

Pump Market in India for Water/Wastewater Industry: An Overview

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India being the second most populous country in the world, the demand for water is significantly high. Water has now become a precious commodity in many parts of the country with states like Maharashtra struggling to cope with one of the worst draughts ever. Due to the limited nature of this resource, the rapid depletion of water level is a cause for major concern.

India's National Water Policy drafted last year proposes to consider water as an economic commodity and tries to consider various micro and macro initiatives in this regard. There are also various limitations on the overall usable quantities of water because of its uneven distribution over large

number of areas. The present situation regarding the overall water resource available in the country is pretty grim, which has forced the government to look at alternative sources. Some of the reasons for this are:

- » The water resources available in some of the areas have become excessively stressed due to factors like population growth, urbanization, and ever changing lifestyle.
- » Factors like climate change, flood and land erosion have led to inconsistency in water availability.
- » There are various issues related to water governance that have not been adequately addressed.

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Even though more than 17 percent of the world's total population resides in India, the country consumes only 4 percent of the total renewable water resource across the world. Considering the fact that the share of urban population in India is set to increase from 31 percent in 2011 to 35 percent by 2020, there is bound to be additional pressure on infrastructure for the removal and treatment of waste water.

Industry Trends and Nature

The water treatment market in India has witnessed significant expansion over the last few years. Industry reports indicate that the total size of the wastewater treatment market in India stands at about USD 420 million. The sector has been growing at an annual growth rate of 18 percent with segments like drinking and industrial water witnessing significant growth. This rise in the number of water treatment facilities in the country has had a favorable impact on the pump market as well.

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The present wastewater industry in India is highly fragmented and unorganized. The players can be divided into three basic categories:

- » Large players like Degremont, VA Tech WABAG, Paramount, Ion Exchange, Dorr-Oliver, Hindustan Dorr-Oliver, Thermax, etc.
- » Mid-sized firms like Doshion, Fontus Water, Driplex, Aquatech, Ion Hydro, etc.
- » Small sized firms, which numbers to more than 500.

Use of Technology in Water Treatment

The idea of wastewater recycling and zero discharge has been gaining popularity in India over the last few years. Even though a lot of power plants and refineries still use the more traditional Demineralization (DM) technology, there has been a gradual shift from chemical treatment and DM plants to the relatively new membrane technology. The government and private sectors have divided water treatment responsibilities between themselves, with raw material treatment and sewage treatment been taken up by government sector while sludge treatment, aeration, disinfection and filtration are dealt by the private sector. The technique of reverse osmosis is being widely used by many plants today, which is used to replace the DM technology.

Pumps for Water Treatment

Selecting accurate wastewater pumps is critical for the industry. While making the choice one has to consider the following factors:

- » The pump is able to meet the capacity requirement.
- » The duty point is able to meet the capacity at the pump's Best Efficiency Point.
- » It would be best to choose a pump with the highest capacity to ensure that there is adequate excess pressure, which will make the process of removing deposits easier and reduce the risk of complete blockage in the process.

Demand for Pumps

As far as industry usage is concerned, Gujarat has the highest demand for industrial pumps in the Indian market, followed by Maharashtra. There has been a gradual geographical decentralization in wastewater treatment over the last few years. Even a few years back, Maharashtra was considered to be a hub for wastewater treatment.

However, over the last decade or so, cities like Delhi, Kolkata, Chennai, Ahmedabad and Hyderabad have emerged as pockets of concentration for water treatment. International players like Veolia Water, VA Tech WABAG and Suez de Lyonnaise (Degremont) have gained foothold in the country along with their local counterparts like WPIL Ltd, Shakti Pumps, and Kirloskar Brothers Limited.

Introduction of New Technologically Updated Pumps

The ever increasing number of companies operating in the pump manufacturing industry has meant that the introduction of new, technologically advanced pumps has become almost mandatory in order to cope with the rising competition. Mentioned below are some of the types of pumps available in the Indian market:

Peristaltic Dosing Pumps

These pumps are programmable and can be fitted to various heads in order to achieve greater accuracy of dosing. The features include good repeatability, toughness in processing chemical substances, sensitive solutions and viscous liquids.

Panel Mounted Pumps

These pumps can be easily integrated with almost any application and can be used for dosing with near perfection. The process is suitable for filling drink bottles or dosing medicines, detergents or chemicals. These pumps can also be used with vending machines, ensuring accurate measurement of liquids every time.

Some of the other techniques introduced include installation of ultrasonic level detectors in the sewage collection wells so that the pump sewage can automatically be collected. The level detector is meant to determine the height of the waste water in the well and send a signal to the controlling system. The controlling system then starts or stops the large pumps, which then empties the well and transfers and wastewater to the sewage treatment plant for treatment.

Pumps Supplying Water for Irrigation Purposes

The pump set energisation plan undertaken and financed by the Rural Electrification Corporation has successfully increased the number of energized pumps from 15.45 million units at the end of the Tenth Five-Year Plan (2002-07) to 18.42 million units at the end of the Eleventh Five-Year Plan (2007-12) period. This has contributed hugely to the irrigation needs of the Indian agricultural sector. There has also been a steady focus on solar power projects for irrigation, a relatively new technology, which has been implemented in both irrigated and dry land areas. Solar panels have the power of pumping water from a depth of 300-1000 feet. Leveraging this capacity, the agricultural department of Tamil Nadu requested the state government to aim towards supplying solar power to irrigation pump sets. The effort paid off, with INR 1,000 million being allocated for solar pumps project in Tamil Nadu under the budget for 2013-14. Almost 86 percent of the total subsidy will be provided by the Central Government and the remaining 14 percent by the agricultural department of the state.

Market research reports suggest that agricultural sector accounts for highest share of pump usage in Indian pumps industry. States that top demand list include Madhya Pradesh, Uttar Pradesh and Rajasthan. With rise in demand for water resources, a surge in wastewater treatment is definitely on the cards. In such an event, the Indian pump industry will also get a major thrust.

About the Contributor

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