

NINGBO ZHAFIR PLASTICS MACHINERY MANUFACTURING CO., LTD.

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TECHNOLOGY TO THE POINT



SMART
TECHNOLOGY



FLEXIBLE
INTEGRATION



SUSTAINABLE
SOLUTIONS



5

New Generation
of Electric Injection Molding
Machines

Zhafir at a glance

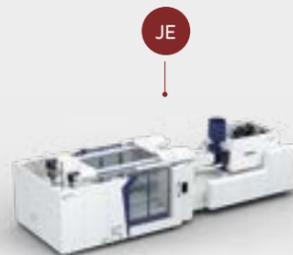
400 – 33,000 kN



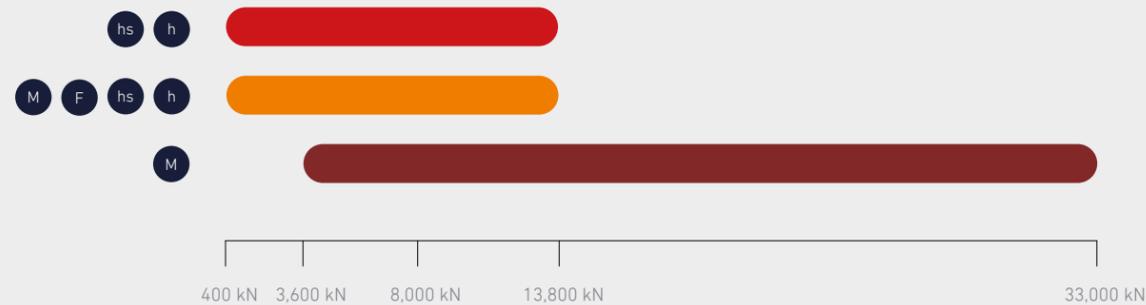
Zhafir Venus Series
400 - 13,800 kN
fully electric. precise.
clean



Zhafir Zeres Series
400 - 1,3800 kN
integrated hydraulic. flexible.
economically



Zhafir Jenius Series
3,600 - 33,000 kN
hybrid two-platen.
compact. large parts



Performance to the Point

Injection Performance

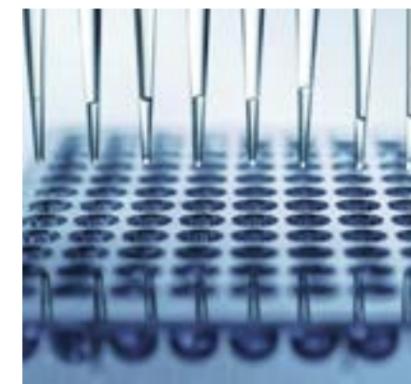
- h up to 350 mm/s – For thin-walled parts
- hs up to 500 mm/s – For ultra thin-walled parts

Application Performance

- F Performance version for short cycles and high injection performance
- M For multi component precision parts

The sophisticated range of electric injection molding machines from 400 - 33,000 kN covers the full performance spectrum of the plastics processing industry and meets the widest range of customer requirements in the manufacture of standard and precision plastic parts with a focus on premium quality and cost efficiency.

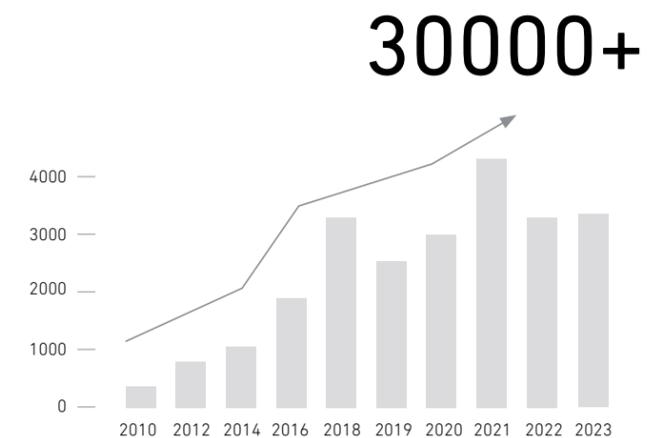
Smart, high precision, premium.
Extend the possibility of electric injection molding solutions.
For a wide range of applications and industries. Sustainable and energy efficient.



Injection molding of optical precision parts requires the highest accuracy and purity to ensure flawless surfaces and exact dimensions. Special plastics and precise control of the process parameters are essential to achieve optical quality for applications such as lenses or light guides.

The electric Zhafir 5 Series combine system solutions for almost all medical applications, from complex high-end applications in small series to so-called „high volumes“ with high cavities. From simple equipment with laminar flow box to production in a clean room environment.

In the electronics industry, where micromillimeter precision and fast production are crucial, Zhafir offers solutions for complex, thin-walled parts. Its technologies combine energy efficiency, high availability and maximum productivity to cope with the constant pressure to innovate.



The success story continues. Up to date, around 30,000+ Zhafir machines had been installed in around 60 countries worldwide.



