

Ink Jet Printer
UX Series



Information in this brochure is subject to change without notice.

Hitachi Industrial Equipment Systems Co., Ltd.

For further information, please contact your nearest sales representative.



Registration number: JQA-QMA12087
Registration date: April 1, 2005

The Marking Systems and Hoist Systems Division (Taga Division) of Hitachi Industrial Equipment Systems Co., Ltd. obtained international standard ISO 9001 certification for the quality assurance of the Ink Jet Printer contained in this brochure.

Printed in Japan (D) **SX-E152-01** 1215

<http://www.hitachi-ies.co.jp/english/products/ijp>

The world leader in coding

Hitachi, which manufactured the first Japanese industrial inkjet printer in 1975, has boasted of a high achievement worldwide ever since, not to mention the Japanese market, as a reliable and leading brand of coding.

Hitachi industrial IJ printer UX Series is a global model with highly evolved "Reliability", "Simplicity", and even "Eco-friendly" performance. We will change the coding scene of the world.

Higher functionality and easier installation for a variety of printing needs. Its evolution has also realized ease of use and maintainability.

Hitachi industrial IJ printers are high-speed printers adopting a non-contact type of printing method, in which the drops of ink fly in the air. It can print on a variety of products manufactured on production lines, which are made of metals, plastics, films, papers, etc. Its speed, flexibility, reliability, and durability are really impressive. Durability in harsh environment and ease of use have also been greatly improved. We are bringing excitement to the coding and marking industry.

RELIABILITY

信

High reliability, and reassured maintenance and service networks

ECOLOGY

環

Environmentally friendly while realizing a low running cost

USABILITY

操

Simple touch panel operation and maintainability

THE WIDE WORLD

Feature [1]

ECOLOGY

Environmentally friendly while realizing a low running cost

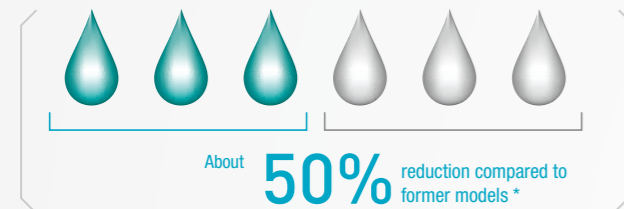
環

Hitachi original "Makeup fluid consumption reduction system" has Significantly-reduced running cost.

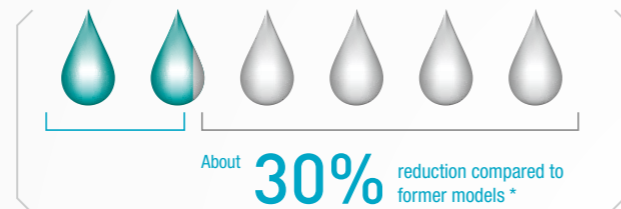
The ink recovery control and device temperature control provided by the new technology of "Makeup fluid consumption reduction system" suppress the amount of makeup vaporized and achieve industry-leading levels of makeup consumption.

Reduction of makeup fluid consumption

UX-E



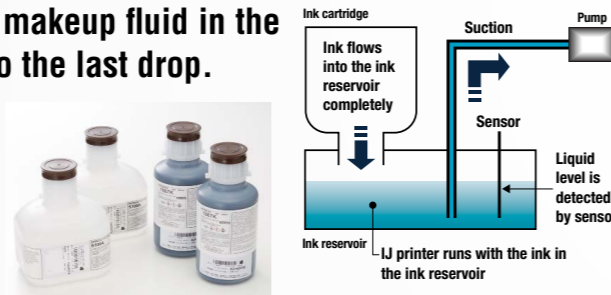
UX-B, UX-D



* With 1067K ink at 20°C.

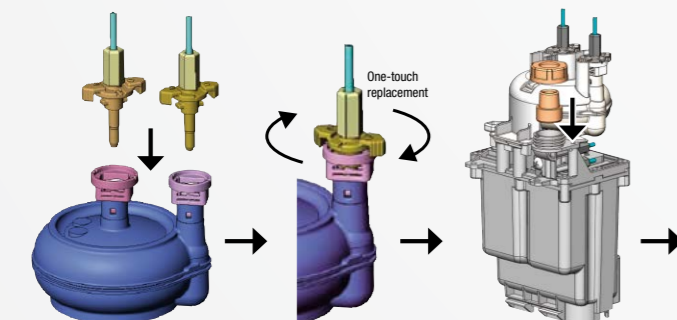
Eco-friendly because the ink and the makeup fluid in the cartridge can be consumed right up to the last drop.

