Training Catalog
Piovan Academy

PiovanGroup

PRESENTATION

In an increasingly competitive and technological market, training and knowledge become not only a necessity but an essential form of investment to keep up with innovations and market trends. As well as mastering products, knowing their applications and guaranteeing customers assistance from efficient and effective specialised technical personnel.

The “Piovan Academy” training center is located in Santa Maria di Sala, 20 km from Venice, at the global headquarters of Piovan S.p.A.
Its trainers, through educational sessions, guide the participants to acquire the theoretical and practical knowledge of the use of Piovan Group equipment and supervision systems, responding to the customer’s need to provide their operators with adequate knowledge related to the user level.

The Piovan Group Training catalog illustrates in detail the topics covered in the general courses, and the courses for specialized technical personnel, of companies operating within the plastics industry.

The “General courses” will be held mainly in the classroom, while the “Specialised courses” will include practical tests on the equipment available in the “Academy” area.

We are also able to provide technical seminars and customized training courses at customers sites, or other suitable venues that may suit our customers needs upon request.

Type of courses and objectives

General courses

The basic concepts of plastic processing systems and Piovan auxiliary equipment are presented. The purpose of these general courses, is the acquisition of the main notions of processing the main polymers and on the operation of Piovan equipment. These courses are ideal for people with limited knowledge of the plastics industry and polymer processing.

Specialized courses

The issues relating to the plastic material transformation processes are explored in depth, together with the operation and maintenance of Piovan control and supervision equipment and systems. The purpose is to improve the knowledge of Piovan equipment and the ability to solve specific technical problems.

Number of participants and duration of courses

The duration of the courses are determined on the basis of the course type and the related topics varying from half a day to two days.

The number of participants range from a minimum of 5 to a maximum of 15 people.

The time is divided as follows:
08.30-12.30: morning session
13.30-17.00: afternoon session

Costs

The costs refer to courses held at Piovan HQ and amounts to 150 Euro/day per person.
For courses at customers sites, please request for quotation.

TRAINING CLOSE-OUT

Learning evaluation

- The attendees being trained will be tested during the training session.
- A proficiency test for the final evaluation of the attendees training will be done on completion of the session.

Knowledge tracking

The test results will be recorded to track the attendees knowledge and to plan the knowledge
enhancement of each person.

Participation Certificate

All the courses in the catalog include a final learning test, after which a certificate will be issued to each participant. A USB key will also be released with the documentation used during the course.

Attendees feedback and continuous improvement

- The attendees will be asked for their feedback during and at the end of the training session.
- A final evaluation of the training and the trainers will also be completed, as part of a continuous review of our training courses.
- All the evaluations, collected feedbacks and suggestions will be used for continuous improvement of the training process, the contents and trainers.

Discover
the dates
and register

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General courses

GF01 - GENERAL FEEDING AND TRANSPORT COURSE

Conveying the plastic granules automatically and at the right time, means avoiding costly machine stops due to lack of materials, preventing material spillage, minimising the possibility of contamination and providing a clean, safe working environment and treatment.
Crucial for the efficient conveying of plastic components is the range of Piovan solutions spanning from stand-alone single material loaders to central multiple material systems which are presented in this course.

Topics discussed

- Material types
- Conveying and feeding
- Material feeding ways
- Material conveying
- Transport by suction
- Material feeding and devices
- The centralized system
- Special applications
- Centralized system piping

8 hours course

GD01 - GENERAL DEHUMIDIFYING COURSE

In order to limit production waste, plastic materials must be dehumidified up to a well determined residual moisture content.
The proper dehumidification of plastics before their transformation in the plasticizing screw is therefore a key factor for attaining quality processing.
In this course the main concepts of dehumidification and polymers are explained and the Piovan technologies for performing the drying process in the best condition possible for the raw material are introduced.

Topics discussed

DRYING CONCEPT

- Moisture absorption in plastics
- Polymers classification
- Moisture effects
- Moisture absorption
- Drying treatment variables
- Not controllable variabes
- Controllable variable
- Introduction to the dessicant dryers
- The regeneration cycle
- Regeneration phases
- Tower exchange control
- Regeneration timing and temperatures
- Process airflow
- Drying hopper and air flow
- Process air flow control
- Drying applications
- PET drying system

PET PREFORM DRYING PROCESS

- PET basic informations
- Bottle grade PET
- Why to dry PET
- Drying parameters
- What happens in the drying hopper?
- Incorrect drying effects
- PET dryers most used devices
- Dew point control probe
- Dew point stabilyzer
- The PET drying systems
- Mould cabin drying

