

Automation and Control Robotics



New KraussMaffei LRX small robot controls its own vacuum

Component demolding is more energy-efficient and cost-effective with the digital vacuum monitoring of the new LRX small robot generation from KraussMaffei. The new vacuum control monitors the compressed air consumption actively and identifies leaking material early. The additional blow-off function makes it easier to store small components.

Like an automatic start-stop mechanism



All new LRX small robots from KraussMaffei are equipped with the digital vacuum indicator integrated into the MC6. The optional vacuum monitoring controls the compressed air consumption actively.

The new vacuum monitoring works completely digitally and contains the three functions of air saving, leak detection and blow-off. "The air saving function is comparable with the automatic start-stop mechanism of a state-of-the-art car. "Like a car that conserves energy by cutting the engine at a stoplight using an engine start-stop feature, in automation, only the amount of vacuum currently needed in the cycle is generated," says Thomas Marufke, Managing Director of KraussMaffei Automation. Altogether a savings of up to 95 percent of the compressed air requirement is reached. The control system shuts off vacuum generation after reaching a preset threshold value. If the vacuum level drops in the course of the hold time, the set value is restored through a short pulse.

The new digital vacuum monitoring is fully integrated in the standard models of the MC6 control system. All vacuum values are therefore stored program-specifically. This, in turn, makes the robot program change easier and makes extensive conversion at the digital pressure switch unnecessary.

The additional function of leak monitoring records irregularities of the automatic start-stop mechanism and feeds them back directly to the MC6 control system. This signals leaky vacuum circuits or defective suction

devices at an early stage. "For this reason the new vacuum monitoring functions as an additional early detection system and supports the proactive servicing of the system (predictive maintenance)," according to Marufke.

The second additional function, the blow-off function, makes the controlled storage of smaller components on the conveyor belt easier through specific blow-off. This, in turn, increases efficiency in the production cycle and optimizes the automation process. At the Fakuma trade show, a LRX 150 in combination with a CX 200-750 with a clamping force of 2000 kN assumes this task. Finishers for a game console in various design versions are created here in a multi-cavity mold. The LRX 150 extracts the components and throws them into a sachet downline of the sprue deposit. Supported through the blow-off function, this happens faster and more efficiently.

More modular and efficient: the new generation of LRX small robots

The new generation of the small linear robots from KraussMaffei features a new progressive design with decentralized control cabinet concept and freestanding X-axis. They offer high flexibility in processes such as simple retrofitting of sensors or expansion of media circuits. Rack-and-pinion drives used in place of toothed belts offer fast, high-precision movements in all axes. A revised thermal and protection concept for electronic components with a Class IP54 rounds out the new concept and offers high uptime and safety. The new LRX 50, LRX 100 and LRX 150 can be combined individually with all hydraulic and all-electric injection molding machines with clamping forces from 350 to 6500 kN.

About KraussMaffei

The KraussMaffei product brand is internationally recognized for its groundbreaking, multitechnology system and process solutions for injection and reaction molding technology and factory automation. With its standalone, modular or standardized machinery and systems, and a wide, customizable service offering, KraussMaffei is a full-system partner for customers in many industry sectors. KraussMaffei bundles many decades of engineering expertise in plastics machinery and is headquartered in Munich, Germany.

About the KraussMaffei Group

The KraussMaffei Group is among the world's leading suppliers of machinery and systems for producing and processing plastics and rubber. Its products and services cover the whole spectrum of injection and reaction molding and extrusion technology, giving the company a unique position in the industry. The KraussMaffei Group is innovation-powered, supplying its products, processes and services as standard or custom solutions which deliver sustained added value along the customer's value-adding chain. The company markets its offering under the KraussMaffei, KraussMaffei Berstorff and Netstal brands to customers in the automotive, packaging, medical, construction, electrical, electronics and home appliance industries.

Rethink Robotics introduces Intera 5.2 software release

Rethink Robotics today announced the upcoming release of Intera® 5.2, an expansion of its first-of-its-kind Intera software platform that provides critical data insights to manufacturers in real time. Rethink Robotics' Sawyer™ gives operators and line managers valuable data at a glance, including metrics such as cycle time, part count, speed and force – data that has never before been available through a single collaborative robot vendor.

