

PULP INSPECTOR

THIS INNOVATION FROM TECHPAP ENABLES CONTINUOUS ON-LINE MONITORING OF PULP, PROVIDING QUICK, DEPENDABLE AND REPEATABLE DATA FEEDBACK IN A COST EFFECTIVE WAY TO MEET THE EVER INCREASING DEMANDS IN PULP PRODUCTION AND USE.

CSF
ISO

COLOR
ISO

FIBERS
ISO

**Dirt &
Shives**

NIR

Modular Design

The Pulp Inspector unique modular design makes it simple to add testing processes as required by the mill.



**Lab &
On Line**

Users

- Pulp Mills
- Paper Mills

Applications

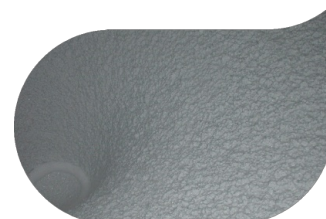
- Mechanical Pulp
- Chemical Pulp
- Deinking
- Recycling



Sampling

Laboratory Testing with
Carousel or Direct
Introduction

On-line IP samplers &
Dilution Module from one
up to 14 different
location in the mill



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PULP INSPECTOR

BASIC UNIT

The basic version of Pulp Inspector integrates the following automatic functions:

- Forming pad from pulp either by on-line sampler or by laboratory sampling
- Drying section
- Marking using ink jet stick for Date/Time referencing
- Weighing with high precision scale



FORMING STATION



Forming Station / Pad Formation

The pulp fills up the forming jar
An agitation is created to get a good homogenized solution
Then the pulp is drained through a wire using vacuum generated by the Pulp Inspector.
After drainage is completed the jar opens to allow automatic pick-up and transfer to drying section

Pad forming sequences are adjustable:

- * Vacuum level
- * Homogenization Time
- * Drainage Time
- * Drying Time

Pick-Up / Transfer

The Pick-up arm slides on a motorized stainless steel bracket and picks & releases pads at the different stations.

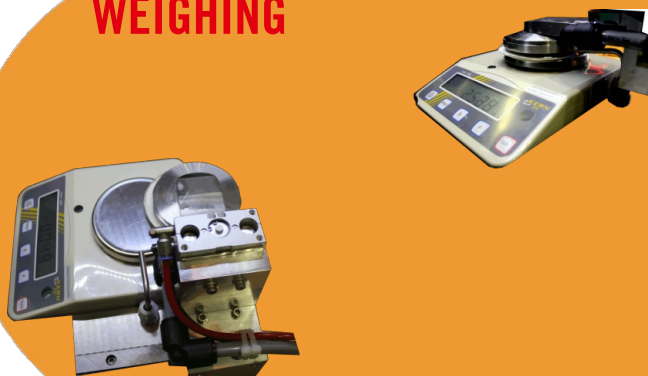
All component are made in rugged stainless steel 316L for use in 24/7 industrial environment.

The Pick-up arm holds gently the pad during translations using light vacuum.



PICK UP DRYING MARKING

WEIGHING



Weighing & Marking

The pad is air dried then marked with Time & Date stamps
So it is easy to archive and trace the samples & results eventual for additional testing.

The last station is the weight measurement
This can be used for additional adjustment for CSF or Fiber measurement (coarseness)
The Pad is then stored in a basket at the back of the sensor, ready for collection.

PULP INSPECTOR

FIBER ANALYSIS MODULE (MORFI)

ISO/FDIS 16065-2

The fiber analysis module is based on the famous CTP(*) / Techpap morphology analyzer, the globally acclaimed MorFi.

Integrated inside the Basic unit, it performs automatically all standard morphological analysis from entire fibrous population - fibers, fines, shives & vessels



FIBERS
FINES
SHIVES & VESSELS

MorFi Module

The MorFi Module is specifically designed for intensive use and provides a complete interface for the treated data display.

This unit offers optimal optics & flow cell measurement characteristics to ensure a blockage free process control as well high measurement accuracy.

