

ALL THE INFORMATION THE MAXIMUM PRECISION



itocontrol
electronic systems

ELECTRONIC CONTROLLERS FOR INJECTION MOULDING MACHINES

MAXIMUM PRECISION AND EFFICIENCY THE MOST INTUITIVE INTERFACE

The itoControl electronic control system combines one of the highest precisions in the market with an interface designed with the user always in mind.

This allows getting the maximum performance out of the machine and makes easier the interaction with it, creating a complete and intuitive work environment. Either by receiving and interpreting data and displaying it in real time or by easily letting you change its settings, itoControl will give you full control over your machine.

The culmination of years of work and development.

ABSOLUTE CONTROL OVER THE MACHINE A WIDE ARRAY OF OPTIONS

The high precision and numerous options integrated in the itoControl system allows the machine to perform repetitive cycles with great accuracy.

Thanks to itoControl, you will be able to benefit from the full potential of your injection moulding machine, increasing your productivity and profits.

As a related benefit, the components in your machine will be submitted to less stress, which reduces the need to perform maintenance tasks.

Let your machine reach its maximum potential.

A CUSTOM MADE SYSTEM MODULAR AND MULTIPLATFORM

The itoControl system has been designed to be installed in a modular fashion. This way your machine will only have installed the components it really needs, giving as a result a system fully adaptable to any need without requiring any unnecessary components.

Even more, thanks to itoControl you will be able to access the injection moulding machine's panel through any device with internet connection, allowing you to make adjustments on the fly.

Total connectivity and adaptability.

itoCONTROL CHARACTERISTICS

HIGH TECHNICAL PERFORMANCE

The whole interface, as well as the circuits, communication protocols and software has been designed and developed by Itoplas, which gives the itoControl system a higher level of performance and technical capabilities.

The complete integration over all the different modules grants the ability of integrating the programming of both additional servomotors as well as multiple external devices, from mould heating units to robots attached to the machine. With this capability, the itoControl systems not only adapt to any kind of machine (independently of its size or functional characteristics) but also gives the ability of parameterizing and visualizing in a unique way.

REAL TIME CHARTS AND PARAMETERS

Great effort has been put to be able not just to show the maximum amount of information graphically for an easier analysis, but also to be able to show it in real time. It is very important that, when the machine is performing any movement, the controller is capable to show it instantly, this way the data can be successfully interpreted.

The numerous sensors incorporated in the itoControl systems increase the parameterization and management capabilities, allowing for more precise charts as well as very specific stages and points in them.

LAST CYCLES ANALYSIS

The itoControl system lets the machine be very repetitive and this is reflected on screen. There has been added time diagrams and comparison charts to be able to prove that every movement is exactly the same as the one performed in previous cycles, and in case it has varied, to quickly find out the reason for that so that an intervention can be made immediately.

REMOTE CONTROL OF THE MACHINE

Remotely controlling the machine is another of the great possibilities of the ito5000 controller. This access is capable not only of viewing the pages the same way as if you were next to the machine, but also to give you complete control over the machine, including changes in the parameters and settings or executing movements.

This remote control is specially designed to allow showing real time data, and to be able to be accessed from any mobile device, tablet or personal computer.

AUDITING OF CHANGES

The wide range of configuration settings gives a very high work output, but at the same time, can lead to unexpected behavior. To learn the origin of these behaviors, itoControl provides an internal auditing tool to show the evolution of the values for each parameter, the users related to every change and a timestamp of the moment that change was made. This provides the ability to get a snapshot of the real situation of the machine in any particular past moment.

Along with the auditing tool, there is a change log for all the working values, relative to the sensors and the working status of the machine. This means the auditing and analysis solution is absolute.

INTERACTIVE HELP MANUAL

All pages on the controller have a help button. By clicking on this button you can check directly a help file related to any parameter in the actual page. The information found within is the same you can find in the controller manual.

Navigating through the parameters help file gives the ability, in addition, to edit the values related to the current help file. This way, the help manual becomes an assistant for the programming of the machine.

TOUCH SCREEN AND PHYSICAL BUTTONS

Programming and viewing of all the data is made through a 15,6" touch screen. Both the screen and the interface have been specifically selected to offer the maximum quality with the sturdiness required on the working environment of the machine.

The vertical orientation of the screen allows for a better viewing and presentation of the data and the associated charts.

The panel has also available physical buttons. These buttons are designed to give an immediate response and to be used without the need to be looking at them, because we know that when executing manual movements is more important to have your sights set on the machine, not the buttons.



ito5000 SYSTEM SPECIFICATIONS

CONTROL SYSTEM

- ito5000 system with distributed architecture and high-speed bus.
- Interaction through 15,6" color touch screen with 180° viewing angle.
- Integrated keyboard on the machine with embossed buttons and leds for signaling of the active movements.
- Visualization and movement control through real-time graphics.
- Mould data storage on internal memory for up to 50 million configurations.
- Mould data backup and recovery on USB.
- Quick access to parameters.
- User changes history.
- Interactive help program.
- Plastic materials library.
- Access to drawings, schematics and digitized documents and pictures of the machine and its components.
- Pressure curve chart with overlapping of movements or cycle signals.
- Alarm indicators with advice on possible solutions for the operator.
- Real production calculations.
- Power consumption calculations.
- High precision controller on tenth of millimetre precision for position parameters and on hundredth of a second for movement time parameters.
- Quality control program with build up and rejection of faulty parts.
- Visualization of input and output signals.
- Visualization of technical parameters of the machine.
- Calendar for programming tasks, specific or repeated through time, for both its connection or disconnection.
- Interactive diagnostics of the process.
- Easily adaptable systems for technical materials like PVC, PET, PC, etc.
- Internacionalization: Instantaneous change of language.

