

# Power to the process

Corona process

**Unleash the full potential of your production  
with Corona<sup>®</sup> process from ZEISS**



Seeing beyond

[www.zeiss.com/corona-process](http://www.zeiss.com/corona-process)

# A broad spectrum of quality

## ZEISS – over 140 years of experience in spectroscopy

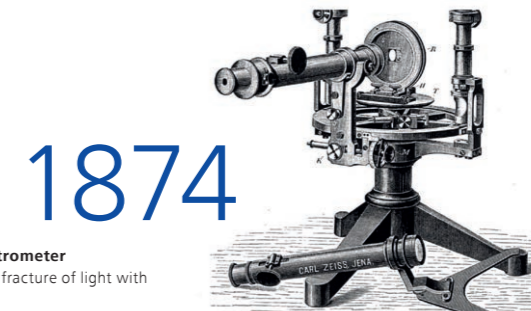
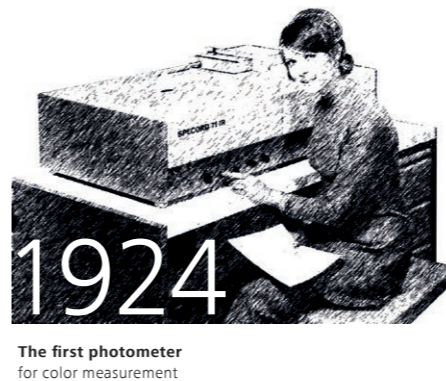
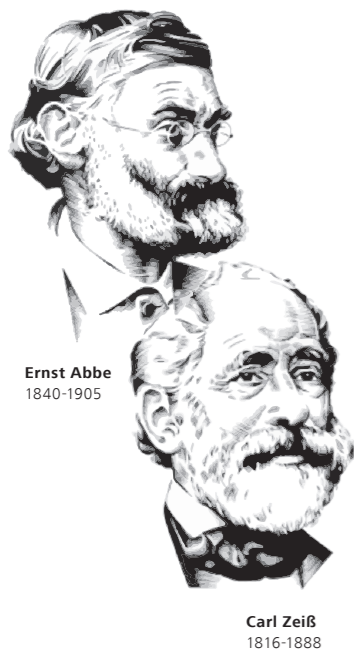
In Jena in 1874, Ernst Abbe developed the world's first spectrometer for a company that Carl Zeiss founded 28 years earlier. Today, over 140 years after Abbe's spectrometer, ZEISS is one of the world's leading technology companies in the optical and optoelectrical industry with over 30,000 employees in nearly 50 countries and around 120 distribution, service, production and development facilities.

From the beginning, the name ZEISS has stood for continuity and foresight as well as for passion and responsibility. Most importantly of all, the name has stood for globally leading optical measurement technology. Our vision is the perfection of spectroscopy solutions for process and quality control. We've always been the first to bring high-quality technology to the marketplace. Like in 1924, when we developed a photometer that allowed us to measure colors. Or in 1968, when we created the SPECORD series of two-beam spectral photometers for laboratory analyses. Or in 1999, when we set new standards for the agricultural industry with an NIR spectrometer mounted onto a harvester.

Throughout our history, we have always developed new technology that has made processes reproducible and minimized production losses. By fulfilling the quality expectations for products "Made in Germany", we've helped our clients to fulfill their promises to their own customers. This has led to the development of a business area specializing in material analysis, spectroscopy and process analytics, which now plays a key role in the company's global success.

As a reliable partner for consistently high-quality food production (such as snacks, for example), we develop powerful and extremely robust solutions for industrial applications, laboratories and agriculture. We are currently the only ones who can measure snacks just seasoned with salt or the color and Agtron value of snacks.

Our solutions are not only sought after in the food industry and agriculture, but also in space: our high-performance gratings are used in satellites that monitor the air quality on earth, for example. Regardless of whether it's food production, harvesting or space travel, the use of ZEISS equipment provides a technological edge. This is also what drives us every day: maximum efficiency and sustainability as well as long-term success and satisfaction for our customers.



