

HAWKEYE Preform Inspection Machine

System Manual



Scope of Application

Application:

I , PET Preform Neck Inspection

To inspect the sealing of preform neck.

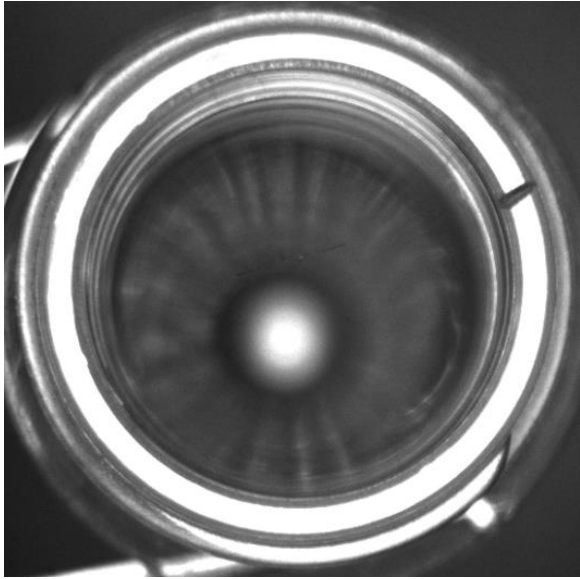
II , PET Preform Body Inspection

To inspect the foreign object, stain, scratch and bubble on the preform body.

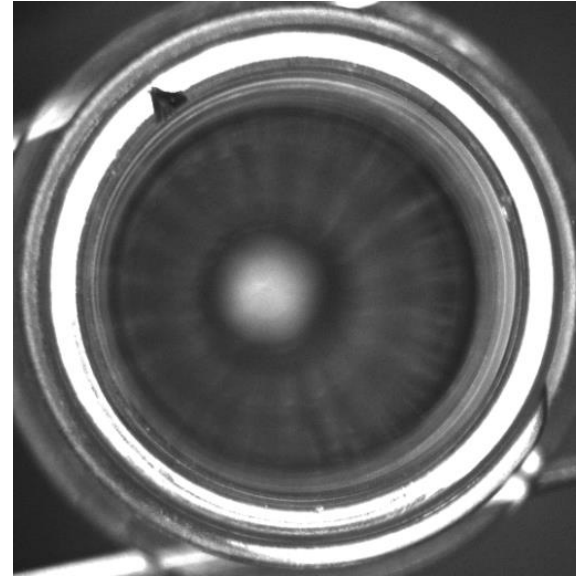
III, PET Preform Bottom Inspection

To inspect the the foreign object, stain and scratch on the preform bottom.

I , PET Preform Neck Inspection



Type A



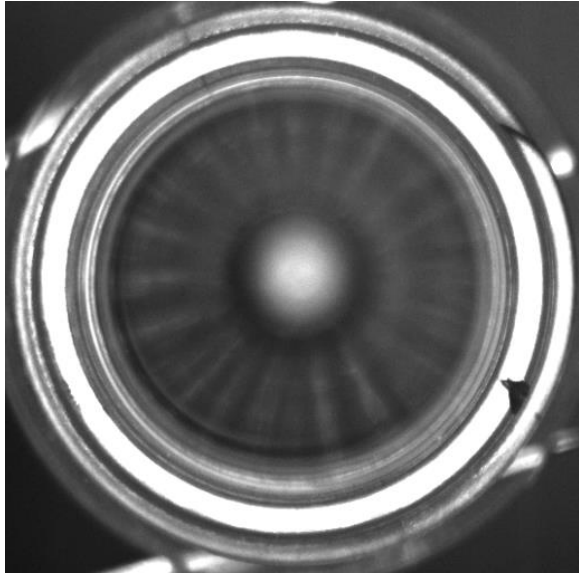
Type B

Type A: underfill on the edge

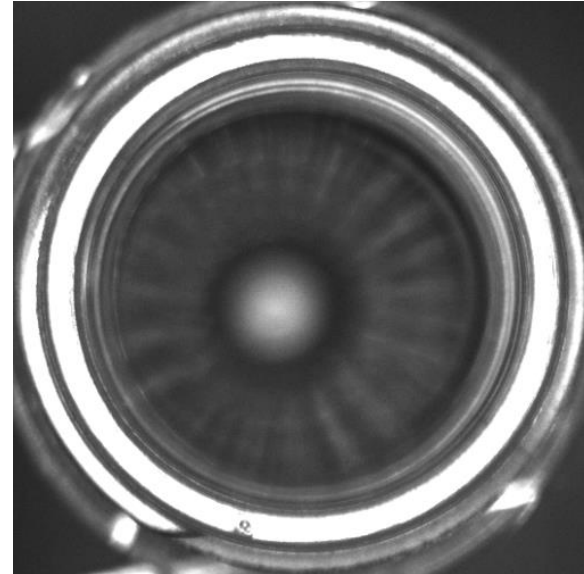
Type B: underfill on the inner edge

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I , PET Preform Neck Inspection



