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SPARK EH

100-360 Ton



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The New EH Series – A Spark Family Member Top Scores on All Aspects of All-Electric Performance



Applicability

Power

Control

Precision

Savings

The Next Generation of All-Electrics,
Available Today.

Electric x Hydraulic

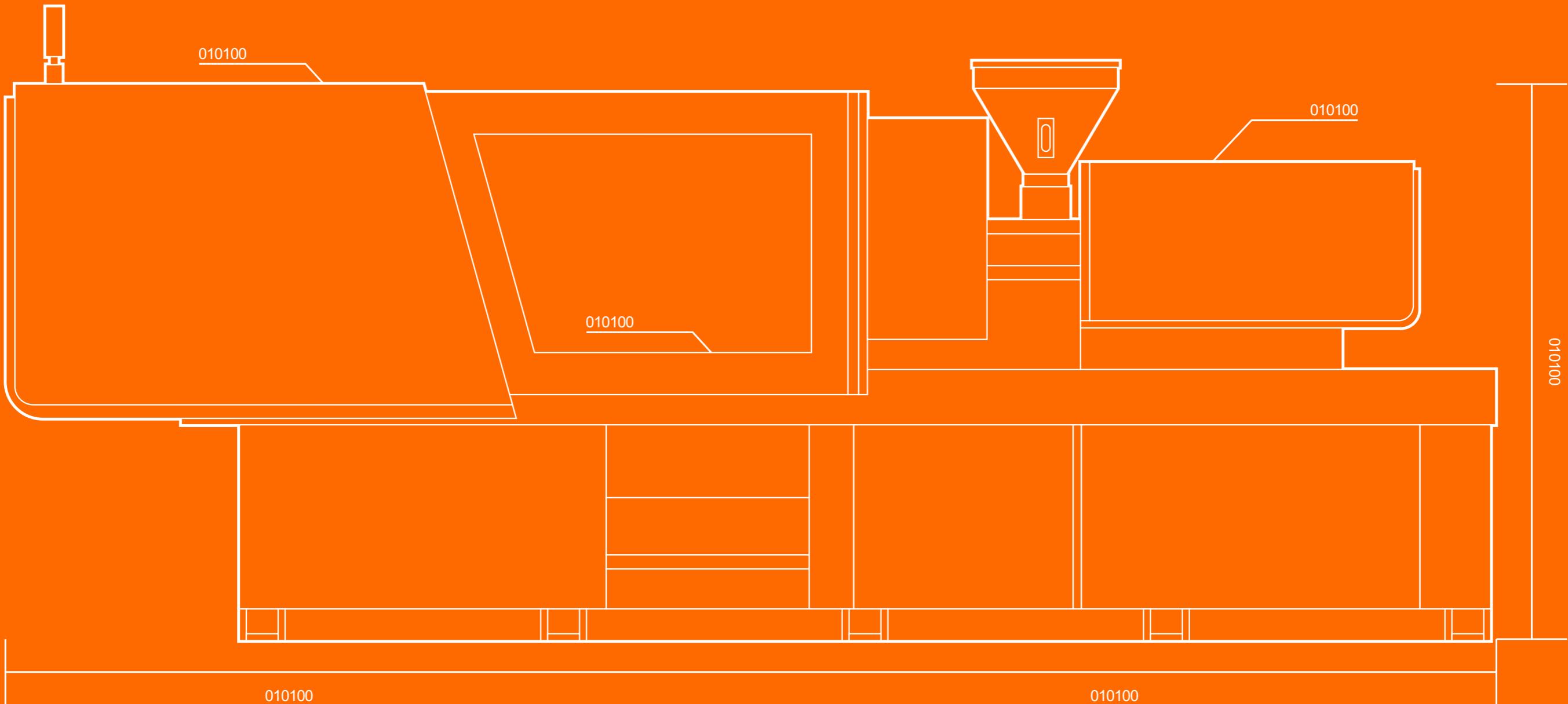
Reap the benefits of both electric and hydraulic drive trains for additional applicability without sacrificing precision and performance.

Software x Hardware

Highly-optimised control algorithms work together with fine-tuned hardware designs to deliver perfect motion control.

