Спектрометрические системы Corona, Corona extreme, AURA, ThinProcess, MCS 700, лампы с волоконным кабелем

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Power
to the process

Unleash the full potential of your production with Corona® process from ZEISS

ZEISS

Seeing beyond

A broad spectrum of quality

ZEISS – over 140 years of experience in spectroscopy

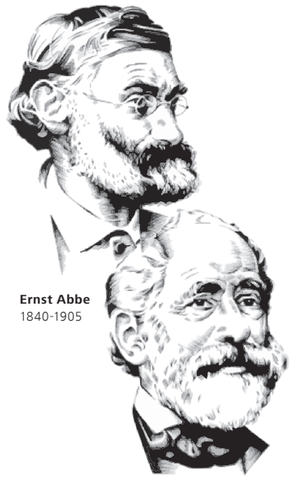
In Jena in 1874, Ernst Abbe developed the world's first spectrometer for a company that Carl Zeiss founded 28 years earlier. Today, over 140 years after Abbe's spectrometer, ZEISS is one of the world's leading technology companies in the optical and optoelectrical industry with over 30,000 employees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

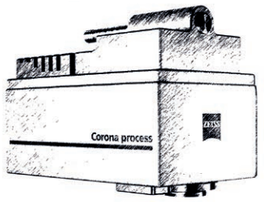
As a reliable partner for consistently high-quality food production (such as snacks, for example), we develop powerful and extremely robust solutions for industrial applications, laboratories and agriculture. We are currently the only ones who can measure snacks just seasoned with salt or the color and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



Ernst Abbe
1840-1905

Carl Zeiß
1816-1888



2019

The first connected spectrometer
with real time access to data for defined product quality

2013

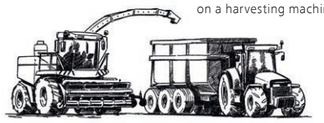
The first process spectrometer
with the highest level of robustness and long-term stability

1997

The first NIR spectrometer
for the near infrared wavelength

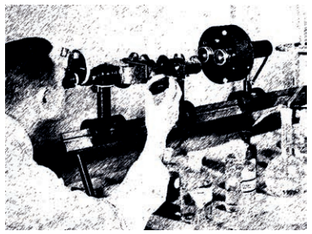
1999

The first process spectrometer
on a harvesting machine



1968

The first SPECORD series two-beam spectral photometer
for analyses in the laboratory



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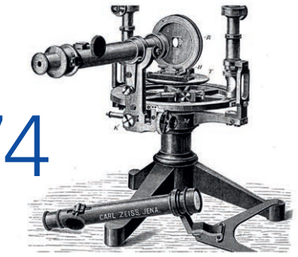
The first quartz spectrograph
for spectral analyses in the ultraviolet wavelength

The first photometer
for color measurement

1874

The first spectrometer
for the spectral fracture of light with a prism system

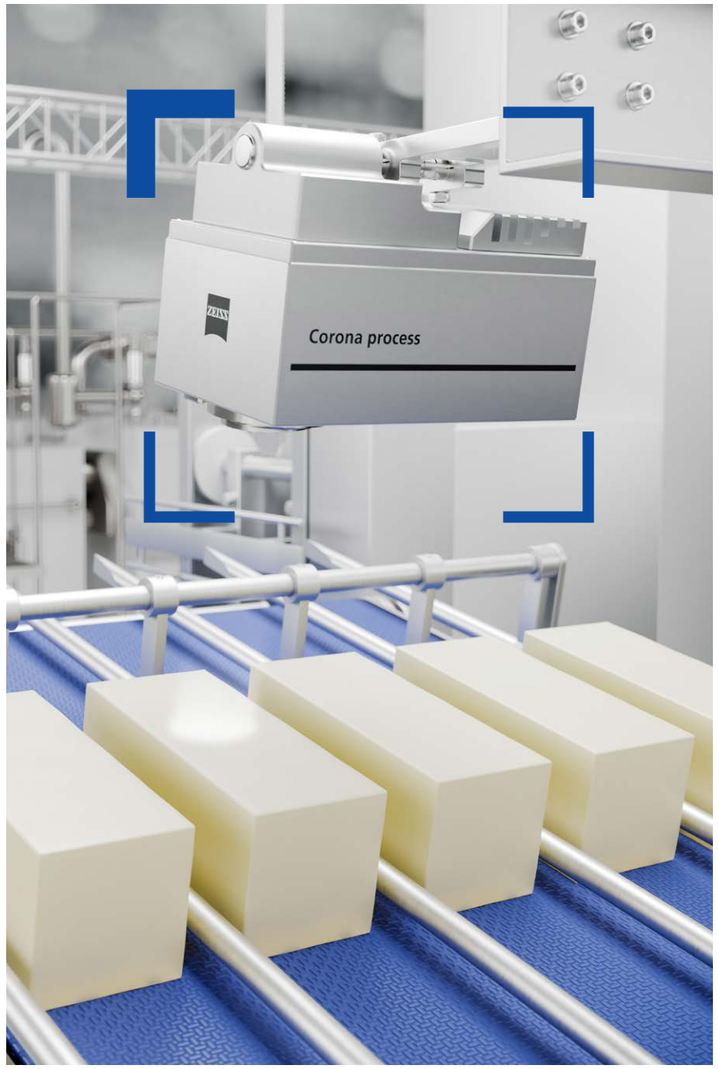


Improving measurement with better control

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) mm³
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

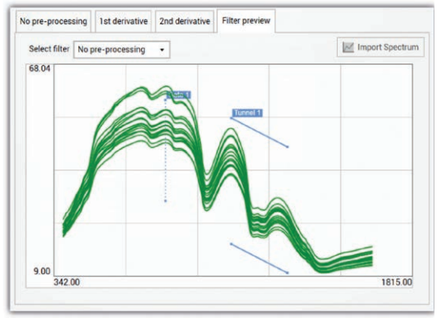
Hygienic design
with a food grade, stainless steel housing

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

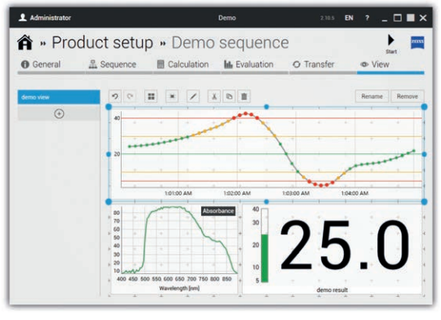
Software to make sense
of hard data

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.