PIOVAN MULTI HOPPER SYSTEMS

- Piovan multi hopper drying systems
- Ptu-Set multi hopper system
- GMP modula system
- PTU-PTUSET-PTUL2/3

GD01 - GENERAL DEHUMIDIFYING COURSE

PIOVAN DRYING

- Piovan drying systems presentation
- Hot air dryers
- Gas burner
- Compressed air dryers
- Piovan dryers evolution
- DPA-DPAC compressed air dryers
- Molecular sieves dryers
- Single tower dryers
- Double tower dryers
- DP series
- DPS series
- GP series
- Special dryers
- GMP modula system presentation
- Wheel dryers

8 hours course

GC01 - GENERAL CRYSTALLIZATION COURSE

Good crystallisation allows optimisation and simplification of the drying phase, with no risk of material degradation and the possibility of recovering high percentages of regrind.
Piovan provides a complete range of crystallisers, to carry out the material preparation process before the injection moulding phase or extrusion.
In this course we offer a view of the purpose of the crystallizers, their structure and design, and related devices.

Topics discussed

- PET informations
- Why PET?
- PET use in the market
- PET degradation
- Acetaldehyde
- PET recycling
- Other recyclable plastics
- New frontiers for PET disposal
- Bioplastics
- Crystallization in plastic transformation process
- Crystallization concepts
- Methods of measurements of crystallinity degree
- Materials to be crystallized
- Introduction to the crystallizers

8 hours course

GDS01 - GENERAL DOSING COURSE

The dosing is an operation that allows to select a determinated quantity or percentage of material and mix it together with another or more materials. These different materials forms a blend.The blend can be dryed, if necessary, or directly introduced into the transforming machine to be moulded or extruded. Volumetric, gravimetric, loss-in-weight, continuous or batch, are the technologies implemented in the series of blenders and Piovan dosing units.

Topics discussed

- Materials to dose
- Granules characteristics
- Material temperature
- Dosing ways
- Main doser elements
- Dosing devices
- The bridge breaker device
- Dosers examples
- Single and centralized dosing
- Volumetric dosing
- Gravimetric dosing
- Loss in weight dosing
- Introduction to Piovan's dosing devices
- Lybra LDV, MDP2, Lybra LG/LV, Lybra LGR/LVR
- MDW doser, Quantum, Quantum Extrusion, GDS
- Supervising systems interface

8 hours course

GT01 - GENERAL THERMOREGULATION COURSE

In the plastic processing , temperature control and thermoregulation are essential to guarantee the technical and physical characteristics of the finished products.
Piovan mould temperature controllers has been designed to maintain at a constant temperature the mould cavities, the hydraulic oil of the injection moulding machines, the extruder screws, the calibration heads, the cylinders and calenders of thermoforming lines. Water, oil and pressurised water models operate in a wide range of temperatures, from 20°C up to 250°C.

Topics discussed

- Molds thermoregulation.
- Special applications
- Process fluids
- Moulding temperature
- Thermoregulation of amorphous and crystalline polymers
- Conditioning of the mold cavities
- PID
- Basic parameters
- Efficiency of the thermoregulation
- Heating and cooling phases of the mould
- Sizing, and calculation of the heating/cooling power
- Introduction to the Piovan thermoregulators

8 hours course

Specialized courses

SF01
FEEDING AND TRANSPORT – EASYLINK+

The new Easylink+ range has a state-of-the-art cleaning system integrated in the bottom inlet to guarantee perfect cleaning of the main arms and prevent contamination. Easylink+ has a compact, vertical design with moving parts inaccessible for optimal operator safety. In the case of applications where absence of contamination is critical, a slide gate can be installed on every outlet as a barrier against residual granules. Pneumatic fitting positions are encoder-controlled to ensure correct selection of the material source. The drives are equipped with inverters for fast, precise movements.
An Easylink+ coupling station is able to control up to 60 sources and 60 destinations, and can be configured using all or some of the inlets and outlets, keeping the option of subsequent expansions open.
Easylink+ is essential for reliable, complete material traceability. Integration with Winfactory 4.0 allows:

- maximum traceability of materials
- automatic setting of transport and line cleaning times
- raw material stock monitoring with automated reorder function
- remote connection from portable devices

