

# Backscatter Immersion Process Probe

## Applications:

- **Crystallization control**
- **Fermentation control**
- **Cell culture & biomass monitoring**
- **Interface detection**

The Kemtrak backscatter immersion probe is designed to accurately measure low to extremely high turbidity directly in tanks and pipelines. The immersion probe has the same dimensions as industry standard  $\text{\O}12$  mm PG 13.5 pH sensors allowing a range of standard fittings and retractable probe holders to be used.

The dual fiber optic design of the immersion probe provides high resolution at low turbidity with excellent linearity all the way up to extremely high turbidity when used with a Kemtrak NBP007 near-infrared backscatter photometer.

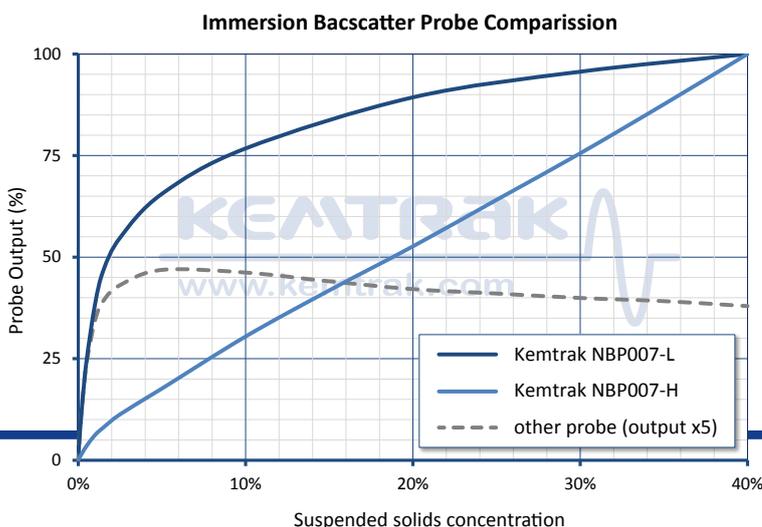
A unique benefit of the Kemtrak backscatter immersion probe is that it does not go blind at high sample turbidity. Other probes will stop working at 4000 NTU/FNU (<1 wt% solids) after which the signal will decrease resulting in an erroneous and misleading output. The output of the Kemtrak probe will continue to increase with sample concentration ensuring a reliable measurement.

The compact design of the immersion probe makes the instrument suitable for laboratory bench-top work to the most demanding commercial process installations.

Standard probe design is in 316L stainless steel or Hastelloy C-22 with a robust scratch resistant sapphire window. The highly polished unbroken probe surface ensures freedom from fouling and suitability for sanitary applications.

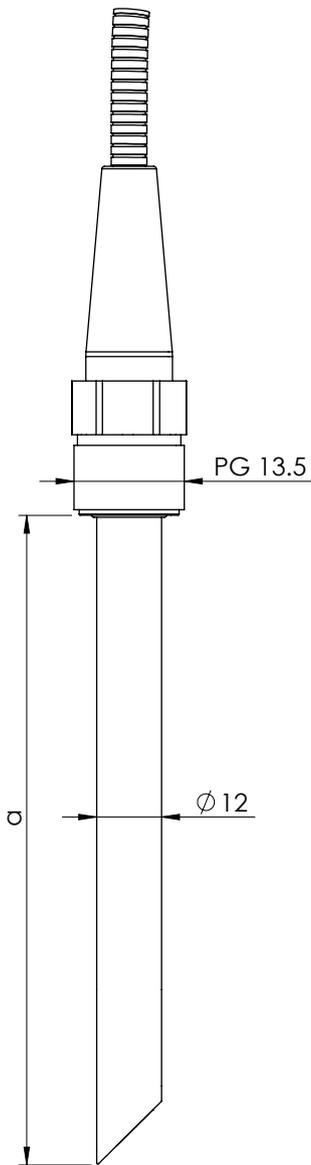
The fiber optic immersion probe has no electronics that will be damaged by high temperature process streams or sterilization cycles and is suitable for hazardous area use. Retractable probe holders can be used for automated cleaning and validation.

All Kemtrak products are made from the highest quality materials and are designed to the most demanding specifications to ensure long life and the highest reliability.



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### Benefits:

- 5 ... > 4000 FTU (up to 100% solids)
- Standard pH style immersion probe design (DIN 19263:2007-05)
- Probe lengths (a) 120mm, 225mm, 325mm & 425mm. Other lengths available on request
- Sapphire window is mounted from inside of probe and sealed using o-rings (no epoxy) - impossible to fall out in the process.
- Suitable for installation in hazardous area (Ex proof)

## Technical Data Immersion Backscatter Probe

**Measurement Range**  
5 FNU/NTU - 100% solids

**Manifold**  
Compatible with industrial pH sensors  
DIN 19263:2007-05, Ø12mm, PG 13.5  
Standard probe length 120 ±2 mm, 225 mm, 325 mm & 425 mm  
Custom lengths available on request.

**Materials**  
Stainless EN 1.4435 / 316L or  
Hastelloy C-22

**Window**  
Sapphire

**Surface Finish**  
Ra < 0.4 µm

**Elastomers**  
EPDM (FDA), FKM (FPM, Viton®, Fluorel®), FFKM (Kalrez® Spectrum 6375)

**Operating Conditions**  
Ambient & process temperatures up to 260°C (500°F)  
Process pressure from 10 mbar to 16 bar  
Operating conditions subject to material and design in use

**Fibre Optic cable**  
Silica core photonic fiber with fully-interlocked flexible stainless steel jacket and Kevlar® reinforcement  
Terminated with SMA 905 connectors  
Lengths up to 100 m (328 foot)

**Protection**  
IP66 / EN 60529

**Recommended Controller**  
Kemtrak NBP007 backscatter photometer

**KEATRAK**  
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*We reserve the right to make changes  
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Distributor

*Kemtrak is a leading manufacturer of fiber optic measuring and automation products for the process engineering industry. The Company provides tailor made solutions to meet the needs of a wide range of industries including chemical, petrochemical & offshore, pharmaceutical, food & beverage, pulp and paper and water & environment. With its headquarters in Stockholm Sweden, Kemtrak has trained representatives and support personnel globally. The main manufacturing facility in Gothenburg, Sweden is certified according to ISO 9001:2000.*