# Improving measurement with better control

## Corona® process from ZEISS

### Every process is different.

From the environmental conditions in a production facility to the nature and variability of the raw materials being measured, there are many factors that influence the quality of the final product you produce. That's why you need consistently accurate measurements to control every step. Corona® process is specifically designed to not just measure and control every aspect of your production, but also to help you optimize the process to make it more efficient, consistent and sustainable.

### How does it work?

As a full-scale spectrometer system that can gather information in the 380 to 1,650 nm wavelength range, Corona® process is ideally suited to measure a wide range of parameters in real time. From fat and moisture to dry mass, spices and even color in different color scales, Corona® process gives you accurate measurement data without having to change devices or filters. That means you can adjust production and optimize your process almost instantly and two automatically switchable lamps ensure that the process can continue running. This allows you to profit from lower production costs and greater energy efficiency as well. Even the most effective process can benefit from greater control and higher, more consistent quality. That's exactly what Corona® process gives you.



Corona® process mounted over a conveyor belt using a mounting bracket

# The proof is in the process

Corona® process provides you with a wide range of advantages for the widest variety of different processes and productions.



Measure fat, moisture dry mass, spices, protein, color and more in the 380 to 1,650 nm wavelength range



React quickly to process variations, make adjustments as necessary and optimize product quality constantly by using accurate results in your decision making



Use standardized and calculated instead of predicted color values in different color scales



Reduce operating costs and increase profit margins thanks to greater efficiency



Rely on consistent and repeatable results, regardless of the distance to sample



Integrate Corona® process easily into existing customer networks



Measure different parameters at the same time – in real time



Use Corona® process directly at the process line, thanks to IP protection level 67 and hygienic design

# Keeping results and quality constant

## Hardware you can count on

Corona® process is designed to fit seamlessly within a modern production environment and is ideal for the food industry. As a precision measurement tool that's as robust and reliable as it is accurate. Corona® process gives you the data you need to make the right decisions to optimize quality and consistently deliver the best possible products. Regardless of whether it's mounted at the production line, over a conveyor belt or in a mixer, the results are precise, reproducible and always dependable. That's because we understand your needs and have designed all the elements and hardware of Corona® process to function at its best in the widest variety of production environments.

### Corona® process technical specifications

Usable spectral range	380 – 1,650 nm
Measuring distance	100 – 590 mm
Measuring spot size	> 30 mm
Light source	2 Halogen lamps
Lamp lifetime	> 20,000 h
Protection level	IP67
Housing size (w x h x d)	(360 x 160 x 220) mm <sup>3</sup>
Weight	15 kg
Operating temperature range	-10 °C to 50 °C

## Adaptable, accurate and dependable

### Specially designed lamps

specifically for use in spectrometers and in the food production industry; a 20,000-hour lifespan and automatic fail-safe function ensure high levels of process stability

### Full-scale spectrometer system made by ZEISS

to cover a wide wavelength range between 380 and 1,650 nm to accurately measure quality parameters such as fat, moisture, sugar, spices and colors in various standardized color scales

### Internal reference

for constantly precise measurement results, irrespective of external factors such as temperature variations

### Measuring window

to keep it clear, an optional air purge ring can be mounted



### Mechanical interface

for easy and convenient mounting above the samples

### Robust Lemo contacts with IP67 protection

Perfectly protected for demanding applications in the food industry

### LED status display

for constant operational readiness and convenient monitoring of functional activity

### Hygienic design

with a food grade, stainless steel housing

### Distance Sensor

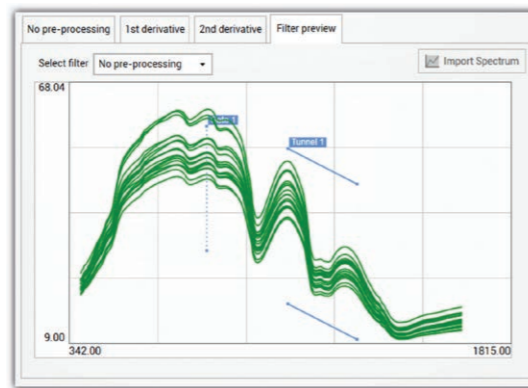
ensures consistently accurate and reproducible measurement results regardless of the distance of the measuring window to the sample

# Software to make sense of hard data

Good software should be as powerful and versatile as it is intuitive and easy to use. Our InProcess software is designed not just to provide you with all the information you need quickly and easily, but also to fit around your specific needs, thanks to a range of customization options. InProcess is also ready for Industry 4.0 and provides the ideal platform to profit from connected spectroscopy and access your measurements from anywhere, at any time, thanks to easy cloud integration.

