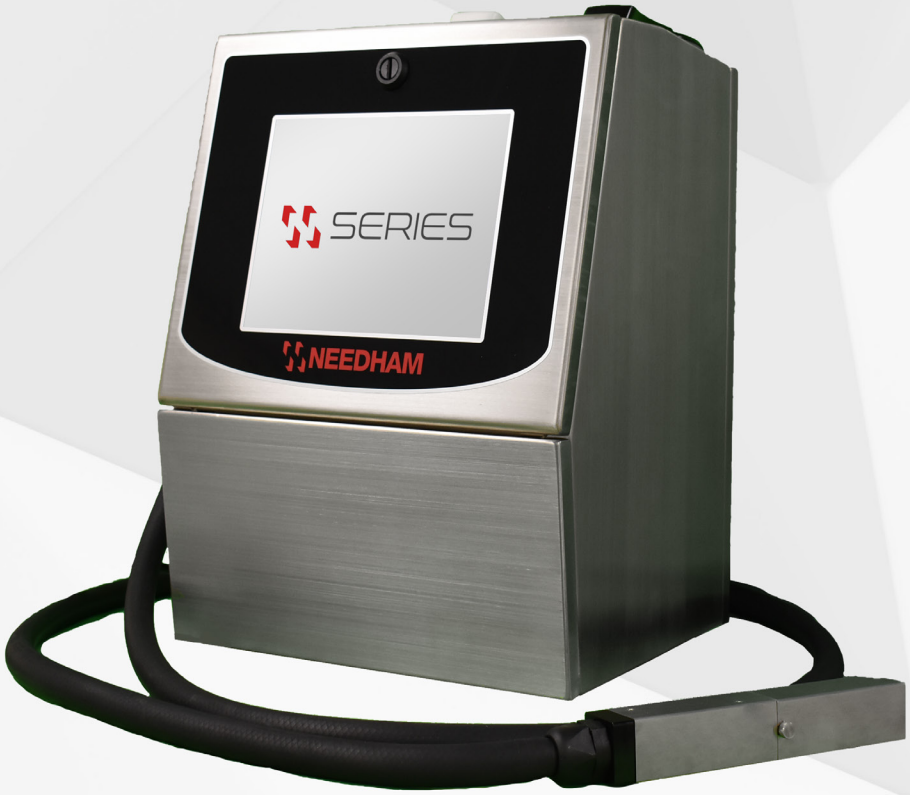


NEEDHAM INK TECH

CODING SOLUTIONS

SERIES

HISTORY

THE RIGHT SOLUTION.

The Needham Group was founded by Roger Needham in 1962 and remains a family owned company with Roger's son, David Needham, the current company Chairman. Being a family company, we have a strong set of values by which we conduct our business and we firmly believe in establishing loyal, honest, and long-term relationships.

We have grown from humble beginnings as a national distributor of 'Speedry Magic Markers' to a group of subsidiaries which diligently works to expand it's now global portfolio through product development and innovation.

Needham Ink Technologies is a UK based inks manufacturer and coding printer supplier, with decades of experience in the development and manufacturing of ink technologies and consumables. Our team are committed to developing the right solution that offers reliability, durability and affordability.

Each of our inks is rigorously tested to ensure the highest quality product. Our team of chemists, based in our research labs in Whitchurch and Newquay (UK), ensures that each ink that comes out of our factory can deliver excellent colour accuracy and reliability.

We are proud to be a wholly independent supplier with no desire to lock you into any hidden contracts. Our aim is to supply you with the best quality products and work with you to identify the right solution for you and your business.

Working with over 300 partners, we have distributed more than 1,200 ink formulations to 73 countries.

UNIQUES

BRITISH MADE

1 PROUD TO BE BRITISH

We are proud to be at the forefront of innovations in Ink Technologies with a dedicated, UK-based Research & Development facility.

2 OUR PEOPLE ARE KEY

At the heart of our business are our people and our core values. Without our people, we wouldn't function. They are dedicated, knowledgable and compassionate.

PEOPLE FIRST

INDEPENDENT

3 INDEPENDENT, PRIVATELY OWNED

We are a wholly independent supplier with no desire to lock you into any hidden contracts. We just want to supply you with the best quality products and the right solution.

