SELOGICA AND GESTICA

Pioneering intuitive control technology
"Made by ARBURG"

ARBURG

IMPULSE GENERATOR

Simply smart: user interfaces that turn work into fun.

ARBURG works on the simple but effective principle that there's always room for improvement. How can the injection molding process be improved and how can it be made it easier and more comfortable? This line of thought also led to us developing our controller technology ourselves right from the start – always perfectly tailored to the injection molding process. The result is a large variety of smart solutions with which we set trends time and time again and advance the digitalization. Secure your technological lead – by handling complex requirements with ease.

WIR SIND DA.

AT A GLANCE:

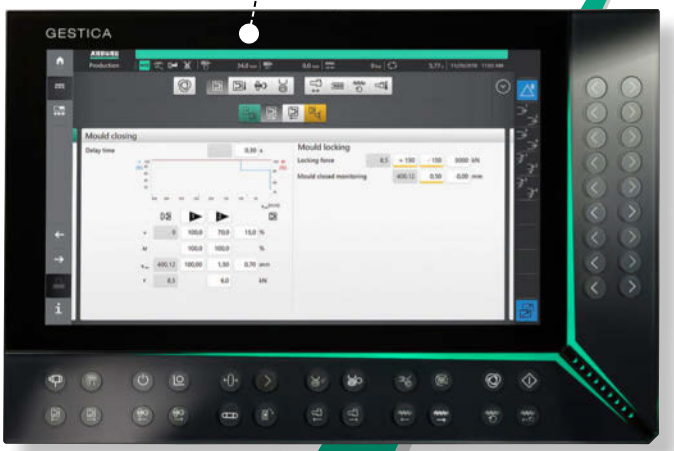
// Maintaining control over machine, mold, robotic and peripheral technology requires a suitably powerful central control system. What is required is "smart technology", which integrates everything trouble-free, supports you actively in all operating situations, as well as monitoring and adaptively controlling your process. All the features of our SELOGICA and GESTICA control systems are designed for a fast, secure and convenient set-up and operating process. This allows you to get the best out of all applications. \\

Highlights

- SELOGICA and GESTICA – fully compatible
- Graphic sequence programming
- Direct plausibility checks
- Assistance packages and connectivity modules "Ready for Digitalization"
- Central control system for complete production cells

SELOGICA - the central control unit with a wide variety of functions for special processes and sequences.

The pioneering GESTICA control system builds on the comprehensive performance of the proven SELOGICA. Gestures make operation even simpler, more intuitive and smarter.



SELOGICA ND – the new design of the operating panel is based on the look of the GESTICA.


ARBURG
f12114Fix mould to moving platen
51.3 cm²
0.0 cm²
0 bar
istant - parameter input
55 mm
ABS
Unreinforced
Standard
1 cm²
0.1 g
0.1 mm
1 mm
ed part surface area
eight
hickness
path length
aterial type
12101
Selectable options
f12101 = TPE-O / TPE-S
PVC-P (soft)
PVC-U (hard)
SAN
SB
TPE-O / TPE-S
TPE-U / TPE-E
PC + ABS

Central management

Thanks to their unsurpassed standard operational system, the SELOGICA and GESTICA save time and costs. The simple integration of different peripheral equipment enables sequence management even for complete production cells, with only one data set. Short cycle times? Can be programmed!

Intuitive operation

The graphics-based operational philosophy can be comprehended intuitively and is always geared towards optimization of the processes. Our unique graphical sequence programming with direct plausibility check always clearly indicates the logical position of the current programming step. Operating errors? Out of the question!

Efficient operation

This calls for a "smart machine" that offers extensive data integration options, monitors and adaptively controls your processes, and supports you in every operating situation: from set-up and start-up, through optimization and production, to monitoring and service. This is where our connectivity modules and assistance packages come into play. "Ready for Digitalization"? Of course!

ASSISTANCE PACKAGES FOR GREATER EFFICIENCY

4.set-up	Guided set-up: You receive active support during set-up and parameter input, leaving you more time for productive tasks.
4.start-stop	Fast production start-up: start-up and shut-down of complex processes are made easier for you, reducing the number of start-up parts required.
4.optimization	Assured quality and productivity: Allows you to get even more out of your machine in each case - because every split second counts.
4.production	Greater programming freedom: Special processes become standard for you and even complex molds can be quickly mastered.
4.monitoring	Controlled system status: Comprehensive monitoring functions enable you to detect deviations early and seamlessly document them.
4.service	Time-saving online support: Have faults analyzed quickly, efficiently and safely in a remote process – for even greater machine availability.

SELOGICA: THE BENCHMARK

// When is a machine control system ergonomic and intuitive to operate? When it is equipped and functions like our SELOGICA! High-contrast touch screen and large input boxes. Easy-to-understand operational systems and flexible menu navigation. Graphical sequence programming and immediate plausibility check. Our user interface offers everything that you want in the practice: direct, fast data access and uncomplicated familiarization. In other words: significantly greater ease of use. \\

In credit-card format:
selective access authorization
for control data.

Targeted navigation

You can flexibly choose the menu navigation based on your requirements. The theme navigation with continuously displayed structure provides a clear, comprehensive overview. Alternatively, the sequence navigation enables direct screen call-up from the production sequence. User-specific, individually configurable shortcut keys round off your flexible access options.