Speed x Precision

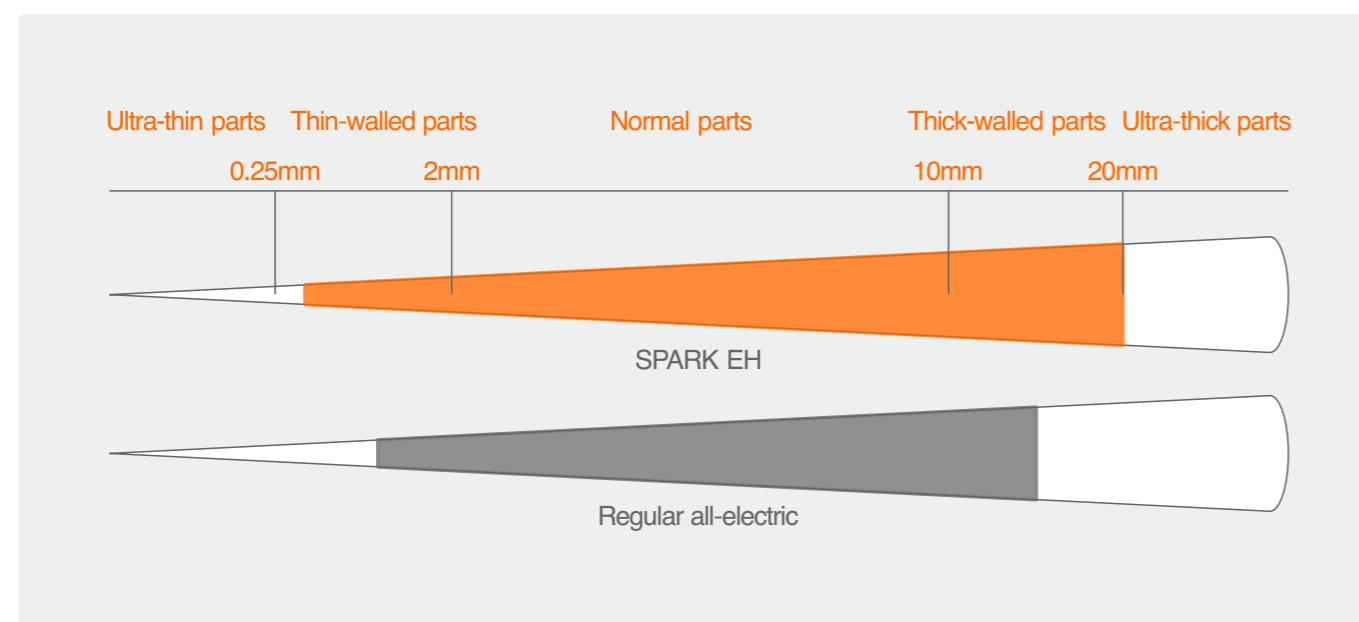
Stability and repeatability at high speed for even the most demanding applications.



Applicability

All-Adapt

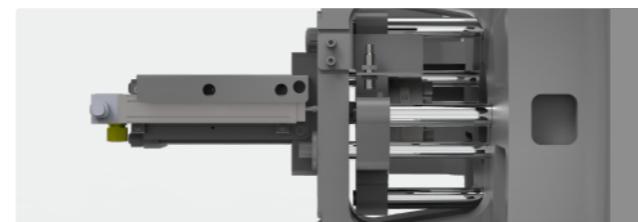
One machine to make them all – from ultra-thin parts requiring ultra-fast speed and responses, to ultra-thick parts demanding rock-solid stability under low-speed and prolonged high-pressure conditions.



From ultra-thick optical parts to ultra-thin packaging, the SPARK EH does them all.

