DCX-II SERIES
DCX120II
DCX200II
DCX400II
DCX600II
DCX800II

X-PUMP EQUIPPED
HYBRID TYPE TWO-COLOR/DISSIMILAR MATERIAL INJECTION MOLDING MACHINE

DCE-III SERIES
DCE140II
DCE250II

ELECTRIC TYPE TWO-COLOR/DISSIMILAR MATERIAL INJECTION MOLDING MACHINE
Exploring the Potential of 2-Color/Dissimilar Material Molding

2-color/dissimilar material molded products have been widely used for automotive interior/exterior, industrial parts, and household goods. NISSEI double-injection molding machines can mold high designability and functionality products in one process cycle. Inner mold assembly (integrated molding) can reduce assembly processes, number of components, and cycle time as well as saving mold costs and floor space. NISSEI double-injection molding machines remarkably rationalize production processes while adding high-values to the products.

"Double Injection" 2-Color/Dissimilar Material Injection Molding Machine

- **2-Color/Dissimilar Material Injection Molding**
  It is an integrated molding method to form products using two different colors or two different types of materials. Molding two types of resin by integrated molding method can eliminate secondary processing (such as adhering), increase production speed, improve efficiency, and create high designability and functionality products.

  ① Primary molding  
  ② Secondary molding
NISSEI's Large 2-Color Injection Molding Machines Now Available

Since developing a 2-color machine in 1964, NISSEI has gained abundant experience from their field-proven 2-color/dissimilar material molding machines.

To be a pioneer in meeting the increasing needs for molding large and intricate products, NISSEI now offers large 2-color/dissimilar material molding machines above 500-ton clamping force in their standard lineup.

Wide-Ranging Capability in Molding: from Micro Precision Components to Large Products to Intricate Shaped Products

<table>
<thead>
<tr>
<th>Machine</th>
<th>Clamping force [kN]</th>
<th>Screw diameter [mm]</th>
<th>Injection pressure [MPa]</th>
<th>Injection velocity [mm/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCX120Ⅲ [1188]</td>
<td>56-63</td>
<td>71A</td>
<td>110</td>
<td>188</td>
</tr>
<tr>
<td>DCE140Ⅲ [1370]</td>
<td>56-63</td>
<td>71A</td>
<td>110</td>
<td>188</td>
</tr>
<tr>
<td>DCX200Ⅲ [1991]</td>
<td>56-63</td>
<td>71A</td>
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<td>188</td>
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<tr>
<td>DCE250Ⅲ [2450]</td>
<td>56-63</td>
<td>71A</td>
<td>110</td>
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<tr>
<td>DCX400Ⅲ [3944]</td>
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<td>71A</td>
<td>110</td>
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</tr>
<tr>
<td>DCX600Ⅲ [5880]</td>
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<td>71A</td>
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<tr>
<td>DCX800Ⅲ [7965]</td>
<td>56-63</td>
<td>71A</td>
<td>110</td>
<td>188</td>
</tr>
</tbody>
</table>

NEW DCX-Ⅲ (Hybrid Type) / DCE-Ⅲ (Electric Type) Series Line-Up.
Double Injection's Capabilities

Standard lineups of 2-color/dissimilar material molding machine series (DCX-Ⅲ and DCE-Ⅲ) include a wide range of machines in different clamping force tonnages, from small 120t class to large 800t class, offering ideal selections according to the applications and molding methods. These can also be customized for special molding methods, such as mixed color, multi-layer, and sandwich moldings.

Office communication equipment
- Front panels
- IC chips
- Smart phone components
- Water-tight packings
- etc...

Appliances
- Covers
- Switches
- Keycaps
- Cameras
- Brand logos
- etc...

General goods
- Kitchen utensils
- Toothbrushes
- Toys
- Penholders
- etc...

Machine
- DCE60 (Special order)
- DCX120Ⅲ
- DCE140Ⅲ
- DCX200Ⅲ
- DCE250Ⅲ
- DCX400Ⅲ

Clamping force (tf)
- 50
- 100
- 200
- 400

▲ Swimming goggle, coaster, cup, tray, case, selector switch, keycap, ventilator, and cap with a lid.
▲ Toy parts
▲ Small article cases
▲ Thick-wall containers (mixed color/double molding)
▲ Front panels of mobile phones
We have abundant experience and expertise in variety of molding methods, including 2-color molding molds. Please feel free to contact us.
2-Color Molding by Core Rotation Method

The movable platen is equipped with a rotation mechanism. After molding the primary part, it rotates the mold to the secondary side and fills resin into the space between the primary molded part and cavity. Since it swaps the primary and secondary cavities completely, it has less shape restrictions than that of core-back types, making molding of intricate shaped products possible. Since the gate mark from the primary side can be covered with the secondary side resin, it is ideal for products with complicating design and letters on flat surfaces, such as keycaps, as well as products with patterns on the side or sliding sections.

