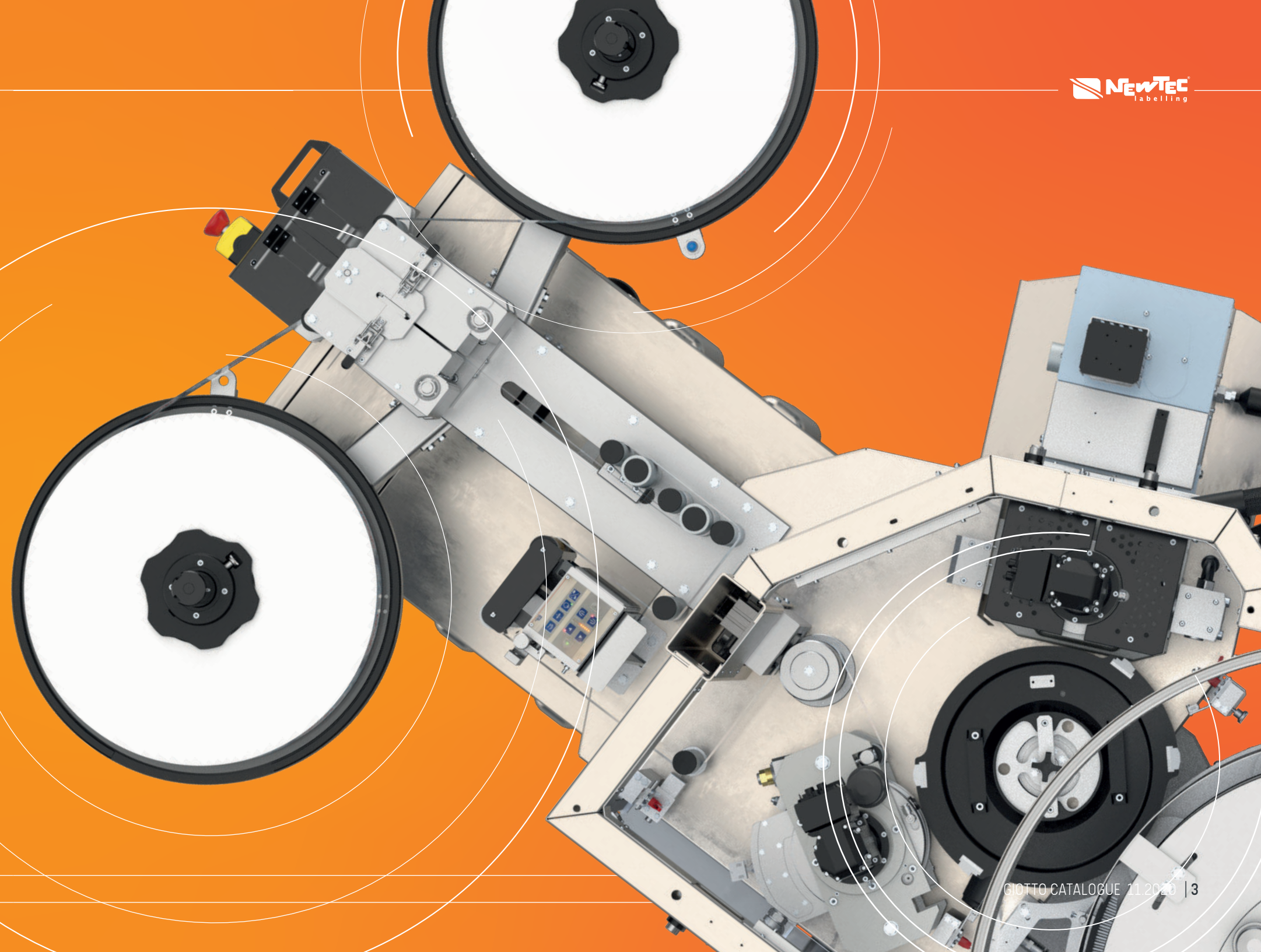


giotto[®]
ready to roll

The logo features the word "giotto" in a bold, lowercase, sans-serif font. Below it, the phrase "ready to roll" is written in a smaller, lowercase, sans-serif font. The text is centered between two large, thin, white circular arcs that are open on the right side. A small registered trademark symbol (®) is located to the upper right of the word "giotto".

giotto®
ready to roll



UNBEATABLE PERFORMANCE



Designed and tested
for **high production loadings**
up to 8700 hours per annum,
to grant you exceptional Total
Equipment Economic
Performance values

up to

> 98⁰%

> OVERALL EQUIPMENT EFFECTIVENESS

SPEED

Production speeds up to
60,000bph with fast ramp
rates and reliable
auto-splicing

> 99%

AVAILABILITY

Achieved through stable label
processing and precision
container handling

QUALITY

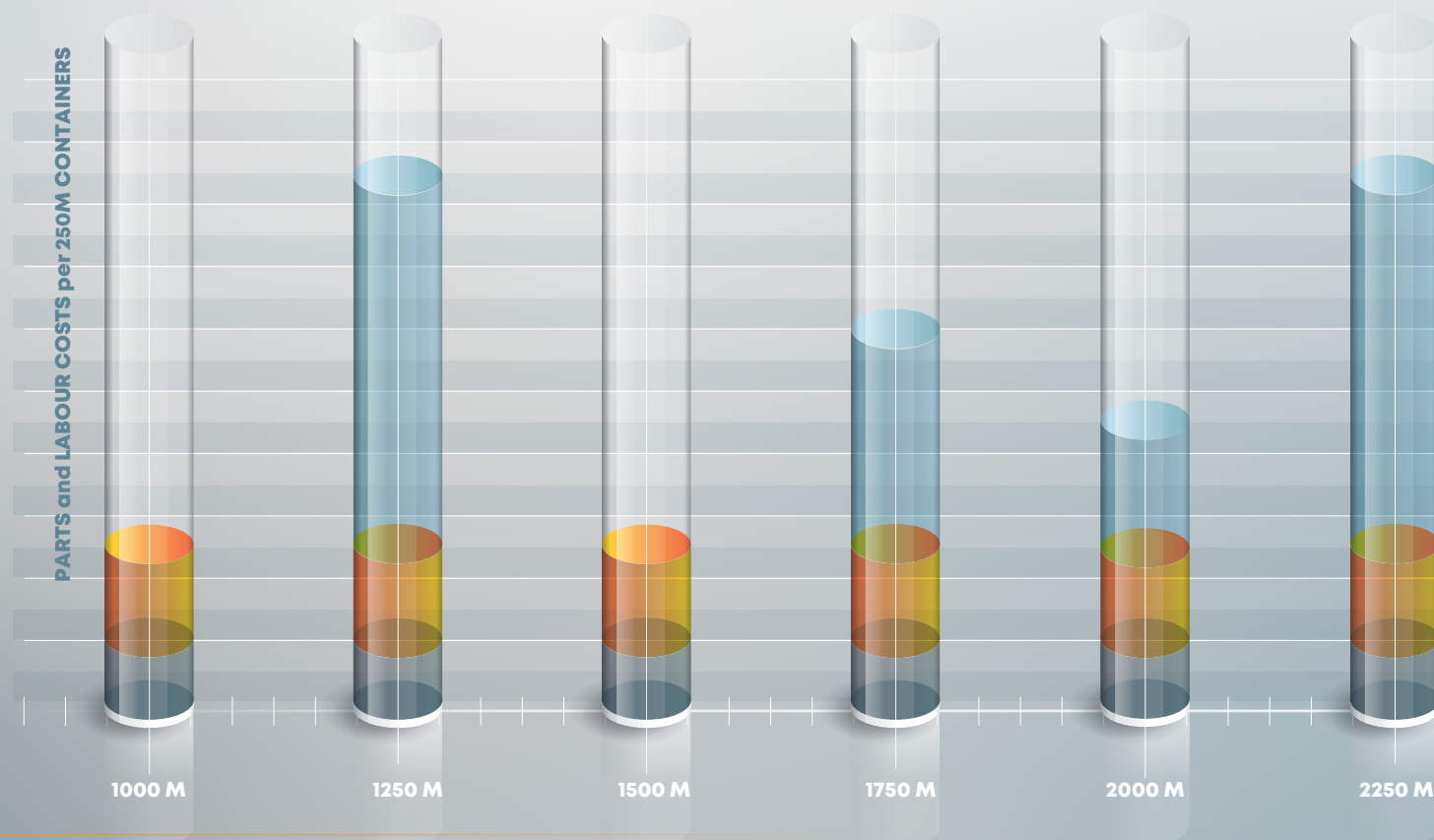
Consistent and clean label
application on cylindrical and
shaped containers

LOW AND PREDICTABLE OPERATIONAL COSTS THROUGH FUTURISTIC DESIGN PHILOSOPHY

Achieving a **good return on investment**, through equipment with low and predictable operational costs, is critical for the competitive world of modern business.