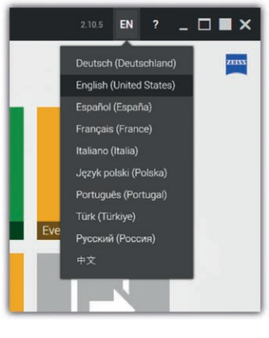
Measurement
Results can be displayed as a spectrum, value, or trend. For more automation, you can set up automatic measurement starts, alerts for when limit values are exceeded and the elimination of implausible spectra.

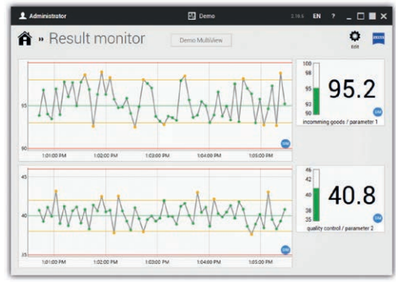


Product Setup
InProcess allows you to individually configure measurement behavior, calculation results and representation graphs and tailor these to your specific needs. Calibration can be performed with the support of common chemometrics software, such as GRAMS IQ™, Aspen Unscrambler™, SL Calibration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

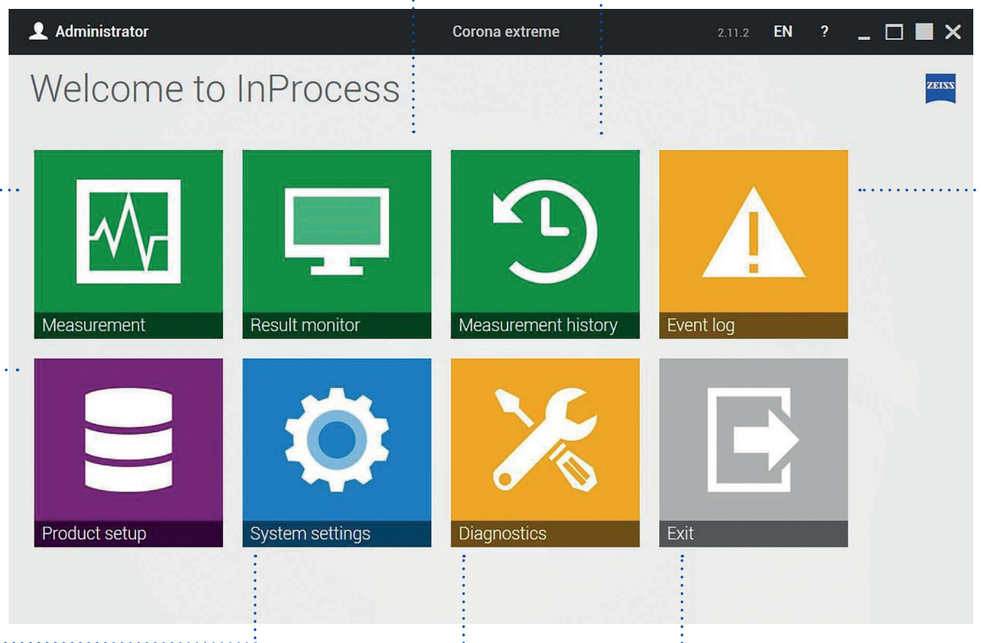




Measurement History
Access all previous measurements and results as well as spectrum data exports, measurement values and sample information.

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.

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® process

Corona® 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.

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.

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.

Industrial Power Supply Unit
To ensure that Corona® 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® process + TURNSTEP ST + Sample Bowls
Corona® 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® 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® 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® 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 packages 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.

»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® extreme gets going

From operating temperatures of -15 °C to 50 °C and shocks of up to 50 times the force of gravity, Corona® 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® 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® extreme allows you to optimize your processes and maximize efficiency, no matter how tough the going gets.

Your benefits:

- **Full-scale spectrometer** for the measure-ment 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**

Performance in the palm of your hand AURA® handheld NIR spectrometer

As a portable, agile and convenient spectroscopy solution, AURA® 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

Performance
in every extreme

The most dependable results in the most demanding conditions: Corona® extreme from ZEISS

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ZEISS – over 140 years of experience in spectroscopy

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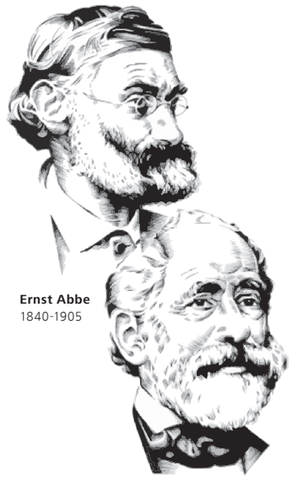

Ernst Abbe
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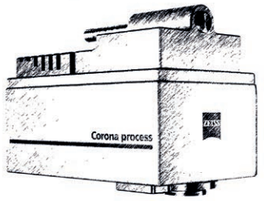

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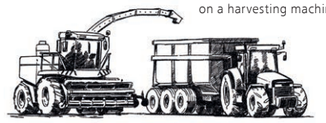
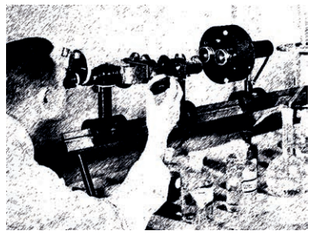


1968

The first SPECORD series two-beam spectral photometer
for analyses in the laboratory

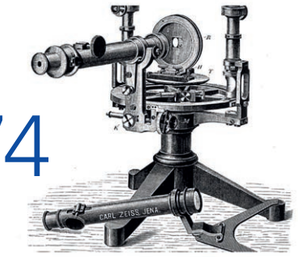


1933

The first quartz spectrograph
for spectral analyses in the ultraviolet wavelength

1924

The first photometer
for color measurement



1874

The first spectrometer
for the spectral fracture of light with a prism system

When the going gets tough, Corona® extreme from ZEISS

Even though our spectrometers are highly sensitive precision instruments, they must be able to function perfectly in extremely tough environments.
That's exactly what makes Corona® extreme so special: exceedingly accurate measurements results are achieved under the most challenging conditions. From operating temperatures of -15 °C to 50 °C and shocks of up to 50 times the force of gravity, Corona® extreme is at home in the hardest environments. On top of that, the results provided can be reproduced over and over again. This means that you benefit not just from industry-leading performance and measurement, but also from a robust, high-quality instrument that just gets on with it, no matter how tough the going gets.

