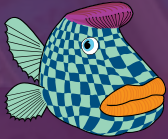




Ravenwood Packaging

Leaders in linerless labelling, label verification
and pack inspection systems



About Ravenwood

Ravenwood was founded in 2004

We are leaders in linerless label technology and experts in the field of pack inspection. We build, manufacture and supply Nobac linerless applicators, linerless converting equipment and the VXR vision pack inspection system. We also supply conventional self-adhesive labelling products and coding equipment. Our HQ is based in Bury St Edmunds, Suffolk with satellite offices located in the USA and Australia, supporting our dedicated global network of machinery distributors and printer partners.

Our Commitment to Sustainability

Let Ravenwood help you on your zero waste journey

Ravenwood is actively helping to reduce the packaging and labelling industry's carbon footprint. Our technologies are good for the environment and combat waste. Linerless labels boast zero waste liner to landfill and our x-ray inspection systems, greatly reduce food waste and product recalls.





Uses single phase power and air supply of 5bar 70dsi and 4cfm.
 *General range for system. Specific label sizes and speeds agreed at time of build.

Top Label



Top & Side



Top & 2 Sides



Slideable Full Wrap



D Wrap



Full Wrap Shaped



Full Wrap



Landscape C Wrap



Skin Pack Full Wrap



Skin Pack Full Wrap



Protruding up to 25mm above height of tray

NOBAC 5000

Our flagship linerless applicator

The new Nobac 5000 is Ravenwood's flagship applicator and our very latest innovation, building on the core functionality of our Nobac 500 range of machinery.

- Redesigned guarding for better security and access to the machine
- Guarding now allows for label application on protruding products
- Relocated electrical cabinet
- More space inside from moving the jacking towers
- Relocation of the jacking towers provides more options for multiple coding systems on thermal transfer and thermal inkjet, or a combination of both
- Optional thermal inkjet coding for the edge of cardboard trays
- Modular construction allows bolt-on or off, twin-head option for non-stop operation
- Independent driven belt transfer system (proven from the PP machine) for easier set up and different glue line positions
- New label reel braking system provides better reel control especially on different substrates, such as PP or thicker boards
- Optional motor adjustment
- Capable of labelling fixed weight products or linking to weigh-scales for variable-weight or check-weight products
- Utilises thin board sleeves with adhesive optimised for specific products
- Speeds achieved up to 150ppm
- Labels can be supplied in a range of weights and materials
- Many label formats including top labelling, die cut and shaped

Key Features

Label length mm **500*** Label/Sleeve width mm **55-125*** Pack height mm **120***

Speed ppm **150*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Top Label



Top & Side



Top & 2 Sides



Slideable Full Wrap



D Wrap



Full Wrap Shaped



Full Wrap



Landscape C Wrap



Skin Pack Full Wrap



Skin Pack Full Wrap



Protruding up to 25mm above height of tray

Uses single phase power and air supply of 5bar and 4cfm.

*General range for system. Specific label sizes and speeds agreed at time of build.

NOBAC 5000A

The Nobac 5000A has now joined the diverse and world-leading range of Ravenwood linerless applicators. Building its core foundation on the standard Nobac 5000.

- Customer optional addition
- Automates switching between products, pack sizes and label size
- Motorised adjustment of top lay belts, infeed guides and height adjustment
- Pre-select programmed tray sizes via operators, factory management software and weigh-price labellers
- Automatically moves to new positions
- Reduces downtime for operator to load labels
- Optional motor adjustment
- Capable of labelling fixed weight products or linking to weigh-scales for variable-weight or check-weight products
- Utilises thin board sleeves with adhesive optimised for specific products
- Speeds achieved up to 150ppm
- Labels can be supplied in a range of weights and materials
- Many label formats including top labelling, die cut and shaped

Key Features

Label length mm **500*** Label/Sleeve width mm **55–125*** Pack height mm **120***

Speed ppm **150*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Top Label



Top & Side



Top & 2 Sides



Slideable Full Wrap



D Wrap



Full Wrap Shaped



Full Wrap



Landscape C Wrap



Skin Pack Full Wrap



Skin Pack Full Wrap



Protruding up to 25mm above height of tray

NOBAC 5000T

Twin Head Linerless Applicator

The Nobac 5000T twin sleever is a modular system, building on the functionality of the Nobac 500T machine. The machine meets the requirements of today's retailers and packers needs for higher speeds, less downtime and quicker product changes

