

Measurement of nitrogen content of raw chips before or after dryer. Determination of recycling wood share (glued fraction) during process. Improvement of production.

APOS N-alyzer continuously determines and quantifies the share of glued material in the material flow APOS' online spectroscopy technology. With this it is possible to adapt the material mix during the production process. With a continuous monitoring, the gluing can be optimised as well, an over- or underdosing can be prevented, costs can be saved and products optimised.



Figure: Screenshot visualization measuring nitrogen (N-alyzer)

Urea and resin both contain nitrogen and the N-alyzer can show this valuable information. Based on the current nitrogen amount of the unglued material, the share of recycling material (material which already contains resin) is captured. The material can be analysed both before and after the dryer, which allows an optimisation of material feeds and recycling shares. The share of glued material influences the emissions from the dryer, so e.g. the addition of urea can be adapted.

Also, recycling material has different material properties compared to fresh wood material, which have an influence on the amount of glue needed. Aged material has an inactive surface (hydrophobic), which must be considered for a wetting with resin. The determination of nitrogen gives information about the share of recycling wood and hence allows for an improved process management.

APOS' product focus are systems for quality management / bone-dry billing of wood and process applications for the wood industry, both, material and thermal use. All systems are multi parameter capable, i.e. besides determining the Nitrogen amount APOS can determine the water content or other parameters of the material simultaneously.

## Specification Measurement System

|                      |                                  |
|----------------------|----------------------------------|
| Wavelength used      | 950nm – 1690nm                   |
| Measurement interval | > 60 raw values/minute           |
| Number of probes     | 1 – 2                            |
| Repeat accuracy      | < 0.5%-standard deviation points |

## Central Spectrometer Unit (CSU)

|                             |  |
|-----------------------------|--|
| Form Factor                 | 400mm x 500mm x 250mm (WxHxD)                  |
| Weight                      | 25kg // 55.1lb                                 |
| Electrical protection class | IP 54  |
| Ambient temperature         | Heated, cooled -20°C to 50°C // -4°F to 122 °F |
| Relative air humidity       | Max. 80%, non condensing                       |
| Interfaces                  | Ethernet, OPC, 4 -20mA                         |
| Power Supply                | 230V AC  |



## Contact Probe

|                             |  |
|-----------------------------|--|
| Form Factor                 | Diameter 165mm // 6.5in, Length 178mm // 7in |
| Weight                      | 4.5kg // 9.9lb                               |
| Measurement window          | sapphire glass, 17.25mm // 0.67in diameter   |
| Penetration depth           | ca. 17mm                                     |
| Electrical protection class | IP 65  |
| Ambient temperature         | -20 °C to 60°C // -4°F to 140°F              |
| Flange Type                 | DN50 PN10-16s                                |
| Data transfer               | RS 485 and fiber optic cable                 |
| Light sources               | 2 x max. 5 W                                 |
| Expected life time          | Approx. 5,000h per bulb, two bulbs installed |
| Power Supply                | 24V DC; 400mA                                |

## Distance Probe

|                        |                        |
|------------------------|------------------------|
| Form Factor            | 164mm x 163mm x 110mm  |
| Weight                 | 3.5 kg                 |
| Protection Class       | IP 64                  |
| Ambient temperature    | + 5°C to + 40°C        |
| Relative air humidity  | max 80% not condensing |
| Light source           | 20W                    |
| Power supply           | 12 VDC                 |
| Distance from material | 150 - 400mm            |
| Data transfer          | Optical                |

The EMC compatibility of our systems has been successfully tested according to the relevant criteria and sub-standards of DIN EN 55011 and DIN EN 61326. The detailed requirements can be found in the product documentation or requested from us.

This product is available with  and .