COURSE OVERVIEW RE0979
FLS - Ventomatic for Packing Plant

Course Title
FLS - Ventomatic for Packing Plant

Course Date/Venue
July 20-24, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Reference
RE0979

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of FLS - Ventomatic for Packing Plant. It covers the FLS ventomatic technology, packing plant layout and process flow and ventomatic rotary packers - fundamentals; the electronic bag applicators, bag types and filling characteristics and health, safety and environment (HSE) in packing plants; the weighing and control systems, fluidization systems and air supply, bag applicator and magazine systems, screw feeders; and rotary valves, discharge belts and truck loading systems and centralized control panel (PLC/HMI).

Further, the course will also discuss the routine and preventive maintenance, bag applicator maintenance and rotary packer mechanical troubleshooting; the electrical and control system faults, dust management and ventilation and root cause analysis (RCA) for downtime; the optimization of packing efficiency, weighing accuracy and calibration; and the digital tools for process control.

During this interactive course, participants will learn the improving bag presentation and aesthetics; upgrading ventomatic systems, quality KPIs and benchmarking; the key metrics, internal versus industry benchmark comparisons, daily production and quality dashboards and role of operators; the hands-on system walkthrough, troubleshooting a weight error, frequent bag jams, daily & shift-wise reporting best practices; the operator skill assessment, identify components, file cycle simulation, safety and emergency checklist.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on FLS - ventomatic for packing plant
- Discuss the FLS ventomatic technology including the packing plant layout and process flow and ventomatic rotary packers – fundamentals
- Identify electronic bag applicators, bag types and filling characteristics and health, safety and environment (HSE) in packing plants
- Determine weighing and control systems, fluidization systems and air supply, bag applicator and magazine systems, screw feeders and rotary valves, discharge belts and truck loading systems and centralized control panel (PLC/HMI)
- Carryout routine and preventive maintenance, bag applicator maintenance and rotary packer mechanical troubleshooting
- Identify electrical and control system faults, dust management and ventilation and root cause analysis (RCA) for downtime
- Optimize packing efficiency, ensure weighing accuracy and calibration and use digital tools for process control
- Improve bag presentation and aesthetics, upgrade ventomatic systems, quality KPIs and benchmarking as well as key metrics, internal versus industry benchmark comparisons, daily production and quality dashboards and role of operators
- Assess hands-on system walkthrough, troubleshooting a weight error, frequent bag jams, daily & shift-wise reporting best practices
- Explain operator skill assessment, identify components, file cycle simulation, safety and emergency checklist

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of FLS - ventomatic for packing plant for packing plant operators, maintenance technicians (mechanical and electrical), instrumentation technicians, automation and control engineers, mechanical engineers, production engineers (cement industry), shift supervisors (packing plant), technical support staff, process engineers (involved in cement logistics and packaging), warehouse and dispatch supervisors, plant managers (who oversee packing operations), newly recruited engineers/technicians working on FLS ventomatic systems and other technical staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Pete Du Plessis is a **Senior Mechanical Maintenance Engineer** with over **30 years** of practical experience within the **Oil**, **Gas** and **Petrochemical** industries. His expertise includes **Reliability** Management, **Reliability Design** Techniques, **Reliability** Modelling, **Reliability** Techniques, Advanced **Root Causes** Analysis & Techniques, Creative **Problem Solving & Failure Analysis** Methodologies, Plant & Equipment Specification & Functions, **Cost Effective** Procedures, Dynamics of Machines, Reliability, Maintenance, Integrity & Inspection, **Maintenance** Management, **Maintenance Planning**, **Shutdown & Turnaround**, **Mechanical** Troubleshooting, **Preventive & Predictive Maintenance**, **Condition Monitoring**, Start-up & Commissioning, **Process Plant Commissioning**, **Cost Estimation**, **Dynamic Hydraulic** Testing, **COSHH**, **P&ID Reading**, **Engineering Drawings**, **Piping & Instrumentation Diagrams**, **Isometrics Drafting**, **Control & Safety Systems**, **PFD**, **Process Safety**, **Process** Troubleshooting & Problem Solving, Process Hazard Analysis (**PHA**), **Pumps**, **Compressors**, **Bearings**, **Lubrication**, **Process Safety** Management, **Risk Assessment** within Production Operation, **Hazard** Identification, **Safety Auditing**, **Site Inspection**, **Quantified Risk Assessment**, **HAZOP Studies & Leadership**, **FMEA**, Waste Management, Industrial Effluents, **Hazardous Material**, Chemical Handling, Emergency Response Services, **HAZCOM**, **HAZWOPER**, **HAZMAT**, Environmental Management (**ISO 14001**), Safety Management (**OHSAS 18001**) and Quality Management (**ISO 9001**).

