HYBRID ALLROUNDERS

More power: efficient combination of hydraulic and electric technology

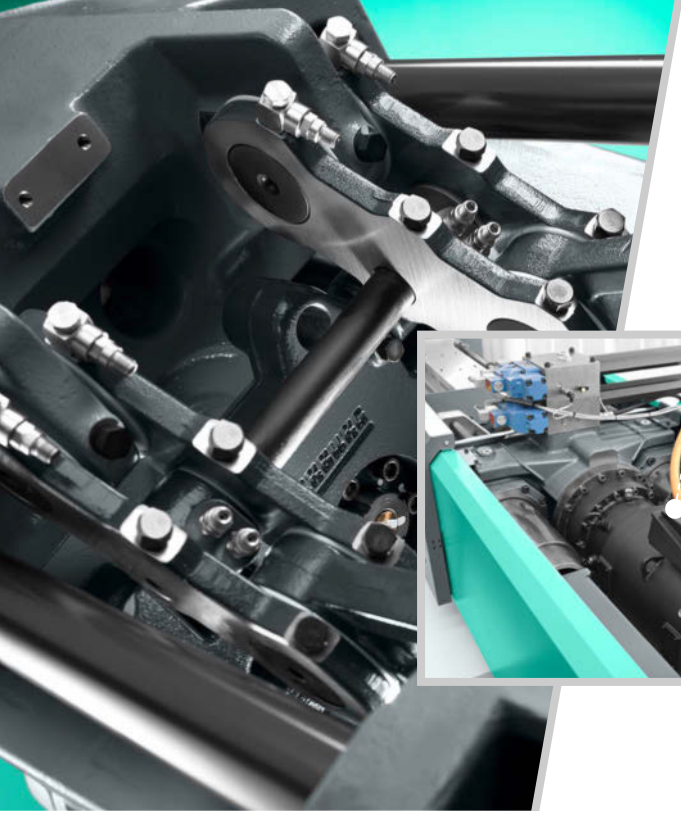
ARBURG

HIGH PERFORMANCE

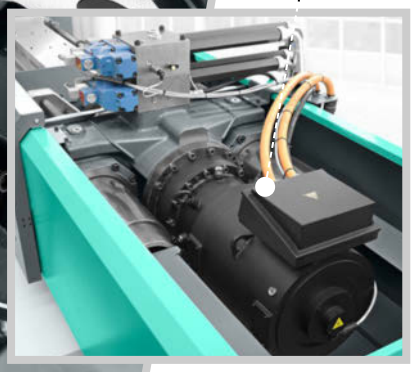
ALLROUNDER HIDRIVE:
Keeping unit costs under control.
through high performance.

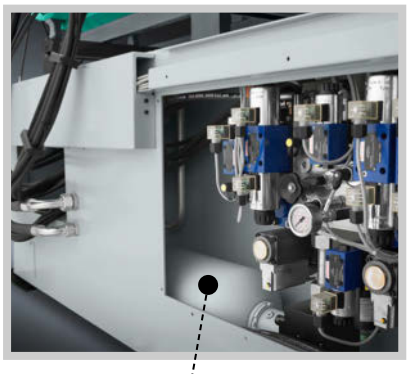
"Made by ARBURG - Made in Germany" - If you want top performance in mass produced items, then you should use our hybrid ALLROUNDERs. That's because the HIDRIVE brings the best of our modular product range together in a single series just for you: electric speed and precision paired with hydraulic power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

WIR SIND DA.



Servo-electric drives guarantee optimized cycle times and energy savings.





