



## Thermal Inkjet Guide

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# Thermalinkjet

## Cost-effective, maintenance free product coding

Clean, maintenance-free and incredibly easy-to-use, thermal inkjet technology(TIJ) is an ideal replacement for thermal transfer (TT) and continuous inkjet (CIJ) for printing variable information, such as date codes, batch numbers and barcodes on to a wide variety of porous and non-porous substrates.



## Other key benefits

- Compact design and easy to install
- Excellent print quality, (300dpi) allowing text down to 1.5mm –OCR camera friendly
- Wireless networking from standard software package
- Ability to print in different colours via a quick cartridge change
- No volatile ink/make up components
- No additional consumable costs
- Low waste (no ribbon cores/printheads/expended ribbon)
- Various interface options, including built in HMI, remote HMI, central control via PC/laptop, wireless or hard-wired networking

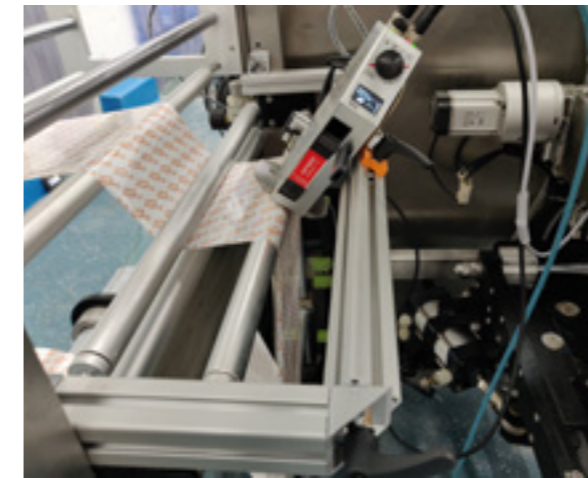
# Printerintegration

Installing a thermal inkjet system requires far less space than a conventional thermal transfer printer, hot foil coder or continuous inkjet printer.

Due to the compact size and lower weight of thermal inkjet units, frame assemblies are less complex, smaller and lighter in weight, helping to further simplify the installation.

Use of an encoder allows measurement of the speed of the substrate passing under the printer, which in turn is calculated by the printer to reflect the rate at which the ink is transferred onto the surface of the material.

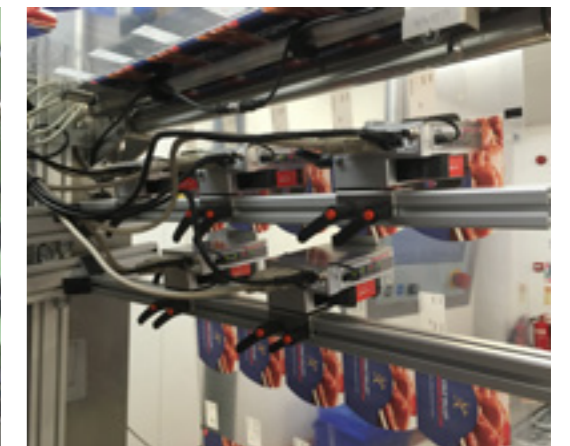
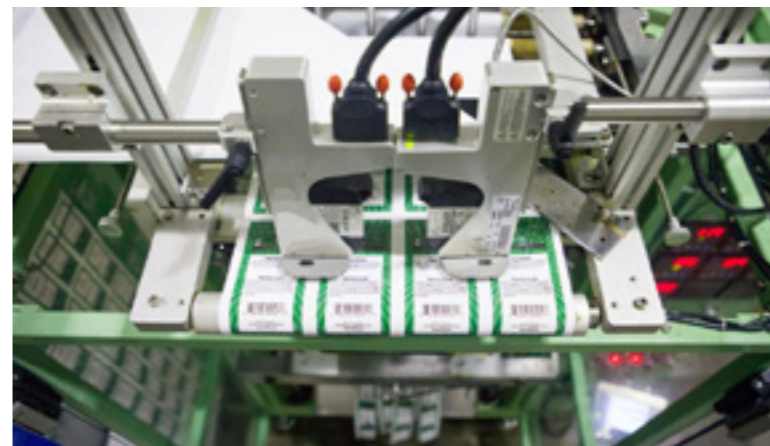
The print signal can be supplied direct from the parent machine or via an external photocell. Print position can be easily adjusted using the delay function built into the printer software.



