



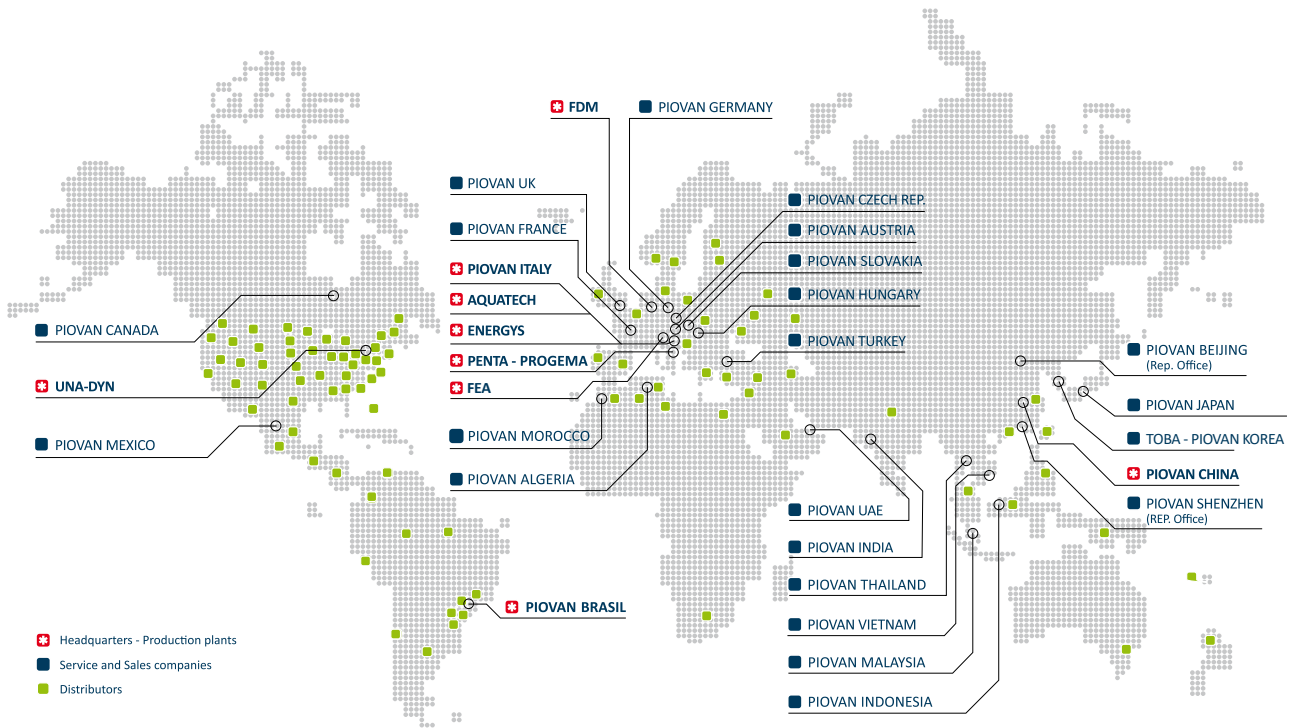
## Products&Solutions

Una-Dyn's strength is based on a heritage of experience and skills established over time, and on the capability to offer a complete range of auxiliary equipment able to satisfy all requirements in the various industry sectors: PET Preforms & Bottles, Rigid Packaging, Automotive components, Technical parts, Medical solutions, Thermoforming & Technical Sheets, Flexible Film, Pipes, Profiles, Cables, Fibres & Strapping, Recycling & Compounds. With high engineering skills, Una-Dyn develops customized plant solutions, with enhanced and innovative features. In 2008, Una-Dyn continued to build on its legacy of expertise and joined the Piovan Group, based out of Italy.



# Global Presence

Over 50 years of innovation, expertise and product excellence has positioned Una-Dyn at the forefront of plastics processing since 1957. The advanced development and manufacture of superior material handling, drying, crystallizing and reprocessing systems, coupled with our Integrated Systems Group, has ensured this position. All products are engineered for high performing, energy efficient, simple operation. We strive to be wherever our customers are and wherever they are looking to grow.



In 2008, Una-Dyn joined the Piovan Group, combining the power of decades of expertise in the plastics industry. Whether you are seeking equipment to help optimize your manufacturing processes or require global technical service support for a new plant, Piovan and Una-Dyn can develop the most suitable local or global solution.



