

SCREEN

High productive automated visual inspection tool with 5sec Cycle time!!

Automated Forged parts inspection system

IM-3200



IM-3200 will change the ordinary visual inspection process and provide Dramatic improvement on forging inspection.

**Accurately detecting Micro defection by combining our unique technologies
Multi-angle & Multi-shot system and image overlay algorithm**

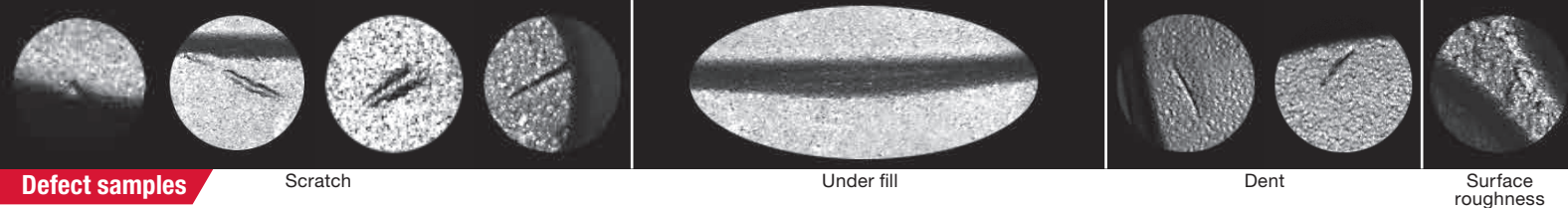
In the field of forging market, cost spent on inspection is rising continuously to fulfill the requirements. SCREEN has merged core technologies from Image processing and Optical inspection to develop IM-3200 to manage the "Quality", "Process" and "Cost" within the one single tool. Using the precise comparison algorithm and Optical capturing system "MAMS", parts are inspected with multi angled image to eliminate false detection. Tool configured to process "image capturing" and "Inspection" in parallel

for both Front and Back side has made system to achieve high speed cycle time of 5 second.

All the data are stored and used to analyze to provide feedback for further improvement and to create quality report to your customers. Compared to our legacy model IM-3100, inspection capability has increased to wider range.

IM-3200 is built not only to prevent the overlook, but also to reduce the overall cost of quality manufacturing.

※MAMS=Multi Angle Multi Shot



Defect samples

Scratch

Under fill

Dent

Surface roughness

Features

Cost reduction

- Eliminate overlook to reduce re-inspection process.
- Minimize the resource by simplifying the process.

Yield improvement

- Taking preventive process by analyzing the defect data of "Distribution map" and "chronological trend".
- Manage the mold replacement cycle by monitoring critical point on Products.
- Utilize stored data to analyze and provide feedback for process improvement and generate product report.

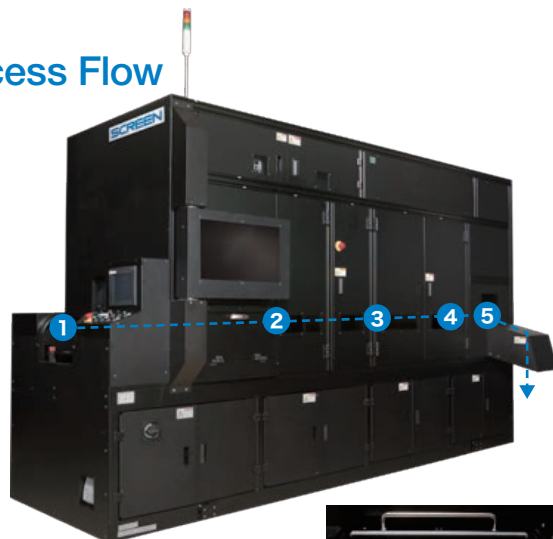
Inspection accuracy

- Detect defect on the parts with dimensional tolerance by comparing the data with master reference.
- Erasing the dent marks from shot-blast in the captured image by using image processing technology to accurately identify only the defect on parts.
- Reduce pseudo defect by image processing.

Operator friendly

- Complete the inspection within 5 sec cycle time, just by placing the parts on to the tray.
- Flexibility to handle variety of shapes by simple chuck.
- Simple new recipe creation in 15min.
- Equipped with touch panel to monitor and control the transfer system.

Process Flow



1 Setting

Place parts in inspection tray

2 Front Side Inspection unit

Capturing topside image

3 Reversing unit

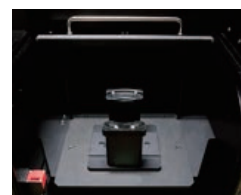
Rotate & transfer to Back Side Inspection unit

4 Back Side inspection unit

Capture backside image

5 Sorting the product

Sorting defected and non defected parts to exit from separate outlet.

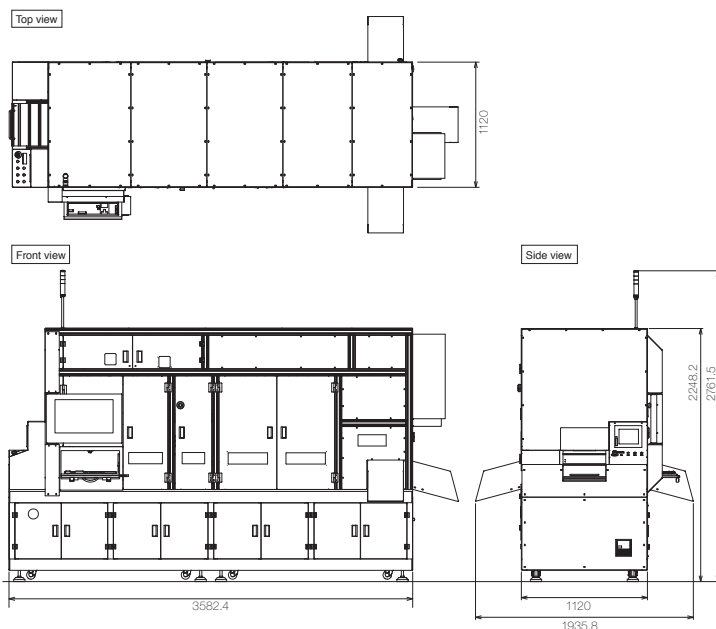


Parts loader



*Inspection completes within 5 sec from setting.
*Cycle time may differ based on condition.

IM-3200 Layout (Inspection unit) (unit : mm)



IM-3200 Specification

Inspection object	Forged parts after Hot forging, Shot-blast
Inspection target	Surface roughness, dent, underfill, overfill, burr.
Component size (W x D x H)	150 x 200 x 150mm
Component weight	30N (≒3kgf)
Inspection speed	5sec / psc
Tool size (W x D x H)	3,871 x 1,120 x 2,248mm (Not including tower lamp)
Tool weight:	2,500kg
Power supply	3 phase 200V(50A) (also require separate air supply)
Safety regulations	Compliance with CE marking and UL



Automatic visual inspection system
for cold-forged rotational part

IM-5100

Detect minimal size of
20micron defect.

Issued : Sep. 2017. Content including tool specification and design may be changed without notice.

SCREEN Holdings Co., Ltd.

Inspection & Measurement

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