Our printers can easily be integrated onto the following:

- Labellers
- Vertical form fill seal machines
- Thermoformers
- Horizontal form fill seal machines
- Flow-wrappers
- Cartoners
- Pouch sealing machines

*“It’s a simple, easy to use installation that requires no maintenance or servicing.”*



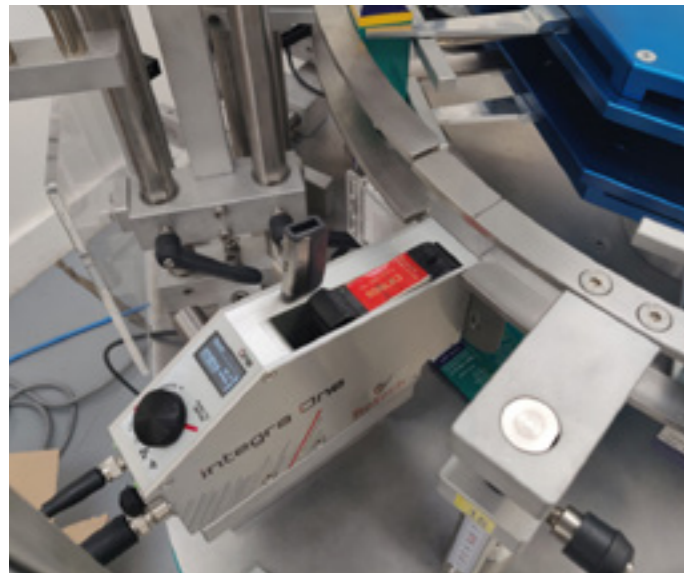
# Printerintegration



X1jet on conveyor



Integra on labelling line



Integra on rotary cartoner



X2jet single head conveyor line



Integra on MR applicator



X2jet bulk on sachet line

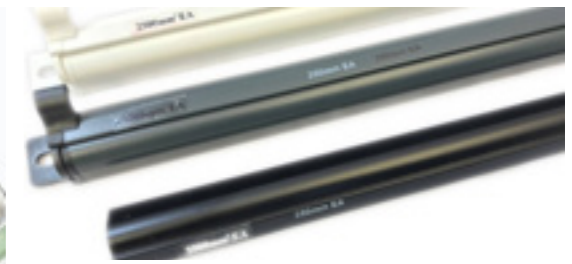


Integra with beacon on conveyor

# Printsamples

## Top performance on any surface

Below you can see a just a small selection of the products and packaging that you can successfully print on to, using thermal inkjet technology.



# Printsamples



## The Proof is in the Print

There's no one-size-fits-all approach when it comes to coding products or packaging. Each application is unique and comes with its own set of challenges and factors to put into consideration.

To ensure that we find the ideal solution, we offer a free print sample service. Simply send us some samples of product along with the coding requirements and we will run print tests here at our factory.

Alternatively, we can arrange for one of our sales engineers to visit and give you a free, on-site demonstration.



# Our services

## How we can assist you

Our support service makes it easy for you to respond to your customers demands, ensuring that their exact application needs are met and that they receive the best service possible.



Our friendly, professional engineers are available to support you by:

- Demonstrating equipment
- Assisting with on-site presentations
- Providing flexible frame designs (bespoke to application)
- Print testing samples
- Arranging scheduled service visits
- Additional training, where required

# The Rotech Range of Thermal Inkjet Printers

## DATA SHEET



### Rotech HP X1Jet

The entry level, super compact thermal inkjet printer

With the controller and printer combined in one powerful, single unit, the X1Jet is extremely compact and cost-effective. A WiFi version is also available.

Using tried and tested HP printing technology, the Rotech HP X1Jet offers excellent print quality and it's compatibility with both water and solvent based inks makes it suitable for printing variable data onto a wide variety of substrates.

