



SELPLAST

Packaging | Projects | Automation

Quiet, Precise, Intelligent And Fast

ABOUT US

**Since
1974**

Founder: Mr. Joy Doctor
Manufacturer : Specialized in: Vision Based Inspection M/c
High speed inspection,
Optical Auto-sorting,
Robotics & Vision Based
Team SPM 60 People
Total Machine: More than 350 Nos
Reach: Across the nation



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Mile-Stones

2015

Manufactured **First**
Vision Inspection Machine

2016

Deployed First Machine with
AI Technology (Using one
of the best Image Processing
Software)

2017

Deployed Vision Inspection
machine with Repeatability of
0.5 (Half) Microns

2018

Manufactured O Ring
Inspection Machines with
Inspection Speed of **600**
Part Per Minute

Mile-Stones

2019

First Pick N place machine
supplied to **Tria** for
inspection of parts
supplied to **BMW**

2020

Bar Inspection Machine
using Line Scan Camera
for part length of 650mm.

2021

Invented **High Speed
Dowell Inspection**
machine with accuracy of
1 Micron

2022

Developed **Robot Based
Inspection machine** for
checking for defects
above 50 microns on
Inserts

Present Scenario for Quality Inspection



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Standard Conventional Equipments



- To check 10 dimensions with these methods take at least 100 seconds.

Standard Conventional Method

❑ Challenges

- Time consumption
- Skilled Operator
- Excess Workforce
- Dependency on inspection tools

❑ Dependency

- Quality compromise
- Loss of Revenue
- Customer dissatisfaction



Our Solutions with Cutting Edge Technology



Fixed vision Gauge

- Horizontal
- Vertical



Glass Disc Machine

- Double Disc



Conveyorized Based

- Metal Conveyor
- Fabric Conveyor



Pick & Place machine

- Robot Based
- Gantry Based

Our Solutions with Cutting -Edge Technology



Nano Glass Disc Machine

- Small Parts Dimensional Checking



Thru Scan Machine

- Shafts Dimensional Checking



Double Disc Machine

- O-Ring Inspection

Our Solutions with Cutting-Edge Technology



Special Purpose Machine

- Gear Inspection Machine



Robot Based Inspection Machine

- Insert Checking Machine



Robot Based Assembly Machine

- Rivet Assembly

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Fixed Vision Gauge

Machine Features

:

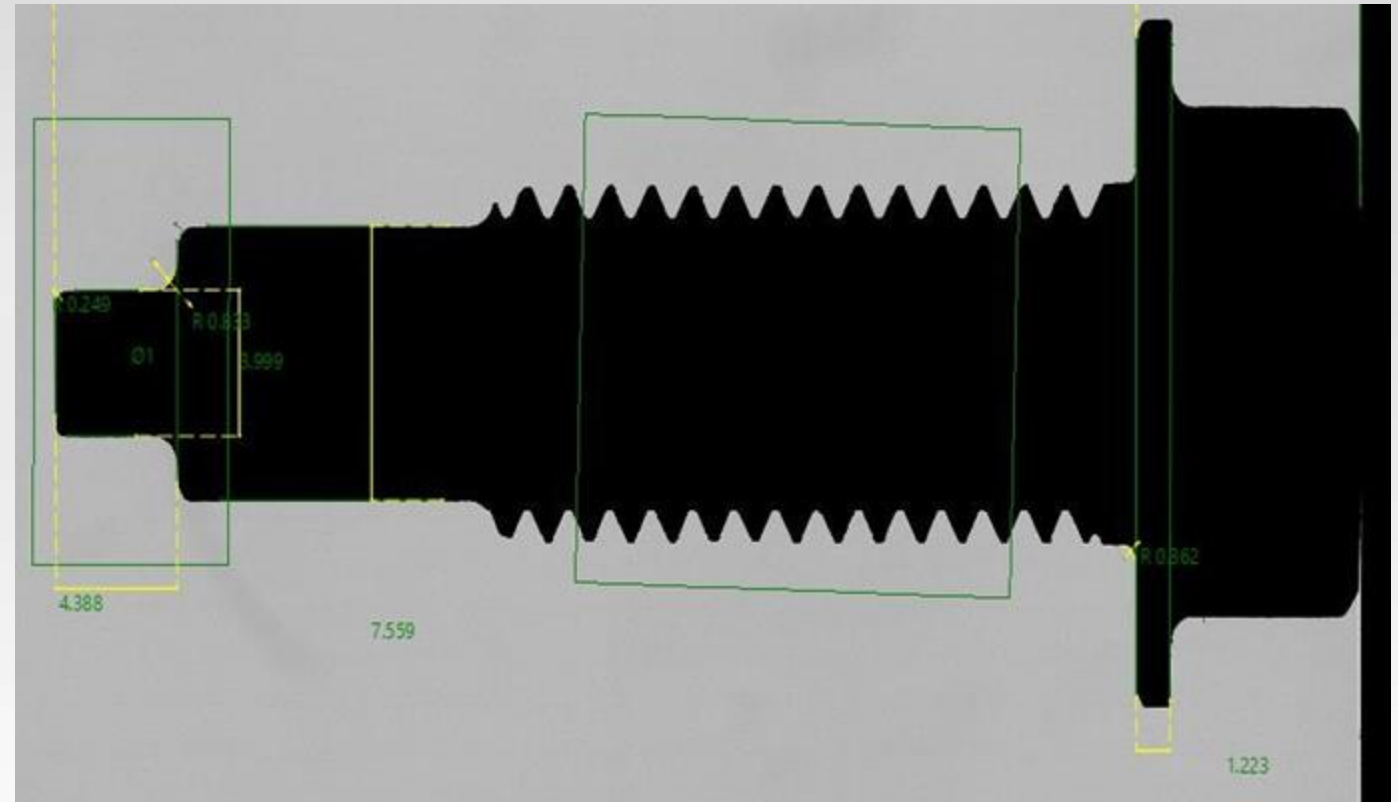
- Accuracy
 - For ID : $\pm 2 \mu\text{m}$
 - For Height : $\pm 10 \mu\text{m}$
- Speed of Inspection : 100 Milliseconds
- Changeover time : Zero to very low
- Inspection data is stored automatically with date and time.
- Auto SPC calculation



