

ENCLONY

TREND PIONEER

Inspection solution with
the best flexibility and usability

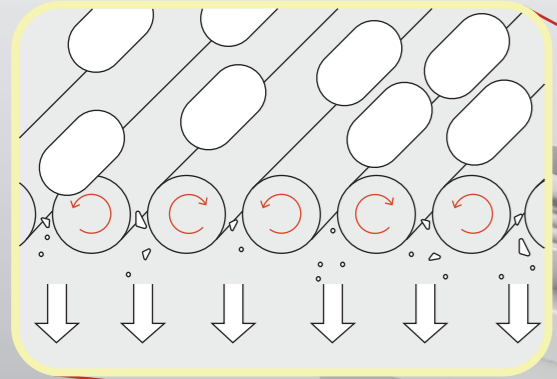
PLANET EV

A high capacity, diversity machine for

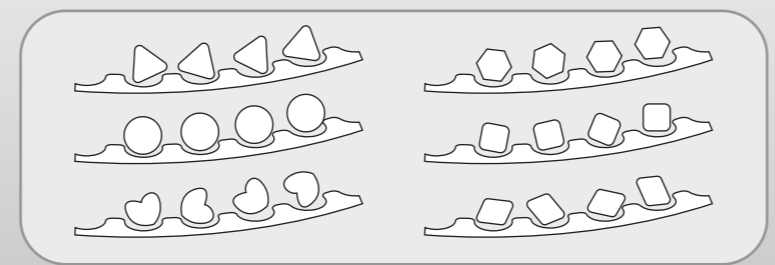
**Automatic Vision Inspection
of TABLETS, CAPSULES**

Ultimate Flexibility and Stability

Screw Feeder



Pocket Guide



Centrifugal Feeder

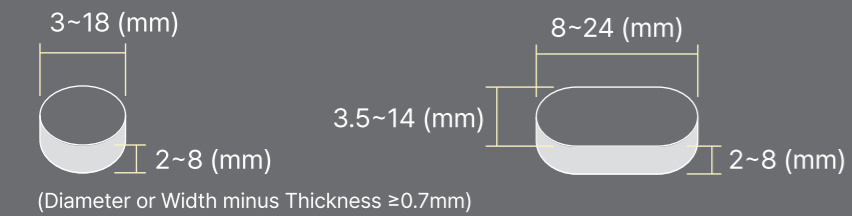
Rotation Guide

* Pending a patent

	Flexibility	Stability
Screw Feeder	Applicable to all product shapes and sizes	Innovated design & Cyclone - Removing dust perfectly - Providing excellent condition for transfer
Centrifugal Feeder	Providing 45 kinds of guide (Pocket & Rotation Guide) - Inspecting every product such as dedicated machine - Applying every shape of products Providing 7 kinds of feeder gate - Cover all types of products	Pocket & Rotation Guide - Silicon material for minimizing product damage - Stable position & feeding without friction force - Stable feeding for small(3.5mm) and high convex tablet Creative design and Optimized feeder size - Feeding efficiently - Minimizing product damage by low RPM - Securing stable feeding for difficult product

