



FOOD PROCESSING  
TECHNOLOGY  
2014/15



## FOOD PROCESSING TECHNOLOGY

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Food Processing Technology is a branch of food science which deals with the actual production processes to make foods. It includes the science of developing economic ways of using materials and energy. Some important historical research has been performed using Food Processing Technology.

The HFT Education range of Food Processing Technology teaching equipment is designed to simulate typical processes used to produce the food and drink we consume today. Both industrial and educational equipment is used to develop an understanding of the processes used in industry and the educational understanding of how and why a process has certain operating parameters.

This range of equipment comprises small scale production units that have the benefit of producing small amounts of finished food products, either in an individual unit operation or in a small scale production line.

This format of equipment proves very flexible for teaching and learning. Students obtain both practical and operational knowledge required by food processing operatives.

All equipment is manufactured to European Safety and Sanitary Standards.

The HFT Education Food Processing Technology equipment allows various process parameters to be changed. This allows students to understand and observe that any changes made in the process will have an effect on the end product. This is invaluable experience for the students when they enter the work place.

The key features and benefits of the HFT Education Food Processing Technology range are:

- Running of a pilot plant that simulates an industrial unit operation with a final product at the end of the process and observing and recording data from the actual process operation.
- Being able to focus on individual parts of the unit operation to analyse efficient use of power and raw materials.
- The use of industrial components, devices and instruments so students become familiar with their operation and characteristics.
- Control and monitoring of the pilot plants, either manually, using industrial instruments and devices or automatically via a PC and software, or a combination of both to ensure efficient operation.
- Varying the process operation parameters and observing and recording the effects with the ability to control the process to simulate situations experienced in industry, so troubleshooting and diagnosis can be performed to set the plant back into an efficient operating condition.
- Understanding the theory involved in the process being studied to evaluate the efficiency and predict the most efficient operation.
- Installation, commissioning, servicing, maintenance and cleaning of food processing equipment.

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### SUBJECTS

- Automation
- Bottling
- Concentration
- Clean-In-Place (CIP)
- De-Aeration
- Distillation
- Energy Balance
- Extraction
- Evaporation
- Extraction
- Fermentation
- Food Packaging
- Food Preservation
- Food Technology
- Food Processing
- Food Heating and Chilling
- Freeze Drying
- Homogenisation
- Infusion
- Ingredient Manufacturing
- Mass Balance
- Pasteurisation
- PID Control
- Plant Supervision
- Process Control
- Solvent Recovery
- Sterilisation
- Thermodynamics

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### CAREER PATHS

- Factory Engineer
- Factory Manager
- Factory Planners
- Factory Technician
- Food Scientist
- Food Technologist
- Maintenance Engineer
- Process Operative
- Process Technician
- Process Technologist
- Production Manager
- Quality Manager
- Research Technician

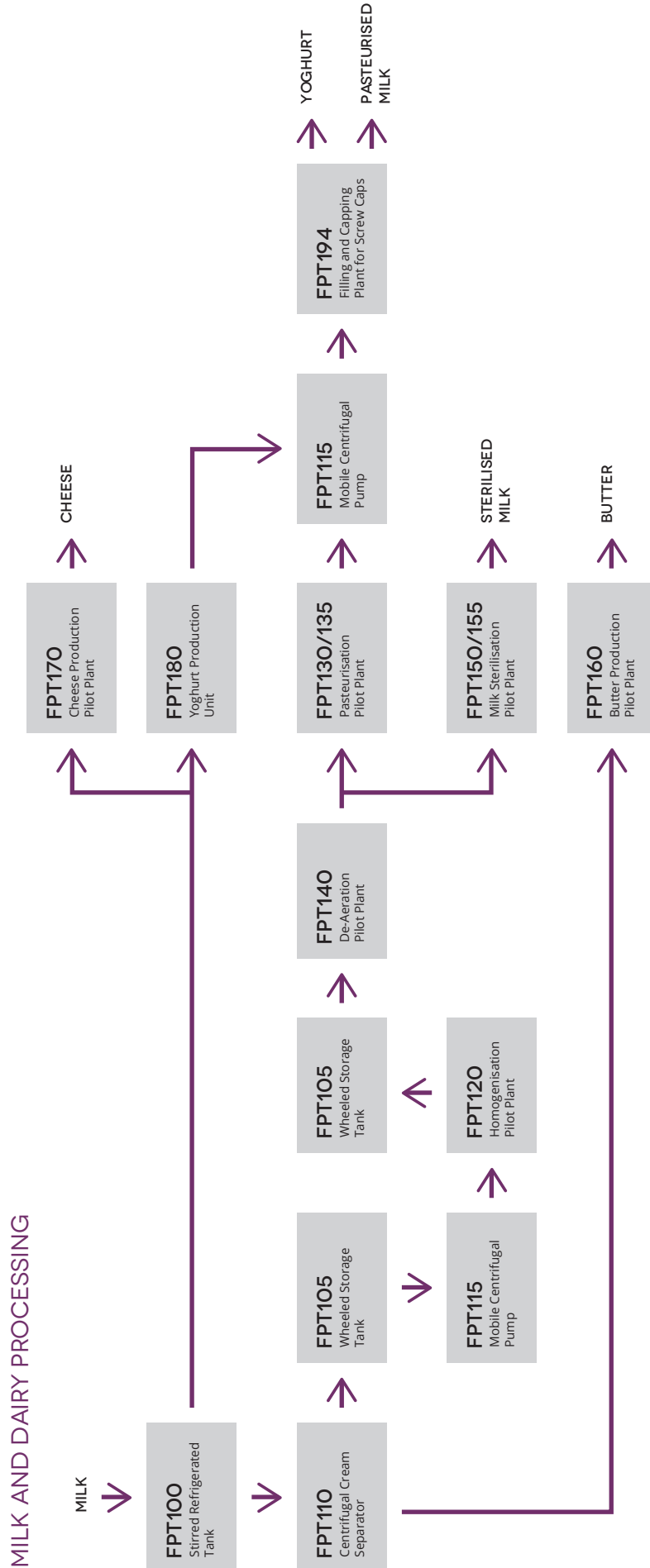
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### INDUSTRY APPLICATIONS

- Breweries
- Consulting
- Distilleries
- Farming
- Fishing
- Food Ingredients
- Food Equipment Manufacturing
- Food Processing Plants
- Manufacturing
- Government Agencies
- Health Care
- Pharmaceutical

# FOOD PROCESSING TECHNOLOGY

## MILK AND DAIRY PROCESSING – RANGE MAP





### FPT100

#### STIRRED REFRIGERATED TANK

A Refrigerated Tank equipped with refrigeration system and agitator, for temperature control of liquid foods.



