

# **India Multistage Water Pumps Market, By Application (Water Supply, Oil Gas, Wastewater Treatment, Chemical Processing), By End Use (Residential, Commercial, Industrial), By Pump Type (Vertical Multistage Pumps, Horizontal Multistage Pumps, Submersible Multistage Pumps), By Material (Stainless Steel, Cast Iron, Plastic, Bronze), By Region, Competition, Forecast & Opportunities, 2020-2030F**

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## **Abstracts**

India Multistage Water Pumps Market was valued at USD 863 Million in 2024 and is expected to reach USD 1,242 Million by 2030 with a CAGR of 6.10% during the forecast period.

Multistage water pumps are a type of centrifugal pump designed to operate with multiple impellers, which are connected in series within the same casing. Each impeller serves as a 'stage,' effectively boosting the pressure and flow of the liquid as it moves through the pump. This makes multistage pumps particularly efficient for applications that require high pressure or the transportation of fluids over long distances.

These pumps operate by drawing liquid into the first stage, where the initial impeller increases the fluid's velocity and pressure. The liquid is then passed to subsequent stages, where additional impellers further amplify the pressure. The result is a powerful and steady flow suitable for high-pressure needs.

Multistage water pumps are widely used in various industries, including water supply,

irrigation, boiler feed, firefighting, and reverse osmosis systems. They are preferred for their energy efficiency, compact design, and ability to handle demanding tasks with minimal wear. Available in horizontal and vertical configurations, multistage pumps can handle a range of fluids, from clean water to slightly contaminated liquids, depending on their design and materials.

## Key Market Drivers

### Growth in Agricultural Activities and Irrigation Needs

Agriculture remains the backbone of the Indian economy, employing a significant portion of the population. However, irregular rainfall and depleting groundwater levels have intensified the reliance on irrigation systems. Multistage water pumps, particularly those used for deep borewells and high-lift irrigation, are essential for meeting agricultural water demands. Government subsidies for agricultural equipment, including pumps, have further encouraged farmers to adopt advanced pumping solutions. The versatility of multistage pumps in handling varying water flow and pressure makes them particularly useful for large-scale irrigation projects. As agriculture continues to modernize, the demand for efficient and durable pumps is expected to drive market growth further. Agriculture contributes around 17-18% to India's GDP, despite the fact that over 50% of the population depends on agriculture for their livelihood. About 48-50% of India's agricultural land is currently under irrigation. This means approximately 90 million hectares are irrigated out of a total 185 million hectares of cultivable land.

### Industrial Expansion and Demand for High-Pressure Systems

India's industrial sector has been expanding rapidly, driven by manufacturing, power generation, chemical processing, and mining activities. Many of these industries require high-pressure pumping systems for processes such as cooling, boiler feed, and water circulation. Multistage water pumps are widely used in these applications due to their ability to deliver consistent pressure and flow rates, even in demanding conditions. Industries are also adopting energy-efficient solutions to reduce operational costs, making multistage pumps an attractive choice. Additionally, the government's 'Make in India' initiative and the push for industrialization in Tier-2 and Tier-3 cities are creating opportunities for pump manufacturers to cater to the increasing demand for high-performance equipment.

### Advancements in Pumping Technology and Energy Efficiency

Technological advancements in pump design and manufacturing are driving the growth of the multistage water pumps market. Modern pumps feature improved materials, precision engineering, and smart technologies, such as IoT-enabled monitoring and control systems. These advancements enhance pump efficiency, reliability, and lifespan while reducing maintenance requirements. The growing emphasis on energy efficiency, supported by regulations and standards like the Bureau of Energy Efficiency (BEE) ratings, has also boosted the adoption of multistage pumps. These pumps are particularly favored for their ability to achieve high efficiency while minimizing energy consumption, making them suitable for both industrial and municipal applications. As sustainability becomes a priority across sectors, innovative and energy-efficient pumping solutions will continue to drive market growth.

## Key Market Challenges

### High Initial Cost and Maintenance Requirements

One of the significant challenges faced by the Indian multistage water pumps market is the high initial cost associated with these advanced pumping systems. Compared to single-stage pumps or other conventional alternatives, multistage pumps are more complex in design, incorporating multiple impellers and advanced materials to achieve high efficiency and pressure. This complexity often translates to a higher price point, which can deter smaller businesses, farmers, and municipal bodies with limited budgets. While these pumps offer long-term energy savings, the upfront cost can be a barrier, especially in cost-sensitive markets like India.

