HEAT EXCHANGER SOLUTIONS.

HRS Heat Exchangers offers a wide range of heat exchangers for hygienic processing in the food industry:

- Tube in tube
- Triple tube
- Multi tube
- Scraped surface
- Plate

All our heat exchangers are made from high quality stainless steels, normally AISI 316L on product side and AISI 304 on service side. Special alloys (duplex steels, titanium or others) can be applied for applications where required. Thanks to its complete range of heat exchangers, HRS can supply a heat exchanger solution for practically any application in food industry processing: From low viscosity to high viscosity products, for low pressure to high pressure applications, for non fouling to high fouling applications. If the product can be pumped, we can provide a heat exchanger solution for it (heating, cooling, evaporation, condensing fluids, crystallisation etc).

For its tubular heat exchangers, HRS applies corrugated inner tubes. These corrugated tubes enhance heat transfer rates compared to smooth tube heat exchangers.

PASTEURISATION.

For food products pasteurisation a single heat exchanger module is not enough. Multiple modules must be connected in series in order to process for the complete pasteurisation cycle: heating, holding and cooling. In these cases HRS builds and interconnects the various heat exchanger sections compactly into a frame. Complete pasteurisation kits can be offered this way for all types of pasteurisation:

- Hot fill
- Cold fill
- Indirect energy recovery (via water loop)
- Direct energy recovery (product to product heat transfer)

FOOD PRODUCTS.

Heat exchange and pasteurisation solutions can be supplied for a wide product range:

- Beverages: Wine, beer, carbonated drinks, juices.
- Dairy products: Milk (UHT), milk based juices, condensed milk, cheese based products.
- Fruit products: Fruit juice, fruit puree, diced fruit, fruit preparation.
- Tomato products & sauces: Ketchup, mayonnaise, mustard, tomato paste, crushed tomato.
- Deserts: Yoghurt, custard, puddings.
- Fats and oils: Butter, vegetable oil.
- Confectionary: Marmalade, chocolate based products, bakery cream.
- Prepared food: Toppings, vegetable mixes.
HRS is able to combine its products into complete processing plants. Thanks to our experience of over 20 years in the market we can offer our customers a wide range of modular system solutions, suitable for the most common scenarios.

The core of the system solution that HRS offers is the thermal treatment section: any kind of heat exchanger combination can be used for obtaining the best result for the pasteurisation or sterilisation process. The heat treatment sections can be combined with other process steps such as homogenization and deairation. Efficient system integration of pumps, tanks, heat exchangers, aseptic fillers, piping, controls and other equipment lead to complete solutions for the food processing industry:

**HRS Aseptic Block/Filler series**: Complete aseptic processing -including filling- of fruit products, dices, vegetables, sauces, tomato products, pulp, concentrates, soups and other delicate products.

**HRS Thermblock series**: Complete thermal treatment solutions (pasteurisation / sterilisation / UHT / HTST) for all kinds of food products, low viscosity and high viscosity products: beverages, dairy products, fruit products, tomato based products, sauces.

**HRS Evap series**: Plate, tubular or scraped surface evaporators for concentration of juices, fruit products, tomato products and others.

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**OTHER PRODUCTS.**

**Aseptic fillers.**
The HRS aseptic filler is designed for aseptic filling of sterile food products in aseptic bags. Bag sizes can vary from 10 L to 1000 L (bag in drum, bag in bin). Filling capacities can go up to 12000 L/hr. Supply options include single-double headers, weight control, PLC controls, drum labelling.

**Piston pumps.**
The HRS positive displacement piston pump is designed for the pumping of viscous and delicate foodstuffs. Its unique designs offers working at high pressures and flow rates without product contamination. The piston pump has low spare parts costs compared to other positive displacement pumps.

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**FOOD SYSTEMS.**
OUR MARKETS AND APPLICATIONS:

**Industrial:** Heating, cooling, condensing, steam to water, steam to product. Paint, automotive, chemical, petrochemical, etc.

**Food:** Heating, cooling, pasteurisation, crystallisation, evaporation, CIP heating. Dairy, beverage, fruit, confectionary, aseptic processing, sauces, prepared food, etc.

**Environmental:** Heating, cooling, condensing, evaporation, crystallisation. Sludge, factory effluents. Environmental waste concentration (pig manure, brine, waste water, digestate, etc). Multi effect evaporation

**Biofuels:** Heating, cooling, condensing. Biodiesel, bioethanol, biogas, biomass, cogeneration, exhaust gas.

**Pharmaceutical:** WFI, heating, cooling.

**Cosmetics:** Heating and cooling of creams and gels.