### FPT110

#### CENTRIFUGAL CREAM SEPARATOR

A Centrifugal Cream Separator designed to separate cream from milk. The separator can also be used for cleaning operations.



### FPT105

#### WHEELED STORAGE TANK

A Wheeled Storage Tank for storing liquids.



### FPT115

#### MOBILE CENTRIFUGAL PUMP

A versatile Centrifugal Pump mounted on a trolley, for transferring liquids from one process to another. A low r.p.m. ensures that the liquid is not shaken.



### FPT120

#### HOMOGENISATION PILOT PLANT

An Homogenisation Plant that produces instant micronisation of particles in suspension, so they are evenly dispersed throughout the milk.

The sudden and simultaneous action of phenomena such as compression, acceleration and cavitation cause the micronisation of the particles in suspension.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit



# FOOD PROCESSING TECHNOLOGY

## MILK AND DAIRY PROCESSING



### FPT130

#### SEMI-AUTOMATIC PASTEURISATION PILOT PLANT

A Pasteurisation Plant designed to pasteurise milk and clear juices. Pasteurisation is carried out by heating and then quickly cooling the liquid to prevent growth of residual micro-organisms.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator



### FPT135

#### AUTOMATED PASTEURISATION PILOT PLANT WITH SCADA

A Pasteurisation Plant designed to pasteurise milk and clear juices. Pasteurisation is carried out by heating and then quickly cooling the liquid to prevent growth of residual micro-organisms.

It is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator



### FPT140

#### DE-AERATION PILOT PLANT

A De-Aeration Plant for removing air or bad-smelling substances absorbed during the processing phase. This helps to make the finished product free from taste defects.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit



### FPT150

#### SEMI-AUTOMATIC MILK STERILISATION PILOT PLANT

A Milk Sterilisation Plant that simulates a UHT system with direct steam heating. The milk is heated and then absorbed water from the steam is removed, followed by rapid cooling of the milk.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator
- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT155

#### AUTOMATED MILK STERILISATION PILOT PLANT WITH SCADA

A Milk Sterilisation Plant that simulates a UHT system with direct steam heating.

The milk is heated and then absorbed water from the steam is removed, followed by rapid cooling of the milk. The plant is supplied with a PID controller and software.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator
- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT160

#### BUTTER PRODUCTION PILOT PLANT

A Butter Production Plant to produce butter from cream. The separated cream from the FPT110 can be used. Cream extracted from a minimum of 200 litres of milk is required.



### FPT170

#### CHEESE PRODUCTION PILOT PLANT

A Cheese Production Plant designed for manufacturing soft cheeses from milk. It allows for analysis and checking of the cheese production procedure.

#### + RECOMMENDED ACCESSORIES

- FPT171 Moulding Table
- FPT172 Pressing Table
- FPT173 Salting Tank
- FPT174 Stewing Tank
- FPT175 Maturing Shelves
- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT180

#### YOGHURT PRODUCTION UNIT

A Yoghurt Production Unit designed to produce yoghurt from whole milk or semi-skimmed milk, by adding enzymes.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator
- FPT010 In-Line Cleaning Unit
- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT190

#### FREEZE-DRYING PILOT PLANT

A Freeze-Drying Plant for performing freeze-drying tests on small quantities of food. Frozen products are dried under a high vacuum.



### FPT194

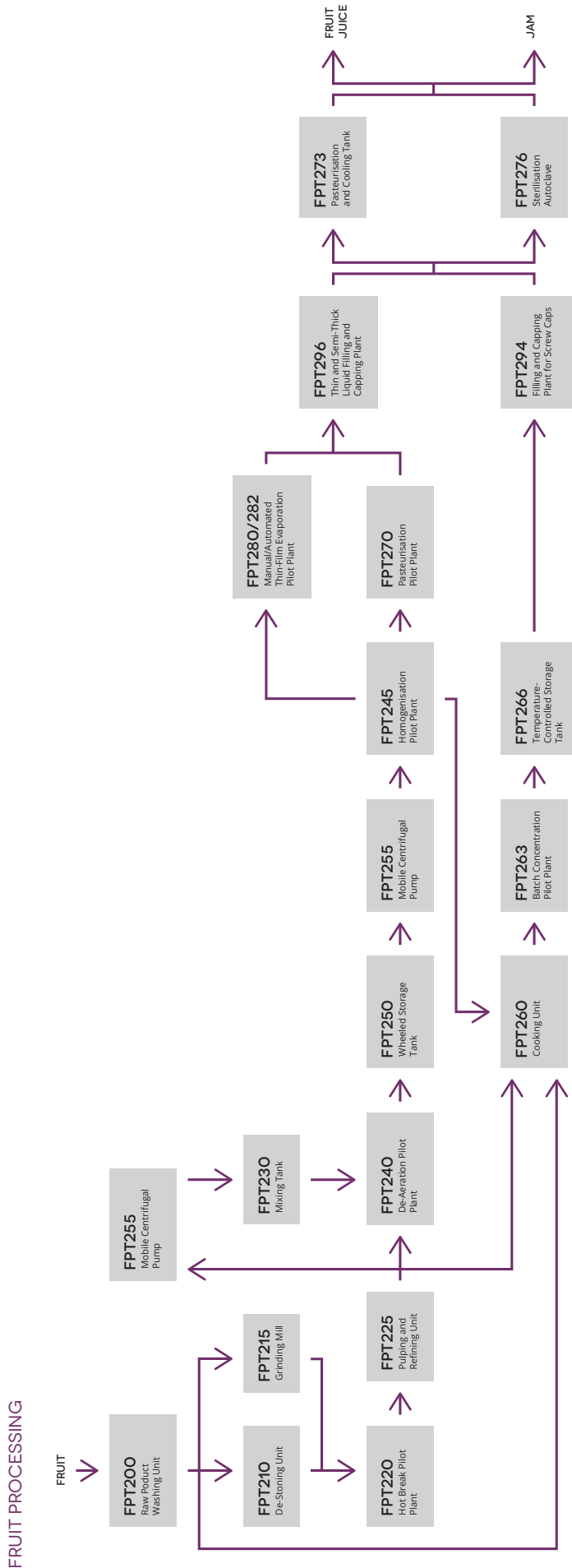
#### FILLING AND CAPPING PLANT FOR SCREW CAPS

A Filling and Capping Plant comprising an Adjustable Pneumatic Dosing Machine, with a Semi-Automatic Screw-Cap Closing Machine.

The machine has a rotary head with adjustable clutch for perfect closing of caps. The machines are supplied with a stainless steel support table.