Additionally, the maintenance of multistage pumps can be a challenge due to their intricate design. Regular maintenance is essential to ensure optimal performance, particularly in demanding applications such as industrial processes or irrigation. The lack of skilled technicians in many parts of India further exacerbates this issue, as improper handling during maintenance can lead to equipment failure or reduced efficiency. For rural and small-scale users, the cost and availability of spare parts, as well as the expertise required for repairs, can pose additional challenges. To address these issues, manufacturers need to focus on cost optimization, improved durability, and accessible after-sales service to make multistage pumps a viable option across diverse user segments.

### Competition from Low-Cost Alternatives

Another significant challenge in the Indian multistage water pumps market is the stiff competition posed by low-cost alternatives. India's pump market is highly fragmented, with numerous domestic and regional manufacturers offering cheaper alternatives to multistage pumps. While these alternatives may not match the efficiency or durability of multistage systems, their affordability makes them appealing to cost-conscious consumers, particularly in rural and semi-urban areas.

Unorganized sector players often produce pumps that do not adhere to energy efficiency standards or quality benchmarks. These low-cost options can undercut the prices of established brands, impacting their market share. Consumers may opt for such pumps due to immediate affordability, even if they incur higher operational costs in the long run.

The lack of awareness about the long-term benefits of multistage pumps, such as energy savings and superior performance, also contributes to this challenge. Many users prioritize short-term savings over long-term efficiency, which limits the adoption of advanced pump solutions. To overcome this hurdle, manufacturers must invest in consumer education, emphasizing the advantages of multistage pumps and highlighting their cost-effectiveness over time. Additionally, offering flexible financing options and affordable product ranges can help bridge the gap and compete more effectively with low-cost alternatives.

## Key Market Trends

### Rising Adoption of Energy-Efficient Pumps

One of the most significant trends in the Indian multistage water pumps market is the increasing emphasis on energy-efficient solutions. With the rising cost of electricity and growing awareness about environmental sustainability, both consumers and industries are prioritizing energy-efficient technologies. Multistage water pumps are inherently more efficient than single-stage pumps, as they optimize energy consumption by maintaining consistent flow and pressure.

Government initiatives, such as the Bureau of Energy Efficiency (BEE) star rating system, are encouraging the adoption of energy-efficient pumps. These regulations mandate minimum efficiency standards, particularly for agricultural and industrial sectors, where energy consumption is high. Additionally, industries are integrating IoT-enabled smart pump technologies to monitor and optimize energy usage. This trend is particularly significant in applications like municipal water supply and industrial

operations, where long operating hours demand maximum efficiency. The shift toward energy efficiency is expected to drive innovation and product development, making energy-saving features a critical selling point for multistage pump manufacturers. The energy-efficient pump market in India was valued at approximately USD 1.9 billion in 2024 and is expected to grow at a CAGR of 12-15% over the next five years, driven by increasing demand for energy conservation and government incentives.

### Growth of Smart Pumps with IoT Integration

The integration of smart technologies is transforming the multistage water pumps market in India. IoT-enabled pumps equipped with sensors and remote monitoring capabilities are gaining traction across various sectors. These smart pumps provide real-time data on parameters like flow rate, pressure, energy consumption, and pump health, enabling predictive maintenance and reducing downtime.

Industries and municipal bodies, in particular, are adopting these technologies to enhance operational efficiency and cut costs. For instance, in water treatment plants, IoT-enabled multistage pumps help optimize water flow and minimize energy consumption. Similarly, agricultural users are increasingly turning to smart pumps to automate irrigation systems, saving water and labor. The adoption of digital platforms and connected devices is expected to grow, supported by advancements in telecommunications infrastructure and decreasing costs of IoT solutions. This trend is creating opportunities for manufacturers to differentiate their products through innovative, technology-driven offerings.

### Increasing Focus on Renewable Energy-Powered Pumps

The rising adoption of renewable energy sources, such as solar and wind power, is influencing the Indian multistage water pumps market. Solar-powered multistage pumps, in particular, are becoming popular in rural and agricultural regions where access to reliable electricity is limited. These pumps provide a sustainable solution for water supply and irrigation, reducing dependency on conventional power sources.

