UBE GLOBAL NETWORK

With Japan as our headquarters, we contribute to our customers’ globalization with a four-forked system covering Asia, North America and Europe.

Large Size die casting machine Lineup

Hydraulic die casting machine : UB-IV Series
(1250, 1600, 2250, 2500, 2800, 3050, 3550, 4000, 4600)

Two platen hybrid die casting machine : UH Series
(1250, 1600, 2250, 2500)

UBE-iS3 Series
Energy Saving Die Casting Machine

UBE530iS3
UBE670iS3
UBE850iS3
UBE1100iS3
UBE1300iS3

UBE MACHINERY CORPORATION,LTD.
Main web site http://www.ubemachinery.co.jp
High Performance Machine with Servo Pump  “UB-iS3” achieve tremendous Energy Saving

**Premium New Model**

**UB-iS3**

**New Technologies**

**Cast Navi 2G**
- Control & Monitoring
  - New HMI
  - Cast Navi 2G
  - 15 inch touch screen

**Clamp Unit**
- Highly Rigid
- Die Clamping Unit
- New Center Press Platen

**New Servo Motor**
- For the main pump with idling stop & Rotation Speed Control

**Energy Savings**
- Servo Motor for the main pump with "Idling Stop" & "Rotational Speed Control" is equipped as standard and it achieves tremendous energy saving.

**Control & Monitoring**
- Contribute to production cost reduction by stopping motor during machine idling.

![Energy Consumption Graph](image)

- **Energy Consumption**

  - (UB5052-45sec cycle)

- **Energy Saving Servo Pump**

  - (Standard)

**High Performance Injection Unit**

- UBE's specialized shot circuit realizes fast shot speed of 8m/sec as standard. (Dry shot 0.02m/s → 8m/s)
- Improvement of tracking, acceleration & braking capabilities for shot speed.
- Intensification time: 10ms.
- Setting for the change position for intensification is at any point, or it enables to set automatic by monitoring pressure.

**Meter in - Meter out Circuit**

- Metre in, which provides pressure equipment to the load, and meter-out, which is effective at stabilizing speed, are both incorporated in a meter-in/meter-out circuit for using the advantages of each mechanism to obtain stable speed.
- Shockless start is also realized to prevent air intake of the molten metal.
**Multi Metal Pressure Control**

- UBE developed its own exclusive run around circuit and double accumulator system (built-in dedicated pressurizing accumulator) for maintaining stable and high-speed injection performance while achieving casting pressure control over the wide range from 30% to full gas discharge or re-charge.
- Low metal pressure injection enables casting in larger sizes.
- The reduced metal pressure promotes longer die life.

**Electric Servo Valve (S-DDV II)**

- New servo-controlled direct-drive valve (S-DDV II) enables to control multi shot speed (10 points parameter setting).
- Real time feedback control enables to obtain accurate shot-speed repeatability and shot stability.

**Highly Rigid Clamping Unit**

- High level CAE analysis and optimum shape design reduce the unnecessary body and achieve high rigidity.
- With new center press technology, an equal clamping force is distributed throughout the die, and it reduces flash, exert an effect on low pressure casting & reducing clamping force.

**Electric Die Clamp Cylinder (Option)**

- Electric die clamp cylinder achieves shorter cycle time.
- Improvement of accuracy for die open-close.
- Enable to set die open limit position and open-close speed at any point.
- Contribution to reduce spray time and spray liquid consumption.
- Enables to overlap actions during die open-close.

**New HMI "CastNavi 3G"**

- Shot parameter setting screen
  - Enables multi speed control with 10-points parameter setting function.
  - Enables to indicate actual value displaying setting value.
- Machine monitor display
  - Displays machine status with graphics and enables to recognize the condition at a glance.
- Large casting data storage
  - Increased casting data memory capacity from 100 shots to 15,000 shots. Saving on USB memory and keeping on PC.
- Centralized Monitoring System (Option)
  - Monitoring operation on one PC, networking to multiple Die casting machines.
  - Enable to manage from any location through customers internal LAN, server.
- Support function for casting condition
  - Equipped with 2 selective modes for standard and easy setting for casting, designed for beginner to set with interactive screen.

**Casting Solution Service**

- Casting Support / School
  - UBE performs operation training and instructs optimal shot parameter setting towards production. Also, operation of die-casting machine and casting technology are deeply learned through the school.
- Study of Casting Design and Shot Parameter
  - UBE propose optimal gating system, shot parameter utilizing CAE.
- Investigation of Casting defects
  - Casting solution service specifies the casting defects by various analysis and offers best solution.
UB−i3 Series Main Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor for hydraulic pump</td>
<td>—</td>
<td>Servo Motor (Option: Induction Motor)</td>
</tr>
<tr>
<td>Oil tank capacity</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Cooling water flow rate for oil cooler</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Oil pressure</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Machine weight</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Clamping

