PROJECT PROFILE

ON

Washing Machine

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PART-I

NAME OF THE PRODUCT : **Washing Machine**

QUALITY & STANDARD : IS-6390 -1975
In addition to above IS:302-1979
(General & safety requirement)

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

MONTH & YEAR OF PREPARATION : May, 2012.

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PART-II

A) INTRODUCTION

In the present era when on one hand both husbands and wives have to work to maintain certain living standards and on other hand price rise, domestic electrical appliances play useful role. The appliances soothing the housewives varies and also bring about some savings in the domestic expenses. Washing machine of late, are becoming increasingly popular especially in urban areas. Further, because of the availability of power in remote areas also, the demand of washing machine is likely to go up. A few years ago domestic washing machines were popular only in metropolitan cities only whereas now even in town area also the demand for washing machine is growing up rapidly.

PRODUCT:

There are basically 3 types of washing machines being manufactured in the country

(a) Where the motor is directly mounted below the washing container and impeller is directly mounted on the motor shaft.

(b) Where the motor is coupled with impeller with belts and the impeller is fixed on the side of the washing container.

(c) Where the washing is done by oscillation and not by rotary process. This is done with the help of oscillating arrangements.

More units manufacture first two types. The oscillating type is said to be manufactured by every few units. Method of drying clothes is another important factor, which distinguishes one hand to another and also affects the cost in big way. Generally, the washing machine manufacturers fix squeezer or winger on the top as an attachment for squeezing water out of the washed clothes. However, some of the manufacturer provide separate container for spin-drying.

Another important factor is the type of motor used in the machine. There are two types of motors used. One is capacitor start and run motor and another shaded pole motor. The former has better and higher power factor but shorter life as it depends on capacitor whereas shaded pole motor is more robust, cheaper but low power factor.

B) MARKET POTENTIAL

Washing machines are becoming an integral part of household items because of availability of power, saving in time, convenience, shaving of water, detergent. Nowadays most of housewives are engaged somewhere to uplift the financial statues of their family. So they can hardly spare time to wash clothes. Thereby demand for washing machine is increasing day be day and enormous scope is available for the item under question.

C) BASIS & PRESUMPTIONS

1. The basis for calculation of production capacity is on single shift basis, working of 25 days per month on 75 % efficiency. The required for achieving envisaged capacity utilization is assumed as one year.

2. BEP for the scheme has been calculated on full capacity utilization.

3. Rate of interest has been taken as 12% on an average. This, however, is likely to vary depending upon the financial outlay of the location of the project.

4. Labour wages have been taken on the basis of minimum applicable. There are likely to change depending upon the location of the project.

5. Rental charges of Rs. 20/- per Sw. Mtr per month have been taken on an average. This figure is likely to vary depending upon the location of the unit.

6. Margin money requirement differs from project or 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 are 15%. Margin money up to 25% in some cases is also asked. The entrepreneurs may check the margin money requirement from financial institutions for the project.

7. Terms of loan differs from one financial institution 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 entrepreneurs from the concerned financial institutions may find the exact terms and conditions.

8. 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.

9. Non-refundable deposits, cost of preparation of project report etc. may be considered under preoperative expenses.

10. The provision 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 are approximate and based on local market condition and observations. The entrepreneur may find out the exact cost from the concerned sources.

11. The operative period of this project is estimated to be about 10 years considering technology obsolesce

D) IMPLEMENTATION SCHEDULE:

It is estimated that from the conception of the project to commercial production, it may take about two years including purchase of machineries, erection & installation, recruitment of staff and all clearance from different agencies like DIC, financial institutions/banks etc.

E) TECHNICAL ASPECTS:

(i) Process OUTLINE:

Washing machine has the following main components:-

i) Outer container and body.
ii) Inner container
iii) Impeller assembly with pulley
iv) Tank brush assembly and drum
v) Rubber lining
vi) Driving motor with pulleys
vii) Winger assembly
viii) Cable switches
ix) Plastic components.

In this project report, initially the sheet metal work and assembly will be done in the unit premises and components like rubber parts, plastic & Bakelite parts, motor, switches etc. will be brought components.

Another container is made of CRC sheet, which is cut and pressed to, required shape similarly inner container which is made of aluminum sheet is also sheared and pressed in the required shape. Thereafter they are welded in oxygen gas atmosphere. The impeller assembly consisting of Bakelite moulded components pulley with stainless steel pins are assembled. The inner tank is fitted with bush. Thereafter drain bush assembly is done. The motor pulley is made with which acts like fan and cool the motor.

