The High-Speed Benchmark

El-Exis SP.

Maximum performance - Highest output



THE HIGH-SPEED BENCHMARK



El-Exis SP

The best combination for the fastest applications.

For more than 25 years, Sumitomo (SHI) Demag has been constantly defining new limits in high-speed applications with the El-Exis series. The fourth generation of the El-Exis SP is the most advanced and fastest injection moulding machine on the market. The intelligent drive system knows no compromises between maximum performance and minimum energy consumption. Designed for more than 200,000,000 cycles, the El-Exis SP has been developed to be absolutely reliable in highly dynamic applications for many years to come. Your high-speed applications are in the best hands with us!



El-Exis SP

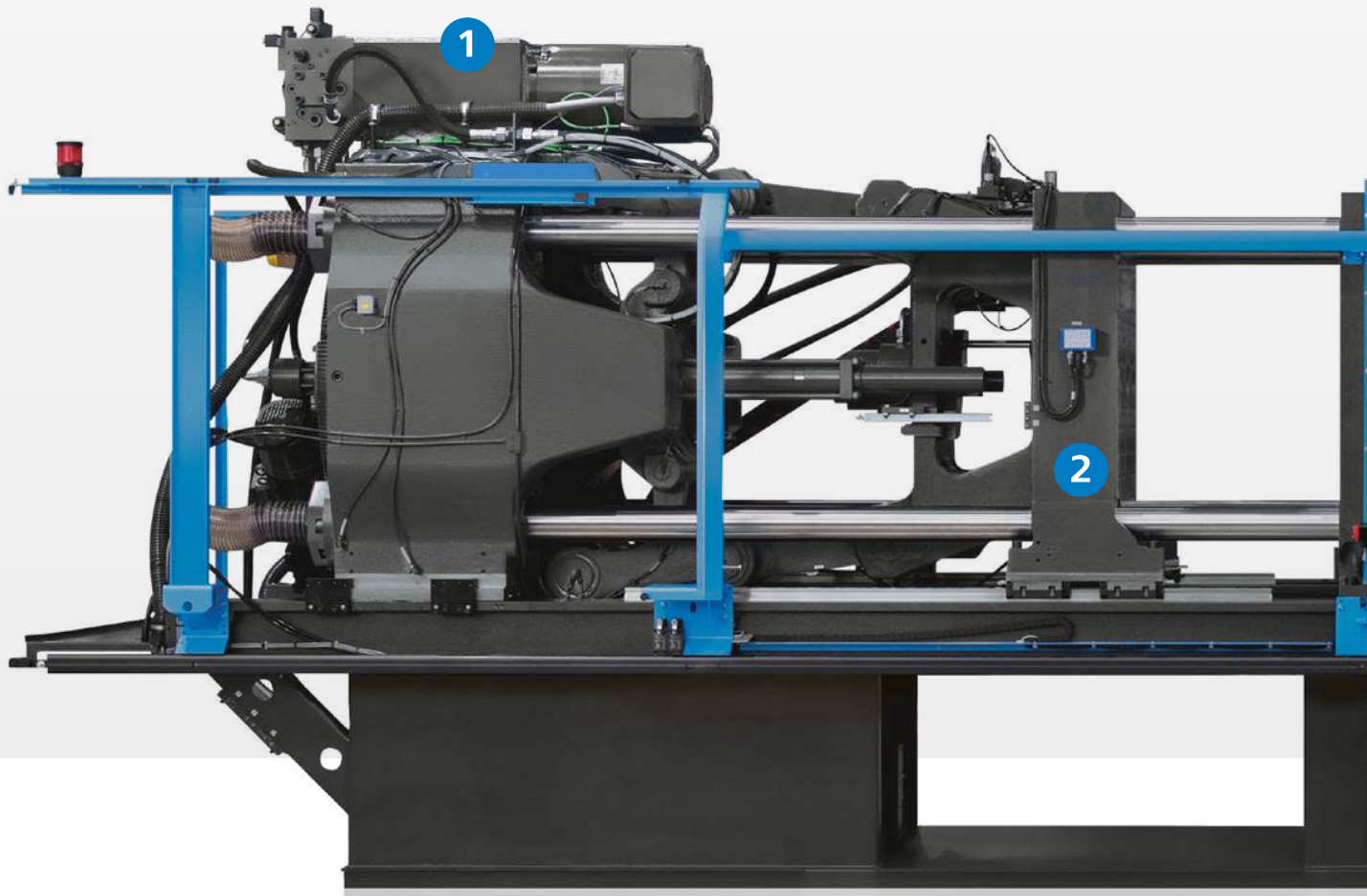
Your benefits at a glance.