# Loading and Conveying

Una-Dyn provides a complete range of loaders, for flexible and quick handling of polymers, which provides an extremely low risk of contamination or material waste. They can work as single units or be part of a centralized system with a group of vacuum pumps, and various feeding and conveying devices for raw materials: indoor or outdoor silos, super sack unloading stations, manual or automatic coupling stations and de-dusting systems. All the storage and conveying units and the related components have specific features according to the material being handled and the configuration of the plant.

## Loading & Conveying Options:

- Ryng - production monitoring
- Easylink Automatic coupling units
- PureFlo - filterless receivers
- LS Self-Contained Loaders
- LS Chambers & Loaders
- Glass Tube Chambers & Loaders
- Cyclone Filters & Dustmaster Series Floor Filters
- PowerMax HP & PD Pumps
- Maxi-Vac Pumps
- Valves - Dual Ratio, Positive Shutoff & Vortex Shutoff
- Rail Car Unloaders



# Drying and Dehumidifying

For the treatment of hygroscopic polymers, including those with particular drying requirements, Una-Dyn provides a wide range of desiccant dryers. These dryers are available with desiccant beds, with wheel or compressed air technology. All the models maintain constant moisture and temperature values, thus allowing an utmost consistency of characteristics and the highest quality final product. The new generation of Una-Dyn dryers ensures optimized functioning in the various processing phases and high energy efficiency. In addition, Una-Dyn offers hot air dryers, also available for high throughputs to remove surface moisture from non-hygroscopic thermoplastic materials.

## Drying Options:

- Vantage Ready Series - dryer packages that ship within 2 weeks
- Vantage Series - dual dessicant bed dryers
- Automate - adaptive multiple hopper drying system
- DHD series - dual dessicant dryers with open frame design
- HD Series - self-contained, fully automatic hot air hopper-dryer
- PCT2 & PCT3 - Pulse Cooling Technology dryers with high throughputs
- BD Series - compressed air dryers, small compact design
- EasyFlow, TSC, USC & SHC drying hoppers
- TR Series - rotary wheel dryers
- Crystalizers - for amorphous PET or PLA virgin regrind material
- GasPack - retrofit conversions for process air dryers



# Additive Feeding and Blending

With a complete and versatile range of volumetric dosers, gravimetric batch blenders and loss-in-weight units, all designed for injection and extrusion processes, Una-Dyn is able to provide the appropriate solution for any blending or dosing requirement. The technology adopted ensures high precision and dosing repeatability, independently from the vibrations of the processing machine, and constant adjustment to the set value. All the models are developed to comply with the highest standards of accuracy, also in the case of very low percentages to be dosed, variations in granule dimensions or bulk density, hard-to-handle or dusty materials.

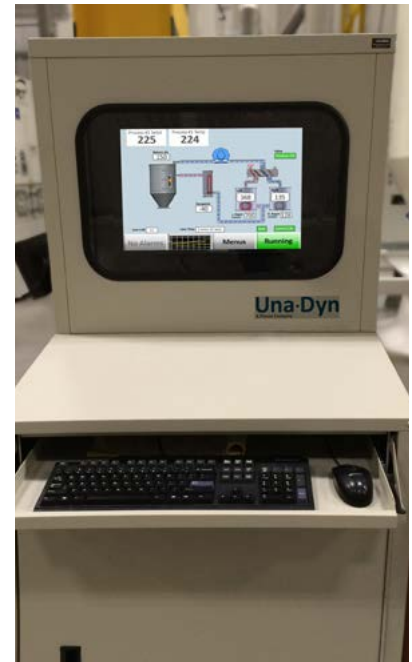
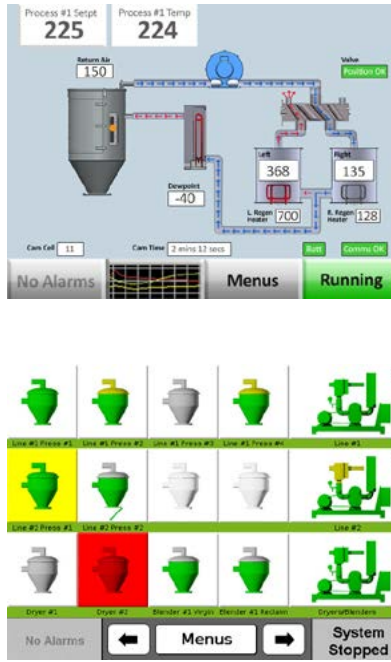
## Additive Feeding & Blending Options:

- Lybra G Series - gravimetric feeders
- Una-Dyn Series Maguire Gravimetric Blenders
- HCWB Blender - blends resin of various bulk densities by weight
- PAF Series Feeder - precision additive feeders
- MDW - batch gravimetric blenders with 2-8 dosing stations
- Quantum - gravimetric blender



# Software

To integrate, monitor and program all the auxiliary units from a remote PC, Una-Dyn develops software systems, both with standardized platform and in customized versions according to the specific features of the plant and the control and supervisory requirements of the customer. The operator can control the functioning of the system from remote positions, modify and automate the settings of some parameters, diagnose potential problems and plan the production jobs. Una-Dyn's software systems allow complete elaboration of the production data and to analyze any plastics processing requirement in a complete and detailed way.



# Temperature Control

For a repeatable and highly qualitative production, with no rejects, in some environments, it is necessary to keep a constant temperature of the mold, the extruder screw, the calibration heads or the cylinders and thermoforming calendars. With a complete range of temperature controllers, in versions with water or pressurized water or oil, these units guarantee precise and accurate temperature control to achieve the highest efficiency of the transformation process. In addition, the constancy of operation of the units ensures reduced energy consumption.



# Granulation

The recovery of rejects and sprues, both in the injection and blow molding sectors, allows important savings in materials management and improves the environment. With a versatile range of granulators, Piovan offers the solution for the immediate recovery of rejects beside the machine or in a centralized position. The standard solution foresees the closed loop functioning mode, to keep the material properties unaltered, with no contamination or humidity absorption. The regrind is uniform, with no dust content, and a high percentage can be re-inserted into the process.

## Granulator Options:

- Small, medium and large size granulators
- Film and Edge Trim Granulators
- Thermoforming Series Granulators
- TRM Series - single shaft shredders





# Process Water Cooling

For precise cooling of molds, hydraulic oil of injection molding and blow molding machines, extruders, thermoforming lines etc, Aquatech, a Piovan company, offers a complete range of water chillers. Those can be dedicated to a single machine or used for centralized solutions for the production department or the entire plant. The whole range ensures energy consumption optimization, a large part because of the scroll hermetic compressors. Moreover, the portable models allow the recovery of the condensation heat by re-ducting the air into the plant during the winter period, while those of higher capacity can be combined with a free-cooling system, which obtains the cold ambient air thus allowing for considerable energy savings.

## Process Water Cooling Options:

- Portable Chillers
- Chillers - 60 -1000kw, air and water cooled
- Ecosmart - high efficiency chillers
- DigitempEvo - water cooled thermochillers
- Aryacool - advanced free cooling
- Flexcool - integrated solutions



# Integrated Systems Group

Universal Dynamic's Integrated Systems Group is one of the plastics processing industry's most experienced and trusted names when it comes to designing, delivering and installing the right auxiliary system for the application. The Integrated Systems Group will assist you whether you're building a new production facility, or expanding an existing one. With over 40 years experience in the plastics processing industry, ISG is ready to assist you with all your design, building and installation needs or with equipment integration to optimize an existing plant system.

From initial planning through start-up, with a commitment to follow-up support and service, we provide advanced engineering, design expertise, components and controls that are energy efficient, technically superior and perform to meet the many challenging needs of plastics processors today.



## Material Handling Systems:

- Railcar unloading
- Silos
- Material conveying
- Blending & feeding
- Drying systems
- Controls, monitoring & datalogging
- Mezzanines

## Equipment & System Layout & Design

- System master plan
- Individual machine group layouts
- Accessibility/clearance audits
- Multi level mezzanine layouts
- Utilities drawings
- System field wiring diagrams

## Project Documentation

- Master utilities schedule
- Project bill of material
- Project schedules
- Installation work-scope checklist
- System maintenance schedule



## Experienced Installation Crews

- Optimize layouts & piping runs
- Manage on-site installation operation
- Field-to-factory interface

## Heavy Rigging Services

- Crane & rigging equipment selection & rental
- Site preparation
- OSHA guideline compliant

## Training Technical Support Customer Service:

- On and off-site systems and equipment training
- Technical assistance (by phone or in the field)
- Customized preventative maintenance programs
- Advanced control and monitoring software



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