



Cretaprint

Digital Inkjet Printing System
for Ceramic Industry

Digital Inkjet Printing System for **Ceramic Industry**



The Digital Inkjet Printing System



DPI Cretaprint offers a complete digital printing solution for the ceramic industry, which is designed and developed for the specific needs of the industry and focused on efficiency and quality. We offer a wide range of tile printers and a complete service program to help you achieve higher standards and superior product quality, all while meeting environmental sustainability requirements.

A Reliable And Future-proof Solution For Tile Decoration



Printers

Get the modularity and versatility that have always been Cretaprint hallmarks and the advanced technology and robustness of Cretaprint ceramic printers - all in one sustainable package.



Multiple printhead options

Cretaprint printers feature high-performance printhead options capable of adapting flexibly to diverse production tasks, thereby delivering optimal printing performance across various application scenarios.

Printer With Dimatix Printhead

- Full ink path temperature control system: Ensures ink fluidity and consistent temperature, guarantees superior printing quality.
- Ultra-high bandwidth data system: Enables massive data transmission for rapid response and high-speed/high-precision printing.
- Individual cooling system: Effectively controls the temperature of core components during intensive job loads.
- Uniquely designed Dimatix printhead ink delivery system: Precisely controls ink operating conditions to ensure stability and reliability of printing results and extend printhead life-span.
- Industrial-grade robustness: Designed for harsh environments, ensures stable performance.
- Modular maintenance: Supports modular repair and single-component replacement to reduce maintenance costs.

Printer With Seiko Printhead

- High-speed printing: Delivers higher production efficiency while maintaining print quality.
 - Wider droplet size range: Enables a wide range of droplet sizes to achieve an optimal balance between high-precision printing and high lay down.
 - Adjustable print height range: Supports surface printing on a wide range of irregular and relief-products.
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Superb printing technology

The 5th generation of Cretaprint printers, achieve major improvements in printing technology:

- **Mechanics:** High-precision printhead mounting ensures superior printhead alignment and minimizes post adjustments.
 - **Ink delivery system:** A refined system that is even more efficient, designed to work seamlessly with high-productivity and high-discharge printheads. It features total recirculation, zero sediment build-up, and comprehensive temperature control, all essential for achieving high performance.
 - **New software and electronics:** Constant bidirectional communication with the printhead enables smarter automation capabilities
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Easy to operate

The multi-language and touch screen user interface makes operation much more intuitive with direct access to main functions, printing bars and transport system, and the alarm status is always on screen.

Our 5th-generation software supports many user applications, such as:

- TAS - The industry's first on-the-fly color adjustment system for digital inkjet printers
 - SCADA application for Industry 4.0
 - ID printing for master tiles and traceability
 - Fine tuning for density
 - Nozzle out for clogged nozzle compensation
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Advancing in Industry 4.0

Cretaprint printers include features designed to help the implementation of the Smart Factory:

Communication 4.0

The application included in the Cretaprint printer software provides interfaces with a standard Modbus protocol to allow third-party SCADAs and PLCs access to printer parameters, such as machine status, models printed on each line, tile characteristics, ink levels, printed feet, and alarms. Choose this option when configuring the printer at any time or when upgrading

Supports integrated and synchronized operation across diverse printing systems.

**This function requires interoperable equipment support.*

Cretaprint Shield



Cretaprint specializes in custom digital decorative effects and advanced applications tailored for a fully digital ceramic production.

Intelligent integration of digital production lines, including the linkage of multiple printers. Synchronously identify the digital mold and digital glaze printer and carry out the alignment printing.