It is not necessary to stop the production line to replace the cartridges. An eco-system of a simple cartridge-type bottle can be replaced after the ink or makeup fluid is completely consumed and is also easily disposed of.



Each part can be replaced separately, and filter replacement is also easy.

The IJ printer is so designed that the minimal part or module can be replaced rather than replacing the whole unit. The ink filter can also be removed and replaced easily without any tools just by rotating the joint. It's a one-touch operation.



Feature [2]

RELIABILITY

High reliability, and reassured maintenance and service networks

信

RFID function to prevent installing the wrong cartridge

IC tags are adopted for the ink and makeup fluid cartridges. Installation of the wrong cartridge can be prevented by simply passing the cartridges over the main unit which is equipped with RFID* (Radio Frequency Identification) function. A message appears on the screen if the wrong cartridge is scanned.

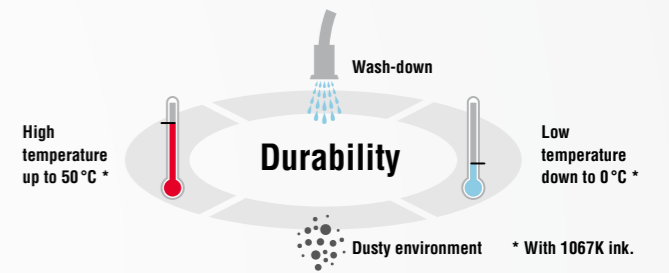
* Some geographic areas are excluded.

Hitachi Industrial Equipment Systems Co.,Ltd. declares that the IC tag reader is in compliance with the essential requirements and other relevant provisions of the FCC Part15 subpart C, EN 301 489-1/-3, EN 300 330-1/-2.



Designed for harsh environments

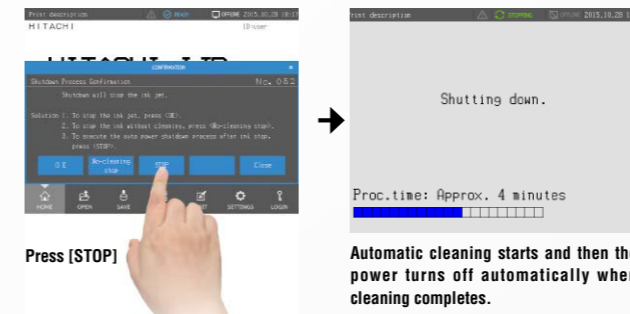
The stainless steel cabinet offers IP65 and allows a wash-down with pressured water and industrial detergent, to meet any environment and hygiene requests. The UX Series with IP65 protection is the ideal choice for applications in the meat and dairy sectors.



Automatic nozzle cleaning / Nozzle backwash

Automatic cleaning starts by one press of a button and there is no need to wait for its completion since the power turns off automatically when it is finished. Even if the nozzle gets clogged, it can be easily recovered by the nozzle backwash function that is opposite of the normal ink ejection, in which the fluid is sucked through the nozzle.

Automatic nozzle cleaning



Automatic cleaning starts and then the power turns off automatically when cleaning completes.

Operation screen of nozzle backwash



Made in Japan

Hitachi industrial IJ printers are manufactured with the know-how and technology that have been accumulated since 1975 in Hitachi City where Hitachi was first founded. After production, all printers have to pass Hitachi's strict quality management before shipment. We provide quality products to our customers worldwide.



