

**EKS Series**



The Passionate Pursuit of Perfection

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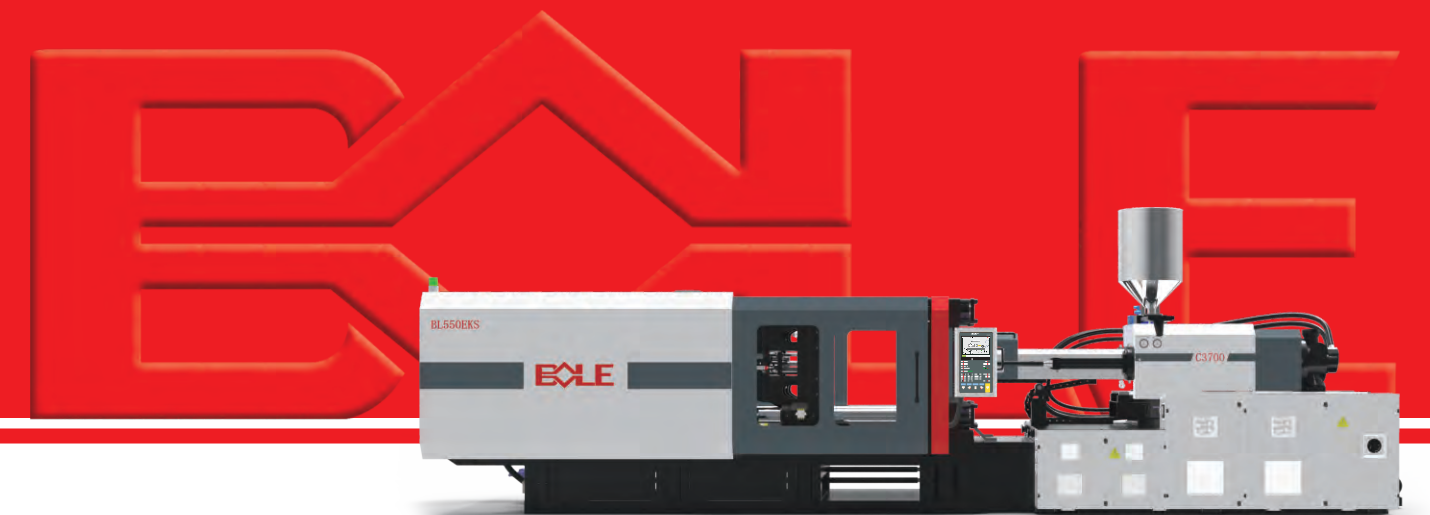
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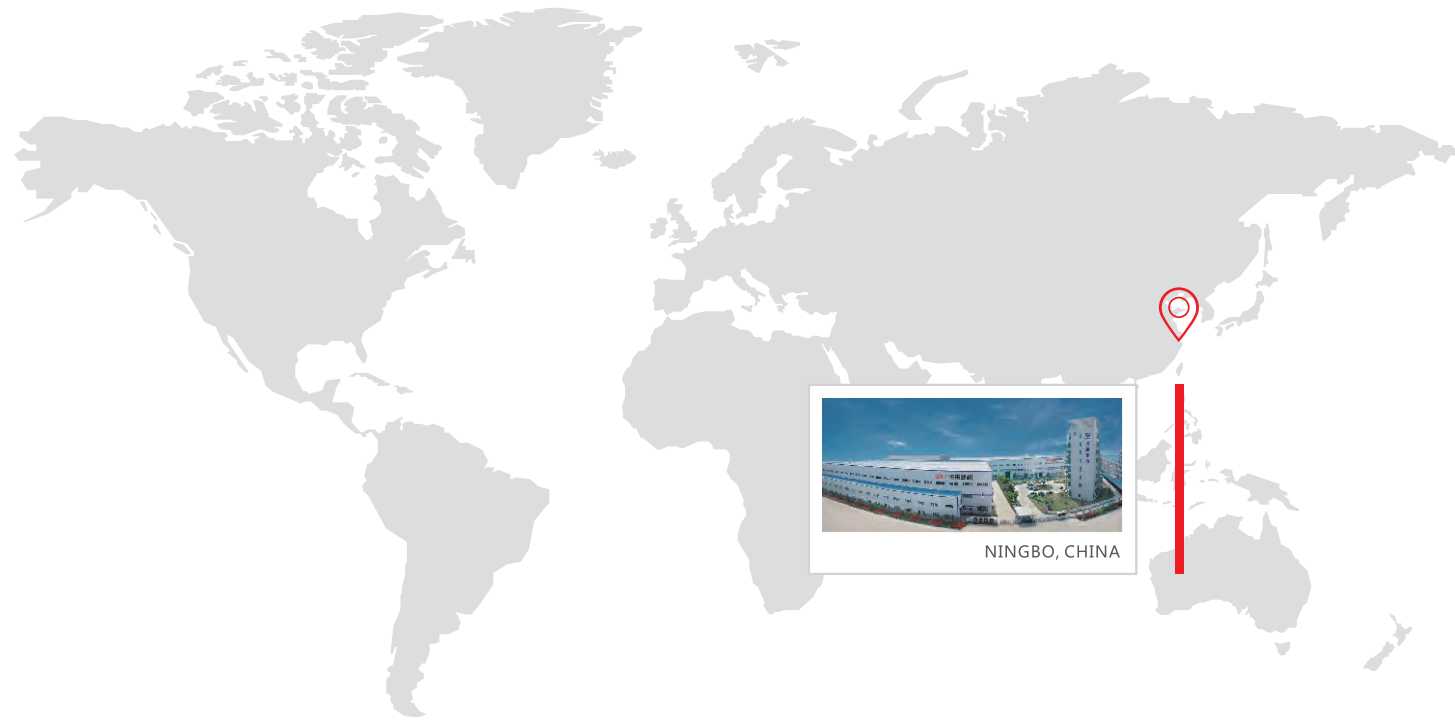
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**EKS Series**