The new feature, Intera Insights, displays key performance indicators (KPIs) via a customizable dashboard on the robot's on-board display, making it accessible directly on the factory floor. The same charts are also fed back to the Intera Studio platform, providing visibility to other members of the manufacturing team. Intera Insights drives more informed production decisions and saves manufacturers time and money by eliminating the need to invest in or create another data collection system.

“Today's manufacturer relies heavily on data to optimize factory performance and adapt to market demand,” said Scott Eckert, president and CEO, Rethink Robotics. “Intera Insights gives them the ability to instantly know how their line is working. We are providing the first-ever option for manufacturers to deploy collaborative robot automation and simultaneously gain valuable information about their line in a way that maps directly to action.”

The Intera 5.2 release also includes extensive additions to Sawyer's vision capabilities. In addition to the embedded cameras that are standard with every Sawyer robot, manufacturers now have the option to seamlessly integrate an external camera in minutes. This will allow manufacturers to optimize cycle time with improved vision, or leverage in-house vision systems on Sawyer.

“With the arrival of Intera 5.2 and Intera Insights, our customers, among some of the leading manufactures in the world, now have un-paralleled access to the production data they need to prove KPIs and optimise their production processes”, said Antony Lovedale, Managing Director, Active8Robots in the UK. “This information provides immediate value today while also working toward innovation tomorrow”.

“Based on feedback we hear from customers, our software innovation continues to add value to the Sawyer robot,” said Eckert. “We're bringing our data analytics, revolutionary ease-of-use in machine vision implementations and performance improvements to further deliver on our commitment that your Sawyer will get smarter, faster, and more capable over time.

Intera 5.2 will be available for download on all existing Sawyer robots and will come standard on all new robots.

About Rethink Robotics

Rethink Robotics is transforming the way manufacturing gets done, with smart, collaborative robots able to automate the 90 percent of tasks that until now, have been beyond the reach of traditional automation. Its Sawyer and Baxter™ robots, powered by the Intera software platform, adapt to real-world variability, can change applications quickly and perform tasks like people do. The result: manufacturers of all shapes, sizes and industries get the fast-to-deploy, easy-to-use and versatile automation solution they need to increase flexibility, lower cost and accelerate innovation.

Based in Boston, the Rethink product suite is available in Asia, Europe and North America. The company is funded by Bezos Expeditions, CRV, Highland Capital Partners, Sigma Partners, DFJ, GE Ventures and Goldman Sachs.

High-impact deflashers handle tough molded applications

Proco Machinery, a leading manufacturer of automation systems for the blow molding industry, has launched two new automatic deflashers/trimmers that handle high-impact bottle applications. The PADM3-1S Automatic and the Pneutrium-Plus Automatic Deflashers are specially designed systems that are targeted for heavy-wall thickness containers made of polycarbonate, E-PET, and other tough resins for extrusion blow and injection blow molding systems.

“This technical upgrade helps our customers meet the stringent deflashing requirements of high-impact materials,” said Siva Krish, vice president of sales for Proco Machinery. “These new deflashing options are already being used by a couple of our customers in very demanding applications.”

The Pneutrium Plus Deflasher is designed to remove the flash on various containers up to 10 gallons and can be configured to deflash multiple containers simultaneously, enabling processors to increase production rates. Guide rods ensure accurate alignment of the punch tool during the deflashing operation. The punch mechanism is mounted on vertical guides to permit the whole mechanism to be adjusted vertically and an embedded scale provides reference for accurate placement. The punch is driven by a three-inch diameter air cylinder. This large cylinder can produce up to 700 lb of force to remove large, difficult flashes easily.

The new high-impact deflashers, which feature powerful cylinders, can be integrated with the take-out system or operate as a stand-alone system. These deflashers enable processors to reduce their footprint and help maintain or reduce current line speeds, thus maintaining productivity gains. The high-impact deflashers can operate at line speeds of 3.5 sec per cycle, the fastest in Proco’s history.

Both high-impact deflashers offer simple control systems activated by a touch screen interface connected to the machine via an umbilical cord, enabling the operator to adjust the console position as needed. The color touch panel features easy-to-change timer and control settings, enabling the operator to control the unit in either automatic or manual modes.