USABILITY

Simple touch panel operation and maintainability

操

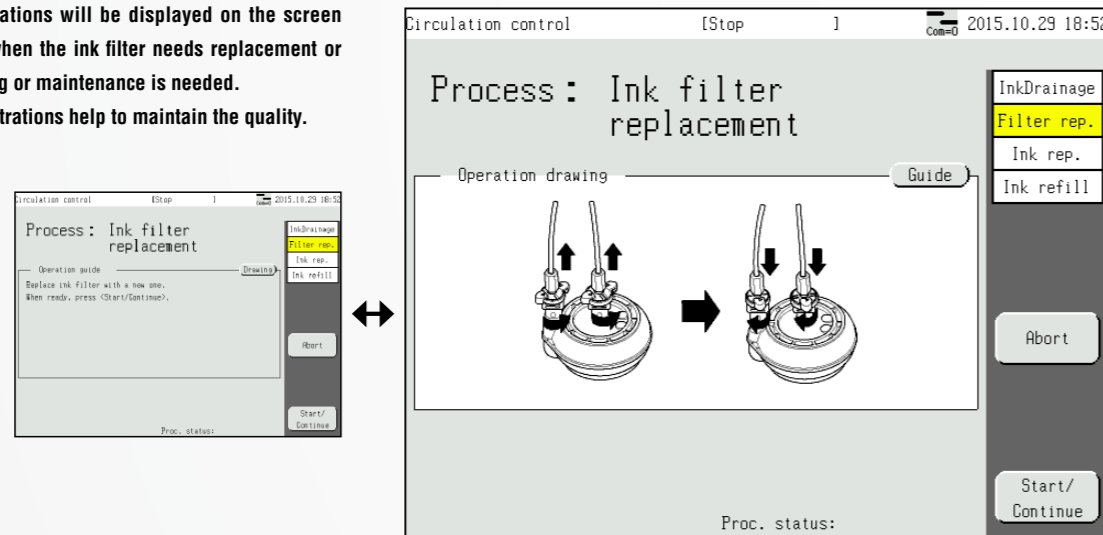
Totally-new user interface!

Intuitive operations with a new readily-understandable screen design is now adopted. Most of the operations can be completed on one screen with a simplified and well-arranged design. Complicated operations are not required to obtain the necessary information thereby improving usability.



Troubleshooting and maintenance guides using plain illustrations

The necessary operations will be displayed on the screen using illustrations when the ink filter needs replacement or when troubleshooting or maintenance is needed. Comprehensive illustrations help to maintain the quality.



IC Card* with RFID function

With IC cards, login information and print data can be managed. * Optional

- User login**
By scanning IC card, only the registered user can log-in and each user operation can also be limited. It prevents any incorrect operation.
- Print data selection**
By scanning IC card, the registered print data can be accurately called up. It prevents the incorrect data from being called up which may happen with manual operation.

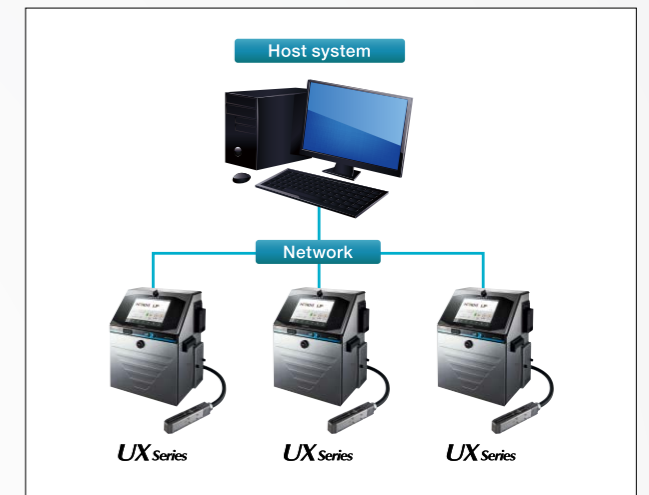


* Use of IC card (RFID function) requires Radio Law approval in each country.

Enhanced network functionality by improving compatibility with the host system

Configuration of an IoT* system can be smoothly realized using simple wiring because of the standard Ethernet feature and open network compatibility. By collectively managing multiple devices from the host system, the information gathering and operations become more efficient.

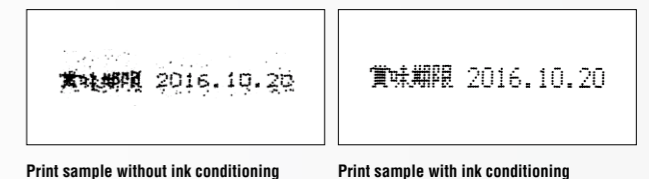
* Internet of Things



Note: UX-B is excluded.

Ink conditioning management to maintain print quality

By monitoring both the ink viscosity and the ink consumption, the ink viscosity is always kept in the best condition.