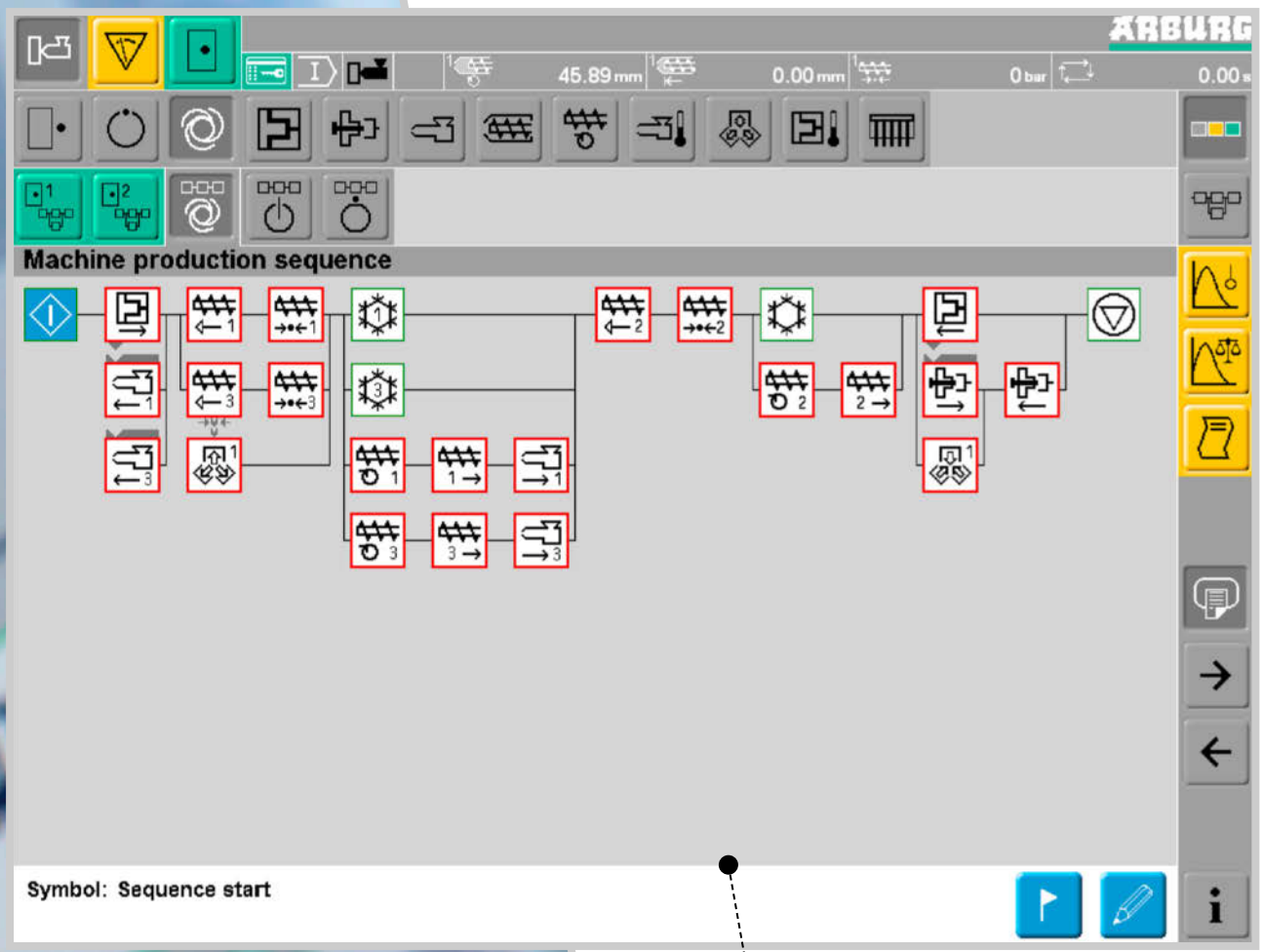
User-friendly input

You can enter parameters either via tables or via graphics. Different functions are assigned unambiguous color codes. Information on the limits of the adjustment range provide certainty. The orientation of the plain-text display is always in the direction of the relevant movement. Since the operational systems are strictly based on the practical set-up procedures, they are extremely easy to understand.

Selective access

We use RFID card technology in accordance with EUROMAP for user identification. This enables you to control input or adjustment ranges by means of access permissions and to log changes by user. Important parameters can additionally be combined on freely configurable pages. This enables you to create a parameter-based authorization system.

PIONEERS
SINCE
1992
graphical user interface
of our SELOGICA



Targeted production optimization:
sequences can be accessed centrally
and are freely programmable.

OUR TECHNOLOGY LOVES YOUR CHALLENGES!

Clearly structured sequence editor

Nothing could be easier: we provide you with predefined basic sequences for your machine equipment. These can be quickly and individually adapted to the respective production tasks. Access to the available functions is made easier through logical grouping. This is rounded off by our sequence editor, which suggests the suitable machine- and process-related sequence symbols and their positioning. You can use this to configure the position-related start with simultaneous machine movements, for example.

Direct plausibility checks

With the real-time plausibility check, we provide you with a unique feature that helps you to efficiently create even highly complex sequences. During the programming, the system directly displays the logical positioning of the current process step and checks that operator entries are complete. This enables you to reliably implement even sophisticated processes and procedures such as venting, injection compression molding, tandem mold processes or multi-component injection molding. Now that is real practicality!

SYMBOL BY SYMBOL

towards an individual production sequence

GESTICA: INNOVATION MEETS AESTHETIC DESIGN

// The look and feel of modern mobile devices: our pioneering GESTICA control system builds on the advantages of the established SELOGICA. Navigation and graphical sequence programming remain the same. And, importantly: both controllers are fully compatible and their data sets are easily interchangeable. Our GESTICA makes communication with the machine even more convenient and offers additional assistance functions that further advance the digital transformation. \\


High-end and functional:
full-HD screen and integrated
LED light strips.
Intuitive and smart: with the
EASYslider, set-up movements are
controlled with high precision.
Ergonomic and practical: integrated
hardware keys enhance the reliability
of sensitive movements.

