

Inkjet Digital Label Press  
**SurePress® L-6534VW**

**Buyers' Guide to Technology**



# Corporate Profile

## Corporate Outline

Company Name	Seiko Epson Corporation
Founded	May 18, 1942
Head Office	3-3-5 Owa, Suwa, Nagano, Japan
Paid-in Capital	53,204 million yen



Revenue (consolidated)

US\$ **9.8** billion  
(FY2018)



Number of employees

Epson Group (consolidated): **76,647**

Parent company: **12,713**  
(as of March 31, 2019)

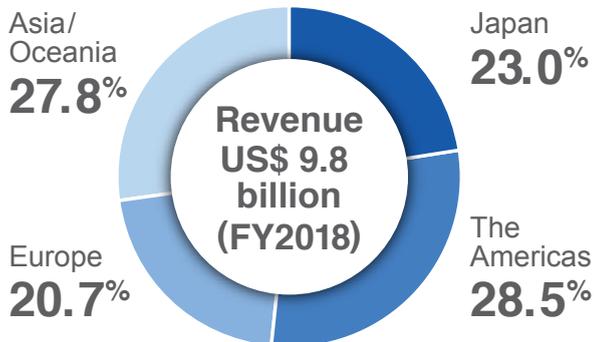


Group companies

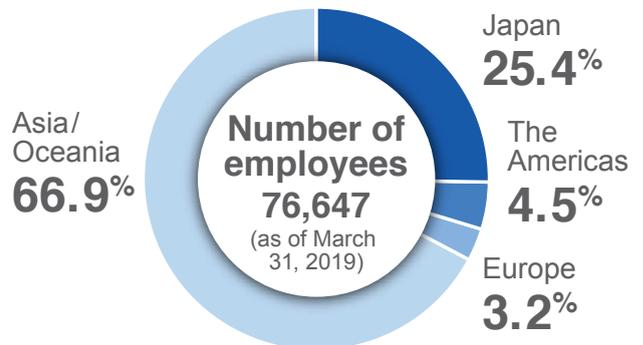
**85**  
(includes parent company)  
Japan: **17** Overseas: **68**  
(as of March 31, 2019)

- Business profit is calculated by deducting cost of sales and SGA expenses from revenue. Although not defined in the statement of consolidated comprehensive income, this indicator is very similar to the concept of operating income under J-GAAP.
- The exchange rate of ¥110.87=US\$ 1 at the end of the reporting period has been used for the purpose of presentation.

### Revenue breakdown by region



### Employee numbers by region



## FY2018 Business Overview by Segment

**Consolidated** Revenue **US\$ 9.8 billion** Business profit **US\$ 635 million**

### Printing Solutions Business segment

Epson's constant innovations with inkjet technology provide higher productivity, better environmental performance and a sustainable printing ecosystem.



Revenue **US\$ 6.5 billion**

Segment profit **US\$ 852 million**



### Visual Communications Business segment

Epson's competitive edge in micro display and projection technologies provides exciting visual experiences and a natural communication environment in large business and home environments.



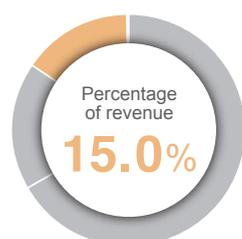
Revenue **US\$ 1.8 billion**

Segment profit **US\$ 191 million**



### Wearable and Industrial Products Business segment

Epson creates new value by capitalizing on the strengths of its technology in areas such as precision machining, high-density circuit board assembly, lower power designs, high-precision applications and advanced robotics.



Revenue **US\$ 1.5 billion**

Segment profit **US\$ 50 million**



**Other** Revenue **US\$ 8 million**

Segment profit **US\$ -4.5 million**

- Consolidated total sales exclude intersegment sales.
- Segment sales include intersegment sales.
- Business profit and segment profit are very similar to operating income under Japanese accounting standards (J-GAAP), both conceptually and numerically. Epson began using business profit as an indicator after adopting International Financial Reporting Standards (IFRS) in FY2014 to facilitate comparisons with past results.

# History of Epson Technologies

## The efficient, compact and precision technologies

Epson's DNA technologies cultivated since establishment of the company

1942	Founded	Mechanical Watch
1963	Crystal Chronometer	
	Printing Timer	
1986	Mini Printer	

## Core technologies

Filling the technology vacuum

<p><b>Micro Piezo®</b></p> <p><b>1993</b> Epson Stylus® 800 inkjet printer using a multilayer piezo printhead</p> 	<p><b>Microdisplays</b></p> <p><b>1989</b> 3LCD projector using LCD panels for bright and vivid images</p> 
<p><b>Sensing</b></p> <p><b>1969</b> Tuning-fork crystal units that enabled the world's first quartz watch</p> 	<p><b>Robotics</b></p> <p><b>1983</b> Precision assembly robots developed to automate watch assembly</p> 

## Intellectual Property

Epson is among the industry leaders in patent quantity and quality in product categories such as inkjet printers and projectors. Its world-class IP capabilities support the creation of original core technologies.

### Ranking by number of publications of unexamined patent applications in different product categories

Country	Product Category	Ranking
Japan	Inkjet printers	1 <sup>st</sup>
	Projectors	1 <sup>st</sup>
	Robotics	1 <sup>st</sup>
	Quartz crystal devices	2 <sup>nd</sup>
United States	Inkjet printers	1 <sup>st</sup>
	Projectors	1 <sup>st</sup>
	Robotics	2 <sup>nd</sup>
	Quartz crystal devices	3 <sup>rd</sup>

### Ranking in number of registered patents

Japan	9 <sup>th</sup>
United States	22 <sup>nd</sup>
China*	16 <sup>th</sup>

\*2017 ranking in number of patent applications laid open to the public (Epson research) (January 1 to December 31, 2017)  
 \*1 The China ranking is only for foreign companies (January 1 to December 31, 2017)

## History of SurePress



The timeline shows the evolution of Epson SurePress large-format printers:

- 2010:** L-4033A/AW
- 2011:** L-4033A/AW
- 2012:** L-4033A/AW
- 2013:** L-4033A/AW
- 2014:** L-4033A/AW
- 2015:** L-4033A/AW
- 2016:** L-4033A/AW
- 2017:** L-6034VW
- 2018:** L-4533A/AW
- 2019:** L-6534VW

# MicroPiezo Printhead Manufacturing Technology

## PrecisionCore and a Convergence of Innovative Manufacturing Technology

### Technology Clearing the Path

Inkjet presses create output by ejecting ink directly on paper or film labels and packaging. Epson's latest printhead system, PrecisionCore®, uses Piezoelectric elements which contract under an applied voltage to eject the ink.

Ejecting up to 50,000 perfectly controlled droplets of ink per second from each of the hundreds of independently controlled nozzles, these phenomenally precise and accurate printheads are core components in Epson's inkjet printers. Piezo systems are able to more precisely control the volume of ink ejected and the size of individual ink droplets than thermal systems, but piezo printheads are also structurally more complex and difficult to produce.

To maximize printhead quality and productivity, we invested 360 million US dollars to build advanced, fully automated production lines in Japan. Outfitted with Epson's own industrial robots, these lines employ a combination of inkjet technology, fine-tuned over two decades, and MEMS\* microfabrication techniques that allow us to process parts on a submicron level.

\* Micro-electro-mechanical systems, or MEMS, is a technology for fabricating microstructures, microsensors, microactuators, and microelectronics on a single silicon substrate, glass substrate, or organic material. MEMS also refers to devices that are fabricated in this way.



# PRECISIONCORE®

## Innovative Technologies for Quality Printheads

It would be extremely difficult to replicate the quality of the Epson PrecisionCore printhead.

