



Government of India  
Ministry of New and  
Renewable Energy

# InSolTherm Times

India's only Solar Thermal Newsletter






April 2016 Volume VI Issue IV

Conc. Solar Thermal

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## Zytex commissions concentrated solar air dryer



Photo courtesy: CST system installed at Zytex, Vadodra Zytex

Zytex Biotech Pvt Ltd, producers of industrial enzyme and biotech products, has commissioned a solar thermal process air dryer using a parabolic trough collector at an estimated project cost of Rs. 27 lakh. It is primarily used for drying Probiotics and Prebiotics for food and feed segment. It uses OptiTrough 300 parabolic trough supplied by Ultra Conserve Pvt. Ltd, with an area of 136 m2 solar concentrating collectors, with fully automatic solar tracking. The temperature derived from the concentrated solar thermal collector is around 170 OC.

The Solar Concentrating Collector focuses the direct beam of sunlight on to central receiver. The Direct Normal Irradiation (DNI) remains focused on the central receiver tube through which thermic fluid is heated. Using a heat exchanger the heated thermic fluid is pumped in a heat exchanger. The heat exchanger receives air at a fixed velocity from an inlet blower which gets heated up and is passed through the Spray Dryer cyclone. Product in liquid form is atomized and is sprayed through an atomizer in the form of minute droplets. The droplets come in contact with hot air and instantly turn in to dry powder and fall down in to a silo. Inlet and outlet temperature of air is controlled by regulating air flow through inlet and vent blowers.

As per the system supplier, solar thermal heating system is fully integrated with the existing air heating process. This is done by installing a Solar Air heater before the existing Steam based Air Heater (Radiator). The two Air Heaters are placed in series, thus ensuring maximum utilisation of solar thermal energy for the process.

Prior to this heat was generated by heating ambient air with steam produced by an LDO fired boiler. The solar thermal system is anticipated to save between 17 to 35 litres of diesel depending on the sun radiation. Zytex has also availed of the capital subsidy scheme offered by Ministry of New and Renewable Energy and UNDP-GEF programme and as a result payback is within 5 years.

Jaswinderjit Singh, Head of Manufacturing said “the objective behind using

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Solar Energy Based Air Heating system was to reduce dependency on fossil fuel used for air heating by utilizing steam from diesel fired boiler. As we get enough sun shine throughout the year, it was appropriate to exercise this option”.

- Site Counter: **131,861**

<http://www.zytex.com>

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