InSight Pro

Valuable real-time process insight

Qinterline

InSight Pro Spectroscopy
Optimized profit with superior FT-NIR technology

High value results to act upon

NIR is a widely used method to obtain real-time information about the production process across many industries. InSight Pro is the latest generation online NIR from Q-Interline and offers the production a powerful tool to closely follow the process. It enables optimization of the production process, optimized raw material utilization, reduction of scrap and rework. While avoiding the negative consequences of producing outside specification and regulation limits.

Analysis of many components

InSight Pro is based on the newest generation FT-NIR technology and the exceptional spectral performance will generate high quality spectrum with the lowest noise. This makes InSight Pro a superior solution compared to other online NIR methods for analysis of standard components as well as low signal components in a wide variety of product types.

Low cost of ownership

The new InSight Pro FT-NIR analyzer has no scheduled maintenance on the hardware, since the light source has an average expected lifetime of 5 years. Hence there is no need to sign a service agreement for the analyzer and also no need to plan in an annual service call in a busy production schedule. This will keep the cost per analysis very low and enable you to focus resources on important tasks.

One analyzer – many possibilities

InSight Pro is available in a one or two measurement point configuration offering attractive economy per measurement point. A variety of measurement probes and cells are available for InSight Pro securing high flexibility of the analyzer and correct sampling fitting the product to be analyzed.

Ready for the process

InSight Pro is designed to meet stringent hygiene and food safety requirements and will withstand normal cleaning conditions. IP65 protection enables installation in most production environments and that results are displayed at the line where they are needed. InSight Pro can be operated by production personnel without compromizing analytical performance and stability.

Full support concept from start to end

Q-Interline offers extensive project and after-sales support, which will secure right choice of analyzer configuration, efficient installation and implementation as well as reliable operation year after year throughout the lifetime of the InSight Pro. Project and after-sales support are offered from do-it-yourself level to fully outsourced. Sign-up for the solution which fits your needs and resources.
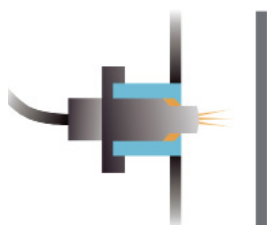
Optimized sampling solutions

Applying correct sampling from the process to the lab is essential if unbiased results are to be obtained. Only unbiased results can serve as a basis for process control and optimization. All the sampling accessories developed by Q-Interline are the result of our extensive experience and knowledge in the field of representative sampling and Theory of Sampling.
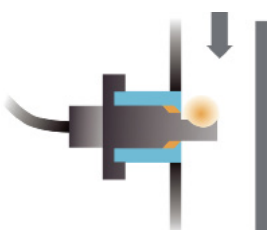
InSight Pro Sampling

State of the art analyzer with unique sampling

Diffuse Reflectance Sampling

For in-pipe sampling of homogeneous process streams.

The Diffuse Reflectance Probe is designed to meet all relevant requirements in the life science and food industry. The probe features sanitary design in accordance with strict industry requirements. The Diffuse Reflectance Probe accepts CIP/SIP and offers high security through a proprietary metal-to-sapphire sealing technique eliminating the need for O-rings and brazed joints . The probe is connected to the InSight spectrometer through a fiber optical bundle cable, which fulfills hygiene requirements. The fiber optical cable is protected for easy placement in cable trays.

Spoon Probe Sampling

For easy as it gets powder sampling of fine powders.

The Spoon Probe is a special variant of the Diffuse Reflectance Probe especially adapted to sampling of fine powders in a falling stream. The sample is collected in the spoon area of the probe and analzed. After analysis the window of the probe and the spoon area is cleaned by means of pressurized air. The probe is connected to the InSight spectrometer through a fiber optical bundle cable, which fulfills hygiene requirements. The fiber optical cable is protected for easy placement in cable trays

Backscatter Sampling

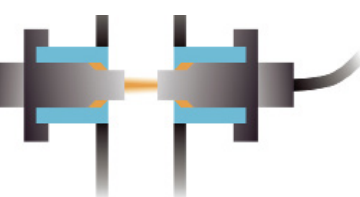For in-tank sampling of heterogeneous processes.