Euromap-style Ejector Support

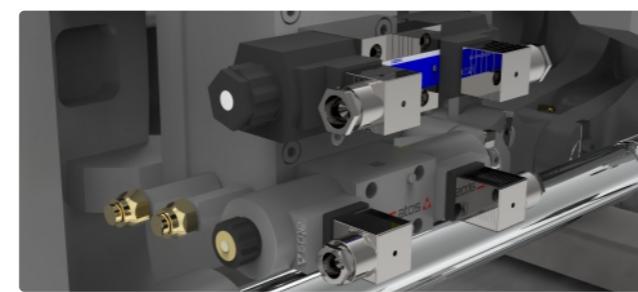
Wide applicability for different moulds



Integrated Hydraulic Core Pulls

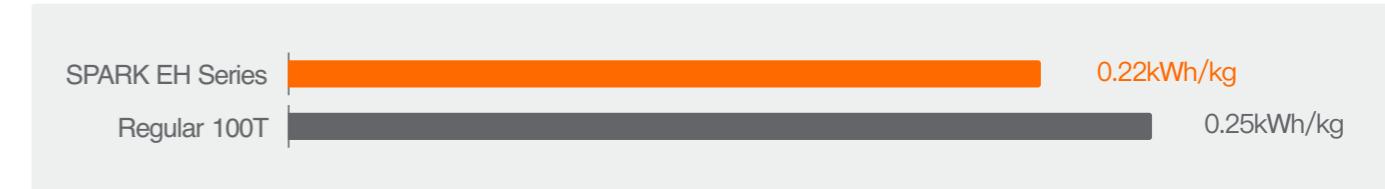
SPARK EH100 to SPARK EH300

One set of hydraulic cores pull standard



Savings

Redefining Energy Efficiency



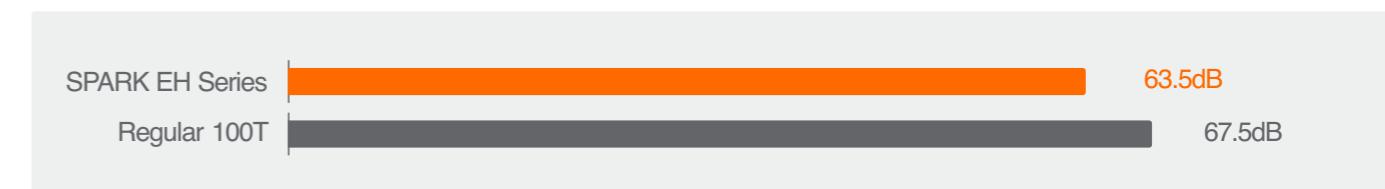
SPARK EH is

12%

more power efficient (and thus less cost to run) than regular competition offerings for the same productivity.

Green manufacturing

Patented platen design combined with low-noise servosystem and advanced control algorithms ensure silky-smooth motion.



SPARK EH is

5.9%

quieter, and thus greener, than competition offerings.

Top-of-the-line lubrication

Centralised automatic lubrication system
LUBE (Japan)

