



Haitian Mars Series

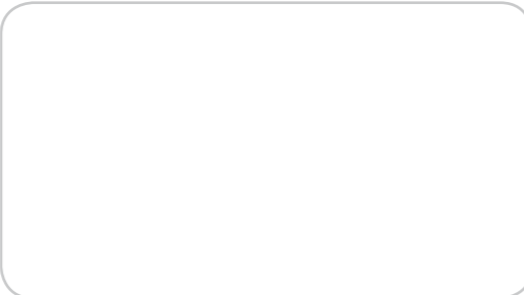


Haitian Mars Series

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Haitian Mars Series

Environmental protection ---high energy saving



Haitian Saturn series injection molding machines are built on the knowledge and experience of forty years of machine production. This series of machine has become the preferred machine of customers by providing outstanding machine stability, reliability, a robust mechanical design, and a long service life. In addition, operator interface was designed for simplicity and ease of use.

Taking over all excellent features of the Haitian Saturn series machines, the Haitian Mars Series with the servo energy saving concept is characterized with energy efficiency and environmental protection. These machines will bring your molding operation to the next level of efficiency and precision.

Haitian Mars Series--MA1200



Haitian Mars Series--MA2800



Haitian Mars Series is proving you with:

High energy saving

» Under normal operating conditions, compared with conventional injection molding machines, their energy saving can reach 20-80%.

Molding stability

» Compared with conventional injection molding machines, repeatability is greatly improved due to servo motor closed-loop control.

Quick response

» Features a dynamic servo motor, with a response time of only 0.05 second.

Quiet Operation

» The machine runs at much lower noise levels, particularly in low speed applications.

Reliable holding pressure

» Compared with all electric injection molding machines, hold pressure is more stable and does not have the limitations.

Better Oil Temperature Stability

» The servo system only delivers hydraulic oil as it is needed for the various functions. This prevents unnecessary generation of heat and substantially reduces oil cooling requirements.

Haitian Mars Series

in detail.

The Haitian Mars Series integrated all benefits of Haitian Saturn Series, the traditional hydraulic machines, but are enhanced by the use of a high powered servo motor dynamic control system. This systems a revolution in hydraulic injection molding machine design which improves molding precision and significantly reduces energy consumption.

Clamping unit:

The powerful kinematics of the proved 5-point double toggle represent economical speed and power processes. This allows great sensitivity in the opening and closing processes and protects tools from excessive wear and tear. The fast mold closing device is optimized to shorten the cycle time.

Injection Unit:

The optimization of injection unit was committed for higher precision and stability. The force is always applied centrally as the two drive cylinder for the unit movement and two injection cylinders for screw injection. There are three different size screw to be selected for your own processing. Servo-electric screw drive for independent plasticization. The barrel temperature can be set and monitored by control.

Hydraulic system:

The energy-saving hydraulics are fitted with sound insulation and are made of high-quality European components. They allow much greater forces to be transferred and enable very uniform and precision movements of the machine.

Accurate reaction:

Mold open and close is controlled by position transducer



Automatic lubrication system:

The automatically controlled oil lubrication ensures that the toggle operates without friction and considerably increases its durability.



Energy saving servo motor

With quick response and steady capability, servo gearshift dynamical control system has equipped with pressure feedback device with high precision and sensitivity, which forms a close-loop precision control and provide products with high stability for customers.

Environmental protection

The sound-insulated hydraulics are made of high quality European components and guarantee harmonious motion at a high reproduction accuracy.

