UHT Processes
Steam Infusion Steriliser
The APV Steam Infusion Steriliser, Type SDH

APV Technology
APV has supplied UHT plants for sterilisation of milk and other liquid products since the late 1950s, and today APV offers a complete range of direct and indirect UHT systems with either plate, tubular, scraped surface heat exchangers, infusion or injection.

Today, the most advanced and flexible direct UHT treatment is the APV infusion steriliser, type SDH.

The APV infusion system is fully automated ensuring optimal control of the plant. It is supplied with capacities from 150 l/h to 44,000 l/h with the standard temperature profile: 5 -75 -145 -73 - 25°C.

Advantages
- Gentle and accurate heating in the infusion chamber
- Accurate holding time
- Superior product quality
- High product flexibility
- Low fouling rate
- Long operating time
- Operator friendly
- Preassembled and factory tested

Product Range
The APV direct steam infusion process offers flexibility in terms of sterilisation of a wide range of products, such as:
- Milk
- Cream
- Vla
- Custard
- Pudding
- Soft ice mix
- Ice cream mix
- Condensed milk
- Baby food
- Processed cheese
- Sauces

Standard design
The APV infusion steriliser, type SDH, is a compact unit consisting of the following main modules:
- Infusion/vacuum module
- Product balance tank
- Water balance tank
- Infusion chamber
- Vacuum chamber
- PC/PLC control panel
- Product Heat Exchanger
- Homogeniser
The product enters the system through the balance tank and is pre-heated prior to infusion. The heart of the system is the infusion chamber.

The patented nozzle system in the infusion chamber creates a cylinder of product strings in the centre of the chamber. From the sides, steam is distributed at low velocity towards the product centre, and thereby the product is heated gently and fast to the sterilisation temperature.

Air released from the product during heating is removed through the top of the chamber. At the bottom, a cooling jacket ensures a constant thin film of condensate isolating product from the stainless steel surface.

The synchronised flow of product, steam, air and condensate creates the optimum heat transfer even for very difficult products.

The product is then accurately sterilised in an innovative holding tube, and then cooled in the flash chamber and immediately pumped to the homogeniser and finally cooled by regeneration to the filling temperature.

**Options**

- Variable capacity.
- Tubular heat exchangers for pre-heating and cooling.
- Instant Pasteurizer (patent pending) with a specially designed positive pump in the holding tube for very high fouling products.
- Scraped surface heat exchanger for high viscosity "cold filled" products.
- Pasteurisation at lower temperatures (Extended Shelf Life).
- Combination UHT system offering both direct, indirect and High Heat Infusion UHT.
- Aseptic tank.
- Motor Control Centre (MCC).
- The APV infusion UHT concept can also be supplied as add-on solution to all common UHT plants from other manufactures.