Product Strategy Technology to the Point

Zhafir is revolutionizing the plastics machinery industry with its fifth generation: continuous quality and efficiency improvements, digital intelligence, and sustainable solutions. These innovations shape a new intelligent manufacturing format in injection molding, setting industry benchmarks and meeting customer needs at the highest level.

TECHNOLOGY TO THE POINT



Smart Technology

Zhafir smart & intelligent products infuses mechanical hardware with digital intelligence, using AI and sensors for self-optimizing production. Our fifth-generation machines exemplify smart innovation, focusing on reducing operating costs and boosting efficiency. We aim to collaboratively shape a smart future with our customers, harnessing technology for success in today's tech landscape.

Flexible Integration

Our intelligent injection molding machines feature open integration functions and interfaces for seamless connection with peripherals and automation units. They create an integrative production ecosystem, providing extensive data from the industrial value chain. This ecosystem offers insights into plant status, production plans, process control, quality traceability, and full life cycle management, including energy consumption and decision analysis, leading to an integrated production environment.

Sustainable Solutions

Zhafir, as an innovative driver, is committed to social responsibility, environmental protection, and resource conservation. We focus on developing energy-efficient technologies, advancing energy-saving drives, and reducing equipment carbon footprints. Our innovations support the use of degradable and recyclable materials, offering customer-centric, application-driven solutions. Our technology aims to deliver economic and environmental benefits, ensuring a sustainable future for coming generations.

ZE_VE Series Highlights at a Glance

The new Zhafir machine generation 5 combines numerous innovations at the highest level and paves the way to a new level in intelligent production.

5

Flexible Integration

Auxiliary control switching with just a button press, ensuring ease of operation and seamless integration. It comes standard with an OPC/UA interface, facilitating robust and secure communication. Additionally, the integration with IoT/DX Internet of Things technology enables advanced connectivity and smart factory capabilities.



1

Structural Optimization

Enhanced for maximum factory space efficiency, this machine boasts a compact footprint without compromising performance. It features an innovative all-motor double shift structure for continuous operation and is built with a rigid, stable body, ensuring durability and consistent output.

2

Smart features

Equipped with advanced anti-jamming and anti-drift technology for precise, stable operation. It includes intelligent features for multi-stage injection speed, hold pressure control, mold protection, and a smart energy management for better production efficiency.

3

Controller & HMI

The new multi-touch capacitive screen offers an intuitive and responsive user experience. The redesigned UI is user-friendly, enhancing interaction efficiency. It features multi-configuration and shuttle buttons for easy operation.

4

Strong Performance

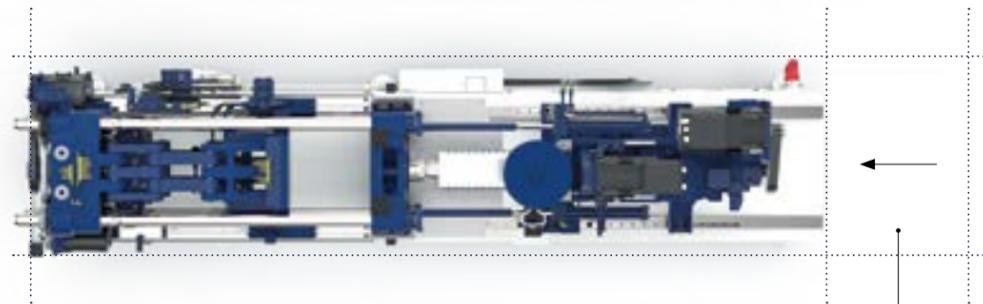
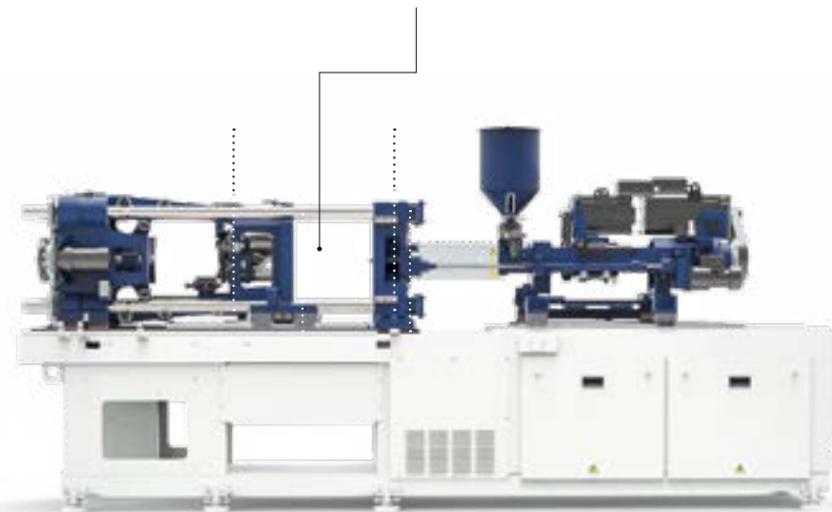
Equipped with a dual CPU control system, our machine offers fast and sensitive responsiveness. Experience a 20% increase in mold opening and closing speeds, coupled with a motorized ejection speed reaching up to 400mm/s, for unparalleled efficiency and productivity.

