PulpVision — fiber morphology analyzer

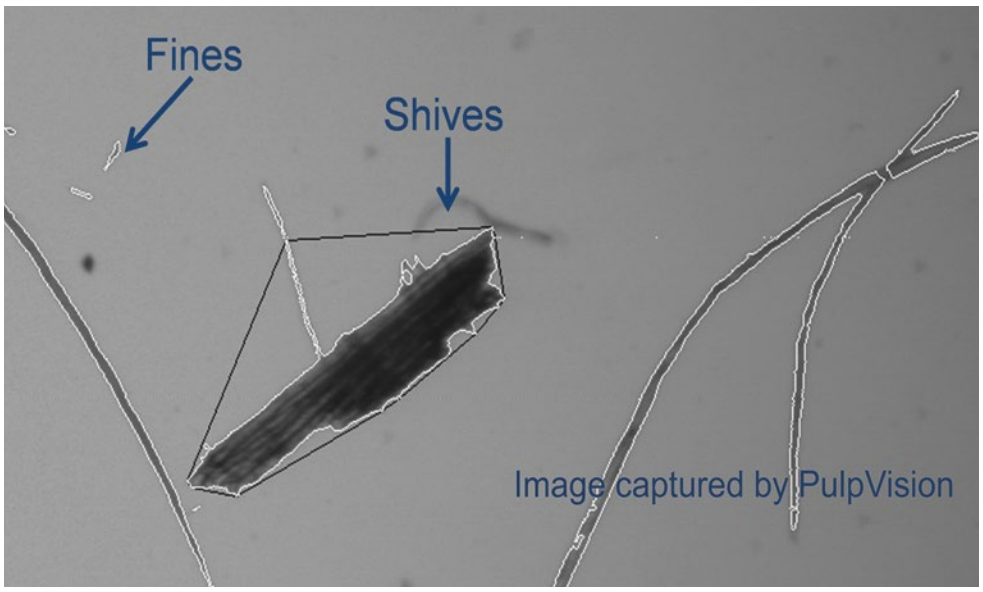
Real-time fiber morphology analysis

ANDRITZ PulpVision is a continuous fiber analyzer for the pulp and paper industry. The analyzer is equipped with a high-speed camera for fiber image capture and with machine learning software for data analysis. PulpVision is installed in a bypass loop of the online process in order to capture fiber morphology properties including fiber length, width, and coarseness, as well as fines and shives content. Freeness and Bauer-McNett fiber classification are modeled on the fiber morphology measurements.

The challenge: To monitor quality and save energy by measuring fiber morphology in-line

Not only can ANDRITZ PulpVision monitor fiber furnish quality, it can monitor equipment performance throughout all pulping processes that precede the paper machine. The morphology measurement applies to various types of fibers including chemical, thermo mechanical, and recycled pulp as well as synthetic fibers.

PulpVision ensures that proper reactions and corrections are made and enhances troubleshooting of unit operations in the pulping process. PulpVision is equipped with a powerful computer workstation and self-training software. The software can be tailored to each mill's unique specifications.



Features

To help operators collect the best information, PulpVision's features include:

- Real-time in-line sensor, no operator bias
- Camera-based measurement (up to 50 frames per second)
- Minimal maintenance (up to half an hour per month for cleaning)
- Response time of less than one second
- Proprietary "flow-through" design
- Proprietary "adaptive thresholding"
- DCS connection via OPC
- Insensitive to flocculation or air bubbles
- Measurement and classification systems including freeness and Bauer-McNett fiber classification, box plots, and S/W mixture

Specifications

Installation requirements	
Input power	2.9 kVA
Input voltage	110/220 Vac
Input current	13 A
Short circuit current	5 kA
Water: Flush water	80-100 psi
Dilution water	80 psi
Piping: Sample line	1 1/4 inch
Design temperature	35 °C
System protection	IP54
Connections	
Data: Ethernet connection OPC DA connectivity 4-20 mA signal output (optional)	

Benefits

- Replace manual detection with automated online measurement
- Provide measurement accuracy that yields high-quality, low-variability pulp with minimal shives content
- Save refining energy and prolong refiner life
- Improve paper machine operation, productivity, and conversion performance

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