#### IDEAL FOR

- ✓ Autocodes, or printing from a PC
- ✓ Printing variable data on porous and non-porous substrates

#### TECHNICAL SPECIFICATIONS

Maximum print height: 12.5mm  
 Maximum print speed at 300dpi: Up to 90m/min\*  
 DPI: up to 900  
 Weight: 650g  
 Dimensions (LxWxH): 188x80x98 mm  
 Ambient temperature: 5 to 40°C  
 Relative humidity (non-condensing): 10 to 90%



#### SOFTWARE VERSIONS:

	Print	Basic	Advanced	Pro/HiSpeed
Max print speed	30	30	60	90*
Max resolution vertical	300 dpi	300dpi	300/600 dpi	300/600 dpi
Max resolution horizontal	50-900 dpi	50-900 dpi	50-900 dpi	50-900 dpi
Max text length at 300dpi (m)	1	1	1	2
Text field	✓	✓	✓	✓
Counter	-	-	✓	✓
Time	✓	✓	✓	✓
Date	-	✓	✓	✓
Date Offset	-	-	✓	✓
Logo	✓	✓	✓	✓
Variables	-	-	✓	✓
Action fields	-	-	-	✓
Barcode	-	-	✓	✓
2D Code	-	-	-	✓
Data transfer via USB stick	✓	✓	✓	✓
Ethernet	✓	✓	✓	✓
WiFi	optional	optional	optional	optional



# Integra Vivid HMI Display

High-resolution touch screen display for Rotech inkjet printers

The Integra Vivid HMI display is an extremely useful addition to Rotech's range of inkjet printers. The 7" high-resolution, colour touch screen display makes changing print settings, editing print jobs and monitoring ink levels simpler than ever. The Integra Vivid is perfectly suited to Rotech's X1Jet, Integra PP108 and Integra PP Razz printers.

## BENEFITS

- ✓ Excellent quality 7" full colour touch screen display
- ✓ Ability to change settings, edit print jobs and change formats directly from the unit
- ✓ Full display of printer status, run-rate (PPM) and ink level
- ✓ Compact and easily integrated into production lines
- ✓ IP52 protection against dust particles and dripping water



## TECHNICAL SPECIFICATIONS

Supported print systems	X1Jet, PP108 & Integra RAZR
Supported print technologies	HP, LX, MX, XR, PP
Display size	7" (17.8cm)
Dimensions (H x W x D in mm)	132.2 x 200.6 x 27.3 (excl. bracket and connections)
Weight	1275g
Protection class	IP52
Environmental temperature	5 - 40 °C
Environmental conditions	10-90% relative humidity (non-condensing)
Maximum operating time	The system is designed for continuous operating



# Rotech HP Integra One

Compact thermal inkjet printer for system integration

Unique "all-in-one" design with data entry via OLED display and iWheel device. Extremely compact and very easy to install and integrate. True "plug and play" printing.

Using proven HP technology, the Integra One offers excellent print resolution and it's compatibility with both water and solvent based inks makes it suitable for printing variable data onto a wide variety of both porous and non-porous substrates.

## IDEAL FOR

- ✓ Printing on to labels, card, paper, flexible packaging and containers
- ✓ Mounting directly onto labelling systems and VFFS/HFFS packaging machines

## TECHNICAL SPECIFICATIONS

Maximum print height: 12.7mm  
 Maximum print speed at 300dpi: Up to 180m/min\*  
 DPI: up to 900  
 IP Rating: IP65 protection optional  
 Weight: 700g  
 Dimensions (LxWxD): 186x86x98 mm  
 Ambient temperature: 5 to 40°C  
 Relative humidity (non-condensing): 10 to 90%

