



Training Course Agenda

Fundamentals of Automated Visual Inspection

DAY 1

8:30 Welcome and Introductions

Theory 1: Introduction into Regulatory Requirements

- USP 1, USP 788 and 1788, USP 790 and 1790, PhEur e.g. 2.9.20, JP e.g. 6.06, Annex 1
- Similarities and differences in compendial methods
- 100% inspection and AQL testing
- Definitions and practical examples of inherent, intrinsic and extrinsic particles

Theory 2: Technical Principles of Automated Inspection Machines Part I

- Functionality of automated inspection machines
- Camera systems/light/motion
- Image processing and database system

10:30 Break

Theory 2: Technical Principles of Automated Inspection Machines Part II

- Interlinkage of parameters: speed, rotation speed, inspection parameters, detection probability, false reject rate
- Properties, capabilities and limitations of automated inspection systems
- Scope of Automated Visual Inspection
- Considerations on Primary Containers and Product Properties

12:00 Lunch

13:00 Exercise 1: Principle Basic Image Processing Using the Argo Benchtop, Test Samples Parametrization

Theory 3: Transition from Manual to Automated Inspection

- Manual inspection as a prerequisite for transition to automated inspection
- Interpretation of inspection results and validation of data
- Considerations on validation program for automated inspection
- Performance measurement
- Maintaining the manual inspection

14:45 Break

Theory 4: Qualification Test Set and Routine Test Set

- Statistical considerations on number of objects containing defects
- Particle selection, particle size and size uniformity
- Test sets
- Rejects and defects
- Quality requirements

15:30 Exercise 2: Quality Factors and Knapp Simulation with Excel

16:00 End of Training Course