Topics discussed

- Purpose and management
- Application limits
- Old and new ACS
- Easylink range
- Dimensions
- Installation examples
- Parts description
- Logic of operating
- Pipe cleaning phase
- Extra cleaning phase
- Operation cycle
- Station mapping
- Delay time setting
- Status of receivers
- Assignment procedure
- Control and maintenance

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

10 hours course

SF02
FEEDING AND TRANSPORT –HANDLINK+

Handlink+ is the manual coupling station equipped with innovative twist couplers based on a bayonet connection. With the new couplers of Handlink+, stainless steel is the only material that is in contact with the plastic chips.
The connecting operation is quick and easy and it can be done with only one hand. The Handlink+ can be equipped with a tagging system based on RFID system that includes a local LED to immediately show the status of the connection.
The Handlink+ tagging system also introduces the function of cap recognition.
Thanks to this additional feature it is possible to avoid missing feeding cycles due to open material lines. In the case of a missing cap a specific alarm is generated and the operator can take the corrective action without any risk of compromising the overall performance of the feeding system.

Topics discussed

- Presentation
- Main parts
- The old MMS and the new Handlink (+)
- The TWIST junction
- The new tagging system
- Alarm list
- Retrofit kit
- Retrofit procedure

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

2 hours course

SF03
FEEDING AND TRANSPORT – EASY3+ |PUREFLO

Easy3+ is the evolution of the Easy3, with a new hardware (electronics and connections) but with the same management program and logic of control.
Easy3+ has been designed to keep a wide compatibility with the Easy2/3 in order to allow an upgrade of the systems in field with new units installation.
The core of the system is the Easy3 Plus control, It contains the Gateway DDM00 with integrated power supply and touch screen.
PureFlo eliminates the need for ordinary maintenance of the vacuum receiver (filter cleaning) and improves the conveying capacity of the overall system. The innovative and unique design allows the plastic granule not to keep its end velocity all the way into the receiver body but, through a Right Angle bend, to dissipate the entire kinetic force it picked up during conveyance. The granules fall into the receiver body, where they have a residual speed of 1 metre/second. It directs the flow to the base of the receiver where the air gradually loses pressure and velocity.

Topics discussed Easy3+

- From Easy3 to Easy3+
- System management
- Silos management
- Logic of control
- Easy3 main elements
- Junction box
- Blower control (servo)
- Touch screen, keypads an auxiliary keypad
- WinFactory interface
- Operating pages
- System display
- Troubleshooting
- Maintenance

Topics discussed Pureflo

- Working principle
- Main benefits
- PF receivers range
- Specification and limits
- Installation notes

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

8 hours course

SF04
FEEDING AND TRANSPORT – RYNG

Piovan has designed and manufactured a special production monitoring system, called “Ryng”.Ryng is structured as a component that is inserted between the loading container and the storage hopper with a high-precision weighing device placed inside it.The system uses proprietary software, set according to specific algorithms which “filter” and “interpret” the data it gathers and consequently indicate the actual quantity of transferred material
Its software is programmed to exclude or reduce to a minimum any measurement fluctuations that may be caused by the inevitable vibrations felt throughout the feeder system due to the machine’s normal operation.

Topics discussed

- Main elements
- Device purpose
- Features and range
- Ryngs applicability
- Easy2/3 Ryngs application
- Weight detection
- Operator panel
- Local panel
- Installation remarks
- Ryngs addressing and tare
- Search devices procedure
- Maintenance
- Load cells setting and calibration
- Software upgrade
- Operator panel upgrade
- Alarm messages
- WinFactory interface

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

3 hours course

SF05
FEEDING AND TRANSPORT – SERIE Sxx

The Piovan range of single phase hopper loaders allows for automatic granule conveying to drying hoppers, volumetric and gravimetric blenders, and processing machines.The S single phase hopper loaders incorporate the vacuum motor and are equipped with a new keypad control which includes a powerful microprocessor.The display and keyboard grant a simple and quick access to all the functions.
The high reliability of the Piovan single phase loaders is ensured by two devices included in the standard configuration, considerably increasing the vacuum pump's life:
• Soft start function, which reduces the wear out of the brushes and the risk of damaging the motor.
• Warning signals indicating the necessity to replace the brushes.

Topics discussed

- Main characteristics
- The control
- Status signals
- Suction blower
- Automatic filter cleaning
- Start/stop sensor
- Other details
- Proportional valve
- Parameters description
- Electrical connections
- Possible alarms and remedy
- S5 series dimensions
- Technical data
- VP technical data

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

***SF04:** This course includes Ryng, Serie Sxx and Pureflow.
Make a specific request to attend separated courses

4 hours course

SF06
FEEDING AND TRANSPORT – SUCTION UNITS AND AUTOMATIC EXCHANGE SYSTEM

Side channel and volumetric suction units are used for material transport and loading.