- Enables continuous operation with two labelling heads in line
- Ability to swap between heads to allow label reels or thermal printer ribbon to be changed on the unused head
- Allows preparation in readiness for labelling the next product
- Features two independent covers for label cutting and feeding mechanisms to enable packs to pass on either of the heads
- Continuous application of promotional labels achieved using a Trojan Flash labeller
- Many label formats including top labelling, die cut and shaped

Uses single phase power and air supply of 5bar 70dsi and 4cfm.

*General range for system. Specific label sizes and speeds agreed at time of build.

Key Features

Label length mm **500*** Label/Sleeve width mm **55-125*** Pack height mm **120***

Speed ppm **150*** Power Supply v/Hz **230/50** Consumption kW **0.6** Air Consumption cfm **4**



Uses single phase power and air supply of 5bar 70dsi and 4cfm.
*General range for system. Specific label sizes and speeds agreed at time of build.

D Wrap



Skin Pack Full Wrap



Skin Pack Full Wrap



Protruding up to 25mm
above height of tray

Skin Pack Full Wrap



Protruding up to 70mm
above height of tray

NOBAC 5000PP

Pro Plus Linerless Applicator

The Nobac 5000PP 'pro plus' is capable of labelling protruding skin packs up to 70mm above the height of the tray.

- Brings all the environmental benefits of the Nobac system to protruding products
- Configurable to suit needs of application
- Machines are built to order and tailored to meet exact requirements
- Many label formats including top labelling, die cut and shaped

Key Features

Label length mm **500*** Label/Sleeve width mm **55 – 80*** Pack height mm **70***

Speed ppm **60-70*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**

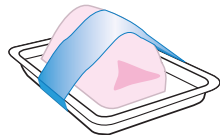


Skin Pack Full Wrap



Protruding up to 25mm above height of tray

Skin Pack Full Wrap



Super protruding from 50mm up to 100mm above height of tray

Uses single phase power and air supply of 5bar 70dsi and 4cfm.
*General range for system. Specific label sizes and speeds agreed at time of build.

NOBAC 5000SP

Super Protruding Linerless Applicator

The Nobac 5000SP 'super protruding', can label packs with products that protrude up to 100mm above the height of the tray. This enables the labelling of bulky items such as roasting joints.

- Brings all the environmental benefits of the Nobac system to super protruding products
- Configurable to suit needs of application
- Machines are built to order and tailored to meet exact requirements
- Many label formats including top labelling, die cut and shaped

Key Features

Label length mm **500*** Label/Sleeve width mm **55 – 80*** Pack height mm **120***

Speed ppm **60-70*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Uses single phase power and air supply of 5bar 70dsi and 4cfm.
*General range for system. Specific label sizes and speeds agreed at time of build.

Landscape Ready Meal



Landscape Punched Ready Meal



Full Wrap Shaped



NOBAC 5000R

Ready Meal Linerless Applicator

The Nobac 5000R machine has been developed and tailored in line with applying ready meal packs and slideable sleeves. The applicator features all of the benefits of the Nobac 500R model with increased capabilities.

- Slightly longer than other machines in the Nobac range but still compact
- Applies ready meal sleeves including 'punched' formats
- Many label formats including top labelling, die cut and shaped

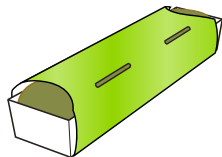
Key Features Label length mm **500*** Label/Sleeve width mm **100-225*** Pack height mm **120***

Speed ppm **65*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Uses single phase power and air supply of 5bar 70dsi and 4cfm.
*General range for system. Specific label sizes and speeds agreed at time of build.