Type C

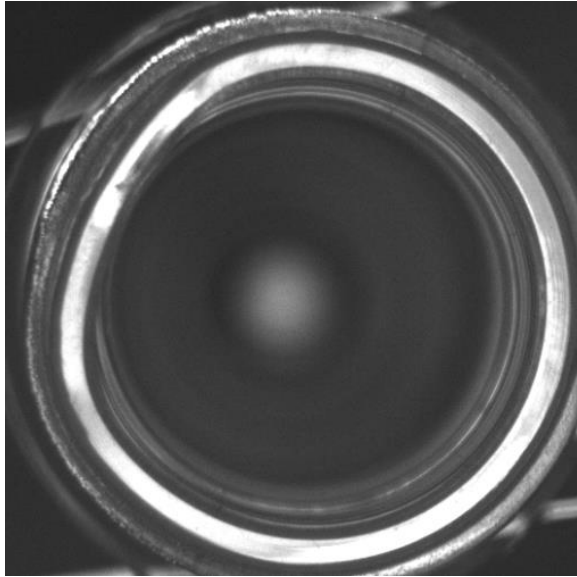


Type D

Type C: underfill on the outer edge
Type D: particle on the neck

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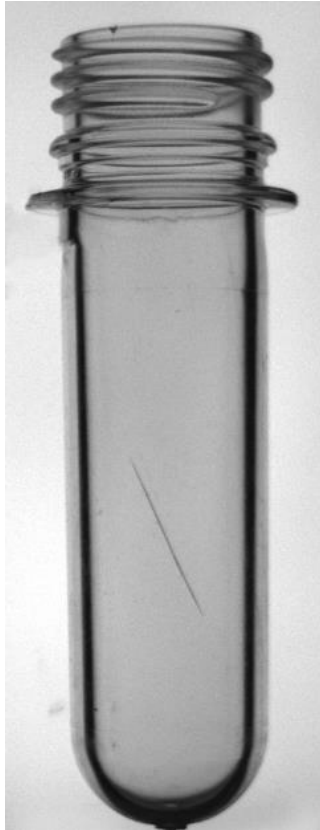
I , PET Preform Neck Inspection



