An Ideal Investment Brings Big Energy Savings

Case: Sappi Fine Paper Stockstadt, Germany, OMC 2

An up to 35% saving in coating drying energy means a significant investment payback for Sappi's Stockstadt mill.

Sappi Fine Paper's Stockstadt mill in Germany made an ideal investment with the installation of Valmet PowerFloat Plus high intensity air float nozzles in an existing air dryer after the first coating station of the mill's OMC 2. The Beloit OMC 2, started up in 1992, produces wood free coated grades with grammage ranging between 90 to 200 g/m^2. Up to 35% energy saving was achieved, bettering Valmet's guarantee, and, remarkably, this was soon after a short five-week delivery.

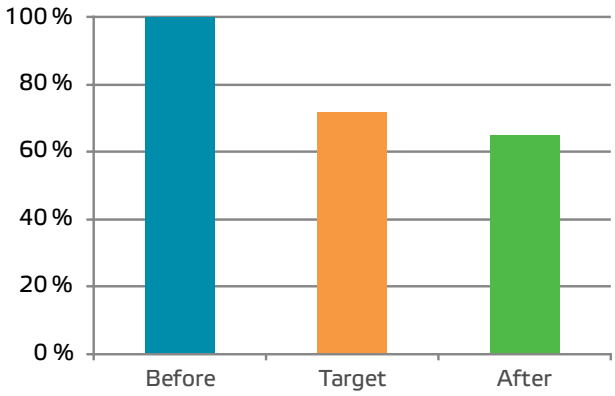
Sappi Fine Paper's decision was backed up by the fact that it has already achieved excellent results with previous installations of PowerFloat Plus air dryer nozzles at mills in Kirkniemi and Kangas in Finland. The coating dryers there have added extra drying capacity and enabled energy savings by eliminating the need for infrared drying.

Replacing low efficiency with high efficiency

The project was a simple retrofit project, not a drying system reconstruction. By replacing the original supplier's air nozzles with the new PowerFloat Plus nozzles much higher drying rates can be achieved and the opportunity to save a considerable amount of drying energy is possible. Valmet offers this flexible and practical solution for existing dryers supplied by a variety of vendors.

This saving is accomplished by shifting the bulk of the drying load from the existing gas-fired infrared dryer to the newly upgraded air dryer. Energy is used more effectively and efficiently in the air dryer than in the infrared dryer. To keep the project cost low, existing fans, gas burners and ductwork were kept in place.

Gas consumption of coating station 1

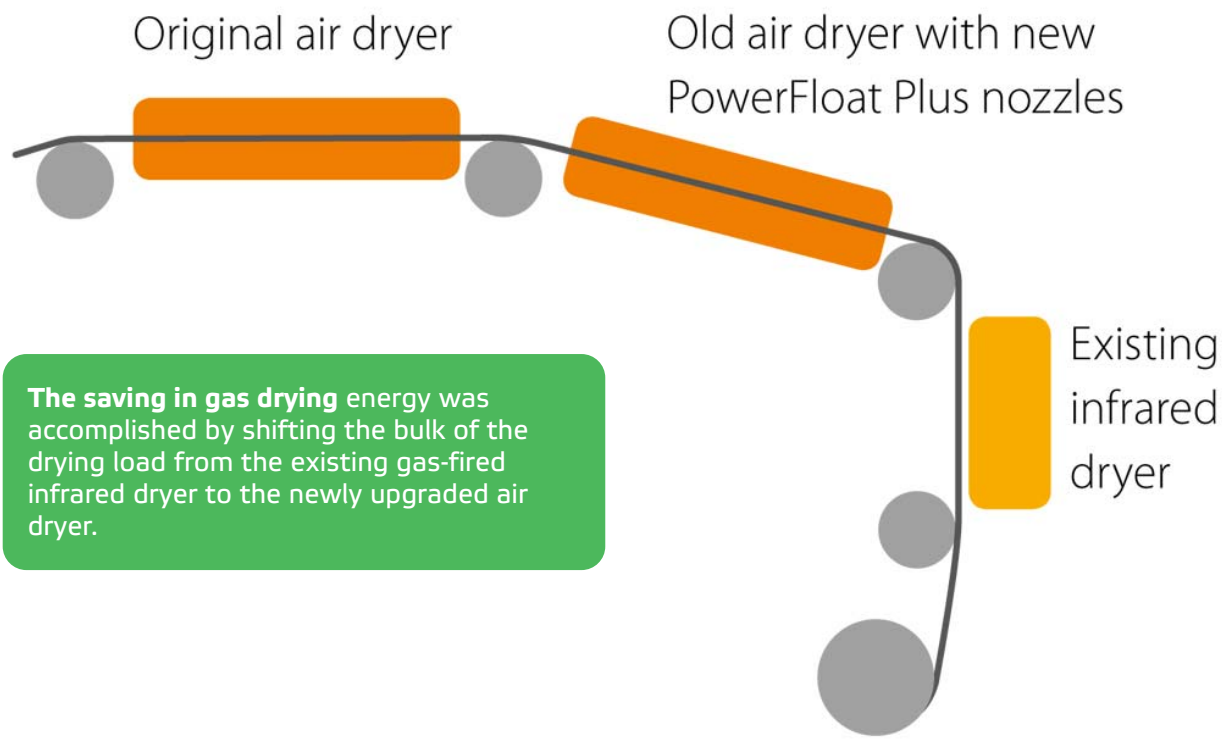


The original guarantee of 28% energy savings was bettered and the total savings are up to 35%.

OMC2 Superintendent Rainer Griesemer and Mechanical Engineer Ulla Peura agree:

..."All of our expectations were met. We are very happy with this project and the savings we achieved."

Valmet



The saving in gas drying energy was accomplished by shifting the bulk of the drying load from the existing gas-fired infrared dryer to the newly upgraded air dryer.

Less than one year payback

Ulla Peura, Mechanical Engineer, explans that the project ROI, which was calculated as less than one year payback, was defined mostly by savings in natural gas consumption in the infrared dryer after the first coating station and replacing that drying capacity with more efficient air drying. Some important maintenance savings will also be made, since expensive infrared emitters will not need to be replaced from time to time. By comparison, the air dryer nozzles are essentially maintenance-free.

"It was important for us not to have to rebuild the air supply, exhaust systems, or gas burners. As a result, it was a simple project. We didn't have much time either, only five weeks and the timing was critical due to a shutdown on PM 2 ". Valmet responded with a five week delivery from order to start-up within a three day window in March 2010, so the results were achieved quickly.

With the upgraded air dryer providing extra drying capacity, 4 rows of infrared emitters could be switched off. The remaining two rows are used for cross-direction moisture profiling. Peura says the original guarantee of 28% energy savings was bettered and the total savings are up to 35%.She also notes that there is no effect on coated sheet quality.

For more information, contact your local Valmet office. www.valmet.com
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