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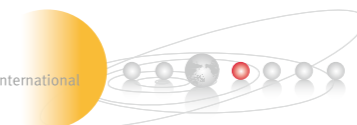
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Haitian Mars^{2S} Series

Haitian Partner:

HT 20180410-IV



Haitian Mars II S Series

Upgraded version of 2nd generation of servo drive energy saving injection molding machine



With the market success of the Mars II series, Haitian has never stopped its efforts to further addressing the higher demand from the customers. The Mars IIS, as an upgraded version of Haitian Mars II series is therefore developed. With an even more advanced concept in design, the Mars IIS series thus has more reliable hardware, which can maximize the energy efficiency while improving the precision. It is an ideal choice for medium-high end hydraulic injection molding machines.



Mars IIS series has optimized clamping unit with a compact structure to ensure the smooth operation. It is highly reliable and energy efficient, which can be applied in processing of plastics parts with relatively high precision.

We Create Advantage

- Energy-saving:** Highly optimized servo energy-saving technology, with improved efficiency and lower energy consumption.
- Precision:** Redesigned clamping unit with optimized kinematics for higher precision.
- Higher Efficiency:** Optimized clamping unit provides lower energy consumption and faster movements for reduced cycle times.
- Safety:** Safety system incorporating hydraulic safety valve with feedback to meet national safety standards.
- Stable:** Closed loop servo drive system providing stable conditions for various molding applications.

MA 3800 II S / 2250



MA 10000 II S / 8400



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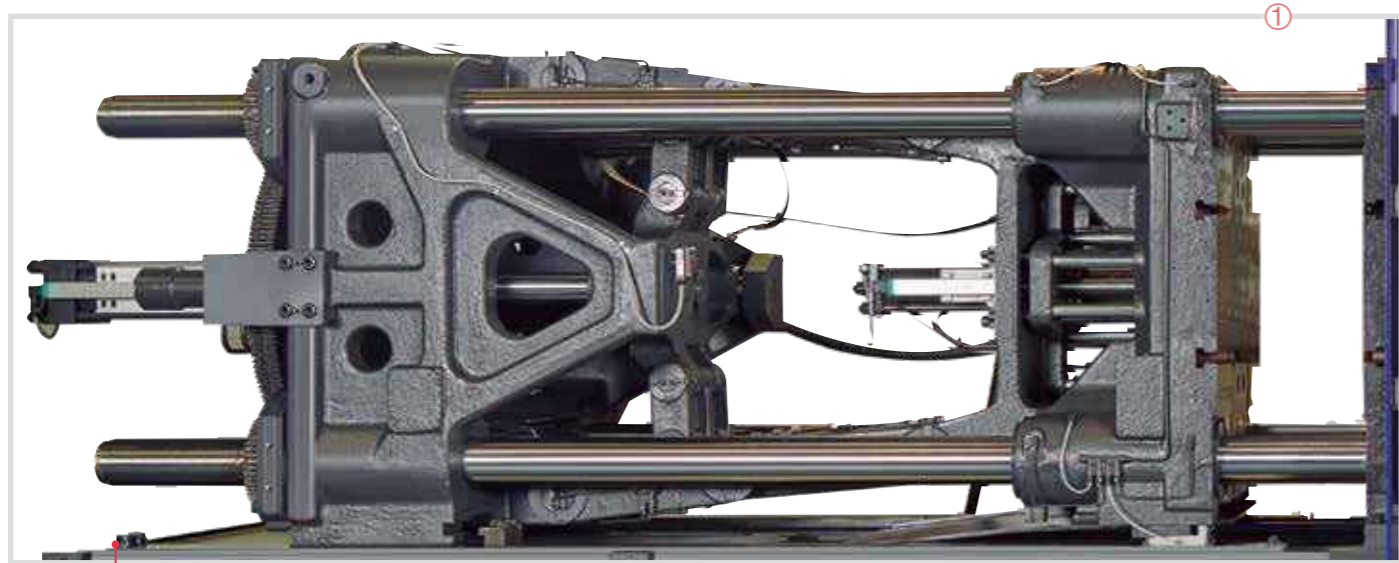


Figure ①
Optimized platen design using FEA software. Higher rigidity and stability.