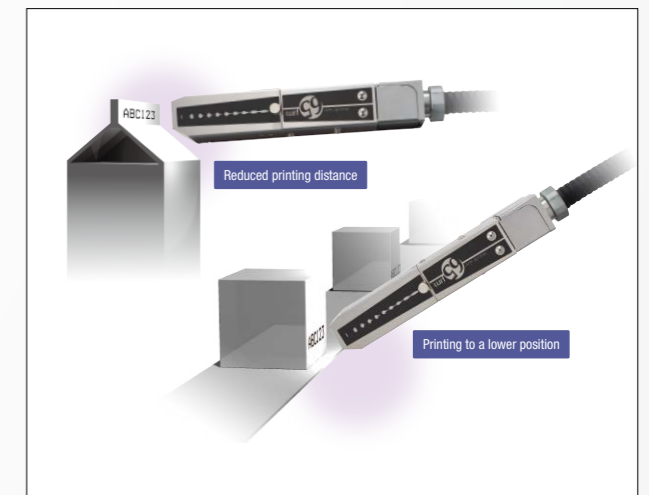


Print sample without ink conditioning Print sample with ink conditioning

Excellent printhead shape

Tapered shape at the tip of the printhead reduces the distance between the work and the printhead. Printing to the lower position is now made possible. The printhead with anti-corrosion plating keeps working in severe environment.

* Corresponding models: For small characters and high-speed printing



New printing technology, "6-line print" compatible for a wider variety of needs

6-line print from one printhead is made possible. Even with multiple print lines, Hitachi original interlaced-print-control system makes each printed character appear clearly. For single-line high-speed printing, its print quality is improved with the new print control system.

* Corresponding models: For small characters



Standard print samples (Approx. full scale)

Small characters (65µm)

| Font (Horizontal x Vertical) | | UX-B160W | | | | UX-E160W UX-D160W | | | | | |
|------------------------------|-------|--|-------------------------------------|--|--|----------------------|-------------------------------------|---------------------------------------|-------------------------------------|--|--|
| UX-B160W | 5x5 | 1LINE 0123456789ABCDEFGH 012345678 | 2LINE 012345678 ABCDEFGHI | 3LINE 012345678 ABCDEFGHI JKLMNOPQR | 4LINE 012345678 ABCDEFGHI JKLMNOPQR STUVWXYZ | UX-E160W UX-D160W | 5x5 | 1LINE 0123456789 012345678 | 2LINE 012345678 ABCDEFGHI | 3LINE 012345678 ABCDEFGHI JKLMNOPQR | 4LINE 012345678 ABCDEFGHI JKLMNOPQR STUVWXYZ |
| | 5x7 | 1LINE 0123456789ABCD 0123456 | 2LINE 012345678 ABCDEFGHI | 3LINE 012345678 ABCDEFGHI JKLMNOPQR | 4LINE 012345678 ABCDEFGHI JKLMNOPQR STUVWXYZ | | 5x7 | 1LINE 0123456789ABCD 0123456 | 2LINE 012345678 ABCDEFGHI | 3LINE 012345678 ABCDEFGHI JKLMNOPQR | 4LINE 012345678 ABCDEFGHI JKLMNOPQR STUVWXYZ |
| | 7x10 | 1LINE 0123456789 012345 | 2LINE 01234567 ABCDEFGH | 3LINE 0123456789012345678 ABCDEFGHIJKL | 4LINE 0123456789012345678 ABCDEFGHIJKL MNOPQRS | | 7x10 | 1LINE 0123456789 012345 | 2LINE 01234567 ABCDEFGH | 3LINE 0123456789012345678 ABCDEFGHIJKL | 4LINE 0123456789012345678 ABCDEFGHIJKL MNOPQRS |
| | 10x12 | 1LINE 0123456789ABCD 0123456789 | 2LINE 0123456789 ABCDEFGHIJK | 3LINE 01234567890 ABCDEFGHIJK | 4LINE 01234567890 ABCDEFGHIJK | | 10x12 | 1LINE 0123456789ABCD 0123456789 | 2LINE 0123456789 ABCDEFGHIJK | 3LINE 01234567890 ABCDEFGHIJK | 4LINE 01234567890 ABCDEFGHIJK |
| | 12x16 | 1LINE 0123456789ABC 0123456 | 2LINE 0123456789ABC 0123456 | 3LINE 0123456789ABC 0123456 | 4LINE 0123456789ABC 0123456 | | 12x16 | 1LINE 0123456789ABC 0123456 | 2LINE 0123456789ABC 0123456 | 3LINE 0123456789ABC 0123456 | 4LINE 0123456789ABC 0123456 |
| | 18x24 | 1LINE 0123456789 0123456ABC | 2LINE 0123456789 0123456ABC | 3LINE 0123456789 0123456ABC | 4LINE 0123456789 0123456ABC | | 18x24 | 1LINE 0123456789 0123456ABC | 2LINE 0123456789 0123456ABC | 3LINE 0123456789 0123456ABC | 4LINE 0123456789 0123456ABC |
| UX-E160W UX-D160W | 24x32 | 1LINE 0123456789ABCDEF 012345 | 2LINE 0123456789ABCDEF 012345 | 3LINE 0123456789ABCDEF 012345 | 4LINE 0123456789ABCDEF 012345 | 24x32 | 1LINE 0123456789ABCDEF 012345 | 2LINE 0123456789ABCDEF 012345 | 3LINE 0123456789ABCDEF 012345 | 4LINE 0123456789ABCDEF 012345 | |
| | 30x40 | 1LINE 012345ABCDEF | 2LINE 012345ABCDEF | 3LINE 012345ABCDEF | 4LINE 012345ABCDEF | 30x40 | 1LINE 012345ABCDEF | 2LINE 012345ABCDEF | 3LINE 012345ABCDEF | 4LINE 012345ABCDEF | |
| | 36x48 | 1LINE 012345ABCD | 2LINE 012345ABCD | 3LINE 012345ABCD | 4LINE 012345ABCD | 36x48 | 1LINE 012345ABCD | 2LINE 012345ABCD | 3LINE 012345ABCD | 4LINE 012345ABCD | |