**EKS Hydraulic Servo Energy  
Saving Injection Moulding Machine**



Injection Moulding Machine



## Central clamping toggle Invention Patent in China

(Patent No.: ZL2011 10250342.5)



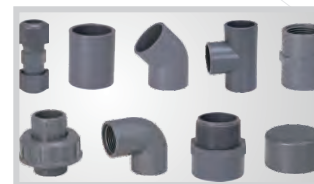
Automobile industry



Household electrical  
appliance industry



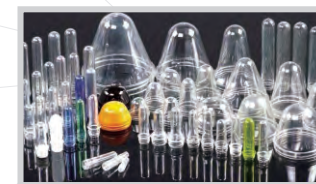
Medical products



Logistics building materials



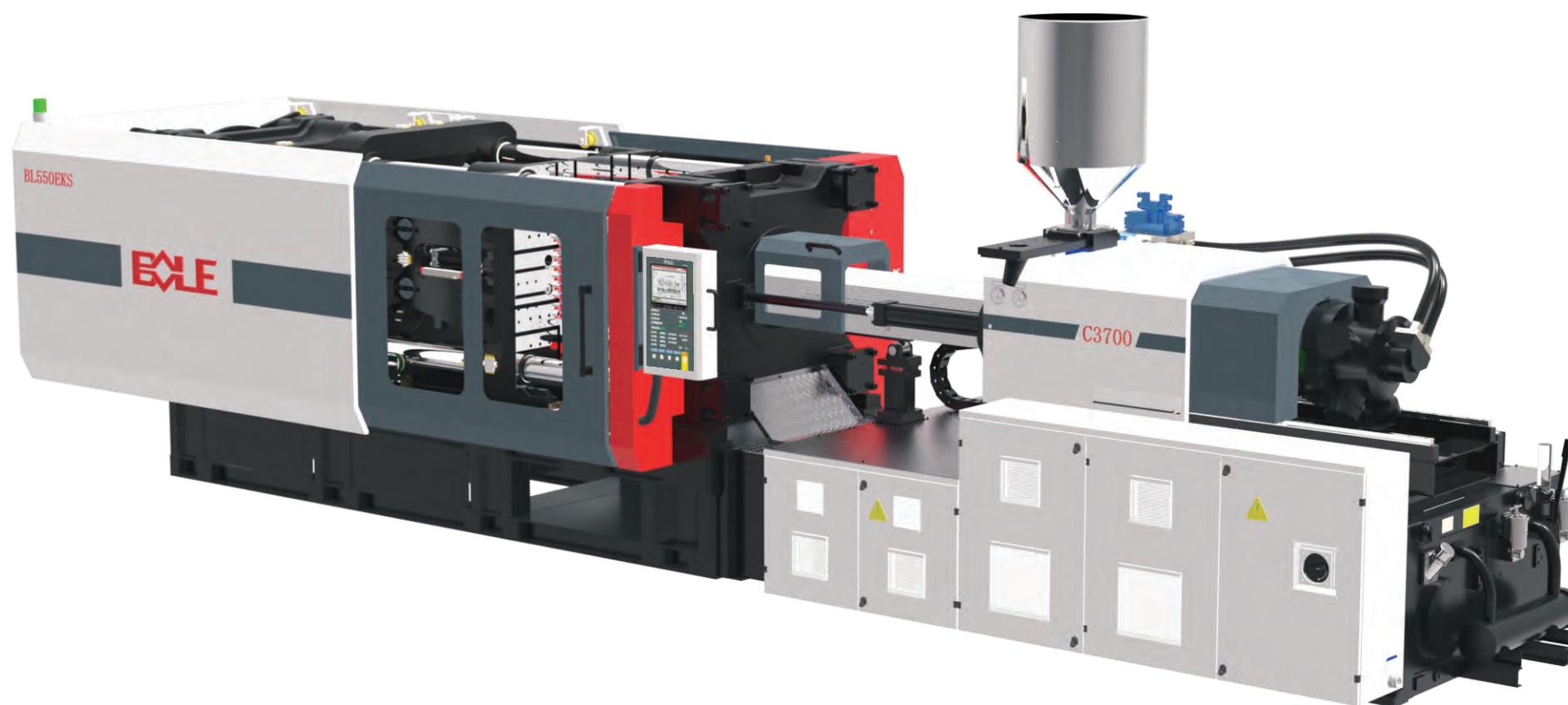
3C Electronics



Preform product



More than 60 technical upgrading in terms of mechanical , electrical ,hydraulic,software and assembling process.



