KGK **KGK Co.,Ltd.**

Chart（Unit: mm）

▼CIJ main unit

430
400
15　15
15
347
50　245　52
88
577　471
18
345
205
338
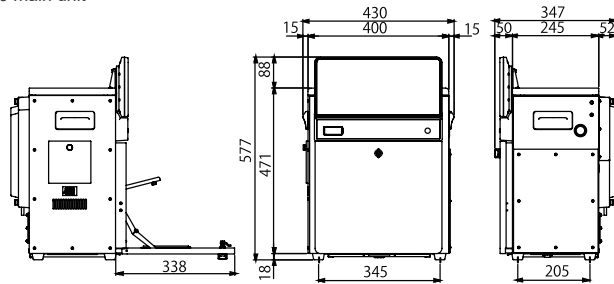
Note: Some space is required around the installation location of the main unit.

▼Printhead

140 (adjustable from +27 to 53)

221.5　21
25
ф50
63.8
55　80
20
30.7　31
30
54
20

Recommended mounting shaft φ20h7

Cover fixing knob

Minimum bending radius of flexible cable
・Fixed 35 ・Operating 63
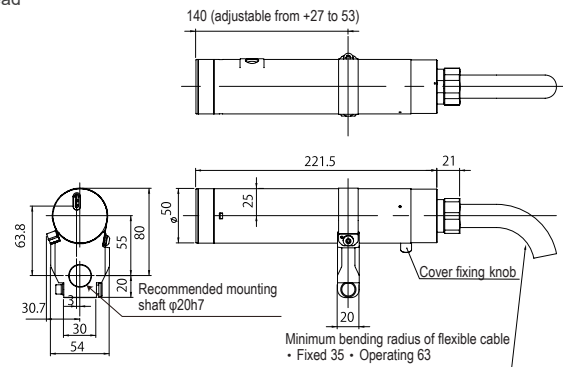
Product specifications are subject to change without notice.

Kishu Giken Kogyo Co., Ltd.

https://www.kishugiken.co.jp/ew/

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Email:overseas@kishugiken.co.jp

KGK **KGK Co.,Ltd.**

Continuous Inkjet Printer
KGK JET CCS7000

NEW
HIGH-END
MODEL

Reduces operator workload
No wasting time

NEW

Equipped with newly developed AIR SCUDO®.

KGKJET CCS7000

10 million times
no buildup head

24 sec.
World's fastest start-up

66 IP
dustproof and waterproof standard

MADE IN JAPAN

10,000,000

Buildup-free print head

NEW Newly developed **"Air Scudo® (patented)"** airflow control function

Reduces operator workload. The air shield effect greatly reduces ink contamination inside the printhead.
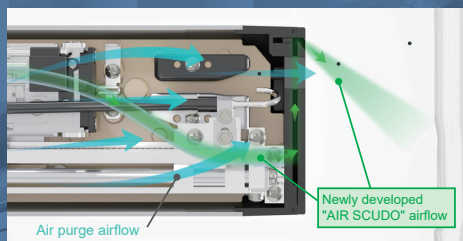
1/50

- Number of cleaning cycles
- Solvent cost for cleaning
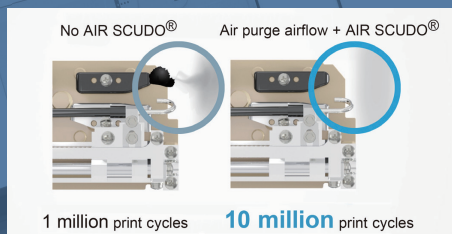- Time cost required for cleaning
- Exposure dose

The newly developed "AIR SCUDO" function has been added to the "Air Purge" function, which prevents ink mist from entering the print head, which cannot be prevented by the "Air Purge" function, thereby **reducing ink contamination** that accumulates on the deflecting electrode. This function suppresses the generation of ink mist that causes the problem and significantly reduces ink bounce back into the printhead.

