PROJECT PROFILE ON AUTOMATIC VOLTAGE STABLIZER

PRODUCT CODE (NIC)	**:**	**27101**
QUALITY AND STANDARD	**:**	**As per IS Specifications**
PRODUCT CAPACITY	**:**	**1,500 Nos per annum**
VALUE	**:**	**Rs. 2,02,95,724/-**
YEAR OF PREPARATION	**:**	**2021-22**
PREPARED BY	**:**	**Shri Rakesh Kumar** **Joint Director** **O/o DC (MSME)** **Ministry of MSME** **Government of India** **Nirman Bhawan** **New Delhi**

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Action Plan for Domestic Manufacturing of Items – Voltage Stabilizer

1. Introduction

Servo Voltage stabilizer is one of the most essential electrical item which is used by people in their day to day life. This item is used in homes, commercial establishments, Govt. establishments, financial institutions, education institutions etc according to their requirement. The people are procuring every necessary item to meet the seasonal climate such as fridge, Air Conditioners Geysers & some high capacity electronic items etc., accordingly the load increases, necessitating the use of servo stabilizers ranging from 4- 6.5 KW commonly is used by the consumers.

2. Market Potential

Executive voltage fluctuation is hazardous to costly electronic and electrical equipment like. T.V. sets, Refrigeration, Water Cooler, Washing Machine and scientific and medical equipment etc. therefore to protect these 2.7 cms from damage due to wide line voltage fluctuation, the voltage stabilizer has become essential to use with them. The demand for this item is proportionate to demand of Electronic appliance which is increasing day by day. Items of here will be substantiate demand growth in the years to come. There is also great export potential for this product.

3. Basis and Presumptions

- The basis of calculation for assembling capacity has been on single shift basis on 75% efficiency.
- The salaries & wages, cost of electrical goods, utilities, rent are based on prevailing rates. The cost factors are likely to vary with time & location.
- The rate of interest both for fixed & working capital has been taken @ 16 % but may vary depending upon the policy of the govt.
- The cost of machinery & electrical tools refer to a particular make/ model are approximate.
- The margin money as applicable to the general categories of entrepreneurs may be 25 % of project cost.
- The payback period may be 5 years after the loan has been disbursed
- Rent for covered area for office & factory is 20000/- per month

4. Implementation Schedule

The major activities in the implementation of the project have been listed & average time for implementation on the project is estimated as 5 months.

S. No.	Major Activity	Period (in Months) (Suggestive)
1	Preparation of Project Report	1
2	Registration & Other Formalities	1

3	Sanction of loan by Financial Institutions	3-4
4	Plant & Machinery ✓ Placement of order ✓ Procurement ✓ Power Connection/Electrification ✓ Other formalities	1 Month 1 2 2 3
5	Procurement of Raw Material	2
6	Recruitment of Technical Person, etc,	2
7	Trail Product	11
8	Commercial Production	12

4.1 Process of Manufacture: The manufacture process basically
Consist of two stages

- Fabrication of cabinet, control panel etc. as per design
- Window of transformers and assembly of PCB's as per requirement

Special transformer needed for this product wind in the factory itself. The critical components which go to makeup the product are tested to ensure that they meet the required specifications. The components are fixed and soldered on printed circuits Board according to the design circuit, control & socket assembled individually. Control panel and chassis, fabricated in the factory and fitted together and the controls circuits and socket are mounted. The PCB is fitted on the chassis and all the inter connections are made. The manufactured items are tested as per acceptance test of PB.

4.2 Quality Standards: IS : 9815 (Part - I) – 1994 as per BIS

4.3 Production Capacity per Annum:

- ❖ Qty: 1500 Nos.
- ❖ Value : 2,02,95,724/-

4.4 Motive Power: 5kW

5. Pollution Control: The Govt. accords utmost importance to control environmental pollution. The small-scale entrepreneurs should have an environmental friendly attitude and adopt pollution control measures by process modification and technology substitution.

India having acceded to the Montreal Protocol in Sept. 1992, the production and use of Ozone

Depleting Substances (ODS) like Chlorofluoro Carbon (CFC), Carbon Tetrachloride, Halons and Methyl Chloroform etc. need to be phased out immediately with alternative chemicals/ solvents. A notification for detailed Rules to regulate ODS phase out under the Environment Protection Act, 1986 have been put in effect from 19th July 2000.

