PROJECT REPORT

Of

DOOR CLOSER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Door closer Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

SAMADHAN
Nurturing Dreams - Innovative Solutions

Lucknow Office: Sidhivinayak Building , 27/1/B, Gokhlley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training Centre, Gandhi Darshan Rajghat, New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555

PROJECT AT GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX	
2	**Firm Name**	XXXXXXXX	
3	**Registered Address**	XXXXXXXX	
4	**Nature of Activity**	XXXXXXXX	
5	**Category of Applicant**	XXXXXXXX	
6	**Location of Unit**	XXXXXXXX	
7	**Cost of Project**	19.30	Rs. In Lakhs
8	**Means of Finance**		
i)	**Own Contribution**	1.93	Rs. In Lakhs
ii)	**Term Loan**	11.70	Rs. In Lakhs
iii)	**Working Capital**	5.67	Rs. In Lakhs
9	**Debt Service Coverage Ratio**	3.27	
10	**Break Even Point**	37%	
11	**Power Requiremnet**	18	KW
12	**Employment**	8	Persons
13	**Major Raw Materials**	Non-porus metal body,metallic plates,spring,nuts & valves,lack & pinion assembly,washer,hydrolux paint,main arms & adjusting arm,bearing and hydraulic oil	

14 Details of Cost of Project & Means of Finance

Cost of Project **Amount in Lacs**

Particulars	**Amount**
Land and building	Owned/Leased
Plant & Machinery	12.00
Furniture & Fixture	0.50
Other Misc Assets	0.50
Working Capital Requirement	6.30
Total	**19.30**

Means of Finance

Particulars	**Amount**
Own Contribution	1.93
Term Loan	11.70
Working capital Loan	5.67
Total	**19.30**

DOOR CLOSER MANUFACTURING UNIT

1. INTRODUCTION

Door closers are becoming an essential need of contemporary doors. For fire safety and to preserve room temperature in workplaces, schools, hospitals, and homes, close the door. The strategy for developing a product like a door closer was to assume that every door closer on the market was powered by a hydraulic cylinder.

A door closer assembly and method of manufacture in which at least one closing spring exerts the closing force. The door closer assembly consists of a housing, a rotor journal in said housing to apply torque, and at least one piston apparatus, all of which are made of the same material of construction and have a thermal expansion coefficient of at least roughly the same. A door closer is a mechanical device that shuts a door in a controlled manner, keeping it from slamming, after it has been opened manually or automatically. When the force used to open the door is relinquished, the energy is employed to close the door. A building's fire alarm system can be linked to door closers. An electromagnetic device is used to hold open doors that must be kept open for the bulk of the time. When the fire alarm goes off, the electromagnetic hold-open mechanism loses power, enabling the doors to close. These hold-open mechanisms can be independent from or integrated into the door closer's design. Floor springs are door closers that are mounted in the floor directly beneath the pivot point beneath a decor plate. They come in two types: single action for doors that open one way (right and left hand) and double action for doors that open inward and outward. Both types can be none hold open (NHO) or hold open (HO). They are made up of a pivot that protrudes from the top of the device and connects to a shoe (or strap) to which the door is attached, a spring, and a damping device to control the rate at which the door closes (early ones had no damping). The damping devices are either pneumatic (known as an air spring or air check) or hydraulic in nature.

The earliest door closers just had a spring mechanism, but as time went on, the rate at which the door closed was slowed or monitored by adding another device. At the time, door closers were referred to as a door spring and check. Later, these two mechanisms were merged into a single unit that closed the door while also slowing the process. To verify the speed, these early "door closers" employed a pneumatic piston; later variants used a hydraulic or oil-filled mechanism.

2. PRODUCT DISCRIPTION

2.1 PRODUCT USES

A door closer is a mechanical device that shuts a door that has been opened manually or automatically by pushing or pulling on it. A multitude of variables may be considered when determining the closest available in a market.

2.2 MANUFACTURING PROCESS

Casting is used to create the primary body. This casting is constructed of a non-porous substance. This is then machined to a high degree of precision in order to fit additional components into it. Cast Iron and Aluminum Alloy are suitable materials for casting. The Door Closer manufacturing processes include the following main steps:

2.2.1 The first step is to procure the raw material and verify its shape and size according to the requirement of the product.

