

# SPARK AE

100-360 Ton



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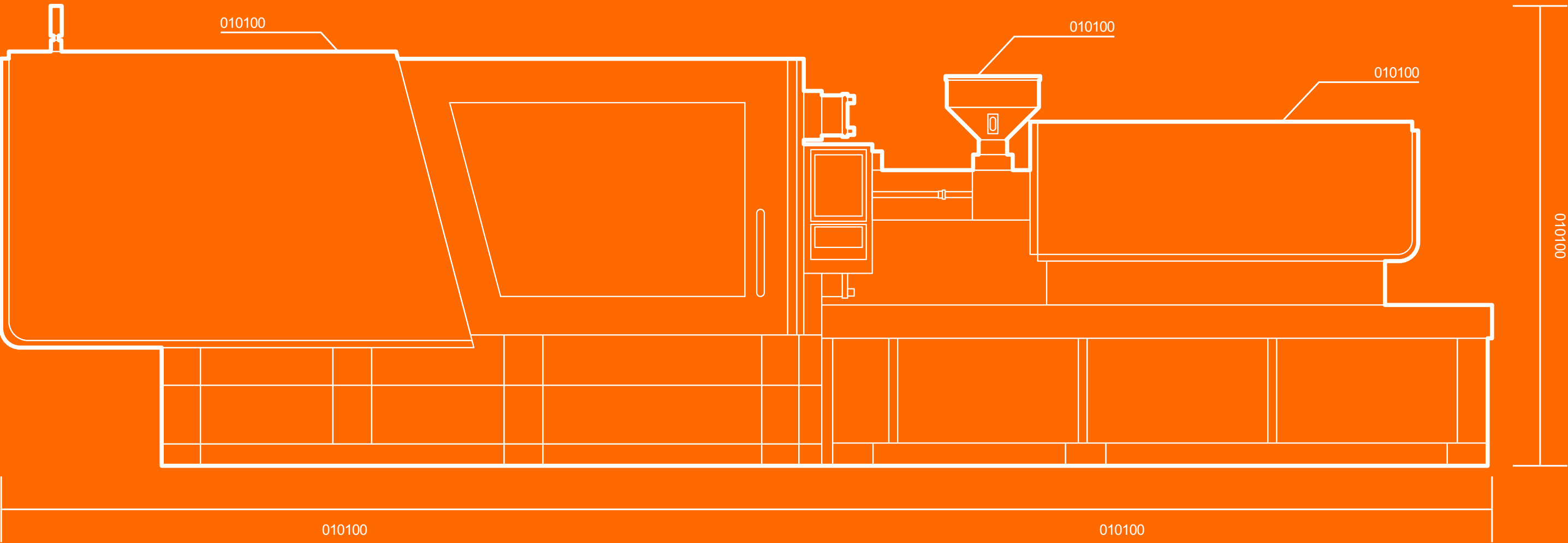
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# SPARK AE

## Redefining The General-purpose All-electric

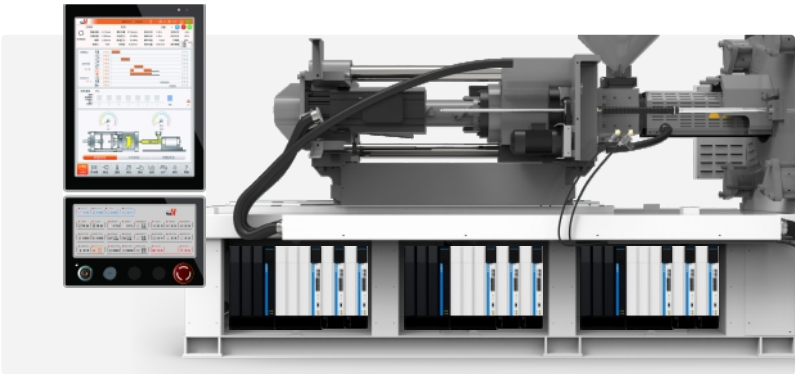
The SPARK AE series is an all-electric product line ideal for the production of mass-volume, fast-cycle, high precision and demanding parts with the lowest power consumption level in the industry and superior long-term stability.



