DIRECT-TO-FABRIC TEXTILE PRINTER

MONNA LISA ML-13000





Enhance your business capabilities with an innovative solution designed for a wide range of blended fabric applications.

Engineered for superior print quality and precision, the Monna Lisa ML-13000 revolutionises industrial textile printing. The innovative in-line symmetrical printing process seamlessly integrates Epson's eco-friendly GENESTA pigment inks, pre-treatment and post-treatment solution, ensuring uniform application for enhanced fastness, vibrant colours, and superior image quality. The ML-13000 offers unmatched versatility across a wide range of fabrics and applications, ideal for direct-to-fabric printing and consistently exceeding expectations.

ENGINEERED FOR GOOD









All-In-One Solution

The ML-13000 is an innovative textile printing solution that requires no additional equipment for pre- and post-treatment or steaming and washing.

High Productivity Printing

Equipped with 13 of Epson's latest 4.73-inch high-density PrecisionCore MicroTFP printheads that enable the printer to achieve high productivity.

Environmental Friendly

The ML-13000 reduces water and energy usage, shortens lead times, and supports an on demand production model to minimise environmental waste

Integrated Total Textile Solution

The ML-13000 represents an all-encompassing single step in-line textile printing solution, eliminating the need for auxiliary pre-treatment, steaming, and washing equipment, optimising space and simplifying startup for your digital direct-to-fabric printing venture.

The All-in-One Solution by Monna Lisa

Conventional digital textile printing using dye inks entails a complex series of steps, such as pre-treatment, post-treatment, steaming, and washing. For digital pigment ink printing, these critical pre- and post-treatment stages occur offline. The ML-13000 transforms this paradigm by incorporating all necessary processes directly into the printer, streamlining the fabric printing workflow for unparalleled efficiency.

Conventional digital dye ink (Reactive/Acid/Disperse Ink) Pre-treatment 7 Print 7 Steam Wash 7

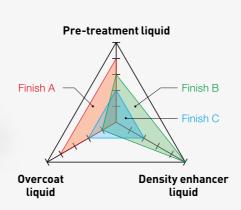






Flexible Control of **Pre- and Post-Treatment** Chemicals

An optimised and flexible combination of pre-treatment, pigment inks and post-treatment (overcoating, and density enhancer) delivers enhanced fastness properties, vivid colours, and superior image quality.

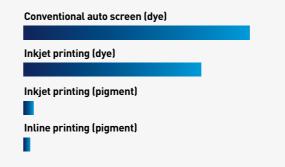


Environmental Benefits

The ML-13000 uses less water, energy, shortens lead time, and enables on demand production to reduce waste.

Reduce Water Usage

The textile industry is responsible for approximately 20% of industrial wastewater worldwide*1. The ML-13000 significantly contributes to reducing industrial wastewater. This system eliminates the pre and post processes required of conventional dye printing, reducing water consumption up to 97%.*2



Produce On Demand

It is estimated that 35% of all materials in the textile supply chain end up as waste.*3 Print just the right amount on demand to reduce dead stock and manage excess inventory.



Environmentally Friendly GENESTA Ink

ML-13000 pigment inks and treatment chemicals set a standard in eco-friendly innovation, earning prestigious certifications that reflect our deep commitment to sustainability and environmental responsibility across our products.



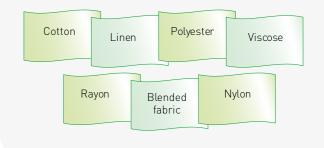






Wide Range of Fabrics

GENESTA pigment ink and pre and post processing chemicals provide flexibility to print on a variety of fabrics such as natural, synthetic and blended fabrics for a wide range of applications.



