TRAINING SERVICES
for processing

Competence development to boost your business
Tetra Pak® Training Services give your people knowledge and inspiration to be the best at what they do, improving operational performance and increasing employee engagement, to drive sustainable growth of your business.

**Always close to you, tailored to your needs**
Our comprehensive training offer is available to customers worldwide, on the job or in Tetra Pak facilities. Investing in training is simply a wise choice. The decisions made by competent employees don’t just secure a profitable operation today – they also lay the groundwork for a brighter tomorrow.

**Key benefits**
- Increased workforce competence, safety and motivation
- Safeguarded product quality
- Ensured food safety
- Optimised operational cost
- Improved reliability and production efficiency
- Fulfilled sustainable performance targets
Tetra Pak® Services cover every aspect of your food production, from daily routines to business insights. Our tailored service solutions improve performance, optimise costs and ensure food safety throughout the lifecycle of your operation. With Tetra Pak as your partner, you get the people, portfolio and presence to achieve your performance goals.

Find out more about Tetra Pak® Services at tetrapak.com/services.
OPERATE YOUR EQUIPMENT

Our professional operator training gives your workforce the skills they need to safely and efficiently operate your processing equipment.

All operation training courses will help your operators to perform their regular duties according to the operation manual including checks and daily/weekly care.

Subjects covered will include how the equipment functions and knowledge of how to operate it.

These training courses always include safety and hygiene guidelines focusing on food safety and personnel safety. They include extensive hands-on training and are delivered by experienced trainers.

Key benefits

- Increased product safety and consistent product quality
- Reduced waste and increased line efficiency
- Cost-efficient production at targeted equipment performance levels
- Minimized frequency and duration of production interruptions
## OPERATION TRAINING

### Course outlines

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Course objectives
This training is designed to give the participants operational skills for their regular duties and tasks as a Tetra Albatch operator. The training is task-based around the operating manual. The objectives are to train the participants to carry out all operation steps according to the Operation Manual (OM) including daily care and cleaning. This training will also prepare the participants for other training courses, for example Tetra Pak CIP Unit training.

On completion of this training the participant will understand:
- The main components in the Tetra Albatch and their location and terminology
- The importance of safety precautions
- The process steps of producing a product with Tetra Albatch

The participant will individually be able to:
- Locate the main components in the Tetra Albatch
- Understand the purpose of various functions in the food processor
- Start and operate the tank according to the Operation Manual (OM)
- Understand the function of push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operating the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 4 hours

Location & language
At your site. Available in English.

Duration
Total training time: 1.5 days
Hands-on training time: 4 hours
Course objectives
This training is designed to give the participants the knowledge of how to operate Tetra Alsafe (aseptic tank) with a specific number of options. The objectives are to provide operator training containing knowledge and terminology for aseptic tank.

On completion of this training the participant will understand:
- The main components in the aseptic line and their location and terminology
- The importance of safety precautions
- The process of producing an aseptic product

The participant will individually be able to:
- Locate the main components in the aseptic tank module
- Understand the purpose of various steps in the aseptic tank module
- Start and operate the tank according to the Operation Manual (OM)
- Understand the function of push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operating the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 4 hours

Location & language
At your site. Available in English.

Duration
Total training time: 1.5 days
Hands-on training time: 4 hours
Course objectives
This training is designed to give the participants operational skills for their regular duties and tasks as operators. The training is task based around the operating manual. The objectives are to train the participants to carry out all operation steps according to the Operation Manual (OM) including daily care and cleaning. As this is task based learning there will be a focus on safety, hygiene and handling of the container and hose.

On completion of this training the participant will understand:
- The importance of safety precautions
- The importance of maintaining high hygiene
- The function of the Tetra FlexDos unit

The participant will individually be able to:
- Locate the main groups of the Tetra FlexDos unit
- Understand the use of the HMI (Human Machine Interface) control panel
- Read and react to alarms
- Prepare and start up
- Start and run the unit according to best practice in manual
- Operate the Tetra FlexDos unit to make aseptic dosing into product
- Perform daily care
- Use and understand manual(s) and documentation

Course contents
- Hygiene
- Preparation
- Operation of unit according to the OM
- How to read and use manual(s) and documentation
- Daily care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- We recommend that the participants have attended a filling machine operator training.
- Access to processing equipment for hands-on training: 6 hours

Location & language
At your site. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 6 hours
Course objectives
This training is designed to give the participants an introduction to the Tetra Pak CIP Unit (formerly known as Tetra Alcip) with a specific number of options. The objectives are to provide operator training containing knowledge and terminology for the CIP Unit. This training will also prepare the participants for more advanced training courses.