TABLET INSPECTION

Applicability

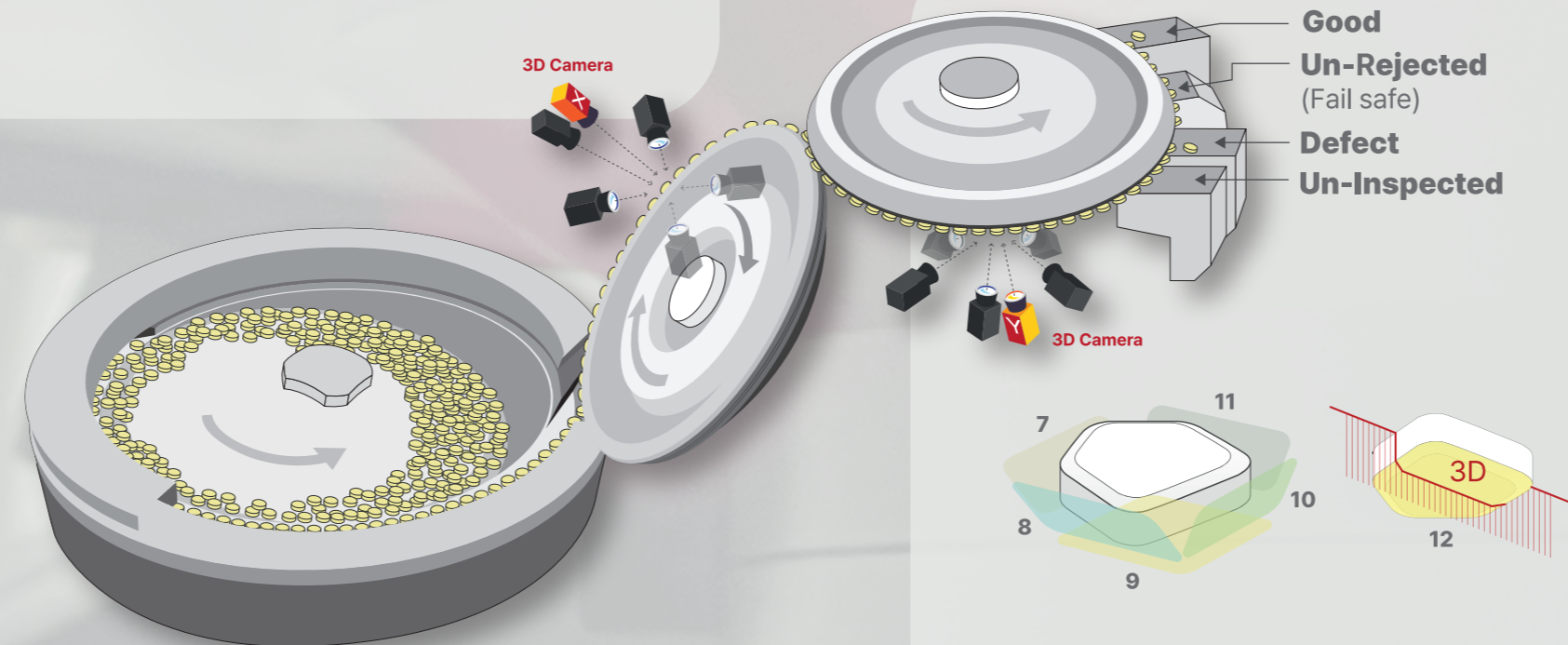
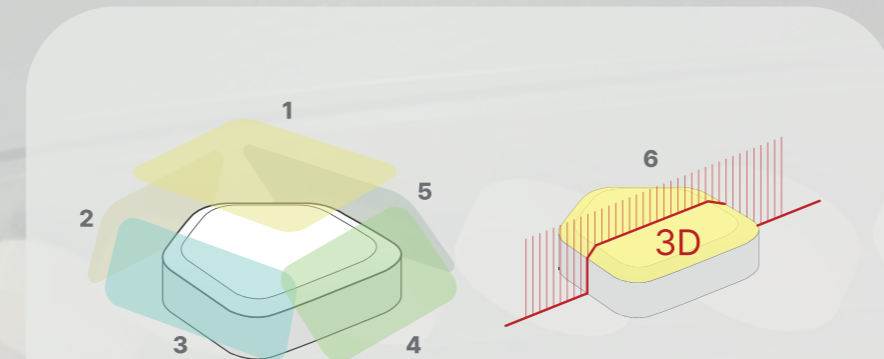


Uncoated, Film coated, Sugar coated, Multilayer
 Polygon Shape : Triangle, Square, Diamond, Pentagon, Hexagon, Octagon etc.
 Free Shape : Heart, Kidney, Bean, Water drop, Half round, Almond, Flower etc.

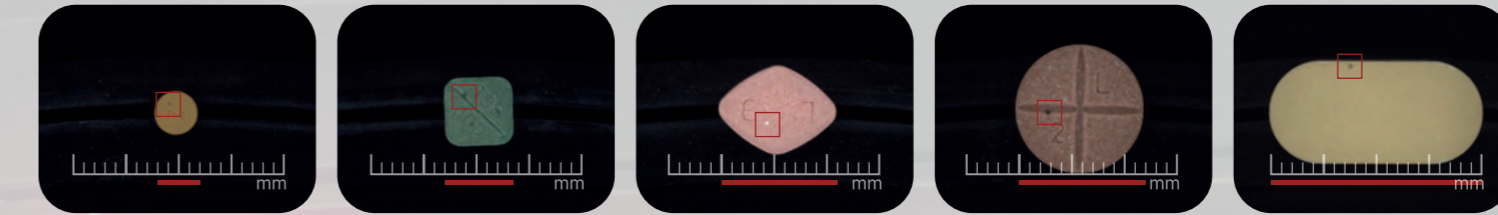
Speed

Shape	Size (mm)	PLANET EV
Round (Diameter)	4.6 ~ 5.3	425,000
	5.3 ~ 6.1	370,000
	6.1 ~ 7.1	320,000
	7.1 ~ 8.2	280,000
	8.2 ~ 9.3	240,000
	9.3 ~ 10.7	210,000
Oval / Oblong (Length)	10.7 ~ 12.4	180,000
	10	230,000
	12	198,000
	14	176,000
	16	154,000
	18	132,000
	20	110,000
	22	99,000

