

## **Project Profile**

Product:- : **Intensive Care Unit (ICU) Beds**

Product Code : BIS: 9395:1979

Quality Standard : BIS: 9395:1979

Production Capacity (PA) : Qty. - 600 No.

Yearly Turnover : Value Rs. 300 Lakhs.

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Ahmedabad - 380014

## **INTRODUCTION**

An ICU bed is a specially designed bed for the patients under the intensive care unit. ICU beds are generally made of anti-bacterial or anti-microbial properties (which most hospital equipment are made of), but the **ICU bed manufacturers** do make them the way other beds are made.

ICU bed manufacturers in India define the intensive care as “sophisticated equipment, specialized nurses, and physicians with critical care training.” But they do not have any specific definition for the ICU beds.

Motorized ICU bed manufacturer in India provides mechanical ventilation, some renal and other organ support, which lack in normal hospital beds. ICU bed manufacturers also provide with facilities like system of pressure ulcers prevention, emergency anti-shock positions, lateral tilting facility, and most of them have a capacity of 250 kilograms.

## **PRODUCTS AND ITS USE**

ICU beds are made of steel & ICU beds are generally made of anti-bacterial or anti-microbial properties. These beds are generally used in **Intensive Care Unit** of Govt. Hospital, Private Hospital as well as Nursing homes etc.

### **Basically this bed is more effective for staff use:**

1. ICU beds are specially made for patient's extra comfort, and easy to and for transfer of emergency staff, hospital wards, OT staff, etc.
2. They are designed in such a way that critical bedside processes like radiological procedures.
3. ICU beds are electrically operable, adjustable in length, height, and Trendelenburg position and the top should also be of radio-translucent material for carrying out an X-ray procedure at the side, an X-ray translucent back for high-pressure laminate.
4. They are easy to clean and are of UV radiation resistant material.
5. They are equipped with trusted actuators and control systems.
6. Spare parts are highly durable.
7. The 5<sup>th</sup> wheel allows one person to maneuver the bed.
8. Single and double castors.

### **This beds is also more comfortable for Patient:**

1. There is always a possibility of bed frame extension.
2. The reduced pressure in patient's thighs and shanks are due to double auto-regress function.
3. Patient's position is improved by a cardiologic chair.
4. Low bed frame allows patient's movement.
5. There is the possibility of bed frame extension.
6. Controls on the beds allow the patient herself to choose the most comfortable position for her.
7. Easy opening and closing of side rails.

### **MARKET:-**

The demands for ICU beds are increasing day by day due to the following reasons:

1. Increase the number of Hospitals in private sector& their expansion
2. Increase in number of private & Government nursing homes & their expansion.

The Government is also encouraging new hospitals & nursing homes in private sectors in order to increase treatment facilities in accordance with the development in public health sector & as such it is likely to be a steady increase in the demand for hospital furniture. However, the growth rate is expected to be more than 10% to 15% per year and as such it may be ideal for the existing steel furniture manufacturer units to take up this activity for not only as diversification but also better capacity utilization by installing a few balancing equipments.

The productivity of your staff definitely impacts patient care and revenue generation. The better the patient care, the higher the patient satisfaction. Hospital staff is able to give their best when they have good quality furniture and medical equipment at their disposal.

Medical industry has become more competitive than it ever was. Patients have access to the internet and they research well before they choose a clinic or hospital for treatment. Having good quality **OT equipment** and furniture shows how serious you are about patient care.

Hope you found the post useful. For more information related to electric ICU beds or manufacturers, feel free to write in to us.

## **BASIS AND PRESUMPTION**

This project is based on single shift basis with 8 hours and 300 working days in a year. The unit is proposed to be started in own building. Costs of machinery, equipment, raw material indicated in this report refer to a particular make and approximately to those prevailing at the time of preparation of this profile and it is presumed that these rates are likely to vary from supplier to supplier and place to place. Cost of installation and electrification of plant and machinery is taken @ 10% of its cost. The interest rate is taken @ 12%.

## **IMPLEMENTATION SCHEDULE**

Time period required for executing the project from preparation of project report to starting the trial run production will be 8 months period approximately. Considering that some of the many activities may be overlapping, the project implementation will take a total period of Six months approximately for starting the actual production.

## **TECHNICAL ASPECTS**

### **Process of Manufacturing**

Raw materials like all type of iron angle, pipe, thickness of pipe (difference between internal and outer dimension), quality of castor wheels and also check condition of nut bolt are checked for their quality.

The basic operations involved in the manufacturing of adjustable beds are as follows:

- i. Cutting & bending of pipes
- ii. Cutting of MS angles
- iii. Cutting of strips
- iv. Welding& Riveting
- v. Grinding
- vi. Assembly of elevating mechanism
- vii. Painting& baking
- viii. Installation of foam
- ix. Covering of foam from the rexine.