The first type, simple, cheap and almost maintenance-free is wide spread and used for transport at short to medium distance. The second type, more complex and using a lobes or claws type compressor, has more suction capacity and it is generally used for transport at long distance.

The system comprises a group of elements fitted between the centralized feeding system (Easy3) and its suction units for generating the vacuum.
Purpose of the system is to avoid the interruption of the operation in the event of a fault or a voluntary stop (power off) in the suction units. The continuity of the operation is possible by automatically replacing the stopped suction unit with a spare suction unit.
The exchange system allows the connection with Piovan supervising system (WinFactory/WinPET).

Topics discussed

- Side channel suction units
- Volumetric suction units
- Exchange system description
- How it works
- Operating limitations
- Main elements
- Possible configurations
- Control box
- System main connections
- Pneumatic connections
- Exchange valves
- Operator panel
- WinFactory supervision system

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

3 hours course

SF07
FEEDING AND TRANSPORT – TANKS LOADING SYSTEM

Purpose of the tanks loading system is the identification of one or more raw plastic material manually loaded in dedicated tanks or octabins.
The system is designed to help the operators to choose the right material source and keep traceability of loading activity.
Essential condition for the system operation is the presence of WF4.0 supervising system.
The data acquisition procedure for material loading is done by using a barcode reader.

Topics discussed

- Tanks loading system
- Tank presentation
- Electric lock
- Octabin
- System management
- Tank loading system electronics
- Example of installation
- System configuration by control panel
- Barcode reader connection and acquisition
- WF4.0 – reader setup and barcodes generation
- Material loading procedure

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Basic electric knowledges
- English language basic knowledge

5 hours course

SD01
DRYERS – GP GENESYS

It is the drying of PET for preforms where the precision of the process and a low consumption are considered the priority.
Genesys is an advanced dryer designed with the target to obtain a very accurate drying process and a high energy saving.
The machine is fully managed by a panel PC that controls and interface all the units involved in the drying system:

- Dryer
- Main drying hopper (A)
- Hopper A loading system
- Possible split hopper (B)
- Hopper B loading system
- Mould dryer (RPA)

Topics discussed

- Machine range
- Main features and characteristics
- Operation phases
- Return air filters
- Cooling system
- Process blowers
- Regeneration blower
- Regen. heat recovery system
- Air flow metering system
- Electronics rack
- Panel PC
- Main sensors and actuators
- Load cells
- Dew point stabilizer (optional)
- Modulating valves
- Operator panel
- EMK-AECS
- EMK main parameters
- Operative Condition
- Maintenance operations
- Troubleshooting

RECOMMENDED PREREQUISITES

- General course GD01 «Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

8 hours course

SD02
DRYERS – GMP

GMP Genesys is a single-hopper, individual or central, fully automatic drying system. It can adapt and automatically control operating parameters based on ambient temperature, initial moisture level, type and quantity of polymer, the final moisture content of the polymer, and granule size. This innovative drying system adjusts and controls optimal operating settings for the material to be dried, using only the overall amount of energy strictly requiredThe Genesys range comes in 3 configurations SMART, PLUS and ADAPTIVE – to meet diverse operating needs. A microprocessor, controlled by a Piovan proprietary software, provides electronic control. The operator's interface is an 7-inch, colour touch screen. The HMI offers access to all the system's components for specific adjustments or settings.

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

SD02
DRYERS – GMP mono

Topics discussed

- Dryers range
- Main functions/devices
- Possible features/devices
- Dryer circuits
- Regeneration
- Process filters
- Process cooling system
- Regeneration cooling system
- Regeneration blower
- Process blower/s
- Inverter and by-pass
- Air flow control
- Air flow metering system
- Main sensors and actuators
- Dew point probes
- Dew point stabilizer (optional)
- DFB10 Gateway board
- CanBus connections
- DST0Y CanBus board
- TNN hopper elements
- TNN electronics cabinet
- Ryng control box
- Split hopper
- Control
- Start-up
- Main settings
- Alarms