## • Economy

After sample survey, we conclude BOLE central clamping toggle design can save 2-5% material for 80% of customers' mould, comparing to traditional edge clamping toggle design.

## • Stable

Structural rigidity increased by 30% with more than 60 technical innovations, and its excellent performance reaches to European standards.

## • Accurate

Mold open&close positioning accuracy :  $\pm 0.5\text{mm}$   
 Injection weight accuracy : 3‰  
 Injection positioning accuracy:  $\pm 0.2\text{mm}$

## • Intelligent

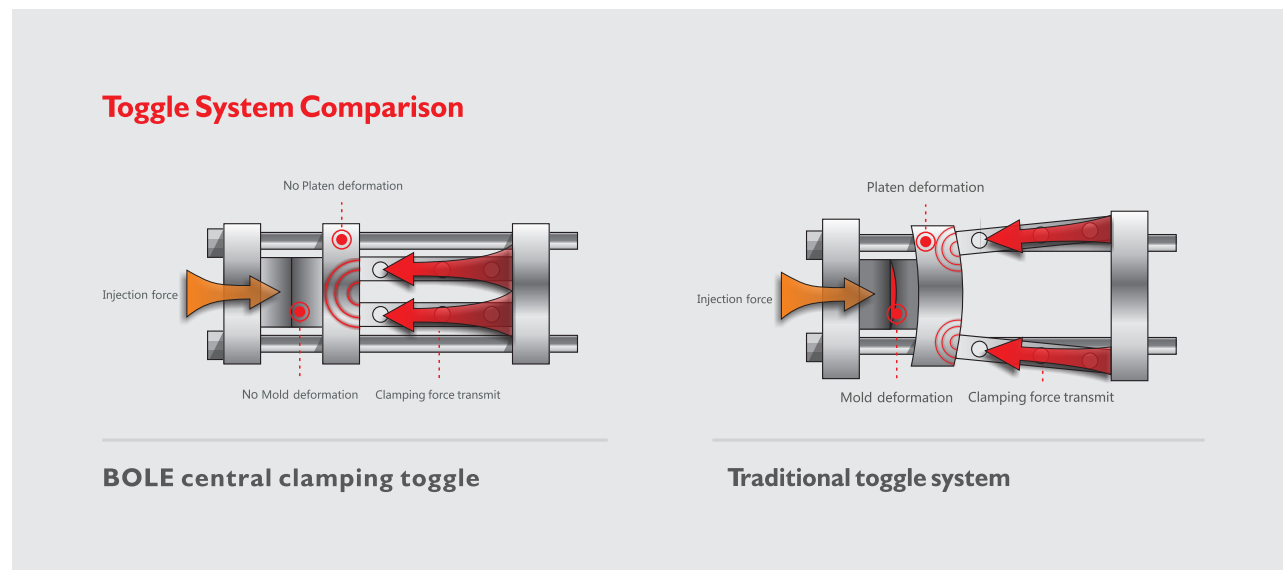
**Intelligent networking management system**  
 March into industry 4.0 ,opening a new era of intelligent factories

