

PROJECT PROFILE
ON
UV TUBELIGHT STERILIZATION CONTACTLESS
DISINFECTOR BOX

NAME OF THE PRODUCT	UV TUBELIGHT STERILIZATION CONTACTLESS DISINFECTOR BOX
Quality Standards	<ul style="list-style-type: none">• UV Life efficacy as per APHA 9000.• ISO 15858 UV-C Safety information – permissible for Human Exposure is assured.
PRODUCTION CAPACITY	The production capacity of the unit at 75% capacity utilisation.
MONTH & YEAR OF PREPARATION	JUNE, 2020
PREPARED BY	MSME - Development Institute, Ministry of Micro, Small & Medium Enterprises, Government of India Narasapur X Raods, Balanagar, Hyderabad-500037. Tele. 040-23078131/132/133 email: dcdi- hyd@dcmsme.gov.in Website: msmehyd.ap.nic.in

INTRODUCTION:

Due to the COVID-19, lot of confusions erupted regarding sanitization of the daily use items viz., laptop, cell phones, vehicle & house keys, bags, pens, vegetables, fruits, groceries and above all Currency notes along with other domestic items, particularly after unlock declared by GOI.

To cater to the needs of the Same a Non-contact Disinfector is designed and developed based on principle of UV-C rays, which will kill or inactive the microorganisms by emitting radiation predominantly at a wavelength of 25.7nm.

We are well aware to the fact that every office, hospital, Individual house, apartments, restaurants, etc require these kind of equipment to assure their belongings, backpacks, are safely carried and reused.

1. MARKET POTENTIAL:

- Need of the hour
 - Required for the sanitization of vegetables, masks, keys, currency....etc for every household.
 - Required for the sanitization of Laptops, keys, Masks, hand phones, Purse, goggles, currency... Etc. for every office
 - Required for the sanitization of masks, PPEs, stationary, medicines.....etc. for every hospital and clinics
 - Required for currency, cheques, documents etc., for every bank.
- AND THE LIST GOES ON.

2. BASIS AND PRESUMPTIONS:

Efficiency: 50% efficiency of the machine is considered. It is envisaged that the machines will run to its complete capacity intermittently to produce the required quantity of 10 nos per day. Also 95% efficiency of the man power is considered to produce the required quantity of 10 nos per day.

Time Period: considering the urgency of the requirement full capacity utilization is expected to achieve within 6 months from the commencement of production.

Members of staff Wages: The minimum applicable wages are taken into account considering the statutory benefits of the staff such as ESI and PF.

INTEREST RATE: 14% / annum on total investment is taken into account.

3. MARGIN MONEY:

25% of the total investment may be brought in by the promoters.

Pay back Period: About 5 years.

4. IMPLEMENTATION AND SCHEDULE:

S.No.	Activity	No. (in MONTHS)				
1	Selection of Technology resource & site etc	1				
2	Availability of Finance, Construction of building, Procurement of machinery and equipment, Availability of Electrical Power, Erection and commissioning	3				
3	Recruitment of manpower, Design and Development, manufacturing of Proto model, NABL accredited third party stamping.	1				
4	Commercial production	1				
	Total implementation period with 300 nos on stock	6				
Activity	1 st	2 nd	3 rd	4 th	5 th	6 th
As per above	MONTHS					
1						
2						
3						
4						

5. TECHNICAL ASPECTS:

5.1 Flow chart of production:

✓ Step-1:

After procurement of raw material, marking, cutting and bending of the sheets as per the drawing

✓ Step -2

Welding of the extra brackets

✓ Step -3

Powder quoting of the individual parts

✓ Step -4

Assembling of the Box

✓ Step-5

Alignment of the Stainless steel tray along with DC motor alignment.

✓ Step-6

After assembling, fixing of the PCB into the box. Mounting all the components like LED indicators, UV bulbs with fixtures buzzer, sensors, countdown counters, etc.

✓ Step-7

Laying and connecting the wires to the components.

- ✓ Step-8
Testing the equipment as per the pre-determined standards.
- ✓ Step-9
Internal Quality checks as per the pre-determined standards.
- ✓ Step-10
Packing the equipment and ready for dispatch.

5.2 Highly reliable components shall be used.

5.3 Required UV dosage should be assured.

5.4 20 liters capacity Equipment.