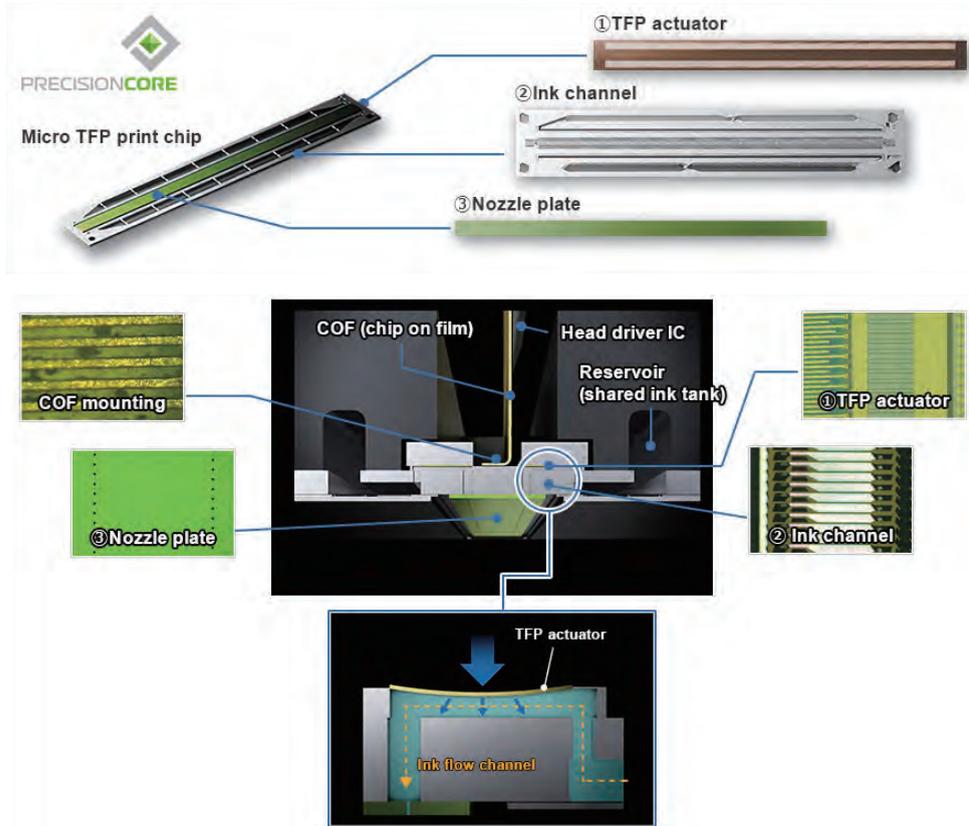
That is because only Epson owns the following three innovative technologies that are essential for the manufacturing and assembly of MicroTFP print chips, the heart of our PrecisionCore printheads.

1. Thin-film piezo technology
2. MEMS technology
3. Ultra-precision assembly technology



## Micro TFP® Print Chip Manufacturing

The L-6534VW has 66 print chips in 6 lineheads. The printheads are composed of three silicon chips, a TFP actuator, an ink channel and a nozzle plate, which are bonded together. When assembled ink entering through the ink flow path of the ink channel is ejected from the nozzles with the pumping action of the TFP actuator. Epson's innovative thin-film piezo technology is used to produce the TFP actuators; its innovative MEMS technology is used to make the chip components. All this is made in Epson's manufacturing facility in Japan.



### 1. Thin Film Piezo (TFP) technology

A TFP actuator is an extremely thin piezo element formed on a silicon substrate. The piezo element contracts when a voltage is applied to it. This movement provides the power to drive ink, which flows into the ink flow path, from the nozzle plate. Thin film piezo technology is used to form piezo elements on a silicon wafer in uniform, one-micrometer-thick films. High-quality ceramic crystals that have consistent orientation are formed by sintering using Epson's own crystallization process.

These TFP actuators provide extremely precise control over droplet size and placement and astonishingly accurate prints. That is because their uniform crystal structure means that they maintain uniform displacement when they contract and the extreme thinness of the piezo film allows for larger contractions and, thus, larger displacement.

Epson manufactures the material for the piezo elements themselves. We also independently developed the chemical reaction process used to synthesize the materials as well as the synthesizing equipment. Having access to the best piezoelectric materials to meet the performance requirements of the piezo elements is a huge advantage for Epson.

### 2. MEMS technology

High-accuracy, 3D submicron photolithography is a source of Epson's MEMS process strength. In ordinary semiconductor fabrication, the dimensional accuracy required for planar processing is high, but the accuracy required for thicknesses is not all that high. Industrial equipment used in the photolithography step normally has several percent variation, but Epson is able to limit this variation anywhere from one-fifth to one-tenth.

This level of accuracy exceeds conventional systems and is among the best in the industry. And it is this that enables us to form extremely fine and intricate TFP actuators, ink channels, and nozzle plates. These are what provide the picoliter-level control over ejected ink volume and the extraordinary precision of dot placement on media.

The nozzles in thermal heads produced on photosensitive resin are only about several microns in length. In contrast, nozzles in MicroTFP print chips produced on silicon wafers may be more than 10 times that length, and this greater nozzle length translates into far more accurate ink droplet placement.

---

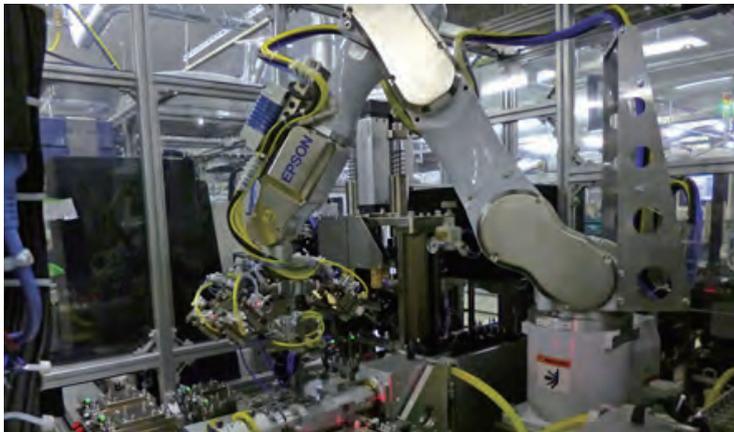
## Ultra Precision, Fully Automated Assembly Line

---

### 3. Ultra precision assembly technology

PrecisionCore printheads are assembled on fully automated manufacturing lines at two Epson sites in Japan, Tohoku Epson and Akita Epson. The MicroTFP print chips are made by connecting them to a base film that carries driver ICs and then assembles them together with a component that has the ink flow path structures and a case. This is where the third innovative technology, ultra precision assembly, comes into play.

Epson originally produced its own robots for use on automated watch assembly lines. Over the decades, this technology evolved into the ultra precision robotic systems that made the automated printhead lines possible. Epson's fully automated printhead assembly lines require only minimal operator intervention, allowing the company to minimize manufacturing costs.



People are a source of particles, so with few people in the manufacturing area, particulation is negligible. This, plus the fact that the chips are not shipped internationally over long distances before assembly and thus are not exposed to the risk of contamination, means that consistent quality can be maintained.

### The UV Label Linehead has 11 print chips



---

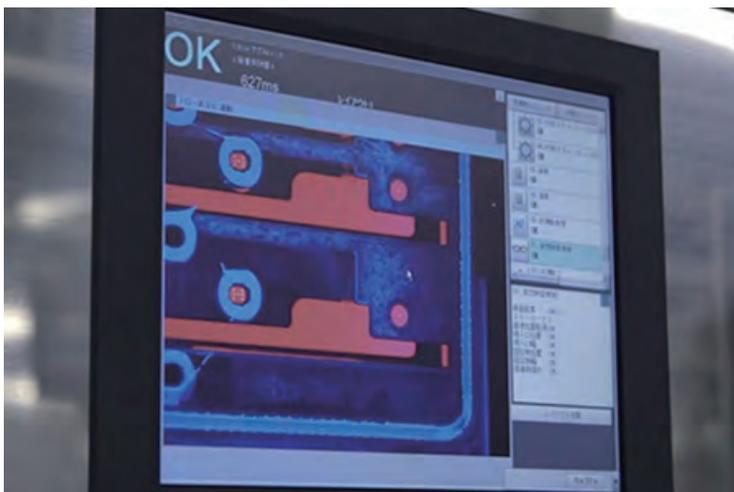
## Maintaining Quality

---

The innovative technologies used for the manufacturing of PrecisionCore printheads are also used in the inspection of MicroTFP print chips.

We created high-speed automated inspection systems for MicroTFP print chips by drawing on the ultra precision robotics technology that went into our fully automated printhead assembly lines and on image processing technologies developed for LCDs and printers. These inspection systems allow us to reduce personnel needs on the chip manufacturing lines and assuring quality.

