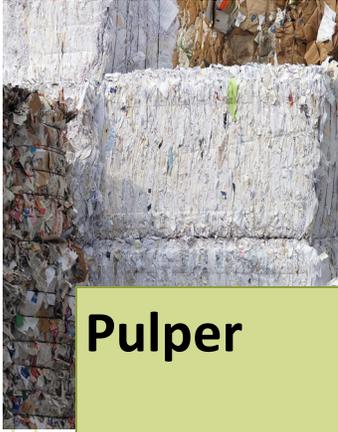
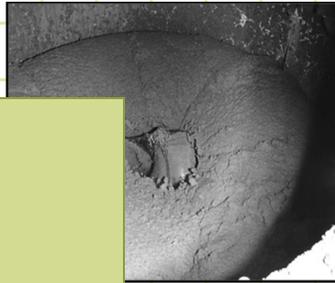


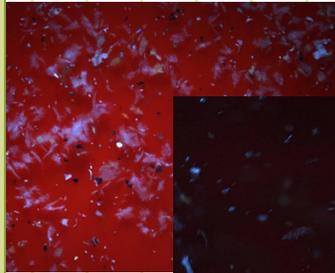
## Online Macrocontaminant Measurement



**Pulper**



**Primary Fine Screens**



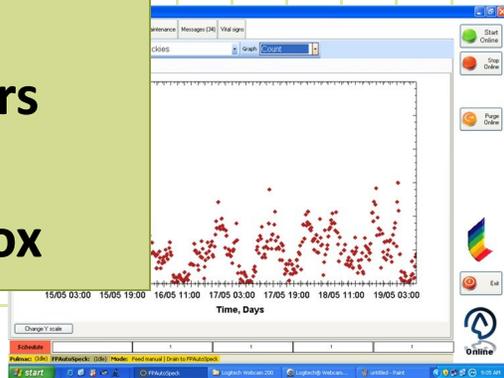
**Flotation Cells**



**Washers**

**Dischargers**

**Headbox**



**Evaluate**

**Control**

**Optimize**

**Plus**

ECO+  
Design



FPInnovations and Technidyne—Technology partners...

*for good measure*

It all starts with a good measurement.

The FPAutoSpeck™ brings:

- Advanced image analysis software
- Screening device for pulp and contaminant classification
- Robust on-line pulp handling technology
- DCS (Distributed Control System) compatibility
- Repeatable and Reproducible data that provides operators the information for confident decisions and quick responses

Testing continuously with a new sample every 15 minutes, the FPAutoSpeck™ collects the sample, sorts the macrocontaminants from all other material, separates the light (low density) from the heavy (high density) macrocontaminants, captures the image and processes the data. Once the testing routine is completed the FPAutoSpeck™ is ready to send the data off to the mill system.

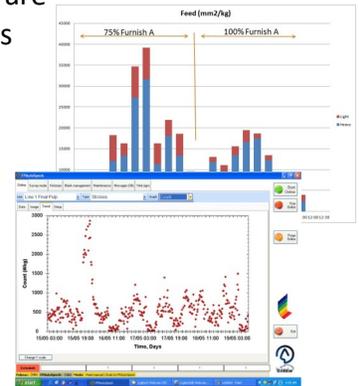
Sample name	Rep. #1 Area	Rep. #2 Area	Rep. #3 Area	Rep. #4 Area	Mean value	Std. Dev.
100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
100.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
200.000	77.6183	90.0000	564.0777	73.1136	191.2022	42.4887
300.000	508.1000	316.1190	260.1106	309.0208	312.2145	38.4464
400.000	246.6276	378.0288	337.2763	454.2603	384.1880	84.8292
500.000	203.8791	524.8801	630.0009	742.1049	542.0001	184.2028
600.000	724.2277	806.0100	750.3000	616.5863	690.7047	62.2604
700.000	2102.2444	1016.6360	2504.6102	1870.0233	1932.8966	648.8079
1000.000	518.9716	454.8079	4247.2512	7397.5252	8298.8008	1281.2006
2000.000	138.0000	622.3000	1200.0000	0.0000	648.0000	161.0000
3000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TOTAL	679.8000	622.3000	1100.0000	1760.2100	8643.6000	1000.0000

Hands-free operation, requiring no human intervention, the FPAutoSpeck™ can provide not only an analytical understanding of your operations, but a significant tool to make decisions on saving chemical cost, energy cost, process time, manpower and improving product quality.

The savings add up as the FPAutoSpeck™ becomes a crucial tool for optimizing your unit operations.

Once the FPAutoSpeck™ transmits the data to the mill DCS, the analysis begins.

Managing the data is a critical step in the process. The FPAutoSpeck™ provides a thorough analysis of core unit processes, such as pulp screening and cleaning. As the database is built for each process, critical parameters are established for process goals and tolerances. Each unit process is unique and the FPAutoSpeck™ provides the detail to gain a comprehensive understanding of the distinct characteristics of these unit processes.



