KEATRAK

20 YEARS

Premium Optical Process Measurement

20 YEARS

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Leading LED photometer innovation for 20 years.

5 000+	1 000+	100+	45+
INSTALLATIONS	CUSTOMERS	COUNTRIES	DISTRIBUTORS

ABOUT KEMTRAK

Founded in 2006, Kemtrak celebrates 20 years as the global leader in ruggedized LED-based industrial process photometers.

The Kemtrak 007 analyzer platform accurately measures and reports specific properties of liquids and gases in-line and in real-time. Based upon absorbance, light scatter or fluorescence, Kemtrak photometers are widely deployed throughout industry to measure color, concentration, turbidity and solids concentration.

Long-life LED light sources, low optical power and robust fiber-optic design result in dependable products with the highest performance and lowest cost of ownership available.

Celebrating 20 years of innovation, Kemtrak is proud to introduce the UV Spectra — a ruggedized multi-wavelength deep UV process photometer extending measurement capability down to 190 nm using an environmentally friendly xenon light source, opening new possibilities for advanced biotech and pharmaceutical applications.

Kemtrak is located in Stockholm, Sweden, with products distributed globally across more than 100 countries. A motivated team of skilled engineers provides world-class support wherever you are.

- Market leader in ruggedized LED process photometers
- 20 years of application experience and know-how
- Real-time, in-line measurement
- State of the art with exceptional performance
- Low cost of ownership — long-life LED and xenon light sources, minimal maintenance
- Global sales and support
- ISO 9001:2015 Quality System

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Zero dead volume Tri-Clamp with verification accessory & NIST traceable filters.

Biotech & Pharmaceutical

- New: UV Spectra deep UV multi-wavelength photometer
- Low power mercury-free UV light
- Zero dead volume hygienic cells
- Traditional & single-use technology
- Verification accessory (NIST traceable)

Absorbance

For concentration measurement and chromatography peak detection, the Kemtrak DCP007 UV LED photometers are deployed in both fixed installations and with single-use technology, providing deep absorbance measurements, without requiring calibration. Low power, mercury-free UV LED light sources ensure drift-free operation with minimal maintenance.

The new Kemtrak UV Spectra extends measurement down to 190 nm using a mercury-free deep UV xenon light source. Multi-wavelength measurement enables simultaneous detection of peptides, polypeptides and proteins low in aromatic content that are undetectable at the conventional 280 nm wavelength, opening new possibilities for advanced biologics, biosimilars and peptide-based drug development.

The DCP007-NIR provides accurate solvent-water concentration and trace moisture measurements in pure solvents.

Typical Applications

- Protein detection and concentration
- Peptide and polypeptide quantification
- Chromatographic fractionation
- Ultra and nano-filtration
- Centrifuge control
- Gradient control
- Fermentation and cell culture biomass
- Biosimilar and biologics development

Turbidity

The Kemtrak TC007 is a highly sensitive turbidimeter that measures from 0.01 to 1 000 NTU. Hygienic measurement cells are coupled via fiber optics to the analyzer. No electrical components and a zero dead volume design assure cells can be thoroughly and reliably sterilized, eliminating the risk of product cross-contamination and detection peak broadening. Recommended for centrifuge optimization, filtration breakthrough, purification and separation processes.

UV Spectra multi-wavelength deep UV process photometer with Tri-Clamp measurement cell and verification accessory.

Zero dead volume single-use measurement cell with click and lock hygienic holder.

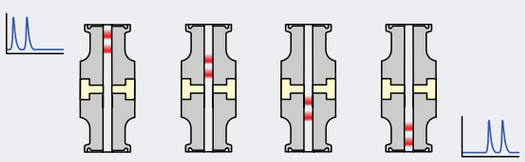
Biomass

The Kemtrak TC007 is used to monitor, control and optimize cell growth in culture and fermentation processes. The sensing element is a Ø12 mm PG 13.5 “pH style” or Tri-Clamp immersion probe that integrates with any bioreactor. The hygienic fiber-optic probe is designed for CIP and SIP procedures and measures dense cultures up to OD 600.

