DWFritz AMP 3100

ADVANCED METROLOGY PLATFORM FOR HIGH VOLUME INSPECTION

Automated
high speed inspection
system ideal for high
precision small parts

SPECIFICATIONS

Work volume	200 x 200 x 200 mm (L x W x H)
X-axis	0.7 to 1.0 m active [± 1 µ repeatability]
Y-axis	Per requirements [± 1 µ repeatability]
Z-axis	Per requirements [± 1 µ repeatability]
Payload	0-2 kg range
Pitch, roll, yaw	± 5 µRadians
Metrology bridge	1100 mm to 1400 mm
Lighting	Custom strobe, coax, ring, color, hybrid
Lasers	DWFritz 3D laser modules DLM411 or DLM420
Cameras	5 MP, 21 MP, monochrome, color
Electrical service	208-240 VAC 50/60 Hz 35A, 1-Phase + GND
CDA/AIR service	1982 l/min [70 CFM] @ 0.6 MPa [90 psi]
System dimensions	236 x 99 x 204 cm (W x D x H)
System weight	2187 kg (4820 lbs)
System controllers	High performance industrial PC operator station with touch screen and secondary display screen
Options	- Flexible input and output options (tray, conveyor, bin and process module interface) - Pre- and post-metrology assembly and processing options, such as adhesives, coatings and laser marking - Binning - 3D point cloud rendering

DWFritz Automation is a leading, global provider of high precision automation solutions for advanced high volume manufacturing. The company develops, designs, builds and supports engineered-to-order automation systems, specializing in high speed complex inspections to enhance product quality.

DWFRITZ®
PRECISION AUTOMATION

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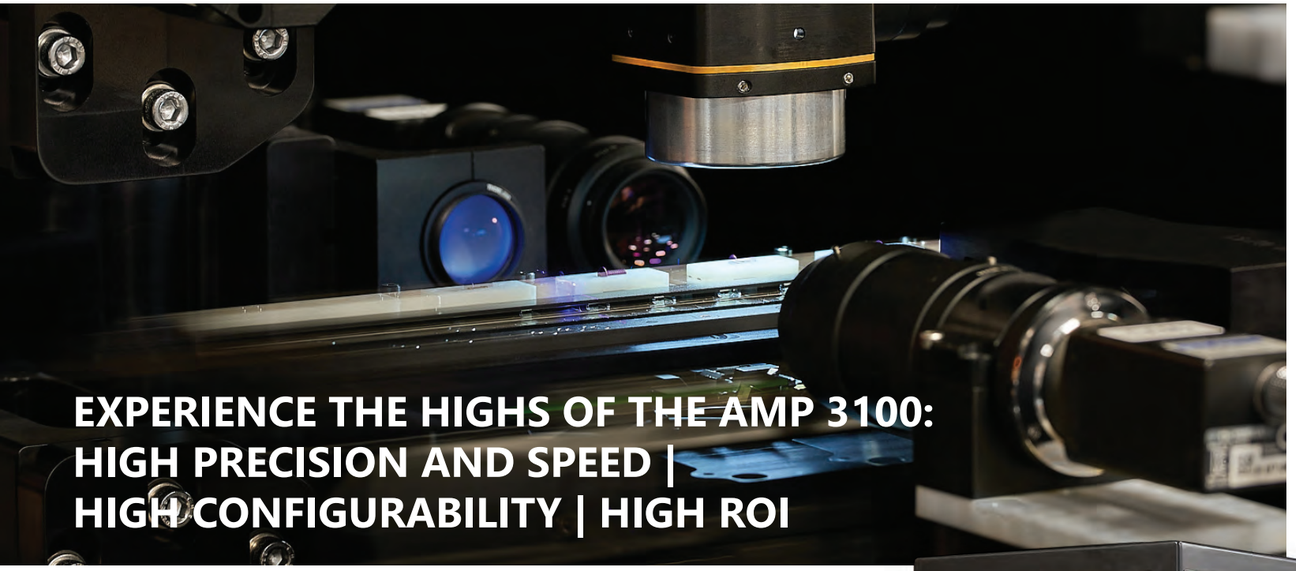


EXPERIENCE THE HIGHS OF THE AMP 3100: HIGH PRECISION AND SPEED | HIGH CONFIGURABILITY | HIGH ROI

Designed for 100% inspection of high volume manufacturing, the AMP 3100 non-contact metrology platform features a cutting-edge machine vision system, lasers, custom lighting and advanced robotics.