# FOOD PROCESSING TECHNOLOGY

## FRUIT PROCESSING – RANGE MAP







### FPT200

#### RAW PRODUCT WASHING UNIT

A Washing Unit designed for washing fruit, citrus fruit and tomatoes prior to processing.

### FPT210

#### DE-STONING UNIT

A De-Stoning Unit designed to remove stones from fruit such as plums, cherries, apricots and peaches.



### FPT215

#### GRINDING MILL

A Grinding Mill for preparing fruit for the next operation in the process, usually hot break or cold break.



### FPT220

#### HOT BREAK PILOT PLANT

A Hot Break Plant designed to cook and grind food products for the next operation in the process such as refining, de-aeration, pasteurisation and concentration.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT225

#### PULPING AND REFINING UNIT

A Pulping and Refining Unit designed to refine fruit, tomato and citrus juices. The system consists of a single-stage pulping machine.

# FOOD PROCESSING TECHNOLOGY

## FRUIT PROCESSING



### FPT230 MIXING TANK

A Tank designed for Mixing natural juices with sugar to produce a syrup. The unit includes a motor-driven agitator.



### FPT240 DE-AERATION PILOT PLANT

A De-Aeration Plant for removing air or bad-smelling substances absorbed during the processing phase. This helps make the finished product free from taste defects.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit



### FPT245 HOMOGENISATION PILOT PLANT

An Homogenisation Plant that produces instant micronisation of particles in suspension, so they are evenly dispersed throughout the fruit juice.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit



### FPT250 WHEELED STORAGE TANK

A Wheeled Storage Tank for storing liquids.



### FPT255 MOBILE CENTRIFUGAL PUMP

A versatile Centrifugal Pump mounted on a trolley, for transferring liquids from one process to another. A low r.p.m. ensures that the liquid is not shaken.



### FPT260 COOKING UNIT

A Cooking Unit designed to prepare fruit and citrus fruit for jam and marmalade production. Cooking helps to partially transform the sucrose into glucose and fructose.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT263 BATCH CONCENTRATION PILOT PLANT

A Concentration Plant designed to concentrate fruit, tomatoes and citrus fruit and to produce jams and marmalade. The unit has a 40 litre capacity working cycle.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT266 TEMPERATURE-CONTROLLED STORAGE TANK

A Storage Tank used to maintain the temperature of food products at approximately 70 degrees Celsius. The unit is used to store food products following concentration and prior to packing.



### FPT270 AUTOMATED PASTEURISATION PILOT PLANT

A Double-Pipe Pasteurisation Plant designed to pasteurise liquid food and thick liquids. Pasteurisation is carried out by heating and then quickly cooling liquids to prevent growth of residual micro-organisms.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit
- FPT094 Steam Generator
- FPT093 In-Line Steam Generator
- FPT250 Wheeled Storage Tank
- FPT295 Feed Screw Pump



### FPT273 PASTEURISATION AND COOLING TANK

A Tank designed to pasteurise and cool bottles and jars that are used to contain food products. The tank is heated by steam and cooled using water.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT276 STERILISATION AUTOCLAVE

An Autoclave designed to sterilise packed food products. The sterilisation cycle and process are controlled by a microprocessor.



### FPT280 MANUAL THIN-FILM EVAPORATION PILOT PLANT

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT282 AUTOMATED THIN-FILM EVAPORATION PILOT PLANT WITH SCADA

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato. The plant is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT285 SEMI-AUTOMATIC CONCENTRATION PILOT PLANT

A Double-Effect Falling-Film Evaporator Pilot Plant for concentrating low viscosity juices. Water evaporated in the first stage is used for producing steam in the second stage.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT287 AUTOMATED CONCENTRATION PILOT PLANT WITH SCADA

A Double-Effect Falling-Film Evaporator Pilot Plant for concentrating low viscosity juices. Water evaporated in the first stage is used for producing steam in the second stage. The unit is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT290

#### FREEZE-DRYING PILOT PLANT

A Freeze-Drying Plant for students to perform freeze-drying tests on small quantities of food. Frozen products are dried under a high vacuum.



### FPT294

#### FILLING AND CAPPING PLANT FOR SCREW CAPS

A filling and capping plant for screw caps comprising an Adjustable Pneumatic Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine.

The machine has a rotary head with adjustable clutch for perfect closing of caps. The machines are supplied with a stainless steel support table.



### FPT296

#### THIN AND SEMI-THICK LIQUID FILLING AND CAPPING PLANT

A Thin and Semi-Thick Liquid Filling and Capping Plant comprising a Twin-Nozzle Vacuum Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine. The plant is designed to package juices and fruit juices.

### FPT295

#### FEED SCREW PUMP

A Pump for feeding food products into process equipment.

### FPT299

#### STAINLESS STEEL TABLE

A stainless steel table with dimensions 1900 x 900 x 850 mm.