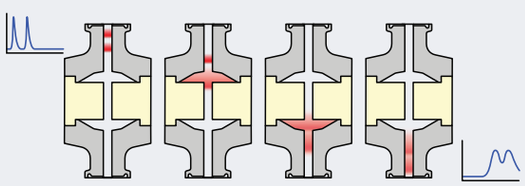
No Mercury. No Drift. No Compromise.

Kemtrak has been committed to mercury-free process photometry for over two decades, using long-life LED light sources that eliminate hazardous materials and support compliance with stringent environmental regulations. These modern solid-state light sources deliver exceptional stability with virtually no signal drift, eliminating the need for recalibration and reducing maintenance — making Kemtrak photometers cleaner for the environment and lower total cost of ownership.

Measurement Cell Design: Effect of Dead Volume



Kemtrak hygienic zero dead volume measurement cell.



Other measurement cells with dead volume. Dead volume causes detection peak broadening, resulting in valuable product loss plus risk of product cross-contamination and ineffective sterilization.

Semiconductor

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

Concentration

Kemtrak analyzers precisely measure contamination and chemical concentration in both process (blending, cleaning, etching, CMP) and cleanroom environments.

Semiconductor manufacturing uses solvents for degreasing components and removing residual resins, alkalis to oxidize the semiconductor surface, and acids to remove the oxides. Measurements span from highly concentrated (%) to trace (ppm) levels across a wide range of chemicals:

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

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

Typical Applications

- Monitor incoming chemical purity
- H_2O_2 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 monitoring
- Nanoparticle pollution monitoring

Turbidity

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

Food and Beverage

- Real-time in-line measurement
- Zero maintenance
- Sanitary probes and cells
- High temperature continuous operation
- Automatic turbidity & fouling compensation

Color

The Kemtrak DCP007 photometer measures the following standard color scales:

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

Leak Detection

The Kemtrak FL007 provides continuous detection of trace glycol coolant leaks in food and beverage processing. Pinhole leaks in heat exchangers can allow glycol to contaminate the product, posing a serious food safety risk. The FL007 detects glycol at trace levels, providing an early warning before contamination reaches harmful concentrations.

CIP Optimization

Kemtrak analyzers are used for automated monitoring and control of CIP cleaning chemicals such as sodium hypochlorite and chlorine dioxide.

Precise monitoring of the CIP process optimizes cleaning cycles, ensures correct cleaning, reduces chemical consumption, minimizes waste, and prevents costly overuse of chemicals.

Turbidity & Suspended Solids

The Kemtrak TC007 analyzer reliably detects product interfaces (*e.g.* product-to-product, CIP-to-product) at any concentration. Optimized product interface detection reduces product wastage and associated waste treatment costs. Set-up times can be significantly reduced and product quality improved, resulting in increased profitability.

Typical Applications

- Color monitoring
- Leak detection e.g. trace ethylene glycol
- CIP monitoring and control *e.g.* NaOCl, ClO_2
- Interface detection
- Filtration monitoring and separator control
- Distillation control / alcohol concentration
- Shear force damage detection

Chemical & Petrochemical

- No drift
- Exceptionally low maintenance
- Zone 1 hazardous areas (Ex d)
- Up to 330 °C (626 °F) continuous operation
- Extensive range of process connections

The Kemtrak 007 analyzer platform is ideally suited for in-line monitoring in a wide range of applications throughout chemical and petrochemical plants. Accurate and drift-free measurement is assured by utilizing robust fiber optics, highly stable long-life LED light sources and built-in detection circuitry compensating for background effects such as fouling and turbidity.

Color

Kemtrak color analyzers can measure standard color scales to give precise real-time color scores:

- ASTM D1500
- ASTM D156 (Saybolt color)
- Pt/Co (Hazen, APHA) and many others

In-line color measurement can improve product quality, enhance process control and reduce wastage and rework. Referenced measurement provides accurate color readings in processes with background turbidity and compensates for window fouling.