This has resulted in **a significant reduction in head cleaning** by operators.
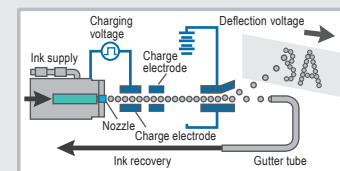
[Airflow inside the CCS7000 printhead]

Air purge airflow

Newly developed "AIR SCUDO" airflow

[Comparison of ink buildup on deflection electrode]

No AIR SCUDO®   Air purge airflow + AIR SCUDO®

1 million print cycles   **10 million** print cycles

[Concept of continuous inkjet printer]

When quick-drying ink is used for certain printing purposes, the ink will solidify at the nozzle of an on-demand printer. The "continuous inkjet printer" prevents ink from solidifying by continuously spraying ink at all times.

Charging voltage   Deflection voltage

Ink supply   Charge electrode

Nozzle   Charge electrode

Ink recovery   Gutter tube

(1) Ink is supplied under pressure by a pump, and the vibration of the piezoelectric element causes fine ink droplets to fly from the nozzle.

(2) Non-printing ink drops are collected in a gutter tube and circulated in the printer.

(3) When the print signal is turned on, the charged ink droplets are shifted in their trajectory and fly toward the print target.

The sensor constantly monitors that ink droplets are being collected in the gutter tube to prevent problems before they occur.
*Compatible only with CCS7000

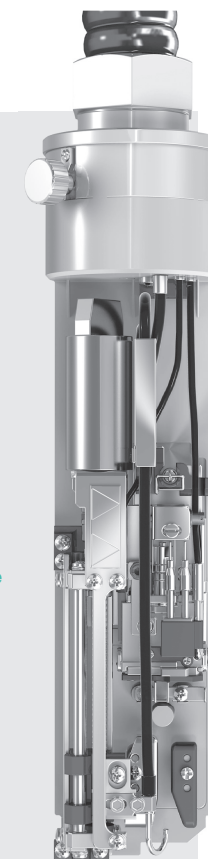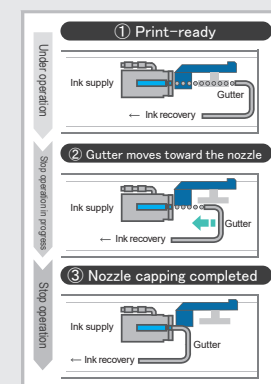The fluorine nozzle ensures stable printing.

24 sec.

[Nozzle capping mechanism]

The "nozzle capping mechanism" eliminates the need to clean the nozzles after operation. This eliminates the need to replace the ink in the head with solvent, reducing solvent consumption and eliminating the risk of ink dilution when operation is resumed.

- **Printing is possible in only 24 seconds** from standstill (the fastest in the world)

- Moving from the printable state to **the stopped state, it is possible in approximately 16 seconds**

- An "interval mechanism" is also provided to circulate ink at regular intervals to prevent ink viscosity change and ink solidification during long periods of inactivity

① Print-ready

Ink supply   Gutter
← Ink recovery

② Gutter moves toward the nozzle

Ink supply   Gutter
← Ink recovery

③ Nozzle capping completed

Ink supply   Gutter
← Ink recovery

Under operation / Stop operation in progress / Stop operation

[Nozzle capping mechanism]

Only Kishu Giken Kogyo can do it.

The CCS7000 is a high-end model equipped with all the various printing functions we have accumulated over the years. It can respond to various situations in detail and reduce the burden of operation.

NEW

01 Easy to see at a glance

NEW

Highly visible status LEDs on the printer body inform you of the printer status.

LED bar

Blue: Operating normally

Red: When an alarm   Green: Ready to print

White: From power-on to normal startup
Yellow: When ink or solvent level is low

Pictogram

[During operation]
White: Normal startup from power ON
Green: Ready to print

[Ink supply]
White: Normal startup from power ON
Yellow: Low ink level
Red: No ink remaining

[Makeup supply]
White: Starts up normally from power ON
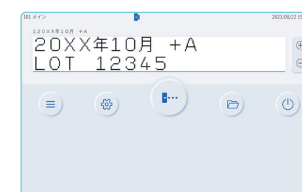Yellow: Low makeup level
Red: No makeup remaining

[Alarm]
White: Normal startup from power ON
Red: When an alarm is issued

02 No more confusion in operation

Support for flick

We have focused on intuitive operation with an easy-to-understand display and smooth touch.

