



GESTICA

Benchmark "Made by ARBURG"

ARBURG

BENCHMARK

Simply smart:
central control system that
makes working fun.

How can the injection moulding process be optimised, simplified and made more convenient? With our GESTICA, we follow a simple but effective principle: There's always room for improvement. This is why we develop our controller technology ourselves right from the outset – because then it is perfectly tailored to the machines. The result: a multitude of clever solutions that we use to set trends and drive digitalisation forward. Secure your technological lead – by managing complex requirements with ease. GESTICA: nothing less than a seal of quality and performance for high-end injection moulding machines!

WIR SIND DA.

AT A GLANCE:

// Maintaining control over machine, mould, robotic and peripheral technology requires a suitably powerful central control system. This calls for smart technology that networks everything, provides active support in every operating situation, and monitors and adaptively controls processes. And in a way that is as simple as possible. All the features of our GESTICA are designed for fast, secure, and convenient operation. This is what efficient injection moulding at the highest level looks like – for your peace of mind, entirely “Made by ARBURG”. Allowing you to get the best out of every application. //

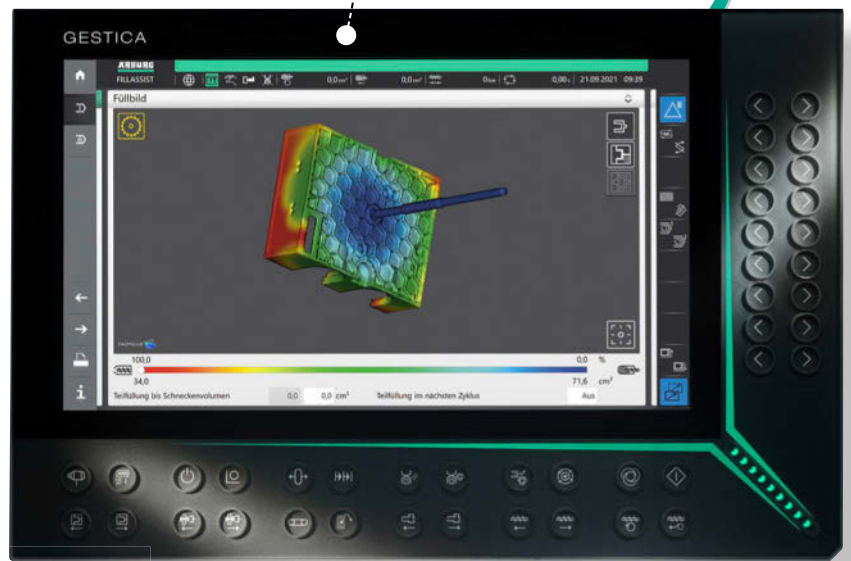
Highlights

- GESTICA is fully compatible with its predecessor SELOGICA
- Navigation with gestures
- Unique assistance functions
- “Digitally ready” connectivity
- Diverse functions for specialised technology and sequences
- Central control system for complete production cells

Hardware and software “Made by ARBURG”:
our HydronICA was the world’s first
microprocessor control system in 1975.



Gestures, technology, and assistants make the difference: our GESTICA makes working faster, surer and easier than ever before.



Graphic sequence programming with real-time plausibility check: Our SELOGICA revolutionised operational philosophy as early as 1992.

0 bar

0,1 mm | 0,0 mm

g chart 1



Injection pressure, actual 1600

33 140 bar ↑
25 140

Peak value [bar] 1179

0 100

Peak value [s] 0,21

0,00 0,05

Envelope curve Signal tolerance 100

Integral 227

0 10

0,00 s
0,75 s

figuration of peak value

Active

Reference value

0 100 1179 bar

onitoring

Applications



Central management

Digitally ready: thanks to its highly secure connectivity based on OPC-UA together with our uniform operational system, GESTICA operates efficiently in terms of time and money. The full integration of robotic systems and other peripheral equipment enables sequence management even for complete production cells – and with only one data set.

Fast cycles? Can be programmed!

Intuitive operation

The graphics-based operational philosophy can be intuitively understood and is always streamlined. Our unique sequence programming with real-time plausibility check always clearly indicates the logical position of the current programming step.

Operating errors? Out of the question!

Direct interaction

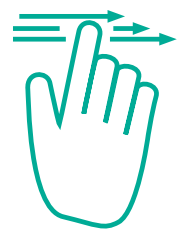
Optimised navigation takes you quickly to your destination in just a few clicks. You can easily switch between parameters and associated monitoring and logging functions using gestures. GESTICA also provides you with unique assistants such as aXw Control FillAssist for simulating the injection moulding process directly on the machine.

Higher utilisation rate? Included!