## EXPERIENCED STAFF AND CONSULTANTS

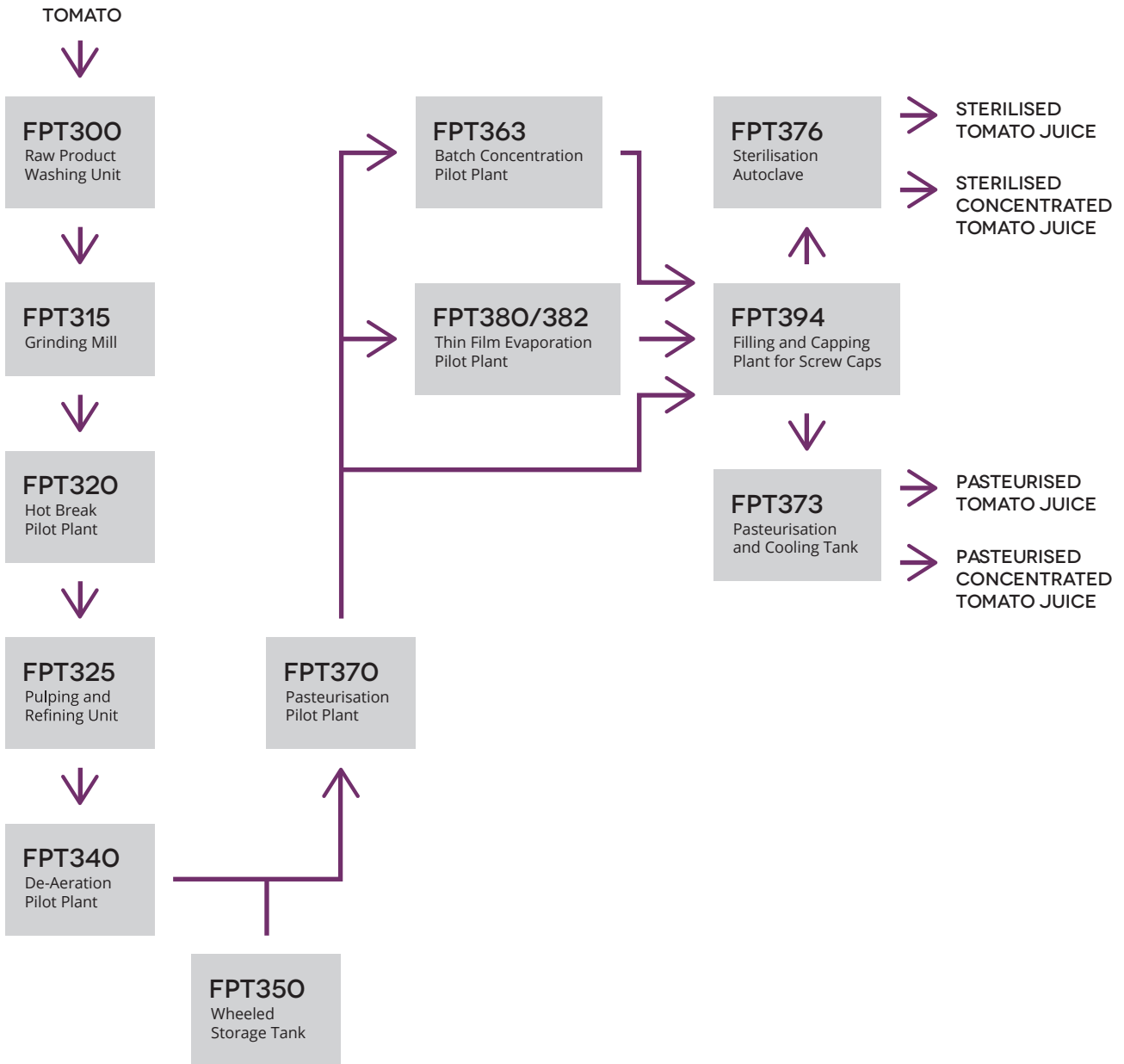
The HFT Education Food Processing Technology range is a flexible modular system that can be configured to match your curriculum requirements. Our experienced staff and consultants will recommend modules that will suit your specific needs.

For more information please contact us on:  
[SALES@HFT-EDUCATION.COM](mailto:SALES@HFT-EDUCATION.COM)

# FOOD PROCESSING TECHNOLOGY

## TOMATO PROCESSING – RANGE MAP

### TOMATO PROCESSING





### FPT300 RAW PRODUCT WASHING UNIT

A Washing Unit designed for washing fruit, citrus fruit and tomatoes prior to processing.



### FPT315 GRINDING MILL

A Grinding Mill for preparing the fruit for the next operation in the process.. This is usually hot break or cold break.



### FPT320 HOT BREAK PILOT PLANT

A Hot Break Plant designed to cook and grind food products prior to entering the next process, such as refining, de-aeration, pasteurisation and concentration.

#### + REQUIRED ACCESSORIES

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#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT325 PULPING AND REFINING UNIT

A Pulping and Refining Unit designed to refine fruit, tomato and citrus juices. The unit consists of a single-stage pulping machine.



### FPT350 WHEELED STORAGE TANK

A Wheeled Storage Tank for storing liquids.



### FPT340 DE-AERATION PILOT PLANT

A De-Aeration Plant for removing air or bad-smelling substances absorbed during the processing phase. This helps make the finished product free from taste defects.

#### + REQUIRED ACCESSORIES

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#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit

# FOOD PROCESSING TECHNOLOGY

## TOMATO PROCESSING



### FPT363 BATCH CONCENTRATION PILOT PLANT

A Concentration Plant designed to concentrate fruit, tomatoes and citrus fruit and to produce jams and marmalade. The unit has a 40 litre capacity working cycle.

#### + RECOMMENDED ACCESSORIES

- FPT094 Steam Generator
- FPT093 In-Line Steam Generator



### FPT370 AUTOMATED PASTEURISATION PILOT PLANT

A Double-Pipe Pasteurisation Plant designed to pasteurise liquid food and thick liquids. Pasteurisation is carried out by heating and then quickly cooling liquids to prevent growth of residual micro-organisms.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit
- FPT094 Steam Generator
- FPT093 In-Line Steam Generator
- FPT250 Wheeled Storage Tank
- FPT295 Feed Screw Pump



### FPT373 PASTEURISATION AND COOLING TANK

A Tank designed to pasteurise and cool bottles and jars that are used to store food products. The tank is heated by steam and cooled using water.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT376 STERILISATION AUTOCLAVE

An Autoclave designed to sterilise packed food products. The sterilisation cycle and process are controlled by a microprocessor.

## LOGISTICS AND SHIPPING

HFT Education provides logistics and shipping services, to make sure that your new equipment arrives on-time and in good condition.

We use high quality packing materials to protect your equipment during transit, and can pack and mark shipping cases on request, for easy identification and distribution of products to different departments or laboratories.





### FPT380

#### MANUAL THIN-FILM EVAPORATION PILOT PLANT

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato.



### FPT382

#### AUTOMATED THIN-FILM EVAPORATION PILOT PLANT WITH SCADA

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato. The plant is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.



### FPT390

#### FREEZE-DRYING PILOT PLANT

A Freeze-Drying Plant for students to perform freeze-drying tests on small quantities of food. Frozen products are dried under a high vacuum.



### FPT394

#### FILLING AND CAPPING PLANT FOR SCREW CAPS

A Filling and Capping Plant for Screw Caps comprising an Adjustable Pneumatic Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine.

The machine has a rotary head with adjustable clutch for perfect closing of caps. The machines are supplied with a stainless steel support table.