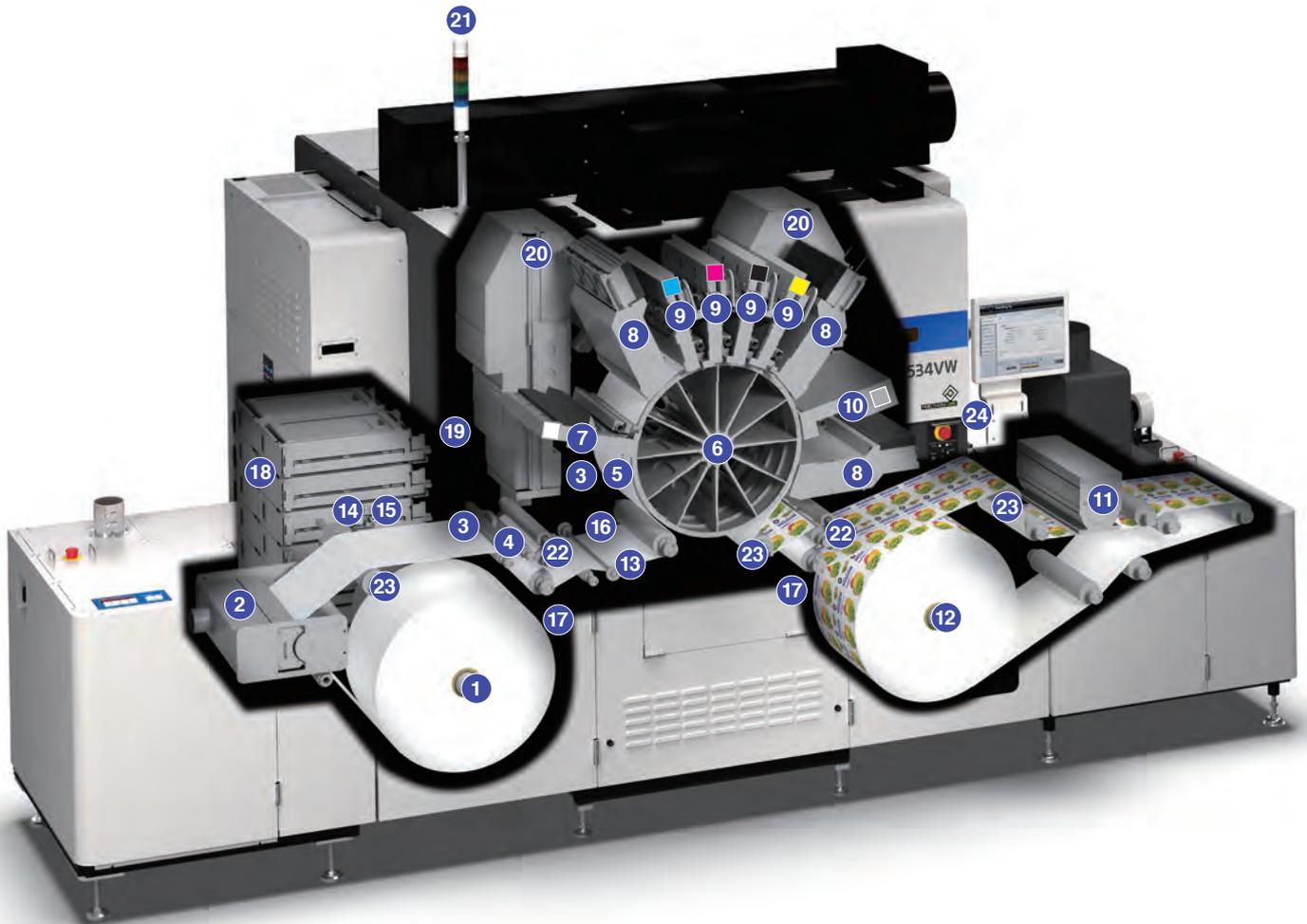
PrecisionCore printheads are produced from start to finish in Epson facilities in Japan, in a high quality and productivity driven process. Underpinning this quality control is a production and quality-control and technology-analysis support system that was developed entirely in-house to control wafer processing for the chips. By coordinating this system with the printer-production and quality-control system, we are able to perform end-to-end quality and technology analyses and ensure traceability from finished printer to printhead to chip (wafer).



# Epson Label Press Technology

The L-6534VW comes standard with White ink, digital varnish, corona treater, web cleaner, ionizer, eye mark sensor and an additional UV lamp, everything required for prime label production.

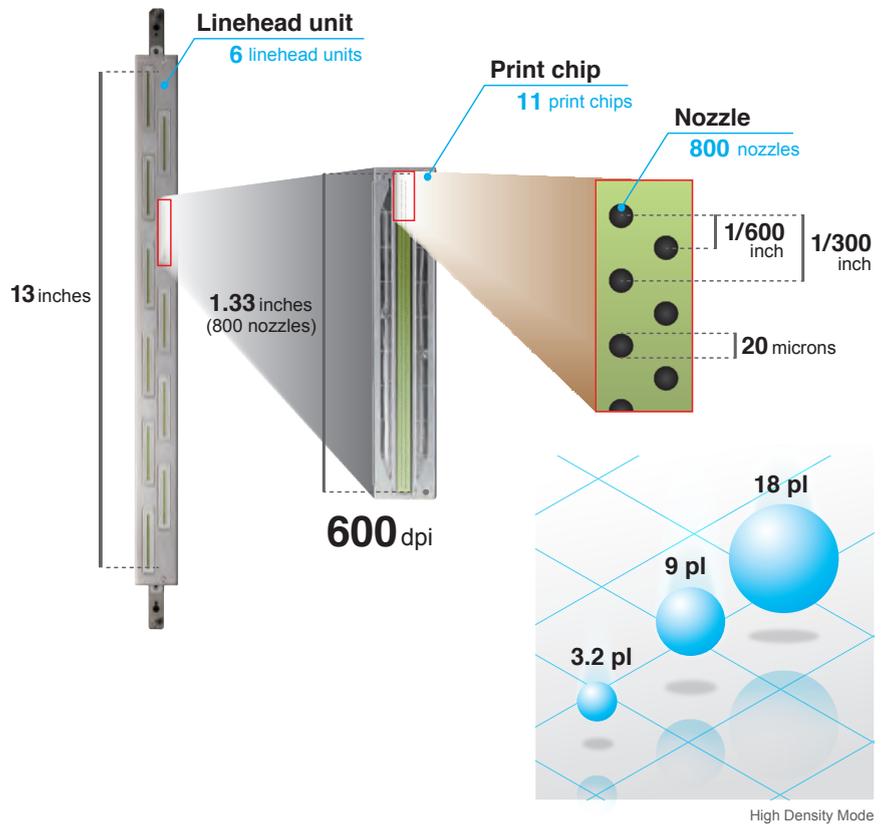
## SurePress L-6534VW



- 1 Unwinder
- 2 Corona treater
- 3 Ionizer
- 4 Web cleaner
- 5 Foreign substance detection roller
- 6 Drum platen
- 7 White linehead / Mist vacuum
- 8 Curing units
- 9 CMKY linehead / UV LED pinning lamp / Mist vacuum
- 10 DV linehead / Mist vacuum
- 11 Additional UV lamp
- 12 Rewinder
- 13 Paper width sensor
- 14 Paper edge sensor
- 15 Joint sensor
- 16 Eye mark / re-registration sensor
- 17 Roll diameter sensor
- 18 Dual ink cartridge holder
- 19 Automatic maintenance unit
- 20 Ink circulation system
- 21 Pilot lamp
- 22 Tension control nip rollers
- 23 Strain / tension gauges
- 24 Controller PC

## PrecisionCore Linehead

The PrecisionCore linehead is the key behind the high performance and reliability of the SurePress L-6534VW. Each of the six lineheads are comprised of PrecisionCore print chip modules (printheads), delivering precise quality with accuracy and high resolution. Smooth and natural gradation and color tone, from highlight to shadow, can be reproduced with 600 dpi resolution using a minimum droplet of 3 picoliters and Variable Sized Droplet Technology.



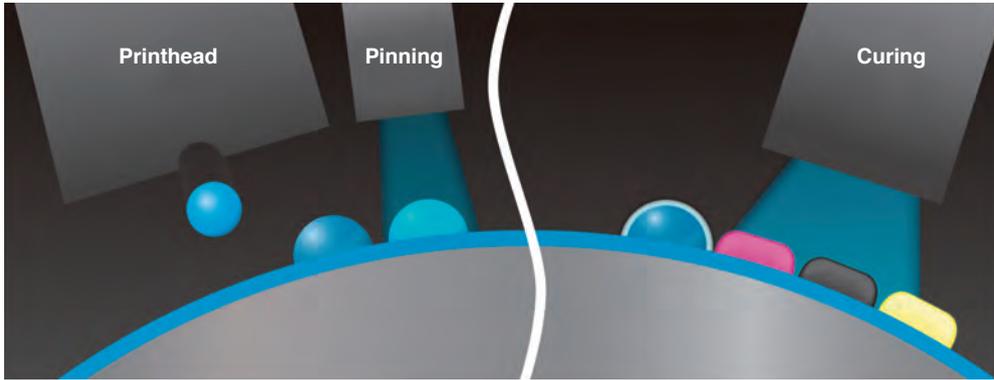
## High Productivity

Epson's PrecisionCore linehead, highly accurate web feeding technology and Epson-developed UV ink enable high-speed printing up to 50 m/min with high reliability and reduced down time. The L-6534VW saves you time on every job with the following automated and productivity features.