Fixed Vision Gauge

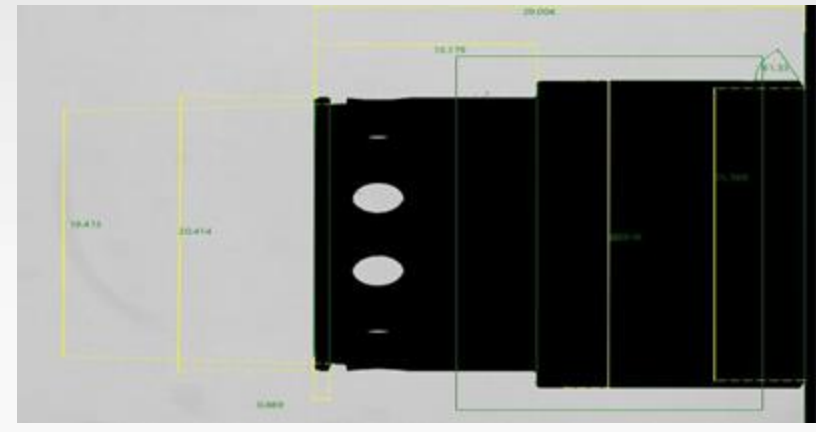
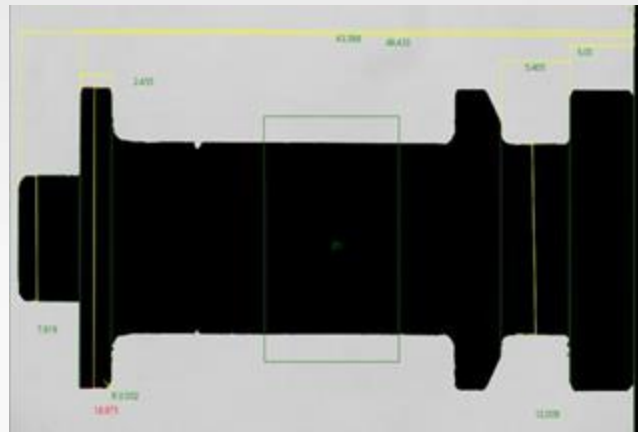
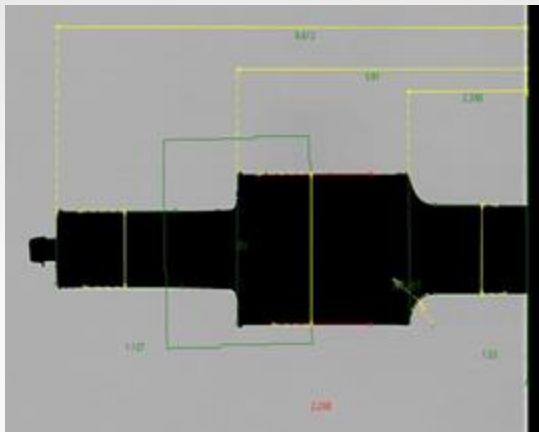
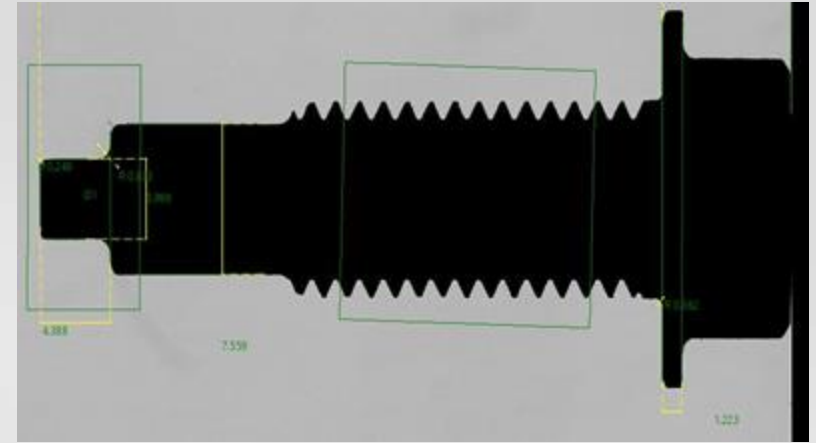
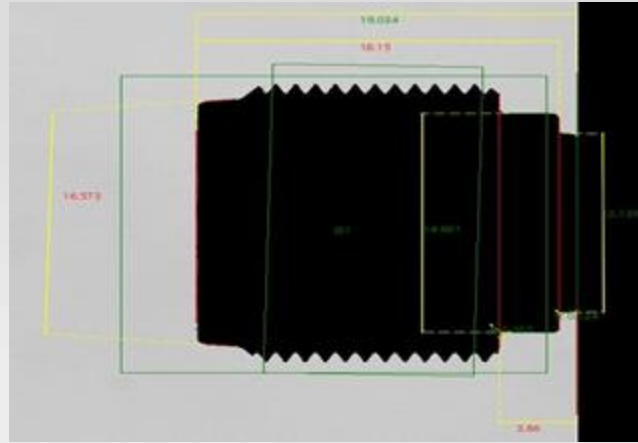
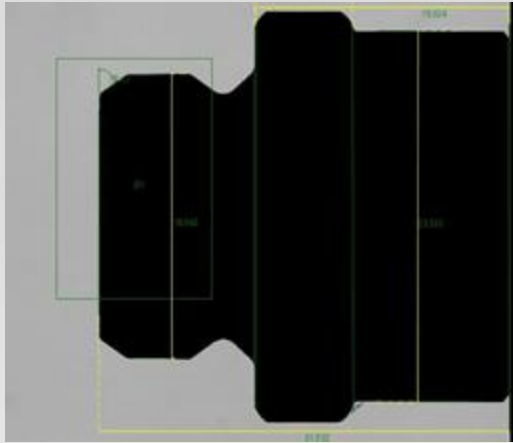
Parameters which can be inspected:

