



NFA Partnership

Automatic Tablet & Capsule Inspection Machine

SELMA series

VISION INSPECTION SYSTEM



NFA Co., Ltd.

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Company History

- 2000.07 1st Generation
Empty capsule inspection machine
- 2003.12 Developed
Image processing board & IT DSP chip
- 2005.12 Developed
BLU screen inspection machine
- 2006.09 Developed
FPCB external inspection machine
- 2007.04 2nd Generation
Tablet inspection machine
- 2009.07 3rd Generation
Tablet inspection machine
- 2012.01 4th Generation
Tablet & Capsule inspection machine
- 2016.04 5th Generation
Tablet & Capsule inspection machine
- 2018.01 6th Generation
Tablet & Capsule inspection machine
- 2019.02 7th Generation
Tablet & Capsule inspection machine

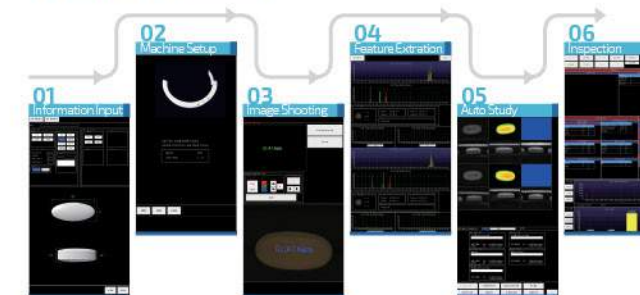
Company Patents



USER FRIENDLY INTERFACE DESIGN

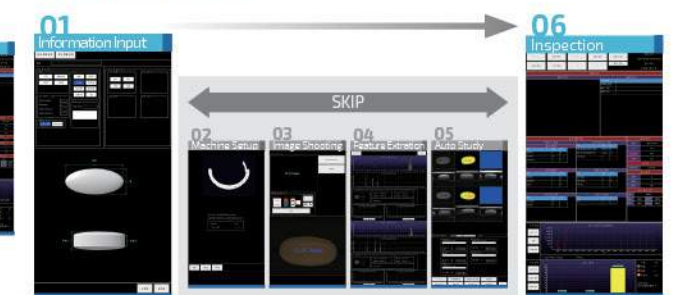
New Tablet (Capsule)

Setup : 30 mins



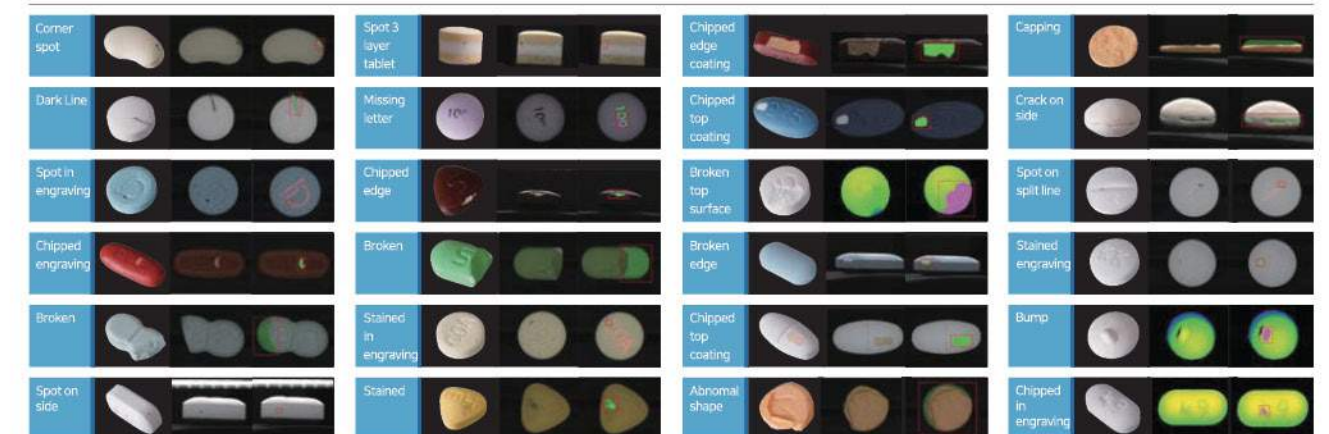
Registered Tablet (Capsule)

