification in domestic cylinder as biogas cylinder. There should be a separate valve in cylinder for bottling and by this modification, we can reduce the size, cost, weight, and energy consumption in compressor machine. (Modification in gas cylinder is not compulsory).I have also made a small connecting cylinder for direct feeding in cylinders without any changes in cylinders.

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