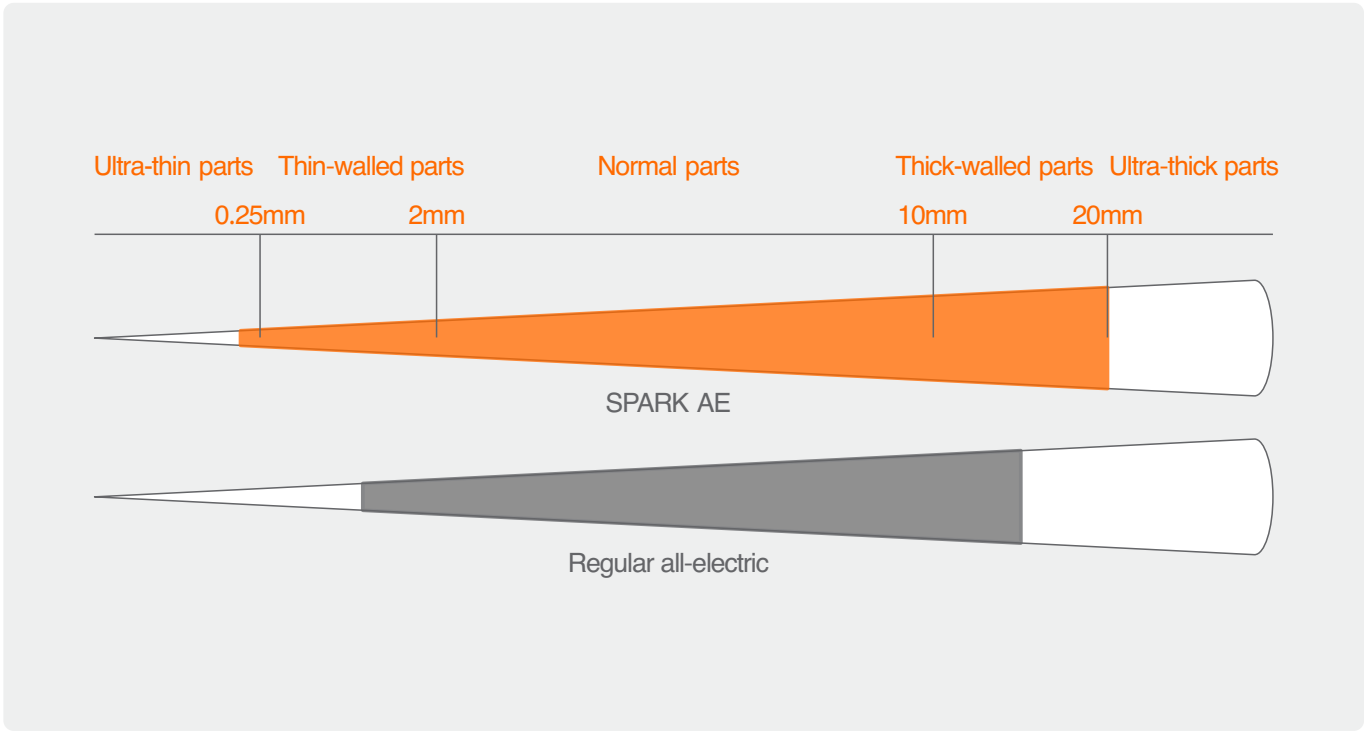
# Four Core Innovations

## Agile Boost Control (ABC)

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 2000rpm in less than 30ms! That is ten times faster than traditional all-electric machines (300ms) in the China market!

