Easy Operation

MAC-Ⅷ+ Controller

- User-friendly control panel built-in 12-inch touch-screen LCD.
- Quick viewer moulding and maintenance.
- Automatic navigation & mode support when an alarm, moulding condition.
- Automatic setup feature helps operation to create moulding condition easier.
- Bilingual languages: Japanese, English, Chinese, Spanish supported.
- Dimensional units (SI, inch and kgf) available.

A touch panel is adopted for easy operation

Cycle process display

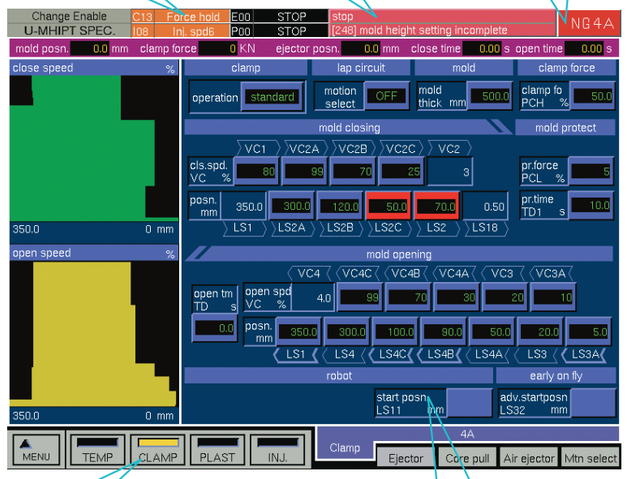
The cycle process is displayed at the top section of the screen and the current cycle condition can be checked at any time.

Alarm display

An alarm indicator is displayed when a fault occurs. A “Current alarm screen” is displayed by touching the alarm indicator.

NG screen

An NG screen indicator is shown when the relationships between setting values are not coordinated. The screen will show the area that has the incorrect setting value when the "NG screen indicator" is touched.



Direct path to main screens

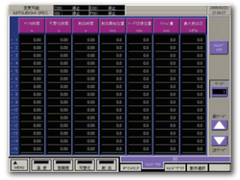
Direct buttons to switch to the four primary moulding screens (temperature, clamp opening/closing, injection and plasticizing) are placed at the bottom of the screen thus eliminating complicated screen change operations.

Direct setting

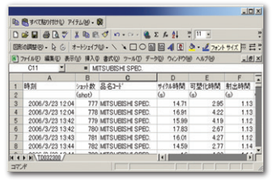
By touching the button of your choice on screen, direct setting of values is possible. This eliminates the need for operating troublesome cursor keys.

- Easy Monitoring and Data Collection PacketMAC (optional)
  Convert data from the MAC-VIII+ panel controller into CSV format, save it to USB memory, and analyse and or edit it at your computer.

Typical example of trend list display



Typical example of CSV data display



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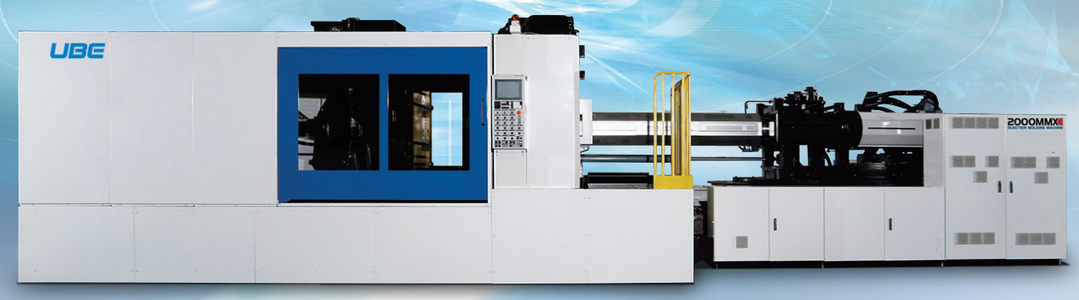
SERVO-HYDRAULIC
INJECTION MOULDING MACHINE
MMX SERIES

New Leading-Edge Machines Deliver High Performance at Lower Cost

Servo-Hydraulic injection moulding machine “MMX series” combines the latest technologies with experienced two-platen clamping and injection mechanism, and delivers excellent, performance, at a lower cost.

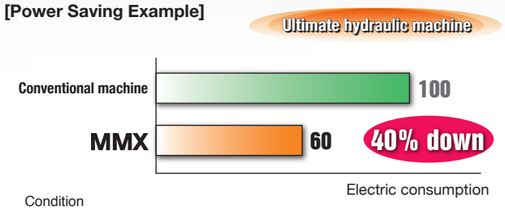


Carbon neutrality

Eco Pump system

- Our original Energy Saving pump system uses less energy than hybrid systems, while delivering powerful and repeatable operation.
- Lower energy consumption comparing to conventional hydraulic injection moulding machine.
- Feedback control pump system and special noise cover reduces noise level.
- Simple piping layout significantly effects less maintenance work, comparing to other hydraulic machines.

[Power Saving Example]

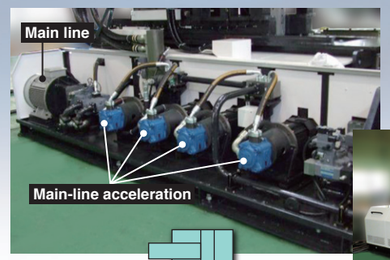


Condition
・2000-ton ・Material: PP ・Product Weight: 3.1 kg ・Cycle time: 50 sec.

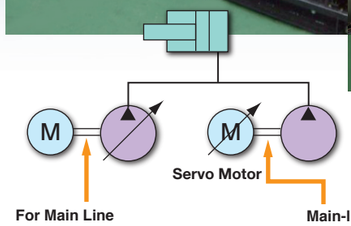
Lower Electric Expense:
Save 4 million yen per year

Condition:
Operation time: 6,000 hours
Electric cost: 15 yen/kWh

[Eco Pump system]



Cover unit reduces noise.