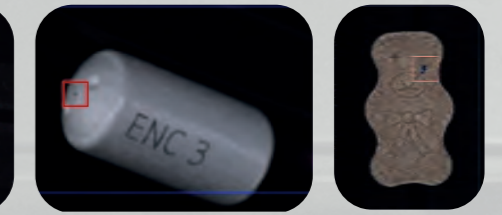
*The maximum speed can be affected by condition of tablet.



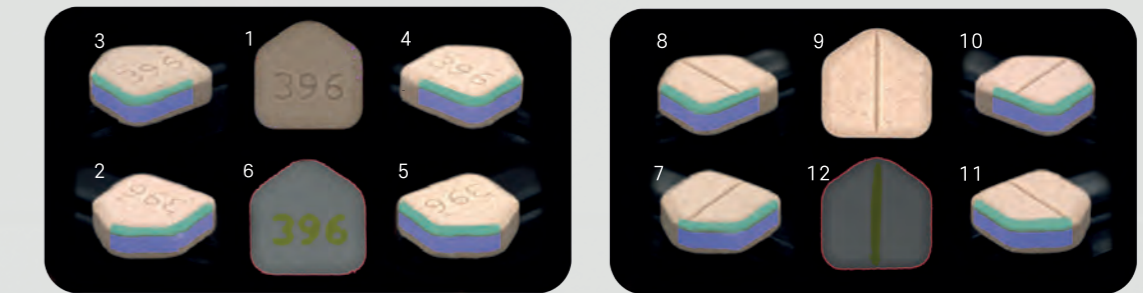
Standard



Special



Each tablet is inspected by ten 2D cameras capturing the complete surface areas (top, bottom, 360° sides with the shoulder, and edge corners of the tablet) without any blind spot. In addition, two 3D cameras measure the height of tablet surface, both side of top and bottom, which allows to detect minimum 50µm defects including defects in engraved ID.



CAPSULE INSPECTION

Applicability



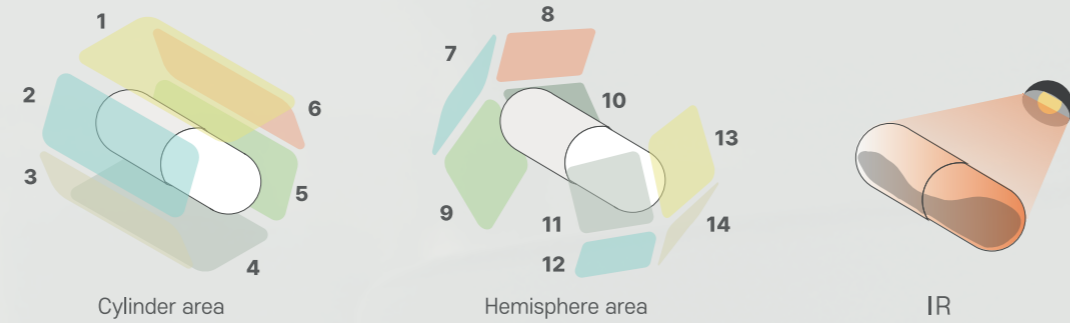
No : 00, 0, 1, 2, 3, 4, 5

Speed

No	PLANET EV
00	100,000
0	110,000
1	120,000
2	130,000
3	140,000
4	150,000
5	160,000

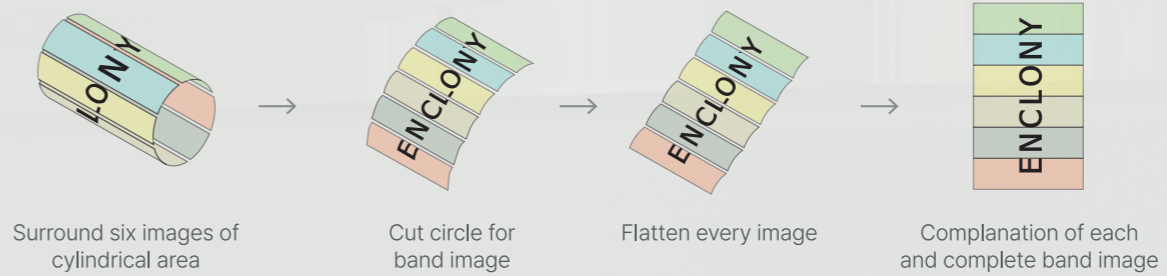
*based on hard capsule

*The maximum speed can be affected by condition of capsule.