Type E

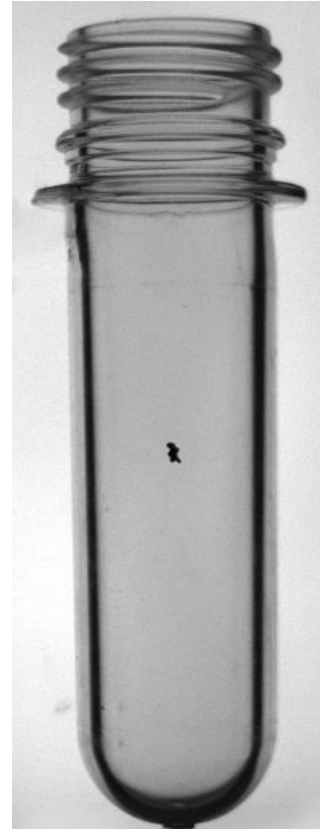
Type E: ovality of the neck

II, PET Preform Body Inspection



Type A

Type A: Scratch on the body



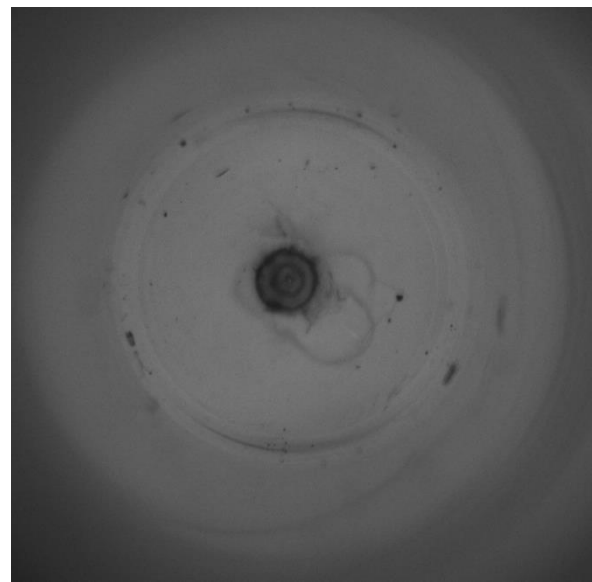
Type B

Type B: Foreign object or stain on the body

III, PET Preform Bottom Inspection



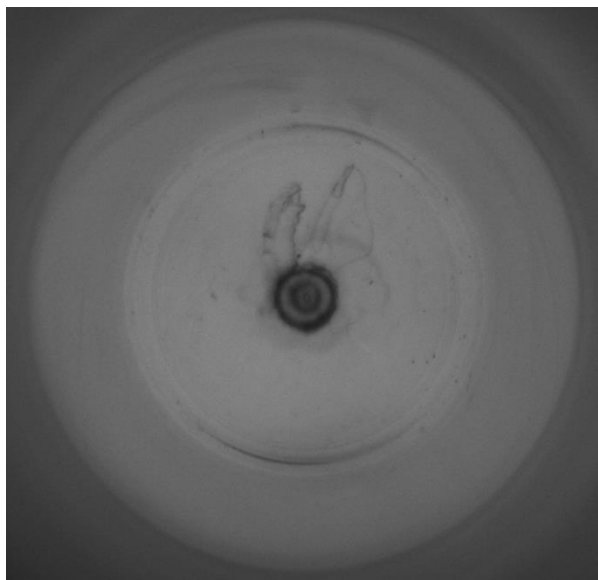
Type A



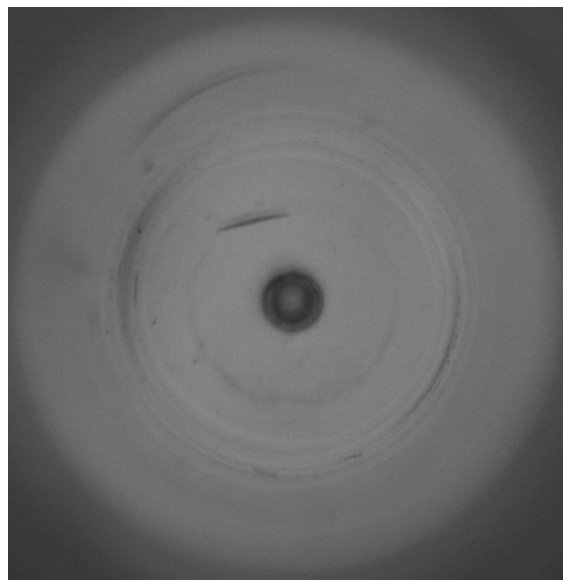
Type B

