HYBRID ALLROUNDERS

More power: efficient combination of hydraulic and electric technology
OUTSTANDING PERFORMANCE

ALLROUNDER HIDRIVE:
Keeping unit costs under control.
through high performance.
"Made by ARBURG - Made in Germany" - If you want top performance in mass produced items, then you should use our hybrid ALLROUNDERS. That's because the HIDRIVE brings the best of our modular product range together in a single series just for you: electric speed and precision paired with hydraulic power and dynamics. Reliable, highly-productive and simultaneously energy-efficient – for your production. Day after day. 24 hours. Around the clock.

WIR SIND DA.
The intelligent concept of our hybrid ALLROUNDER combines sophisticated electric and hydraulic clamping and injection units, as well as ARBURG’s unique control technology, to create a particularly cost-effective series. Thanks to the high flexibility of our modular design system, a machine series has been created that provides you with uncompromising high performance. With the HIDRIVE, you always implement your production tasks at competitive unit costs, no matter how demanding they become.

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AT A GLANCE

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Machine concept: ideal for mass-produced technical items

- Extremely short dry cycle times
- Simultaneous movements
- Large, dynamic injection flows
- Up to 40 percent reduced energy requirement
Aesthetically appealing and highly functional: we are successively implementing the pioneering design of our largest ALLROUNDER 1120 H for other machine sizes.
Production capacity
The hybrid ALLROUNDER machine concept has been configured with the particular aim of achieving high production capacities. It brings together the servo-electric clamping units of the ALLROUNDER A and generously dimensioned injection units with hydraulic accumulator technology. All movement axes operate completely independently of one another.

Cycle time reduction
Simultaneous movements combined with extremely short dry cycle times of the servo-electric clamping units enable fast cycles. Special features such as “injection on the fly” while the mold is closing or dosage that takes place across several cycles are also available.

Energy optimization
The servo-electric drives for mold movement and dosing as well as the recovery of braking energy to the network form the basis for high energy efficiency. Moreover, the hydraulic drive features a performance-adapted pump and an efficiency class IE3 electric motor.

Dynamics
As well as the servo-electric toggle, the hydraulic accumulator technology also reduces cycle times. This enables large, dynamic injection volume flows to be achieved. In addition, a position-regulated screw ensures maximum reproducibility and part quality.

Cost-efficiency
The sophisticated hybrid ALLROUNDER technology is synonymous with reliable operation and maximum availability. In addition, technical detailed solutions minimize the set-up and maintenance effort. This also makes day-to-day production much more efficient.

Distance between tie bars: 10.63 - 44.09 inch
Clamping forces: 39 - 730 tons
Injection units: 1.4 - 94.2 oz
FLAGSHIP MACHINE: ALLROUNDER 1120 H

From small to large: the targeted expansion of our product portfolio has led to the development of the hybrid ALLROUNDER 1120 H. This extends our performance range up to a clamping force of 730 tons. The machine design is the flagship for efficient, high-end technology. "Form follows function" - this principle is reflected in many useful features that make it easier for you to work. We have built exactly the large machine that you have requested from us.

Aesthetically pleasing and emotive: who says efficient, high-quality machine technology cannot also look good?
High-end and functional: height-adjustable/pivoting operating panel, individually adaptable.

Intuitive and smart: our GESTICA makes working a lot of fun.

Ergonomic and practical: folding steps, large safety doors without additional interfering edges.
The sophisticated drive technology of the hybrid ALLROUNDERS forms the basis for the high degree of reliability and availability. Specially tailored to the achievement of high production capacities, our modular design combines electric speed and precision with hydraulic power and dynamics, combined to perfection! So with the HIDRIVE, you integrate machines into your production facility which not only operate particularly cost-effectively, but are also extremely energy efficient.

**DRIVE TECHNOLOGY: ENERGY-OPTIMIZED**

Extremely robust and precise: planetary roller screw drive for the clamping unit.

Precise: reproducible injection through valves situated close to consumers.
Servo-electric drives

Mold opening and closing, as well as dosage are servo-electrically driven – energy-saving, high-precision and simultaneous movements included. The technical high-end solutions of this area:

- play-free power transmission via direct spindle gear units
- Liquid-cooled servo motors ensure smooth running, temperature stability and operational safety without air turbulence
- Closed cooling circuit for the motors and converters
- Recovery of braking energy

Adaptive hydraulic system

Injection and the secondary axes are hydraulically driven, while the ejectors and core pulls are also available in servo-electric versions. The hydraulic accumulator technology ensures precise, simultaneous, dynamic and fast machine movements. This technique becomes energy-efficient because the charging of the pressure accumulator is regulated, so that the pressure level automatically adapts to the current demand. The performance-adapted pump with IE3 motor also saves energy.

Reliable equipment

Stable, fault-free cycle times can be achieved with our robust, durable and low-wear drive technology. The automatic central oil lubrication system and the grease lubrication points that converge at a central point outside the paneling minimize the maintenance effort for the toggle-type clamping units. Because lubrication can take place during operation without interrupting production, availability is increased. Media connections and interfaces are freely accessible. The automatic mold height adjustment and free space in the area around the mold, ejector and nozzle also provide for considerably reduced set-up times. This also means greater cost efficiency in day-to-day operation.