On completion of this training the participant will understand:
• The main components in the cleaning line and their location and terminology
• The importance of safety precautions
• The process of producing a cleaning sequence

The participant will individually be able to:
• Start and operate the CIP Unit according to the Operation Manual (OM)
• Locate the main components in the CIP Unit
• Understand the purpose of various steps when operating the CIP Unit
• Understand the function of push buttons on the HMI (Human Machine Interface)
• Understand the different alarm signals
• Use and understand manual(s) and documentation

Course contents
• Operating the module according to the OM
• How to read and use manual(s) and documentation
• Module components and functions
• Daily and weekly care
• Safety precautions
• Learning evaluation

Key benefits
• Increased productivity and performance
• Increased product safety and quality
• Reduced waste and increased line efficiency
• Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
• 4 to 8 participants
• Access to processing equipment for hands-on training: 1.5 hours

Location & language
At your site. Available in English.

Duration
Total training time: 1.5 days
Hands-on training time: 1.5 hours
Course objectives
This training is designed to give participants a technical and operational understanding of the continuous freezer including Tetra Pak Continuous Freezer and Tetra Hoyer Frigus KF. The training ensures an understanding of the ice cream structure by focusing on giving an insight of the main components in and the operation of the continuous ice cream freezer. The training includes both theoretical and practical knowledge on the operation of the equipment.

On completion of this training the participant will understand:
- Working principles and control loops
- Technical construction of the main components
- Operational control
- Basic troubleshooting

The participant will individually be able to:
- Identify and technically describe the main components
- Understand input qualities and process parameters to ensure optimal production
- Operate and adjust the equipment
- Use and understand manual(s) and documentation

Course contents
- Introduction to ice cream
- Working principles of main components
- How to read and use manual(s) and documentation
- Safety precautions
- Learning evaluation

Key benefits
- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment performance
- Ensured consistent desired product quality
- Reduced waste and increased line efficiency

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 2 to 3 hours

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 2 to 3 hours
Course objectives
This training is designed to give participants a technical and operational understanding of the self-contained continuous freezer including Tetra Pak Continuous Freezer S and Tetra Hoyer Frigus SF. The training ensures an understanding of the ice cream structure by focusing on giving an insight of the main components in and the operation of the continuous ice cream freezer. The training includes both theoretical and practical knowledge on the operation of the equipment.

On completion of this training the participant will understand:
- Working principles and control loops
- Technical construction of the main components
- Operational control
- Basic troubleshooting

The participant will individually be able to:
- Identify and technically describe the main components
- Understand input qualities and process parameters to ensure optimal production
- Operate and adjust the equipment
- Use and understand manual(s) and documentation

Course contents
- Introduction to ice cream
- Working principles of main components
- How to read and use manual(s) and documentation
- Safety precautions
- Learning evaluation

Key benefits
- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment performance
- Ensured consistent desired product quality
- Reduced waste and increased line efficiency

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 3 hours

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 3 hours
Course objectives
This training is designed to give participants a technical and operational understanding of the ingredient doser including Tetra Pak Ingredient Doser and Tetra Hoyer Addus FF. The training includes both theoretical and practical knowledge of the maintenance activities.

On completion of this training the participant will understand:
- Working principles and control loops
- Technical construction of the main components
- Principles of maintenance
- Operational control
- Basic troubleshooting

The participant will individually be able to:
- Identify and technically describe the main components
- Understand process parameters to ensure optimal production
- Operate and adjust the equipment
- Perform routine maintenance care of:
  - Dosing screw (dosing auger)
  - Feed pump (lamella pump)
  - Inline blender
- Use and understand manual(s) and documentation

Course contents
- Working principles of main components
- How to read and use manual(s) and documentation
- Best practice maintenance
- Safety precautions
- Learning evaluation

Key benefits
- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment uptime and performance
- Ensured consistent desired product quality
- Maximised equipment lifetime
- Reduced waste and increased line efficiency

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 2 to 3 hours

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 2 to 3 hours
Tetra Therm® Aseptic Drink

Course objectives
This training is designed to give the participants an introduction to Tetra Therm Aseptic Drink. The objectives are to provide operator training containing knowledge of how to operate and terminology for the Tetra Therm Aseptic Drink module and how to run the unit according to the Operation Manual (OM). This training will also prepare the participants for training courses regarding process technology as well as other units.

On completion of this training the participant will understand:
- The main components in the aseptic line and their location and terminology
- The importance of safety precautions
- The process of producing a beverage product

The participant will individually be able to:
- Start and operate the unit according to the OM
- Locate the main components of the aseptic processing module
- Understand the purpose of the various steps in the processing module
- Understand the function of the push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of the filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operation of the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 8 hours

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 8 hours
Tetra Therm® Aseptic Flex (indirect UHT system)

Course objectives
This training is designed to give the participants an introduction to Tetra Therm Aseptic Flex (indirect UHT system). The objectives are to provide operator training containing knowledge and terminology for indirect modules and how to carry out all operation steps according to the Operation Manual (OM). This training will also prepare the participants for other training courses, for example Tetra Pak CIP Unit training.