High performance PLC of IMM can get information of the robot, mold temperature controller, cooling water and machine accessories, which realizes data interaction and wireless networking management. Besides, PC or cell phone terminal can always present machine information, process parameters, operation status, failure situation and product analysis at a glance. The computer dispatches all orders, which aims to working efficiency maximization, better product planning and operation control, production efficiency improvement. Meanwhile, we provide MES data exchange terminal, to make it possible for the full range of automation at the factory.



# Central Clamping Toggle, Invention Patent In China

**Central clamping toggle**  
 Obtained the National Invention Patent of China  
 (Patent No.: ZL2011 10250342.5)



**01 High utilization of clamping force**  
 After sample survey, clamping force efficiency of BOLE central clamping toggle design can reach 100%, Clamping force efficiency of traditional edge clamping force only can reach 80-85%.

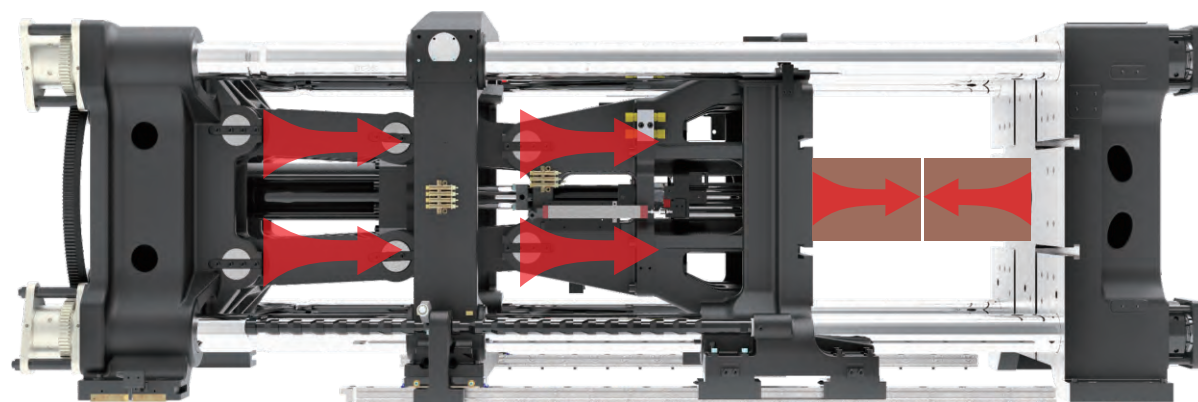
**02 Material Saving**  
 BOLE central clamping toggle design can save 2-5% material for 80% of customers mould (comparing to customer's moulds clamping toggle design).

**03 High accuracy  
 Less possibility of flash**  
 Repetitive positioning accuracy of mold opening&closing:  $\pm 1\text{mm}$   
 Product weight repetitive accuracy:  $\leq 0.5\%$   
 Less possibility of flash, and save flash trim process

**04 Offer better protection for molds and platens**  
 The latest design of clamping toggle, averaged force and less distortion for mould platen. Precise low- pressure function for mould closing, proportional pressure control, iso-stress mould platen design, to extend mould life.

**05 Compatible for small mould**  
 The latest clamping toggle with less platen distortion, can bear averaged force and apply for the smaller moulds.

**06 Bigger opening stroke**  
 Central clamping toggle can provide bigger opening stroke&ejection stroke than other brands' stroke, and can install larger moulds easier (Especially for deep cavity working condition.)