Concentration

Accurately and continuously measure from highly concentrated (%) down to trace (ppm) levels of chemicals in liquids and gases. UV-VIS-NIR wavelength capability and process-compatible materials allow measurement of a wide range of chemicals:

- Chlorinated compounds
- Halogens
- Organic solvents
- Metal ions

Measure water content in percent or ppm trace levels in a wide range of solvents.

Leak Detection

The Kemtrak FL007 measures ppb levels of aromatic hydrocarbons and fluorescent dyes in water, making it ideal for leak detection of ethylene glycol and oil in cooling water or condensate and for environmental monitoring.

Typical Applications

- Oil-in-water detection
- Glycol leak detection e.g. heat exchangers, pumps, boilers, product and waste streams
- Mixture concentration
- Reaction control
- Interface detection
- Product color for quality control
- Color change e.g. rust, sulfur, product cross-contamination
- In-line turbidity for filtration monitoring
- Solids concentration monitoring and control
- Solvent-water mixture control
- Trace water contamination of solvents
- Wastewater and effluent monitoring for environmental compliance

Ex d enclosure with four push-buttons for complete control in Zone 1 environments.

Pulp & Paper

- Drift-free measurement
- Long-life LED light source
- Ultra-low detection limits: ppb in liquid, ppm in gas
- Titanium and PTFE measurement cells for highly corrosive environments
- Multiple wavelength technology for fouling and bubble compensation

Typical Applications

- Chlorine dioxide liquid and gas
- Calcium carbonate slurry concentration
- Lignin concentration
- Effluent water monitoring
- White liquor filtration

Chlorine Dioxide

Chlorine dioxide (ClO_2) has strong UV absorption and can be accurately and continuously measured in all liquid and gas streams.

- ClO_2 solutions up to 20 g/L
- Ultra-low detection — 10 ppb liquid or 1 ppm (2.3 $mg \cdot Nm^{-3}$) gas

The Kemtrak DCP007 optimizes ClO_2 generation efficiency, controls vent-gas scrubbers to reduce atmospheric emissions, and monitors the final ClO_2 concentration delivered to the bleaching plant. Robust, corrosion-resistant titanium measurement cells with sapphire windows and double o-ring sealing ensure maintenance-free operation.

Suspended Solids

Increased control in the use of mineral additives such as calcium carbonate is critical to optimizing the papermaking process, reducing waste and increasing product quality and profitability. The Kemtrak TC007 backscatter turbidimeter accurately measures precipitated and ground calcium carbonate slurries at any concentration, in line and in real time.

Lignin

Lignin is a natural phenolic biopolymer which fluoresces when exposed to UV light.

- Measure lignin concentration directly in black liquor
- Control delignification process
- Recovery boiler optimization

The Kemtrak FL007 is a continuous in-line analyzer that quantitatively measures lignin concentration directly in the process stream.

Water & Environment

- Robust and reliable
- No reagents or consumables
- Real-time in-line measurement
- Exceptionally low maintenance
- Verification Accessory

Color

The Kemtrak DCP007 is an industrial photometer designed to accurately measure the color of liquids. Real-time measurement results are displayed in units of PCU (Platinum-Cobalt color units), Hazen or APHA per ASTM D1209, ISO 6271-1 & DIN 53409.

The Platinum-Cobalt color scale is used to evaluate pollution levels in wastewater and for drinking water quality control and regulation. It is also used to measure and control iron concentration in groundwater and to automate filtration.

DOC (UV254)

Measurement at 254 nm (UV254) per DIN 38404-3 using a Kemtrak DCP007-UV correlates to DOC, COD and TOC, simplifying organics measurement in potable and wastewater treatment. DOC measurement downstream of activated carbon filtration provides information on carbon bed saturation, allowing regeneration and reducing operational costs.

Typical Applications

- Oil in water detection
- Glycol leak detection (ppb)
- Color monitoring - platinum cobalt
- Chlorine (Cl_2) measurement
- DOC (UV254)
- Suspended solids

Leak Detection

The Kemtrak FL007 measures trace (ppb) levels of glycol and oil in water, continuously and in real time. Mineral oils naturally fluoresce when illuminated with ultraviolet light, while fluorescent marker dyes added to glycol allow instantaneous detection without false alarms. Non-aromatic oils and other contaminants are simultaneously detected using turbidity measurement.

