



APPLICATION NOTE – SUGAR AND SWEETENER (BRIX) TESTING

Application Need: There is an important need in the Food and Beverage industry to measure and control the Sugar/Sweetener (Brix) content of various products. Sugar/Sweetener content is often the critical and most expensive component of many of these products. Maintaining the proper concentration ensures quality and reduces costs. Brix (also known as Degrees Brix) is a sugar scale used to determine the total concentration of dissolved solids. Specifically, it is designed to measure Sucrose content in solution, but it is also used as a relative measurement of concentration of other types of sweeteners, such as High Fructose Corn Syrups (HFCS) for example.

The Problem: Food and beverage samples are often highly colored, and even opaque. Liquid sugars are often times quite thick or viscous. Certain samples such as fruit juices and concentrates, jams, jellies, etc. can have undissolved material such as pulp, which can affect the reading by blocking light. The manual, or Abbe refractometer, projects a visible shadowline on the crosshairs in the instrument. This shadowline is often blurry. Operator misinterpretation of the shadowline can result in significant measurement errors.

The Solution: Reichert automatic digital refractometers are ideal for measuring Brix. Here is why:

- ✓ Sample color or opacity does not effect automatic refractometers. Fully automatic refractometers are also known as reflected light refractometers because they utilize the light that is reflected by the sample for analysis. ✓ Reduced operator error. An electronic detector is used instead to take the measurement.
- ✓ Temperature may be controlled via an external water bath circulator on the AR6 Series, ARIAS, and MARK III models or by a built in Peltier Thermal Control System on the AR7 Series.

Product Recommendations:

AR7 Series Automatic Refractometers, Reichert Cat # 13107000 & 13107700 **AR6**

Series Automatic Refractometers, Reichert Cat # 13106000 & 13106600

r²i300 Compact Automatic Refractometer, Reichert Cat # 13980000 **AR200**

Digital Handheld Refractometer, Reichert Cat # 13950000

Brix/RI-Chek Pocket Digital Handheld Refractometer, Reichert Cat # 13940000

ARIAS OptiMatrix 500 Semi-Automatic Refractometer, Cat # 1310499SA **ABBE**

MARK III Refractometer, Cat # 1310488M