(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :06/07/2024

(21) Application No.202441051844 A

(43) Publication Date : 12/07/2024

(54) Title of the invention : EFFECT OF ECCENTRICITY RATIO ON JOURNAL TRAJECTORY IN THREE-LOBE JOURNAL BEARING

(51) International classification :F04C0002080000, F16C0017020000, F16C0033100000, F04C0014220000, F16C0033140000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**

1)Mr. CH. Ashok Kumar

Address of Applicant :Assistant Professor Mechanical Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: chashok027@gmail.com & 9676897442 Secunderabad ---------- ----------

2)Malla Reddy Engineering College

3)Dr. T.Venkata Deepthi

Name of Applicant : NA

Address of Applicant : NA

(72)**Name of Inventor :**

1)Mr. CH. Ashok Kumar

Address of Applicant :Assistant Professor Mechanical Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: chashok027@gmail.com & 9676897442 SECUNDERABAD ---------- ----------

2)Dr. S. Udaya Bhaskar

Address of Applicant :Associate Professor Mechanical Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: snvssml@gmail.com & 6386613473 SECUNDERABAD ---------- ----------

3)Dr. T.Venkata Deepthi

Address of Applicant :Associate Professor Mechanical Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: venkatadeepthi.t@gmail.com& 9985589596 SECUNDERABAD ---------- ----------

4)Mr. N. Srinivasa Rajneesh

Address of Applicant :Research Scholar Mechanical Engineering Dept. Osmania University, Ambarpet, Hyderabad-500007. State:Telangana Email ID & Contact Number: rajneeshsrinivasa@gmail.com&8978450639 Hyderabad ---------- ----------

5)Dr. Manish Sharma

Address of Applicant :Associate Professor and Vice Principal Chhatrapati Shivaji Maharaj Institute of Technology, Old Mumbai pune highway, Near shedung toll plaza panvel, Navi Mumbai-410206 .State:Maharashtra Email ID & Contact Number: manish.mvs@gmail.com & 8057574447 Navi mumbai ---------- ----------

6): Dr.M.Geeta Rani

Address of Applicant :Associate Professor Mechanical Engineering Dept., Andhra Loyola Institute of Engineering and Technology,Vijayawada-520001 State: Andhra Pradesh Email ID & Contact Number: geetarani305@aliet.ac.in & 9908330770 Vijayawada ---------- ----------

7)Mr. P. Vamshi Krishna

Address of Applicant :Assistant Professor Mechanical Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: pvamshi131@gmail.com&8555008019 Secunderabad ---------- ----------

8)Krishna Veni Kanaparthi

Address of Applicant :Associate Professor Mechanical Engineering Dept., KKR &KSR Institute of Technology and Sciences Guntur-522017 AP Email ID & Contact Number kanaparthikv@gmail.com 9440241018 Guntur rural ---------- ----------

(57) Abstract :

Fluid film bearings are used in heavy machinery for supporting loads which are subjected to either static or dynamic. Due to this load the rotating shafts centres move away from the centre of the bearing. Due to this deviation of the journal axis from the bearing centre eccentricity is developed. This pulls the journal near to the bearing surface by decreasing the film thickness between the journal and bearing during relative motion. The film pressure is increased to at an edge, which leads to vibrations of the journal. The uneven pressure distribution can be reduced by dividing the projected area of the bearing into lobes. These lobes create film pressure which supports the journal during loading. In this paper three lobe journal bearing characteristics have been investigated for different eccentricity ratios. The journal trajectory is plotted for eccentricity ratio considered from the experimental investigation. The effect of eccentricity ratio on the journal centre trajectory is studied.

No. of Pages : 6 No. of Claims : 2