

TECHNOLOGY TO THE POINT



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# JUPITER SERIES

SERVO-HYDRAULIC TWO-PLATEN SOLUTION  
4,500 - 88,000 kN





## TECHNOLOGY TO THE POINT



SMART  
TECHNOLOGY



FLEXIBLE  
INTEGRATION



SUSTAINABLE  
SOLUTIONS

### Opening up the future of the fifth generation

Continuous optimization of quality and efficiency, new digital intelligence and the development of sustainable solutions are important keys of future-oriented plastics machinery industry. Haitian International works tirelessly to meet customers' needs by continuously improving its core technology platform and driving innovation at the highest level. The fifth generation creates a new intelligent manufacturing format that enables injection molding machines, mold-, application and one-stop solutions and once again sets the benchmark for the injection molding machine industry.

### Smart

#### Smart Technology

In the modern technological landscape, smartness not only stands for the edge, but also for success. At "Haitian smart & intelligent products", we have continuously evolved to give mechanical hardware "a soul engine" through digital intelligence platforms. AI algorithms and sensor technology enable intelligent optimization of production processes and provide self-awareness, self-adaptation, self-decision-making and self-reconfiguration of smart equipment. Our new fifth machine generation sets new standards. With a clear focus on smart innovation and enablement, we strive to minimize operating costs and maximize production efficiency. Our vision: Shaping a smart future together with our customers.

### Flexible

#### Flexible Integration

Our intelligent injection molding machines are equipped with flexible and open integration functions. Open interfaces support efficient connection with peripheral devices, automation units, etc. With the upstream and downstream data of the industrial value chain, an integrative production ecosystem is created that generates extensive information benefits for the plastics processor. From plant status and production plan to process control and quality traceability to full life cycle management incl. energy consumption, decision analysis, etc., the result is an integrated production ecosystem.

### Sustainable

#### Sustainable Solutions

As an industry leader, Haitian International focuses its research and development efforts on fulfilling social responsibility, protecting the environment, and conserving and utilizing resources. We continue to develop energy-saving and consumption-reducing technologies, promote the upgrade and iteration of energy-saving drives, reduce the carbon footprint of equipment, and provide technological innovation and efficient solutions for the use of degradable and recyclable materials. We remain customer-focused with application-driven solutions made by Haitian. Technology to the point for economic and environmental benefits and a future fit for next generations.

# JU 5

## SERVO-HYDRAULIC TWO-PLATEN SOLUTION

Energy saving, efficient, intelligent

**20-40%** Electrical charging with higher energy saving rate  
**Energy Saving** 

### HT Clamp

Optimized correction algorithm for stable and fast mold movement and accurate mold positioning.

### Large mold space

Mold transfer stroke, ejection stroke and layout are highly expandable to meet the demands of different industries.

### HT Energy

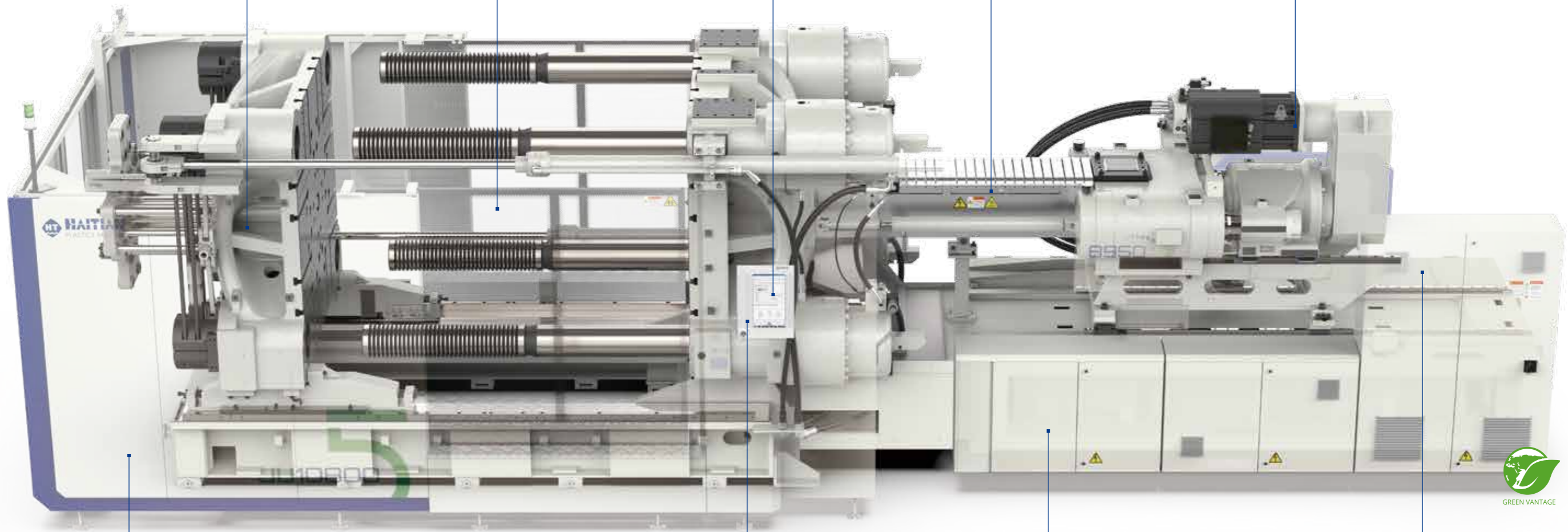
A refined energy consumption monitoring and auxiliary management.