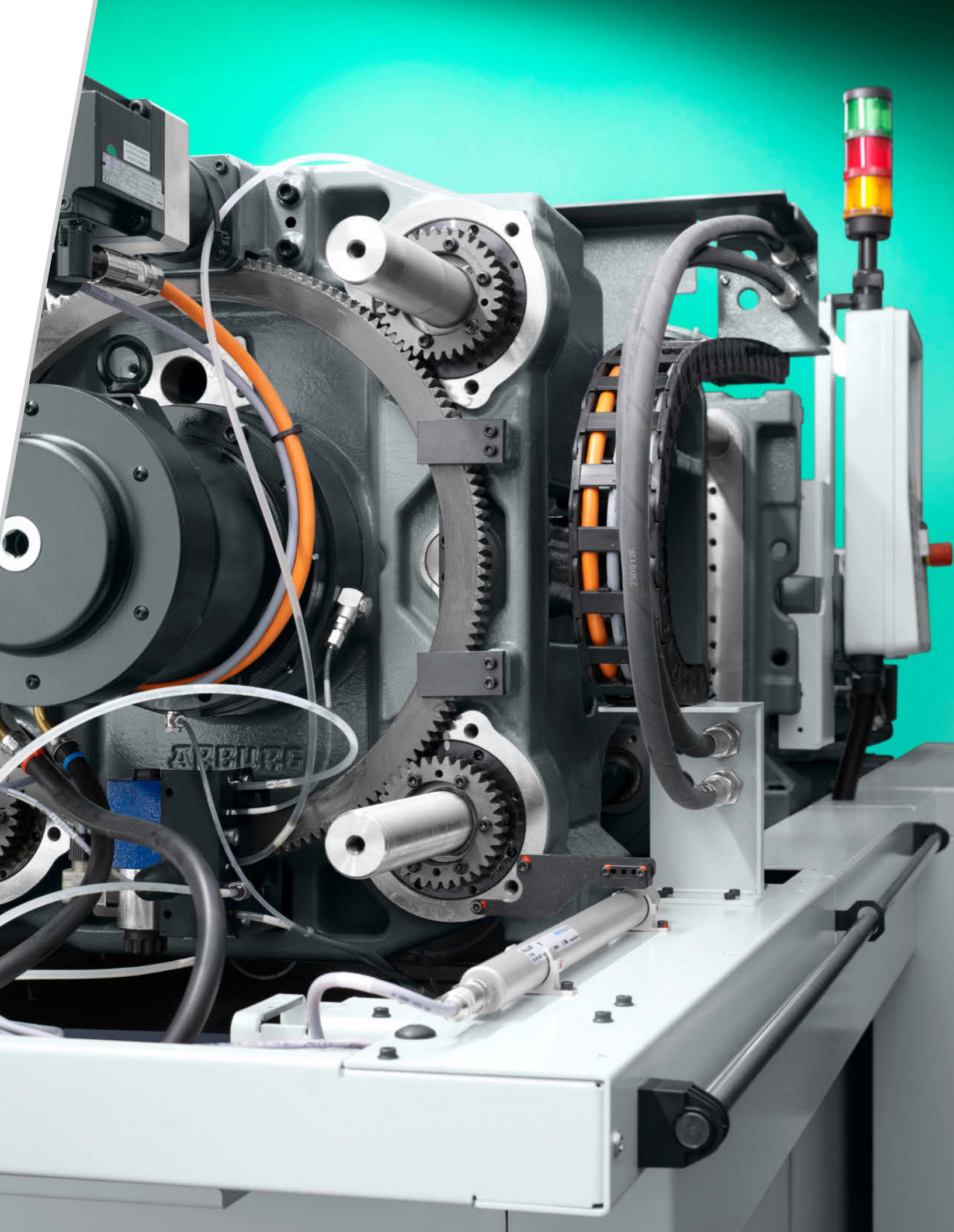
Hydraulic accumulator technology: the best basis for large, dynamic injection volume flows.

AT A GLANCE

// 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. \\

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 operates with 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.

