

**I. Product and its uses**

Screw Driver is a general term, further qualified by the particular use to which it is put—such as Engineers' Screw Drivers, Electrician Screw Driver etc. The function of screw drivers cover a wide range. Generally they are from 100 mm to 600 mm in length.

**II. Market Potential**

Screw Drivers are very useful and a common hand tool. In every sphere of engineering activity, screw driver is essential. Information available indicates that the demand for screw drivers is quite high and the trend is upward. The demand is increasing due to rapid industrialisation in the country.

Screw Drivers at present are manufactured by a few large scale manufacturers and some small scale units mainly concentrated in Punjab. Although latest demand and supply position is not available, according to authorities estimated demand is substantially higher than supply and therefore scope for this product is very good. Further screw drivers have very good export market.

**III. Production Targets (Per annum)**

24,000 sets of screw drivers (8 in a set) from 100 mm to 450 mm.

**IV. Basis and Presumptions**

The product mix of eight sizes of screw driver ranging from 100 mm to 450 mm has been considered keeping in view the sizes which are most common in the market.

In computing the production target, it has been assumed that there would be 300 working days and the unit would work on single shift basis.

**V. Production Details and Process of Manufacture**

Steel bars of this required specifications in size and material are cut to pieces according to sizes and then centre-less ground to obtain uniformity in diameter. The tips are forged and trimmed. After drilling the shanks, the batches are put under grinding operation when the channels, sides and the tip are rough ground. The tips of the blades are then heat-treated to a hardness of 50 to 55 Rockwell C. The channel side and the tips are then finish ground and sent for electroplating. The blade is then assembled to the handle with the furrule and rivetted.

**VI. Quality Control and Standards**

The screw driver blades shall be manufactured from steel of specification EN-9 or from alloy steel to specification EN-17 (IS : 844/1962). State inspections to ensure dimensional accuracy and for detecting manufacturing defects are to be carried out.

**VII. Land & Building**

	sq. mtr.	Rs.
1. Land . . . . .	1000	rented 5,000
2. Covered area . . . . .	500	
3. Boundry Wall & Guard Room. . . . .		

**VIII. Machinery and Equipment**

		Rs.
1. Centreless grinding m/c 25 mm cap. with motor, electricals etc. . . . .	1	30,000
2. Power press 10 Ton cap. with motor . . . . .	1	15,000
3. Power press 5 Ton cap. . . . .	1	10,000
4. Friction scress press 60 mm dia screw . . . . .	1	1,00,000
5. Oil fired furnace horizontal rotary type 450 mm dia with burner & pyrometer . . . . .	1	50,000
6. Heat Treatment Furnaces semimuffle type 900 mm × 450 mm × 450 mm grate double door with temperature control panel board & pyrometer . . . . .	1	50,000
7. Tempering Furnace pit type/push type with temperative control panel board and pyrometer . . . . .	1	35,000
8. Quenching Tanks (Double walled) . . . . .	3	9,000
9. Drilling m/c 12mm motorised . . . . .	3	20,000
10. Double ended grinder 8" wheel dia motorised . . . . .	3	9,000
11. Electroplating plant with pickling/swilling Tanks, Rectifier 500 Amps. immersion heater, Hydrometer, P.H. Meter, Thermometers, Resistance Board, Filtration unit, drying unit (Hot air type) . . . . .		60,000
12. Embossing Machine . . . . .	1	5,000
13. Initial set of Tools, Dies, Measuring Instruments, Fixture, Trays bucket for E.P. Section etc. . . . .	LS	30,000
14. Rock well hardness testing m/c. . . . .	1	15,000
15. Weighing m/c platform type 500 kg. capacity . . . . .	1	51,000
16. Material handling equipments like Trolleys etc. . . . .		4,000
17. Electrification & installation charges 10% Approx. . . . .		40,000
18. Office equipment & furniture, typewriter etc. . . . .		10,000
		<b>5,33,000</b>



**IX. Staff & Labour (Per month)****Administrative**

	No.	Rs.
1. Works Manager . . . . .	1	2,000
2. Sales Representative . . . . .	1	1,000
3. Office Assistant . . . . .	1	500
4. Clerk-cum-typist . . . . .	1	500
5. Store-keeper . . . . .	1	500
6. Peon/Watchman * . . . . .	3	1,200