### Comprehensive upgrade of plasticizing equipment

The plasticizing performance has been greatly improved, and the wear resistance of plasticized parts has doubled.

### Equipped with electric pre-molding

The Plasticizing speed and quality are improved, while the energy efficiency of the entire machine is comprehensively improved (optional for models with injection equivalent of 11,500 and above).



### Small footprint

The whole machine has a compact structure, which maximizes the usable space of the factory.

### HT Control

New large-screen control panel and new UI design make the interactive experience more user-friendly.

### HT Diagnose

Graphical digital bus topology, quickly locate fault nodes and determine the cause of the fault.

### High-response servo system

Tailor-made servo power system, high-speed response, dynamic sensitivity, and surging power.

### Accurate temperature monitoring

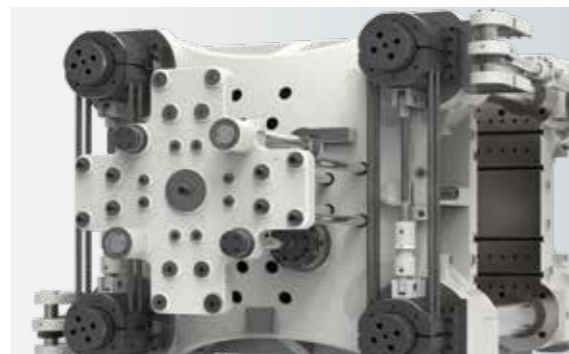
The oil temperature is accurate, the process status is stable, the blanking temperature is accurate, the material storage is stable, and the whole machine operates more stably.

## JU 5 CLAMPING UNIT

- ◎ Solid structure, stable operation and reliable durability.
- ◎ More comprehensive mold closing main parameter planning to meet the needs of different molds and product processes to the maximum extent.
- ◎ HT Clamp for intelligent mold movement and control system, the process of opening and closing is dynamic, quiet and precise, the dry cycle rate could be shortened significantly as a result.
- ◎ The peripheral protection design of the 5th generation is safer, more user-friendly and design optimized.
- ◎ Abundant international interfaces.



The four short-stroke clamping cylinders on the fixed platen ensure a fast and uniform clamping force with real-time monitoring by a pressure sensor and high repeatability.



