ATR-L
Refractometer
Spectral-Refractometer for automatic dispersion measurement
**SPECIFICATIONS ATR-L**

### Measuring scales
- Refractive index (RI)

### Measuring range
- 1.33200 - 1.70000 RI* / 100% Brix

### Resolution
- 0.00001 RI* / 0.01 Brix

### Precision
- ± 0.00004 RI* / ± 0.03 Brix

### Reproducibility
- ± 0.00004 RI* / ± 0.03 Brix

### Measuring time per sample
- 20 sec for all 7 wavelength after temperature stabilisation; single sample measurement

### Ambient temperature
- +15° to +40°C

### Automatic temperature compensation
- Solid state Peltier-thermostatisation
  - Operational temperature: +10°C to +80°C
  - Temperature stability: ±0.03°C
  - Temperature precision: ±0.03°C

### Detector
- CCD-linear array with 2048 elements

### Sample compartment
- Used materials: stainless steel, Black Delrin®, Teflon®, Viton®, FFKM sealing

### Prism
- YAG

### Light source / Wavelength
- 7 discrete LED’s with fixed wavelengths 400, 450, 490, 525, 590, 660, 700 nm (others on request), wavelength accuracy ±2 nm

### Display
- LCD, 16 x 16 characters, back illuminated

### Operation
- 20 key membrane including function keys

### Interfaces / Communication
- 1 x RS232 C, 1x parallel, USB optional

### Standards
- European and international Pharmacopoeia, various ASTM, ISO and DIN standards

### Dimensions / Weight
- Measuring head, stainless steel: 260 x 190 x 220 mm (w x h x d); control unit: 220 x 110 x 290 mm (w x h x d); complete unit 8 kg

### Highlights
- Automatic dispersion measurement at 7 wavelengths over the full range of visible light (intermediate values interpolated)**; Powerful, internal Peltier temperature control guarantees the fastest measurements with highest accuracy

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**Refractometer applications**

The applications of Refractometers are highly diverse for fast and non-destructive determination of refractive index.

**Applications often used**
- Determination of product purity
- Quality control
- Product fingerprinting
- Optical material characterization

**Typical applications of the model**
- Measurement of dispersion and calculation of Abbé number
- Measurement of lenses made of plastic or glass
- Quality control of hydrophobic and hydrophilic intraocular lenses (IOL)
- Standard test method for refractive index and refractive index dispersion determination of hydrocarbon liquids accord. to ASTM 1218
- Testing of fiber-optic components
- Material engineering of polymer compounds

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