Monitoring NIR optical backscatter in a tank reveals valuable information allowing for better process control and optimization. The flush mounted design makes the Backscatter Probe ideal for complicated products and products which are stirred. The probe features sanitary design in accordance with strict industry requirements. The Backscatter Probe accepts CIP/SIP and offers high security through a proprietary metal to sapphire sealing technique eliminating the need for O-rings and brazed joints.The probe is connected to the InSight spectrometer through a fiber optical bundle cable, which fulfills hygiene requirements. The fiber optical cable is protected for easy placement in cable trays

Transmission Probe Sampling

For in-tank sampling of clear liquids.

The Transmission Probe is a precision optical instrument that allows remote fiber optic transmission measurement of clear or slightly scattering liquid process streams at high temperature and pressure operating conditions. The Transmission Probe accepts CIP/SIP. The probe is connected to the InSight spectrometer through a fiber optical bundle cable, which fulfills hygiene requirements. The fiber optical cable is protected for easy placement in cable trays.

Transmission Cell Sampling

For in-pipe sampling of liquids.

The Transmission Cell for flow-through analysis in process pipes is a flexible high precision optical device, which provides a very rugged and reliable solution for unattended in-line process monitoring. The Transmission Cell is fiber-coupled, allowing for high temperature and pressure operating conditions. The Transmission Cell offers a high optical transmission capability and a fixed path length. The sanitary design accepts CIP/SIP and fulfills strict hygiene requirements of the industry. The probe is connected to the InSight spectrometer through a fiber optical bundle cable, which fulfills hygiene requirements. The fiber optical cable is protected for easy placement in cable trays.

All probes are supplied with matching weld fittings and plugs for optimal implementation in process equipment. The plug allows for continous production if the probe is removed from the weld fitting.

InSight Pro software
Fast overview and fully integrated solutions

InSight View

Daily operations are monitored and controlled via the InSight View frontend software. The intuitive software offers full overview of analyzer status, measurement results, trend curves etc. Status is displayed with color codes against preset criteria. Choose the product to analyze, start and stop the analysis, initiate sampling from process and initiate reference measurements all through easy to understand icon buttons. InSight View has a multi language user interface and is designed to be operated by process personnel.
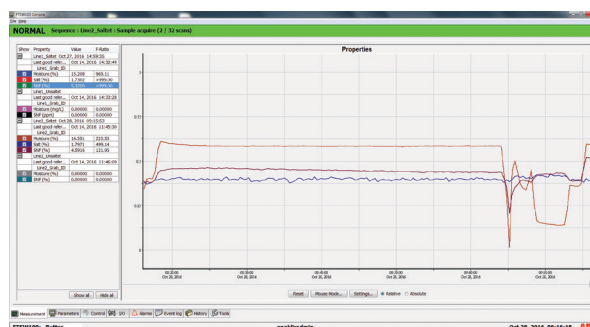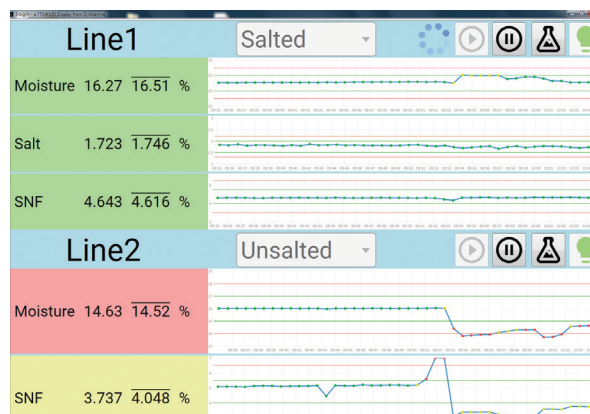
InSight View can run on a monitor in the operator room or on a fully IP65 protected monitor next to the production line. The IP65 protected monitor has touch screen possibility for ease of use and offers a full overview where the operator needs it.

FTSW100

FTSW100 Process Software is our backend software platform for online spectroscopy solutions. The product has been developed by our partner ABB Bomem. FTSW100 was built from scratch to support automated and unattended analysis 365 days a year, 24/7 with excellent stability records.