Setup : 5 mins

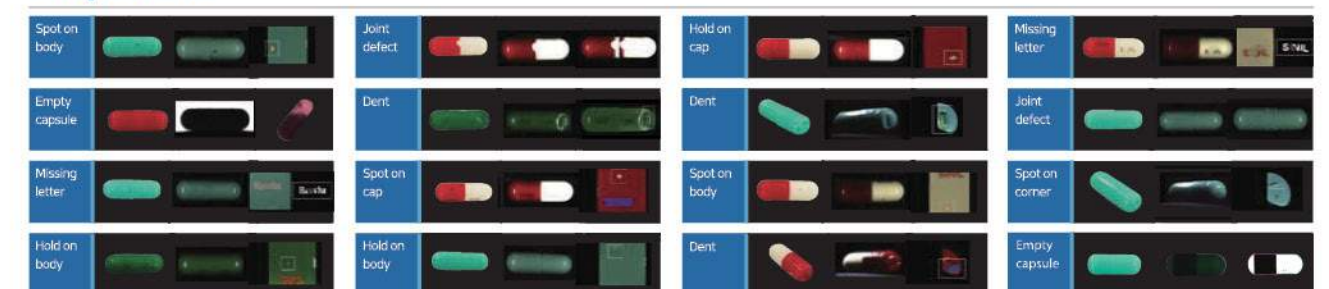


DEFECT INSPECTION RANGE

Tablet



Capsule



Global Partnership

- Korea, Japan, China, Thailand, Myanmar, Singapore, Malaysia, Indonesia, Australia, New Zealand, Bangladesh, India, Pakistan, Sri Lanka, Jordan, Saudi Arabia, Arab Emirates, Iran, Egypt, USA, Mexico, Argentina, Uruguay



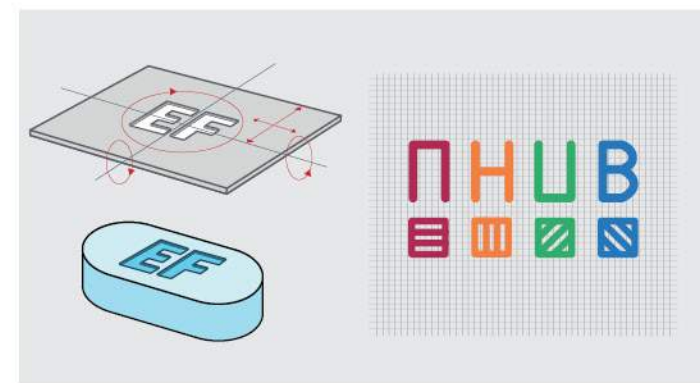
INSPECTION TECHNOLOGY

Step 1 Set a standard image with tablet(capsule) features such as size, shape, print, engraving, color and etc.

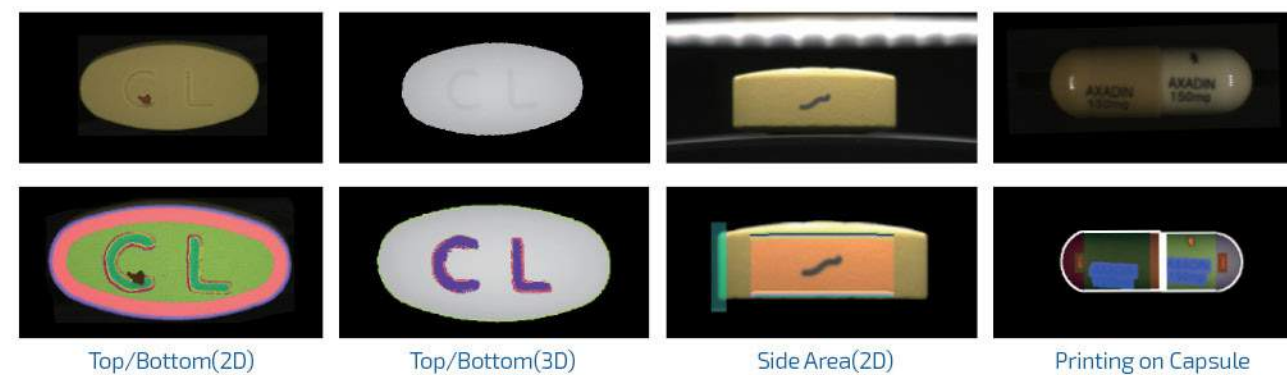
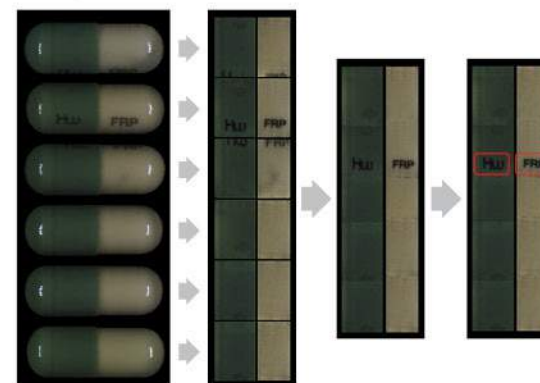
Step 2 Compare the standard image with real tablet(capsule) capture image to pick out defects