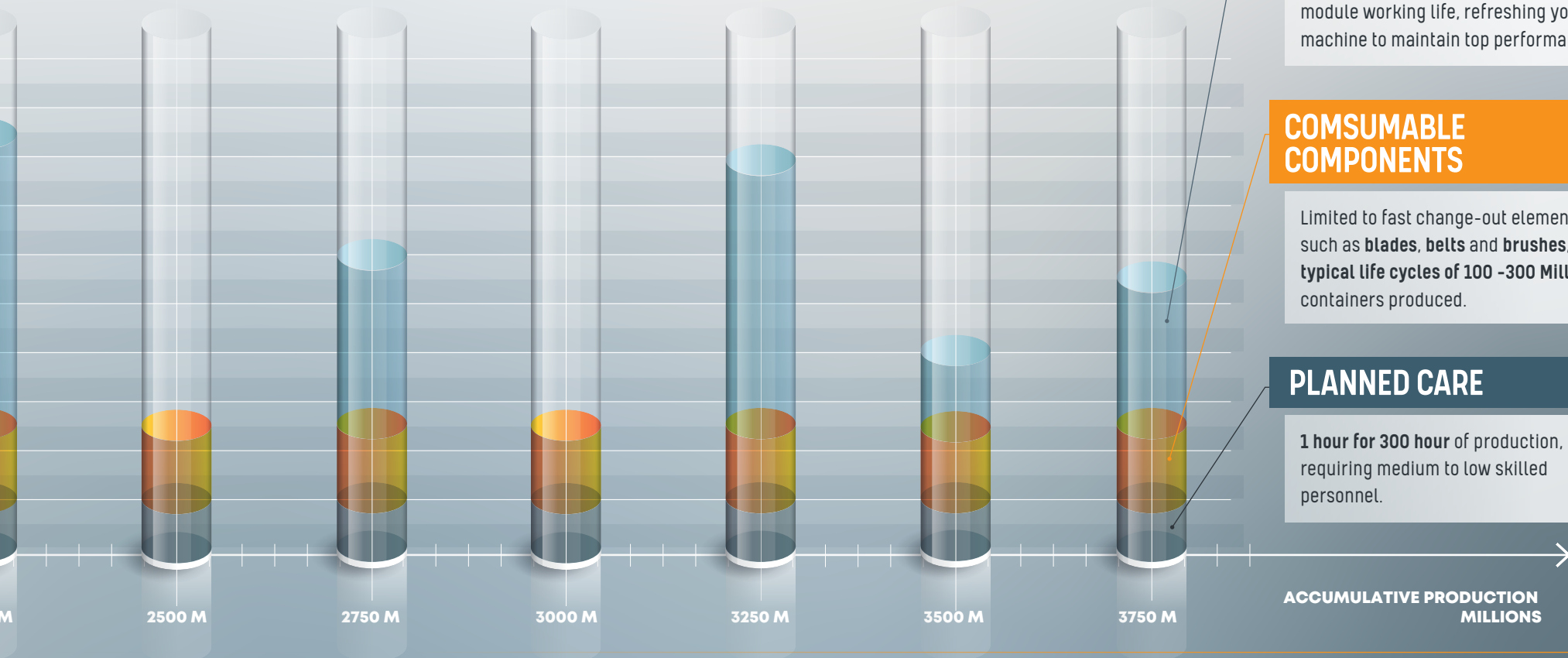
GIOTTO IS DESIGNED FOR THE LONG RUN.

Smart and Sturdy machine design with simple and well-defined maintenance requirement, combined with **Modular Design Philosophy** throughout, gives **full control of short-term, mid-term and long-term Operational Costs**.



• 50% LOWER OPEX COSTS.

GIOTTO'S DESIGN PHILOSOPHY ELIMINATES THE TRADITIONAL PROBLEM OF EXPONENTIALLY INCREASING MAINTENANCE COSTS ARISING FROM THE PROGRESSIVE AND MUTUAL WEAR OF DRIVE CHAIN COMPONENTS DELIVERING LOW AND PREDICTABLE LONGTERM OPERATIONAL COSTS.



LONG LIFE COMPONENTS

Fully independent modules are supported by **GIOTTO LONG RUN SUPPORT SERVICES**, including condition monitoring and predictive maintenance packages to combine, timely planned module exchange, with maximised module working life, refreshing your machine to maintain top performance.

CONSUMABLE COMPONENTS

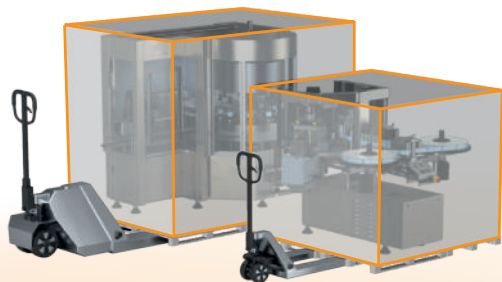
Limited to fast change-out elements such as **blades, belts and brushes**, with **typical life cycles of 100 -300 Million** containers produced.

PLANNED CARE

1 hour for 300 hour of production, requiring medium to low skilled personnel.

ACCUMULATIVE PRODUCTION
MILLIONS

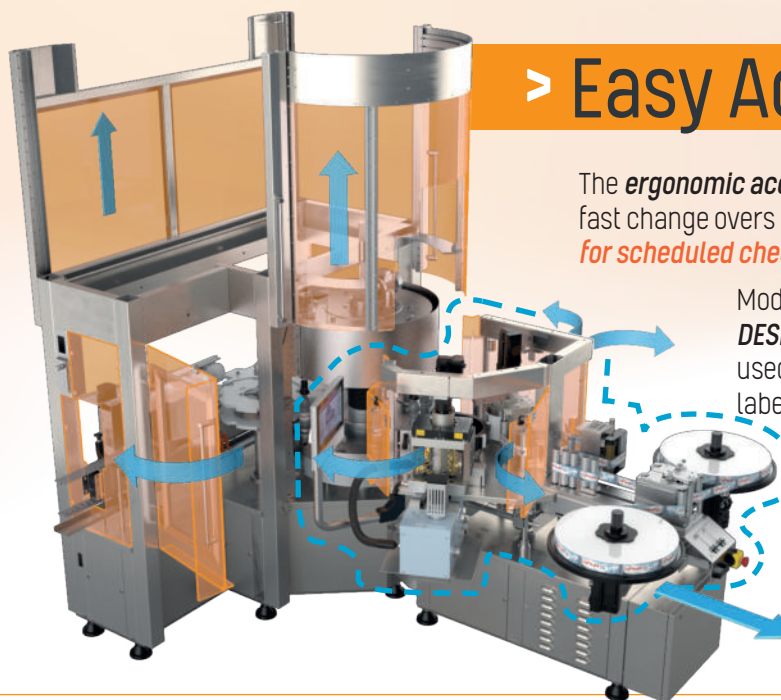
> Compact Layout <



The structure of the new Giotto has been designed with the purpose of being **transportated**, **installed** and **integrated** into an existing line in the **easiest way**.

Only **2 small crates** are needed for transportation of the complete. Label station attachment to the labeller basement, is **fast, easy** and **risk-free**, utilising **only 4 bolts** and two **Multipin Fast cable connection plugs**.

> Easy Access <



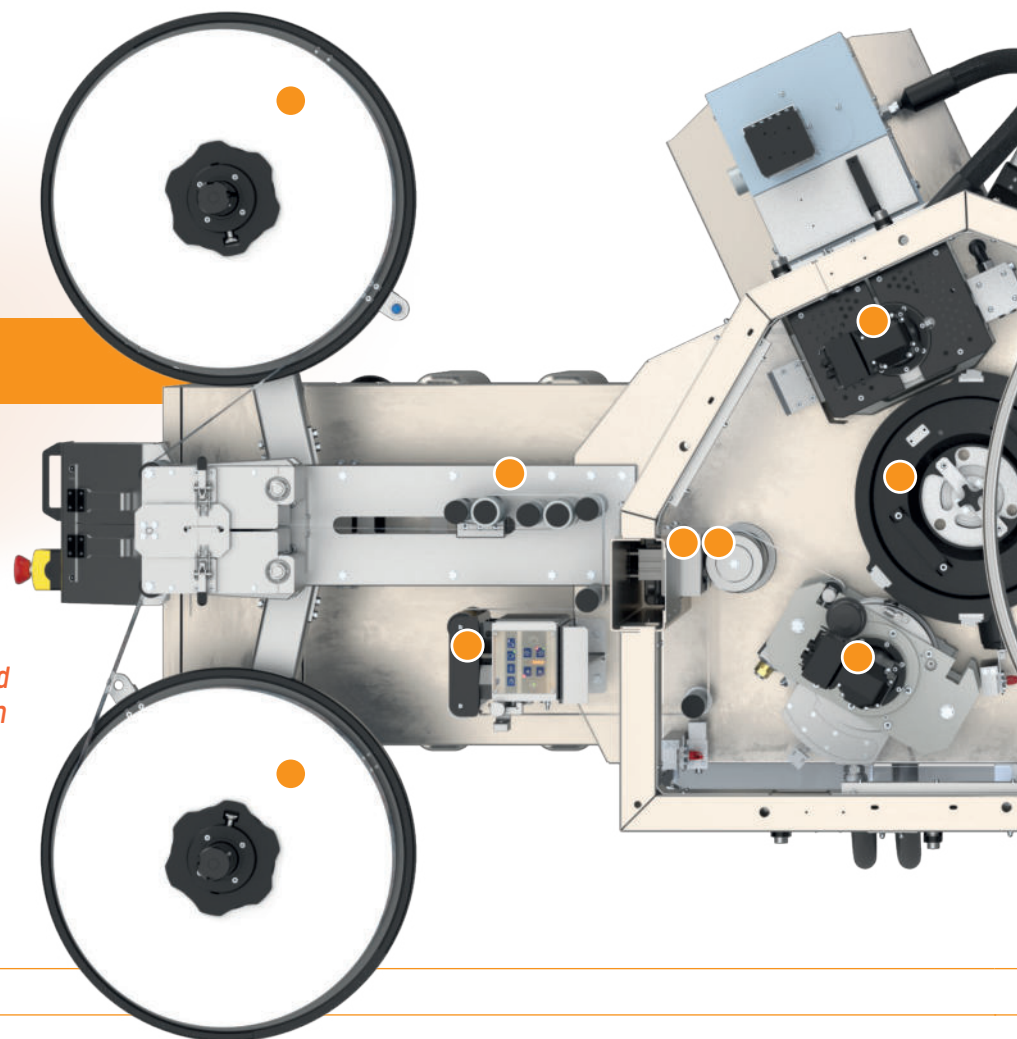
The **ergonomic access** is perfect for fast change overs and **reduces time for scheduled checks**.