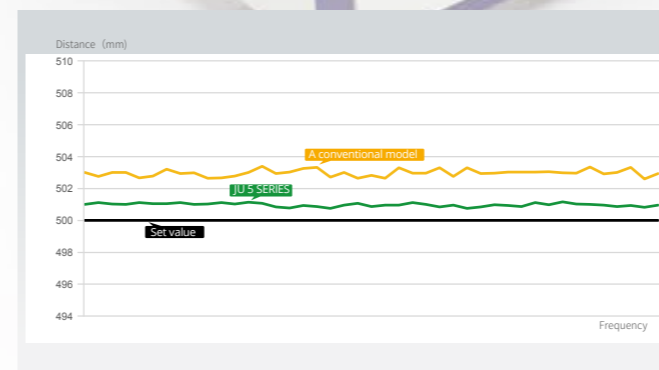
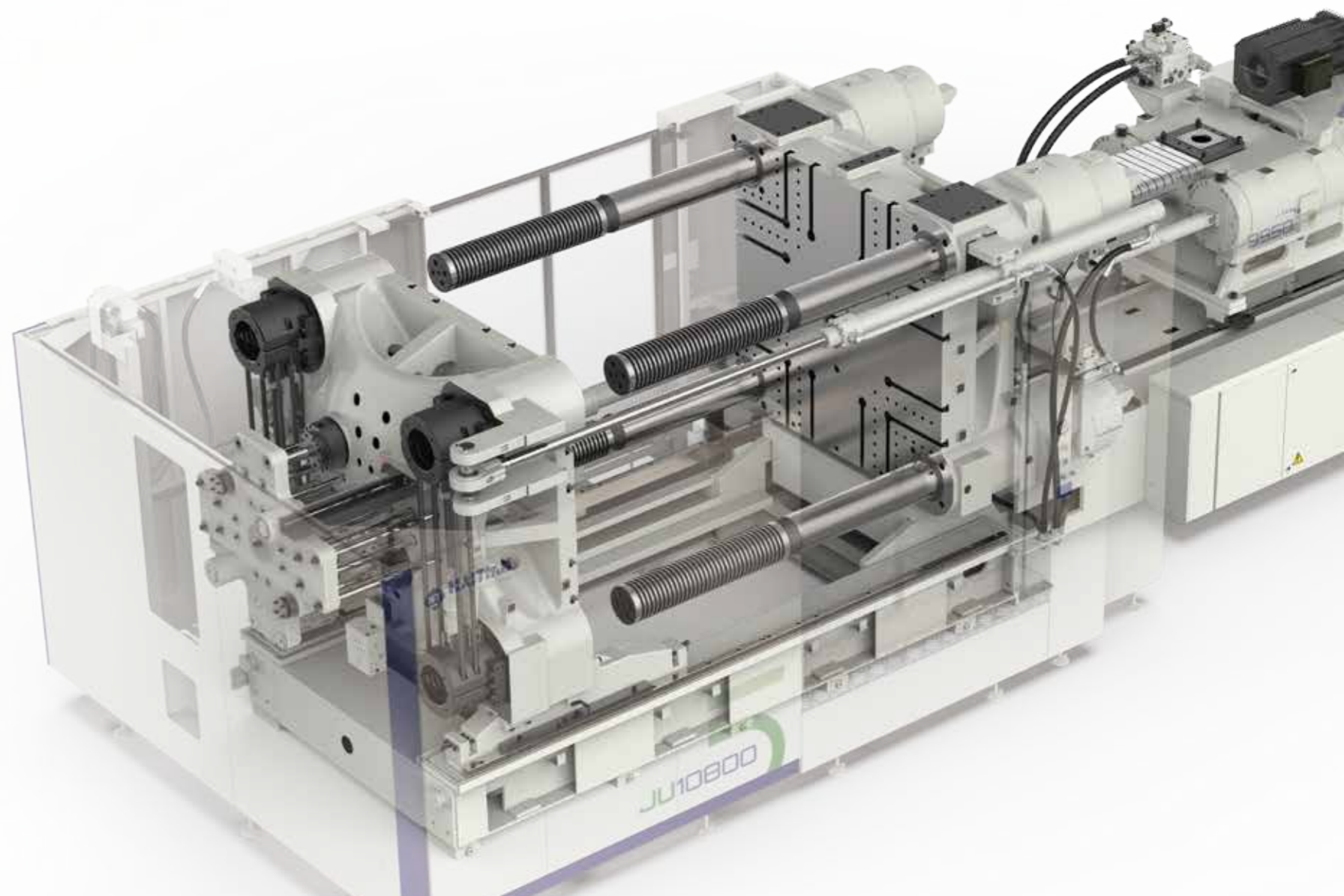
Parallel lock nut operation ensures fast and accurate response. Fast, reliable and quiet.



High-rigidity movable platen support device and guide mechanism on the bottom and side of machine bed ensures the precision of movable platen during loading of heavy molds

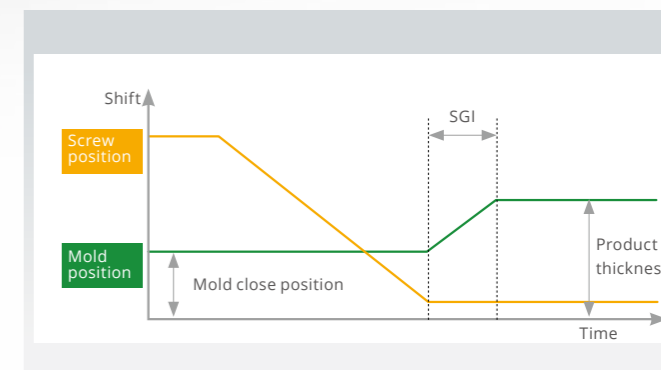


Equipped with a large-area safety pedal to provide safety protection for the mold clamping area (9000kN and above).