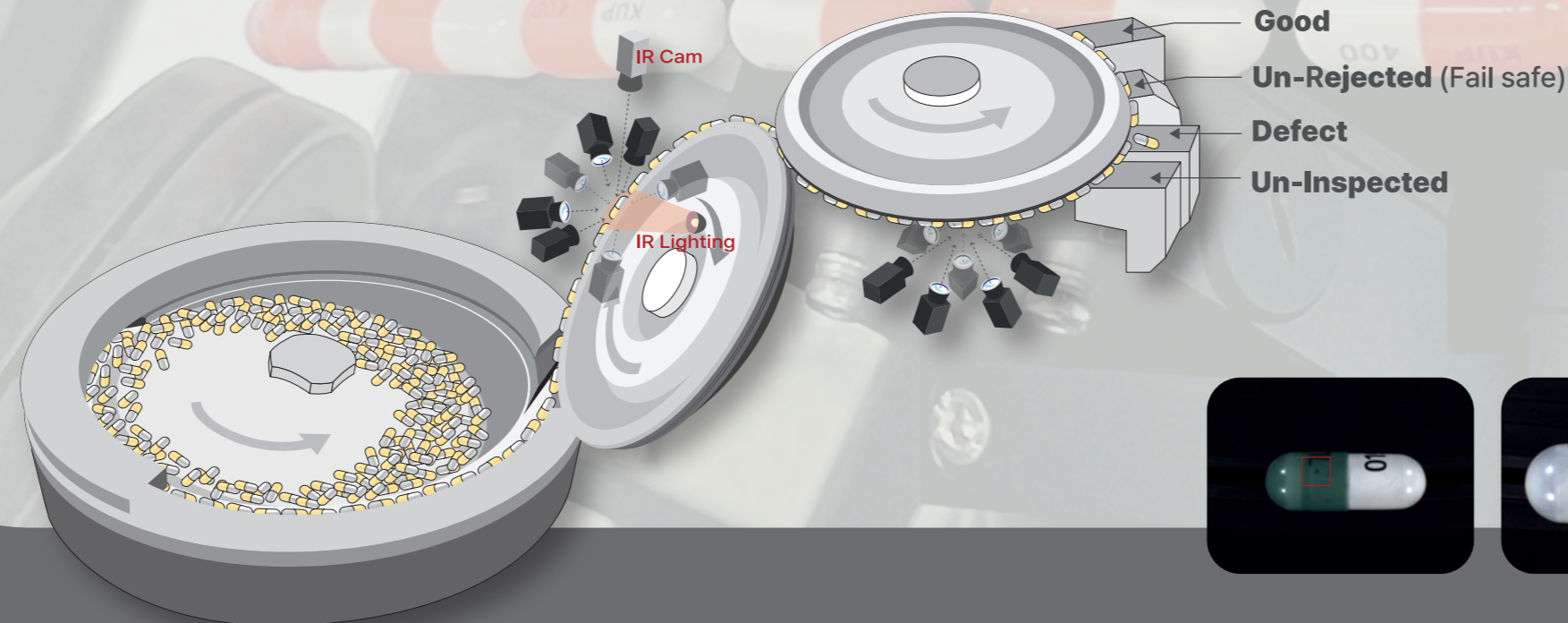


Each capsule is inspected by fourteen 2D cameras capturing the whole surface area (360° cylinder area and both hemispheres areas). An additional infrared camera detects the inside of capsule to check whether it is empty or lacking contents.

Cylinder Parts Renovation to the Band Image

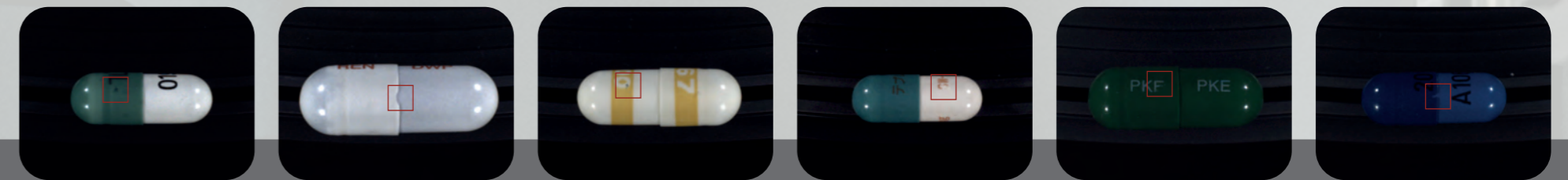


6 images, which form a 360° cylinder area, are combined and flattened after several steps of image reformation algorithm, as shown in the images above. With this, we are able to perform detailed image analysis of cylinder area especially for printed ID 360° surrounded by capsule.



