

TULIP - VEJLE NORD PLANT

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TULIP MEAT PACKERS  
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#### INTRODUCTION

Sausages, luncheon meat, chopped ham and liver pate. 55.000 tonnes canned and plastic wrapped comminuted meat are now produced annually at one of the world's most advanced high technology factories for processed meat produce.

The 21,000 square metre factory in Denmark is equipped with processing facilities which ensures that customers all over the world will always get nutritional products of a high and uniform quality.

The demand for these quality products increases as standards of living rise and consumers become more quality-conscious.

With improved transport facilities, new packaging and production processes it is now possible to transport even more fresh food products to the most distant markets.

This can now be fulfilled at the new factory.

#### Controlled Fresh Raw Materials

Fresh raw materials for the comminuted meat factory are delivered every day from TULIP's slaughterhouses in Jutland and Funen.

The raw materials are delivered in special refrigerated vans which guarantees that the meat products packed in 25 kilo production trays are cooled on arrival so that the optimum production temperature of between 0-2 degrees Centigrade is achieved in the shortest possible time.

The advanced production methods employed in TULIP's new factory ensure that the fresh raw materials are processed within 24 hours after their dispatch from the TULIP slaughterhouses.

The production methods ensure that the incoming comminuted meat is analysed on delivery to the factory for content of protein, fat and water and is employed in an optimum way in the further refining process.

#### Advanced Production Technology

The new factory is controlled by a computer integrated manufacturing system (CIM) which integrates all production processes. The production is carried out by means of 200 work stations organised in 9 cells as shown in fig. 1. The throughput of the factory is around 250 tonnes of end products per day.

Production can be described by following parameters, given figures for the starting situation:

Line production, 7 mince lines  
and 14 filling lines  
200 different kinds of raw materials  
100 different kinds of additives  
350 different kinds of sales items

Every single production line directly controlled by information from the computer system based on the customer's orders and on their sales possibilities.

By utilisation of this advanced production technology it is possible for TULIP's customers and TULIP to meet the future changes in consumer demands.

### Guarantee for Delivery of Homogeneous Products

The central computer control combined with a very short reorganisation time allows TULIP greater flexibility and therefore, speed in the production of customer's orders - whatever the recipe type and quality.

The production processes are controlled direct by the central computer system. In this way the risk of human failure is minimized in order to ensure that the recipe applied always meets the defined demand of the customer.

The necessary quantities from the meat store are selected by the computer. Furthermore, the computer ensures that the comminuted meat is chopped and mixed in the correct way in order to meet the consumer demand for nutritional products.

### High Hygiene Production Standards

The new technology in the factory ensures a hygiene level of the highest standard. The received raw materials are discharged and taken to the refrigerating store and preparation room without being handled manually. The production trays are selected automatically from the tray shelf warehouse and are unloaded direct into the mincing machines.

When the raw material has become comminuted meat it is further transported through closed tube systems to the many production lines in the factory and from here the comminuted meat is consumer packed without manual influence.

The production in the factory is of course subject to the very stringent Danish rules and regulations on hygiene and working environment. The control is carried out by public veterinarians who report direct to the Danish Veterinary Authorities.

### Reliable Product Information

The products are canned or plastic wrapped in many variations.

In order to ensure that the transport from the factory to the customers is effected in an efficient manner, every single sales unit is automatically pelletised and the central computer supplies the necessary information on the product. The goods are sent on euro pallets, disposable pallets or slip-sheets. Thus TULIP is sure that the products will not only arrive safely with the customer, but also be easy to store and further transport if necessary.

Each consignment is supplied with a distinct label displaying the necessary information in order to ensure that the customers easily and quickly can identify the goods on arrival.

### Modern Packing Methods

In the new factory the packing methods are adapted to the specific demands of each market. The products are protected during transport which at the same time will ensure the best presentation at retail level.

The packing machines are able to pack the products in traditional cardboard boxes or sales boxes with tearslip. Furthermore the products can be packed in trays with or without plastic wrapping or only plastic wrapped in several variations and delivered in the best possible standard.

All boxes are barcoded for automatic store or shop registering at customer level.