More options

We added a clearly structured task-specific start page to the menu navigation of the GESTICA. You can quickly return to it at any time by using the Home button. We have divided the direct sequence navigation into the machine and robot system. Additional categories such as production, start-up and stop make even faster access possible.

More gestures

The easy direct touch operation known from the SELOGICA already offers a high level of convenience. But you can work even more effectively by using the gesture control:

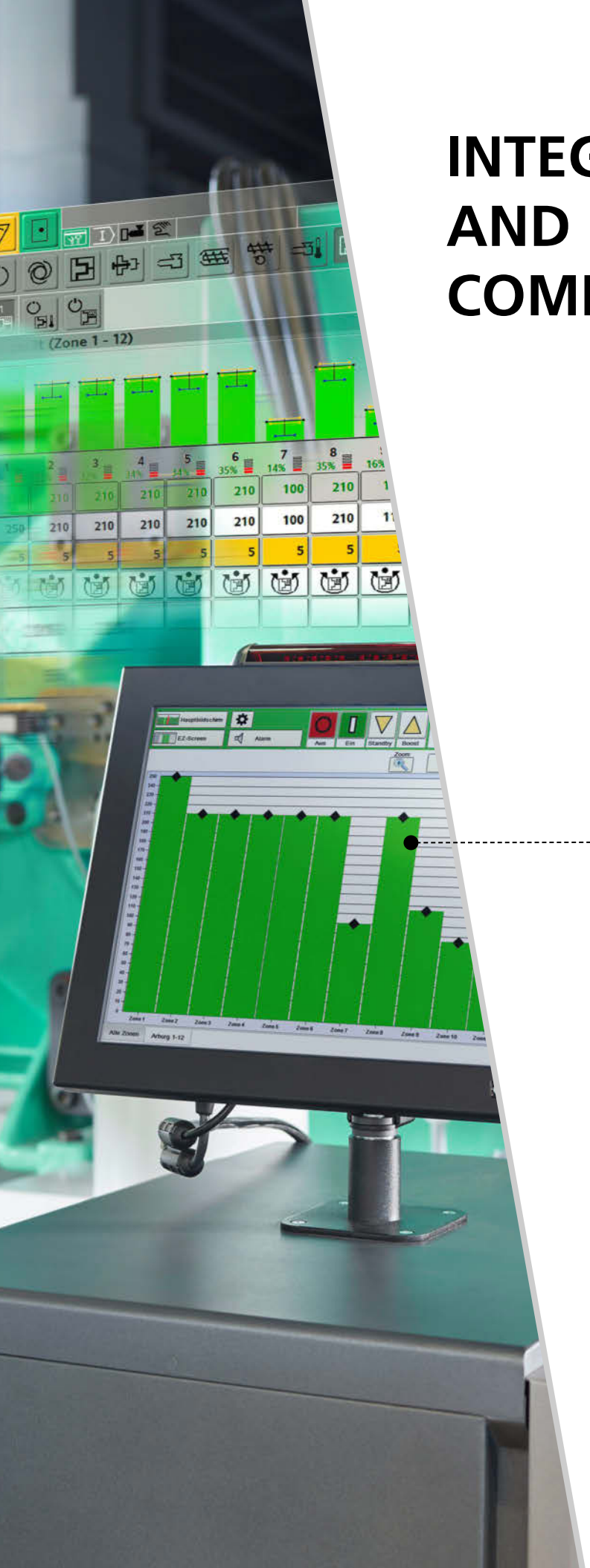
- Swipe – quickly scroll between individual screen pages.
- Drag and drop – easily modify graphics and sequences.
- Pull – scroll directly in images.
- Zoom – easily zoom in or out in views.

More assistance

The GESTICA is our control system for the future and is 100 percent compatible to the SELOGICA. With its high-end technology, such as full-HD multi-touch screen and EASYslider, it provides all prerequisites for future functional upgrades. This includes detailed 3D views that can be rotated and zoomed individually.

Excellence: design as flagship for intuitive and smart technology.

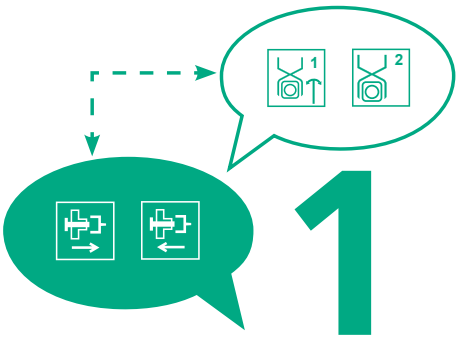

reddot award 2018
winner



INTEGRATION AND LINKING: COMPREHENSIVE

// More rational workflows, more productivity, improved part quality, higher process reliability and transparency – all of this can only be achieved with a uniform and all-embracing injection molding management. This is why the robotic systems and peripheral devices can be fully integrated into the SELOGICA and GESTICA, enabling central, effortless management of entire production cells. With our connectivity modules, data exchange with higher-level systems is also no problem. We're by your side when you need to digitize your production! \\

Fast, open, reliable: data exchange based on OPC UA, e.g. between machine controller and hot runner regulator.