Figure ②
Hydraulic safety valve with electrical feedback for optimal safety.

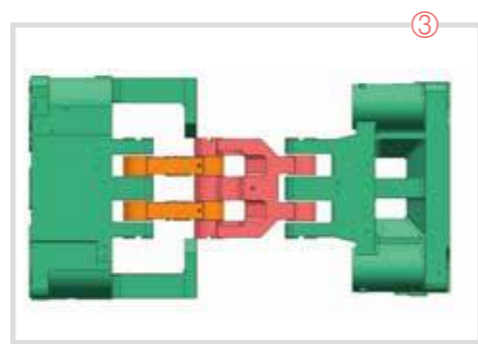


Figure ③
Redesigned toggle kinematics for higher efficiency and lower energy consumption for small and large machines.

Figure ④
Faster clamping movements due to optimized toggle kinematics and position sensing.

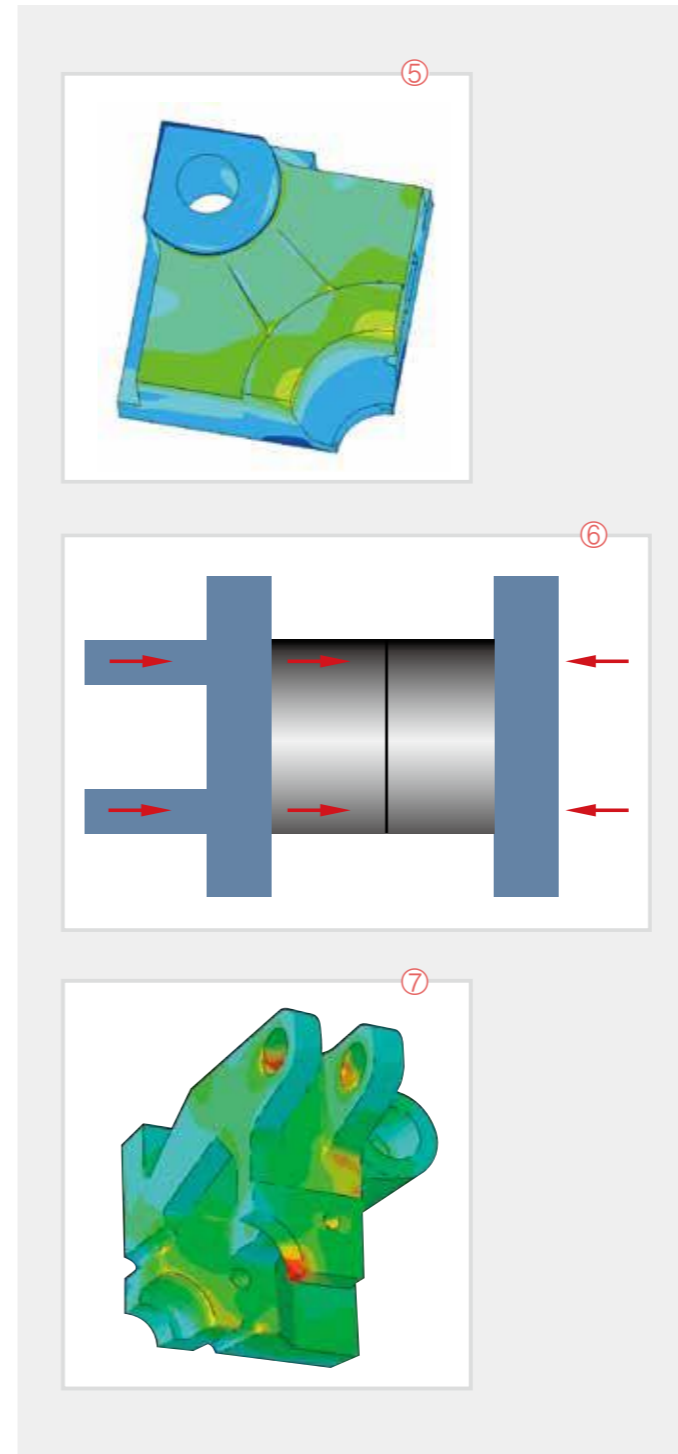
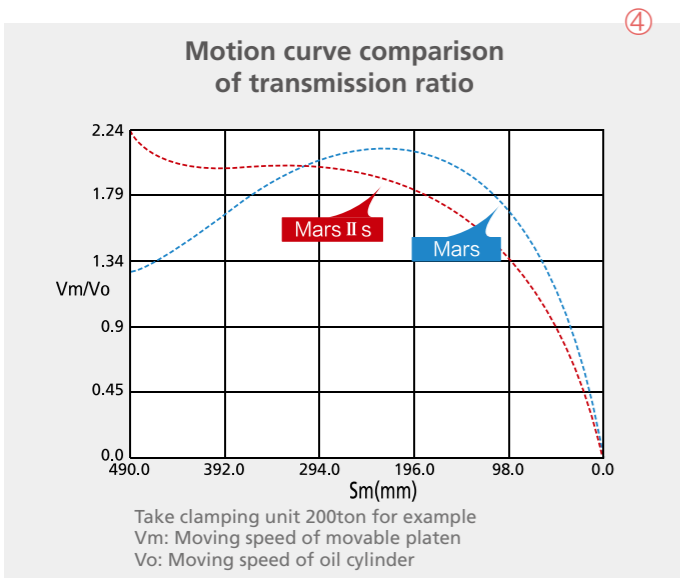