2.2.2 After this, the metallic body goes through pressure testing and to improve their surface, finish grinding is done.

2.2.3 Now on the metallic body, according to the product design and specifications all of its major components like springs, nut and bolts, racks, pinion assembly, washer etc assembling is done.

2.2.4 After this oiling and greasing is done of the movable parts of the product. Next the ready unit goes through door testing. The oil used in the mechanism should be an all- weather resistant homogenous high viscosity hydraulic fluid. This oil is filled in the main bore of the main body and is approximately 30 ml.

2.2.5 At the next step, on the door closer with the help of stamping procedure product name, specifications etc. are imparted.

2.2.6 After the unit is ready, spray painting is done and left for drying and then it is tested for final packaging. The adjustable arm is secured to the frame or door with a clamp. Cast iron, steel, and forged steel are all suitable materials for clamps. The door closers are then painted with the desired colour, such as golden, silver, brown, or

teak, using a spray gun and compressor. Finally, the door closer is dried in a furnace to provide a perfect finish.

2.2.7 Finally, the door closer is ready for sale and proceeded of packaging.

3. PROJECT COMPONENTS

3.1 Land /Civil Work

The land require for this manufacturing unit will be approx. around 1500-1800 square feet.

We have not considered the cost of Land purchase & Building Civil work in the project. It is assumed that land & building will be on rent & approx. rental of the same will be Rs.28,000-32,000 per month.

3.2 Plant & Machinery

- Lathe Machine- A lathe is a type of machining tool that is typically used to shape metal or wood. The workpiece is rotated around a fixed cutting tool.

- Drill Machine- A drill, sometimes known as a drilling machine, is a tool used to make round holes or drive screws. It has a chuck that secures a bit, either a drill or a driver, depending on the use.

- Bench Grinder- A bench grinder is an appliance for sharpening other instruments. It's an absolute must-have for any home workshop. The wheels of a bench grinder can be used for grinding, sharpening tools, or shaping various items.

- Bench Vise- A workbench-mounted holding mechanism with two jaws that hold the work item firmly in place. vise is a synonym for vise. vises for machinists and metalworkers a vise with two parallel iron jaws and a large aperture at the bottom

- Stamping Press- A stamping press is a metalworking equipment that can shape or cut metal according to your requirements. Forming, drawing, trimming, blanking, and/or piercing the metal with a die are all steps in the process.

- Spray Paint Gun- The spray gun, which evolved from the airbrush, is used to apply lacquers, paints, varnishes, shellac, and other finishes to manufactured items.

Sr. No.	Name of the machineries	Cost of the machineries
1.	Lathe Machine	4,00,000
2.	Drill Machine (30,000*3)	90,000
3.	Bench Grinder	70,000
4.	Bench Vise	60,000
5.	Stamping Press	5,00,000
6.	Spray Paint Gun	20,000
7.	Other Equipment's	60,000
	TOTAL	12,00,000

Note: Cost of the machine is inclusive of GST and other transportation cost.

7. LICENSE AND APPROVALS

- GST Registeration
- Udyam online registration.
- Pollution control board License
- NOC from Fire board.

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening Balance		2.76	4.78	7.57	9.91
Add:- Own Capital	1.93				
Add:- Retained Profit	4.08	6.26	7.80	9.34	10.89
Less:- Drawings	3.25	4.25	5.00	7.00	8.50
Closing Balance	2.76	4.78	7.57	9.91	12.30
Term Loan	10.40	7.80	5.20	2.60	-
Working Capital Limit	5.67	5.67	5.67	5.67	5.67
Sundry Creditors	1.56	2.49	2.85	3.25	3.68
Provisions & Other Liabilities	0.50	0.75	0.90	1.08	1.30
TOTAL :	**20.89**	**21.49**	**22.20**	**22.52**	**22.95**
Assets					
Fixed Assets (Gross)	13.00	13.00	13.00	13.00	13.00
Gross Depriciation	1.93	3.56	4.96	6.15	7.16
Net Fixed Assets	**11.08**	**9.44**	**8.04**	**6.85**	**5.84**
Current Assets					
Sundry Debtors	2.93	3.79	4.36	4.95	5.23
Stock in Hand	4.94	5.87	6.73	7.66	8.67
Cash and Bank	0.96	1.64	1.82	2.04	1.70
Loans and advances/other current assets	1.00	0.75	1.25	1.00	1.50
TOTAL :	**20.89**	**21.49**	**22.20**	**22.52**	**22.95**