Autonomous control

Our GESTICA monitors and regulates your processes adaptively. We achieve a high level of operational reliability through two separate controllers. This way, operating the machine does not affect its performance. Hardware and software developed in-house is fully adapted to injection moulding. This know-how forms the basis for our pilots' innovative control concepts.

Stable processes? Guaranteed!





CONTROL SYSTEM “MADE BY ARBURG”

// Easy-to-understand menu navigation, graphic sequence programming with real-time plausibility check or secure computer structure. For us, the control system is the central “seal of quality” of high-tech injection moulding machines. This is why our own expertise in hardware and software is so important to us – because it ensures that the overall concepts are right too. From development to production, everything is handled by us in-house – or as we like to put it: “Made by ARBURG”. Which is why GESTICA offers you everything you could wish for in practice: straightforward induction, direct access to data, fast processes, and a high degree of reliability. In other words: a crucial boost to your production efficiency. //

> **10 YEARS**
SPARE PARTS
For you – our exemplary service in
the area of controller technology

Secure technology

The separate host computers for operation and process control, including GESTICA's multi-core technology, provide not only a high degree of operational reliability but also the best possible protection against undesired third-party access. Added to this is the closed operating system that has no need for security updates yet allows printers, USB drives, or browsers to be easily integrated.

Central platform

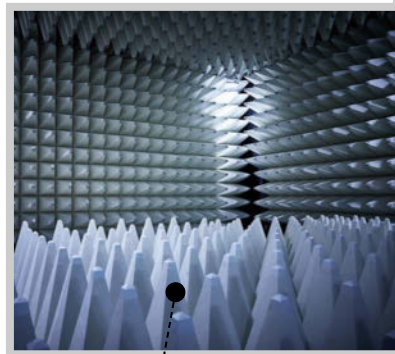
Control systems as a core competence: ARBURG has been pursuing its own path here for years with the development and production of a central platform. This is also how we became an important control system manufacturer in Germany almost incidentally. What does this mean for you? We also always incorporate individual customer requests into the standard – update included.

Functional aesthetics

With its glass front, integrated hardware keys, and light design for status feedback signals, our GESTICA operating unit has a premium look and feel that has won us a Red Dot Design Award. We achieve excellent ergonomics with features such as:

- 15.6 inch screen for working without moving your head
- Full HD screen with high contrast and luminosity
- Swivelling operating unit, height-adjustable from size 1020 upwards

Sustainable production:
Our controller technology is
produced at a central location.



Tested quality: we use our own
laboratories to ensure a high level of
reliability for our GESTICA.

” “ OUR TECHNOLOGY LOVES YOUR CHALLENGES!



Ergonomic and secure:
hardware keys make “blind” operation
of sensitive movements possible.

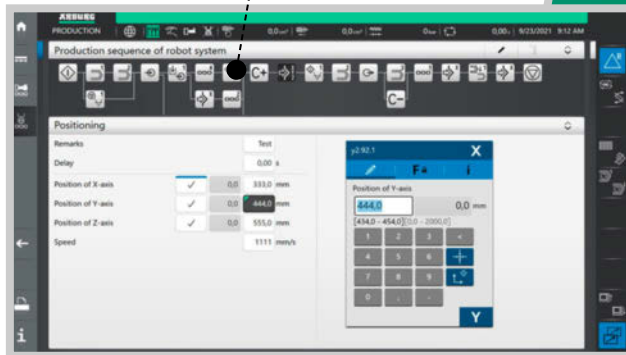
Clear and convenient:
user interface optimised for
direct and fast access to data.



Award-winning and functional:
design of the operating unit
with full HD screen and inte-
grated LED light strips.





Intuitive and clever: with the
EASYSlider, movements are precisely
controlled during set-up.