On completion of this training the participant will understand:
- The main components in the aseptic line and their locations and terminology
- The importance of safety precautions
- The process of producing an aseptic product

The participant will individually be able to:
- Start and operate the unit according to the OM
- Locate the main components of the aseptic processing module
- Understand the purpose of the various steps in the processing module
- Understand the function of the push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of the filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operation of the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 8 hours

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 8 hours
Tetra Therm® Aseptic Visco (UHT system)

Course objectives
This training is designed to give the participants an introduction to Tetra Therm Aseptic Visco (UHT system). The objectives are to provide operator training containing knowledge and terminology for the module and how to carry out all operation steps according to the Operation Manual (OM). This training will also prepare the participants for other training courses, for example Tetra Pak CIP Unit training.

On completion of this training the participant will understand:
- The main components in the aseptic line and their locations and terminology
- The importance of safety precautions
- The process of producing an aseptic product

The participant will individually be able to:
- Start and operate the unit according to the OM
- Locate the main components of the aseptic processing module
- Understand the purpose of the various steps in the processing module
- Understand the function of the push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of the filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operation of the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Product behaviour
- Safety precautions
- Learning evaluation

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 8 hours

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 8 hours

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions
Tetra Therm® Aseptic VTIS (direct UHT system)

Course objectives
This training is designed to give the participants an introduction to Tetra Therm Aseptic VTIS (direct UHT system). The objectives are to provide operator training containing knowledge and terminology for direct modules. This training will also prepare the participants for other training courses, for example Tetra Pak CIP Unit training.

On completion of this training the participant will understand:
- The main components in the aseptic line and their location and terminology
- The importance of safety precautions
- The process of producing an aseptic product

The participant will individually be able to:
- Start and operate the unit according to the Operation Manual (OM)
- Locate the main components of the aseptic processing module
- Understand the purpose of various steps in the processing module
- Understand the function of push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operation of the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 8 hours

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
(2 days if participants are trained in infuser setup)
Hands-on training time: 8 hours
Tetra Therm® Lacta

Course objectives
This training is designed to give the participants an introduction to Tetra Therm Lacta. The objectives are to provide operator training containing knowledge and terminology for indirect modules and how to carry out all operation steps according to the Operation Manual (OM). This training will also prepare the participants for other training courses, for example Tetra Pak CIP Unit training.

On completion of this training the participant will understand:
- The main components in the line and their locations and terminology
- The importance of safety precautions
- The process of producing a product

The participant will individually be able to:
- Start and operate the unit according to the OM
- Locate the main components of the processing module
- Understand the purpose of the various steps in the processing module
- Understand the function of the push buttons on the HMI (Human Machine Interface)
- Understand the different alarm signals
- Know the importance of the filling in the production protocol
- Use and understand manual(s) and documentation

Course contents
- Operation of the module according to the OM
- How to read and use manual(s) and documentation
- Module components and functions
- Daily and weekly care
- Safety precautions
- Learning evaluation

Key benefits
- Increased productivity and performance
- Increased product safety and quality
- Reduced waste and increased line efficiency
- Minimized frequency and duration of production interruptions

Target group
Operators and maintenance personnel

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 8 hours

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 8 hours
Our professional maintenance training gives your workforce the skills they need to safely and efficiently maintain your processing equipment.

All maintenance training courses will help your maintenance staff to perform their regular duties according to the manuals including checks and daily/weekly care.

Subjects covered will include how the equipment functions and knowledge of how to maintain it.

These training courses always include safety and hygiene guidelines focusing on food safety and personnel safety. They include extensive hands-on training and are delivered by experienced trainers.

**Key benefits**

- Improved equipment performance through fewer and shorter unplanned stops
- Lower direct maintenance cost
- Increased safety for staff and equipment
# MAINTENANCE TRAINING

## Course outlines

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</table>

* course duration dependent on equipment based training time
Tetra Alsafe® (Electrical)

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the electrical system of the equipment. This is to enable settings and replacements of defect components in the system. This training will also prepare the participants to perform troubleshooting and fault localization on the equipment.

On completion of this training the participant will understand:
- The importance of electrical safety precaution
- The main electrical components

The participant will individually be able to:
- Identify all components in the manuals and on the unit
- Replace PLC (Programmable Logic Controller) modules, inclusive download of program from PSD (Programme Storage Device)
- Replace the frequency converters
- Force valves from HMI (Human Machine Interface) when fault finding
- Use and understand manual(s) and documentation

Course contents
- Electrical equipment
- How to read and use manual(s) and documentation
- Safety precautions
- Circuit diagram
- PLC
- Frequency converter
- HMI
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Increased employee commitment and engagement
- Increased knowledge in electrical competence

Target group
Electricians performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 4 hours

Location & language
At your site. Available in English.