MISSION

We have always existed to grow and expand using ink technologies to build lifelong partnerships.

Today we exist to preserve and enhance that legacy, through our worldwide distribution of coding printers and manufacturing a wide variety of inks.

N SERIES

CIJ PRINTERS

Based on a winning, tried-and-tested design, the N-SERIES range of CIJ printers can be found at the heart of many global packaging and manufacturing facilities. This resilient range is able to withstand some of the most harsh environments and is often considered second-to-none.

- Features a large 10.4” colour touch screen display
- Industrial stainless-steel enclosure
- Automated ventilation system
- Smart filter system
- External fluid containers for easy access

N32

The N32 is deal for printing 1, 2, 3, 4 or 5 lines of text, barcodes or graphics, 24 hours a day, 7 days a week, averaging 4,000 - 8,760 hour annual operation, with higher production line speeds.

N32M

The N32M can support printing speeds of up to 400M/minute accurately and reliably. It's housed in an IP65 rated enclosure, perfect for wash-downs and more demanding environments.

N32P

The N32P is a heavy pigment ink industrial printer, specifically tailored to operate with a range of heavy pigment inks with various colours and specifications.

N32UV

The N32UV system uses specially developed UV ink meaning that printed codes are only visible when exposed to ultra-violet light. The clear, UV readable and fast-drying ink offers excellent adhesion on most surfaces

N32HS

The N32HS prints fast, high quality single and twin line codes, barcodes or graphics on the highest speed bottling, canning, wire/cable production lines.

N32FG

The N32FG is an industrial inkjet printer which is compatible with FDA, EU and other compliant inks. It is capable of printing directly onto food products, ideal for egg coding, fruit & vegetables or permeable food packaging.

Technology	Continuous Inkjet (CIJ), Single Printhead Control
User Interface	10.4" (264mm) Colour LCD, Touch Screen, Icon Based - Graphical User Interface (GUI)
Printing	Printhead Orientation - Omnidirectional
Lines of Print	1 - 5 lines, 32 pixel
Print Fonts	5,7,9,12,16,19,25,32
Adjustable Print Height	0.06" (1.5mm) - 0.75" (19mm)
Print Speed	Upto 2,000ft/ Minute (600M/minute)
Ink Throw Distance	0.5" (12mm) - 2" (50mm)
Machine Interface	RS232, Ethernet
Inputs	1 Photocell, 1 Photocell or Programmable Input, 1 Shaft Encoder, 8 Field Programmable Inputs (256 Message Select)
Outputs	4 Alarm Outputs, 1 Relay Ouput
Enclosure	IP55 Stainless Steel Enclosure 304
SmartFilter™ Life	2,000 Hours
Operating Environment	Temperature: 32° - 122°F (0° - 50°C), % Relative Humidity: 10 - 90% (non-condensing)
Electrical Requirements	Auto Ranging: 100 - 240 VAC (3 Amp), Frequency 50 - 60 Hz, Power Consumption: 50W
Compliance	CE Certified, RoHS Compliant
Messages / Operation Features	Dynamic Message Storage (over 1,000 Messages) WYSIWYG Message Editing, Drag / Drop Field Based Formatting, Multi-National (Unicode) Character Printing, Real and Expiration Time and Date, Shift and Rollover Functions, Product and Batch Counting, Remote Count Resets, Graphic Printing, Continuous and Repeat Print, Auto Reverse / Traverse Print, Icon Based Operation, Single Button Start, Single Button Stop / Power Off, Password Security, Automatic Diagnostics, Error and Activity Logs, Service Reminders
Ink Delivery	SmartFill™ Ink Bottle: 32oz (946ml), SmartFill™ Makeup Bottle: 32oz (946ml)
Fluid Capacity	Ink Capacity: 68oz (2 litres), Makeup Capacity: 102oz (3 litres)
Ink Types	Quick dry to immediate, Complete Ink Range: MEK, Acetone, Ethanol, Blends and Food Grade in broad range of colours

OPTIONAL ACCESSORIES

- Alarm Beacon
- Shaft Encoder
- Airflow™ Positive Air Kit (For High Dust)
- Printhead Wash Station
- Trolley

N32 SPECIALISED SOLUTION SYSTEMS

32FG	FOOD GRADE	Print directly onto food products with FDA and USDA compliant inks.
32HS	HIGH SPEED	Print at speeds above 50,000 bottles per hour or over 1,700ft/minute (500M/minute).
32M	MICRO	Print high resolution, micro sized characters at high speeds 0.025” (0.6mm) - 0.4”(10mm)
32P	PIGMENT	Operate heavy pigment Inks for dark coloured substrates.
32UV	ULTRAVIOLET	Print invisible code, legible when exposed to ultra-violet light.