Print samples



High-speed printing (55µm)

| Font (Horizontal x Vertical) | | UX-D150W | | | | | | |
|------------------------------|-------|--------------------------|-------|--|-------|--|-------|--|
| 5x7 | 1LINE | 0123456789ABCDEFGHIJKLMN | 2LINE | 0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMN | 3LINE | 0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMN ABCDEFGHIJKLMN | 4LINE | 0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMN ABCDEFGHIJKLMN ABCDEFGHIJKLMN |

Print samples



Larger Small-size characters (100µm)

| Font (Horizontal x Vertical) | | UX-D110W | |
|------------------------------|-------|----------|------|
| | | Standard | Bold |
| 18x24 | 1LINE | 01A | 01A |
| | 2LINE | 01A | 01A |
| 24x32 | 1LINE | 01A | 01A |
| | 2LINE | 01A | 01A |

Print samples



Micro characters (40µm)

| Font (Horizontal x Vertical) | | UX-D140W | | | | | | |
|------------------------------|-------|------------|------------|--------------------------|----------------|--|-------|--|
| 5x5 | 1LINE | 0123456789 | 2LINE | 0123456789 KLMNOPQRST | 3LINE | 0123456789 IJKLMNOPQR 0123456789 | 4LINE | 0123456789 IJKLMNOPQR 0123456789 IJKLMNOPQR |
| | 12x16 | 1LINE | 01234ABCDE | 2LINE | 01234 ABCDE | | | |