Corona® extreme can be used just about anywhere.
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® extreme is designed for full flexibility. It can also be easily integrated into the widest variety of spaces, from pipelines to trough chain conveyors. Regardless of whether you need measurements in the lab or in-line and under constantly variable conditions, Corona® extreme allows you to optimize your processes and maximize efficiency thanks to consistent and accurate, real-time results.

Corona® extreme mounted to a downpipe using a power flange at a feed mill

A few extremely good arguments

Integrating Corona® extreme into your process provides you with a wide range of benefits and flexible options. For example, you can:

- Measure fat, dry mass, protein and more in the 950 to 1,650 nm wavelength range
- Measure in direct contact with the sample without damaging it
- Use Corona® extreme in the most challenging conditions, from -15 °C to 50 °C and 50 G
- React quickly to process variations and make adjustments in real time
- Optimize product quality constantly by using accurate results in your decision making
- Reduce operating costs and increase profit margins thanks to greater efficiency
- Install Corona® extreme in the widest variety of spaces and processes
- Get exact, reliable and consistent results, time and time again
- Easily integrate Corona® extreme into your existing networks
- Use Corona® extreme directly at the process line, thanks to IP protection level 66

Count on Corona® extreme

Peak performance in all measurement environments

It doesn't matter if your application environment is extremely hot, cold, or subject to high levels of shock, vibration, dust or debris, Corona® extreme provides full-scale spectrometer measurement in a wide range of wavelengths. The robust, rugged and intelligently conceptualized design is intended to work around you and can be tailored to your exact process and production. Every aspect of Corona® extreme's hardware has been conceived to provide the robustness you need with the quality of measurement you expect from ZEISS.

Corona® extreme technical specifications

Spectrometer	Diode array spectrometer
Usable spectral range	950 – 1.650 nm
Light source	Halogen
Lamp lifetime	> 20,000 h
Protection level	IP66
Housing size (w x h x d)	(256 x 190,5 x 253) mm³
Weight	10 kg
Operating temperature range	– 15 °C to 50 °C
Power supply voltage	9 – 36 V SELV

Hardware that's seriously hard wearing

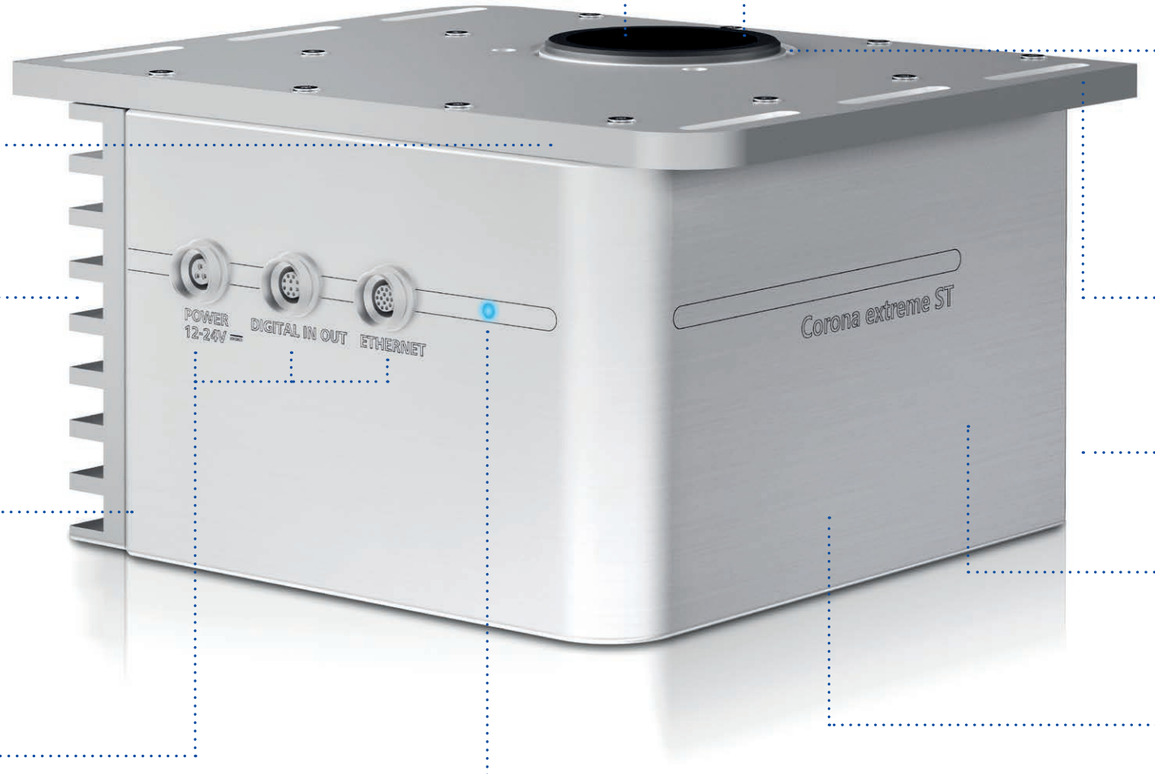
Specially developed halogen lamp
for long-term use in the spectrometer (20,000 h)

Solid, stable base plate
for the housing and protection of optical components

Cooling fins providing permanent passive cooling
for consistently precise measurement results even at high temperatures

Robust quality for extreme environments
Degree of protection: IP66 Operating temperature: -15 °C to 50 °C Storage temperature: -40 °C to 70 °C Shock resistance up to 50 G