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

12 hours course

SD03
DRYERS – GMP multi

Topics discussed

- Dryers range
- Main functions/devices
- Possible features/devices
- Double dryer concept
- Dryers circuits
- Regeneration
- Process filters
- Process cooling system
- Regeneration cooling system
- Regeneration blower
- Process blower/s
- Inverter and by-pass
- Air flow control
- Air flow metering system
- Main sensors and actuators
- Dew point probes
- Dew point stabilizer (optional)
- DFB10 Gateway board
- CanBus connections
- DST0Y CanBus board
- PTU system elements
- PTU electronics cabinet
- Ryng control box
- Control
- Start-up
- Main settings
- Alarms

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

12 hours course

SD04
DRYERS – GenesysNext

GenesysNext is the high performance, fully automatic, single-hopper drying system that optimises the production process of PET preforms. It has been specifically designed to reach advanced optimisation of energy consumption thanks to a new configuration of the regeneration circuit and a new heating power recovery system.
This innovative dryer is also featured by the PETformance system. It introduces for the first time the concept of a direct connection between the drying and the injection processes, thanks to GenesysNext capability to read the injection process in real time and to minimise and stabilise it on the set value. In this way, the target is maximum efficiency of the complete production process with scrap rate reduced to the minimum level.
GenesysNext with PureTech filtration system, available as an option allows an advance filtration of the VOC system that can be present in the process air. This is especially required in case of recycled materials that can release low boiling substances during the heating or injection process. PureTech filtration system guarantees that every preform produced is contaminant-free. This system also protects the desiccant towers, ensures consistent performance rates rand a longer machine life

Topics discussed

- Dryers presentation
- Main functions/devices
- Dryer circuits
- Process blower/s and Inverter
- By-pass
- Air flow control
- Main sensors and actuators
- Dew point probes
- Dew point stabilizer
- TNN hopper elements
- TNN electronics cabinet
- Ryng control box
- Split hopper
- Control
- Main settings
- Alarms

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

12 hours course

SD05
DRYERS– DP604-615

Double desiccant tower models, with an airflow rate from 50 to 150 m3/h, supply air at a dew point lower than –50°C. The process air temperature can be set up to 200°C (HT version).
Electronic control of the process temperature with self-tuning PID algorithm that ensures high precision.
Simple and complete operator interface
- Microprocessor control.
- Large display available in the operator's language. It shows the functioning status of the machine as well as any possible alarm or warning message.
- On the main screen the following parameters of the dryer can be monitored: Drying temperature, Set-point, Dew Point value.
Flexible and modular configuration: the operator can simply and easily increase the number of hoppers at any time. Hoppers capacity from 30 to 400 dm³; single or centralised systems.
Intelligent Energy Supervisor: In accordance with the effective requirements of the processing machine, the IES system optimises and adjusts the energy utilisation.
Intelligent Material Drying: optimises and adjusts the energy utilisation to prevent material thermal degradation or over-drying.

Topics discussed

- Main features
- Configurations/applications
- Technical data
- PTU-Set main features
- PTU-Set power supply
- PTU-L2/L3 Vs PTU-Set
- Utilities connections
- Circuit diagrams
- Dryer elements
- Electric cabinet
- Control board
- Display & keypad
- Electrical drawings
- Working phases
- Optional devices
- DP operator panel

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

4 hours course

SD06
DRYERS – HR

By adopting the honeycomb desiccant rotor technology, the HR Series is able to ensure maximum energy efficiency and versatility of application in small and medium productions. Airflow ranging from 50 up to 300 m3/h, with constant Dew Point value. Desiccant material (zeolite molecular sieves) is coated on the internal surface of the honeycomb structure guaranteeing a large absorbing capacity and zero dust emission. Continuous regeneration process and close loop cooling phase for high performance and constant dew point level.

Topics discussed

- Machine presentation
- Main features
- Standard and optional features
- HR advantages
- Configurations
- Dryer/hoppers combination
- Main circuit elements
- Honey-comb wheel
- Machine cycle
- Main devices
- Electronics
- Operator panel
- New configuration procedure
- Factory parameters
- Dew point and regeneration
- Maintenance
- Technical data
- Utilities and connections

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

3 hours course

SD07
DRYERS– RPA

The RPA mould dryers provide dehumidified air to small, medium and large moulds. They are ideally suited for:

- Mould enclosures of fast-cycle IMM's
- Mould enclosures of blow moulding machines
- Mould enclosures and robot area of PET IMM's.

The unit can operate with one or more processing machines, and be positioned on the floor or on a mezzanine, simply by orienting the connection piping. On request, Piovan offers a complete mould dehumidifying package including RPA unit, mould enclosure and interconnecting piping.

