

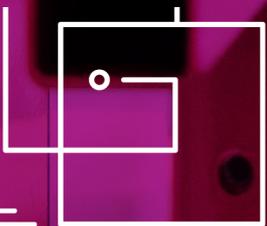


fives

TRAINING CATALOGUE

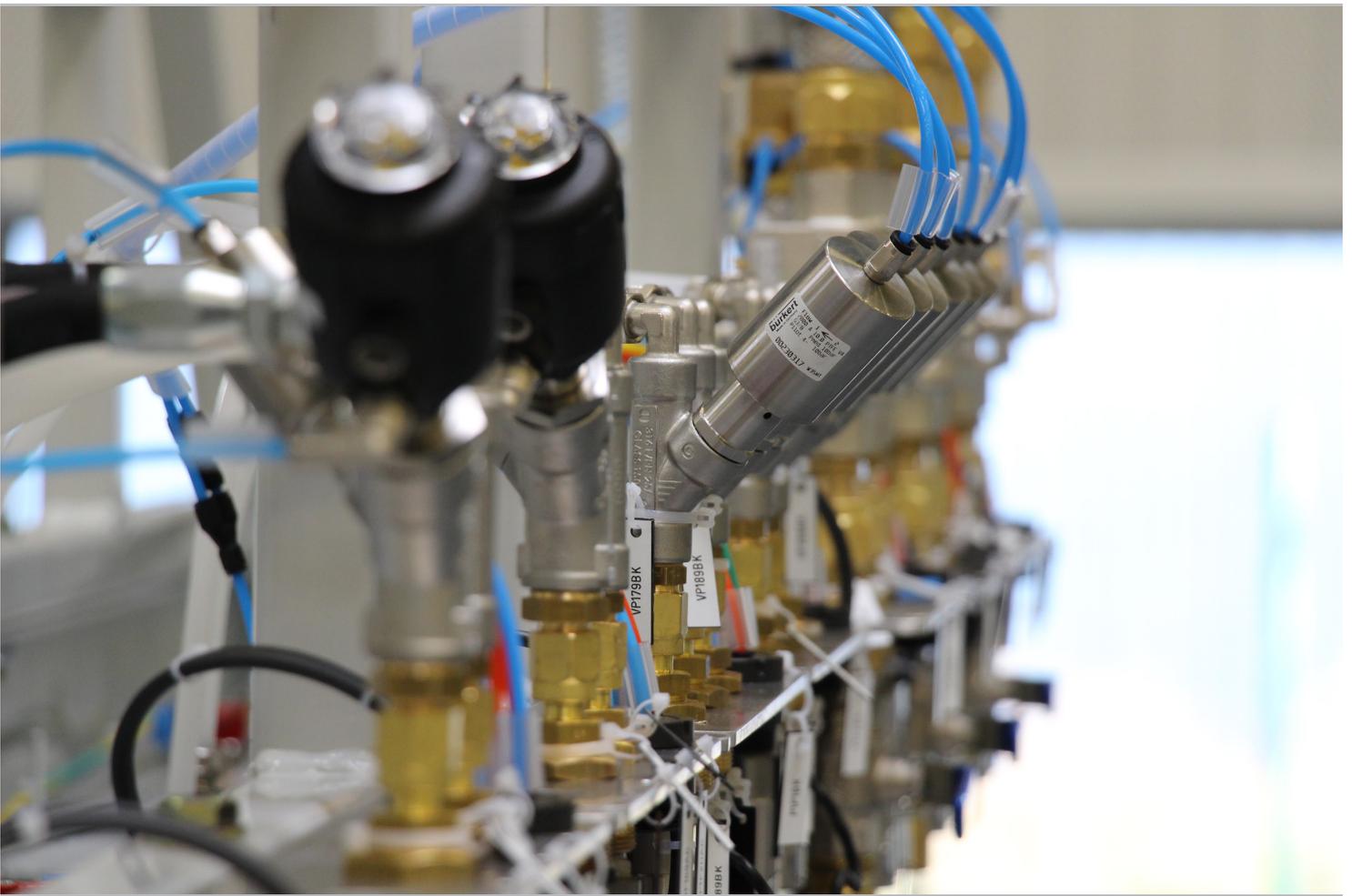


MACHINE AVAILABILITY AND
PERFORMANCE IMPROVEMENTS



SMART AUTOMATION
SOLUTIONS

Version: 1.0 April 2024



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Benefits of training

Increasing competitiveness and productivity goals requires well-trained and qualified teams.

To ensure the optimal operation of your installation and avoid production downtime, we provide support for your teams.

Fives Filling & Sealing's catalogue presents training tailored to your needs.

From understanding filling processes to operation and maintenance of your installations, these training courses aim to maximise employee skills and help them use them efficiently and safely.

We have developed targeted learning solutions tailored to your specific needs.