NEP 2305

- *1 World Bank, 2019 How Much Do Our Wardrobes Cost to the Environment?
- *2 Fuluhashi Environmental Institute, 2024 "Report on Direct Water Input in Digital Textile Printing"
- *3 National Library of Medicine, USA. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9983045/

Key Features and User Benefits

High Print Quality

- PrecisonCore MicroTFP printhead
- Epson Precision Dot technology
- Multi-layer halftone technology
- Symmetrical colour alignment
- Accurate belt position control technology

Minimal Downtime

- Local sales/service/support
- Remote service with Epson remote monitoring system
- High-accuracy head alignment technology (easy head replacement)
- Auto calibration with built-In RGB camera

Textile Software

- Epson Edge Print PRO X2
- Epson's colour management system

Easy Operation

- Integrates pre and post processes within the printer
- Dual 1.6L hot-swappable vacuum-packed degassed ink packs
- 10.1 inch LCD touch panel

Stable Operation

- Nozzle verification technology
- Auto nozzle cleaning by fabric wiper
- Production monitor with Epson Cloud Solution PORT (PC and Mobile)
- Fluff blower system
- Ink mist extraction system
- Dual head-strike sensors



Advanced Digital Fabric Printing Technology

The result of many years of design, development and refinement, ML-13000 is built for consistency, reliability and high print quality.

PrecisionCore MicroTFP Printheads Optimised for Maximum Productivity

The ML-13000 is equipped with 13 of Epson's latest 4.73-inch high-density PrecisionCore MicroTFP printheads that enable the printer to achieve high productivity.



Print Mode	sqm/hr
600 x 600 dpi, 2 pass	131
900 x 600 dpi, 3 pass	87
1,200 x 600 dpi, 4 pass	63

Epson Advanced Dot Precision Technology

Epson Precision Dot technologies, including microweave and lookup table (LUT) methods, significantly reduce banding and graininess. Additionally, the advanced multi-layer halftone technology randomises the halftone dot pattern, minimising image degradation due to dot misalignment.



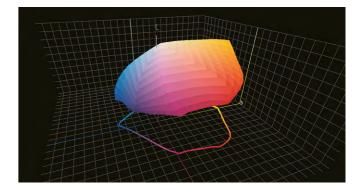
Symmetrical Colour Alignment and Accurate Belt Position Control Technology

The ML-13000 features symmetrical colour alignment for consistent colour overlap order during high-speed bidirectional printing, and accurate belt position control technology for precise fabric feeding.



Wide Colour Gamut for High Quality Printing with Fine Details

The wide colour gamut enables the creation of vivid designs. Colour gradations, small texts, fine details, and complex geometric patterns can be printed with high image quality.

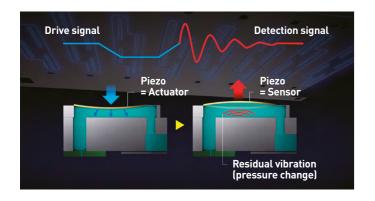


Enhanced Operational Efficiency and Reliability

Technologies to minimise customer downtime and ensure stable operation.

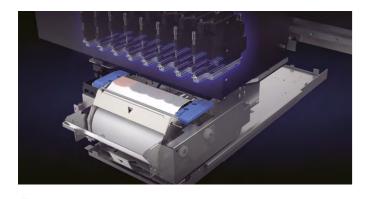
Nozzle Verification Technology and Advanced Cleaning Mechanisms

Nozzle verification technology detects missing dots that indicate nozzle clogging, and adjusts ink delivery to maintain image quality and reduce printing errors. A fluff blower system removes fluff from the fabric surface before it enters the printing area, and an ink mist extraction system helps reduce nozzle clogging problems.



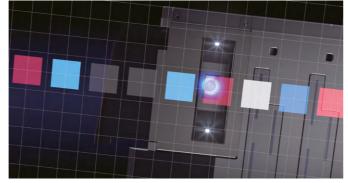
Auto Nozzle Cleaning by Fabric Wiper Reduces Daily Manual Maintenance Work

An easy-to-replace cloth wiper roll continuously wipes the printhead nozzles clean to remove dust that can cause nozzle clogging.