### HT Clamp

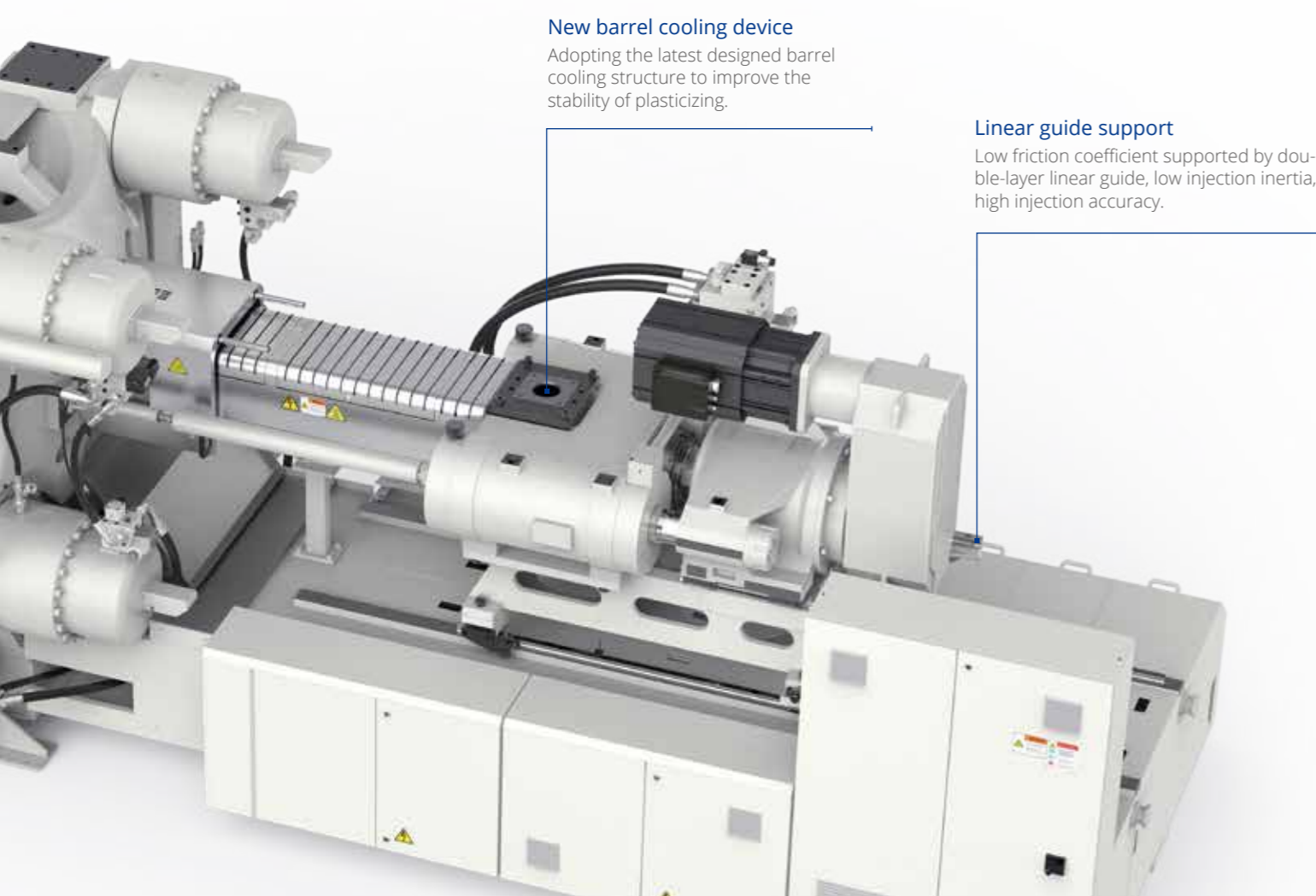
An intelligent, self-learning and self-correcting algorithm ensures precise mold opening and positioning as well as stable and fast movements by correcting position deviations.



### Micro mold opening process

Controllable, fast and precise micro-opening of the mold cavity, combined with special foamed raw materials, achieves lightweight injection molding products and reduces costs.

# JU 5 INJECTION UNIT



### New barrel cooling device

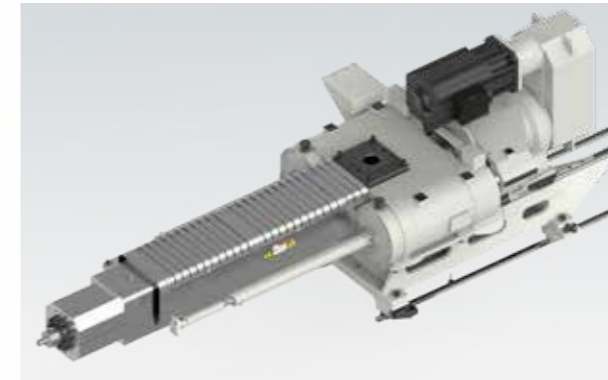
Adopting the latest designed barrel cooling structure to improve the stability of plasticizing.

### Linear guide support

Low friction coefficient supported by double-layer linear guide, low injection inertia, high injection accuracy.

**20-40%** Electrical charging with higher energy saving rate

**Energy Saving**



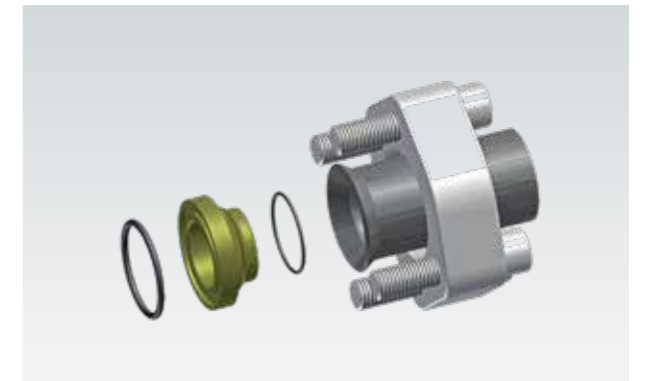
The new electric pre-molding not only improves the plasticizing speed and quality, but also improves the Energyefficiency of the whole machine.