Landscape Narrow Fruit Pack



Landscape Fruit Pack



NOBAC 5000L

Linerless Fruit Lid Applicator

- Alternative packaging concept for fruit and vegetables sold in single use plastic bags
- Suitable for top fruit, avocados, tomatoes, kiwis, onions and salad potatoes
- Can be used as a standalone labeller for fixed weight applications or connected to a weigh price labeller for catch weight and average weight applications
- Speeds achieved up to 60 – 70ppm
- Coding via a Viper TIJ system
- Lids supplied in a range of weights to suit trays and applications

Key Features Label length mm **500*** Label/Sleeve width mm **100-225*** Pack height mm **120***

Speed ppm **70*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Salami Full Wrap Label



NOBAC 5000S

Salami Linerless Applicator

The Nobac 5000S can apply linerless labels to circular products such as salami, haggis and chubs with diameters ranging from 40mm – 80mm, with change part tooling.

- Change parts are specific to each diameter of product but are mounted on a quick change system
- Change parts are supplied in four sizes as specified by the customer with additional parts available upon request
- Machine can be fitted with a thermal transfer code and connected to a weigh-price labeller for printing variable weight information and other thermal print
- Many label formats including top labelling, die cut and shaped

Uses single phase power and air supply of 5bar 70dsi and 4cfm.

**General range for system. Specific label sizes and speeds agreed at time of build.*

Key Features

Label length mm **500*** Label/Sleeve width mm **55-80*** Cylinder length mm **150-300***

Speed ppm **100*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Envelope Tray



NOBAC 5000E

Envelope Linerless Applicator

The Nobac 5000E machine has been developed and tailored in line with applying envelope styled sleeves. The applicator features all of the benefits of the Nobac 500E model with increased capabilities.

- Slightly longer than other machines in the Nobac range but still compact
- Applies envelope sleeves including 'punched' formats
- Many label formats including top labelling, die cut and shaped

Uses single phase power and air supply of 5bar 70dsi and 4cfm.

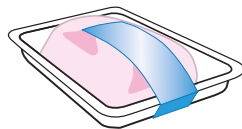
**General range for system. Specific label sizes and speeds agreed at time of build.*

Key Features Label length mm **500*** Label/Sleeve width mm **100-225*** Pack height mm **120***

Speed ppm **65*** Power Supply v/Hz **230/50** Consumption kW **0.5** Air Consumption cfm **4**



Skin Pack C-Wrap



NOBAC 5000V

The Nobac 5000V has been developed to run c-wrap linerless labels only. It is user friendly and compact in size with a footprint at just over one metre square.

- Applies c wrap linerless labels to shrink wrap and trayed whole birds
- Also applies c wrap linerless labels to a variety of MAP and VSP trays
- Due to the application method, the 5000V can apply labels with a large back panel
- Application speeds up to 80ppm
- Can be linked to weigh scales
- Able to print catch weight and fixed weight information when a coder is fitted

Uses single phase power and air supply of 5bar 70dsi and 4cfm.

**General range for system. Specific label sizes and speeds agreed at time of build.*

Key Features

Label length mm **300*** Label/Sleeve width mm **55*** Pack height mm **125***

Speed ppm **80*** Power Supply v/Hz **110/240V** Consumption kW **0.5** Air Consumption cfm **4**

LINERLESS LABEL FORMATS



SKIN PACK LINERLESS LABELS

Ravenwood's Skin Pack linerless labelling system can be applied to all types of skin pack trays, even the most super-protruding of food packaging. Items such as roasting joints are particularly bulky so this type of label will make for improved application and adhesion.

- Attractive and clean presentation on shelf – even after transportation and handling
- Secures food products in place – even 'super-protruding'
- Products can be displayed vertically
- Minimises leaking of fluids
- Easy opening options
- Food punnets (used in MAP) are replaced with shallow trays
- Fewer tray styles are required and they can be smaller, which means less packaging
- Applications include landscape full wrap, landscape full wrap protruding and landscape full wrap super protruding – up to 100mm above the height of the tray

LINERLESS LABEL FORMATS



SLIDEABLE & READY MEAL LINERLESS LABELS

The slideable linerless label is a reinvention of the traditional, hand applied cardboard sleeve, yet comes supplied on a roll. This type of label not only far outweighs traditional sleeves but has all the benefits of a standard linerless label. This label technology has been developed further for ready meal applications, suiting straight-to-oven food products.