High-accuracy Head Alignment Technology and Built-in RGB Camera for Easy Printhead Replacement

High-precision positioning pins and holes on the printhead and carriage enable quick replacement of printheads. To minimise downtime after printhead replacement, a built-in RGB camera automatically analyses reference patterns and recalibrates printer settings to prevent dot misalignment, banding, and colour shift.



Hot-swappable Ink Supply for Uninterrupted **Production**

Dual 1.6 litre vacuum-packed degassed ink packs are hot-swappable, enabling continuous printing.



10.1-inch LCD Touch Panel for At-a-glance Operating Ease

In addition to displaying the current printer status and operating instructions, the convenient touch panel also shows information about ink and fabric, temperature and humidity, platen gap, and regular maintenance procedures.

User-Friendly and Secured Software Management

Epson service, support and software create an enhanced and comprehensive digital fabric printing solution.

Epson Edge Print PRO X RIP Software Maximises Performance

Epson Edge Print PRO X is designed to maximise the performance of PrecisionCore MicroTFP printheads and GENESTA inks. It is easy to use with an intuitive interface. Epson Edge Print PRO X series software supports Adobe PDF Print Engine (APPE) - the industry's leading technology and new 16-bit rendering. The software includes step and repeat, hot folders, print cost analysis tool and colour adjustment for matching spot colours. The user interface is offered in 13 languages.



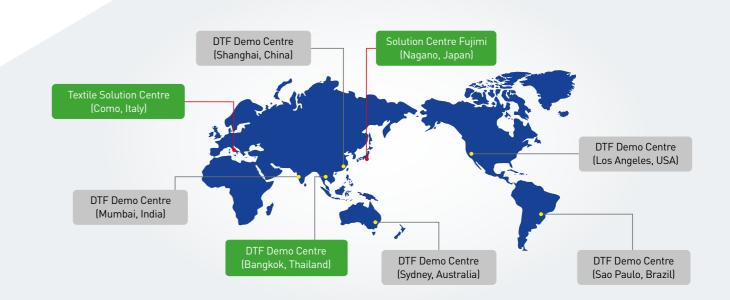
Remote Monitoring Platform for Production Printers

Epson Cloud Solution P 0 R T

Take control of your printer fleet and achieve next-level productivity with Epson Cloud Solution PORT - a breakthrough platform for easy remote monitoring of Epson production printers. Designed with simplicity and security in mind, the Epson Cloud Solution PORT provides a live view of your printer fleet production*, equipment utilisation, and service information to better manage efficiency and optimise your Epson printing workflow.

Rely On Local Epson Around The Globe

Epson has sales offices, demo/solution centres and local service teams around the globe to support customers.



^{*} All features of this system require an active internet connection and use of a supported browser.

SPECIFICATIONS

MODEL NUMBER SKU Number Print Printing Technology Number of Printheads Number of Colours Maximum Print Resolution Gradation Process Maximum Print Width Maximum Print Length Maximum Fabric Width Maximum Fabric Thickness

Ink Capacity

Print Speed (Square)*1

GENESTA Pigment Ink

Maximum Printing Speed (m²/h) Typical Printing Speed 1 (m²/h) Typical Printing Speed 2 (m²/h) Typical Printing Speed 3 (m²/h) Maximum Printing Speed (sq ft/hr) Typical Printing Speed 1 (sq ft/hr) Typical Printing Speed 2 (sq ft/hr) Typical Printing Speed 3 (sq ft/hr)

Print Speed (Linear)*1

Maximum Printing Speed (Imt/h) Typical Printing Speed 1 (lmt/h) Typical Printing Speed 2 (lmt/h) Typical Printing Speed 3 (Imt/h) Maximum Printing Speed (li ft/hr) Typical Printing Speed 1 (li ft/hr) Typical Printing Speed 2 (li ft/hr) Typical Printing Speed 3 (li ft/hr)