1 – High-speed drive technology

The unique hybrid drive concept of the El-Exis SP has already proven itself thousands of times. It offers the best solution for the highest speeds with maximum dynamics.

2 – Highly durable design

Not only equipped for high-speed applications, but developed for them : mould platens are specially designed for the loads created in high-speed applications. Our activeProtect mould safety system with profile monitoring guarantees the fastest response , even in highly dynamic applications.



3 – Intuitive control

The intuitive control of the El-Exis SP offers a multitude of possibilities for process monitoring and control. Due to the logical and simple programming environment with predefined flexible machine sequences, the full potential of the El-Exis SP can be utilised.

4 – Intelligent accumulator control

Hydraulic accumulators allow injection speeds of up to 1000 mm/s and acceleration rates of up to 4G. At the same time, intelligent accumulator control ensures the most efficient use of resources.



Repeatability

Quality down to the last detail.

Process consistency 24/7

The El-Exis SP impresses in all respects with its unsurpassed consistency. Once the cycle is defined and set up, it is reproduced with the highest accuracy, 24 hours a day, seven days a week.
Zero process deviations is our top priority. Thanks to the extremely high stability, repeatability and accuracy in the injection moulding process the El-Exis SP for high-speed applications has the lowest reject rate in the market.

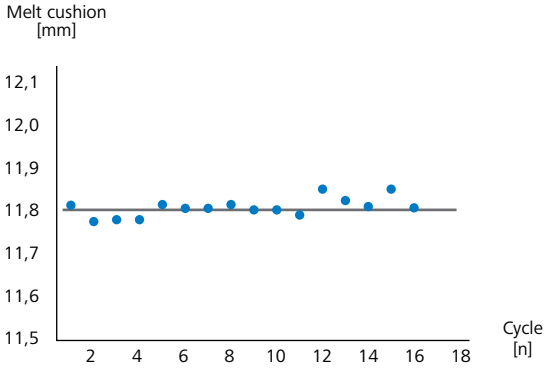


Diagram: Melt cushion repeatability



CONSTANT PERFORMANCE. HIGHEST QUALITY.

Higher Platen rigidity

The platens of the El-Exis SP are designed to exceed the highest demands in the packaging industry. A 50% lower deflection compared to conventional platens guarantees the perfect fit of the mould. In addition, the tolerances of the platen parallelism of the El-Exis SP are three times more precise than the EUROMAP standard. With increased platen rigidity and extremely high platen parallelism, the El-Exis SP reduces mould wear, ensures low reject rates during the process, extends your process window and improves the quality of the moulded parts. Engineering art for the most demanding requirements.