Modern **HYGIENIC DESIGN PRINCIPLES** are used throughout the labeller to ensure **fast and effective wipe down** during planned maintenance stops.

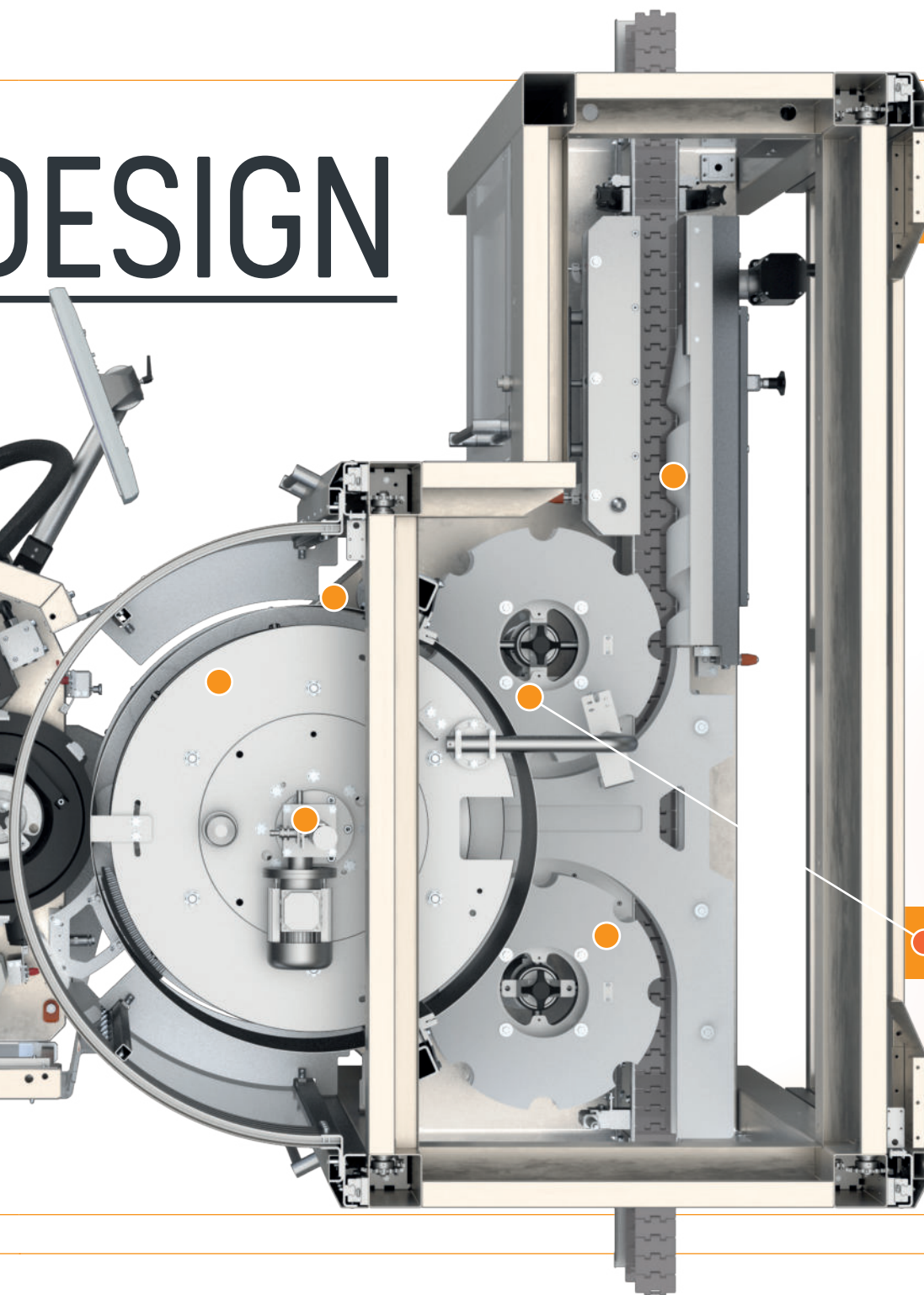
PULL BACK SYSTEM
>>> 400 mm

giotto®

> SMART BY D



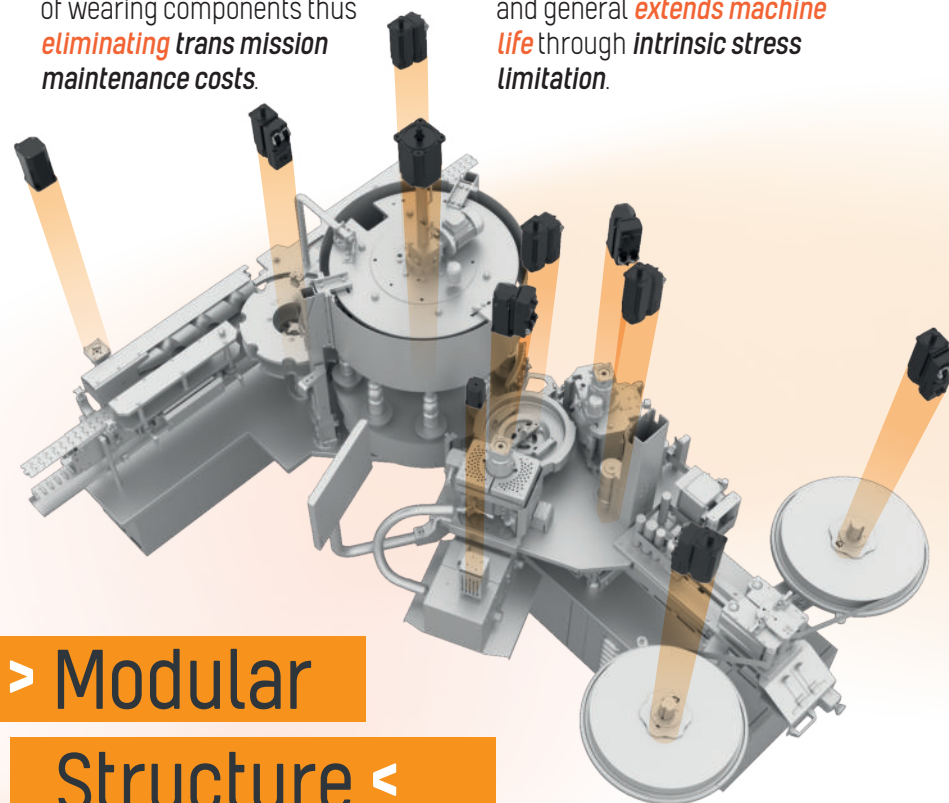
DESIGN



> Servo Motors throughout <

The application of **direct drive servo motors to all processes** dramatically reduces the quantity of wearing components thus **eliminating trans mission maintenance costs.**

Direct servo drive typically **reduces electrical energy consumption by upto 40%** and general **extends machine life** through **intrinsic stress limitation.**



> Modular Structure <

The application of **modular construction** further **simplifies** the minimal planned maintenance activities, and **reduces** time and effort required for later life module exchange events.

> CUTTER SYSTEM

Elevated cutter performance and reduced blade maintenance

Cutter performance is critical in delivering operational reliability to the Roll Feed process.

GIOTTO's precise and innovative design of components and the use of **optimal materials**, delivers a **stable cutter structure and consistent cutting performance**, competent in typically achieving 300 million cuts between blade set-ups.

GIOTTO eliminates wear and tear on the cutter shells by creating a precise air gap between shell and vacuum distributor, with added benefits of consistent vacuum pressure and reliable performance.

Blade

The rotary blades each have **4 useable edges** and can be reset on four occasions.

Hard shell

In the event of frequent use of abrasive label webs the shells can be fitted with **optional hardened surfaces**.

Micrometric Fixed Blade Adjustment

DEDICATED
SERVO MOTOR

> **75** million cuts per blade edge <

> **300** million cuts per blade set <

MICROMETRIC
REGULATION

CONTACTLESS
VACUUM DISTRIBUTOR
WITH PRECISE
AIR GAP

> GLUE SYSTEM

Effective and efficient glue system

GIOTTO runs with precisely controlled quantities of hot melt efficiently applied, and with **minimal glue contamination** at all operational speeds.

