BROAD SPECTRA FIBER SOLUTIONS

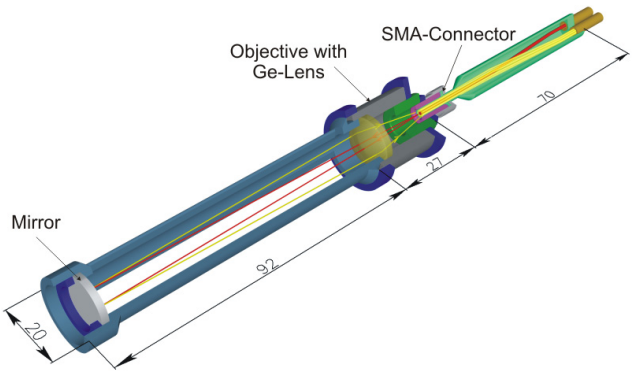
Transmission/Reflection IR-Fiber Probe for gases

hightechphotonics

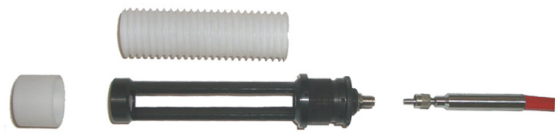
Y-design of Transmission / Reflection T/R-IR-Fiber Probe for 1.5-18µm range is based on fiber ring bundle - with large diameter IR-fiber in probe center coming from one leg, while 7 smaller diameter fibers surround fiber in center and form a dense hexagonal 7 x bundle at other leg end. This design enables effective collection of IR-radiation reflected back by T/R-Probe mirror and good coupling with input spectrometer beam and with IR-detector at probe output.

Double pass transmission for gases - can be also realized with the same IR-fiber bundle design, but with a collimated lens added to probe head. Due to much lower Mid IR-attenuation in gases the collimated beam design of double pass (or multiple pass) gas cell is needed to increase optical path length to 10-40cm range. This design is easily realized with collimating length objective and reflecting mirror cell of customized length.

Features

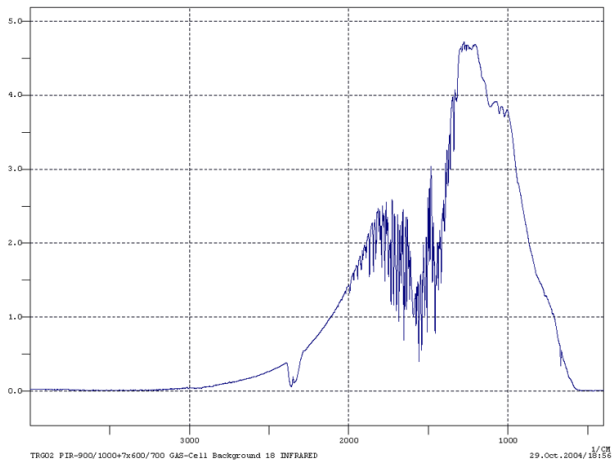


- Compatible with all FTIR and other IR-spectrometers with SMA-terminated optical couplers
- Y-design with 2 legs of 1m length each. Optional leg length available on request. Joint probe end design depends on customer application - see options A, B, C or D above. Probe termination D for gases is done by SMA-connector - to enable to use collimating objectives with SMA-termination
- Distance between mirror and collimating objective lens for transmission test of gases can be varied in 1-20cm range to select an optimal optical path length - as defined by specific gas attenuation in a chosen spectral range
- Protection of legs by PEEK-2/3.2 tube and termination of probe input and output by SMA-connectors. Probe heads, caps and cells of customized design available according customer applications
- Sealed head assembly for immersion probes designed for transmission test of liquids (Titanium-ferrule - Standard; Hastelloy, PEEK or Stainless Steel - on request) of 10mm diameter and 70mm length (other length - on request)
- Customized cap locks are also available - as all PIR-fiber probes can be modified to meet specific customer request.

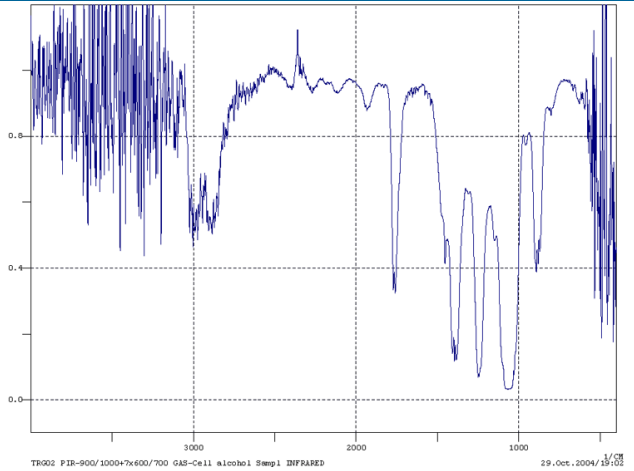
PIR-Fiber T/R-Probe for Gases	Objective	Mirror	SMA-Connectors
			

Spectra Samples

Background of TRG02 PIR-TR-Gas Cell-Probe



TRG02 PIR-TR-Gas Cell-Probe: Sample of Alcohol vapor



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