- Sustainable alternative compared to hand applied sleeves
- Traditional sleeves are both costly and labour intensive due to the need for manual application
- Streamline production - multiple people, depending on line speed, can be involved in the labelling of one product
- With Ravenwood sleeves, only one reel of sleeves and one machine, operated by one person is required
- Sell-by dates can also be applied at the point of application whereas with manual application, these would need adding separately
- Save on space - with our ready meal sleeves, you can get up to 2000 labels on a roll (depending on width of sleeve) compared to 500 hand sleeves flat packed in a box



DIE CUT AND SHAPED LINERLESS LABELS

Ravenwood and its printer partners have produced shaped and die cut linerless labels for many years. This concept has been developed further and we can now shape the leading edge of the label for a totally bespoke and creative look across all linerless label formats.

- Aesthetically pleasing
- Attractive presentation at point of sale – stand out on shelf
- Ingredients and food produce is presented in a creative way
- The freshness of the food is visible through windows and the shaped leading edge
- One of a kind design





FRUIT LID AND CARTONBOARD TRAY

The Fruit Lid when applied to a carton board tray, forms a complete pack for the supply of fresh fruit and vegetable products. The food grade packaging concept replaces the need for plastic flow wrap and single use plastic bags.

- Highly sustainable and 100% kerbside recyclable
- Food grade material available 170gsm to 300 gsm thickness
- Food grade adhesive designed for direct contact with food
- Application speeds up to 70 ppm
- Suitable for a wide range of fruits and vegetables



CUSTOM LINERLESS LABELS

We like to think that we can rise to almost any packaging challenge.

Our team of technologists and label developers will work closely with you in creating a bespoke solution, no matter the pack shape or design.



CONVENTIONAL SELF-ADHESIVE APPLICATORS

These self-adhesive applicators complement our Nobac 5000 Linerless Label applicators. Also retrofittable to the Nobac 500 machine range.

TROJAN FLASH LABELLER

The Trojan label applicator has set new standards in self-adhesive label applications.

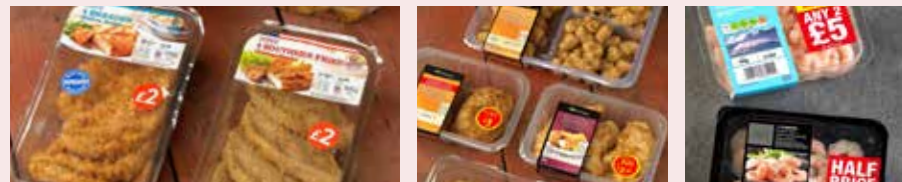
The Trojan is an extremely small and cost effective promotional label applicator utilising a state-of-the-art servo drive unit.



TROJAN SECURITY BASE LABELLER

The Trojan label applicator has set new standards in self-adhesive label applications. The Trojan is an extremely small and cost effective promotional label applicator utilising a state-of-the-art servo drive unit.

Please note: Due to the size and design, this label applicator cannot be fitted with a coder/printer.