TECHNICAL DATA

| PRINTHEADS | | | | | | | |
|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Printhead type * | Seiko RC 1536 | Seiko RC 1536 • L | e • D5 | e • Q5 | e • G5 | Dimatix SG 1024 MC | Dimatix SG 1024 HFL |
| Printhead width | 4.26 in (108.3 mm) | 4.26 in (108.3 mm) | 4.26 in (108.3 mm) | 4.26 in (108.3 mm) | 4.26 in (108.3 mm) | 2.55 in (64.96mm) | 2.55 in (64.96mm) |
| Number of nozzles | 1536 | 1536 | 1536 | 1536 | 1536 | 1024 | 1024 |
| Native resolution (dpi) | 360 | 360 | 360 | 360 | 360 | 400 | 400 |
| Drop size (pL) | 13 - 98 | 25 - 225 | 23 - 100 | 13 - 100 | 25 - 225 | 22 - 80 | 80 - 200 |
| Grayscale levels | Up to 8 | Up to 10 | Up to 5 | Up to 8 | Up to 11 | Up to 4 | Up to 4 |
| Firing frequency (kHz) | Up to 37 | Up to 37 | Up to 41 | Up to 37 | Up to 41 | Up to 35 | Up to 20 |
| gr/m ² @25m / min | Up to 45 | Up to 85 | Up to 55 | Up to 45 | Up to 85 | Up to 41* | Up to 68* |

*With Specific Ceramics Ink

TECHNICAL DATA

| MACHINE SPECIFICATIONS | C5 | D5 | M5 | N5 | P5 | P5+ | SHIELD |
|-----------------------------------|--------------------------------|--------------------|--------------------|---------------------------------|--------------------|--------------------|--------------------|
| Max. printing width | 27.95 in (710 mm) | 27.95 in (710 mm) | 44.80 in (1138mm) | 44.80 in (1138mm) | 56.69 in(1440mm) | 56.69 in(1440mm) | 56.69 in(1440mm) |
| Number of inks | Up to 8 | Up to 12 | Up to 8 | Up to 12 | Up to 8 | Up to 12 | Up to 2 |
| Print direction | Right / Left | | | | | | |
| Min. tile thickness | From 0.12 in (3 mm) | | | | | | |
| Max. tile thickness | 1.18 in (30 mm) | | | | 2.36 in (60 mm) | | |
| Print speed | Up to 196.85 ft/min (60 m/min) | | | | | | |
| Centering printing precision | 0.012 in (<0.3 mm) | | | | | | |
| MACHINE ASSEMBLY | C5 | D5 | M5 | N5 | P5 | P5+ | SHIELD |
| External power supply | Variable (380/400/440/480V) | | | | | | |
| Max. power consumption (8 colors) | 18 KVA | 24 KVA | 24 KVA | 34 KVA | 44 KVA | 40 KVA | 18 KVA |
| Electrical phases | 3F+GND | | | | | | |
| Power connection frequency | 50/60 Hz | | | | | | |
| Pneumatic connection | Line 1: 73-123 psi (5-8.5 bar) | | | Line 2: 102-123 psi (7-8.5 bar) | | | |
| Cabin recommended temperature | 72-79 °F (22-26 °C) | | | | | | |
| UPS included | Yes | | | | | | |
| DIMENSIONS PRINTER | C5 | D5 | M5 | N5 | P5 | P5+ | SHIELD |
| Width | 5.41 ft (1650 mm) | 5.41 ft (1650 mm) | 6.89 ft (2100 mm) | 6.89 ft (2100 mm) | 7.28 ft (2220 mm) | 8.04 ft (2450mm) | 7.54 ft (2298 mm) |
| Height | 6.40 ft (1950 mm) | 6.73 ft (2050 mm) | 6.73 ft (2050 mm) | 7.45 ft (2270 mm) | 7.38 ft (2250 mm) | 7.83 ft (2385 mm) | 7.07 ft (2155 mm) |
| Length | 13.12 ft (4000 mm) | 16.40 ft (5000 mm) | 16.08 ft (4900 mm) | 20.01 ft (6100 mm) | 20.51 ft (6250 mm) | 34.61 ft (10550mm) | 10.53 ft (3210 mm) |
| DIMENSIONS CABIN | C5 | D5 | M5 | N5 | P5 | P5+ | SHIELD |
| Width | 12.14 ft (3700 mm) | 12.14 ft (3700 mm) | 15.42 ft (4700 mm) | 15.42 ft (4700 mm) | 21.33 ft (6500 mm) | 23.13 ft (7050mm) | 21.33 ft (6500 mm) |
| Height | 9.19 ft (2800 mm) | 9.19 ft (2800 mm) | 9.19 ft (2800 mm) | 10.83 ft (3300 mm) | 10.83 ft (3300 mm) | 10.83 ft (3300 mm) | 10.83 ft (3300 mm) |
| Length | 18.04 ft (5500 mm) | 18.04 ft (5500 mm) | 21.33 ft (6500 mm) | 25.26 ft (7700 mm) | 26.25 ft (8000mm) | 39.37 ft (12000mm) | 18.04 ft (5500 mm) |

