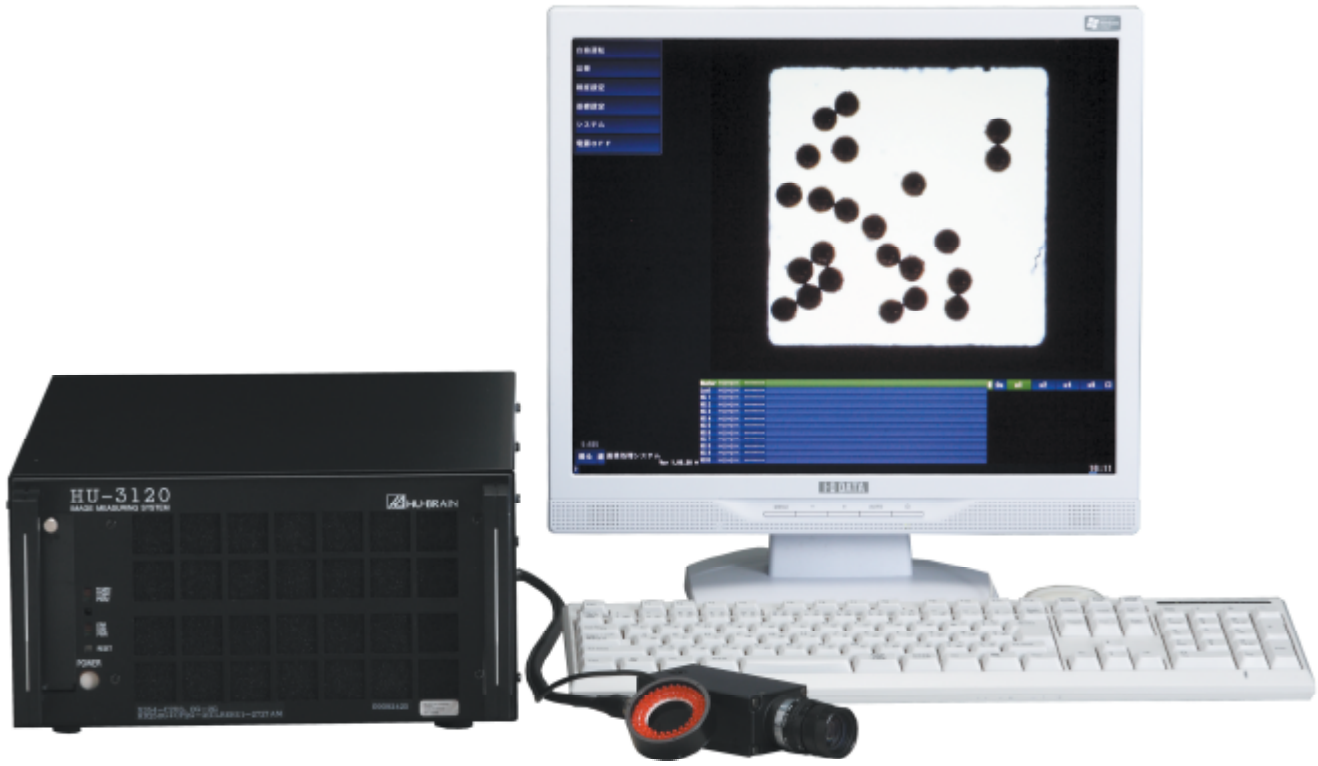
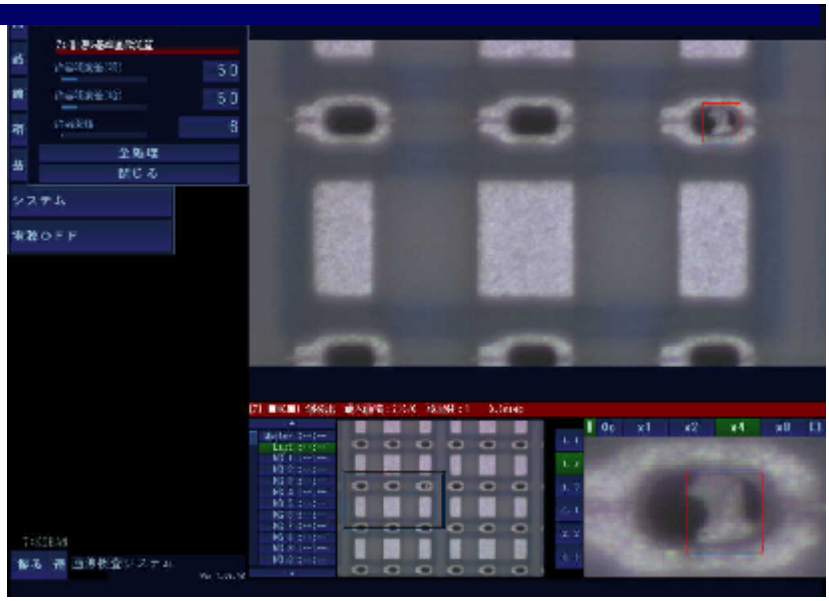
HU-3120 Image Inspection Application

