FOR ENERGY OPTIMIZATION IN TISSUE DRYING

***Prime*DRY Hood E electrically heated hood**

ANDRITZ

*Prime*Dry Hood E for tissue: Electric heating for hood air

Bearing in mind environmental sustainability and the cost of energy, *Prime*Dry Hood E uses the same air system as gas- or steam-heated hoods, but with electric heaters replacing gas burners or steam heaters. The result is a system capable of achieving air temperatures of 400 - 450°C while increasing energy efficiency and reducing carbon dioxide emissions.

ENERGY EFFICIENCY

Compared with gas-heated systems, *Prime*Dry Hood E increases energy efficiency for the hood drying system by up to 4 percent.

Electrical heating is more efficient because a conventional gas burner requires heating of both the combustion and drying air for the burner to function, while electrical heating does not require combustion air. In theory, 100 percent of electrical energy is converted into thermal energy.

ENVIRONMENT

With electrical heating there are no combustion residuals emitted to the air. Overall, tissue mills can expect a reduction in carbon dioxide emissions of approximately 70 percent compared with gas.

> "Overall, tissue mills can expect a reduction in CO_2 emissions of up to 70 percent."

MARCO CATTANI
Product Manager
ANDRITZ Novimpianti

INSTALLATION/RETROFIT

There are two types of electric heaters available: the Corner Type and the In-Line Type. In terms of performance there is no difference, but each format is suited to a particular mill layout and recommended on a case-by-case basis. Electrical heating comprises the main body of the electrical resistor, a terminal box and control panel, the placement of which is flexible.

MAINTENANCE

The heating elements can be removed in bundles from the duct heater rather than having to extract the whole duct heater installation.

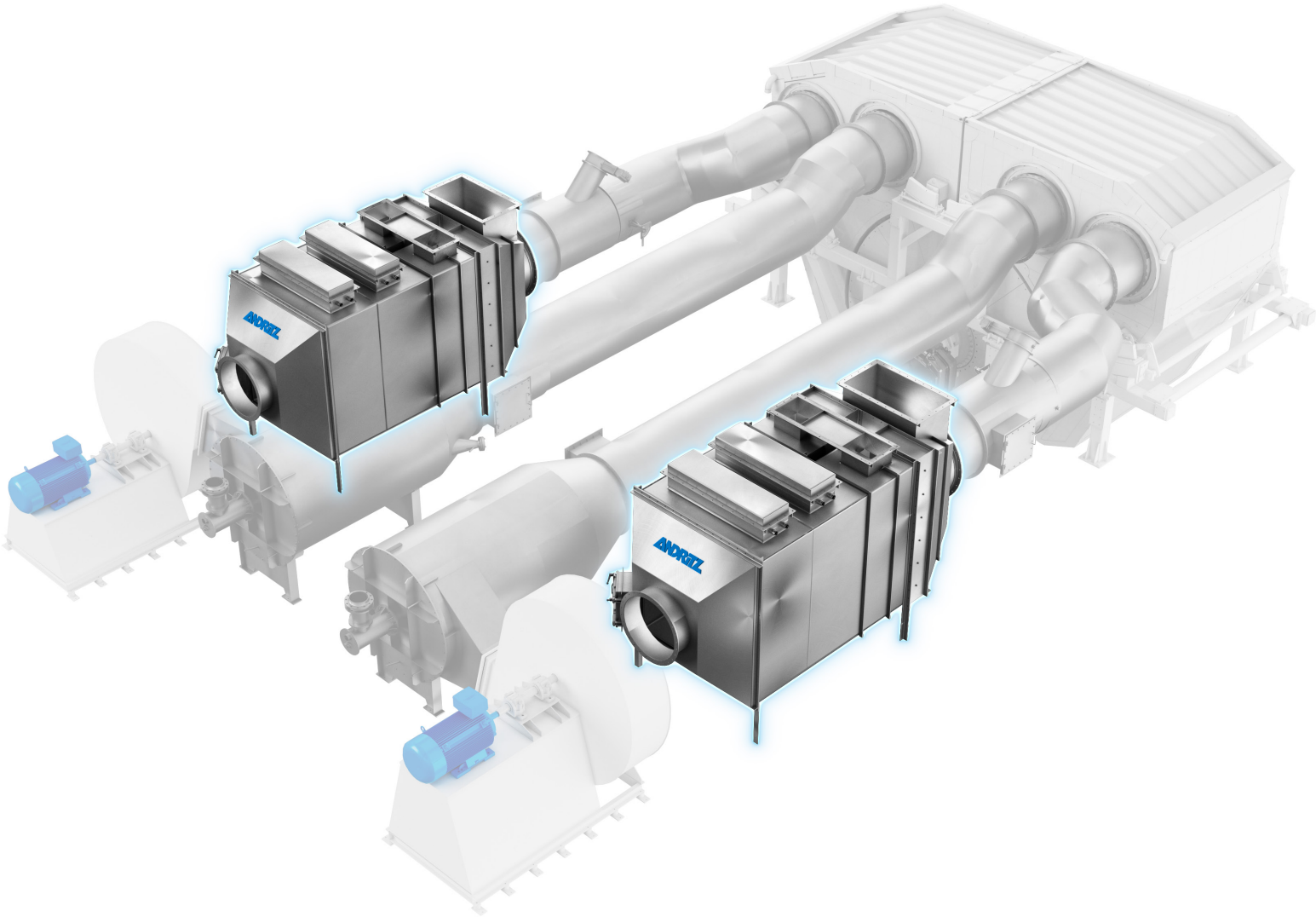
Through a minor modification of the duct heater design, this facilitates maintenance of a single heating bundle while the tissue machine continues to operate at a lower capacity, rather than being shut down completely.

The potential for lower availability compared with gas-heated air systems is mitigated by the use of filters with automatic cleaning in case of low temperatures, as is already implemented with steam-heated hoods.

HYBRID OPTION

To optimize energy cost and energy security, a hybrid system is feasible. This can switch between gas and electric heating for hood air and enables a mill to select the fuel source which is most suitable for (prevailing) climatic conditions, the time of day, or changing tariffs for gas and electricity over a 24-hour period.

If drying capacity is a limiting factor in any tissue-making scenario, the addition of electrical heating can increase capacity.



Electric storm: as tissue mills seek to optimize their energy consumption for optimum sustainability, ANDRITZ' introduction of a hood air system based on electrical heating is very timely.

ELECTRIC TECHNOLOGY

This is a new application of a tried and tested technology, involving minimal technical risk. Electrical heating in industrial contexts where drying is involved is well established – in nonwovens for example. This also means that there are existing design solutions to manage specific situations, such as the potential for seismic activity.

"We developed the new heating hood in close cooperation with customers. It perfectly matches today's need for sustainable, high-quality tissue production."

GEORGE NOWAKOWSKI
Vice President Tissue Drying
ANDRITZ Canada

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