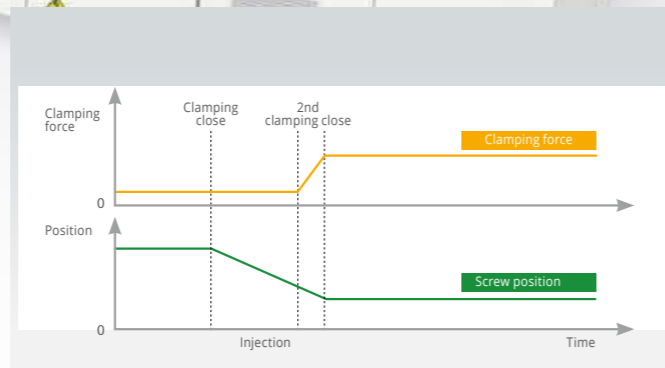
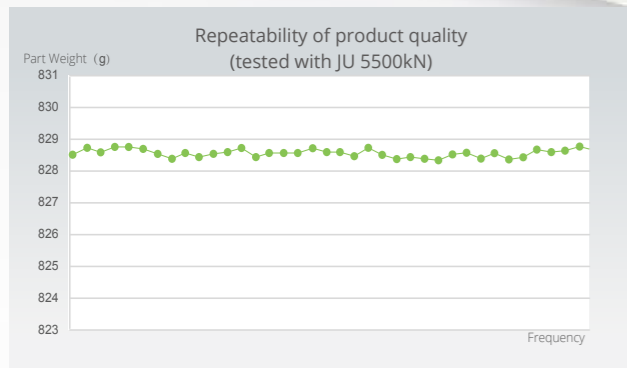
The plasticized parts have been comprehensively upgraded, and the plasticizing performance has been greatly improved. The wear resistance of the plasticized parts has doubled, and the service life has been extended.



The energy-saving insulation device adopts a double-layer barrel cover structure and a detachable energy-saving insulation structure design, which effectively improves the heating and insulation effect.



The non-welding process of power pipelines reduces the risk of oil leakage, improves the cleanliness of pipelines, and extends the service life of hydraulic components.



### Injection fully closed loop control

Achieve fine control of injection movement, rapid response, high injection repeatability, good low-speed stability, and good product consistency, which not only improves equipment performance but also improves process adaptability.

### Low pressure injection molding

Reduce the internal stress of product molding, reduce deformation and shrinkage, and better control product dimensional accuracy and consistency.

## JU 5 POWER SYSTEM

The fifth generation dedicated servo power system for injection molding machines

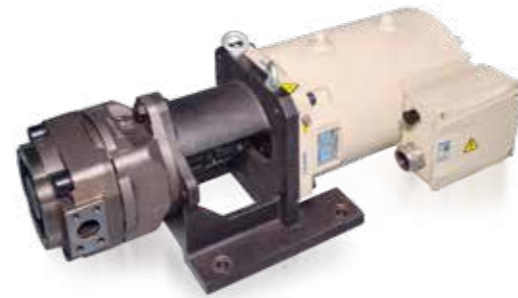
Haitian continues to be committed to the field of servo drive and control systems. A long and vast application experience makes it possible for us to develop a new generation of servo drive systems equipped with high performance servo drives and the latest high speed gear pumps from Sumitomo Japan. The result: efficient and energy-saving, high performance, quiet and stable operation.

### Ultra-high dynamic response

Easily matches customers' needs for high-speed and high-response equipment and expands the scope of product processes.

### Ultra-low speed and high stability

Adopt dynamic differential compensation technology to completely solve the internal leakage problem of the gear pump and easily meet customer requirements for ultra-low speed and high stability.



Fifth generation injection molding machine dedicated tailor made servo motor



The fifth-generation dedicated servo drive for injection molding machines

Fully digital bus control system with high dynamics and high responsiveness.

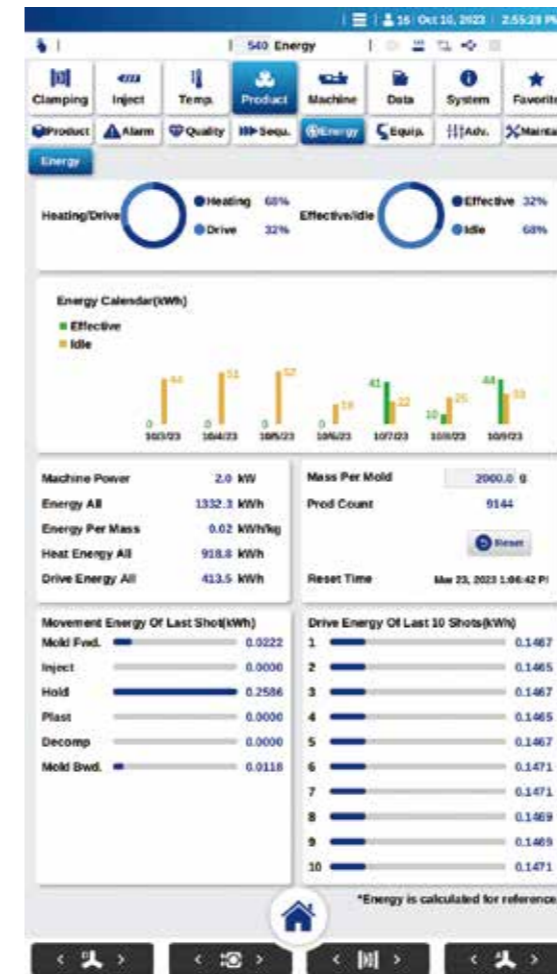


Latest high speed gear pump for injection molding from Sumitomo Japan

The new QS pump has ultra-high stability and greatly which improves work efficiency.