## QUALITY SPECIFICATION

### **ICU Beds**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification license/certificate.

- a. Product: IS 9395:1979 Title: Bed, Intensive Care No. of amendments: Nil
- b. Sampling Guidelines a) Raw material: As per clause 2 of IS 9395:1979 b) Grouping Guidelines: Not applicable as only one type of Bed is covered in the ISS. c) Sample Size: One Bed.
- c. List of Test Equipment: Please refer Annex – A
- d. Scheme of Inspection and Testing: Please refer Annex – B
- e. Possible tests in a day : As the licence is operated on Factory Testing basis, complete testing of a sample shall be done in factory.
- f. Scope of the Licence : Licence is granted to use Standard Mark as per IS 9395:1979 with the following scope:

#### **1) PRODUCTION CAPACITY PER ANNUM**

- i) Quantity 600 nos.
- ii) Value 300.0 lakhs

#### **2) APPROXIMATE POWER REQUIREMENT**

This industry is not a large power consuming industry; however maximum care should be taken in utilization of electrical energy.

#### **3) POLLUTION CONTROL**

This industry does not involve in generation of pollution.

#### **4) ENERGY CONSERVATION**

Power requirement is very low, even then energy can be saved by proper housekeeping.

## **Financial Aspects:-**

<b>No.</b>	<b>Particulars</b>			<b>Amount in Rs.</b>
<b>1</b>	<b>Land and Building (200 Sq. Mts build up shed Rented) (Per Month)</b>			<b>50,000/-</b>
<b>2</b>	<b>Machine And Equipment</b>			
<b>S. No.</b>	<b>Name of machine</b>	<b>Qty.</b>	<b>Rate (Rs.)</b>	<b>Amount(Rs.)</b>
1	Pipe bending machine hand operated with fixtures locally fabricated.	3 Nos.	50,000/-	1,50,000/-
2	Arc welding set	1 Set	50,000/-	50,000/-
3	Gas Cutting set with torch, regulators etc.	1 set	40,000/-	40,000/-
4	Bench drill machine 13 mm capacity	1No.	25,000/-	25,000/-
5	Portable drilling machine 13 mm capacity	1 No.	20,000/-	20,000/-
6	Flexible shaft grinder 150 mm Wheels	1 No.	10,000/-	10,000/-
7.	Double ended bench grinder 300 mm sizes	1 No.	20,000/-	20,000/-
8.	Hand shearing machine 3 mm capacity	1 No.	10,000/-	10,000/-
9.	Baking oven 2.5 x 2 mts. X 2 mts. Size 20 Kw capacity.	1 No.	70,000/-	70,000/-
10.	Hand press No. 4	2 Nos.	7,500/-	15,000/-
11.	Cleaning, pickling, phosphating tanks 2.5 x 2 x 2 Mts	L.S	L.S	1,00,000/-
12.	Compressor with spray gun unit for painting	1 No.	20,000/-	20,000/-
13.	Riveting M/c portable type electric operated	1 No.	25,000/-	25,000/-
14.	Hand Tools, instruments etc	--	--	50,000/-
15.	Fixture & Dies	--	--	1,00,000/-
16.	Electrification & Installation @10 % cost of machinery	--	--	70,000/-
17.	Office Equipments/Work table etc	--	--	2,00,000/-
18.	Pre- operative expenses	--	--	2,00,000/-
<b>Total Amount</b>				<b>11,75,000/-</b>

Electrification and in stallion charges

@ 10 % of the cost of machinery

Rs. 117,500/-

Cost of office equipment

Rs. 82,500/-

**Total cost of Machines and Equipment**

**Rs. 13,75,000/-**

### **Total Fixed Capital:-**

A) Land & Building (Per Year)

Rs. 6,00,000/-

B) Cost of Machines and Equipment

Rs. 13,75,000/-

**Rs. 19,75,000/-**

### **Working capital requirement**

#### **i) Personnel (Wages per Month)**

No	Designation	No	Salary/Month	Total Salary in Rs.
1	Manager	1	60,000/-	60,000/-
2	Supervisor	2	30,000/-	60,000/-
3	Skill Labour	8	25,000/-	2,00,000/-
4	Labour	10	20,000/-	2,00,000/-
5	Peon	1	15,000/-	15,000/-
Total				5,35,000/-

Towards welfares and statutory requirements

@ 15% of total salary

80,250/-

6,15,250/-

**Total salary Rs. 6,15,000/-**

#### **ii) Raw materials Per Month**

S.N	Description	Unit	Qty.	Rate	Value In Rs.
1	M.S. angle iron 40 mm x 40mm x3 mm & 38 mm x 38 mm x 3 mm	MT	3	65000	195000.0
2	M.S. Tubes 38.10 mm OD x 1.6 mm/ 1.22mm thick	MT	1	70000	70000.0
3	M.S. Tubes 25.40 mm OD x 1.6 mm/ 1.22mm thick	MT	1	75000	75000.0
4	Foam High Density	Nos	60	4000	240000.0
5	Rexine Sheet	Mtr	300	150	45000.0