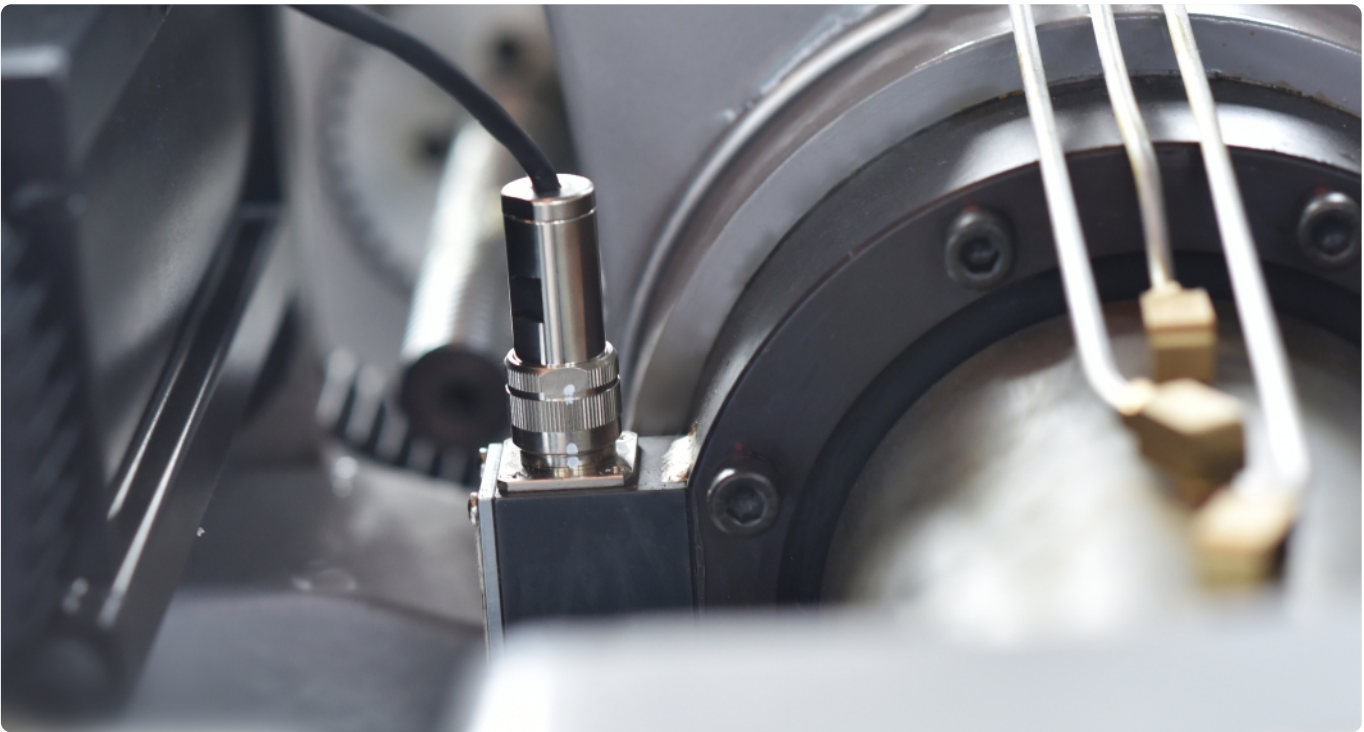


## All Adapt (AA)



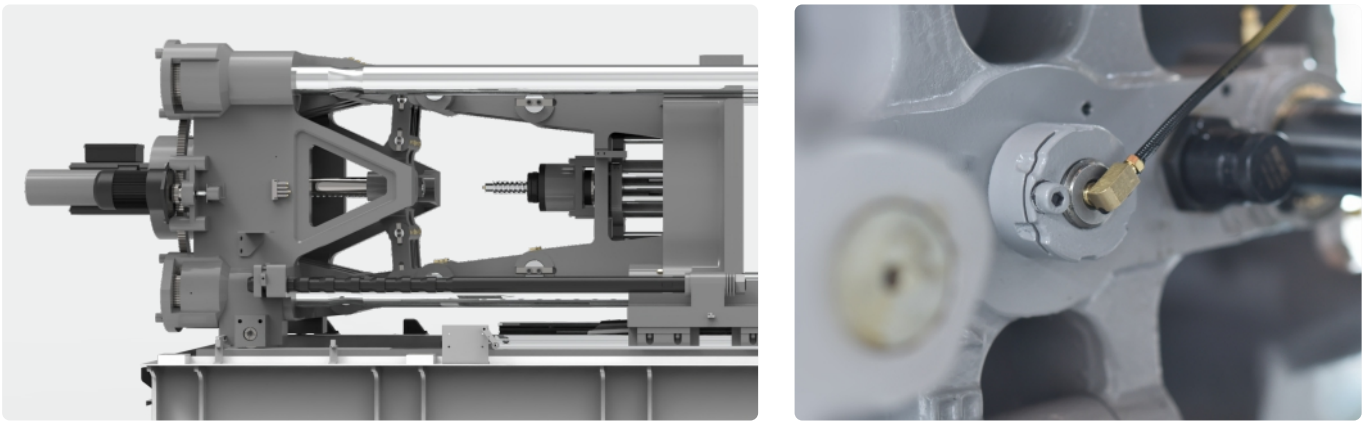
All-Adapt is a package of technologies that enables an all-electric injection moulding machine to gain a wide application window, from ultra-thin-walled moulding (such as high-speed packaging) to thick-walled, high-pressure parts (such as optics).

## Auto Stress Release System (ASRS)



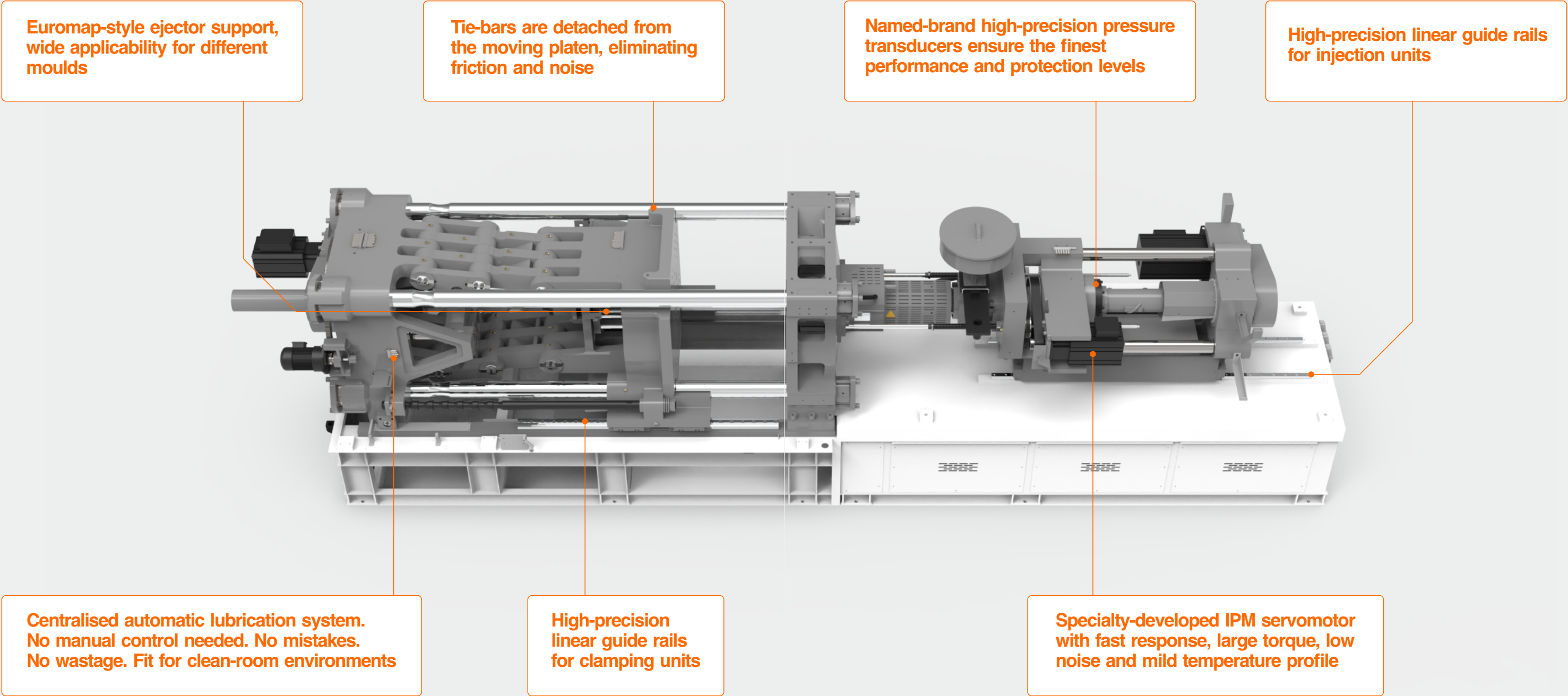
Auto Stress Release System (ASRS) is a revolutionary technology that, again, employs high-speed computer algorithms that dynamically monitors via high-speed digital pressure transducers, the actual motion of the injection screw (<1ms scan time). Then computer controller makes real-time adjustments to 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.