### FPT395

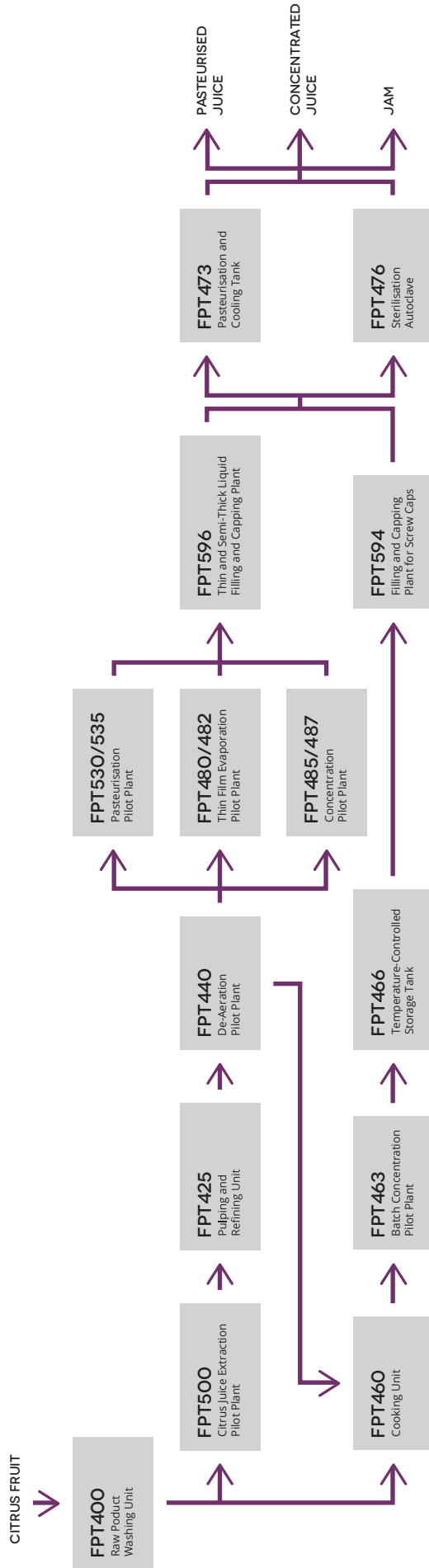
#### FEED SCREW PUMP

A Pump for feeding food products into process equipment.

# FOOD PROCESSING TECHNOLOGY

## CITRUS FRUIT PROCESSING – RANGE MAP

### CITRUS FRUIT PROCESSING





### FPT400 RAW PRODUCT WASHING UNIT

A Washing Unit designed for washing fruit, citrus fruit and tomatoes prior to processing.



### FPT425 PULPING AND REFINING UNIT

A Pulping and Refining Unit designed to refine fruit, tomato and citrus juices, consisting of a single-stage pulping machine.



### FPT440 DE-AERATION PILOT PLANT

A De-Aeration Plant for removing air or bad-smelling substances absorbed during the processing phase. This helps make the finished product free from taste defects.

#### + RECOMMENDED ACCESSORIES

- FPT010 In-Line Cleaning Unit



### FPT460 COOKING UNIT

A Cooking Unit designed to prepare fruit and citrus fruit for jam and marmalade production. Cooking helps to partially transform the sucrose into glucose and fructose.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT463 BATCH CONCENTRATION PILOT PLANT

A Concentration Plant designed to concentrate fruit, tomatoes and citrus fruit and to produce jams and marmalade. The unit has a 40 litre capacity working cycle.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator

# FOOD PROCESSING TECHNOLOGY

## CITRUS FRUIT PROCESSING



### FPT466

#### TEMPERATURE-CONTROLLED STORAGE TANK

A Storage Tank used to maintain the temperature of food products at approximately 70 degrees Celsius. The tank is used to store food products following concentration and prior to packing.



### FPT473

#### PASTEURISATION AND COOLING TANK

A Tank designed to pasteurise and cool bottles and jars that are used to store food products. The tank is heated by steam and cooled using water.

#### + REQUIRED ACCESSORIES

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#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT476

#### STERILISATION AUTOCLAVE

An Autoclave designed to sterilise packed food products. The sterilisation cycle and process are controlled by a microprocessor.



### FPT480

#### MANUAL THIN-FILM EVAPORATION PILOT PLANT

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT482

#### AUTOMATED THIN-FILM EVAPORATION PILOT PLANT WITH SCADA

A Thin-Film Evaporation Plant with a mechanical agitator. This type of evaporation has the advantage of a shorter residence time, high matter and heat transfer coefficients, no fouling of the surface, no thermal decomposition and can process thick liquids such as tomato. The plant is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT485 SEMI-AUTOMATIC CONCENTRATION PILOT PLANT

A Double-Effect Falling-Film Evaporator Pilot Plant for concentrating low viscosity juices. Water evaporated in the first stage is used for producing steam in the second stage.

#### + RECOMMENDED ACCESSORIES

- FPT094 Steam Generator
- FPT093 In-Line Steam Generator



### FPT487 AUTOMATED CONCENTRATION PILOT PLANT WITH SCADA

A Double-Effect Falling-Film Evaporator Pilot Plant for concentrating low viscosity juices. Water evaporated in the first stage is used for producing steam in the second stage. The unit is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator



### FPT500 CITRUS JUICE EXTRACTION PILOT PLANT

A Citrus Juice Extraction Pilot Plant designed to produce small batches of drinkable juice from whole citrus fruits such as oranges, tangerines, lemons, limes and grapefruit.



### FPT530 SEMI-AUTOMATIC PASTEURISATION PILOT PLANT

A Pasteurisation Pilot Plant designed to pasteurise milk and clear juices. Pasteurisation is carried out by heating and then quickly cooling the liquid to prevent growth of residual micro-organisms.

#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator

## HFT EDUCATION FOR QUALITY

HFT Education teaching products are manufactured in Europe under an ISO 9001 quality manufacturing system, using state-of-the-art production techniques and equipment. Our robust industrial standard components, high quality materials and skilled production staff make sure that our equipment has a long working life.

ALL HFT EDUCATION PRODUCTS ARE SUPPLIED WITH A  
**2 YEAR WARRANTY**

# FOOD PROCESSING TECHNOLOGY

## CITRUS FRUIT PROCESSING

### FPT535

#### AUTOMATED PASTEURISATION PILOT PLANT WITH SCADA

A Pasteurisation Pilot Plant designed to pasteurise milk and clear juices. Pasteurisation is carried out by heating and then quickly cooling the liquid to prevent growth of residual micro-organisms.

The unit is supplied with a PID controller to control and monitor the process in real time and automatically collect and store process data.



#### + RECOMMENDED ACCESSORIES

- FPT091 Hot Water Generator



### FPT594

#### FILLING AND CAPPING PLANT FOR SCREW CAPS

A Filling and Capping Plant for Screw Caps comprising an Adjustable Pneumatic Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine.

The machine has a rotary head with adjustable clutch for perfect closing of caps. The machines are supplied with a stainless steel support table.



### FPT596

#### THIN AND SEMI-THICK LIQUID FILLING AND CAPPING PLANT

A Thin and Semi-Thick Liquid Filling and Capping Plant comprising a Twin-Nozzle Vacuum Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine. The plant is designed to package juices and fruit juices.