GIOTTO'S glue application tool design has evolved through substantial experience and knowhow, and dramatically reduces surface contamination of the module and Glue Fume emission.

Resulting in **minimised operator cleaning** and elimination of glue fume extraction systems for typical applications.

Glue flows delivered to the glue bar vary with glue roller surface rotation speed which maintains the application interface at **ideal pressure and flow conditions**.

The glue "load" applied per cm² on the label surface can be **precisely adjusted** to the customer's requirements, using the **micrometric scraper control**.

A **fast retraction actuator** allows "No bottles - No label" gap management at operational speeds up to 48,000bpm.

○ The Glue Roller and Hot Melt Tank are separate units which assist **wipe down during planned maintenance stops**. Each unit can be **dismounted separately** from the label station.

○ The Roller and Tank Modules are highly insulated to all **safe, fast and easy maintenance** activities, including removal while hot.

DEDICATED
SERVO MOTOR

GLUE TOOLS ARE DESIGNED FOR
SMOOTH AND CLEAN RUNNING
AT ALL PRODUCTION SPEEDS
FOR MINIMAL CLEAN UP

ADJUSTABLE GLUE APPLICATION
BY MICROMETRIC REGULATION

SPEED VARIED GLUE
FLOWS FOR CONSISTENT
APPLICATION AT ALL
PRODUCTION SPEEDS

CONTACTLESS
TOOLS FOR ZERO PARTS
CONSUMPTION AND LOWER
POWER CONSUMPTION

> LABEL TRANSFER DRUM

Fast, reliable and accurate transfer of labels from cutter to container

GIOTTO's transfer drum is designed for high performance, fast format change and minimal maintenance.

Featuring a precise **Contactless Vacuum Distributor** for elimination of all component wear, with air gap serving and glue dispersal by auto-lubrication micro-dosing grease cartridge.

Plug and play pad removal for fast and easy internal cleaning or sponge replacement, combined with hardener profiled external surfaces simplifies and reduces operator Planned Maintenance tasks.

RECESSED SURFACE PROFILE
TO CONTAIN OPERATIONAL
CONTAMINATION

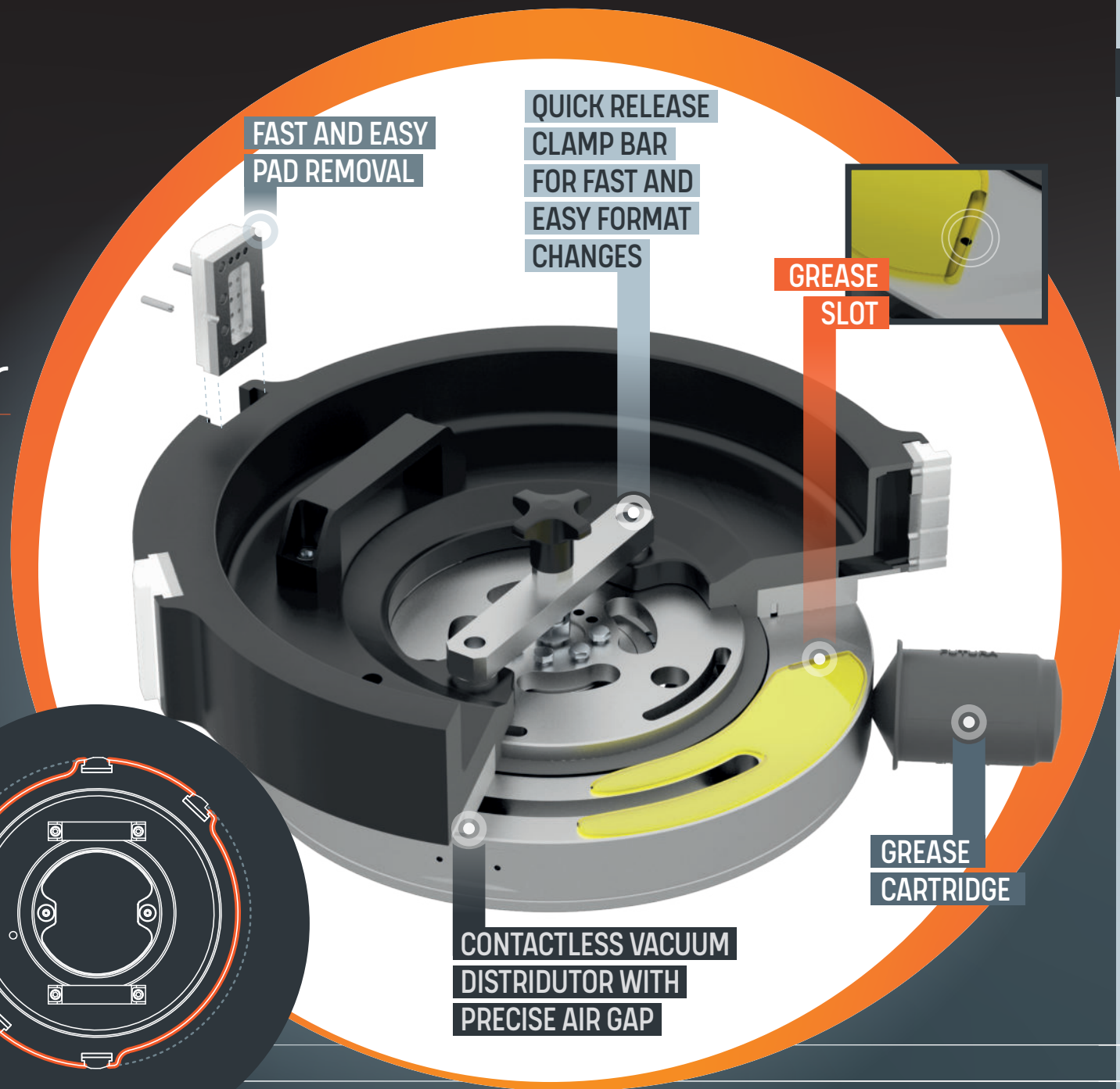
FAST AND EASY
PAD REMOVAL

QUICK RELEASE
CLAMP BAR
FOR FAST AND
EASY FORMAT
CHANGES

GREASE
SLOT

GREASE
CARTRIDGE

CONTACTLESS VACUUM
DISTRIDUTOR WITH
PRECISE AIR GAP



> WEB MANAGEMENT

Sophisticated web control

The web route from reel-stand to feed roller is **compact** and **accessible**.

Tensions within the web are **precisely maintained by electro-pneumatic actuation of the web buffer** which interacts electronically with the reel-stand drive motors.

Substantial production cost savings through low mass substrates

GIOTTO's competence in handling webs as fragile as **20 micron OPP**, at web widths as low as 18mm offers **VERY SUBSTANTIAL COST SAVINGS** for high production end-users. GIOTTO's additional Fast Stop Start competences ensure that these benefits are available to users of GIOTTO in TRIBLOCK and E-BLOCK configurations.

WEB PATH

> **precision managed tension**
to minimize Web Stress Levels <

FEED
ROLLER

WEB
TRACKER

PINCH
ROLLER

REEL SUPPORT
SERVO

FEED ROLLER
SERVO

WEB BUFFER

WEB
SPLICER

> SPECIAL CONTAINER HANDLING SOLUTIONS

An extensive matrix of **smart systems** for feature recognition and precise container manipulation

