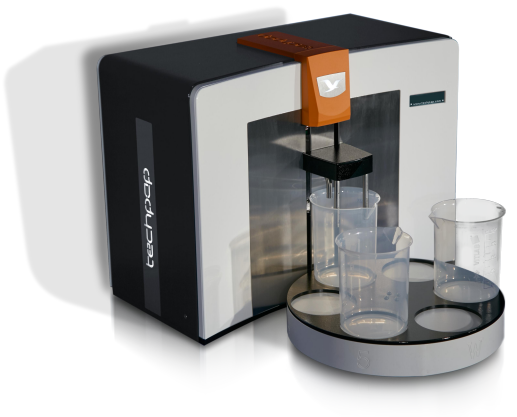
techpap
innovation for paper

MORFI NEO

Pulp & fiber-morphology analyser



ADVANTAGES — HIGHLIGHTS

- Economic and productive
  - Rapid
  - Integrating 25 years of experience
  - Impeccable data handling facility
  - Rugged and quasi zero-maintenance
  - Low footprint on the lab bench
  - Extendable, modular, upgradable
- Flawless metrology
  - Accurate, repeatable and reproducible
  - Cutting-edge technology
  - Constant consistency for optimum precision

APPLICATIONS

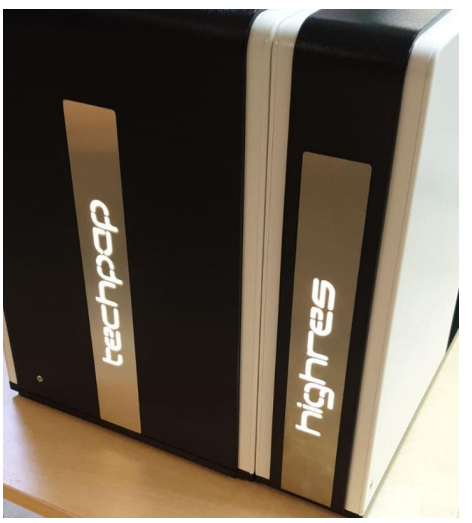
- Research & Development
  - Micro & nanofibrillated cellulose
  - New fibers (annual plant, non-cellulose)
  - Fluff pulp
- Quality assurance
  - Raw material assessment
  - ISO 16065-2 compliant
- Process control
  - Refiner energy optimisation
  - Refiner disk wear reduction
  - Monitoring pulpers, screens, cleaners, classifiers, refiners ...

GENERAL FEATURES

- Ergonomy
  - Carousel for 6 sample beakers
  - Easy-to-handle user interface
  - Auto-sampling & cleaning
  - Palpable result graphics
- Particularly interesting data
  - Fibrillation index
  - Calculated wall thickness
  - Detection of broken ends
  - Primary and secondary fine elements

SPECIAL FEATURES

- Principal-component analysis
  - PCA graph for process control
- Software extensions
  - A.I. module for vessels detection
  - A.I. module for wall-thickness measurement
  - Customer self-configurable A.I. module
  - Special Techpap "Solver" and "Statmorf"
- Hardware extension
  - Special module with high-resolution camera for true optical measurement of fiber wall thickness



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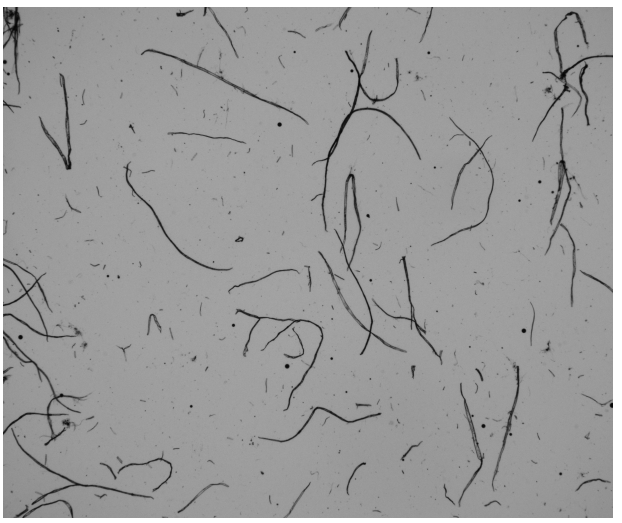

DATA HANDLING & INTERFACES

- Data Generation
  - Filter parameters adjustable
  - Instant recalculation on parameter change
- Data Visualisation
  - Several display modes at choice
  - Individual displays user adaptable
- Data storage
  - PDF report for single runs
  - Excel® file for multiple runs
  - To disk/network/server : OPC, DCS

Relevance

Fiber morphology study and control have become indispensable for several industries such as:

- Pulp & Paper
- Packaging
- Molded pulp
- Fibercement
- Tobacco

The instrument provides the language base for an objective communica-tion along the supply chain, R&D and QC.

Installation requirements

- Bench area 180cm x 90cm
- Power supply 90–240V AC, 50–60Hz, 30W
- Tap water (filtered 5µm, tempered, max 2 bars) and drain; dispensable when auto-dilution is switched off.
- Computer with Core i7® and Windows® OS

Analysis duration

• Fibers and fine elements	3 minutes
• Shives and vessels	3 minutes

Measurements

Fibers

Number of fibers per gram	[nr/g]	
Coarseness	[µg/m]	
Average length arithmetic & weighted in length		[µm]
Length distribution	10 classes	
Average width	[µm]	
Width distribution	10 classes	
Distribution length x width graphic display		
Average curl	[%]	
Curl distribution	5 classes	
Average kink angle	[°]	
Kink distribution	5 classes	
Kinked fibers content	[%]	
Average number of kinks per fiber	[n]	
Broken fibers content	[%]	
Fiber fibrillation index	[%]	

Fines

Average fine length	[µm]	
Fine elements content in area	[%]	
Fine elements content in length	[%]	
Primary & secondary fines average length		[µm]
Primary & secondary fines ratio	[%]	

Shives and Vessels

Average length, width and area	[µm & µm²]	
Length, width and area distribution	10 classes	
Total area per gram	[µm²/g]	

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