Early detection of even the smallest leaks prevents costly process shutdowns, product losses, and environmental penalties, delivering a rapid return on investment.

Our products

Kemtrak manufactures high performance industrial process photometric, fluorescence and turbidity analyzers. Simple to use and low maintenance.

Kemtrak UV Spectra deep UV multi-wavelength process photometer with DN25 (1”) measurement cell and verification & calibration accessory.

UV Spectra Multi-Wavelength Analyzer

- **Deep UV:** from 190 to 440 nm
- **Up to 10 simultaneous calibrations:** Wavelengths user-selectable
- **Broad dynamic range:** From trace levels to high concentration without dilution
- **Digital connectivity:** EtherNet/IP, PROFINET, Modbus TCP/IP
- **Environmentally responsible:** Mercury-free, RoHS compliant
- **cGMP compliant:** NIST-traceable in-situ verification

In bioprocessing, accuracy and repeatability are vitally important. The Kemtrak UV Spectra delivers high-performance, real-time absorbance measurement of proteins, peptides, polypeptides, monoclonal antibodies, RNA/DNA, and amino acids — an indispensable tool for biochemical production, quality control, and cleaning verification.

With user-selectable multi-wavelength detection spanning deep UV to visible wavelengths, the UV Spectra provides exceptional sensitivity, stability, and site-to-site consistency. Simultaneous measurement at multiple wavelengths achieves a massive dynamic range — from ultra-high protein concentrations exceeding 500 mg/mL down to trace levels below 0.001 mg/mL — without sample dilution or mechanical adjustment. This makes it equally effective across chromatographic fractionation, formulation, and CIP/SIP cleaning verification workflows.

Built for demanding biotech environments, the UV Spectra integrates smoothly into both R&D and GMP production settings, maintaining tight process control, maximizing yield, and ensuring consistent product quality. The absence of moving parts assures reliability, minimizes maintenance, and keeps the total cost of ownership low.

At its core is a mercury-free deep UV xenon light source with a lifespan of up to two years of continuous operation. An intuitive touchscreen interface allows instant wavelength selection and verification using NIST-traceable standards without interrupting the process line.

Applications

- Protein / API detection and concentration
- Peptide, polypeptide, and monoclonal antibody (mAb) quantification
- RNA/DNA concentration and purity (A260/A280)
- CIP/SIP cleaning verification
- Amino acid analysis
- Chromatographic fractionation and peak detection
- Real-time release testing and quality control

DCP007 with Tri-Clamp measurement cell (top) and DIN measurement cell with integrated verification & calibration accessory (bottom).

DCP007 Photometer

- **High performance UV-VIS-NIR absorbance photometer**
- **Real-time in-line measurement**
- **Robust LED light sources:** Stable, drift-free and long lifetime
- **Dual wavelength:** Turbidity and fouling compensation
- **Light source and wavelength:** Easy to change in the field
- **Connectivity:** 4-20 mA and Modbus TCP/IP

The Kemtrak 007 analyzer platform is ideally suited for in-line monitoring across a broad range of industrial applications. Utilizing robust fiber optics, highly stable long-life LED light sources and built-in detection circuitry to compensate 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 verification & calibration accessory using NIST-traceable filters assures measurement confidence while saving valuable time and resources.

The DCP007 simultaneously measures at two fixed wavelengths, with the second wavelength optionally used to compensate for sample turbidity and/or window fouling.

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, verification, calibration and data trending using a web browser. Modbus TCP/IP is standard with optional PROFINET.

Applications

- Protein and API
- Color Scales
  - Platinum Cobalt / APHA / Hazen
  - ASTM D1500
  - Saybolt / ASTM D156
  - ICUMSA
- 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

Our products

Kemtrak manufactures high performance industrial process photometric, fluorescence and turbidity analyzers. Simple to use and low maintenance.

ISO 7027 compliant turbidity measurement (top) and Tri-Clamp backscatter probe (bottom).

