Ultrasonic Slicing Food Processing - Ultrasonic Slicing - CHEERSONIC

Ultrasonic Slicing

Ultrasonic technology is widely used to slice or cut food products which have a sticky, crumbly, delicate or soft structure. Ultrasonic (or sonic slicing) provides a quality of cut that cannot be achieved using traditional slicing methods on these types of products. The gentle Ultrasonic slicing action reduces product deformation and maintains product integrity, thus reducing yield loss and improving presentation.

Typical products such as soft or blended Cheese, Paté, Savoury Pies, Cakes, Gateaux, Confectionary, Sushi, Nougat can be sliced, cut or portioned with relative ease using ultrasonics. They all will benefit from improved yield, superior slice quality, reduced smear and pickup, consistent size and weights.

CHEERSONIC can provide direct product benefits and savings through the Ultrasonic slicing process but further advantages can be realized through increased performance, shorter hygiene times, quicker product changeovers and improved overall cleanliness due to the unique equipment design that CHEERSONIC provides.

Application Specific

The most common Ultrasonic equipment used for Food Slicing is within the 20Khz range, although 30Khz, 35Khz and 40Khz frequency equipment are used in certain applications. The generator (Normally housed inside an electrical enclosure) transmits a high voltage signal to the converter via the HT cable and the converter converts the electrical signal into mechanical energy to give a frequency and amplitude of vibration. This vibration is transmitted to the sonotrode and concentrated at the cutting edge. A mechanical booster can be used between the converter and sonotrode to amplify the vibration and as a means of mechanical fixing.

For any given food type, the most suitable Ultrasonic equipment can be determined by a combination of factors, not least Frequency and Amplitude. At CHEERSONIC we carry out thorough and rigorous trials to determine the optimum Ultrasonic setup.

Half wavelength sonotrodes generally range in width from 50mm up to 500mm and have a maximum cutting height of approximately 80mm.

Full wavelength sonotrodes, by comparison, are limited to 350mm wide but have a maximum cutting height of approximately 160mm.

If you are experiencing processing issues and are looking for a cost effective solution, particularly if you are in the Cheese, Paté, Savoury Pies, Cakes, Gateaux, Confectionary, Sushi or Nougat industry we can help. Please get in touch through our contact page.