- OD- All outer OD's
- Linear- Heights, Chamfer, Groove width
- Threads- Major/Minor diameter, PCD, Helix angle, Thread angle

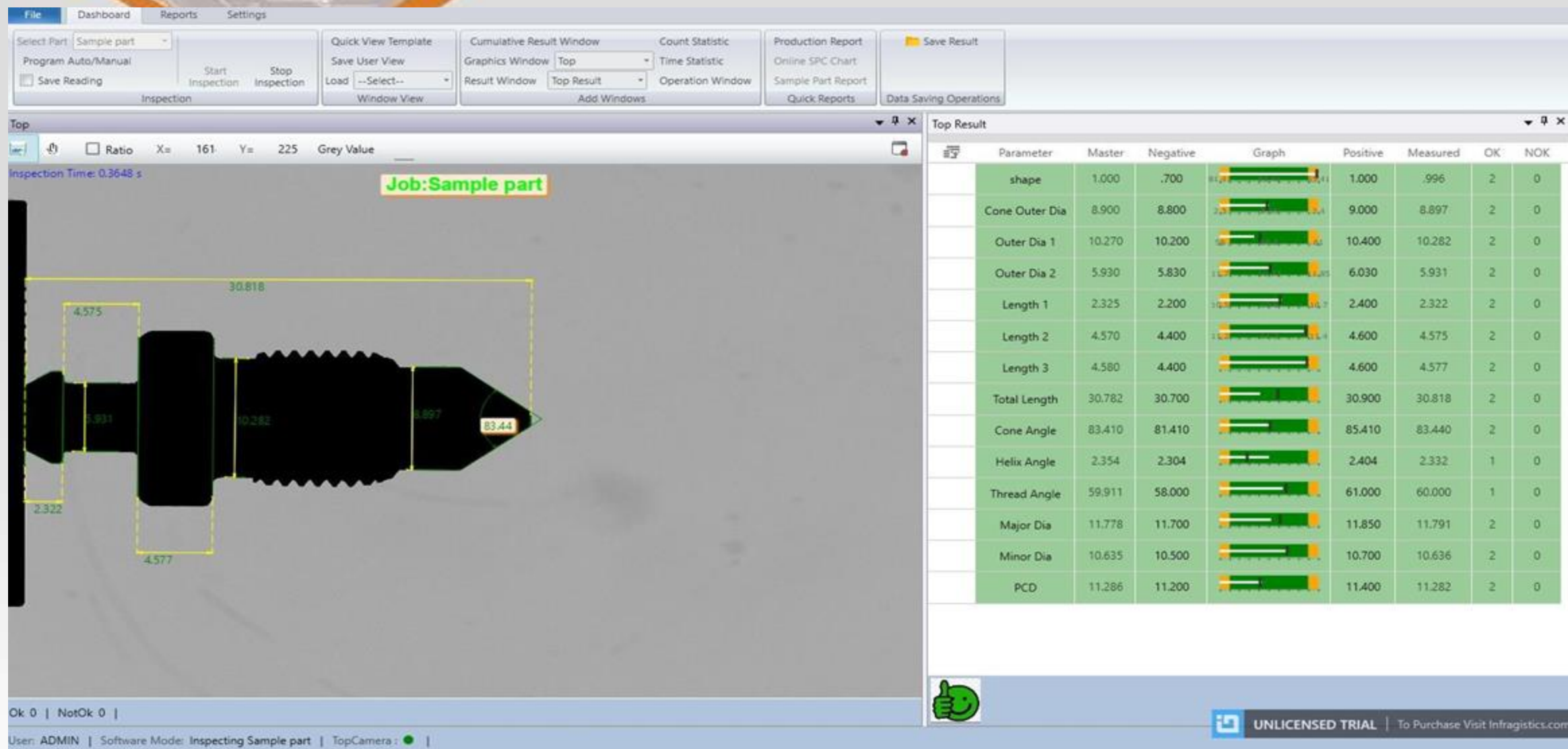


Fixed Vision Gauge

Used Cases:



Software




Reports

:

Inspection Report:

- 100 % report saving
- Batch wise report saving
- Daily/Monthly count report of OK & NOK

Parts

Company Name							Visimaster		
#Part and #Rev									
Part Description									
Batch Code									
Standered Bag Qty									
Invoice/P.O. No.									
Release									
Internal Traceability									
Inspector Name									
Comments									
Parameters	Angle	Length 1	Length 2	Length 3	OD 1	OD 2	OD 3	Shape 121	
	41.13	3.959	14.022	4.033	17.46	20.017	23.976	1	
Negative	39	3.87	13.87	3.87	17.37	19.95	23.75	0.7	
Psoitive	43	4.13	14.13	4.13	17.63	20.05	24.25	1	
11-12-2020 16:45	41.12	3.95897	14.02318	4.03359	17.46495	20.0185	23.98449	0.99812	
11-12-2020 16:45	41.14	3.96055	14.0239	4.03594	17.46504	20.01756	23.97928	0.99756	
11-12-2020 16:45	41.15	3.96107	14.02283	4.03341	17.46504	20.01764	23.97728	0.99819	
11-12-2020 16:45	41.14	3.95975	14.02541	4.03675	17.46427	20.0176	23.98328	0.99824	
11-12-2020 16:45	41.13	3.96087	14.02356	4.03323	17.46343	20.01843	23.98014	0.99812	
11-12-2020 16:45	41.14	3.96096	14.02331	4.0326	17.46487	20.01718	23.97828	0.9988	
11-12-2020 16:45	41.13	3.95951	14.02412	4.03479	17.4655	20.01772	23.97935	0.99814	
11-12-2020 16:45	41.14	3.96013	14.0244	4.03156	17.46509	20.01759	23.97846	0.99797	
11-12-2020 16:45	41.12	3.96135	14.0234	4.03268	17.46439	20.01741	23.98068	0.99767	
11-12-2020 16:45	41.13	3.96103	14.02258	4.03332	17.46391	20.0178	23.98352	0.99796	
11-12-2020 16:45	41.12	3.96047	14.02201	4.03231	17.4634	20.01833	23.97916	0.99822	