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	1.93				
Net Profit	4.08	6.73	8.65	10.66	12.88
Depriciation & Exp. W/off	1.93	1.64	1.40	1.19	1.01
Increase in Cash Credit	5.67	-	-	-	-
Increase In Term Loan	11.70	-	-	-	-
Increase in Creditors	1.56	0.93	0.36	0.40	0.43
Increase in Provisions & Other liabilities	0.50	0.25	0.15	0.18	0.22
TOTAL :	**27.37**	**9.56**	**10.56**	**12.43**	**14.53**
APPLICATION OF FUND					
Increase in Fixed Assets	13.00				
Increase in Stock	4.94	0.94	0.86	0.93	1.01
Increase in Debtors	2.93	0.87	0.56	0.60	0.28
Increase in loans and advances	1.00	- 0.25	0.50	- 0.25	0.50
Repayment of Term Loan	1.30	2.60	2.60	2.60	2.60
Drawings	3.25	4.25	5.00	7.00	8.50
Taxation	-	0.47	0.86	1.32	1.99
TOTAL :	**26.41**	**8.88**	**10.38**	**12.20**	**14.88**
Opening Cash & Bank Balance	-	0.96	1.64	1.82	2.04
Add : Surplus	0.96	0.68	0.18	0.23	-0.35
Closing Cash & Bank Balance	**0.96**	**1.64**	**1.82**	**2.04**	**1.70**

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**50%**	**55%**	**60%**	**65%**	**70%**
SALES					
DOOR CLOSER	62.70	75.88	87.12	99.07	112.16
Total	**62.70**	**75.88**	**87.12**	**99.07**	**112.16**
COST OF SALES					
Raw material cost	36.00	41.58	47.52	54.21	61.32
Electricity Expenses	3.02	3.33	3.66	4.02	4.43
Depreciation	1.93	1.64	1.40	1.19	1.01
Wages & labour	7.20	8.28	9.52	10.95	12.59
Repair & maintenance	0.47	0.61	1.05	1.24	1.26
Consumables	1.57	1.90	2.18	2.48	2.80
Packaging cost	0.69	0.76	0.96	0.99	1.23
Cost of Production	50.88	58.09	66.28	75.08	84.65
Add: Opening Stock	-	3.14	3.79	4.36	4.95
Less: Closing Stock	3.14	3.79	4.36	4.95	5.61
Cost of Sales	47.74	57.43	65.72	74.48	83.99
GROSS PROFIT	**14.96**	**18.45**	**21.40**	**24.59**	**28.17**
Salary to Staff	3.84	4.42	5.08	5.84	6.72
Interest on Term Loan	1.15	1.01	0.73	0.44	0.15
Interest on working Capital	0.62	0.62	0.62	0.62	0.62
Rent	3.60	3.96	4.36	4.79	5.27
Selling & Administration Expenses	1.66	1.71	1.96	2.23	2.52
TOTAL	**10.88**	**11.72**	**12.75**	**13.93**	**15.29**
NET PROFIT	4.08	6.73	8.65	10.66	12.88
Taxation		0.47	0.86	1.32	1.99
PROFIT (After Tax)	4.08	6.26	7.80	9.34	10.89

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	6.01	7.90	9.19	10.53	11.90
Interest on Term Loan	1.15	1.01	0.73	0.44	0.15
Total	7.16	8.91	9.92	10.97	12.06
REPAYMENT					
Instalment of Term Loan	1.30	2.60	2.60	2.60	2.60
Interest on Term Loan	1.15	1.01	0.73	0.44	0.15
Total	2.45	3.61	3.33	3.04	2.75
DEBT SERVICE COVERAGE RATIO	**2.92**	**2.47**	**2.98**	**3.61**	**4.38**
AVERAGE D.S.C.R.					**3.27**

