

PROJECT PROFILE

ON

F.H.P. MOTOR & COOLANT PUMP

PART-I

NAME OF THE PRODUCT : **F. H. P. Motor & Coolant Pump.**

PRODUCTION CAPACITY : The production capacity of the unit at 75% capacity utilisation.

MONTH & YEAR OF PREPARATION : January, 2013.

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PART-II

A) INTRODUCTION

(Product and its uses, scope / marketing potential etc.)

In the modern times, the electric motor has come to occupy a very important place. In fact, there is hardly any place where electric motor is not present in some form or other. Every day new usages are being found out of the electric motor particularly the FHP motor. Such motors find their extensive use in domestic electric appliances like Mixer-cum-Grinders, Hot Air Circulators, Washing Machines, Vacuum Cleaners, Hair Dryers etc. These motors have different ratings. The demand for such motor is increasing day by day.

B) BASIS & PRESUMPTIONS

It is proposed to manufacture 250 motors of $\frac{1}{4}$ HP rating coolant pumps of $\frac{1}{20}$ HP to be used for coolers per month. Casting for the motors, components such as centrifugal switches, capacitors and raw material will be procured from outside parties.

C) TECHNICAL ASPECTS:

(i) Process Outline (Production details / process of manufacturing)

The stator body and the covers are machined, drilled and taped, after inspection, it is sent to winding section where required quantity of stampings are filled in the stator body and locked. The shafts are machined on the lathe and after knurling the motor stack is pressed on the shaft and is grind. Winding is done. After varnishing the motor is assembled and tested as per IS Specification.

(ii) Quality Specifications: (I.S.S. / Inspection & Quality Control etc.)

The motors are tested as per IS:996-1964 and the pumps as per IS:2161-1962.

(iii) Production Capacity:

Item	Quantity	Value
Motors	3000 Nos.	Rs. 21,60,000-
Coolant Pumps	6000 Nos.	

(iv) Motive Power:

30 HP approx.

D) FINANCIAL ASPECTS:**1) Fixed Capital:****(i) Land & Building:**

Covered Area: 200 sq. mtrs. (Rented p. m.)

20,000/-

(ii) Machinery & Equipment:**a) Production Unit**

S.No	Description	Qty.	Value
1.	Centre Lathe 4.5' CH.8'	3	60,000/-
2.	Radial Drill Machine 1" cap.	1	15,000/-
3.	Bench Drill Machine ½" cap.	1	5,000/-
4.	Shaper Stroke 12"	1	30,000/-
5.	Cylindrical Grinder C.D.	1	1,50,000/-
6.	Hydraulic Press 10 Tons	1	40,000/-
7.	Hand Press No.2	1	5,000/-
8.	Double ended Grinder 6"	1	5,000/-
9.	Hacksaw Machine	1	10,000/-
10.	Balancing Machine EL 10	1	1,00,000/-
11.	Coil Winding Machine	2	15,000/-
12.	Baking Oven	1	15,000/-
13.	Hand Shear	1	10,000/-
14.	Air Compressor with Accessories	1 Set	5,000/-
15.	Oxygen Acetylene Cylinder with accessories		10,000/-
	Total:		4,75,000/-

b) Testing Equipments:

1.	H. V. Tester (0-5 KV)	7,000/-
2.	Insulation Resistance Tester	2,000/-
3.	Wheatstone Bridge with Galvanometer	5,000/-
4.	Spring Balances with Stand	1,500/-
5.	Auto Transformer 0-270V AC 15A	5,000/-
6.	Panel Board consists of – Voltmeter – 0-300 V – 1 No. Ammeter – 0-5A – 1 No. Wattmeter – 0.2.5 KW – 1 No. Frequency Meter – 45-50-55 – 1 No. Power Factor meter – 1 No. Current Transformer – 1 No.	15,000/-
7.	Selection Switch & Tel meter – 1 No.	4,500/-
	Total:	40,000/-

c) Electrification & Installation charges @ 10% of costs of machines and equipments. 5,000/-

d) Total Cost of Machinery & Equipments = 5,66,000/-

e) Cost of Moulds / Other fixtures 15,000/-
Cost of Office Equipment / Working Tables etc. 15,000/-
Pre-operative Expenses 10,000/-

Total Fixed Capital = 6,04,000/-

2) Working Capital (Per Month):**i) Personnel:**

Sl. No.	Designation	No.	Salary	Total (Rs.)
Administrative & Supervisory:				
1.	Manager-cum-Engineer	1	15000/-	15,000/-
2.	Supervisor	1	8000/-	8,000/-
3.	Clerk/Typist	1	5000/-	5,000/-
4.	Accountant/Assistant	1	5000/-	5,000/-
5.	Peon / Chowkidar	2	2000/-	4,000/-
Shop				
6.	Skilled Workers	10	5000/-	50,000/-
7.	Un-skilled Workers	10	2000/-	20,000/-
Total:				1,05,000/-
+ Perquisites @ 15% Salaries				15,750/-
Total:				1,20,750/-
Say:				1,21,000/-

