

Sutakorn Boonlerdpisan 2010: Design and Development of an Industrial Washing Machine. Master of Engineering (Mechanical Engineering), Major Field: Mechanical Engineering, Department of Mechanical Engineering. Thesis Advisor: Associate Professor Thanya Kiatiwat, Ph.D. 213 pages.

The industrial washing machine was originally designed to accommodate washing clothes of various capacities. Commonly washed clothes include bed linens, counterpanes, towels, tablecloths, etc., which are normally used in hotels, condominiums, and large building establishments. After washing however, transporting clothes out of the machine pose big problem as mass of soaked clothes is greatly increased.

Developing therefore an industrial washing machine that will combine the original industrial machine and a high speed spinning machine is therefore imperative to not only make it less laborious and time-consuming but also to reduce its overall capital costs. The new machine prototype with a dimension of 1,250×1,930×2,000 mm. (Width×Length×Height) and powered by a 10 hp electric motor was developed and tested in this study. The machine has a load capacity of 60 kg, wash bucket rotation of 40-45 rpm and a spin rotation of 400-450 rpm.

The prototype was modified and adjusted to correct all shortcomings. The results of the preliminary test operation revealed that by incorporating the spinner into the prototype, it's washing efficiently greatly improved. Furthermore, it can also provide a cost-effective option for laundry service entrepreneurs.

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Thesis Advisor's signature