[Beg et. al., Vol.6 (Iss.12): December 2018]
(Received: November 06, 2018 - Accepted: December 29, 2018)
ISSN- 2350-0530(O), ISSN- 2394-3629(P)
DOI: 10.5281/zenodo.2532445

INTERNATIONAL JOURNAL OF RESEARCH – GRANTHAALAYAH
A knowledge Repository

Science

EXPERIMENTAL STUDY AND PERFORMANCE OF FLAT BELT CONVEYER SYSTEM WITH DIFFERENT SPEED

Aiman Beg [1], Narendra Jaiswal [2]
[*1] M.Tech. (Student), Department of mechanical Engineering, VITSM, Satna, (M.P.), India
[2] Assistant professor, Department of mechanical Engineering, VITSM, Satna, (M.P.), India

Abstract

we are studying about the flat belt conveyer system with different speed, in this way we are many component used for proper performance. The flat belt conveyer system is most important device for reduce the material handling time which is very necessary in industrial application, for this purpose we are construct the highly efficiently flat belt conveyer system using of different distance between two axis of shafts.

Keywords: D.C. Motor; Flat Belt; Speed Controller; Different Speed.

Cite This Article: Aiman Beg, and Narendra jaiswal. (2018). "EXPERIMENTAL STUDY AND PERFORMANCE OF FLAT BELT CONVEYER SYSTEM WITH DIFFERENT SPEED." *International Journal of Research - Granthaalayah*, 6(12), 147-150. https://doi.org/10.5281/zenodo.2532445.

1. Introduction

Two cylindrical shaped rollers are used in flat belt conveyer system, and flat belt are running over the upper surface of roller. One of these rollers is directly connected with D.C. motor which rotated with speed. The belt conveyor system presents the many advantages such as reduction in energy consumption and long periods between maintenance.

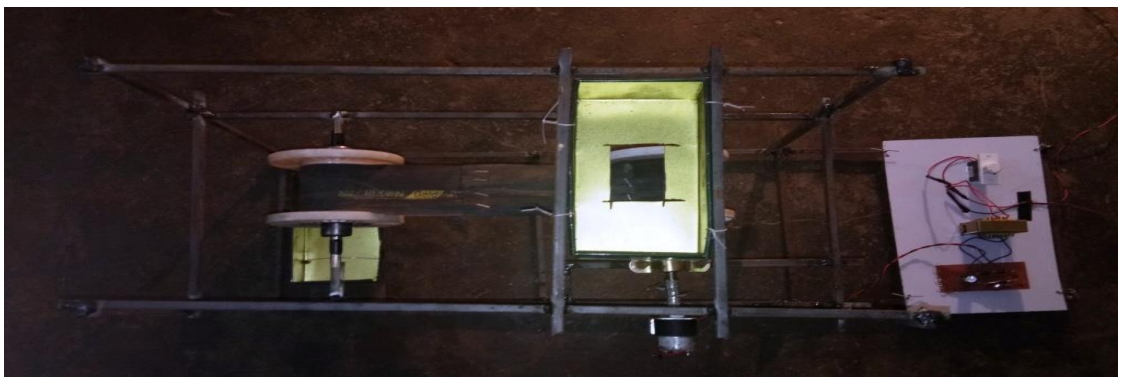

Figure 1: Experimental setup

ISSN- 2350-0530(O), ISSN- 2394-3629(P)
(Received: November 06, 2018 - Accepted: December 29, 2018) DOI: 10.5281/zenodo.2532445