Structure Optimization

Enhanced stability of our machines for unmatched quality in results and more productivity in your factory.

High-Rigidity Structure

Design ensures parallel mold movement and protection, maintaining alignment between movable and fixed platen.



Smaller Footprint

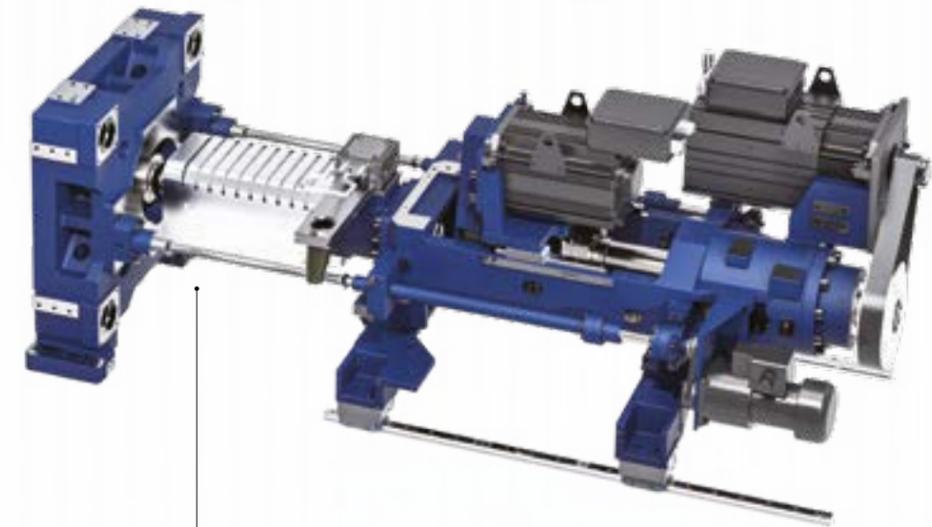
Compact design for greater efficiency in the injection molding factory.

Floor space average reduction by
10 %



Symmetrical and Precise

The symmetrical arrangement of the dual support structure enables central distribution of the nozzle system and uniform force distribution on the fixed platen. This effectively prevents the platen from tilting and ensures precise mold movement.



Symmetrical motorized nozzle contacts



Conventional motorized nozzle contact device



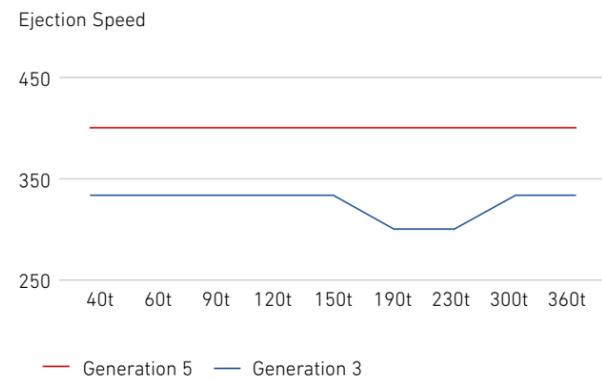
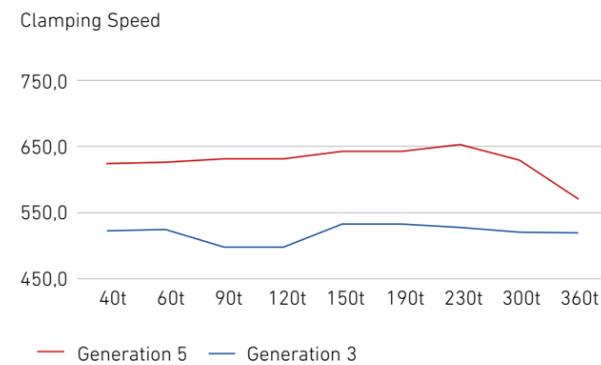
Mechanical Performance

The 5th machine generation offers greater precision and faster cycle times for optimized production.

