

**Industry: Pharmaceutical**

Applications	Substances	Requirements	Standards	Polarimeters
▪ 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 ▪ Ensuring enantiomer separation ▪ Concentration determination of optically active substances ▪ Analyzing toxic and pharmacological characteristics	➤ Sugar, Vitamins ➤ Amino acids and proteins ➤ Blood sera, steroids, antibiotics, hormones ➤ painkillers, amphetamines ➤ Schmerzmittel, Amphetamine etc.	▪ Accuracy ▪ Standards conformity	▪ Pharmacopoeias (USP, BP, JP, Ph. Eur.) ▪ 21 CFR Part 11	P8000-T P9100-P

Industry: Chemical

Applications	Substances	Requirements	Standards	Polarimeters
▪ Purity control and concentration determination, ▪ Tracking of chemical processes in the production of optically active substances, ▪ Characterization tests in research laboratories ▪ Reaction kinetics studies	➤ Biopolymers, synthetic polymers ➤ Glycerinaldehydes ➤ Various hydrocarbons etc.	▪ Control at different temperatures, ▪ Variability of the measurement methods ▪ Option of interval measurements	▪ AOAC, OIML, ASTM ▪ Pharmacopoeias (USP, BP, JP, Ph. Eur.) ▪ 21 CFR Part 11	P8000-T P9100-P

Industry: Food and Beverage

Applications	Substances	Requirements	Standards	Polarimeters
▪ Characterization, quality and purity control of raw materials and end products ▪ Determination of sugar concentration in beverages and confectionery products ▪ Quality control & purity determination of starch and starch-based products, dextrose or corn syrup ▪ Analysis of carbohydrate components as an indication of product quality ▪ Routine analysis with high sample volumes	➤ Sugar, starch ➤ Polysaccharides in food and animal feed products ➤ Flavors ➤ Lactose in milk, lactic acid ➤ Glucose in wine ➤ Sugar content in honey, etc.	▪ Fast measurement with easy handling ▪ Robust, acid-resistant measuring tubes	▪ AOAC, OIML, ASTM	P8000-T P9100-P



Industry: Sugar				
Applications	Substances	Requirements	Standards	Polarimeters
▪ Determination of the sugar concentration of raw materials, preliminary, intermediate and final products, ▪ Tracking of chemical processes, e.g. in invert sugar production, ▪ Quality control & purity determination of starch and starch-based products, dextrose or corn syrup ▪ Analysis of carbohydrate components as an indication of product quality	➔ Sugar cane ➔ Beet pulp ➔ Molasses, refined sugar ➔ Syrup, invert sugar, dextrose ➔ Corn syrup etc.	▪ Availability of the international sugar scale ▪ No need for maintenance	▪ ICUMSA	P8000 P3000 (with temperature control)

Industry: Manufacturers Aromas, Fragrances and Essentials Oils				
Applications	Substances	Requirements	Standards	Polarimeters
▪ Qualitätskontrolle von Roh- und Hilfsstoffen ▪ Überwachung der Produktion von Zwischen- und Endprodukten ▪ Reinheitsmessungen von wertvollen ätherischen Ölen ▪ Garantie der gleichbleibenden Qualität von Parfümen	➔ Essential oils: orange, lavender, lime and pepper mint oil ➔ Glyceric acid ➔ Aromas and perfumes for the food and cosmetics industry etc.	▪ High resistance to chemicals ▪ Availability of micro-cuvettes	▪ AOAC, OIML, ▪ Pharmacopoeias (Ph. Eur.)	P9100-P

Hospitals and Pharmacies				
Applications	Substances	Requirements	Standards	Polarimeters
▪ Incoming goods/outgoing goods inspection ▪ Control of medicines according to pharmacopoeias	➔ Drug ingredients ➔ Pharmaceutical raw materials and excipients	▪ Robustness ▪ Easy handling ▪ Low price	▪ Pharmacopoeias (USP, BP, JP, Ph. Eur.) ▪ 21 CFR Part 11	P1000-LED P3000 (with temperature control)

Education in Industry or at Universities		
Applications	Requirements	Polarimeters
▪ Use in practical exercises and experiments on: ➔ Kinetics of cane sugar inversion ➔ Mutarotation of glucose ➔ Concentration determination of polysaccharides by starch hydrolysis	▪ Robustness ▪ Easy handling ▪ Low price	P1000-LED P3000 (with temperature control)



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