SPC Report:

- Can optimise daily & monthly productivity using SPC report
- Can get CP-CPK values



Fixed Vision

Gauge
Parts Which can be checked On
FVG



HVG



BRASS SHEET METAL COMPONENTS

VVG



VVG

Glass Disc Machine

Machine Features

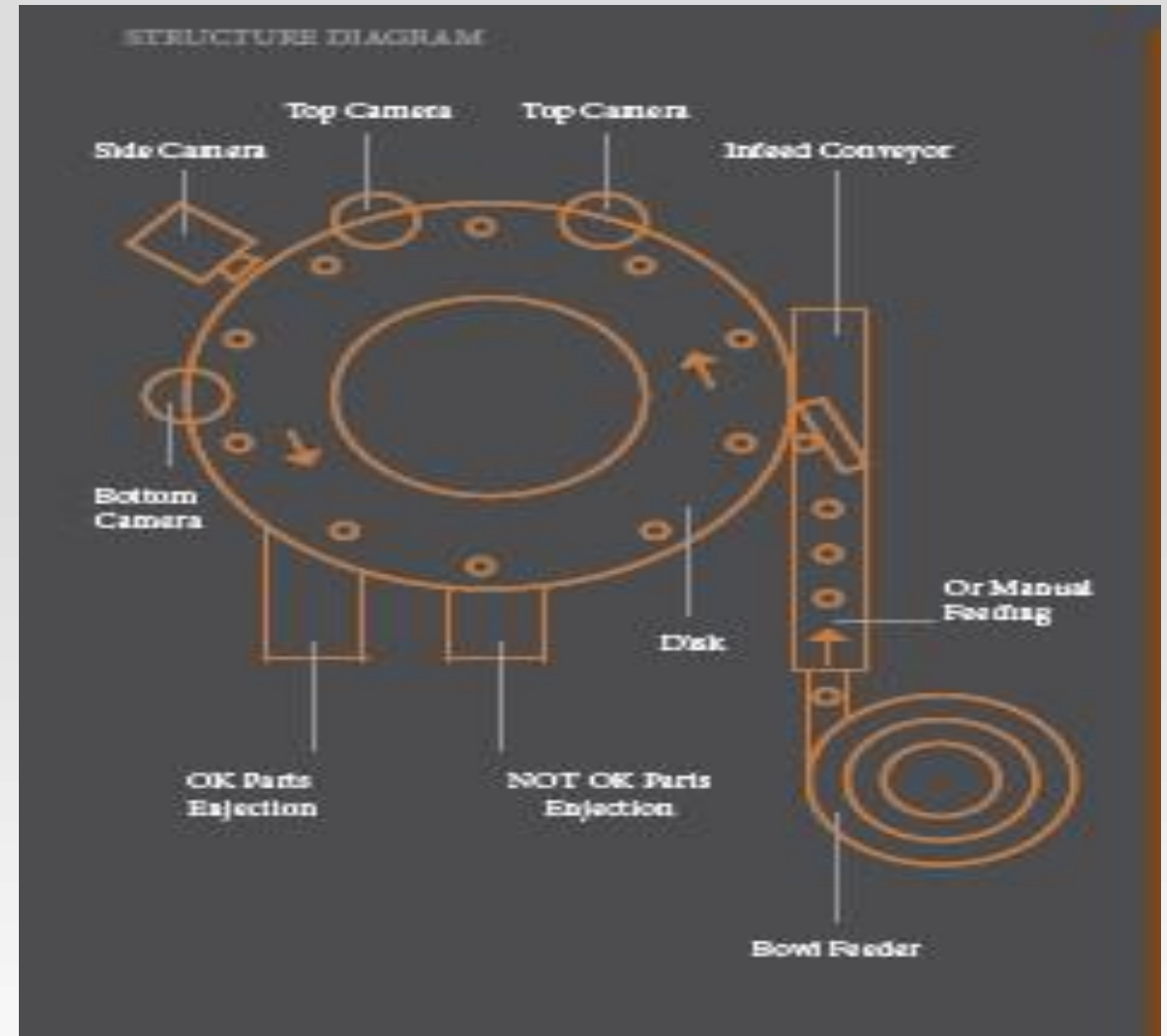
- Accuracy:
 - For OD : $\pm 5 \mu\text{m}$
 - For Height : $\pm 20 \mu\text{m}$
- Speed of Inspection : 300-500 parts per minute
- OCR/Text can be inspected
- Major Color Variations can be identified