While Mr. Du Plessis has been very active in the process industry he has likewise headed Consultancy projects for major **petrochemical companies**. In all his projects, he utilizes a systems approach which includes **risk management**, **process safety**, health & environmental management, human behaviour and quality management. Furthermore, he has come to share his expertise through the **numerous international trainings** he has held on **PHA**, **HAZOP**, **Risk Assessment**, Handling **Hazardous Materials** & Chemicals, Petroleum Products Handling & Transportation. Moreover, he completed various assignments as a consultant, trainer, facilitator, auditor & designer and conducted numerous licensed international Safety, Technology and Auditing Awareness & Implementing training courses including **IMS**, **ISO 9001**, **ISO 14001**, **ISO 27001**, **ISO 17799**, **OHSAS 18001** audits & assessments. With his accomplishments and achievements, he had been a **Safety Superintendent**, **Senior Safety Official** and **Senior Process Controller** for several international petrochemical companies.

Mr. Plessis has **Bachelor** degree with **Honours** in **Industrial Engineering** & **Management**. Further, he has gained **Diploma** in **Quality & Production Management**. He is also a **Certified Assessor** & **Moderator** with the Manufacturing, Engineering & Related Services Education and Training Authority (MERSETA), a **Certified Trainer/Assessor** by the **Institute of Leadership & Management** (**ILM**) and a **Certified Instructor/Trainer** by the APICS. He has further delivered numerous trainings, courses, seminars, conferences and workshops internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Overview of FLS Ventomatic Technology*** *Company Profile & Ventomatic Product Range • Importance of Automation in Packing Systems • Typical Configuration of a Ventomatic Plant • Integration with Cement Production Line*
0930 – 0945	*Break*
0945 – 1030	***Packing Plant Layout & Process Flow*** *Material Flow from Silo to Truck Dispatch • Process Sequence: Feeding, Filling, Weighing, Dispatch • Buffer Hoppers & Intermediate Storage • Control & Monitoring Systems Overview*
1030 – 1130	***Ventomatic Rotary Packers – Fundamentals*** *Design & Types (Impeller versus Fluidized) • Rotor Mechanisms & Filling Nozzles • Weighing Systems & Electronic Weighing Units • Dust Collection & Ventilation Systems*
1130 - 1230	***Electronic Bag Applicators*** *Automatic versus Manual Applicators • Operating Principles & Cycle Timing • Synchronization with Rotary Packer • Bag Type Compatibility & Adjustments*
1230 – 1245	*Break*
1245 – 1335	***Bag Types & Filling Characteristics*** *Paper versus Plastic versus Valve Bags • Bag Sealing & Venting Principles • Influence on Fill Rate & Accuracy • Typical Challenges with Bag Quality*

1335 - 1420	***Health, Safety & Environment (HSE) in Packing Plants*** *PPE & Safety Zones • Dust Control Measures • Emergency Stop Systems & Guards • Operator Awareness & Ergonomics*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 - 0830	***Weighing & Control Systems*** *Load Cell Functioning & Calibration • Set Point Management for Fill Weight • Error Detection & Compensation • Tolerance Setting & Weight Consistency*
0830 - 0930	***Fluidization Systems & Air Supply*** *Fluidizing Pads & Aeration Systems • Air Compressors & Blowers • Flow Control Valves & Regulators • Maintenance of Air Filtration Systems*
0930 – 0945	*Break*
0945 – 1100	***Bag Applicator & Magazine Systems*** *Bag Feeding Mechanisms • Pneumatic Actuators & Suction Cups • Adjustment for Different Bag Sizes • Cleaning & Inspection Routines*
1100 – 1230	***Screw Feeders & Rotary Valves*** *Metering Devices & Feed Rates • Mechanical Design & Wear Parts • Synchronization with Packing Cycles • Troubleshooting Blockages & Overflow*
1230 – 1245	*Break*
1245 – 1330	***Discharge Belts & Truck Loading Systems*** *Conveyors & Bucket Elevators • Bag Diverters & Spillage Prevention • Control of Loading Bays & Timers • Cleanout Systems & Residual Material*
1330 - 1420	***Centralized Control Panel (PLC/HMI)*** *Overview of FLSmidth Automation System • Real-Time Process Visualization • Operator Interface & Parameter Tuning • Logging, Alarms & Interlocks*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 - 0830	***Routine & Preventive Maintenance*** *Maintenance Schedules & Checklists • Lubrication Points & Intervals • Replacement of Wear Parts (Seals, Flaps, Nozzles) • Daily, Weekly & Monthly Inspection Plans*
0830 - 0930	***Bag Applicator Maintenance*** *Magazine Cleaning & Alignment • Vacuum Suction Issues & Repairs • Adjustment of Mechanical Fingers & Clamps • Troubleshooting Common Errors*
0930 – 0945	*Break*
0945 – 1100	***Rotary Packer Mechanical Troubleshooting*** *Nozzle Blockage & Air Leaks • Bearing Wear & Rotor Misalignment • Belt Slippage & Motor Drive Issues • Repair or Replacement of Filling Modules*