360° Print Analyzation

Geographic analysis enables complete inspection of ID on 360° banded images, including complex printing.



Defect Analyzation



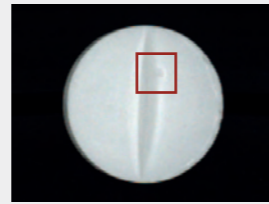
Real Image

Image taken by Planet

Chipping



Edge Corner



Split Line



Engraving

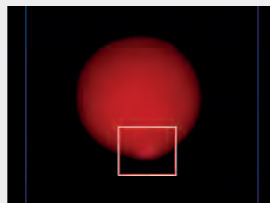
Print, Bump, Foreign Object



Blurred Print



Bump

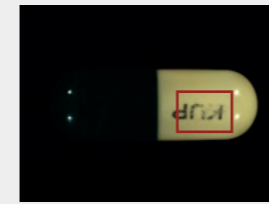


Bump



Hair

Print



Smear

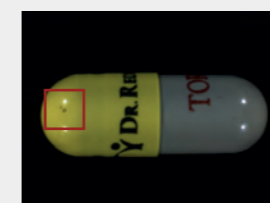


Print erased

Stain

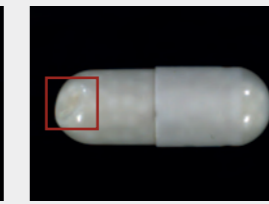
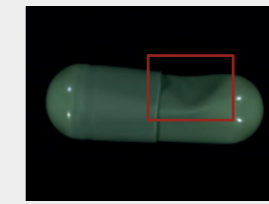


Black Spot on Print

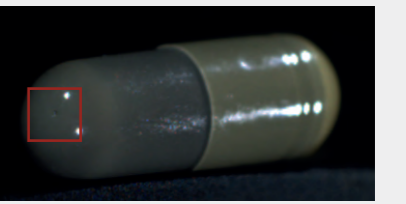


Black Spot on Sphere

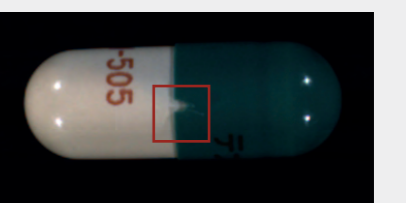
Dent



Pinhole



Joint



Color Defects



Stained



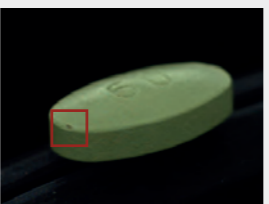
Spot on Multi-layer



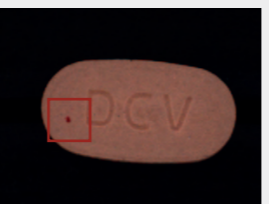
Spot on Multi-layer



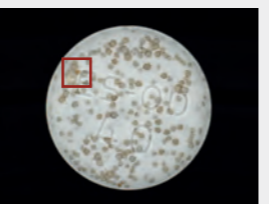
Color Deviation



Spot



Spot



Foreign Color on Freckles

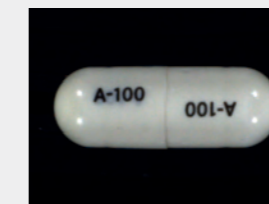
Scratch, Bubble, Double Cap



Scratch



Bubble

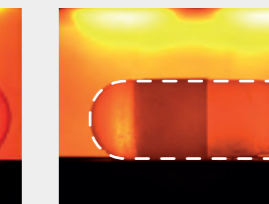


Double Cap

Empty, Short & Long



Empty



Short



Long

Easy Cleaning

It is designed with **no electric cables, sensor wires, air hoses** to make cleaning easier. And prevents cross contamination because there is no location that cannot be reached by hand. Furthermore, the entire operation chamber may be viewed at once, allowing for proper cleaning.

Disassemble
3min.

Cleaning
10min.

Reassemble
5min.