"DC Type" 2-Color Molding by Core Rotation Method

Molding process

Primary molding

Secondary molding

Molding Cycle

Clamping

Primary injection

Cooling

Secondary injection

Cooling

Metering

Mold open/rotation

Ejection

Movable platen

Stationary platen

Secondary molding

Rotary mechanism

Reversing motion

Primary molding

Secondary resin is injected after moving the primary molded part into the secondary cavity.

Point ①

Primary and secondary cavities are swapped completely.

Point ②

Gate mark on the primary molded part can be covered by the secondary resin.

High-Speed & Shock-Less Rotation

DCE-Ⅲ and DCX-Ⅲ Series achieve high-speed and shockless rotation motion. Rotation during mold open ("rotation to ejection" sequence) is possible, contributing to shorten the cycle time. Speeding up the ejector’s movement within the rotary table is also possible to make cycle time faster.

High-Precision Clean Non-Contact Rotation & Pull Mechanism

The rotary mechanism uses non-contact rotation & pull system, which pushes the rotary table before rotation and pulls it back after rotation. It sustains the precision of the rotary table for a long time and prolongs the lives of the molds. The rotary mechanism does not require a large amount of grease and is very clean.

Option equipment example:

DCX400-Ⅲ-36A (Euro Specs)
1. Insulation plate A & B
2. 2 core pull circuits
3. Additional mold mounting holes
To meet diverse needs in 2-color/dissimilar material molding, a wide-variety of injection units and two types of driving sources (hybrid and electric) are offered in the lineup. For mixed color molding and molding with core-back type mold, special machines customized from the standard machines can be made.

**Molded products**
- 2-color/dissimilar material molded products

**Injection units**
- Hybrid Type 2-Color / Dissimilar Material Injection Molding Machine
  - DCX-III Series
  - Electric Type 2-Color / Dissimilar Material Injection Molding Machine
  - DCE-III Series

**Machine type**
- "DC Type" Core Rotation
- Special Machines

**Hybrid Type 2-Color / Dissimilar Material Injection Molding Machine DCX-III Series**
- It distributes clamping force ideally to both sides of the mold.
- It is very effective for the molded products with unbalanced projected areas.
- 2-Piston direct pressure type clamping mechanism with hybrid X-Pump system
  1. Superior direct-pressure type clamping unit
  2. Low equipment and maintenance costs
  3. Durable
  4. Compact
  5. High injection load performance

**Electric Type 2-Color / Dissimilar Material Injection Molding Machine DCE-III Series**
- It distributes clamping force evenly to both sides of the mold.
- Double Flat Clamp: high-rigidity linear pressure toggle clamping mechanism
  1. High cycle
  2. High stop position precision
  3. High filling ability and response
  4. Special and simultaneous motions
High-Performance &
High-Functioning Controller

TACTⅣ

New controller that pursues better operability and workability

Large screen, newly designed operation panel, and convenient & user-friendly premium software are equipped to improve workability and operability. Quality and production management functions also have been improved, taking its user-friendliness to the next level.

Easy control of two injection units in one screen

Large 15-inch vertically long display can show main conditions, injection metering, and ejector A/B windows in one screen. The display offers superior usability for 2-color/dissimilar material molding machines, which normally require frequent screen switching.

* The controller screen images used in this page are from DCE-Ⅲ.
Materialize molding you desire...
The new controller that pursues better operability and workability

Traceability Support

- Date specified event and monitor data display made possible.
  - Molding condition (max. 500 conditions)
  - Event/monitor data (max. 100,000 events)
  - It helps for maintenance and quality control (operation mode change, condition change, error, etc.)

SET-UP Mode/SET-UP Screen

- Burdensome screen switching during setup has been eliminated. Settings related to mold setup, such as mold installation and purging, are consolidated into one page. When SET-UP mode is selected, it automatically switches the screen.

Fully-Loaded Maintenance Function

- TACT IV can notify when recommended scheduled maintenance and consumable parts replacement time arrive, and its related notes can be entered.
- It can notify arbitrary messages, such as for mold, screw, lubrication, maintenance period, etc. on specified dates or shots. Remote control of TACT screen from a PC via LAN is also possible.

Shutdown Sequence

- A variety of finishing states after completing production is available. Operating power state and shutdown sequence for each driving unit can be freely selected.

Descriptions of Errors

- It displays error messages and solutions.

Descriptions of Adjusters

- It displays easy-to-understand definitions of the technical terms used for the adjusters.

Flexible Purging Function

- This makes burdensome material and color change more efficient. It materializes flexible purging operations, such as purging at a specified cycle, purging with added back pressure, and force retreat purging.

