Carton Station ItemUnit™

TRACK & TRACE SYSTEM WITH TAMPER EVIDENT (TE)
AND CHECKWEIGHER (CW)

![OPTEL logo] OPTEL™
Traceability technologies for a better world

OPTEL's Carton Station ItemUnit™ system is a sophisticated addition to the pharmaceutical packaging industry, delivering high precision and operational efficiency.

This system seamlessly integrates into existing production lines, enhancing their efficiency with accurate weight measurements, reliable serialization, and secure tamper-evident sealing. The conveyor that ensures smooth and precise product transport, making it ideal for handling a wide range of product shapes and sizes. With the capability to process up to 400 products per minute, this system is not only fast but also adheres to the most stringent quality control standards, ensuring each package is validated for weight accuracy before it moves on to the subsequent stages of packaging.

Thanks to powerful vision systems, serialization and verification are performed meeting international standards requirements.

The tamper-evident feature strengthens the product's safety, safeguarding its integrity.

OPTEL's solution is user-friendly due to a touchscreen interface and the sturdy stainless steel construction offers consistent reliability.

KEY FEATURES

- Servo-driven, four-lane conveyor for precise handling.
- Modular design supports diverse product specifications.
- High-resolution vision for accurate serialization and verification.
- Built-in tamper-evident seal application for package security.
- High-speed weighing with up to 400 ppm capability.
- Intuitive 18,5" color touchscreen interface.
- Durable stainless steel construction for consistent accuracy.

BENEFITS

- Combines critical packaging processes into a single streamlined operation, reducing the need for multiple machines.
- Enhances packaging integrity and consumer safety with tamper-evident seals.
- Increases productivity with fast, accurate weighing and minimizes the risk of product giveaway or recalls.
- Easy to operate and maintain, with tool-free belt and conveyor exchanges and a simple, menu-directed control system.
- Offers comprehensive product tracking and tracing to meet global regulatory requirements.

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PERFORMANCE

Designed for	Pharmaceutical packaging lines
Production Rate	Up to 400 ppm*

* Depends on product dimension

VISION SPECIFICATIONS*

Field of View with Item Expert software	60 mm x 40 mm
Field of View with InspectProof software	< 85 mm x 53 mm
Decoding Capability	1D, 2D

*We comply with all common printing and inspection-specific regulations.

UTILITIES

ItemUnit Module

Blocker	Pneumatic
Power Requirements	110-240 VAC, 50/60 Hz
Compressed Air	6 bar (90 psi)
Conveyor Belt Speed	Up to 70 m/min
Table Height	from 750 mm to 1000 mm
Rejection	Pneumatic driven air blower

Tamper Evident Module

Two Tamper Evident Seal Applicator	Bluhm	
Placement and Turn-Over Verification	Glare sensors	
Position Accuracy	± 2mm	
Label	min.	max.
Width & Length	20 mm	32 mm
Roll Diameter	–	300 mm
Roll Core Diameter	76.2 mm	
Gap	3 mm	–

Checkweigher System*

Power Requirements	110-240 VAC, 50/60 Hz
Compressed Air	6 bar (90 psi)
Gross Weight Range	750 g

	Length x Width
Acceleration Pressing Conveyor	600 x 120/32 mm NT17
Weighing Conveyor	200 x 200 mm NT17 *KE *FB
Outfeed Conveyor	300 x 200 mm NT17 *KE
Rejection	Pneumatic (pneumatic pusher available for product weigh >300 g)

Note: Products must be supplied with a minimum distance of 220 mm between the leading edge of one product and the next.
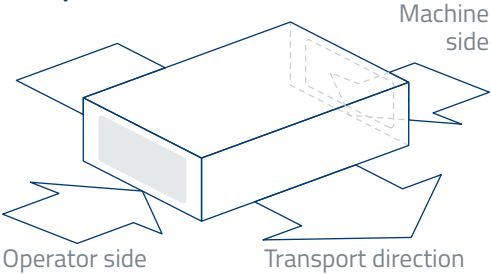
* Optionally, the checkweigher can be delivered as a calibrated system.

The industrial weigh cell operates on the principle of electromagnetic force compensation, with a cable bridge at the weigh cell free from derivation.

Different infeed belt options are available to cater to different requirements.