Fast & Easy
18 min

Simple Changeover



Step 1.
Check the size and shape of the product



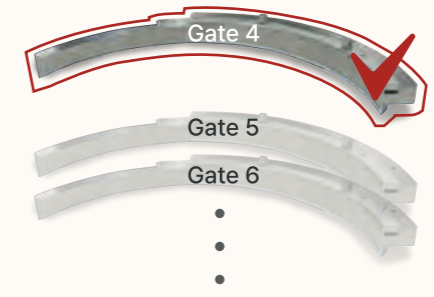
Step 3.
The machine automatically adjusts the gap



Step 4.
Ready for inspection



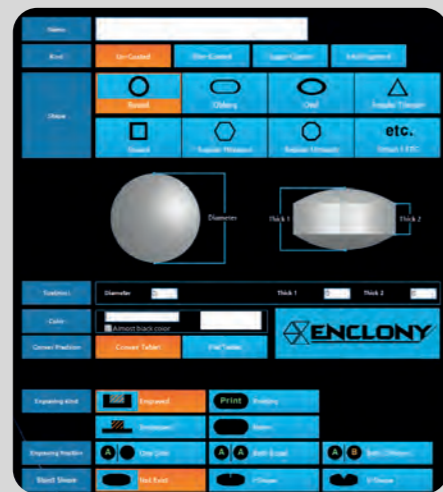
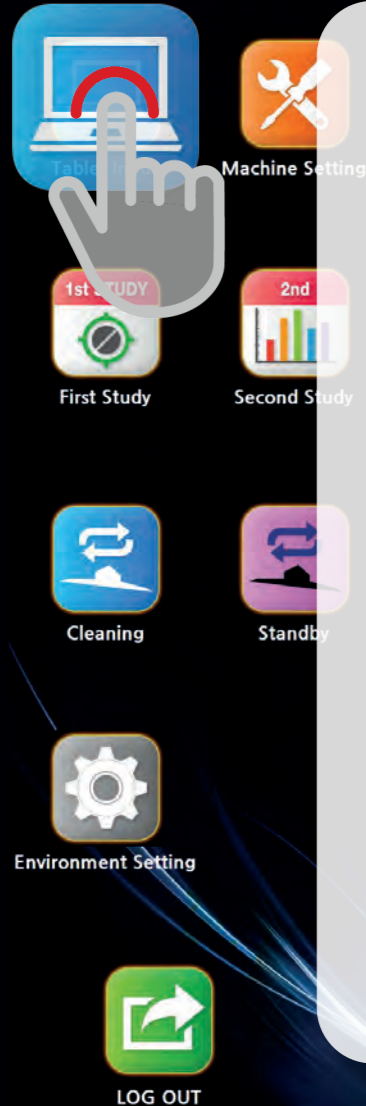
Step 2.
assemble suitable parts



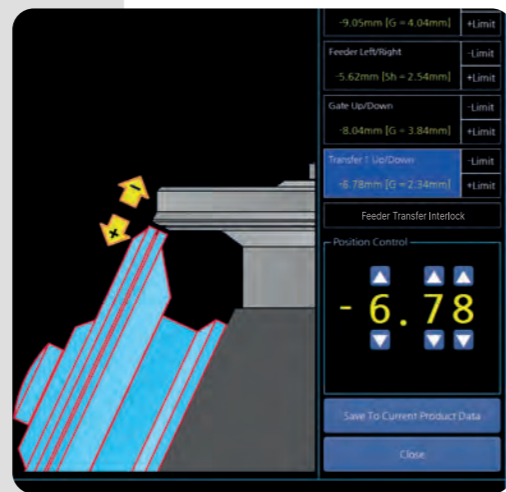
Simple parts combinations and minimize tasks for operators

Smart HMI

HMI designed with smart icon is easy approachable to all controls and adjustments in the machine operations include inspection processing, electrical and mechanical control, operation, recipe setting, function testing, various controls (light brightness, illumination, shutter speed, etc.), production reports, audit trail reports, user access management, log-in, log-out, and so on. Any language accessible for Windows is applicable.



