

Premium Optical Process Measurement



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ABOUT KEMTRAK

Founded 2006, Kemtrak is the industry leader in high performance LED based industrial photometers.

The Kemtrak 007 analyzer platform is a state of the art industrial analyzer designed to accurately measure and report specific properties of liquids and gases in-line and in real time. Based upon either absorbance, light scatter or fluorescence, Kemtrak photometers are widely deployed in industry to measure process parameters such as color, concentration, turbidity and solids concentration in many different applications.

Low optical power and long lifetime result in dependable products with the highest performance and lowest cost of ownership available.

Kemtrak is located in Stockholm, Sweden and is ISO 9001:2015 certified. Kemtrak products are distributed globally with sales in over 30 countries.

A motivated team of skilled engineers are at your assistance no matter where you are in the world.

- Industrial liquid and gas concentration measurement
- Real-time, in-line
- State of the art with exceptional performance
- Low cost of ownership:
 - No / ultra-low maintenance
 - Long life LED light source
 - Robust and reliable
- Application experience and know-how
- Global sales and support
- ISO 9001:2015 Quality System



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Semiconductor

- Precision process control
- Real time in-line measurement
- Ultra pure PTFE/PVDF flow cell
- Zero maintenance
- Verification Accessory

Concentration

Kemtrak analyzers are manufactured to precisely measure contamination and chemical concentration in process (blending, clean, etch, CMP) and cleanroom environments.

Chemical concentration is measured in real-time and provides immediate feedback if the chemical is out of specification. Alarms can be configured to control and increase bath life. Concentration is determined using UV-VIS-NIR light from a high performance long life LED light source. Measurement cells are manufactured in ultra pure PTFE or PVDF with sapphire windows that will withstand highly corrosive chemicals.

Semiconductor manufacturing uses solvents for degreasing components and shrinkage of residual resins, alkalis to oxidize the semiconductor and acids to remove the oxides. Measure from highly concentrated (%) to trace (ppm) concentrations in a wide range of chemicals:

- Iso-propanol, other alcohols
- Acetone
- Trichloroethylene
- Hydrogen peroxide
- Hydrofluoric, phosphoric and other acids
- Trace moisture/water in solvents

Typical Applications

- Monitor incoming chemical purity
- H₂O₂ concentration in CMP slurries
- Wet-etch and wafer cleaning control
- Optimize bath life of post-etch residue removers and solvents in wet stripping systems
- Wastewater color
- Nanoparticle pollution monitoring

Turbidity

Turbidity is an essential measurement parameter for assuring purity of incoming chemicals, process optimization and for environmental monitoring of wastewater.



Food and Beverage

- Real time in-line measurement
- Zero maintenance
- Sanitary probes and cells
- High temperature operation

Concentration

Kemtrak analyzers are used for automated monitoring and controlling of CIP cleaning chemicals such as sodium hypochlorite or chlorine dioxide. Precise monitoring of the CIP process will result in increased productivity while ensuring the quality of the product.

The Kemtrak DCP007-NIR photometer is recommended for accurately monitoring distillation processes where alcohol can be measured from trace (ppm) to 100% concentration.

Color

The Kemtrak DCP007 photometer can be correlated to standard color scales:

- ICUMSA
- Platinum Cobalt / APHA / Hazen
- Gardner
- EBC

Real time color measurement improves product

quality and enhances process control to save energy and decrease operating costs.

Suspended Solids

The 4 analyzer can accurately detect product interfaces e.g. product to product, CIP to product, at any concentration and with high resolution. Optimized product interface detection reduces product wastage and associated waste treatment costs. Product set-up times can be significantly reduced and product quality can be improved resulting in increased profitability.

Typical Applications

- Color monitoring
- CIP monitoring and control e.g. NaOHCL, ClO₂
- Interface detection
- Filtration monitoring and centrifuge/separator control
- Distillation control / alcohol concentration
- Shear force damage detection

Our products

Kemtrak manufactures high performance industrial process photometric, fluorescence and turbidity instruments. Simple to use and zero maintenance. Please take a look at our products below.



DCP007 Photometer

- High performance UV-VIS-NIR LED light source
- Real time in-line measurement
- Multiple wavelength drift free operation
- Light source and wavelength easy to change
- Modbus TCP Ethernet communication



Integrated calibration and verification accessory.

The Kemtrak 007 analyzer platform is ideally suited for in-line monitoring in a broad range of industrial applications. Utilizing robust fiber optics, highly stable long life LED light sources and built in detection circuitry with compensation for background effects such as fouling and turbidity, accurate and drift free measurement is assured.

Industrial grade measurement cells with scratch resistant sapphire windows contain no electronics or moving parts making them ideal for both ordinary and hazardous area use. A calibration & verification accessory using filters traceable to NIST standards is available to assure measurement confidence while saving valuable time and resources.

The DCP007 simultaneously measures at two fixed wavelengths. If desired, the second wavelength can also be used to compensate for sample turbidity and/or fouling of the optical windows.

Standard features include 16 linearization tables for multiple product switching, remote zeroing, automatic cell cleaning cycle and signal filtering.

A built-in graphical Internet based interface allows remote operation, calibration, verification and data trending using a standard web browser. Modbus over TCP/IP standard with optional Profibus.

Applications

- Protein and API
- Color Scales
 - Platinum Cobalt / APHA / Hazen
 - ASTM D-1500
 - Saybolt / ASTM D-156
- Chemical concentration - ppm, mg/L, g/L, %
 - Chlorine Dioxide, Hypochlorite, Chlorine
 - Metal ions e.g. iron, copper, chromium
 - Aromatics and hydrocarbons
- Leak, carryover and interface detection
- Trace water / Moisture
- Solvent / Alcohol
- UV and Optical Density - AU, OD



TC007 Turbidimeter

- 0.01–1 000 NTU/FTU/FNU
- ISO 7027 compliant
- Maintenance free
- Compensation for fouling and color
- Suitable for hazardous area use

The Kemtrak TC007 is a simple to operate industrial fiber optic turbidimeter for high resolution, real time, in-line concentration measurement.

The Kemtrak TC007 utilizes a high performance LED light source with robust fiber optics to ensure maintenance and drift free operation with exceptionally high precision.

A proprietary algorithm mathematically combines attenuated and scattered light to accurately report the turbidity level in the process stream. Automatic compensation for sample color and fouling of the optical windows ensures

trouble free operation.

In-line measurement cells with scratch resistant sapphire windows have no electronics or moving parts making the instrument suitable for a wide range of process environments.

Applications

- Filtration monitoring
- Centrifuge control
- Interface detection
- Phase separation
- Leak detection and condensate carryover
- Water in fuel / Oil in water



NBP007 Backscatter Photometer

- 0.001% (10 NTU) - >60% suspended solids
- For use with DN25/1" TriClamp or Ø 12 mm PG 13.5 immersion probe

The Kemtrak NBP007 is a high resolution back-scatter photometer that revolutionizes the measurement of high concentration suspended solids.

Traditional turbidity based optical measurement instruments lack resolution and stop working at approximately 1% suspended solids due to the extremely high optical density. This limitation is overcome with the NBP007.

By knowing exactly what is happening at all times, process changes that result in substantial cost savings can be quickly implemented.

Applications

- Concentration measurement
- Interface detection
- Cell and biomass density
- Crystallization control
- Control and optimize CIP cycles
- Product differentiation and identification