## SOFTWARE VERSIONS:

	Print	Basic	Advanced	Pro/HISpeed
Max print speed	60	30	90/60*	90/180/60*
Max resolution vertical	300/600 dpi	300/600 dpi	300/600 dpi	300/600 dpi
Max resolution horizontal	50-900 dpi	50-900 dpi	50-900 dpi	50-900 dpi
Max text length at 300dpi (m)	2	2	2	6
Text field	✓	✓	✓	✓
Counter	✓	-	✓	✓
Time	✓	✓	✓	✓
Date	✓	✓	✓	✓
Date Offset	✓	-	✓	✓
Logo	✓	✓	✓	✓
Variables	✓	-	✓	✓
Action fields	-	-	✓	✓
Barcode	-	-	✓	✓
2D Code	-	-	✓	✓
Data transfer via USB stick	✓	✓	✓	✓
Ethernet	Option	✓	✓	✓
Password protection	Option	Option	Option	✓



# Rotech HP X2Jet/X4Jet plus touch

High speed, intelligent control system for challenging applications

Intuitive touchscreen controller for 2 or 4 heads. Parallel operation via touch-optimised full keypad and function keys. 2 channel version for marking packaging on two independent production lines with different print starts and speeds.

Using proven HP technology, the X2/4 series offers excellent print resolution and it's compatibility with both water and solvent based inks make it suitable for printing variable data onto a wide variety of both porous and non-porous substrates.

### IDEAL FOR

- ✓ Printing on to labels, card, paper, flexible packaging and containers
- ✓ Mounting directly onto labelling systems and VFFS/HFFS packaging machines

### TECHNICAL SPECIFICATIONS

Maximum print height: X2Jet - 25.4mm X4Jet - 50.8mm  
 Maximum print speed at 300dpi: up to 180m/min\*  
 DPI: up to 900  
 IP Rating: IP55  
 Weight: 3kg  
 Dimensions (LxWxH): 220x230x140 mm  
 Ambient temperature: 5 to 40°C  
 Relative humidity (non-condensing): 10 to 90%

### SOFTWARE VERSIONS:

	Advanced	Pro/HiSpeed
Max print speed	90/60*	90/180/60*
Max resolution vertical	300/600 dpi	300/600 dpi
Max resolution horizontal	50-900 dpi	50-900 dpi
Max text length at 300dpi (m)	1	3
Text field	✓	✓
Counter	✓	✓
Time	✓	✓
Date	✓	✓
Date Offset	✓	✓
Logo	✓	✓
Variables	✓	✓
Action fields	✓	✓
Barcode	✓	✓
2D Code	✓	✓
Data transfer via USB stick	✓	✓
Ethernet	✓	✓
Password protection	Option	✓



X2Jet plus touch



A wide range of inputs including USB, Ethernet, and more



X4Jet plus touch

# Integra Quadro/ Quadro<sup>2</sup>

Compact design for integration into control cabinets or machines

### Features & benefits

- Optimised for integration into the production line with up to 4/8 printheads
- Developed in cooperation with our machines and installation manufacturers
- Ideal for applications where printing on to both primary and secondary packaging on one or two independent production lines is needed



- iLogic controller and OLED display are available for the Quadro, the Quadro<sup>2</sup> is completely designed for integration
  - The printheads can be individually adjusted to the respective requirement
- 1 channel: up to 4/8 printheads of one print technology  
 2 channel: up to 4/8 printheads of different printing technology  
 4 channel: up to 8 printheads of different printing technologies

### Bulk ink system

Ideal for: applications with high ink use

Compatible with: Integra Quadro/Quadro<sup>2</sup>, Integra one, X2/X4Jet

### Features & benefits

- Capacity of 10 ink cartridges
- Cost savings of up to 75% can be achieved for large-scale consumers
- Easy mounting of ink system
- Ink level sensing
- Minimises operator interventions





# IP Models

Specially developed for harsh production environments

## Integra one IP

Ideal for: system integration in wet or dusty environments, typical in the food industry.

### Features & benefits

- IP65 protection class
- Intelligent, compact print systems
- Highly integrated, scalable HP printing system
- Operation via iLogik with OLED display



## IP Jet

Ideal for: use in the food, plastics, pharmaceutical and chemical industries - can be left in situ during washdown operations.