The guard system for each type of deflasher is designed to protect the operator while allowing him or her to have an unobstructed view of the machine’s operation. The guards are made in two sections for easy operation and maintenance – each section can be opened to provide access during setup. Safety switches enable the operator to disable the machine and to dump the pressed air when the guard is opened.

About Proco Machinery

Proco Machinery Inc., based in Mississauga, Ontario, has been serving the plastic container industry for over 35 years, providing labor-saving automated machinery and equipment throughout the U.S. and Canada. The company manufactures a complete line of Robopik Take-out systems, Automatic Deflashers, Ultra Test Leak Testers, Flame Treaters, Dome Spin Trimmers, Robotic Packaging systems (case packers), as well as the Multipak Palletizer Packaging System (for palletizing).

New vertically articulated robots from Toshiba Machine



Toshiba Machine has started sales for its new TVM series of vertically articulated robots (featuring longer reach and higher payloads for material handling).

The company have developed and launched three new models in its TVM series of vertically articulated robots.

The TVM series is designed primarily for use in transfer and assembly processes in the automobile components industry and enables high productivity in assembly and transfer by combining with a wide array of system installation support tools.

Main Features

High cost performance and reliability

TVM900 (Reach: 900 mm, Maximum payload: 20 kg)

TVM1200 (Reach: 1,200 mm, Maximum payload: 15 kg)

TVM1500 (Reach: 1,500 mm, Maximum payload: 10 kg)

While having longer reach and higher payloads, the models in the TVM series also provide high cost performance through use of shared parts and lightweight designs. The major parts for these products are manufactured in Japan for ensuring maximum reliability.

Easy installation of automated bin picking systems

Combining with the robot vision recognition package, TSVision3D (option), enables quick and easy installation of an automated bin picking system. TSVision3D includes a number of powerful features such as easy model registration without requiring CAD data, easy calibration, function for collision avoidance with boxes, and more, for serving as a powerful support tool in system installation.

Programming support tool for powerful assistance in system installation

The TSAssist (option) robot programming assist tool can be used to provide powerful assistance in all work phases, from planning of automation facilities to installation and improvements. The high-performance 3D simulation function of TSAssist includes useful features for interference check, path display, accurate simulations, and more.

MES solution to play a key role in plastics factory of the future

Solutions for digitalisation and Industry 4.0 are of critical importance for plastics processors worldwide. Adherence to schedules, cost reduction and resource optimization are requirements that modern manufacturing companies have to face these days, in order to better survive a world of digital upheaval. Manufacturing Execution Systems (MES) play a key role in the factory of the future.

"authentig" is the modular MES-solution for the plastic processing industry. More than 300 customers from the automotive industry, medical technology, electrical and packaging industry rely on the innovative industry solution of T.I.G. with over 10.000 networked injection moulding machines, rubber machines or recycling machines.

Focal point: "smart production – solutions"

"You can really sense the increasing interest in MES", says Wolfgang Frohner, CEO of Technische Informationssysteme GmbH. At the touch of a button, cockpits customised for specific industries give authentig MES users access to real-time productivity, delivery data and quality information throughout the enterprise. By providing an optimal link between the ERP system and production, authentig integrates all manufacturing-specific data in a single system, thus driving measurable improvements in productivity, reducing the number of rejects and enabling high-quality process documentation.

Smart solutions for increased quality and economy

Tailored to the specific requirements of the injection moulding industry, authentig offers particularly deep vertical data integration, down to the level of individual cavities. The software creates transparency in order, for example, to optimally utilise the available capacity of a machine park, or to correlate productivity ratios with economic goals. The MES has a modular structure and can be precisely adapted to the individual requirements of the processor.

"Energy" is the most recent authentig module. Not only does it make the energy consumption of individual consumers in the injection moulding operation transparent, but it also reliably caps peaks in the power demand. This is made possible by defining situational consumption limits for each individual consumer, and then dynamically allocating the pre-defined power amounts to the consumers. This intelligent hall management can thus help to significantly reduce the energy costs for the machine pool.