WHY CHOOSE AN N32?

No Contracts - A Fully Self-Serviceable Printer

£3,995 - Inclusive of Product Sensor and Printhead Bracket

Lowest Consumable Costs

Free No-Obligation Trial

60 Years of Heritage and Experience

Reliable and Robust Industrial CIJ Printers

Print Serial Numbers, Batch Codes, Bar Codes and other traceability information onto packaging and products

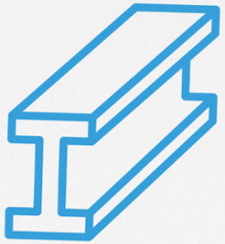
Our N32 CIJ coder prints fixed and variable text onto any material

Glass

Cartons

Foils

Plastics



Metals

Wire

Rubber

Paper

Ceramics

Wood

NEEDHAM INK TECH

THERMAL INKJET PRINTERS

SOJET ELFIN I

Designed as a stand-alone solution, the Elfin I is a high-resolution inkjet printer that can meet the demands of most coding and marking projects.

SOJET ELFIN I HANDHELD

The Elfin I Handheld is a handheld high-resolution inkjet printer that can meet the demands of most coding and marking projects.

SOJET ELFIN II

With an independent controller and printhead, the Elfin II is a compact high-res inkjet printer that takes production line marking to the next level. The Elfin II uses single or dual printheads to simultaneously mark products.

SOJET ELFIN VI

Control up to 6 printheads at once with the powerful Elfin VI high-res inkjet printer. You can position the printheads at any angle and either side of the conveyor belt to maximise the marking production time.

WHAT ARE THE BENEFITS OF CHOOSING A THERMAL INKJET PRINTER?

Prices start from £1,200. We are completely transparent with our prices, offering one of the lowest prices for our base model TIJ Printer.

Self-Installation. You don't need to wait for engineer availability to install you TIJ printer, once it arrives you can simply take it out the box and set it up yourself.

No Servicing Costs. TIJ printers don't need to be serviced annually, saving your business money on service contracts and increasing your production time. Should you ever need us though, we do have a team of engineers who are always on hand and ready to troubleshoot.

Easy to use. As TIJ printers are cartridge based systems, to refill the ink or change the colour of the ink, all you need to do is change the cartridge.

INK TECHNOLOGIES

Whether it's food manufacturing and packaging, beverage, cosmetics or pharmaceutical manufacturing, the ability to accurately and efficiently provide product identification is an essential aspect of the process - every manufacturing facility in the world will require some form of coding and marking technology for the products they sell.