### Features & benefits

- IP65 protection class
- Compact, robust system for easy integration into production lines
- Optimised for vertical forming, filling and closing machines
- IP67 sealed plug-in connector



## Integra ultimate

Ideal for: applications where the printheads sit in hard to reach places and/or are only used sporadically - can be left in situ during washdown operations.

### Features & benefits

- IP65 protection class
- Print height of up to 25mm
- Patented nozzle shutter print head with integrated cleaning function



# Special Models

Other thermal inkjet printers in our range

## X1Jet Stitch

Ideal for : multi-lane or large area printing applications.

Exceptionally slim design. Up to 8 printheads can be cascaded to print a 100mm high print image.

### Features & benefits

- Electronics installed behind cartridge to save space
- Compact design allows fitment to most packaging machinery
- All printheads can be controlled via a single interface



## Shutter Printhead HP

Ideal for: aggressive/dusty environments

Designed to provide protection from dust and water ingression during a run by covering the nozzle plate

### Features & benefits

- When printing is interrupted, the cartridge will automatically retract into the printhead and lock after a defined time
- When production resumes, the shutter will open and the cartridge will return to print position
- Uniform printing quality and clean operation, even after several days of printer being in standby/stopped
- Pressurised case prevents the ingress of dust (external compressed air connection required)
- Cartridge can be left in situ



## Non-stop printhead

Ideal for: installation onto high-speed lines or lines where continuous production is a must

### Features & benefits

- Designed for HP and LX Printheads
- Prints with a ratio of 2:1 - when the first cartridge is empty, the second will still be half full
- Reduces material costs since both cartridges may be fully emptied, in sequence
- Changing of cartridges and cleaning is possible without having to stop the production line
- Unique, alternating print sequence ensures cartridges do not dry out
- Maximum print height of up to 25mm (depending on printhead)



# Rotech HP X1Jet Handheld

A battery operated, handheld thermal inkjet printer

Lightweight and compact, the Rotech X1Jet handheld is a powerful and versatile thermal inkjet printer.

The long-life battery enables high-quality printing over an extended period of time. Setting up the device and uploading the print images is a simple task via the use of a USB stick. A WiFi version is also available.

### IDEAL FOR

- ✓ Printing high resolution text and images in multiple locations
- ✓ Totally portable for cable-free printing

### TECHNICAL SPECIFICATIONS

- Power supply: Lithium ion battery
- Voltage: 12V
- Power consumption: 15 W max
- Weight: 1150g
- Dimensions (LxWxH): 285 x 145 x 100mm
- Ambient temperature: 5 to 40°C
- Relative humidity (non-condensing): 10 to 90%