Type A: Foreign object on the bottom
Type B: Stain on the bottom

III, PET Preform Bottom Inspection



Type C

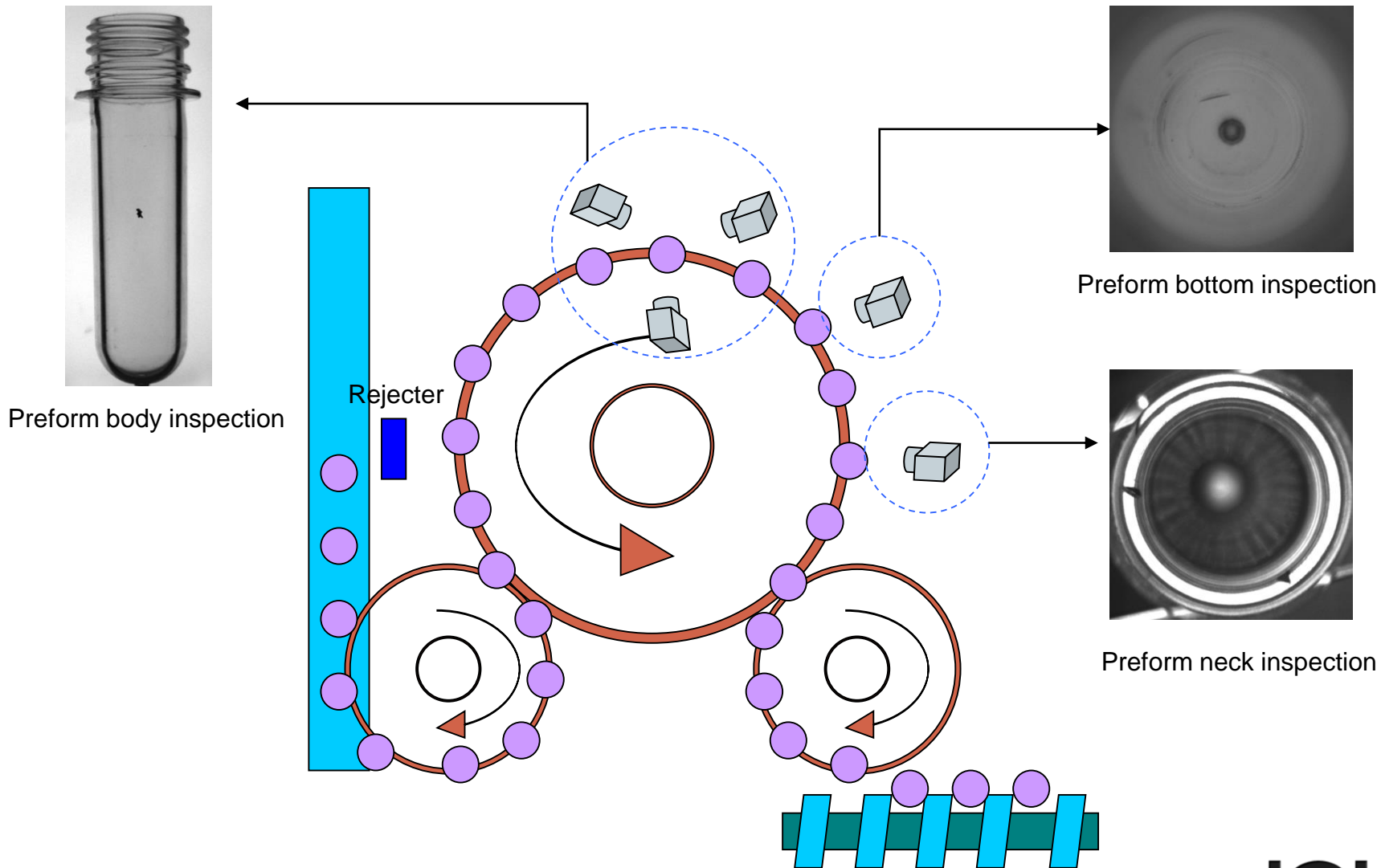


Type D

Type C: Scald on the bottom

Type D: Scratch on the bottom

Schematic diagram of equipment on site(Camera brand: BASLER from Germany)



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Inspection item and standard