TC007 Turbidimeter & Biomass Analyzer

- **ISO 7027 compliant:** Turbidity from 0.01 to 1 000 NTU/FTU
- **High performance LED light source:** Stable, drift-free and long lifetime
- **Real-time in-line measurement**
- **Hazardous area:** Suitable for Zone 1 and Zone 2 use
- **Connectivity:** 4-20 mA and Modbus TCP/IP
- **Verification & calibration:** QuickCal and CalCap compatible

The Kemtrak TC007 is an industrial fiber-optic coupled turbidimeter for high-resolution, real-time, in-line concentration measurement. Measurement capability spans from ultra-clear liquids to high-concentration slurries and emulsions, making it suitable for a wide range of industrial process applications.

A high-performance LED light source with robust fiber optics assures drift-free operation with exceptionally high precision. Industrial-grade measurement cells and probes with scratch-resistant sapphire windows contain no electronics or moving parts, making them ideal for high-temperature and hazardous area use. All wetted materials are FDA compliant, assuring compatibility in sanitary processes. The fiber-optic design eliminates heat generation at the measurement point, preventing condensation and ensuring safe operation in hazardous areas.

For ultra-precise measurement of low turbidities (0.01 – 1 000 NTU/FTU) in accordance with ISO 7027, measurement cells compensate for sample color and optical window fouling in real time. High-concentration suspended solids (exceeding 80% solids) are reliably measured by a precision backscatter probe that will not go blind at high optical densities.

The QuickCal accessory simplifies verification and calibration by eliminating the time-consuming and hazardous task of handling liquid standards, saving valuable time and resources.

An on-board graphical internet-based configuration utility allows remote operation, verification, calibration, and data trending using a standard PC.

Applications

- Filtration monitoring
- Centrifuge control
- Cell & biomass density
- Crystallization control
- Phase separation
- Water clarity
- Concentration measurement
- Leak, carryover & interface detection

Kemtrak FL007 with Ø12 mm PG 13.5 “pH style” immersion probe.

FL007 Fluorescence Photometer

- **Leak detection:** Trace (ppb) monitoring of glycol or oil contamination
- **Dual measurement:** Simultaneous fluorescence and turbidity
- **Real-time in-line measurement**
- **Immersion probe:** Ø12 mm PG 13.5 pH sensor compatible
- **Hazardous area:** Suitable for Zone 1 and Zone 2 use
- **Connectivity:** 4-20 mA and Modbus TCP/IP

The Kemtrak FL007 is an industrial leak detector simultaneously measuring both fluorescent and non-fluorescent contaminants inline and in real-time. Reliable continuous monitoring of trace glycol, oil, and hydrocarbon contamination in water is assured.

Many glycol products are pre-dyed by the manufacturer or can be dyed with a suitable fluorescent marker that can be detected down to parts-per-billion (ppb) concentrations. By continuously monitoring for dye markers in condensate return, drain water, or surface runoff, even the smallest leaks are identified the moment they occur. Costly process disruptions are avoided, safeguarding both operations and the environment.

Mineral oils rich in aromatic content will fluoresce when illuminated with ultraviolet light. The intensity of this fluorescence is dependent upon the polyaromatic hydrocarbon (PAH) content of the oil. Typical oils that fluoresce include fuel oil, crude oil, hydraulic oil, and transformer oil.

Non-mineral oils or hydrocarbons low in aromatic content may not fluoresce. However, hydrocarbons and oils with a low water solubility will result in a turbid solution that is detected using the simultaneous turbidity measurement, instantly informing the operator of the presence of oil in the process stream, resulting in high measurement confidence.

Entrained gas and solids present in the process stream will not fluoresce and therefore do not affect the measurement. The immersion probe has the same dimensions as the industry standard Ø12 mm PG 13.5 pH sensors, allowing a range of standard fittings and retractable probe holders to be used.

Applications

- Trace oil or glycol in water
- Leak detection
- Cooling water and condensate return
- Drinking water
- Wastewater monitoring
- Environmental safeguard

Our products

Kemtrak manufactures high performance industrial process photometric, fluorescence and turbidity analyzers. Simple to use and low maintenance.

