## Applications for Our Polarimeters According to Industries

### Pharmaceutical Industry

**Typical applications:**
- Determination of the concentration of sugar as an ingredient of pharmaceutical agents
- Purity control and content determination
- Determination of the stereochemical composition and mutarotation
- Characterisation of new synthetic substances

**Analysed substances:**
- Sugar, amino acids and proteins, blood sera, vitamins, steroids, antibiotics, hormones, painkillers, amphetamines etc.

**Special requirements:**
- Precision, compliance with standards

**Standards:**
- Pharmacopoeias (USP, BP, JP, Ph. Eur.), GLP

**Recommended polarimeters:**
P8000-T, P8000-P

### Chemical Industry

**Typical applications:**
- Purity control and concentration determination
- Monitoring of chemical processes during the production of optically active substances
- Characterisation tests in research laboratories
- Reaction kinetic analyses

**Analysed substances:**
- Biopolymers, synthetic polymers, glycerinaldehydes, various hydrocarbons etc.

**Special requirements:**
- Accurate temperature control at different temperatures, variability of the measurement methods, option of interval measurements

**Standards:**
- AOAC, OIML, ASTM, GLP

**Recommended polarimeters:**
P8000-T, P8000-P

### Food and Beverage Industry

**Typical applications:**
- Characterisation, quality and purity control of raw materials and end products
- Determination of the sugar concentration in beverages and candies
- Routine analysis with high sample throughput

**Analysed substances:**
- Sugar, lactic acid, starch (polysaccharide) in food and feed, aromas, lactose in milk, glucose in wine, sugar composition in honey etc.

**Special requirements:**
- High resistance to chemicals, availability of micro-cuvettes

**Standards:**
- AOAC, OIML, ASTM, GLP

**Recommended polarimeters:**
P8000-T, P8000-TF

### Sugar Industry

**Typical applications:**
- Determination of the sugar concentration in raw materials, preliminary, intermediate and end products
- Monitoring of chemical processes, e.g. during the manufacture of invert sugar
- Purity control

**Analysed substances:**
- Sugar cane, beet pulp, molasses, refined sugar, syrup, invert sugar etc.

**Special requirements:**
- Availability of the international sugar scale, no need for maintenance

**Standards:**
- ICUMSA, GLP

**Recommended polarimeters:**
P8000, P3000

### Manufacturers of Aromas, Fragrances and Essential Oils

**Typical applications:**
- Quality control of raw materials and additives
- Monitoring of the production of intermediate and end products

**Analysed substances:**
- Essential oils such as orange, lavender, lime and peppermint oil, glyceric acid, aromas and perfumes for the food and cosmetics industry etc.

**Special requirements:**
- High resistance to chemicals, availability of micro-cuvettes

**Standards:**
- Ph. Eur., AOAC, OIML, GLP

**Recommended polarimeter:**
P8000-TF

### Hospitals and Pharmacies

**Typical applications:**
- Incoming/outgoing goods inspection
- Control of pharmaceutical products according to pharmacopoeias

**Analysed substances:**
- Pharmaceutical agents as well as raw materials and additives

**Special requirements:**
- Robustness, easy handling, low price

**Standards:**
- Pharmacopoeias (USP, BP, JP, Ph. Eur.), GLP

**Recommended polarimeters:**
P1000-LED, P3000

### Training in the Industry or at Universities

**Use for practical exercises and experiments:**
- Kinetics of the cane sugar inversion
- Mutarotation of glucose
- Determination of the concentration of polysaccharides through amylolysis

**Special requirements:**
- Easy handling, low price

**Standard:**
- GLP

**Recommended polarimeters:**
P1000-LED, P3000