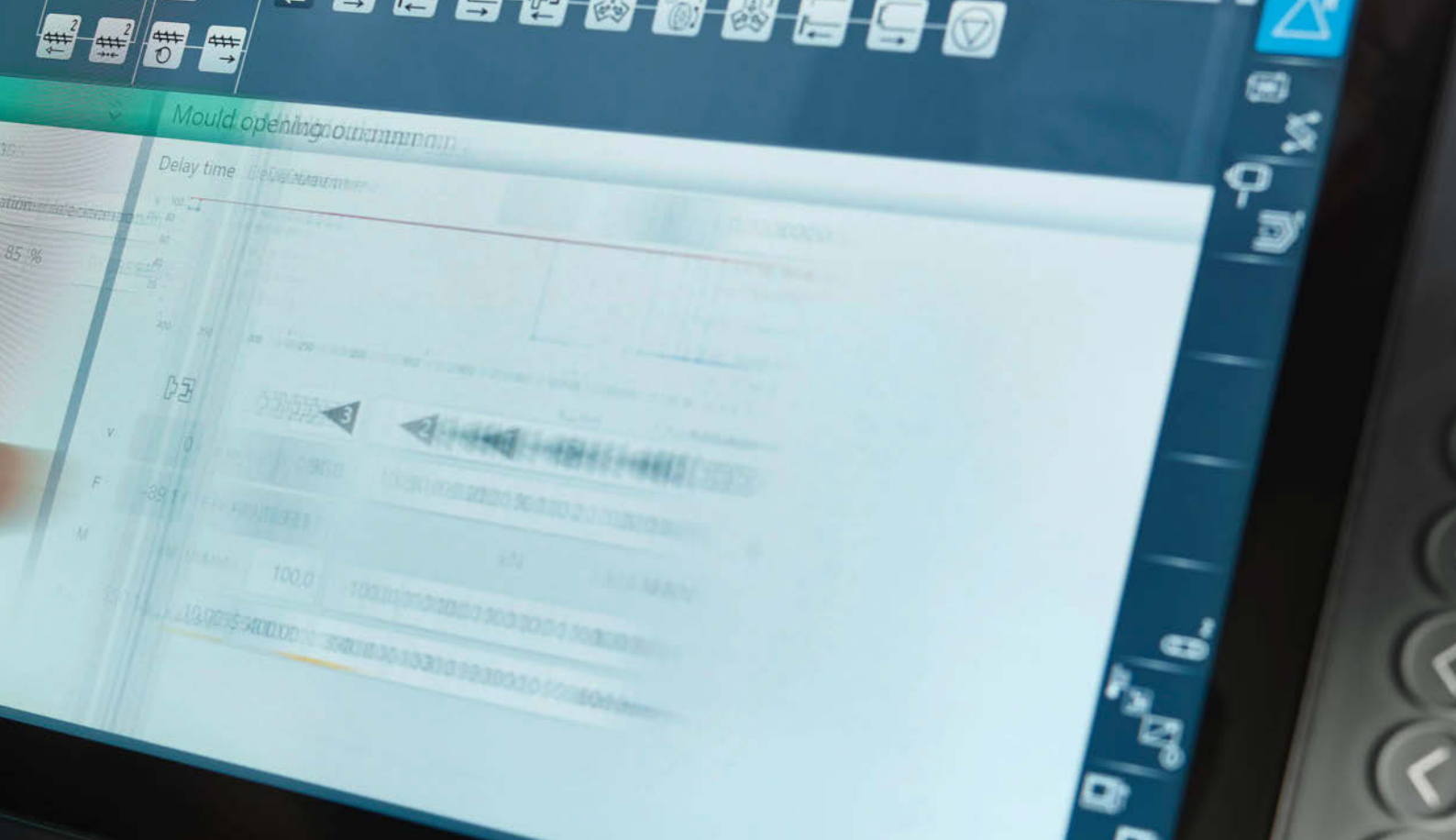
Nothing is impossible: diverse functions for robotic systems and special processes.



NAVIGATION AND PROGRAMMING: INTUITIVE

// GESTICA is our human/machine interface – making it the benchmark for all injection moulding machines worldwide. Our high-quality technology and gesture control designed for industrial use set the standard for convenient working. Two examples illustrate this: a log function for up to 2,500 cycles makes trends recognisable and enables direct production optimisation. The machine documentation is available online directly at the controller. We have continued to make refinements – so that it is easier for you in practice. //

SYMBOL    
BY SYMBOL
towards an individual production sequence



Getting there faster

We have designed the GESTICA user interface to work intuitively with gestures. Our features for flexible and fast menu navigation:

- Parameter or keyword search
- Task-specific homepage – accessible via home button
- Quick navigation to language and operating rights
- Switch to full-screen mode
- Direct navigation from cycle sequence – divided into start, production, and stop
- Switching between a function's menu pages by swiping
- Adjusting views via zoom

Creating sequences more easily

The benchmark has been set – once again! Because sequence programming with real-time plausibility checks is an ARBURG function that is unrivalled to date and one that we are constantly refining.

Nothing could be easier:

- Predefined basic sequences: for quick adaptation to the production task
- Efficient dialogue box: direct access to insert, move and delete symbols

- Real-time plausibility check: logical positioning of the respective process step and completeness checks for entries

That is real practicality that only ARBURG can deliver! Even demanding sequences such as the position-related start with simultaneous machine movements or processes such as multi-component injection moulding can be implemented with confidence.

