Stainless Steel Portable Water Filter

PRODUCT CODE	:	345411005
QUALITY AND STANDARDS	:	Buyer's/Manufacturer's own specifications
PRODUCTION CAPACITY	:	Qty. : 54,000 Nos. (per annum) Value : Rs. 216 Lakhs
MONTH AND YEAR OF PREPARATION	:	February, 2003
PREPARED BY	:	Small Industries Service Institute Amrit Bhavan, Darrang College Road (W), Tezpur-784001, Distt.: Sonitpur

Introduction

Portable Water Filters are very common household utility item now-a-days in all parts of our country. Basically its function is to filter the micro-suspended particles from water supplied to our homes which contains such type of particles and makes the water sluggish and mud coloured. When water is filtered through a ceramic porous candle, the suspended particles are tapped in the candle and filtered water is collected in the bottom part of the vessel, where a tap is fitted to drain water as and when required.

The quality of potable water whether supplied from water supply agencies or through bored wells, is generally not good enough to consume. This problem is more serious in North Eastern part of our country where the main constituents which make water contaminated are oil and iron. The use of filters is the only cheapest way to solve this problem and this product is thus very essential for each house.

Market Potential

The market potential is fairly good as most of the filters available in the market are marketed by Kolkata or Delhi based manufacturers. The market is rapidly expanding to sub-urban areas and villages too, where till date the only source of portable water is wells. But now with the modern living standards, water supply system is incorporated in buildings and to improve the quality, filters are essential.

Basis and Presumptions

1. The unit proposes to work in one shift of 8 hours with 75% efficiency.
2. The full capacity utilisation can be achieved in one year.
3. Interest rate of loans is taken @ 16% for fixed capital and working capital.
4. The promoter's contribution is 25%.

5. Payback period of the project is five years.
6. The labour wages are based on local market conditions and observations.

IMPLEMENTATION SCHEDULE

Datum : Submission of application for the preparation of Project Report.

Sl.No.	Activity	Period
1.	Preparation of Project Report	8 weeks
2.	Selection of site and obtaining of provisional registration	2 weeks
3.	Application for institutional finance	2 weeks
4.	Financial tie ups for the implementation of the project	3 weeks
5.	Marketing arrangements	8 weeks
6.	Placement of orders for machinery and equipments	2 weeks
7.	Delivery of machinery and equipments	2 weeks
8.	Trial and production run	4 weeks

TECHNICAL ASPECTS

Process of Manufacture

Stainless steel portable water filter is a unit which consists of two vessel made of steel. The top vessel is used to store raw water. It has one/two ceramic candles at the bottom which allow water to flow across it and traps suspended particles. The filtered water is accumulated in the lower vessel drop by drop, where a tap is fitted at the bottom to drain water for use. The top vessel has a lid on top.

The manufacturing of steel vessels involves the following steps:

S.S. Blanks (Purchased/Blanked on Circle Cutting Machine)

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Deep Drawing

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Trimming and Curling

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Punching of Holes for Fittings

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Polishing

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Packaging

(Accessories e.g. tap, ceramic filter candles and lid knobs are supplied along with, which are fitted by the customers at home as per Instructions Manual.)

Quality Control and Standards

There is no ISI specification for the product. However, the product is made to various sizes ranging from 12 lit. to 30 lit. capacity out of stainless steel sheets of 24 and 28 gauge.

Production Capacity (per year)

Quantity : 54000 Nos.
Value : 216 Lakhs

Motive Power 25 H.P.

FINANCIAL ASPECTS

A. Fixed Capital

(i) Land and Building	(Rs.)
Land and Building (Rented/month basis) Total area of land (1000 Sq. mtr.), builtup area (200 Sq. mtr.)	8000

(ii) Machinery and Equipment

Sl. No.	Description	Qty.	Rate (Rs.)	Amount (In Rs.)
1	Deep drawing double action cam type power press, size No.3 blank admitted 15", deep draw 4", No. of strokes/ minute-15, along-with 7.5 HP motor	2	120000	2,40,000
2	Beading machine with complete accessories	1	8000	8,000
3	Stamping Machine	1	5000	5,000
4	Lathe Machine 2 HP Motor, Centre height 12" length of bed 6 Ft.	1	30000	30,000
5	Electrically heated box type chamber furnace. Heating chamber size 24" × 24" × 18".20 kW with temperature control device.	1	60000	60,000
6	Circle cutting machine pedestal type 6" to 42" with 1 HP motor	1	10000	10,000
7	Polishing machine with 2 HP Motor	4	10000	40,000
8	Beam scale	1	5000	5,000
9	Arc Welding equipment	1	8000	8,000
10	Double ended bench grinder wheel size 10" × 1" with 1 HP motor	1	10000	10,000
11	Drilling machine 1" cap. with 1 HP motor	1	8000	8,000
12	Punching Machine with accessories, cap. 1/2" to 2"	1	15000	15,000
13	Hand tools like spanners, files, chissels, drills, taps grease gun, and oiling equipment	L.S.	5000	5,000
14	Precision instru-ments and measuring tools like vernier, caliper micrometer gauge etc.	L.S.	10000	10,000
15.	Cost of dies for press and fixtures for different items	L.S.	10000	10,000
16.	Cost of office equipment including Typewtriter, Fax Machine, etc.	L.S.	30000	30,000
	Erection, Installation and Electrification Charges @ 10%	*L.S.*		49,400
		Total		5,43,400