The inspection item and standard refers to Coca-cola PET inspection

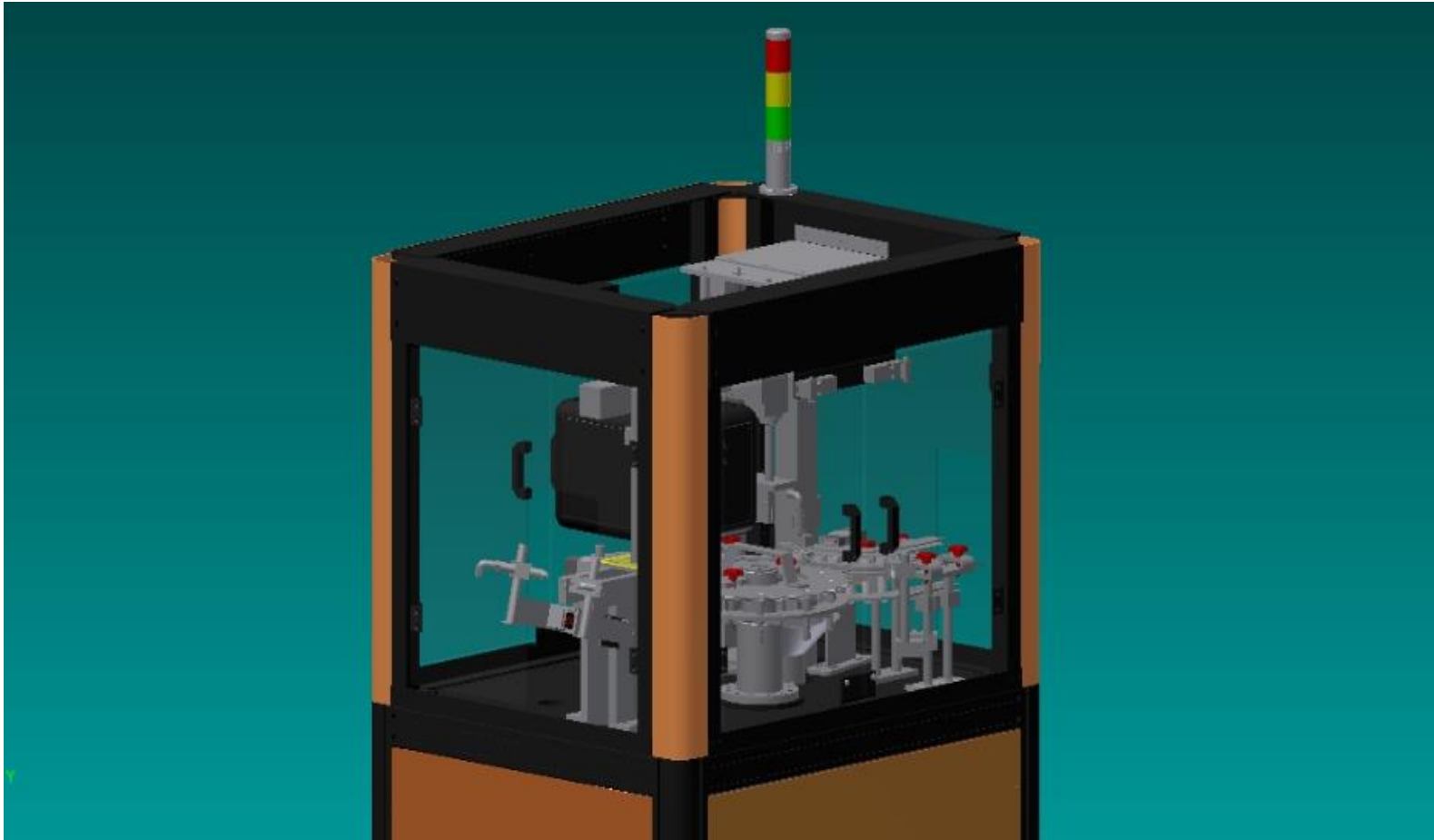
Sealing and defect inspection

1. Surface defect $> 0.5\text{mm} \times 0.5\text{mm}$
2. Ovality $> 0.25\text{mm}$
3. Accuracy $> 95\%$
4. Reject rate $< 0.1\%$