CODING EQUIPMENT



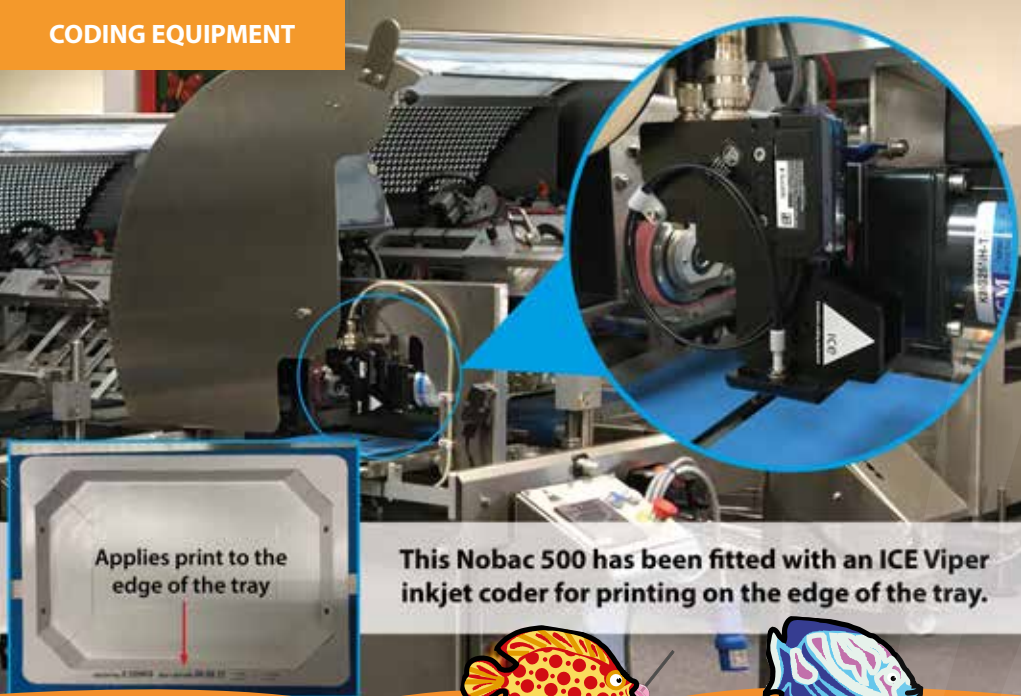
CODING EQUIPMENT

Ravenwood works with manufacturers for the supply of thermal transfer, thermal inkjet and laser coding equipment. We supply a range of products for adding best-before or use-by dates, including batch numbers, product weights and barcodes.

Coders can be added to our Nobac 5000 range for all fixed and catchweight products.

- Twin coder systems, including top and bottom print area on one label – 53mm and/or 107mm
- Single thermal coder with thermal inkjet or multiple heads
- Continuous print widths for all ready meal sleeves printing at 12.77mm height
- Data embedded barcode solutions with twin coder locations on to one sleeve
- Cardboard skin pack tray edge printing retrofitted or installed at build on to certain Ravenwood machines, enabling customers more flexibility to both label products with linerless labels or utilise the cardboard tray edge via thermal inkjet printing





This Nobac 500 has been fitted with an ICE Viper inkjet coder for printing on the edge of the tray.

Applies print to the edge of the tray



PRODUCT FOCUS: ICE Viper Plus Coder

The ICE Viper Plus Coder can add additional information to our linerless labels, including printing vital information to the edge of cardboard trays.

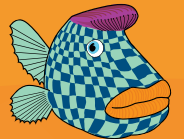
- Retrofittable to our Nobac range of machinery
- Ability to print 'best before' dates, product weight, cost and marketing mechanics
- Speeds up to 150 ppm are achievable
- Applies print to all linerless labels, as well as edge of trays
- Economical, as the Viper uses ink cartridges instead of ribbon, so avoiding downtime and cost for ribbon breaks
- Printing strips of 25mm is easily achieved due to double stacked cartridges
- Increased label print area due to Viper units being smaller with the ability to be moved to any position of the label
- Fast, consistent trouble free printing with excellent code clarity



RAVENWOOD RIBBON – RW 51/71

The development of the RW 51/71 thermal ribbon, has spanned two years and features the best combination of wax and resin elements. Extensive testing has been carried out on all known and development substrates for excellent speed capabilities and accuracy.

- Excellent speeds, proven to reach 150ppm on all systems
- Application on a wide range of packaging
- Best properties for sharpness and darkness of print





COM500 COATER

The Com500 coating machine is the only coating system dedicated to running and delivering high quality Ravenwood linerless labels. Designed to work to the correct specification required for applying labels to food stuffs with applicators that fall under the Ravenwood Nobac 5000 machine range.

- Simultaneous application of pressure sensitive adhesive and UV curable silicone lacquer
- NDC automatic glue weight measurement and reporting system
- Variable line widths from 3mm to 45mm achieved
- Slits and rewinds multiple lanes into finished reels, achieved in one pass
- Coating speeds up to 130 metres per minute
- Silicone is cured instantly using a GEW Reino UV curing system analysis and reporting
- Finished reels are wound on the 'three shaft turreting system' to required configuration
- Nordson adhesive pre-melting and delivery system allows for to up to 12 slot heads with screw adjustments for glue stripe widths



VR – VISION SYSTEM

Our Vision Inspection software will identify and check all information displayed on labelled packs including our linerless labels. The ultimate solution for brand and consumer protection.