OPTIONAL EQUIPMENT

- Total control of the machine remotely in real-time.
- Direct technical assistance on the machine through Internet.
- Up to 64 additional temperature zones for the mould's hot runner regulation.
- Automatic mould cooling, through two independent circuits.
- Reference curves overlapping over the charts in real-time.

FUNCTIONS OVER THE CLAMPING UNIT

- Automatic lubrication.
- Adjustable clamping strength with no staggering.
- Programmable opening and closing velocity in 5 stages.
- Rapid closing program.
- Automatic mould adjustment program.
- Double mould safety system with high precision at low pressure.
- EUROMAP12 or EUROMAP67 robot interface.
- Programmable blowing.
- Parameterizable configuration for any kind of locking.

OPTIONAL EQUIPMENT

- Automatic door controller.
- Automatic extraction and assembly system in the locking column, for placement of big moulds.

FUNCTIONS OVER THE HYDRAULIC EJECTOR

- Selection for the number of ejections.
- Independent ejection regulation.
- Detection of the ejector retracted by limit switch.

OPTIONAL EQUIPMENT

- Simultaneous ejector during opening with one or double hydraulic circuit.

FUNCTIONS OVER THE INJECTION SYSTEM

- PID temperature controller for the barrel heat.
- Safety device with screw rotation blocking.
- Power and temperature charts.
- Programmable maintenance temperature.
- Automatic correction system for the parameters related to injection and loading according to the parameters of the last cycle.
- Automatic purge program, fully programmable and adapted to each mould.
- Operation of the injection group by various modes.
- Alarm for controlling maximum injection pressure.
- Real time charts for the different stages of injection, showing pressure, velocity and position or time.
- Close ring injection program in pressure and velocity.
- Decompression program before and after plasticising.
- Idle cycles program.
- Instant visualization of the screw revolutions.
- Itoplas improved intrusion system.

OPTIONAL EQUIPMENT

- Automatic correction system for injection parameters.
- Up to 24 control zones for sequential injection.
- Gas injection system.
- Opening and closing control system for the hydraulic nozzle.
- High speed injection through servomotors.
- Mould controller for itoGate system (developed by Itoplas) for injection of PVC parts without sprue.

FUNCTIONS OVER THE CORES

- Regulation for pressure, velocity and time separated by each movement of core in and core out in each circuit.
- Activation of any core by position of the mould.
- Selector for the hydraulic ejector inserted like a core inside the core sequence.
- Maintenance of core in and core out pressure during the cycle, as mould safety.
- Configuration of a second phase of core in and core out movement.

OPTIONAL EQUIPMENT

- Controller for up to 10 independent core circuits.
- Simultaneous core in and core out movement during closing and opening (respectively) with one or double hydraulic circuit.
- Circuits controller for additional cores.

FUNCTIONS OVER THE HYDRAULIC SYSTEM

- Backpressure during plasticising controlled by an independent proportional, achieving great precision.
- Readings and alarm for oil temperature.

OPTIONAL EQUIPMENT

- Double hydraulic circuit controller with pressure and velocity proportionals for combined movements.

FUNCTIONS OVER THE ELECTRICAL / ELECTRONIC SYSTEM

- Itoplas' electronic control system in all transducers.
- Control for proportionals directly from the outputs on the ito5000 controller.
- Activation of the main contactor in the heating system.
- Electronic system protection, with net filters and high-efficiency Schaffner passband.

MAXIMUM PRECISION AND EFFICIENCY WITH THE MOST INTUITIVE INTERFACE

ITOPLAS DESIGNS AND DEVELOPS ITS CONTROLLERS WITH THE USER ALWAYS IN MIND

A NEW GENERATION OF CONTROLLERS

The R&D team at Itoplas Engineering is especially proud of the ito5000 controller. It is a system developed from a background of almost 40 years designing and manufacturing controllers, with a pleasant and intuitive interface that makes it accessible to any kind of user, running on high-precision technology developed by Itoplas.

The itoControl systems are completely modular, where both users that want a very technical and demanding parameterization and those that want an easier programming of the machine can be comfortable, providing a comprehensive control of production and a thorough analysis of the machine's work.

It is a suitable controller for any sector in the world of plastics injection, easily adaptable to any kind of machine. The goal of Itoplas is for the same controller to be able to work in every machine, from the smaller ones to one of great tonnage.

The ito5000 controller is an evolution of the i4000, with contributions received through the requirements of our customers and the technological advances that emerged in both the plastics industry and our own company.

HIGH PRECISION

The itoControl systems have one of the higher precisions in the market. Thanks to this, your injection moulding machine will be able to make faster cycles, taking advantage of its full potential.

As an added benefit, the components in the machine will suffer less wear, since itoControl uses them only when they are needed, just for the required time and applying the precise stress necessary for each given movement. This translates into a reduced need for maintenance tasks, which raises not just the machine's productivity, but also your company's profitability.

The high precision and numerous options of the itoControl electronic controllers gives the machine the possibility of performing repetitive cycles with great precision, which will let you make reliable projections on duration of the production and its related material spending.

By using the itoControl electronic control system it is possible to convert a machine to a higher range, achieving superior precision, performance and safety levels, allowing non-european machines to reach the quality standards required by customers in the EU.