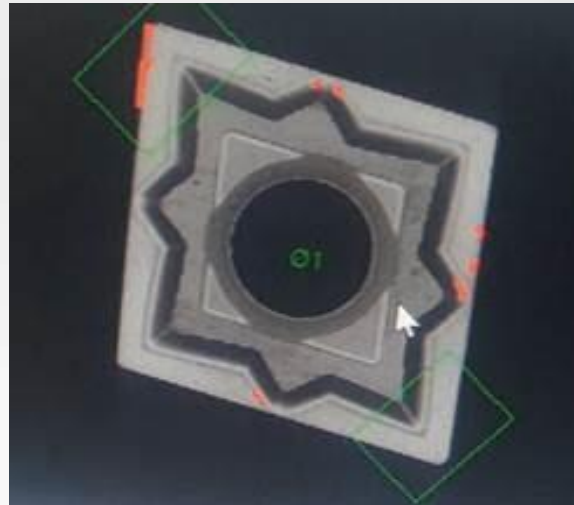
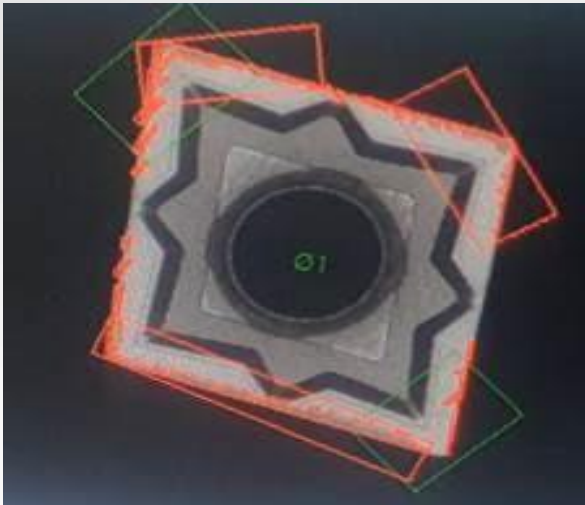
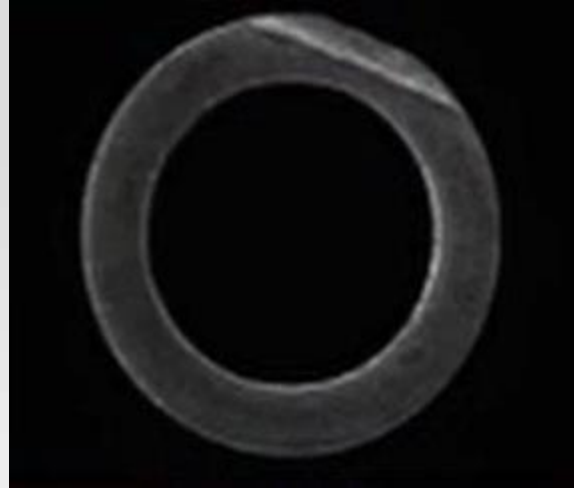
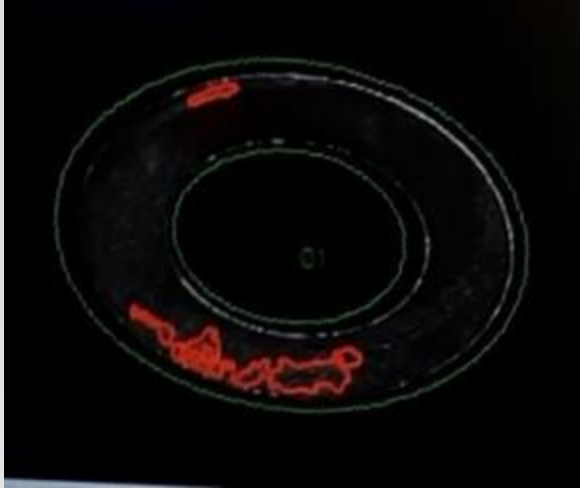
Glass Disc Machine

□ Use Cases:

- Precision parts
- Molded Parts
- Stamping parts
- For High Volume inspection
- Surface & dimensions both are crucial.



Surface defects:



Conveyorised optical inspection & sorting Machine

□ **Purpose:** The machine is used for dimensional measurement with

Accuracy of $\pm 1.5 \mu\text{m}$ on

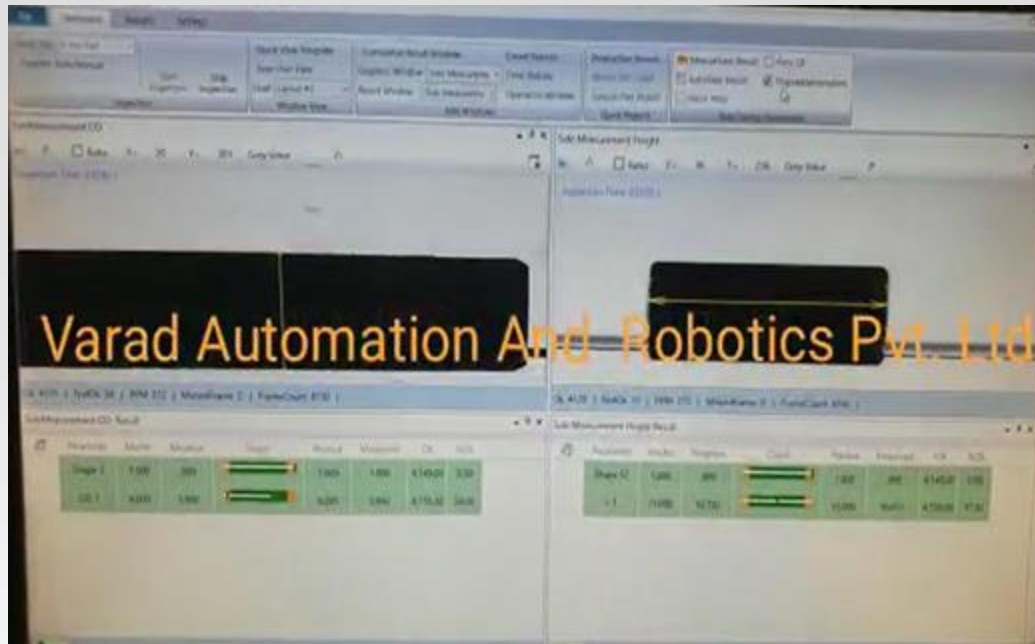
OD with speed of 100 – 300 PPM

□ **What can be inspected**

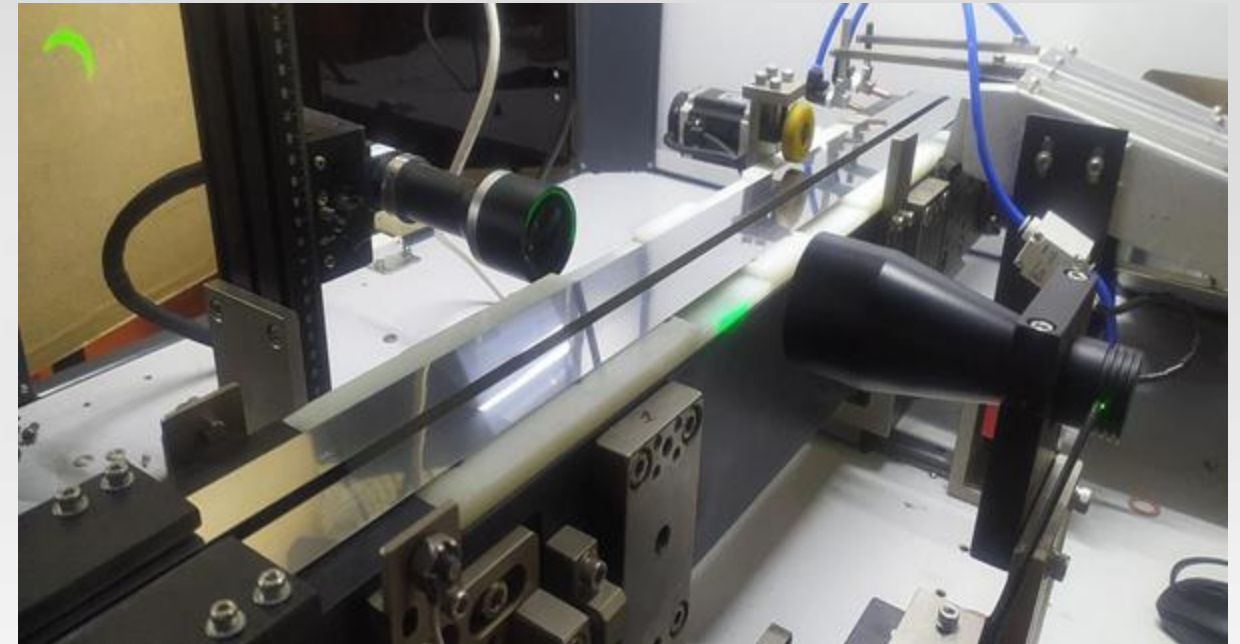
- Dowel pins
- Metal Rivet
- Screws



Conveyorised optical inspection & sorting Machine



Inspection Image



Actual Machine

Optical Inspection & Sorting Machine - Pick & Place

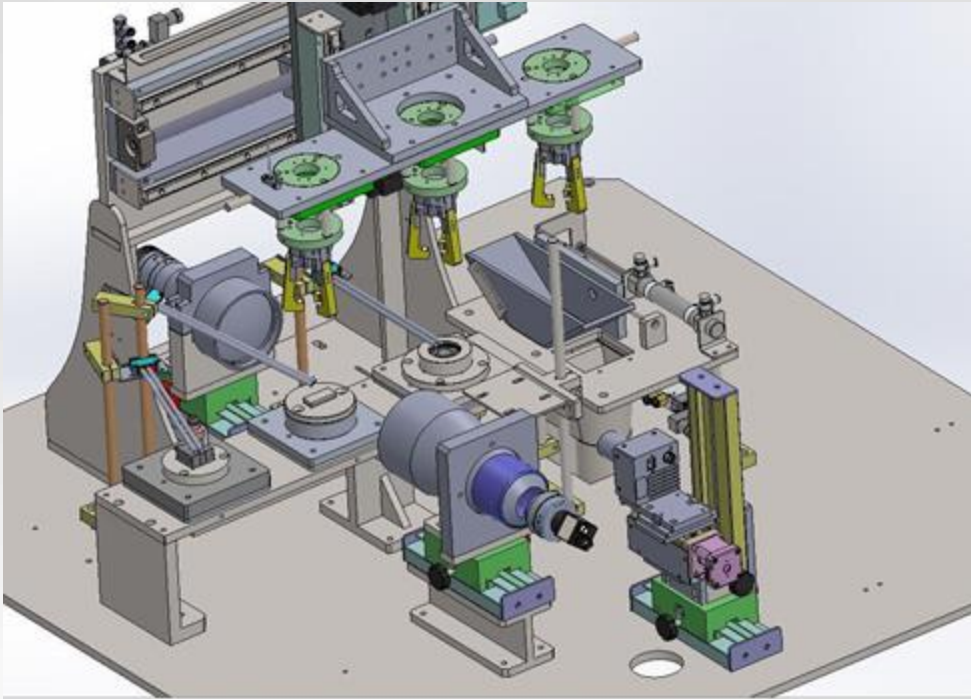
❑ **Purpose:** For dimensions like Parallelity, straightness along with standard dimensions with auto-feeding & auto sorting