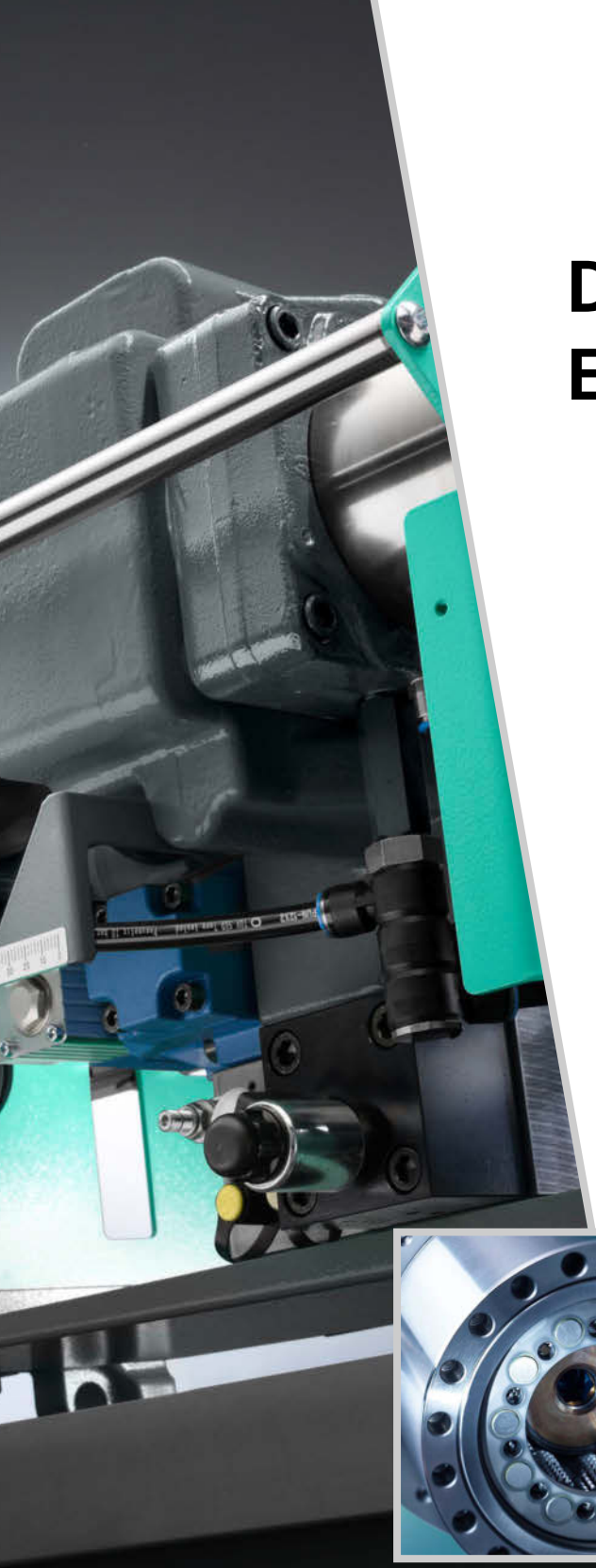
Distance between tie bars:	**10.63 - 44.09 inch**
Clamping forces:	**39 - 730 tons**
Injection units:	**1.4 - 150.6 oz**

Aesthetically pleasing and emotive: who says efficient, high-quality machine technology cannot also look good?

FLAGSHIP MACHINE: ALLROUNDER 1120 H

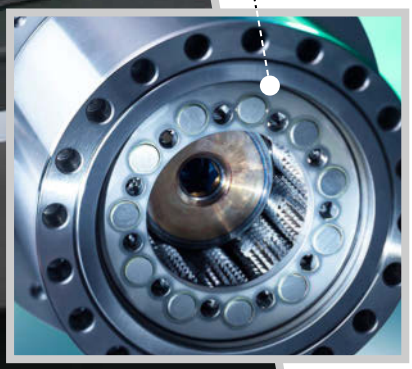
// From small to large: the targeted expansion of our product portfolio has led to the development of the hybrid ALLROUNDER 1120 H. This extends our performance range up to a clamping force of 730 tons. The machine design is the flagship for efficient, high-end technology. "Form follows function" - this 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. \\


DESIGN
AWARD
2018
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.

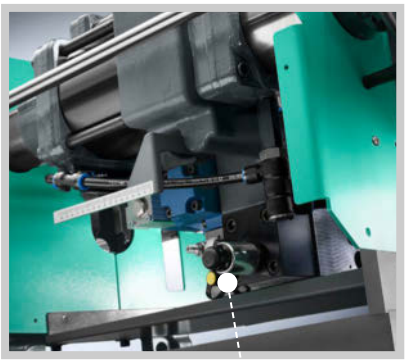


DRIVE TECHNOLOGY: ENERGY-OPTIMIZED

// 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. \\



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.

