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Project Title

AUTOMATIC MATERIAL FILLING AND HANDLING SYSTEM IN GAYATRI PSYLIUM

Abstract:

In the process or manufacturing industry, raw materials need to be transported from one manufacturing stage to another. Material handling equipment are designed such that they facilitate easy, cheap, fast and safe loading and unloading with least human interference. For instance, belt conveyor system can be employed for easy handling of materials beyond human capacity in terms of weight and height. This paper discusses the design calculations and considerations of belt conveyor system for material box using 3 rolls idlers, in terms of size, length, capacity and speed, roller diameter, power and tension, idler spacing, type of drive unit, diameter, location and arrangement of pulley, angle and axis of rotation, control mode, intended application, product to be handled as well as its maximum loading capacity in order ensure fast, continuous and efficient movement of material box while avoiding fatalities during loading and unloading. The successful completion of this research work has generated design data for industrial uses in the development of an automated belt conveyor system which is fast, safe and efficient.

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