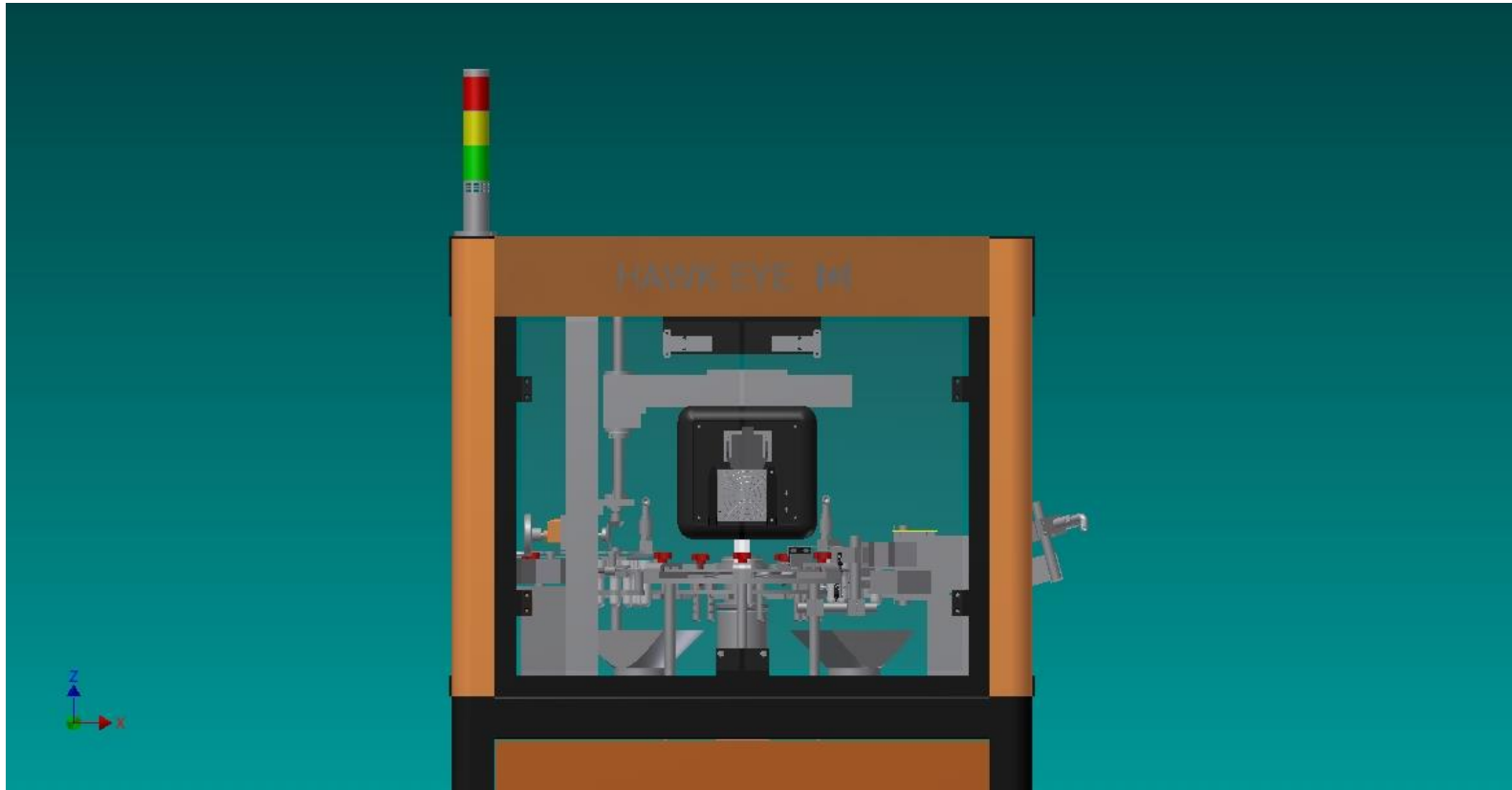
Performance Parameter

1. Normal speed: 20000BPH
2. Rejecter response time $< 10\text{ms}$
3. Camera frame rate $> 30\text{fps}$
4. Smart speed up(speed up or down according to the preform distribution in the runner)
5. Safety protection with protective door