Screen Lock and Adjuster Masking Function

- Adjusters that need to be password protected can be arbitrarily selected.

OPTION
X-Pump Equipped Hybrid Type 2-Color / Dissimilar Material Injection Molding Machine

DCX-III Series

DCX-III Series, consisting of hybrid type 2-color/dissimilar material injection molding machines, is equipped with NISSEI original hybrid “X-Pump” system and high performance/functioning “TACT IV” controller. It materializes higher precision and quality for a wide variety of molded products from precision to large products, optimizing the advantages of the super energy-efficient hybrid pump system.

Electric Type 2-Color / Dissimilar Material Injection Molding Machine

DCE-III Series

The DCE-III Series, consisting of all-electric type 2-color/dissimilar material injection molding machines, has the mold-friendly high-rigidity “Double Flat Clamp” clamping mechanism and high performance/functioning “TACT IV” controller. “Double Flat Clamp” mechanism was created by utilizing the NEX Series’ “Flat Clamp” (linear-pressure toggle mechanism) and idea of direct-pressure “2-Piston” type clamping mechanisms. It demonstrate superb performance in high-grade molding and achieves significant energy-saving.
### DCX-III SERIES Performance Specifications

<table>
<thead>
<tr>
<th>Specification Item</th>
<th>DCX120Ⅲ</th>
<th>DCX200Ⅲ</th>
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</thead>
<tbody>
<tr>
<td><strong>Injection</strong></td>
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<td></td>
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<tr>
<td>Screw diameter</td>
<td>26</td>
<td>28</td>
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<td>Injection capacity</td>
<td>9A</td>
<td>9A</td>
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<tr>
<td>Plasticization capacity (PS)</td>
<td>9A</td>
<td>9A</td>
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<tr>
<td>Injection pressure</td>
<td>265</td>
<td>244</td>
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<tr>
<td>Injection rate</td>
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<td>Hopper capacity (optional)</td>
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<td></td>
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<tr>
<td>Clamping force</td>
<td>kN</td>
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<tr>
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<td>Mold thickness (mm)</td>
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<td>620</td>
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<td>mm</td>
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<td>Tie bar clearance (V)</td>
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<td>Min. mold dimensions (H)</td>
<td>mm</td>
<td>235 ~ 235</td>
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<tr>
<td>Min. mold dimensions (V)</td>
<td>mm</td>
<td>235 ~ 235</td>
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<td>Ejector force</td>
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<td>Ejector stroke</td>
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<td>Max. mold weight (movable side)</td>
<td>kg</td>
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<td>Electrical &amp; others</td>
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<td>Floor dimensions (LxW)</td>
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<tr>
<td>Machine weight</td>
<td>t</td>
<td>7.05</td>
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**Models**

<table>
<thead>
<tr>
<th></th>
<th>DCX120Ⅲ</th>
<th>DCX200Ⅲ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Injection</strong></td>
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<td></td>
</tr>
<tr>
<td>Screw diameter</td>
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<td>50</td>
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<tr>
<td>Injection capacity</td>
<td>cm³</td>
<td>236</td>
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<tr>
<td>Plasticization capacity (PS)</td>
<td>kg/h</td>
<td>82</td>
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<tr>
<td>Injection pressure</td>
<td>MPa</td>
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<tr>
<td>Injection rate</td>
<td>cm³/s</td>
<td>169</td>
</tr>
<tr>
<td>Standard</td>
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<td></td>
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<tr>
<td>High velocity</td>
<td>cm³/s</td>
<td>238</td>
</tr>
<tr>
<td>Injection velocity</td>
<td>mm/s</td>
<td>100</td>
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<tr>
<td>Standard</td>
<td></td>
<td></td>
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<tr>
<td>High velocity</td>
<td>mm/s</td>
<td></td>
</tr>
<tr>
<td>Screw speeds</td>
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<tr>
<td>Nozzle touch force</td>
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<td>Hopper capacity (optional)</td>
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<td>Mold thickness (mm)</td>
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<td>mm</td>
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<td>Tie bar clearance (V)</td>
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<td>1360 x 810</td>
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<td>Min. mold dimensions (H)</td>
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<td>Min. mold dimensions (V)</td>
<td>mm</td>
<td>325 x 325</td>
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<td>Ejector force</td>
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<td>69 ~ 2</td>
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<td>Ejector stroke</td>
<td>mm</td>
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<td>Max. mold weight (movable side)</td>
<td>kg</td>
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<td>Electrical &amp; others</td>
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<td>Heater band capacity</td>
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<tr>
<td>Hydraulic oil quantity</td>
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<tr>
<td>Machine dimensions (LxWxH)</td>
<td>m</td>
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<tr>
<td>Floor dimensions (LxW)</td>
<td>m</td>
<td>6.95 x 1.81</td>
</tr>
<tr>
<td>Machine weight</td>
<td>t</td>
<td>23.38</td>
</tr>
</tbody>
</table>

