



Brix and Concentration Measurements for Continuous Vacuum Pans

Microwave Brix Measurement

Highly accurate and repeatable Brix/ Concentration measurements

The ability to monitor and control various parts of the sugar production process is key to producing high quality products.

In the sugar production process, there are several critical process points where repeatable and accurate measurements are required. Among them are Continuous Vacuum Pans (crystallization), Evaporator Pans and Milk of Lime.

Using fourth generation state-of-the-art microwave measurement technology, Berthold Technologies Micro-Polar Brix measurement systems can do the job online and in real time. Trends can be recognized and process actions can be taken insuring high quality and cost efficient production.

Continuous Vacuum Pan Microwave Brix Measurement

Controlling the boiling process in vacuum pans is one of the most important activities in the sugar production process. High accuracy is required to determine the seeding point to insure proper crystal structure and size of the product.

The Berthold Technologies LB 565 Micro-Polar Brix is the ideal solution for providing a highly accurate and repeatable measurement.

Using 4th generation, sophisticated microprocessor technology, the LB565 generates microwave signals that penetrate the process. Free water molecules are polarized which cause a phase shift and attenuation of the microwave signal detected at the receiving antenna. Using these two parameters, the LB 565 determines the concentration (Brix) while easily compensating for a number of process variables.

The LB 565 Micro-Polar Brix offers significant advantages against competitive technologies which are dependent upon color and other process variations.

The LB 565 Micro-Polar Brix uses multiple frequency analysis to determine maximum signal plausibility. This guaranteeing the most accurate and repeatable measurement possible (+/- 0.5%).

With thousands of Berthold Technologies microwave Brix measurement systems being used world wide over 20 years, the LB 565 Micro-Polar Brix is the proven choice for Brix measurement in vacuum pans.



Micro-Polar Brix probe with transmit and receive antennas

Evaluation unit with easy to read screen display and graphics

Measuring Arrangement

The LB 565 Micro-Polar Brix probe is fastened to the assembly flange of the crystallizer. The probe is connected to the evaluation unit by a high-frequency multi cable up to a distance of 10 meters (app. 30 feet). The reference line is integrated in this cable which provides drift compensation for temperature changes.

System Probe Configurations



Continuous Pan Probe with flushing device



Flow cell for pipes



Batch Pan Probe

Micro-Polar Brix Benefits

- Simple start up
- Easy to read screen graphics
- Highly accurate and repeatable
- World-wide support