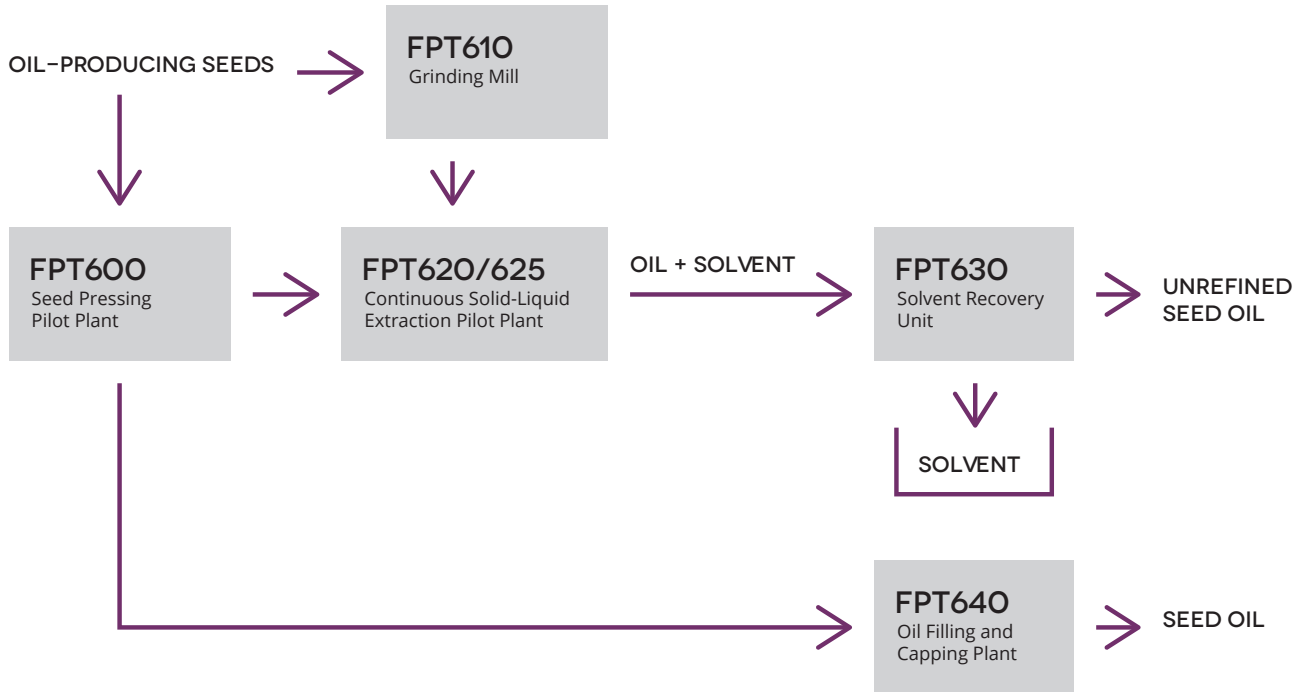
## INSTALLATION AND TRAINING

Our specialist engineers can provide expert on-site installation and equipment commissioning services for your HFT Education products, to help you to start using your new HFT Education teaching equipment as soon as possible after delivery.

We can also deliver on-site operational training for our teaching products, to demonstrate how all of the equipment features can be used for maximum benefit to students. Training can also be delivered at our factories, before your equipment is shipped.



## OIL-PRODUCING SEED PROCESSING



# FOOD PROCESSING TECHNOLOGY

## OIL-PRODUCING SEED PROCESSING



### FPT600

#### SEED PRESSING PILOT PLANT

A Seed Pressing Plant where seeds are fed from a hopper into a chamber, containing a rotating screw that presses the seeds against a perforated drum. The oil from the seeds flows through the perforated drum into a collector. The unit has a capacity of 6 to 12 kgs/h.

Product yield depends on type of seed, pressing temperature and cake thickness.



### FPT610

#### GRINDING MILL

A Seed Grinding Mill with adjustable grinding rollers with a capacity of 70 kgs per hour.



### FPT620

#### MANUAL CONTINUOUS SOLID-LIQUID EXTRACTION PILOT PLANT

A Continuous Solid-Liquid Extraction Plant for studying the extraction of soluble components from solids using a solvent. The solvent can be recovered using the FPT630 Solvent Recovery Unit.



### FPT625

#### AUTOMATED CONTINUOUS SOLID-LIQUID EXTRACTION PILOT PLANT

A Continuous Solid-Liquid Extraction Plant for studying extraction of soluble components from solids using solvent. The solvent can be recovered using the FPT630 Solvent Recovery Unit. The plant includes a PID controller to control and monitor the process in real time and automatically collect and store process data.



### FPT630

#### SOLVENT RECOVERY UNIT

A Solvent Recovery Unit consisting of a rotary evaporator that recycles the solvent used for oil extraction.





### FPT640

#### OIL FILLING AND CAPPING PLANT

An Oil Filling and Capping Plant comprising a Vacuum Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine. The machines are designed to bottle olive oil and seed oil.

## OLIVE PROCESSING



### FPT650

#### OLIVE OIL PRODUCTION PILOT PLANT

An Olive Oil Production Pilot Plant that can process 80 kgs of olives per hour. The plant includes an olive stemming machine with washing system and screw elevator, a hammer crusher with water jacket, a heater and a screw pump. The plant also includes a continuous centrifugal separator and Archimedean screw for discharging the marcs and amurca.



### FPT690

#### OIL FILLING AND CAPPING PLANT

An Oil Filling and Capping Plant comprising a Vacuum Dosing Machine together with a Semi-Automatic Screw-Cap Closing Machine. The machines are designed to bottle olive oil and seed oil.

