

DPR-210 and 212 Laboratory ATR Immersion Probes

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 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 Axiom 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

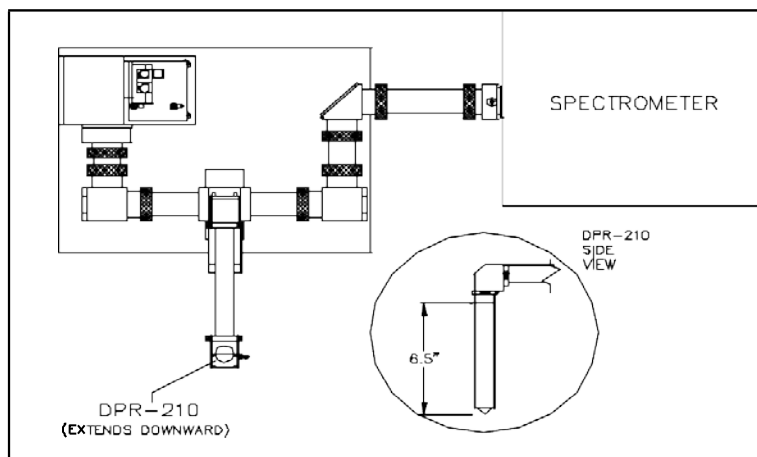


DPR-212 Mounted in a Bruker Alpha FTIR Spectrometer

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 Alkalies |
| Ge | 700 | 780 | Hot sulfuric acid, aqua regia |
| Si | 1150 | 1500 | HF, HNO ₃ , NaOH |