Another container, and tube are then painted and thereafter other sub assemblies are fitted. The motor is then mounted on the resistant rubber mounting. Thereafter switch rubber hose, rubber lining etc are fitted. Finally squeezer or wringer assembly is fitted and the machine is listed for performance.

(ii) Quality Control and Standards

The relevant IS specification for washing machine is IS:6390-1975. In addition the general safety requirements IS:302-1979 should also be adhered.

(iii) Production Capacity:

Item	Quantity
Washing Machine	4.5 Kg Capacity – 3000 Nos.
	3.0 Kg Capacity – 3000 Nos.

(iv) Motive Power:

20 KVA

(v) Pollution Control:

NOC is required to be obtained from DIC level.

(vi) Energy Conservation:

The product is totally electrical energy consuming device and everything depends on motor efficiency and design. So motor, i.e. washing motor cum spinning motor are to be at optimum efficiency with minimum frictional losses to have maximum electrical energy conservation.

F) FINANCIAL ASPECTS:

A) Fixed Capital:

(i) Land & Building:

Built up area 150 Sq. Mtrs. (Rented) @ Rs.20/- Sq. Mtrs. p.m. 3,000/-

(ii) Machinery & Equipment:

S.No	Description	Qty.	Value
1.	General purpose lathe 1550mm bed length complete with 2 HP motor	One	30000.00
2.	Power press 30 ton capacity	One	35000.00
3.	Screw type hand press no 4	One	5000.00
4.	Shearing machine 1550 mm blade	One	12000.00
5.	Manual bending press	One	5000.00
6.	Hand press screw type 8 No	One	3000.00
7.	Spot welding machine 7.5 KVA	One	10000.00
8.	Arc welding machine 300 Amp	One	7000.00
9.	Gas welding machine	One	5000.00
10.	Pillar type elect grill machine 12	One	10000.00
11.	Double end grinding machine 200 mm	One	11000.00
12.	Flexible shaft grinder	One	10000.00
13.	Portable elect drill machine 12,7 mm & 6.35 mm @ 4000 each	Two	8000.00
14.	Pedestal grinder	One	8000.00
15.	Air compressor	One	12000.00
16.	Spray painting gun	Two	5000.00
17.	Electric oven (hand made) 10 KW (1830 mmx830mmx438 mm)	One	25000.00
18.	Dies tugs tools etc		15000.00
19.	Office equipment & furniture etc.		20000.00
	Total		**236000.00**

Testing Equipments:

1.	HV Tester 5 KVA.C.	10000.00
2.	Multimeter	1500.00
3.	Earthing connection testing equipment	2500.oo
4.	Testing panel with wattmeter, ammeter and voltmeter	5000.00
5.	Leakage current tester	500.00
	Installation charges @ 10% of machine & equipment	23000.00
	Total fixed cost	**278500.00**

B) Working Capital (Per Month):

(i) Personnel:

Sl. No.	Designation	No.	Salary	Total (Rs.)
1.	Manager	1	4500	4,500/-
2.	Engineer	1	4000	4,000/-
3.	Sales Officer	1	3000	3,000/-
4.	Accountant	1	2500	2,500/-
5.	Clerk	2	2000	4,000/-
6.	Skilled worker	6	2500	15,000/-
7.	Semi skilled worker	3	1800	5,400/-
8.	Helper	4	1500	6,000/-
9.	Chowkidar cum peon	3	1500	4,500/-
			Total:	**48,900/-**

(ii) Raw Materials including Packaging Requirements:

1.	CRCA sheet 18/16 SWG @ 18000 per ton	11Ton	198000.00
2.	Aluminium sheets commercial grade @ 13000 per ton	3 Ton	390000.00
3.	¼ HP elect-motor 1440 RPM @ 1000	500	500000.00
4.	Bakelite moulded components @ 40 each	500	20000.00
5.	Rubber item @ 50 each	500	25000.00
6.	Rotary switch 15 amp @ 50 each	500	25000.00
7.	2 KV tubes heater @ 100 each	250	25000.00
8.	Anodizing @ 20 each	500	10000.00
9.	Aluminium casting @ 100 each	500	50000.00
10.	Bush bearing @ 20 each	500	10000.00
11.	Stainless steel pins 5/8 " @ Rs. 10 each	500	5000.00
12.	Plastic moulded components @ 50 each	500	25000.00
13.	Cable/plugs etc.		5000.00
14.	Paints		20000.00
15.	Hardware etc		10000.00
		Total:	**1318000.00**