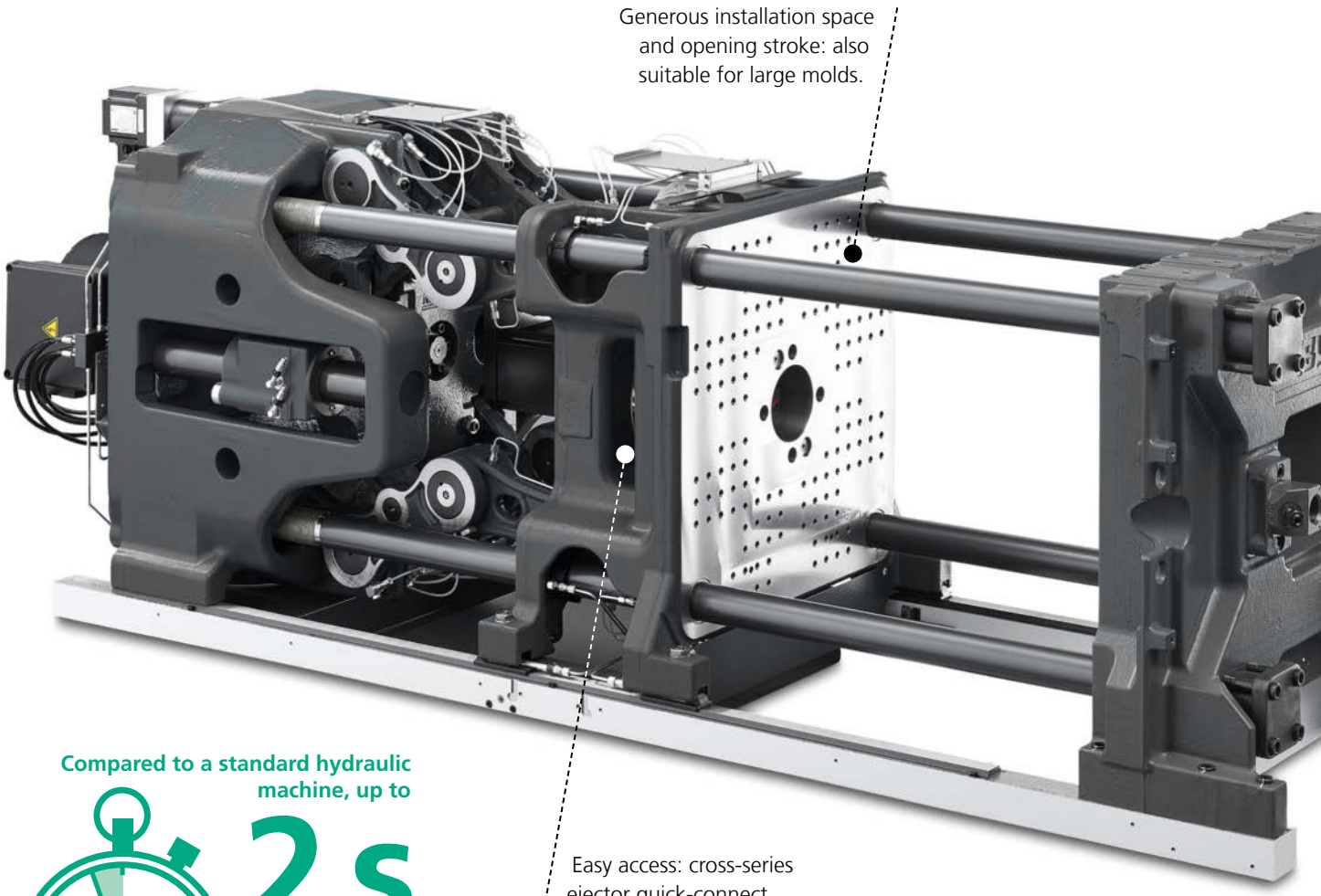
High availability

Our robust drive systems are the basis for long, stable, and fault-free running times. 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. Lubrication intervals are thereby calculated individually, depending on the forces, speeds, strokes, and times that have been set. This type of predictive maintenance saves operating time and minimizes costs. All this means greater cost-effectiveness in day-to-day operation.