20 % faster

Fast mold open and close

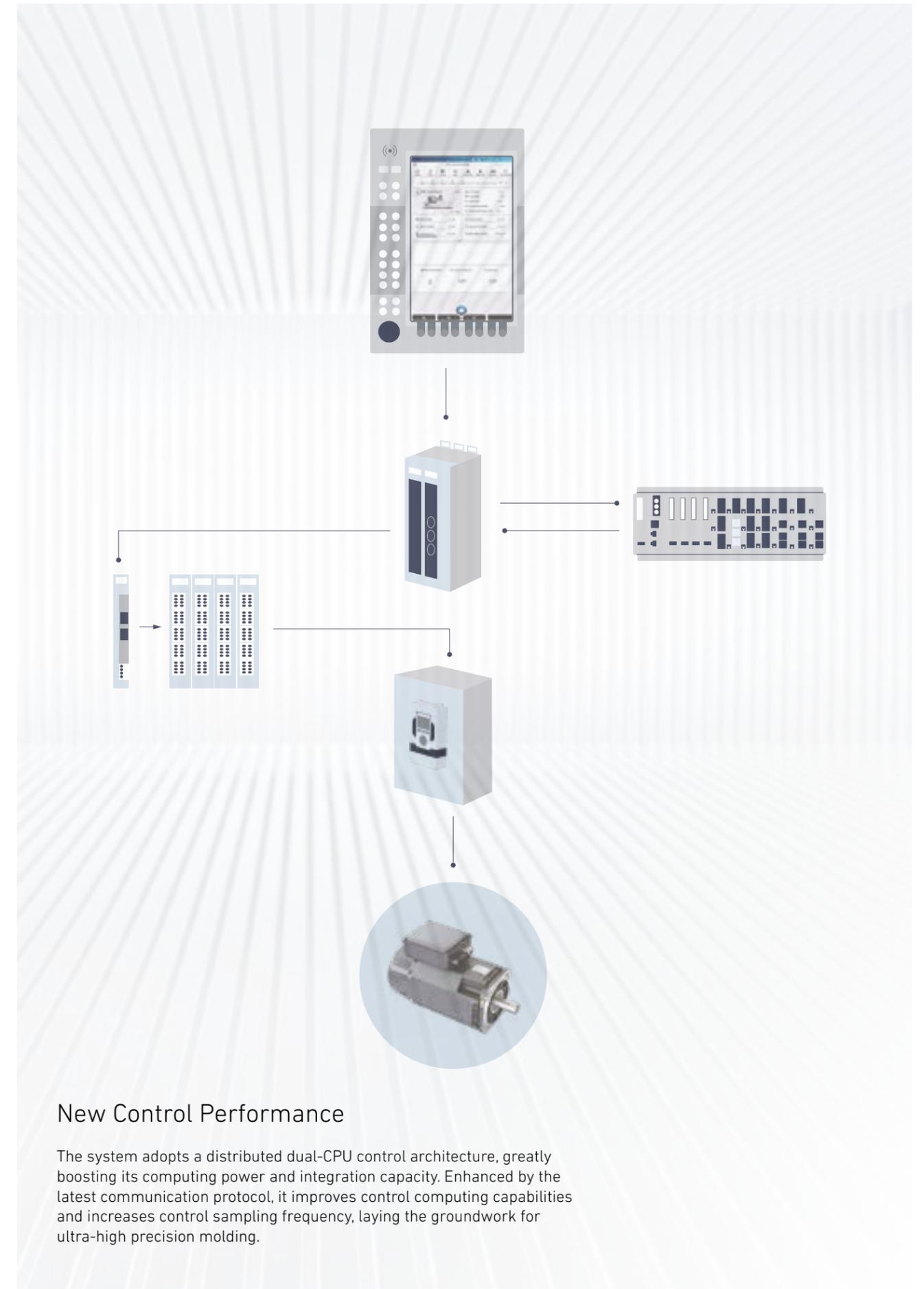
High response servo motors and the improved S-curve control reduces vibrations, enables faster dry cycles and more efficient production of small-sized products.



Upgrade: now 400 mm/s

Increased ejector speed

With faster reaction times, smaller molded part geometries with high mold cavities can be easily demolded. The speed was increased from 300 to 400 mm/s.

