
# MICRO-PROJECT REPORT ON

# ON

# Title:- Frictional Horse Power Motor

**Submitted by**

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**For the course "Elements Of Electricla Eng" Under the guidance of**

**Mr. Aniket Waghmare**

**Academic Year 2022-2023 Department of Computer Technology**

**Government Polytechnic, Ahmednagar.**

# CERTIFICATE

**This is to certify that**

| Sr no. | Name of Students | Enrollment No. | Roll No. |
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Students of second semester of Diploma in Computer Technology of Institute Government Polytechnic
,Ahmednagar has completed the Micro-project work satisfactorily in course of **Elements Of Electrical Eng** (22225) for the Academic year 2022-2023.

| Subject Teacher | H.O.D | Principal |
|---|---|---|
| Mr. Aniket Waghmare | Mr.S.D.Muley | Mr.B.M.Kardile |

# Acknowledgement

We consider ourselves to be fortunate to get this opportunity to be a part of a project on "**Frictional Horse Power Motor Transistor**" we are sincerely grateful to Mr. Aniket Waghmare for his innovative guidance, motivation and support at all stage and creating a motivate and enjoyable environment to work in

and thanks for encouraging and supporting and helping us in completing this project successfully We Express our Sincere Gratitude to Prof.S.D.Muley, Head of Dept. Of Computer Technology For his Stimulating Guidance, Continuous Encouragement And supervision throughout the course of present work.

I am extremely thankful to Prof. B.M.Kardile , Principal, Government Polytechnic, Ahmednagar, for providing us Infrastructural Facilities.

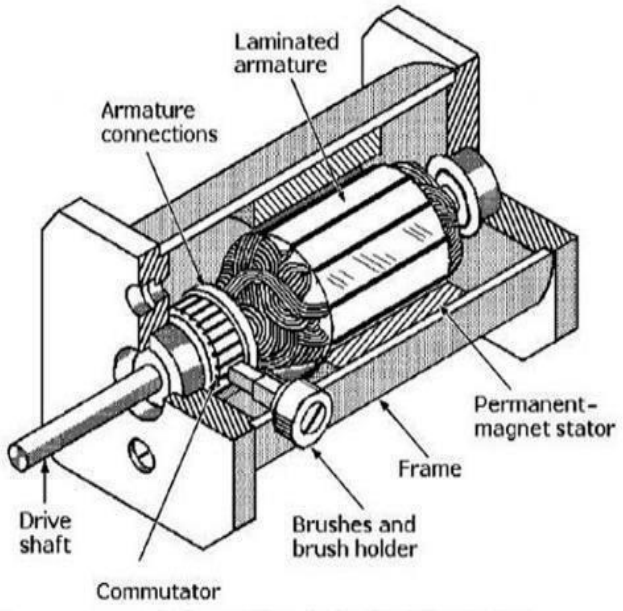
# INDEX

**AIM:** A fractional horsepower motor is an alternating (AC) or direct (DC) current motor that

produces less than one horsepower with an output rating of 746 watts or less. The low power level of fractional
horsepower motors makes them ideal for small electronics
and simple consumer devices.

**Introduction:** Fractional horsepower motors are small motors that run with a power rating of less than one horsepower, or a fraction of a horsepower. Built on a frame, manufacturers simply refer to fractional horsepower motors as FHP motors.

## Circuit-Diagram:



**Working:** Most fractional horsepower motors share characteristics common to all electric motors. Like their larger counterparts, they utilize electromagnets and a rotating shaft to convert AC (alternating current) or DC (direct current) electricity to mechanical energy.