Understanding parameters, analysing installation performance, and refreshing employee knowledge of good operating and maintenance practices helps ensure equipment availability.

Training on site or in Filling | Sealing training centres

Thanks to our sites in France, USA, China, and Japan and our international network of entities within the Fives group, we can train your teams anywhere in the world, at your production sites or in our training centres. Our training teams include engineers and commissioning technicians with unrivalled experience in their areas of expertise: filling processes, fluids, mechanics, hydraulics, automation, electricity, etc.



Version: 1.0 April 2024

Training offer



Training is available for Operators, Maintenance, Methods, and Quality staff.



Training can be provided in French or English (other languages on request).



A certificate and training manual will be given to participants at the end of each training course.



Training can be partly provided remotely on request: content, target, and duration will be defined with the customer.



Operation

- Operation and supervision
- Monitoring and checks
- Safety



Maintenance

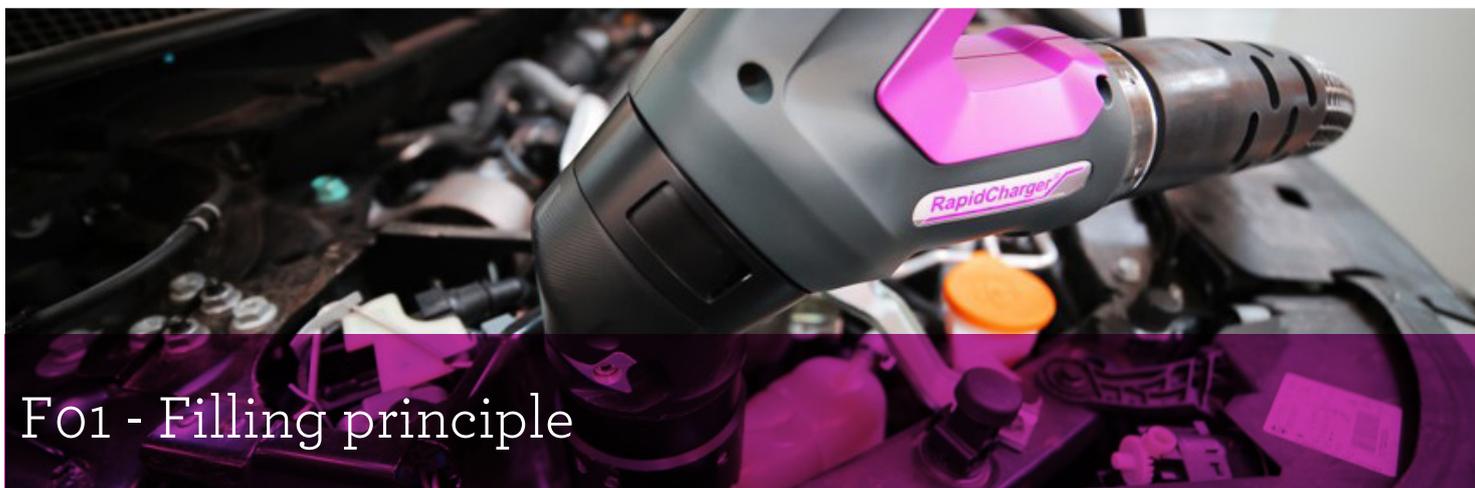
- Settings
- Preventative Maintenance
- Curative maintenance
- Troubleshooting



Optimisation

- Quality and methods
- Performance improvement

	Prerequisites			
			Duration	Practical Theory
F01 - Filling principles		Filling Sealing training centres or On the customer's site	1 day	
F02 - Filling machine operation (Operator)			1 day	
F03 - Filling machine operation (Maintenance)			1 day	
F04 - Filling machine maintenance	F03		2 days	
F05 - Adaptor maintenance	F03		2 days	
F06 - Machine performance assessment - Not for Sale - Under construction	F03		- days	



F01 - Filling principle

Learning activities

Classroom training (1 day)

- Introduction
- Case study

Target audience

- All publics

Training follow-up

Tutoring can be provided upon request.

This training course can be supplemented by other courses in the catalogue.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer.

Deliverables

- Training manual
- Certificate of participation

Factory profits

The Filling Principle training, suitable for anyone, provides an understanding of the main filling principles and best machine use practices. It provides a better understanding of filling machines.



Theoretical content

- Principle of filling machine operation
- Description of the main filling methods
- Presentation of the main filling machine components and accessories
- Vacuum and pressure in circuits
- Filling cycle steps
- Filling safety and environmental procedures



Operational objectives

At the end of this training course, participants will be able to:

- Describe the main components of a filling machine
- Identify the various filling processes
- Name the four filling types
- Understand the importance of creating vacuum in the circuit to fill
- Explain the various filling steps
- Know the environmental and safety constraints related to filling (QSE)



F02 - Filling machine operation (Operator)

Learning activities

Classroom training (0.5 days)

- Introduction
- Case study

Practical training in a workshop (0.5 days)

- Visual inspection of the machine and the installation
- Identification of operator interfaces
- Machine start up
- Filling cycle performance
- Optimum machine use

Target audience and prerequisites

- Operators
- Participants must be able to handle the filling machine safely.