# MULTI-FUNCTIONAL IMAGE INSPECTION SYSTEM

## Hu-Dra




- This product has been designed as a multi-functional image inspection system. It offers different combinations of features, which allow for meeting the inspection requirements for various kinds of workpieces.
- A variety of convenient features such as rotational position tracking and polygonal windows is available to enable flexible inspection settings.
- All of our experience and know-how as a specialized manufacturer for image inspection have been incorporated in this product to ensure that fast and accurate inspections can be made.
- A monochrome two-dimensional camera can be connected as standard. Multiple cameras including one-dimensional cameras, color cameras and high-precision cameras can also be connected optionally.
- A detected defect can be highlighted with a frame and can also be zoomed in.
- A number of defect images can be stored in the image log, which allows you to continue the inspection while keeping a defect image displayed on the screen.
- The Windows operating system ensures easy file management and allows the communication capability to be utilized.
- The workpiece registration capability allows various kinds of workpieces to be inspected by easily selecting them.



(Example of setup screen)

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## ■ Specifications

| | |
|---|---|
| Image processing unit | HU-3120 industrial computer system;　295(W)×160(H)×410(D) |
| Software | Windows XP and our original software for multi-functional image inspection |
| Monitor | 17-inch LCD display |
| Camera | 330,000-pixel monochrome two-dimensional CCD camera;　(different cameras can be connected optionally) |
| Number of cameras | 1 channels (up to 4 channels optionally available) |
| Processing speed | Approx. 600 images per minute when the standard camera is used. The processing speed varies depending on the image resolution and inspection conditions. |
| Control input/output | 16-bit I/O; open collector output |
| UPS | Online power system, 350 VA |
| Power supply | 100 VAC, 5 A |
| Options | Lens, lighting, mounting jig, and system rack |

※A lens and lighting must be chosen in accordance with your work piece and inspection requirements.

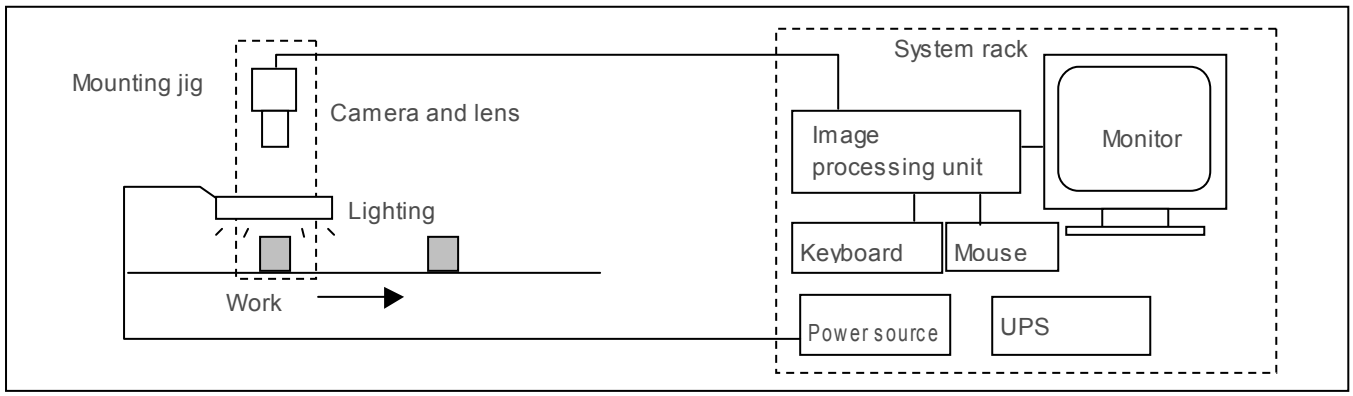
## ■ Image processing capability (example)

- Positional correction tracking : Normalized correlation, circular correlation, edge detection, rotational correlation, Center of gravity flattery, and Hough transform
- Detection area designation : Rectangular window, circular window, polygonal window, and contour extraction window
- Image processing : Smoothing, brightness conversion, partial cutout, masking, and image transfer
- Evaluation : Digitalization, shift reduction, reference image reduction, width measurement, distance determination, brightness measurement, and contrast measurement
- Auxiliary functions : Camera settings, image saving, inspection history logging, image management, I/O check, and password

## ■ Examples of inspection targets

Top and side walls of the cap, Inner and outer or printed surface of the container,Image on the label, Image on the card, Mouth of the bottle, Appearance, Glass tube, Syringe, Plain sheet, Coil, Sleeve, Press-formed product, Electrode, Substrate through-hole, Pattern on the substrate, Fluff, Tablet, Deviated Print, Contamination, etc

## ■ An example of inspection system configuration

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