Figure ⑤
Fixed platen with centralized force loading and less platen flexing.

Figure ⑥
Redesigned clamping unit providing lower platen stress and higher mold force stability. Reducing mold wear and improving molded product stability.

Figure ⑦
Redesigned moving platen providing centralized force distribution from the toggle system to the mold.

Figure ⑧
New graphite/steel bushings providing better lubrication and lower lubrication consumption which improves the life of the clamping unit.

Figure ⑨
OPTION- Automatic tie bar removal device for easier loading of large or complicated molds into the machine.



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Figure ①
The rigid one piece injection base supports the common slide rail for injection and screw movements, reducing stress and increasing movement precision. The balanced twin injection cylinders apply equal force to the screw during injection.

Figure ②
Special coupling designed for strong screw forces required during the injection/charging/decompression process. Designed for easy removal during screw changes.



Figure ③
Non-welding structure for hydraulic circuit.

Figure ④
Linear guide applied in the injection unit

Figure ⑤
The reliable plasticization unit is suitable for processing of a wide variety of plastics raw materials and the plasticization performance has been substantially improved with the tailored thermal power setting.

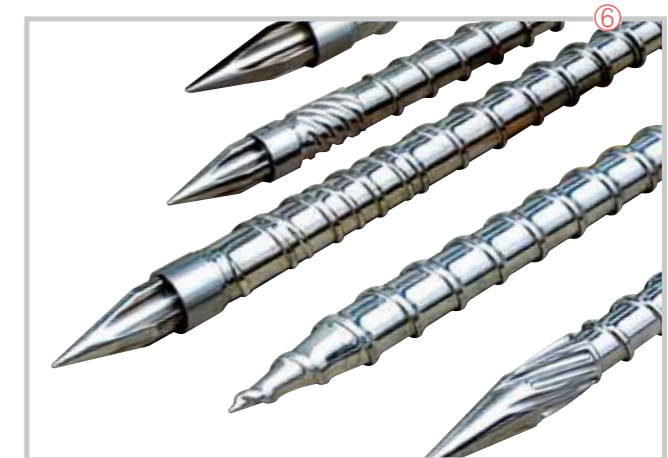


Figure ⑥
Optional screw designs for different material processing applications

Figure ⑦
Nozzle cover with safety limit switch.