The following steps are suggested which may help to control pollution in electronics industry wherever applicable:

i) In electronic industry fumes and gases are released during hand soldering / wave soldering/Dip soldering, which are harmful to people as well as environment and the end products. Alternate technologies may be used to phase out the existing polluting technologies. Numerous new fluxes have been developed containing 2-10% solids as opposed to the traditional 15-35% solids.

i) Electronic industry uses CFC, Carbon Tetrachloride and Methyl Chloroform for cleaning of printed circuit boards after assembly to remove flux residues left after soldering, and various kinds of foams for packaging.

Many alternative solvents could replace CFC-113 and Methyl Chloroform in electronics cleaning. Other Chlorinated solvents such as Trichloroethylene, Perchloroethylene and Methylene Chloride have been used as effective cleaners in electronics industry for many years. Other organic solvents such as Ketones and Alcohols are effective in removing both solder fluxes and many polar contaminants.

6. Energy Conservation

With the growing energy needs and shortage coupled with rising energy cost, a greater thrust in energy efficiency in industrial sector has been given by the Govt. of India since 1980s. The Energy Conservation Act, 2001 has been enacted on 18th August' 2001, which provides for efficient use of energy, its conservation and capacity building of Bureau of Energy Efficiency created under the Act.

The following steps may help for conservation of electrical energy:

i) Adoption of energy conserving technologies, production aids and testing facilities.

ii) Efficient management of process/ manufacturing machineries and systems, QC and testing equipment for yielding maximum Energy Conservation.

iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and desoldering stations.

iv) Periodical maintenance of motors, compressors etc.

v) Use of power factor correction capacitors. Proper selection and layout of lighting system; timely switching on-off of the lights; use of compact fluorescent lamps wherever possible etc.

7. FINANCIAL ASPECTS

7.1 Land and Building:

Built up Area	2000 sq ft
Office, Area	400 sq ft
Assemble & Testing	1600 sq ft
Rent Payable/Annum	Rs. 2,40,000/- for Class B cities Rs. 6,00,000/- for Class A cities

7.2 Machinery & Equipment's:

S.No.	Description	Ind/Exp	Qty	Value
1	Winding Machines	Ind	1	7,000/-
2	Hand lever shearing M/c	Ind	2	20,000/-
3	Hand Drill Machine	Ind	1	6,000/-
4	Multimedia	Ind	5	10,000/-
5	Testing equipment	Ind		40,000/-
6	Misc.	Ind		30,000/-
	Total			**1,13,000/-**
7	Electrification Charges @ 30% of cost of Machinery and equipment			33,900/-
8	Office Furniture, equipment & working table, etc.			50,000/-
9	Tools, Jigs and fixture etc			25,000/-
10	Preoperative expenses			20,000/-
	Total			**1,28,900/-**
	Total Fixed Capital			**2,41,900/-**

7.3 Working Capital per Month :

Staff & Labour :

S. No.	Designation	No. of persons	Salary per month	Total Salary per month

1	Supervisor	1	20000/-	20000/-
2	Technicians	5	50000/-	50000/-
3	Clerk	1	10000/-	10000/-
4	Helper/Peon	1	10000/-	10000/-
5	Accountant	1	10000/-	10000/-
	Total			1,00,000/-
	Pre-requisite @ 15% of Salaries			15,000/-
	Grand Total			**1,15,000/-**

7.4 Raw Material per Month :

(for one Stabilizer)

S.No.	Description	Ind./Exp	Qty	Value
1	Tank	Ind	1 No	1000/-
2	Bobbin Coil	Ind	1 No	50/-
3	Core	Ind	23Kg	2000/-
4	Copper wire	Ind	8 Kg	6000/-
5	Power Relay	Ind	1 No	200/-
6	Rotary Switch	Ind	1 No	200/-
7	Relay	Ind	1 No	50/-
8	Push Button		1 No	30/-
9	Auto Cut Plate		1 No	30/-
10	Control Transformer		1 No	100/-
11	Strip		1 No	50/-
12	Indicator		1 No	10/-
13	Clamp		8 No	200/-
14	Nut & Bolt & Other Misc items (LS)			50/-

