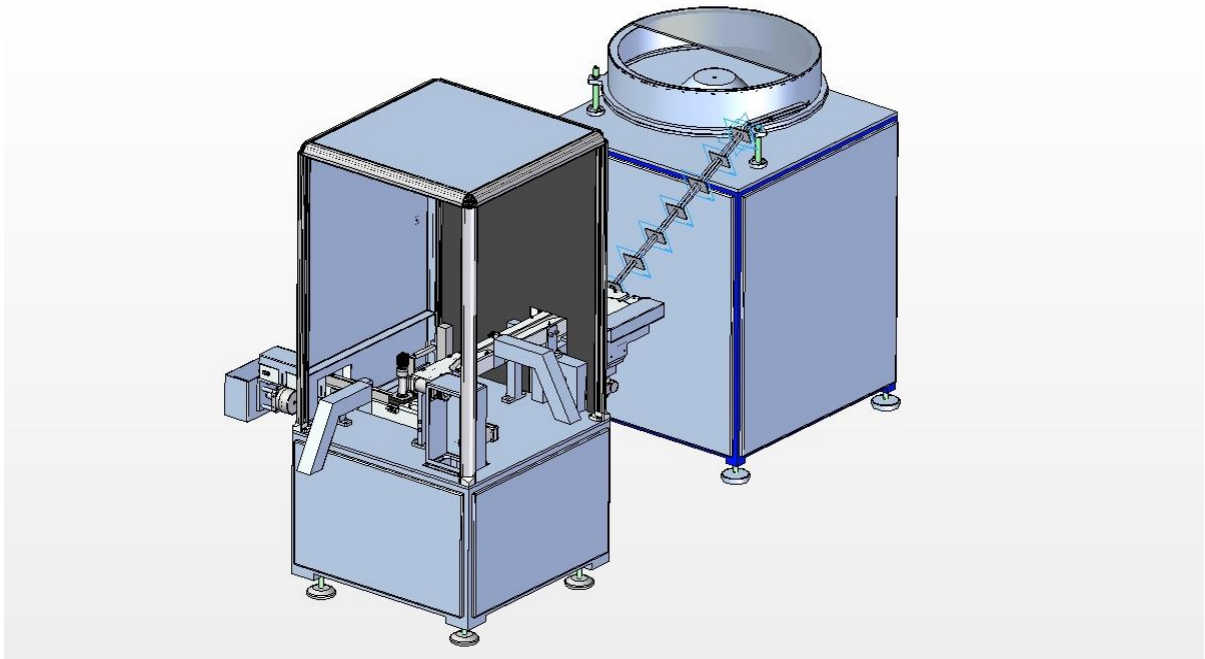




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FLIP-OFF INSPECTION SYSTEM

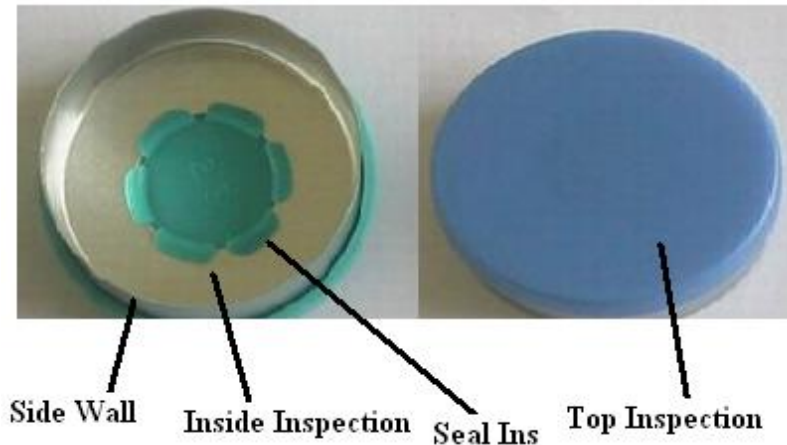




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Inspection Area :



Features :

- High Rate of flexibility And Compatibility.
- Easy Operation,High Durability.
- High Resolution CCD Camera Increases accuracy And Reliability of the Inspection.
- Automatic Rejection System
- Statistical Management of quality through Synchronized reports.
- 100% quality control with a minimum defect detection 100 micron
- Operation is done by via touch screen with password protection.
- It Can Detects 24 different colours
- Inspection Speed is 18000 to 20000 samples per Hour.
- Both Side inspection is done with Plastic cap & Without Plastic cap.
- Product Mix-up detection.

Benefits:

- Provides Stable inspection operation for long period of time.
- Uses high resolution CCD camera to improve accuracy.
- Important production data,Parameters ,Rejection and defect rates,
- Use of high Intensity LED stroboscope illumination extend the service lifespan of the unit.
- To reduce manpower.
- To improve the quality.
- High Inspection Rate with required accuracy.
- Less Maintenance cost.
- Wide Colour Range.
- Removes all defects automatically.



