

## BATHROOM FITTINGS & FIXTURES



### 1. INTRODUCTION:

Bathroom Fittings and Fixtures now set the tone for your entire design and style, of residential and commercial premises with the most important factor being the design and décor.

Various designs are available for Bathroom Faucets, taps and cocks for various use in sink, shower, tub etc. Many other items like Shower heads, Hand Showers, Towel rings and bars, Shower Curtain rods, Hooks, cloth shelves, vanity mirrors, medicine cabinets, tooth brush holders, toilet paper holder etc. are used for new and remodeling of bath rooms regularly.

### 2. PRODUCT & ITS APPLICATION:

Every household and commercial buildings require fittings and fixture for their bathrooms.

Faucets, Shower heads and Fixtures have high degree of utilitarian designs with now modern artistic décor and aesthetically appealing designs with several sizes, shapes and ornamental features. In addition to the functional reliability of operation, these products are produced with various surface coatings and plating to achieve the end designs.

The bathroom Fittings like faucets, cocks and taps are made from gravity die cast brass, bronze, zinc, magnesium aluminum etc. alloy, while the fixtures and fittings are fabricated from steel, stainless steel, extruded aluminum brass pipes, rods and sections.

### **3. DESIRED QUALIFICATIONS FOR PROMOTER:**

Any ITI, diploma or degree holder with flair for design or marketing and manufacturing experience will be suitable for the project.

### **4. INDUSTRY OUTLOOK/TREND**

The bath fittings and accessories market in India is highly untapped considering a larger population resides in rural areas. Since 2006, the capacity utilization by major companies has enhanced, complemented with the emergence of global and local SMEs bath fittings and accessories manufacturers. This trend has given the industry a new shape and thus pushed the market revenues to INR – 60 billion during FY'2014.

According to current trend in demand the North cities, Western and Southern region of India are major revenue generator for the overall faucets market in India as most of the IT companies are located in the region, generating maximum demand for faucets from the commercial segment. Many international bath fittings brands are increasing their presence in Indian market by either joining hands with domestic brands in the segment or forming their wholly owned subsidiary in India. The market leader, is Jaguar, with focus on Emerging Markets and global brands to compete with other players in the industry. Other Key players of the industry including both domestic and foreign brands like HSIL, Cera, TOTO, Grohe, Hansgrohe, Kohler and Dornbracht and many more in the planning stage.

With India being a huge market for residential projects and real estate, the driving winds are favorable for bath fittings and accessories brands in India. The major growth driver has been the change in the perception people look at bathrooms today. Bathroom is no longer a place

which is just used to bath, but the purpose also focuses on the relaxing aspect, which was missing earlier.

The government has taken an initiative to improve the sanitation in rural areas where penetration is still lower. This is projected to earmark a growth in demand for basic bath fitting products. Owing to these aforementioned factors, the revenues for bath fittings and accessories are projected to incline at an impressive CAGR of 15% during the future outlook 2019. Further, the government housing policy for rural areas, low housing loans, foreign investments in industrial sector and growth in urban population are anticipated to generate demand for faucets in north and west regions in the next five years. Cities like Hyderabad, Mumbai, Pune, Delhi, Bangalore are projected to be the highest revenue generators during the next five years due to the launch of special economic zones, malls and residential projects. It is estimated that India bath Fittings and Accessories Market shall reach INR 143.1 Billion by 2019 or before.

There is a trend towards Touchless, sensor driven faucets and slush valves segment and concept of smart bathroom market is emerging. This emerging trend may holds the largest market share in the global market. The advanced technologies aimed at energy conservation and maintaining hygiene is the driver and in the US smart bathrooms are gaining popularity to counter rising energy costs. In Germany, the government has introduced the concept of the smart bathroom in the construction market to control and reduce high energy costs.

## **5. MARKET POTENTIAL AND MARKETING ISSUES. IF ANY:**

Demand for bathroom fittings and fixture is generated from population growth and improved standard of living. These items have new as well as replacement demand and its growth is linked with growth of residential, commercial and office building construction. The growth for bath fittings and accessories market in India has been majorly driven by a surge in personal disposable income, rising urbanization, promising growth of real estate sector, rise in hospitality industry and improving consumer awareness regarding new bath accessories.

The construction industry is growing at a rapid rate in the country. Therefore there is scope for this items. It is recommended to develop and produce aesthetic and modular design of the fitting and fixtures of new shapes, functional reliability components with precision and good decor.

## **6. RAW MATERIAL REQUIREMENTS:**

For manufacturing Faucets etc. plumbing items, manufactured by gravity die casting, aluminum Zinc and magnesium and brass alloys of several grades are required.

Fittings and fixture fabrication shall require pipes, rods, sections of aluminum, stainless steel, carbon steel, brass etc. For decorative finish, paints, plating, and polishing chemicals are required. Die casting consumables like mold release agents, lubricants, die coating, fluxes, ladle coatings etc. are also be required.