1 LANGUAGE

for the machine, robotic system and peripheral devices

Central parameter entry

SELOGICA and GESTICA take on the task of controlling the robotic systems and mold heating circuits. Commercially available peripheral devices can also be integrated via standardized interfaces. Monitoring inputs enable you to make the process control dependent on the granulate feed, compressed air or the water supply, for example. Additionally, freely programmable in/outputs are available.

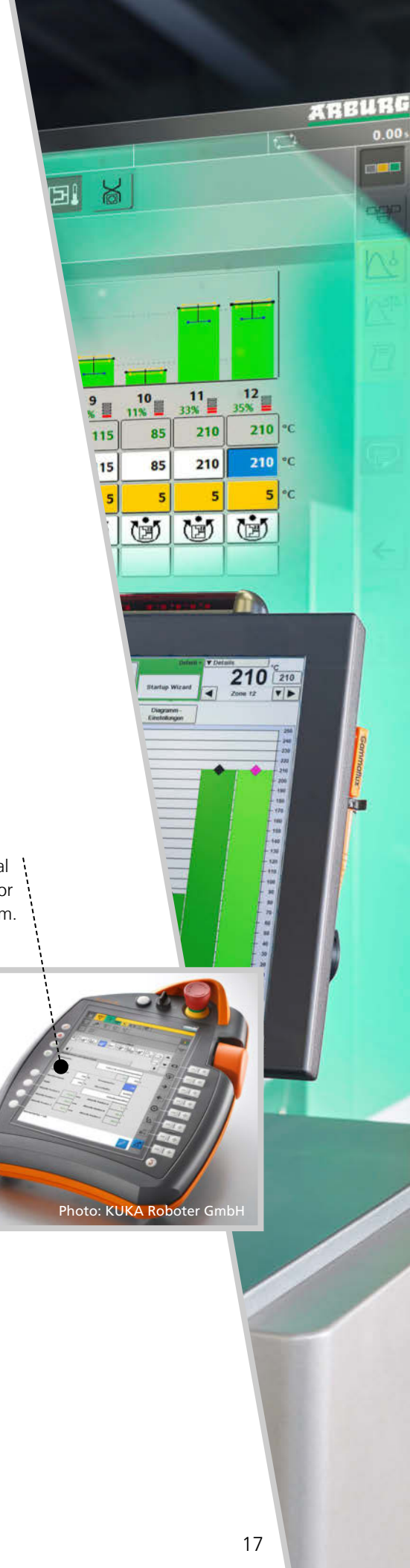
Central storage of setting data

Convenient data storage on Compact Flash cards or USB memory: a data set contains all parameters for the entire production unit. That makes both management and set-up easier, faster and more reliable.

Standardized operational systems

Only one control system for the machine, robotic system and peripheral devices – that has clear benefits for you:

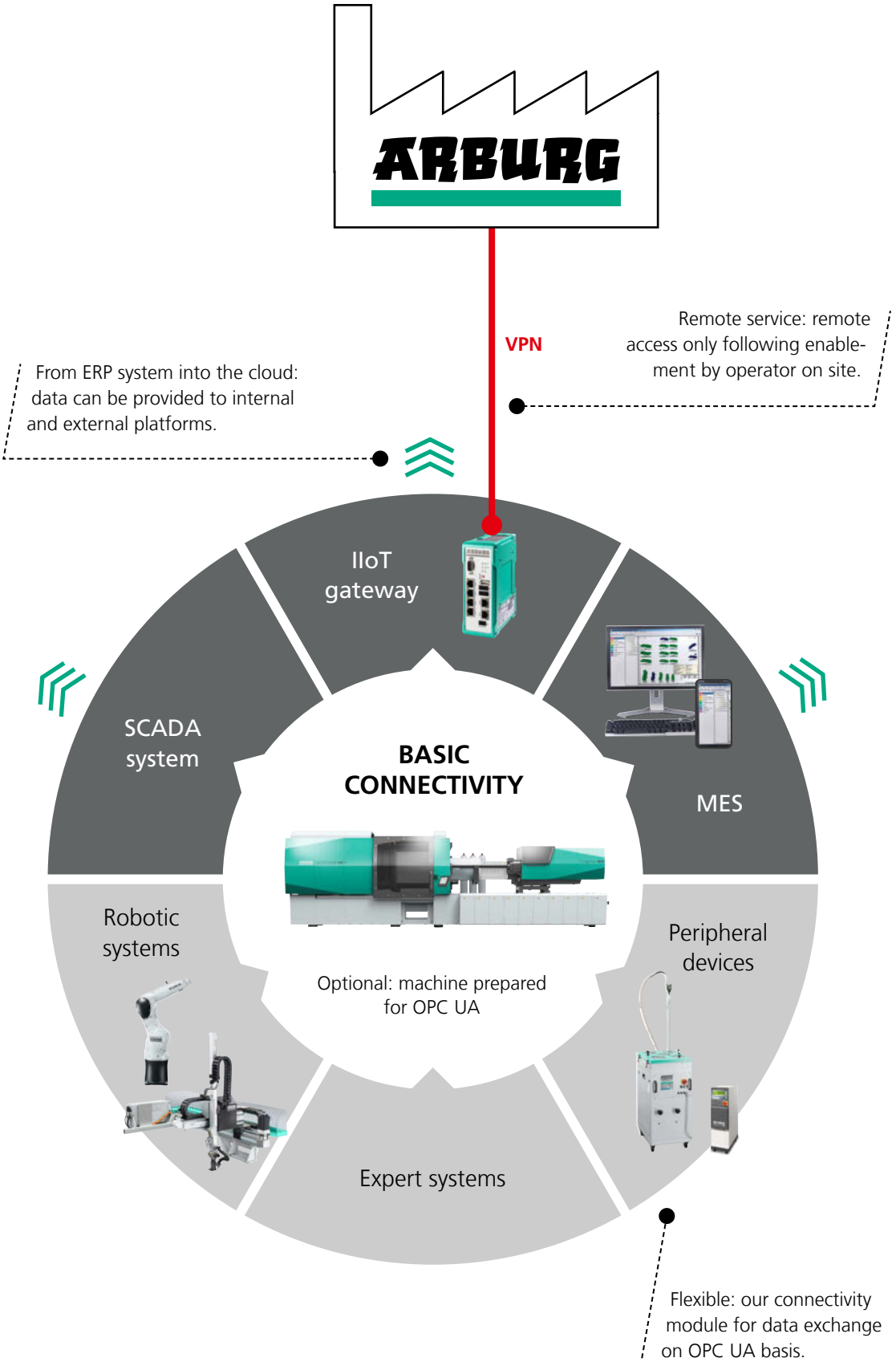
- One data set – no adaptation required
- Low training requirement - same approach for all machines
- Easy set-up – consistent sequence programming
- Higher-level monitoring – high process reliability
- Flexible and also synchronous process control – short cycle times