# Clamping Unit

EKS central clamping toggle was design and stimulate by professional software . overall structure rigidity increased by30%



New designed EKS clamping toggle. Bear averaged force ,Less platen distortion , apply for more molds

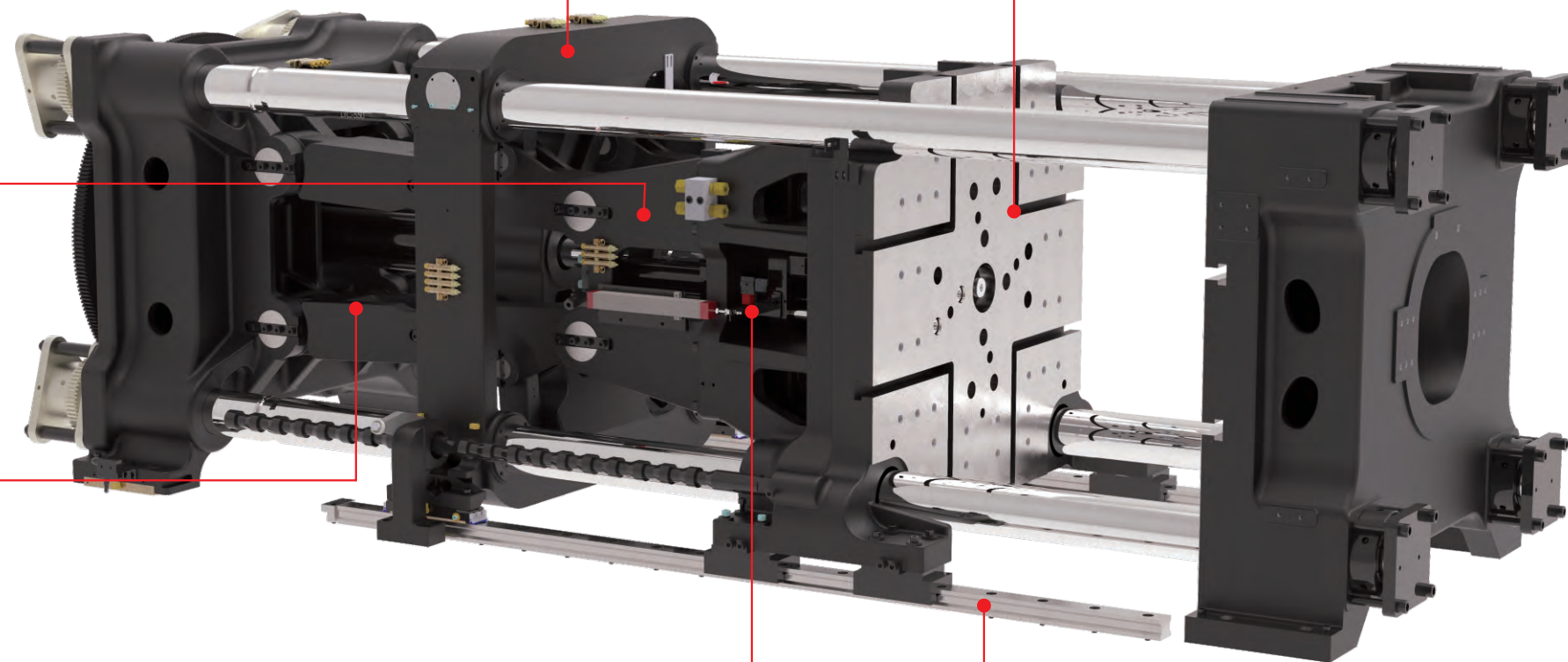
New toggle structure ,faster speed , more stable, short dry cycle time

280-4000 Ton offer more space with built-in clamping cylinder compared with previous model

Patented pneumatic fast forced resetting connector, assemble & disassemble easily, adapted to all ejector structure.