Fabric Handling

Fabric Drive

Belt Washing

Standard Feeder

Fabric Roll Diametre Fabric Roll Weight Fabric Roll Core Diametre Fabric Roll Diametre

Fabric Roll Weight **Environmental Conditions**

Temperature

Humidity

Dimensions

Printer (W x D x H)

Weight

Electrical Specifications

Voltage Rated Current

Power Consumption (Operating)

Certifications

Network

Transmission Speed

Safety / Electromagnetic

ML-13000

C11CK83101

PrecisionCore Inkjet Technology

13

1,200 x 1,200 dpi

Variable-Sized Droplet Technology

1,850 mm (72.8")

Unlimited

1,850 mm (72.8")

5 mm

Black, Cyan, Magenta, Yellow, Red, Green, Orange, pre-treatment liquid, overcoating liquid, density enhancer liquid

1.6 litres

252	(300 x 600 dpi, 1 Pass)*2	
131	(600 x 600 dpi, 2 Pass)*3	
87	(900 x 600 dpi, 3 Pass)*4	
63	(1,200 x 600 dpi, 4 Pass)*5	
2,713	(300 x 600 dpi, 1 Pass)*2	
1,410	(600 x 600 dpi, 2 Pass)*3	
936	(900 x 600 dpi, 3 Pass)*4	
678	(1,200 x 600 dpi, 4 Pass)*5	

168	(300 x 600 dpi, 1 Pass) ¹²
87	(600 x 600 dpi, 2 Pass) ¹³
58	(900 x 600 dpi, 3 Pass)*4
42	(1,200 x 600 dpi, 4 Pass)*5
551	(300 x 600 dpi, 1 Pass) ¹²
287	(600 x 600 dpi, 2 Pass) ¹³
190	(900 x 600 dpi, 3 Pass) ⁴
138	(1,200 x 600 dpi, 4 Pass)*5

Conveyor Belt with Thermoplastic Adhesive

Automatic

400 mm (2" or 3" shaft) or 200 mm (1" shaft)

100 kg (2" or 3" shaft) or 20 kg (1" shaft)

1" or 2" or 3'

15.7" (2" or 3" shaft) or 7.9" (1" shaft) 220 lb (2" or 3" shaft) or 44 lb (1" shaft)

Operating: 20°C to 35°C / Recommended: 22°C to 28°C

Operating: 40 – 60% RH (No Condensation)

4,200 x 2,640 x 1,830 mm / 165 x 104 x 72 inch

Approx. 2,350 kg (5,180 lb) (Exclude Inks)

380 - 415V, 3phase + Neutral + Earth, 50 Hz/60 Hz

14A

Approx. 2.2 kW

Canada: CSA, ICES U.S.A: UL, FCC

EU, EFTA countries, Turkey, UK: Machinery Directive, EMC Directive (CE/UKCA)

Morocco: Safety & EMC regulation (CP)

Ukraine: Safety & EMC regulation (Ukraine conformity mark)

Australia: Australia EMC framework (RCM)

Korea: MSIP regulation (KC)

USB 3.0 / Ethernet 1000BASE-T

Dimensions & Weight

Weight (Exclude Inks):

2,350 kg (5,180 lb)

Printer Dimensions

Width: 4,200 mm Height: 1,830 mm Depth: 2,640 mm

Working Area Dimensions

Width: 5.200 mm Height: 1,830 mm Depth: 4,640 mm



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Dealer's Stamp

Information correct at time of printing. Printed June 2024

*1: Printing width: 1500mm, printing mode: bidirectional. Printing speeds vary depending on such factors as image printed, firmware version,

operating state of PC and print settings. *2: With 300x300dpi 2 half tone layers.

*3: With 300x300dpi 4 half tone layers. *4: With 300x300dpi 6 half tone layers.

*5: With 300x300dpi 8 half tone layers.

Find out more at www.epson.com.sg/gobig-direct-to-fabric