Compared to the hydraulic standard up to 40% ENERGY SAVING
High-precision and cost-efficient: This is how the toggle-type clamping units of our hybrid ALLROUNDERS work. Save money every day with energy-efficient running characteristics! The kinematics of the double five-point toggle are optimally adapted to the servo-electric drive. Looking to significantly reduce cycle times? Due to the extremely short dry cycle times of the HIDRIVE machines and simultaneous movements of the clamping unit and ejector, this is not a problem!
**Five-point toggle system**

The double five-point toggle features a stable construction with multiple guidance points. This provides for absolutely symmetrical force application during movements and mold locking – even with heavy molds. Despite the compact design, large opening strokes are possible.

**Protective mold use**

The box-type construction of the movable platen is longitudinally guided and supported. Together with four tie-bar guidance, this results in high-level parallelism and precision for optimum mold service life. Highly sensitive tie bar strain measurement ensures active mold protection.

**Precise positioning**

The heart of our mechanically-rigid clamping system: The solid, highly-stable planetary roller screw drive. This enables us to assume all positions with a high degree of precision. This simplifies the transfer of parts to robotic systems.

**Clamping force control**

The toggle can be adapted with ease to different mold installation heights by means of a servo-electric adjustment system. The clamping force control generates a consistent locking force and thus automatically compensates for the thermal expansion of the mold.

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Media connections close to the mold (optional): the increased protection towards the back of the machine provides for much free space.

Servo-electric ejectors (optional): particularly precise dropping of molded parts for even shorter cycle times.

Folding steps: convenient access to the clamping unit of the ALLROUNDER 1120 H.
Homogeneous material preparation and precise injection form the basis for high-quality part production. On our HIDRIVE, this is achieved through the combination of position-regulated screw, dynamic hydraulic accumulator technology and energy-saving servo-electric dosing drive. You maintain full control of your cycle times thanks to the dosage across cycles and the simultaneous nozzle movement. Another definite advantage for you: our injection units can be converted and cleaned quickly.

Swiveling injection unit: the screw can then be removed without dismantling the cylinder module.

Simple conversion: central connection of all supply units of the cylinder module and screw rapid release coupling.

INJECTION UNITS: DYNAMIC

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REPRODUCIBLE MOLD FILLING through a position-regulated screw – variations in shot weight can be significantly reduced.
Wide variety of combinations
The cylinder modules are compatible with all series and are finely graded. Various versions ensure optimum protection against wear. In addition, screws in special geometries allow you to process all common plastics.

Torque-free nozzle contact
Our two-tie-bar guide facilitates absolutely leak-tight nozzle contact – also ideal for both flat and extended nozzles. The build-up of the nozzle contact forces is programmable and regulated, which reduces wear on the nozzle and mold.

Position-regulated screw
Precision control of injection pressure and speed with the position-regulated screw. Dynamic acceleration with hydraulic accumulator technology: our combination for reproducible mold filling and molded part quality as well as high-level injection performance.

Electric dosing system
The independent dosing drive leads to obvious energy savings plus increased precision. A further result: significantly reduced cycle times in some cases. Since the melt can be dosed simultaneously and cyclically, it can also be processed more gently.
CONTROL SYSTEM: SMART

Complex requirements can be handled with ease. Maintaining control over sophisticated machine, robotic and peripheral technology requires a correspondingly powerful control system. The clearly laid out graphic sequence programming enables all steps within the production cycle to be performed intuitively. All the features of our SELOGICA and GESTICA control systems are designed for a fast, secure and comfortable set-up and operating process. This allows you to get the best out of all your applications.

**Highlights**

- SELOGICA and GESTICA – fully compatible
- Graphic sequence programming
- Direct plausibility checks
- Various assistance packages
- Central control system for complete production cells

Further information: user interfaces brochure
Central management
Thanks to their unsurpassed standard operating 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.

Intuitive operation
The operating philosophy, which is compatible with a wide range of technologies, is self-explanatory. The unique sequence programming with direct plausibility check always clearly indicates the logical position of the current programming step. Operating errors? Out of the question!

More efficient operation
The input logic is based on the mold set-up sequence and optimization of the injection molding process. Assistance packages support you in every operating situation: from set-up and start-up, through optimization and production, to monitoring and service.
The concept of our hybrid ALLROUNDERs is always an attractive alternative. Whether your needs are high precision and reproducibility or speed and dynamics, the performance characteristics of the machines comprehensively meet a multitude of injection molding requirements. From high-output production, through mass-produced technical components, to thin-walled molded parts, our HIDRIVE machines prove their reliability in everyday use. Time after time.

APPLICATIONS: IN PRACTICE

From automotive to medical: complete turnkey systems from a single source.

Mass-produced technical components: precise positioning of the toggle-type clamping unit speeds up part removal.

Further information: turnkey projects brochure
Thin-walled items: reliable production with highly dynamic injection flow rate.

Ideal basis for packaging items: short dry cycle times of the servo-electric clamping unit.

High-output production: synchronous ejection enables even faster cycles.

Further information: application expertise brochure