## JU 5 CONTROL SYSTEM

- ◎ 15.6-inch touch screen, vertical layout, abundant human-computer interaction information, more reasonable partitions, and more friendly multi-touch operation
- ◎ Standard RFID user identification card reader
- ◎ Standard 4 groups of 8 online configurable add-ons Buttons
- ◎ Standard configuration of 16 channels of extended programmable button input
- ◎ Series of online help interface functions, QR code link online help function
- ◎ Can support PDF, 3D view file display
- ◎ New screen collection function, quickly locate commonly used screens
- ◎ Multi-language online switching, perfect multi-language text display



# HT·XTEND SMART FEATURES AS GENERAL STANDARD

HT Clamp



HT Dosing



HT Energy

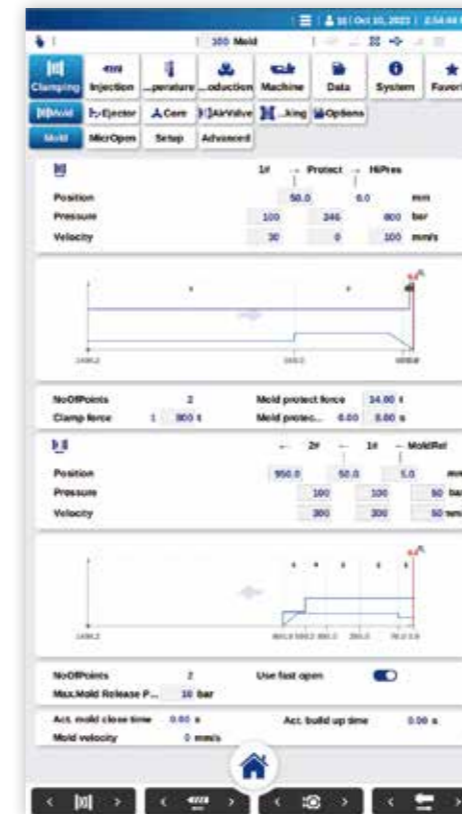


HT Diagnose,  
HT Inspect,  
HT Alert



The Jupiter Series has never been more process-optimized. The intelligent functions we have developed are “in line” with the development of our entire series. For example, HT Energy, in which we have dispensed with conventional sensor technology and instead implied a mathematical model. This solution was also developed

in-house, in close cooperation with other Haitian divisions, and is available to users as standard equipment, at no extra cost. Because our principle still applies: We want to give our customers the greatest possible competitive advantages without imposing additional costs on them.



### HT Clamp

Self-learning and self-correction algorithm adjusts position deviation, accurates mold opening and positioning, and stables and fast movement.



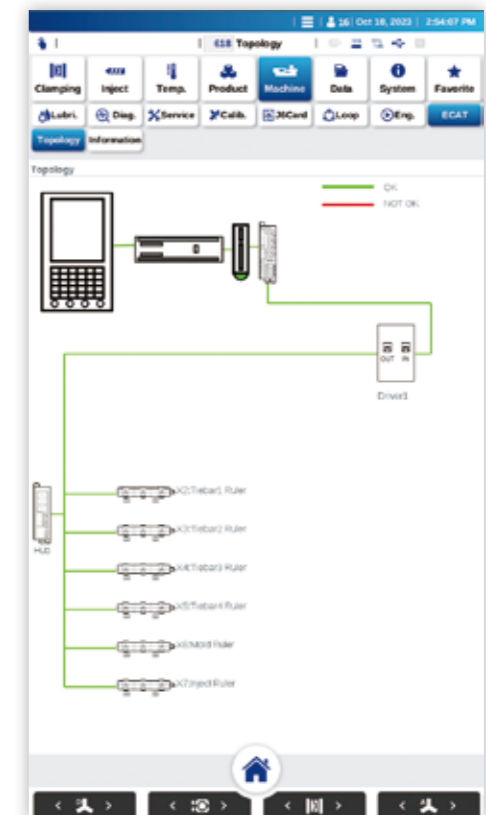
### HT Dosing

Charging speed adaptive control optimize energy consumption and reduce mechanism wear.



### HT Energy

Standard with refined monitoring of energy consumption, auxiliary management, statistics and analysis of energy consumption distribution in the production process.