Powerful & sensitive

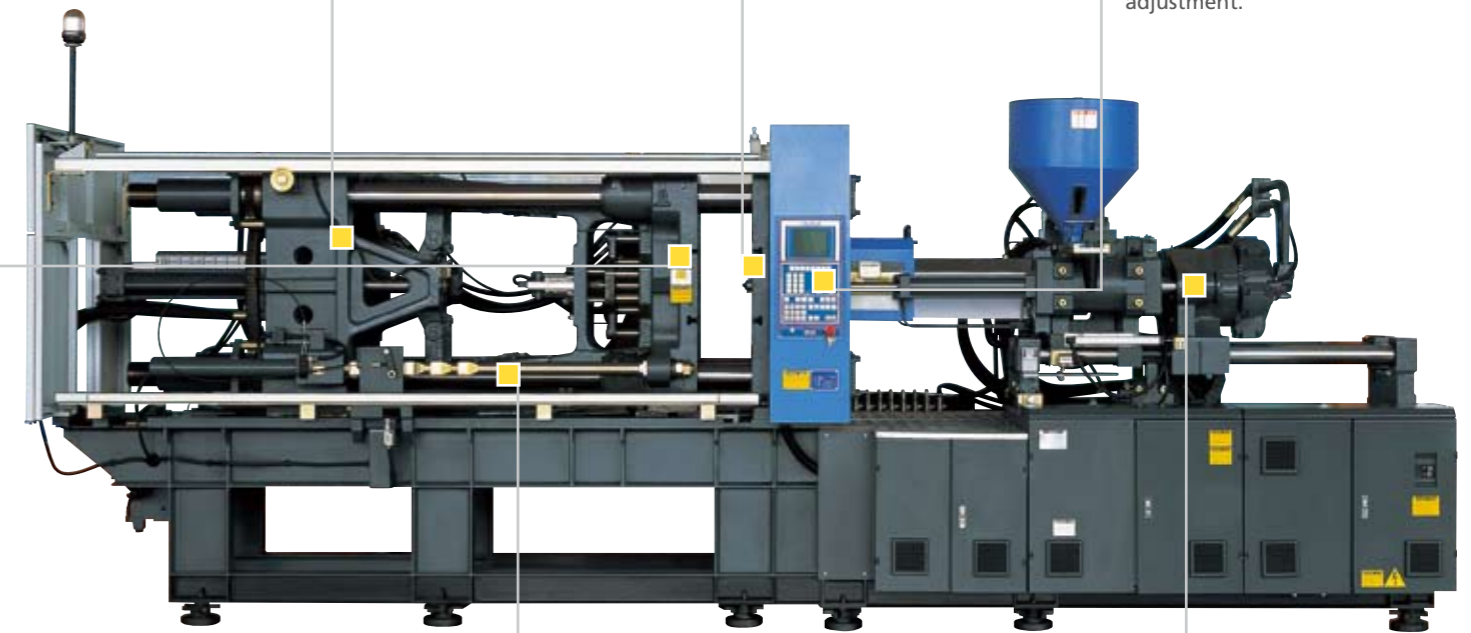
The 5-point double toggle provides short locking time and high opening forces.

Increased flexibility:

Multi Stage plasticizing pressure, speed and position control

Increased flexibility:

Latest Keba control ensure multi Stage plasticizing pressure, speed and position adjustment.

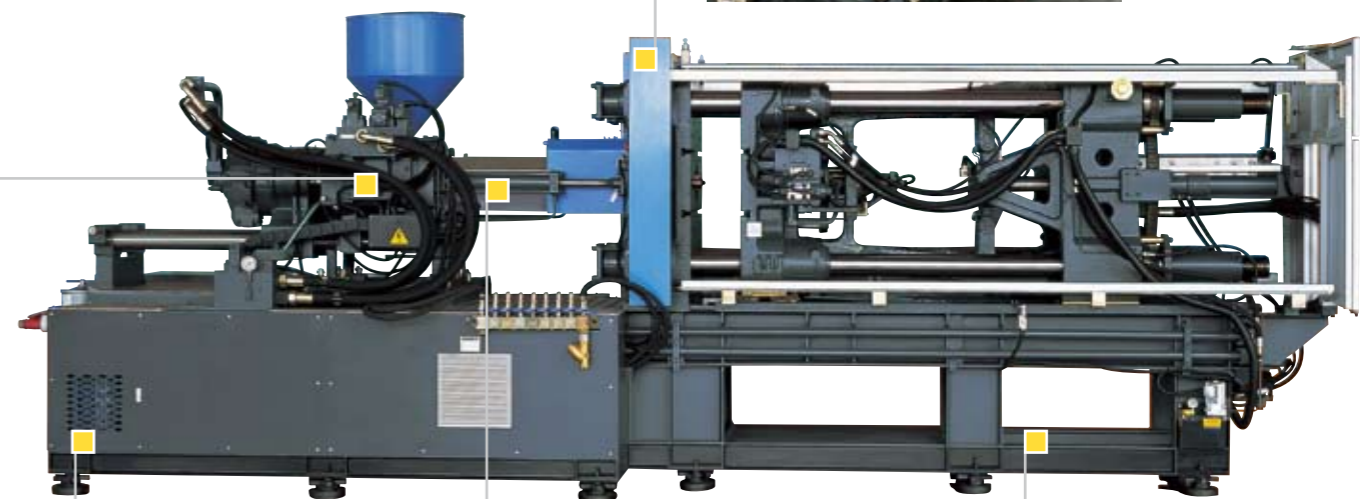


Customize configuration

Up to three injection units per clamping unit available.

