



Valence delivers cost saving solution to a leading convertor in Western India

Industry

Speciality coatings

About the company

A leading convertor in western India has a state of the art speciality coating line where they process polyester (PET) films 10 – 350 µm thick.

Conventional drying process

The convertor coats the films with a uniform thickness of a special solvent based coating that is dried in a drying chamber using hot air heated by a thermic fluid heater. The hot air dries the film by convection and evaporation before it is exhausted. The solvent laden hot air inside the drier is exhausted at 155° C continuously to control the solvent concentration in the drying chamber. 80% of the energy of hot air was earlier being exhausted without producing useful work.

New drying process

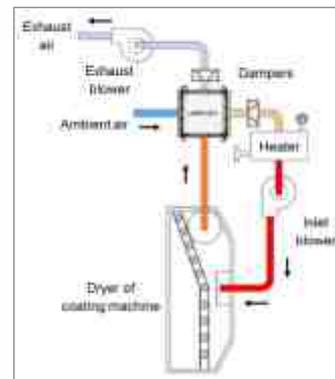
Valence approached the convertor and suggested they evaluate the feasibility of energy recovery devices to reduce heating costs. The Valence team, after understanding the technical requirements, proposed the Lamiflow® heat recovery system which is a cross flow, air to air heat exchanger in which two streams of air cross without mixing with each other. The heat exchanger comprises multiple, thin, slightly separated plates that provide large surface area for effective heat transfer with low pressure drop.

The Lamiflow® heat recovery system is installed upstream of the heater where the two air streams – ambient air and hot air (from drier) cross each other. The heat of the air exhausted from drier is used to pre-heat fresh air before it enters the heater. This arrangement reduces the overall heat supplied by the heater thus saving fuel costs.

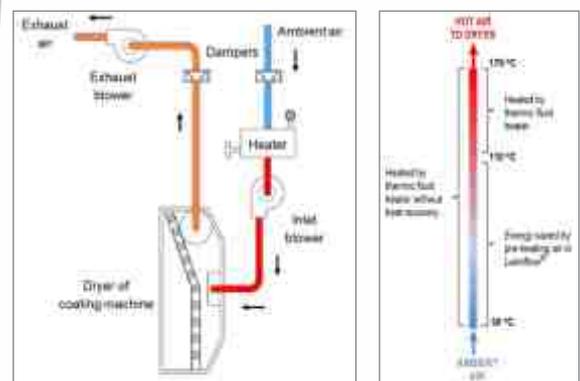
Soon a happy customer

Considering 16 hours operation of the coating machine each day, for 300 working days in a year and assuming that savings happen only 60% of the time, this solution pays for itself in about 7 months. The customer is very happy with the project benefits and has applauded the efforts of team Valence for a successful installation.

An attractive investment:
reduce heating costs by recovering heat from hot exhaust air of the drying process!



Conventional drying process without heat recovery



New drying process with Lamiflow® heat recovery system



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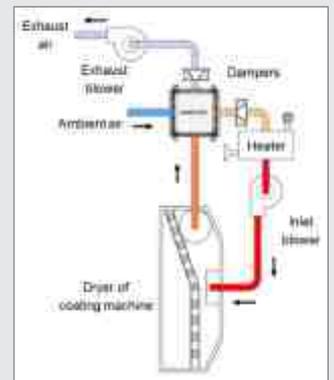
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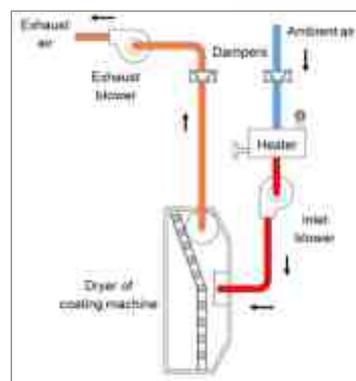
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