Government schemes like the PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan) initiative are promoting the deployment of solar pumps by offering subsidies and incentives to farmers. Multistage pumps, with their high efficiency and ability to handle varying pressures, are ideal for integration with solar systems. As the push for renewable energy intensifies, manufacturers are focusing on developing products that are compatible with off-grid and hybrid energy solutions. This trend aligns

with India's commitment to achieving sustainability goals and reducing its carbon footprint. Around 60-70% of India's total energy consumption for irrigation comes from rural areas, with farmers often relying on diesel-powered pumps. The shift to solar-powered pumps can significantly reduce diesel consumption and lower operational costs for farmers.

### Segmental Insights

#### Application Insights

The Water Supply held the largest market share in 2024. Water supply dominates the India multistage water pumps market due to the critical and widespread need for efficient water distribution across the country. India's rapid urbanization, coupled with a growing population, has significantly increased the demand for reliable water supply systems in both urban and rural areas. Government initiatives such as the Jal Jeevan Mission, which aims to provide piped water to every rural household, have further bolstered the demand for high-performance pumps capable of handling varying flow and pressure requirements. Multistage water pumps are particularly suited for such applications due to their ability to deliver consistent high-pressure output, making them ideal for municipal water distribution networks.

The agricultural sector plays a significant role in driving the dominance of water supply applications. As the backbone of India's economy, agriculture relies heavily on irrigation systems, particularly in regions affected by irregular rainfall and declining groundwater levels. Multistage pumps, known for their energy efficiency and ability to handle deep well and high-lift irrigation, are a preferred choice among farmers. Government subsidies and financial incentives for purchasing advanced irrigation equipment have further supported this growth.

The ongoing development of smart cities and infrastructure projects has also amplified the need for efficient water supply systems. These projects require robust pumps to manage the increased water demand from residential, commercial, and industrial zones. Furthermore, rising awareness about water conservation and the importance of sustainable water management solutions has led to the adoption of multistage water pumps due to their efficiency and reliability.

### Regional Insights

South India held the largest market share in 2024. South India has a large agricultural

base, relying heavily on irrigation due to inconsistent rainfall and depleting groundwater levels. Multistage water pumps are crucial for deep borewell applications and high-lift irrigation systems, enabling efficient water distribution across vast farmlands. The region's dependence on agriculture ensures a sustained need for these pumps, particularly in states like Tamil Nadu and Andhra Pradesh, which have significant irrigation demands.

South India is a key industrial hub, home to industries in power generation, chemicals, textiles, and pharmaceuticals, all of which require reliable and high-pressure water pumps for cooling, boiler feed, and water circulation. Cities like Chennai, Bengaluru, Hyderabad, and Coimbatore are home to numerous industrial parks and manufacturing hubs, further boosting the demand for multistage pumps. These industries require pumps that can handle large volumes and maintain high pressure for continuous operations.

The region is witnessing rapid urbanization and infrastructural development, with the establishment of smart cities, IT hubs, and large-scale water supply projects. Government initiatives such as the Smart Cities Mission and increased focus on improving water supply in urban areas have driven demand for advanced water pumps. Furthermore, states in South India are investing heavily in improving their water distribution networks, wastewater treatment plants, and sewage systems, where multistage pumps are essential.

Various state governments in South India have introduced subsidies and incentives to encourage the adoption of energy-efficient and sustainable pumping solutions. Initiatives like the Tamil Nadu Solar Energy Policy and schemes promoting solar-powered pumps in agriculture have further spurred the market for multistage water pumps.

### Key Market Players

Grundfos Holding A/S

KSB SE & Co. KGaA

Sulzer Ltd.

Flowserve Corporation

Xylem

Pentair PLC

Schneider Electric SE

Shakti Pumps (India) Ltd.

Report Scope:

In this report, the India Multistage Water Pumps Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

India Multistage Water Pumps Market, By Application:

Water Supply

Oil Gas

Wastewater Treatment

Chemical Processing

India Multistage Water Pumps Market, By End Use:

Residential

Commercial

Industrial

India Multistage Water Pumps Market, By Pump Type:

Vertical Multistage Pumps

Horizontal Multistage Pumps

## Submersible Multistage Pumps

### India Multistage Water Pumps Market, By Material:

Stainless Steel

Cast Iron

Plastic

Bronze

### India Multistage Water Pumps Market, By Region:

South India

North India

West India

East India

### Competitive Landscape

**Company Profiles:** Detailed analysis of the major companies present in the India Multistage Water Pumps Market.

### Available Customizations:

India Multistage Water Pumps Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

### Company Information

Detailed analysis and profiling of additional market players (up to five).

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