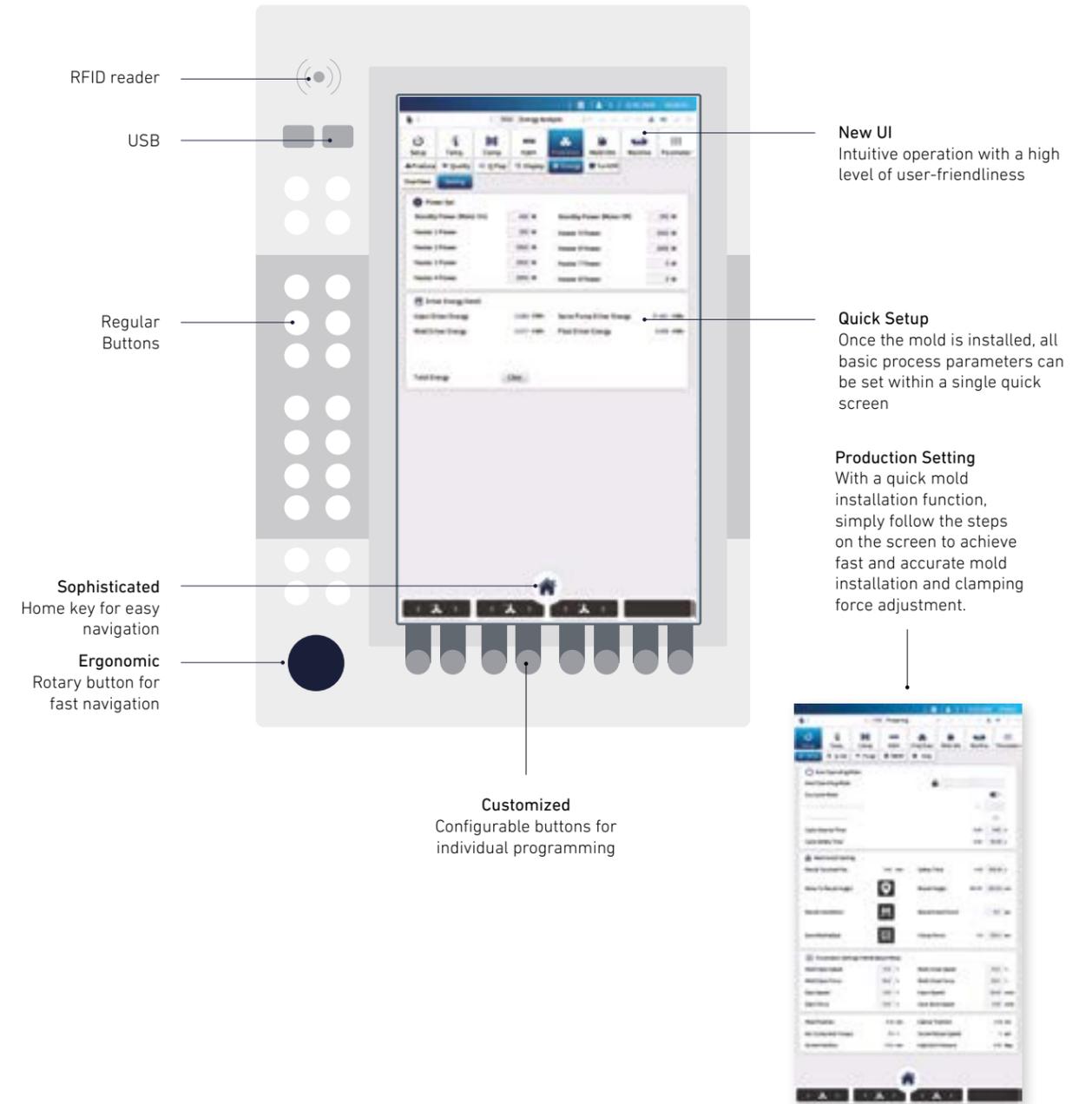


New Control Performance

The system adopts a distributed dual-CPU control architecture, greatly boosting its computing power and integration capacity. Enhanced by the latest communication protocol, it improves control computing capabilities and increases control sampling frequency, laying the groundwork for ultra-high precision molding.

Userfriendly Control Technology

Our latest control system is innovative and efficient. The control panel is user-friendly and sets new standards in terms of operating speed.



Highlights at a Glance

- 15-inch HD color display with capacitive touchscreen and dedicated image processing CPU for a clear, smooth user experience.
- User-friendly, intuitive and easy-to-learn interface.
- Innovative rotary knob for easy navigation through pages and settings.
- Vertical screen layout separates setup and monitoring areas for optimized visibility.
- Customizable buttons and layouts for personalized function settings.

HT·XTEND

Smart Technology as a General Standard

The Zhafir Series has never been more precise and process-optimized.

HT·XTEND stands for the digital transformation at Zhafir Plastics Machinery. Intelligent hard- and software and intelligent factory planning. Our smart solutions accompany you through the entire product life cycle - from component design and sampling to production, maintenance and service. With our intelligent machines and services, you can maximize the potential of your systems and optimize production efficiency - sustainably and responsibly. Our fifth generation of machines embodies this innovative intelligence, focusing on reducing operating costs and increasing efficiency in order to create future-oriented, intelligent production together with our customers.



HT·Pressure

High precision molding for unmatched accuracy and product quality

HT·Protect

Intelligent mold protection for rapid response and enhanced mold safety

HT·HoldControl

Multi-stage back pressure control for optimal part quality and reduced scrap in molding