Identical basis: ARBURG-typical sequence programming for six-axis robotic system.

Photo: KUKA Roboter GmbH

Mobile control system (optional): can be used universally for several machines and robotic systems.



ERP: Enterprise Resource Planning
IIoT: Industrial Internet of Things
MES: Manufacturing Execution System – e.g. ARBURG host computer system (ALS)
SCADA: Supervisory Control and Data Acquisition – e.g. ARBURG Turnkey Control Module (ATCM)

ALL-ENCOMPASSING DIGITALIZATION JUST LIKE YOU WANT IT!

Fit for the future

Thanks to its manufacturer- and language-independent technology, the OPC UA communication platform provides the best conditions for the creation of an industrial Ethernet network. This is where our flexible combination of "basic connectivity" modules that can be expanded at any time comes into play: for unlimited data exchange to enable process control between the ALLROUNDER and its production environment. For online provision of process information to higher-level systems. In other words: for practical digitalization!

Horizontal integration

Whether robotic systems, peripheral devices or expert systems, for example for monitoring the mold cavity pressure: OPC UA is becoming the standard for highly efficient data exchange within an injection molding cell. Whether hot runner regulator, temperature control unit or LSR dosing unit – we make integration based on this technology possible for you today. Pioneering thinking that gives you a competitive advantage – that is what we always strive for!

Vertical integration

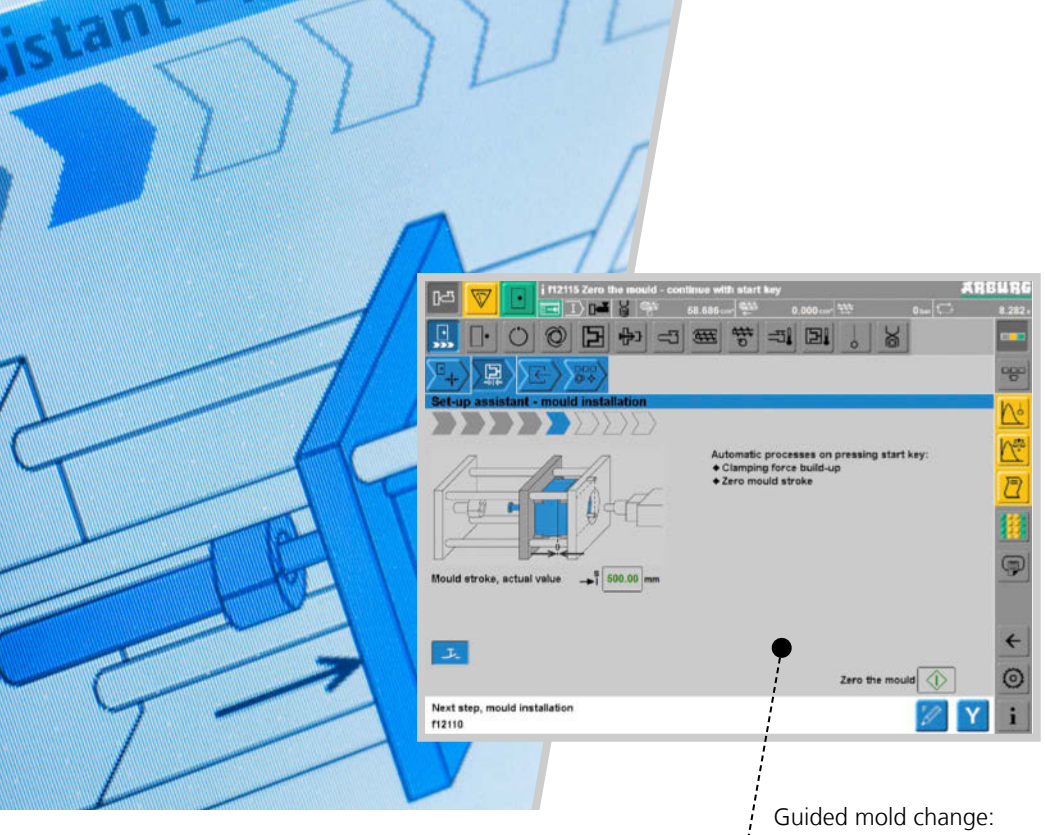
With us, you can also use the data of the machine controller on higher levels. Your connection options:

- Production management and detailed planning: MES – the ARBURG host computer system (ALS)
- Collection of process data for complete production cells: SCADA systems – the ARBURG Turnkey Control Module (ATCM)
- Machine diagnostics and process support: IIoT gateway for the ARBURG Remote Service (ARS)
- Provision of process data: IIoT gateway for the cloud

CLOSE-KNIT
INTERACTION

on the basis of an industrial Ethernet network

Further information:
smart factory brochure



Guided mold change: step-by-step for an efficient operational sequence.