Robust Lemo contacts with IP66 protection
Perfectly protected for demanding applications in the food industry



LED status display
for constant operational readiness and convenient monitoring of functional activity

Optical interface to the sample
Many flange variants are available for quick and easy installation at different measuring locations

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

Simple and quick installation
Various flanges for mounting on to pipelines, trough chain conveyors, mixers and other transport systems

Robust, food grade housing
made from stainless steel

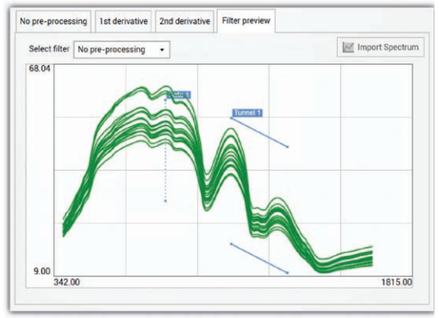
Full-scale spectrometer made by ZEISS
to cover a wide wavelength range between 950 nm and 1,650 nm with quick and accurate measurement in-line

Proven ZEISS free beam optics
for very fast and precise measurement results that can be achieved over and over, regardless of external influences, such as shock and vibration

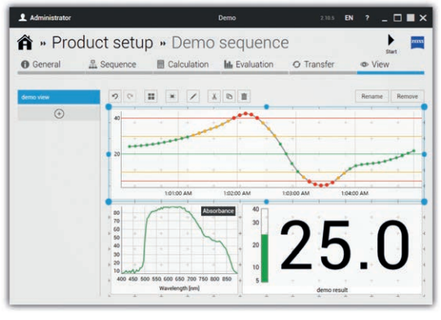
Software to make sense
of hard data

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.

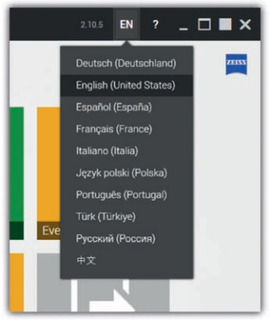
Measurement
Results can be displayed as a spectrum, value, or trend. For more automation, you can set up automatic measurement starts, alerts for when limit values are exceeded and the elimination of implausible spectra.

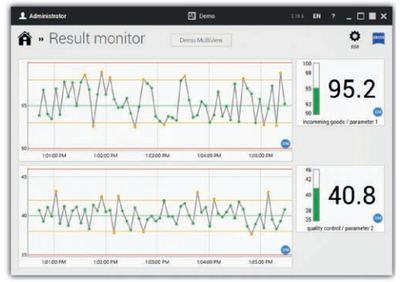


Product Setup
InProcess allows you to individually configure measurement behavior, calculation results and representation graphs and tailor these to your specific needs. Calibration can be performed with the support of common chemometrics software, such as GRAMS IQ™, Aspen Unscrambler™, SL Calibration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

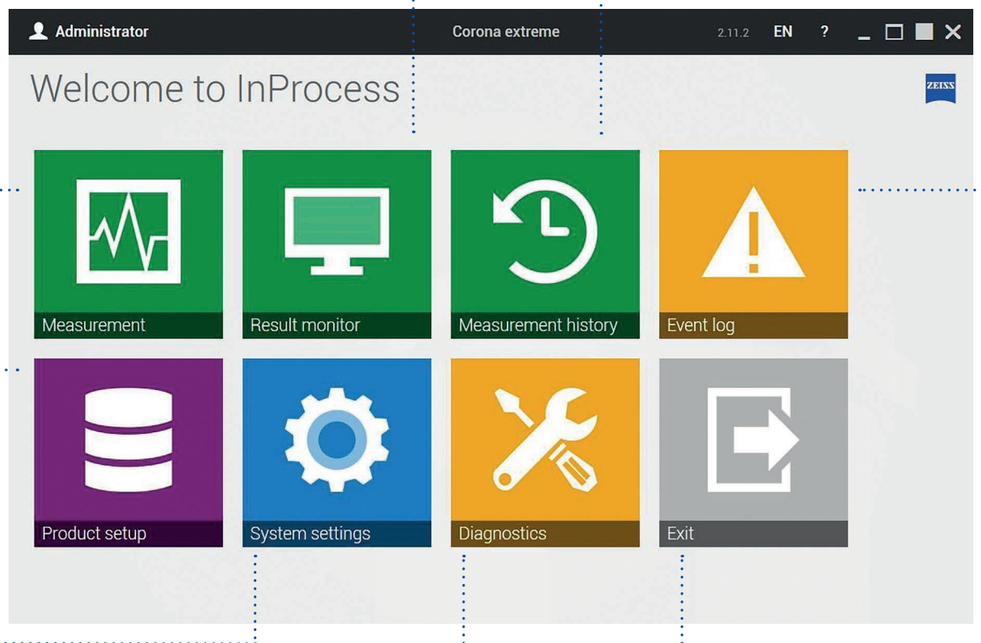




Measurement History
Access all previous measurements and results as well as spectrum data exports, measurement values and sample information.

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.

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.

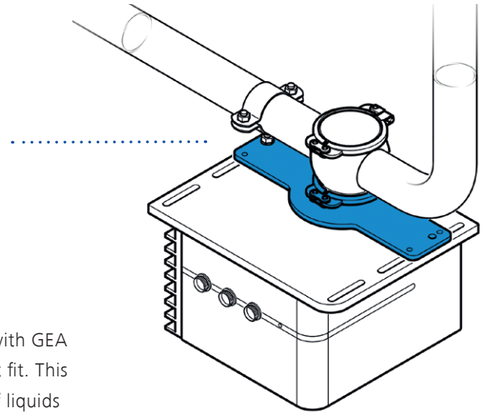
Exit
Software can be shut down when performing revision or maintenance work as well as during planned downtimes to conserve energy and resources.

Augmenting ability
Accessories for Corona® extreme

Corona® extreme 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.