HT·SpeedControl

Multi-stage injection speed for reduced defects and enhanced surface quality



HT·Energy

Energy Management 2.0 for efficient power use and optimized plant layout

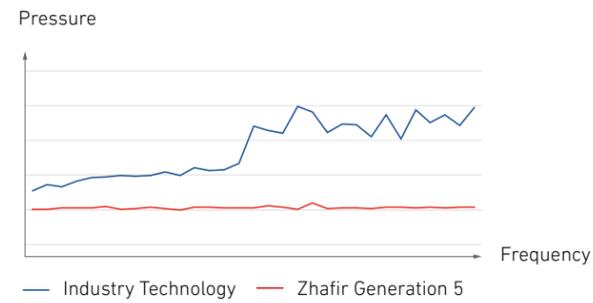


HT·OptiForce

Most optimal clamping force for enhanced energy efficiency and plant planning

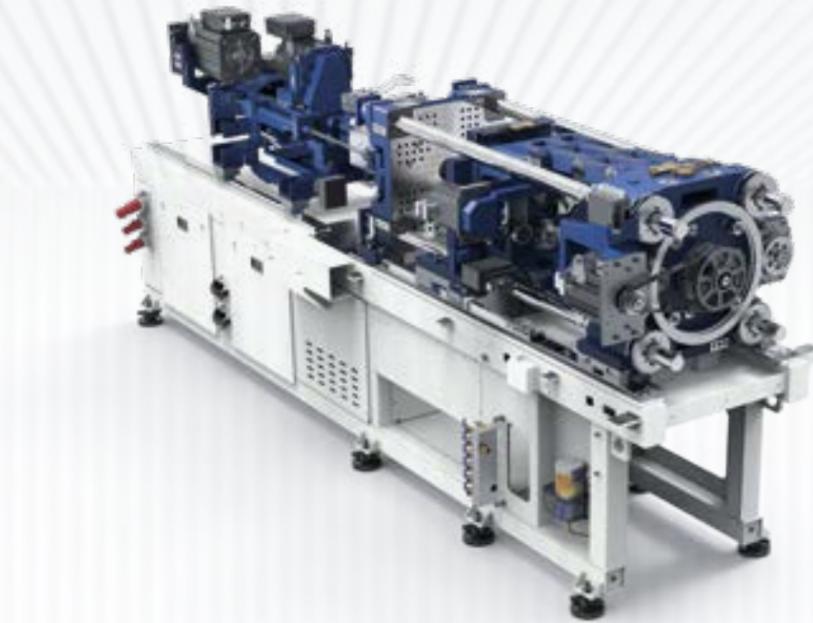
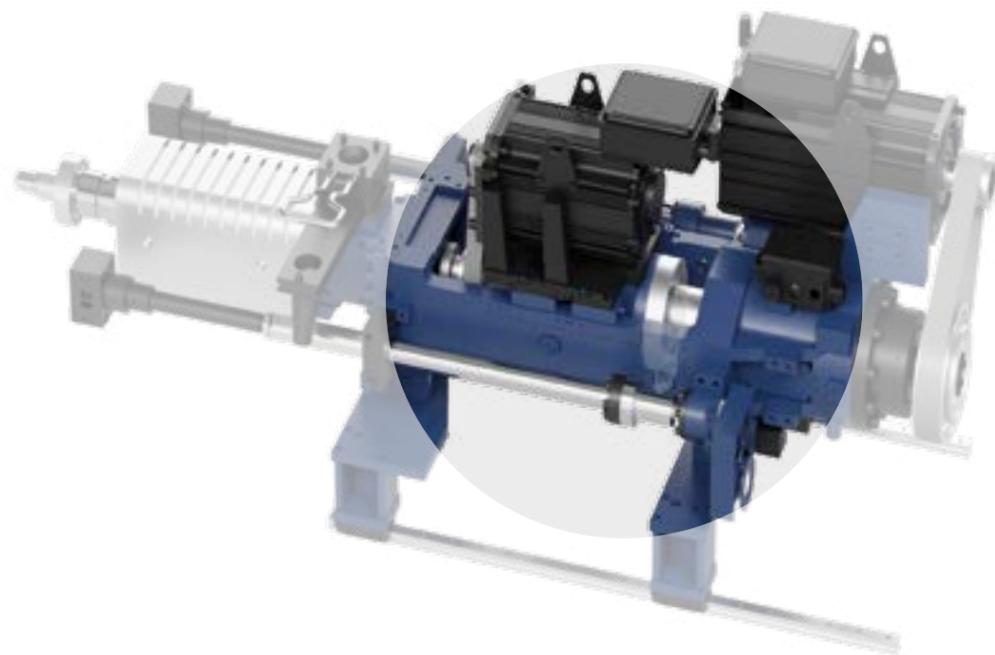
HT·XTEND Smart Technology

Intelligent products made by Zhafir increases machine performance and boosts productivity.



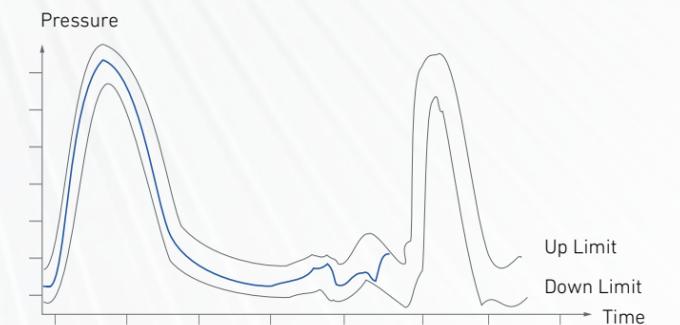
HT·Pressure

High precision molding
State-of-the-art pressure sensing templates are combined with the latest Nimblex anti-jamming EMC and anti-drift technologies. This setup ensures intelligent pressure origin monitoring and calibration for ultra-high precision molding.