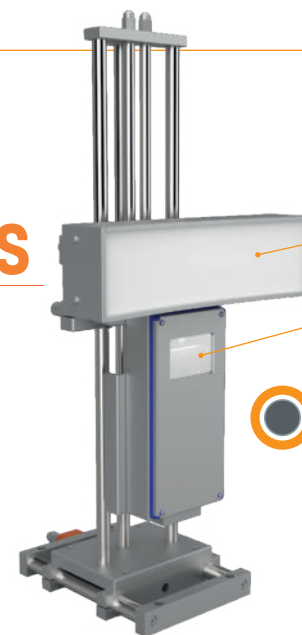
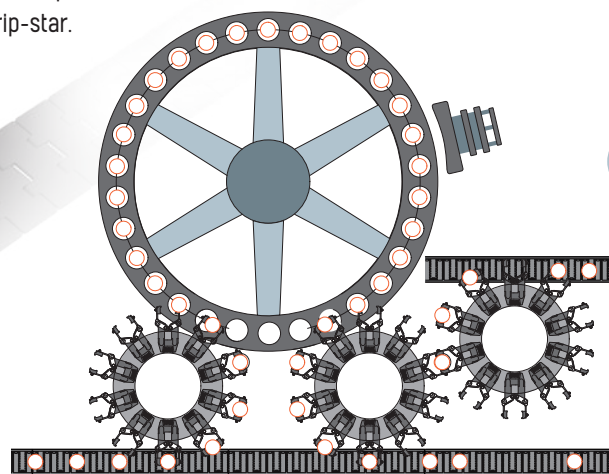
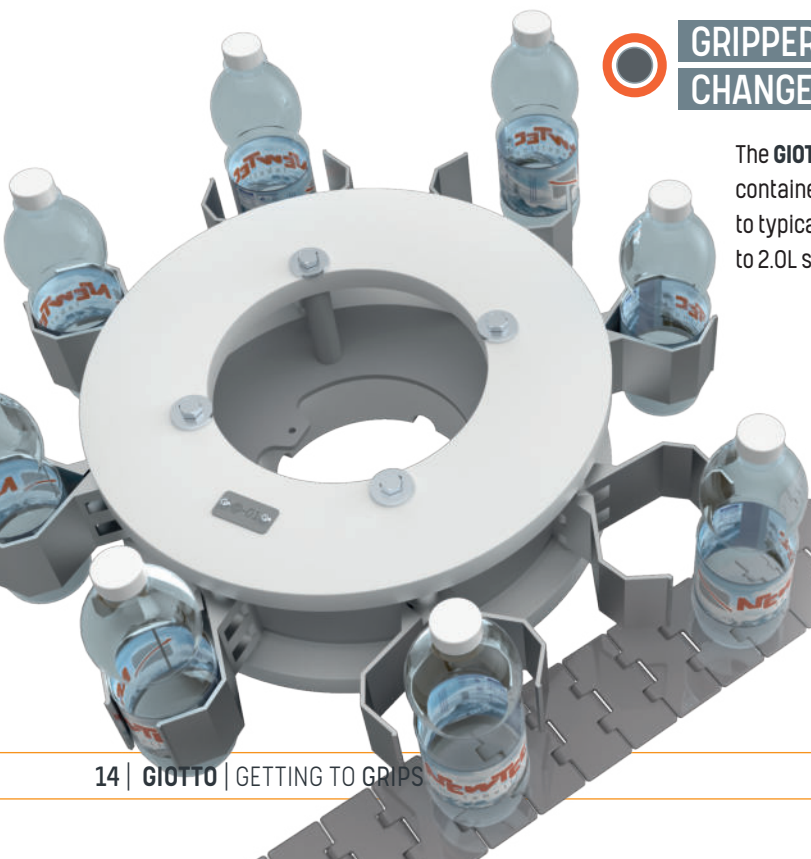
Flexibility and low operating costs are the pillars of the **GIOTTO** project.

Gripper stars eliminate the need for star-wheel and guide change parts, saving time and cost at each change over and potentially reducing initial equipment capital costs.



GRIPPER STARS FOR STAR CHANGE PART ELIMINATION

The **GIOTTO** grip system can handle container ranging from a typical 0.5L to typical 1.5L, and with adaptations up to 2.0L square, on the same grip-star.



LED lights

Inspection Camera



ACTIVE VISION SYSTEMS FOR ORIENTATION AND QUALITY CONTROL

GIOTTO'S Vision systems are effective up to 60,000 bpm and can orientate with an accuracy of 1°.

GIOTTO'S vision system comprising a LED illumination system and high resolution camera system recognises designed micro features and singularities on the containers.

The Vision System can also provide Product Inspection-Rejection competences for mis-applied labels and defective containers.



GRIPPER STARS FOR MULTI-LANING AND PRODUCT EJECTION



CONTAINER ROTATION BY SERVO, CAM OR BELT

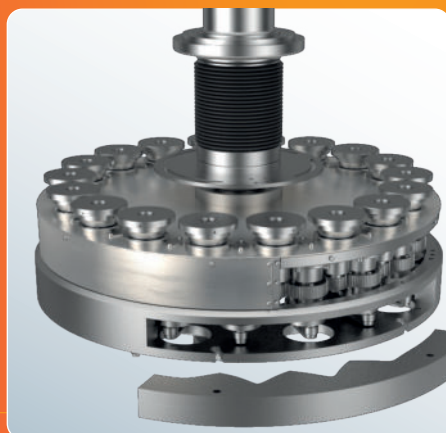
ROTATION BY SERVOMOTORS

For applications that require precise positioning of each container.



ROTATION BY BELT

For standard cylindrical container applications.



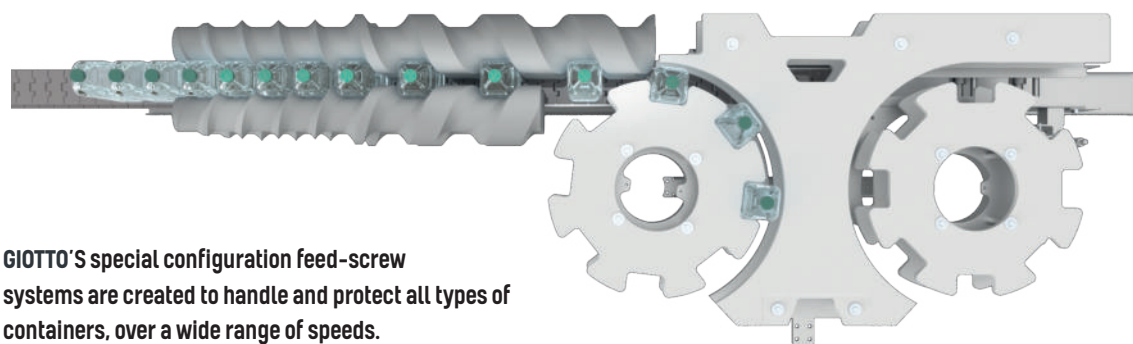
ROTATION BY CAM

For square and shaped containers requiring specific label graphic location.

Three different technologies to handle the total range of applications.

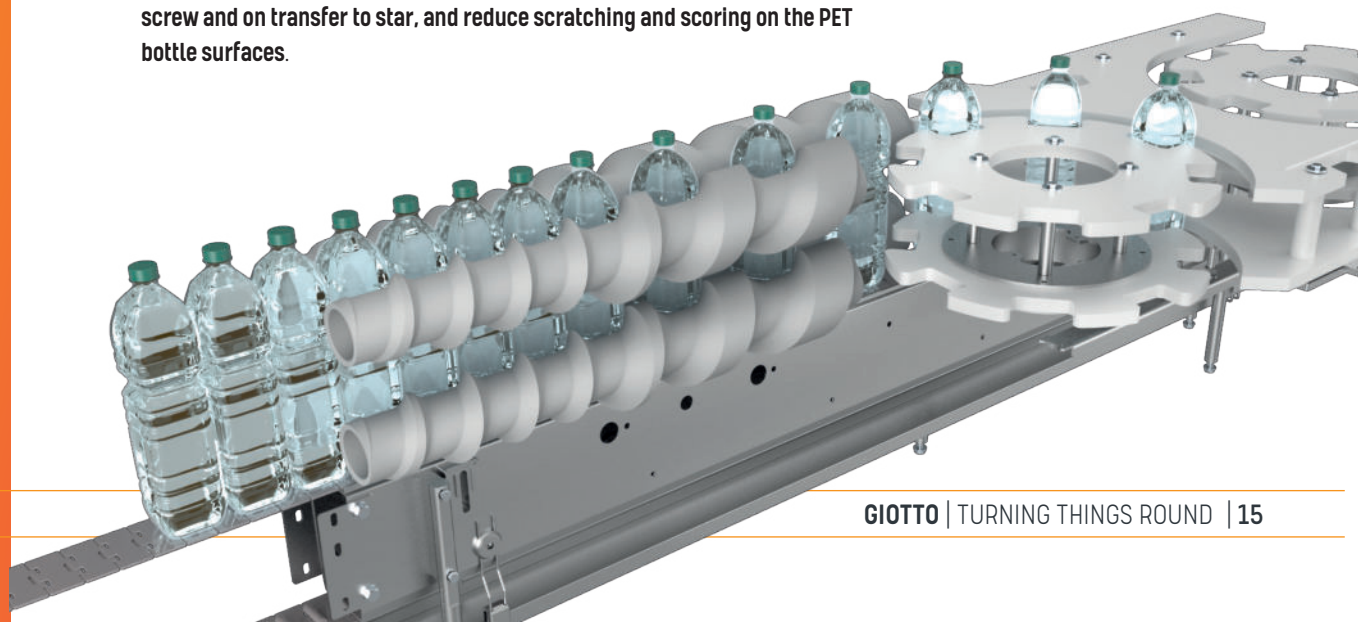


SPECIAL FEED-SCREWS FOR HIGH SPEED IN-FEEDING OF DELICATE CONTAINERS



GIOTTO'S special configuration feed-screw systems are created to handle and protect all types of containers, over a wide range of speeds.

Multi screw configurations with specialised pitching profiles, can mitigate the major problems caused by excess pressure infeed conveyors acting on large lightweight PET containers running on high speed lines. These intelligent solutions eliminate infeed crashes, container damage within the screw and on transfer to star, and reduce scratching and scoring on the PET bottle surfaces.