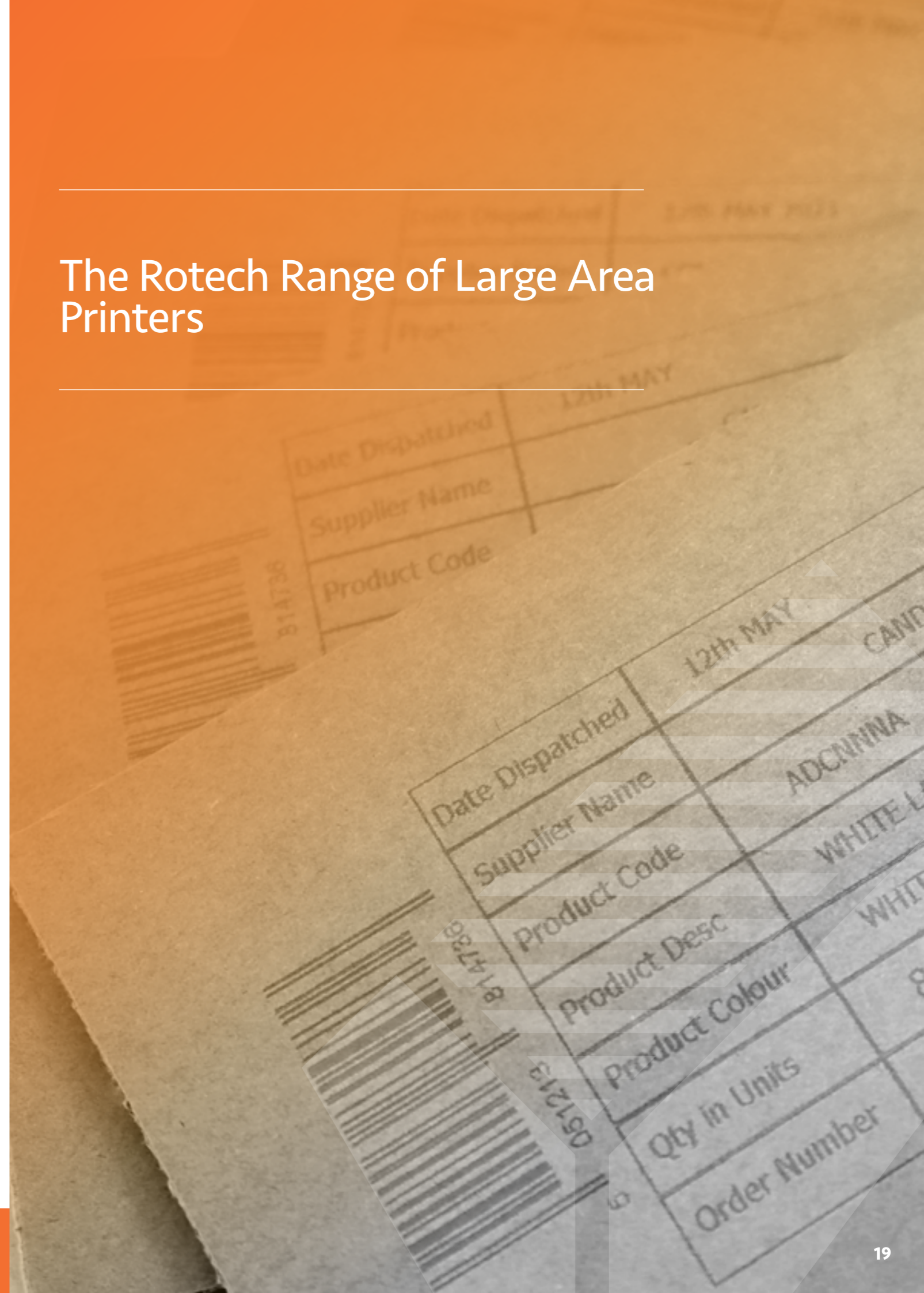
### PERFORMANCE DATA:

Pro version	
Max resolution vertical	300/600 dpi
Max resolution horizontal	50-900 dpi
Max print height	12.5mm
Max text length (m)	2
Text field	✓
Counter	✓
Time	✓
Date	✓
Date Offset	✓
Logo	✓
Variables	✓
Action fields	✓
Barcode	✓
2D Code	✓
Data transfer per USB stick	✓
Ethernet	✓
Password protection	-



The printer and its accessories such as the battery, charger, USB stick, instructions and the iDesign software are secured neatly in a durable case.

