

APPLICATION NOTE

No. 2.09 FOOD & BEVERAGE

DAIRY – MILK FAT

- 0.1 – 60% total solids in dairy products
- Product identification & differentiation
- Separator control & optimization
- Detection of leaking valves
- Quality monitoring & control

The [Kemtrak NBP007](#) is an optical in-line analyzer suitable for continuous total solids content monitoring of dairy products including milk, cream and cultured dairy products such as yoghurt and cream cheese.

The [Kemtrak NBP007](#) utilizes high resolution VIS/NIR backscatter reflectance measurements for the accurate determination of the total solids content. Measurements are undertaken continuously and in real time using a hygienic process connection that is engineered to withstand the high temperatures and chemicals present in CIP & SIP cleaning cycles.



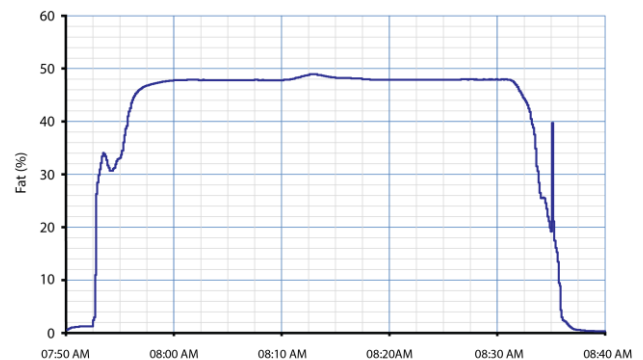
APPLICATION

The [Kemtrak NBP007](#) high resolution backscatter photometer simplifies the measurement of high concentration suspended solids, making it possible to accurately monitor, in-line and in real time, the full range of milk-fat concentrations anywhere in the dairy or creamery.



Kemtrak NBP007 backscatter photometer with a DN25/1" sanitary clamp pipe coupling fiber optic reflectance probe.

Traditional turbidity based optical measurement instruments lack resolution and are not reliable at concentrations above 1% suspended solids due to the high optical density of the process media. This limitation is overcome with the [Kemtrak NBP007](#) and for the first time the operator can monitor and have complete control over their dairy process at any concentration.



Continuous in-line monitoring of extra thick double cream.

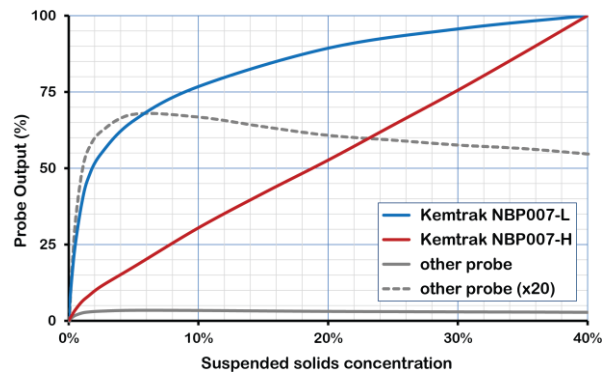
INSTALLATION

The recommended installation for dairy applications is to mount the [Kemtrak sanitary backscatter probe](#) with integrated DN25/1" sanitary clamp pipe coupling directly on any size pipeline greater than DN25/1" diameter.

The sanitary backscatter probe is manufactured in 316L stainless steel with a robust scratch resistant sapphire window. The highly polished unbroken probe surface ensures freedom from fouling and suitability for sanitary applications.

Fiber optics are used to connect to the sanitary backscatter probe which contains no electronic components. The standard probe will withstand constant operating temperatures of 120°C making it suitable for high temperature SIP cycles. Higher temperature probes are also available.

A unique benefit of the [Kemtrak sanitary backscatter probes](#) is that it will not go blind at any concentration of suspended solids. The output of the [Kemtrak NBP007](#) will continue to increase with sample concentration ensuring a reliable measurement at any concentration. The NBP007-L (low range) analyzer is recommended for process concentrations up to 10% total solids, while the NBP007-H (high range) analyzer should be used for accurate monitoring of suspended solids exceeding 10%.



Two instrument models are available for 0.1-60% total solids content determination. The NBP007-L (low) has higher resolution from 0.1-10% solids, while the NBP007-H (high) has significantly higher resolution above 10% suspended solids.