| SOFTWARE | |
|--|-------------------|
| Image file type | TIFF, PSD and RPF |
| Rendering time | VARIABLE |
| Image loading time | 1 - 15 s |
| Image changing time during production | 1 s |
| Parallel RIPing and printing | Yes |
| Number of images per model | 100 |
| Print an image without stopping | Yes |
| Cretavision: tile printing Angle intelligent recognition and correction system | Optional |
| Cretavision: relief recognition system | Optional |
| Double tile printing | Optional |

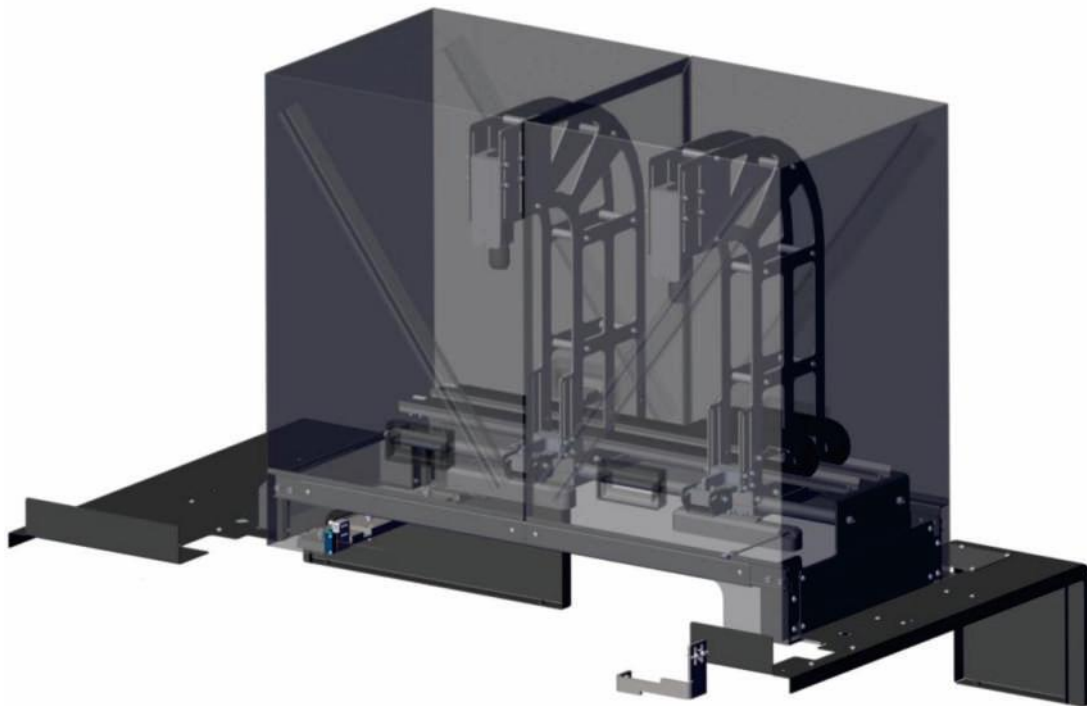
Printer in development, specifications subject to change without notice.

Cretafit (*) *Optional*

AI vision system for tile printing position adjustment.