Maintenance-friendly: automatic central oil lubrication of the clamping unit.

Compared to the hydraulic standard up to

40 % ENERGY SAVING



Compared to a standard hydraulic machine, up to

2 s
SHORTER
DRY CYCLE TIME

CLAMPING UNITS: PRODUCTIVE

// 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 extended 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.

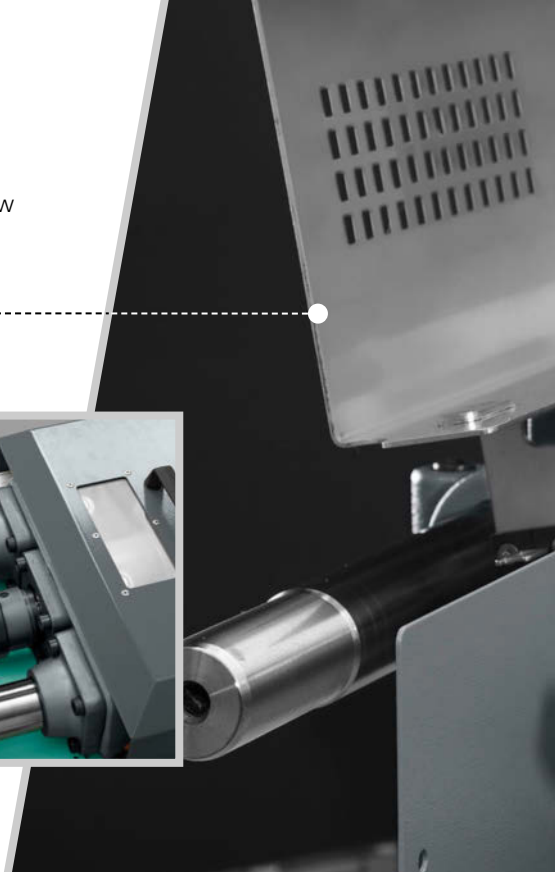
Clamping force control

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.

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.