## **7. MANUFACTURING PROCESS:**

The faucet production process consists of various decorative shapes, sizes and ornamental patterns of faucet body handle, curtain rod end caps etc. by Gravity Die Casting from aluminum, zinc, brass alloys. These die cast components achieve close tolerances and intricate shapes and are very cost effective.

The alloys are melted in a furnace, and poured in steel dies of die casting machine through ladle or piston. After the metal has solidified, the plunger is withdrawn, the die opens, and the resulting casting is ejected. The castings are then processed to remove excess metal of gates, risers and the fins, on special trimming press, belt grinders and tumbled to achieve the finished casting. The component may be machined and drilled, milled depending on requirement.

A small capacity gravity die casting machine may be used or the die cast parts may be procured from foundry as per your own designs.

Fittings produced from pipes, rods, and sections and sheets are cut to size, and processed through steps of fabrication like bending, notching, welding, machining, threading, drilling, etc.

Components may be chrome plated, anodized in different colors and finish. Some of the items are powder coated. The finished components are then cleaned, polished and assembled in to final product.

## 8. MANPOWER REQUIREMENT:

The unit shall require highly skilled service persons. The unit can start from 14 employees initially and increase to 42 or more depending on business volume.

Sr No	Type of Employees	Monthly Salary	No of Employees				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Skilled Operators	16000	3	5	8	10	12
2	Semi-Skilled/ Helpers	7000	8	10	16	20	24
1	Supervisor/ Manager	20000	1	1	1	1	1
2	Accounts/ Marketing	15000	1	2	2	2	2
3	Other Staff	7000	1	2	2	3	3
	TOTAL		14	20	29	36	42

## 9. IMPLEMENTATION SCHEDULE:

The unit can be implemented within 6 months from the serious initiation of project work.

Sr. No	Activities	Time Required in Months
1	Acquisition of Premises	2
2	Construction (if Applicable)	2
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	2
	Total Time Required (Activities run concurrently)	6

## 10. COST OF PROJECT:

The unit will require total project cost of Rs 99.68 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	15.00
2	Building	30.00
3	Plant and Machinery	20.67
4	Fixtures and Electrical Installation	3.00
5	Other Assets/ Preliminary and Preoperative Expenses	2.00
6	Margin for working Capital	29.01
	<b>TOTAL PROJECT COST</b>	<b>99.68</b>

## 11. MEANS OF FINANCE:

The project will require promoter to invest about Rs 46.67 lakhs and seek bank loans of Rs 53.00 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	46.67
2	Loan Finance	53.00
	<b>TOTAL:</b>	<b>99.68</b>

## 12. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	20.61	40	8.25	12.37
2	Receivables	16.63	40	6.65	9.98
3	Overheads	4.13	100	4.13	0.00
4	Creditors	24.95	40	9.98	14.97
	<b>TOTAL</b>	<b>66.32</b>		<b>29.01</b>	<b>37.31</b>

### 13. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Qty	Rate	Total Value
	Main Machines/ Equipment				
1	Melting Furnace for Alloys	Nos	1	200000	200000
2	Gravity/ low pressure Die casting machine 500 g / shot	Nos	1	500000	500000
3	Manual Trimming Press	Nos	1	25000	25000
4	Tumbling Drums	Nos	2	60000	120000
5	Band saw machine	Nos	1	60000	60000
5	Manual shear	Nos	1	12000	12000
6	Belt grinders	Nos	3	15000	45000
7	Fly Press	Nos	2	25000	50000
8	Sand Blasting Facility	Nos	1	80000	80000
9	Pickling and Surface treatment	Nos	1	350000	350000
10	Spray / powder Painting Facility	Nos	1	50000	50000
11	Rod / Flat/ Pipe Bending Bench	Nos	1	20000	20000
12	Pillar Drill	Nos	1	30000	30000
13	Lathe	Nos	1	45000	45000
14	Welding Machine	Nos	2	30000	60000
15	Paint Baking oven	Nos	1	70000	70000
	<u>subtotal:</u>				<u>1717000</u>
	Tools and Ancillaries				
1	Misc. equipment Dies tools etc.	LS	1	250000	250000
2	Hand Tools and gauges	LS	1	100000	100000
	<u>subtotal:</u>				<u>350000</u>
	Fixtures and Elect Installation				
	Storage and transport bins	LS	1	50000	50000
	Office Furniture	LS	1	20000	20000
	Telephones/ Computer	LS	1	30000	30000
	Electrical Installation	LS	1	200000	200000
	<u>subtotal:</u>				<u>300000</u>
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	200000	200000
	TOTAL PLANT MACHINERY COST				2567000

All the machines and equipment are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1.      Techno Machines  
         Chikkanahalli Road,  
         Opp. Shahi Exports (Unit No 6),  
         Near Annapoorneshwari Temple, Bommanahalli,  
         BENGALURU-560 068, INDIA
  
2.      S. S. Engineering Works  
         Ajit Khanna(Proprietor)  
         Plot No. 100, Sector 6 IMT Manesar, Gurgaon - 122050, Haryana, India
  