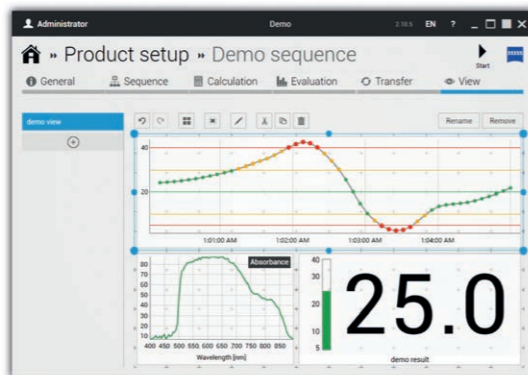
## Measurement

Results can be displayed as a spectrum, value, or trend. For more automation, you can set up automatic measurement starts, alerts for when limit values are exceeded and the elimination of implausible spectra.



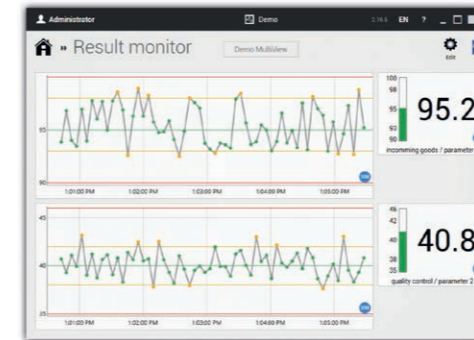
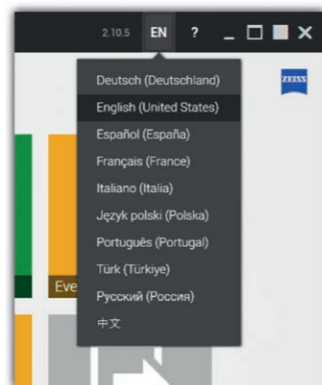
## Product Setup

InProcess allows you to individually configure measurement behavior, calculation results and representation graphs and tailor these to your specific needs. Calibration can be performed with the support of common chemometrics software, such as GRAMS IQ™, Aspen Unscrambler™, SL Calibration Wizard or UCal™.



## System Settings

Create and manage groups of users with various levels of access and use InProcess in many different languages. The software also communicates with common fieldbus systems and industry standards, such as OPC UA, DA, Modbus, Profinet, Profibus, Ethernet/ IP and more.