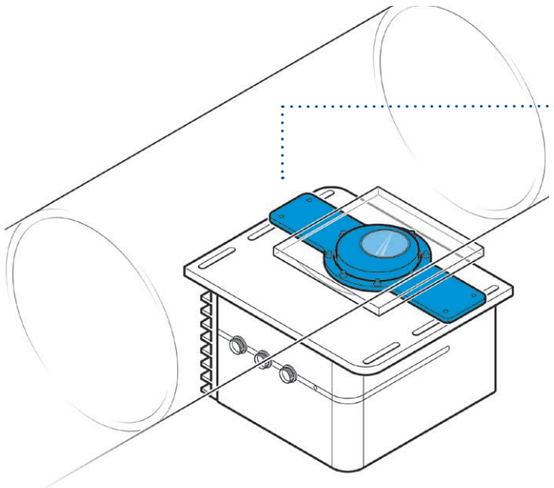
Flanges

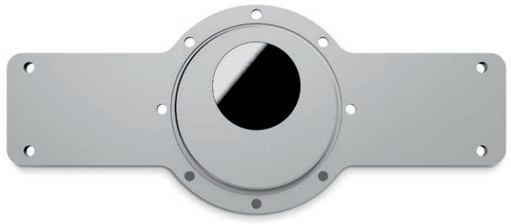
We have a wide range of different flanges, adapted to various application areas and installation situations. From trough chain conveyors to closed transport systems and pipelines, our custom flanges are ideal for in-process applications.



Flange for GEA VARINLINE housings

These are ideal for easy installation on pipelines with GEA VARINLINE Type N housings and provide a perfect fit. This accessory allows for the accurate measurement of liquids as well as pulpy samples during production.





Power flanges

Power flanges enable the simple and safe installation of Corona® extreme on closed transport systems, such as downpipes or trough chain conveyors. This makes it easy to measure bulk materials and solids reliably and accurately during production.

Corona® extreme + TURNSTEP ST + Sample Bowls

Corona® extreme 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® extreme, 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 the calibration development in the laboratory or next to the production line without prior installation of Corona® extreme in the process.

Industrial Power Supply Unit

To ensure that Corona® extreme 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.

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.

HMI

Integration into existing customer networks and process control software is one of the keys to unlocking Corona® extreme's 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 packages 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

Corona® extreme is the ideal solution to consistently control your production in even the most challenging environments. Accurate measurement results are imperative when it comes to optimizing costs and streamlining processes.

That's why American animal rendering specialist The Dupps Company relies on Corona® extreme to achieve its mission in providing superior quality products, solutions and services to the rendering industry.

»We design, manufacture and service process systems and equipment for many of today's vital protein recycling and renewables industries. That's why we need to rely on accurate, consistent results and equipment that works as hard as we do.

Corona® extreme from ZEISS plays a key role in our complete, high-performance systems and ensures that our solutions never let our clients down, no matter how hard the challenge.«

Richard Weeks, Director of Sales
The Dupps Company

One measurement device, almost immeasurable opportunities

Corona® process full-scale spectrometer

Corona® process from ZEISS gives you an almost unlimited number of measurement possibilities and can simultaneously evaluate the vast quantity of information that exists in the 380 to 1,650 nm wavelength range. With other forms of measurement, the filter or even the device itself needs to be changed, whereas our spectrometer can measure fat, color, salt, dry mass and spices precisely, consistently and irrespective of measurement distance. Ideal for use in the food industry, Corona® process allows you to monitor important quality parameters in real time, so that you can optimize production quality, while saving costs and energy.

Product highlights

- **Full-scale in-line** spectrometer that covers both **visible and NIR wavelength ranges**
- Measure several **important quality parameters** at the same time, in real time, such as **fat, moisture, protein, sugar and color**
- **Two lamps** with automatic switching provides for **high levels of process security** and **no unplanned downtime**
- **Real time results** thanks to high measurement frequency
- Ideal for the measurement of **food products** on open transport systems, such as **conveyor belts** thanks to **hygienic design**

Performance in the palm of your hand

AURA® handheld NIR spectrometer

As a portable, agile and convenient spectroscopy solution, AURA® 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

Take measures
into your own hands

AURA® handheld NIR from ZEISS –
the portable spectrometer solution

ZEISS

Seeing beyond

A broad spectrum of quality

ZEISS – over 140 years of experience in spectroscopy

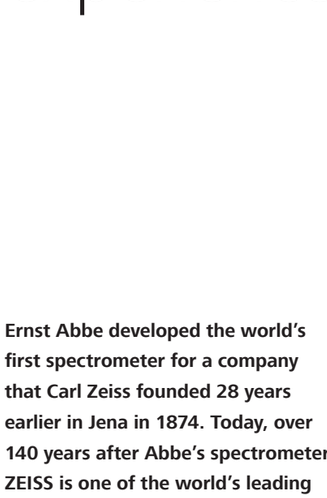
Ernst Abbe developed the world's first spectrometer for a company that Carl Zeiss founded 28 years earlier in Jena in 1874. Today, over 140 years after Abbe's spectrometer, ZEISS is one of the world's leading technology companies in the optical and optoelectrical industry with over 30,000 employees in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

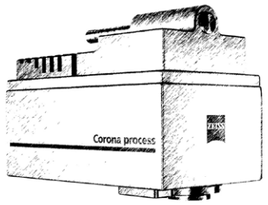
ZEISS spectrometers are as versatile as they are accurate, providing unparalleled performance. Regardless of whether they are a permanent fixture in your production, such as Corona® extreme and Corona® process from ZEISS or whether they are mobile and used in the field, such as AURA® handheld NIR from ZEISS, you can obtain the best results in almost any environment and our spectrometers are tailored to your process. This means that our solutions are not only sought after in areas such as food production and agriculture, but also beyond our own atmosphere: ZEISS high-performance gratings are used in satellites that monitor the air quality on earth, for example.

From food production to harvesting and space, 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.