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
ist	Opening Balance	-					
	1st month		11.70	11.70	-	-	11.70
	2nd month	11.70	-	11.70	0.11	-	11.70
	3rd month	11.70	-	11.70	0.11	-	11.70
	4th month	11.70	-	11.70	0.11	-	11.70
	5th month	11.70	-	11.70	0.11	-	11.70
	6th month	11.70	-	11.70	0.11	-	11.70
	7th month	11.70	-	11.70	0.11	0.22	11.48
	8th month	11.48	-	11.48	0.11	0.22	11.27
	9th month	11.27	-	11.27	0.10	0.22	11.05
	10th month	11.05	-	11.05	0.10	0.22	10.83
	11th month	10.83	-	10.83	0.10	0.22	10.62
	12th month	10.62	-	10.62	0.10	0.22	10.40
					1.15	**1.30**	
2nd	Opening Balance						
	1st month	10.40	-	10.40	0.10	0.22	10.18
	2nd month	10.18	-	10.18	0.09	0.22	9.97
	3rd month	9.97	-	9.97	0.09	0.22	9.75
	4th month	9.75	-	9.75	0.09	0.22	9.53
	5th month	9.53	-	9.53	0.09	0.22	9.32
	6th month	9.32	-	9.32	0.09	0.22	9.10
	7th month	9.10	-	9.10	0.08	0.22	8.88
	8th month	8.88	-	8.88	0.08	0.22	8.67
	9th month	8.67	-	8.67	0.08	0.22	8.45
	10th month	8.45	-	8.45	0.08	0.22	8.23
	11th month	8.23	-	8.23	0.08	0.22	8.02
	12th month	8.02	-	8.02	0.07	0.22	7.80
					1.01	**2.60**	
3rd	Opening Balance						
	1st month	7.80	-	7.80	0.07	0.22	7.58
	2nd month	7.58	-	7.58	0.07	0.22	7.37
	3rd month	7.37	-	7.37	0.07	0.22	7.15
	4th month	7.15	-	7.15	0.07	0.22	6.93
	5th month	6.93	-	6.93	0.06	0.22	6.72
	6th month	6.72	-	6.72	0.06	0.22	6.50
	7th month	6.50	-	6.50	0.06	0.22	6.28
	8th month	6.28	-	6.28	0.06	0.22	6.07
	9th month	6.07	-	6.07	0.06	0.22	5.85
	10th month	5.85	-	5.85	0.05	0.22	5.63

	11th month	5.63	-	5.63	0.05	0.22	5.42
	12th month	5.42	-	5.42	0.05	0.22	5.20
					0.73	**2.60**	
4th	Opening Balance						
	1st month	5.20	-	5.20	0.05	0.22	4.98
	2nd month	4.98	-	4.98	0.05	0.22	4.77
	3rd month	4.77	-	4.77	0.04	0.22	4.55
	4th month	4.55	-	4.55	0.04	0.22	4.33
	5th month	4.33	-	4.33	0.04	0.22	4.12
	6th month	4.12	-	4.12	0.04	0.22	3.90
	7th month	3.90	-	3.90	0.04	0.22	3.68
	8th month	3.68	-	3.68	0.03	0.22	3.47
	9th month	3.47	-	3.47	0.03	0.22	3.25
	10th month	3.25	-	3.25	0.03	0.22	3.03
	11th month	3.03	-	3.03	0.03	0.22	2.82
	12th month	2.82	-	2.82	0.03	0.22	2.60
					0.44	**2.60**	
5th	Opening Balance						
	1st month	2.60	-	2.60	0.02	0.22	2.38
	2nd month	2.38	-	2.38	0.02	0.22	2.17
	3rd month	2.17	-	2.17	0.02	0.22	1.95
	4th month	1.95	-	1.95	0.02	0.22	1.73
	5th month	1.73	-	1.73	0.02	0.22	1.52
	6th month	1.52	-	1.52	0.01	0.22	1.30
	7th month	1.30	-	1.30	0.01	0.22	1.08
	8th month	1.08	-	1.08	0.01	0.22	0.87
	9th month	0.87	-	0.87	0.01	0.22	0.65
	10th month	0.65	-	0.65	0.01	0.22	0.43
	11th month	0.43	-	0.43	0.00	0.22	0.22
	12th month	0.22	-	0.22	0.00	0.22	-
					0.15	**2.60**	

DOOR TO DOOR	60	MONTHS
MORATORIUM PERIOD	6	MONTHS
REPAYMENT PERIOD	54	MONTHS

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