❑ **What can be inspected**

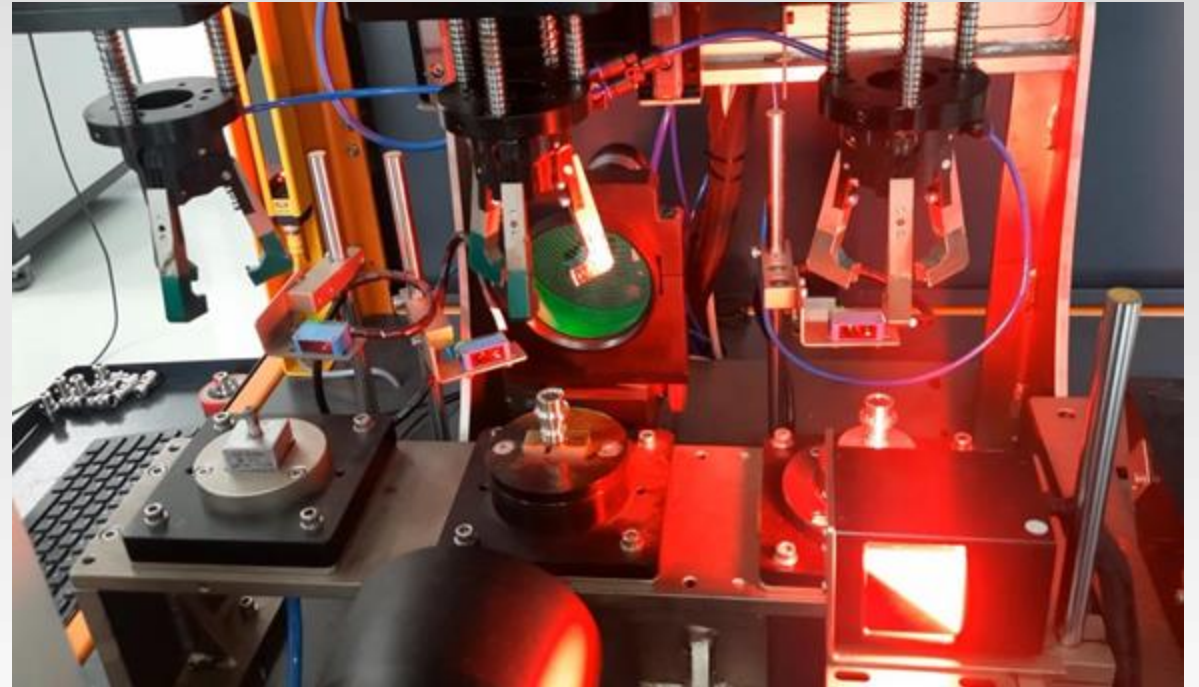
- Precision Automotive Components
- Part requires air gauge or laser for some specific requirement
- 360° visual inspection



Optical Inspection & Sorting Machine - Pick & Place



Structural Diagram



Actual Machine

Thru Scan Machine

Machine Features

:

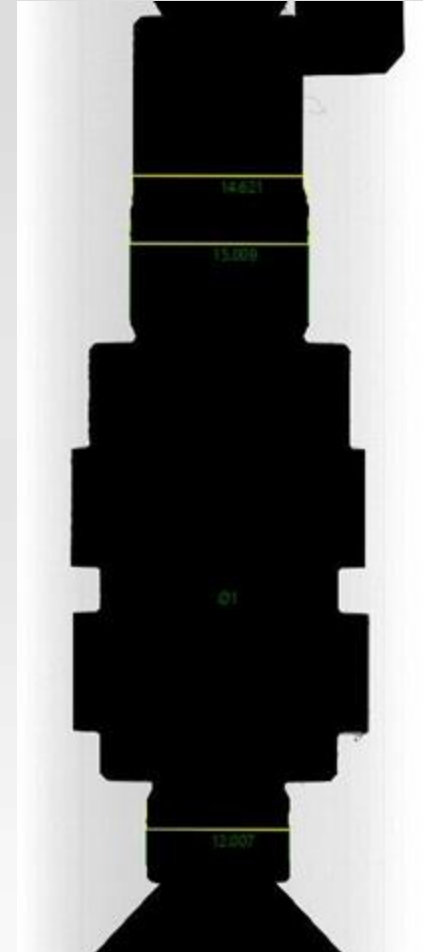
- Accuracy : $\pm 2 \mu\text{m}$
 - For Height : $\pm 10 \mu\text{m}$
- Speed of Inspection : 20-30 seconds
- Changeover time : Zero to very
- Inspection data is stored automatically with date and time.
- Auto SPC calculation
- 360° Rotation for GD&T parameters



