

Health Sector



MAKING DISPOSABLE SYRINGES

Introduction

A syringe is a simple piston pump consisting of a plunger that fits tightly in a tube. The plunger can be pulled and pushed along inside a cylindrical tube (the barrel), allowing the syringe to take in and expel a liquid or gas through an orifice at the open end of the tube. The open end of the syringe may be fitted with a hypodermic needle, a nozzle, or tubing to help direct the flow into and out of the barrel. This project capital investment requirement is US \$ 18,600 generating a revenue potential of 343,200 per year. The net profit margin is 42% with a payback period of 5 months. Therefore, proposes to install entire equipments needed for an integrated disposable syringe plant.

Production Capacity:

It is estimated that this project will manufacture 1tonne of syringes per day giving rise to about 30 tons per month and this will generate TR of 343,200US\$ per year.

Technology:

A disposable syringe may be simple and straight forward to look at, but it is an uneconomical and risky business to manufacture them without the necessary expertise. Hypodermic syringe production is strictly controlled by the United States government, specifically the Food and Drug Administration (FDA). They have compiled a list of specifications to which every manufacturer must comply. They

perform inspections of each of these companies to ensure that they are following good manufacturing practices, handling complaints appropriately, and keeping adequate records related to design and production.

Equipment:

The essential machinery required includes: (i) Disposable syringe moulding machine (ii) Syringe packaging machine and (iii) Fixed data flexographic printer. These equipments can be imported from India.

Raw Materials:

Compounded formulation plastic is used as a raw material in a syringe moulding machine to form a barrel, piston/plunger cover of a disposable plastic syringe.

Market Analysis:

Disposable syringes are widely used by Doctors and it is the way to go world over. With the increase in population in our country, requirement for these items is a must to curb transmission of diseases.

Capital Investment Requirements in US\$

Capital Investment Item	Units	Qty	@	Amount
Delivery Van	No.	1	8,000	8,000
Flexographic Printer	No.	1	2,800	2,800
Molding Machine	No.	1	5,000	5,000
Plastic Melting Machine	No.	1	1,000	1,000
Weighing Scale	No.	1	100	100
Furniture	No.	5	40	200
Packaging Machine	No.	1	1,500	1,500
Total Amount				18,600

Operating Costs in US\$

Item	Units	@	Qty/day	Prod. Cost/day	Pdn Cost/month	Pdn Cost/Year
Direct Costs						
Sterilisable Paper	Metre	5	10	50	1300	15600
Ethylene Oxide	Litres	5	50	250	6,500	78,000

Compounded Plastics	Kgs	0.5	500	250	6,500	78,000
Sub total				550	14,300	171,600

General Costs (Over heads)

Rent	400	4,800
Packaging Material	100	1,200
Labour	400	4,800
Utilities (Power & Water)	300	3,600
Repair & Servicing	200	2,400
Fuel	400	4,800
Depreciation(Asset write off) Expenses	400	4,650
Sub - total	2,200	26,250
Total Operating Costs	16,500	197,850

Project Product Costs & Price Structure S

Item	Qty/day	Qty/yr	@\$	Pdn Cost/yr	UPx	T/rev
Syringes	2000	624,000	0.32	197,850	0.55	343,200

Profitability Analysis in US\$

Profitability Item	Per day	Per Month	Per Year
Revenue	1,100	28,600	343,200
Less: Production & Operating Costs	634.13462	16,488	197,850
Profit	466	12,113	145,350

Sources of Supply of Raw Materials in US\$

Production facilities for manufacturing Disposable syringes are supplied to Developing Countries – together with the essential know-how – by a number of German and other European companies.

Government Facilities and Incentives Available:

The following incentives are available from Government in her bid to promote Health and wellbeing of the people and they include: Capital incentives, tax exemptions, land, basic infrastructure, and grants.