FTSW100 controls the analytical sequence, which includes receiving spectral data from the spectrometer, chemometrics, I/O, alarms, calculations and storage safety procedures, among other processes.

FTSW100 is a complete software solution for spectrometer based process monitoring and control.

AnalyticTrust

Optimize the value of InSight Pro with AnalyticTrust, a web-based software for monitoring and adjusting InSight Pro applications. AnalyticTrust monitors analyzer hardware, sampling processes, calibration samples, applications and reference results. It ensures precise and trusted data and in cases of non-compliance you are automatically notified.

AnalyticTrust is the best-structured instrument control system to evaluate the performance of analytical instruments and processes. It makes remote adjustment and calibration possible and ensures that the InSight and the analytical processes perform to their highest potential.

Remote support

Secure team-viewer access enables fast and efficient remote support, reducing the need for on-side technical support.

Value through insight

SINCE 1996

Since 1996 Q·Interline has specialized in developing and providing analytical solutions to our customers. We provide exceptional solutions for quality and process control.

Commitment, integrity and competence

Through commitment, integrity and competence Q·Interline offers high quality solutions to a wide variety of industries. Our customers acknowledge us as a trusted supplier and technical advisor due to our unique solutions, extensive knowledge, outstanding support and long-term commitment.

We provide value through insight

Our experience, along with our understanding of business and processes, enables us to identify our customer's challenges and needs through open dialogue. Based on this understanding we offer you unique solutions that will provide high quality analytical results to act upon. We call this value through insight.

We are your long-term partner

Buying an analyzer from Q·Interline give you access to much more. For our team this marks the beginning of a long-term partnership. We know that our solutions in combination with our extensive support offering is what makes us different. We work closely with our customers to ensure that our analyzers will continue to deliver analytical results of high value year after year.

You can trust our solutions

With more than 30 million accurate analysis results generated annually on Q·Interline instruments we have great confidence in our analyzers, our sampling and calibration reference. We are a Business-to-Business company with installations in more than 30 countries, but we always work Hand-in-Hand with our customers, doing our best to improve the value of your business.

M-5047 • Rev. 1.0 • 2017

InSight Pro Analyzer
Specifications

Spectrometer

Working Princip	FourierTransform, double pivot Michelson
Resolution	Variable 1 – 64 cm^{-1}
Detector	TE-cooled InGaAs detector, 24 bit ADC
Base range	3.850 – 12.000 cm^{-1} (2.600 nm – 833 nm)
Source	Quart Halogen, stabilized electronically (5 years lifetime typical)
Laser	Solid state, no maintenance
Mulitplexer	1 – 2 channel fiberoptical launcher SMA

Sampling

Maximum 2 probes or cells pr analyzer.
Available types: Diffuse reflectance, Transmission insertion/cross-pipe/Custom
Wetted materials: SS316L, Sapphire, PTFE all food contact approved and CIP/SIP compliant
See specific application data sheet for more details.

Regulatory compliance	EN 1935/2004

Spectroscopic performance

(Typical, at 25 °C ambient temp. mounted with reflectance probe 7 m fiber cable.)
Resolution 32 cm^{-1}, Data point spacing 16 cm^{-1}
Optical range 4.330 – 10.000 cm^{-1} (2.310 – 1.000 nm)
Noise (15 sec measurement) < 10 micro absorbance units.

Instrument enclosure

Two layer SS304 cabinet	IP65
Operating Temperature	10 – 25 °C ventilated version, water cooling 10 – 35 °C
Humidity	<90% RH non-condensing
Vibration	Vibration isolation built in
Dimensions (H x W x D)	700 x 600 x 400 mm (Water cooling adds 250 mm below)
Weight	35 Kg (45 Kg with water cooling option)
Power consumption	120 VAC 60 Hz or 240 VAC 50 Hz, 200 watt
Regulatory compliance	CE and RoHS

InSightTouch

PC-controller with touch screen	Win7, i5 processor
Controller enclosure	IP65
Dimensions (H x W x D)	400 x 400 x 150 mm
Touch Type	Capacity
Max distance to analyzer	10 meter
Std. Data communication	OPC on Ethernet
Opt. Data comminucation	ModBus/Profibus/mA
Run-time software	FTSW100
Multilanguage User interface	InsightView