Main screen

We have focused on a clear, easy-to-understand display with only the necessary buttons placed in large sizes. Anyone can operate it intuitively, and troublesome settings can be made easily and smoothly.

Printing conditions

An animated movie of the product actually flowing on the conveyor is shown. This reduces input errors by allowing the user to visually visualize the settings.
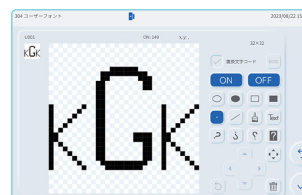
User font editing function

Customers can freely create and edit their original designs on the CCS7000. This function expands the range of expression beyond just text.

Maintenance screen

The maintenance screen provides an animated image of ink flowing through the piping, facilitating various settings and maintenance.

Suitable for All Environments

IP66

Dustproof grade 6
the highest grade to keep out even the smallest dust particles

Waterproof grade 6
withstands strong direct jets from all directions

04 For food factories and other dusty sites NEW

The standard dustproof and waterproof rating of IP66 (limited to the main unit) allows installation in factories that handle water or in dusty locations. Of course, CE and RoHS compliant.

03 Effective in compliance with the Occupational Health and Safety Law in Japan

The use of screw cartridges for ink and solvent containers keeps hands and equipment clean when refilling, greatly reduces solvent odors, and prevents exposure. The screwed-in part is equipped with a function to prevent accidental insertion, thus avoiding any trouble.

［Measures to comply with the revised Industrial Safety and Health Law in Japan］

○ Select safer inks and solvents.
  Check the ingredients with SDS and select those that have less impact on the human body.

○ Improve the work environment.
  Install local disposal equipment and general ventilation equipment, wear respiratory protective equipment, etc.

○ Implementation of special health checkups, etc.

Future Occupational Health and Safety Law in Japan

The Occupational Health and Safety Law, effective April 1, 2023, mandates "autonomous management" for approximately 2,900 chemical substances in addition to organic substances.

Autonomous management means that customers set up their own measures for safety based on risk assessment. It is an obligation to assess the health hazards of solvents and other components currently used based on their hazardousness and the amount used, and to take safety measures in accordance with the assessed values. Among our inks, the only substances that do not fall under the organic regulations are water, ethanol, and isopropyl methyl ketone, of which only water will not require risk assessment after April 1, 2023, regardless of the amount used. Many substances will be subject to autonomous management. In addition, other than the approximately 2,900 chemical substances subject to autonomous management, other substances are also subject to the obligation to make efforts to minimize the extent to which workers are exposed to them.

05 Encoder - Function NEW

Displaying both the set value and the actual measured value on the monitor makes it easy to see the consistency of the settings. Eliminates wasted time.

Real-time confirmation of workpiece travel speed, maximum and minimum speeds, number of pulses, set values, and actual measured values facilitates setting at the time of installation and pursuit of causes in the event of trouble.

06 Remote Control NEW

By adopting OPCUA, a protocol recommended as an international standard in industrial IOT such as Industry 4.0, it is possible to link with a wide range of devices.
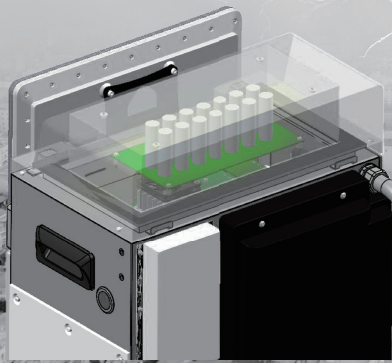
The printer status can be checked and operated even from a remote location, shortening the operator's travel distance.

## 07   In case of power failure.

EPS function (optional)

By installing a board equipped with an auxiliary battery developed in-house, the gutter can be normally closed and end processing can be performed even in the event of a sudden power failure.

08   In case of ink leakage.   NEW

An ink leak sensor is placed on the bottom of the inkjet printer body.