## The Rotech Range of Large Area Printers

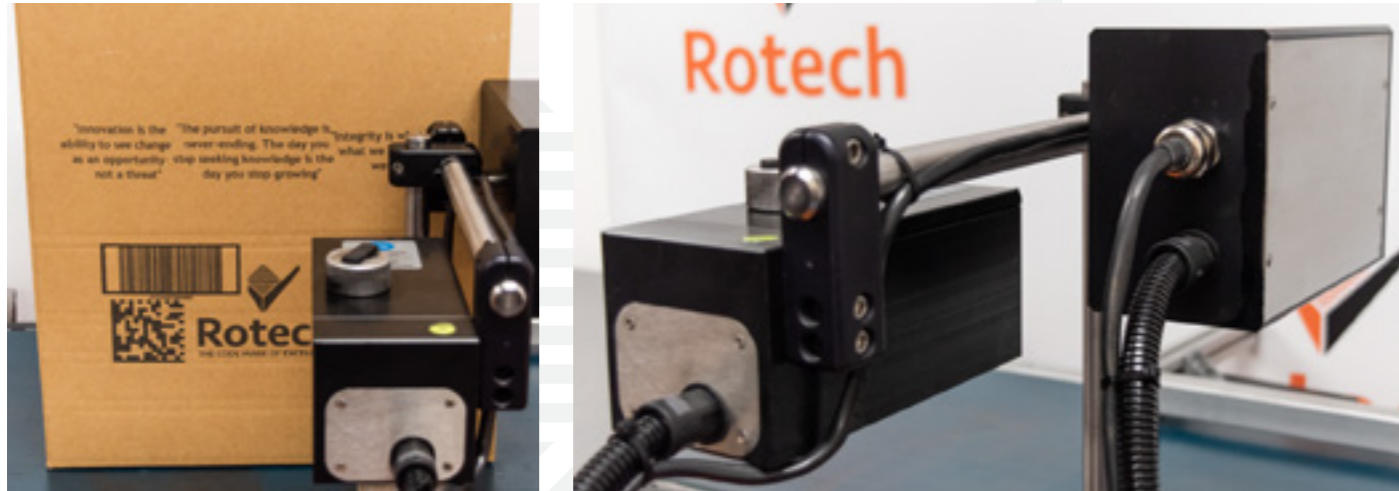


# Rotech Seiko X72

Large area inkjet printer, ideal for high-resolution printing up to 72mm on to primary and secondary packaging

The Rotech Seiko X72 uses unique FREEFLOW™ technology - an open and non-pressurised ink tank system. This completely removes the need for expensive, moving parts like pumps and valves, bringing the following benefits:

- ✓ Reliable, cost-effective and maintenance-free
- ✓ The printhead's lifespan is up to 6 times longer than systems that used a pressurised ink feed
- ✓ Completely unaffected by harsh or changing production environments



## COMPATIBLE WITH ALL SOFTWARE AND ERP SYSTEMS

Where other printers only work with their own brand of software, we leave the choice of software completely up to you.

In essence, the Rotech Seiko X72 is an industrial PC with a printhead. Because of this, any imaginable software, connector or communication protocol is compatible and 100% industry 4.0 ready.

The use of free label design and management software on the 20cm touchscreen controller is totally optional, allowing you to choose the software and machine control method that is best suited to your particular application.

## TECHNICAL SPECIFICATIONS

Printhead	Seiko 510BN
Print height	72mm
Print resolution	180 DPI
Drop size	50 Picolitre
Max. print speed	45m/min
Ink tank capacity	400ml
Omnidirectional print direction	180 degrees
Available inks	Oil-based (mineral-free) & solvent
Controller TsC20	20cm Touchscreen + Windows OS



# Rotech Seiko PP108

A revolutionary, standalone print system intended for large area printing on corrugate and other porous substrates.

Designed around the new Seiko printhead technology, the PP108 large area printer incorporates the newest advances in printing technology. This allows for high speeds, intricate detail, and a crystal clear line free print, thanks to the unique POZIFLOW ink circulation system.

Automatic pressurisation adjustment allows for varied placement of the printhead to meet unique applications, and for easy integration.



## BENEFITS

Relative to other piezo printers, the Seiko PP108 offers a number of benefits that set it apart from the competition, including:

- ✓ Lightning fast print speeds of up to 300m/m
- ✓ High quality printing from large logo to fine text at 360 dpi
- ✓ Easy start-up and shutdown
- ✓ Greyscale palette for quality logos
- ✓ Mineral Oil Free ink, preventing contamination of both the packaging and the environment

## TECHNICAL SPECIFICATIONS

Print height	4.25 in (108mm)
Min. font size	1mm
Print resolution	360 dpi vertical
Max. print speed	492 fpm (360 dpi) / 984 fpm (180 dpi)
Print direction	horizontally or vertically down



## PP108 BICOLOR

The PP108 is also available in a bicolor version. It is the first high-resolution, two-color inkjet coder in the market for porous surfaces. Including corrugate shipping cases, lumber, and paper bags.

On the bicolor unit, each of the two nozzle rows print a different color- black and red- with additional colors coming in the future.

