



# Thermax's Biomass boiler commissioned at Serum Institute is a boon for saving the environment and reducing fuel cost by 30%.



## PROJECT BACKGROUND

Thermax is committed to conserving energy and preserving the environment, two areas critically monitored globally. We support businesses with 100% biomass-fired boilers ensuring fuel savings with lower emissions. Serum Institute of India is one such esteemed customer benefiting from green energy since 2013.

Saving the world with one vaccine at a time- Serum Institute of India Pvt. Ltd. is now the world's largest vaccine manufacturer by number of doses produced and sold globally (more than 1.3 billion doses) which includes Polio vaccine as well as Diphtheria, Tetanus, Pertussis, Hib, BCG, r-Hepatitis B, Measles, Mumps and Rubella vaccines. It is estimated that about 65% of the children in the world receive at least one vaccine manufactured by Serum Institute.

Thermax has successfully commissioned 22 TPH biomass briquette fired boiler for their Hadapsar (Pune) vaccine plant. The main issues faced were the space constraint and the impact of the biomass fuel dust near the vaccine plant. This plant layout and boiler installation are customized to remove the space constraint which is the unique pentagon-shaped area. There was a tough competition for this project and Thermax process heating solutions bagged this opportunity with technology advancement and expertise in the field of biomass combustion.

## SOLUTION PROVIDED

Thermax has offered Combipac Reciprocating grate boiler ensuring 100% firing of biomass briquettes. Thermax has technology tie-up with Lambion GMBH who has over 100 years of experience in biomass firing solutions. Reciprocating grate offers progressive combustion with distinct combustion zones making it the ideal solution for biomass combustion with moisture up to 60%.

This grate offers huge fuel flexibility and can burn complex fuels like forest wastes, empty fruit bunches, spice waste, soya stock, and many other biomasses. Reciprocating utilizes successive oscillation of grate castings mounted on different trolleys for the continuous movement of fuel. These trolleys are driven by independent hydraulic cylinders and alternate movement of grate blocks pushes the fuel in the distinct combustion zones of the grate. This gives toppling action to the fuel a particle hence ensures complete combustion.

The advantages of reciprocating grate are:

- 100% combustion
- Highest uptime and efficiency
- Very low emission



## BUSINESS PROPOSITION

The steam generated from the boiler is used throughout the plant for an important process of sterilization and clean steam generation for advanced procedures in the plant. On an average 2 lakh, the vaccine is manufactured in a single lot and 12 lakh vaccine on an everyday basis through this process



This entire boiler plant is automatically operated with only 2-3 operators are needed for managing the entire operation. In the current world of dynamic pricing of the furnace, oil customer is benefited with an assured 30% cost savings by shifting to biomass briquettes. High-quality steam and assured uptime is the key for any successful operation of the pharma industry.

Thermax has once again demonstrated its capability as a reliable partner for customer's success. Cementing the long-term association of the two companies Thermax is proud to be a part of the biotechnology company's work of saving the children with the vaccines that are manufactured at this plant while also saving the environment.

## POSITIVE IMPACT

The Adaptation of an efficient boiler system from Thermax and the change in fuel from FO (furnace oil) to biomass briquettes helped serum institute to achieve these challenging results with just 3-4 people managing the complete plant operations

- #Fuel cost saving up to 30 %
- #Space constraints resolved
- #Higher efficiency steam generation



## THERMAX PROCESS HEATING SOLUTIONS

A strategic business unit offers packaged boilers, thermal oil heaters, waste heat recovery boilers, hot water, and air generators. These are available in modular construction as a standard package configuration or a custom design for specific requirements. Innovated by a strong R&D that focuses on customer applications, we offer a range of heating systems designed to combust a wide range of solid, oil & gas fuels including biomass and heavy liquid fuels.