- Identifies and rejects errors enabling operator-free end-of-line automation
- Automatically detects faulty labels, printing errors and poor quality print
- Analyses label position, quantity and orientation
- Checks for barcodes, use-by dates and traceability codes
- All VR options available in top and/or base



VXR + Nobac 5000

VXR X-RAY INSPECTION SYSTEM

Vision, X-ray and seal detection with 'Sapphire' Technology

When combining its three technologies, the key functionality of the VXR system, is to identify and reject food trays that are seen to contain errors. Machines are built bespoke to feature just one of these technologies or all three for total control.

VXR Option for total inspection

- Total inspection incorporated into just 1.9 m
- Vision label inspection
- X-ray contamination
- X-ray seal inspection

XR Option

- X-ray contamination
- X-ray seal inspection
- Vision upgradable

VR Option

- Vision label
- Inspection X-ray
- Upgradeable

VXR + Nobac 5000 Option

- Vision label inspection
- X-ray contamination
- X-ray seal inspection
- Nobac 5000 – for applying faultless linerless labels to food trays



VISION, X-RAY AND SEAL DETECTION
WITH 'SAPPHIRE' TECHNOLOGY



NOBAC STACKER

The Stacker suits many sectors and product applications, and offers the perfect solution for hand applying low volume linerless labels. Ideal for labelling a diverse range of foods for general application, and for adding promotional labels at key stages of the product's life cycle.

New and improved for 2022, the Stacker now features:

- Improved cabinet design with the addition of Nobac 5000 style 'barn' doors
- The new doors allow for more space to access the machine internals:
 - Loading labels and extra space for printer options
 - Printer options include thermal ribbon or Viper Inkjet coding capabilities

General operation:

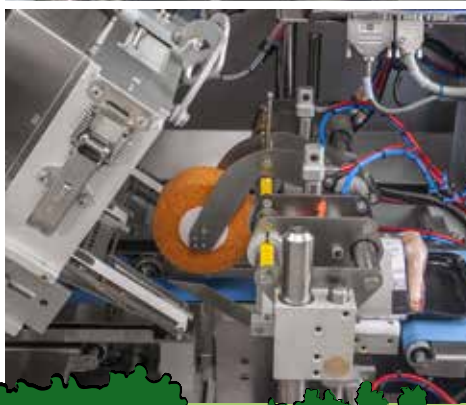
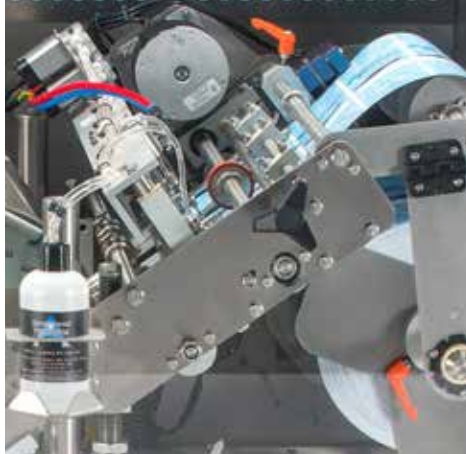
- Cuts and stacks Ravenwood linerless labels
- Cutting speeds of 100 labels per minute to a stacked height of 140mm
- Great for promotional mechanics during a product's lifecycle
- Useful for label converters for showcasing linerless labels at design stage
- Compact at just under one metre in width
- User-friendly with little training required for safe operation

BESPOKE SYSTEMS

Ravenwood can build all of the Nobac 5000 models featured in this booklet.

Outside of these variations, the machine specification would be considered as bespoke.

Please contact Jan Rees (UK Sales) or Dave Gooding (Rest of the World) by referring to the inside back cover of this brochure.



PRELOVED PROGRAMME

Our 'Preloved' programme is lovingly tended to by Morph, our Master Engineer.

Morph undertakes machinery work from complete set up to full rebuild, as well as refurbishments and conversions on all Ravenwood linerless labelling machinery that fall under the Nobac 500 machine range.

To discuss your requirements further, contact Morph by referring to the inside back cover of this brochure.

WHY LINERLESS?

A linerless label is a pre-printed pressure sensitive label that has no need for liner or backing paper.

The labels are wound on a roll or reel and feature a silicone strip applied to the top of the label that prevents the adhesive from the underside sticking to the label below.

These simple adhesive strips applied to the underside, means that there is an increased surface print area for featuring additional information and marketing mechanics to the back of the label.