Accessible support:

Euromap robot mechanical interface



Self-detecting optimization:

Oil temperature Upper and Lower limit Alarm

Environmental protection

The sound-insulated hydraulics are made of high quality European components and guarantee harmonious motion at a high reproduction accuracy.

Easily accessible

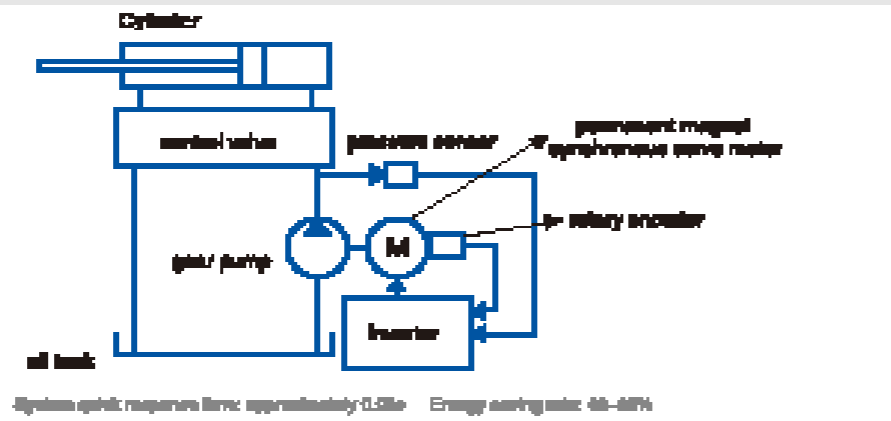
Discharge area opens on three sides to allow simple integration of peripheral components.