ASSISTANTS: MORE VALUE

// What distinguishes the best user interfaces from the good ones is primarily their range of functions. Clever assistants that actively help you simplify your work are definitely a factor too. This is another area where our GESTICA sets global standards. Our strategic approach is to ensure that the machine “knows” its environment. With our innovative assistance functions, we provide active help in all areas. From set-up and start-up, through optimisation and production, to monitoring and service. This is added value, and you can use it to cut straight through the complexity from the very first second. //

Produce your first good part quickly and reliably: our FillAssist ensures more efficiency during set-up and changeover.

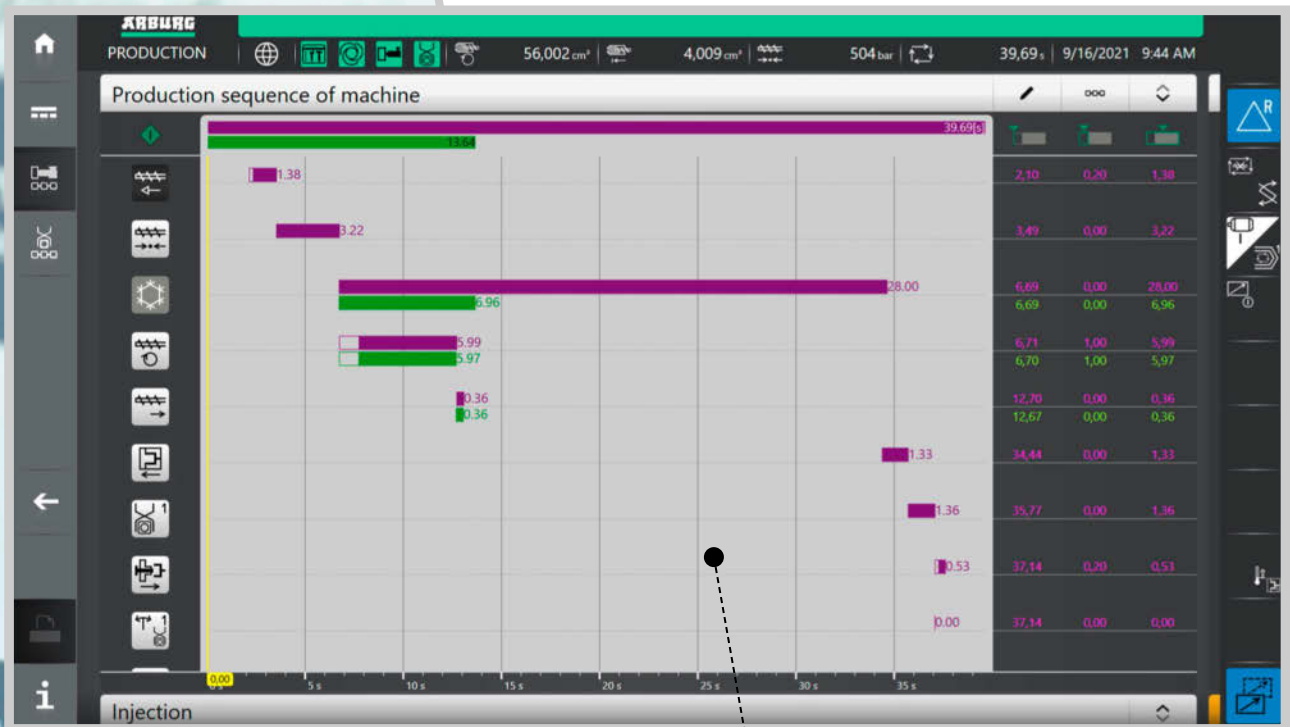




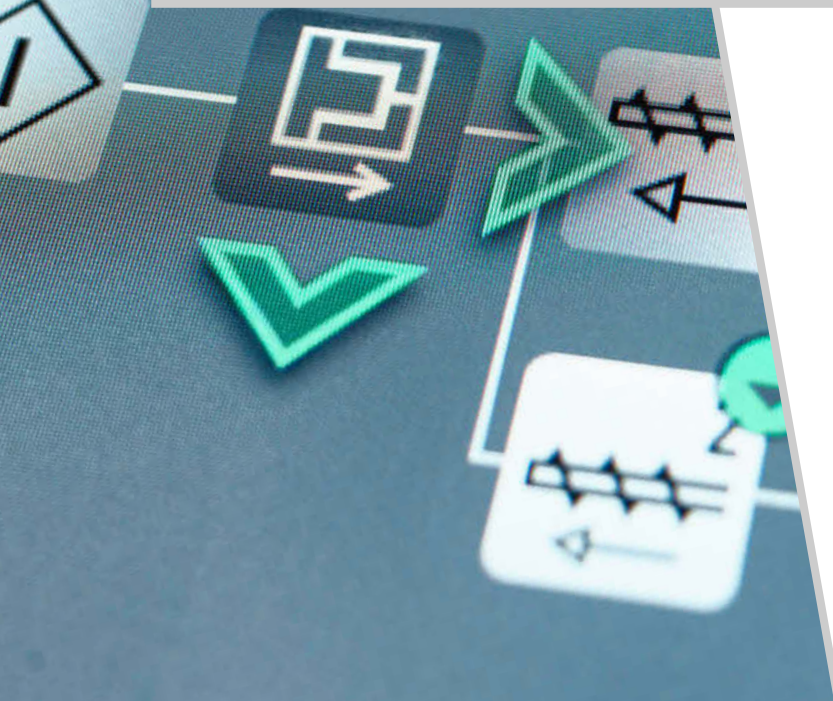
0,00s | 04.09.2020 17:11

0,0 %
61,8 cm³
 Aus

Teiltüllung im nächsten Zyklus



Clear and simple: our CycleAssist makes potential savings in the cycle transparent for you.





THE CLUE'S IN THE NAME: OUR ASSISTANTS

FillAssist

aXw Control FillAssist knows your part. If you import an STL file, a mould filling study is created online. From this, suitable injection process parameters are determined for the machine and process. Simulation software and previous knowledge are not required, so your preparation and programming effort is reduced. In addition, FillAssist also animates the filling level of the part in relation to the current position of the screw in real time as a 3D graphic. So even experts save valuable set-up time. Simple!

CycleAssist

aXw Control CycleAssist knows your programmed production sequence. The current times of each cycle step are graphically compared to previously defined reference values – broken down in detail according to start, delay and running time. With a click, you can display unproductive time segments and perfectly coordinate cycle steps. High productivity included!

MeltAssist

aXw Control MeltAssist knows the built-in cylinder module. Plasticising capacity utilisation and residence times are calculated automatically. As a result, material preparation can be quickly evaluated and optimised, and sources of error eliminated. In addition, the running performance (screw stroke and throughput) and load (pressures, temperatures, etc.) of the plasticising process are also stored in the module. This speeds up service calls and makes performance-based maintenance possible. Really practical!

EnergyAssist

aXw Control EnergyAssist knows the start and end of production. This makes it very easy to heat up or deactivate the cylinder module and mould in a uniform and controlled manner. Thermal decomposition of the material or damage to the hot runner are reliably prevented. Now that's energy-efficient working!