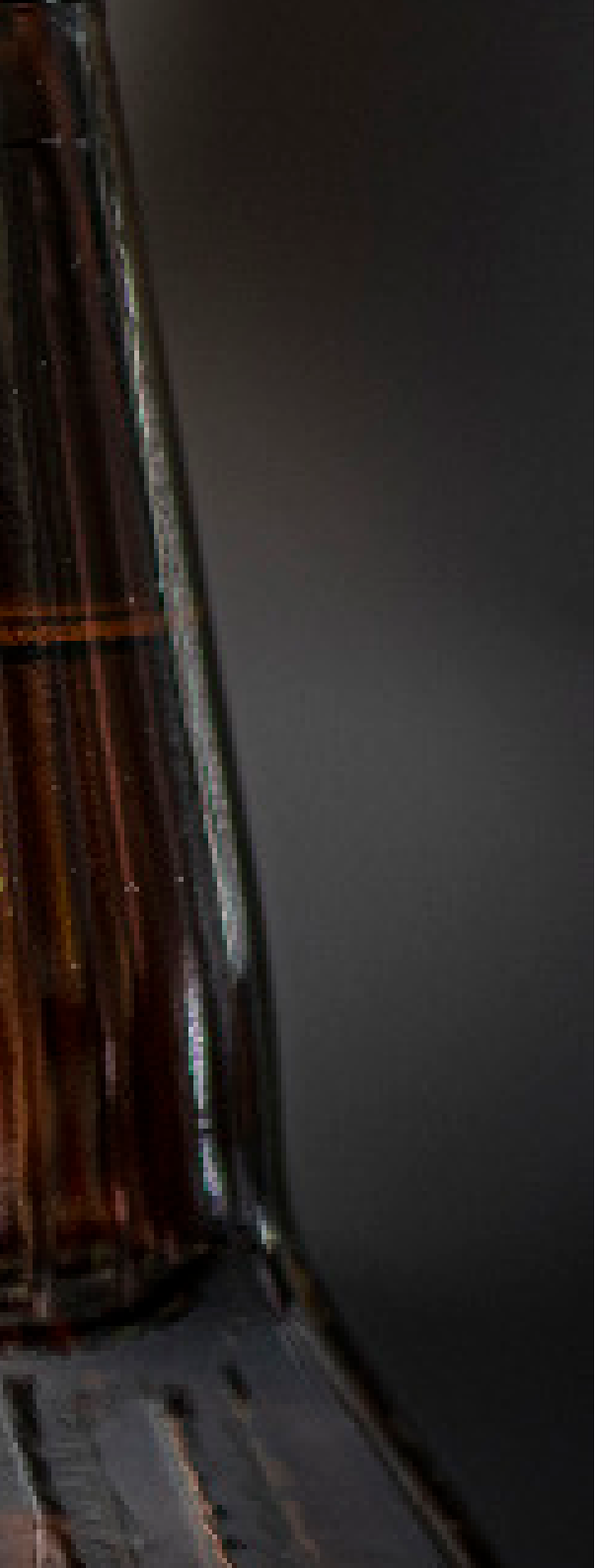
As mass manufacturing has grown, more traditional methods of identifying products, such as adhesive labels, became too cumbersome and were no longer cost-effective. As a result, the field of coding and marking has grown significantly over the past few decades. As manufacturing technology has advanced, there are now regulatory requirements for the application of real-time information, in high-speed environments. With this also comes a need for information to adhere quickly and to be printed to a high quality. As such, there is now a variety of technologies to choose from.

WHAT IS CODING AND MARKING?

In a broad sense, coding and marking are the same. The aim of coding or marking a product is to provide a legible piece of information that can be read by humans or machines.

Generally, marking involves applying a line, logo or graphical element to a surface. Coding specifically refers to a human readable string of alphanumeric characters that has meaning to the product manufacturer for tracking purposes. Another type of code used is a date code; a date code should clearly communicate to the consumer the freshness of a product or when it will expire.

Now, let's take a look at the different ink technologies available.



CONTINUOUS INKJET (CIJ)

As it's name implies, CIJ technology utilises a unique, innovative process to deliver a continuous stream of ink for printing on a medium. Where speed, reliability and versatility are priorities, companies turn to CIJ printing technology as a solution.

In a CIJ printer, ink is pumped from an ink reservoir and ejected through a nozzle that creates a jet of ink. The jet of ink is then broken up into a large number of ink droplets through high frequency vibration. Once the droplets are formed, selected droplets are charged by electrodes.

The use of a microscopic nozzle and an adjustable ultrasonic vibration mechanism makes the inkjet droplets in a CIJ system very small. This makes CIJ technology an excellent choice for printing high-resolution designs. CIJ printing also offers the benefit of speed; since the process is non-contact, there's no need to spend time mounting the product before the printing nozzle can start doing its work.

The printing nozzle of a CIJ printer is continuously engaged, so there is less chance of it getting clogged with ink particles. CIJ printers can run for many hours before they require maintenance. This can help keep production costs down and avoid tedious delays.