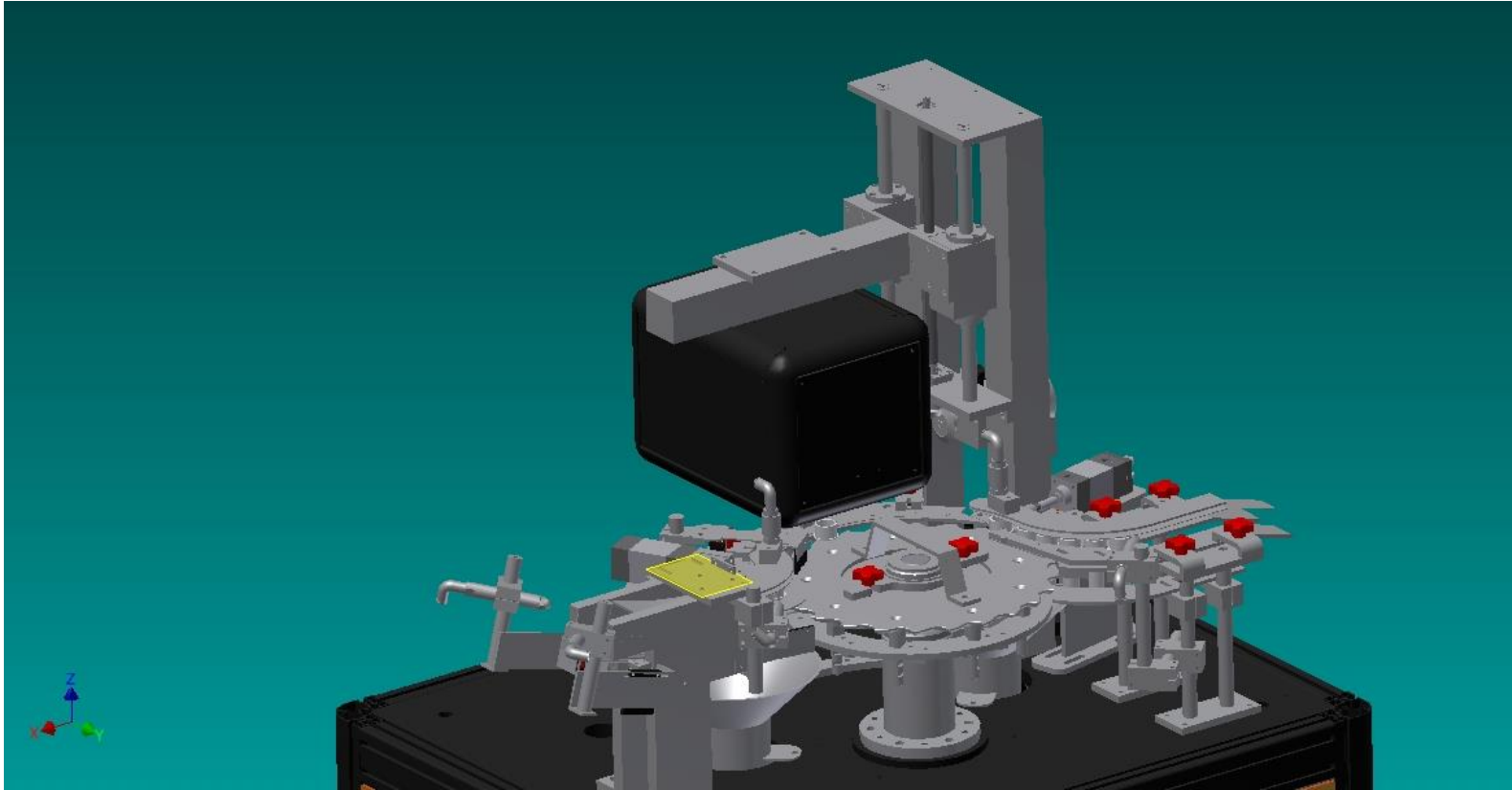
Machine Appearance Design



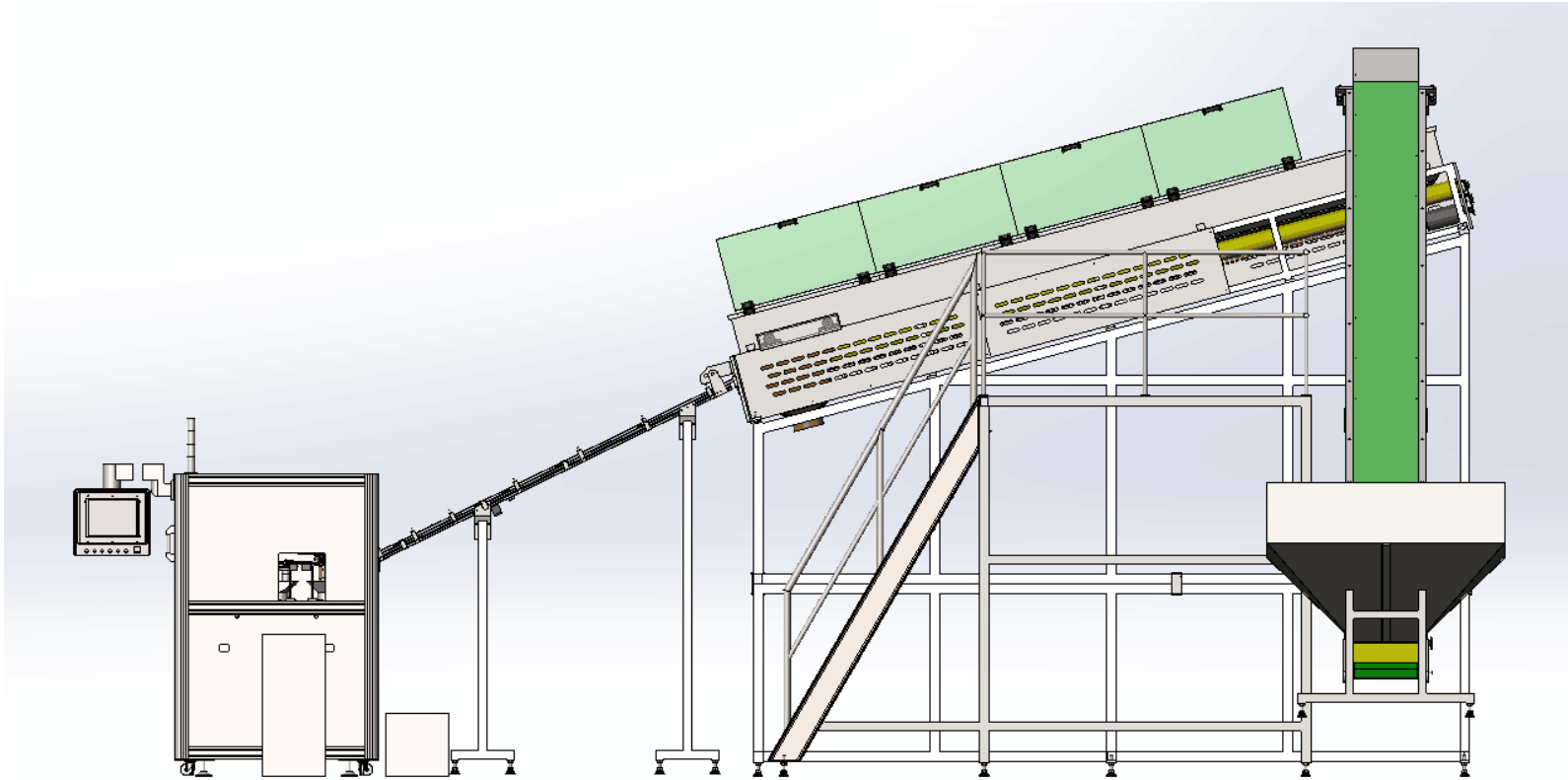
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