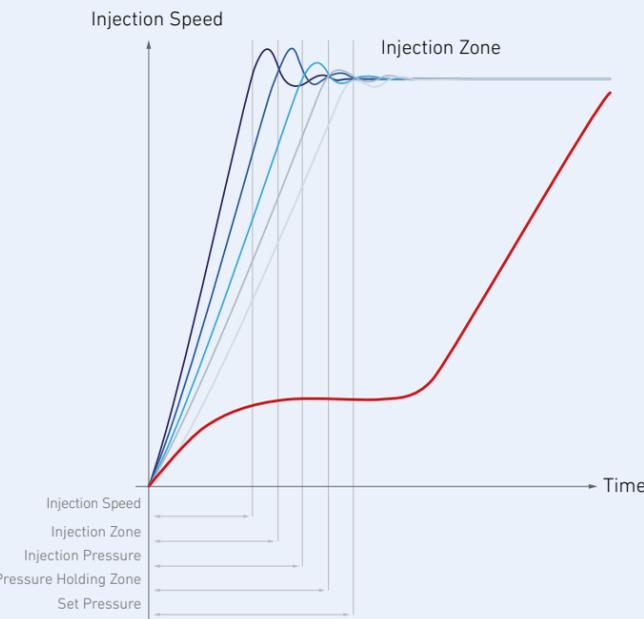
HT·Protect

Intelligent Mold Protection
Upgraded intelligent full-cycle mold protection. Highly sensitive proactive mold protection instantly detects minor deviations in load throughout the entire mold closing process, minimizing mold protection response time to the lowest possible.



HT·XTEND Smart Technology

Zhafir smart & intelligent products infuses mechanical hardware with digital intelligence, using AI and sensors for self-optimizing production.



HT-SpeedControl

Multi-stage injection speed

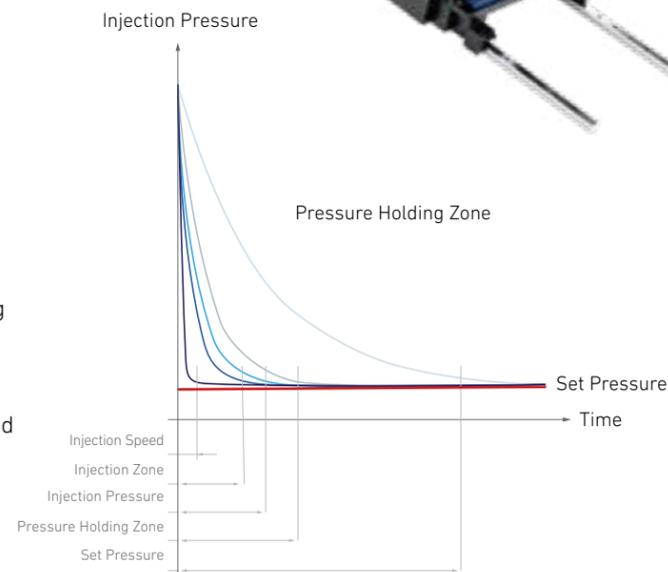
By adapting the injection profile to the part surface, the risk of pressure peaks and component defects is significantly reduced. Our intelligent multi-stage injection speed control optimizes shear rate, pressure and temperature during the injection phase, improves surface quality and minimizes material waste.



HT-HoldControl

Multi-stage pressure holding response control

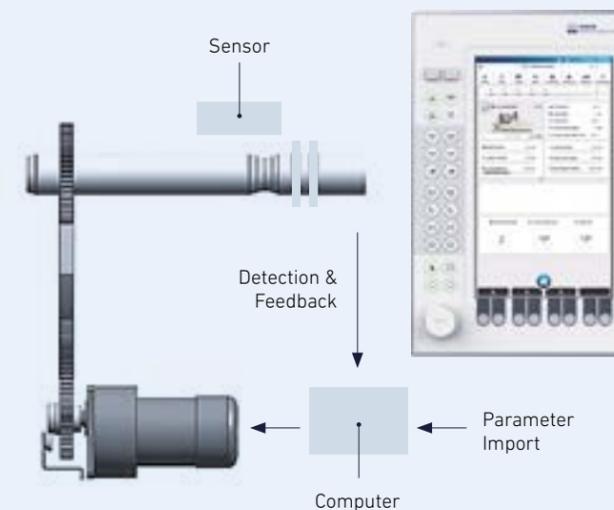
This intelligent feature automates and optimizes the holding pressure phase by means of intelligent multi-stage control. The software improves part density and quality while minimizing warpage and internal stresses. Suitable for a wide range of materials and geometries, it helps reduce scrap and increases dimensional accuracy.



HT-Energy

Energy Management

No need to match a electric meter, and easily enable refined energy consumption monitoring and analysis. Enables customers to optimize energy efficiency. Easy for customers to plan the power layout of the plant. Easy for customers to find the most energy-efficient production plan.



