

LINE INSPECTOR

An Automated Visual Inspection System
for Production Line Quality Assurance

Traditional production line quality assurance techniques rely on handheld instrumentation and visual comparisons. These methods can be variable and quite subjective. An automated visual inspection system using digital image processing techniques provides repeatable, objective, quantitative analysis. Uses include Presence Validation, Mark Identification, and Dimension Checking to detect defects and deviations early in the manufacturing process, ensuring high levels of quality commitments are met.

Advantages of the Line Inspector system:

- 100% product inspection; not a statistical sample
- Immediate approve/reject decision on the line; no need for time-consuming back-room analysis
- Recorded measurements can be used to document rejection reasons and for trend spotting
- Each system is tailored to the customer's unique environment
- Customer ownership ensures adaptability to business changes

Tolerance thresholds may be set for the following parameters:

- Outside Diameter
- Inside Diameter
- Roundness
- Area/Size
- Connectedness/Kissing
- Height
- Color
- Texture

Additional functionality:

- System Training Mode
- Multiple Recipe Capability
- Performance Summaries
- Interface with Line and IT systems via standard format files
- LINUX or Windows OS to match customer's computing environment

Representative Products Inspected:



Doughnuts



Milk Bottles



Apples

**Line Inspector, a division of
Modern Ferrottype Inc.
211 Conner Drive, #9
Chapel Hill, NC 27514
919.360.8687**

**Charles Fischer
cfischer@modernferrottype.com
Ken Dietel
kdietel@modernferrottype.com**

Representative Image:



Representative Data:

Doughnuts									
Count	Area	Perimeter	Avg Gray	Avg Red	Std Red	Max Dia	Min Dia	CS Factor	Area/Peri
1	8.51	15.60	26696.82	40256.82	4291.04	3.60	3.53	0.80	0.77
2	9.01	14.88	28393.93	43109.31	5231.07	3.64	3.47	0.84	0.80
3	8.80	15.46	27497.69	41833.74	4896.70	3.70	3.29	0.83	0.79
Holes									
Count	Area	Perimeter	Avg Gray	Avg Red	Std Red	Max Dia	Min Dia	CS Factor	Area/Peri
1	0.74	3.55	8312.49	9106.81	10959.85	1.17	0.89	0.74	0.21
2	0.54	2.95	13647.57	14331.05	15733.85	1.03	0.75	0.79	0.18
3	0.72	3.47	7357.74	8456.24	8683.05	1.24	0.77	0.75	0.21