Duration
Total training time: 0.5 day
(mix of theory and hands-on training)
Tetra Pak® CIP Unit

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the maintenance activity of the CIP Unit (formerly known as Tetra Alcip). This is to also enable basic maintenance of main components in the system. This training will also prepare participants to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- Safety precautions
- Best practices
- Risk assessment of maintenance activity
- Maintenance of main components
- Operational, food safety and critical control points

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and in the equipment
- Handle HMI (Human Machine Interface) alarm and troubleshooting with help of Operation Manual (OM)
- Do chemical dosing pump maintenance
- Do maintenance of conductivity meter
- Identify spare parts number identification for ordering with help of Technical Manual (TeM)
- Maintain proper maintenance schedule as per our recommendation
- Use and understand manual(s) and documentation

Course contents
- Basic functions of the processing equipment
- How to read and use manual(s) and documentation
- Control panel
- Hands on activities
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Basic processing knowledge
- Access to processing equipment for hands-on training: 1.5 hours day 1, 6.5 hours day 2 and 5.5 hours day 3

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 13.5 hours
Tetra Pak® Continuous Freezer

Course objectives
This training is designed to give participants a technical and operational understanding of the continuous freezer including Tetra Pak Continuous Freezer and Tetra Hoyer Frigus KF. The training ensures an understanding of the ice cream structure by focusing on giving a complete insight of the main components in the ice cream freezer. The training includes both theoretical and practical knowledge of the maintenance activities.

On completion of this training the participant will understand:

- Working principles and control loops
- Technical construction of the main components
- Principles of maintenance
- Operational control
- Basic troubleshooting

The participant will individually be able to:

- Identify and technically describe the main components
- Understand input qualities and process parameters to ensure optimal production
- Operate and adjust the equipment
- Perform routine maintenance care, including:
  - Adjustment and overhaul mix- and cream pumps
  - Inspection and maintenance of cylinder, dasher, scraper knives and beater
- Use and understand manual(s) and documentation

Course contents

- Introduction to ice cream
- Working principles of main components
- How to read and use manual(s) and documentation
- Best practice maintenance
- Safety precautions
- Learning evaluation

Key benefits

- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment uptime and performance
- Ensured consistent desired product quality
- Maximised equipment lifetime
- Reduced waste and increased line efficiency

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 2 to 3 hours per day

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 2 days
Hands-on training time: 4 to 6 hours
Course objectives
This training is designed to give participants a technical and operational understanding of the self-contained continuous freezer including Tetra Pak Continuous Freezer S and Tetra Hoyer Frigus SF. The training ensures an understanding of the ice cream structure by focusing on giving a complete insight of the main components in the ice cream freezer. The training includes both theoretical and practical knowledge of the maintenance activities.

On completion of this training the participant will understand:
- Working principles and control loops
- Technical construction of the main components
- Principles of maintenance
- Operational control
- Basic troubleshooting

The participant will individually be able to:
- Identify and technically describe the main components
- Understand input qualities and process parameters to ensure optimal production
- Operate and adjust the equipment
- Perform routine maintenance care, including:
  - Adjustment and overhaul mix- and cream pumps
  - Inspection and maintenance of cylinder, dasher, scraper knives and beater
- Use and understand manual(s) and documentation

Course contents
- Introduction to ice cream
- Working principles of main components
- How to read and use manual(s) and documentation
- Best practice maintenance
- Safety precautions
- Learning evaluation

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 2 to 3 hours per day

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 2 days
Hands-on training time: 4 to 6 hours

Key benefits
- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment uptime and performance
- Ensured consistent desired product quality
- Maximised equipment lifetime
- Reduced waste and increased line efficiency
**Tetra Pak® Homogenizer**

**Course objectives**
This training is designed to train the participants to understand the working principle of homogenizer and carry out maintenance of the wet end and supply system (cooling) of this unit (formerly known as Tetra Alex).

On completion of this training the participant will understand:
- How to perform maintenance of the wet end and supply system (cooling)
- Function and design of this equipment

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and in the equipment
- Perform preventive maintenance on this unit
- Follow safety precautions
- Prepare unit pre-maintenance
- Dismantle of suction and discharge valves
- Remove and replacing of piston
- Remove and replacement of homogenizing head
- Identify and explain different types of wear and tear
- Use and understand manual(s) and documentation

**Course contents**
- The working principles and components of this unit
- How to read and use manual(s) and documentation
- Perform General maintenance of this unit according to the Technical Manual
- Safety precautions
- Learning evaluation

**Key benefits**
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

**Target group**
Personnel performing maintenance of the unit

**Recommendations**
- 4 to 6 participants
- Access to processing equipment for hands-on training: 11 hours

**Location & language**
At your site or at one of our training facilities. Available in English.

**Duration**
Total training time: 2.5 days
Hands-on training time: 11 hours
Tetra Pak® Ingredient Doser

Course objectives
This training is designed to give participants a technical and operational understanding of the ingredient doser including Tetra Pak Ingredient Doser and Tetra Hoyer Addus FF. The training includes both theoretical and practical knowledge of the maintenance activities.

