

Developing a Machine for Efficient Nanopaper Manufacturing or Analysing the Relationship Between the Wire Tension, Headbox Pressure and Layer Thickness in a Nanopaper Machine or Keeping Constant Control of the Pressure in a Nano Paper Machine Headbox while Varying the Paper Layer Thickness

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INTRODUCTION

This paper will introduce the work surrounding the construction undertaken of a nanopaper machine. Nanopaper is a type of paper which is made up of much smaller fibres than regular paper. It generally has a lower weight, higher abundance, better biodegradability and renewability as well as higher strength and rigidity [1]. It can also be used for electrical purposes by inserting highly conductive electrical circuits into the nanopaper during the manufacturing process [2]. The main problem with this type of paper, however, is that the draining and drying can take a long time, up to a few days [1]. This machine was constructed in order to provide a more efficient way of creating different nanopaper samples, both in terms of the nanopaper samples' composition but also in terms of their dimensions. Currently, several different methods exist for creating nano paper including several drawing methods, cellulose synthesis, spray deposition, electrospinning, and more [3, 4, 5, 6, 7, 8]. Some of these methods are efficient and fast due some optimisation of the methods, but there is still lots of room for improvement in terms of the availability and feasibility of these [7, 9].

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