

Installation of a Cooling Tunnel helps G's Gourmet Jams to Match Increased Levels of Demand

Summary

Following an increase in production levels over the previous year, G's Gourmet Jams, based in Abbeylax, Ireland noticed that their jars of jam were not cooling as quickly as demand required.

To remedy this, the team knew they would need to purchase some new machinery. After researching a possible solution, G's Jams decided to contact Foodmek Ltd who suggested a jam jar Cooling Tunnel.



"The hands-on approach (of the Foodmek team) was critical to this job, they were able to answer all questions and solve all problems that came up during the design and installation phases" **Helen Gee, Owner**

Need Recognition and Evaluation

The Irish gourmet jam manufacturer, G's Gourmet Jams, needed to match an increased level of demand for their products.

Increasing production levels meant that more jam jars had to be cooled. The original method for cooling wasn't fast enough to cool the increased number of jars. Their jam was staying too hot for too long. After some deliberation, it was decided that a new machine was required.

Solution

In July 2013, G's Jams began consulting with the Foodmek design team to discuss concepts and lead times. The most efficient method to cool down the jars, it was decided, was to install a pasteurising and cooling tunnel with overspray nozzles.

The cooling tunnel was designed to be 4ft 6in wide x 30ft long. Multi-lane infeed and outfeed conveyors were also included to convey three different container sizes; 12oz, 1.5oz and buckets.

When cooling down glass containers it is important to avoid cracking the glass, known as thermal shock.

This occurs when there is a rapid change in the temperature of the glass. To avoid this, Foodmek separated the tunnel into 4 sections to gradually cool the containers.

The first section sprays water onto the containers at 95°C, in order to sterilise the jar head space. The water is then gradually cooled over the next 3 stages from 95°C at stage 1 to 50°C at the final stage.

Once the containers have been cooled to the desired temperature, they are given a fresh water rinse to clean the containers. An air knife blower was installed to dry the containers before labelling.



Results

Before Foodmek installed the Cooling tunnel, G's Gourmet Jams were waiting until the jars cooled down naturally. This was proving to be too long considering the demand increase.

The finished machine gives 23 minutes of total process time inside the tunnel. This equates to 5 minutes for sterilising the head space of the jars and 18 minutes to cool the jars down to a workable temperature.

"The biggest advantage is the variable speed, which allows us to control the rate of cooling relative to the batch size"

The Cooling Tunnel has a capacity to cool down 120 x 12oz containers per minute.