Haitian Mars Series

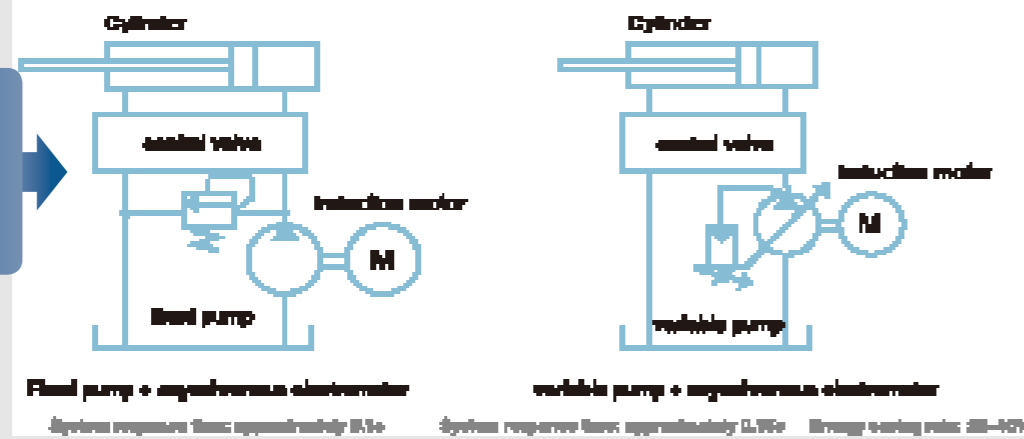
Energy-saving injection molding machine

Energy-saving IMM--- revolution of drive system

Energy-saving injection molding machine



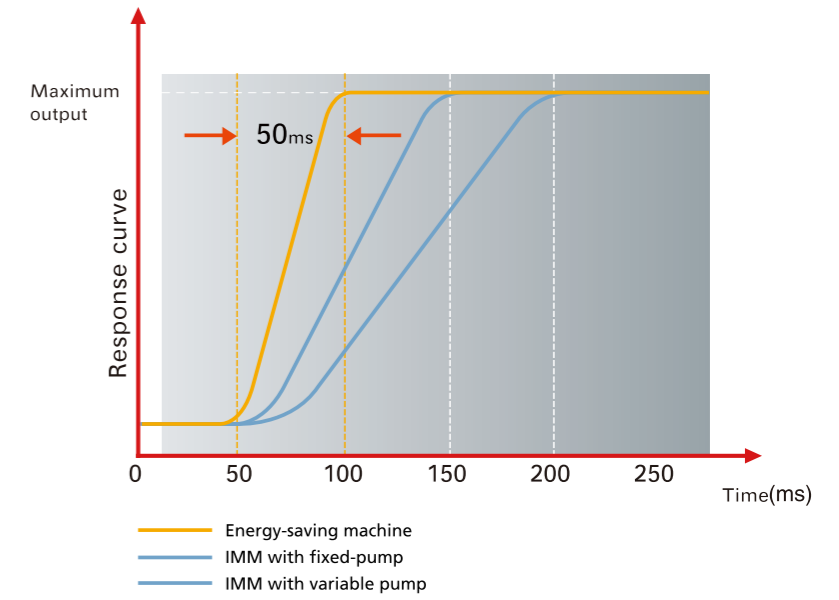
Traditional hydraulic injection molding machine



Equipped with rotary encoder and pressure sensor, the pressure and flow state of energy-saving machine will be reflected to the controller, the command of which will be sent out to efficient synchronous servo motor to change the rotation and the torque accordingly. The corresponding flow and pressure adjustment ensure the quality of plastic parts precision with energy saving and fast response

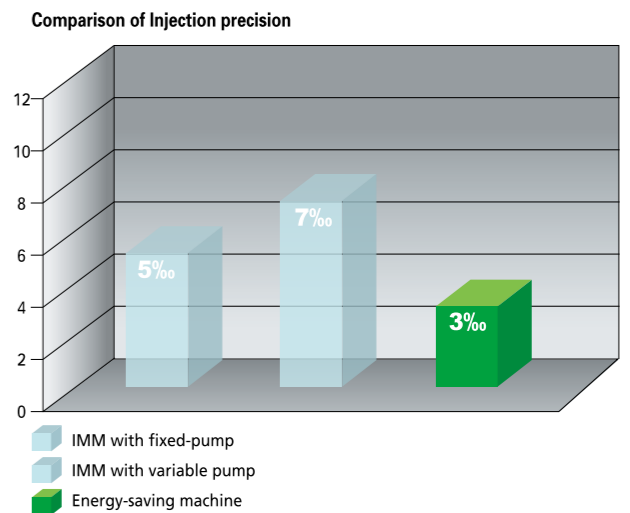
Quick response of servo motor

The response time of drive system is very fast that it only need 0.05s to reach the maximum power output. Cycle time is substantially shortened Comparing with the plastic parts production by traditional hydraulic injection molding machine. The productivity



Precision tolerance comparison

(thin-wall plastic part)
The precision tolerance of processing plastic parts will be evidently improved by using energy-saving machine instead of using traditional hydraulic machines or IMM with variable pump.
The optimization rate is around 40-130%.



Uniform control

The latest technology from Keba.

The Haitian Mars Series uses the latest control technology from Keba. This high-performance control system provides the ideal communication between the injection molding machine and the operator. The uniform operating concept and logical, clear structure of the functions make machine operation easy and user-oriented.

Model 1075 is suitable for standard applications, while model 4030 lends itself to more complex injection molding processes. Both versions are currently delivered in 15 languages.

Because of the large quantity of units required per year, Haitian is given high priority by their European partner. Haitian experts work closely with the Keba development team, positively influencing the development and expansion of hardware and software as well as the reliable services provided.