For Main Line

- Uses three-phase induction motor and variable-capacity piston pump. An extremely reliable design that consumes less energy and less space than long-term pressure-controlled moulding.

Main-line acceleration

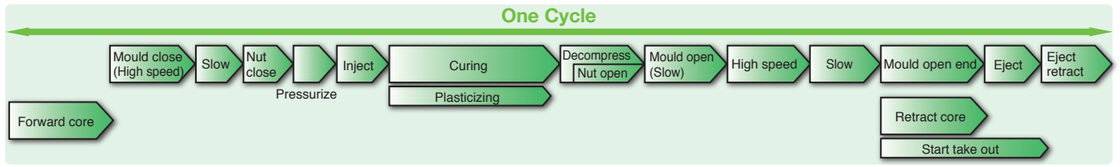
- Save energy by stopping the servo motor during low-flow hydraulically controlled operation on demand.
- Highly responsive servo motor makes pump control as easy as it appears in your image.

High Productivity

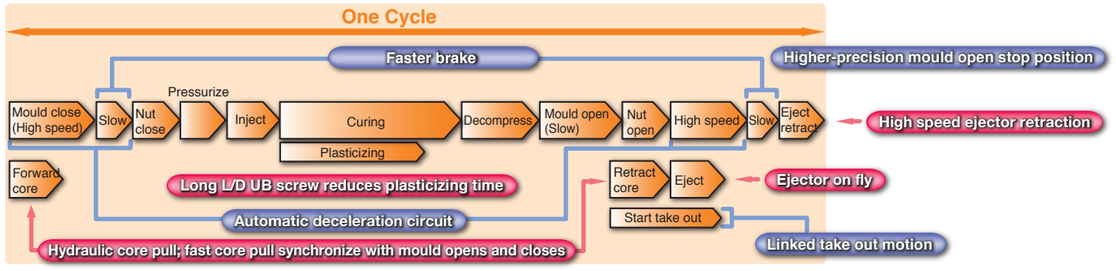
High Cycle Moulding

- High cycle feature, included as standard, it will boost your productivity.
  - ・High speed open/close/High speed ejector motion/ High speed mould-close pressurization
  - ・Long L/D UB screw
  - ・Electric-powered plasticizing lap circuit (optional)
  - ・Ejector on fly
  - ・High-capacity hydraulic core-pull pump
  - ・Simultaneous hydraulic core-pull

Conventional Machine



MMX



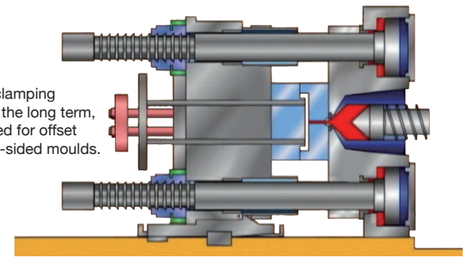
High Quality & Reliability

4-Point 2-Platen Clamping Mechanism

- Four-point tie-bar clamping easily tolerates unbalanced load, offering same excellent reliability as our experienced technology.
- Light,rigid platen incorporates our original analytic technologies.
- Two-platen clamping mechanism saves space meantime wide platens and long daylight are adapted.

[4-Point Uniform Tie-Bar Clamping]

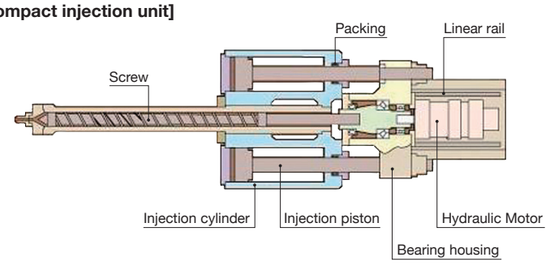
Delivers high clamping precision over the long term, even when used for offset moulds or one-sided moulds.



Reliable and Compact Injection Unit

- The size is reduced by positioning hydraulic cylinders at both sides of the screw. Since the piston doesn’t rotate, longer lifetime of packing is expected.
- Linear rail is adapted for bearing housing support to create repeatable action, delivering very stable injection at low energy consumption.

[Compact injection unit]



Feedback control pump system

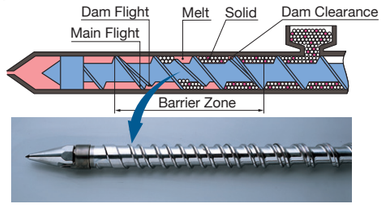
- Feedback control effectively stabilizes hydraulic oil flow and pressure, delivering extreme repeatability.

Material Cost Saving

UB Screw

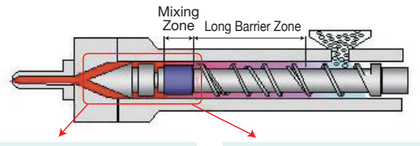
- Our original screw design features long barrier zone and dam configuration for separation of the melted and solid resin. The design offers superlative and energy-efficient kneading and plasticizing performance.
- Solid-free plasticizing enables high-multiple master batch moulding and significantly expands the range of usable colorants—contributing to lower overall material costs.

[Screw Design]

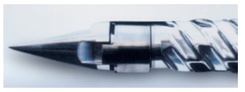


Super High Mixing Screw (optional)

- Offers even better mixing performance...



MD (multi-dam) UB Screw



“Multi-dam” screw, with polygonal cross-section, delivers a new level of uniform fusing.

MF (multi-finned) UB Screw

Dulmadge-type screw, with distinctive fin layout, delivers high-level mixing.