

Asia's #1 integrated sugar factory
wanted reliable solutions for
accurate flow measurement of water,
sugarcane juice, effluent and spent wash.



Adept supplied Electromagnetic Flowmeters model MagFlow 6410 to
14 factories of Bajaj Hindusthan Sugar Ltd.

Introduction



Bajaj Hindusthan Sugar Ltd. (BHSL) is a part of the Bajaj Group. BHSL is India's number one sugar and ethanol manufacturing company and is ranked as Asia's number one and the world's fourth largest integrated sugar company. The company has fourteen sugar plants, which are all located in Uttar Pradesh (UP).

BHSL has an aggregated sugarcane crushing capacity of 136,000 tonnes crushed per day (TCD), and alcohol distillation capacity of 800

kilolitres per day (KLD). The company is also one of the largest producers of green fuel, ethanol in India. It is currently producing 38 million litres of ethanol in a year and has increased its capacity to nearly 218 million litres per year. BHSL generates close to 430 MW power from the bagasse produced in its sugar mills. After meeting its own energy needs, BHSL has a surplus of around 100 MW which is supplied to the UP state grid.

Full bore type Electromagnetic Flowmeters suiting the flow measurement of a variety of fluids such as raw water, sugarcane juice, spent wash and effluent were supplied in a time-bound manner.



About the requirement

Bajaj Hindusthan Sugar Ltd. (BHSL) was in the process of upgrading its infrastructure for better resource management. Efficient management of water, one of the resources essential for almost all the processes in a sugar plant, was among the priority areas. The company was reviewing its entire water distribution network across all 14 sugar factories. The vast water network under review comprised main areas such as the raw water intake pumphouse, effluent treatment plant (ETP), cooling towers, condensate and feed water lines. Strict monitoring of water usage at all such points would result in careful usage of water and, in turn, reducing process costs.

Apart from water, the company was also looking for solutions to measure the flow of various other fluids such as sugarcane juice, effluents generated during the process, and spent wash.

For accurate measurement of flow of water and other fluids at each of the points, it was essential to install Flowmeters of a reliable design. The entire project was outsourced to an EPC company in the field which approached Adept with the requirements.



Challenges & solution

The fluid flow network in all the 14 sugar factories was being reassessed. Each requirement was unique in terms of the fluid, line sizes and complexity of the installation. When the company approached us, our engineers visited the project sites at different locations. A complete bill of material was drawn after carefully studying each of the requirements in all the sugar factories. To effectively meet these requirements, a large quantity of Flowmeters of various line sizes was required.

▲ Multiple requirements and each one was unique

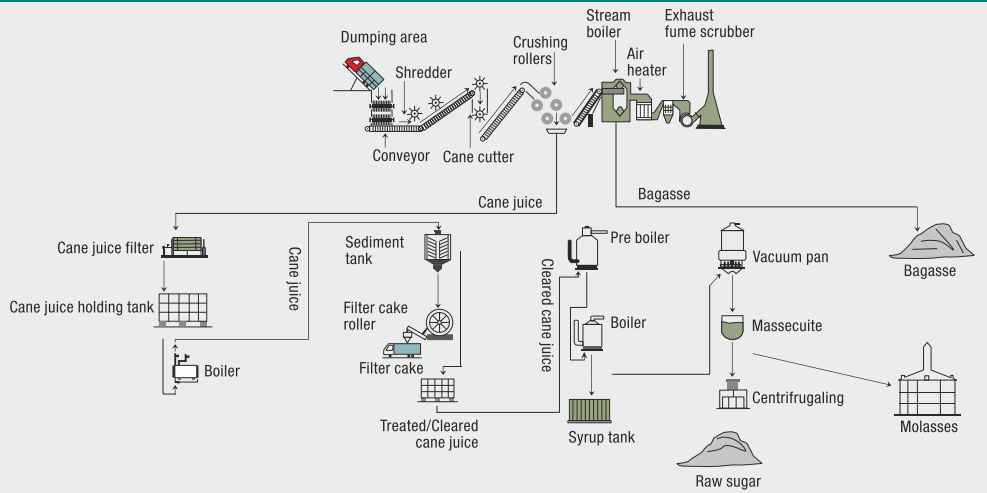
At BHSL, Flowmeters were required to measure the flow of different types of fluids such as raw water, sugarcane juice, spent wash and effluent at different locations in each factory. BHSL wanted a complete solution including manufacturing, testing before despatch, installation and commissioning of Flowmeters at all the 14 factories.

We recommended using our Electromagnetic Flowmeter model MagFlow 6410, which is versatile and can be used for flow measurement of a variety of fluids. It is available in different sizes and has a robust design suitable for indoor and outdoor applications. MagFlow 6410 is also a proven model which can best meet the requirements of process plants such as sugar factories.

▲ Provision for manual reading as well as indirect connectivity to SCADA

To limit its investment, the customer has opted for basic Flowmeter models at majority of the locations. In a basic model, the readings are required to be taken manually and are then fed to the system if further analysis is required. For a few critical processes, we have supplied Flowmeters which have 4-20 mA output and RS 485 (Modbus RTU) communication interface, so that they can be easily connected to PLC and SCADA.

Raw sugar production process from sugarcane



Benefits to BHSL

▲ Time-bound erection & commissioning at all 14 factories

BHSL wanted to upgrade the infrastructure at all the 14 factories simultaneously and in a time-bound manner. This meant that all the Flowmeters were to be delivered in a single lot and within a stipulated time frame. With our large manufacturing capacity, we could deliver all the Flowmeters within a short span and the erection & commissioning was carried out exactly as per the schedule.

Sourcing all the Flowmeters from Adept helped BHSL in several ways and they have experienced significant benefits.

- ▲ **The single source for all the Flowmeters required for measuring a variety of fluids saved the time and effort required for coordinating with multiple suppliers, causing project delays.**
- ▲ **A choice of a wide range of Flowmeters helped BHSL in getting exactly what they required in spite of the requirements for each project site being unique.**
- ▲ **A single model – MagFlow 6410 with varying line sizes was used. This helped in reducing the spares inventory.**
- ▲ **Time-bound project completion by the expert team from Adept helped in meeting the project deadline.**
- ▲ **Assured, prompt aftersales support to all the factories through Adept's trained team of service engineers for trouble-free performance.**



Over the past two decades, Adept has supplied several thousand Flowmeters for process plants. They are ideally suited for measuring a variety of fluids such as raw water, juices, effluents, cooling water, boiler water, etc.

Our range of Ultrasonic and Electromagnetic Flowmeters is available up to 3000 mm line size and can meet the requirements of different industries.



Adept Fluidyne Pvt. Ltd.

Corporate Office & Plant:

Plot 4, S. No. 17/1-B, Kothrud Ind. Estate,
Kothrud, Pune 411 038 INDIA

T +91 20 2546 4551/2543 1474

E info@adeptfluidyne.com

www.AdeptFluidyne.com