CONTROL AND REGULATION: AUTONOMOUSLY

// If a machine does what it is supposed to do, then it also works really efficiently. Our GESTICA takes care of this, monitors the process for you, and keeps it stable with complete autonomy. This is exactly what our pilots are aiming at – adaptive process control and regulation. So sit back, relax, and enjoy the smooth production of your quality products. //

Features of the ARBURG pilots

- Real, high-quality controls directly in the current cycle
- No mere readjustment of setting parameters
- Interaction of smart software and precise machine technology
- Fast detection and correction of interference effects

PressurePilot

Our "aXw Control PressurePilot" with its bionically optimised pressure control when switching from injection pressure to holding pressure delivers significant advantages: The process window for robust injection moulding is expanded. At the same time, mould filling is more constant and balancing is significantly improved – especially with higher cavity numbers.

ReferencePilot

The aXw Control ReferencePilot controls the holding pressure curve in real time via a pressure sensor in the mould. This is the only way to reliably counteract viscosity fluctuations and screw wear. Besides better reproducibility, the ReferencePilot also enables the number of start-up cycles to be greatly reduced.

RecyclatePilot

Not just for recyclate: "aXw Control RecyclatePilot" analyses the injection process and detects deviations from a previously saved reference curve. Using adaptive process control, it ensures a constant component weight without any additional sensors in the injection mould. This smart solution makes the processing of many materials and, in particular, batch changes safer.

REPRODUCIBLE
MOULD FILLING



with our ScrewPilot – fluctuations in the shot weight can be significantly reduced



RANGE OF FUNCTIONS: ENORMOUS

// ARBURG has developed its central control platform in a way that makes even special processes and special sequences standard. In practice, this means that you draw on a huge range of functions. To keep things simple and manageable for you in this area too, we offer task-specific assistance bundles that you can use to selectively expand your options at any time. So nothing is impossible! //



aXw Control Setup Bundle

Guided set-up: you receive active support during set-up and parameter input, leaving you more time for productive tasks. Features include:

- Pre-set parameters automatically
- Teach production sequences
- Sub-sequence for manual operation
- Define adjustment ranges for operators depending on the program



