

PROJECT PROFILE
ON
SMALL TRANSFORMER FOR ELECTRONICS PURPOSE

NAME OF THE PRODUCT : L. F. TRANSFORMER

QUALITY & STANDARD : The product is tested for general requirement as per ISS:6297 with latest amendments.

PRODUCTION CAPACITY : **QUANTITY : 48000 No.**
(Per Annum) **VALUE : Rs.19,20,000/-**

MONTH & YEAR OF PREPARATION : February, 2012.

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PART – II

1. INTRODUCTION:

Generally electronic equipments like Transistor, tape recorder, television and other sophisticated equipments are operated on low DC voltage. The DC low voltage can be obtained by two ways i.e. (i) Rechargeable / Dry Batteries and (ii) conversion from A.C. supply.

Rechargeable battery is used where electricity is not available. This power source has many draw backs and is also costly. As State Government is going to pay more attention on electrifying the city and rural areas so other DC source i.e. from AC is very cheap and easy to handle. This low DC voltage is achieved from high 220 AC voltage by using a transformer alongwith rectifier and filter. This transformer is called LF step down transformer which reduces AC high voltage to AC low voltage without change of frequency. This low voltage is rectified and filtered to get DC voltage.

2. MARKET POTENTIAL:

With rapid electrification in the State, the use of tape recorders, two-in-ones, television, transistors and other consumer electronics, the demand for this product is on the increase. Moreover, small transformers are also needed for repairing of electronic items and as such there is enough scope for growth of this product.

3. BASIS & PRESUMPTIONS:

- i) The basis for calculation of production capacity is on single shift basis, working of 25 days per month on 75% efficiency.
- ii) BEP for the scheme has been calculated on full capacity utilization.
- iii) Rate of interest has been taken as 12% on an average. This however, is likely to vary depending upon the financial out lay and the location of the unit.
- iv) Labour wages have been taken on the basis of minimum applicable. These are likely to change depending upon the location of the project.

- v) Rental charges of Rs. 200/- per sq. mtr. Per month has been taken on an average. This figure is likely to vary depending upon the location of the unit.
- vi) Margin money requirement differs from project to project and type of entrepreneurs such as women, SC/ST, physically handicapped etc. and the minimum margin money usual asked by the financial institutions and banks is 15%. Margin money up to 25% in some cases is also asked. The entrepreneur may check the margin money requirement from financial institutions for the project.
- vii) Terms of loan differs from one financial institutions to another and in general minimum gestation period is normally 6 months and it could be 2 years. Maximum period for repayment of loan is 7 years including gestation period. The exact terms and conditions may be found by the entrepreneur from the concerned financial institutions.
- viii) The cost of machinery and equipments as indicated in the scheme are approximate those ruling at the time of preparation of the scheme. The entrepreneur may check the exact price for specific make and model of the machine selected.
- ix) Non – refundable deposits cost of preparation of project report etc. may be considered under pre-operative expenses.
- x) The provisions made in other respects viz; raw materials, utilities, overheads etc. are drawn on the basis of standard variation and output. The cost indicated against each is approximate and based on local market condition and observations. The entrepreneur may find out the exact cost from the concerned sources.
- xi) Estimated life of project considering technology obsolescence is around 15 years and full loan can be paid back within six years.

Implementation Schedule:

It is estimated that from conception of the project to commercial production it may take about two years including purchase of machines, installation, staff recruitment, all clearance from different agencies such as DIC and financial institutions etc.

TECHNICAL ASPECTS:

1. PROCESS OF MANUFACTURE:

Manufacturer of small transformers involving following steps:

First primary winding is wound on the former with the help of coil winding machine and coil terminals are soldered with flexible wire. By putting separator

on the primary, Secondary is then wound on a former for pre defined constant value of voltage and again secondary terminals are soldered with flexible wire. The coil is then put in the pre stacking and clamped to form a transformer. Now clamped transformer is heated and impregnated in the baking oven.

2. QUALITY CONTROL & STANDARDS:

The final product i.e. small transformer is treated for general requirements as per ISS:6297 with latest amendments. The essential tests are high voltage, insulation resistance, leakage current and temperature rise tests which should be in accordance with the limits prescribed in ISS.