(iii) Pre-operative Expenses Rs. 5000

Total Fixed Capital (i+ii+iii) Rs. 5,48,400

B. Working Capital (per month)

(i) Salary and Wages

Sl. No.	Designation	Nos.	Salary (In Rs.)	Amount (In Rs.)
1	Manager-cum-Accountant	1	6000	6,000
2	Clerk cum Typist	1	3000	3,000
3	Store Keeper	1	3000	3,000
4	Foreman cum diemaker	1	3000	3,000
5	Pressman	2	3500	7,000
6	Polishers	4	3000	12,000
7	Circle blank cutter	1	3000	3,000
8	Peon-cum-watchman	1	2000	2,000
9	Skilled Workers	6	2500	15,000
10	Un-skilled Workers	4	2000	8,000
	Perquisites @ 15%			9,300
		Total		71,300

(ii) Raw Materials

Sl. No.	Item	Qty.	Rate (Rs.)	Amount (In Rs.)
1	Stainless steel circle (24,26 gauge) including 2% wastage	10 MT	1,10,000	11,00,000
2	Lusser mops, buffs, emery		LS	5,000

Sl. No.	Item	Qty.	Rate (Rs.)	Amount (In Rs.)
	paper, polishing compound, lubricants, etc.			
3	Ceramic Candles, lid knobs, rubber base ring and metallic taps		4500	3,65,000
			Total	14,70,000

(iii) Utilities		(In Rs.)
Electrical Power	LS	2500
Water	LS	100
	Total	2600

(iv) Other Contingent Expenses	(Rs.)
1 Rent of Land and Building	8000
2 Postage and Stationery	300
3 Repairs and Maintenance	1000
4 Transport and Travelling Expenses	2000
5 Insurance	1250
6 Packaging and Forwarding	12000
7 Telephone	500
8 Publicity and Advertising	1000
9 Other Misc. Expenses	1000
Total	27050

(v) Total Recurring Expenses (per month)	(Rs.)
1 Salary and Wages	71300
2 Raw Materials	1470000
3 Utilities	2600
4 Other Contingent Expenses	27050
Total	15,70,950

(vi) Working Capital for 3 months Rs. 47,12,850

C. Total Capital Investment

(i) Fixed Capital	5,48,400
(ii) Working Capital (for 3 months)	47,12,850
Total	52,61,250

MACHINERY UTILIZATION

75% of the capacity utilisation has been taken into consideration.

FINANCIAL ANALYSIS

(1) Cost of Production (per year)	(In Rs.)
Total recurring cost	18,85,1,400
Depreciation on machinery and equipment @10%	48,400
Depreciation on office equipment @ 20%	2,000
Total interest on capital investment @ 16%	841800
Total	19,74,36,00

(2) Turn-over (per year)

Sl. No.	Item	Amount (In Rs.)
	Total Production of Water Filter will be 54000 pcs. (4500pcs.×12 months) for sale of different sizes and the average sale price is Rs. 400 per piece.	21,60,0,000

(3) Net Profit (per year) *(Before taxes)*
Total Sales - Cost of Production 18,56,400

(4) Net Profit Ratio

$$= \frac{\text{Net Profit per year} \times 100}{\text{Turnover per year}}$$

$$= 8.59\%$$

(5) Rate of Return

$$= \frac{\text{Net Profit per year} \times 100}{\text{Total Capital Investment}}$$

$$= 35.28\%$$

(6) Break-even Point

Fixed Cost	(Rs.)
Rent	96,000
Insurance	15,000
Depreciation on machinery and equipment	48,400
Depreciation on office equipment	2,000
Total interest on capital investment	8,41,800
40% of salaries	28,520
40% of other contingent expenses *(except rent and insurance)*	10,820
Total	13,19,880
Say	1320000

B.E.P. $= \frac{1320000 \times 100}{1320000 + 1856400}$

$= 41.56\%$

Addresses of Manufacturers and Machinery /Equipment Suppliers

1. M/s. Radha Enterprises
   169, Gopal Nagar, Hapur Road,
   Ghaziabad (UP)
2. M/s. Hindustan Metal and Engineering Works
   Jeewali Bazar,
   Rewari
3. M/s. G. P. Iron and Metal Industries
   Dera Nanak Road,
   Batala
4. M/s. Midnapore Engineering Works
   63, Kalbortya Para Lane,
   Salkia, Howrah (WB)
5. M/s. Howrah Sheet Metal and Engg. Works
   242/1/11, G.T. Road,
   Ghusuri,
   Howrah-7
6. M/s. Rama Industries
   Jajjar Road,
   Rewari
7. M/s. Prem Metal Products Ltd.
   Adhyatmic Nagar,
   Ghaziabad (UP)
8. M/s. Auto Test
   B-5, DSIDC Indl. Complex,
   Rohtak Road,
   Delhi-110041
9. M/s. M.G. Electricals
   Plot No. 97,
   Sector 24,
   Faridabad
10. M/s. Simplicity Engineers (P) Ltd.
    B-99, Mayapuri Indl. Area,
    New Delhi-110064
11. M/s. Steel Plant (P) Ltd.
    205, Dr. Annie Besant Road,
    Worli, Mumbai-18
12. M/s. Standard Engg., Co. Ltd.
    B-1-102, Himalaya House,
    10th Floor, 23,
    Kasturba Gandhi Marg,
    New Delhi-110001
13. M/s. United Electrical Co.
    18, New Qutab Road,
    Delhi-110006
14. M/s. Rajendra Electric Works
    3559, Qutab Road,
    Delhi-110006
15. M/s. Sham Ravinder and Co.
    A-46, Indl. Area,
    G.T. Karnal Road,
    Delhi-110033