Tablet
Recognize the engraving as "shape" not pixel size

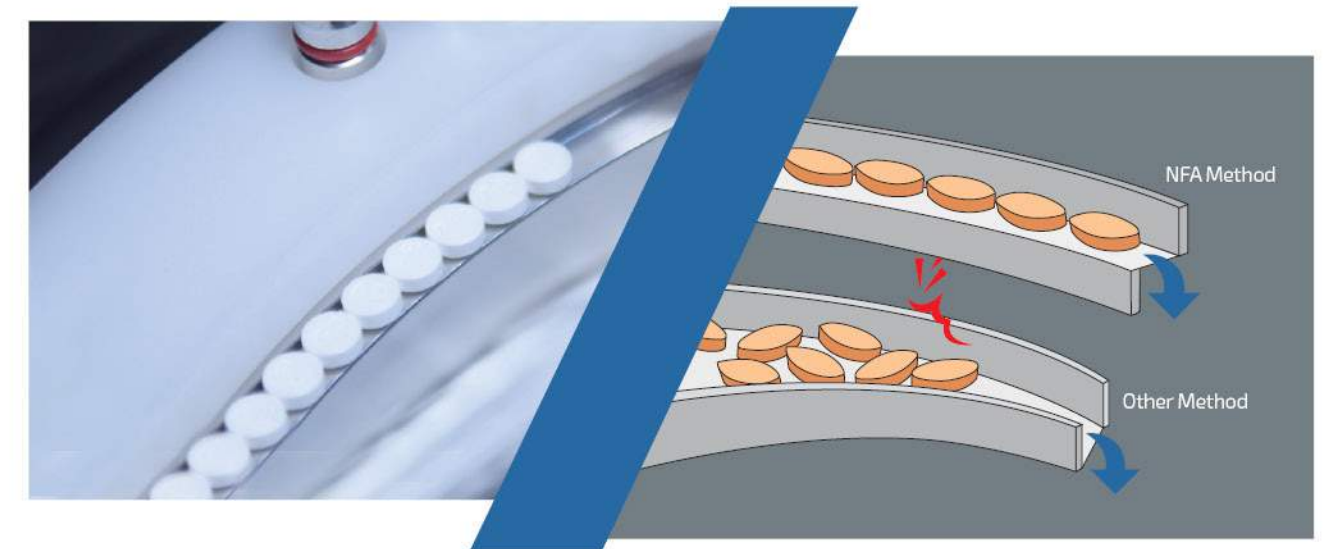


Capsule
Arrange capsule images into one image (body & Cap each)



INSPECT TABLET & CAPSULE IN A SINGLE MACHINE

Anti-jamming Design



Inspect variety of Tablet & Capsule (Change Part)