**Notes:**
- Injection unit: Operation side = A; Non-operation side = B
- Actual plasticizing capacities may vary, depending on the molding conditions and materials.
- Maximum injection pressures are the highest values that can be set on the machines. These values may be limited, depending on the molding conditions.
- Maximum injection rates in the tables are the estimated values that were derived from a formula, and these are not guaranteed values at the maximum injection pressures.
- Machine dimensions, floor dimensions, and machine weights are approximate values. The listed machine weights do not include the weights of optional equipment and hydraulic oils.
- Clamping forces may be lower than the values in the tables if molds smaller than indicated minimum mold sizes are used.
- Specifications are subject to change without notice due to continuous performance improvement.
- 1MPa = 10.2kgf/cm² ≒ 10kgf/cm², 1kN = 0.102tf ≒ 0.1tf
### Main Equipment List

#### [Standard Equipment]

**Clamping unit**
- 1. Mold protection (low-pressure clamping time monitor)
- 2. Mold protection lamp confirmation circuit
- 3. Clamping force clamping (travel speed & angular pin mold possible)
- 4. Clamping force independent adjustment
- 5. Clamping pressure fail closed control
- 6. High-pressure clamping time display
- 7. Mold opening speed, 4-speed
- 8. Mold opening pause
- 9. Mold position marking function
- 10. Mold position/preset control
- 11. Multi-functional ejector (continuous operation, start timer, pause, halfway change of velocity, 2-speed forward velocity, and variable forward/backward stroke)
- 12. Indicator plate return confirmation (standard 2 circuits: mold A/B up to terminal)
- 14. High-speed ejector movement in tabular form
- 15. Mold rotation mechanism (driven by a servomotor)
- 16. Simultaneous mold open & rotation (for rotation → injection)
- 17. Signal injection (injection A/B) (injection start timing selection: pulse or after rotation)
- 18. Injection sequence (before or after rotation)

**Injection unit**
- 1. Injection process control 6-speed, 3-pressure, and 3-limit time
- 2. V/F changeover: 4 modes (position, injection velocity, injection pressure, and external input signals)
- 3. Production management control (control mode: standard/high-speed)
- 4. Injection control changeover (control mode: standard/high-speed)
- 5. Injection fail-closed control
- 6. Holding pressure automatic changeover 3 modes (basis/mold/deceleration)
- 7. Injection hold time trimming & 3-step holding speed
- 8. Melting rotation speed full-closed control
- 9. Mold pressure full-closed control
- 10. Injection start timer / nozzle backward start timer / metering start timer
- 11. High-pressure melting control "Pre Comp" (mean density stabilizer)
- 12. Automatic purge circuit (with flexible purge function)
- 13. Purging cover (with interface)
- 14. Screw cold start prevention (all-zone sequential type)
- 15. Needle and barrel temperature upper limit alarm and barrel temperature PID control
- 16. Automatic heating needle and barrel
- 17. Nozzle heater circuit SSR
- 18. Barrel heater circuit SSR (A/B: A/M)
- 19. Barrel temperature holding control (forced TEMP holding and TEMP holding when an error occurs)
- 20. Barrel heater radiation prevention cover
- 21. Hopper throat temperature control (DCX-9000~)
- 22. Screw screen display of hopper throat temperature (DCX-4000~)
- 23. Barrel heat radiation prevention cover
- 24. Material retention timer

**Molding system control/production management**
- 1. MACT IV (15-inch LCD, dual window display, and sheet switch type operation panel)
- 2. Shale counter / free shot counter
- 3. Production management control or / production lot management counter (signal output optional) / cause-classified defect counter
- 4. Monitor data display / statistic processing function / scatter diagram display / waveform analysis
- 5. Product pass/fail monitor / batch entry of acceptance level conditions
- 6. Mold opening velocity: 4-speed
- 7. SPC: Statistical Process Control function (molding machine process management by statistical method)
- 8. Water cut alarm / air cut alarm
- 9. Water temperature gauge
- 10. Mold clamping halfway slowdown (three-plate & angular pin mold possible)
- 11. Mold clamping force full-closed control
- 12. Mold heater disconnection alarm
- 13. Barrel insulation cover
- 14. Screw cold start prevention (all-zone sequential type)
- 15. High-precision metering control "Pre Comp" (resin density stabilizer)
- 16. Ejector plate return confirmation (standard 2 circuits: mold A/B)
- 17. Mold temperature indicator (display on the screen) or mold temperature control
- 18. Mold temperature upper & lower limit alarm
- 19. Mold heater circuit SSR (2A~3A)
- 20. Barrel heater circuit SSR
- 21. Hopper magnet
- 22. Hopper throat temperature control (DCX-4000~)
- 23. Screen display of hopper throat temperature (DCX-9000~)
- 24. Display or errors (directions for alarm reset function) / emergency power shut off (with delay timer)
- 25. Barrel temperature holding control (forced TEMP holding and TEMP holding when an error occurs)
- 26. Mold open/close prediction control

