Development Concept Focusing on Production Site

Precision hydraulic molding machines in the “FN Series,” which have already been shipped in large quantities, are equipped with the new controller TACT for further evolution. In the molding machine industry where electric molding machines are in vogue, many merits of hydraulic molding machines remain unchanged. Some of the major features of NISSEI hydraulic molding machines are “ease of molding condition setting, ease of use, long service life, maintenance-free operation, low cost, high-sensitivity mold protection, almost no need for hydraulic oil change, and energy saving.”

Being particular about respective merits of hydraulic molding machines and electric molding machines in future as well, we will make efforts to meet a variety of our customers’ needs.

New controller “TACT”
- 12.1-inch color liquid crystal screen
- The tilt system can change the screen angle according to the operator
- Quick-response, high-resolution touch panel
- High-speed scanning time of 500 µsec
- A variety of molding programs
- System for displaying in English, Japanese, Chinese, Spanish, Korean, and Thai provided as standard equipment.
- Reinforced quality control function
- Ladder programming function open to users
- Internal memory of a maximum of 300 molding conditions
- LAN connector and USB connector provided as standard equipment

Ideal nozzle/barrel temperature control
- Optimum barrel temperature zones and temperature detection points are set for ideal temperature distribution.
- The screw and barrel have been unified with the NEX series. (Screw diameters A and B only)
- 5-zone control of nozzle and heating cylinder (nozzle, front, middle, rear 1, and rear 2) + Display of hopper throat temperature on the screen
- The nozzle/barrel simultaneous temperature rise function prevents carbonization and deterioration of resin inside the nozzle.

High-precision injection position detection
- Installation of high-precision encoder

Easier screw replacement work
- The injection cover can be detached easily to permit screw replacement at the operation side, improving the maintainability.

Energy saving
- We have reexamined the pressure loss in the hydraulic circuit completely to reduce the power consumption of the power unit by approx. 30% in comparison with conventional machines. (FN2000/comparison of dry operation)

Stable “direct-pressure” type mold clamping system
- Long-term maintenance of parallelism by the original direct-pressure system that has been delivered in large quantities
- Substantial improvement of slow-speed stability during initial mold opening operation by the “slow-speed opening” function

Renewal of external design
- The external design has been renewed for introduction of TACT.

Bed structure without surface irregularity
- Inheriting the bed structure of the conventional machines (FN Series) that have surface irregularity, the machines have been designed for easy plant layout with respect to the utilities, conveyors, and temperature controllers.
- Increased strength of machine bed (FN1000/FN2000)

Recommended options
- Insulating board
- Mold temperature control
- Wear-resistant, corrosion-resistant screw and barrel
- Extension nozzle
- Various high-purity nozzles
- Air-blow circuit
- Fixed chute
- Compact flash memory drive
- Printer
- Oil temperature stabilizer (Cooling water solenoid valve on oil cooler side)
- Main power breaker
- Vibration-proof pad
- Additional spare receptacle

Stable “direct-pressure” type mold clamping system
- Equipped with new controller “TACT.” 500 µsec high-speed scanning time
- Tried-and-true, field-proven FN type “direct-pressure” mold clamping system
- Ideal plasticization, temperature control, and stable injection
- “Nozzle/barrel temperature control: 4 zones ⇒ 5 zones”
- ”Screw/barrel design: 9A-71A are unified with NEX machine (Screw diameters A and B only)”
- Pursuit of further energy-saving

We have reexamined the hydraulic circuit completely to pursue further energy saving, reducing the power consumption of the power unit by approx. 30% during dry operation. (FN2000)

Main features of new FN Series
- FN Series

Recommended options
- Built-in LAN connector
- USB connector (Printer, etc.)
- Injection velocity/pressure profile display
- Operation history display (Display of 1000 items of respective histories)
- Multilingual display (English, Japanese, Spanish, Chinese, Korean, and Thai)
- Ladder programming function
- Alarm (informing) function
- Display of hydraulic oil temperature on screen
- Spare receptacle (2 pcs.)

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