Smart factory becomes reality

"In the future, plastics processors will have an easy option for setting up communication between injection moulding machines, peripheral devices and the MES," says Frohner. "They will no longer need special solutions for this. "authentig MES meets all Industry 4.0 requirements, ideally supporting the implementation of forward-looking technologies such as Big Data, Internet of Things (IoT) and Software as a Service. Deploying authentig makes the smart factory a reality. It connects employees, intelligent warehousing systems, machine components and robots. This active machine communication simplifies value creation processes. Manufacturing planning and operational data are organised in a flexible, simple and scalable way to support task-oriented distribution. Innovative driver technology ensures trouble-free machine connections. authentig impresses with state-of-the-art design and an uncomplicated, intuitive user interface.

As a pioneer and development partner, T.I.G. is the first MES provider to offer software for testing and validating the new EUROMAP-77 interface, which machine manufacturers can download free of charge.

About T.I.G.

T.I.G. – Technische Informationssysteme GmbH develops and sells Manufacturing Execution Systems (MES) worldwide and has

- connected more than 10,000 injection moulding machines worldwide
- 7 of the top 10 automotive suppliers as customers

Founded over 20 years ago as a specialist for production machine networking, T.I.G. is the industry leader in quality assurance and production optimisation today. T.I.G. sells and maintains authentig globally through offices in Rankweil, Vienna, Schwertberg, Shenzhen and Shanghai. authentig is a modular software solution with many features specially geared to the needs of the plastic processing industry. More than 300 customers and all the big-name manufacturers of injection moulding, rubber or recycling machines rely on the modern MES-solution from T.I.G.

WITTMANN robot functions for maximum efficiency

One criterion to measure the efficiency of an injection molding machine is the number of molded parts produced per time unit. Consequently, the stoppages of the processing machine must be reduced as much as possible to achieve maximum efficiency. Robots influence the efficiency by the time taken for parts removal, the mold open time. WITTMANN robots equipped with R8 and R9 control systems have some special functions as standard, which substantially shorten the removal time.

It is clear that a robot should reduce as much as possible the time it takes to remove injection-molded parts. However, programming such time-optimized processes is not always so simple. Especially users with little or no experience can quickly reach their limits when it comes to laying down the most efficient sequence of program steps. WITTMANN is aware of this problem and offers effective tools to solve it.

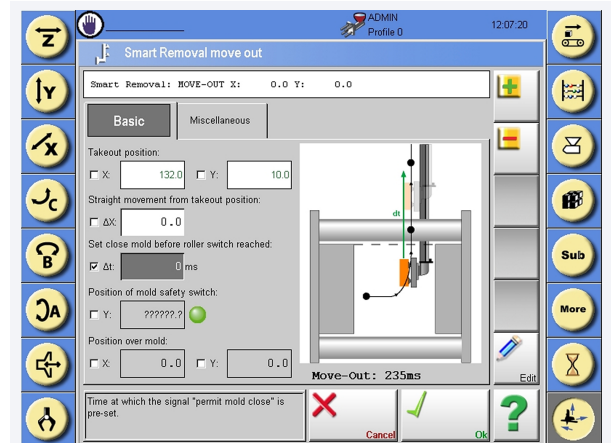
The WITTMANN robot control systems R8 and R9 provide the command SmartRemoval IN as a prerequisite for every highly efficient parts removal process. This command is based on a process of machine signal analysis patented by WITTMANN. It calculates the relationship between the time taken by the injection molding machine to open the mold and the traveling and acceleration characteristics of the robot. This functions automatically in the background without operator intervention.

SmartRemoval IN thus offers the advantage that the robot already starts to accelerate its vertical axis before the moving mold half has reached its end position. In this way, several valuable tenths of a second can be saved, since the acceleration phase takes relatively long compared to the distance to be covered. By having the accelerated movement carried out parallel to mold opening, any negative effect resulting from the robot's inertia can be eliminated. In combination with an early command release (e.g. the release for ejector movement), total time savings of about 30% can be achieved.

To facilitate the operation of SmartRemoval, the command sequence is visualized to the operator by a simple chart. SmartRemoval IN demonstrates its strength by automatic selection of the optimal travel sequence adapted to each individual application in producing a great variety of parts.