Simple input of product information



Numerical machine settings and storage in the recipe

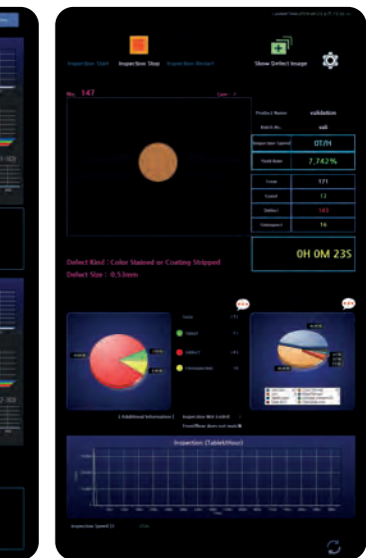
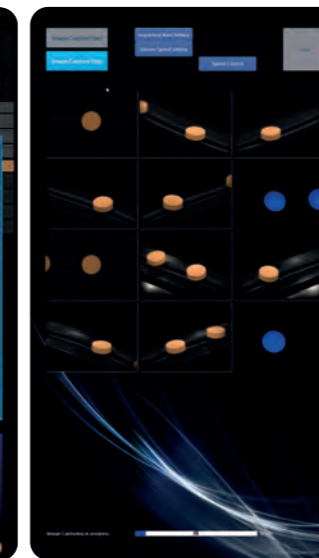
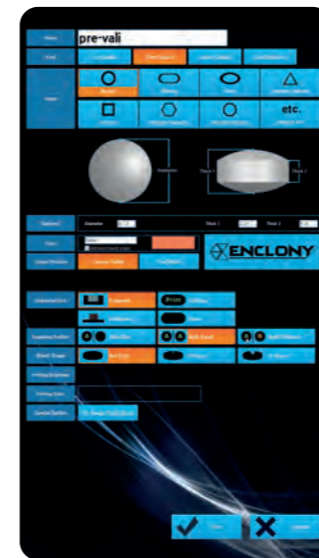


Easy ID extraction

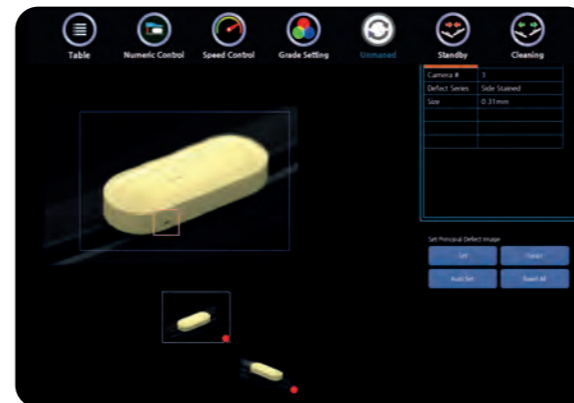
Easy New Recipe Setting in 30 min.

Your operator can set up the recipe of the new product. Smart HMI guides your operator in 6 steps to get the initial parameters of the new product within 30 minutes, which can be set as your own adjustment per your quality standard.

1. Create New Recipe
2. Machine Setting
3. Image Capture
4. Feature Extraction
5. Self Study
6. Inspection



Running Simulation



Real-Time Operation Status



Improvement of Productiveness, Efficiencies with PLANET Inspection

PLANET EV



Application	Dimensions (mm)	Electric	Power Consumption	Compressed Air	Weight	Materials
Tablet /Capsule	W : 1,410 D : 1,073 H : 1,820	3-Phase 60/50 Hz	11.5 kW	Less than 0.55 MPa	~ 1,100kg	FDA, CE, GMP Certified



