

MINI DISHWASHER

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Abstract

Dish washing is a tough task to in daily life and there are solutions to them. Some solution prove that they are really costly to be afforded and some cause troubles which make dish washing even more tough. these days many tasks are getting automated and one of them is dish washing and automated device for dish washing is costly to afford. So we want to design an automated dish washing machine at an affordable price and having a good efficiency.Despite many things becoming easy these days but dish washing is still an tough process to do. Automated dishwashers are good but coming to its price many of the families cannot afford it which is big problem for them some may be priced at low price but the there are many compromises like the capacity and electricity rating andthe efficiency of the machine. With some basic body construction and rotating pipemechanism we can clean the dishes upto a good level which is attained at a very good price and by using less electricity. On the whole process will be completed in a 10 Minute cycle which will give you a good result in the cleanliness of the dishes

1. INTRODUCTION

Though lot of human activities are automated in the present competitive world. There is a lag in automated dish washer. Some machines are already designed with the help of high velocity water only;hencethereisachanceofuncleanlinessandnotremovingtough strainsindishes.In orderto overcome the above problems a special machine called Automatic Dishwasher Machine with rollers, brush and water jet introduced in this work. By

combining dishwasher with roller mechanism using brush and water jet, it is possible to clean the objects effectively than the other machines and without any manpower.Dish washing is always a tough job to do and it always make a big mess in the process. I'm general it a tough and long process to do. The function of the dishwasher is to provide the mechanical action necessary to distribute and direct the detergent solution and rinse waters over, under and around the dishes to loosen and remove soil. The dishwasher

must also remove soil-laden waters from the machine. We need to get the dishes wet and apply the soap and clean them with a good amount of pressure and they need to be washed again with the water, this process takes a lot of energy patience to do and due to this many of the people suffer from different kinds of pain So to make the job easy there are automated dishwashers but they are high priced so in counter to that we designed a dishwasher similar to a dishwasher mechanism which gives a good amount of cleaning to the dishes.

2. RELATED WORK

Various cleaning procedures are reported in the literature. The simplest one involved rinsing Or brushing of dish using water which significantly removed a high level of bacteria. Interestingly, use of chemical cleaners did not statistically improve the performance. Similarly, Abrishami (1994) reported the use of an automatic dishwasher with only cold water to remove bacterial contamination from a dish. Being the most easily cleaned. Mr. Cochrane, in 1917 has introduced an electrical motor to operate the centrifugal water pump. In this solution she also introduced the spraying arms. In that model, the rinse phase was also introduced; the introduction of electrical appliances in this modern life kitchen has

determined the born of new era and the dishwasher manufactures have seen a speedy increase of the production volume for this appliance. They conclude that in order to improve the Dish washing process without human efforts and the removal of any bacteria which may remain by using with clear water. The essential step was
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 of eating utensils are the removal of all soil by
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 by washing for the optimum length of time with
 h water in which a suitable detergent has been a
 dded in proper concentration. They
 observed that improperly cleaned and
 sanitizes dishes constitute a health hazard.

3. IMPLEMENTATION

To design development and manufacturing of
 mini dishwasher and its experimental study. T
 o save water and to save the manual effort
 of Every home maker in washing utensils.
 It causes pain in hands and process is very
 time consuming and it involves much
 wastage of water. So we are going to
 design a machine which solve this
 problem in particular area
 of dish. Surveying the existing dish
 washing machines in the market we
 observed many effects in the system such
 as wastage of water, requirement of man
 power, high installation cost, poor quality
 of cleaning etc. Hence, we decided to

implement a dish washing machine which will not only overcome these defects but also provide optimized cleaning. So for efficient cleaning of dishes we can use this system. In future by modifying this system we can clean the big utensils, glassware, etc. The dishes are placed inside the main body and the cover is closed from here the actual process starts. When we turn on the motor in the motor start pumping the water up to the top of the main body. In this process the utensils are cleaned after the pressure of water created due to the pressure created by the 40 watts motor the pressure water cleans the stains present on the utensils, in this way the washing process is done. The water hits that surface of the utensils and that actions cleans the stain on the utensils due to which the cleaning process is done. Now the rotating handle is attached to the main rotating pipe part so when we start rotating with the help of metal hand, we made the flow of water is change that means we change the position of water striking. We rotate the whole pipe part that ejects the water so by this all the utensils are covered and the water with pressure cleans the stain present on the utensils. The metal handle is used to change the direction or the position of the pipes. So that the water is striking utensils at different directions. There are two cycles in

this process. In the first cycle we wash the whole utensils with the dishwater, this cycle takes up to a max duration of 10 mins and the second cycle is of washing again the whole utensils with the plain fresh water in this cycle the soap water that is left on the utensils are removed which makes the utensils absolutely fresh.

4. EXPERIMENTAL RESULTS

Dishwashing is a tough task to in daily life and there are solutions to them. Some solution prove that they are really costly to be afforded and some cause troubles which make dishwashing even more tough. these days many tasks are getting automated and one of them is dishwashing and automated device for dishwashing is costly to afford. So, we want to design an automated dishwashing machine at an affordable price and having a good efficiency. Dish washer is a very tiring mechanism. In most cases it is done manually. Automatic machines are expensive. They use more premium materials. Our dishwasher has a good body constructed by wood for the outer body which is surrounded by wooden sheets and inside body consists of a pipe with two T-shape constructors for cleaning the dishes and the dishes are placed on the steel stand which is inside the body of dish washer. The mini dishwasher has a good body constructed by wood and the outer body is surrounded by a plastic sheet inside the main body there are

metal stands and pipe that is fix a rotating handle those pipes are attached to a gear and that there is attached to a metal rotating hand in this way the rotation is done. The whole mechanism of the mini dishwasher produces a good efficiency for cleaning the utensils. It contains a plastic crate which store the soap water and that hose of water supplied to a water pump and that pumps water to the main pipes system, Dish washing machine is a kind of mechanical machine widely used for cleaning eating utensils and dishes in private homes and hostels to eliminate the job of hand washing. Especially have higher efficiencies than other types of manual dish washing. The dish washers are connected to the kitchen sinks for water supply. This mechanical dish washer cleans by spraying water several times at the dishes. The dishes will be cleaned by the forceful water outflow. The water pressure cleans the dishes efficiently. This model proves to be economical and also it reduces the manual work of the housewives and the bachelors or any other people who are very busy or due to various reasons cannot wash dishes on their own. After the rinse cycle finishes and the water is drained and the dishes are left in the atmosphere for drying. The plates are placed on a metallic stand. The pipes will be rotating and the water will fall forcefully on the dishes from both the sides. One of the pipe will force the water downwards and the other one

will force the water upwards. And the dishes are placed in between. After the washing the waste water is removed. The fresh water cleans the dishes for few minutes and they are now ready for drying. But in our model the water is filtered using a wire mesh or a grid and filters the waste water to an extent.



5. CONCLUSION

A dish washer is not a luxury but a necessity which can make your life a lot easier. The best dishwasher should have the capacity suitable for your family's needs. It should also be easy to use, energy efficient and reasonably quiet. Moreover, the best dishwashers are the ones that can deliver spotless dishes without needing them to be manually rinsed beforehand. This design of automatic dishwasher can be used to wash eating

utensils very cleanly and with the ease. As the motors selected can consume much less power so it will be electrically better.

Manual wash is usually done with cold water but hot water helps to kill harmful germs. And the utensils come out dry which means that there is no need for drying them which reduces human efforts to great extent. This is very much efficient in cleaning the dishes without human intervention. This saves lot of time and manpower.

6. REFERENCE

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