

ALTERNATOR

1. INTRODUCTION

Our nation is growing in terms of industrial activities very rapidly. Electric Power is playing major role in this growth process. Thus all the industries are looking for better electricity generator system which is fast, technically sound and economically affordable to everyone. Alternator is a generator which converts mechanical energy to electrical energy in the form of alternating current, which is widely used by all the industrial sectors.

2. PRODUCT & ITS APPLICATION

Alternator works as generator, it has certain classification on the basis of output power, working principal, speed on rotation and cooling. We can consider Single phase, Two phase and three phase alternators (On the basis of output power); Revolving armature type and revolving field type(On the basis of working principal); Turbo alternator and low speed alternator(On the basis of speed on rotation); Air cooling and Hydrogen cooling(On the basis of cooling).

At present Industries are looking for instrument like alternator to improve their production. This is the basic requirement of any business segment. Apart from this alternators are used in modern automobiles to charge the battery and power the electrical system when its engine is running.

3. DESIRED QUALIFICATIONS FOR PROMOTER

Promoter for this service may have graduate in Electrical Engineering as well as some industrial training in the similar working field plus background of operation management can be a value added plus point so that it brings down the cost of building project and also make the implementation smoother and it will require less time to build with greater quality.

4. MANUFACTURING PROCESS

A method for manufacturing an alternator includes preparing a wire-strand group formed by bending strands of wire so as to have straight portions which fit into slots, forming a base core by laminating plate-shaped magnetic members formed with the slots, stacking the wire-strand group on the base core and pressing the wire-strand group such that the straight portions enter the slots, and forming the stator core by bending the base core into a cylindrical shape and abutting end surfaces of the base core.

5. RESOURCES

1. Couplings – initially 20 number of couplings
2. Control Panel – minimum 20 panels to control the system flow.
3. Fuel Tank – Fuel storage is required up to 50 liter capacity.
4. M.S Channels, Angels and Plates – required 2000kg for initial start-up.

6. MANPOWER REQUIREMENT

1. Labor/Workers – To handle the plant minimum 2 machine operator and 2 helpers.
2. Production Supervisor – Person having knowledge of production and technicalities of plan can be assigned the post of production supervisor.
3. Accounts/Stores Assistant – To manage the accounts and stock.
4. Office Boy – To manage overall plant and office work.

Fixed Capital Investment

Sr. No.	Description	Quantity	Amount/ Unit	Total Amount
1	Drilling machine with 13 mm drilling capacity and 0.5 HP Motor	1	4000	4000
Sr. No.	Description	Quantity	Amount/ Unit	Total Amount

2	Air Compressor, single stage, mounted on Air Receiver tank pressure gauge, Safety valve, Air & Drain cocks etc. complete with 1 HP motor and starter	1 set	8000	8000
3	Spray gun with 0.5 pint capacity	1	1000	1000
4	Electric Portable Drill	1	2000	2000
5	Arc welding Transformers with Cables etc.	1	8000	8000
6	Electric portable grinder	1	2000	2000
7	Control Panel with voltmeter, Ammeter & wattmeter etc.	1 set	8000	8000
Total				33,000

7. WORKING CAPITAL

Sr. No.	Description	Total Amount
1	Total Salary Expense/month	76,500
2	Raw material/month	1,58,000
3	Utilities	5000
4	Other Contingent Expenses	42,000
Total		2,81,500

8. IMPLEMENTATION SCHEDULE

Sr. No.	Activity	Time Required
1	Acquisition of premises	1.00
2	Construction (if applicable)	none
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	
5	Recruitment of required manpower	1.00
Total time required (<i>some activities shall run concurrently</i>)		4.00

9. COST OF PROJECT

[Total Cost of Project = Fixed investment Capital + Working capital of 1 month]

Sr. No.	Particulars	Amount in ₹
1	Fixed Investment Capital	33,000
2	Working Capital	2,81,500
Total		3,14,500

10. MEANS OF FINANCE

Sr. No	Description		Total
1	Promoter's Contribution	25%	78,625
2	Term Loan/Bank Finance	75%	2,35,875
Total			3,14,500

Cost of Production

Sr No	Description		Amount (Rs)
1	Total Working Capital		33,78,000
2	Depreciation	15%	47,175
3	Interest	12%	28,305
Total			34,53,480

Turnover

Sr No	Description	Cost/Unit	Quantity /Month	Sales/month	Revenue/year
1	20 KVA Alternator	50,000/-	10	5,00,000/-	60,00,000/-

11. PROFITABILITY CALCULATION

Net Profit	25,46,520
Net profit Margin	42.442%

12. BREAKEVEN ANALYSIS

Sr No	Description	Figures
1	Total Annual Expenses(1+2+3)	34,53,480
2	Revenue	60,00,000
3	Break Even Point sales	
	20 KVA Alternator	120