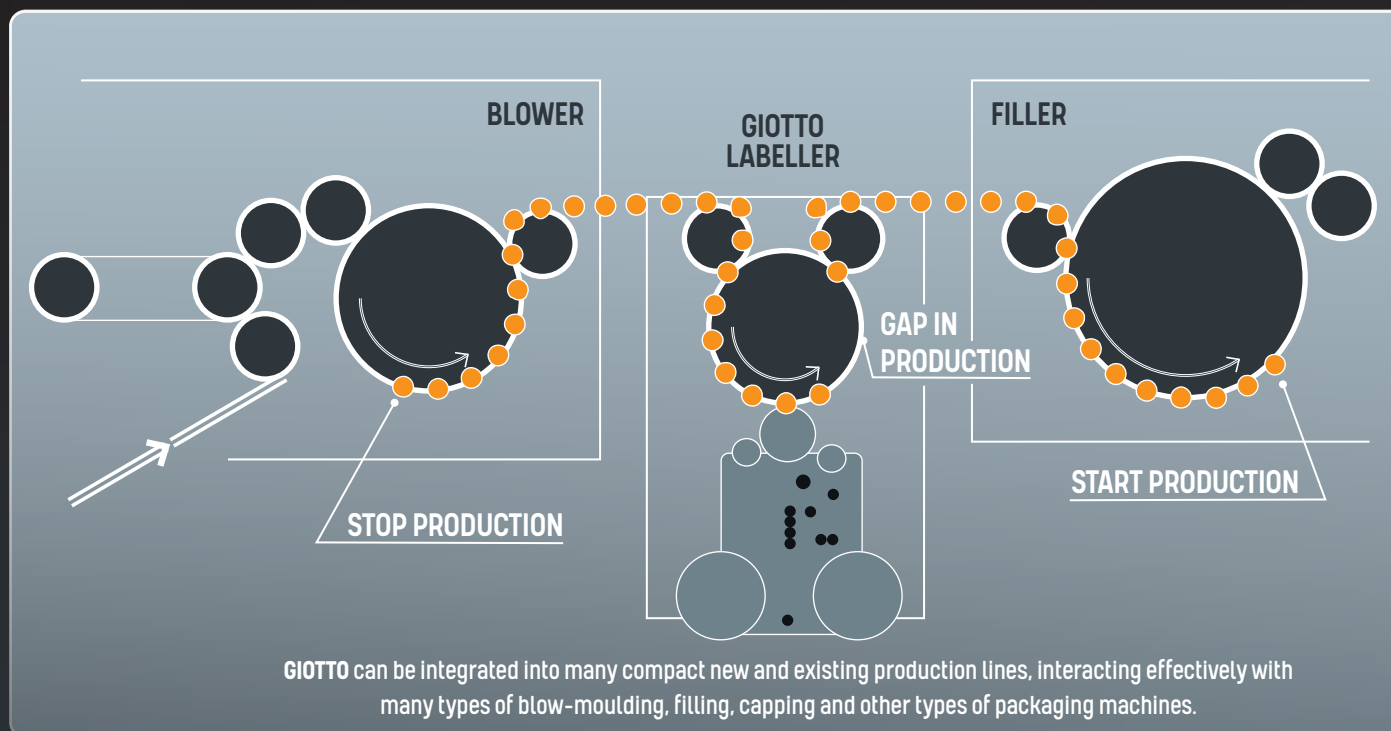
> **BLOCK AND STAND-ALONE**

Ideal for block-integration and production on compact lines

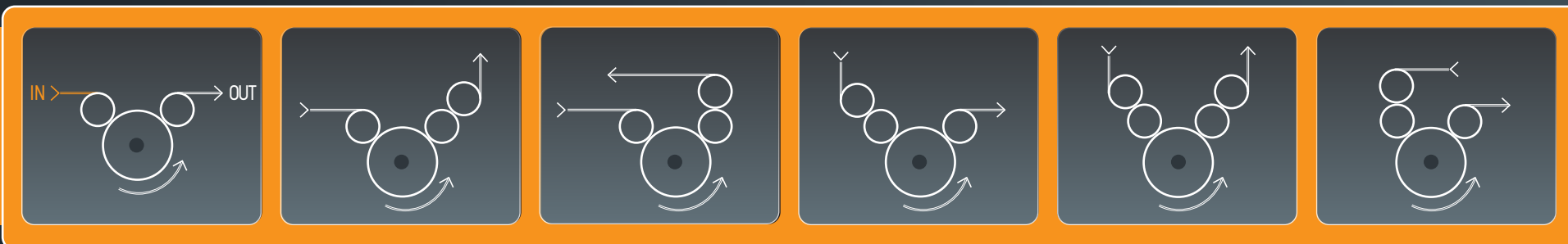
GIOTTO labelling station has been designed to be installed in block with other machines such as blow moulding and filling machines, due to its **FAST STOP START system**. **GIOTTO**'s competences in web and reel stress management **manages gaps within the Block's constant speed container flow at production rates of up to 48.000.**

GIOTTO also features a fast and efficient web auto-splicing system to maximise Block Productivity.

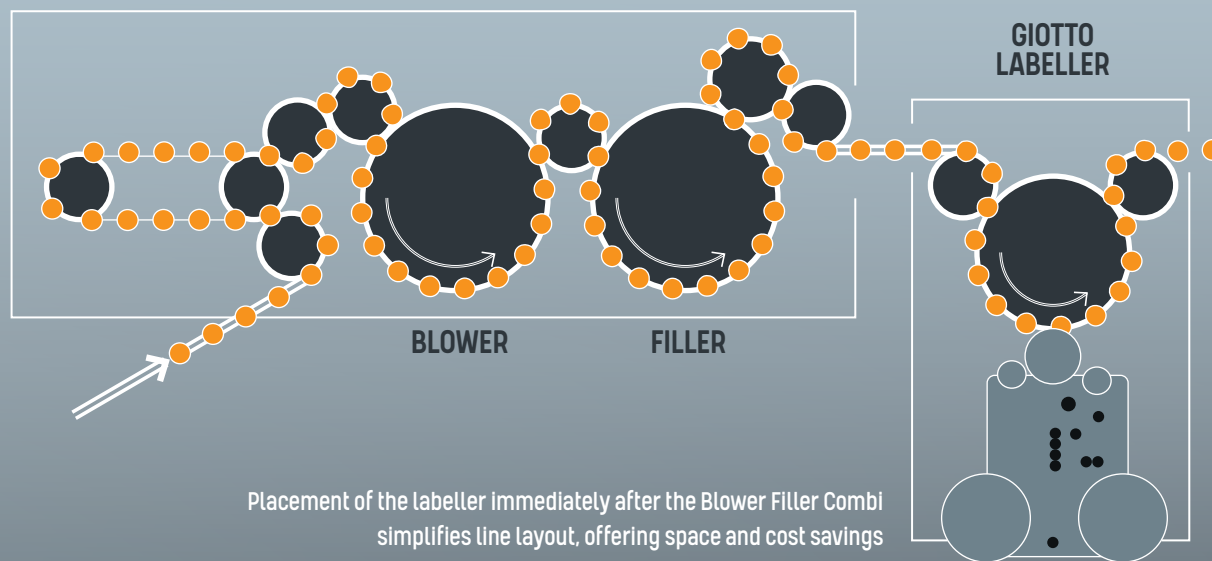
1. E-Block



SUITABLE FOR A WIDE RANGE OF LINE CONFIGURATIONS IN CLOCKWISE AND COUNTER-CLOCKWISE VERSIONS



2. Combi with E-Block labeller



> FAST STOP AND START

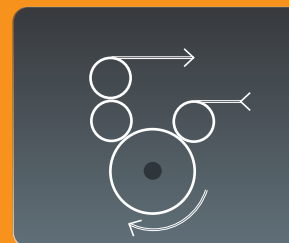
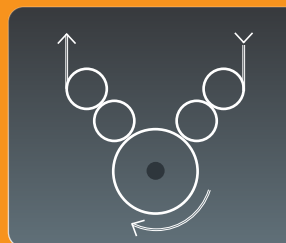
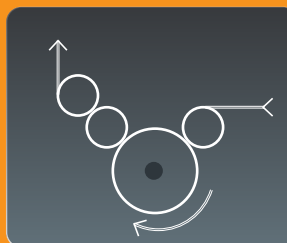
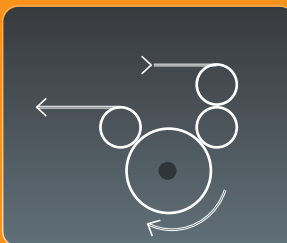
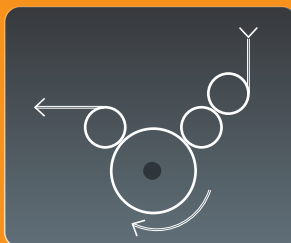
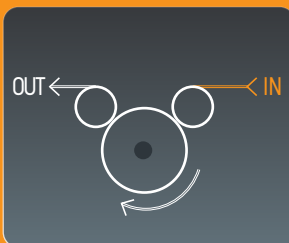
Product rejection is a common and necessary feature in complex E-Block and Tri-Block systems.

Ejected product creates gaps in the constant pitch product flow within these, creating major problems for traditional labelling systems.

GIOTTO overcomes this problem with its **FAST STOP START web feeding system**,

Smart management of the Feed Roller and Reel Stands drives along with Smart Web Buffer management allows the **GIOTTO WEB FEED** to **manage multiple container gaps in Machine blocks running at speeds of up to 48,000cph**.

Fast and sophisticated **Glue Roller retraction** avoids **Transfer drum contamination**, and ensures the correct glue application on all labels.



USE ME > Optimised Planned Maintenance and Strategic Long-term support packages give exceptional Return on Investment

Label Applicator Pad / Brush expected life **100 million** containers

Platform rotation belt expected life **200 million** containers.

Machine cleaning in **20 minutes** per week.

Filters Check and clean in **3 hours** per year.

Machine Condition checks in **20 minutes** total time per week.

Cutter Blade Set expected life **300 million** containers.