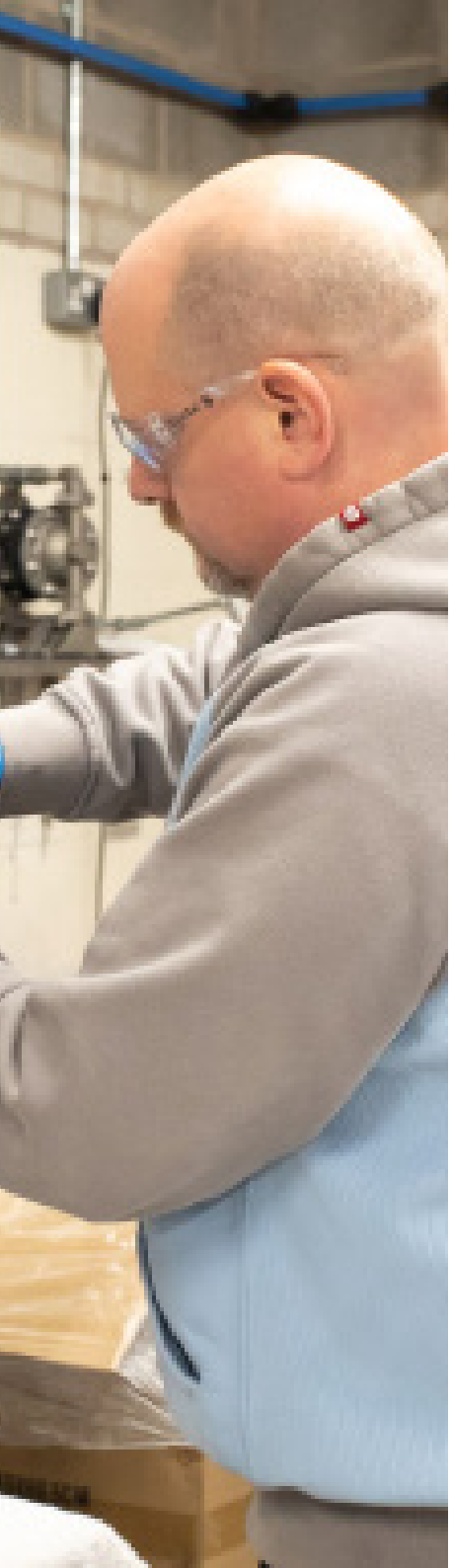
THERMAL INKJET (TIJ)

The Thermal Inkjet (TIJ) process utilises ink cartridges as opposed to the replenishable tanks used by CIJ printers. Through a process of drop ejection, TIJ printers propel ink droplets using heat. The ink is heated to a temperature of 340°C which generates a bubble. As this bubble expands, it propels the ink to the surface of the material being printed on. Once the ink droplet leaves the ink nozzle, the bubble collapses and creates a vacuum for the process to repeat.

TIJ is a low maintenance and cost-effective method for producing high-resolution codes on a variety of surfaces. TIJ technology is also highly dependable, being a newer and much simpler technology than other printing methods such as CIJ; the only ongoing cost of TIJ printers is replacement cartridges.

In addition to reduced upkeep costs, the simplicity of TIJ technology allows for the machines to be compact and easily mobile compared to other printer types. The portability of TIJ printers makes them a fantastic solution for applications where there is a requirement to fit into tighter spaces or production processes.

While TIJ offers many benefits, it may not be suitable for large-scale production outputs or intensive workflows; in these cases CIJ might be a more suitable technology.



DROP ON DEMAND (DOD)

Drop on demand (DOD) is a broad classification of inkjet printing technology where drops are ejected from the printhead only when required. In general, the drops are formed by the creation of a pressure pulse within the printhead. The particular method used to generate this pressure pulse creates the primary subcategories within DOD, namely **Thermal** and **Piezo**.

The ink in the tiny print cartridge chambers is first heated until it evaporates. This allows the formation of ink bubbles that later expand and inject small drops of ink on the printing surface through a nozzle. Each nozzle is individually controlled.