SET-UP AND CHANGEOVER: GUIDED

// Our graphical sequence programming with immediate plausibility checks sets the standard in the injection molding industry. Our "4.set-up" assistance package also offers you all the features you need to further simplify set-up and parameter input. You are guided through all required actions step by step. No detailed knowledge of the control system is required for performing set-up tasks. Your machine operators receive active support and have more time for productive tasks. \\

4.set-up

- Automatic parameter preset
- Teaching of production sequence
- Guided mold change
- Sub-sequence for manual operation
- Adjustment ranges for operators depending on the program
- "Program mold force during set-up" and "Clamp mold while safety door open" functions

Efficient mold change

The mold removal and installation steps are pre-defined and are simply executed and confirmed one after the other. The control system automatically executes actions, such as referencing (zeroing) individual axes, at a single push of a button. No parameters need to be entered.

Automatic presets

You only have to enter a small amount of process-relevant data in order to have the basic processing parameters calculated. The choice is yours: you can, for example, only reset the temperatures of the injection unit, or also use the monitoring and logging functions "at the click of a button".

Combination of sub-sequences as desired

Do you want to run sequences such as "open mold" or "eject molded parts" automatically at the press of a button during manual and set-up mode? The "sub-sequence" feature makes it possible! Based on the production sequence, the desired steps can be combined as required. This applies, for example, to both the intermediate stop and the monitoring functions.

Definition of adjustment ranges for data set

This feature allows you to limit the editability of parameters for certain user groups (upper and/or lower limit), or to block them completely. The special feature here is: the defined adjustment ranges are written to the data set and not to the machine. Thus they can also be adopted from machine to machine.

Limited access: can also be specified and saved for each data set.

PRODUCTION START-UP AND STOP: EFFICIENT

// From automatic start-up/switch-to-standby to tracking of part status for inserts or alarm cycles: we offer numerous practical aids for ensuring reliable starting and stopping. The "4.start-stop" assistance package simplifies production start-up, reduces the number of start-up parts and increases your production capacity. This is particularly the case when things get more demanding – for example in the case of multi-component and hot runner molds. Typically ARBURG: simple solutions to complex problems – for much greater cost efficiency. \\

4.start-stop

- Separate start-up parameters and cycles
- Automatic start-up mode with inserts and multi-component molds
- Standard standstill monitoring in automatic operation
- Time- and situation-dependent temperature management for molds with hot runner

Automatic continuation

Simply start production after interruptions - without manually running to empty and without moving to starting position. Our "part status" feature saves you a lot of time and money. The machine and robotic system always know the position of the inserts, pre-molded parts and finished parts – not only in the mold, but also in the gripper. The system components automatically detect their position within the process sequence in the event of an interruption and resume operation at exactly the right place.

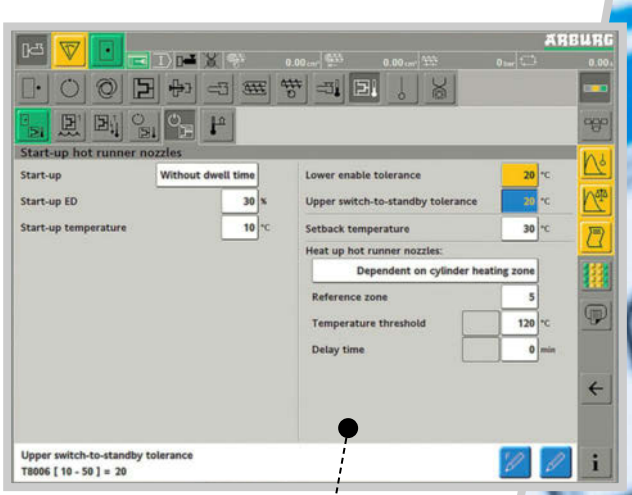
Controlled start-up

The "start-up parameters and cycles" function enables specific machine settings to be configured during the start-up phase until the injection molding process is running in a stable manner. This is supplemented by our "automatic start-up" function, with which you can also perform sequences without injection, inserts, or part demolding. An interesting feature: the configured production sequence is also saved in the data set.

Reliable management of hot runners

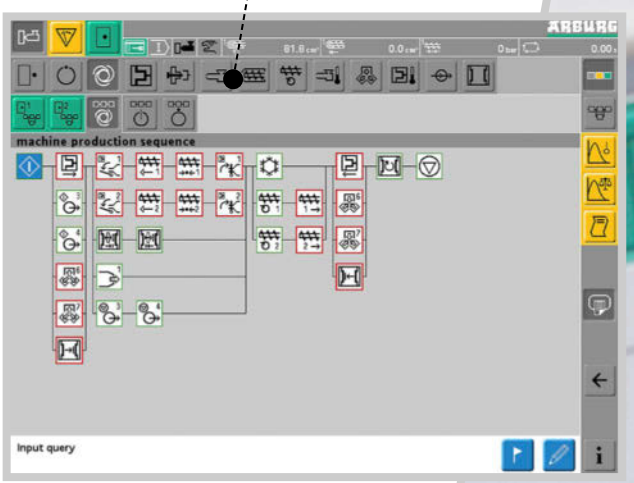
Energy-saving workflows without thermal decomposition of the material or damage to the hot runner – we offer numerous options:

- Uniform heating of different heating circuits
- Delayed activation of hot runner depending on other heating circuits
- Start-up process for controlled heating of the mold cavity and hot runner, with dwell times for up to two stages
- Brief increase of the temperature profile during hot runner start-up (boost)
- Purging hot runner only after expiry of enabling time
- Activation time of hot runner is evenly distributed over the cycle
- Monitoring of hot runner activation time



Everything under control: efficient and reliable start-up of hot runner molds.