1 CONSUMABLE PARTS USAGE MINIMISED BY SMART DESIGN

Elimination of all non-essential contact parts reduces technician time to less than 3 hour per 100 million containers.

Light and compact modules with good ergonomic access for later life module exchange activities

All round ergonomic access.

Lubrication cartridges change-out in **10 minutes** per year total time. General lubrication activities in **less than 3 hours** per year total time.



Reprogramming of motor controllers direct from PLC or Newtec Engineering online

3

CONDITION MONITORING FOR MAXIMISED MODULE LIFE

"Condition Monitoring" combined with "Plug and Play" change out of modules is pivotal to maintaining high "Total Equipment Economical performance" with minimal "Operational Expenditure" over the long-term life of the labeller.

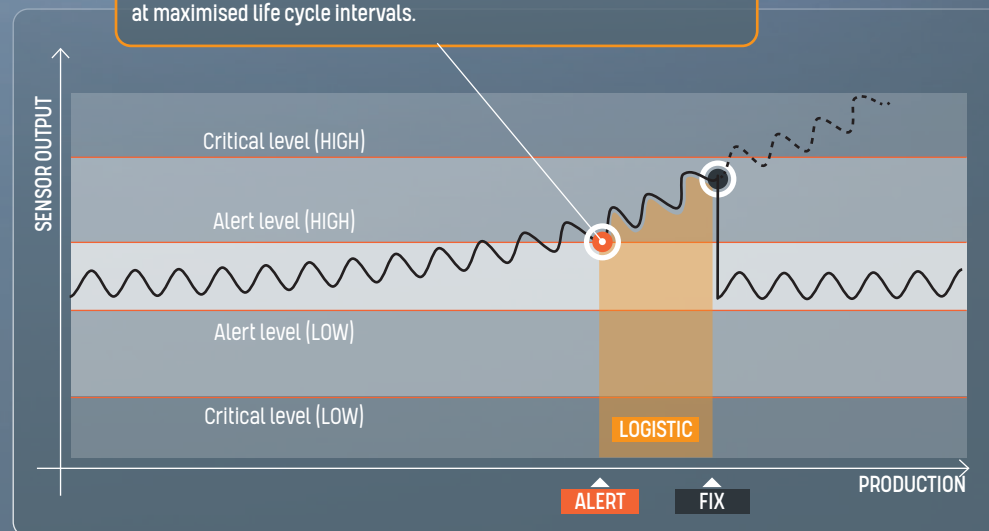
Internal Condition Monitoring systems work continuously to predict Maintenance requirements for "Later Life Machine support", assisting the planning of "Service Exchange" replacement modules at maximised life cycle intervals.

2

SMART DESIGN MINIMISES PLANNED MAINTENANCE TIME AND SKILLS

Annual Production loadings of 8000 hours require 1 hour of PM time for 300 hours of production.

Production volumes up to 300 million containers per year can be managed with a medium / Low skill level labour input of less than 30 hours per annum.



Intelligent systems for **Industry 4.0** and **IIOT**

The Internal software gathers data to generate and present information used to develop knowledge and operational experience of all aspects of labeller performance.

Generating value through:

- **PRODUCTION DATA AND PERFORMANCE ANALYSIS**
- **MACHINE OPERATIONAL EVENTS ANALYSIS AND MACHINE LEARNING**
- **SERVO MOTOR FEEDBACK AND CM SENSOR DATALOGGING**
- **PREDICTIVE ANALYSIS AND REPORTING**
- **LIVE TROUBLE SHOOTING ALERTS**
- **LIVE STANDARD OPERATION PROCEEDURE SUPPORT**
- **LIVE MAINTENANCE MANUALS AND PARTS STOCK ADVICE**

Offering Full Data sharing with **OPERATOR, CUSTOMER NETWORK** and **NEWTEC ENGINEERING**.



CONNECT

COLLECT

ANALYSE

MANAGE

EXPERIENCE

> Realtime diagnostic and support becomes practical and valuable

CUSTOMER MANAGEMENT

- Labeller and line performance analysis for optimised line management.
- Cross seeding of best practice from other production facilities.
- Collaboration and data share partnership with Newtec.
- Cost reductions through value optimisation of label materials and adhesives.
- Cost reduction through planned and minimised maintenance.
- Value based upgrade management with re-analysis of persistent data.

NEWTEC ENGINEERING

- Live machine learning from multiple customer lines
- Establishment of best machine practices
- Development and recommendation of value-based upgrades.
- Customer value-based Technology Development.

SERVER MACHINE LEARNING

DATA - INFORMATION

ADVICE - INFORMATION
TECHNICAL UPGRADES

INFORMATION

INFORMATION
DATA

DECISIONS

SUPPORT

CUSTOMER TECHNICIAN

- Minimisation of parts and labour requirements
- Planning of parts purchase and service activities
- Live documentation and data on trouble shooting and parts stock
- Direct communication with Newtec Engineering.
- Future augmented reality options

PLC

INPUT

INSTRUCTIONS

INFORMATION

HMI

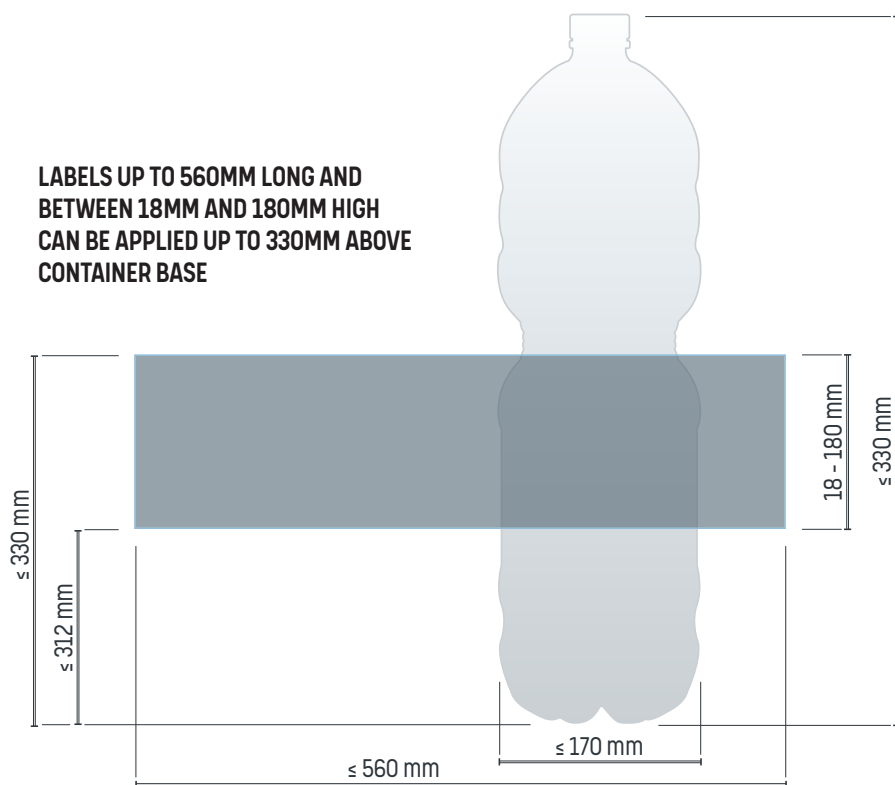
CUSTOMER OPERATOR

- Minimisation of PM time and materials
- Warning Prompts for abnormal conditions within the process
- Live Trouble Shooting, SOPs, and best practice tutorials

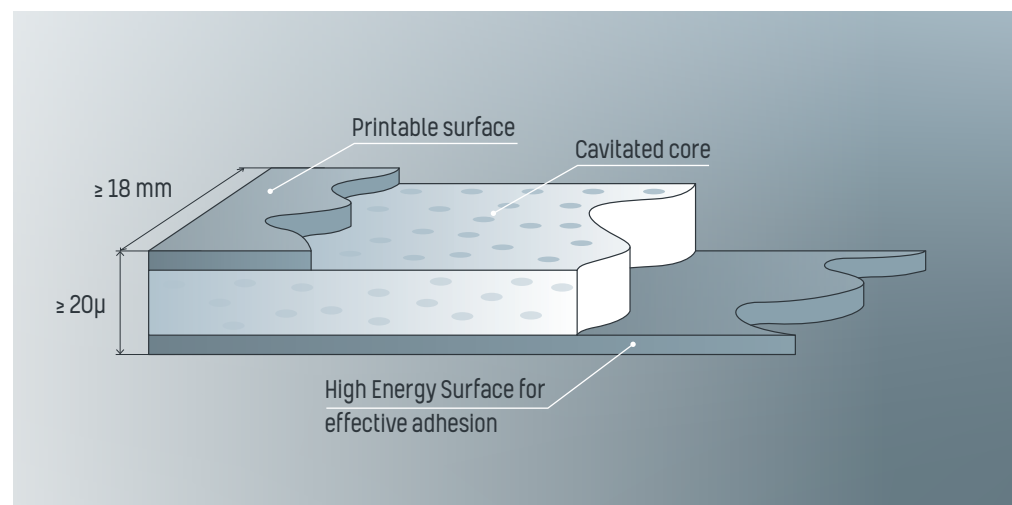
INSTRUCTIONS

> FLEXIBILITY IN APPLICATION

LABEL SIZES AND MATERIALS



SUPER ECONOMY SUBSTRATES



LABEL SUBSTRATES INCLUDING

- 20 μ to 50 μ OPP
- 12 μ to 30 μ PET
- 60 μ to 30 μ Poly-olefin
- 80 μ to 120 μ Polystyrene
- 40g to 80g Paper and Polypap

CONTAINER TYPES

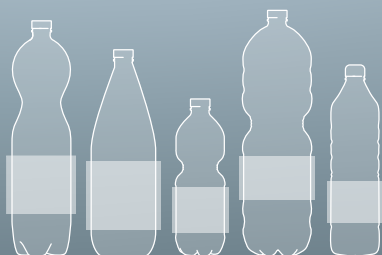
Designed in flexibility allows a wide range of container shapes and sizes in PET, PVC, Glass and Metal to be decorated with many label materials including "PRE-GLUED" label web.