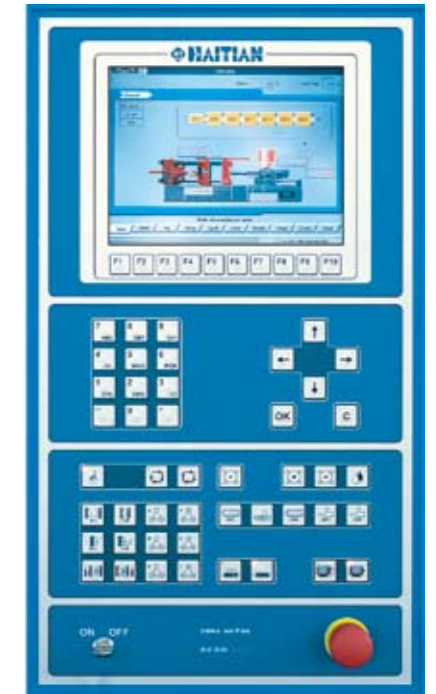
Both versions – 1075 and 4030 – have USB and Ethernet interfaces to enable the quick transfer of machine data for software updates and for connections to external printers.

The graphical temperature displays for hot runner systems and heating equipment help to make controlling, monitoring, and document machine processes easy and clear. This makes life easier for operators.



1075 system Special features.

- » Keyboard operated 10.4 inch colour screen
- » Temperature display for up to 12 hot runners
- » Easy-to-use injection, holding pressure, and dosing settings for the specified profile
- » Cascade control injection valve gate up to 6 pneumatic or hydraulic
- » USB interfaces for the external backup of form data and for connecting printers
- » Ethernet interface



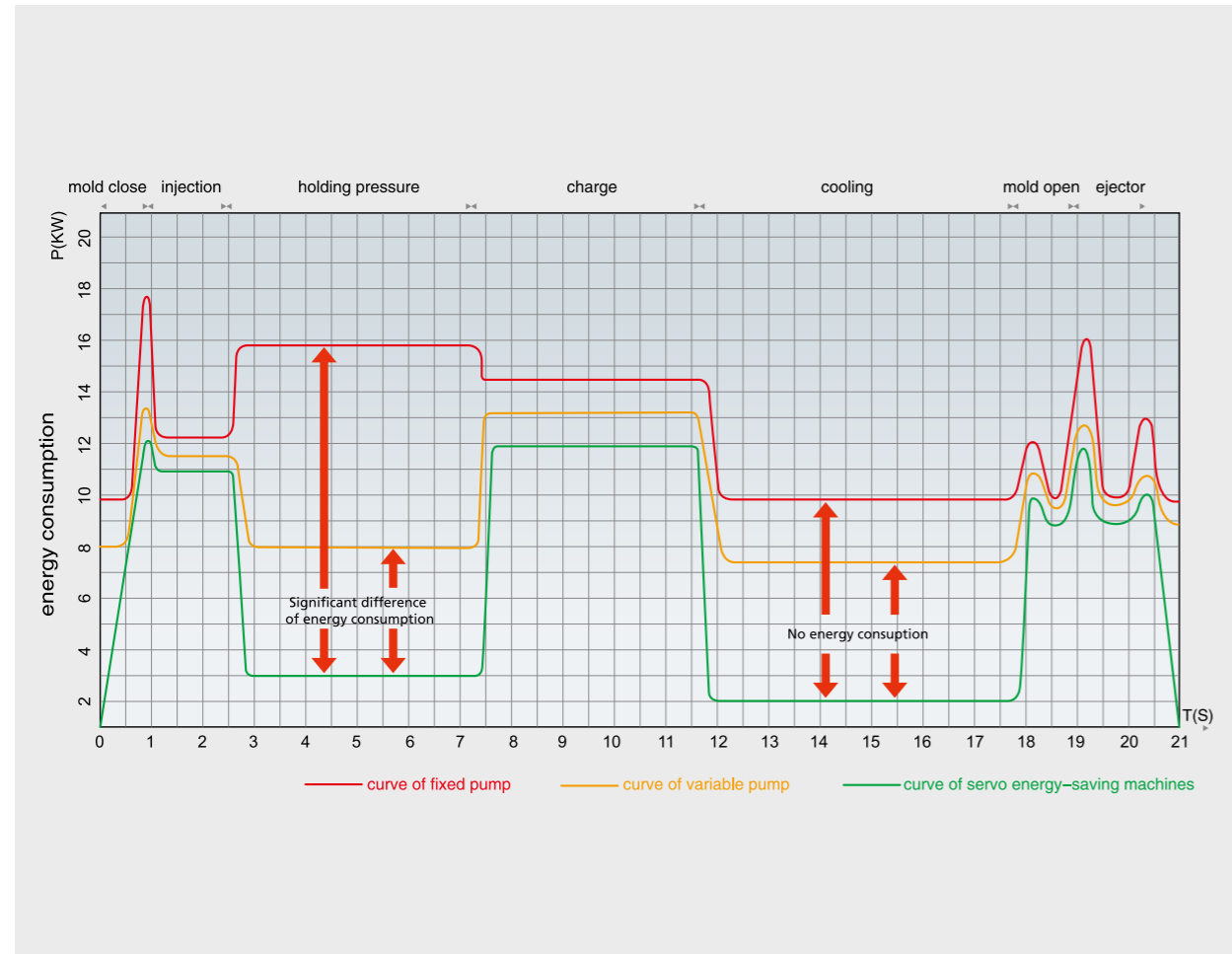
4030 system Special features.