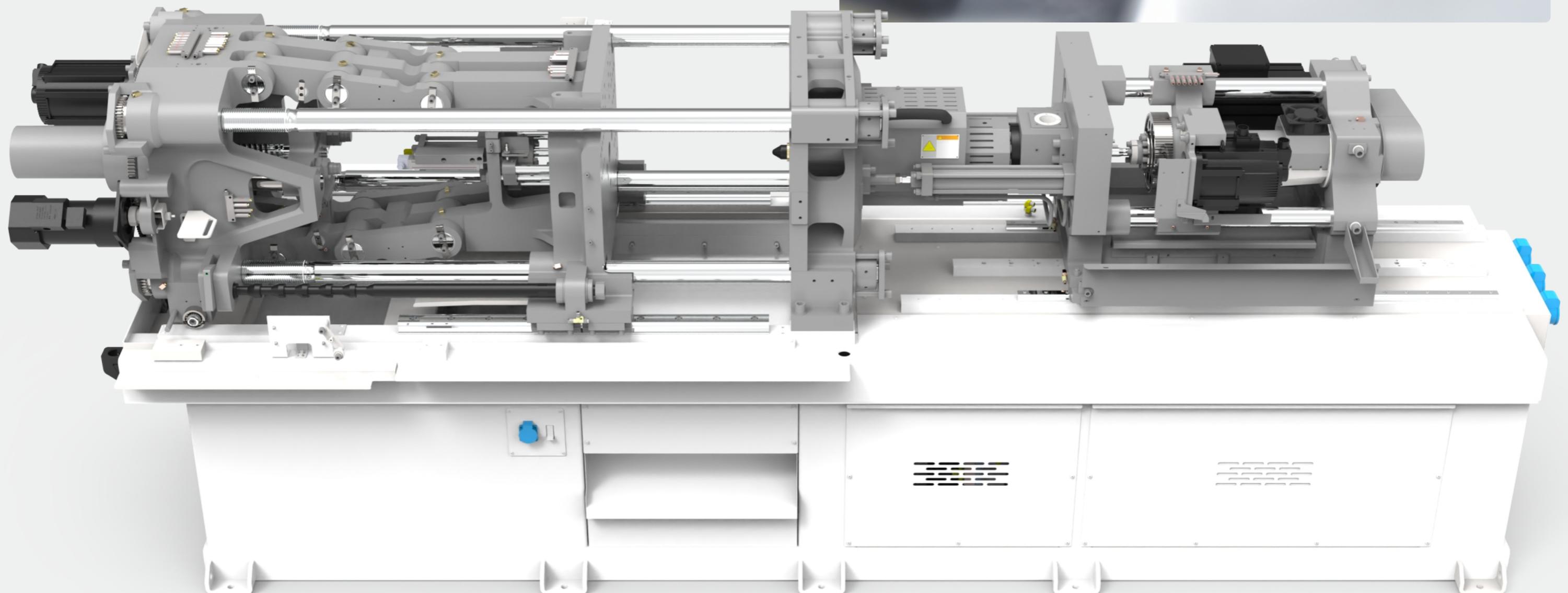


Adaptive control system

ASRS - Auto Stress Release System

"ASRS" is a revolutionary technology that, again, employs high-speed computer algorithms that dynamically monitors, via high-speed digital pressure transducers, the actual motion of the injection screw (<1ms scan time).

The computer controller makes real-time adjustments to the motion of the screw when detecting motions that may lead to accumulation of internal stresses on the part — typically the No.1 enemy of high yields and the No.1 reason for rejects.



Efficient Control

ABC - Agile Boost Control

Marriage of a proprietary ultra-high-response servo system with very-high-speed advanced computer control, yielding no-compromise levels of responsiveness — from zero to 2000 rpm in less than 30 ms! That is ten times faster than traditional all-electric machines (300 ms) in the China market!



High-end Advanced Computer Controller

15" touch-screen, easy-to-use HMI with user-friendly UI
— power at your fingertips.

01 High speed CPU for real-time calculations

Software dynamically adjusts and compensates all hardware motion during injection, holding, recovery, ejection and clamping.