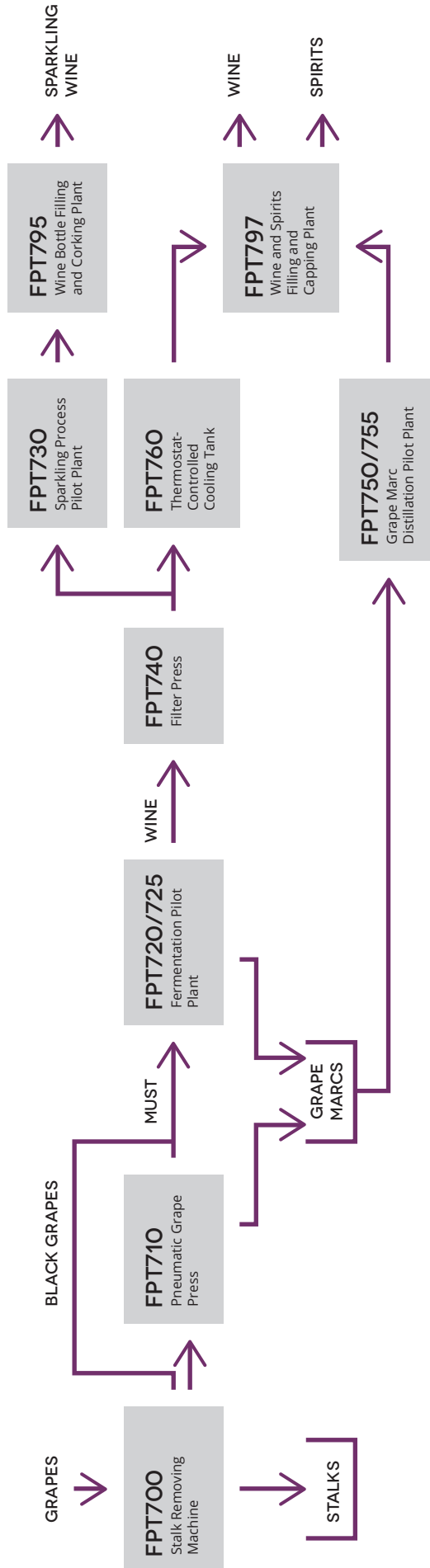
## OLIVE PROCESSING



# FOOD PROCESSING TECHNOLOGY

## GRAPE PROCESSING – RANGE MAP

### GRAPE PROCESSING





### FPT700

#### STALK REMOVING MACHINE

A Stalk Removing Machine for separating the stalks from the grapes. The machine has a feeding capacity of 500 kgs per hour.



### FPT710

#### PNEUMATIC GRAPE PRESS

A Pneumatic Grape Press for producing faster output of grape must, compared to traditional vertical presses. The unit also produces a better quality grape must compared to industrial continuous presses.

Pressing is done in stages and can be automatically programmed. Grapes are pressed against a wire sieve using compressed air from an on-board compressor.



### FPT720

#### SEMI-AUTOMATIC FERMENTATION PILOT PLANT

A Fermentation Plant for mixing yeast with the fermentation sugars in a liquid to produce alcohol. The plant includes a unit to produce ice water for cooling.

Investigations into mass balance, product quality and yield and product composition analysis can be carried out.



### FPT725

#### AUTOMATED FERMENTATION PILOT PLANT WITH SCADA

##### + RECOMMENDED ACCESSORIES

- FPT798 700 Litres Wine Making Tank

A Fermentation Plant for mixing yeast with the fermentation sugars in a liquid to produce alcohol. This plant includes a unit to produce ice water for cooling and is supplied with a PID controller to control and monitor the process in real time, and automatically collect and store process data. Investigations into mass balance, product quality and yield and product composition analysis can be carried out.



### FPT730

#### SPARKLING PROCESS PILOT PLANT

A Sparkling Process Pilot Plant for producing sparkling wines using the pressurised Charmat method. This method uses high-pressure vessels into which sugar and yeast are added after the wine is cooled.

##### + RECOMMENDED ACCESSORIES

- FPT770 Ice Water Production Unit
- FPT794 Sterilising Cartridge Filter

# FOOD PROCESSING TECHNOLOGY

## GRAPE PROCESSING



### FPT740 FILTER PRESS

A Filter Press with filter boards inserted between filter plates. Different boards can be used depending on the filtering required. A pump feeds wine into the filter press at up to a maximum of 500 litres per hour.

The filtering process can be rough-refining, sparkling or sterilising.



### FPT750 MANUAL GRAPE MARC DISTILLATION PILOT PLANT

#### + RECOMMENDED ACCESSORIES

- FPT094 Steam Generator
- FPT093 In-Line Steam Generator

A Manual Grape Marc Distillation Pilot Plant for distilling grape marcs using steam to produce spirits. Vapour is condensed and the resulting liquid is distilled further to produce ethyl alcohol mixed with water and other flavouring that give the resulting spirit drink its distinct taste. Investigations into mass and energy balance and end product analysis with variation of process parameters can be carried out.



### FPT755 AUTOMATED GRAPE MARC DISTILLATION PILOT PLANT WITH SCADA

#### + RECOMMENDED ACCESSORIES

- FPT093 In-Line Steam Generator
- FPT094 Steam Generator

An Automated Grape Marc Distillation Pilot Plant with SCADA for distilling grape marcs using steam. Vapour is condensed and the resulting liquid is distilled further to produce ethyl alcohol mixed with water and other flavouring that give the resulting spirit drink its distinct taste. The plant is supplied with a PID controller and software. Investigations into mass and energy balance and end product analysis with variation of process parameters can be carried out.



### FPT760 THERMOSTAT-CONTROLLED COOLING TANK

A Thermostat-Controlled Cooling Tank for cooling “trodden” grapes to stop fermentation or to maintain liquids at a low temperature.”



### FPT770 ICE WATER PRODUCTION UNIT

An Ice Water Production Unit for production of an ice water/glycol mixture for all plants, units and processes that require ice water.



**FPT794**  
**STERILISING CARTRIDGE**  
**FILTER**

A Sterilising-Grade Cartridge Filter with stainless steel housing.

**FPT797**  
**WINE AND SPIRITS FILLING**  
**AND CAPPING PLANT**

A Wine and Spirits Filling and Capping Plant comprising a Vacuum Dosing Machine and a Semi-Automatic Screw-Cap Closing Machine.

**FPT798**  
**700 LITRES WINE**  
**MAKING TANK**

A 700 Litre capacity Wine Making Tank manufactured from stainless steel.



**FPT795**  
**WINE BOTTLE FILLING AND CORKING PLANT**

A Wine Bottle Filling and Corking Plant comprising an Isobaric Dosing Machine and a Corking Machine and Wire-Hooper. The machines are supplied with a support table.

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PAGE 1 / 3 DATASHEET V 11 2013 FOOD PROCESSING TECHNOLOGY **FPT130**

**FPT130 SEMI-AUTOMATIC PASTEURISATION PILOT PLANT**

**DESCRIPTION - FPT130**

The FPT130 Semi-Automatic Pasteurisation Pilot Plant has been designed to pasteurise milk and clear juices.

Pasteurisation is carried out by heating in a heat-exchanger and once held at a temperature for a period of time, it is then quickly cooling the liquid to prevent growth of residual micro-organisms.

This process also changes the organoleptic properties of the pasteurised liquids for taste, smell and freshness.

The FPT130 also includes a microprocessor PID controller for automatically controlling the pasteurisation temperature.

**EXPERIMENTS**

- Product quality with variation of:
  - Food flow rate / holding time
  - Pasteurisation temperature
- Energy balance

# FOOD PROCESSING TECHNOLOGY

## BEER BREWING PRODUCTION LINE

### FPT800 BEER BREWING PILOT PLANT

A Beer Brewing Pilot Plant designed to make craft beer with the ability to adjust the ingredients and process to produce approximately 20 litres of different beer in each production cycle.