**Optional Equipment**

### Operation safety

- 1. Alarm lamp / alarm buzzer
- 2. Emergency stop button (operator & non-operator side)
- 3. Mold clamping safety device
- 4. Safety door upper cover
- 5. Transparent safety door cover (non-operator side)
- 6. Safety door lock

### Power

- AC output

### Maintenance, installation, and others

- Lubrication to clamping side (DCX1200~Ⅲ) → 2000
- Manual centralized lubricating unit (DCX4000~Ⅲ) → 800
- Manual centralized lubricating unit (DCX4000~Ⅲ) → 800
- Remote operation of key function (display of screenless inspection display)
- Parts replacement support function (display of recommended parts replacement period)

---

**[Optional Equipment]**

**Clamping unit**
- 1. Insertion plate (mold A/B)
- 2. Additional mold mounting bolt hole
- 3. Mold close pause
- 4. Ejector plate return confirmation (shell interface box on mold A/B)
- 5. Mold temperature indicator (display on the screen) or mold temperature control
- 6. Mold temperature upper & lower limit alarm
- 7. Mold heater disconnection alarm
- 8. Designation
- 9. Locating ring attachment (non-fixed type) or locating ring assembly (fixed type)
- 10. Locating ring diameter change
- 11. Mold clamps (SF, Clamp and Easy Clamp)
- 12. Quick mold change system (hydraulic/pneumatic/magnetic)
- 13. Mold dowel pin and block

**Injection unit**
- 1. Nozzle & barrel heater disconnection alarm
- 2. 2-point nozzle temperature control
- 3. Barrel insulation cover
- 4. Abrasion & corrosion proof barrel and barrel
- 5. High-temperature resistant barrel
- 6. Special purpose nozzle, screw, screw, screw (up, barrel), and barrel HD
- 7. Hopper / hopper extension with bar / hopper slider
- 8. Hopper magnet
- 9. Hopper throat temperature control (DCX-4000~)
- 10. Screen display of hopper throat temperature (DCX-9000~)

**Molding system control/production management**
- 1. Unscruising
- 2. Air blow circuit
- 3. Additional cooling water circuit
- 4. Fixed chute or swing chute
- 5. Air outlet with automatic activation by calendar timer
- 6. USA / flash dryer
- 7. SPC: Statistical Process Control function (molding machine process management by statistical method)
- 8. Water cut alarm / air cut alarm

**Cooling/hydraulic oil**
- 1. Cooling water filter
- 2. Additional cooling water circuit
- 3. Cooling water circuit (with a return stop valve)
- 4. Cooling water circuit (with a flow checker)
- 5. Water temperature gauge
- 6. Hydraulic oil purifier (DCX-1000~Ⅲ)
- 7. Air & die cooling hose

**Operation safety**
- 1. Alarm lamp
- 2. Moldingsaw (flexible or layered indicator lamp) (signal index)
- 3. Password protection function (screen lock and adjuster marking)
- 4. Alarm lamp & a stand
- 5. Non-operator side safety door lock (mechanical type)
- 6. Automatic safety door open/close (DCX-9000~Ⅲ) / (DCX-9000~Ⅲ)
- 7. Primary power indicator lamp

**Power**
- 1. Main power breaker or main power leakage breaker
- 2. Additional AC outlet
- 3. Fire alarm
- 4. Outlet circuit power shutdown

**Maintenance, installation, and others**
- 1. Manual centralized lubricating unit (DCX1200~Ⅲ and 2000)
- 2. Molding pad
- 3. Automatic centralized greasing unit
- 4. Automatic centralized lubricating unit for clamping side (DCX1200~Ⅲ) and for stationary platen side (DCX4000~Ⅲ)
- 5. Cuisinier color paint
- 6. Tool
DCX-III SERIES  DCX800III Injection type: 71A [Screw diameter: #56/#63/#71]

EXTERNAL VIEW

FOUNDATION DIAGRAM

HOPPER FIXATION DIAGRAM

ROBOT FIXATION DIAGRAM

MOLD ATTACHMENT DIAGRAM

DCX800III-71A
(Equipped with options)

DCX400III-36A
(Equipped with options: European CE marking compliant specification)
### DCE140Ⅲ