Easy to Use



Excellent Durability



Adopt Every Product



Unlimited Recipe



Dedicate Parts for Product

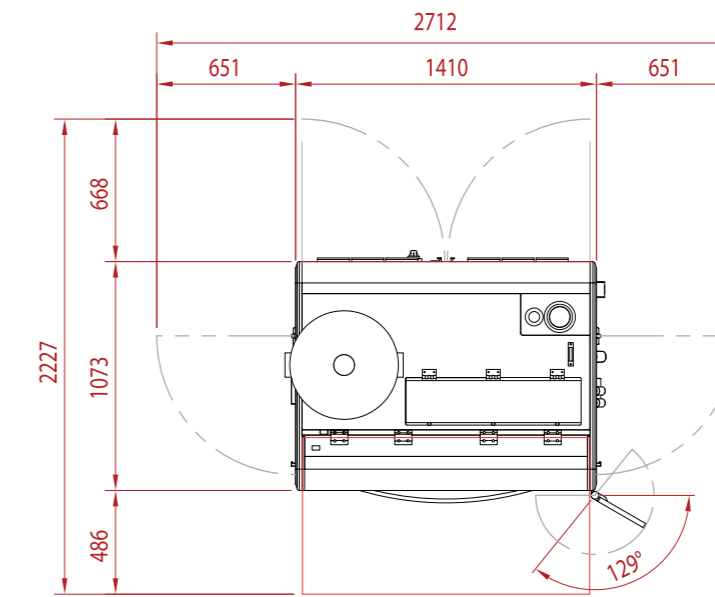
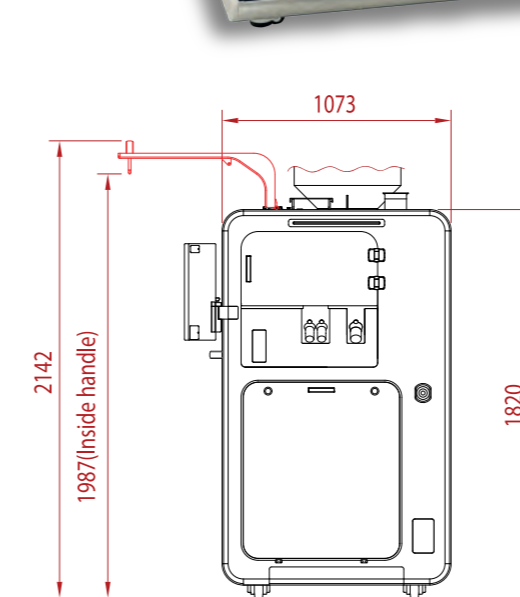
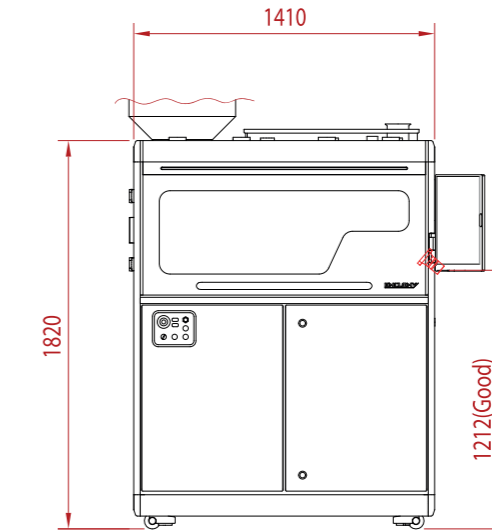


High Resolution Camera

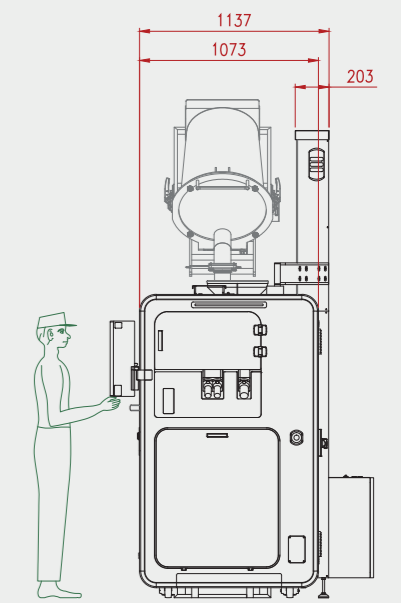
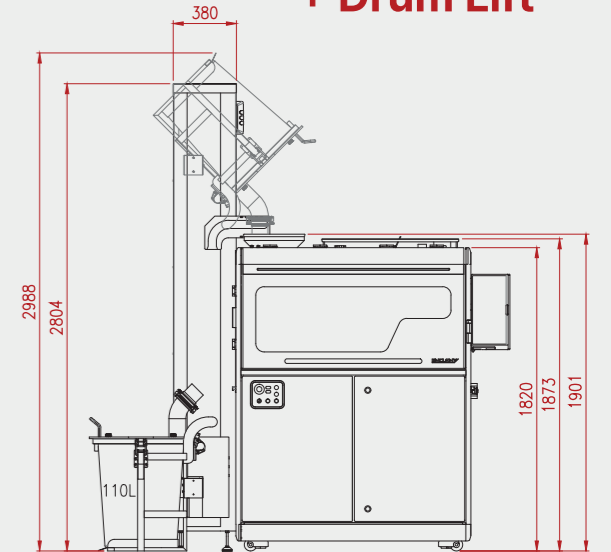


High Cost Effectiveness

Inspection Machine



Inspection Machine + Drum Lift



ENCLONY Co., Ltd. (HQ)

www.enclony.com

No.1901,243,Digital-ro, Guro-gu, Seoul, Korea 08382

E-mail : sales1@enclony.com Tel : +82 (0)2 855 0095

ENCLONY Europe

ENCLONY GmbH

Carl-Legien-Straße 15, 63073 Offenbach am Main, Germany
(Sirius Business Park, Offenbach)

E-mail : sales@enclonygmbh.com Tel : +49 (0)162 7628613

ENCLONY Japan

E-mail : Horiwaki@n-enclony.co.jp

Tel : +81 (0)90 3872 2104