Same Diameter(Width) = Same Change Part

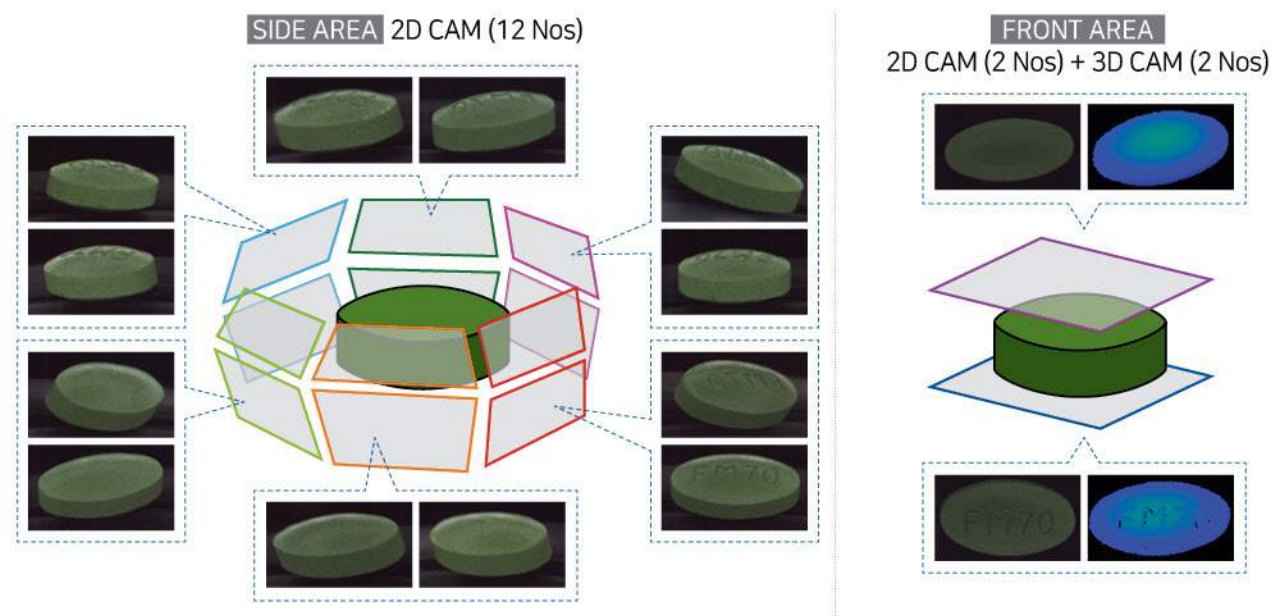
Do NOT need to replace change parts for same diameter(width) of tablet & capsule.

Replace only 3 pieces, when diameter (width) is changed.

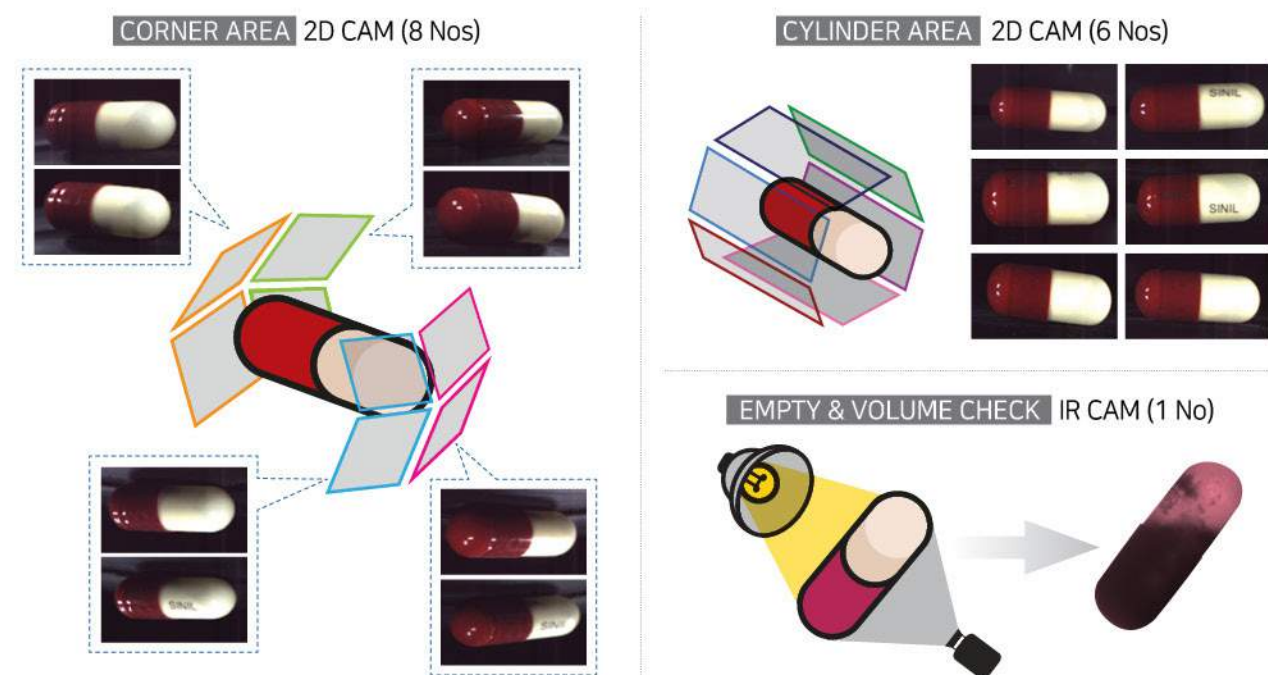


SELMA200 (7th GENERATION)