**Advantages:** Variable speed FHP motors can direct the speed of the motor to increase or decrease as desired.

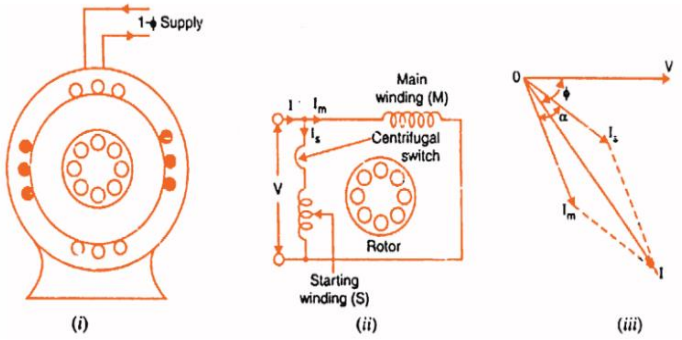
The low horsepower makes the speed and motion easier to control since control in an FHP motor is so precise.

**Features:** In general, FHP motors feature a rotor or rotating shaft, a stator, a field magnet, a coil, an axle, and an enclosure. Since fractional horsepower motors come in so many different types, there are different ways that they can operate. Some are fuel powered, but most of the time FHP motors run on electricity.

## Principle of Split Phase And Capacitor Start Induction Run Motor:

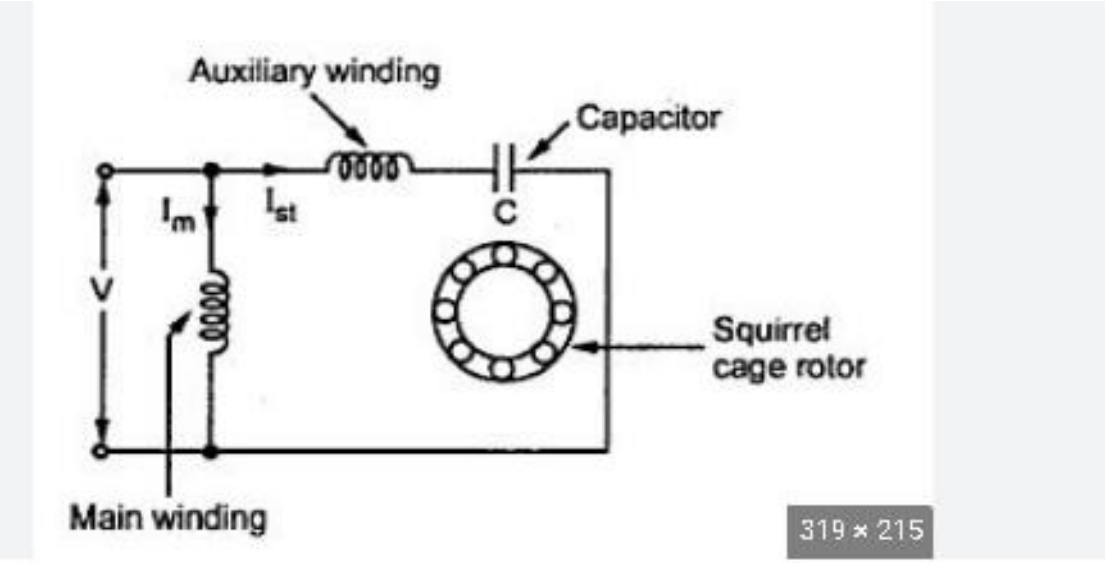
**1.Split Phase:** In split-phase motor two windings named main winding and starting winding are provided. At the time of starting, both the main and starting windings should be connected across the supply to produce the rotating magnetic field, and when the supply is given to the stator the rotating magnetic field is produced.

**Diagram:**



**Capacitor Start Induction Run Motor:** This motor uses two capacitors − the starting capacitor ($C_S$) and the running capacitor ($C_R$). The two capacitors are connected in parallel at the instant of starting. In order to obtain a high starting torque, a large starting current is required. For this, the capacitive reactance in the starting winding should be low.

**Diagram:**



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**Application of Split Phase:**

- To drive fans.
- In washing machines.
- Oil burners.
- Smalls machine tools.
- Blowers and centrifugal pumps.
- Food mixers and grinders, etc.

**Application of  Capacitor Start Induction Run Motor:**

- Air compressors.
- Refrigerators.
- Pumping equipment.
- Hospitals, studios and at other places where silence is important, etc.