Training follow-up

Further training and tutoring can be provided upon request.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer.

Deliverables

- Training manual
- Certificate of participation

Factory profits

Filling machine operation training course is for manufacturing line operators. It provides them with an understanding of the main filling principles and best practices for optimum machine use. It teaches the operator how to respond to any faults that might occur.



Theoretical content

- Identification of the various machines
- The various filling processes
- General filling principles
- Distinction between machine faults and product faults
- Safe machine commissioning and use



Practical content

- Safe machine commissioning
- Handling of the equipment used to operate the machine
- Verification of production quality



Operational objectives

At the end of this training course, participants will be able to:

- Identify the various operator interfaces used during machine operation (HMI, adaptors, ABS sockets, etc.)
- Start/stop the filling machine
- Perform a filling cycle (adaptor selection and positioning)
- Know the difference between machine faults and product faults
- Check production quality
- Identify and remedy 'minor' operating deviations (alarms, faults: tightness, pressure level, tank level)



F03 - Filling machine operation (Maintenance)

Learning activities

Classroom training (0.5 days):

- Introduction
- Case study

Practical training in a workshop (0.5 days):

- Visual inspection of the machine and the installation
- Identification of sub-assemblies/ components/accessories/peripherals
- Installation inspection, filling cycle selection and performance
- Review of HMI features

Target audience and prerequisites

- Maintenance technicians
- Participants must be able to handle the filling machine safely.

Training follow-up

Further training, coaching, or mentoring can be provided upon request.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer.

Deliverables

- Training manual
- Certificate of participation

Factory profits

Training is essential for maintenance teams. It helps ensure production capacity. It increases filling machine reliability and maximises their uptime.



Theoretical content

- Fundamentals of filling
- Principles of filling machine operation and checking
- Filling cycle steps
- Machine operation and checking parameters
- Performance parameters (cycle time, fluid quantity)
- Differentiation between machine faults and product faults
- Operator interface



Practical content

- Handling of the equipment used to operate the machine
- Reminder of how each component works
- Machine settings (cycle parameters, sensors.)
- Capabilities



Operational objectives

At the end of this training course, participants will be able to:

- Identify the various components and interfaces used during machine operation
- Start/Stop the filling machine
- Interpret the cycle parameters defining filling cycle selection
- Select the filling cycle according to cycle parameters
- Check proper machine operation
- Secure any intervention on filling machines
- Adjust machine settings



F04 - Filling machine maintenance

Learning activities

Classroom training (0.5 days)

- Introduction
- Case study

Practical training in a workshop (1.5 days)

- Troubleshooting
- Failure analysis and explanation to an expert
- Identification of wear parts, check points and preventative maintenance cycle operations
- Machine function tests

Target audience and prerequisites

- Completion of training course F03
 - Maintenance technicians
- Participants must be able to handle the filling machine safely.

Training follow-up

Further training, coaching, or mentoring can be provided upon request.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer.

Deliverables

- Training manual
- Certificate of participation

Factory profits

The Filling machine maintenance training course is for maintenance teams. It provides them the knowledge and good practices necessary to carry out preventative and curative maintenance assessments as well as resumption of production and filling machine monitoring. It increases reliability and maximises equipment service life.



Theoretical content

- Preventative maintenance
- Maintenance plan
- Measuring instruments and methods
- Main faults and failures
- Troubleshooting methodology
- Failure analysis
- Performance check
- QSE instructions and procedures relating to troubleshooting



Practical content

- Machine working check, performance report
- Preventative maintenance / Replacement of wear parts on the machine
- Troubleshooting.



Operational objectives

At the end of this training course, participants will be able to:

- Follow a preventative maintenance plan
- Define troubleshooting tools and methodology
- Interpret parameter values (machine, cycle, etc.)
- Fix the machine: Analyze failures / recommissioning
- Prepare all work under appropriate safety conditions



F05 - Adaptor maintenance

Learning activities

Classroom training (0.5 days):

- Introduction
- Case study

Practical training in a workshop (1.5 days)

- Visual inspections of the adaptor and the installation
- Adaptor removal and refitting
- Practical exercises and situations (troubleshooting, identification of faulty parts, cleaning)
- Operational and validation test

Target audience and prerequisites

- Maintenance technicians
- Completion of training course F03

Training follow-up

Further training, coaching, or mentoring can be provided upon request.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer..