3.      Taurus Private Ltd Co  
         No. 24, D 2 / E 3, Kiab Industrial, Area At Pivele  
         Kiab Industrial Area  
         Bengaluru – 560100 Karnataka, India
  
4.      Micro Engineering Works;  
         No. 6/140, Gandhi Nagar, Nallampalayam Road Nanjai Gounden, Pudur, G. N. Mills  
         Post, Coimbatore - 641029, Tamil Nadu, India

Other well-known machine manufacturers can be searched from directories/ internet.      Some are listed here below:

ACME TOOLINGS, D-67, Phase 1, IDA Jeedimetla, Hyderabad – 500055,  
Ace Manufacturing Systems Ltd., Batliboi Ltd. Mumbai, Bharat Fritz Werner Ltd., HMT Machine Tools Ltd., Advani Oerlikon Ltd, Bombay, Lakshmi Machine Works Ltd., Lokesh Machines Ltd., Praga Tools Ltd., Toolcraft Systems Pvt. Ltd.



#### 14. PROFITABILITY CALCULATIONS:

Sr No	Particulars	UOM	Year Wise estimates				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Capacity Utilization	%	40	50	60	70	80
2	Sales	Rs. Lakhs	199.58	249.47	299.36	349.26	399.15
3	Raw Materials & Other Direct Inputs	Rs. Lakhs	164.90	206.13	247.36	288.58	329.81
4	Gross Margin	Rs. Lakhs	34.67	43.34	52.01	60.67	69.34
5	Overheads Except Interest	Rs. Lakhs	17.36	17.36	17.36	17.36	17.36
6	Interest	Rs. Lakhs	7.42	7.42	7.42	7.42	7.42
7	Depreciation	Rs. Lakhs	5.57	5.57	5.57	5.57	5.57
8	Net Profit Before Tax	Rs. Lakhs	4.32	12.99	21.66	30.33	38.99

The basis of profitability calculation:

The Unit will have capacity of about 750,000 nos of bathroom fittings or 300 MT of bathroom fittings of assorted types/ designs. The sales prices of fittings vary for faucets from Rs 150 to 3000 per unit depending on the complexity of designs viz shower mixer valves with quarter turn/ half turn and ceramic cartridges as also with décor viz plating quality etc. Other items like flush valves, shower heads, range from Rs 300 to Rs 1500 per piece. Simple fittings and accessories of various types range from Rs 30 to Rs 500 or more depending on type, décor , metal used, and volumes.

The raw material like brass/ bronze/ magnesium, zinc etc alloys and stainless steel are taken at the standard market rates. depending on grades. The material requirements are considered with wastage/ scrap/burnouts etc of 6 % of finished products as most of generated scrap is reused. The unusable scrap is sold at @ Rs 15 ~ 18 per Kg. and the income of same is added. Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per liter. The depreciation of plant is taken at 10 % and Interest costs are taken at 14 -15 % depending on type of industry.

## 15. BREAK EVEN ANALYSIS

The project is can reach break-even capacity at 35.01 % of the installed capacity as depicted here below, considering the high value, unique designs of faucets/ and accessories in product mix.

Sr No	Particulars	UOM	Value
1	Sales at Full Capacity	Rs. Lakhs	498.94
2	Variable Costs	Rs. Lakhs	412.26
3	Fixed Cost incl. Interest	Rs. Lakhs	30.35
4	Break Even Capacity	% of Inst Capacity	35.01

## 16. STATUTORY/ GOVERNMENT APPROVALS

The unit will require state industry unit registration with District Industry center. No other procedures are involved. For export, IEC Code and local authority clearances. The industry registration and approval for factory plan, safety etc are required as per factory inspectorate and labor laws. Other registration are as per Labor laws are ESI, PF etc. Before starting the unit unit will also need GST registration for procurement of materials as also for sale of goods. As such there is no pollution control registration requirements, however the unit will have to ensure safe environment through installation of chimney etc as per rules. Solid waste disposal shall have to meet the required norms.

## 17. BACKWARD AND FORWARD INTEGRATION

The machines and equipment offer scope for diversification in to producing other consumer and industrial parts/ components and parts for heavy machinery of construction, earth moving, mining marine applications etc. The unit can the spare capacities of furnace and machining capabilities. As such there is not much scope for organic backward or forward integration.

## 18. TRAINING CENTERS/COURSES

There are no specific training centers for production technology. However foundry technology can be obtained by joining as apprentice in foundry units. The Prototype Development Centers can provide some assistance and for foundry technology, casting, machining, dies and Tools development, courses run by centers of excellence viz Indo German Tool Room at Ahmedabad, Rajkot, Chennai, etc shall be helpful.

The most important scope of learning is in new product design and development by study of the new product designs, product range, features and specifications of leading Brands / competitors across the world by scanning the Internet and downloading data from websites of Viz. North American, Europe, China etc markets.

Udyamimitra portal (link: [www.udyamimitra.in](http://www.udyamimitra.in)) can also be accessed for hand-holding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

### **Disclaimer:**

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.