- Clamping force: kN 5300, 6700, 8500, 11000, 13000
- Dimension of die plate (L x W): 1070x1172, 1200x1302, 1400x1452, 1660x1660, 1930x1800
- Read between tie bars (L x W): 751x751, 850x850, 931x931, 1100x1100, 1250x1120
- Die stroke: 580, 680, 760, 830, 900
- Die thickness (min. to max.): 350−850, 350−900, 400−950, 600−1200, 750−1500
- Nominal maximum injection force: kN 511, 605, 707, 895, 1061
- Nominal minimum injection force: kN 162, 186, 225, 282, 330
- Nominal filling force: kN 216, 247, 299, 318, 440
- Plunger stroke: 580, 670, 750, 820, 950
- Tip projection stroke: mm 230, 300, 355, 355, 375
- Shot position: mm −175, −175, −250, −300, −300
- Injection speed: m/sec 0.02−8, 0.02−8, 0.02−8, 0.02−8, 0.02−8
- Applicable Plunger tip diameter: 70, 80, 90, 75, 85, 95, 80, 90, 100, 90, 110, 120, 90, 110, 130
- Plunger tip diameter (Standard Tip diameter): 80, 85, 90, 90, 110, 110
- Nominal Metal pressure (Standard Tip diameter): MPa 32−102, 33−107, 35−111, 35−94, 35−112
- Deceleration adjustment: Adjustable, Adjustable, Adjustable, Adjustable, Adjustable

Ejection

- Ejector force: kN 235, 286, 343, 539, 588
- Ejector stroke: mm 0−110, 0−125, 0−125, 0−150, 0−150
- Distance from moving platen to ejection plate: mm 540, 590, 646, 820, 865

UB−i3 Series Specification (Standard and Optional Items)

Note: Specification item ma change for improvement without notice
**Peripheral Equipment**

UBE’s proud Peripheral equipment with long-time performance at field.
High Reliability supports stable production and high cycle.

**Automatic Ladle**

Adopting inverter control with arm and ladle drive enables smooth movement.
Improves accuracy of ladling by refined control method.

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>USL-03</th>
<th>USL-04</th>
<th>USL-05</th>
<th>USL-05L</th>
<th>USL-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Applicable die casting machine</td>
<td>US350S3</td>
<td>US670S3</td>
<td>US850S3</td>
<td>UB1000S3</td>
<td>UB1300S3</td>
</tr>
<tr>
<td>2</td>
<td>Maximum pouring weight</td>
<td>4.0kg</td>
<td>5.6kg</td>
<td>8.0kg</td>
<td>15kg</td>
<td>20kg</td>
</tr>
<tr>
<td>3</td>
<td>Accuracy ladling</td>
<td>±1.5%</td>
<td>(with the Max. ladling weight)</td>
<td>±1.5%</td>
<td>±1.5%</td>
<td>±1.5%</td>
</tr>
<tr>
<td>4</td>
<td>Power drive</td>
<td>Arm driving motor : 0.75kw AC motor (Inverter control)</td>
<td>Arm driving motor : 1.5kw AC motor (Inverter control)</td>
<td>Arm driving motor : 0.75kw AC motor (Inverter control)</td>
<td>Arm driving motor : 0.75kw AC motor (Inverter control)</td>
<td>Arm driving motor : 0.75kw AC motor (Inverter control)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ladle driving motor : 0.2kw AC motor (Inverter control)</td>
<td>Ladle driving motor : 0.4kw AC motor (Inverter control)</td>
<td>Ladle driving motor : 0.2kw AC motor (Inverter control)</td>
<td>Ladle driving motor : 0.4kw AC motor (Inverter control)</td>
<td>Ladle driving motor : 0.4kw AC motor (Inverter control)</td>
</tr>
</tbody>
</table>

**Automatic Sprayer**

Standard feature for forward movement of spray cassette in the dies, which is effective for casting for deeper shaped product. Descent position of spray cassette and forward stroke in the die can be set on the screen in each die.

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Model USP-31</th>
<th>Model USP-51</th>
<th>Model USP-61</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Applicable die casting machine</td>
<td>US350S3 / US670S3</td>
<td>US850S3 / US850S3</td>
<td>UB1000S3 / UB1000S3</td>
</tr>
<tr>
<td>2</td>
<td>Number of air line nozzle (Standard)</td>
<td>20pcs</td>
<td>20pcs</td>
<td>30pcs</td>
</tr>
<tr>
<td>3</td>
<td>Number of spray nozzle (Standard)</td>
<td>Fixed platen side : 26pcs</td>
<td>Fixed platen side : 31pcs</td>
<td>Fixed platen side : 40pcs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moving platen side : 28pcs</td>
<td>Moving platen side : 31pcs</td>
<td>Moving platen side : 40pcs</td>
</tr>
<tr>
<td>4</td>
<td>Air pressure</td>
<td>0.3MPa~0.7MPa</td>
<td>0.3MPa~0.7MPa</td>
<td>0.3MPa~0.7MPa</td>
</tr>
<tr>
<td>5</td>
<td>Liquid supply port diameter</td>
<td>Rc 1/2 B</td>
<td>Rc 1/2 B</td>
<td>Rc 3/4 B</td>
</tr>
</tbody>
</table>

**Automatic Extractor**

Adopting inverter control with arm drive enables smooth movement.