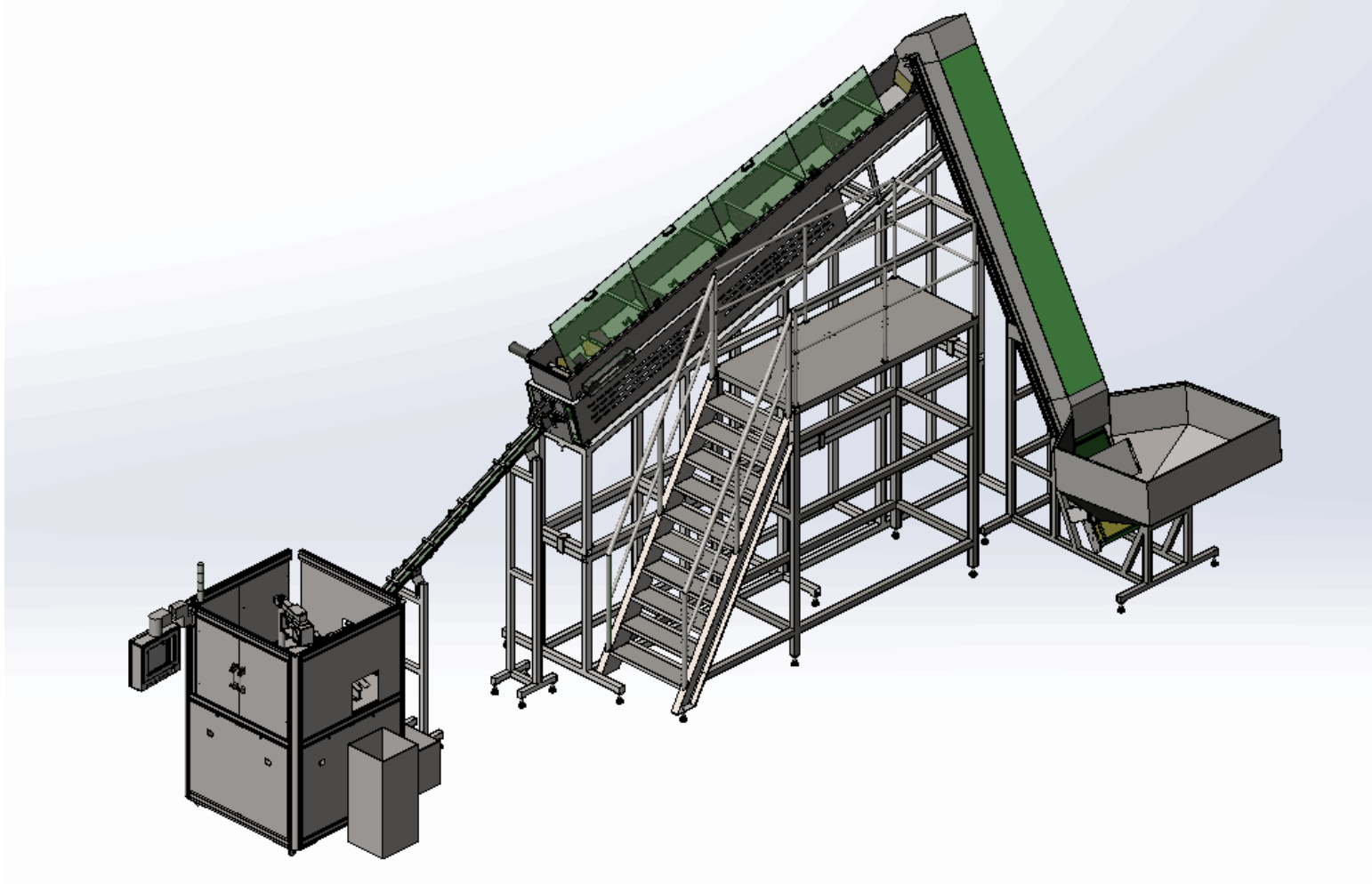
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DETECTOR



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