

Measuring the Ingredients for Success

Valmet Fiber Image Analyzer



Success is measured in results and returns

Measurable savings can be achieved through several different revenue streams. There is a wide variety of applications and uses for the Valmet FS5 device that result in improved process efficiency and monetary savings down the line.

- Quality assurance
- Optimization of process stages and raw materials
- Benchmarking
- Process testing
- Trouble-shooting
- R&D tool



Valmet FS5 – Measuring the Ingredients for Success

The Valmet Fiber Image Analyzer, known as the Valmet FS5, enables pulp and paper mills to unlock the true value potential of their raw material for optimum end product quality. With the new compact and user-friendly unit, you can benefit from a wider range of available measurements combined with improved usability and reliability resulting in savings in terms of both time and resources. As a result you can ultimately achieve considerable returns in even a short time span.

Easy access to information needed for optimization

The enhanced accuracy, reliability and speed of fiber measurement offer a wide variety of possibilities to improve competitiveness. Important fiber furnish characteristics are essential in terms of successful pulp and paper process management and final end product quality. The Valmet FS5 measures exactly those things as efficiently and economically as possible.

Measurable results at your fingertips

Our new device has been designed and manufactured with the customer

and user in mind. The improved optical measurement capabilities allow pulp and paper makers to see more from the fibers, while advances in image processing creates the possibility to extract new features. These offline results can be easily used to verify online measurements carried out with one of Valmet's pulp analyzers, which are also based on the same state-of-the-art technology.

We know that speed, ease of user experience are attributes that mean very little to our customers if they are not accompanied by increased efficiency in economical terms as well. With the Valmet FS5, the payback period for your initial investment can be measured in mere months. Over

30 years of fiber measurement experience ensures that we truly understand the challenges faced by our customers on a daily basis.

Measuring a wide variety of fibers

- Pulp and paper
- Recycled fibers
- Artificial fibers
- Numerous other non-wood fibers
 - Cotton, hemp, jute, flax, tobacco etc.



Summary of customer benefits:

- Suitable for a wide variety of customer needs
- Comprehensive set of available measurements
- Savings through ease and speed of operations
- Increased accuracy with less chance of human error
- Increased availability and reliability through easy maintenance and automatic self-cleaning
- Supported by Valmet's global service network

FULLY
ISO 16065-2
compliant

Accredited
SI UNIT
trackable



Easy

- Can be used by virtually anyone
 - No lengthy training required
- Insert sample, choose preselected parameters & press "Measure"
- User interface incorporated directly onto analyzer
 - No need to hook up external devices



Fast

- Accurately measure a greater number of samples
 - Easily up to 100 samples per 8 hour shift
- Automated consistency adjustment faster than doing it manually
- Set up in a matter of minutes
 - No onsite calibration needed



Trackable

- Results in accordance to international standards
 - Fully ISO 16065-2 compliant
- According to accredited measurement units (SI units)
- Share results seamlessly
- Monitor the effects of changes in processes, equipment or raw materials on fiber properties over time



Precise

- New technology increases precision
 - Improved pixel size by UHD camera technology
 - < 1 micrometer effective resolution by sub-pixel calculations
- Valmet FS5 measures external fibrillation
 - Influences paper strength properties and other end product quality characteristics



Customizable

- Freely choose and modify measured attributes
 - For different sample points or pulp grades
- Customized reports
 - Showing the results you need
- Modular product design allows expansion
 - In measurements
 - In new optical elements



Comprehensive

- A solution that is as comprehensive as you want it to be
- A wide fiber analysis offering including
 - Basic fiber dimension measurements
 - Advanced vessel cell recognition
 - And everything in between
- Measurements suitable for a wide variety of pulp types and fibers
- Valmet offers the same UHD technology for the new Valmet MAP Q analyzer

Technology

The all-new Valmet FS5 incorporates the latest technological developments in fiber imaging and image processing. The improved optical measurement capability allows you to see more from the fibers and the advances in the image processing brings new possibilities to extract out new features.

Just to present a few technological improvements, which separate Valmet FS5 from other analyzers on the market.

1) Measurement of fiber width is carried out by an advanced calculation method called sub-pixel calculation.

2) Advanced neural network calculation allows for the detection of

distinct objects accurately and reliably from the heterogeneous sample material (e.g. vessels from mixed tropical hardwood pulp).

3) Automated sample treatment reducing total analysis time.

4) Cell Wall Thickness (CWT) estimation performed by UHD technology.

Technical specifications

Features

- Measurement in compliance with ISO 16065-2 standard
- No pressurized air needed
- 6 sample cup positions
- Typical total analysis duration less than 4 minutes

Physical dimensions

- W x H x D..... 600 x 600 x 420 mm
- Weight..... 37 kg

Connections

- Operating power..... 85–264 VAC, 50/60 Hz
- Water connections
- Ethernet and USB connections

Measuring range & accuracy

- Length measurement..... 0.01–10.00 mm *
- No. of length classes..... dynamic **
- Width measurement < 1–1000 μm
- No. of width classes..... dynamic **

* taking into account the limitations of sample material

** freely modifiable according to user needs, up to 10,000 classes

Content of delivery