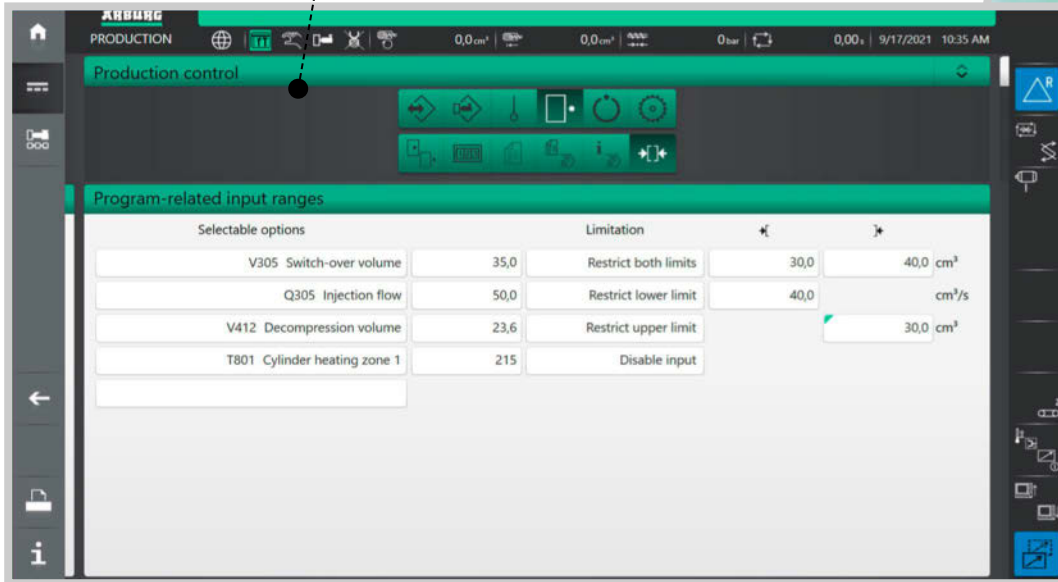
aXw Control Start-stop Bundle

Fast production start-up: starting up and deactivating demanding processes becomes easier, and your start-up parts are reduced.

Features include:

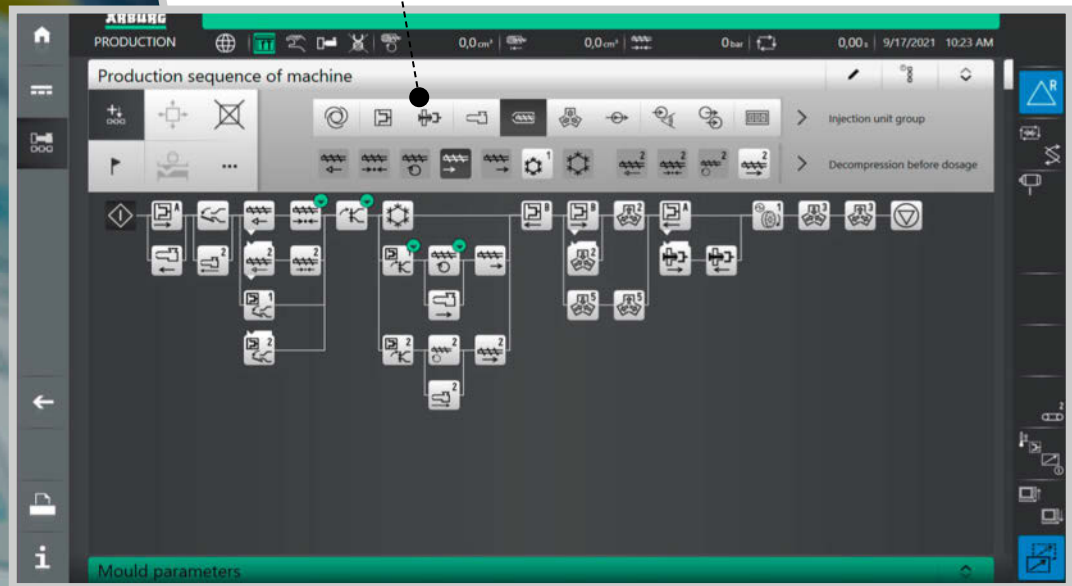
- Energy-efficient operation with the aXw Control EnergyAssist
- Start-up parameters and cycles
- Automatic start-up mode with inserts and multi-component moulds
- Time- and situation-dependent temperature management for moulds with hot runner

Avoid faulty operation:
specifically limit how parameters
can be edited in the data set.



Start securely: set start-up parameters
once and always execute them automatically
at the start of production.

Selectively optimise:
sequences can be accessed centrally
and are freely programmable.



