

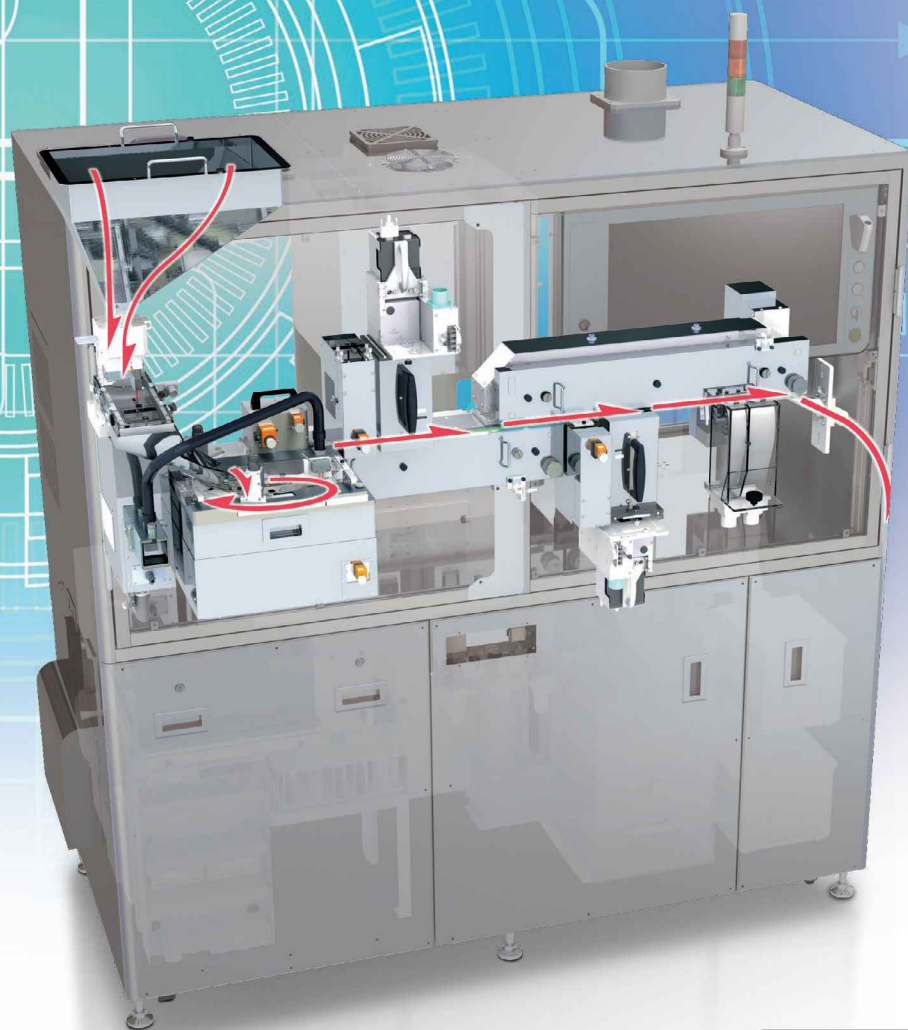
viswill



TVIS-NSR

TABLET VISUAL INSPECTION SYSTEM

Revolutionising the Global Standard



→ Product flow direction of Tablet

UNIT INTRODUCTION



Hopper



Vibratory feeder



Flow-control subsystem



Face/side lighting unit
and 3D inspection



Rejection unit

TVIS-NSR

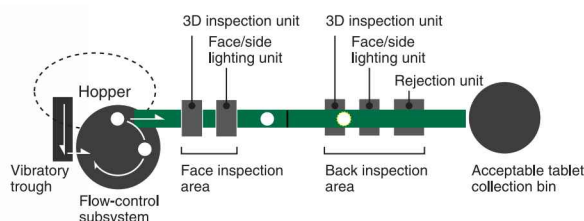
TABLET VISUAL INSPECTION SYSTEM



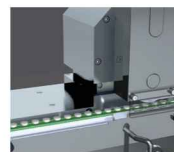
Higher Processing Capacity,
User-Friendly Operation and Easy Cleaning

Processing Capacity

High processing capacity with new flow-control subsystem



Disk track rotary system

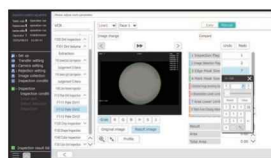


Suction conveyor system

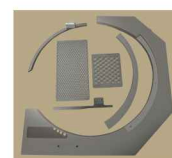
- New disk track rotary system for tablet feeding
- Stable transfer with high processing capacity
- Improved inspection speed up to 50% for circular tablets and 80% for shaped tablets (compared with the conventional model)