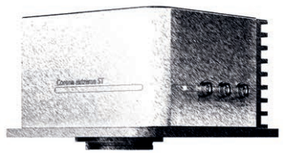
Ernst Abbe
1840-1905

Carl Zeiß
1816-1888



2019

The first connected spectrometer
with real time access to data for defined product quality

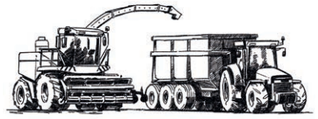


2013

The first process spectrometer
with the highest level of robustness and long-term stability

1999

The first process spectrometer
on a harvesting machine



2015

The first portable spectrometer
for convenient quality control and measurement out in the field or on the move

1997

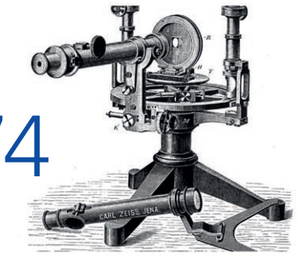
The first NIR spectrometer
for the near infrared wavelength

1968

The first SPECORD series two-beam spectral photometer
for analyses in the laboratory

1933

The first quartz spectrograph
for spectral analyses in the ultraviolet wavelength



1874

The first spectrometer
for the spectral fracture of light with a prism system

Laboratory spectrometer quality on the move and in the field

Portable ZEISS performance
There are no limits to what AURA® handheld NIR can do. It provides the same performance as a full-size ZEISS spectrometer. This biggest difference is how small and portable it is. Get reliable, lab-quality results on the move and bring your spectrometer to the sample. AURA® handheld NIR is easy to use and can even be operated by novices, offering you high levels of performance and connectivity at low cost.

For maximum accuracy and convenience
Built around you and your spectroscopy needs, AURA® handheld NIR provides a wide variety of application possibilities and several different measurement parameters. Regardless of the environment, AURA® handheld NIR gives you the results you need to optimize your process and monitor quality in a more flexible way.

AURA Handheld NIR in the hand of a nutritionist or farmer to measure the quality of the feed for an optimal feed mixture.

Bring the benefits with you everywhere you go

AURA® handheld NIR offers you a multitude of advantages for the widest variety of environments.

- Bring the spectrometer to the sample and measure where you want, when you want
- Upload and store results from anywhere, thanks to WiFi connectivity
- Get accurate, lab-quality results in the field and on site in just about any weather conditions
- Take advantage of performance that is on par with larger, stationary spectrometers
- Maximize measuring time, thanks to long battery life and quick changes
- React to quality variations immediately and get the results you need to optimize your process and monitor raw materials
- Give anyone in your team the power of spectroscopy, with simple operation, even for non-experts
- Rely on unshakeable quality with a sapphire window and rugged housing

Measure beyond boundaries

Get lab-quality results anywhere but the lab

Sometimes you simply can not wait to take a sample to the lab – when it comes to measuring quality and making decisions on the spot, portable spectroscopy is the way to go. AURA® handheld NIR is the ideal solution for precise, lab-like results in just about any conditions. Robust, ergonomic and easy to use even for non-experts, take advantage of the power of mobile spectroscopy from ZEISS.

Adaptable, accurate and dependable

Touchscreen
user-friendly, easy to operate, clear software interface with a large result display

Full-scale spectrometer
to cover a wavelength range from 950 to 1650 nm

Sapphire window
virtually unbreakable and scratch proof – as hard as a diamond

Start measurement button
in an ergonomically sensible position, can be operated intuitively

Robust housing
degree of protection: IP54
operating temperature: 5 to 40 °C
storage temperature: -20 to 60 °C

Two status LEDs
show the current operational status of the system and battery

Interfaces
data exchange between AURA® handheld NIR and storage media or PCs is possible via Ethernet or USB 2.0 when WiFi is unavailable

Power ON button
performance at your fingertips, instantly ready to go

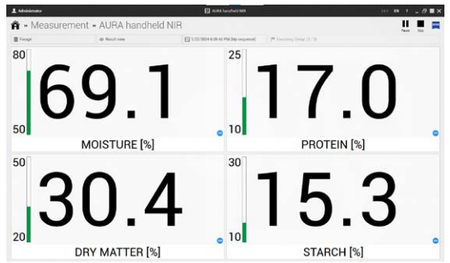
Battery pack
durable (2 hours of measurement possible), replaceable

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 provides the ideal platform to profit from connected spectroscopy and access your measurements from anywhere, at any time, thanks to easy cloud integration.

Sample measurement

Single or multiple measurements are very easy to carry out. The results of the ingredients are automatically determined according to the application from the measured NIR spectra. The results are arrangable on the display and can be quickly captured and pre-assessed.



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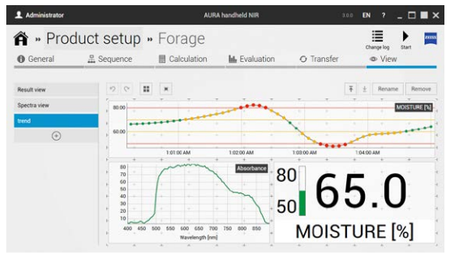

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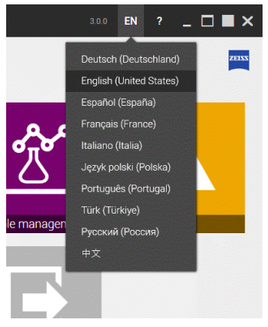

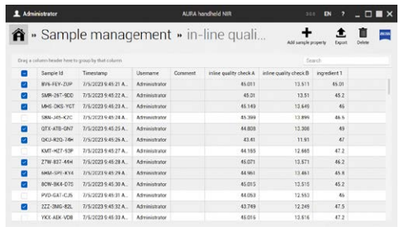

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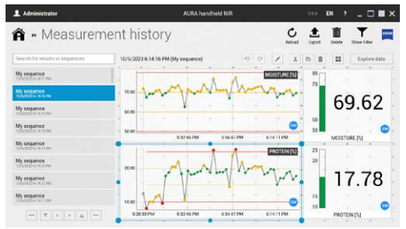