6	M.S. Tubes 19.5 mm OD x 1.22mm thick	MT	1	75000	75000.0
7	M.S. Strips 1.25 mm x 25 mm	MT	3	65000	195000.0
8	Castor wheels	Nos	300	500	150000.0
9	Nuts, Bolts, Screws, Washers, Flats, Rubber items & paint etc.	Nos	3000	20	60000.0
<b>Total</b>					<b>11,05,000/-</b>

**iii) Utilities per Month**

Power Charges Avg. 4000 units  
@ 7.00/ Unit

Total Rs. 28,000/-

**iv) Other Contingency expenses per month**

Postage	5,000/-
Repair and Maintance	10,000/-
Transportation	20,000/-
Insurance	10,000/-
Misc.	10,000/-
	<b>55,000/-</b>

**v) Total recurring expenditure**

Personnel	6,15,000/-
Raw materials	11,05,000/-
Utilities	28,000/-
Other Contingency Expanses	55,000/-
	<b>18,03,000/-</b>

**vi) Working capital for 3 Month**

**54,09,000/-**

**vii) Total capital investment**

i) Fixed Capital	19,75,000/-
ii) Working capital for 3 Month	54,09,000/-
	<b>73,84,000/-</b>



## Machinery Utilization

Capacity utilization is considered as 75% of installed capacity

### 3) Financial analysis

#### a) Cost of Production (per Year) Rs.

Total recurring cost	2,16,36,000/-
Depreciation on Machinery and equipment @15%	2,06,250/-
Depreciation on Office furniture @ 20%	40,000/-
Interest on total investment@12%	8,86,080/-
Wages and Salary @ 40%	29,52,000/-
Other expenses @ 40%	2,64,000/-
	<b>2,59,84,330/-</b>
	<b>Say, Rs. 2,60,00,000/-</b>

#### b) Turn over (Per Year)

Item	Qty	Rate	Value In Rs.
ICU Beds	600	50,000	3,00,00,000/-

#### c) Net Profit per Year

$$\text{Rs. } 3,00,00,000/- - 2,60,00,000/- = 40,00,000/-$$

#### d) Net profit ration

$$\frac{40,00,000 \times 100}{3,00,00,000/-} = 13.33\%$$

#### e) Rate of Return

$$\frac{40,00,000/- \times 100}{73,84,000/-} = 54.17\%$$

## f) Break Even point

### Fixed Cost

	Rs.
a) Total Depreciation	2,46,250/-
b) Total Interest	8,86,080/-
c) Salary @ 40%	29,52,000/-
d) Other Expenses @ 40%	2,64,000/-
e) Utility @ 40%	<u>1,48,800/-</u>
	44,97,130/-

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

$$= \frac{44,97,130 \times 100}{44,97,130 + 40,00,000}$$

$$= \frac{44,97,13,000}{84,97,130}$$

$$= 52.92\%$$

## **Machine & equipment Supplier**

- 1. Umiya Industries**  
GIDC Naroda, Ahmedabad, Gujarat 382330  
**Phone:** 079 2282 0709
  
- 2. Adinath Equipments Pvt. Ltd**  
FF-11/12/13, Dinubhai Estate, near Annapurna Restaurant,  
Trikampura Patiya, GIDC Vatwa, Ahmedabad, Gujarat 382445  
**Phone:** 099989 57744
  
- 3. Yantralink Machine Tools**  
14, Jagnath Estate, Cross Rd, opposite Gujarat Bottling,  
Rakhial, Ahmedabad, Gujarat 380023  
**Phone:** 094091 70703

## **Raw Material Supplier**

- 1) Ahmedabad Steel Craft**  
401, 4th Floor, 637 Complex, Panchvati 2nd Lane, Near Suryarath  
Complex, Gulbai Tekra Rd, opposite Patel Society, Gulbai Tekra,  
Ahmedabad, Gujarat 380006  
**Phone:** 079 2640 1996
  
- 2) Shreeji Wheels And Castors Industries**  
C/4, Sumel 7, Cross Road, Soni ni chali, Rakhial,  
Ahmedabad, Gujarat 380023  
**Phone:** 099780 55111
  
- 3) SPL FASTENERS PVT LTD**  
C-18, Sarthi Complex, Opposite Navgujarat Petrol Pump,  
Jashodanagar Cross Road, near Ashirwad Restaurant,  
Jashoda Nagar, Ahmedabad, Gujarat 382445  
**Phone:** 079 3042 9008