<table>
<thead>
<tr>
<th>Specification Item</th>
<th>A 5E+ 9E</th>
<th>A 9E + 9E</th>
<th>A 12E + 12E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw diameter (mm)</td>
<td>22</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Injection capacity (cm³)</td>
<td>35</td>
<td>49</td>
<td>57</td>
</tr>
<tr>
<td>Plasticization capacity (kg/h)</td>
<td>16</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Injection pressure (MPa)</td>
<td>280</td>
<td>196</td>
<td>169</td>
</tr>
<tr>
<td>Standard injection rate</td>
<td>190</td>
<td>265</td>
<td>308</td>
</tr>
<tr>
<td>High velocity</td>
<td>9E</td>
<td>12E</td>
<td></td>
</tr>
<tr>
<td>High load</td>
<td>133</td>
<td>186</td>
<td>216</td>
</tr>
<tr>
<td>Screw speed (rpm)</td>
<td>0~350</td>
<td>0~300</td>
<td>0~300</td>
</tr>
<tr>
<td>Nozzle touch force</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Hopper capacity (optional)</td>
<td>L</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Clamping force (kN)</td>
<td>1370</td>
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<td></td>
</tr>
<tr>
<td>Electrical &amp; others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater band capacity (kW)</td>
<td>5.11</td>
<td>6.73</td>
<td>6.16</td>
</tr>
<tr>
<td>Air consumption (NL/shot)</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Machine dimensions (L×W×H)</td>
<td>5.06</td>
<td>5.03</td>
<td>5.07</td>
</tr>
<tr>
<td>Floor dimensions (L×W)</td>
<td>4.27×1.19</td>
<td>4.27×1.19</td>
<td>4.27×1.19</td>
</tr>
<tr>
<td>Machine weight (t)</td>
<td>8.4</td>
<td>8.4</td>
<td>8.4</td>
</tr>
</tbody>
</table>

### DCE250Ⅲ

<table>
<thead>
<tr>
<th>Specification Item</th>
<th>A 9E + 9E</th>
<th>A 12E + 12E</th>
<th>A 25E + 25E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw diameter (mm)</td>
<td>26</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Injection capacity (cm³)</td>
<td>59</td>
<td>69</td>
<td>90</td>
</tr>
<tr>
<td>Plasticization capacity (kg/h)</td>
<td>19</td>
<td>28</td>
<td>40</td>
</tr>
<tr>
<td>Injection pressure (MPa)</td>
<td>280</td>
<td>196</td>
<td>166</td>
</tr>
<tr>
<td>Standard injection rate</td>
<td>159</td>
<td>185</td>
<td>241</td>
</tr>
<tr>
<td>High velocity</td>
<td>265</td>
<td>308</td>
<td>402</td>
</tr>
<tr>
<td>High load</td>
<td>159</td>
<td>185</td>
<td>241</td>
</tr>
<tr>
<td>Screw speed (rpm)</td>
<td>0~300</td>
<td>0~300</td>
<td>0~300</td>
</tr>
<tr>
<td>Nozzle touch force</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Hopper capacity (optional)</td>
<td>L</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Clamping force (kN)</td>
<td>2650</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical &amp; others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater band capacity (kW)</td>
<td>7.54</td>
<td>8.36</td>
<td>8.09</td>
</tr>
<tr>
<td>Air consumption (NL/shot)</td>
<td>4.0</td>
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<td>4.0</td>
</tr>
<tr>
<td>Machine dimensions (L×W×H)</td>
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<td>6.05</td>
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<tr>
<td>Floor dimensions (L×W)</td>
<td>5.40×1.44</td>
<td>5.40×1.44</td>
<td>5.40×1.44</td>
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<tr>
<td>Machine weight (t)</td>
<td>17.1</td>
<td>17.1</td>
<td>17.1</td>
</tr>
</tbody>
</table>

**Notes:**
- Injection unit: Operation side = ⓐ; Non-operation side = Ⓗ.
- Actual plasticizing capacities may vary depending on the molding conditions and materials.
- Maximum injection pressures are the highest values that can be set on the machines. These values may be limited depending on the molding conditions.
- Maximum injection rates in the tables are the estimated values that were derived from a formula, and these are not guaranteed values at the maximum injection pressures.
- Machine dimensions, floor dimensions, and machine weights are approximate values. The listed machine weights do not include the weights of optional equipment.
- Clamping forces may be lower than the values in the tables if molds smaller than indicated minimum mold sizes are used.
- Specifications are subject to change without notice due to continuous performance improvement.
- 1MPa = 10.2kgf/cm² ≒ 10kgf/cm², 1kN = 0.102tf ≒ 0.1tf
[Standard Equipment]