This sensor immediately detects and notifies you in the event of an ink leak. This prevents ink from contaminating the customer's floor.
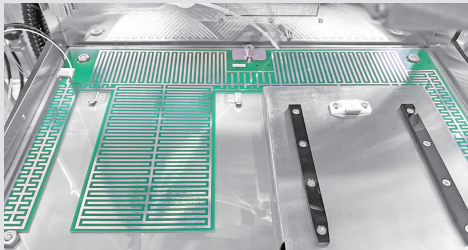

09   Tool-less replacement of consumables

NEW

The parts of the ink circulation path that require maintenance are integrated in a box for improved workability. Ink filters can be easily replaced without the use of tools.

10   Required signals in required quantities

NEW

Since signals for external connections are input/output on terminal blocks, only the signals required by the customer can be easily connected with a single screwdriver.
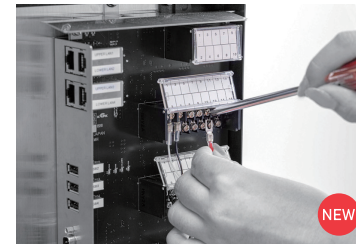
11   Easy replacement of the main unit

The main unit can be easily replaced in an emergency because the I/O board on the rear panel can be removed and installed directly on another machine, without the need to disconnect wires one by one, as in the past.
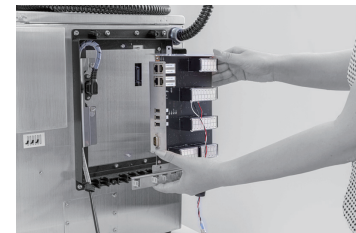
Collective relocation without disconnecting wiring

CCS7000   I/O board   another CCS7000

# Our Commitment to Printing

12 Pursuing Printing Quality ⦿NEW

消味期限 2023.09
製造年月 2022.10

The optimum charge control for ink droplets is automatically selected according to the customer's printing conditions.
We have achieved improved print quality by incorporating all the experience we have cultivated over the years.

Ink drop flight evaluation with a high-speed camera
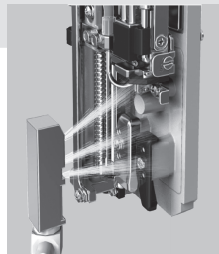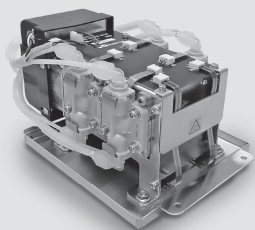
13 High Reliability

We have also insisted on in-house production of diaphragm pumps, which are consumable parts, to ensure stable operation. In addition, the diaphragm pump can be replaced easily and quickly.

14 Head cleaning in 12 seconds

Kishu Giken Kogyo also offers an optional automatic washer that can clean the inside of the print head. Insert the print head, and with the touch of a button, the head can be cleaned in only 12 seconds. The solvent circulation is environmentally friendly and economical.

Only 25cc of makeup is used per wash.