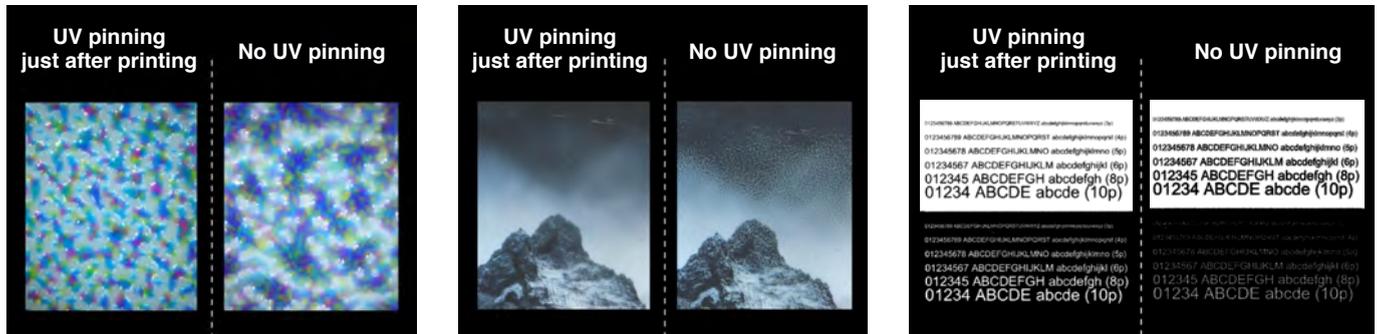
<h3>Print speed</h3> <ul style="list-style-type: none"> <li>50 m/min</li> <li>30 m/min</li> <li>15 m/min</li> </ul>	<h3>Stable printing</h3> <ol style="list-style-type: none"> <li>1. Auto head cleaning</li> <li>2. Nozzle verification technology</li> <li>3. Accurate web feeding</li> </ol>	<h3>Color matching</h3> <ol style="list-style-type: none"> <li>1. Wide gamut</li> <li>2. Easy spot-color matching</li> <li>3. Stable color reproduction</li> </ol>	<h3>Service</h3> <ol style="list-style-type: none"> <li>1. Epson Remote Monitoring Service</li> <li>2. WW service network</li> <li>3. Quick regional part supply replacement</li> </ol>
---	--	--	---

# All LED UV Color Pinning Control

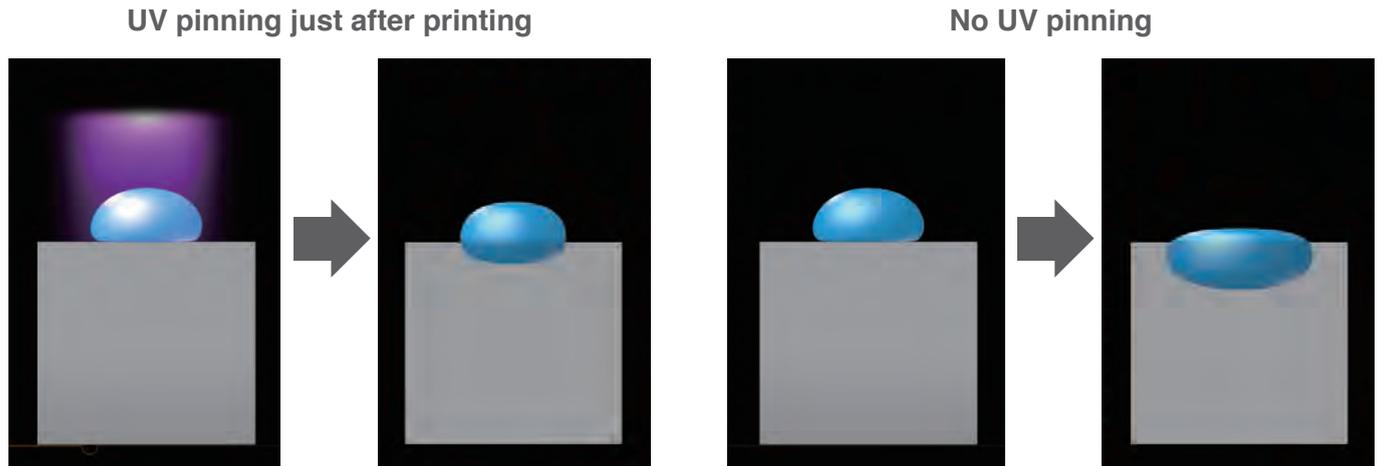
Epson's own LED UV pinning system semi-cures and stabilizes, controlling ink spread for finer tonal gradation, sharp images and vivid color. UV light is applied immediately after each color is printed. This allows perfectly round drops to be placed in their correct positions.



The UV pinning prevents inkdrops from spreading or deforming, enabling the reproduction of smooth gradations and sharp, detailed text.

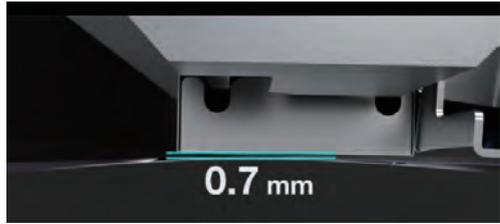


Ink is cured before absorption into substrates, providing vivid color and sharp line work.

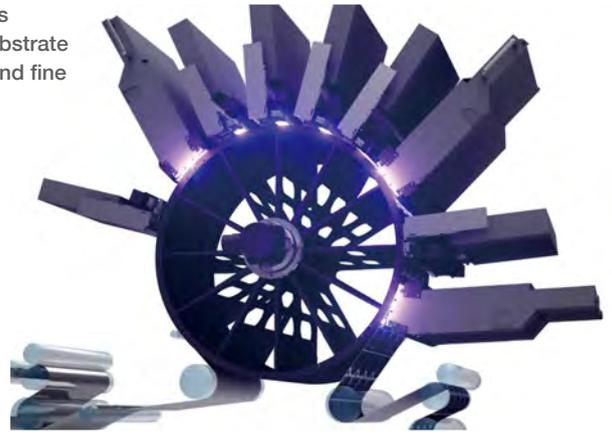


# Center Drum Web Handling

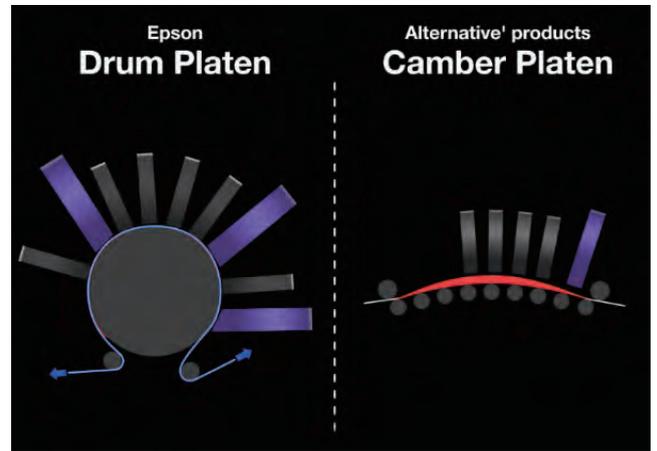
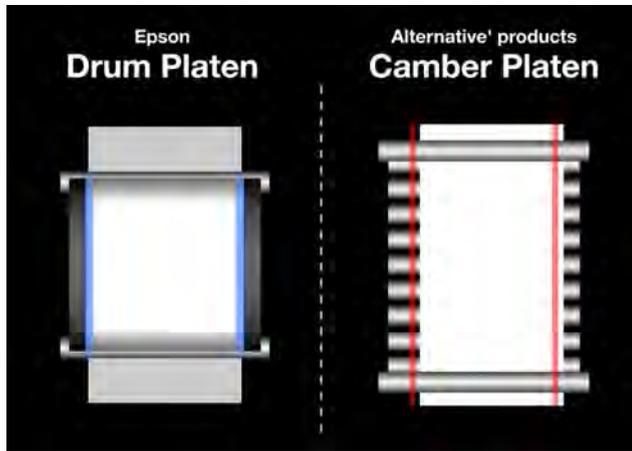
The Drum Platen is a highly accurate web feeding technology which prevents meandering and skewing of the web. The gap between the printhead and substrate is kept to a minimum, which enables accurate ink placement, for crisp text and fine lines.



Meandering and skewing of the web does not occur, because the substrate is held tightly around the drum. In comparison, a chamber type platen of other presses requires manual adjustments when the substrate is changed, in cases such as Y-direction skew adjustment and color adjustment (substantial waste of substrate). The SurePress registration adjustment is electronic.