With processing speeds capable of exceeding 4 parts per second, this repeatable high speed solution offers consistent measurements and increased confidence in the quality of outgoing parts. The AMP 3100 metrology platform offers similar or better gauge capabilities as coordinate measuring machines (CMMs) and optical measuring machines (OMMs), but with the added benefit of high throughput.

KEY BENEFITS

- Precision non-contact metrology with high repeatability
- Multisensor system captures multiple simultaneous measurements
- High throughput with processing speeds that exceed 4 parts per second
- Generates data for SPC, process optimization and integration with MES
- Low inspection cost per part
- Highly configurable and optimized for manufacturer's specific application

KEY FEATURES

- Metrology platform captures dimensional and angular measurements, and 3D profiles
- Cosmetic inspection for defects
- Color and gloss measurements
- Customizable platform for manufacturer's application, including:
  - 3D lasers and high resolution cameras
  - Multispectral lighting
  - Fixturing and material handling
  - Binning options
  - Pre- and post-metrology assembly and processing options, including laser marking
  - Inspection part programming

PRECISION AUTOMATION USING INNOVATIVE TECHNOLOGY

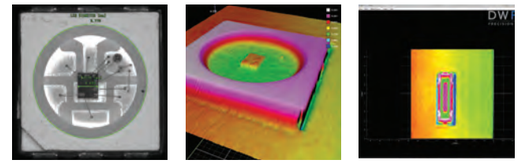
After more than four decades of creating custom solutions to meet manufacturers' need for speed and precision in metrology and inspection, DWFritz has developed the next generation of high volume metrology platforms for small parts manufacturing.

The AMP 3100 uses the following innovative technology to gain speed without sacrificing repeatability and accuracy:

SMALL PARTS, BIG APPLICATIONS

- Automotive
- Consumer Electronics
- Medical Devices
- Aerospace
- Semiconductors

Multisensor System for Metrology and Inspection



Dimensions | Surface roughness | Defect detection

High speed sensor system with optimal optics and lighting
Using a patented DWFritz laser system, the AMP 3100 scans 3D profiles at high speed, precisely measuring the most intricate parts with low gauge repeatability and reproducibility (GRR). The metrology zone uses application specific multispectral lighting and a strobe controller, ensuring parts are accurately scanned at the micron-level.

Efficient mechanical design maximizes use of metrology zone
Using a dual carriage system, two component-handling robots process parts through the metrology zone to maximize sensor utilization for high speed output. A custom nest provides precise placement for even the smallest parts, increasing gauge capability without marring the part surface.

Data driven insights optimize manufacturing efficiency
Manufacturers can analyze data in real-time to perform effective root cause analysis to adjust or improve upstream and downstream processes. Statistical process control (SPC) data can drive warnings to reduce variability and scrap.

Highly configurable control software
Using inspection part programming, manufacturers can easily enter measurement and tolerance specifications as well as settings for vision, laser, strobe and data views. Control software also ensures operator safety, disabling tool motion when enclosure panels are open.

When part conformity, safety and cosmetic appearance are vital, the AMP 3100 can perform multiple simultaneous measurements and inspection of thumb-size parts and smaller, including:

- Sensors
- SD cards
- LEDs
- Connectors
- Nozzles and orifices
- Suture needles
- Medical implants
- Dental implants
- MEMS devices
- Specialty fasteners