Nothing is impossible: numerous functions for robotic systems and specialized technology



PRODUCTION SEQUENCES: FLEXIBLE

// A signature feature of ARBURG's controller technology is its great flexibility when creating individual machine, mold and robotic sequences. Your experienced operators need even more programming freedom? Then the "4.production" assistance package is just what you need. Do you use spring-loaded, tandem, stacking, cube or compression molds? For each specialized technology, we have matching supplementary features. With these, special processes become standard and even complex mold technology can be quickly mastered. \\

4.production

- Functions freely programmable out of cycle
- Multi-programmable secondary axes
- Programmable repetition group
- "Stop ejector selectable" and "second ejector intermediate stop" functions

Simultaneous and synchronous control

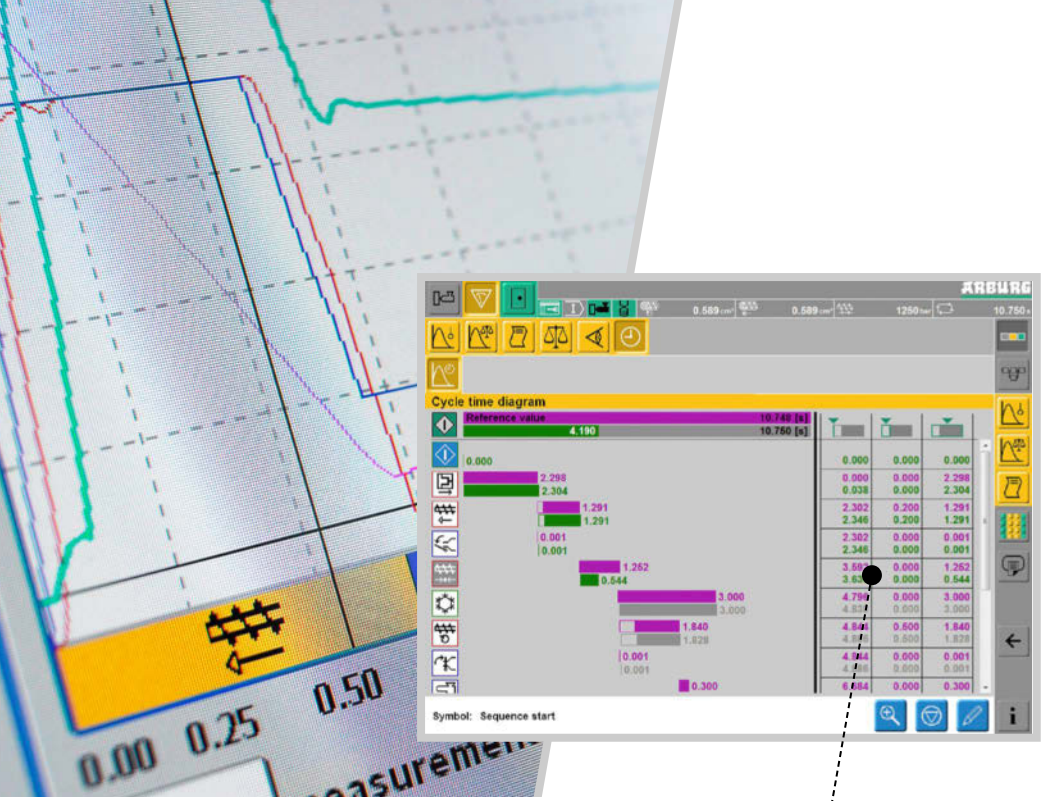
Do you want to start the demolding of parts as soon as the mold opens, or have the robotic system plunge into the mold? Do you want to move the ejector and robotic system synchronously? Anything is possible! Our pressure- and stroke-dependent start conditions make it possible to freely configure the ideal production sequence for your application, all without non-standard programs.

Repeat – if necessary

The "programmable repetition group" function allows you to repeat a freely programmable part of the production sequence, depending on a signal. If, for example, a monitoring camera detects that demolding has not been performed completely, several ejection or blow-out attempts can be made. This increases the process reliability and ensures trouble-free production sequences.

Programming without limits

Moving the ejector while the mold is closed, or opening and closing shut-off nozzles depending on a signal – for maximum flexibility in configuring the process settings of complex sequences, the movements can be programmed completely freely. Secondary axes such as core pulls or air blow can also be run repeatedly. A further feature is the option to activate core pulls and programmable outputs non-cyclically, which has advantages e.g. for actuation of brushing devices during thermoset processing.



User-friendly: graphical representations reveal potentials at a glance.

PROCESS OPTIMIZATION: INDIVIDUAL:

// Producing top quality at low unit costs calls for adaptive control concepts and smart intervention options. Position and clamping force regulation, for example, are unique features provided by ARBURG technology. In numerous models as standard. With our regulation via reference curve, we also have a solution with which you can achieve optimal reproducibility of your part quality. Additionally, our "4.optimization" assistance package allows you to get even more out of your machine on a case-by-case basis: after all, every split second counts! \\

4.optimization

- Injection during mold closing – "injection on-the-fly"
- Movements across cycle times
- Extended mold locking
- Assistance package is only available for certain series and sizes.