On completion of this training the participant will understand:
- Working principles and control loops
- Technical construction of the main components
- Principles of maintenance
- Operational control
- Basic troubleshooting

The participant will individually be able to:
- Identify and technically describe the main components
- Understand process parameters to ensure optimal production
- Operate and adjust the equipment
- Perform routine maintenance care of:
  - Dosing screw (dosing auger)
  - Feed pump (lamella pump)
  - Inline blender
- Use and understand manual(s) and documentation

Course contents
- Working principles of main components
- How to read and use manual(s) and documentation
- Best practice maintenance
- Safety precautions
- Learning evaluation

Key benefits
- Increased competence and knowledge level
- Increased employee commitment and engagement
- Increased equipment uptime and performance
- Ensured consistent desired product quality
- Maximised equipment lifetime
- Reduced waste and increased line efficiency

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 2 to 3 hours

Location & language
At your site or at our Technical Training Centre Denmark. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 2 to 3 hours
Tetra Pak® Plate Heat Exchanger

Course objectives
This training is designed to train the participants to understand the working principle and how to carry out the maintenance of Tetra Pak Plate Heat Exchanger units (formerly known as Tetra Plex).

On completion of this training the participant will understand:
- Working principles of plate heat exchangers
- Safety precautions

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and on the unit
- Perform preventive maintenance on this unit
- Follow safety precautions
- Understand the principles of heat transfer for this unit
- Understand plate hanging list, different plates and positions
- Dismantle and assemble plates
- Remove and replace gaskets
- Use and understand manual(s) and documentation

Course contents
- The working principles of heat transfer and this unit
- How to read and use manual(s) and documentation
- General maintenance of this unit according to the instruction manual
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 1 day

Location & language
At your site or at one of our training facilities. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 4 to 6 hours
Tetra Pak® Separator

Course objectives
This training is designed to train the participants to understand the working principle and how to carry out the maintenance of Tetra Pak Separator units (formerly known as Tetra Centri).

On completion of this training the participant will understand:
- The working principles of this equipment
- The basics of centrifugal separation and applications
- The importance of the safety aspects and warnings
- Best practices for maintenance of this equipment

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and on the equipment
- Perform preventive maintenance on this equipment – disconnecting piping and draining of unit
- Follow safety precautions
- Understand design and function
- Carry out maintenance of centrifugal separator
- Use and understand manual(s) and documentation

Course contents
- The working principles of separators and applications
- How to read and use manual(s) and documentation
- General maintenance of this unit according to the instruction manual
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 12 hours

Location & language
At your site or at one of our training facilities. Available in English.

Duration
Total training time: 2 days
Hands-on training time: 12 hours
Tetra Pak® Tubular Heat Exchanger

Course objectives
This training is designed to train the participants to understand the working principle and how to carry out the maintenance of Tetra Pak Tubular Heat Exchanger units (formerly known as Tetra Spiraflo).

On completion of this training the participant will understand:
- Working principles of tubular heat exchangers
- Safety precautions

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and on the unit
- Perform preventive maintenance on this unit
- Follow safety precautions
- Understand the principles of heat transfer
- Dismantle the unit, replace O-rings and product seals, reassemble the unit
- Perform rinsing of program to check absence of leakages
- Use and understand manual(s) and documentation

Course contents
- The working principles of heat transfer and this unit
- How to read and use manual(s) and documentation
- General maintenance of this unit
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 6 participants
- Access to processing equipment for hands-on training: 1 day

Location & language
At your site or at one of our training facilities. Available in English.

Duration
Total training time: 1 day
Hands-on training time: 4 to 6 hours
Tetra Therm® Aseptic Drink

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the maintenance activity of the equipment. This is to also enable basic maintenance of main components in the system. This training will also prepare participants to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- Safety precautions
- Best practices
- Risk assessment of maintenance activity
- Maintenance of main components
- Operational, food safety and critical control points

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and the unit
- Handle HMI (Human Machine Interface) alarm and troubleshooting with help of Operation Manual (OM)
- Perform maintenance of heat exchanger (plate or tubular)
- Perform maintenance of other components (e.g. pumps and valves)
- Identify spare parts number identification for ordering with help of Technical Manual (TeM)
- Maintain proper maintenance schedule as per our recommendation
- Use and understand manual(s) and documentation

Course contents
- Basic functions of the processing equipment
- How to read and use manual(s) and documentation
- Control panel
- Hands on activities
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Basic processing knowledge
- Access to processing equipment for hands-on training: 8 hours for heat exchanger and 4 for other components

