DPR-210 and 212 Laboratory ATR Immersion Probes

Hellma® Analytics
Axiom Technology

Sample compartment mounted probes for quick and accurate FTIR analysis of liquids, pastes, and Slurries.

DPR-210 Sample Compartment Probe

With the DPR-210 or 212 ATR probe, you can perform rapid FTIR analysis on a wide variety of samples with virtually no sample handling. Just dip the conical sensing head into a sample container for rapid screening or detailed analysis - on the receiving dock or in the lab.

The two probes are similar but differ in their mechanical configurations. The DPR-210 includes a 90 degree joint. This provides a high degree of sampling convenience by allowing the probe to be pivoted around the axis of the spectrometer's sample compartment and dipped into a sample vessel. This mode of operation is it ideal for rapid analysis of samples contained in beakers or other open containers.

The DPR-212 is a straight 30 cm long probe. The elimination of the 90 degree joint substantially increases the probe transmission (> 20 % versus > 12 % for the 210). It is ideal for use with instruments such as the Bruker Alpha or Thermo-Fisher iS Series which allow the probe to point straight down out of the sample compartment. When used with a more traditional instrument, it can be inserted into a sample vessel through a suitable sealing fitting.

With permanently aligned optics and a choice of ATR element materials, the DPR-210 and 212 provide highly linear, repeatable, and artifact-free spectra throughout the mid IR region. As a result of their high transmission, these probes provide excellent results with a standard DTGS detector.

CONFIGURATION FLEXIBILITY

The standard DPR-210 sample compartment mounted sampling system consists of a DPR-210 Immersion Probe Sensing Head combined with the DSR-210 Articulated Sample Region Mount and Transfer Optics. These allow the probe to be dipped into any open container. It comes complete with a pair of adjustable purge shrouds. Sample compartment interface plates are available to match all commercial FTIR spectrometers. The 25 mm (1") diameter sensing head is equipped with a 29/42 sliding tapered joint for easy interfacing with standard laboratory reaction vessels.

When your sample interfacing needs are outside of the spectrometer, the DPR-210 or 212 sensing head can be coupled to a collimated output port by means of Axiot optical transfer modules. For example, the probe can be installed in an external sample region such as our AXM-600 Series for flexible sampling in locations such as a fume hood. (See the illustration on the reverse.)

Please contact us to find out more about how a DPR-210 or 212 system can fit your sample interfacing needs.

DPR-210 AND 212 FEATURES:

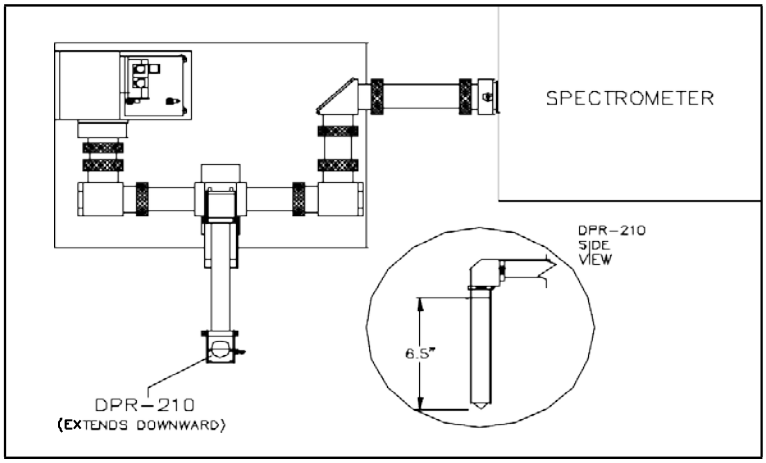
- Dips into any container for rapid sample screening
- Mates to standard reaction vessels
- Rapid cleaning with no sample retention
- Broad spectral response (650 to > 4,000 cm-1)
- Sample compartment or outboard mounting
- High transmission (> 20 % for DPR-212
- Continuous purge for rapid sample throughput

DPR-212 Mounted in a Bruker Alpha FTIR Spectrometer

DPR-210 AND 212 SPECIFICATIONS:

Standard Element Material:	ZnSe
Spectral Range:	650 cm^{-1} to >4,000 cm^{-1}
Probe Diameter:	25 mm
Maximum Immersion Length:	DPR-210: 16.5 cm; DPR-212: 30 cm
Length of Lateral Extension:	22.8 cm (DPR-210 only)
Number of ATR Reflections:	2
Angle of Incidence:	45°
Nominal Transmission*:	12% (DPR-210) 20% (DPR-212
Sliding Tapered Joint Provided:	29/42
Maximum Temperature:	250° C
Material of Construction:	316 stainless steel
Seal Type:	Dual Kalrez 6375 O-rings

*With ZnSe ATR Element



DPR-210 outboard sampling configuration including Axiot optical transfer modules, AXM remote sample region, and outboard detector.

AVAILABLE DPR-210 AND DPR-212 ATR ELEMENTS:

Material	Spectral Cutoff (cm-1)	Hardness (knoop)	Attacked by:
ZnSe	650	120	Acids, Oxidizers
ZnS	950	250	Strong oxidizers, some acids
AMTIR-1	850	170	Strong Alkalis
Ge	700	780	Hot sulfuric acid, aqua regia
Si	1150	1500	HF, HNO3, NaOH

Hellma GmbH & Co. KG. – Klosterrunsstraße 5, 79379 Müllheim, Germany
phone: +49 7631 182 1020 – Fax: +49 7631 182 1011
www.hellma-axiom.com – E-Mail: sales.analytics@hellma.com

PS-DPR-210-212-L-(12-5-16)