Containers up to 170mm Diameter and 330mm high can processed by the standard machine.



Quick changeover Bottle and label parts changeover time

<15^{min}



WATER
Round, square and rectangular
> 0.5L to 2.0L



DAIRY PRODUCTS
Round, square and rectangular
> 0.1L to 4.0L



SOFT AND ENERGY DRINKS, JUICES AND NECTARS
Round, hexagonal and polygonal
> 0.2L to 3.0L



FRUITS CONSERVES AND PICKLES IN GLASS
Square, round, oval and polygonal
> 0.2L to 3.0L

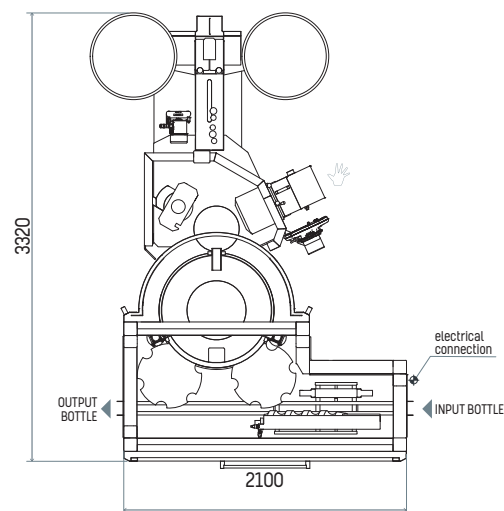
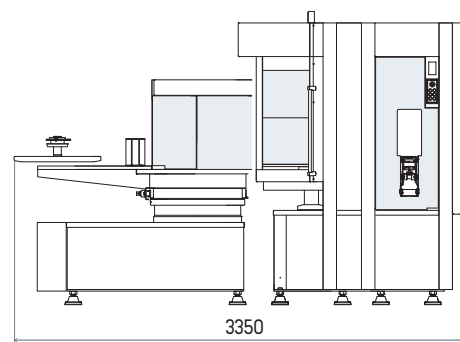
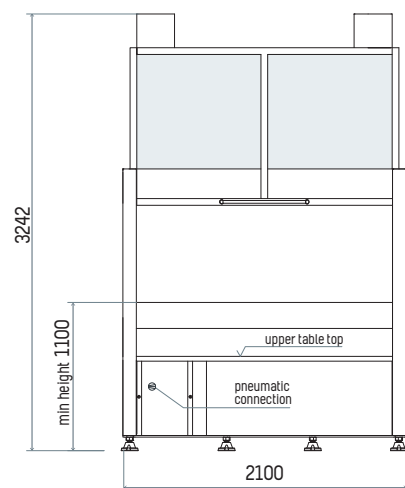





SOUPS, SAUCES, MEAT, COFFEE AND PET FOODS
Round, square and rectangular
> 1.0L to 5.0L



CONCENTRATES, OILS, DETERGENTS AND INDUSTRIAL PRODUCTS
Round, square and rectangular, including "jug with handle" and cap not on centre line
> 1.0L to 5.0L

> TECHNICAL FEATURES



-  HMI panel
-  AIR - 1/2"
-  electrical connection

DATA

AIR CONSUMPTION	Nl/min	200
AIR CONNECTOR	Gas	1/2"
PNEUMATIC SUPPLY	bar	6
	Mpa	0,6
INSTALLED POWER	kW	25
USED POWER	kW	12





> SALES AND SERVICE

Argentina · Buenos Aires

Australia · Melbourne

Belgium + Holland · Harmont-Achel

Brazil · San Paolo

Canada · Niagara

Czech Republic · Prague

Chile · Santiago

China · Shanghai

Colombia · Bogota

Cyprus · Limassol

Egypt · Cairo

France · Chantilly + Annecy

Germany · West-hofen + Troisdorf-Seich

Greece · Athens + Salonicco

India · Mumbai

Iraq · Arbil + Bagdad

Italy · Mantova + Milan

Ivory Coast · Abidjan

Jordan · Amman

Korea · Seoul

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Senegal · Dakar

Serbia · Temerin + Belgrade

South Africa · Cape Town

Spain · Barcelona

Sweden + Denmark + Finland + Norway · Alta (Sweden)

Thailand + Cambodia + Laos + Burma +

+ Vietnam · Bangkok (Thailand)

Tunisia · Tunisi

Turkey · Ugur

UAE · Dubai

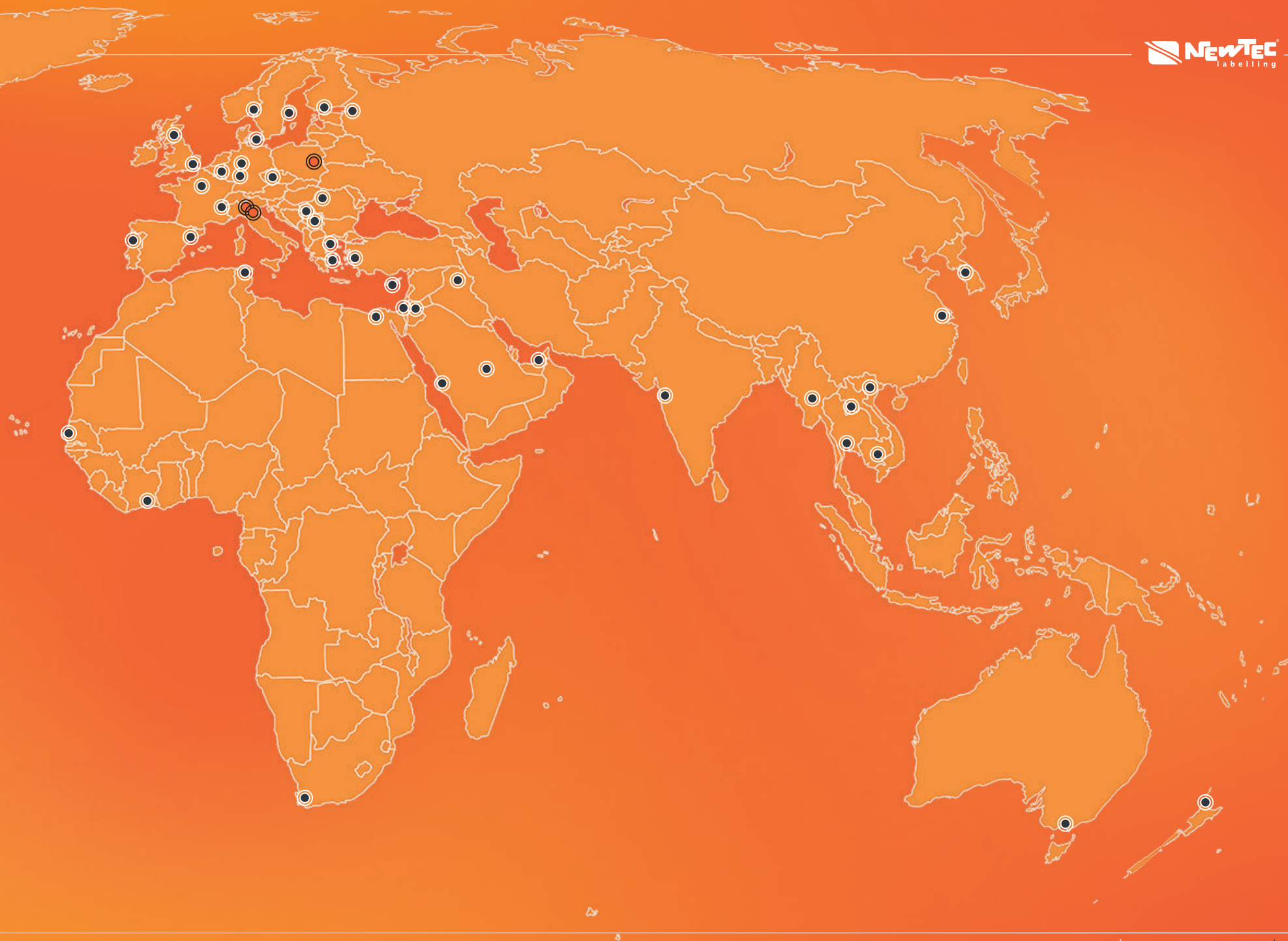
UK + Ireland + Iceland · Colchester + Edinburgh

USA · Sacramento + Chattanooga + New York

Venezuela · Caracas

⊙ manufacturing sites







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