## AxP With Floating Point Toggle




Algorithmic Cross-Protection (AxP) 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.

# Six Performance Components







# Six Leading Advantages




Intelligence




Precision




Speed



Applicability



Stable



Power Efficiency

## Intelligent Control

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



### 01 Auto Stress Release System (ASRS)

Ensures high-yielding parts by dynamically releasing internal stresses.

### 02 High Speed CPU for Real-time Calculations

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

### 03 Ultra-fast Responses

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

## Efficiency and Speed

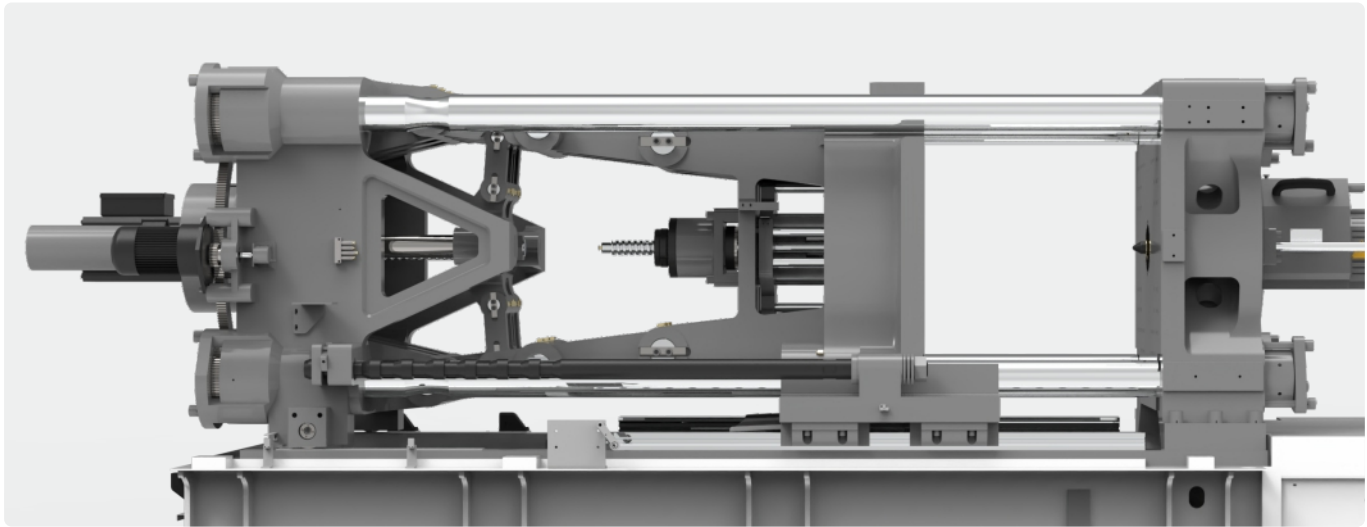
Faster cycles for higher returns

Model	Clamp Open (s)	Clamp Close (s)	Total Clamping (s)	Opening Stroke (mm)	Distance	Efficiency
SPARK AE300	1.1	1.2	2.3	511	+1.4%	+13%
Regular 300T all-electric	1.28	1.35	2.63	504	100%	100%