15	Voltmeter		1 No	200/-
16	Copper Wire		6 Mtr	200/-
17	Cotton Tape		1 Roll	50/-
18	Diode		1 No	20/-
19	Capacitor		1 No	20/-
20	Transformer Oil		13 Lt	1000/-
21	Bakelite Sheet		1 No	50/-
	Total			**11,510/-**

Raw Material for 125 Voltage Stabilizer = Rs. 14,38,750/-

7.5 Other Contingent Expenses Per Month

1	Rent	50,000
2	Postage & Stationery	1,000
3	Repair & Maintenance	1,500
4	Insurance	2,500
5	Telephone Charges	2,000
6	Transportation charges	1,800
	Total	**58,800/-**

7.6 Utilities Per Month

Power	5,000
Water	2,000
Total	**7,000**

Total recurring Expenditure per Month= 1,15,000+14,38,750+58,800+7,000
= 16,19,550/-

8. Total Capital Investment

Total Fixed Capital	5,00,000/-
Working Capital for three months	48,58,650/-
Total	**53,58,650/-**

9. Financial Analysis

Cost of Production per annum		
1	Total recurring expenditure per annum	1,94,34,600/-
2	Depreciation on Machinery and equipment@ 10%	11,300/-
3	Depreciation on Tools zigs & fixture @20%	5,000/-
4	Depreciation on furniture equipment & working table etc. @ 20%	10,000/-
5	Interest on total capital investment@ 16%	8,34,824/-
	Total	**2,02,95,724/-**

10. Turnover per annum

Items	Qty. No.	Rate (Rs.)	Total Sales(Rs.)
Voltage Stabilizer 6.5 kw	1500	13,700/-	2,05,50,000/-

11. Profit

Turnover-cost of production: (Turnover/annum-cost production/annum)
= 2,05,50,000/- - 2,02,95,724/-
= 2,54,276/-

Profit Ratio
(Profit per annum/Turnover per annum)x100 = (2,54,276/2,05,50,000)x100
= 1.23%

Rate of Return
(Profit per annum/Total Capital Investment) x 100 = (2,54,276/52,17,650)x100
= 4.87%

12. Fixed Cost

S. No	Description	Amount
1	Rent of Fixed cost per annum	6,00,000
2	Depreciation on machinery @ 10 %	11,300
3	Depreciation on Tools, Tigs & fixture @25%	6,250
4	Depreciation on furniture, equipment & working table @ 20%	10,000
5	Interest on capital Investment @ 16%	8,34,824
6	40% of Salaries	46,000
7	Insurance	30,000
8	40% of other contingent & utilities (Excluding rent & insurances)	23,200
	Total	**15,61,574**

13. Break Even Point (BEP)
BEP = {(Fixed Cost)/(Fixed Cost+ Profit)}x100
= {15,61,574/(15,61,574+2,54,274)}x100
= 85.99%

14. Additional Information

a. The Project profile may be modified/tailored to suit the individual entrepreneurship quotation/capacity, production programme and also to limit the locational characters ties, wherever applicable.
b. The electronics technology is undergoing rapid strides of change and there is need for regular monitoring of national and international technology scenario. The unit may, therefore, keep abreast with the new technology in order to keep in pace with the developments for global competition.
c. Quality today is not only confined to the product or service alone. It also extends to the 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.
d. The margin money recommended is 25% of working capital requirement at an average. However, the percentage of margin among may vary as per bank's discretion.

Annexure – I

India's Export including re-export By Commodity (DESCRIPTION For 8 Digit 85044040)			
Year	**Commodity**	**Value(INR)**	**Value(US $)**
2018-19	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	206264728	2959428
2019-20	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	316117118	4440780
2020-21	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	196061157	2644639

Annexure – II

India's Import including re-import By Commodity (DESCRIPTION For 8 Digit 85044040)			
Year	**Commodity**	**Value(INR)**	**Value(US $)**
2018-19	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	349790013	4975167
2019-20	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	849191316	11934311
2020-21	NON AUTOMATIC VOLTAGE REGLTOR AND STABILZR	141150681	1902168