Topics discussed

- The condensation
- Machine purpose
- Machine application
- Rotating cartridge
- Machine basic circuit
- Machine main elements
- Dessicant cartridge assembly
- Regeneration circuit
- Process circuit
- Hydric circuit
- Inverter (special application)
- Local machine controls
- Remoted machine controls
- Electronic thermoregulator control
- Canbus I/O microprocessor control
- Siemens PLC control
- Gefran panel PC control
- Maintenance check points
- Dessicant cartridge replacements
- Possible alarms and remedy

RECOMMENDED PREREQUISITES

- General course GD01
«Dehumidifying» attended
- Basic electric knowledges
- English language basic knowledge

3 hours course

SC01
CRYSTALLIZER – CRx

For those production processes which use amorphous PET both of virgin granules and of regrind from bottles, containers, fibres, thermoforming sheets and strapping, Piovan provides a complete range of crystallisers, to carry out the material preparation process before the injection moulding phase or extrusion.The models ranging from the CR 150 to the CR 4000 have been specifically developed to overcome the material glass transition temperature and to guarantee homogeneous crystallization, with no risk of sticking or formation of bridges. Once crystallized, the in-house regrind or the PCR are dosed and mixed with virgin granules by means of batch gravimetric blenders before the drying process.Good crystallisation allows optimisation and simplification of the drying phase, with no risk of material degradation and the possibility of recovering high percentages of regrind.

Topics discussed

- What the crystallizer is
- CR crystallizers range
- Elements of the system
- Material path
- Process air path
- Devices description
- Process air generator
- Electric heater (EH)
- Gas heater (GHP)
- Material loading system
- Crystallizing hopper
- Material removal system
- Control system
- Material souce elements
- Pre screen vibrator
- Dedusting unit
- Metal detector & discharger
- Post screen vibrator
- Filtering units(CLP, CF)
- Fumes condenser (CDF)
- Maintenance
- Start-up

RECOMMENDED PREREQUISITES

- General course GC01
«Crystallization» attended
- Basic electric knowledges
- English language basic knowledge

10 hours course

SDS01
DOSERS – QUANTUM |MDW

Quantum embodies innovations that radically change the way injection moulding machines and extruders are fed with blends of materials (virgin, recycled, masterbatch and additives). These innovations contribute to increasing the efficiency of production, and feature improved design, innovative technologies and high performance components, which translate into real advantages for the customer.

Topics discussed Quantum

- Machine presentation
- Logical functioning
- Models and features
- Q7 special version
- Applications
- High temperature design
- Working cycle and dosing model
- Regrind management
- Accumulation tank
- Control
- Operator panel
- Machine installation

RECOMMENDED PREREQUISITES

- General course GDS01
«Dosing» attended
- Basic electric knowledges
- English language basic knowledge

SDS01
DOSERS – QUANTUM | MDW

The Piovan gravimetric blenders, of the MDW line, are available in various configurations and can dose and weigh up to 8 granular materials, allowing to select the most appropriate hopper capacities and dosing devices. The blenders can be combined with injection and blow moulding machines, and extruders, covering productions from 30 up to a maximum of 1800 kg/h.
The microprocessor electronic control features high execution speed and simple setting of the unit.
As operator interface, it is possible to select the simplified keypad or the more advanced new version called Premium Evo, complete with touch screen panel with bright 10” screen.

Topics discussed MDW

- Machine presentation
- Logical functioning
- Models evolution
- Models and throughput
- Models technical data
- Applications
- Dosing stations
- Material hoppers
- Weighing hopper & load cells
- Mixer assembly
- High temperature design
- New parts and optionals
- Working cycle and dosing mode
- Regrind management
- Accumulation tank
- Control box
- Premium touch screen

RECOMMENDED PREREQUISITES

- General course GDS01
«Dosing» attended
- Basic electric knowledges
- English language basic knowledge

6 hours course

SDS02
DOSERS – QUANTUM E | Quantum S

Quantum E dosing system has been designed and built in such a way as to allow complete traceability of each component and the repeatability of each cycle, also as a consequence of the new trapezoidal shape of the dosing gate, which allows further precision, with the integration of a rapid unloading device.
The particular design of the patented spherical mixer, with double load cells, prepares a completely homogeneous and precise blend of the various ingredients.
Quantum E is available in three models - QE200 - QE600 - QE1200 - with different initial configurations to meet any application field of extrusion and is suitable for both single extrusion and co-extrusion lines.
The use of Quantum E is simple and intuitive: control is achieved through a latest-generation PLC system, while a new HMI allows the operator to view in real time the running of the process and all the operating parameters for the total extrusion control.
Quantum S is a gravimetric feeder designed for extrusion field. The QS feeder works with a “loss in weigh” method for a constant control of the throughput, using a load cell located under the weighing hopper. Is particularly suitable for blown film extrusion and coextrusion.