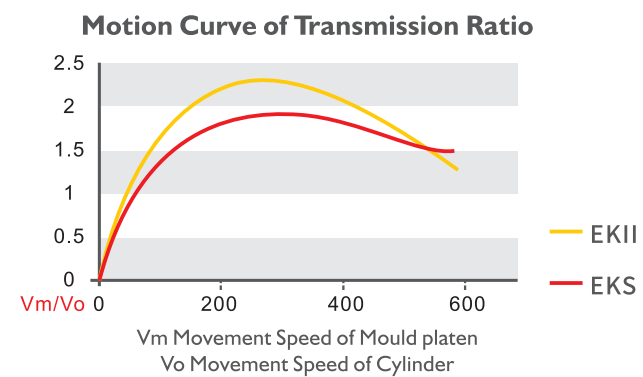
Optimized platen structure , easy to install compulsive ejector back rod.

The platen with T slot & threaded hole, can provide better protection.



The machines ( $\geq 550\text{ton}$ ) use non-slip foot design to make the machine more stable and reliable when heavy mold is loaded.

70ton-1000ton use linear guide instead of tie bar to control direction, without lubrication to keep mold area clean.



# Injection Unit

German Designed  
Plasticizing System



All series can fit with A\B\C screw, L/D ratio 23:1, to achieve the best plasticizing effect and efficiency

Plasticizing system originates from German design, and its efficiency excess above 20% than domestic level.

Upgraded module design, high rigidity injection base, linear guide supporting structure

Enhanced cooling ring for barrel with temperature control, better charge efficiency

New injection cylinder, lower injection oil back resistance.

- Plasticizing system originates from German design, and its efficiency excess above 20% than domestic level.
- Custom-made complicated technical requirement, applied to special plasticizing system
- All series can fit with A\B\C screw, L/D ratio 23:1, to achieve the best plasticizing effect and efficiency

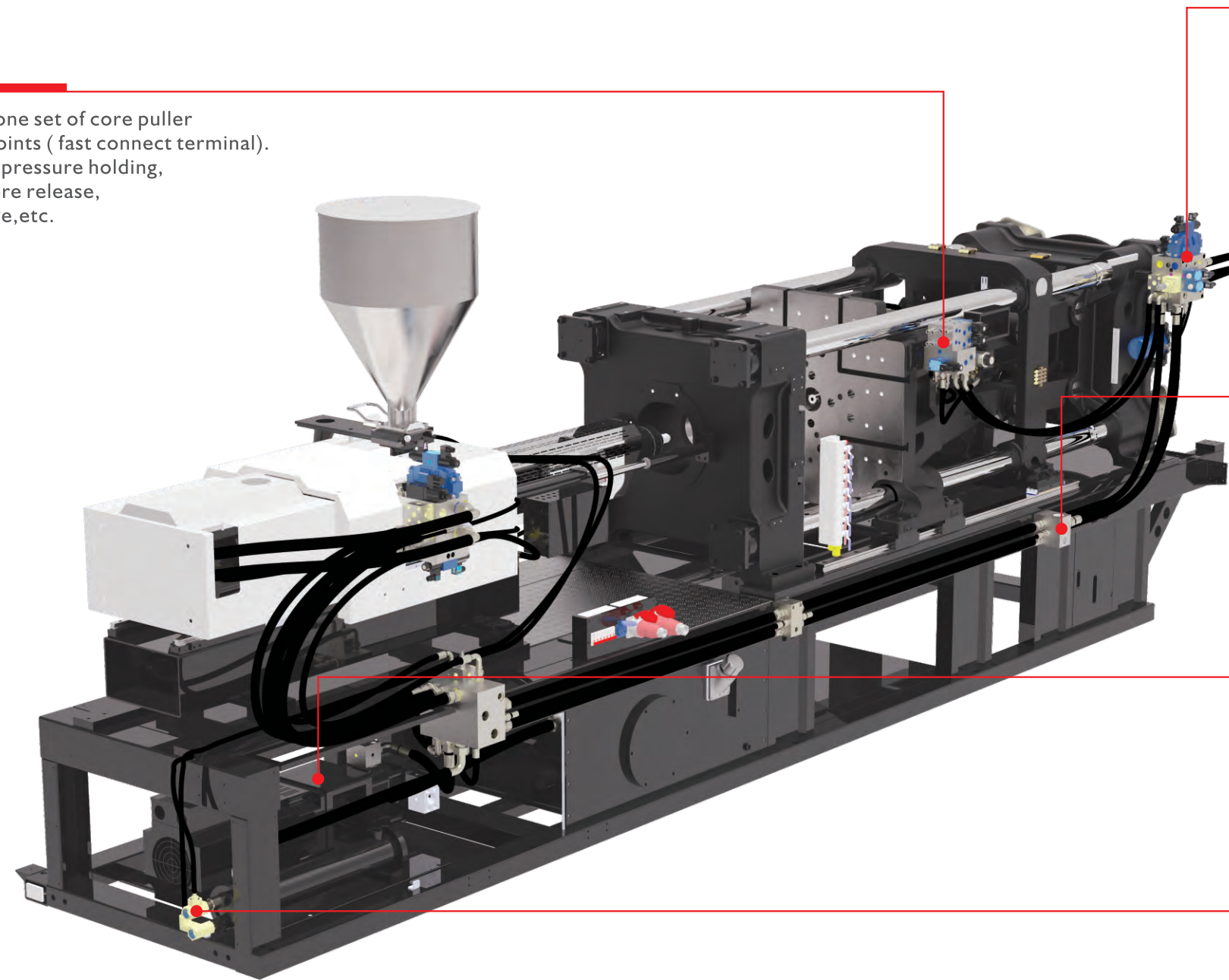
Strengthened material storing unit, more stable and with longer life

