

An innovative solution for treating wastewater from hotels in Kochi becomes technically and commercially feasible with the use of our Flowmeter



Adept Flowmeter model MagFlow 6410, installed on the Mobile STP, accurately measures the intake of wastewater and helps in generating correct bills.

Introduction



In India, water pollution is alarmingly increasing due to discharge of untreated effluents into natural water bodies such as rivers and lakes. Apart from making water from such resources unusable, it also spreads various diseases, endangering the lives of millions of people. The Government is trying to curtail water pollution by introducing strict laws and local bodies are initiating various actions to curb water pollution.

One such initiative by large city municipal corporations is to ensure that effluents are treated at the source before discharging them into the drainage system. In urban areas, hotels,

restaurants, malls, offices and commercial complexes are the major places generating large quantities of effluents/ wastewater at a single source. However, it is not always possible to install an effluent/wastewater treatment plant (ETP/STP) at such locations due to space constraints.

Several government and private organisations are finding innovative solutions to address such challenges. Among these, an idea implemented by Kaasma Enviro in Kochi is a pioneering one. At Adept, we are happy to be a part of this new initiative.

Kaasma Enviro, the leading company in wastewater treatment in Kerala has started the service of collecting wastewater from hotels in Kochi on a chargeable basis.



About the requirement

Recognising the challenge of treating wastewater that several hotels and restaurants in Kochi face, a private company came out with a new idea. Kaasma Enviro, the leading company in wastewater treatment in Kerala has started the service of collecting wastewater from hotels in Kochi on a chargeable basis.

Specially designed wastewater collection tankers mounted on lorries go door-to-door to hotels and restaurants. They are generally called Mobile STPs. According to local municipal law, every hotel/restaurant has a separate underground tank/chamber for collecting wastewater/effluent. After reaching the site, the Mobile STP accesses the wastewater in the tank through a long pipe. This wastewater is then pumped into the tanker which is then emptied at a centralised ETP on the outskirts of the city for further treatment.

Kaasma Enviro intended to measure the intake of wastewater at each collection point so that the hotel/restaurant could be billed accordingly.

Challenges

Automatix, who has supplied the complete instrumentation solution to Kaasma Enviro, approached us for a suitable Flowmeter which was to be mounted on the Mobile STP for accurately measuring the wastewater intake. This was no ordinary requirement due to several constraints and uncommon requirements.

▲ Need for a compact installation

Since the Mobile STP was constantly on the move, the Flowmeter installation had to be an integral part of the system. Considering the limited space available on the vehicle, the Flowmeter had to be of compact design and use the least possible space for its installation.

▲ High accuracy of flow measurement

Kaasma Enviro is charging its customers on the basis of the intake of wastewater. This demands high accuracy from the Flowmeter to safeguard the interests of the customers as well as Kaasma Enviro.

- ▲ Robust design
- ▲ Easy to read display
- ▲ Compact installation
- ▲ Accuracy in billing



Adept Electromagnetic Flowmeter model MagFlow 6410 of 80 mm diameter is capable of measuring the flow of wastewater with an accuracy of $\pm 0.5\%$ of the measured value.



Inaccurate measurement on the higher side may lead to disputes with the customers and can affect the reputation of the company, whereas lower readings can lead to revenue losses.

▲ **Ability to measure wastewater**

Sewage water has a typical conductivity of more than $10 \mu\text{Siemens/cm}$. It contains several types of solid particles and soluble impurities, making it difficult to measure. Only an Electromagnetic Flowmeter of reliable engineering can perform in such conditions.

▲ **Good quality display**

Every customer wants to see the reading before the bill is generated in order to be assured of the correct amount being charged. This calls for a display having good visibility even in daylight.

Solution from Adept

Being a new application, our engineers carefully understood the requirement and thought about the challenges that may occur in the long run. Taking into account several factors, we recommended our Electromagnetic Flowmeter model MagFlow 6410 of 80 mm diameter.

It is capable of measuring the flow of wastewater with an accuracy of $\pm 0.5\%$ of the measured value.

The integral type of display allows the operator and the customers to easily check the display for readings and make sure that the correct bills are generated.

For overcoming the challenge of less space, our Flowmeter housing design, which has been awarded the prestigious India Design Mark, was the unique solution. The requirement was that the Flowmeter should not be bulky. Since the vehicle would be travelling, it should be durable. Our unique design was capable of meeting both these requirements.



Benefits to Kaasma Enviro

- ▲ **Robust design**
As there are no moving parts inside the Flowmeter model MagFlow 6410, it assures longer life in spite of frequent jerks during travel
- ▲ **Easy to read display**
Brings greater transparency and helps in avoiding disputes with customers
- ▲ **Compact installation**
Our award winning, compact design Flowmeter has

resolved a major problem of fitting into the small space available on the Mobile STP

- ▲ **Accuracy in billing**
Accurate measurement of wastewater intake is helping in avoiding undercharging or overcharging. This leads to trust between Kaasma Enviro and its customers while ensuring the right revenue to the company

With our solution for this unique application, we are extremely happy to serve people of Kochi.



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