The screenshot displays the ANBURG production control software interface showing a table of production data. The table is titled 'Production protocol 1, protocolled parameters 1 - 8'. The columns represent different parameters, and the rows represent individual production cycles. A toolbar with various icons is visible above the table. The bottom of the screen shows 'Mould parameters'.

	f1403	t007 h:min	t4012 s	t4018 s	t4015 s	s4062 mm	s4065 mm	p4055 bar	p4072 bar
✓	90	09:58	5,81	0,13	0,72	4,2	8,0	1280	1280
✓	91	09:58	5,80	0,13	0,72	4,2	8,0	1286	1286
✓	92	09:59	5,81	0,13	0,72	4,3	8,0	1271	1271
✓	93	09:59	5,81	0,13	0,72	4,2	8,0	1277	1277
✓	94	09:59	5,77	0,13	0,72	4,2	8,0	1270	1270
✓	95	09:59	5,77	0,13	0,72	4,2	8,0	1287	1287
✓	96	09:59	5,77	0,13	0,72	4,3	8,0	1284	1284
✓	97	09:59	5,77	0,13	0,72	4,3	8,0	1274	1274
✓	98	09:59	5,77	0,13	0,72	4,2	8,0	1272	1272
✓	99	09:59	5,77	0,13	0,72	4,2	8,0	1287	1287
			5,89	0,16	0,89	4,9	8,0	1513	1513
			5,72	0,13	0,74	4,0	8,0	1295	1295
			0,10	0,01	0,03	2,6	0,1	69	69
			5,41	0,11	0,72	1,2	7,9	1156	1156

Document seamlessly:
our connectivity module allows
you to use production data flexibly.

WE WILL HELP YOU GET THE MOST OUT OF YOUR PROCESS!



aXw Control Optimisation Bundle

Assured quality and productivity: get even more out of your machine in each case – because every split second counts. Features include:

- Program functions freely and not cyclically
- Program secondary axes multiple times
- Program repetition group
- Special functions for ejectors



aXw Control Monitoring Bundle

Controlled system status: comprehensive monitoring functions enable you to detect deviations early and seamlessly document them. Features include:

- Monitoring of actual values through reference curves
- External alarm inputs for any peripheral signals
- Many other monitoring functions



aXw Control Production Bundle

More programming freedom: special sequences become standard and even complex moulds can be mastered quickly. Features include:

- Injection during mould closing – “injection on-the-fly”
- Movements across cycle times
- Extended mould locking

INTEGRATION AND CROSS-LINKING: COMPREHENSIVE

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

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



Central parameter entry

GESTICA takes over the control of robotic systems and mould heating circuits. Commercially available peripheral devices can also be integrated via standardised interfaces. Monitoring inputs enable you to make the process control dependent on the granulate feed, or the compressed air or water supply, for example. Freely programmable in/outputs are additionally available.

Central storage of setting data

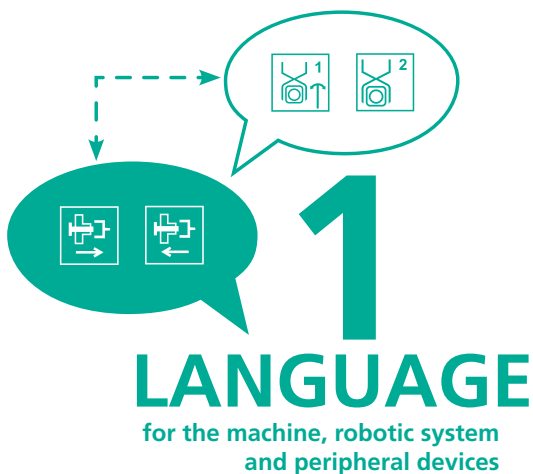
Convenient data storage on compact flash cards or USB drives: one data set contains all the parameters for the entire production unit. This makes both management and set-up easier, faster and more reliable.

