

To Save Electric Energy of Electric Heating Coil Domestic and Industrial by PH Water Treatment Using Natural Resources

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Abstract— Energy important and major source use in industries as well as Domestic purpose. This will give one idea about how will improve efficiency and to save energy. We know that now days we concentrated on to saving energy because one day all natural energy sources will be end. So now we concentrate on saving energy in any field and to utilize energy so it span time will increase. In America they are used shell gases which are new technique but day it will be vanish. If we survey in world there are so many energy required to produce electricity and every person used electric energy so we need highest energy efficiency equipment. In boiler there are convention and non -convention method also some time we used coal but with considering time is money so they change input from coal to electric energy.

Key words: Electric Heating Coil Domestic, PH Water Treatment

I. INTRODUCTION

In boiler system water converted into steam and we used this steam for to run turbine and produce electric energy. Now days there are some private sector also who produce electric energy by using boiler system or other application means boiler are used mostly which work on electric furnace. In this paper we studies about water treatment after water treatment we can used this water for to make steam making and observe that which method are suitable for to save energy in this experiment set up we used aqua guard concept what actually they do they reduce PH and contamination remove by using filter so by reducing PH or increasing how will save energy. During this experiment some we use natural resources stone and other sources Temperature has a number of significant effects on pH measurement. Analysts must have an appreciation of these effects so that they can improve and maximize the accuracy of their pH measurements. Automatic Temperature Compensation (ATC) should always be utilized during calibration to correct for the non- Nernstian slope of electrodes. For pH meters that feature automatic buffer recognition, the correct calibration buffers, as specified by the instrument manufacturer, must always be used as the meter has the temperature profile for these buffers stored in memory. Additional sources of error include the calibration is potential point, thermal or chemical equilibrium effects on the electrode and the temperature coefficient of variation on buffers and samples. To reduce these potential errors, instrument calibration and sample measurement should be performed at the same temperature ideally using a water bath. Also, as the pH of solutions is temperature dependent, the measurement temperature should always be recorded.

Implementation of these simple guidelines will lead to either a reduction or elimination of the problems associated with temperature. This will result in improved accuracy in pH results thus giving the user greater Confidence in their pH measurements. Depending on the decisions made based on the pH readings the consequences of inaccurate pH

measurement can be more than just a waste of the analysts' time.

Temperature plays a significant role on pH measurement. This is a well-know fact for most users of pH test equipment. However, the temperature affects not only your sensor but also your sample.

By survey there are so many plants which used sea water which having great Ph value so due to that there is corrosion problem in blade as well as impurities in steam so maintenance cost and other cost increases. Water converted into steam process get costly because it required more energy as compared to domestic water.

II. EXPERIMENT SET UP

It consist of tank, conveyor pipe, heating coil, thermometer. tank are used for to store a water, heating coil are use for to increase temperature of water and thermometer used for to measure temperature of water.

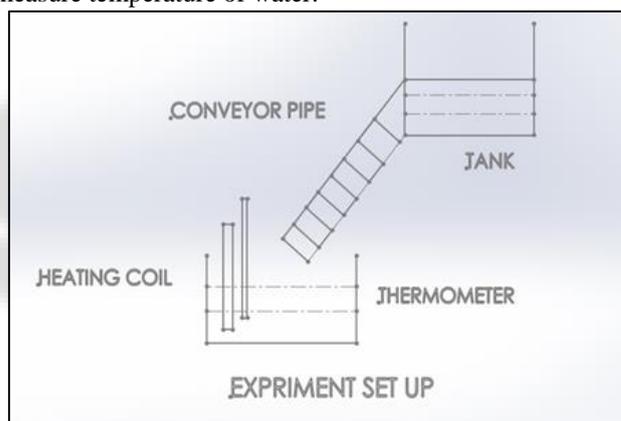


Fig. 1: Experiment set up

If survey in the world we have some filtration process in the world which are effective. From experiment we know that if water is not pure means when water having salt then it take more time for heating and if water is pure then heating coil take less time to heat water. They are some filtration process like coagulation, flocculation, sedimentation, disinfection, PH — adjustment, fluoridation, filtration etc. but other than that we purify water by using natural sources like various types of stone like bauxite, boron, calcite, chalcopryrite, graphite, gypsum, hematite, limestone, magnate, marble, pumice, quartz, slate etc.

Every stone have ability react with water and some stone having capability to absorb contaminants so PH will be reduce and heating energy required to heat water will reduce

In this setup consist of heating coil, thermometer, carried pipe, stand and water tank. Heating coil is used to heat water by using electric energy. Thermometer are used to measure temp. carrier pipe are for carrying water from water tank to reservoir, sand which support to water tank. Carrier pipe having very important role in this type of experiment because every time we change carrying material generally

various type of stone we placed in this carrier pipe for some time after some time we heat water and taking reading after 5 minute.

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III. RESULT AND DISCUSSION

This experiment we get best utilization of nature resource for to save energy. There will be getting best method to reduce electric energy so whenever coil or electric furnace boiler used there will be water treated process will conduct. This method save energy but this instrument saving percentage energy is less but in bulk condition we can saving energy lot off. This method gives some advantages like Initial cost is low, Low maintenance, Apparatus easily available in market, Electrical energy save, Easy process. High durable parts, No moving parts.

In this experiment we use stones and due to stone provided with water then ph of water reduced and temperature of water increases therefore the time span of heating water is reduced and electrical energy saved.

There is some method in which Ph reduced from Literature review but some case when we reduce PH value there is reduced temperature that is wastage of time nut some cases in which by reaction on Ph Value then temperature increase with same input heat energy. Energy is important in every field so we concentrate on reduced energy every ever and by this method we can reduced heating coil energy and save electric energy.

In this seven case we got best result in Ro System as well as almond leaves. In Ro System We Used various type of rocks Water react with this water and Ph value Reduced and for increasing temperature electric energy required small as compared without any experiment

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