Print samples



Standard Specification

| Item | Small characters | | | |
|--|---|--|--|------------------|
| | UX-B160W | UX-D160W | UX-E160W | |
| Nozzle size | 65µm | | | |
| Max. print line number | Up to 3 lines | Up to 6 lines | Up to 6 lines | |
| Maximum number of print characters | Up to 240 characters | Up to 240 characters (Option: Up to 1,000 characters) | Up to 1,000 characters | |
| Font (Horizontal × Vertical) | 4 × 5 | ✓ | ✓ | |
| | 5 × 5 | ✓ | ✓ | |
| | 5 × 7(8), 9 × 7(8) | ✓ | ✓ | |
| | 7 × 10 | ✓ | ✓ | |
| | 11 × 11 | ✓ (Chinese only) | ✓ (Chinese only) | ✓ (Chinese only) |
| | 10 × 12 | ✓ | ✓ | ✓ |
| | 12 × 16 | ✓ | ✓ | ✓ |
| | 18 × 24 | ✓ | ✓ | ✓ |
| | 24 × 32 | — | ✓ | ✓ |
| | 30 × 40 | — | ✓ | ✓ |
| 36 × 48 | — | ✓ | ✓ | |
| Character height | 2 - 10 mm | | | |
| Display & input device | WYSIWYG design Display: TFT LCD (10.4" color), backlight provided Input device: Touch panel, input sound provided | | | |
| Screen language (2 languages selectable) | English, Chinese, Korean, Thai, Vietnamese, German, French, Dutch, Italian, Spanish, Portuguese, Swedish, Danish, Greek, Russian, Czech, Polish, Arabic, Serbian, Turkish, Hungarian, Bulgarian, Catalan, Romanian, Finnish, Norwegian, Slovenian | | | |
| Maximum print rate (Characters per second) (Font 5x5, space 1, 1 line) | Up to 1,148 (Option: Up to 1,281 *) | Up to 1,148 (Option: Up to 2,563 *) | Up to 2,296 (Option: Up to 2,563 *) | |
| Standard characters | Alphanumeric (A-Z, a-z, 0-9), symbols (27) and space: Total 90 | | | |
| User pattern | 50 patterns each for dot matrix | 200 patterns each for dot matrix (50 patterns for 30×40 and 36×48 fonts) | | |
| Print functions | Calendar, Count, Font mixture, Password | | | |
| Barcode printing | — | code39, ITF, NW-7, EAN-13, EAN-8, UPC-A, UPC-E, code128/EAN-128, GS-1 DataBar | | |
| 2D code printing | — | Data Matrix (Alphabet: 49 characters/Numerals: 98 characters), QR, Micro QR code | | |
| Message storage capacity | 150 messages | 300 messages [Option: Up to 2,000 messages (Depends on data content)] | 2,000 messages (Depends on data content) | |
| Input signal | Print target detection Rotary encoder pulse (NPN/PNP Selectable) | Print target detection, Printing stop, Rotary encoder pulse, Reciprocal printing, Remote control (Run, Stop, High-voltage ON/OFF, Reset), (NPN/PNP Selectable) | | |
| Output signal | Print ready, Fault, Warning (NPN Only) | Print in progress or Print complete, Online (NPN/PNP Selectable), Print ready, Fault, Warning (NPN Only) | | |
| Data interface | Option (RS-232C at baud rates selectable up to 115,200bps) | RS-232C at baud rates selectable up to 115,200bps | | |
| Ethernet (Modbus communication) | — | IEEE802.3, 100BASE-T | | |
| External memory | — | USB for user data storage | | |
| Printhead cable length / angle | — | 4m (in-line/90 degrees) | | |
| Operating temperature range | — | 0-50°C (1067K Ink) | | |
| Operating humidity range | — | 30-90% RH (no condensation) | | |
| Power supply (Automatic voltage selection) | — | AC100-120/220-240V±10% 50/60Hz 120VA | | |
| Approval | CE, UL, cUL, C-Tick, FCC, ICES | CE, C-Tick | | |
| Dimensions (Width x Depth x Height) | 400 x 320 x 527 mm | | | |
| International protection | IP55 | IP65 | | |
| Approximate weight | 27kg | | | |

*1 Ink types and temperature are limited.