The main advantage of DOD inkjet printers is that they can directly print over the surface of an item, making labels unnecessary. Other advantages include:

- Low cost. Since DOD inkjet printers can directly print over an item, the costs that would otherwise be incurred in manufacturing labels is eliminated.
- Large character printing. Because of the relatively large diameter of the nozzles, DOD inkjet printers can print particularly large size fonts.
- High printing quality. With DOD inkjet printing, the resultant printed image or text is clean and readily legible.
- High quality printing on sensitive and uneven surfaces.
- Compatibility with special inks. DOD inkjet printers are compatible with special inks of different colors for use on porous surfaces (e.g. paper, cardboard, wood) and smooth, impermeable surfaces (e.g. plastic, metal, glass).

INDUSTRIES

HEALTH MARKING EGGS AND LIVESTOCK

If you own livestock, you will need to meet strict requirements regarding identification and traceability. The regulations are important for reasons of disease control and retaining public confidence in farm produce.

Our N-SERIES Food Grade industrial inkjet printers are compatible with FDA, EU and other compliant inks and are capable of printing directly onto food products, ideal for egg coding, fruit & vegetables or permeable food packaging. Our printers are complimented by our diverse range of food grade inks, including self disinfecting ink formulations to enable foodproducts to be printed directly with fast-drying, edible red or blue ink.

CODING IN THE PHARMACEUTICAL INDUSTRY

Inkjet printing solutions are particularly suitable for implementing requirements for the identification of medicines. Inkjet printing can be used to generate both characters or 2D barcodes at high print-speed and quality, applying them to a variety of surfaces and materials. Even multi-line prints and the combination of characters and graphics can be realised without any problems.

Our team of experts can help by selecting, not only the right printer but also, the right ink type for Thermal Inkjet or Continuous Inkjet printers. Whether it is for high-speed printing onto blister packs or more detailed graphics onto medication boxes, we are able to identify the right solution for you.

FOOD & BEVERAGE PACKAGING

CIJ and TIJ printers are designed for providing non-contact coding with different viscosities and properties to meet the task at hand, perfect for high volume manufacturing environments. Coding technology is utilised with a wide range of food packaging products such glass bottles, corrugated cartons, food and drinks cans, bags, cups, pouches trays, shrink wrap, PET and films designed to be fast-drying, abrasion-resistant and remain legible when flexed.

It is essential for manufacturers in the food and beverage industry that they are able to produce high quality, legible codes which stay in place throughout the product's lifetime to help meet the required food coding and marking standards.

CIJ printing provides a high-speed, non-contact method of applying these codes. Our N-Series N32HS prints fast, high-quality single and twin line codes, barcodes and graphics on the highest-speed bottling, canning and packaging production lines.

Here at Needham Ink Tech, we manufacture a complete range of specialised inks for glass bottles, returnable bottles, wet glass bottle coding, plastics, metal, thermochromic inks and more. Ink dries in a second and can be permanent or removable with caustic solutions or water as required.

INKS & CONSUMABLES

THE RIGHT SOLUTION.

We are here to not only provide the right solution for you and your business, but to keep you going for years to come. Needham Ink Technologies has decades of experience researching, developing and manufacturing inks & consumables for a wide range of printing technologies.

WHY WORK WITH NEEDHAM INK TECHNOLOGIES?

Alongside high quality CIJ inks that we manufacture for our N-Series range, we also manufacture a vast selection of inkjet consumables for a variety of printer makes and models. These fluids are designed and manufactured to the highest quality, that will meet or exceed the standards of the OEM fluids that they are designed to replace.

All of our inks are rigorously tested to ensure the highest quality product. Our team of chemists, based in our research labs in Newquay and Whitchurch (UK), ensure that each ink that comes out of our factory can deliver excellent colour accuracy and reliability.


Black Ink
NEEDHAM
Batch 197 2
flames and other ignition
Needham Inks Ltd.
Waymills Industrial Estate
Whitchurch, Shropshire
SY13 1TT, UK
Tel: 01948 662629
www.needham-ink.com

WOULD YOU LIKE TO LEARN MORE?

CONTACT OUR TEAM:

+44 (0)1948 662629

ENQUIRIES@NEEDHAM-INK.COM

WWW.NEEDHAM-INK.COM

NEEDHAM INK TECH
Unit 2a/2b, Waymills Industrial Estate
Whitchurch, Shropshire, SY13 1TT
+44 (0)1948 662629
info@needham-ink.com
www.needham-ink.com