User Friendly

Easy machine operation



Display inspection status on tablet image



Change over parts

- Easy recipe making
- Automatic setting for all volumes
(for Feeder, flow-control subsystem, suction blower for conveyor and powder collection)
- No adjustment for focus, iris needed
- Inspection parameters displayed in real time
Enhanced easiness in optimum parameter settings

Easy Cleaning

Easy assembly and cleaning



All units are removed for cleaning



Complete separation of camera and optical units

- Complete separation of camera and optical units from tablet transfer and inspection area



Intuitive
Operation

EASY

ALL Data
stored



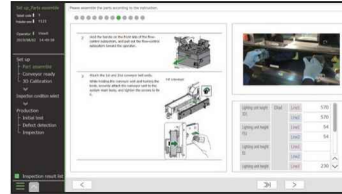
EASY OPERATION



Home screen



Inspection screen



Set up video available



Real time view on tablet transfer

DATA ANALYSIS



Graph of the output and defect rate

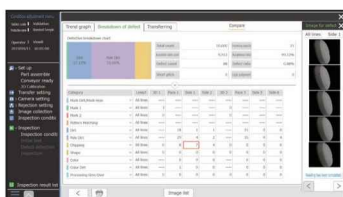


Backup of all defect images



Initial test result displayed

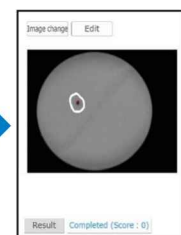
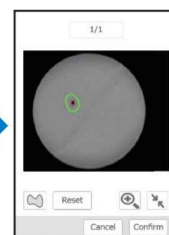
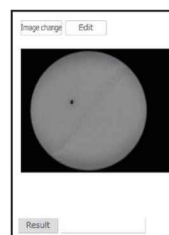
EASY RECIPE SETTING



Easy inspection of defect images



Past lot data analysis and comparison

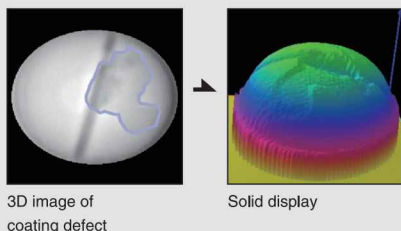


Easy
setting

3D inspection: the new era of visual inspection

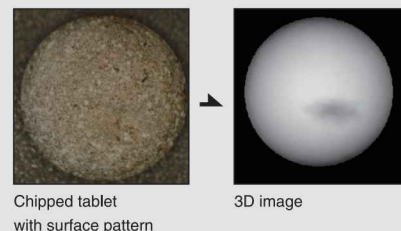
Rejection of coating defect

Shape characteristics of tabletsurfaces captured in 3D images



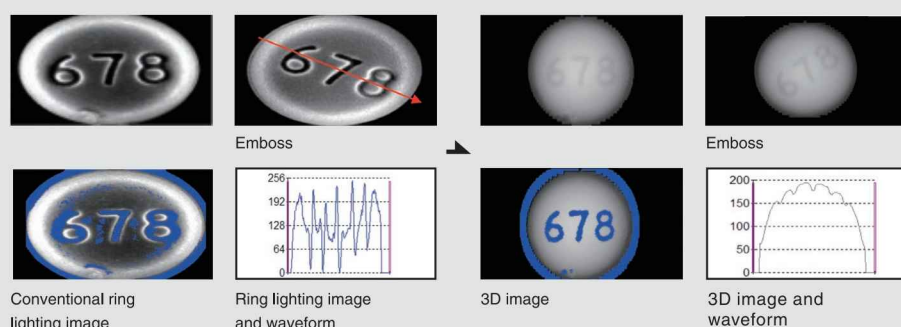
Inspection for face chipping of spotted tablet

No influence from tablet surface pattern



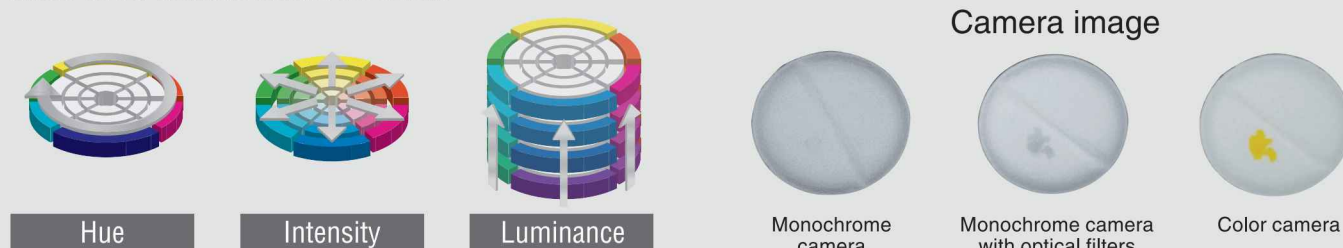
Comparison with conventional ring lighting

Only characteristics of emboss and chipped tablets are captured



Make accurate color inspection possible with color camera

Color cameras with highly precise color resolution readily detect color defects based on the accurate feature extraction.



