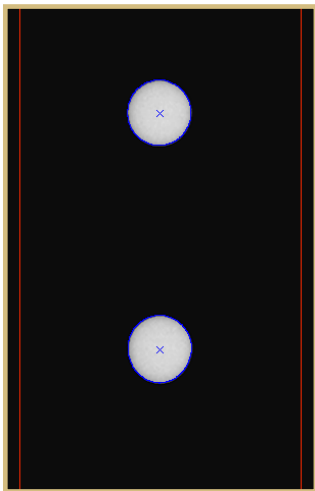
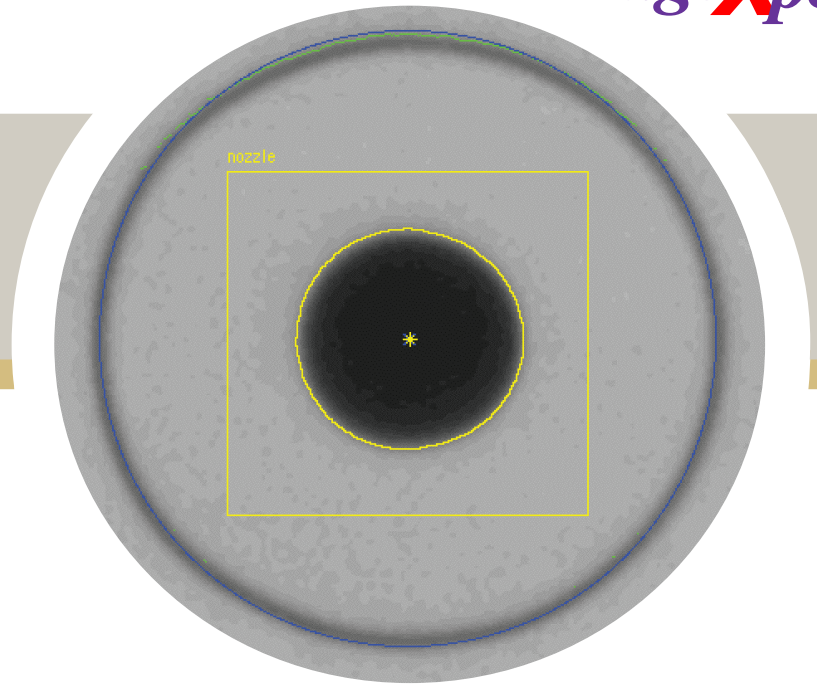


## ImageXpert Ink Jet Nozzle Inspection System

Fully integrated system for automated image-based analysis.



ImageXpert offers machine vision-based measurement systems for nozzle and inlet inspection.

### FEATURES AND BENEFITS

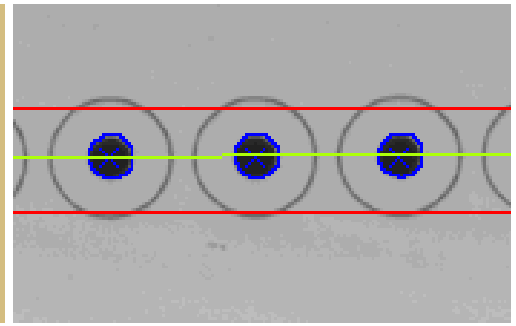
Full-motion, automated nozzle analysis system using a line scan camera, backlight and top-light for image capture and ImageXpert software for image analysis.

Measurements can include:

- Size (area, perimeter length)
  - Elongation (axis ratio)
  - Concentricity
  - Position and alignment
  - Debris detection
- High resolution (1 $\mu$ m/pixel)
  - High speed
  - Fully automatic
  - Single image per part
  - Feature recognition

## ImageXpert benefits include:

- Fully integrated system
- Automated, objective, quantitative analysis
- Optimize cameras and lighting for your application
- Custom configurations are available



### The Power of ImageXpert

Built to endure the rigors of a high throughput production environment while providing the flexibility needed in R&D, ImageXpert systems offer a variety of hardware options to address the needs of different applications.

#### Line Scan Camera

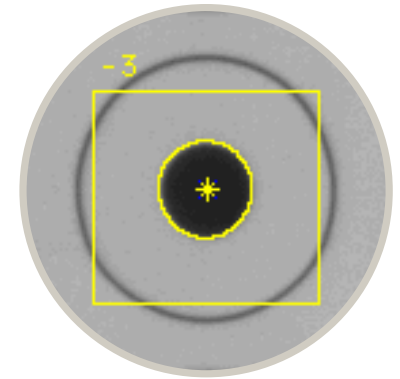
The system relies on a line scan camera with submicron resolution for acquisition of single, non-stitched, high-resolution images.

A line scan camera uses a single row of sensors when capturing an image. A seamless

image of the entire nozzle array is built up as the nozzle array is passed under the line scan camera.

#### Image Analysis

The nozzle plate inspection system uses ImageXpert's powerful image analysis algorithms to inspect nozzles for a variety of attributes and defects. Results can be compared against tolerances for pass/fail determination. Data can be saved automatically for off-line failure analysis or used as input to SPC software in real-time.



## System Configuration

Motion travel	12" x 12", 18" x 18" (other stage configurations available); optional +/- 5 degree rotary stage for skew correction
Motion Resolution	1 micron
Optical Resolution	1 micron per pixel, 1mm wide field of view (1024 element linescan camera)
Tray size	6" x 6" typical
Positioning	2-speed, 2-axis joystick and on-screen positioning
1-D cameras (linescan)	1024, 2048 element cameras are typical
2-D cameras	Black and white and color firewire cameras available for fiducial finding and sample position verification and adjustment
Illumination	Top-light and backlight
Analytical software	ImageXpert image analysis software
Software interface	Graphical user interface, menu driven, point and click
Ability to automatically save images	Yes
E-stop	Standard
Support for other instrumentation	Yes
Enclosure	Available
Dimensions and weight (W x D x H)	4' x 4' x 5', 600lbs

**imageXpert**

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For automated nozzle and inlet inspection