Cretafit detects the position of the tile on the transport at the entrance of the machine. This information is used to perfectly adjust the design or image to the position of the tile. All this is done on the fly, with no stops, no waiting, and no rendering time.

With Cretafit and the full potential of Cretaprint electronics and software, automation is maximised and the precision of the mechanical guidance of the digital printer is improved.



*Small-format tiles can be directly loaded into the printers, while oversized tiles require a dedicated loading platform. For more details, please contact DPI

Cretafit guarantees centering of the image on the tile and it is ideal for:

- Designs that need perfect matching on the tile
- Tiles that cannot be easily guided in a standard way
- Avoiding printing on the outside of the tile, soiling the conveyor belt
- Reducing handling of “fragile” slim tiles

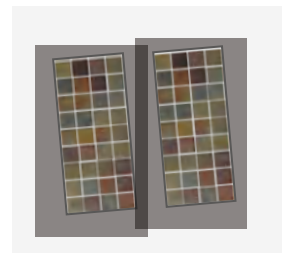
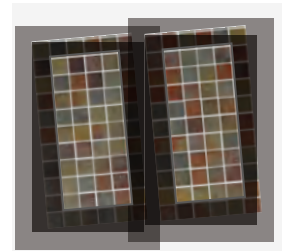


The AI vision system included in Cretafit detects the position of each moving tile on the conveyor belt at the printer entrance.

The position is transmitted to the printer software which performs the calculation and rotation adjustment of the graphic before printing it on top of any single tile piece.

Cretafit can be installed on any of Cretaprint's 5th generation printers (C5, D5, M5, N5 and P5), as well as on Cretaprint Shield printers for the application of digital glazing and ceramic effects.

With the perfect centering of the graphic on top of the tile to avoid overprinting, ink waste is reduced, the belt system remains clean and, above all, quality-related costs are reduced. That is, there are less defective tiles to be discarded.



CretaVision (*) *Optional*

Cretavision 2.0 is an optional accessory for Cretaprint ceramic printers that allows associating different designs to different reliefs in a set of tiles.

Cretavision printing mode

Incorporated AI vision hardware installed at the printer entry point allows the system to recognise and identify tile reliefs that will be printed with different designs. This ensures that each design aligns perfectly with the tile's relief, regardless of the printing sequence.

Cretavision main features

- Compact camera with embedded high performance processor
- All calculations are made within the camera itself so there is no need for any external resources for this operation
- Internal RAM for storing backups
- High processing speed at only 0.3s
- It can handle up to 20 different reliefs
- Lighting system ensures consistency
- Very easy to configure
- Simple and intuitive



The Cretavision 2.0 compact camera in place

*Small-format tiles can be directly loaded into the printers, while oversized tiles require a dedicated loading platform. For more details, please contact DPI

Requirements

- Cretavision 2.0 is available for platform 4 and 5 Cretaprint printers
- Cabin lighting must be maintained at a constant intensity
- Relief depth greater than 1,5 mm

Media handling

- Minimum size of the tile: 200 x 200 mm
- Gap between tiles: 10 mm
- Number of patterns: 20
- Compatibility with DTP: Yes; 2 cameras needed



The Cretavision 2.0 compact camera in place

Environmental considerations

It is recommended not to install Cretavision under the following conditions:

- Wetness, dust or poor ventilation
- Places where the system is exposed to direct sunlight or increases in temperature
- Places where there may be rammable or corrosive gases
- Places where the system is exposed to strong vibrations or impacts
- Places where the system is exposed to splashing water, oils or chemicals
- Places that are a source of static electricity



Example of the type of tiles where Cretavision can be helpful

*For tile relief depth identification, please contact DPI for confirmation.

Making Industry Smarter!

DPI is a global technology enterprise, specializes in the R&D, manufacturing, sales, and service of high-speed industrial digital inkjet printers. DPI delivers innovative digital printing solutions to diverse industries such as ceramics, building materials, textiles, and packaging. For more information, please visit www.dpi-t.com

