

# Transmission Dip Probes

## Dip Probe for Hostile Environments

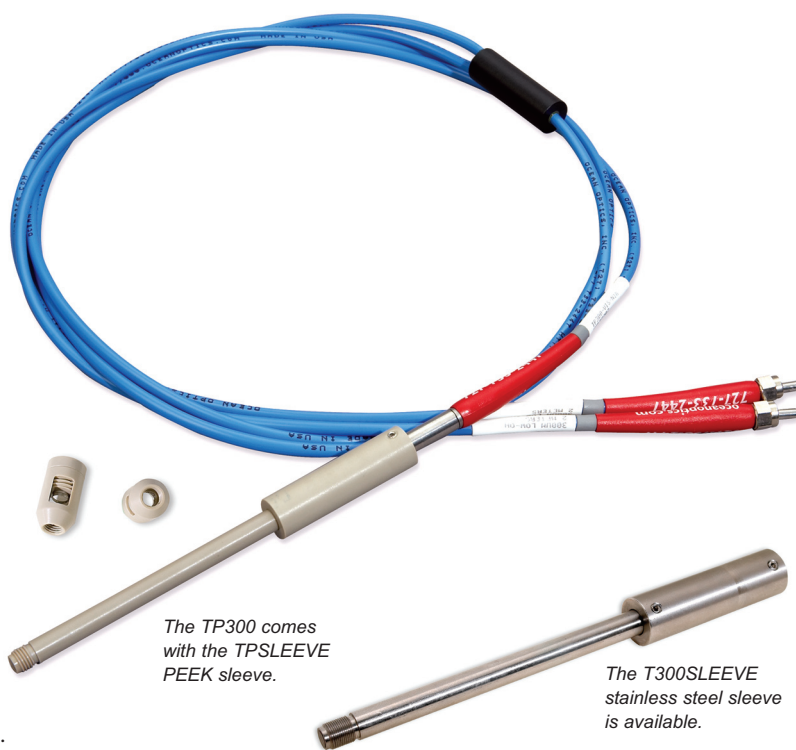
The TP300-UV-VIS Transmission Dip Probe couples to our spectrometers and light sources to measure the absorbance and transmission of solutions in harsh environments.

## Probe Assembly

The TP300-UV-VIS consists of two 300- $\mu\text{m}$  optical fibers -- one illumination optical fiber and one read optical fiber -- in a 3.175-mm (1/8") outer diameter stainless steel assembly sealed into a PEEK polymer sleeve. You have the option of choosing solarization-resistant fibers or VIS-NIR fibers for your assembly.

## PEEK Polymer Sleeve

The sleeve is designed for environments with temperatures up to 200 °C. The PEEK material is also radiation-resistant and has low flammability and excellent chemical resistance. The PEEK sleeve (TPSLEEVE) comes with the TP300-UV-VIS. An additional stainless steel sleeve (T300SLEEVE) is available.



The TP300 comes with the TPSLEEVE PEEK sleeve.

The T300SLEEVE stainless steel sleeve is available.

## Theory of Operation

The TP300 works the same way as the T300-RT and T200-RT probes. Light travels from the light source into the illumination leg of the probe and through a lens near the end of the probe. The light then transmits through the sample compartment to a second-surface mirror. The light reflects and travels back through the sample compartment a second time and is then focused by the lens onto the read fiber and through the read leg of the probe to the spectrometer.

## Adjustable-pathlength Tips

There are two adjustable-pathlength tips (2-mm to 10-mm pathlengths or 10-mm to 20-mm pathlengths) available for the TP300-UV-VIS. Additionally, an RT-PH tip for mounting pH films in the optical path can be used for pH-sensing applications.



The RTP-series Tips (above) are for transmission and absorbance measurements. The RT-PH Tip (left) turns the TP300 Probe into a pH Sensor (see page 76).

## Specifications

Fiber type:	TP300-UV-VIS -- 300 $\mu\text{m}$ UV/SR fiber type (200-1100 nm) TP300-VIS-NIR -- VIS-NIR fiber type (400-2500 nm)	Pathlength:	Adjustable from 2-10 mm or from 10-20 mm RT-PH - fixed 16-mm pathlength
Outer diameter:	3.175 mm	Outer materials:	PVDF for jacketing, PEEK polymer for sleeve
Length:	107.9 mm for probe, 2 meters for fiber	Temperature limit:	200 °C with PEEK sleeve
Optics:	Fused silica	Pressure limit:	100 psi