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>USL-03</th>
<th>USL-04</th>
<th>USL-05</th>
<th>USL-05L</th>
<th>USL-06</th>
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<tbody>
<tr>
<td>1</td>
<td>Applicable die casting machine</td>
<td>US350S3</td>
<td>US670S3</td>
<td>US850S3</td>
<td>UB1000S3</td>
<td>UB1300S3</td>
</tr>
<tr>
<td>2</td>
<td>Number of air line nozzle (Standard)</td>
<td>20pcs</td>
<td>20pcs</td>
<td>30pcs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Location of installation</td>
<td>Standing on floor at machine header side</td>
<td>Standing on floor at machine header side</td>
<td>Standing on floor at machine header side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Chuck type</td>
<td>Biscuit chuck type</td>
<td>Biscuit chuck type</td>
<td>Biscuit chuck type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Number of product sensors</td>
<td>2pcs (Photoelectric sensor)</td>
<td>2pcs (Photoelectric sensor)</td>
<td>2pcs (Photoelectric sensor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Die thickness adjustment stroke</td>
<td>150mm</td>
<td>220mm</td>
<td>220mm</td>
<td>220mm</td>
<td>220mm</td>
</tr>
<tr>
<td>7</td>
<td>Travelling stroke</td>
<td>2200mm</td>
<td>2525mm</td>
<td>2525mm</td>
<td>2525mm</td>
<td></td>
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<tr>
<td>8</td>
<td>Removal stroke</td>
<td>250mm</td>
<td>250mm</td>
<td>250mm</td>
<td>250mm</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Chuck rotating angle</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Air supply port diameter</td>
<td>Rc 1/2 B</td>
<td>Rc 1/2 B</td>
<td>Rc 1/2 B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dimension Table (mm)**

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>UB350S3</td>
<td>8017</td>
<td>7794</td>
<td>2894</td>
<td>1657</td>
<td>1275</td>
<td>3493</td>
<td>4495</td>
<td>2950</td>
<td>1610</td>
<td>1255</td>
<td>1570</td>
<td>2201</td>
<td>846</td>
<td>1340</td>
<td>1950</td>
</tr>
<tr>
<td>UB670S3</td>
<td>8915</td>
<td>8427</td>
<td>3192</td>
<td>1869</td>
<td>1365</td>
<td>3638</td>
<td>4650</td>
<td>3284</td>
<td>2645</td>
<td>1950</td>
<td>1295</td>
<td>1570</td>
<td>2201</td>
<td>910</td>
<td>1440</td>
</tr>
<tr>
<td>UB850S3</td>
<td>9597</td>
<td>8911</td>
<td>3370</td>
<td>2078</td>
<td>1400</td>
<td>3944</td>
<td>5120</td>
<td>3647</td>
<td>2780</td>
<td>2140</td>
<td>1800</td>
<td>2528</td>
<td>1020</td>
<td>1490</td>
<td>1950</td>
</tr>
<tr>
<td>UB1100S3</td>
<td>11382</td>
<td>10476</td>
<td>4006</td>
<td>2490</td>
<td>1540</td>
<td>3950</td>
<td>5678</td>
<td>4120</td>
<td>2680</td>
<td>2655</td>
<td>1800</td>
<td>2553</td>
<td>1190</td>
<td>1714</td>
<td>2350</td>
</tr>
<tr>
<td>UB1300S3</td>
<td>13135</td>
<td>11401</td>
<td>4451</td>
<td>2950</td>
<td>1737</td>
<td>4270</td>
<td>–</td>
<td>4600</td>
<td>2824</td>
<td>2075</td>
<td>–</td>
<td>1197</td>
<td>1745</td>
<td>2350</td>
<td></td>
</tr>
</tbody>
</table>
Die Mounting Dimensional Diagram

1. Blue Holes are for ejection rods directly linked to the ejection plate. (30 locations)
2. Minimum size of dies: 840mm × 773mm

1300 t • 1100 t

UB1300iS3

UB1100iS3

1. Blue Holes are for ejection rods directly linked to the ejection plate. (30 locations)
2. Minimum size of dies: 940mm × 733mm

850 t • 670 t • 530 t

UB850iS3

UB670iS3

UB530iS3

1. Blue Holes are for ejection rods directly linked to the ejection plate. (26 locations)
2. Minimum size of dies: 640mm × 620mm

1. Blue Holes are for ejection rods directly linked to the ejection plate. (14 locations)
2. Orange Holes are for ejection rods not to be directly linked to the ejection plate. (4 locations)
3. Minimum size of dies: 567mm × 567mm (Center arrangement)

1. Blue Holes are for ejection rods directly linked to the ejection plate. (14 locations)
2. Orange Holes are for ejection rods not to be directly linked to the ejection plate. (4 locations)
3. Minimum size of dies: 500mm × 500mm (Center arrangement)