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 12 hours
Tetra Therm® Aseptic Drink (Electrical)

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the electrical system of the equipment. This is to enable settings and replacements of defect components in the system. This training will also prepare the participants for how to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- The importance of electrical safety precaution
- The electrical main components

The participant will individually be able to:
- Identify all components in the manuals and on the unit
- Replace PLC (Programmable Logic Controller) modules, inclusive download of program from PSD (Programme Storage Device)
- Replace the frequency converters
- Calibrate the CIP (Cleaning In Place) header batch
- Force valves from HMI (Human Machine Interface) when fault finding
- Use and understand manual(s) and documentation

Course contents
- Electrical equipment
- How to read and use manual(s) and documentation
- Circuit diagram
- PLC
- Frequency converter
- HMI
- Calibration of CIP header batch
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Increased employee commitment and engagement
- Increased knowledge in electrical competence

Target group
Electricians performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 4 hours

Location & language
At your site. Available in English.

Duration
Total training time: 0.5 day
(mix of theory and hands-on training)
Course objectives
This training is designed to give participants theoretical and practical knowledge of the maintenance activity for this equipment. The training will also enable basic maintenance of the main components of this processing unit as well as prepare participants to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- Safety precautions
- Food safety critical control points
- Maintenance of main components
- Maintenance best practices and risk assessment

The participants will individually be able to:
- Identify all components in the manuals (Technical and Maintenance)
- Handle HMI (Human Machine Interface) alarms and troubleshooting with the help of the Operating Manual
- Perform maintenance of tubular heat exchanger
- Identify spare parts numbers for ordering with the help of the Technical Manual (TeM)
- Maintain proper maintenance schedule as per our recommendation
- Use and understand manual(s) and documentation

Course contents
- Basic functions of the processing equipment
- Control panel functions
- How to read and use manual(s) and documentation
- Daily and weekly care
- Hands on activities
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Basic processing knowledge
- Access to processing equipment for hands-on training: 8 hours for heat exchanger and 4 for other components

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 12 hours
Tetra Therm® Aseptic Flex (Electrical)

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the electrical system of the equipment. This is to enable settings and replacements of defect components in the system. This training will also prepare the participants for how to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- The importance of electrical safety precaution
- The electrical main components

The participant will individually be able to:
- Identify all components in the manuals and on the unit
- Replace PLC (Programmable Logic Controller) modules, inclusive download of program from PSD (Programme Storage Device)
- Replace the frequency converters
- Calibrate the CIP (Cleaning In Place) header batch
- Force valves from HMI (Human Machine Interface) when fault finding
- Use and understand manual(s) and documentation

Course contents
- Electrical equipment
- How to read and use manual(s) and documentation
- Circuit diagram
- PLC
- Frequency converter
- HMI
- Calibration of CIP header batch
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Increased employee commitment and engagement
- Increased knowledge in electrical competence

Target group
Electricians performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Access to processing equipment for hands-on training: 4 hours

Location & language
At your site. Available in English.

Duration
Total training time: 0.5 day (mix of theory and hands-on training)
Tetra Therm® Lacta

Course objectives
This training is designed to give the participants theoretical and practical knowledge of the maintenance activity of the equipment. This is to also enable basic maintenance of main components in the system. This training will also prepare participants to perform basic risk assessment, troubleshooting and best maintenance practices.

On completion of this training the participant will understand:
- Safety precautions
- Best practices
- Risk assessment of maintenance activity
- Maintenance of main components
- Operational, food safety and critical control points

The participant will individually be able to:
- Identify all components in the manuals (Technical and Maintenance) and the unit
- Handle HMI (Human Machine Interface) alarm and troubleshooting with help of Operation Manual (OM)
- Perform maintenance of plate heat exchanger
- Perform maintenance of other components (e.g. pumps and valves)
- Identify spare parts number identification for ordering with help of Technical Manual (TeM)
- Maintain proper maintenance schedule as per our recommendation
- Use and understand manual(s) and documentation

Course contents
- Basic functions of the processing equipment
- How to read and use manual(s) and documentation
- Control panel
- Hands on activities
- Safety precautions
- Learning evaluation

Key benefits
- Increased safety for staff and equipment
- Increased productivity and performance
- Improved Mean time between failures (MTBF)
- Increased employee commitment and engagement
- Secured scheduled maintenance control

Target group
Personnel performing maintenance of the unit

Recommendations
- 4 to 8 participants
- Basic processing knowledge
- Access to processing equipment for hands-on training: 8 hours for heat exchanger and 4.5 for other components

Location & language
At your site. Available in English.

Duration
Total training time: 3 days
Hands-on training time: 12.5 hours
ENSURE QUALITY AND FOOD SAFETY

Our food safety training helps you minimize product quality issues.

We offer targeted trainings tailored specifically for senior management, middle management and operational staff including quality assurance and quality control personnel.

