

New MasterJet headbox at Manistique Papers

Rebuild results in new production record



New headbox at Manistique Papers.

In 2007, Manistique Papers invested 6 million US dollars to upgrade their facility by replacing the existing headbox with a new MasterJet II F Dilution Control headbox. Since the start up in June of 2007, the new headbox is fully living up to the customer's expectations and has significantly improved sheet profiles and sheet formation.

Objective of the Rebuild

The existing headbox was a Voith W headbox from 1980, originally designed for 3000 fpm. The W headbox was rebuilt years ago to be able to handle a maximum operating speed of 4000 fpm, however, the current operating speeds have exceeded this level. The objective of this rebuild was to replace the W headbox with a new MasterJet II F Dilution Control headbox designed for the current production speeds, and capable of operating as a gap former headbox in a future rebuild of the wet end.

Voith had a significant design challenge to fit the new headbox into the limited space. To resolve the problem,

the new dilution plate technology was used. The dilution header and high consistency header were placed above the headbox in order to fit the new equipment into the restricted space, minimizing the total installed cost significantly.

New MasterJet II F Dilution Control Headbox

In June of 2007 Manistique Papers replaced the old W headbox with a 4.2 m (163.62 inches) wide MasterJet II F Dilution headbox. The new state-of-the-art headbox is equipped with lamellas for best jet quality, Edge Module to achieve optimum fiber angle, and Edge Master to control sheet edges. A PD Tank to reduce approach flow pulsation

and a dilution system for excellent cross direction weight profiles were also included.

After a scheduled nine day shutdown, the new headbox was started up on



Aerial photo of Manistique Papers.

June 20th of 2007 and salable paper was produced the same day. The sheet went on the reel quickly thanks to all the good preparation work done by Manistique Papers and Voith. Soon after the start-up, the optimization process of the new equipment took place and the results were very impressive. The new headbox improved cross direction weight profiles by 50%.

The improved weight profile also resulted in a better moisture profile at the reel. The mill was able to increase the reel sheet moisture setpoint by 1.5%, resulting in lower dryer steam consumption and significant cost savings.

Formation Improvements

Lamella technology and an intensive optimization of jet impingement, jet velocity (rush/drag) and table settings resulted in an improved formation. Sheet formation improved by 30 to 40% for all grades produced on this machine.

Further Improvements

The machine draw was reduced by approximately 1%, mostly due to improved sheet edge quality. The sheet fiber alignment (TSO angle) after the rebuild was within ± 3 degrees and the overall machine efficiency increased.

Infobox

Manistique Papers Inc.

Manistique Papers, located in Manistique Michigan, USA, was founded in 1920; the mill was recently acquired by the Kramer family, based in Northbrook, Illinois, USA. Manistique's 100% recycled specialty paper products are used for commercial and book printing, as well as business and envelope papers. It has been manufacturing 100% recycled uncoated groundwood papers since 1984.

Contact



Gilles Nault
gilles.nault@voith.com

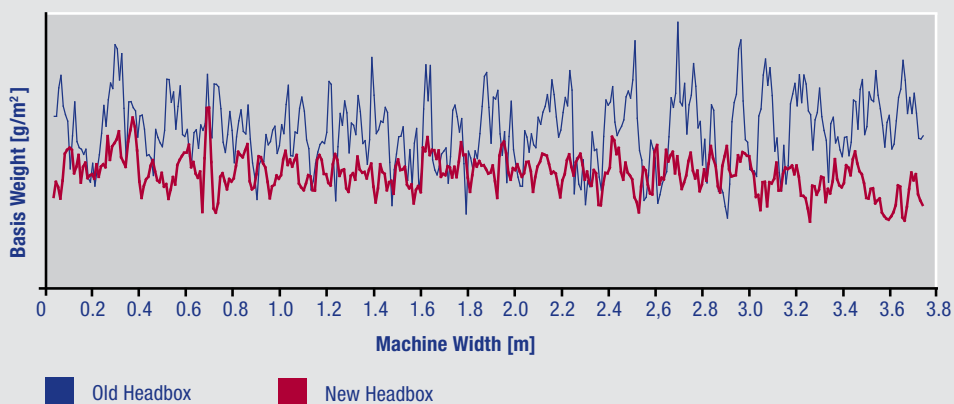
Customer Comment



Jon Johnson
General Manager
Manistique Papers, Inc.

“Manistique Papers, Inc. has been on a path of transformation from a newsprint mill to a 100% specialty mill for over a decade. In the past, our 100% recycled content created customer excitement, but variability in basis weight and moisture profiles created printing and converting deficiencies.

The new MasterJet II F Dilution headbox provides excellent sheet formation, vastly improved weight profiles and has enabled us to increase machine capacity with the ability to optimize sheet moistures. A production record of 500 t/d was set on August 22, 2007; this shattered the old record set in 1995 of 481 t. The new headbox is a key component for the future of the mill and the Voith team provided unparalleled support.”



Improved CD profiles with new headbox.