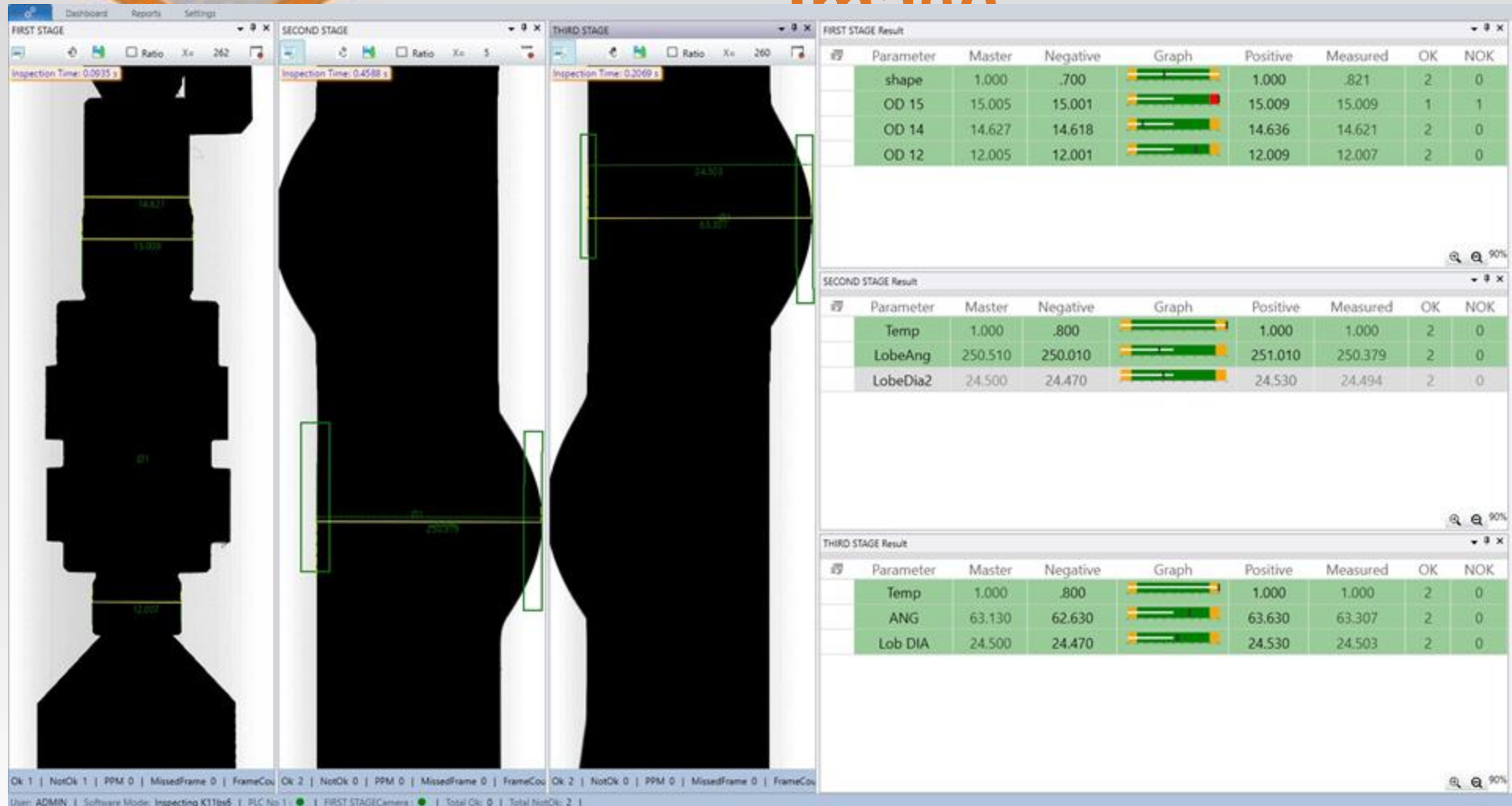
Thru Scan Machine

Parameters which can be inspected:

- OD- All outer OD's
- Linear- Heights, Chamfer, Groove width
- Lobe Diameter, Lobe Angle with respect to key way

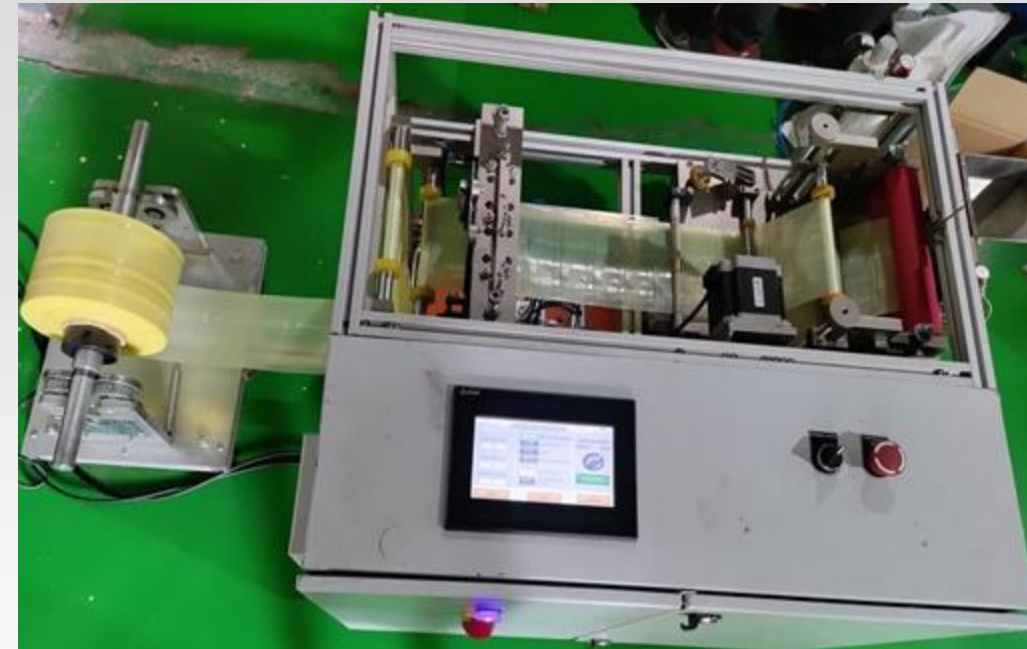


Software Image



Packaging Machine

- The Packaging machine used to pack the bags of the parts & give the count of the same.
- **Traceability:** The count of parts will be printed on the barcode sticker which can be stuck on the bag.
- **Example:** please refer the below image of sticker for your reference



ADD ON's:

- QR code or Barcode printer for batch wise inspection
- Rotary system
- Air Gauge attachment
- OK NOK Bin with Feedback control



ADD ON's:

Elevator feeder:

- We can optimise the man power for feeding.
- We get the constant feed rate for inspection.

Laser Sensor:

- We can inspect depth, included angles using lasers


Laser Marker:

- Dot Marking, OK marking on part can be done



Variety of parts inspected on our machines





Benefits- Our machine supports towards journey from PPM to **Defects**

- **Superior Efficiency:** Better human-machine collaboration
- **Increased Accuracy:** Zero defect
- **Ease of Work:** One-machine army
- **Validation:** Critical inspection
- **Profitability:** Efficient return on investment
- **Reduced errors:** Zero error
- **Business reputation:** Zero supply of defective products
- **Happy customers:** Zero complaints
- **Highlight your business:** Increase your presence with quality products

Customers who count on us



- Araymond Fasteners India Pvt. Ltd. : 6 Nos
- Aspee Springs Ltd. : 8 Nos
- Patco Precision Components Pvt. Ltd. : 6 Nos
- Tria Industries LLP : 5 Nos
- PKP Components : 4 Nos
- Jaynix Engineering Pvt. Ltd. : 4 Nos
- Acwa Automatics : 4 Nos
- Mubea Automotive Components India Pvt Ltd. : 4 Nos
- Badve Autocomp Pvt. Ltd. : 3 Nos
- Star Circlips Engineering Pvt. Ltd. : 2 Nos
- Punch Ratna Fasteners : 2 Nos
- AK Automatics (Microtuner Grp) : 10 Nos
- Vulcan Forge : 2 Nos
- Gowell Rubber : 2 Nos



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