Tomatoes are used in huge numbers of food products.

This also means that there are many different types of processing involved, and that stringent hygiene standards are required.

Alfa Laval Foodec decanter centrifuges are one of the few types of equipment with the versatility and hygiene focus to make this possible.
Industrial processing of tomatoes into pastes, juices, dried products, etc. began in Italy, Portugal, Spain and the USA around 1900. A worldwide tomato processing industry has since evolved.

During the last thirty years in particular, many new varieties of tomatoes have been developed, mostly with a view to mechanical harvesting, which requires a very stiff fruit structure.

In order to achieve maximum efficiency and profitability in dealing with these new products, manufacturers of tomato products need processing equipment that is versatile enough to handle a wide range of different types of products. It is also important that it is modular in construction, to make it easier to deal with the changes in market requirements.

Hygienic issues are also increasingly important, and the quality and hygiene of the final product are crucial parameters in ensuring commercial success.

The process

A wide range of products can be obtained from tomatoes, including tomato juice, peeled, deseeded tomato, dried tomato pulp, sauce and powder. For the industrial market, tomato pulp is probably the most important product because it is used as the basis for a wide range of other products.

In general, the fruit is washed, sorted and then conditioned by heating, peeling or cutting to the required size. Depending on the particular product, the fruit may then undergo feeding, rolling, depulping, evaporation, pasteurization and packing.

Separation is a key part of the preconditioning stage of the process. By removing any moulds present, separating out the pulp and clarifying the juice, the manufacturer can control the colour, moisture content and viscosity of the final product.

These are the key parameters that determine quality, and thus have an influence on value further down the value chain.

Afo Laval in tomato processing

Tomato processing is seasonal, with a limited period of only 80–130 days per year. There are a very large number of different varieties of tomatoes, and the quality also depends heavily on climatic conditions and weather.

For all manufacturers, the main requirement is therefore to have an efficient, reliable and sanitary processing plant that is in continuous operation. Manufacturers are constantly on the lookout for any possible means to improve both quality and yield.

The Foodec benefits for tomato processing include:
- up to 25% greater capacity, at no extra cost.
- higher product-quality standards, which mean better product value and hygiene guarantees.
- lower power consumption.
- lower operating costs.
- significantly better control over pulp viscosity.

Benefit from Foodec decanter centrifuges in your tomato processing plant

Foodec decanter centrifuges feature a number of big advantages including:
- better solids transportation that enables you to boost solids-handling capacity by up to 25% compared to all other designs currently available – at no additional cost
- specially designed dry-to-wet system that enables you to operate at very high plant capacity with significantly lower power consumption than other current designs
- four-throw decanter centrifuge
- McAlpine Decanter Core Controller (DCC) – that enables you to optimise your operating costs and gives you a superior control over the separation process. This makes it possible to reduce production costs as well as boosting the quality and value of the end product.

Viscosity control

Viscosity is a very important factor in the production of tomato paste, as it has a direct effect on the final product.

Separation plays a major role in their production of tomato paste, as it has a direct effect on the final product.

Viscosity is a very important factor in the production of tomato paste. The critical factor, however, is viscosity. The juice must have the correct viscosity in order to prevent the serum from separating when the final product is poured.

Each individual batch of tomatoes has its own unique characteristics. When processing a large batch, the high degree of controllability available with the Afo Laval Decanter Core Controller (DCC) and Decal Core (DCC) greatly enables the producer to run tests and makes adjustments rapidly and effectively, with a time saved in changing machine settings mechanistically.

Strained tomato pulp (pasta)

This process is similar to that for the production of tomato paste. The critical factor, however, is viscosity. The pulp must have the correct viscosity in order to prevent the serum from separating when the final product is poured.

Here, too, Afo Laval Foodec decanter centrifuges are ideal because of the rapid response and effective viscosity control that they make possible.