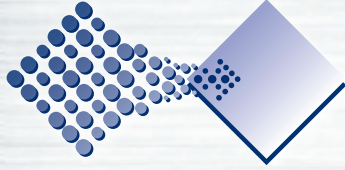


Fiber Optic Transmission Probes

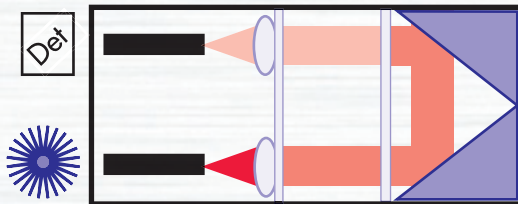
3500-TNS Series Process Fiber Optic Probes



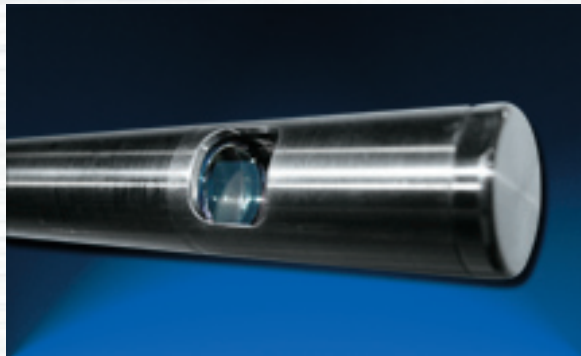
Custom Sensors & Technology has been supplying process probes for the process industry for over 20 years. Recently we have redesigned our most popular probes to reflect the demanding conditions in the chemical, petrochemical, pulp & paper and pharmaceutical industries. Our standard transmission designs will withstand 5,000 psig and 300°C process conditions. Working in the UV-VIS or NIR regions of the spectrum, these probes are used when extractive sampling strategies are either environmentally or economically cost prohibitive.

Double Pass Transmission Probe

Optical concept



20mm pathlength
Transmission
Probe, P/N 3502



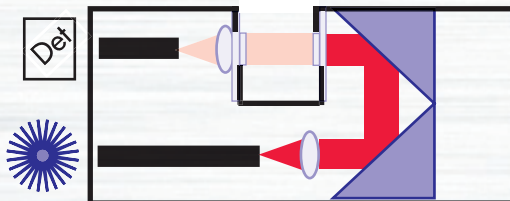
General Description

CST manufactures both single and double pass probes for use in the 200-2400nm wavelength region. The probes send light energy from a source through the sample by offset folding the beam 180° and back via a protected reflector. The amount of transmitted/absorbed light is carried back to either a spectrophotometer or photometric instrument where the intensity of the returning optical energy is converted to concentration units.

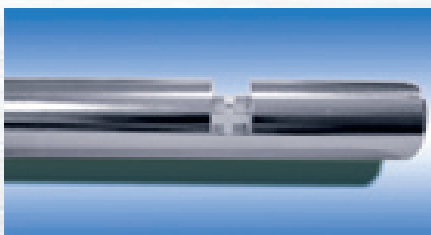
Double pass probes are typically used when pathlengths in the 5-20mm range are required. The single pass probe is used for pathlengths between 1 and 6 mm.

Single Sided Transmission Probe

Optical Concept



2mm pathlength
Transmission
Probe, P/N
3501



Probe Applications

Typical applications for the insitu Transmission probe are;

- Absorbance/Transmittance
- Color of process stream
- Presence/absence of analyte
- Dye markers in fuels
- Scattering by particles
- Sanitary Designs available
- Most UV-VIS or NIR absorbing analytes in a process fluid

Product Specifications

| Mechanical | Double Sided Transmission Probe, P/N 3502-TNS-DST | Single Sided Transmission Probe, P/N 3501-TNS-SST |
|------------------------------------|---|--|
| Weight | Depending on length and materials of construction | |
| Body diameter | 1" | 3/4" |
| Standard materials of construction | 316SS Std. | |
| Temperature rating (Max) | 300°C | |
| Pressure rating ¹ | 5,000 psig | |
| Optical materials ⁴ | Quartz | |
| Seals | Viton, Chemraz, Kalrez | |
| Optical | | |
| Wavelength regions | 210-2400nm | |
| Fiber connection | SMA-905 | |
| Conduit connection ² | 1" pipe thread | |
| Typical Pathlengths | 1-6 mm | 5-20 mm |
| Options | | |
| Automatic/Manual retraction | Pneumatic or external | |
| Materials of construction | Hastelloy C, Monel, Titanium, others available please consult factory | |

***Notes:**

1. Pressure test performed by independent 3rd party vendor. Results available upon request. Probes have been pressure tested to 5,000psig. For pressure ratings at specific temperatures please consult the factory.
2. Conduit connection connects to 1' flexible conduit.
3. Probes used in Bioprocessing applications are supplied with Electropolished finishes of 12RA or better.
4. Alternate optical materials are sapphire and infrasil.

Custom Sensors & Technology is a full service provider. We also supply photometric transmitters, fiber optic probes & flow cells, O₂ transmitters, sample handling systems, and services including: application engineering, commissioning & start-ups, product validation, factory acceptance testing, process stream GAP Analysis, and in-house repair.