A variety of checkweigher supplies are available.

Optionally, a Reject can be installed between checkweigher-outfeed and ItemUnit-Infeed.

The system is flexible and can be tailored to customer requirements. For more information, please contact your Account Director.
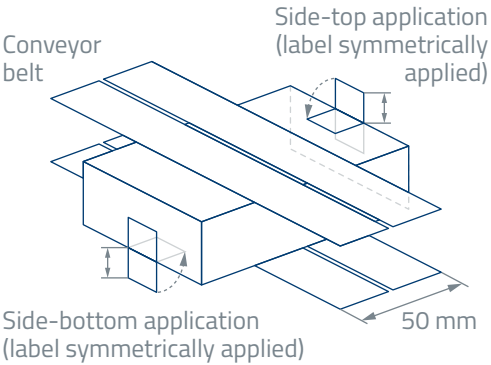
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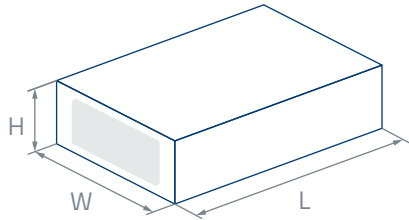
PRODUCT DIMENSIONS

	min.	max.
Width (W)	15 mm	180 mm
Height (H)	15 mm	125 mm
Length (L)	55 mm	260 mm
Weight	30 g	300 g
Label Reel Outer Diameter	approx. 300 mm	

Print positions

Machine side

Operator side

Transport direction

Tamper evident label position
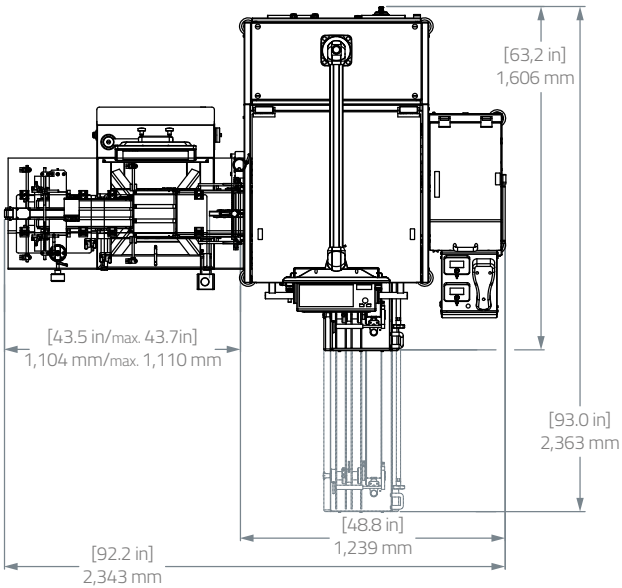
Conveyor belt

Side-top application (label symmetrically applied)

Side-bottom application (label symmetrically applied)

50 mm

TOP VIEW

[63,2 in]
1,606 mm

[43.5 in/max. 43.7in]
1,104 mm/max. 1,110 mm

[93.0 in]
2,363 mm

[92.2 in]
2,343 mm

[48.8 in]
1,239 mm

FRONT VIEW

[31.5 in]
800 mm

[103.3 in]
2,624 mm

[81.1 in]
2,061 mm

[35.4 in]
900 mm

[31.5 in]
800 mm
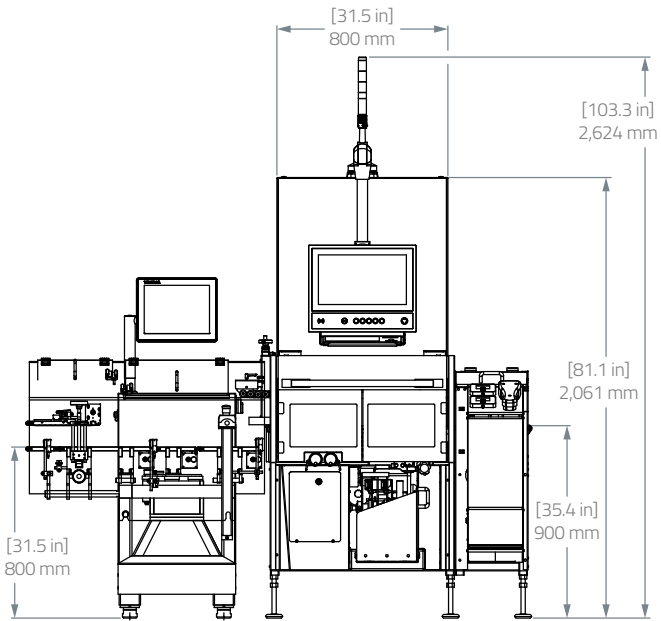
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TRACKING PROCESS OVERVIEW