1. Mold protection (low-pressure clamping, time monitor) and high-sensitivity mold protection (time sensor)
2. Mold clamping error confirmation circuit (motion selection when an error occurs)
3. Mold clamping halfway stopper (time plate & angular pin in mold possible)
4. Mold opening velocity, 4-speed, mold opening pause
5. 2-circuit mold open & rotation selector (for injection & ejection)
6. Mold thickness device preparatory movement function (set-up/support function)
7. Automatic mold thickness adjustment
8. Multi-functional ejector (continuous operation, start timer, initial 2-speed forward velocity, pause, and variable forward/backward stroke)
9. Ejector plate return confirmation (2 circuits: mold A/B to upper terminal)
10. Selection of ejector sequence (mold A/B and backward rotation)
11. Simultaneous mold open & rotation (for "ejection"
12. Simultaneous mold open & rotation (for "ejection"

[Injection unit]

1. Injection process control 6-speed, 3-pressure, and 3-mil pressure / 3-step backpressure and 3-step melting speed
2. VP changer: 4 modes (position, injection velocity, injection pressure, and external input signal)
3. VP changer response: 3 modes (optional/variable/high response)
4. Holding pressure control: 4 modes (pressure/postioning pressure/positioning/positioning)
5. Injection during mold clamping (EUMC) / nozzle forward during mold clamping
6. Injection velocity control
7. Injection stroke (molding start timer) / nozzle backward start timer
8. Over packing prevention circuit
9. Decompression / compress before melting
10. Simultaneous molding operation (shutoff nozzle is optional)
11. High-precision melting control (pre-packaging/melting control)
12. Automatic purge circuit (with flexible purge function)
13. Purging (with interlock)
14. Screw climb start prevention at set value sequence type
15. Nozzle and barrel temperature upper limit alarm / nozzle and barrel temperature PID control
16. Simultaneous heating of nozzle and barrel
17. Temperature detection/nozzle temperature detection
18. Ballast temperature holding control (broad TEMP holding and TEMP holding when an error occurs)
19. Ballast heat radiation/burn prevention coverage
20. Needle stopper (manual simple disconnection alarm by detection by thermometer)
21. Machine rotation time
22. Screen display of hopper temperature
23. Hopper temperature PID control

[Molding system control/production management]

1. FACT II LCD/CDS two display window (display), and switch type (operation panel)
2. Shot counter / free shot counter
3. Production management counter / production lot management counter (signal output optional) / cause-classified skilled counter
4. Monitor display / statistical processing function / scalar diagram display
5. Monitor display of pass/fail judgment function (batch condition entry)
6. Display of pass/fail judgment function (MIP mold signal to tempar)
7. Barrel heat-up (calendar timer)
8. Molding condition and image data set management (peg or temp)

[Control system]

1. Integrated HMI (touch screen + Ethernet + RS-232C) / touchscreen display (10/800x400)
2. Built-in LAN-connector (10/100BASE-TX) / connection to PC
3. USB port (x1) / data saving in an external storage (USB memory) / data output via USB
4. Display of injection velocity and pressure waveforms
5. Molding stop message
7. Hour meter (molding machine total operation time display) / clock function (stopwatch and kitchen timer) / calculator
8. Servo/rotor load monitor

[Ladder programming function (8 I/O signals programmable) which can be used with signal (O) allocation function]

9. Signal (O) allocation (error processing input and various output signals can be assigned to four of the I/O terminals) cannot be used with ladder programming function
10. Signal (O) allocation (analyzes motor signal or (O) signal waveforms and data collection function)
11. Alarm function (maintenance start function that displays arbitrary message at specific time or alarm)
12. Display of current production volume data (dependence of mold, injection, melting, and operating parameters when production is completed)
13. Emergency power shut off (shut off the heater and motor power when a critical error occurs) / emergency power shut off delay timer
14. Selection of production complete data (dependence of mold, injection, melting, and operating parameters when production is completed)
15. Cyclic alarm
16. Remote maintenance function (remote control of FACT II from PC possible)
17. Setting unit change (injection pressure, injection velocity, injection position, melting speed, temperature, and clamping force)
18. Descriptions of adjustments when some of the adjustments are touched, descriptions will be displayed
19. Setup mode (multi-speed & operation by setup speed and injection & metering by purging speed)
20. Setup simultaneous movement (simultaneous motion of injection forward/backward, melting, and auto purge during automatic mold thickness adjustment is possible)

[Cooling]

1. Cooling water manifold

[Operation safety]

1. Alarm lamp / alarm buzzer
2. Emergency stop button (operator & non-operator side)
3. Mold clamping safety device (mechanical/electrical)
4. Safety door upper cover shut ring (with interlock)
5. Safety door lock (spring catch type)
6. Non-operator side safety door with clear acrylic cover

[Power]

1. AC outlet

[Maintenance, installation, and others]