Deliverables

- Training manual
- Certificate of participation

Factory profits

The Adaptor maintenance training course is for installation maintenance teams. It provides them the knowledge and best practices required for adaptor maintenance. It increases adaptor reliability, improves filling machine performance, and reduces maintenance time.



Theoretical content

- Reminder of features and operating principles
- Description of the adaptor and its main components
- Detailed drawings and components lists of the adaptor
- Adaptor check points
- Adaptor maintenance instructions
- Adaptor fitting and removal procedures
- Adaptor performance check
- Safety instructions and QHSE procedures



Practical content

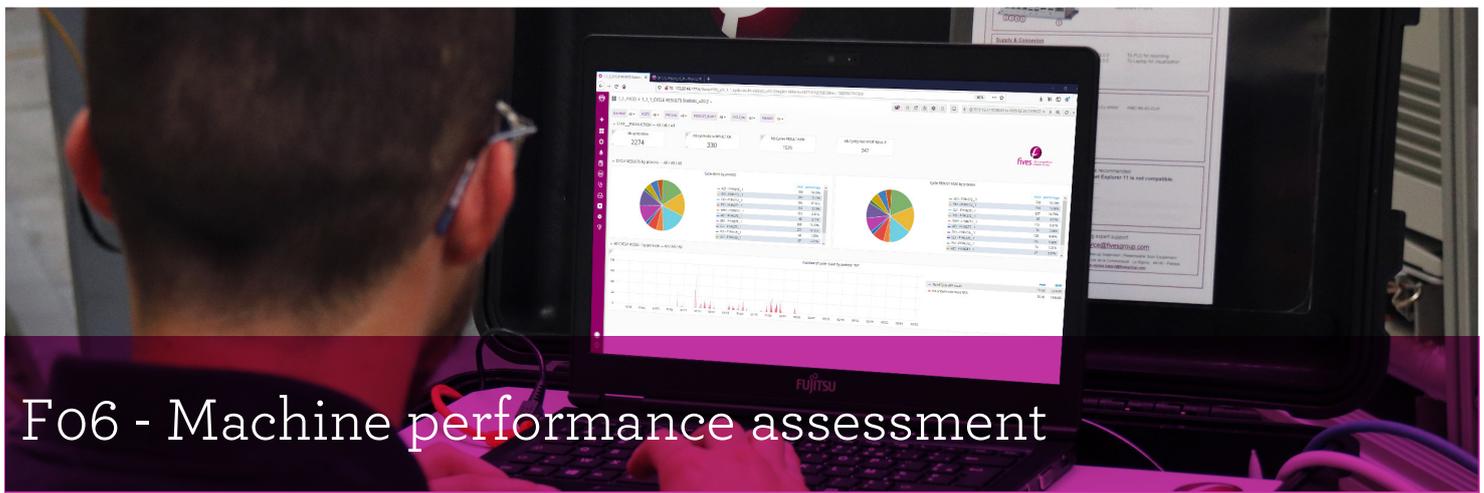
- Adaptor fitting and removal
- Adaptor performance check



Operational objectives

At the end of this training course, participants will be able to:

- Perform adaptor troubleshooting
- Know the tools required for maintenance
- Remove the adaptor and its sub-assemblies
- Repair the adaptor (Replacement of seals)
- Refit the adaptor and check its performance
- Ensure that any work on the equipment is carried out safely



F06 - Machine performance assessment

Learning activities

Classroom training (-day):

- Introduction
- Case study
- Simulation

Practical training in a workshop (- day)

- Performance and analysis of multiple monitoring cycles on test rigs or bottles test
- Review of machine performance parameters
- Changes to parameters and machine testing

Target audience and prerequisites

- Maintenance, Methods, and Quality technicians.
- Completion of training course F03

Training follow-up

Further training, coaching, or mentoring can be provided upon request.

Assessment

Assessment is conducted through multiple choice questionnaires (MCQs), discussions, and exchanges of questions and answers between participants and the trainer.

Deliverables

- Training manual
- Certificate of participation

Factory profits

The Machine performance assessment training course gives autonomy to Maintenance, Methods, and Quality teams and allows them to scale their production while maintaining productivity and quality levels.



Theoretical content

- Description of a filling installation and its peripherals
- Fluid properties and specifics
- Reminder of filling cycle steps
- Machine performance measuring methods and tools
- Cycle and machine parameters
- Standard machine capability procedure
- Regulations and standards (ATEX, Pressure Equipment Directive 97/23 EC)
- QSE instructions and procedures



Practical content

- Machine performance report
- Optimisation of settings



Operational objectives

At the end of this training course, participants will be able to:

- Check machine performance:
 - Define checking methodology and methods of verification
 - Measure performance parameters (step time, values, thresholds, standard deviation, repeatability, etc.)
- Analyse and interpret reported values
- Suggest corrective actions
- Implement a sustainable monitoring procedure

Notes

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Industry can do it

Fives Filling & Sealing

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