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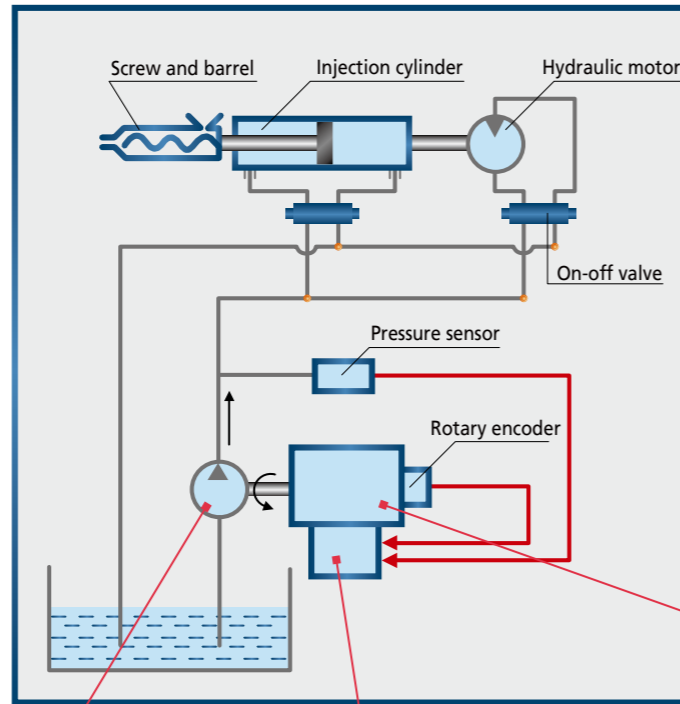
Patented Servo Hydraulic Drive System for Injection Molding Machines

Haitian is the global leader for servo hydraulic plastic injection molding machines.

The Mars Series machine was launched to the market in 2007, with more than 80,000 machines sold has become the industry bench mark.

The patented servo motor /gear pump drive system was designed as a system and not the combination of standard market components as used by our competitors.

This translates into a significant advantage for repeatable high precision and low energy consumption for different molding applications and processing materials.