WITH US, GOOD BECOMES EVEN BETTER!

Detailed adjustment of quality and cycle

The universal aid to process optimization: our measurement charts, which can be configured freely or automatically. With the real-time display of all signals combined with direct evaluation options, you can immediately influence the product quality. Additionally, you can use our cycle time diagram to pre-program high productivity. The current times for each individual cycle step are graphically contrasted with previously defined reference values – including a detailed breakdown by start, delay and run time. This enables you to reliably detect and prevent unproductive times through the better co-ordination of the individual cycle steps.

Controlling mold locking

With the "extended mold locking" function, you can program two locking forces during injection, holding and remaining cooling phases respectively. This provides interesting process options such as "active breathing" or supported mold venting.

Repeat accuracy

Stabilizing the injection molding process to produce a specific part quality? A prerequisite for this is a constant pressure profile in the mold from shot to shot during the holding pressure phase. To achieve optimum reproducibility, we have developed the reference curve regulation for our ALLROUNDERs. This feature is based on the principle of recording the internal mold cavity pressure profile of a molded part deemed to be good and employing this as a nominal value curve.

EXCELLENT
PART QUALITY

programmable from shot to shot with our adaptive regulation via reference curve

MONITORING AND DOCUMENTATION: RELIABLE

// Reliable production, end-to-end process documentation, error-free delivery: in order to satisfy these requirements, the machine control system must operate as a quality monitor for the entire injection molding process. Here our SELOGICA and GESTICA stand out not only because of the standard functions, but also because of numerous additional features that we have combined into the "4.monitoring" assistance package for you. It enables you to monitor your system status and to reliably identify process deviations at an early stage. \\

4.monitoring

- Additional monitoring symbols
- Monitoring of actual values through reference curves
- External alarm inputs for all peripheral equipment signals
- Configurable monitoring of end position of the axis
- Numerous other monitoring functions such as "production in shift operation" or "start of injection"

Keeping an eye on the process

Our monitoring charts make individual online monitoring of quality limit values possible. Based on reference curves that are easy to record, you can create graphical evaluations in the form of peak or mean values, envelope curves or integrals. Even more detailed axis and process monitoring is possible with actual value charts. These contribute to higher process reliability, as mold and ejector forces can be monitored, for example.

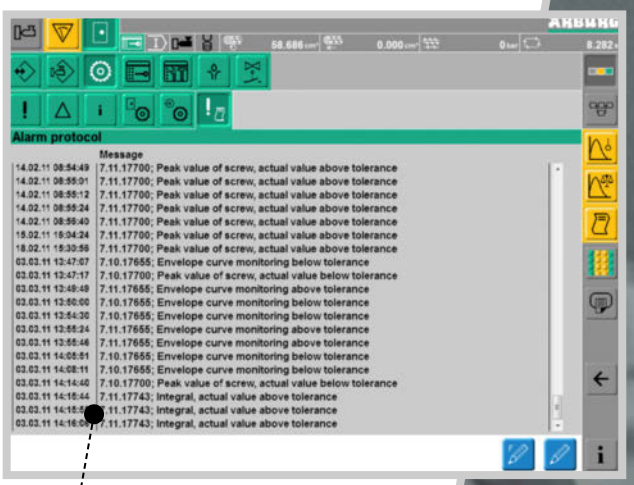
Effective quality control

Here also, your convenience is the priority behind all the available features: reference values and tolerance ranges for actual process values can be determined automatically and the set tolerances monitored in detail. The evaluation of fault cycles specifically helps prevent reject parts. External alarm inputs additionally enable you to reliably monitor the correct compressed air or granulate feed, for example, and incorporate it into the quality assurance.

Seamless process logging

Quality-relevant actual process values are recorded individually via the production protocol. This also forms the basis for statistical evaluations. The complete production sequence is displayed by means of a log graphic. Correlations and variances can thus be evaluated immediately and quality documented in detail. With our connectivity modules, you can flexibly export and store production data, or forward it to higher-level systems.

Leaving nothing to chance:
automatic reminders via the
on-screen maintenance notification.



Continuously recorded:
clear alarm history.

SERVICE: TIME-SAVING

// The controller also simplifies maintenance and service, thanks to stored maintenance schedules, performance-dependent lubrication intervals, alarm history or set-up protocols. The "4.service" assistance package enables us to offer you remote support, for example to analyses faults quickly and efficiently – for even greater machine availability! \\

4.service

- Machine diagnostics and process support through remote access to the system
- Secure and encrypted data connection
- Remote access only following enablement by operator on site

On-screen maintenance notification

Depending on the configuration of the respective ALLROUNDER, all the necessary maintenance data and intervals are already stored as plain text. As an option, individual maintenance specifications, relating to peripherals used, for example, can be entered manually. In this way, a clear maintenance plan can be generated for the entire production unit – including the monitoring of due dates and automatic reminders for forthcoming maintenance work. In addition, the control system records the correct completion of pending maintenance work in a maintenance log. As a result, every completed maintenance task remains fully transparent, also providing ideal verification for audits and certifications.

Remote service: ARS

Quickly and efficiently analyzing malfunctions and downtimes: ALLROUNDERs can be equipped with a service router, which allows us to remotely access the control system via a secure data connection. You can enable the relevant authorization as required on a case-by-case basis. The service router thus represents an important diagnostic aid for the ARBURG service and application-technology hotline. This cuts waiting times and saves costs.

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Media Center: in-depth,
captivating, entertaining.

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