**ii) Raw Materials including Packaging Requirements (p.m.)
(For Motor – 250 Nos. 0.25 HP)**

Sl.No.	Description (Items)	Qty.	Rate	Value(Rs.)
1.	Shafting	400 Kgs.	15/Kg	6,000/-
2.	Stamping	550 Kgs.	40/Kg	22,000/-
3.	Casting	1000 Kgs.	15/Kg	15,000/-
4.	Copper Wire	150 Kgs.	180/Kg	27,000/-
5.	Bearings	1000 Nos.	30/No	30,000/-
6.	Copper / Aluminium	50 Kgs.	130/Kg	65,000/-
7.	Insulating Paper	LS		3,000/-
8.	Plastic Casing for Pumps	500 Nos.	10/Pc	5,000/-
9.	Paints			10,000/-
10.	Hardware including plate terminal etc.			5,000/-
11.	Miscellaneous			2,000/-
Total:				1,90,000/-

iii) Utilities (p.m.):

Power 1800 units @ Rs. 5/- per unit	9,000/-
Water	2,000/-
Fuel	500/-
Total:	11,500/-

iv) Other Contingent Expenses (P.M.):

1	Rent	20,000/-
2	Postage & Stationery	5,000/-
3	Telephone	5,000/-
4	Consumable Stores	3,000/-
5	Repair & Maintenance	4,000/-
6	Transport Charges	5,000/-
7	Miscellaneous expenses	3,000/-
	Total:	45,000/-

v) Working Capital / Total Recurring Expenditure (P.M.): 8,65,500/-

vi) Total Working Capital (on 3 months basis): 25,87,500/-

3) TOTAL CAPITAL INVESTMENT:

I.	Fixed Capital	6,04,000/-
II.	Working Capital for 3 months	25,87,500/-
Total:		31,91,500/-

4) FINANCIAL ANALYSIS:**i) Cost of Production (Per annum)**

Sl. No.	Particulars	Value(Rs.)
1.	Total Recurring Expenditure /Cost	1,03,86,000/-
2.	Depreciation on machinery and equipment @ 10%	60,400/-
3.	Depreciation on Moulds & Dies @ 25%	3,750/-
4.	Depreciation on Office Equipments @ 20%	3,000/-
5.	Interest on Total Capital Investment @ 15%	4,78,725/-
Total: -		1,09,31,875/-

ii) Turnover (Per Annum)

Sl. No.	Item	Quantity	Rate (Rs.)	Value (Rs.)
	¼ HP Motors	3000 Nos.	1800/each	54,00,000/-
	1/20 HP Coolant Pump	6000 Nos.	1050/-each	63,00,000/-
Total:				1,17,00,000/-

iii) NET PROFIT (Per annum) Before Taxation:

Turn Over	(-)	Cost of Production	=	7,68,125/-
1,17,00,000/-	(-)	1,09,31,875/-		

iv) PROFIT RATIO ON SALES (Per Annum):

<u>Profit/annum X 100</u>	<u>7,68,125 X 100</u>	=	6.6%
Turnover/Annum	1,17,00,000/-		

v) RATE OF RETURN (Per Annum):

<u>Net Profit/annum X 100</u>	<u>7,68,125/- X 100</u>	=	24.06%
Total Capital Investment	31,91,500/-		

vi) BREAK EVEN POINT**Fixed Cost (Per Annum):**

1.	Total Depreciation	Rs.	60,400/-
2.	Rent	Rs.	2,40,000/-
3.	Interest on total capital investment @15%	Rs.	4,78,725/-
4.	40% of Salary & Wages	Rs.	5,80,800/-
5.	40% of other contingent expenses	Rs.	2,16,000/-
	Total:-	Rs.	15,75,925/-

B.E.P.

Fixed Cost X 100	15,75,925/- X 100	=	67%
Fixed Cost + Profit	15,75,925/- + 7,68,125/-		

5) Names & Address of Machinery & Equipment Suppliers:

Sl. No.	Name & Address	Machinery
1.	M/s Batliboi & Co., 55/55, Shardhanand Marg, Delhi-6.	General purpose Machines
2.	M/s Harcules Hoist Ltd., Mumbai – Agra Road, Bhandun, Mumbai-78.	Electric Hoist
3.	M/s K. G. Khosla & Co., 1, Desh Bandhu Gupta Road, New Delhi-1.	Air Compressor Hydraulic Press
4.	M/s Fuel Injection Equipments, Ichalkaranji, Maharashtra.	Balancing Machine.
5.	M/s Praga Tool Ltd., Secunderabad.	Milling Machine.
6.	M/s Perfect Machine Tools, 44E, Connaught Circus, New Delhi-1.	General Purpose Machines
7.	M/s Hindustan Machine Tools, Jeevan Tara Building, Parliament Street, New Delhi -1.	Cylindrical Grinder & Milling Machine
8.	M/s Electrical Instrumentation, Siddiqui Building, G.B. Road, Delhi -6.	Elect. Instruments.
9.	M/s Toshniwal Bros., 3E/8, Jhandewalan Extn., New Delhi-1.	Elect. Instruments.
10.	M/s Electrocine Sales (Corpn.) Bhagirath Palace, Chandni Chowk, Delhi-6.	Elect. Instruments.
11.	M/s Rectifiers & Electronics, WH-49, Mayapuri, New Delhi.	Testing Equipments

6) Address of Raw Material Suppliers:

Sl. No.	Name & Address	Item
1.	M/s Guestkeen William Ltd., Sanky Division, 15A, Asaf Ali Road, New Delhi.	Stampings
2.	M/s Hindustan Wire Products, Industrial Area, Patiala.	Wire.
3.	M/s National Ball Bearing Co., Sundershanpur Industrial Estate, Jaipur.	Bearings

PSB*MSME-DI-KNP*JANUARY 2013*