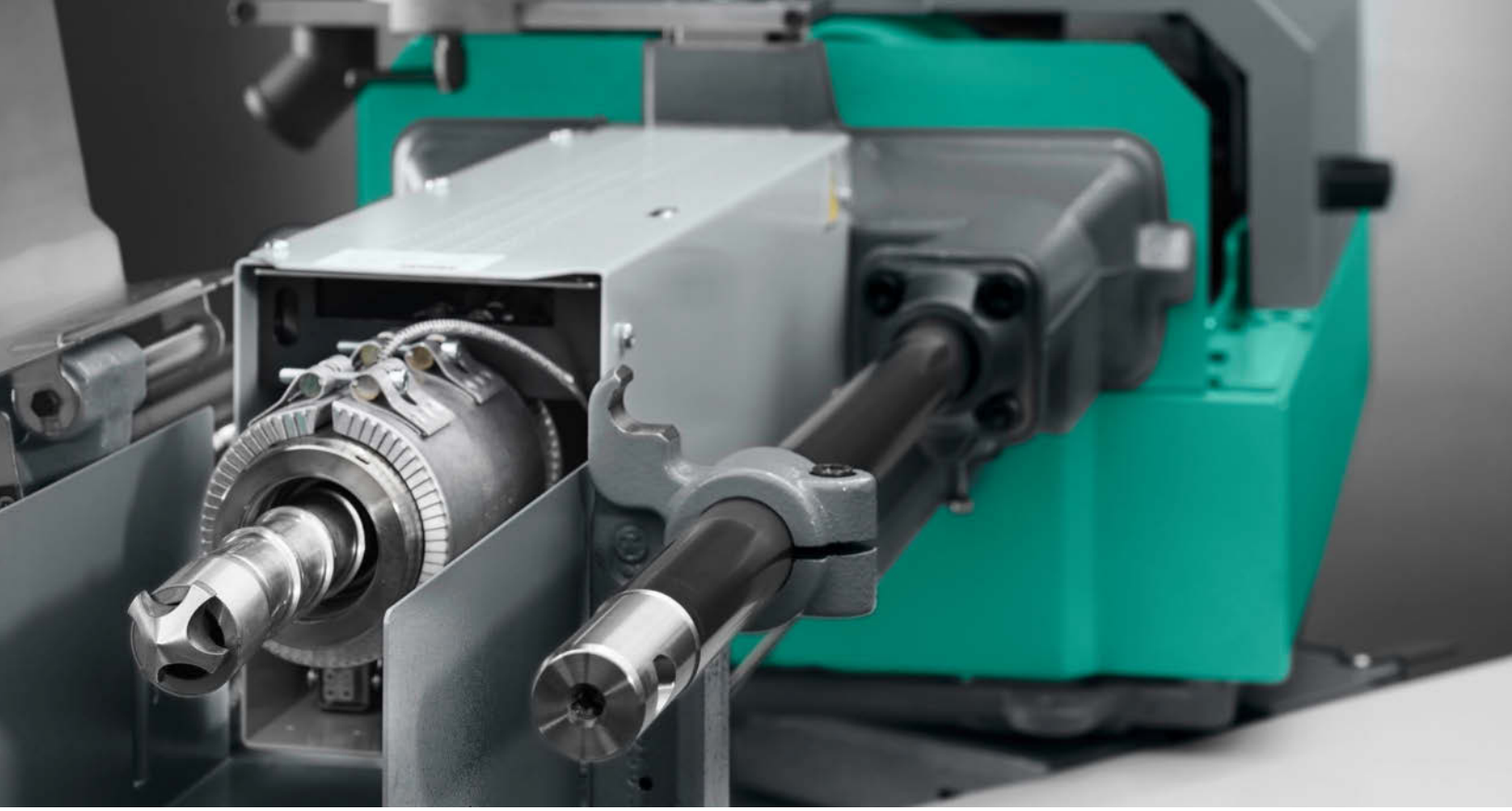
Swiveling injection unit: the screw can then be removed without dismantling the cylinder module.

Simple changeover: Central connection of all cylinder module supply units and screw quick-connect coupling.

INJECTION UNITS: DYNAMIC

// 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. \\

REPRODUCIBLE
MOLD FILLING
through to 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.

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.

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.

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

// Maintaining control over machine, mold, robotic and peripheral technology requires a suitably powerful central control system. "Smart technology" is called for, which can be easily integrated, supports you actively in all operating situations as well as monitors and adaptively controls your process. All the features of our SELOGICA control system are designed for a fast, reliable 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
- Assistance packages and connectivity modules "Ready for Digitalization"
- Central control system for complete production cells

/ i / Further information:
SELOGICA and GESTICA 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. 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!

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

SELOGICA - the central control unit with a wide variety of functions for special processes and sequences. These are successively integrated in the GESTICA.

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

APPLICATIONS: IN PRACTICE

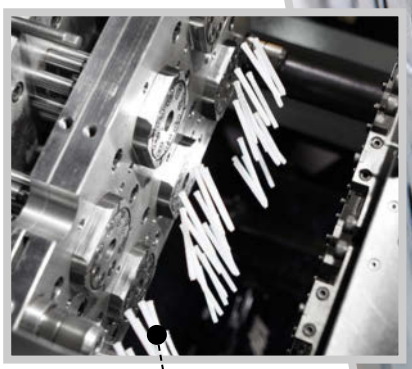
// The concept of our hybrid ALLROUNDERs is always an attractive alternative. Whether your needs are high precision and reproducibility or speed and dynamics, the performance characteristics of the machines comprehensively meet a multitude of injection molding requirements. From high-output production, through mass-produced technical components, to thin-walled molded parts, our HIDRIVE machines prove their reliability in everyday use. Time after time. \\

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

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