## Result Monitor

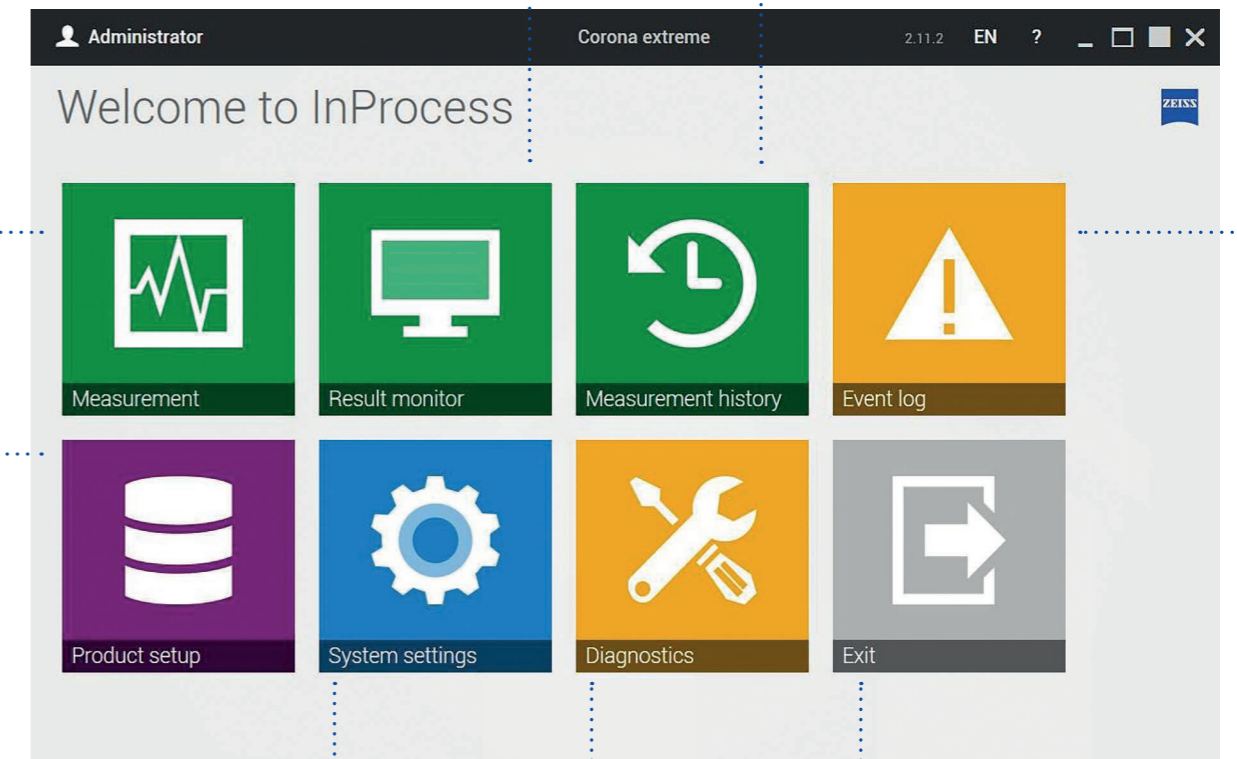
Control more than one spectrometer with just one piece of software. See measurement results from several device groups or various products in real time in one view.

## Measurement History

Access all previous measurements and results as well as spectrum data exports, measurement values and sample information.

## Event log

See all the events that have occurred while InProcess has been in use and access all the relevant information, filtered by text search, levels and the state of the device.



## Diagnostics

Spectrometer functionality can be verified with a self-test and important service information is available at the touch of a button and can instantly be sent to ZEISS Service for evaluation.

## Exit

Software can be shut down when performing revision or maintenance work as well as during planned downtimes to conserve energy and resources.

# Augmenting ability

## Accessories for Corona<sup>®</sup> process

Corona<sup>®</sup> process is designed to provide high levels of measurement performance and robust reliability in the widest variety of applications. We have all the accessories and upgrades you need to maintain that performance and give you more application options.



### Mounting bracket

For optimal and easy mounting above a conveyor belt or mixer.

### Sample Button

With our sampling probe, samples can be marked during measurement, allowing for filtering at a later stage. This is ideal for checking calibrations or creating new ones.

### Air purge ring

A clean measurement window is very important when it comes to precise results. The Air purge ring keeps the measuring window free of product debris, steam and grease, providing even better performance.

### Industrial Power Supply Unit

To ensure that Corona<sup>®</sup> process is even safer in demanding environments, we offer an industrial power supply unit. With IP67 levels of protection, it can be mounted close to the system, like on a wall, for example, meaning that cables don't get in the way.

### Corona<sup>®</sup> process + TURNSTEP ST + Sample Bowls

Corona<sup>®</sup> process is ideal for use in-line, next to the production line or in the lab, especially when combined with TURNSTEP ST. Tailor made to fit snugly onto Corona<sup>®</sup> process, TURNSTEP ST rotates samples during measurement to allow for greater quantities to be analyzed and more representative results. On top of that, movement can be simulated, allowing for calibration development in the laboratory or next to the production line without prior installation of Corona<sup>®</sup> process. A lab stand completes the package, making it even easier to measure at line.



### HMI

Integration into existing customer networks and process control software is one of the keys to unlocking Corona<sup>®</sup> process' full potential. That's why we have custom HMI systems for various communication interfaces and protocols. In addition to connection via Profibus or EtherNet/IP, measurement values and trends can be displayed directly on site as well. This allows you to monitor, control and optimize your production efficiently and effectively, with seamless integration into your infrastructure.