1. Automatic centralized greasing unit (for toggle side, be bar bush, and injection side)
2. Manual centralized lubricating unit (for clamping side)
3. Acute rotation inspection support function (display of scheduled rotation data)
4. Parts replacement support function (display of recommended parts replacement period)

[Optional Equipment]

[Cooling]

1. Insulation plate (mold A/B)
2. Additional mold mounting bolt hole
3. Mold core plate
4. Ejector plate return confirmation (2 circuits: mold A/B and metal interface box)
5. CPN3 (displays details of motions and compression load)
6. Mold temperature indicator (display on the screen or mold temperature control
7. Mold temperature upper & lower limit alarm
8. Mold heater connection alarm
9. Hydraulic circuit \( \emptyset \)
10. Locating ring attachment (non-fixed type) or locating ring assembly (fixed type)
11. Locating ring diameter change \( \emptyset \)
12. Mold clamping (anti-backlash locking)
13. Quick mold change system: hydraulic (stationary side only) / hydraulic system for clamp (Special order for required because of clamping needs), magnetic, or pneumatic (consultation for required specification) for ejection stroke extension
14. Mold dew point and print

[Injection unit]

1. Nozzle / Bar retractor heater disconnection alarm
2. 2-point nozzle temperature control
3. Barrel insulation cover
4. Abnormal / compression proof barrel and screw (details need to be specified) \( \emptyset \)
5. Shut of nozzle \( \emptyset \)
6. Extended nozzle \( \emptyset \)
7. High-pressure injection unit (5E: 300mm/s, 9E: 400mm/s, 12E: 300mm/s, 25E: 270mm/s)
8. High-load injection unit (3E: 250mm/s, 5E: 250mm/s, 10E: 250mm/s, 15E: 180mm/s)
9. Hopper / hopper slider / hopper extension with band
10. High-temperature-resistant barrel (details need to be specified) \( \emptyset \)
11. Special-purpose nozzle and barrel (details need to be specified) \( \emptyset \)
12. Temperature holding nozzle
13. Connector or other special-purpose nozzle (details need to be specified) \( \emptyset \)
14. Hopper magnetic
15. Low-pressure molding system: k-SAPFIL\( \emptyset \)

[Molding system control/production management]

1. Unescrow
2. Air blower circuit
3. Hydraulic core pull circuit (hydraulic unit needed) / piping block cannot be installed on the stand (x2)
4. Pneumatic core pull circuit
5. Fixed chute or swing chute (interlocked with product pass/fail judgment function)
6. AC outlet with a automatic activation by calendar time
7. USB flash drive
8. ARC: Statistical Process Control function (molding machine process management by statistical method)
9. Water alarm / air alarm alert

[Cooling]

1. Cooling water filter
2. Additional cooling water circuit
3. Cooling water circuit (with a return stop valve)
4. Cooling water circuit (with a flow checkert)
5. Water temperature gauge
6. Anti-dew cooling hose

[Operation safety]

1. Rotating beacon (Patlite) or layered indicator lamp (signal tower)
2. Password protection function (screen lock and adjuster meaning)
3. Alarm lamp with a stand
4. Non-operator side safety door lock (mechanical type) \( \emptyset \)
5. Primary power indicator lamp

[Power]

1. Main power breaker or main power leakage breaker
2. Additional AC outlet
3. Fire alarm
4. Outlet circuit power shutdown
5. Outlet control for different voltage

[Maintenance, installation, and others]

1. Manual greasing set
2. Wiring
3. Mounting pad
4. Custom color paint
Special Double Injection Machines that Meet a Variety of Molding Needs

Mixed Color Injection Molding Machine

Beautiful two mixed-colored products (marbled, sandwich, tortoise-shell pattern, striped, flower pattern, etc.) can be created with an exiting mold by utilizing NISSEI’s mixed color injection molding machine’s injection units, nozzles, and special molding conditions.

Patterns can be created by using two horizontally placed or V-shaped injection units that share one nozzle and head. Different-colored materials are injected to a mold from the injection units simultaneously or continuously. It can form a variety of patterns depending on the injection timing, nozzle structures, and molding conditions.

Thin-Wall Multi-Layer Container Injection Molding Machine

These are two-material triple-layer thin-wall containers. The middle layer possesses gas barrier property, preventing oxidation of the content and permitting long-term preservation.

Portable Injection Unit

2-color/dissimilar material products can be molded by adding the portable injection unit to a general-purpose injection molding machine. In addition, it can be added on to a 2-color/dissimilar material injection molding machine to produce multi-color/multi-material products.

Portable Injection Unit IU Series

Please contact us for more details about the portable injection unit.

Examples on this pages are actual custom machines. Specifications may vary depending on the countries or regions and may not be available in some areas. Please contact us for more details.