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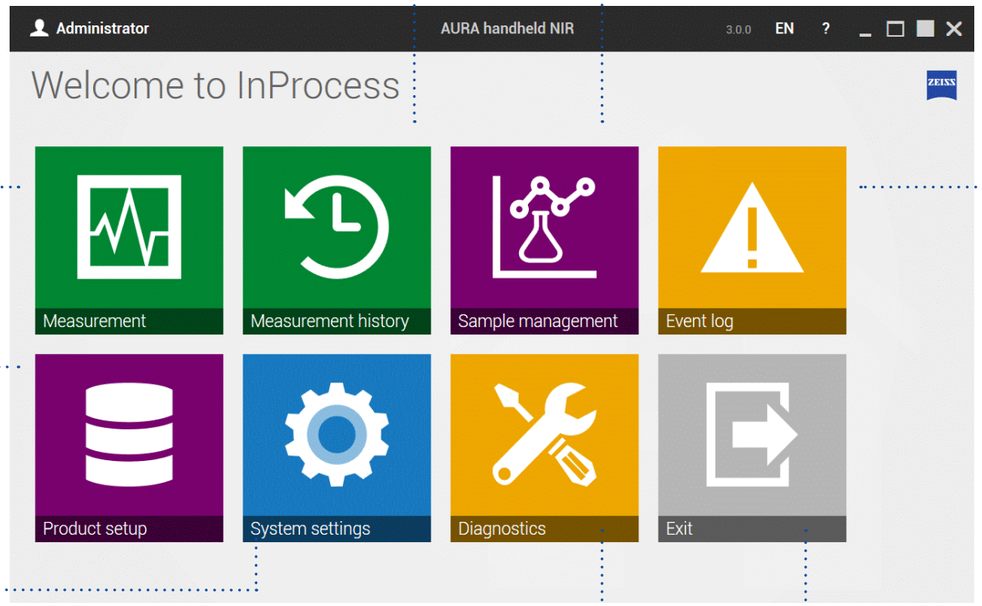

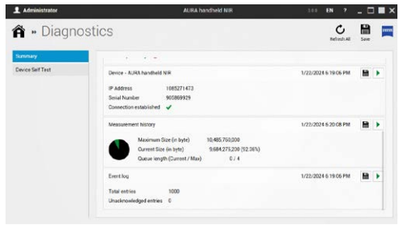

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Exit

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Get a grip on your measurements in the field

AURA® handheld NIR technical specifications

Everything a large spectrometer can do, the AURA® handheld NIR can do too, but all in the palm of your hand and so easily that anyone can operate it. To fit all uses and preferences, we offer two different handles: the standard handle and the slanted handle. Discover the differences here at a glance and choose the version that suits you best.

	Standard handle	Slanted handle
Mechanical Parameters		
Dimensions (W × H × D)	234 × 298 × 100 mm	234 × 350 × 74 mm
Weight	2.58 kg (incl. battery)	2.58 kg (incl. battery)
Environmental Parameters		
Operating temperature	+ 5 °C to + 40 °C	+ 5 °C to + 40 °C
Storage and transport temperature	– 20 °C to + 60 °C	– 20 °C to + 60 °C
Proection class (IP)	IP54	IP54
Electrical Parameters		
Power supply (internal battery)	14.4 V DC, 3450 mAh, 49.7 Wh (Battery RRC2054)	10.8 V DC, 6900 mAh, 74.52 Wh (Battery RRC2040-02)
Power supply (external)	19.0 V DC	19.0 V DC
Maximum power	24 W	24 W
Interfaces		
Communication	Ethernet 1.000 MBit/s, 2x USB, Wifi	Ethernet 1.000 MBit/s, 2x USB, Wifi
Optical Specifications		
Usable spectral range	950 – 1,650 nm	950 – 1,650 nm
Wavelength accuracy	≤ 1.0 nm	≤ 1.0 nm
Light source	Halogen lamp 20,000 h (Replaceable only by authorized ZEISS partners)	Halogen lamp 20,000 h (Replaceable only by authorized ZEISS partners)
Measuring spot diameter	13.5 mm	13.5 mm

Standard handle

Slanted handle

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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 partner that will accompany you anywhere

AURA® handheld NIR puts ZEISS performance in the palm of your hand. Regardless of whether you need to measure the quality of raw materials before processing or need to inspect parameters out in the field – in wind, rain and any weather, AURA® handheld NIR is the ideal, portable solution you can take anywhere. That’s why Ag Optix swears by AURA® handheld NIR.

»With AURA® handheld NIR from ZEISS, food producers can get accurate lab-quality results – anywhere and anytime they need them. From raw bulk goods to finished products, AURA® provides instant quality assurance and validation to food processes around the globe. This handheld device offers intelligent flexibility, accuracy and reliability that you can depend on.«

Jeff Lorton
Ag Optix (USA)

When the going gets tough, Corona® extreme gets going

From operating temperatures of –15 °C to 50 °C and shocks of up to 50 times the force of gravity, Corona® 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® 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® extreme allows you to optimize your processes and maximize efficiency, no matter how tough the going gets.

Your benefits:

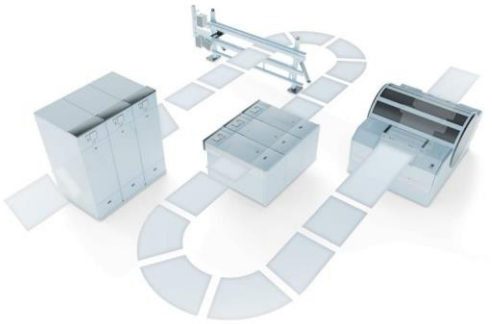
- **Full-scale spectrometer** for the measurement of fat, dry mass, protein and more in the **950 to 1,650 nm wavelength range.**
- Measures in **direct contact** with the sample **without damaging it**
- Measures **various parameters** at the same time – **in real time**
- **Easily integrated** into 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**

Almost immeasurable opportunities with Corona® process

Corona® process from ZEISS gives you an almost unlimited number of measurement possibilities and can simultaneously evaluate the vast quantity of information that exists in the 380 to 1,650 nm wavelength range. With other forms of measurement, the filter or even the device itself needs to be changed, whereas our spectrometer can measure fat, color, salt, dry mass and spices precisely, consistently and irrespective of measurement distance. Ideal for use in the food industry, Corona® process allows you to monitor important quality parameters in real time, so that you can optimize production quality, while saving costs and energy.