# Quality is measured by service. And vice versa.

We're there for you – for the lifetime of a device

Good quality goes beyond product performance – it's about the level of service you receive as well. We're more than just a provider to our clients, we're partners, which is why the service we offer is as important to us as the product we manufacture. We're with you every step of the way, from first consultation to final purchase and then for the entire life cycle of the product.

We also understand that every client is different, which is why we can develop individual service packages that are tailored to your company, facility, process, or specific project. That's what we mean by partnership and service quality: a relationship based on trust and a detailed understanding of individual needs and circumstances.

Furthermore, you can rely on our global distribution and service network. Regardless of whether it's gratings, modules, spectrometers or solutions, hardware, software, or calibration, we're the only ones who develop and offer all spectrometer components from a single source. Exclusive service pack-



ages guarantee optimal performance, increase service life and provide many years of reliable and precise results. You can also profit from our digital maintenance services, which provide you with user-friendly, location-independent solutions with no waiting times. And if something does need to be repaired on site, then our service technicians can be with you in next to no time.

## Our expert service at a glance:

- Installation of equipment and software
- Application support for the whole product lifetime
- Preventive maintenance
- Customer-specific maintenance contracts
- On-site and in-house repairs
- Remote diagnostics, maintenance and repair



## The measure of your success

Multinational food company is renowned for consistently providing the highest quality for their customers day in, day out. But to satisfy the highest requirements on a regular basis, they need a reliable, accurate and consistent measurement solution. Corona® process is the ideal solution to measure several quality parameters such as fat, moisture and color simultaneously during production.



Scan now to find out more about Corona® process from ZEISS

»Constant ZEISS innovation has enabled us to pursue information at a greater accuracy, reliability, and with consistent support. Since our lines run continuously, reliability and robustness of equipment is critical. ZEISS has always provided top notch service for both our research and manufacturing teams. This support has ensured we meet our technology goals to advance our business strategy, and achieve higher overall consistent quality.«

Major Food Manufacturer

# When the going gets tough, Corona<sup>®</sup> extreme gets going

From operating temperatures of -15 °C to 50 °C and shocks of up to 50 times the force of gravity, Corona<sup>®</sup> extreme from ZEISS is at home in difficult conditions. All the while providing accurate, repeatable and dependable real-time measurements results. From applications where the device needs to be in direct contact with samples, such as in closed transport systems for agricultural produce or food production lines and laboratories, Corona<sup>®</sup> extreme is designed for full flexibility and durability. Regardless of whether you need measurements in the lab or in-line and under constantly variable conditions, Corona<sup>®</sup> extreme allows you to optimize your processes and maximize efficiency, no matter how tough the going gets.

## Your benefits:

- **Full-scale spectrometer** for the measurement of fat, dry mass, protein and more in the **950 to 1,650 nm wavelength range**.
- Measures in **direct contact** with the sample **without damaging it**
- Measures **various parameters** at the same time – **in real time**
- **Easily integrated** into the widest variety of spaces, from pipelines to trough chain conveyors
- Ideal for use **directly at the process line**, thanks to **IP protection level 66**



Scan now to find out more  
about Corona<sup>®</sup> extreme  
from ZEISS

# Performance in the palm of your hand AURA<sup>®</sup> handheld NIR spectrometer

As a portable, agile and convenient spectroscopy solution, AURA<sup>®</sup> handheld NIR from ZEISS allows you to get up close to samples in just about any weather conditions. And its long-lasting battery, integrated computer, intuitive software and large touch-screen display means it's easy to use and completely portable, regardless of whether you need to measure out in the field, in stables or just about anywhere else you'd need a spectrometer. When it comes to ultimate flexibility in getting accurate measurements, the power is in your hands.

## Product highlights

- **Completely portable** and easy to use
- **Take measurements up close** and in direct contact with samples
- **Includes complete software** for comprehensive measurement results on **the move**
- **Rugged and reliable** in almost all conditions
- **Available with a range** of convenient accessories
- **Practical carrying case** included for ideal portability



Scan now to find out more  
about AURA<sup>®</sup> handheld NIR  
from ZEISS





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