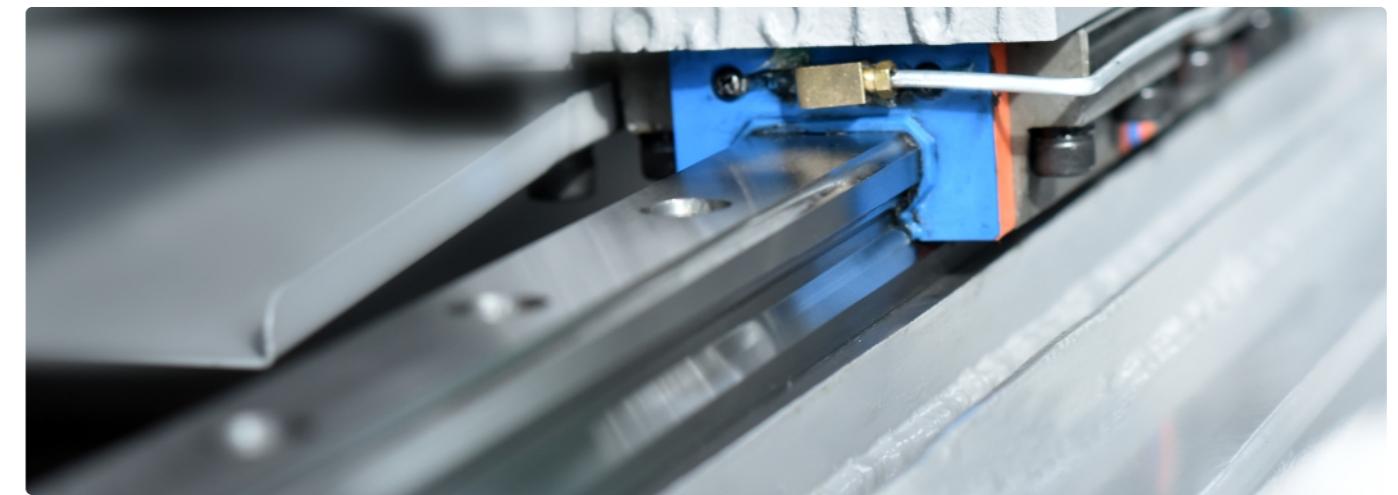
02 Ultra-fast responses

High-end CPU enables lightning speed closed-loop calculations for ultra-fast dynamic responses, superior precision and perfect repeatability.

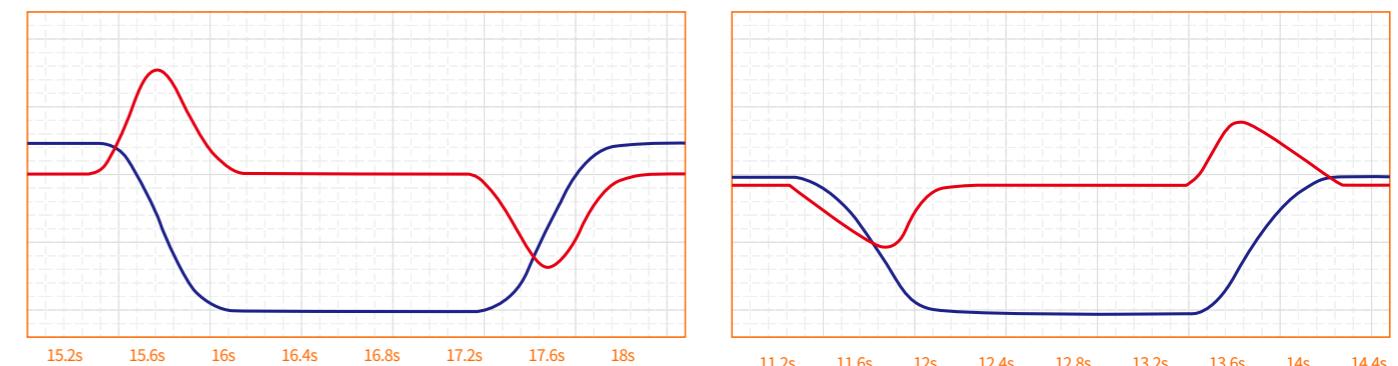


35% Faster Dry Cycle 10% More Speed

Model	Clamp Open (s)	Clamp Close (s)	Total Clamping (s)	Opening Stroke (mm)
SPARK EH Series	0.86	0.98	1.84	322
Competition	1.34	1.52	2.86	294



Low friction and High precision



SPARK EH Series

High-end linear guide rails for moving platen

Competition

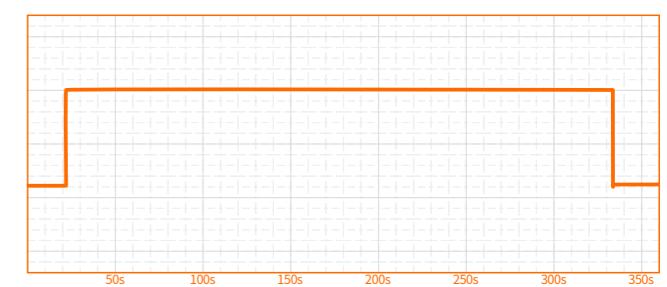
No linear guide rails

Holding Pressure Comparison

Rock-solid stability under low-speed and prolonged high-pressure conditions

Model	Holding Pressure (Mpa)	Holding Time
SPARK EH Series	180(+2%)	>300*(>7x)
Competition	176	43.8