3. PRODUCTION CAPACITY PER ANNUM:

Quantity	:	48000 Nos. Small Transformers.
Value	:	Rs. 19,20,000/- (@ Rs. 40/- each.

4. MOTIVE POWER : 7.5K.W.

5. POLLUTION CONTROL:

Pollution control requirement is not applicable for this product.

6. ENERGY CONSERVATION:

It is desired that small transformers should be designed with minimum energy losses (Copper & Core losses) so as to achieve better efficiency.

FINANCIAL ASPECTS

(A) Fixed Capital

(i) Land and Building

Built up area – 25 sq. mtrs. (Including office & working shed) Rented. P.M.	Rs, 5,000/-
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(ii) MACHINERY AND EQUIPMENT:

S. No.	Description	Ind/ Imp.	Qty.	Rate (Rs.)	Value (Rs.)
1.	Coil winding machine	Ind.	2	5000/-	10,000/-
2.	Power Press 20 Tonnes Cap.	Ind.	1	50000/-	50,000/-
3.	Treadle Shearing Machine (1200 mm)	Ind.	1	15000/-	15,000/-
4.	Plastic Injection (25 gm) moulding machine (hand operated)	Ind.	1	6000/-	6,000/-
5.	Dies	Ind.	L.S.		5,500/-
6.	Baking Equipments	Ind.	1	6000/-	6,000/-
	<u>Testing Equipments</u>				
7.	Power Analysis	Ind.	1	3000/-	3,000/-
8.	Multimeter	Ind.	2	1500/-	3,000/-
9.	Variac 2 Amp (0 to 300 V)	Ind.	1	2500/-	2,500/-
				Total:	1,01,000/-
	Electrification & Installation @ 10% of the cost of machines and equipments				10,000/-
	Cost of tools, jigs, fixtures etc.				5,000/-
	Cost of office equipments / working table etc.				20,000/-
	Total:				1,36,000/-

WORKING CAPITAL (Per Month):**(i) Personnel (Per Month)**

S.No	Description	No.	Salary (Rs.)	Total (Rs.)
1.	Manager	1	10000/-	10,000/-
2.	Tech. Supervisor	1	8000/-	8,000/-
3.	Skilled Workers	2	6000/-	12,000/-
4.	Unskilled Workers	2	2000/-	4,000/-
5.	Peon-cum-Watchman	1	1500/-	1,500/-
			Total:	35,500/-
	+ Perquisites @ 15%			5,300/-
	Total:			40,800/-

(ii) Raw Material (Per Month):

Sl. No	Description with Specification	Ind/ Imp	Qty.	Rate (Rs.)	Value (Rs.)
1.	Super Enamelled Copper Wire of different gauges (18 SWG to 46 SWG)	Ind.	185 Kg	300/Kg	55,500/-
2.	Plastic Grainules (HDPE)	Ind.	10 Kg	50/Kg	500/-
3.	Lamination material (High silicon steel)	Ind.	700 Kg	30/Kg	21,000/-
4.	Insulating material	Ind.	LS		2,000/-
5.	Clamps & Hardware	Ind.	LS		2,500/-
6.	Packing materials	Ind.	LS		2,500/-
				Total:	84,000/-

(iii) Utilities Per Month:

Power 200KWH unit @ Rs. 4.50 per unit	Rs.	1,000/-
Water	Rs.	400/-
Total:	Rs.	1,400/-

(iv) Other Contingent Expenses (Per Month):

Sl. No.	Particulars	Rs.	Total
1.	Rent	Rs.	5,000/-
2.	Postage & Stationery	Rs.	1,300/-
3.	Telephone	Rs.	1,200/-
4.	Consumable stores	Rs.	1,100/-
5.	Repair & maintenance	Rs.	1,200/-
6.	Transport charges	Rs.	2,000/-
7.	Misc. expenses	Rs.	2,000/-
	Total:	Rs.	12,800/-

TOTAL RECURRING EXPENDITURE (Per Month):

Sl.No.	Particulars	Rs.	Total
i	Personnel (Salary & Wages)	Rs.	40,800/-
ii	Raw Material	Rs.	84,000/-
iii	Utilities	Rs.	1,400/-
iv	Other Contingent Expenses	Rs.	12,800/-
	Total:	Rs.	1,39,000/-