These trainings cover the entire production process from raw material to finished product. They are conducted by skilled trainers providing best practice and expert knowledge within each area.

Key benefits
- Minimized product quality issues that could damage brand value and impact sales if experienced by retailers and/or consumers
- Reduced costs and waste due to quality issues
- Increased knowledge in legislation for food safety and food quality
- Increased awareness and understanding of quality assurance
## Course outlines

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<th>Duration</th>
<th>Course number</th>
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<td>CTS_34001</td>
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<tr>
<td>Hygienic processing and packaging for dairy</td>
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<td>CTS_33001</td>
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<tr>
<td>Introduction to long life production</td>
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</tr>
<tr>
<td>Microbiological troubleshooting</td>
<td>5 days</td>
<td>CTS_31004</td>
</tr>
</tbody>
</table>
High acid products (Beverage)

Course objectives
This training provides participants with understanding of aseptic processing and packaging of high acid products.

On completion of this training the participant will understand:
- High acid products covering the production line from raw material to finished product
- Quality control versus quality assurance
- Cleaning/CIP
- Package integrity checks

Course contents
- Aseptic processing and packaging of high acid products
- Quality assurance versus quality control
- Cleaning and CIP
- Package integrity methods

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Middle management and operational staff in the beverage processing and packaging industry

Recommendations
- 6 to 12 participants
- No prior experience is required

Location & language
At your site or at one of our training facilities. Available in English.

Duration
1 day
Hygienic processing and packaging for dairy

Course objectives
This training provides participants with understanding of processing from raw material to finished product, quality control and quality assurance including critical control points concept.

On completion of this training the participant will understand:
- Equipment for aseptic processing
- Aseptic technology
- Basic microbiology
- General aspects of quality control and quality assurance
- Critical Control Points concept
- Cleaning and CIP
- Package integrity

Course contents
- From raw material to finished product (dairy aseptic production)
- General aspects of quality control and quality assurance
- Aseptic transfer

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Operational staff including quality assurance

Recommendations
- 6 to 12 participants
- Knowledge of dairy processing and experience from aseptic production

Location & language
At your site or at one of our training facilities. Available in English.

Duration
5 days
Introduction to long life production

Course objectives
This training provides participants with an introduction to long life production.

On completion of this training the participant will understand:
- Role of senior management in connection with product quality
- Difference between quality assurance and quality control
- Introduction to long life production

Course contents
- Product quality
- Quality assurance and quality control
- Long life production

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Senior management

Recommendations
- 6 to 12 participants
- No prior experience is required

Location & language
At your site or at one of our training facilities. Available in English.

Duration
0.5 day
Low acid products (Dairy) – introduction

Course objectives
This training provides participants with understanding of aseptic processing and packaging of low acid products.

On completion of this training the participant will understand:
- Low acid products
- What happens to the product at every processing step
- The impact of food safety

Course contents
- Aseptic processing and packaging of low acid products
- Quality assurance versus quality control
- Cleaning and CIP
- Package integrity methods

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Middle management and operational staff in the dairy processing and packaging industry

Recommendations
- 6 to 12 participants
- No prior experience is required

Location & language
At your site or at one of our training facilities. Available in English.

Duration
1 day
Low acid products (Dairy)

Course objectives
This training provides participants with a deeper understanding of aseptic processing and packaging of low acid products and is a follow up to the introduction course.

On completion of this training the participant will understand*:
- Low acid products covering the production line from raw material to finished product
- Quality control versus quality assurance
- Basic microbiology
- Cleaning/CIP
- Microbiological troubleshooting
- Package integrity checks

* The topics will be covered in more detail than in the first low acid course.

Course contents
- Aseptic processing and packaging of low acid products
- Quality assurance versus quality control
- Cleaning and CIP
- Package integrity methods

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Middle management and operational staff in the processing and packaging industry

Recommendations
- 6 to 12 participants
- No prior experience is required

Location & language
At your site or at one of our training facilities. Available in English.

Duration
3 days
Manage aseptic production

Course objectives
This training provides participants with an increased knowledge of aseptic production to improve performance in plants.

On completion of this training the participant will understand:
- Tetra Pak best practices to your own operation
- Impact of preventive measures to avoid quality related mishaps
- Where in the product line the risk is major
- Cost efficient preventive measures
- Continuous improvements to avoid rather than detect unsterilities
- Competence development to match your performance ambitions
- Maintenance routines to reduce impact on production
- Analyzing available data to identify potential improvements and quick wins
- Need for thorough cost mapping, improved analysis and/or changes in production planning
- Cost impact of implementing improvements

Course contents
- A practical approach to aseptic production
- Quality systems, competence development and maintenance management
- Operational cost analysis

Key benefits
- Increased knowledge in how to lower operation costs, achieve high and consistent product quality
- Increased knowledge in understanding and applying best practice
- Improved production planning to ensure you meet delivery deadlines

Target group
Plant managers, production managers, quality managers, service managers and others interested in gaining a deeper understanding of aseptic technology.