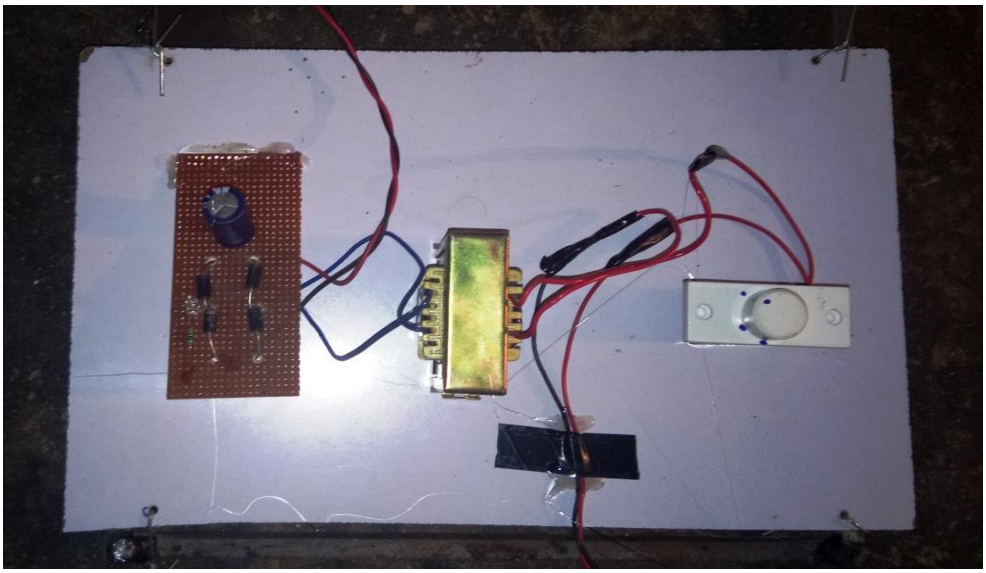

Figure 2: Control Penal

Figure 3: D.C. motor connected with roller

2. Results and discussion

Table 1: Speed 60 R.P.M. of D.C. motor

Sr.No.	Distance between two axis of shafts, (in mm)	Weight as sample, (in Kg)
1	200	6.3
2	400	4.9
3	600	4.2
4	800	3.0
5	1000	2.4
6	1200	2.1

ISSN- 2350-0530(O), ISSN- 2394-3629(P)
(Received: November 06, 2018 - Accepted: December 29, 2018) DOI: 10.5281/zenodo.2532445

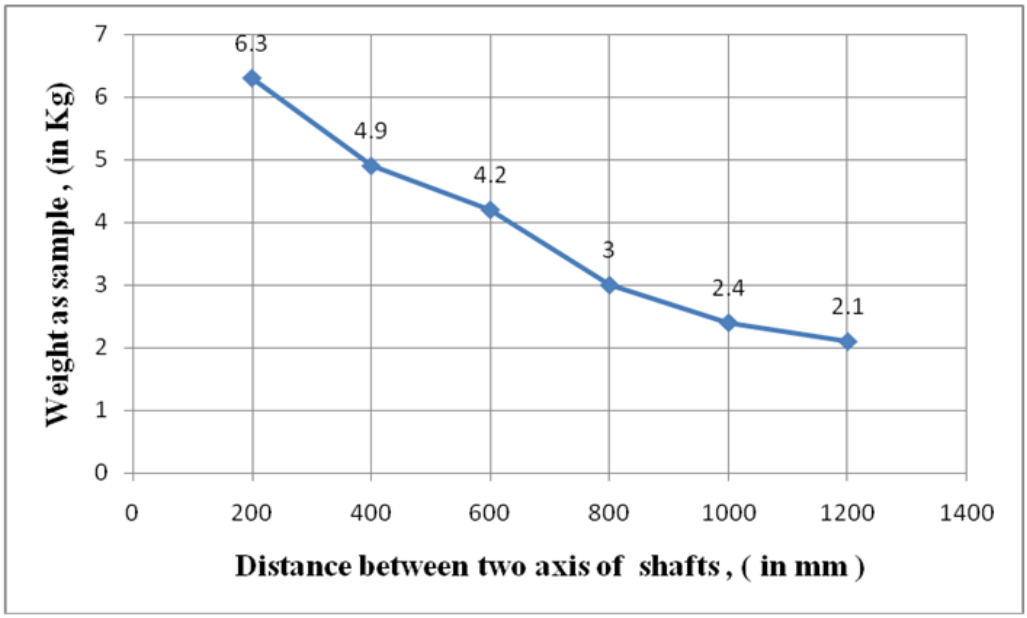

Figure 4: Speed 60 R.P.M. of D.C. motor

Table 2: Speed 80 R.P.M. of D.C. motor

Sr.No.	Distance between two axis of shafts, (in mm)	Weight as sample, (in Kg)
1	200	6.2
2	400	4.8
3	600	4.1
4	800	2.9
5	1000	2.3
6	1200	2.0