Mold opening synchronization is available as standard for every WITTMANN robot which is fully integrated in the machine's control system. In the case of molded parts with deep cavities (such as waste bins or flower pots with filling volumes of more than 20 l), this function can provide a major savings potential. For here it is already possible to pull out the parts while the mold opening movement is still in progress. In this way, the connection between the gripper and the part can be established earlier. This enables savings in terms of the injection molding machine's opening stroke as well as in mold open time.

Regardless of the type of travel attributes selected, programming the demolding sequence with SmartRemoval OUT is always possible. SmartRemoval OUT functions in combination with an early "close mold" command release and is based on effective response to signals. This includes the choice of optimal timing when the signal to release the "close mold" command is given. SmartRemoval OUT offers the possibility to transmit this command to the injection molding machine before the mold protection sensor is reached. This eliminates delays in signal transmission. The injection molding machine starts the



Display of SmartRemoval OUT on the screen of the R8 robot control system

closing process precisely on passing the mold protection sensor. This avoids the delays which result from the traditional timing of the release only after the sensor has been passed. To counteract the risk of losing the molded part in this highly optimized demolding process, SmartRemoval OUT is closely linked to the iVac system included as standard.

iVac from WITTMANN offers the advantage that the molded part can already be gripped with a fraction of the necessary vacuum pressure, and thus the removal sequence can be started. In the course of the retraction movement, the vacuum pressure rises to the maximum level.

Once the set reference pressure for the molded part has been reached, the signal for the release of the “close mold” command is given. This release can already take place several tenths of a second before the part leaves the mold area. In this way, signal delays at the interface between the robot and the injection molding machine are compensated, and the mold open time is minimized.

The combination of SmartRemoval with iVac optimizes the mold open time regardless of the type of robot interface (Integration, E67, E12). Compared to applications without such a functionality, the time savings potential lies at about 30%. For all WITTMANN servo robots equipped with the control system versions R8 and R9, the functions described above are available as standard.

“We believe that the removal time is the most important criterion for measuring the performance of a robot system. Consequently we already created the strong duo of SmartRemoval and iVac several years ago in order to act with maximum efficiency at this point”, says Martin Stammhammer, International Sales Manager Robots and Automation Systems of the WITTMANN Group.

About WITTMANN Group

The WITTMANN Group is a worldwide leader in the manufacturing of injection molding machines, robots and peripheral equipment for the plastics industry. Headquartered in Vienna/Austria, the WITTMANN Group consists of two main divisions, WITTMANN BATTENFELD and WITTMANN, which operate 8 production facilities in 5 countries, including 33 direct subsidiary offices located in all major plastics markets around the world.

WITTMANN BATTENFELD focuses on the independent market growth in the manufacturing of state-of-the-art injection molding machines and process technology, providing a modern and comprehensive range of machinery in a modular design that meets the actual and future requirements of the plastic injection molding market.

WITTMANN's product range includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, mold temperature controllers and chillers. With this comprehensive range of peripheral equipment, WITTMANN can provide plastics processors with solutions that cover all production requirements, ranging from autonomous work cells to integrated plant-wide systems.

The syndication of the WITTMANN Group has led to connectivity between all product lines, providing the advantage plastics processors have been looking for in terms of a seamless integration of injection molding machines, automation and auxiliary equipment – all occurring at a progressive rate.

INTRAVIS introduces new smart camera solution IntraOne

INTRAVIS GmbH, an expert in vision inspection for the plastic packaging industry, launches IntraOne!, the latest development in their product portfolio. The one-camera solution presented at Drinktec (September 11-15, 2017 in Munich, Germany) combines the advantages of a smart camera with INTRAVIS's proven IntraVision software.

The need for specific quality control in the plastic packaging industry has been increasing for years. At the same time, the available space for the extensive inspection is decreasing. INTRAVIS reacts to this area of conflict with its new product, the IntraOne! system. The one-camera solution, which is also capable of challenging environments, can be easily integrated into any production line.

INTRAVIS can use its proven IntraVision software without additional hardware due to the industrial PC integrated into the camera. The user-friendly software is pre-installed ready for operation and does not have to be configured separately.

In regards to INTRAVIS inspection modules, the customers of the vision system supplier based in Aachen, Germany benefit from more than 20 years of experience in the inspection of plastic packaging. IntraOne! can be used for various inspection objects such as preforms, closures, bottles, containers, labels or decoration.