Annexure – III

State Wise MSME units in NIC 5 Digit Code 27101(till 31.03.2021)		
S.No.	**State**	**Total Units**
1	ANDHRA PRADESH	23
2	ARUNACHAL PRADESH	0
3	ASSAM	13
4	BIHAR	36
5	CHHATTISGARH	14
6	GOA	6
7	GUJARAT	132
8	HARYANA	73
9	HIMACHAL PRADESH	4
10	JHARKHAND	41
11	KARNATAKA	101
12	KERALA	32
13	MADHYA PRADESH	68
14	MAHARASHTRA	323
15	MANIPUR	3
16	MEGHALAYA	1
17	MIZORAM	0

18	NAGALAND	1
19	ODISHA	21
20	PUNJAB	49
21	RAJASTHAN	126
22	SIKKIM	0
23	TAMIL NADU	183
24	TELANGANA	39
25	TRIPURA	0
26	UTTAR PRADESH	192
27	UTTARAKHAND	8
28	WEST BENGAL	71
29	ANDAMAN AND NICOBAR ISLANDS	1
30	CHANDIGARH	1
31	DADAR AND NAGAR HAVELI	1
32	DAMAN AND DIU	0
33	DELHI	92
34	JAMMU AND KASHMIR	36
35	LADAKH	0
36	LAKSHADWEEP	0
37	PUDUCHERRY	3
Total		**1694**

Annexure – IV

Name and address of Machinery & Equipment Suppliers Machinery

1. M/s. Quality Machine Tools
   34, JC Road, VISL Building, Bangalore-2.
2. M/s. Swastic Machine Tools
   4, Lata Chambers, Nasik-422002.

Testing Equipment

1. M/s. Applied Electronics Ltd.
   A-5, Wagle Indl. Estate, Thane-4.
2. M/s. Peico Electronics & Electrical Ltd.
   Shivasagar Estate, Block-A, Dr. Annie Besant Road,
   Bombay-12.
3. M/s. Agronic Instruments (P) Ltd
   201, Shiva Shakti Indl. Estate, Bombay -86.
4. M/s. Systronics
   89-92, Indl. Area, Naroda-382330.
5. M/s. Noble Electronic
   354, Lajpat Rai Market, Delhi-6.

6. M/s. Meco Instruments Pvt. Ltd.
   Bharat Industrial Estate, T.J. Road, Sewree, Bombay-400 015.

Soldering Equipment & Circuit Aids

1. M/s. Sysco Associates,
   30/106, (New No. 234),
   13 11th Main, Malleswaram, Bangalore-3.
2. M/s. Navanidhi Electronics (P) Ltd.,
   1-60/1, Shehapuri, Nacharam, Hyderabad-7.
3. M/s. Inde Associates
   16, Rest House Crescent, off Church St. Bangalore-1.
4. M/s. Bergen Associates P. Ltd.
   1082, Sector 27B, Chandigarh-19.
5. M/s. Techtronics
   B-70, End Cross, I Stage,
   Peenya Indl. Estate,
   Bangalore-560058.
6. M/s. Sumitron Marketing
   A-46,
   Naraina Industrial Area, Phase-I,
   P.O.Box 10227, New Delhi-28.
7. M/s. Scientific Mes-Technic Pvt. Ltd.
   B-4, Industrial Estate,
   Pologround, Indore-452 003.

Raw Materials Suppliers

1. M/s. Electronics Trade & Technology
   Dev. Corp. Ltd. New Delhi-21.
2. M/s. Amar Radio Corpn.
   11/1, Thiglar Poriyanna Lane,
   SPP Road, Bangalore - 560002.
3. M/s. Southern Electronics
   No. 113, Sadarpatrappa Road ,Bangalore-2.
4. M/s. Bharat Electronics Ltd.
   Jalahalli Post, Bangalore-560013.
5. M/s. Continental Devices India Ltd.
   C-120 Naraina Indl. Area,New Delhi-28.
6. M/s. Hiprint Corporation
   29 New Okhla Indl. Complex, Phase-1
   New Delhi-20.
7. M/s. Precision Electronics Ltd.
   Unit I, 1-9E, DLF Industrial Area, Faridabad-121003.