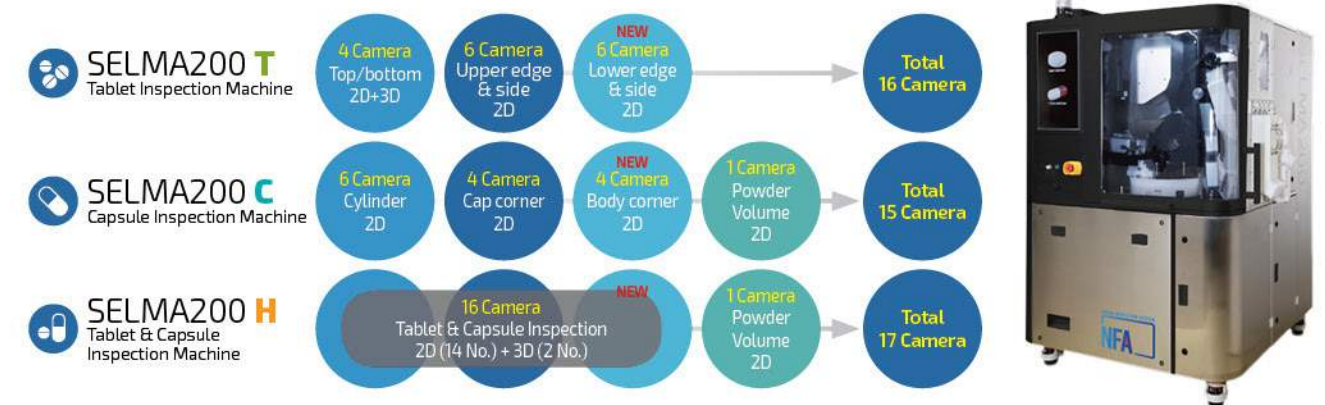
Tablet Camera position (Total 16 camera)



Capsule Camera position (Total 15 camera)



Camera Composition | SELMA200



Inspect Capacity

Capacity	Tablet(length)				
Size	Round 5mm		Round 8mm		Oval 14mm
Max (hour)	500,000		400,000		190,000
Capacity	Capsule(size)				
Size	No.4	No.3	No.2	No.1	No.0
Max (hour)	200,000	185,000	170,000	155,000	145,000

* The maximum speed can be different depending on the inspection condition of tablet(capsule)

Inspection Range

	Tablet	Capsule
Type	Uncoated Film-coated [Option] Sugar-coated	Hard gelatin
Size	Length : 5 ~ 24mm Width(Diameter) : 5~12mm Height(Thickness) : 2~8mm	Size : 0, 1, 2, 3, 4 [Option] Size 00 and Size 5
Camera Resolution	25μm	

* At least 0.6mm gap between width & height should exist for tablet inspection.

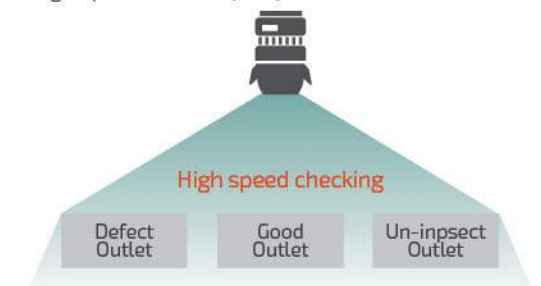
※ The above specifications and capacities can be changed without notification for the reason of technical improvement.