*Subject to different product applications and cycle times



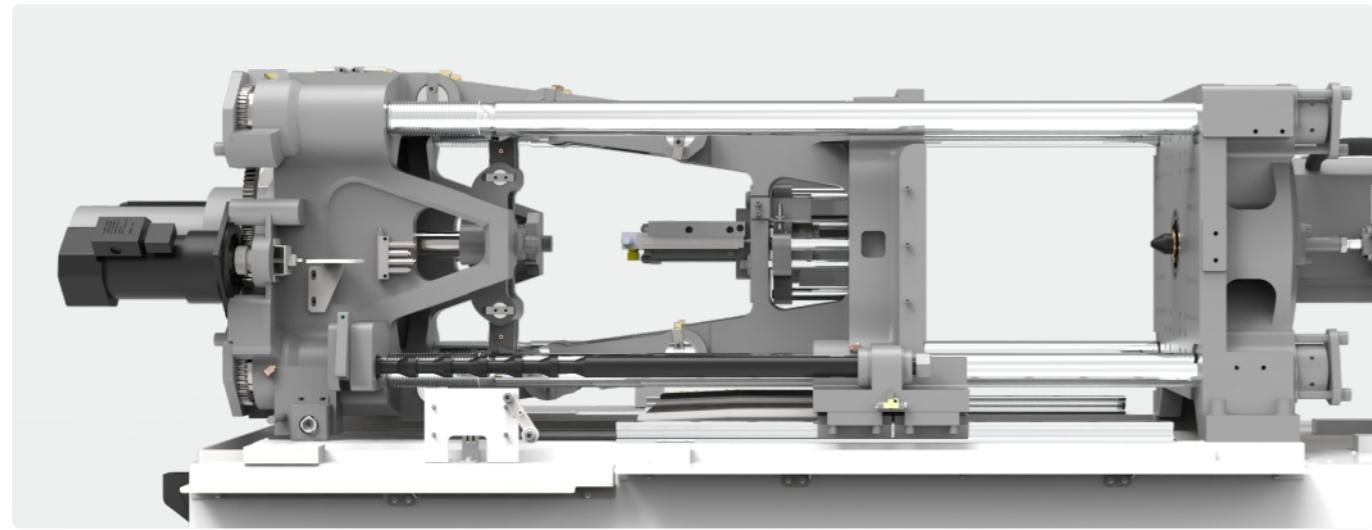
Precision

AxP with Floating Point Toggle

"AxP" (Algorithm Cross-Protection) is based on high-end electronics, fine-tuned mechanical design and high-speed computer algorithms. It provides total protection to the mould during high-speed clamp closing by monitoring and adjusting, in real-time, the dynamical motions of the clamping ball-screw. The "Floating Point Toggle" design, on the other hand, adds back to the rigid ball-screw system a soft "buffer" that is inherent in a hydraulic system, eliminating mechanical shocks and vibrations and, thereby, reducing operating noise and ensuring buttery-smooth mechanical motions. Both technologies work hand-in-hand together to provide world-class protection to the mould and the machine mechanisms, smooth operations, as well as long and extended machine life.

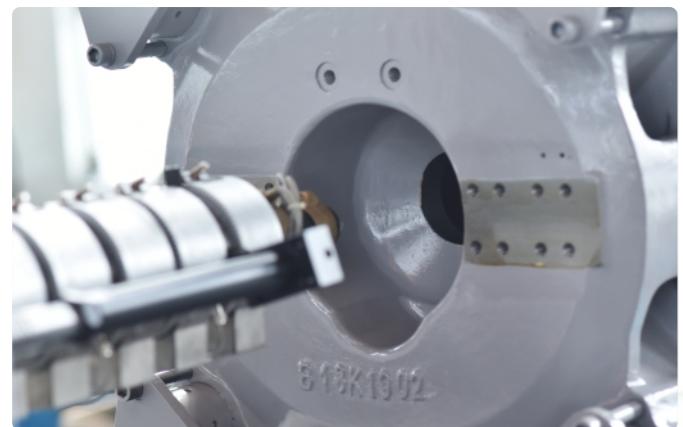
High Precision and High Performance

Patented Circular Platen design ensures even stress distribution and low deformations for higher quality parts and superior dimensional stability