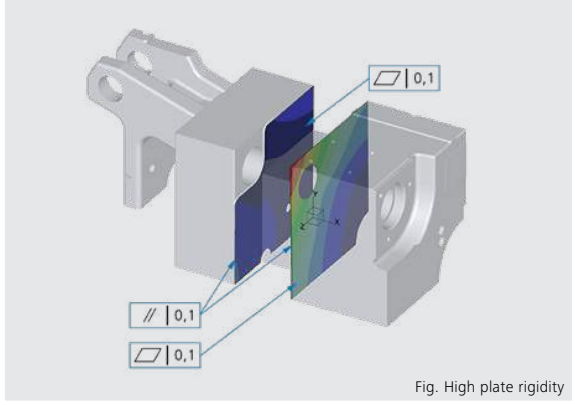
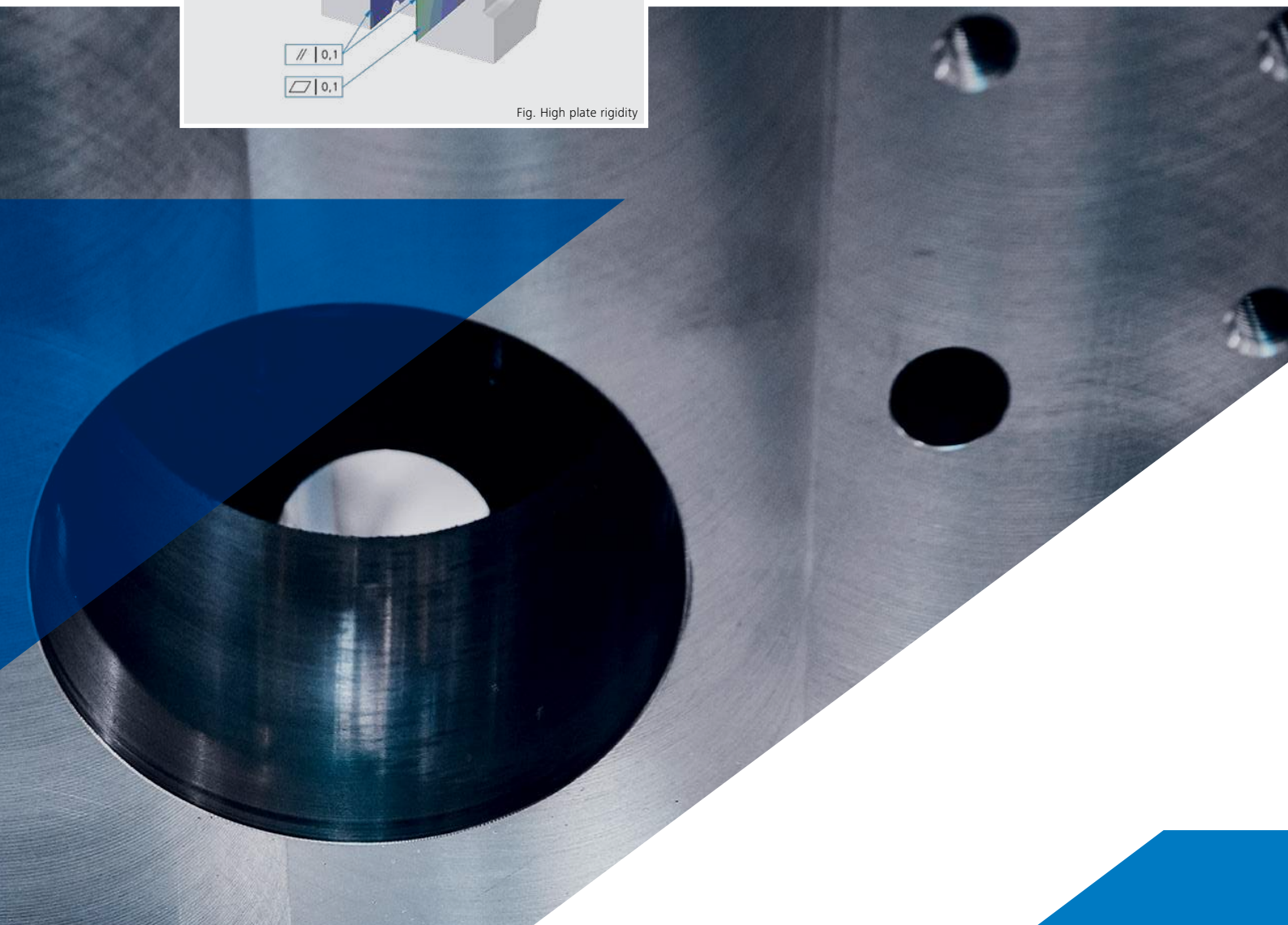


Fig. High plate rigidity



Efficiency

Productivity in every dimension.

Shortest cycle time

In packaging production, the output rate is a key parameter. The higher the output per hour, the lower the price per manufactured part. With the El-Exis SP you always have short cycle times with high part quality.
25 years of experience with high-speed applications and thousands of installed machines speak for themselves.

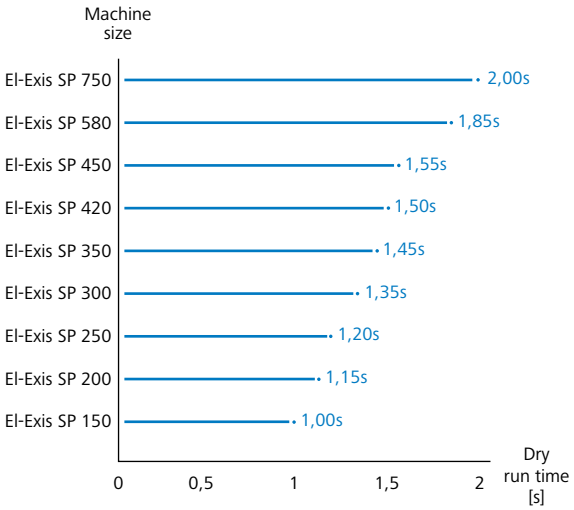


Diagram: Dry run figures according to Euromap



MAXIMUM PRODUCTIVITY. MINIMUM CONSUMPTION.

Up to 20% energy savings

One of the most convincing features of the fourth generation of the El-Exis SP is its energy efficient technology, which allows energy savings of up to 20%. Depending on the cycle time and the process parameters, the machine calculates the optimum charging condition of the hydraulic accumulators for each application. Therefore, only the required power is produced for each cycle.

