

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

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

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.

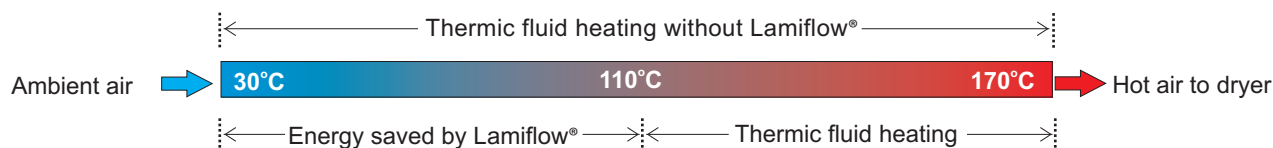
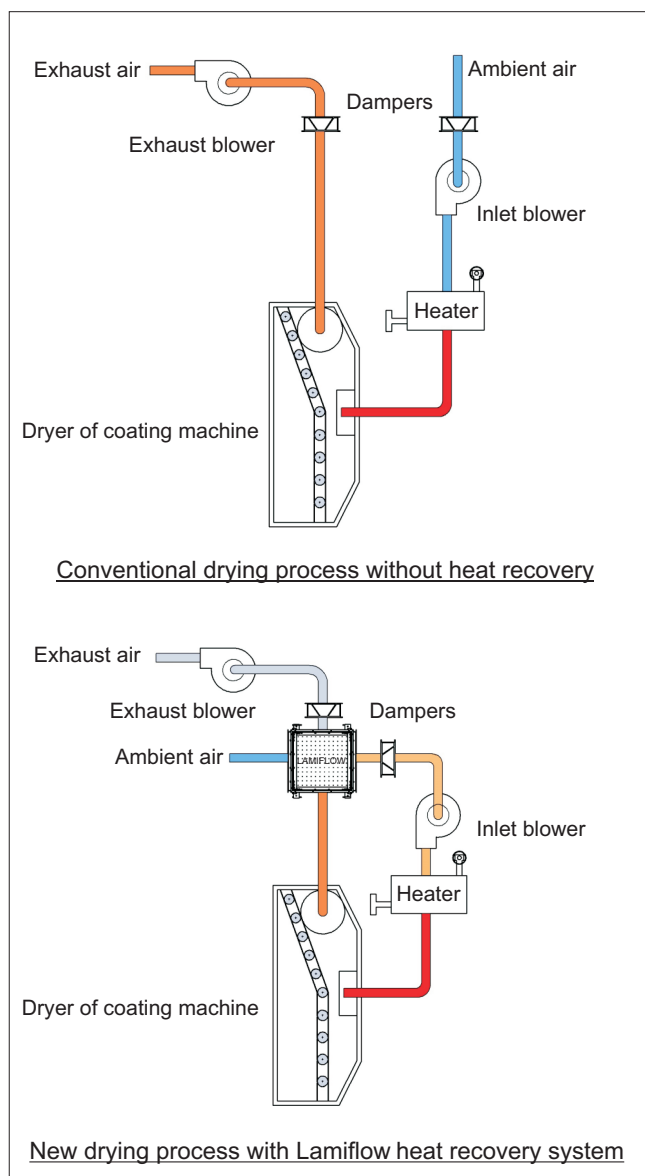
Conventional drying process: The convertor coats the films with a uniform thickness of a special solvent based material. The coated film is then passed through a drying chamber where thermic fluid is used for heating. Waste hot air that is used for drying is exhausted from dryer at 155°C.

New drying process: Valence approached the convertor and suggested they evaluate the feasibility of energy recovery devices to reduce heating costs. The Valence team observed that 80% of the energy of hot air was being wasted. To extract a good part of the heat, Valence proposed the Lamiflow heat recovery system which is a cross flow, air to air heat exchanger. It 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 in a way that the two air streams - ambient air and hot air (exiting dryer) - cross each other without mixing. The heat extracted from the exhaust air is effectively used to pre-heat fresh air before it enters the heater. Thermal energy costs are thus reduced by decreasing load on the heater.

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 cost savings and is exploring other areas for waste heat recovery through Valence.



Manufactured by:



An ISO 9001:2008 certified company

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LAMIFLOW

AIR-TO-AIR HEAT EXCHANGER

Extracting heat from the exhaust of coating, laminating or printing machines and using it to warm inlet fresh air is another green solution from Valence. This saves heat energy and provides operational savings with attractive pay back periods.

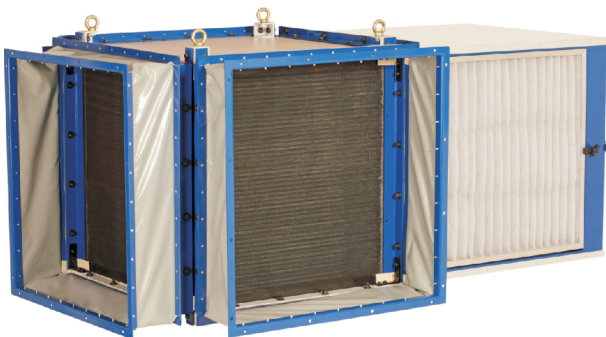
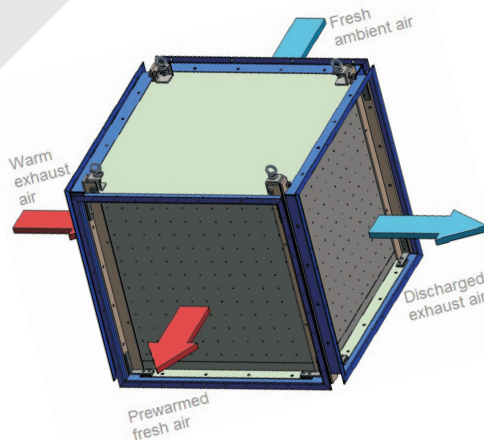
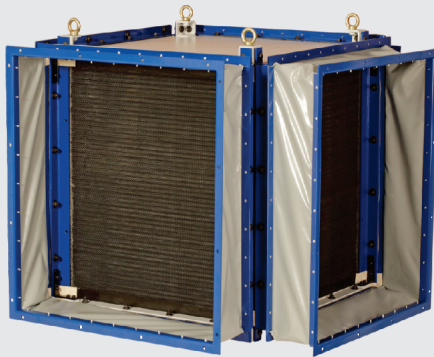
The Valence **Lamiflow** is a flat plate heat exchanger, where two air streams (exhaust and fresh air) cross each other, without coming in contact with each other. The heat exchanger comprises multiple, thin, slightly separated plates with large surface areas that allow air flow passage for effective heat transfer, with minimal pressure drop.

Sensible energy from the warm exhaust air is thus transferred to the relatively cooler inlet air, without any mixing of the two air streams.

Thermal energy which was hitherto wasted is recovered, which reduces the overall cost of heating inlet air that is required for the process.

The benefits of working with Valence, an A.T.E. group company, begin with our distinctive position in the market. We understand your application by ascertaining air flow rates, temperature, allowable pressure drops, dimensional constraints, etc.

In close coordination with A.T.E.'s technical team, we apply our knowledge and experience to offer you a suitable solution without affecting the process. This is in the form of a tailor-made system solution that includes, apart from the Lamiflow, filters, air flow duct transition pieces, temperature sensors, indicators and related accessories.



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