Now with proper management of the data, the mill can begin to optimize the operation of each unit process. As this happens, this data will provide the insight so that the DCS can make changes to processes to accommodate a “stickies storm” or better yet, a higher quality pulp. Critical control specifications will be set for each unit process, so that the DCS can monitor when systems are functioning properly or when upsets occur. This will minimize the potential of contaminants getting to the papermachine.

The FPAutoSpeck™ provides the good measurement. The value of “the good measurement” can be found in how well the data is used. Effective data management will reinforce unit operations with comprehensive analysis for optimum control of your operations.

# Optimize

## Process

### Examples of Unit Process Analysis

#### Pulper

As the entry point for the recycled fiber, establishing a quality baseline of incoming pulp is critical. Knowing what you have and understanding what needs to be done to get it ready for the papermachine is critical to operations. Each day and each different supplier bring in new challenges. Getting data from the start, helps build the foundation for good decisions downstream. Never miss this point of analysis, as it is a picture of what is to come. Without this data, optimization of your process becomes far more difficult.

#### Primary Fine Screens

The screening technology used in most mills is the workhorse of contaminant removal. Most units should work at a 90% efficiency or higher. Does yours? Inefficient screens can reduce fiber retention, increase energy cost, push trash into your paper stream, and this is just the beginning. Measuring at the feed and accepts of the screens is a great place to evaluate the health and efficiency of these critical tools in the macrocontaminant removal process. No matter what screens or centrifugal cleaners are being evaluated, optimum efficiency is necessary for good operation. Most of these units are best at removing those high density macrocontaminants. Optimizing these unit processes will save time, money and headaches downstream.

#### Flotation Cells

Often times the flotation cells are thought of as only ink removers, but they are also very useful at removing macrocontaminants, especially low density macrocontaminants. Low density macrocontaminants will float out with the ink, attached to air bubbles. Monitoring the efficiency of this removal can give a clear picture as to how well the flotation cells are working. In addition, low density macrocontaminants will have a negative impact on ink removal by taking up space on the bubbles. Optimization of air content, chemistry and macrocontaminant level in your flotation cells will provide a great opportunity to save big on energy, chemistry and dwell time.

#### Headbox

While measuring at the headbox may not be an option, somewhere close to it will give an overall health report of your process. Measuring at the pulper and then at the headbox will provide an overview of the macrocontaminant removal of your entire system. Secondly it is the last check just prior to the pulp reaching the machine. On occasion, as whitewater is used to dilute the pulp stream, macrocontaminants find their way back into the stream. A last check here can ensure that nothing unexpected reaches the papermachine. Optimizing the entire deinking process is made possible with the effective use of the FPAutoSpeck™

# Plus Savings

If it starts with a “good measurement” it has to end with “good savings”. Our ECO+ design concept helps us make sure our products are designed and implemented in such a way that they will generate the savings you need. Savings will be both **ECO**nomical and **ECO**logical. Often times we find that achieving these goals are mutually exclusive, but not so with the FPAutoSpeck™.

The FPAutoSpeck™ will provide the mill excellent opportunities to save money in a number of different ways. Effectively managing basket life in a screen basket, flotation cell efficiencies, proper chemical dosing, vendor evaluations, uptime on the papermachine. Your mill may realize all of these, or even more; most mills do.

Let's not stop though with the economic benefit of proper process control, but also consider the value of the ecological benefit of less energy usage, better water management, effective chemical control. We all want to leave a smaller footprint, but not at the sacrifice of our operations. The FPAutoSpeck™ gives you the tool to marry the economic and ecological benefits of technology to improve your operations while finding savings.

Today's recycled fiber marketplace is demanding and supply can be erratic. We often must work with recycled fiber that would have gone to the landfill in previous times. This recycled product has higher contaminants. This means more demands on unit processes, higher energy consumption, more chemical usage and less fiber retention.

The FPAutoSpeck™ is a tool to **E**valuate-**C**ontrol-**O**ptimize your operations, plus it saves you money, while improving your ecological position.

## Specifications

### The FPAutoSpeck™ ...for good measure

<b>Dimensions:</b>	62"(w) x80"(h) x30"(d) 158cm x 203 cm x 76 cm
<b>Weight:</b>	325 lbs 148 kg
<b>Power:</b>	110v/60 or 220/50
<b>Instrument Air:</b>	80-90psi
<b>Water:</b>	City water, <24°C
<b>Water Pressure:</b>	40-50 psi
<b>Drain Connection:</b>	3" flex tubing (6 feet supplied)
<b>DCS Connection</b>	4-20 ma current loop
<b>Environment:</b>	-5 to 40C (using supplied vortex cooler) above 40c with A/C

## FPAutoSpeck™



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