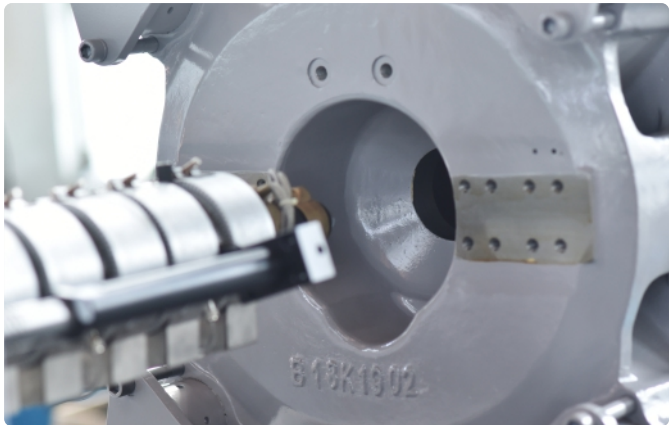
**13%** faster dry cycle time than competition offerings due to SPARK AE's highly responsive advanced servosystem.

## Reliability and Precision

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-strength Machine Base Designed in Japan



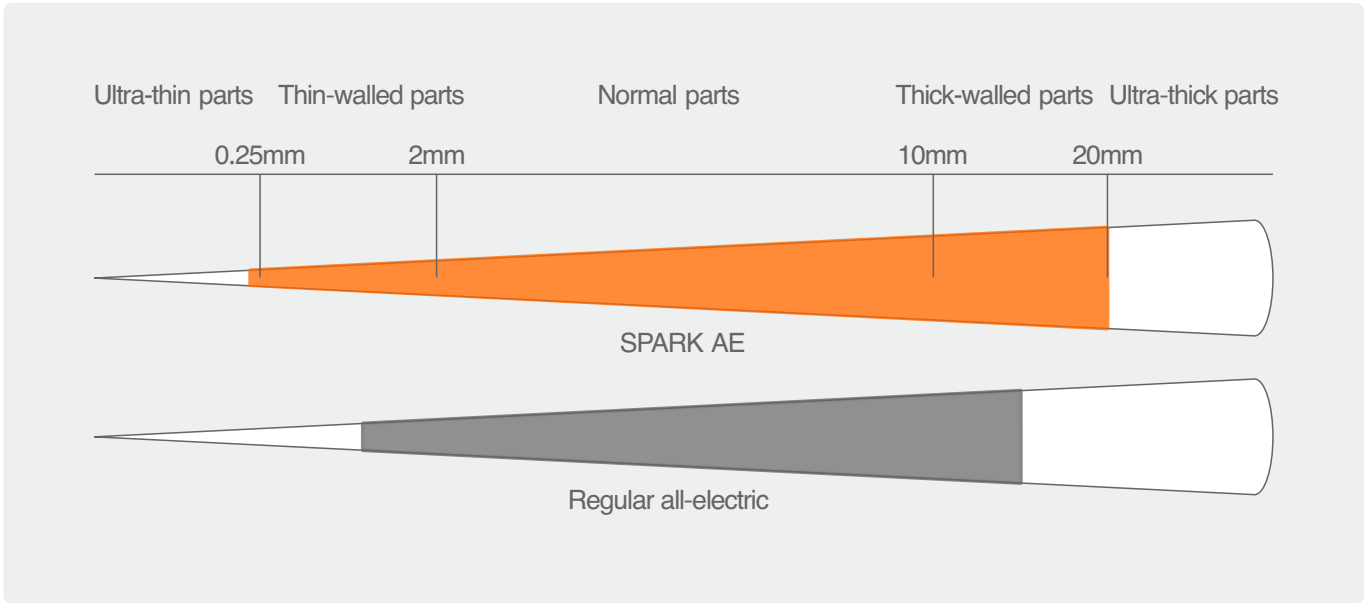
Stability and Quality

model	Inj. pressure (specs)	Inj. pressure (actual)	Holding Pressure	Holding Time
SPARK AE300	2350	2350	192 (+4%)	80 (+35%)
Regular 300T all-electric	2350	1840(-21%)	184	52

