

CORONA - The Compact Sensor Unit Specially Designed For Tobacco Industry



At Line or Laboratory Measurements of:

- Moisture
- Nicotine
- Reducing Sugars
- Total Sugars
- Eugenol
- Eugenol Acetate
- Caryophyllene
- Total Nitrogen

Product information



We make it visible.

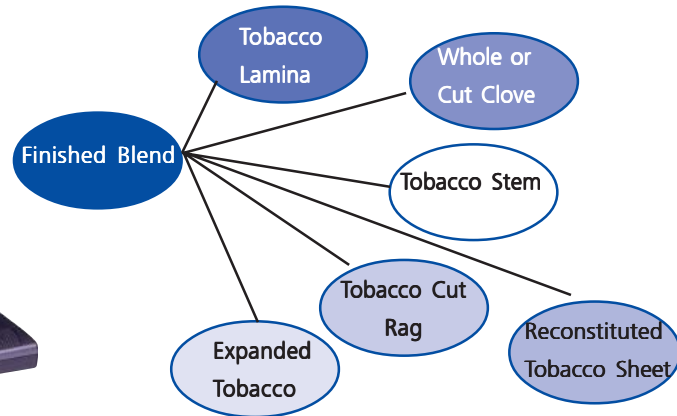
CORONA - Specially Designed

CORONA

A versatile compact sensor unit specially designed for the tobacco industry for faster, accurate and simultaneous determination of critical parameters such as moisture, nicotine, reducing sugars, total sugars and total nitrogen in the tobacco processing line; and moisture, eugenol, eugenol acetate and caryophyllene in the clove processing line. The tobacco industry can now replace their time-consuming conventional test methods and eliminate human error by using CORONA to guarantee excellent accuracy and repeatability for at-line or laboratory sample measurement. CORONA is also widely used for calibrating and checking on-line instrumentation in the tobacco production plant.

The total elimination of moving mechanical components offers a very high degree of reliability and permanent correctness of the spectral wavelength.

CORONA can be used for a wide variety of measuring tasks and is poised to tackle new measuring concepts because it offers specific measuring geometry and the option of parallel detection, evaluation of the visible wavelength range and the near infrared.



Software

CORONA is integrated with microprocessors to enable simple and automated operation. It also offers full networking facilities for easy integration into modern Laboratory Information Management Systems (LIMS).

CORA

Applications software developed by Zeiss, for the intelligent multi-functionality check as well as the control of CORONA. Allows simple and easy collection of the spectral data, on-line and off-line prediction of measurements. The software is supported by Windows® 98, 2000 and XP.

Aspect Plus

Flexible and extensive mathematical function software from Zeiss for spectral analysis. This software is supported by Windows® 3.11, 95, 98, NT, 2000 and XP.

Functional libraries under LabView and C/C++

Driver library for spectral range detection and parameter administration.

Grams® 32 / Unscrambler®

Flexible and powerful software for chemometric routines to create calibration models.



ed For Tobacco Industry



Benefits

- Permits direct, safe, non-contact and non-destructive sample measurements. Operators no longer need to grind and prepare samples.
- Allows simultaneous multi-component analysis.
- Provides fast, precise and cost-saving analysis for quality control tasks.
- Offers state-of-the-art diode array technology and the "Unique Zeiss Polychromator" design.
- Provides wide wavelength range, with detection possible in milliseconds.
- Robust construction with permanent alignment by eliminating moving mechanical components. Hence, **CORONA** is service-free.
- **CORONA** is configured for VIS/NIR measurements as well as for reflection and transmission.
- Comprehensive software package for simple automated operation with networking facilities.

Applications

The tobacco processing application areas include:

- GLT (Green Leaf Threshing)
- Primary Processing
 1. Tobacco Cut Rag
 2. Lamina Line
 3. Stem Line
 4. Expanded Tobacco
 5. Reconstituted tobacco sheet
 6. Clove Processing
- Finished Blend

For the at Line or Laboratory Measurements of : moisture, nicotine, reducing sugars, total sugars, total nitrogen, eugenol, eugenol acetate and caryophyllene.

Accuracy*

Parameter	Measurement Range	% Error of Range
Moisture	0 - 35%	< 5%
Sugars	0 - 35%	< 5%
Nicotine	0 - 8%	< 5%
Eugenol	0 - 16%	< 5%

* Subject to technical alteration

CORONA - Technical Data

Mechanical Specifications

Range of operating temperatures	0°C + 40°C
Storage temperatures	- 10°C+ 65°C
Power consumption	< 30 VA
Power supply	12V,2.2A
Spectrometer-PC communication interface	RS 422, RS 485*, RS 232*, RS 422 - fibre link*
Spectrometer-to-PC distance	< 10 m (RS 422), < 80 m (RS 232 / RS 485) < 2000 m (RS 422 fibre link)
Digital inputs/outputs	4 inputs (0 ... 24 V external voltage) 4 outputs (0 ... 24 V external voltage)
Dimensions (W x H x D) in mm	About 324 x 168 x 246
Weight	About 7 kg
Protection grade	IP 65 (NEMA 4)

Optical Specifications

**** depending on the type of CORONA**

Spectrometer	Photo diode array, single beam
Polychromator	MMS NIR 1.7
Sensor array	InGaAs array, 1-stage peltier cooling
Number of diodes	128 /256**
Wavelength range	950 ... 1700 nm
Spectral resolution	6/ 3** nm/diode (18/ 12**) nm/Rayleigh)
Wavelength accuracy	< 0.6 nm
Amplitude resolution	15 bits
Light source	Halogen lamp 5/10 V, 8/ 18 W, stabilized**
Lifetime of light source	About 3000 h
Measuring geometry	0° / 45° circular-shaped
Working distance (path height)	About 13 mm
Measuring spot	About 15 mm
Max. measuring rate	100 measurements/second (with RS 422 interface) 80 measurements / second (with RS 485 interface) 5 measurements/second (with RS 232 interface)
100% calibration	To external white standard

Sensor Specifications

Reflectance range	0.2% ... 100% R
Reflection accuracy	< 0.2%
Reproducibility	30 measurements at two-second intervals. on white
at 0.1 s. measuring time	< 0.0003 AU ms
at 1 s. measuring time	< 0.0002 AU ms
Inter- instrument agreement	< 10 mAU differential between different sensors
Stray light	< 0.1% R (measurement with H ₂ O on 1.45 µm water band)
Drift	< 0.1 % R/h (after warm-up of > 30 minutes)

In line with our policy of continuous improvement, SCA Pacific Pte Ltd reserves the right to revise published specifications, technical information and details of the products without prior notice.

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