Whole line inspection of PET bottles

Specifications :

Detail Introduction :

1. Bottle embryo inspection machine
2. Cap and liquid level inspection machine
3. Code inspection machine
4. Label the inspection machine
5. Cap pattern inspection machine

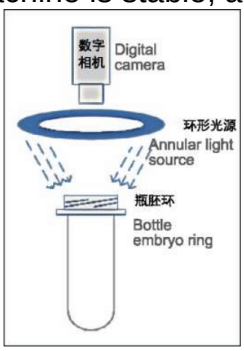
1. Bottle embryo inspection machine

Inspection content:

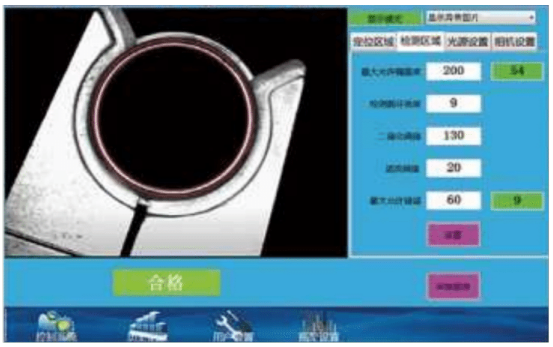
Inside acquisition missing, outside missing, a point missing, whole missing, the bottle mouth deformation (bottle mouth is not round)

Advantage?

• Using a high-speed camera to acquire a bottle's acquisition mouth image, the processing speed is fast, up to 50000 BPH.
• Using a touch screen, intuitive display.
• Specially made 15-inch bowl-shaped light source is adopted, the mouth of the bottle is uniformly light, and the utility model has the advantages of no dead angle, long service life, and energy saving.
• The inspection machine is stable, and the error rate is low.



Optical path design



Software system interface

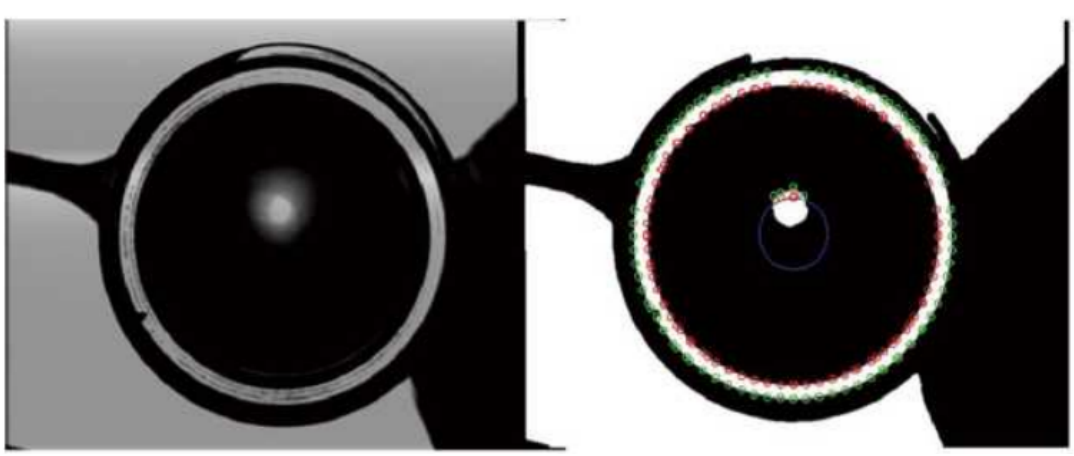


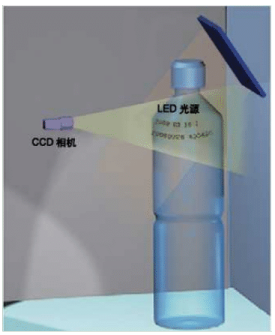
Image processing process

2. Cap and liquid level inspection machine

Inspection content: high cover, crooked cover, no cover, safety fault, low level.
Advantage?
• Using a graphical man-machine interface is intuitive and concrete.
• The processing speed is fast, the inspection accuracy is high, and the fastest speed can reach 50000 BPH.
• Simple operation, easy to production line staff.
• Multi-angle inspection, no dead angle, less manual intervention, low false tick rate.
• Using high brightness LED light source, adjustable brightness, long life, energy saving, maintenance free.

3. Code inspection machine

Inspection content: no code, code positions code partly missing.
Advantage?
• The advanced algorithm is stable and has high detection accuracy •Detect different code positions.
• The maximum speed is up to 72000 BPH.



Optical path design

Software interface

4. Label the inspection machine

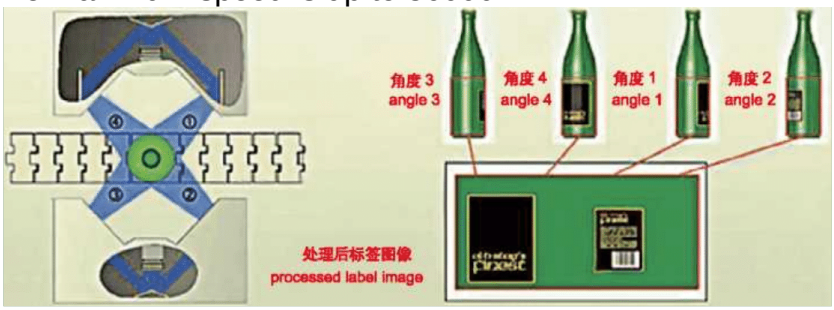
Inspection content: high label, low label, no label, damaged label, connective label, label logo

Advantage?

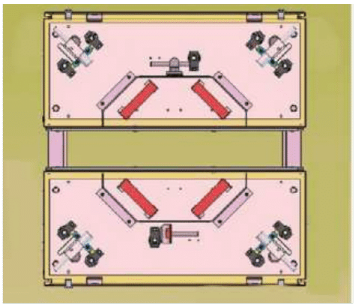
• 360-degree inspection.

• Multi-view stitching and color recognition technology are more reliable.

• The maximum speed is up to 36000 BPH.



4 images are collected from two cameras and spliced into a complete label image for subsequent processing



Optical path design

5. Cap pattern inspection machine

Inspection content: logo inspection, color inspection.

Advantage:

• Color recognition technology is used to inspect different caps accurately.

• Using self-developed algorithms, reliable inspection of the cap of the external logo, cap information, such as "thank you taste," "another bottle," and so on.

• The maximum speed is up to 60000BPH.