Environment

Electric Consumption	7kW
Compressed Air (Dry)	5~8 bar
Temperature Humidity	10~30 °C / 30~70%
Pneumatic Pressure	≥0.35MPa
Material	SUS 304, SUS 316, UPE

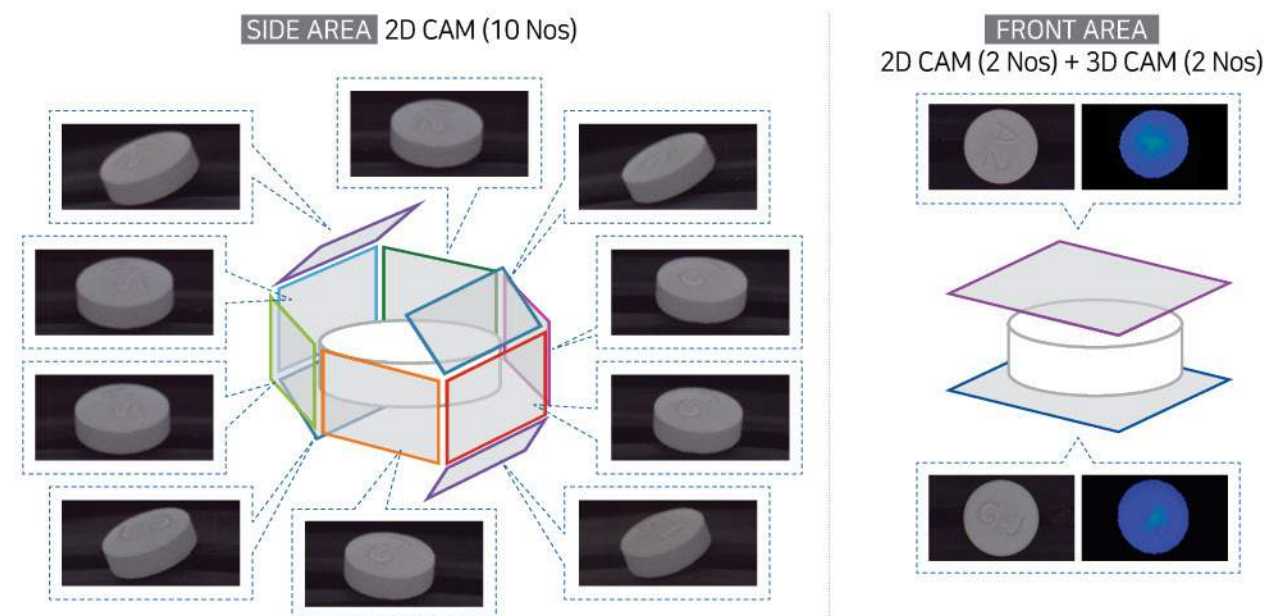
NEW Option

Discharge Check Camera
Prevent good & defect products mixed-up using high speed camera (1 No)