- » 12 inch touch screen monitor for easy, ergonomic use
- » Temperature display for up to 40 hot runners
- » Easy-to-use injection, holding pressure, and dosing settings for the specified profiles
- » Cascade control injection valve gate up to 12 pneumatic or hydraulic
- » 3 USB interfaces for the external backup of form data and for connecting printers
- » Ethernet interface
- » RS232 and RS485 interfaces



Ultimate energy efficiency

Energy-saving Injection molding machine:



Features of energy -saving Injection molding machine:

Output of drive system is changed sensitively according to the actual need of plastic parts processing. The beauty of the concept is to avoid the energy waste.

During the pressure holding period the rotation of Drive will significantly slow down, the output which provided by the drive system will be only used for actual requirement of production.

During the cooling period the output of drive system is 0, which means there is no energy cost at all.

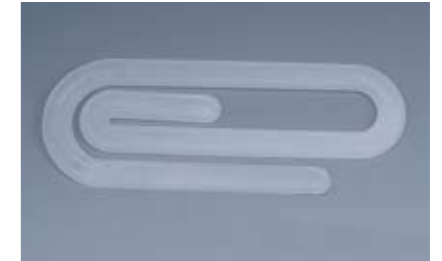
The range energy-saving of variable the plastic parts processing is from 20% to 80% .

Energy saving proving test:

Case test for energy-efficiency

Test:
Product name: Ruler
Material: PP
Weight: 48.6g
Thickness: 3.6mm
Cavity of mould: One

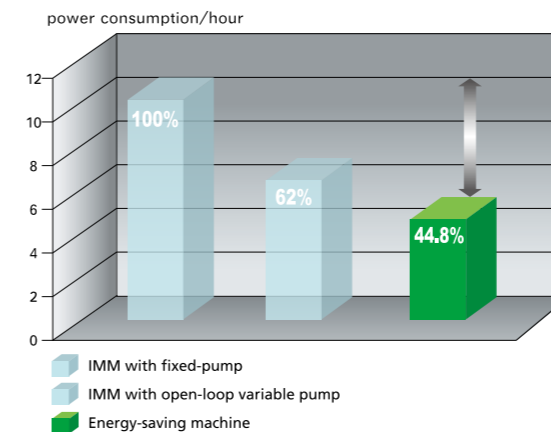
Test conditions:
Four type machines
Oil temperature: 45 0C
Cycle time: 22 s
Operation duration: 3 hours
without stop



Comparison of energy consumption

Comparison		1200KN IMM with conventional fixed pump	1200 KN IMM with open-loop variable pump	1200 KN energy-saving IMM
Molding cycle	Second	22	22	22
Check time	Hour	3	3	3
Total shots	shot	490	490	490
One-hour power consumption	KW/h	10.5	6.51	4.7
One-year power consumption	KW/h	69300	42966	31020
Electricity cost per year in China	USD	6930	4296.6	3102
Energy saving efficiency by changing into servo motor dynamic control system	%	55.2%	17.2%	

Calculation condition: 24 hours, 365 working days, Electricity charge: 0.8 RMB/Kwh



Based on actual data:

The energy consumption of processing ruler by energy-saving machine is 55.2% less comparing with production by traditional hydraulic IMM as well as 17% less than using IMM with the optimization of variable pump.

Energy-saving machine require 80% less energy consumption to produce the thick wall product which need more time for holding pressure and cooling as well as 50% less than using the IMM with optimization variable pump.