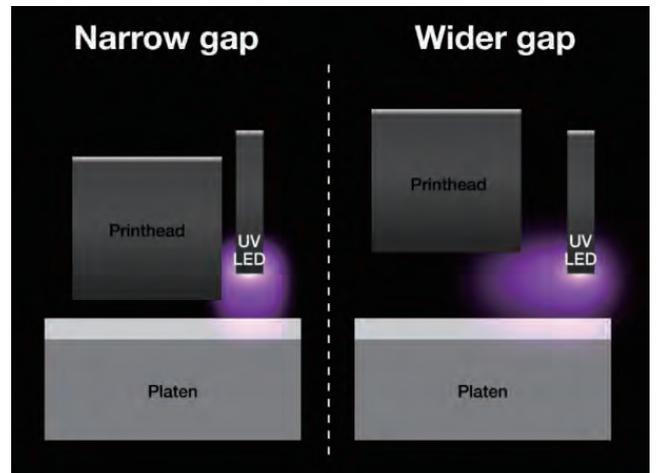
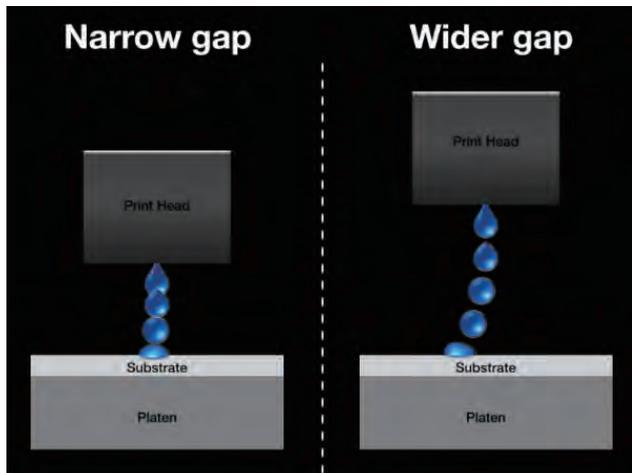


The substrate is "fixed" to the drum, as it passes all printhead colors, hence it provides excellent color-to-color registration.



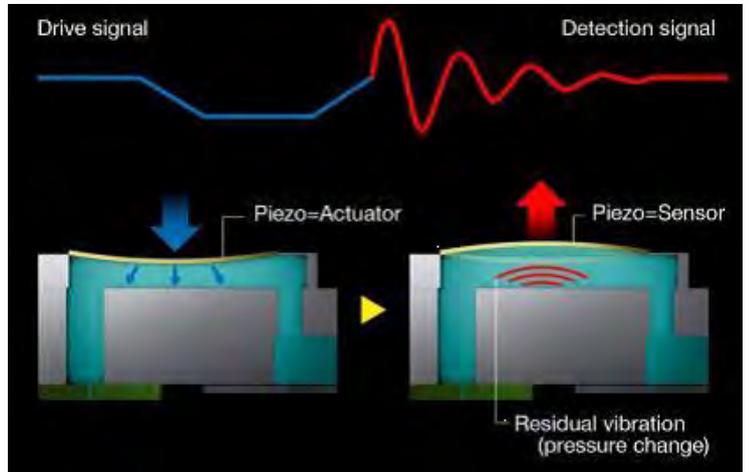
The narrow gap enables accurate ink placement, for crisp text and fine lines.

The narrow gap minimizes printhead exposure to UV light and enables the most effective pinning UV placement.



## Nozzle Verification Technology and Auto Head Maintenance Function

Nozzle verification technology is an automatic nozzle check system with advanced ink droplet detection technology. A drive signal is sent to the piezo actuator. The same piezo element is used as a sensor to measure the pattern of the residual vibration. The residual vibration is analyzed in milliseconds, reporting the nozzle status. All nozzles are checked after cleaning and before printing. A manually printed nozzle check pattern is not required to check if a nozzle is firing.



Auto head maintenance cleans the nozzles automatically to eliminate manual cleaning during each shift. It is fully automatic with no operator intervention required. Wash fluid is sprayed on the head surface and then the head is cleaned automatically with the cleaning wiper. The auto self-head maintenance function cleans heads periodically to avoid nozzle clogging based on print duty cycle and results of the nozzle verification test. After maintenance, the press returns to printing again with no operator interaction or interruption in job sequence.

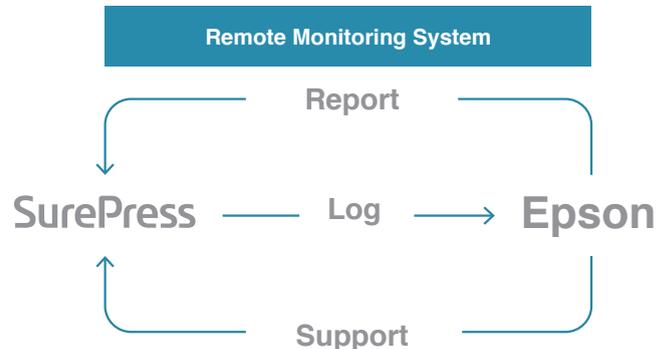


## Mist Vacuum Mechanism

During high-speed inkjet printing, mist (micro dots) develops. This mist is removed by vacuum units behind each printhead; this reduces spray on the printhead itself and increases the effectiveness of the auto-cleaning. This reduces the operator interaction, making it necessary only after the shift.

## SurePress Customer Support Service by Remote Monitoring System

The operational status of the SurePress is monitored using a remote monitoring server. The L-6534VW has an extensive network of sensors which feed into a diagnostic system. This allows, at any time, a quick response and predictive analysis, all done in advance of the repair visit.

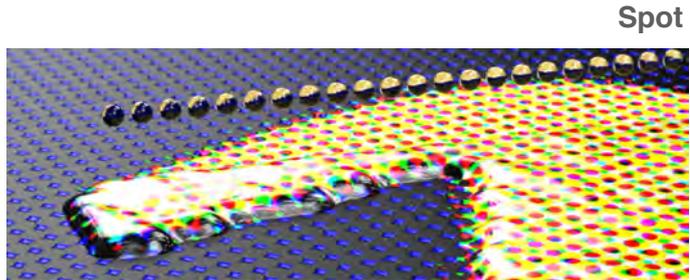
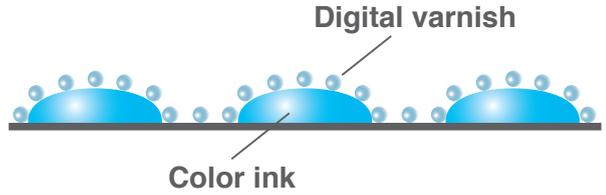
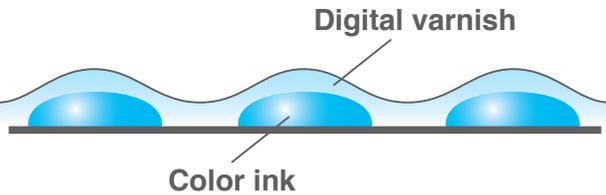


# Inline Digital Varnish



The L-6534 has the Epson innovative digital varnish ink. A gloss or matte finish can be printed selectively as a varnish. High value and very appealing accents can be added to lift the visual appearance of specific areas. The different finishes are achieved by changing the way the digital varnish is jetted from the printhead. Brand owners now have digital flexibility with spot varnishes.

Digital varnish delivers smooth and even gloss, matte and spot finishes. The auto gloss varnish control function enables the appropriate amount of digital varnish to be applied to select areas according to the amount of WCMYK ink. This achieves a smooth, even and glossy finish.



---

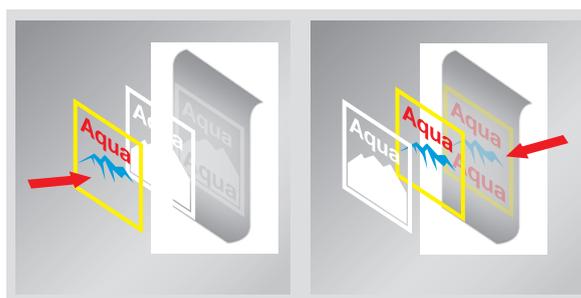
## High-opacity White Ink

---

The single-pass high-opacity White ink provides high-density performance equivalent to screen printing and the ideal base layer for printing vivid color on clear or metalised substrates. The bright White ink also gives the ability to print opaque, fine text and lines, even when printing clear labels for clear packaging. It offers the flexibility to print white on top of colors.



Clear film can be printed with color ink first, followed by White ink using a printing method that allows you to view the results from the back of the film (reverse printing).



---

## Durable Ink

---

Labels printed with Epson UV ink have passed British standard BS5609, the internationally recognized standard for labels used in marine environments, as well as UL969 for all test items (peeling, rubbing resistance, fading evaluation) in combination with a specific base material.



## Wide Gamut

A high concentration of pigment particles and UV pinning, which prevents ink drops from spreading or deforming, enables wide gamut and vivid colors. Wide gamut enables the reproduction of a wide range of desired colors that brand owners require. The gamut volume of L6534VW is larger than printing standards of offset coated paper like FOGRA, GRACoL and JapanColor, as shown below.