Tracking is used to ensure that products can be located at any time on the production line in order to prevent defective products from reaching the next step of the production process.

The illustration below depicts the Carton Station ItemUnit™ and other usual peripherals used within a typical tracking process.

1 INFEED CONVEYOR (CW)
Products are transferred from an upstream system to the Carton Station ItemUnit.

2 CHECKWEIGHER CONTROL
Products are weighed by a high-precision checkweigher cell.

3 EJECTION (OPTIONAL)
Ejection of the products before they enter the print/inspection area. The ejection is verified by a sensor.

4 INFEED CONVEYOR (P/I)
Products are transferred from the checkweighing area into the print/inspection area. The product is tracked by a PLC-shift register.

5 PRINTING
Variable data are printed on the product. Different printing options and technologies are available.

6 INSPECTION
The printed data is inspected and verified against reference data.
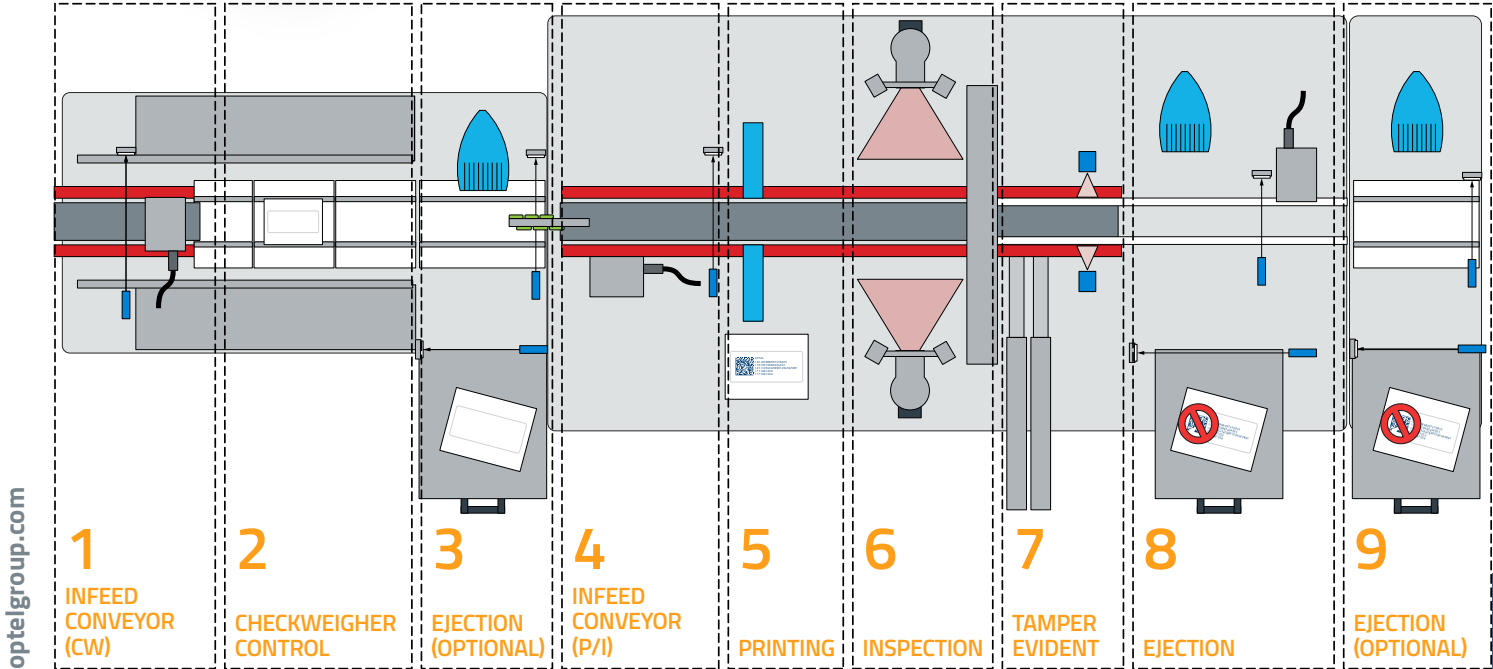
7 TAMPER EVIDENT
Tamper Evident application on both sides of the folding box (position configurable). Application evaluation by gloss sensor.