### FPT846 BEER FILLING AND CAPPING PLANT

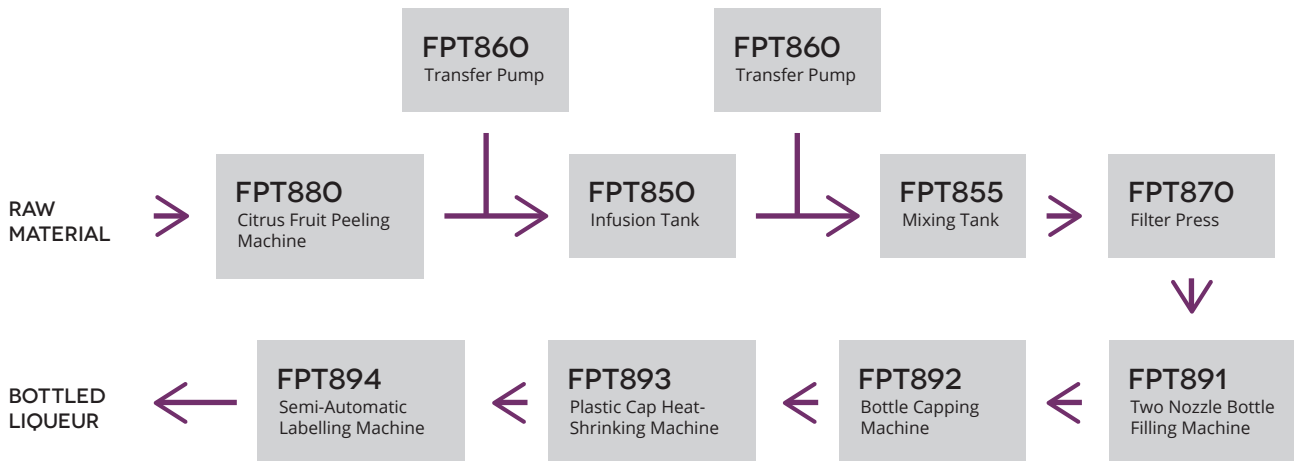
A Beer Filling and Capping Plant comprising a Vacuum Dosing Machine and a Semi-Automatic Corona-Crimped Closing Machine. The maximum capacity is 200 bottles per hour.



A typical installation comprising a Hot Break Pilot Plant, Pulping and Refining Unit, Centrifugal Cream Separator, De-Aeration Pilot Plant and Homogenisation Pilot Plant; set-up as a multi-product production line for Milk and Fruit processing.



### LIQUEUR PRODUCTION



### LIQUEUR PRODUCTION LINE



#### FPT850 INFUSION TANK

An Infusion Tank for cold-soaking ingredients in ethyl alcohol to produce a flavoured alcohol for the production of liqueurs.

The unit includes a 100 litre tank for the extraction of aromatic oils from raw materials that are generally shredded or crushed.



#### FPT855 MIXING TANK

A Mixing Tank designed to mix water with sugar to produce a sugar syrup. This is then mixed with the flavoured alcohol from the FPT850 Infusion Tank.

The tank has a 200 litre capacity and includes a washing sprayball.

# FOOD PROCESSING TECHNOLOGY

## LIQUEUR PRODUCTION LINE



### FPT860 TRANSFER PUMP

A Transfer Pump for transferring alcohol into the FPT850 Infusion Tank and transferring the infused alcohol into the FPT855 Mixing Tank.

The electrical components are contained in an explosion-proof box due to the potential for exposure to alcohol.



### FPT870 FILTER PRESS

A Filter Press for separating suspended solids from a liqueur mixture to produce a clear and stable liqueur. The press has a capacity of 300 litres per hour.



### FPT880 CITRUS FRUIT PEELING MACHINE

A Citrus Fruit Peeling machine for automatically peeling citrus fruit. The fruit is loaded and unloaded manually and the machine will peel four fruits per minute.

### FPT891 TWO-NOZZLE BOTTLE FILLING MACHINE

A Bottle Filling Machine that can fill two bottles simultaneously using a vacuum pump. The machine has a capacity of 200 bottles per hour.

### FPT892 BOTTLE CAPPING MACHINE

A Bottle Capping Machine used to automatically apply Screw Caps to bottles. The machine has a rotary head with adjustable clutch for perfect closing of caps and has a capacity 300 bottles per hour.

### FPT893 PLASTIC CAP HEAT- SHRINKING MACHINE

This Machine is used to Heat-Shrink plastic sleeves onto the tops of bottles using a hand-held electric heater.

### FPT894 SEMI-AUTOMATIC LABELLING MACHINE

A Semi-Automatic Labelling machine designed to apply self-adhesive labels to round bottles. The unit includes a distance adjuster between front and back labels and a smoothing device.

### FPT899 STAINLESS STEEL TABLE

A stainless steel table with dimensions 1900 x 900 x 850 mm for selection and manual peeling of raw food materials.



# FOOD PROCESSING TECHNOLOGY

## SEAFOOD PROCESSING – RANGE MAP



### SEAFOOD PROCESSING



# FOOD PROCESSING TECHNOLOGY

## SEAFOOD PROCESSING



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### FPT900

#### EVISцерATING PLANT

An Eviscerating Plant designed to remove entrails, blood and other waste from fish using a suction system. The unit includes a tank for collecting entrails.



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### FPT910

#### SKINNING MACHINE

A Skinning Machine designed to skin different types of fish. The unit uses a constant water flow for washing the fish during skinning and includes a pneumatic foot-operated control switch.



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### FPT920

#### SQUID CUTTING MACHINE

A Squid Cutting Machine designed to cut squid, cuttlefish and octopus.

The machine has a 300 kgs per hour capacity.



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### FPT930

#### SQUID WASHING AND CURLING MACHINE

A Squid Washing and Curling Machine for washing squid, cuttlefish and octopus and other types of fish. The unit also curls the fish. The fish is not damaged as the machine does not contain any rotating parts.



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### FPT940

#### TRAY SEALING MACHINE

A Tray Sealing Machine with an electronic temperature control and motor-driven automatic sealing system.

## OUR SERVICE PROMISE

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### WE PROMISE TO PROVIDE INFORMATION AND SUPPORT QUICKLY AND WITH A HIGH LEVEL OF EXPERTISE AND TECHNICAL KNOWLEDGE

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- Equipment Model Number
- Equipment Serial Number
- Details of your request, enquiry or question

#### EXPERIMENT

Details of the experiment or process that was being performed when you noticed a change in the equipment.

#### RESULTS

What results were you obtaining from the experiment? Please send us the actual data readings.

#### PHOTOGRAPHS

Digital photographs of the equipment will help us to make a quicker and more accurate diagnosis.

We request that the information provided is as detailed and accurate as possible, to help us make a quick and accurate diagnosis and identify the best solution.

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