



EXPERIMENTAL STUDY AND ANALYSIS OF FLAT BELT CONVEYER SYSTEM USING D.C. MOTOR DRIVE

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Abstract:

In this paper, we are studying the flat belt conveyer system using of D.C. motor with various speed, in this way we are used the 12 V. D.C. motor, flat belt which having 2mm thickness, speed controller, inlet container and outlet container for the purpose of finding the maximum material handling rate with speed.

Keywords: D.C. Motor; Flat Belt; Speed Controller; Inlet Container and Outlet Container.

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1. Introduction

The flat belt consists of more layers of material to provide the linear strength and shape, the materials flowing over the moving flat belt with speed. Belt conveyer technology was also used in conveyor transport system such as many manufacturing assembly lines. Belt conveyors were the most commonly used in power conveyors because of they are the most versatile and the least expensive. These conveyors system used the highest quality premium belting products, which reduces the belt stretch and results in less maintenance by tension adjustments.



Figure 1: Experimental setup

2. Results and Discussion

Table 1: Speed 20 R.P.M. of D.C. motor

Sr.No.	Distance between two axis of shafts, (in mm)	Weight as sample, (in Kg)
1	200	6.6
2	400	5.2
3	600	4.8
4	800	3.2
5	1000	2.8
6	1200	2.5

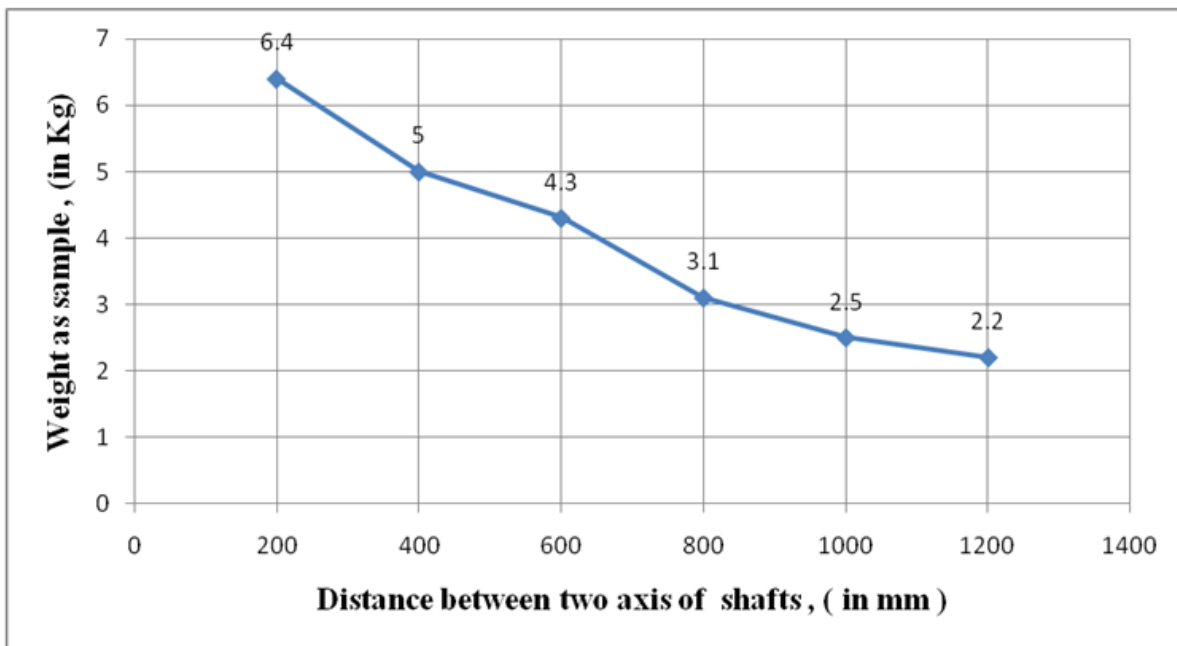


Figure 2: Speed 20 R.P.M. of D.C. motor

Table 2: Speed 40 R.P.M. of D.C. motor

Sr.No.	Distance between two axis of shafts, (in mm)	Weight as sample, (in Kg)
1	200	6.4
2	400	5.0
3	600	4.3
4	800	3.1
5	1000	2.5
6	1200	2.2

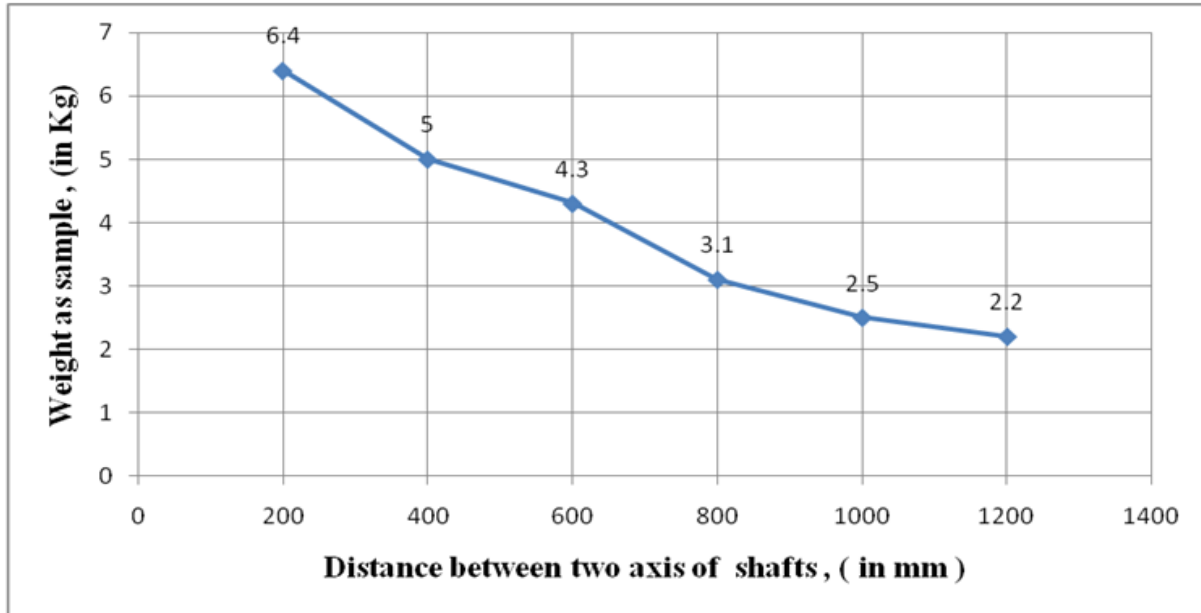


Figure 3: Speed 40 R.P.M. of D.C. motor

3. Conclusion

we are finding out the various material handling rate using the distance between two axis of shafts (mm). We are finding out the maximum weight 6.6 Kg which transfer using of 200 mm distance between two axis of shafts, after this the maximum weight 2.2Kg which transfer using of 1200 mm distance between two axis of shafts.

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