# Rotech Integra PP Razr

Impressive speed in combination with sharp resolution on porous and non-porous substrates

Rotech's Integra PP Razr is a large area printer with a 34 mm print height. The performance and print quality is equivalent to that of a thermal inkjet system.

The permanent print head has two separate nozzle channels that can be controlled independently of each other. If one nozzle fails, the second channel ensures that the print image remains streak-free and of high quality.



Compact footprint (H x W x D)  
Printhead: 112 x 206 x 258 mm Control 95 x 117 x 158 mm

## BENEFITS

- ✓ Solvent ink for printing on porous and non-porous surfaces
- ✓ High capacity ink cartridge with an intermediate tank for uninterrupted printing during ink cartridge changes
- ✓ Ability to print clear and concise images and text down to 1.5mm
- ✓ High quality 600 dpi print resolution, with the ability to print greyscale
- ✓ Easy commissioning and venting of the external ink system
- ✓ Control interface direct via PC, Ethernet or Vivid touchscreen

## SOFTWARE VERSIONS

	Print	Basic	Advanced	Pro	Ultimate
Max. print speed (m/min)	30	30	60	90	150
Max. print resolution vertical	300/600 dpi	300/600 dpi	300/600 dpi	300/600 dpi	300/600 dpi
Max. print resolution horizontal	50-900 dpi	50-900 dpi	50-900 dpi	50-900 dpi	50-900 dpi
Max. text length	1 meter	1 meter	1 meter	2 meter	4 meter
Text field	✓	✓	✓	✓	✓
Counter	-	-	✓	✓	✓
Time	-	✓	✓	✓	✓
Date field	-	✓	✓	✓	✓
Date offset	-	-	✓	✓	✓
Logo	✓	✓	✓	✓	✓
Variable input	-	-	HMI/Vivid	HMI/Vivid	HMI/Vivid
Action field	-	-	✓	✓	✓
1D-Code	-	-	✓	✓	✓
2D-Code	-	-	-	✓	✓
Data transfer per USB stick	✓	✓	✓	✓	✓
Ethernet	✓	✓	✓	✓	✓
Password protection	-	-	-	-	✓
Configurable in-/outputs	✓	✓	✓	✓	✓
DBPrint	-	-	-	✓	✓

# iDesign

Printer management and print image design

Simple to use software for designing printer formats and managing all types of printer. Included in all applications, free of charge.

- For use as central hub to control multiple printers
- Unlocked - multiple users at no additional charge
- Format creation etc.



## iDesign 8 Basic

- Intuitive print image design - for creating and managing print images
- Presentation of all connected printing systems, for status monitoring
- Simple linking to database for direct downloading of production data
- User administration options enabling different levels of user access
- Diagnostic tool for signal transmission and interface connection

## iDesign 8 Pro

- Print image and system group definition
- Extended user administration (user groups, GAMP standard)
- Server client installation

## iDesign remote - universal data linking tool

- Printing starts with ERP system production data (e.g. SAP)
- Automatic update of internal print image memory
- Manual scanner and database connection option
- Creating status messages and protocol files
- Customised configuration - no programming required
- Interfaces: HTTP - Request, TCP-Client, TCP-Server, Filedrop

## DBPrint - serial printing of database tables

- Printing of datasets in a database table
- Printing systems with several print heads may be cascaded as required
- Print speeds up to 20 prints per head (display < 20)
- Printing lottery codes or address labels in lettershops

## ourstory

Founded in 1997, Rotech has grown to become one of the most respected coding and marking specialists in the UK. Our privately owned business has built a reputation of providing a valuable, end-to-end service - from consultancy and advice, through to product installation and ongoing support.

Our success is due to our expertise and our ability to listen and solve problems. No matter how small or how significant, we will always deliver the right solution in terms of efficiency, sustainability and quality engineering.

Our extensive knowledge of coding and marking technology, combined with our friendly, reliable, 'can-do' attitude, has led us to being trusted and respected by organisations right across the packaging industry, both in the UK and Internationally.



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