Working Capital for 3 months: Rs.1,39,000 X 3 =

Rs. 4,17,000/-

TOTAL CAPITAL INVESTMENT:

Sl.No.	Particulars	Rs.	Total
i)	Fixed Capital	Rs.	1,36,000/-
ii).	Working Capital for 3 months	Rs.	4,17,000/-
Total:		Rs.	5,53,000/-

Machinery Utilisation:

The bottle necking operation for manufacture of this product is proper baking of core stack assembly. The capacity utilization of the plant shall accordingly be reduced.

FINANCIAL ANALYSIS:**Cost of Production (Per Annum):**

Sl.No.	Particulars	Rs.	Total
1.	Total Recurring Cost per year	Rs.	16,68,000/-
2.	Depreciation on Machinery & Equipments @ 10%	Rs.	10,000/-
3.	Depreciation on Office equipment @ 10%	Rs.	2,500/-
4.	Interest on Total Capital Investment @ 12%	Rs.	66,360/-
Total:		Rs.	17,46,860/-
Say:		Rs.	17,47,000/-

TURN OVER (PER ANNUM):

Item	Qty. (Nos.)	Rate (Rs.)		Total Sales
Small Transformer	48000 Nos.	Rs.40/- each	Rs.	19,20,000/-

PROFIT PER ANNUM (Before Taxes)

Profit =	Turn over	(-)	Cost of Production			
	19,20,000/-	(-)	17,47,000/-	=	Rs.	1,73,000/-

NET PROFIT RATIO:

<u>Net profit X 100</u>	<u>1,73,000/- X 100</u>		
Turn Over	19,20,000/-	=	9%

RATE OF RETURN:

<u>Net profit X 100</u>	<u>1,73,000/- X 100</u>		
Total Investment	5,53,000/-	=	31.2%

BREAK EVEN POINT:**Fixed Cost (Annual):**

1	Depreciation on Machinery & equipments, tools, fixtures & office equipments	Rs.	10,000/-
2	Annual Rent	Rs.	60,000/-
3	Interest on total investment @ 12%	Rs.	66,360/-
4	40% of Salary & Wages	Rs.	1,95,840/-
5	40% Other contingent Expenses	Rs.	61,400/-
	Total:	Rs.	3,93,600/-

Break Even Point:

<u>Fixed Cost X 100</u>	<u>3,93,600/- X 100</u>		
Fixed Cost + Profit	3,93,600/- + 1,73,600/-	=	69.46%

Additional Information:

- The Project Profile may be modified/tailored to suit the individual entrepreneurship qualities/capacity, production programme and also to suit the locational characteristics wherever applicable.
- The electrical Technology is undergoing rapid strides of change and there is need for regular monitoring of the national and international technology scenario. The unit may, therefore, keep abreast with the new technologies in order to keep them in pace with the developments for global competition.
- Quality today is not only confined to the product or service alone. It also extends to the process and environment in which they are generated. The ISO 9000 defines standards for Quality Management systems and ISO 14001 defines standards for Environmental Management system for acceptability at international level. The unit may therefore adopt these standards for global competition.
- The margin money recommended is 25% of the working capital requirement at an average. However, the percentage of margin money may vary as per bank's discretion.

Addresses of Machinery & Equipment Suppliers:

1.	M/s Joshi Engineering Company, India Place, 'N' Block, Connaught Place, New Delhi.	Coil Winding Machine
2.	M/s Electro-mech, 3-M Block, Kidwai Nagar, Kanpur.	Coil Winding Machine
3.	M/s B.M.P. Marketing (P) Ltd., PB No. 4004, Mumbai – 400 007.	Coil Winding Machine
4.	M/s Shanker Engineering Works, Brahma Nagar Chauraha, 80 Ft Road, Kanpur.	Plastic moulding machine.
5.	M/s Atlas Works (P) Ltd., 119, Rippon Street, Kolkata.	General machines.

Addresses of Raw Materials Suppliers:

1.	M/s Chawla Trading Co., 1651 Baghi Hata Palace, Chandini Chowk, New Delhi – 110016.
2.	Locally available.