Recommendations
- 6 to 12 participants
- It is recommended that participants have a basic knowledge of aseptic technology.
- Participants should have at least six months experience of working in a long life production environment.

Location & language
At your site or at one of our training facilities.
Available in English.

Duration
3 days
Microbiological troubleshooting

Course objectives
This training provides participants with understanding of the principles of systematic troubleshooting.

On completion of this training the participant will understand:
- Cases from both technical and microbiological troubleshooting
- General microbiology
- Rough identification of spoilage flora
- General aspects of quality control and quality assurance
- Critical Control Points
- Aseptic transfer
- Aseptic packaging
- Hazard Analysis Critical Control Points (HACCP) Concept
- Cleaning and CIP
- Package integrity

Course contents
- Principles of systematic troubleshooting
- General aspects of quality control and quality assurance
- Aseptic transfer

Key benefits
- Minimized product quality issues
- Reduced cost and waste
- Increased awareness and understanding of the importance of food safety

Target group
Operational staff including quality assurance and quality control personnel within the processing and packaging industry

Recommendations
- 6 to 12 participants
- Knowledge of aseptic processing and at least three years experience in aseptic production

Location & language
At your site or at one of our training facilities. Available in English.

Duration
5 days
UNDERSTAND FOOD TECHNOLOGY

Food technology training from Tetra Pak gives your staff the applied product technology knowledge they need to better understand what happens to products when they are being processed in our equipment. By understanding products at the different processing steps your staff will improve both performance and quality in production.

Usually held on-site as a compliment to our equipment training we provide the right training for your specific product needs.

Qualified Tetra Pak staff provide all training materials as well as hands-on task based learning.

Key benefits
- Increased workforce competence
- Increased basic knowledge in food technology to optimise performance
- Improved product knowledge which leads to securing food safety and quality
# FOOD TECHNOLOGY TRAINING

## Course outlines

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<tr>
<th>Name of course</th>
<th>Duration</th>
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<td>Beverage Processing &amp; Technology – Basic</td>
<td>0.5 day</td>
<td>CTT_44000</td>
</tr>
<tr>
<td>Dairy Processing &amp; Technology – Basic</td>
<td>0.5 day</td>
<td>CTT_43000</td>
</tr>
</tbody>
</table>
Beverage Processing & Technology – Basic

Course objectives
This training is designed to give participants an introduction to beverage technology. It will cover the basic principles of beverage technology including the different steps in processing. The course should be combined with and is a good compliment to Tetra Pak® Training Services equipment training.

On completion of this training the participant will understand:
- The basic principles of beverage technology
- The importance of the Brix and other quality parameters
- The purpose of the different steps in the process and how the product reacts
- The main components of the pasteurization unit
- Deaeration and air influence on product quality

The participant will individually be able to:
- Increase knowledge in Particles, rheology, powder mixing, blending and heat treatment
- Understand the principles of Obtaining a microbiologically safe product
- Identify where losses are generated and how losses can be minimised and important quality parameters

Course contents
- Beverage characteristics
- Beverage ingredients, water, sugar, concentrates, additives and powder dissolving
- Blending, heat treatment, deaeration, homogenization and dosing
- Practical exercises related to these topics

Key benefits
- Improved basic knowledge in the area of beverage processing and technology to enable better performance and delivery of quality products

Target group
Operators, maintenance personnel and other production personnel in the beverage industry

Recommendations
- 6 to 12 participants
- No previous knowledge required

Location & language
At your site. Available in English.

Duration
0.5 day with an option of more practical exercises
Dairy Processing & Technology – Basic

Course objectives
This training is designed to give participants an introduction to dairy processing. It will cover the basic principles of dairy processing including the different unit operations. The course should be combined with and is a good compliment to Tetra Pak® Training Services equipment training.

On completion of this training the participant will understand:
- The importance of food safety
- Science of milk
- Raw milk quality
- Unit operations in dairy processing
- Importance of cleaning and hygienic practices in dairy processing plant

The participant will individually be able to:
- Understand raw milk quality tests
- Understand the principles of milk separation and homogenization
- Understand pasteurization of milk products
- Follow the correct cleaning procedure and checks for clean surface

Course contents
- Food safety principles
- Science of milk constituents
- Raw milk handling and quality tests
- Unit operations in dairy processing including deaeration, separation, homogenization and heat treatment
- Cleaning

Key benefits
- Improved basic knowledge in the area of dairy processing and technology to enable better performance and delivery of quality products

Target group
Operators, maintenance personnel and other production personnel in the dairy industry

Recommendations
- 6 to 12 participants
- No previous knowledge required

Location & language
At your site. Available in English.

Duration
0.5 day with an option of more practical exercises