Zero Waste Liner to Landfill
Even waste edge trimmings are recyclable



Slash Carbon Emissions
Reduced transportation, labour and storage costs

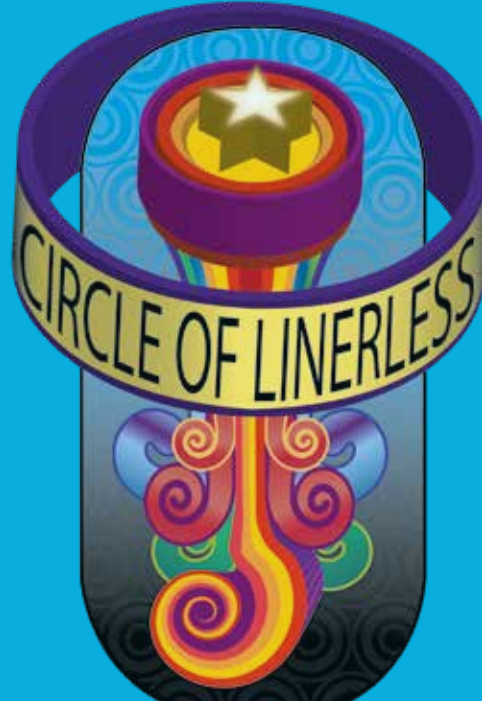


Increased Surface Print Area
Feature additional information to the back of the label

At Ravenwood, we don't just sell machines, we provide the complete linerless solution. The 'Circle of Linerless' is a term coined by Ravenwood to encapsulate our joined-up approach to the whole process.

We build the Com500 coater to make the labels, the Nobac 5000 applicators to apply them and we work with the raw material suppliers to develop the best substrates, adhesives and silicones to work in a consistent and quality driven manner.

Our latest game changing innovation, the VXR[®], is the final stage of the process offering end of line quality control. With vision, x-ray and seal detection, means that packs not only feature faultless linerless labels but also food products that are free from contaminants. And our global printer and machine distributors are also experts in their respective fields so you have peace of mind throughout the entire labelling process.



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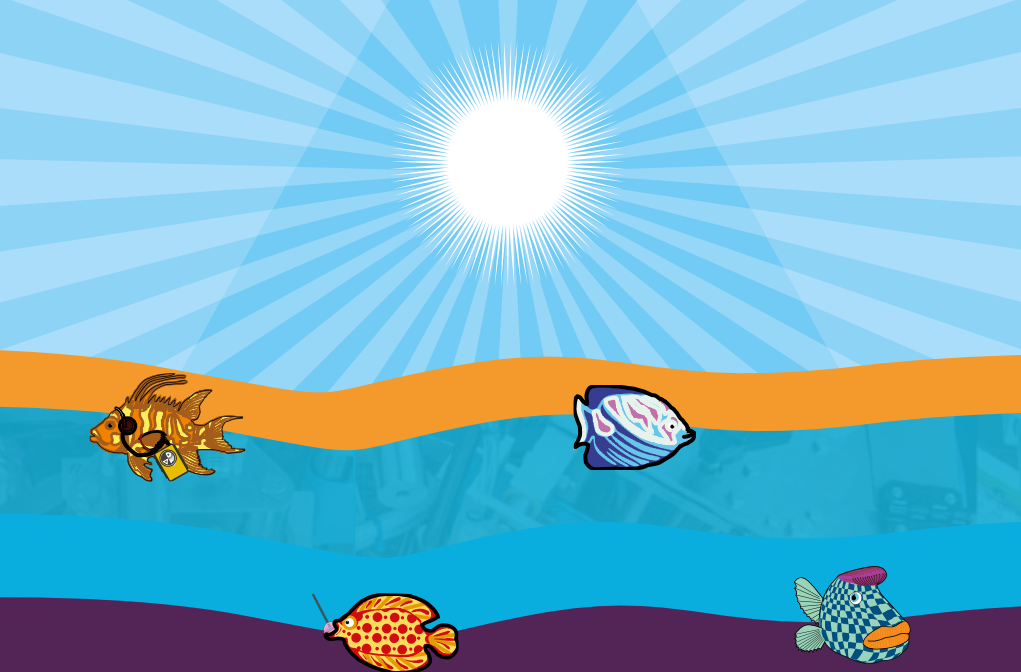
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