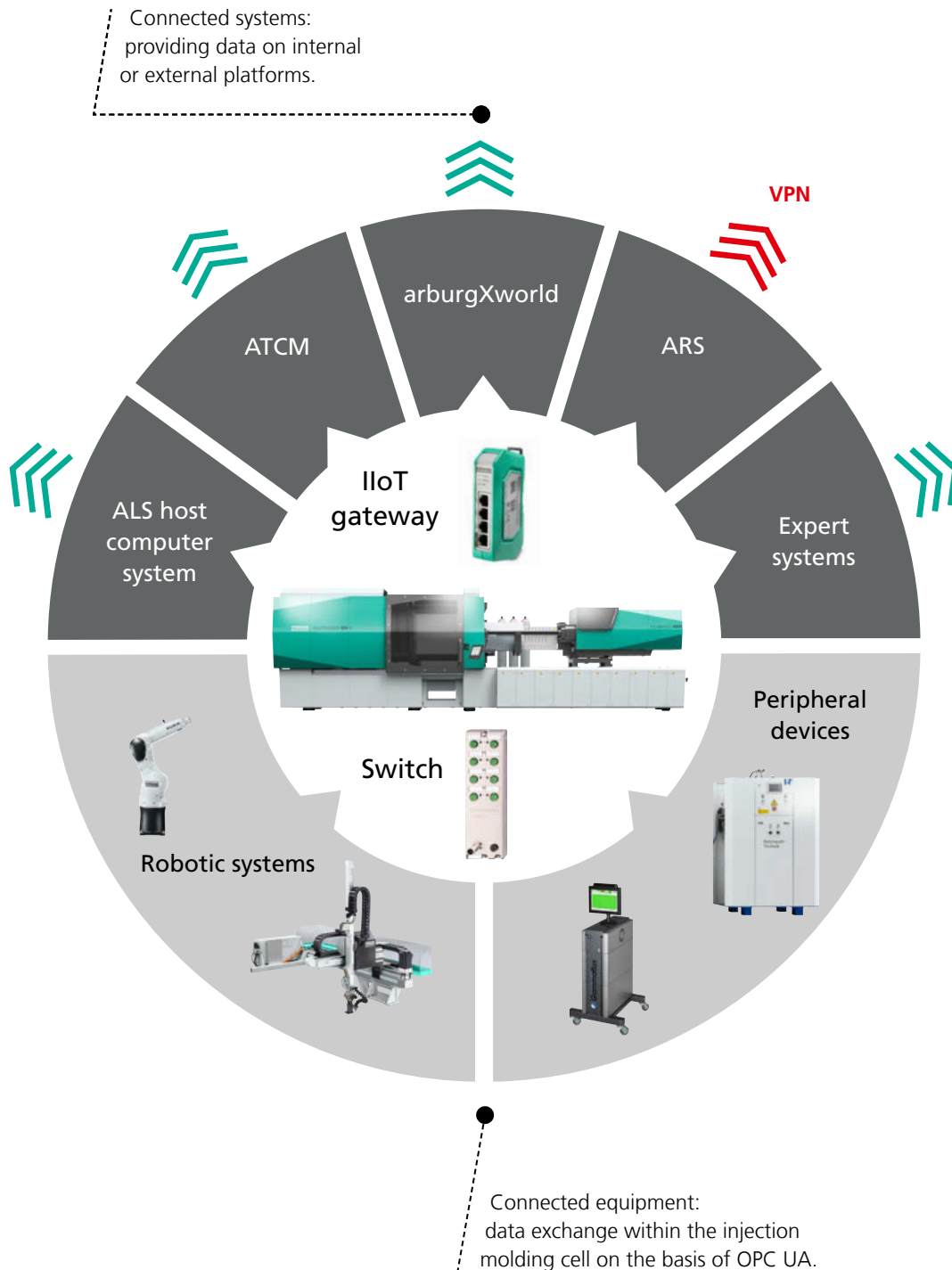
Standardised operational systems

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

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

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





arburgXworld: ARBURG customer portal – our digital services

ALS: ARBURG host computer system – our MES (manufacturing execution system)

ATCM: ARBURG Turnkey Control Module – our SCADA system (supervisory control and data acquisition)

ARS: ARBURG Remote Service – our remote service tool

IIoT: Industrial Internet of Things (Industry 4.0)

FULLY NETWORKED – JUST THE WAY YOU WANT IT!

Digitally ready

Simple, standardised networking – the OPC UA communication platform creates ideal conditions for this with its manufacturer and language-independent technology. And this is precisely what our flexible connectivity modules are based on: for process control without limits between ALLROUNDERS and their production environment. For the online provision of process information to higher-level software tools and platforms. Or to put it briefly: for practice-oriented digitalisation!

Connected equipment

OPC UA is the EUROMAP standard for highly efficient data exchange within an injection moulding cell. For you, this means increased ease of use, for example through a shared data set for your machine, robotic system, and peripheral devices. We are already making it possible for you to use this technology for data integration today – e.g. for hot runner controllers, temperature control units, and LSR dosing units. And thanks to the open design of our switch, you are already prepared for extensions.

Connected systems

Our “basic connectivity” with IIoT gateway enables you to use machine controller data at higher levels:

- ALS: production management and detailed planning
- arburgXworld: production overview and process documentation
- ATCM: collection of process data for complete production cells
- ARS: Machine diagnostics and external process support
- Expert systems (e.g. for mould cavity pressure): external process monitoring

NETWORKED INTERACTION



on the basis of an industrial
Ethernet network



Scan this code to visit our
Media Centre: in-depth,
captivating, entertaining.

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WIR SIND DA.

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