### HT Diagnose, HT Inspect, HT Alert

A great help for service, for all functions connected to the bus system to indicate e.g. when sensors are not connected.

# JU 5

## FLEXIBLE INTEGRATION

JU5 is equipped with flexible open integration functions, and the entire series is equipped with "Go Factory 2.0" digital intelligent management software, which can best meet customers' one-stop demands for automated and digitally intelligent production.

In addition, it can be compatible with the latest international general interfaces according to needs. Customers can freely choose automation integration equipment and MES partners to realize interactive connections between multi-device and multi-platform systems with injection molding machines as the core, and enjoy open integration.





# JU 5 CONFIGURATION

## Injection unit

- Dual-cylinder balanced injection system
- Nozzle centering fine adjustment device
- Swiveling injection unit
- Linear guide rail for injection and carriage
- Electrical charging (8950 injection unit and below)
- Wear-resistant/corrosion-resistant plasticized components
- Barrel discharge port cooling system and temperature monitoring
- Barrel heating temperature closed-loop control (applicable to both K-type and J-type)
- Barrel insulation function
- Barrel energy-saving device
- Barrel temperature cycle start function
- Barrel temperature synchronous heating function
- Screw cold start prevention function
- Injection curve monitoring function, memory function
- Three seating and withdrawal methods (after material charging, before mold opening, after injection)
- Back pressure control of charging proportion
- Automatic purging function
- Cold material function
- Secondary charging function

## Clamping unit

- Two-platen clamping unit
- High-rigid movable platen support device
- Diagonally oblique fast platen moving mechanism
- High rigidity and high strength Haitian patented platen
- Synchronous clamping mechanism
- Inverted double-cylinder ejection mechanism
- Ejector pin pull-back mechanism
- Haitian standard T-slot + threaded hole platen
- Robot with threaded hole interface (Euromap 18)
- Embedded positioning ring (fixed plate)
- Mold opening and ejection system independent/linked switching function
- Automatic mold height adjustment function
- Clamping oil pressure sensor detection function
- Multi-level proportional control of clamping force
- Clamping force pressure safety limiting function
- Mold breaking pressure safety limiting function
- Turn off the motor and maintain low clamping force in mold adjustment mode
- Automatic pressure relief function of clamping force when shutting down in manual or automatic mode
- Spring mold function
- Safety pedal in mold area
- Differential rapid mold opening function
- Low clamping force mold protection function
- Two unit conversions for clamping force (TON and Bar)

## Hydraulic unit

- Servo energy-saving hydraulic system
- Mold open/close proportional and directional control
- Oil temperature sensing and alarming function
- Oil temperature and large flow independent cooling system control
- Bypass fine independent filtration system
- Detachable oil suction and filtering device
- Core position signal 16-pin industrial socket
- Bypass pressure relief function (early pressure relief)

## Control system

- Parameter data protection function
- Solid state relay temperature control device

- System oil temperature warning device
- High-precision digital displacement sensors for mold open-close, injection, and mold adjustment
- KEBA controller + 15-inch color touch screen
- Configure the USB interface to realize any large storage module number
- Automatic fault diagnosis
- Insufficient hydraulic oil alarm
- Oil filter device clogging alarm
- Electric heating coil leaks and quickly melts the core
- Automatically shut down the motor when no action occurs
- Save mold parameters (maximum 200 items)
- Alarm recording
- Operation modification record
- Multi-language switching (Chinese, German, English, Japanese, etc.)
- Equipped with serial communication interface
- Equipped with Ethernet interface
- Back-out confirmation interface (connected to the neutron interface socket)
- Intelligent mold opening and closing function
- 6 groups of freely programmable IO points (substation)
- Digital communication loop intelligent diagnosis and help functions
- Smart consumption management function
- Smart material storage function

## Other

- Aluminum alloy ladder-type feeding platform
- Rotatable button box
- Electric front mobile safety door (9000kN and above)
- Tie bar and moving door step (crocodile mouth anti-skid plate, 9000kN and above)
- External operating platform on the operating side (crocodile mouth anti-skid plate, 21000kN and above)

## Optional

- The clamping mechanism and the injection mechanism are matched in size
- Charging during mold opening
- Electrical charging (11500 injection unit and above models)
- Hydraulic (pneumatic) nozzle
- Injection servo valve fully closed-loop control
- Injection direction proportional control
- Mold hot runner control
- Pneumatic cores
- Function of multiple-set cores
- Glass tube flowmeter
- Valve gate (pneumatic/hydraulic)
- EU77, EU73, EU82.1 and other interfaces
- EU12, EU67 electrical interface
- EU70, EU70.1 electrical interface
- OPC DA/OPC UA data interface
- Mold positioning ring
- Tie bar extraction function
- Automatic mold changing trolley
- Automatic plugging and unplugging system
- Hydraulic clamp
- Safety pedal hydraulic lifting type
- Machine-side automation equipment
- Integrated energy-saving dryer
- Low pressure injection molding
- Micro Opening function
- Micro foaming process
- Stacking mold process
- T mold process