Product highlights:

- **Full-scale in-line** spectrometer that covers both **visible and NIR wavelength ranges**
- Measure several **important quality parameters** at the **same time**, in real time, such as **fat, moisture, protein, sugar and color**
- **Two lamps** with automatic switching provides for **high levels of process security** and **no unplanned downtime**
- **Real time results** thanks to high measurement frequency
- Ideal for the measurement of **food products** on open transport systems, such as **conveyor belts** thanks to **hygienic design**



SPECTROMETER SYSTEMS

ThinProcess® Family In-line monitoring spectrometer system

ThinProcess® from ZEISS is an end-to-end solution to control and monitor the quality of large-area coating processes with lab accuracy. ThinProcess® is ideal for horizontal/vertical glass coating, roll-to-roll film, in vacuum or under atmosphere.

- **Lab-like certainty**
- **High measurement frequency**

BenefitsCompatibilityRelated products

At the top of the line ThinProcess® solutions for in-line process monitoring

ThinProcess® gives you everything you need to monitor the quality of your large surface area coating production – with lab-like certainty. Our state-of-the-art software uses the latest ZEISS measuring hardware solutions which can be integrated into a large number of production lines due to their configurable hardware and the use of different fieldbuses. ThinProcess® provides the highest levels of accuracy under process conditions calculating key figures, such as color values, coating thicknesses and other characteristics in the spectra.

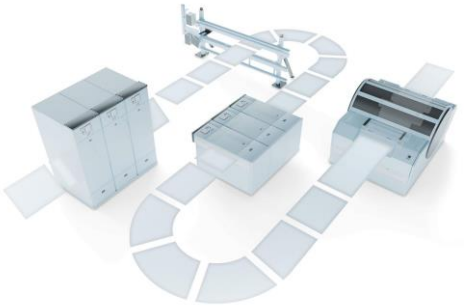
ThinProcess® offers solutions for in-line process monitoring of all large surface coating processes:

✓ Horizontal or vertical glass coating

✓ Roll-to-roll film coating

✓ In vacuum or atmosphere

Click on the circle markers on the image to open the information box with more details.



ThinProcess® P

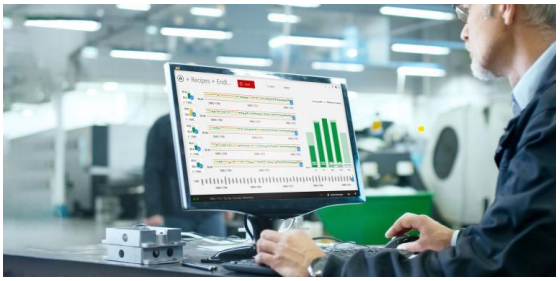
ThinProcess® Q

ThinProcess® R

ThinProcess® WEB

Expand your possibilities

With the right software for your hardware



Software especially for ThinProcess®

ThinProcess® software is specifically designed for the ThinProcess® spectrometer family. Keep an eye on process information and reference values with data visualization and communication with higher-level control systems via ProcessLinker.

From color and thickness to spectral evaluation and absorbance, ThinProcess® software performs various calculations and measurements and can be customized to suit your exact needs.

SPECTROMETER SYSTEMS

MCS 700 Robust VIS-NIR process spectrometer

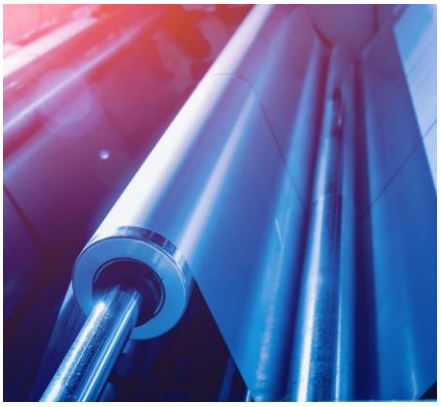
Our complete VIS-NIR spectrometer solutions can be configured for various applications to measure layer properties in both batch and in-line production processes.

- **Easy integration**
- **Fast**
- **Accurate**

BenefitsHighlightsSpecificationsCompatibilityAccessoiresOFR A10cRelated products

Reliable, real-time intelligence Keep a constant eye on your process

ZEISS MCS 700 spectrometers are the ideal system to reliably support your coating process in real time. They feature a continuous bus system up to the measuring head, which means that there’s much less effort when it comes to integration. We also offer a wide variety of interfaces, providing you with a complete solution, configured for a variety of applications.



Versatile performance

Out of the box, or built to your specifications

The choice is yours: ZEISS MCS 700 spectrometers can either be used with ThinProcess® or customized for your own system together with matching measurement heads using the ZEISS OSIS SDK. Complete solutions can be configured for the widest variety of applications, with MCS 700 as the core element for measuring layer properties in batch and in-line processes.
Click on the circle markers on the image to open the information box with more details.

SMA Coupler

RJ 45 communication port

Digital in/out (8 bit)

CAN bus connector

Power supply

Specifications

- **Spectrometer**
- **Fibre coupled lamp**
-

	MCS 721 / MCS 722 / MCS 723(the last digit indicates the number of measurement channels)	**MCS 731 / MCS 732**(the last digit indicates the number of measurement channels)
Spectral range[1]	340 - 1050 nm	340 - 1650 nm
Polychromator	MMS 1	MMS1 & PGS
Number of diodes	256	512
Mean spectral pixel pitch	3.3 nm / VIS	3.3 nm / VIS, 3.0 NIR
Fiber connector	SMA	SMA
Protection standard	IP54, protection class III	IP54, protection class III
Dimensions (WxHxD)	120 x 120 x 370 mm^3	120 x 120 x 370 mm^3

Weight	4.2 / 4.5 / 4.8 kg	4.7 / 5.4 kg
Power supply	24 V DC (12 - 36)	24 V DC (12 - 36)
Operating temperature	5 ... 45 °C	5 ... 45 °C

- **Fibre coupled lamp**
-

-

	CLH 711
Spectral range [(1)]	380 - 2500 nm (340 - 2500 nm with filter)
Shutter	integrated shutter
Filter (switchable)	integrated filter ("blue enhancement")
Fiber connector	1 x SMA
Protection standard	IP54, protection class III
Dimensions (WxHxD)	120 x 120 x 370 mm^3
Weight	3.8 kg
Power supply	24 V DC (12 - 36)
Operating temperature	5 - 45 °C

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