5.5 Tray size: 16" x15" x 6"

6. QUALITY CONTROL AND STANDARDS:

As of now BIS standard pertaining to the UV disinfectant is not available. However ISO 15858 UV-C safety for human exposure is considered.

7. PRODUCTION CAPACITY:

Quantity : 3600 units per year

Value : ₹6,48,00,000.00 (₹Seven Crores & Fourty Eight lacs only)

Motive Power : 25 HP

Pollution Control : White zone category (not required): Precautions to be taken during handling the UV-C bulbs by wearing UV resistant goggles.

8. ENERGY CONSERVATION:

Simple Energy saving precautions are required for this product manufacture.
Financial aspects

9. (a) LAND & BUILDING : On rental basis PM
OFFICE, Works and stores etc 3000 Sft = Rs50,000/- PM

10(b) Machinery & Equipment:

S.No.	Description	UOM	Nos.	Value in ₹.
1	Hydraulic Variable Rake Angle Shearing Machine Machine Size. : 3000 x 4 (SS) x 6 (MS) mm With Multi Step DRO Back Gauge with accessories	1	1	7,50,000.00
2	RP - Bend Hydraulic Press Brake Machine, Bend 100T/3000 mm With NC Back Gauge with accessories	1	1	8,70,000.00
3	3 Roll Hydraulic Rolling Machine Rolling Capacity : 16 x 2600 mm in MS of 275 Mpa Pre Pinching Capacity : 13 x 2600 mm in MS of 275, Mpa with accessories	1	1	16,90,000.00
			Sub total	33,10,000.00
			GST@18%	5,95,800.00
			Misc. tools & Accessories ...LS	94,200.00
			Grand Total	40,00,000.00
	Cost of office furniture & equipment's, tools and fixtures (including testing equipment's / tools etc)...LS			4,00,000.00
	Electrification and installation charges @10% of cost of machinery and equipment's on 40,00,000/--			4,00,000.00
	Total cost of Machinery and equipment's			48,00,000.00
	Pre-operative expenses (Project report, travelling etc)			2,00,000.00

10(c) Total Fixed Capital:

Plant & Machinery	48,00,000.00
Pre-operative expenses	2,00,000.00
Total in ₹	50,00,000.00

10(d) Salaries and wages per month.

S.No.	Description	Persons	Rate	Total in ₹
1	Technical head	1	30,000	30,000
2	Marketing	2	25,000	50,000
3	Sr. Accounts officer	1	25,000	25,000
4	Store keeper	1	20,000	20,000
5	Machine Operators	2	22,000	44,000
6	Skilled workers	4	20,000	80,000
7	Un-skilled workers	3	16,000	48,000
	Total			2,97,000
	Perks @ 15 %			44,550
	Total			341550
	Or say ₹			3,50,000.00

10 (e) Raw materials per month

S.No	Description	UOM	Nos.	Value in ₹
1	Steel Box			
1.1	MS Sheet 3mm thick	Kgs	150	18,000.00
1.2	MS sheet 2mm thick	Kgs	2000	2,40,000.00
1.3	MS Sheet 1.2mm thick	Kgs	5500	5,60,000.00
1.4	MS Sheet 1.0mm thick	Kgs	1650	1,98,000.00
2	Rubber Gaskets: 25mm width x 2000mm length x 2mm thick.	Nos	300	37,500.00
3	Stainless Steel tray with track	Nos	300	3,30,000.00
4	DC Motors with	Nos	300	1,25,000.00
5	UV-C Bulbs	Nos	1500	8,25,000.00
6	PCB with mounted relays and timers	Nos	300	9,60,000.00
7	Proximity Switches	Nos	600	1,44,000.00
7	Emergency switch	Nos	300	30,000.00
8	LED indicators	Nos	1800	30,000.00
9	Powder coating	Lot	300	1,25,000.00
	Total raw material for 1 month			36,22,500.00
	Total rounded to			36,22,000.00

10(f) Utilities per month:

S.No.	Description	Value in ₹
1	Water in lumpsum	3,000
2	Power for 25 HP capacity of machinery, electrical tools etc. LS	22,000
3	Oil , lubricants/ Misc.	5,000
	TOTAL in ₹	30,000.00

10 (g) Other Expenses per month:

S.No.	Description	Value in ₹
1	Rent for building	50,000
2	Insurance	15,000
3	Travelling & Transportation	35,000
4	Consumables, Repairs and Maintenance	50,000
5	Misc. expenses	30,000
6	Telephones/internets etc	20,000
7	Sales & Advertisements	2,00,000
	TOTAL in ₹	4,00,000.00

10. RECURRING EXPENDITURE PER MONTH

$$d+e+f+g = 3,50,000 + 36,22,000 + 30,000 + 4,00,000 = ₹44,02,000.00$$

11. RECURRING EXPENDITURE PER 3 MONTHS:

$$₹44,02,000 \times 3 \text{ months} = ₹ 1,32,06,000.00$$

12. TOTAL CAPITAL INVESTMENT:

Fixed Capital	50,00,000
Working Capital for 3 months	1,32,06,000
Total	₹ 1,82,06,000.00

13. FINANCIAL ANALYSIS:

Cost of production (per year):

S.No.	Description	Value in ₹
1	Total Recurring Cost	52824000
2	Depreciation on office equipment and tools @25% on Rs 4,00,000/-	1,00,000
3	Depreciation on machinery and equipment's @10% on 40,00,000/-	4,00,000
4	Interest of capital investment at 14% on Rs 1,82,06,000	25,48,840
	Total	5,58,72,840
	Say	5,58,73,000

14. SALES TURNOVER per annum:

Production	Qty	Total Rs
By sale of CONTACT LESS DISINFECTOR (Tray / box size: 16" x15" x 6") 300 Nos per month	3600 nos @ Rs 18,000/- each	6,48,00,000

15. NET PROFIT (per Year): ₹6,48,00,000 (-) ₹5,58,73,000 = ₹ 89,27,000

16. NET PROFIT RATIO : 13.7%

17. RATE OF RETURN : 49 %

18. BREAK EVEN POINT ANALYSIS:

(i) Fixed Cost (per year)

S.No.	Description	Value in ₹
1	Total Depreciations	5,00,000
2	Interest on Total investment	25,48,840
3	Insurance & rent 100 %	7,80,000
4	40% of salaries and wages	16,80,000
5	40% of other contingent expenses (excluding rent & insurance)	16,11,600
	Total	71,20,440

(ii) Net profit (per year) = 89,27,000

$$\text{B.E.P.} = \frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{Net Profit}}$$

$\frac{89,27,000 \times 100}{71,20,440 + 89,27,000}$	$\frac{89,27,000 \times 100}{16047440} = 55.6 \%$
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19. Additional Information:

- Technical Know how can be brought from DRDO Laboratories
- Micro organisms killing testing by any NABL accredited Lab. namely NPL, New Delhi
- ICMR approval shall also add to the Quality and Reliability of the equipment.

Address of Machinery and Equipment Suppliers:

1	M/s Envirotec Engineers (India) Pvt., Ltd., Unit 02, Industrial park, Uppal, Hyderabad – 500 039. P.No. 040 29885769 ; Fax: 040 29883781 Hand phone: 995955100 & 9848114811	Complete fabrication of the Box along with the necessary accessories: Bulk Qty. PCB's Bulk Qty. Bulbs
2	M/s Rajesh Machine Tools, 2-Kailashpati Society , Plot No. 7, New Nehrunagar Main Road, Atika Industrial Area Dhebar Road (South), Rajkot.	Cutting and Bending machines
3	Modern Electronics, Gujarathi Galli, besides SBI bank, Koti. Hyderabad	Sensors, switches, indicators
4	Ramdev traders, fatenagar road, Bala nagar, Hyderabad	SS Trays

Raw material/ Spares Suppliers:

1	M/s Envirotec Engineers (India) Pvt., Ltd., Unit 02, Industrial park, Uppal, Hyderabad – 500 039. P.No. 040 29885769; Fax: 040 29883781 Hand phone: 995955100 & 9848114811	DC Motor, Track Sensor PCB
2	Ravindra Iron Works, office 5-4-57, Distillary Raod, Ranigunj, Secuderabad 500 003	MS sheets
3	IRON DEPOT 5-5-21, Ranigunj Secunderabad 500 003	MS Sheets
4	Mahalakshmi Metal (India) 10-32, Fathenagar, Hyderabad Telangana	SS rods for tray making