

SERIES 500 Single Fiber, Single Pass Probe

PSD's Series 500 Single Pass Transmission Probe Assembly is a precision optical instrument that is designed for high performance NIR sampling. The probe body is fabricated from 316/316L Stainless Steel, or the metal specifically requested, with two sapphire windows in the probe body separated by a fixed path length distance. The sapphire window is chemically inert and has a very hard surface that resists etching from caustic solutions and scratching from hard or rough surfaces. The innovative optical arrangement of the probe provides a true single pass transmission design, which provides superior quantitative performance.

Single pass transmission measurement is most often used to analyze NIR absorbance and transmission of clear and translucent liquid chemical, pharmaceutical and other solution formulations. PSD's Series 500 Single Pass Transmission Probe is especially suitable for immersing or embedding into heated and pressurized liquid processes for real-time, in-line sample monitoring. This probe can also be dipped into liquid samples at the laboratory bench, at receiving inspection or inserted into a reactor vessel. It can be easily connected to 600 micron single fiber spectroscopy-grade fiber assemblies up to 100 meters long via its SMA 905 connections. It contains two internal 600 micron ultra low OH silica fibers that terminate in SMA connectors and an optically efficient collimating sapphire lens for precise path length definition and high sensitivity. The result is high transmission capability, excellent optical stability and photometric accuracy. Various flanges can be welded to the probe shaft to accommodate specific installation requirements.

PRODUCT HIGHLIGHTS & SPECIFICATIONS

Optional UV and visible light sampling

High sensitivity with minimal spectral reflection or background noise (<1%)

Robust and inert construction for industrial process applications

Alternate material per customer request to construct probe

Internal purge capability available for higher temperature applications

Capable of operating up to 250°C and 500 PSI

Flanging for specific installation requirements available

Probe diameters from 0.750"

Probe length specified by customer (Standard 12.00")