Printed condition of L-6534VW

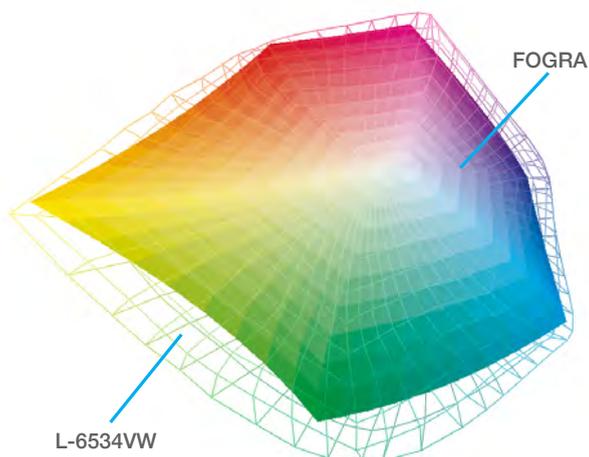
Substrate: FASSON #72825 2 Mil White Polyester TC/S333/50#SCK

Print mode: Film#2

Corona Treater: Not used

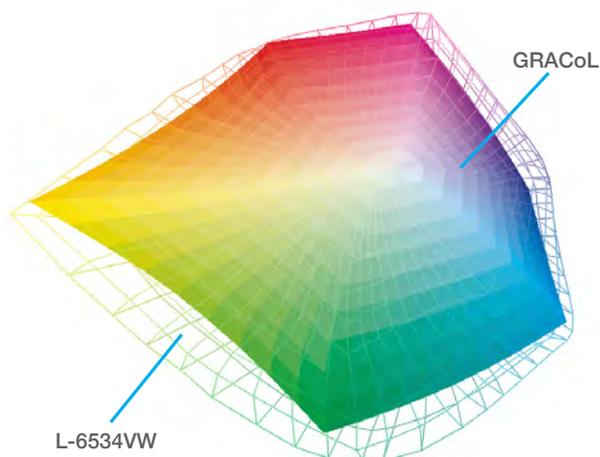
Additional UV lamp: Not used

### FOGRA39 Coated vs. L-6534VW



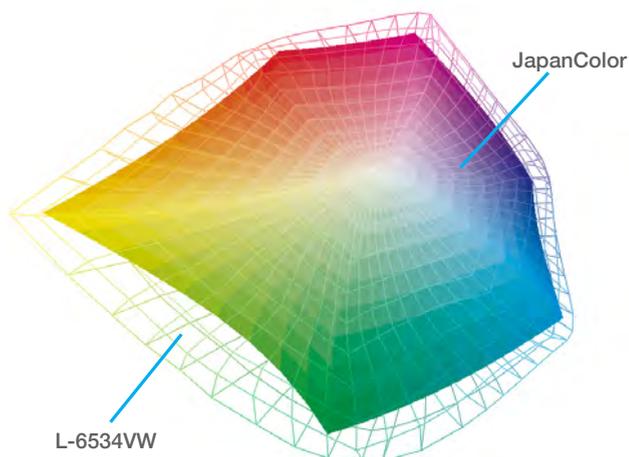
L-6534VW Gamut volume: 523,292  
FOGRA39 Coated Gamut volume: 402,109

### GRACoL2006 Coated vs. L-6534VW



L-6534VW Gamut volume: 523,292  
GRACoL2006 Coated Gamut volume: 398,316

### JapanColor2001 Coated vs. L-6534VW



L-6534VW Gamut volume: 523,292  
JapanColor2001 Coated Gamut volume: 381,199

## High Print Quality

High-quality printing is achieved by using a combination of leading technologies found in the Epson L-6534VW.

### • Smooth gradation



Smooth gradation

PrecisionCore Printheads

High definition printing

PrecisionCore Printheads

### • Uniform color



Uniform color

Drum Platen

Precise thin lines

Drum Platen

### • Color-to-color registration



Color-to-color registration

Drum Platen

### • Sharp text



Sharp text

UV Pinning on all colors

### • Vivid color



Vivid color

UV Pinning on all colors

### • Opaque and bright White ink on clear film



White ink

Drum Platen

# Epson SurePress Inks: Food Contact Materials (FCM) Compliance

Epson label inks reach major milestones in Food Contact Materials compliance. Epson inks used in SurePress inkjet label presses are compliant with EU Regulation framework (FCM EC No. 1935/2004), Good Manufacturing Practices Regulation (GMP EC No. 2023/2006), Plastics Implementation Measure Regulation (PIM EU 10/2011) and included in Swiss Ordinance (SR 817.023.21) on Food Contact Materials for food packaging printing inks.



## ① Hygiene ink process by Epson GMP

Unique among inkjet press and printer manufacturers, Epson produces its own Ink. Epson invests directly in ISO quality control systems and hygienic ink processes\*1 to produce SurePress inks. Epson and its facilities meet GMP (EC) No. 2023/2006 EU Regulations and corresponding US FDA requirements. In addition, Epson SurePress inks are manufactured according to the Hazard Analysis Critical Control Point (HACCP) risk assessment principle, covering each stage of the production process and ink contacted parts.

\*1: It is not an edible but Epson food label inks production has realized the hygiene process controls of the food level regulation "less than 100 bacteria / g of general standard of drinking water".

### Epson specific measures

<p><b>Pest Control</b> (No contamination)</p>	<p><b>Hygiene Control</b> (No contagion)</p>	<p><b>Sterilization Control</b> (Bacteria free)</p>

## ② Primary migration test certification

Based on PIM Regulations<sup>2</sup>, we confirmed that ink will not migrate beyond the limit to the food side via ordinary packaging plastic film substrate.<sup>3</sup>

\*2: PIM is Plastic Implementation Measure (EU No. 10/2011). The test regulation that defined the limit value of substances migrated through the packaging film substrate under the specific storage conditions for each food.

\*3: Based on the packaging form conditions assumed by Epson (within the test conditions defined by PIM regulations).

## ③ Nontoxic safety of ink substances applied for food label

The inks use substances that compose the safety approved substances in the Swiss Ordinance ink positive list (RS 817.023.21) annex 10 and relevant one. We have published SDS for inks on our website as a reference.

< FCM corresponding inks >

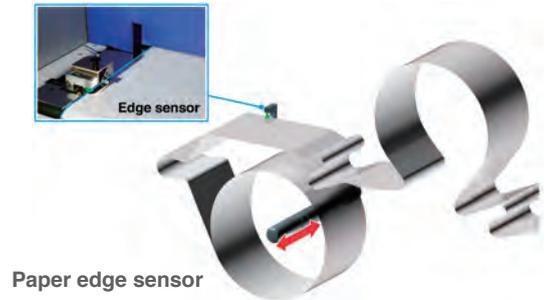
- SurePress Series: L-4033A/AS/AW, L-4533A/AW, L-6034VW, L-6534VW

(Note) The "SurePress Series" inks are not intended for direct food contact printing. The safety compliance judgment for the finished product is the responsibility of the final manufacturer, as it is based on the customer's packaging form.

## Superb Web Feeding Accuracy

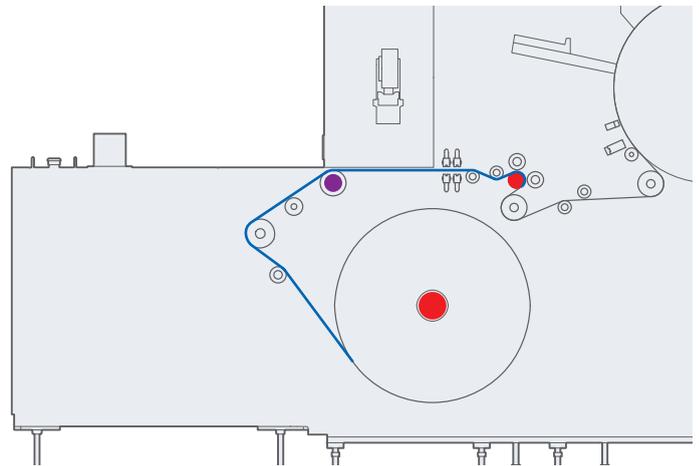
The L-6543VW achieves high image quality, high web feeding accuracy, and reverse print using the following three technologies:

1. Dedicated tension control using strain gauges in the unwind, print and rewind areas. This results in high print quality due to precision dot placement and high winding accuracy.
2. Steering control by the paper edge sensor ensures straight substrate feeding by adjusting roll position.
3. With steering in the unwind and elimination of a dancer roller (buffer-less) in the rewinding area, reverse printing is possible by simply rewinding, without removing the roll.



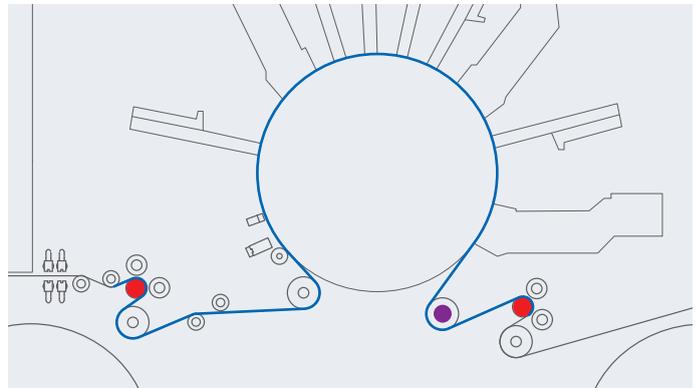
### Unwinding area

The substrate tension is controlled by measuring tension by the strain gauges (purple) and adjusting the torque of the tension control nip roller (red).