Improved emboss/printing inspection

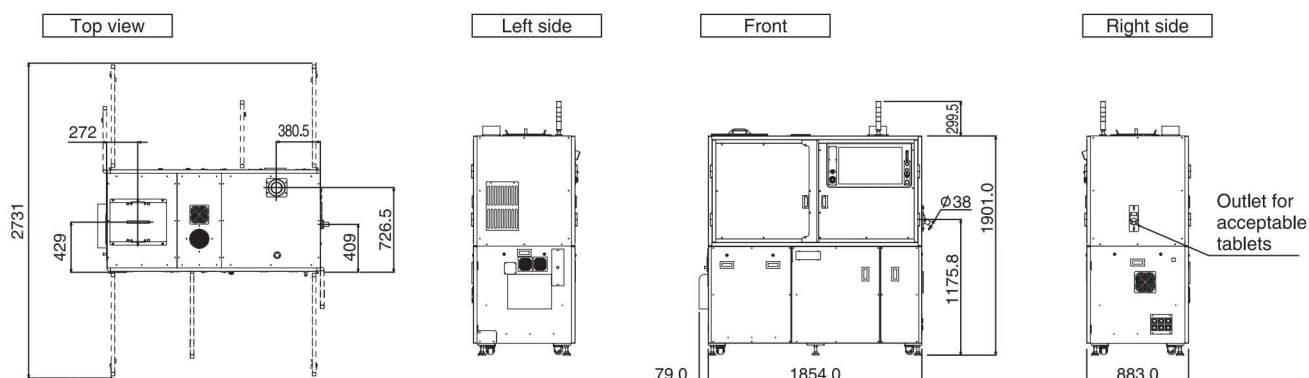
Our algorithms allows to inspect each character and to reject emboss/printing defects.



TVIS-NSR Standard Specifications

Item		Specification	
Inspection functions		Applicable tablets	Uncoated, film-coated, sugar-coated tablets; tablets with printed mark on one or both sides: scored tablets; tablets with engraved mark
		Tablet size	Round tablets: 5-12 mm in diameter and 2-8 mm in thickness Shaped tablets: 5-12 mm in width, 2-8 mm in thickness, 5-21 mm in length Non-standard shape tablet is also applicable.
		Inspected items	Dirt, scratch, adherence of foreign particle, crack, chip, deformation, different color. coating and emboss defects, etc.
		Inspected surfaces	Face, back, and side Top, bottom and side
		Inspection accuracy	Detection of defects equivalent to a 50µm square or larger black speck, and 1 mm ² size chip
		Processing capacity	300,000 tablets/hour (actual value; dia. 6mm). The value varies according to the size and shape of tablets.
Hardware	Image and data processing	Optical unit	Face/side lighting unit (LED) and 3D inspection unit (laser)
		Camera	Face/side: 3CMOS color line sensor camera x 2, 3D inspection: CMOS area sensor camera x 2
		Monitor/communication	Touch Panel (23.8 inch)
		Data processing unit	V-IPU (Viswill Image Processing Unit)
	Transfer subsystem	Hopper	Capacity: 21 L
		Vibratory feeder	Electromagnetic rectilinear feeder
		Flow-control turntable	dia 350 mm, disk track rotary system
		Conveyor units	Dual conveyor lines using timing belts
	Rejection subsystem	Rejection unit	Pneumatic system with rejection monitoring functions
		Defective tablet Collection bin	Capacity: 16 L
Uninspected tablet collection bin		Capacity: 12 L	
		Pneumatic system	Suction blower for the belt conveyor units: 3.7kW
Software		Inspection functions	Overall evaluation, input of sensitivity, inspection condition setting, inspection result output, simulation
		Diagnostic functions	Monitoring of transfer condition, monitoring of defective ration, monitoring of hardware malfunction, monitoring of tablet feed
Size and environment		Dimensions	1,854Wx883Dx1,901H
		Power supply	200 VAC (3 phase), 50/60 Hz
		Pneumatic pressure	≥0.5MPa
		Ambient conditions	Temperature, 10-30°C, humidity 30-70%
		Outer housing	Stainless steel (SUS304) hairline finishing (buffing is available as an option)

TVIS-NSR Dimensions



R&D and Manufacturer

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