



FFPG

Free Form Pattern Generator



Free form pattern software

FFPG is a controller that generates dropwise patterns that precisely match the varying shapes of products measured by a camera. This so-called Free Form Pattern Generator is a software application on a powerful industrial PC and can form the basis of an APD depositor controller. It automatically generates the droplet patterns on the fly and streams the signals directly to the depositor heads over a high-speed serial bus. The algorithms that determine all droplet positions in a blob shape is a mathematical translation of years of practical experience in manual pattern programming in FoodJet designer software.

Accurate weight control

The FFPG also has an important function in getting the correct weight on individual products by means of a volumetric pump. The actual droplet frequency combined with an accurate pressure measurement at every head is the input for a sophisticated controller that delivers the variable speed setpoint for the on-board servo-driven volumetric pumps.

Detection of product shapes

The detection of the products is done by means of multiple line-scan cameras. Because of the linear LED lighting, the measured products are uniformly illuminated with a high background contrast. This is a highly robust measurement method, that can determine the exact outer shape of moving products. This enables the depositor to target the liquid foodstuff exactly on the product with a constant weight and edge distance, even if the products vary in shape or size. The cameras on the machine are foreseen with telecentric optics, so even high objects can be measured without parallax errors.

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