### Printing area

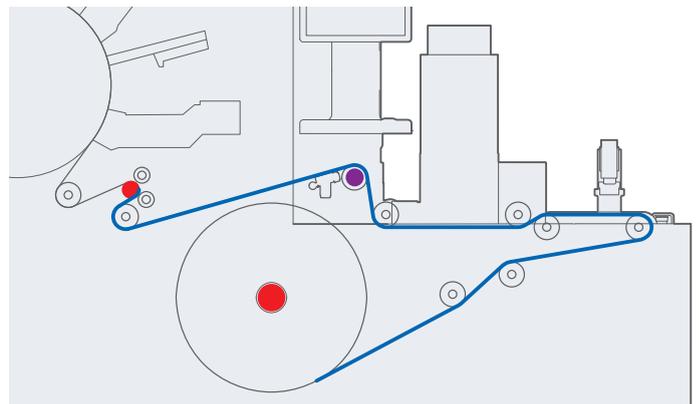
High print quality is assured using precision dot placement and high winding accuracy by maintaining accurate speed of the substrate and controlling tension precisely to prevent slippage of the substrate on the drum. The substrate tension is controlled by the strain gauges (purple) and by adjusting the tension control nip roller (red).



### Rewinding area

By applying tension to the substrate using a feeding motor with a wide dynamic range, it is possible to use both films that require low tension and papers that require a higher tension.

Epson's unique design eliminates the dancer roller (buffer-less) in the rewinding area, making reverse printing possible without removing the roll. The web guide and dancer roller structure of other label presses will not allow reverse feed of the substrate.

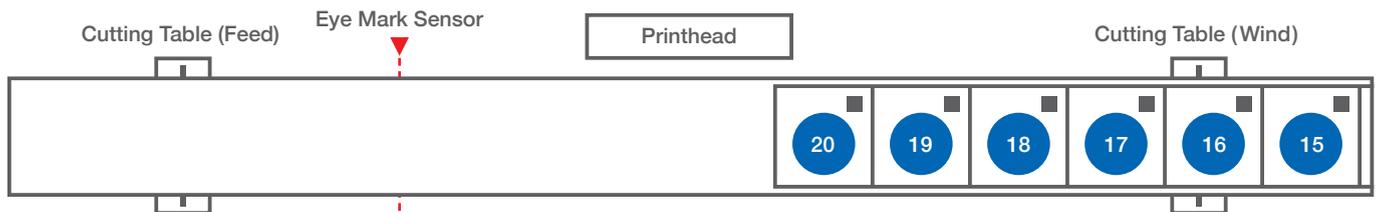


## Reverse Print

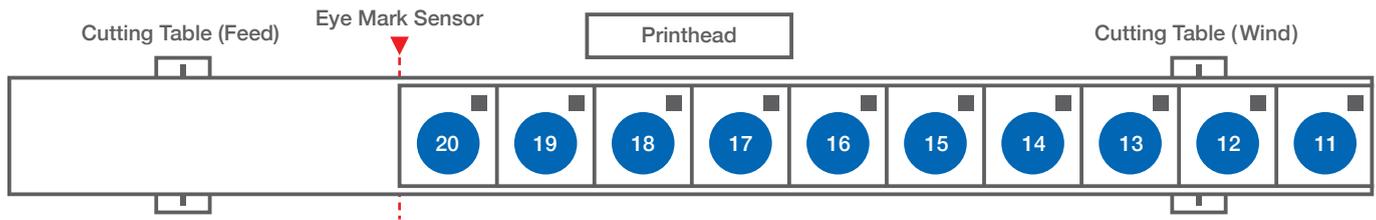
L-6534VW has a function to rewind the substrate. To print White over color (reverse print) on clear film, you can rewind and print without replacing (returning rewind to unwind manually) the roll. Waste of substrate is reduced by resuming printing after proofing by simply rewinding and resuming printing.

### Principle of reverse print

① When the printing is stopped (pause etc.), the drum encoder value at the end of the last printing is recorded.

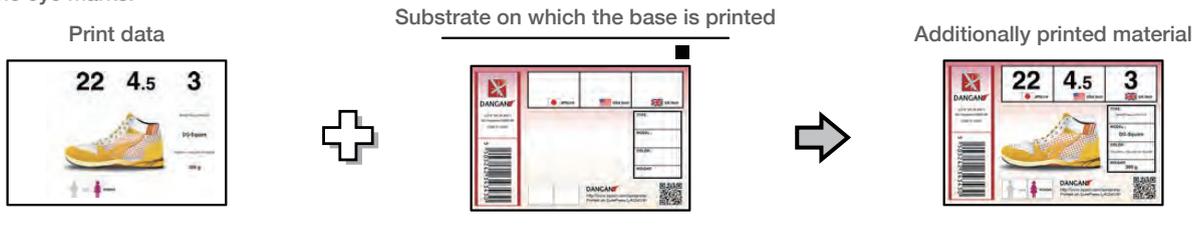


② Rewind the substrate when printing is resumed. The next print starting position is determined by combining the drum encoder and eye mark sensor.



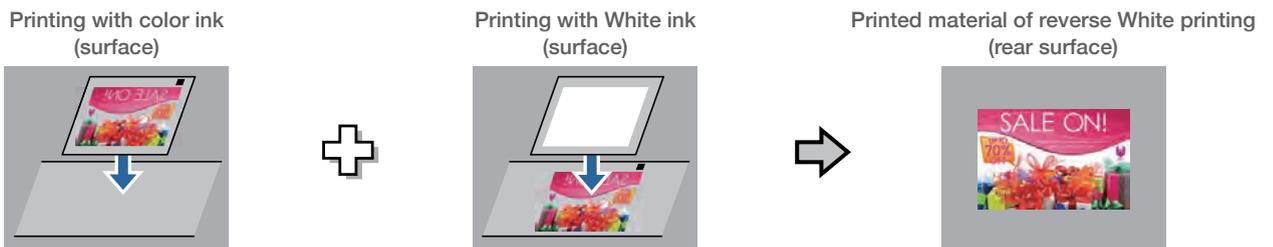
### Printing over the base-printed substrate (re-registration printing)

When eye marks are positioned in advance on the substrate on which the base is printed, the press can print over the printed data by detecting the eye marks.



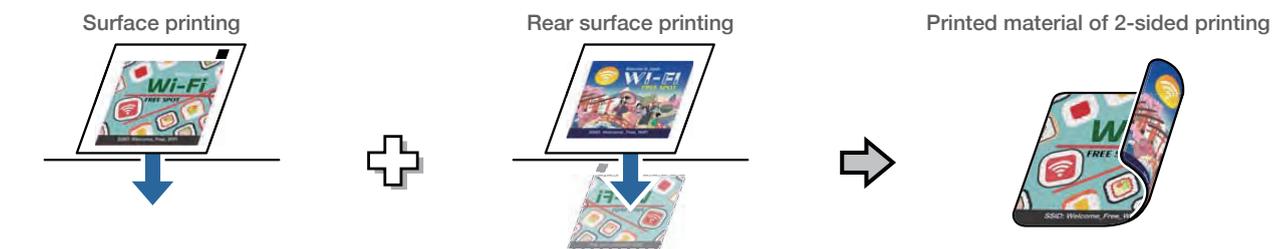
### Performing white printing over color printing (reverse white printing)

Clear film is printed with color ink first followed by White ink using a printing method that allows you to view the results from the back of the film.



### When printing on both sides

Printing can be done on the reverse side of the substrate easily with a second pass and re-registration.



---

## Epson UV LED Lamps

---

Epson UV LED lamps are developed for L-6534VW for pinning and curing, and have the following features. (Additional UV lamp uses conventional UV lamp)

- The UV LED lamp is low temperature, so it can be used with clear films that are vulnerable to heat.
- In order to achieve high image quality, the UV LED lamp has been adjusted so that the illuminance is kept constant by correcting the illuminance according to the temperature. The in-plane illuminance in the irradiation area is also constant.
- Compared with conventional UV lamps, the UV LED lamp has a low power consumption, long service life (more than 10 times), low lamp replacement cost, and low running cost.
- The UV LED lamp is air-cooled and not water-cooled. The equipment and running cost are lower as a water-cooled system is not required.

---

## Corona Treater

---

The Corona Treater modifies the surface and improves the adhesion of ink allowing the use of a greater range of flexographic media. The adhesion of ink is further enhanced by the built-in additional UV lamp. Corona treatment is a surface treatment technique. It modifies the surface of the base material, such as plastic film, paper or metallic foil, by applying corona discharge. Corona discharge is generated when high-frequency, high-voltage electricity from a corona generator is applied between the electrode and treating roller of the treating station. This treatment generally improves wettability (wetting tension). The corona treater also has a large fan, which removes dust and debris as the roll is unwound.