UX-B160W



UX-D160W



UX-E160W

| Item | High-speed printing | Larger Small-size Characters | Micro Characters |
|--|---|------------------------------|------------------|
| | UX-D150W | UX-D110W | UX-D140W |
| Nozzle size | 55µm | 100µm | 40µm |
| Max. print line number | Up to 4 lines | | |
| Maximum number of print characters | Up to 1,000 characters | | |
| Font (Horizontal × Vertical) | 4 × 5 | ✓ | |
| | 5 × 5 | ✓ | |
| | 5 × 7(8), 9 × 7(8) | ✓ | |
| | 7 × 10 | ✓ | |
| | 11 × 11 | — | ✓ (Chinese only) |
| | 12 × 16 | ✓ | |
| | 18 × 24 | ✓*2 | ✓ |
| 24 × 32 | — | ✓ | |
| Character height | 2-8mm | 3-15mm | 1-5mm |
| Display & input device | WYSIWYG design Display: TFT LCD (10.4" color), backlight provided Input device: Touch panel, input sound provided | | |
| Screen language (2 languages selectable) | English, Chinese, Korean, Thai, Vietnamese, German, French, Dutch, Italian, Spanish, Portuguese, Swedish, Danish, Greek, Russian, Czech, Polish, Arabic, Serbian, Turkish, Hungarian, Bulgarian, Catalan, Romanian, Finnish, Norwegian, Slovenian | | |
| Maximum print rate (Characters per second) (Font 5x5, space 1, 1 line) | Up to 3,173 | Up to 468 | Up to 3,030 |
| Standard characters | Alphanumeric (A-Z, a-z, 0-9), symbols (27) and space: Total 90 | | |
| User pattern | 200 patterns each for dot matrix | | |
| Print functions | Calendar, Count, Font mixture, Password | | |
| Barcode printing | code39, ITF, NW-7, EAN-13, EAN-8, UPC-A, UPC-E, code128/EAN-128, GS-1 DataBar | | |
| 2D code printing | Data Matrix (Alphabet: 49 characters/Numerals: 98 characters), QR code*, Micro QR code | | |
| Message storage capacity | 300 messages [Option : Up to 2,000 messages (Depends on data content)] | | |
| Input signal | Print target detection, Printing stop, Rotary encoder pulse, Reciprocal printing, Remote control (Run, Stop, High-voltage ON/OFF, Reset), (NPN/PNP Selectable) | | |
| Output signal | Print in progress or Print complete, Online (NPN/PNP Selectable), Print ready, Fault, Warning (NPN Only) | | |
| Data interface | RS-232C at baud rates selectable up to 115,200bps | | |
| Ethernet (Modbus communication) | IEEE802.3, 100BASE-T | | |
| External memory | USB for user data storage | | |
| Printhead cable length / angle | 4m (in-line/90 degrees) | | |
| Operating temperature range | 0-40°C (1067K Ink) | 0-35°C (1067K Ink) | |
| Operating humidity range | 30-90% RH (no condensation) | | |
| Power supply (Automatic voltage selection) | AC100-120/220-240V±10% 50/60Hz 120VA | | |
| Approval | CE, UL, cUL, C-Tick, FCC, ICES | | |
| Dimensions (Width x Depth x Height) | 400 x 320 x 527 mm | | |
| International protection | IP65 | | |
| Approximate weight | 27kg | | |

*2 Please consult your nearest sales representative when "18×24 font" or "QR code" is required with UX-D for High-speed printing.



UX-D150W



UX-D110W



UX-D140W

Ink lineup

Specialty printing is possible with wide array of ink types.

Highly adhesive Metal Paper Plastic

Suitable for containers made from PP (polypropylene) or PE, or two-piece can, three-piece can in the industries of food, medicine, cosmetics, etc.



1072K, 1028K, 1088K, 1114K

Quick-drying Film

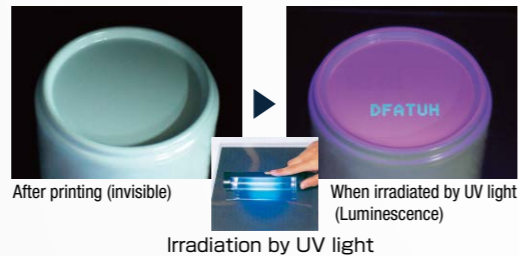
Suitable for food packaging film and applications where quick-drying is required such as pillow packaging machines.

| Time [s] | 2086K | Former model |
|----------|----------|--------------|
| 0.3 | 19.12.16 | 19.12.16 |
| 0.5 | 19.12.16 | 19.12.16 |
| 1.0 | 19.12.16 | 19.12.16 |

2086K

Ultraviolet luminescence

Suitable for manufacturing control, etc.
This ink emits blue light when irradiated by UV light.



After printing (invisible) When irradiated by UV light (Luminescence)
Irradiation by UV light

1092F, 1063F

UV curing Electronic parts

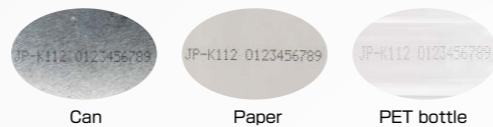
Suitable for PCB and electronic parts.
Curing by UV light makes the printed ink resistant to oils and solvents.



1065K

Ethanol ink Metal Paper Plastic

Suitable for applications where MEK-based ink is not acceptable such as food, pharmaceutical and cosmetics.