Like all INTRAVIS solutions, IntraOne! is a turn-key system. Together with the customer, an experienced INTRAVIS Service Technician will choose the optimum configuration for the inspection task and then carry out the installation. The annual maintenance can also be handled by a Service Technician. This way the user does not require his own personnel to install or maintain the smart camera solution.

In addition to the complete product quality control INTRAVIS has been offering for many years with its various vision inspection systems, IntraOne! now enables quality control of specific criteria. Compared to the previous solutions, it offers great savings in terms of hardware and price. The customer has the choice whether he wants to focus on one criterion or on the product as a whole.



The IntraOne! equipment at a glance

Moretto presents its concept of efficiency

Moretto's solutions, result of a continuous investment on technological innovation, are distinguished by being efficient and low energy consumption machines, conceived with the criteria of Industry 4.0 and based on the respect for environmental needs.

Injection, extrusion and PET processing are characterized by specific complexities and high levels of performance, in which production and energy efficiency play key roles. In order to remain competitive, plastic processors need to equip themselves with high performance plants in terms of energy efficiency and quality of the final product.

Moretto's goal, also declared by the new pay off Empowering Plastics (that means "infuse more power to plastic"), is to help the industry through know-how, innovation and high-precision machines which make the difference.

Efficiency 4.0

At Fakuma 2018, Moretto presents his concept of "Efficiency 4.0", essential for the factory of the future. For Moretto, "Efficiency 4.0" means a plant made up of advanced machinery and solutions, connected and integrated with each other by a supervision system that guarantees total control of the process.

With a broader view, Moretto aims to support customers by providing experience, technologies and services which meet the needs of the global market. On the 4.0 factory, machines can be remotely managed, they are able to supply and exchange information, to self-program and to provide frequent reports on production. The data obtained are used to modify the process parameters to monitor the performance of the machines, thus optimizing the efficiency of the entire plant.

The Moretto's 4.0 automations exhibited at Fakuma

At Fakuma, in a 230 mq booth, Moretto shows its latest innovation with "Efficiency 4.0". Moretto offers a range of products that satisfies the entire preparation process of the plastic material, from its storage in the silos until the injection moulding machine. The range also includes technologies and machines, developed to guarantee adequate levels of dehumidification, granulation and dosage of the polymer. These are ideal conditions to allow processors to obtain a high quality final product.



Moretto stand at Fakuma 2017

Everything under control of Mowis 3, the integrated self-configurable supervision system with intuitive object programming, developed by Moretto for the connection and control of the whole automation chain in plastics processing plants.

Mowis 3 overcomes the barriers of traditional supervision by adapting to the needs and the qualitative, productive and managerial objectives of every customer. It's a modular software with unique, auto-configurable and user friendly interface which allows immediate display of the system status

With Mowis 3, the integrated process control is easily managed from any location, on-site or remote.

Based on SCADA system, Mowis 3 allows a safe and immediate exchange of data between standard modules, tailor-made modules and the customer management system.

Moretto's drying solutions are suitable both for complex models such as multi hopper systems and for the dehumidification of small quantities of technical materials, like X Comb mini dryers, designed to meet the requirements of the most demanding sectors such as the medical, without the use of compressed air. X Comb guarantees maximum efficiency and reliability thanks to the zeolite technology, the powerful turbo compressors, the exclusive OTX hopper and the dew point equalizer (up to -52 ° C).

The compact dryers of the X Dry Air series, equipped with a double-bed system with zeolite technology and a transparent OTX Pyrex hopper, ensure even higher performance by reaching dew point values up to -70 ° C.

For multi hopper plants, the best drying solution is the revolutionary EUREKA PLUS system, "the most advanced low consumption drying system available on the marketable to reduce energy consumption by 56% compared to conventional drying systems.

Eureka Plus consists of four Moretto-patented technologies:

- X MAX, the only high performance multi-bed modular dryer
- FLOWMATIK, a dynamic airflow management system,
- OTX, innovative hoppers with an exclusive internal geometry
- MOISTURE METER MANAGER, the revolutionary device which measures polymer residual moisture in-line and adapts the drying system operations.