8 EJECTION
Defective products (weight, print) are ejected, with sensor verification. The reject reason is configurable for the ejection bin if a 2nd reject bin is available.

9 OPTIONAL EJECTION
Defective products (weight, print) are ejected, with sensor verification. The reject reason is configurable for the ejection bin if a 2nd reject bin is available.

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1	2	3	4	5	6	7	8	9
INFEED CONVEYOR (CW)	CHECKWEIGHER CONTROL	EJECTION (OPTIONAL)	INFEED CONVEYOR (P/I)	PRINTING	INSPECTION	TAMPER EVIDENT	EJECTION	EJECTION (OPTIONAL)

Carton Station ItemUnit™ with Software Package Item Expert
STANDARD SOLUTION SPECIFICATIONS

SALES ITEM*	SOLUTION	SPECIFICATIONS

SLF001 + TSCR019	**Carton Station ItemUnit™** with Software Package Item Expert	▪ ItemUnit-TE Basic hardware with two reject stations with air blow reject
		▪ Two Tamper Evidence applicators, adjustable at the operator and machine side
		  ▪ Blow on label application
		  ▪ Label placement and turn-over verification by glare sensors
		▪ 18,5" TFT touchscreen monitor
		▪ B&R IPC
		▪ B&R PLC
		▪ I/O Modules
		▪ UPS
		▪ Integration in line-specific emergency stop
		▪ Thermal InkJet printer with one print head
		▪ OPTEL VisionKit
		▪ Signal light
		▪ Wireless Handheld Scanner
		▪ Wipotec checkweihing inspection system
		▪ Air blast or pusher mounted at outfeed conveyor
		▪ Open flap detection
		For serialization coding and verification with blow-on tamper-evident seal application
		Software Package Item Expert
		▪ Line Controller LC - Base License
		▪ Serialization Licence for Line Controller
		▪ OPTEL Vision Licence for one camera
		▪ OPTEL Item Expert Licence
		▪ Remote Access Line Controller
		▪ Werum Interface License
		NOTES:
		▪ Refer to the limitations table
		▪ Refer to machine dimensions table
		▪ Refer to printing position table
		▪ Refer to the label specifications table
		▪ Refer to the label specifications table
		*IMPORTANT: **This is an alternative ItemUnit solution utilizing different software. Please be aware that this version is still evolving, and its functionality and details may be modified in the future. For more information, please contact your Account Director.**

SALES ITEM	OPTIONS	SPECIFICATIONS
TSCR020	**Additional camera station**	▪ Additional camera for inspection of bar code and Optical Character Verification (OCV) analyzers on opposite sides of the carton.
SLF004	**Conveyor Belt Approx. 200 mm**	▪ Including side guidance ▪ To be mounted before/behind ItemUnit
SLF005	**Housing for Conveyor Belt**	▪ Housing for conveyor belt 200 mm
SLF006	**Conveyor Belt Approx. 500 mm**	▪ Including side guidance ▪ To be mounted before/behind ItemUnit *Standalone conveyor belt should be screwed at the floor.*
SLF007	**Housing for Conveyor Belt 500 mm**	▪ Housing for conveyor belt 500 mm
SLF008	**Conveyor belt approx. 1,000 mm**	▪ Including side guidance ▪ To be mounted before/behind ItemUnit *Standalone conveyor belt should be screwed at the floor.*
SLF009	**Housing for Conveyor Belt 1,000 mm**	▪ Housing for conveyor belt 1,000 mm
SLF010	**Additional Print Head**	▪ Print height of max. 12.7 mm per print head for Thermal Inkjet printer
SLF011	**Mounting for additional print head from the side**	▪ Mounting for additional print head from the side
SLF015	**Additional Reject Stations**	▪ Ejector with nozzle or pusher ▪ Reject bin ▪ Reject verification ▪ Fill level sensor for reject bin ▪ Locking system for reject bin
SLF016	**CO_2 Laser Printer (60 W)**	▪ 60 watt air cooled laser system ▪ Coding speed up to 50 m/min (depends on print content; typical 35 m/min) approx. 90 Nm³/h