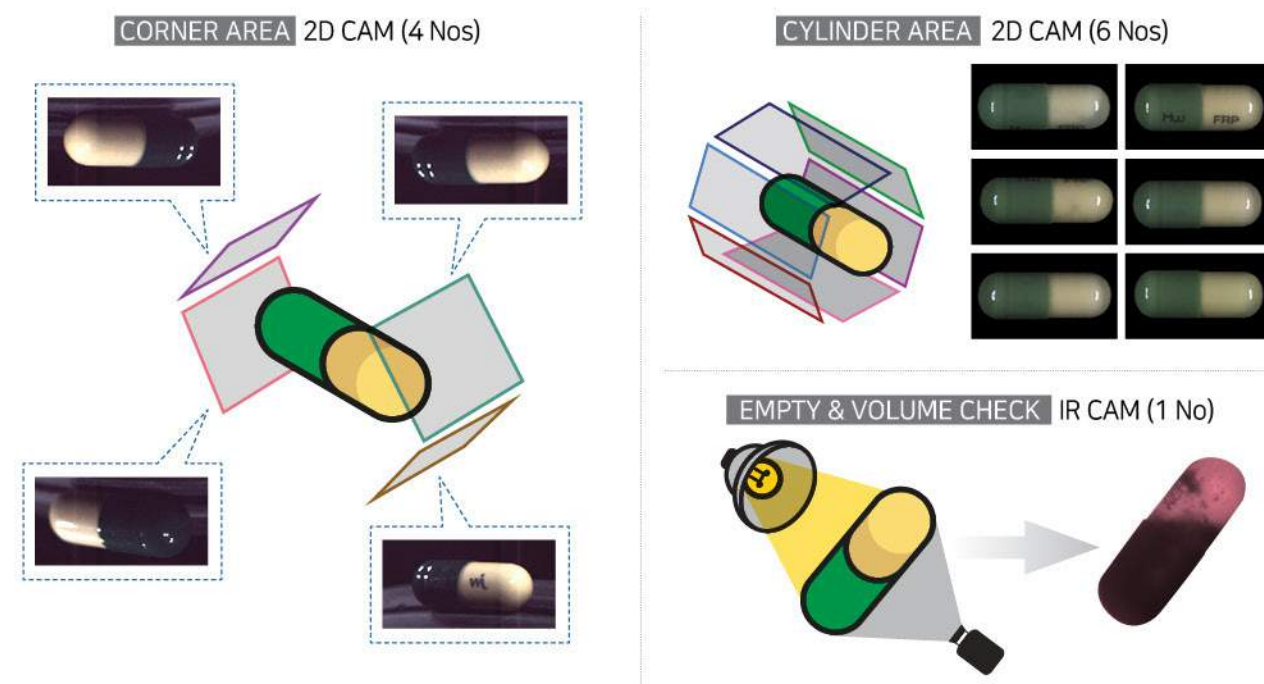


SELMA150 (6th GENERATION)

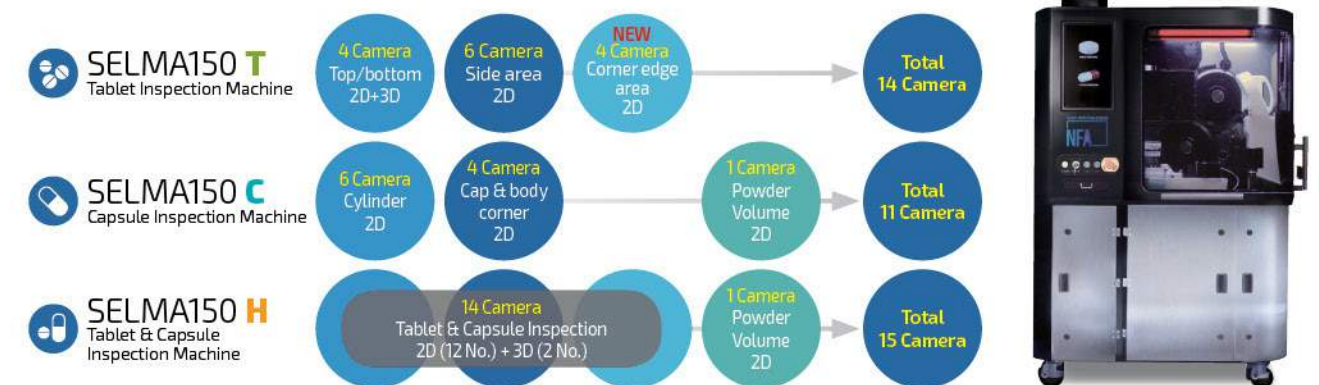
Tablet Camera position (Total 14 camera)



Capsule Camera position (Total 11 camera)



Camera Composition | SELMA150



Inspect Capacity

Capacity	Tablet(length)				
Size	Round 5mm	Round 8mm	Oval 14mm		
Max (hour)	500,000	400,000	190,000		
Capacity	Capsule(size)				
Size	No.4	No.3	No.2	No.1	No.0
Max (hour)	200,000	185,000	170,000	155,000	145,000

* The maximum speed can be different depending on the inspection condition of tablet(capsule)

Inspection Range

	Tablet	Capsule
Type	Uncoated Film-coated [Option] Sugar-coated	Hard gelatin
Size	Length : 5 ~ 24mm Width(Diameter) : 5~12mm Height(Thickness) : 2~8mm	Size : 0, 1, 2, 3, 4 [Option] Size 00 and Size 5
Camera Resolution	40μm	

* At least 0.6mm gap between width & height should exist for tablet inspection.

※ The above specifications and capacities can be changed without notification for the reason of technical improvement.

Environment

Electric Consumption	7kW
Compressed Air (Dry)	5~8 bar
Temperature Humidity	10~30℃ / 30~70%
Pneumatic Pressure	≥0.35MPa
Material	SUS 304, SUS 316, UPE

NEW SELMA150

Tablet Edge Area Inspection
NFA developed a new program for checking corner edge area of tablet.