1100 – 1230	***Electrical & Control System Faults*** *Sensor Failures (Proximity, Load Cell, Limit Switches) • PLC Communication Faults • Fuse & Relay Troubleshooting • Software Error Codes & Resolution Steps*
1230 – 1245	*Break*
1245 – 1330	***Dust Management & Ventilation*** *Filter Bag Cleaning & Replacement • Pulse Jet & Reverse Air Systems • Monitoring Pressure Drop Across Filters • Environmental Compliance Issues*
1330 - 1420	***Root Cause Analysis (RCA) for Downtime*** *Structured Troubleshooting Steps • Use of Log Sheets & SCADA Data • RCA Tools (Fishbone, 5-Whys, Pareto) • Documentation of Failure Cases & CAPA*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 - 0830	***Optimizing Packing Efficiency*** *Speed versus Accuracy Trade-Off • Fill Time Reduction Strategies • Minimizing Empty Bags & Overfilled Bags • Adjusting Settings Based on Cement Type*
0830 - 0930	***Weighing Accuracy & Calibration*** *Tare Weight Management • Load Cell Drift & Recalibration • Systematic Error Detection • Regulatory Compliance & Audit Traceability*
0930 – 0945	*Break*
0945 – 1100	***Digital Tools for Process Control*** *Data Logging & Historical Trends • Integration with Plant DCS • Real-Time Feedback Loops & Alarms • Reporting Tools & Dashboards*
1100 – 1230	***Improving Bag Presentation & Aesthetics*** *Bag Sealing & Print Quality • Dust-Free Filling Strategies • Bag Rejection System Optimization • Operator Training on Bag Handling*
1230 – 1245	*Break*
1245 – 1330	***Upgrading Ventomatic Systems*** *Software Upgrades & Version Control • Retrofitting Bag Applicators & Weighers • Optional Modules (Palletizers, Automatic Trucks) • Energy-Efficient Drive Upgrades*
1330 - 1420	***Quality KPIs & Benchmarking*** *Key Metrics: Tons/Hour, Weight Variance, Waste % • Internal versus Industry Benchmark Comparisons • Daily Production & Quality Dashboards • Role of Operators in Achieving KPIs*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 - 0830	***Hands-On System Walkthrough*** *Guided Inspection of Rotary Packer & Bag Applicator • Identification of Key Components • Manual Operation & Emergency Procedures • Safety Checks Before Start-Up*
0830 - 0930	***Case Study: Troubleshooting a Weight Error*** *Simulated Calibration Problem • Diagnosing with HMI & Field Instruments • Performing Zero/Tare Adjustment • Resolution & Documentation*
0930 – 0945	*Break*
0945 – 1100	***Case Study: Frequent Bag Jams*** *Root Cause Investigation Process • Mechanical versus Control Issue • Cleaning Protocols & Adjustments • Feedback Loop to Bag Supplier*
1100 – 1230	***Daily & Shift-Wise Reporting Best Practices*** *Operator Logbooks & Shift Changeover • Data Entry Accuracy & Accountability • KPI Tracking Per Shift • Reporting Abnormal Events*
1230 – 1245	*Break*
1245 – 1345	***Operator Skill Assessment*** *Quick Written Quiz & Practical Task • Identification of Components • Filling Cycle Simulation • Safety & Emergency Checklist*
1345 - 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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