Haitian Saturn II Series
At a unique price-performance ratio

Haitian Tianxiang SAII series is a upgraded machine model, which is developed for producing general purpose plastic products. Now it has been the most popular injection molding machine type over the world and in China by its incomparable price and performance. Tianxiang SAII is outstanding by simple handling, steady operation and dependable quality.

Tianxiang SAII provides scalable performance by adding with special options, so as to meet with different requirements from customers.

We Create Advantage

After 40 years independent research and development, exquisite processing technology has been combined with mature assembly technology.

Machine service life and precision has been greatly improved by high quality imported spare parts and high performance controller

Cycle time is effectively shortened by highly optimized mold clamping unit with steady mold open/close in a high speed.

Meet with the latest national safety standard, more safety and reliable

Twin-cylinder injection, with performance steady and reliable
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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.

Motion curve comparison of transmission ratio

Take clamping unit 200ton for example
Vm: Moving speed of movable platen
Vv: Moving speed of oil cylinder

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

Figure 9: Faster clamping movements due to optimized toggle kinematics and position sensing.

Figure 10: New graphite/steel bushings providing better lubrication and lower lubrication consumption which improves the life of the clamping unit.

Figure 11: OPTION: Automatic tie bar removal device for easier loading of large or complicated molds into the machine.

Figure 12: Fixed platen with centralized force loading and less platen flexing.

Figure 13: Redesigned clamping unit providing lower platen stress and higher mold force stability. Reducing mold wear and improving molded product stability.

Figure 14: Redesigned moving platen providing centralized force distribution from the toggle system to the mold.

Figure 15: Redesigned toggle kinematics for higher efficiency and lower energy consumption for small and large machines.

Figure 16: Faster clamping movements due to optimized toggle kinematics and position sensing.

Figure 17: New graphite/steel bushings providing better lubrication and lower lubrication consumption which improves the life of the clamping unit.

Figure 18: 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
Nozzle cover with safety limit switch.

Figure ④
Optional screw designs for different material processing applications.

Figure ⑤
Two layer barrel cover with optional insulated barrel heater blanket for increased energy savings.

Figure ⑥
Option
Energy saving thermal covers for each heater. Reducing the radiant heating losses by 20-50%.

Figure ⑦
Safety chains for high pressure hoses can prevent hoses hurt people.
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Standard Controller

- 10” or 12” high resolution LCD screen with optimized panel layout for convenient machine operation.
- 12” or 15” high resolution LCD touch screen, with extended machine functions and flexibility to meet complex machine operations.

Optional Controller - KEBA 2580

- Options

  - 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.

- Options

  - Closing 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.
  - Digital 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.
  - Plate heat insulation plates.
  - Insulated barrel heater blanket.
  - Cooling water flow regulators.
  - Hopper vacuum loader.
  - Magnetic hopper draw.
  - Hot air material dryer.
  - Water chiller.
  - Air compressor.
  - Parts conveyor.
  - Product removal robot.
  - Robot safety enclosure.
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Function packages
The opportunity to process the following special materials by the Haitian Saturn Series machine is possible by adding the following upgrade packages:

Functional package PVC
Optimized special PVC screw design prevents the melt from being exposed to excessive friction and thereby ensures that the treatment process is ideally suited to the material.

Functional package PET
Optimized special L/D 25:1 screw, requiring a longer machine base, is driven by a high output motor for dramatically improving the plasticizing of the PET material to ensure the quality of the PET pre-form. Increased ejector force consistently ensures the finished parts are automatically ejected.

Functional package thermosetting material
A special bimetal screw reduces corrosion, with an accurate melt zone prevents the melt from overflowing, which prolongs the service life of the machine. The heating distribution is ensured by the special heat resistant sheet to improve plasticizing. The air release function is implemented to ensure the quality of the finished part.

Notes:
The selection of options requires pre-sales communication. We reserve the right to make alterations to the content in this brochure without notification.

Function packages

Figure ①: Visual Water Flow Manifold.

Figure ②: Optional proportional valve for mold closing.

Figure ③: Hydraulic or Pneumatic Shut-Off nozzle.

Figure ④: Optional proportional valve controlling the injection.

Figure ⑤: Optional high quality cooling water manifold.

Figure ⑥: Optional valve gate system ON/OFF control.

Figure ⑦: Optional hydraulic clamps system.