- Standard
- Optional

# JU 5 OPTIONAL FEATURES



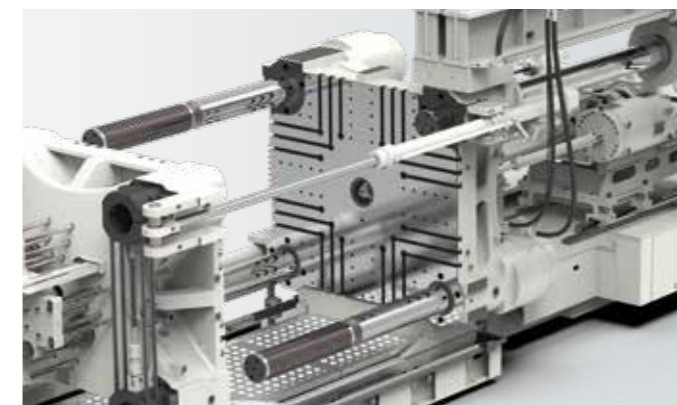
## HT Integration

Machines can be equipped with this smart feature to realize machine-side automation.



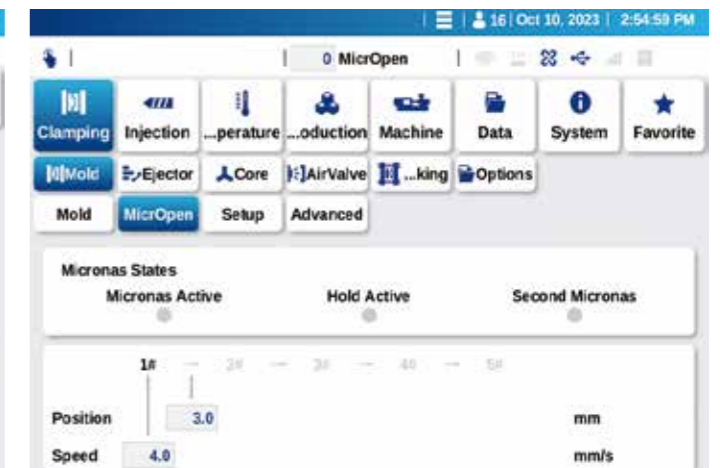
## Extension ports

Hot runner, cores, sequence valve and other interfaces.



## Tie bar extraction function

This device facilitates mold installation and removal, is flexible with different mold types, and has a small footprint in terms of height.



## Micro mold opening process

Controllable, fast and precise micro-opening of the mold cavity, combined with special foamed raw materials, achieves lightweight injection molding products and reduces costs.



## Micro foam molding technology

With the aim of preserving the original mechanical properties of the product, increasing its quality and reducing costs in the process.



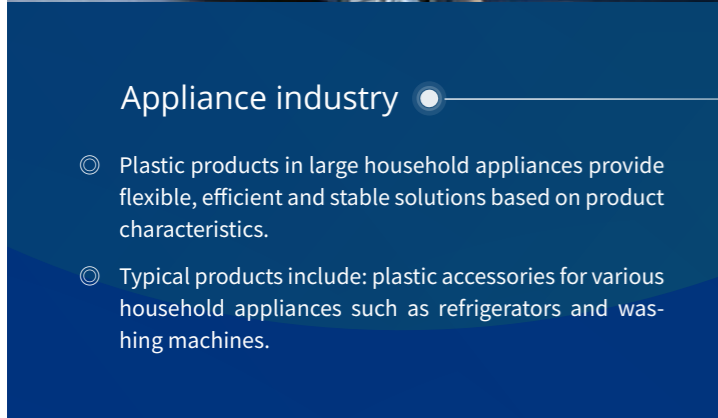
## One-click mold changing function

Facilitates automatic mold installation and disassembly.

## EXAMPLES FOR FIELDS OF APPLICATION



- Automobile industry
  - ◎ Plastic parts products in the automobile manufacturing industry are suitable for various process technologies and application requirements, providing efficient and high-quality solutions.
  - ◎ Typical products such as: automobile bumpers, automobile interior panels, etc.



- Appliance industry
  - ◎ Plastic products in large household appliances provide flexible, efficient and stable solutions based on product characteristics.
  - ◎ Typical products include: plastic accessories for various household appliances such as refrigerators and washing machines.



- Logistics industry
  - ◎ Plastic products with heavy mass and large projected area require large clamping force and large internal distance between tie rods; short mold transfer strokes provide efficient solutions.
  - ◎ Typical products include: large logistics turnover boxes, pallets, etc.



- Ultra large parts
  - ◎ The large dimensions and volumes of the parts quickly shift the focus to material consumption and processing. This requires well thought-out, efficient manufacturing solutions if you want to survive in the face of tough competition.
  - ◎ Typical products like trash cans, rain barrels, etc.

## HAITIAN WORLDWIDE



- Management HQ
- Overseas Management Center
- Regional Headquarters
- Manufacturing Center
- Application & Experience Center