By working together, these four automations provide an "on demand" self-adjusting, modular and energy-saving drying system.

Moisture Meter Manager, thanks to the sophisticated Box, Crown and Control devices, can detect in-line the intrinsic moisture in the polymer with an extraordinary level of precision: from 3,000 up to a minimum of 15 parts per million (ppm), with a degree of precision of ± 3 ppm and a temperature range from 20 to 180°C.

Moisture Meter Manager is a real “intelligent” device, it automatically directs the drying system to adjust its drying parameters to match the drying requirements, assuring that material is perfectly dried using the minimum amount of energy. With Moisture Meter Manager we talk about “drying on demand” by targeting the actual moisture levels of the resin and not simply providing the same drying heat and airflow for all conditions.

At Fakuma great attention is also dedicated to the dosing phase, with the presentation of DPK, the new compact loss-in-weight dosing unit, suitable for intermittent or continuous dosing of small quantities of color or additives into a flow base material, that solves the problem of overdosing with an extremely precise control. Thanks to the exclusive vibration immunity system, the machine control algorithm and the hopper removable from the dosing unit, DPK achieves a dosing accuracy up to $\pm 0,03\%$, allowing processors to avoid unnecessary wastes of expensive additives.

Among Moretto's innovations presented at Fakuma 2018, there are certainly three new types of maintenance hoppers, valid solutions for the containment of plastic granules on the processing machines.

The TM hoppers made of stainless steel and with a characteristic cone shape, guarantee an optimal flow of any material, and are suitable to accept single-phase, three-phase and receivers for centralized conveying systems.

The TMC hoppers are used for the treatment of dried hot materials. Realized in stainless steel, they feature the double-wall insulation with removable cone that avoids heat loss by creating a process constancy.

Krystal maintenance hoppers (TMK) are made of transparent shockproof acrylic material, they ensure an effective containment of plastic granules and offer a great visibility allowing the operator to immediately verify the level of material.

The Dolphin distribution manifolds, the Kruse Kontrol speed control and the suction units with cyclone filter are all machines controlled by the One Wire 6 software, the “intelligent conveying system” developed by Moretto. “Intelligent” because it is able to automatically handle the demands of the individual receivers, to adapt to the changes and manage the entire process with maximum efficiency, without resorting to manual settings.

The large amount of energy required for the cooling process in the transformation of plastic material, requires very effective and extremely flexible systems, such as the new RC Mini chillers, which inherit the characteristics and performance of the superior series of modular air coolers RCV X COOLER.

The chillers of the RC Mini series, characterized by cooling capacities from 6.8 to 26.2 kW, are made of stainless steel, and are compact and practical machines easy to install in the department. RCV X COOLER is the new modular cooler that inherits the X MAX spirit of EUREKA as it develops into a concept of great efficiency (cooling power up to 900 Kw), modularity and easy expansion over time (up to 6 units). X COOLER is equipped with: screw compressors with variable flow, high efficiency evaporators, centrifugal fans and electronic expansion valves that, even in this case, guarantee high level of C.O.P. They are characterized by being suitable even for the most demanding applications, they are ideal allies to optimize productivity, minimize energy consumption, increase the profitability of the entire process, guaranteeing high quality production.

Towards increasingly “sustainable and 4.0” refrigeration! Moretto chillers use low GWP refrigerating gases (Global Warming Protection and ODP (Ozone Depletion Potential), as established by the EU517 / 2017 regulation for the reduction of the greenhouse effect.

Te-Ko temperature controllers (water, oil or pressurized) complete the displayed range of products, they ensure absolute efficiency and precision in the automatic temperature control both in the moulds of the injection moulding machines and in the cylinders and rollers of the extruders.

Moretto's projects for the future: continuous innovation, energy saving and sustainability

Moretto looks to the future by investing in innovation, energy saving and sustainable projects.

The intent is to sublimate the plastic such as “raw material” which is essential and irreplaceable in the lives of each of us and to focus on eco-sustainable activities and new materials such as bioplastics.

The green project “BE TOMORROW” born from the company's need to spread awareness, information and responsibility towards the environment. A long-term project oriented to safeguard the world of tomorrow, that of our children.