

## Going for broke!

### *BTG helps a large European mill stabilize ash content in its process for better final product quality and reduced spend on filler.*

Mills producing coated paper products often wrestle with the problem of controlling the ash content in the final product because of variations in the range of source materials used in the pulping process, such as coated and uncoated broke, and fresh filler.

Many mills are in the habit of relying on the scanner value to provide input data for ash management; an ineffective strategy because, as this sensor is physically located at the end of the process, it's usually too late to respond in a timely manner to stabilize short time variations coming from coated broke.

An Austrian mill asked BTG to use its technology and process expertise to find a better way to measure ash content and total consistency in its total broke line. The mill's parameters were:

- Consistency: 3.5 - 5%
- Relative ash: 30 - 48%
- Absolute ash: 10 - 25 g/l

BTG designed an innovative solution around its [MEK-3000 TwinTorque™](#) and [TCT-2302 Total Consistency Transmitter](#) (Figure 1).



**Figure 1:** Installation of both sensors in the mill (MEK-3000 at the top, TCT-2302 at the bottom.)

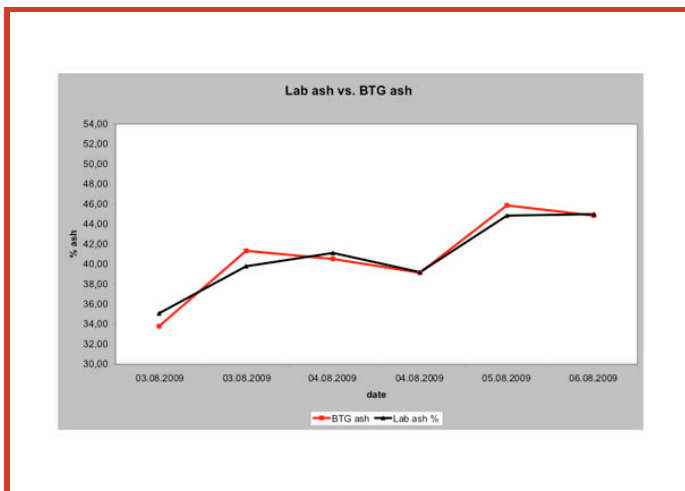
The combined unit was installed after the chest for total broke, where different brokes are mixed. Pulp moves directly from this chest to the mixing chest, where fresh filler is also added.

## Two-pronged approach for greater accuracy

One of BTG's new generation of easier, smaller, smarter, lighter instruments, the MEK-3000 TwinTorque has been designed to deliver consistency measurement for the most demanding applications. Based on the verified relation between fiber consistency and shear force strength of the fiber network, the sensor uses BTG's patented twin motor technology for highest accuracy and repeatability, and guaranteed top performance.

For this application, the MEK-3000 was calibrated for fiber content only. Because mechanical measuring principles generally depend on shear forces, a very high sensitivity for fiber content is given. Conversely, the TCT-2302 was calibrated for ash only. Total consistency could not be measured, since the consistency level was well above the TCT-2302's measurement range.

This innovative approach, using two instruments working in sync, allowed total consistency and ash to be measured in thick stock with a very high degree of accuracy (Figure 2).



**Figure 2: Calculated relative ash content (%) versus ash content lab (%)**

The BTG solution is now used by the mill to control and optimize the broke mixture and adjust the levels of fresh filler addition to the mixing chest. Because the readings are taken before the stock reaches the mixing chest, the mill's process engineers are able to compensate for short time variations by adjusting both the amount of broke and the fresh filler flow.

The result is more stable ash content in both the produced paper and the recirculation line, a reduced target range for final paper ash, and considerable savings in the cost of fresh filler.

To learn more about this application, contact Peter Raser at [peter.raser@btg.com](mailto:peter.raser@btg.com) or go to [www.btg.com](http://www.btg.com)