HT-OptiForce

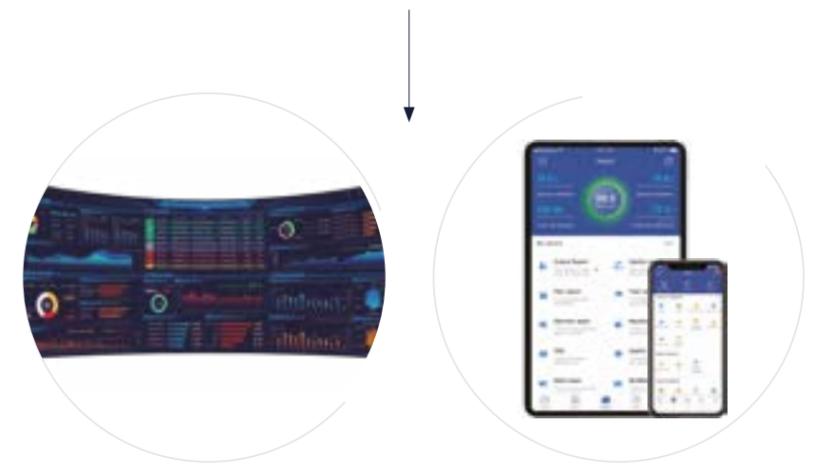
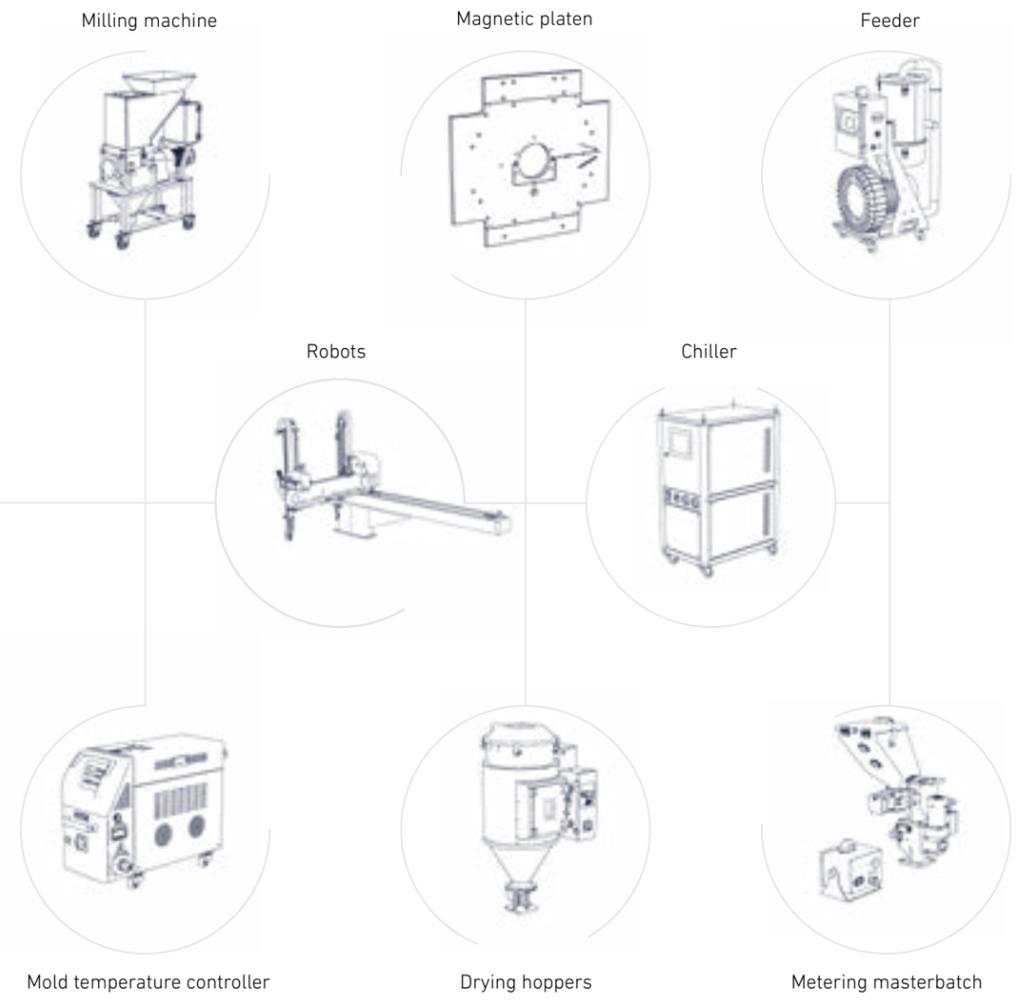
Most optimal clamping force (optional)

Smart adjustment of the clamping force, based on the simulation and response curve, intelligently configuration of the actual clamping force needed for production of different products. It can automatically detect the minimum clamping force required to ensure complete alignment of the mold parting surface, significantly reducing clamping force and energy consumption and extending the mold's lifespan.



Flexible Integration Open Connectivity

Zhafir offers flexible integration with OPC UA as standard, „Go Factory 2.0“ software for automated production, and compatibility with global interfaces for seamless and open connectivity.



By connecting global factories through advanced information technology, it's possible to monitor the operational status of all factories and each injection molding machine worldwide from a central monitoring hub.

Zhafir Worldwide

Close to our Customers



Zhafir in Ebermannsdorf, Germany



Zhafir in Chunxiao, Ningbo