**Technical**

1. Supervisor . . . . .	1	1,500
2. Skilled workers . . . . .	8 @700	5,600
3. Semi-skilled workers . . . . .	6 @500	3,000
4. Unskilled workers . . . . .	4 @400	1,600
15% Fringe benefits . . . . .		2,600
		<u>20,000</u>

**X. Raw Materials (Per month)**

	Rs.
1. Steel Round bars EN-9 quality 3 mm to 13 mm dia, 1500 kg. @ Rs. 12000/MT.	18,000
2. Handles, Ferrules and rivetting pins, etc.	9,000
	<u>27,000</u>

**XI. Utilities (Per month)**

1. Electricity and water . . . . .	3,000
2. Furnace oil, chemicals & other consumables	3,000
3. Packing materials . . . . .	4,000
	<u>10,000</u>

**XII. Other Expenses (Per month)**

1. Postage & Stationery . . . . .	500
2. Transport & Conveyance . . . . .	1,000
3. Selling expenses & publicity . . . . .	3,000
4. Repair & Maintenance . . . . .	500
5. Rent of the Building . . . . .	5,000
	<u>10,000</u>

**XIII. Working Capital (Per month)**

1. Raw materials . . . . .	27,000
2. Staff & Labour . . . . .	20,000
3. Utilities . . . . .	10,000
4. Other expenses . . . . .	10,000
	<u>67,000</u>

**XIV. Total Capital Investment**

1. Machinery & equipment . . . . .	5,33,300
2. Working capital (3 months) . . . . .	2,01,000
	<u>7,34,000</u>

**XV. Cost of Production (Per annum)**

1. Annual recurring expenses . . . . .	8,04,000
2. Depreciation of machinery & equipment @ 10% . . . . .	53,300
3. Interest on investment @15% (Average)	1,10,100
	<u>9,67,400</u>

**XVI. Total Sales (Per annum)**

	Rs.
Sales of 24,000 sets of screw drivers @ Rs. 50 per set..	12,00,000
Profit per annum (Before Taxes) . . . . .	2,32,600

**XVII. Profitability (Per annum)**

Percentage profit on sales . . . . .	19.38%
Percentage return on capital investment . . . . .	31.17%

**XVIII. Break-Even Analysis****Fixed cost**

1. Rent of the building . . . . .	60,000
2. Utilities and other expenses . . . . .	96,000
3. Depreciation on machinery & equipment @10% PA . . . . .	53,300
4. Interest on total capital investment @ 15% P.A. on an average . . . . .	1,10,100
	<u>3,19,400</u>

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

$$= \frac{3,19,400 \times 100}{3,19,400 + 2,32,600} = 57.86\%$$

**XIX. Names and Addresses of Machinery Suppliers****Power Press, Drill, Grinding machine**

1. Guru Nanak Engg. Works, Batala (Punjab).
2. Batliboi & Com. Pvt. Ltd., Batliboi House, 98, Armerium St., Madras-1.
3. Singhal Engg. Works, Babu Marg, Aligarh (U.P.).
4. Indu Udyog Co. Pvt. Ltd., 40 Okhla Indl. Estate, New Delhi-20.
5. Rama Inds., Rewari (Haryana).

**Electroplating Plant & Chemicals**

1. Canning Mitra Phoenix Ltd., Evcharistic Congress Building, No. 111-5, Convent St., Bombay-39.
2. Anodisers & Electroplaters, 172, NSC Bose Road, Madras-1.
3. Platewell Processes Pvt. Ltd., 507, Kakad Chambers, Dr. Annie Besant Road, Worli, Bombay-18.

**Hardness Testing, Tensile Testing Pyrometer etc.**

1. Fuel Instruments Engineering (P) Ltd., Ichal Karanji, Maharashtra.
2. Blue Star Ltd., 23/24, IInd line Beach, Madras-1.
3. Precision Scientific Equipment Pvt. Ltd., A-38, Haryana Indl. Area, Phase II, New Delhi.

**Heat Treatment Furnaces**

1. Hindustan Furnaces, Trichur Kerala.
2. Indian Furnace Co., Lotus Building, 12A, Dr. Annie Besant Road, Worli, Bombay-400 018.
3. Simplicity Engg. Pvt. Ltd., B-99, Mayapuri Indl. Area, Phase-I, New Delhi.