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Technical Specifications:

INSPECTION CAPABILITIES	<ol style="list-style-type: none">1.Black Spot On Top2. back Spot On Side wall on the plastic Cap.3. Colour Mixing4.Other product mixing5. Damage Of the Cap on Top With high accuracy6.Cut Defect7.Wrinkle defects8.Through holes9.Punching ring defect10.Bent sample11.Damaged sample12.Crack in the sample13.Foreign particle defect14.Bur defect sample15.Broken Bridge
SYSTEM ACCURACY	defect detection 100 %
SYSTEM SPEED	18,000 -20,000 caps Per hour.
PRODUCTS TYPE	Dia 13 & Dia 20
CAMERA	Higher Range High resolution With controller
LENS	High Resolution lens.
ILLUMINATION	High intensity LED White shower lighting.
UTILITIES	415V, 3-phase +N +E, 50 Hz, A.C
AIR PRESSURE	Flow 50 LPM at 6 kg \ cm ²



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Machine Description :

FEEDER ASSEMBLY:

Feeder consists of a rotary drum feeder assembly. Feeder assembly rotates at a higher speed to ensure constant feeding of caps to the star wheel and it also prevents caps damaging inside the feeder assembly.

STAR WHEEL ASSEMBLY:

This assembly consist of star wheel, gear motor, drive shaft, coupling, bearings and bearing housings also guiding for star wheel assembly.

Rotary motion to the star wheel assembly is given through motor. The main purpose of this star wheel is to feed the caps continuously in constant pitch to the inspection conveyer assembly.

CONVEYER ASSEMBLY:

At this station caps are loaded to main inspection conveyer belt from the feeder assembly.

CAMERA STATION 1 :

At this station, caps are inspected from the Top side with the high frequency lighting & Special Lens for camera vision system, and caps are transferred to the next station.

REJECTION STATION 1:

The rejection system is synchronized with the inspection station using high speed PLC. After the caps are inspected from the Top sides, the caps are carried to the rejection assembly. This station consists of one nozzle for rejection of caps.

The rejection is done with help of solenoid valve so that the caps are separated accordingly to there defect in a separate bin and the good samples pass out in the Next Inspection station for other side Inspection.

CAMERA STATION 2:



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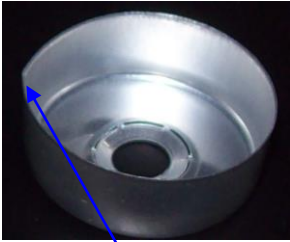
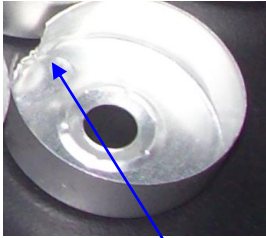



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At this station, caps are inspected from the bottom side with the high frequency lighting & Special pin hole lens for camera vision system, and caps are transferred to the next station.

REJECTION STATION 2 :

The rejection system is synchronized with the inspection station using high speed PLC. After the caps are inspected Bottom sides, the caps are carried to the rejection assembly. This station consists of one nozzle for rejection of caps. The rejection is done with help of solenoid valve so that the caps are separated accordingly to there defect in a separate bin and the good samples pass out in the good bin.

Types of Defects to be inspected by the machine

 <p>Cut Defect</p>	 <p>Wrinkle defects</p>	 <p>Through holes</p>
 <p>Punching ring defect</p>	 <p>Bent sample</p>	 <p>Damaged sample</p>
 <p>Crack in the sample</p>	 <p>Foreign particle defect</p>	 <p>Bur defect sample</p>

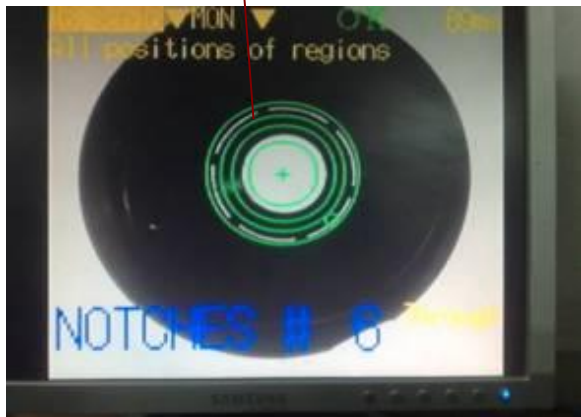


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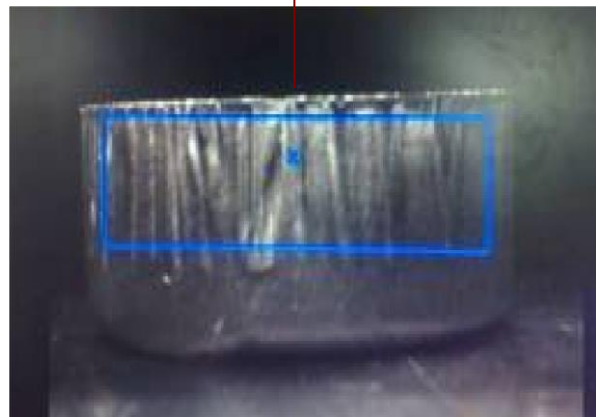
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TABLE BELOW SHOWS THE CAMERA RESULT FOR **OK** AND **BAD** SAMPLES:

Counting of Notches (Top Camera)



Wrinkled Surface. (Side Camera)



Flash Defects. (Side Camera.)



Cut Defect. (Side Camera)