Compatible injection base for three different injection unit models



# Hydraulic Unit

Standard with one set of core puller with 2 output joints ( fast connect terminal).  
Optional: core pressure holding, pressure for core release, hot runner valve,etc.



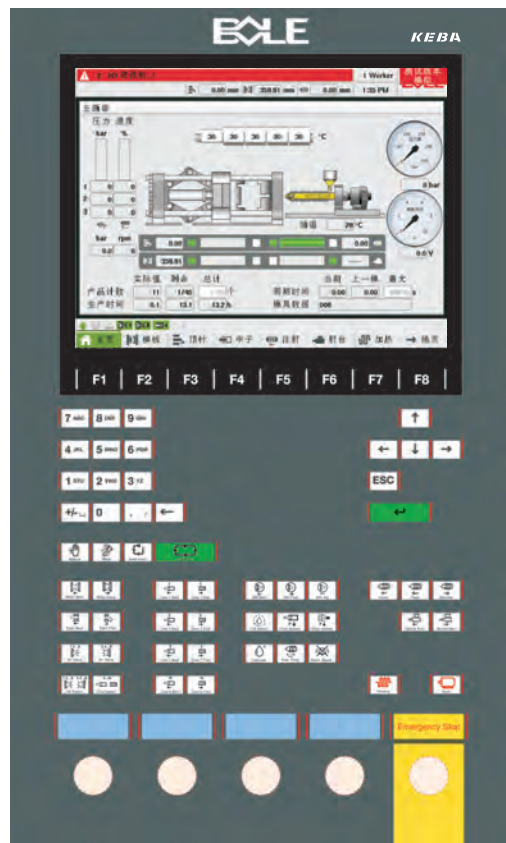
Special hydraulic system for clamping with patent software algorithm,position accuracy to  $\pm 0.5\text{mm}$

Non welding hydraulic pipe system, avoiding oil leakage .

Adopt low momentum servo system, and quick response time is 30s-50s.  
The system pressure is increased to 17.5Mpa, to improve injection pressure & speed greetly.

Oil temperature auto control system,less cooling water consumption,more machine stable.