Topics discussed Quantum E

- Machine presentation
- Application field
- Production control
- System architecture
- Ethernet & Powerlink network
- Doser details and electronics
- QEM electronics
- Operator panels
- Mixer load cells replacement

Topics discussed Quantum S

- Installation and start-up
- Machine presentation and working logic
- Service panel and QEM line panel
- Main settings and load cell calibration
- Troubleshooting

RECOMMENDED PREREQUISITES

- General course GDS01 «Dosing» attended
- Basic electric knowledges
- English language basic knowledge

12 hours course

SDS03
DOSERS – MDP | MDP2

MDP: small volumetric doser for low production IMM up to 10 kg/h.
Equipped with a single station for masterbatch/additive dosage.
Possible combination with pneumatic mixer and Venturi feeder operating by compressed air.
MDP2: volumetric doser equipped with one or two detachable stations. It can dose masterbatch, regrind or additives driven by motorized auger/s.
Material feeding directly into the IMM screw, extruder or blow moulding machine throat.
Both the dosers operate by adjusting the speed of the auger according to the amount of material to dose (% of the shot weight) within the loading cycle of the IMM or according to the production/speed of the extruder.

Topics discussed MDP

- Main features
- Doser elements
- Basic module
- Dosing station
- Keyboard & display
- Working ways
- Serial interface
- Optionals
- Control

Topics discussed MDP2

- Main features
- Possible hoppers
- Accessibility
- Doser main elements
- Dosing augers
- Dynamic mixer
- Simplified control
- Advanced control

RECOMMENDED PREREQUISITES

- General course GDS01 «Dosing» attended
- Basic electric knowledges
- English language basic knowledge

4 hours course

SDS04
DOSERS – LYBRA - EXACTA

Lybra LV Volumetric units for masterbatch and additive dosing
Lybra LG Continuous weight-loss gravimetric units for masterbatch and additive dosing
Lybra LGR/LVR specifically designed for PET preform resin colouring, which demand high precision in metering and repeatability for master and micro-granules with a low melting point.
Exacta GV is the new gravimetric feeder for microdosing, equipped with an advance control that allows a complete control of frequency vibrations in order to obtain the exact throughput, while an optimised filtering system identifies and neutralises all the vibrations coming from an external source.

Topics discussed Lybra G/V GR/VR

- Machine purpose and application
- Machine dosing modes
- Machine versions
- Machine optionals
- Lybra LG/LV main elements
- Lybra LGR/LVR main elements
- Hot material implications
- Operation cycle
- Machine control
- Operator panel
- Diagnostics
- Maintenance

Topics discussed Exacta GV

- Machine presentation
- Machine applications
- Machine accessories
- Machine main parts
- Machine operation
- Calibration
- Load cells
- Start-up guide
- Control

RECOMMENDED PREREQUISITES

- General course GDS01
«Dosing» attended
- Basic electric knowledges
- English language basic knowledge

11 hours course

ST01 - ST02
THERMOREGULATORS – EASYTHERM

Easytherm is the new mould temperature control unit characterized by user-friendliness, flexibility and reliability, both in injection and blow moulding and extrusion processes.
A new interior and exterior layout, redesigned ergonomic control, coupled with high-end components, characterise a versatile machine that guarantees reliability and long term performances.

Topics discussed ST01(Atmospheric up to 90 °C)

- Machines range
- Main features
- Circuit
- Hydric connections
- Loading circuit
- Common parts
- EBW/ETW main components
- EBW/ETW optional devices
- EBW/ETW control
- Maintenance

Topics discussed ST02 (pressurized, up to 180 °C)

- Machine presentation
- Main features
- Circuit
- Main components
- Optional devices
- Control
- Maintenance

RECOMMENDED PREREQUISITES

- General course GT01
«Thermoregulation» attended
- Basic electric knowledges
- English language basic knowledge

6 hours course

SS01
SOFTWARE – WINFACTORY 4.0

Winfactory 4.0 is the production process control and management software developed by Piovan, designed to supervise the digital factory.
The integration of production, distribution and IT systems in manufacturing is the keystone of the smart factory concept. Piovan puts it into practice by evolving its process control and management software in accordance with Industry 4.0 guidelines. The new product combines the typical Winfactory supervision functions with a wide array of new ones, the building blocks for constructing a tailor-made system.

