

Sector: Electrical & Electronic Product

## Electric Motors

### Introduction:

Electric Motors convert electrical energy into mechanical energy and these Motors are widely used for various industrial, agricultural, commercial and domestic applications. The demand for Electric Motors is increasing rapidly. Apart from the demand for new electric motors, there is huge work in servicing and repairing of old or damaged electrical motors. In Electric Motors, winding is a major work and it requires repairs when damaged. The project of manufacturing Electric Motors and repairing and servicing of these Motors can be set up anywhere in the country. Marketing tie up can be entered with bulk industrial buyers or a network of vendors can be established.



### Production Capacity/annum:

**Quantity:** 6,000 motors new  
& repairing both.

**Value:** Rs. 60.00 lac.

## Production Process:

Coils winding is done with the help of machines. These windings are usually arranged in slots, provided in a laminated iron core. There are different types of winding according to winding coils. In 3 phase motors, the number of coils are equal to the slots. The coils are connected in such a way that three separate windings are formed which are called phase winding. Each coil in these windings should be of same size and shape, coil per phase are  $1/3$  of the total coils.

## Infrastructure required:

- a) **Land and Building:** 5000 Sq.ft.  
(Area required)
- b) **Plant & Machinery / Equipments:**
  - (i) Multimeters
  - (ii) Drilling Machine
  - (iii) Megger 500 volts DC
  - (iv) Auto Transformer 10 Amps
  - (v) Motorized Winding Machine
  - (vi) Ovens
  - (vii) Bench Grinders
  - (viii) Soldering Machines
  - (ix) Panel Board for Testing
  - (x) Table Winding Machine
- c) **Raw Materials & Consumables:**
  - (i) Insulation Varnish
  - (ii) Super Enameled Copper Wires
  - (iii) Glass Wire & Cables
  - (iv) Cotton Tapes
  - (v) Insulation Paper
- d) **Power load:** 10 Kw.
- e) **Water** (per shift basis): Normal Tap Water

## Manpower required:

- Supervisor: 1No.
  - Skilled Workers: 5Nos.
  - Other Workers: 2Nos.
- Total Manpower: 8Nos.**

## Investment required:

### a) Fixed Investment:

Land & Building:	Owned or rented
Plant & Machinery:	Rs. 10.00 lac.
Furniture & Fixtures:	Rs. 02.00 lac.
Other Fixed Assets:	Rs. 03.00 lac.
<b>Capital Investment:</b>	<b>Rs. 15.00 lac.</b>
<b>Working Capital:</b>	<b>Rs. 10.00 lac.</b>
<b>Total Investment:</b>	<b>Rs. 25.00 lac.</b>

**Loan Amount required:** Rs. 18.75 lac.  
(75% of investment)

**Expected Annual Profit:** Rs. 12.00 lac.  
(before tax.)

<b>Estimated Annual Income:</b>	<b>Rs. 60.00 lac.</b>
<b>Estimated Annual Expenditure:</b>	<b>Rs. 48.00 lac.</b>
<b>Net Profit Per Annum (before tax):</b>	<b>Rs. 12.00 lac.</b>