**35%** longer sustainable holding time than competition offerings under real-life production conditions.

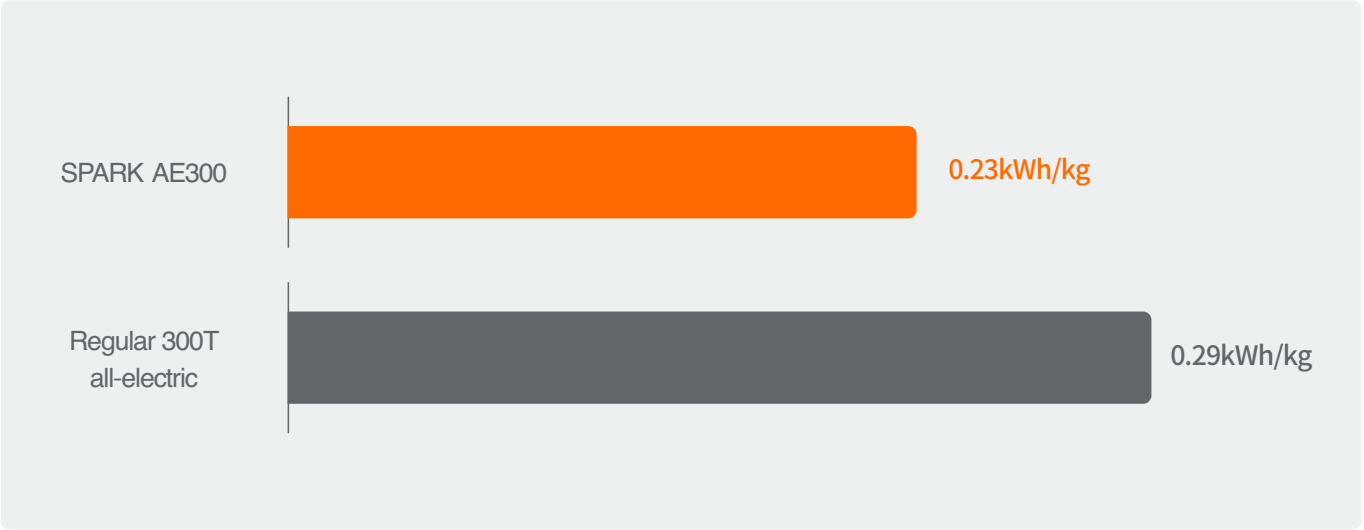
Applicability

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.



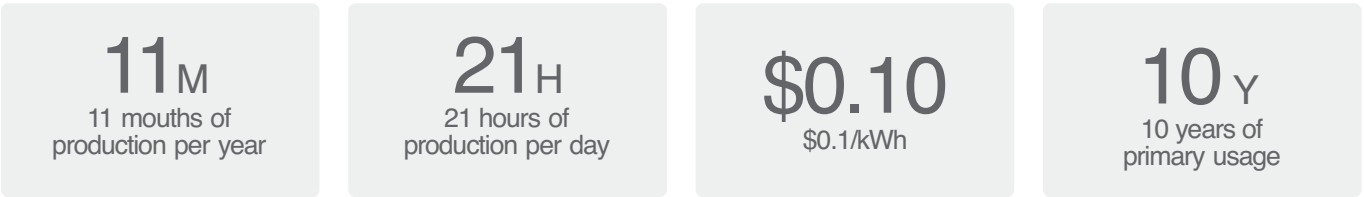
Power Efficiency

Redefining the benchmark for low energy consumption



Actual comparison:  
**20.7%** lower power consumption than competition offerings

Typical Production Scenario



Higher efficiency for more profits

20s cycle time x 260g shot weight = 982.8kg of parts  
226kWh/day for the SPARK AE300, compared to 285kWh/day for competition

**Total savings with 10 years**

(285-226)x30 x 11x10x0.1047=

**\$20,385**