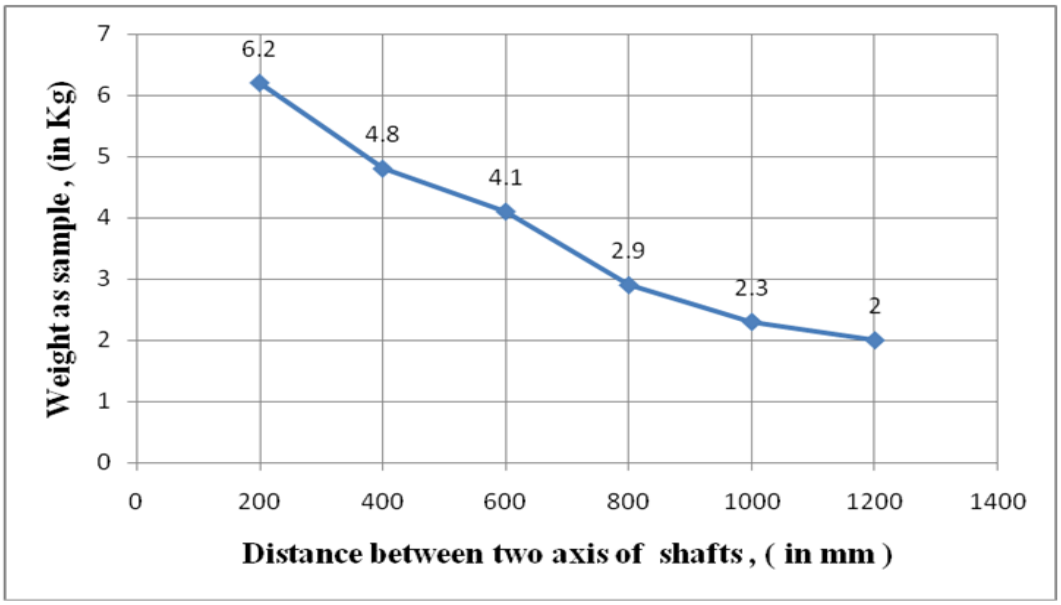

Figure 5: Speed 80 R.P.M. of D.C. motor

ISSN- 2350-0530(O), ISSN- 2394-3629(P)
(Received: November 06, 2018 - Accepted: December 29, 2018) DOI: 10.5281/zenodo.2532445

Table 3: Speed 100 R.P.M. of D.C. motor

Sr.No.	Distance between two axis of shafts, (in mm)	Weight as sample, (in Kg)
1	200	6.1
2	400	4.7
3	600	4.0
4	800	1.9
5	1000	1.9
6	1200	1.9

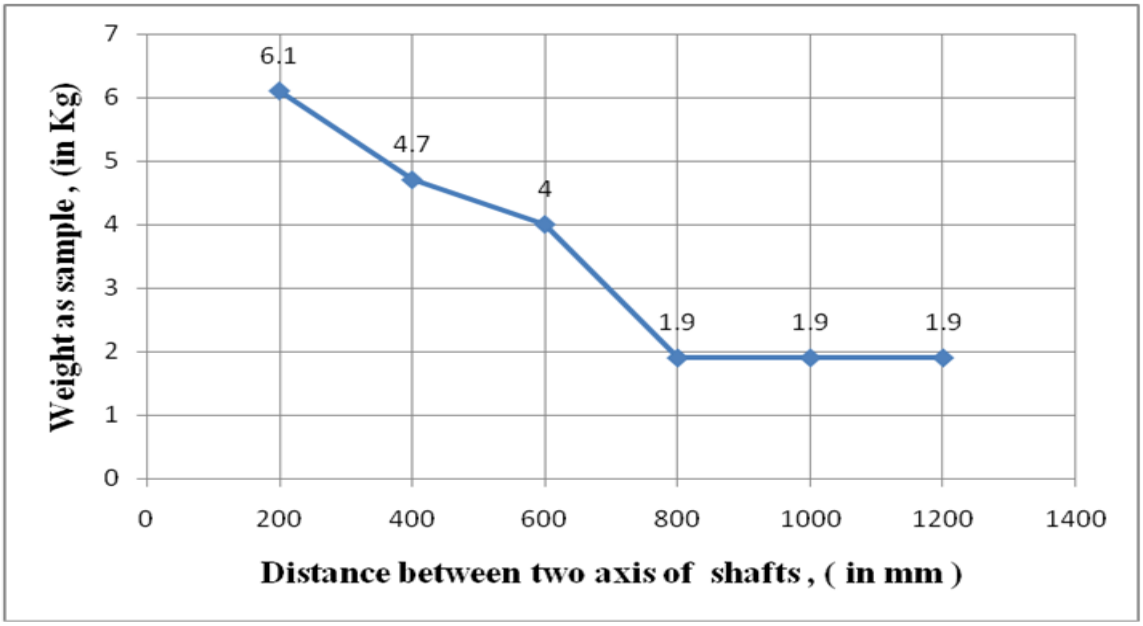

Figure 6: Speed 100 R.P.M. of D.C. motor

3. Conclusion

In this study we are used the D.C. motor with different speed, the experimental test is conducted with different distance between two axis of shafts (mm). We are found out the stable material handling weight 1.9 Kg during 800, 1000 and 1200 mm distance between two axis of shafts which is shown in Table.3.

References

[1] Taoping Yan, "Analysis and Design on Air Controlled Hydraulic System about Dump Truck Lifting Mechanisms", IEEE 2011.
[2] Tao Liu1, and Jian Sun, "Simulative calculation and optimal design of scissor lifting mechanism", IEEE, 2009.
[3] Yang Miao and Shaoping Wang, "Failure Diagnosis of Hydraulic Lifting System Based on Multistage Telescopic Cylinder", IEEE,2011.
[4] Zhong Kangmin, "The Electric Power Clamping Device Driven by Stepmotor and Screw-Togge-Lever Force Amplifier in Series", IEEE 2011.