(iii) Utilities:

Electricity cum water charges	**5,000/-**

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

1	Rent	3,000/-
2	Stationery & Postage	2,000/-
3	Advertisement & Publicity	10,000/-
4	Transport charges	5,000/-
5	Gas charges	2,000/-
6	Telephone	2,000/-
7	Miscellaneous expenses	1,000/-
	Total:	**25,000/-**

(v) Working Capital / Total Recurring Expenditure (P.M.):

1.	Personnel	48,900/-
2.	Raw Materials	13,18,000/-
3.	Utilities	5,000/-
4.	Other Contingent Expenses	25,000/-
	Total:	**13,96,900/-**

(vi) Total working capital for 3 months 13,96,900 X 3 = Rs.41,90,700/-

C) TOTAL CAPITAL INVESTMENT:

I.	Fixed Capital	2,78,500/-
II.	Working Capital for 3 months	41,90,700/-
	Total:	**44,69,200/-**

G) FINANCIAL ANALYSIS:

i) Cost of Production (Per annum)

Sl. No.	Particulars	Value(Rs.)
1.	Total Recurring Expenditure /Cost	1,67,62,800/-
2.	Depreciation on machinery and equipment	2,76,000/-
3.	Interest on Total Capital Investment @ 12%	5,36,304/-
	Total: -	**1,75,75,104/-**
	Say:	**1,75,75,000/-**

ii) Turnover (Per Annum)

Sl. No.	Item	Quantity	Rate (Rs.)	Value (Rs.)
1.	4.5 Kg Washing Machine	3000 Nos.	4000/each	**1,20,00,000/-**
2.	3 Kg Washing Machine	3000 Nos.	3000/each	**90,00,000/-**
			Total:	**2,10,00,000/-**

iii) NET PROFIT (Per annum) Before Taxation:

Turn Over	(-)	Cost of Production	=	**34,25,000/-**
2,10,00,000/-	(-)	1,75,75,000/-		

iv) PROFIT RATIO ON SALES (Per Annum):

Profit/annum X 100	34,25,000/- X 100	=	**16.30%**
Turnover/Annum	2,10,00,000/-		

v) RATE OF RETURN (Per Annum):

Net Profit/annum X 100	34,25,000/- X 100	=	**76.63%**
Total Capital Investment	44,69,200/-		

BREAK EVEN POINT

Fixed Cost:

1.	Total Depreciation	Rs.	2,76,000/-
2.	Rent	Rs.	36,000/-
3.	Interest on total capital investment	Rs.	5,36,304/-
4.	40% of Salary & Wages	Rs.	1,44,000/-
5.	40% of other contingent expenses	Rs.	2,34,720/-
	Total:-	**Rs.**	**12,27,024/-**

B.E.P.

Fixed Cost X 100	12,27,024/- X 100	=	**26.38%**
Fixed Cost + Profit	12,27,024/- + 34,25,000/-		

Names & Address of Machinery & Equipment Suppliers:

1. M/s Prem Brothers,
   20, Okhla Industrial Estate, New Delhi.
2. M/s Chananea Bros.,
   Okhla Industrial Estate, New Delhi.
3. M/s Amar Sons,
   57, Rani Jhansi Road, New Delhi.
4. M/s Indudhog Co. Pvt. Ltd.,
   40, Indl. Estate, New Delhi.
5. M/s Sharma Sons,
   4, DHF Najafgarh Road, New Delhi.
6. M/s Electronic,
   Bhagirath Palace, Delhi.
7. M/s Jupiter Instruments,
   Link Road, Jhandewalan Estate, New Delhi.
8. M/s Hoti Point Near Clock Tower,
   Sabzi Mandi, Delhi – for tubular heating element.
9. M/s Haryana Plastic Works,
   A-73, Naraing Indl. Area, Phase-II, New Delhi.
10. M/s Sona Electricals,
    A-49, Mayapuri Indl. Area, New Delhi.
11. Sup. Electricals,
    4254, Gali Ahiram, Bahadurgarh Road, New Delhi – 110006.

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