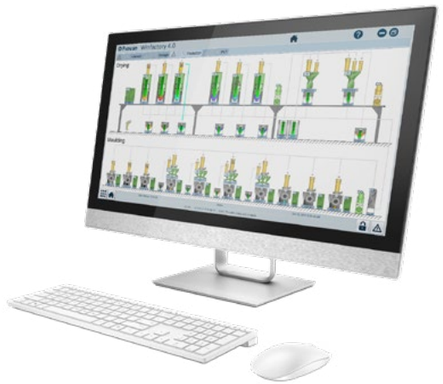
Basic Course
Topics discussed

- WF 4.0 installation
- Definition and architecture of the SERVER
- Configurator
- Definition and architecture of the CLIENT
- Alarm display
- Upgrade procedure

Advanced Course
Topics discussed

- Basic course
- Material traceability
- Material queue management

For more information on WF4.0 courses, contact the Piovan Academy.



Winfactory 4.0

RECOMMENDED PREREQUISITES

- General course GF01 «Feeding and Transport» attended
- Specialized course AF01 section
- Basic electric knowledges
- English language basic knowledge

Basic Course

8 hours course

Advance Course

6 hours course

SLT01
LABTECH – INSPECTA AC

Inspecta is an analysis instrument based on gas chromatography, that can detect the presence of volatile substances and so certify good quality of preform produced.
Inspecta AC analyzes Acetaldehyde, a substance that can have an impact on the taste of the beverage that is bottled inside and for this reason its concentration has to be kept under control.
The analysis procedure is completely automatic and the results are reliable, repetitive and reproducible as long as calibration and maintenance are performed regulatory. Given the instrument specificity, only a skilled and qualified technician can do it.

Topics discussed

- Main features and comparison with PETes AA analyzer
- Installation
- Analysis and correlation factor
- Software application
- Calibration and stability assessment
- Maintenance

RECOMMENDED PREREQUISITES

- Lab tech specialist
- Basic electric knowledges
- English language basic knowledge

16 hours course

SLT02
LABTECH – INSPECTA BE

Inspecta is an analysis instrument based on gas chromatography, that can detect the presence of volatile substances and so certify good quality of preform produced.
Inspecta BE analyzes Benzene, in fact there is the possibility that it could be present in the raw plastic chips, especially in case of rPET or it could be generated during the production process.
The analysis procedure is completely automatic and the results are reliable, repetitive and reproducible as long as calibration and maintenance are performed regulatory. Given the instrument specificity, only a skilled and qualified technician can do it.

Topics discussed

- Main features and installation
- Application on granules , film and bottles
- Analysis and correlation factor
- Software application
- Calibration and stability assessment
- Maintenance

RECOMMENDED PREREQUISITES

- Lab Tech specialist
- Basic electric knowledges
- English language basic knowledge

16 hours course

SLT03
LABTECH – MOISTURE MINDER

Moisture Minder is the Piovan solution for on-line measurement of moisture in plastic granules, without the need for longer, more expensive and complex laboratory analysis.
Moisture Minder continuously monitors the residual humidity content trend. It is possible to eliminate both “blind time” between one sample and the following one and delay taking prompt corrective actions.

Topics discussed

- Description and purpose
- Available documents
- Main characteristics and specs.
- How it work
- Parts overview
- Data visualization
- Stand alone installation
- GP integrated installation
- First start-up

RECOMMENDED PREREQUISITES

- Lab tech specialist
- Basic electric knowledges
- English language basic knowledge

4 hours course

SLT04
LABTECH – MOBILEDEWP

MobileDewP is the portable sensor for measuring the DewPoint of the process air in the drying systems.
For a small size dryer the installation of a dedicate DewPoint probe on board can have a big impact on the total costs of the installation; in this case MobileDewP can be the right choice: it is a portable instrument that can be easily connected to the drying circuit in order to check periodically the performances and the efficiency of the system.
MobileDewP is supplied complete of everything and ready to use; the package includes: connecting pipe, power feeder and a protective case for easy and safe handling.

Topics discussed

- Description and purpose
- Main characteristics and specs.
- How it work
- Data visualization
- Installation and first start-up

RECOMMENDED PREREQUISITES

- Lab Tech specialist
- Basic electric knowledges
- English language basic knowledge

4 hours course

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