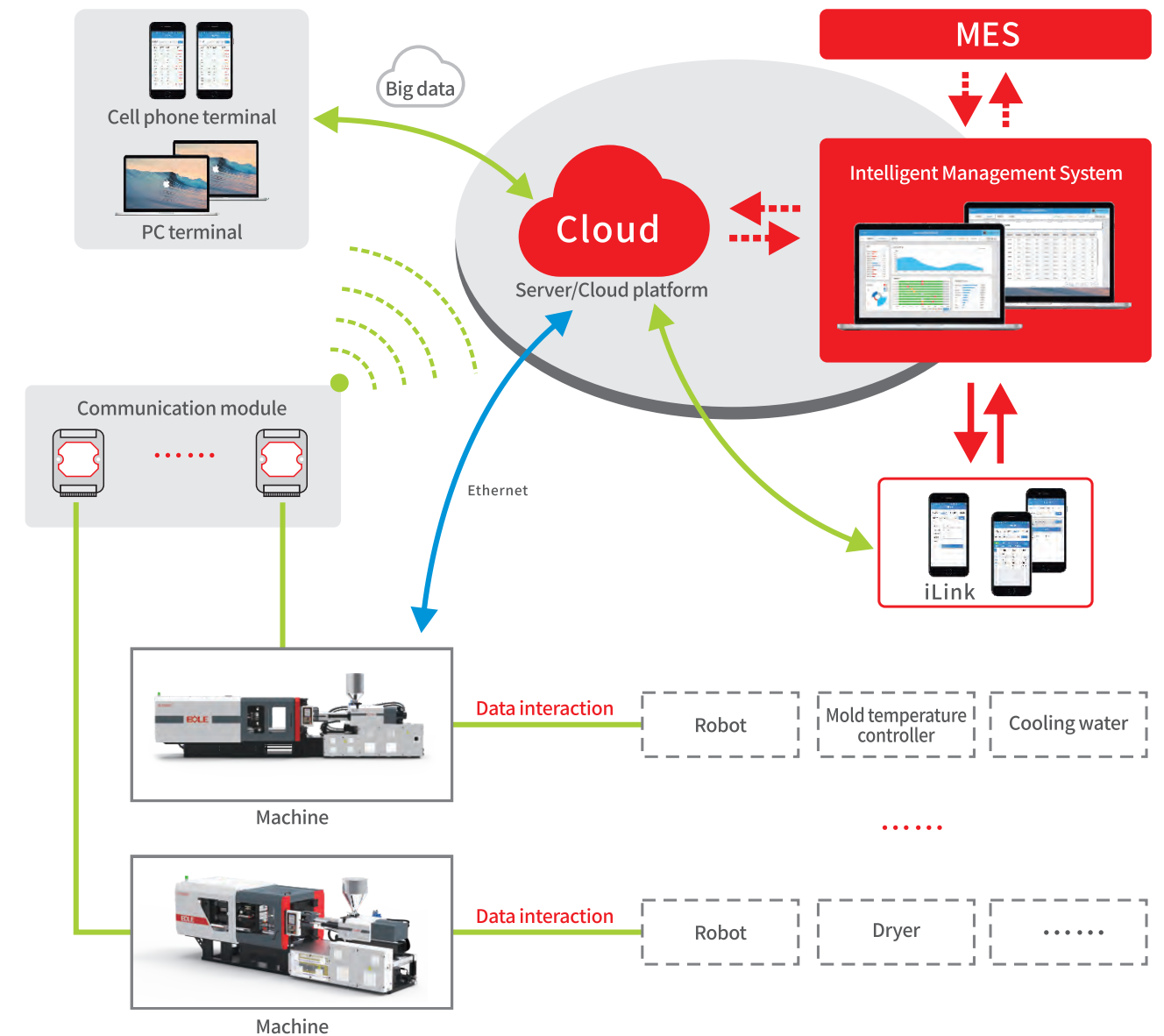
# Intelligent Software Design



- EKS series equipped with KEBA controller as standard, BL70-850EKS equipped with KEBA-i1075 in 10", Machines above 1000T (included) all equipped with KEBA-i1080 in 12". EST Controller can be optional.
- Equipped with I/O safety advice against short circuit
- High accuracy, high intelligence and high scalability, self-design control software for patent, standard with reserved interface of industrial 4.0(MES,OPC etc).
- Unique hydraulic system for clamping combined with patent software, lead to repeatability precision.
- Main electric component use brand Schneider Eaton, ABB, Fuji, which ensure long service life.
- Strong and feeble electricity detach layout, high anti interface, and independent electric control box structure for the convenience of installation, debugging and maintainance.

# Intelligent Networking Management System

March into industry 4.0 ,opening a new era of intelligent factories



High performance PLC of IMM can get information of the robot, mold temperature controller, cooling water and machine accessories, which realizes data interaction and wireless networking management. Besides, PC or cell phone terminal can always present machine information, process parameters, operation status, failure situation and product analysis at a glance. The computer dispatches all orders, which aims to working efficiency maximization, better product planning and operation control, production efficiency improvement. Meanwhile, we provide MES data exchange terminal, to make it possible for the full range of automation at the factory.