Robust zero maintenance measurement cells.

Measurement Cells and Probes

- **Zero maintenance:** No electronics or moving parts
- **Zero dead volume:** Sharp peak detection, no cross-contamination
- **Process connections:** Extensive range including Tri-Clamp, DIN and ASME
- **Materials:** Stainless steel, titanium, Hastelloy, PTFE and others
- **Hygienic design:** Electropolished finish, FDA certified materials
- **High temperatures:** Up to 330 °C (626 °F) continuous operation
- **Verification & calibration:** NIST-traceable accessory

Kemtrak optical measurement cells and probes provide a direct, reliable window into the flowing process. Compatible with absorbance, transmission, scatter, and fluorescence instrumentation, they enable accurate real-time monitoring across a wide range of industrial and hygienic applications.

All measurement cells and probes contain no electrical components, moving parts, or sources of heat. This eliminates condensation on optical surfaces and ensures intrinsically safe operation in hazardous areas. Cells can be coupled directly to the UV Spectra photometer or connected via fiber optics to remote analyzers.

Kemtrak measurement cells feature a true zero dead volume design — a critical advantage over competing products where dead volume causes peak broadening in chromatographic applications. This results in product loss, cross-contamination, and ineffective cleaning and sterilization.

Hygienic Tri-Clamp cells and probes are manufactured from electropolished 316L (EN 1.4435) stainless steel with scratch-resistant sapphire windows and FDA compliant sealing materials.

For industrial and chemical applications, cells are available in stainless steel, titanium, Hastelloy, PTFE, and PVDF, with sapphire windows and double O-ring sealing to withstand highly corrosive media and temperatures up to 330 °C (626 °F) during continuous operation. Optical pathlengths are freely selectable to suit each application.

Measurement confidence is assured through Kemtrak's integrated verification and calibration accessory, using NIST-traceable filters placed directly into the optical measurement circuit without opening or contaminating the process line. All cells and probes are manufactured to the most demanding specifications, ensuring long service life and the highest reliability.

Single-use measurement cell: Zero dead volume design & FDA certified o-ring seals

Single-Use Measurement Cells

- **Zero dead volume:** Sharp peak detection, no cross-contamination
- **Quick release:** Accurate and repeatable cell positioning
- **Line sizes:** From 1/16" to 1" with hose barb & Luer lock process connections
- **Optical path lengths:** 10 mm (4.5 OD) to 0.5 mm (90 OD)
- **Certified materials:** USP Class VI and FDA certified
- **Sterilization:** Compatible with autoclaving and irradiation
- **Precision manufacturing:** Verified optical path length tolerance ±5 µm

Kemtrak single-use measurement cells feature an award-winning design that eliminates cross-contamination between products and batches, providing exceptional safety, convenience and flexibility in biopharmaceutical processing. The Kemtrak UV measurement platform is ideally suited for chromatographic separation and filtration applications, offering the largest assortment of line sizes and optical path lengths available — supporting everything from small-scale discovery to full-scale production.

Manufactured from high-purity medical-grade polyphenylsulfone (PPSU), the measurement cells are color-coded by optical path length and can be sterilized via autoclaving or irradiation. The zero dead volume design across the entire cell range ensures sharp peak detection, which is critical for precise fractionation control and filtration performance.

Kemtrak single-use measurement cells are available in line sizes from 1/16" to 1" with hose barb connections, and Luer lock connections on 1/16" and 1/8" size cells. A robust, space-saving cell dock with a quick insertion/release mechanism accurately positions the cell in the optical light path, ensuring reliable and repeatable measurement performance. Optical path lengths range from 10 mm to 0.5 mm, providing a measurement capability of 4.5 to 90 OD when used with the Kemtrak DCP007 UV absorbance & UV Spectra deep UV process analyzers.

Kemtrak single-use cells are manufactured to the most exacting standards in the industry, with a verified optical path length tolerance of ±5 µm — the tightest specification available. Combined with the broadest assortment of line sizes and path lengths on the market, Kemtrak provides an unmatched combination of precision, flexibility and measurement confidence.