Servo motor with counter-rotation gear pumps

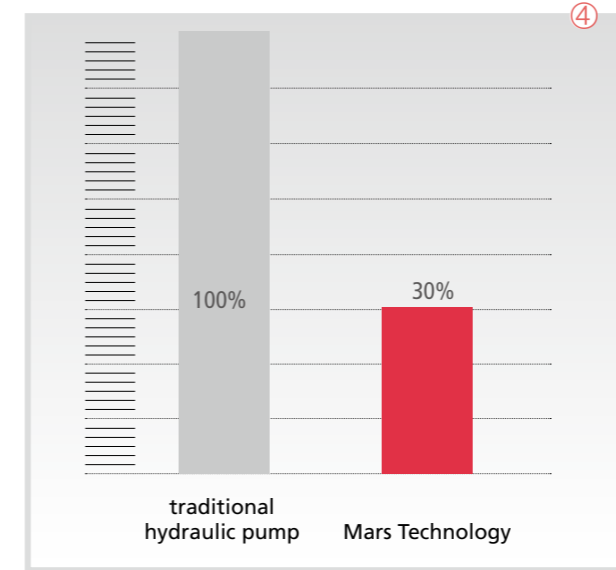


Gear pump

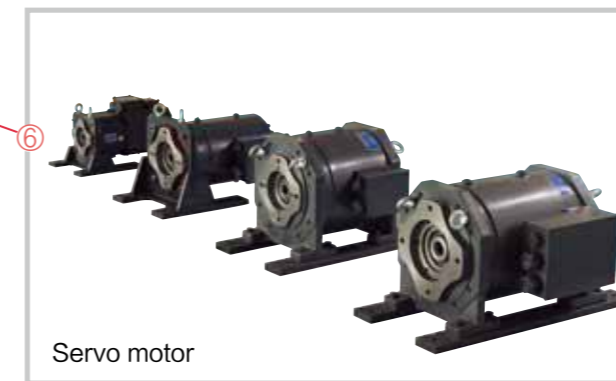
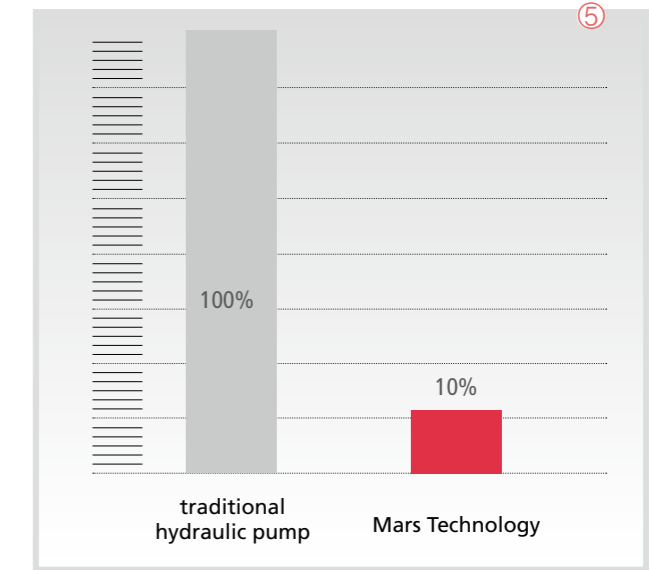


Drive controller

Power consumption



Water consumption



Servo motor

Figure ③

The European servo motor controller is matched to the drive motor for optimal efficiency and repeatable accuracy.

Figure ④

The Mars II drive system provides significant cost savings for machine energy consumption compared to traditional hydraulic drive systems.

Figure ⑤

The consumption of hydraulic oil cooling water is dramatically reduced due to the on-demand control of the servo drive system. Only the required quantity of oil is used during each stage of the machine cycle, which eliminates bypass oil wastage as found in traditional hydraulic systems.

Figure ⑥

Servo motors ranging from 7.5 kW to 160 kW are specially designed to meet the high demands of the plastic injection molding machine process requirements.

Figure ①

Patented servo motor to gear pump design. The direct drive connection between the servo motor and the gear pump, provides excellent drive torque giving maximum acceleration and deceleration speeds for all machine functions. The patented drive system is a true advantage for high stability and repeatable molding conditions.

Figure ②

High efficiency gear pump for stable operation and low energy consumption.

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Standard Controller



12" high resolution LCD screen with optimized panel layout for convenient machine operation.

Standard controller

- Two parallel CPU's for faster data processing with full digital control .
- Network compatible with the i-net factory management system for real time monitoring of the production data for statistical analysis and process optimization (Optional)
- Large Internal memory for mold data storage
- Closed loop PID barrel heating temperature control

Optional controller

- Extended functions for molding applications requiring a higher level of machine options.
- Cycle sequencer for full function control.



Mold screen: Mold opening/closing position precise control



Injection screen: 6 stage injection control



Charge screen: Back pressure proportional valve control



Quick setting screen: Overview

Options

- Clamping unit/injection unit combinations for specific applications
- Mold adjust Automatic clamp force control
- Increase of the maximum mold height.
- E67 robot interface
- Proportional valve for mold open/close control.
- Core/ejection parallel with mold opening.
- Injection proportional valve
- Transducer for injection unit position control
- Special screw and barrels for specific applications
- Integrated mold hot runner control
- Closed loop barrel feed throat temperature control
- Hydraulic or pneumatic shut off nozzle
- Spring type shut off nozzle
- Air valve for part ejection
- Core puller pressure release
- Mold valve gate control - hydraulic or pneumatic.
- Oil pre-heating
- E62 - gas injection interface
- Platen heat insulation plates
- Barrel heater blanket
- Cooling water flow regulators
- Hopper vacuum loader
- Magnetic hopper draw
- Hot air material dryer
- Dehumidifier material dryer
- Mold thermoregulators - water or oil
- Water chiller
- Air compressor
- Parts conveyor
- Product removal robot
- Robot safety enclosure

Note:- Mars Series can not have accumulator assisted injection!