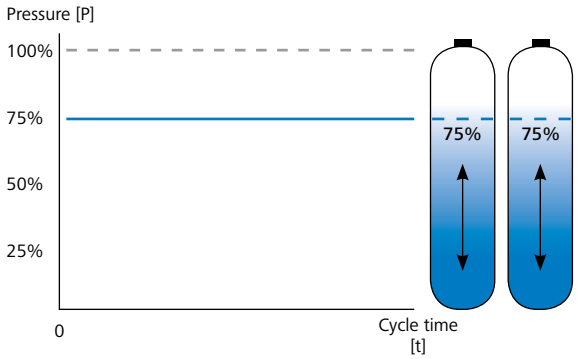


Diagram: Application-specific accumulator charging



Caps

Maximum performance in minimum time.

Over 172,000 closing caps per hour

To produce standardized closing systems, maximum mould speeds with short strokes and optimal dosing performance have to be possible. El-Exis SP meets these requirements and has a record of reliable and safe operation with cycles far below 2.5 seconds over many years. Thanks to the extremely fast clamping unit and the highly dynamic ejector, maximum production output can be achieved.
Special solutions have been optimized specifically for this application, such as the water distribution for mould cooling. Together with our partners we develop the optimal complete solution for you, which gives you the decisive competitive advantage!



FASTEST CYCLE TIME.
MAXIMUM REPEATABILITY.

Application example –
Production of 29/25mm closing caps

Cavities	Machine size	Cycle time	capacity
24	150/600	2.3-2.7s	~ 37.500/h
32	150/600	2.3-2.7s	~ 50.000/h
48	250/630	2.3-2.7s	~ 75.000/h
72	350/820	2.3-2.7s	~ 112.500/h
96	420/820	2.3-2.7s	~ 150.000/h



Fig. Closing caps 29/25mm



Thin-walled container

Fast, dynamic and efficient.

Perfect solutions for in-mould labelling

For the production of thin-walled packaging the El-Exis SP leverages all its advantages: With it you will realize, thanks to particularly high injection dynamics and axis speeds; you can achieve any required filling time at the lowest cycle time. The mould clamping platens of the El-Exis SP have significantly higher rigidity than conventional mould platens, giving the user a wider process window and minimizing tool wear.
The extremely accurate clamping unit is ideally suited for in-mould labelling (IML) processes due to its high accuracy. We have developed solutions for IML applications with side removal, including a highly accessible operator side, specifically for your applications.

„Speed stamping“ technology

With the El-Exis SP you can use the stamping function, with which even before complete locking of the mould, melt is fed to the cavity. The clamping movement of the machine supports the spreading of the melt in the cavity, reduces the need for injection pressure and thus the required clamping force. As a result, wall thickness and moulded part weight can be significantly reduced.



GREATEST STABILITY.
LOWEST REJECT RATE.

Application example –
400g cup with in-mould labelling

Cavities	Machine size	Cycle time	capacity
6	650/1020	3.7s	~ 5.800/h
8	800/1120	4.2s	~ 6.800/h



Fig. 400g cup



Bucket

Production 24/7.

Dynamic top performances for every size

Containers such as buckets and boxes not only require large opening strokes and rigid mould platens, but also an injection unit that controls the injection flow very precisely. The El-Exis SP is the optimal solution for buckets both large and small.
Thanks to the hybrid drive technology and the short demoulding times, the El-Exis SP achieves the fastest cycle times and highest plasticisation performance, even with large opening strokes.

2-component technology

For buckets produced with injection-moulded handles, we offer the optimal 2-component solution and make the highest part quality possible. Depending on the application, we offer the second injection unit in various configurations and sizes.



FASTEST CYCLE TIME.
MAXIMUM PRODUCTIVITY.

Application example –
1280ml bucket with handle

Cavities	Machine size	Cycle time	capacity
4 & 4	580/1020	5.5s	~ 2.600/h



Abb. 1280ml bucket

Application example –
5.6l bucket with handle

Cavities	Machine size	Cycle time	capacity
2 & 2	650/1020	8.3s	~ 870/h



Abb. 5,6l bucket



Sumitomo SHI DEMAG

www.sumitomo-shi-demag.eu

All data and information provided in this brochure has been compiled and checked with due care and diligence. We believe the contents of this brochure to be accurate, but cannot guarantee its accuracy. The description in this brochure may differ from the machine's actual condition upon delivery. 05.2018