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Carton Station ItemUnit™ with Software Package InspectProof
STANDARD SOLUTION SPECIFICATIONS

SALES ITEM*	SOLUTION	SPECIFICATIONS

SCR017 + SCR019	**Carton Station ItemUnit™** with Software Package InspectProof	▪ The Carton Station-TE Basic is an automated carton label serialization unit, with tamper-evidence feature.
		▪ Inspection with bar code and Optical Character Verification (OCV) analyzers
		▪ Two Tamper Evidence applicator, adjustable at operator and machine side
		  ▪ Blow on label application
		  ▪ Label placement and turn-over verification by glare sensors
		▪ 18,5" TFT touchscreen monitor
		▪ Camera for carton inspection (Field of view < 85 mm x 53 mm)
		▪ Encoder with cables
		▪ Integration in line specific emergency stop
		▪ InspectProof software
		▪ Barcode analyzer
		▪ Multi-segment LED tower light indicator
		▪ Wireless Handheld Scanner
		▪ Thermal InkJet printer with one print head
		▪ Wipotec checkweihing inspection system
		▪ Air blast or pusher mounted at outfeed conveyor
		NOTES:
		▪ Refer to the limitations table
		▪ Refer to machine dimensions table
		▪ Refer to printing position table
		▪ Refer to the label specifications table
		▪ Refer to the label specifications table
		*IMPORTANT: This is an alternative ItemUnit solution utilizing different software. Please be aware that this version is still evolving, and its functionality and details may be modified in the future. For more information, please contact your Account Director.

SALES ITEM	OPTIONS	SPECIFICATIONS
SCR020	**Additional Camera and Printing Unit for Carton Station-TE Basic**	▪ Additional camera for bar code inspection and Optical Character Verification (OCV) analyzers on opposite side of the carton. ▪ Mounting for additional print head from the side *Specific vision study may be needed with extra charges*
SRR012	**Infeed conveyor**	▪ Infeed conveyor, 10-inch width ▪ 32-inch or 36-inch heights available ▪ Mounting support ▪ Pads or casters available ▪ 24-inch or 36-inch lengths available ▪ Emergency stop
SRR013	**Outfeed conveyor**	▪ Outfeed conveyor, 10-inch width ▪ 32-inch or 36-inch heights available ▪ Mounting support ▪ Pads or casters available ▪ 24-inch or 36-inch lengths available ▪ Emergency stop
SCRXXX	**Print size higher than 12 mm**	▪ Additional print head (code height < 24 mm)
SSO002	**Upgrade to Beckhoff HMI**	▪ Beckoff 24'' mounted on standard electrical enclosure only ▪ Replacement of OPTEL base Human-Machine Interface (HMI) for Beckhoff HMI
SCRXXX	**Additional Reject Stations**	▪ Pneumatic ejector with mounting brackets ▪ Ejection bin with ejection confirmation sensor ▪ "Good product" confirmation sensor

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ORDERING INFORMATION – STANDARD SOLUTION CONFIGURATION

Encompassing all of OPTEL's expertise and legacy, this standard Carton Station ItemUnit™ configuration is a predesigned hardware and software solution that meets your boxes needs quickly and cost-effectively, while conforming to current industry standards.

To obtain a quote, contact your Account Director, who will work with our quote department to provide you with accurate pricing for your solution. To get a quote, contact your account representative or visit the 'Contact Us' section on OPTEL's website.

ADDITIONAL INFORMATION REQUIRED FOR QUOTE

- Box/label samples
- User Requirements Specifications (URS)
- Product matrix
- Floor layout

NORTH AMERICA
HEADQUARTERS
Canada
1989

NORTH AMERICA
United States

EUROPE
Ireland
2014

EUROPE
France

EUROPE
Germany
2021

ASIA
India
2016

SOUTH AMERICA
Brazil
2017

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