The interface gives a complete display of the treated data and makes it possible to recalculate this data to highlight different features. The data can be saved and exported to other computer programs.

All data can be trended using the Xtrend interface
This module use the same samplers as the basic system

FIBERS

Average & Distribution for :

- Number per gram
- Coarseness
- Real Length Measurements
- Weighted Length
- Measurements
- Width Measurements
- Kink and Curl
- Broken Ends
- Macrofibrils

FINE ELEMENTS

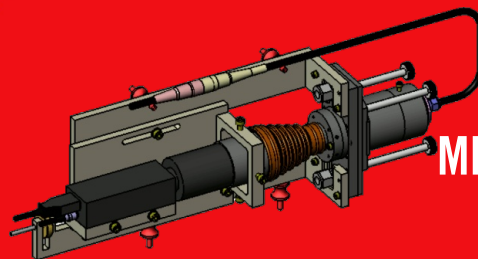
Average & Distribution for :

- % in Area
- % in Length

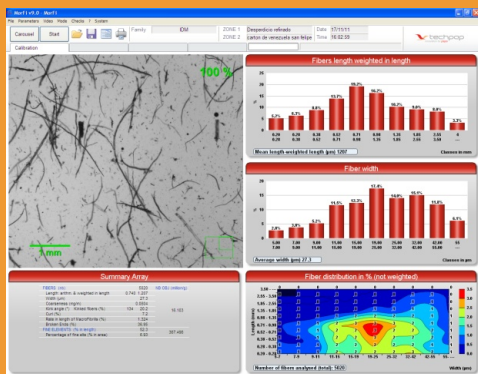
SHIVES & VESSELS

Average & Distribution for :

- Length
- Width
- Area
- % area / fibers
- Number per gram



MEASURING
CELL



User Friendly Software

- » All parameters are easily adjustable including fibers & fines definitions
- » Instant data recalculation using new parameter values (no time limit on data history)
- » Real time fiber images displayed on screen as well as data acquisition
- » Full data exportation & multi test exportation for easy result analysis under Excel
- » Easy to understand histograms, arrays and curves
- » Images saving ability
- » Three passwords protect user authorization levels

 **techpap**
innovation for paper

PULP INSPECTOR

DRAINAGE MODULE (CSF)

ISO 5267/2

The drainage CSF module complies to the standardized test method Canadian Freeness

- Tested by Paprican
- Drainage chamber made of lightweight & rugged Polyacetal
- Compensation for temperature correction
- Compensation for consistency correction



STANDARD AUTOMATIZED CSF METHOD

PI CSF

This module is an automatized standard Canadian Freeness Measurement, with automatic temperature & weight compensation.

It delivers freeness measurement & trends through Xtrend and have an automatic cleaning cycle to perform 24/7 service to the mill.

This stand alone unit can be combined with:

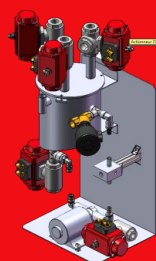
- The Basic Pulp inspector
- The Fiber Analyzer Module (Morfi)

All modules use the same samplers

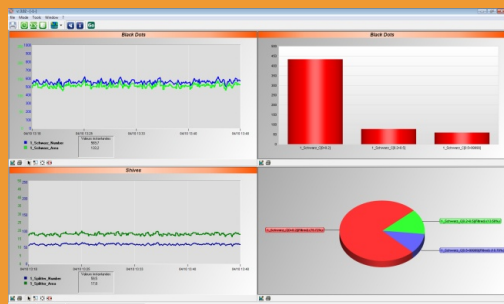
PI Dillution

Techpap has developed a dillution module to adjust automatically the sample consistency provided by sampler to have a precise value to run the CSF measurement.

The PI Dillution System uses an optical device to perform an accurate adjust of the pulp sample delivered to CSF module.