---

## Web Cleaner

---

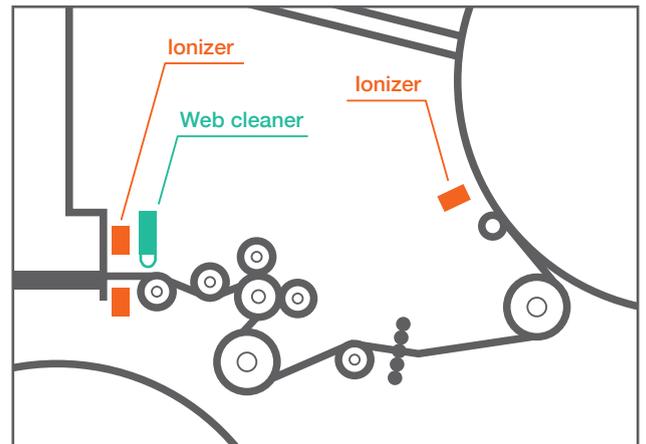
The Web cleaner wipes off the dirt on the surface of the substrate to prevent nozzle clogging. The corona treater also suctions dust, fluff and paper dust from the substrate during printing. The web cleaner is easy to remove and maintain.

---

## Ionizer

---

The Ionizer removes static electricity on the surface of the substrate and improves the ejection stability during printing. The Ionizers are installed in three locations. Two are located where the substrate is unwound from the roll, and one is located immediately prior to printing.



---

## Additional UV Lamp

---

The additional UV lamp can be used on film substrates that require improved adhesion or to reduce the UV odor on paper substrates.



---

## Efficient Ink Changeover Minimizes Downtime

---

When one ink cartridge runs out, the ink supply automatically switches to the second 3-liter ink cartridge (hot swap). The ink pack is protected against light. The seal valve at the ink pack port prevents the ink from leaking and allows ink to be handled safely. The ink cartridge is easy to access and ink replacement is quick and straightforward with no need to stop the press — simply replace the ink cartridge during printing.



---

## User-friendly Interface, Touchscreen Operation

---

The touchscreen panel is extremely simple to use with an easy-to-understand interface that keeps you in control of every aspect of printing. Job configuration can be quickly set and operating status can be readily checked at any time. Settings for specific types of jobs can be saved, so setup is even faster the next time for repeat jobs.



# Business Opportunities using the Epson Digital Label Press

Wide variation / high-mix low-volume products / versioning



## Variable data processing (VDP)

Variable data processing comes standard with the L-6534. The VDP works with several RIPs available with the SurePress.



## Digital Varnish

The most basic and effective uses of varnish is to strengthen the label's focal point. Simply put, varnish immediately draws the eye to the most important part of your label.

Unlike strengthening your focal point, you can do the opposite as well. You can achieve contrast in your label by applying varnish to background items. This technique allows you to provide layering effects.



## Application Versatility

The Epson formulated inks allow a wide variety of standard flexo materials to be utilized. A corona treater and final UV lamp are included to enhance printing on typical substrates. The low temperature UV LED cure enables printing on heat-sensitive substrates such as PE.

**Liquors**  
Wine, craft beer, sake.



Textured/thick substrate

**Food**  
Local jams, cheeses, hams.



Clear film, silver foil, White ink, vivid colors

**Beverages**  
Tea, coffee, water.



Clear film, silver foil, White ink, vivid colors

**Industrial products**  
Limited quantity name plate.



Small texts, durability

**Cosmetics**  
Private brand cosmetics, samples.



Photo quality, gradation, White ink

**Household products**  
Private brand samples, local brand products.



Photo quality, vivid colors, water resistance

**Pharmaceutical**  
Supplements, medical drugs.



Small texts, safety of ink

**Novelty**  
Personalized products, limited quantity products, stickers.



Small texts, durability

**Masking tape**  
Masking tape, craft tape.



Texture paper, vivid colors

**VDP**  
Variable data printing, additional printing like cut fruits, bar code.



Photo quality, vivid colors, water resistance

**Window graphics / POP**  
Indoor/outdoor POP, poster, signage.



Clear film, White ink, lightfastness, durability, vivid colors

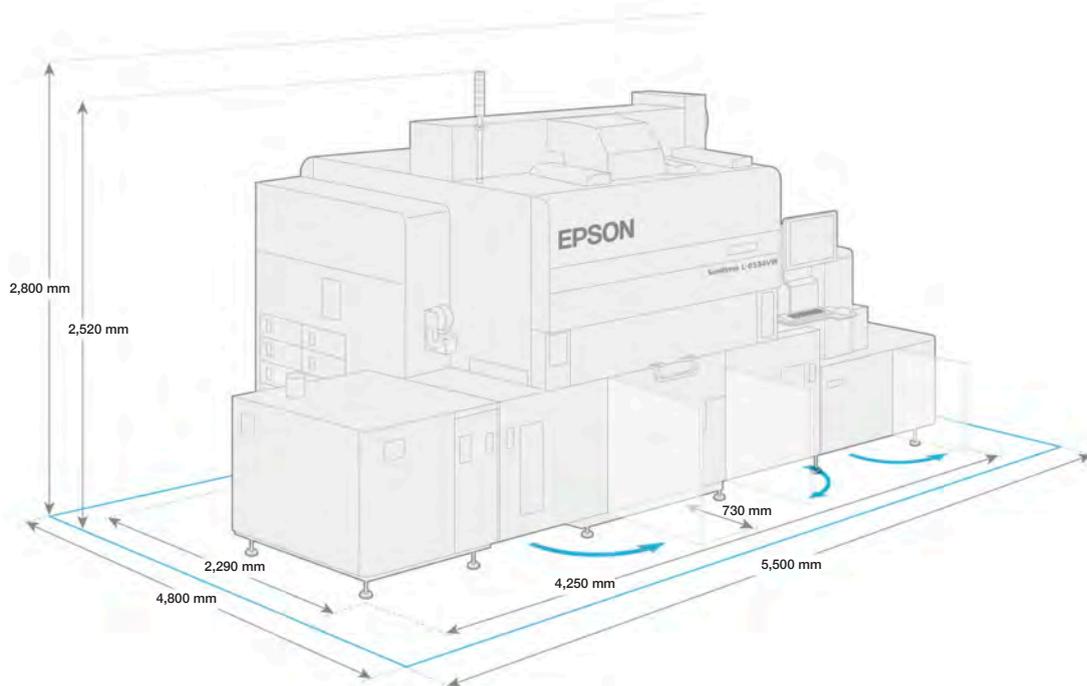
**Vehicles**



Durability

## SPECIFICATIONS

Model Name		L-6534VW(Dv) and L-6534VW(Or)
Print	Print Technology	PrecisionCore linehead inkjet technology
	Maximum Print Resolution	600 x 1200 dpi
	Gradation Process	Variable-Sized Droplet Technology
	Maximum Image Size	330mm x 1000mm
Ink	Ink Type, Colors	Black, Cyan, Magenta, Yellow, White, and Digital Varnish or Orange
	Pantone and G7	85% with CMYKW & G7 on white, 92% with CMYKOrW all G7
Print Speed	Productivity Mode	50m/min
	Standard Mode	30m/min
	Variable Data Speed	50 m/min
Substrate	Substrate Width	80mm to 340mm
	Substrate Type	Adhesive paper, adhesive film, single-layer paper and single-layer film
	Substrate Thickness	80 to 320 microns
	Unwinder Capacity	600mm diameter / 100kg weight/ 1000m length
Dimensions	Dimensions (W)	4250 (W) x 2290 (D) x 2520 (H) mm
Weight	Weight	Approx. 2640 kg
Environment	Temperature	20 - 28 degC
	Humidity	RH 35 - 55%, No condensation required
	Space For Operation	5.5m x 4.8m x 2.8m (W x D x H)
Electric Supply	Main Unit	AC 200V +/- 10% (3 phases 3 lines + PE)
	Corona Treater	AC 200 - 240 V +/- 10% (Single phase + PE) 15 A
	Additional UV Lamp	AC 200 - 240 V +/- 10% (Single phase + PE) 40 A
Exhaust	Main Unit	40-55 m <sup>3</sup> /min 250mm
	Corona Treater	12m <sup>3</sup> /min or more 100mm
	Additional UV Lamp	10-15m <sup>3</sup> /min 200, 150mm
Compressed Air	Compressed Air	0.5 - 1.0Mpa
Network	Network	10BASE-T/100BASE-T/1000BASE-T



Trademarks and registered trademarks are the property of Seiko Epson Corporation or their respective owners. Product information is subject to change without prior notice.