3112K

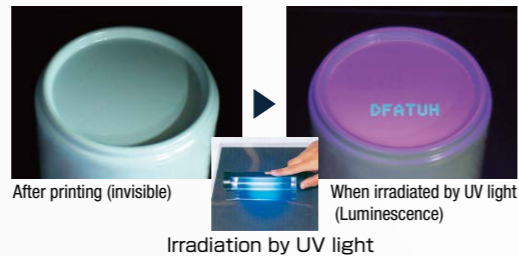
Solvent resistant Film Plastic

Suitable for food packaging and processing in which containers are cleaned by ethanol. This ink is resistant to wiping with ethanol in the sterilization process.

| Status | 1087K | Former model |
|--------------------------------|------------------|------------------|
| Right after printing | 2019.8.18 QPS | 2019.8.18 QPS |
| Wiping with alcohol | | |
| After being wiped with alcohol | 2019.8.18 QPS | 2019.8.18 QPS |

1087K

Color ink Metal Paper Plastic



After printing (invisible) When irradiated by UV light (Luminescence)
Irradiation by UV light

Suitable to identify the work printed.



1027R

1085B

1027G

1027R, 1085B, 1095B, 1027G

Alkali-soluble Metal Paper Glass 1026K Transfer-resistant Plastic Steel plate 1033K 1119K

Flexibility Plastic 1061K Condensation-resistant Film Glass 1062K

*1 Regarding ink for each model, please contact your nearest sales representative.

*2 For SDS, please download it from our website or contact your nearest sales representative.



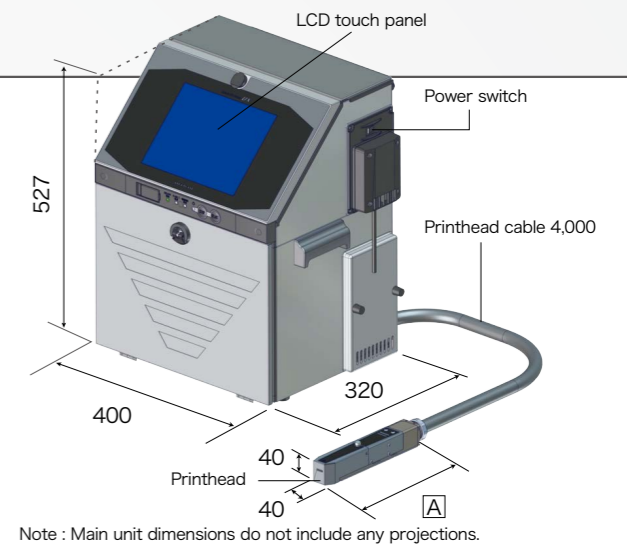
● Download SDS from here

Dimensions of main unit (Unit: mm)

Main unit

A Dimension of each model

| Model | Dimension (mm) |
|----------------------------------|----------------|
| For small characters | 235 |
| For high-speed printing | 235 |
| For larger small-size characters | 243 |
| For micro characters | 219 |



Note : Main unit dimensions do not include any projections.

Software options

IJ printer features can be extended with a range of software options.

Linking with Vision system

- Inspection item on Vision system changes corresponding to the print item on the IJ printer.
- Vision system corresponds to the change of IJ printer-printed characters.
- Clocks can be synchronized.
- Vision system receives the print content output each time when the IJ printer completes printing, which can be set as Vision system's inspection characters.



Barcode reader connection function

Setting print content

Barcode content read by the barcode reader is transmitted as "Character strings" and set as print content.

Calling up print data

Barcode content read by the barcode reader is treated as "Call up code" and the print data corresponding to the "Call up code" will be called up.

Special communication functions and External signal functions

| Function | Detail | Function | Detail |
|-------------------------------------|--|--|---|
| Print content output | Outputs "Print content" to an external device via serial communication when the printer receives an "Inquiry about print content" from an external device or right after completion of printing. | Print content switching | Print content, which is sent via communication and stored temporarily, will be printed at the time of external signal input. |
| Print completion code output | Outputs "Print completion code" to an external device right after completion of printing. | Output on calendar update | Outputs signal when the print content is updated by the calendar. |
| Status output | Outputs IJ printer status to an external device when operation status changes or an "Inquiry about status" from an external device is received. | External signal reset | Print content of the count digit is set to a reset value at the input of an external signal. Count update at each printing |
| External signal count | Update count according to the external signal. | Calling up print data | Calls up registered print data by external signal. |
| | | Output notifying completion of signal input | When an external signal of the count, reset, print content switching or print data call up is input, signal will be output. |

Related products

Vision system

Good partner to improve printing reliability

Instantly checks for print errors of date, serial number, etc. Hitachi original cross-check inspection method (Adjustable matching method) is adopted so that the recognition close to the human eyes is made possible.