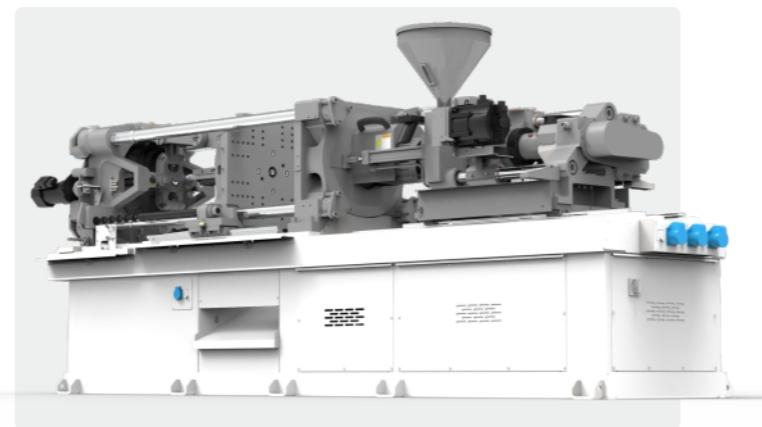


Comparison between major brands on platen deformation under similar clamping conditions.

Unique Patented Circular Platen Design, High Rigidity and Lowest Deformation

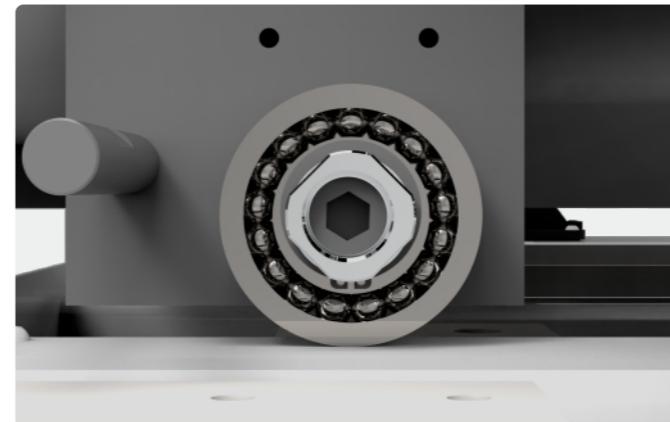


High-strength Machine Base Designed In Japan

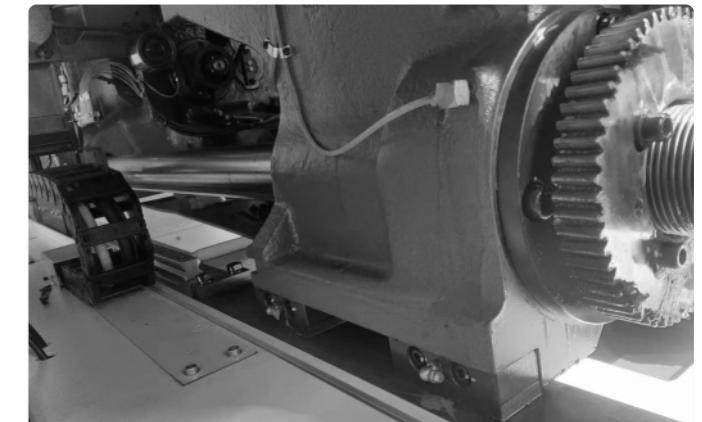


Tail Platen Adjustment Mechanism

Low friction, high stability



SPARK EH Series



Competition

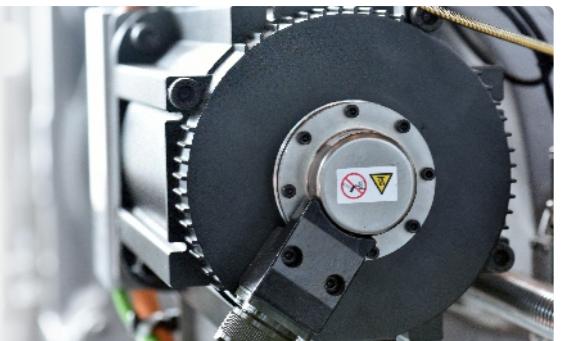
Digital Temperature Control

Advanced PID control algorithms ensure high-precision barrel temperature control with superior disturbance resistance.



Specialty-developed IPM Servomotor

With fast response, large torque, low noise and mild temperature profile, 23-bit High-Precision Encoder ensures ultra-high positional accuracy.



Rapid-response Pressure Transducer

Name-brand high-precision pressure transducers ensure the finest performance and protection levels.