CONSISTENCY ADJUSTMENT



XTREND INTERFACE

Techpap has developed a graphic interface

- Multi users (through TCP/IP)
- Multi sensor

Each workspace configurable with:

- Trend curves
- Histogram
- Sectors

PULP INSPECTOR

COLOR MODULE (COLORTOUCH)

ISO & TAPPI

THE COLOR MODULE COMPLIES TO THE ISO & TAPPI STANDARDIZED TEST METHODS FOR COLOR MEASUREMENTS.

PULP INSPECTOR INTEGRATES A TECHNIDYNE COLORTOUCH PC SYSTEM, WITH ALL ITS FUNCTIONALITIES, AND THE BENEFITS OF A 24/7 AUTOMATIC SAMPLING, TESTING AND DATA STORAGE SYSTEM.



COLOR TOUCH PC

Brightness

The ColorTouch PC is in exact conformance with ISO 2469 and 2470 for the measurement of ISO Brightness.

Fluorescence

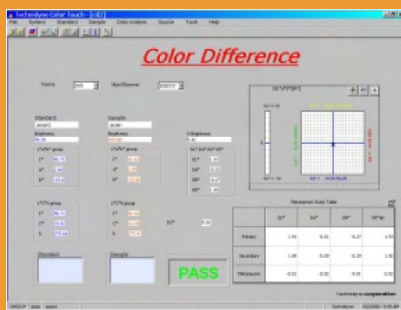
Samples may be measured under 4 different calibrated sources - C (ISO Brightness), 065 (outdoor daylight), UV-EX (no ultra violet energy), Ganz-Griesser. Plus 2 user-defined calibrated sources

Whiteness

Opacity

ERIC 950 Measurement

Together with the Eric module in option Techpap has developped an Hyperwashing module to help DIP plants to forecast the deinkability of their pulp



STANDARDS

Meets the following industry standards:

ISO Standards 2469, 2470, 2471, 3688, 5631, 9416, 11475, 11476, 12625, 22754, 22891

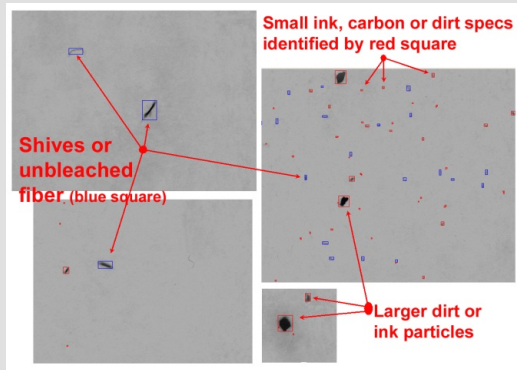
TAPPI Optical Methods T519, T525, T527, T534, T560

PAPTAC E.1, E.2, E.5, E.8

PULP INSPECTOR

DIRT & SHIVES MODULE

THE DIRT & SHIVES MODULE PERFORM ANALISES THE WHOLE PULP FLOWING THROUGH A MEASURING CELL AND COUNTS ALL IMPURITIES TYPICALLY FOUND IN PULPS AS DIRT DOTS AND SHIVES



DIRT & SHIVES MODULE

This module is based on the well known Simpatic dirt counter developed by CTP.

15 years of experience in on-line dirt counting for deinking & recycling pulps as well for paper manufacturer.

With a resolution from 50µm to 100µ the system takes up to 30 images per seconds with digital IP camera

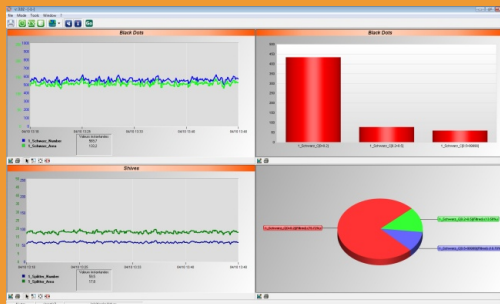
It uses the same sampler as basic Pulp Inspector module

Results

The simpatic software perform on the fly analysis to detect all contrasted contaminants in the pulp flow such as:

- black contrasted dirt
- white contrasted elements
- shives discriminated by shape ratio detection

All those elements are classified by size classes & surface



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