Specifications

Printing method	Continuous (charge control method)
Supported inks	Dye ink, pigment ink
Dustproof and waterproof	IP66 (excluding head)
RoHS	Supported
Screen size	10.1" color LCD/touch panel
Supported nozzles	40 μm / 50 μm / 60μm
Character height	0.8 to 5mm (40μm nozzle), 1 to 10mm (50μm nozzle), 2 to 10mm (60μm nozzle)
Max. printing speed [characters/sec] (5x5 dot font, 1 character spacing)	2233-3666 characters/sec (varies depending on nozzle type and ink type)
Character type	Alphabet (upper/lower case), numbers, symbols, hiragana, katakana, kanji (JIS 1 and 2), user characters
Number of print rows and dot configuration (vertical x horizontal)	[1-6 columns] 5 x 5, 5 x N [1-4 columns] 7 x 5, 7 x 8, 7 x N [1-3 columns] 9 x 7, 9 x 9, 10 x 8, 12 x 10 [1-2 columns] 16 x 12, 16 x 16 [1 column] 24 x 18, 24 x 24, 32 x 24, 32 x 32
Number of registered message characters	Max. 992 characters (31 characters x 32 modules)
Number of registered messages	Max. 1000 messages
Date Time (Expiration date) Print function	Year, year, month, day, day of the week, time (12/24-hour system), date throughout the year, week number throughout the year, month upper/middle/late (variable period setting), AM/PM, shift code, character assignment function (year, month, day, hour, minute, second, day of week) to another character with maximum 4 to 15 digits
Numbering function	Up to 10 digits, optional initial value setting, up/down, carry (1 count can be set as a work number from 1 to 9999), zero suppress function (replace or prepend zeros in upper digits with spaces), numbering character assignment function (assignment to characters other than digits), Decimal setting (2 to 36 decimal) divisible (insert any character between numbers)
Distance printing function	Up to 10 digits, divisible (insert any character between digits)
Barcode printing function	ITF, Code39, NW7, JAN, Code128, CODE93, UPC-E/GS1
2D code printing function	QR Code / Data Matrix
Kana-Kanji conversion	Yes
External Connection	I/O, signal light, RS-232C, LAN, encoder, UPS, USB
Data input	Touch panel, RS-232C communication, Ethernet
Communication function	RS-232C 1CH, max. 115,200 bps, Ethernet
Head cable	3.5m
Multi-control	Up to 16 slave units can be controlled for 1 master unit【Controllable functions】Run/Stop, Power OFF, System clock setting, Message selection, Edit print contents, Numbering current value setting
Dry air source	Not required
Installation area (W x D x H)	Main unit: 400W x 347D x 577H (excluding protruding parts) Head: φ50mm x 222mm
Specification environment (temperature, humidity)	0 to 40°C (depending on ink type), 10 to 85% (with no condensation)
Power source	AC90 - 264V (47 - 63Hz), 95W
Weight	27Kg
Grounding	Class D grounding

Functional Inks

We develop and manufacture a wide variety of functional inks in-house. This is one of Kishu Giken's strengths.

Kishu Giken also focuses on the development of functional inks that match the object to be printed. The non-contact printing method of inkjet printers + unique functional inks have expanded the possibilities of printing on all kinds of objects.
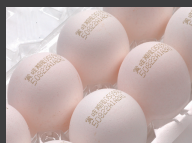
[Inks for edible eggs]
Inks that are safe to eat. It does not fade away even after boiling.

[Edible White Ink]
Edible white ink that can be directly printed on fruits and foods.

[Edible red ink]
Highly safe and can be directly printed on surfaces such as peaches.

[Edible Binchotan black ink]
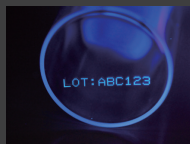Edible black ink made from Binchotan that is safe to eat and can be used to print logos, etc.

[PP ink]
Strongly adheres to polypropylene, PET, PA (polyamide) and other hard-to-adhere materials.MIPK ink.

[Alcohol ink]
No unpleasant odor because MIPK ink.

[Stealth Ink for Glass]
For concealed printing. Normally, the printing is invisible, but when irradiated with a black light, the printing glows blue.

[PE ink]
Ink with improved adhesion to polyethylene.

[Water-based ink]
Not regulated by the Fire Service Law. After drying, the ink can be washed with a weak alkaline solution.

[Halogen-free white ink]
Halogen-free thermosetting white ink that cures at 200℃ for 30 minutes.

[Ink for soft vinyl chloride]
Good adhesion to electric wires (soft vinyl chloride). Ink that does not easily bleed or show on the reverse side.

[Ink for retort pouch]
Printing does not peel off even after heat sterilization at 100-120℃ .

Print Sample

Number of dots	Printing (actual size)		
5×5	0123456789ABCDE 0123456789 ABCDEFGHIJ	7×5	0123456789ABCDE 0123456789 ABCDEFGHIJ
9×7 9×9	0123456789ABCDE 0123456789 ABCDEFGHIJ		賞味期限　20XX. 10. 25 製造年月日20XX. 04. 25
12×10	0123456789ABCDE		0123456789 ABCDEFGHIJ
16×12 16×16	0123456789ABCDE 賞味期限20XX. 04. 25		
24×18 24×24	0123456789ABCD 賞味期限20XX. 10. 25		
32×24	0123456789ABC		
Barcode JAN	0123456789012	QR Code DataMatrix	