Our products

Kemtrak manufactures high performance industrial process photometric, fluorescence and turbidity analyzers. Simple to use and low maintenance.

Kemtrak Tri-Clamp type in-line measurement cell with verification accessory using certified NIST traceable verification filters in a standard 12.5 mm size cuvette format.

Photometric Accuracy Verification Filters

- **NIST traceability:** Surpasses NIST-2031a requirements
- **Construction:** Metal-on-quartz with scratch-resistant coating
- **Certified range:** 200 nm to 2 000 nm full UV-VIS-NIR spectrum
- **Safe and convenient:** Eliminates handling of fragile and toxic liquid standards
- **Standard size:** 12.5 x 12.5 x 45 mm cuvette for use with Kemtrak UV Spectra, DCP007 and all laboratory spectrophotometers

Kemtrak photometric accuracy verification filters are essential for ensuring precise optical absorbance measurements. Certified against National Institute of Standards and Technology (NIST) standards and surpassing NIST-2031a requirements, these filters provide a reliable and permanent benchmark for validating both laboratory spectrophotometers and Kemtrak process photometers, ensuring consistent and traceable measurements across all installations. Unlike fragile liquid calibration standards, Kemtrak verification filters never need to be replaced, eliminating the cost, inconvenience and safety risks associated with handling toxic liquid standards.

Spectroscopy is subject to stringent regulations from pharmacopoeias and quality assurance organizations worldwide. Maintaining photometric accuracy is crucial for ensuring correct readings at assigned wavelengths. Kemtrak photometric accuracy verification filters confirm whether instrument readings align with certified benchmark values of the standard — particularly important in regulated GMP environments where data integrity and instrument qualification are mandatory requirements.

Manufactured from durable Inconel (metal) on quartz with a scratch-resistant protective coating, these filters deliver long-lasting, maintenance-free performance and high accuracy across a certified absorbance range of 200 nm to 2 000 nm, covering the full UV-VIS-NIR spectrum. With external dimensions of 12.5 x 12.5 x 45 mm, they are compatible with any standard spectrophotometer cuvette holder, making them equally suited for process and laboratory environments.

Consistent verification with Kemtrak filters guarantees reliable measurements, regulatory compliance and reproducibility of results across all analytical applications.

CalCaps for Backscatter & Fluorescence

- Turbidity & fluorescence calibration
- Precise and repeatable
- No handling of liquids or hazardous chemicals
- 2 solid-state caps housed in a protective case
- Environmentally friendly

The Kemtrak CalCap calibration kit is a convenient accessory designed for effortless and reliable normalization of the TC007 and FL007 analyzers equipped with backscatter and fluorescence probes.

CalCaps are solid-state, liquid-free calibration references that replicate known and traceable conditions when applied to the probe tip.

Assuring consistent, accurate and reliable instrument readings, CalCaps eliminate variation or drift — allowing measurements taken at different time points or with different instruments to be directly compared and confidently interpreted.

QuickCal “liquid free” ISO 7027 formazine turbidity calibration.

QuickCal Turbidity Calibration Kit

- ISO 7027 compliant calibration procedure
- Simple instrument calibration
- No handling of hazardous formazine
- Precise and repeatable
- 3 sealed vials housed in a protective case

The Kemtrak QuickCal is a convenient accessory designed for calibration of the TC007 ISO 7027 turbidimeter. Sealed formazine primary standards eliminate the need for liquid handling, ensuring operator safety and preventing process contamination. Rapid and reliable calibration is assured every time.

Each kit includes a vial holder specifically matched to the measurement cell, a light exclusion cap, and a set of three sealed calibration vials (20, 100 and 800 FTU). The sealed vials are ISO 7027 compliant and supplied with a certificate of conformity, ensuring full traceability and regulatory compliance.

QuickCal is designed for routine maintenance, quality assurance and compliance with Process Analytical Technology (PAT) requirements. Its compact, portable format makes it well suited for field use and on-site verification.

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