

## DATASHEET

# ARCspectro VIS-NIR DR

## Spectrophotometer for diffuse reflectance measurement in VIS & NIR (360-2500nm)



The ARCspectro VIS-NIR is a laboratory spectrometer designed for the **measurement of diffuse reflectance** of solid samples over the **complete VIS & NIR** spectral range.

The system includes an **integrating sphere** for diffuse reflectance measurement on samples. **Accurate** results are obtained in only **5 seconds**. Ideal for paints, textiles, or raw material reflectivity characterization.

This instrument is ideal for measuring the **Total Solar Reflectance (TSR)** value. This parameter is calculated automatically by the included software.

### ■ Applications

- VIS-NIR diffuse reflectance measurement on paints, textiles, dyes, ink, cosmetics or plastics
- Measurement of Total Solar Reflectance (TSR value) in accordance to ASTM® norms G173 and E903

### • Characteristics

- Large spectral range: 360nm-2500nm with high optical resolution (5 nm)
- Fast (5 seconds measurement) and easy to use (no user parameters)
- Accurate measurement: integrating sphere with 10mm-diameter measurement port
- Automatic calculation of the Total Solar Reflectance value

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### ■ Features

#### Two spectrometers in one

The system incorporates two spectrometers: one Arcoptix FT-NIR Fourier-Transform scanning spectrometer for NIR region (900-2500nm) and one multichannel grating spectrometer for the VIS region (360-1050nm). The software automatically connects the spectra from the 2 spectrometers, so you do not have to care about this.



#### Integrating sphere

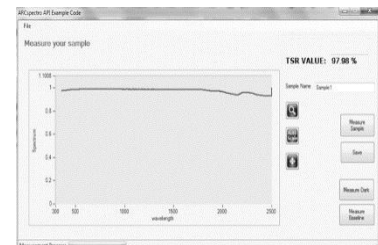
The 50mm ID Integration sphere with internal halogen lamp is an ideal diffusing light source. It produces a homogeneous and bright illumination all over the 10mm-diameter measurement port. Light reflected from the sample is collected under a standard 8° viewing angle.



#### Total Solar Reflectance

The easy-to-use software interface for Windows XP, 7 and 8 is included.

In addition to allowing for instrument control and display of reflection spectra, the software automatically calculates the Total Solar Reflectance (TSR) value.



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### ■ Technical specifications

|                                                                      |                                               |
|----------------------------------------------------------------------|-----------------------------------------------|
| <b>Spectral range</b>                                                | 360 – 2500 nm                                 |
| <b>Spectral resolution</b>                                           | 5 nm (optical)<br>1nm reporting interval      |
| <b>Measurement geometry</b>                                          | Diffuse illumination and 8° viewing           |
| <b>Integrating sphere diameter</b>                                   | 50 mm                                         |
| <b>Measurement port diameter</b>                                     | 10 mm                                         |
| <b>Illumination source</b>                                           | Halogen, 5W                                   |
| <b>Measurement time</b>                                              | <5s                                           |
| <b>SNR (Full dynamic range- single measurement, broadband diode)</b> | >1'000:1                                      |
| <b>Inter-instrument Agreement</b>                                    | ±1% at 50% R                                  |
| <b>Read Repeatability On White Ref</b>                               | Less than 0.2% variation at 50% R             |
| <b>Inter-instrument Agreement for Reflectance (CIELAB)</b>           | Better than 0.2                               |
| <b>Software Interface</b>                                            | Windows XP / 7 / 8                            |
| <b>Operating power</b>                                               | 12V / 20W<br>(line power adaptor is included) |
| <b>Communication Interface</b>                                       | USB                                           |
| <b>Product Dimensions (including electronics)</b>                    | 38mm x 25cm x 32cm                            |
| <b>Product Weight</b>                                                | 8 Kg                                          |
| <b>Operating Temperature</b>                                         | 10°C – 40°C                                   |

### ■ Ordering Information

|                              |            |
|------------------------------|------------|
| <b>ARCspectro VIS-NIR DR</b> | VIS-NIR-DR |
| <b>Replacement bulb</b>      | QTH-12-05  |