MoistTech

TP VISION

Tipping Zone Defect Detection System

BLENDED Corked Tip
Cased Tobacco
Burley
BRIGHT
CIGAR
Cut Lamina
CRS
Tiller
DIET
Stem
Snuff
PIPE TOBACCO
Lamina Strips
Expanded Tobacco
FINAL BLEND
Whole Stems
Strips
Kretek
RECONSTITUTED
White Stick
Turkish

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Inspect and Reject upto **12000 Cigarettes** Per Minute

PROCESS

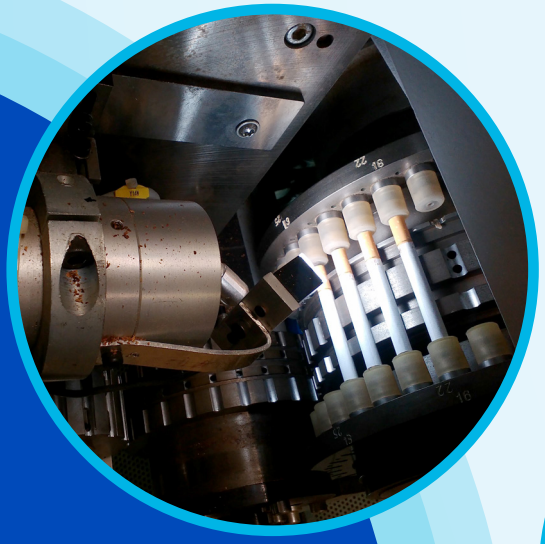
A trigger timing signal input from an external device (fibre sensor, PLC, encoder etc.) activates the image capture of the vision system when the target is in front of the camera. At the instant of the trigger input, the camera captures a still image of the target which is synchronised with the shutter speed.

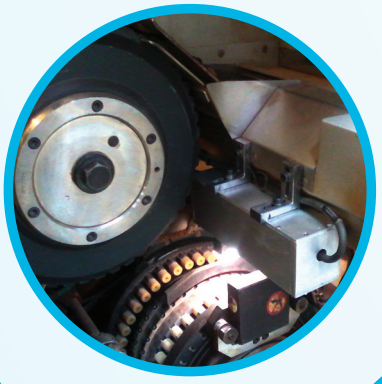
The High-Speed vision system then outputs the results of the processed image to an external device. The most basic type of output is an ON/OFF signal of the OK/NG judgement status, which is a NPN/PNP type output. It is also possible to output the inspection results as numeric values through the I/O terminal via RS-232, and/or Ethernet. Theses outputs are received by the system and then can be used to reject defective product, activate alarms, control the movement of a robotic arm or control of other automated processes.

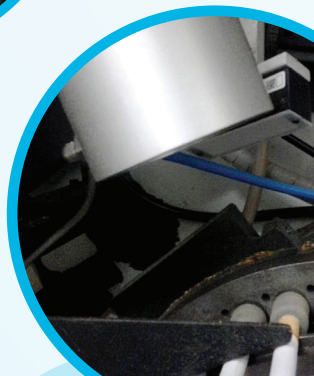
TP Vision has unique image processing features to identify defects and reject cigarettes having variations and deviations in the tipping zone. Identifying defects is extremely important in the manufacturing process. Typical defects are due to Flagging, Wandering, Misalignment (axis), Double Patch and V Cut of filter paper within the tipping zone of cigarettes.

The TP Vision system uses a combination of high-speed camera technology, hardware integration expertise and proprietary software providing a new generation of "in-maker" cigarette inspection and rejection system.

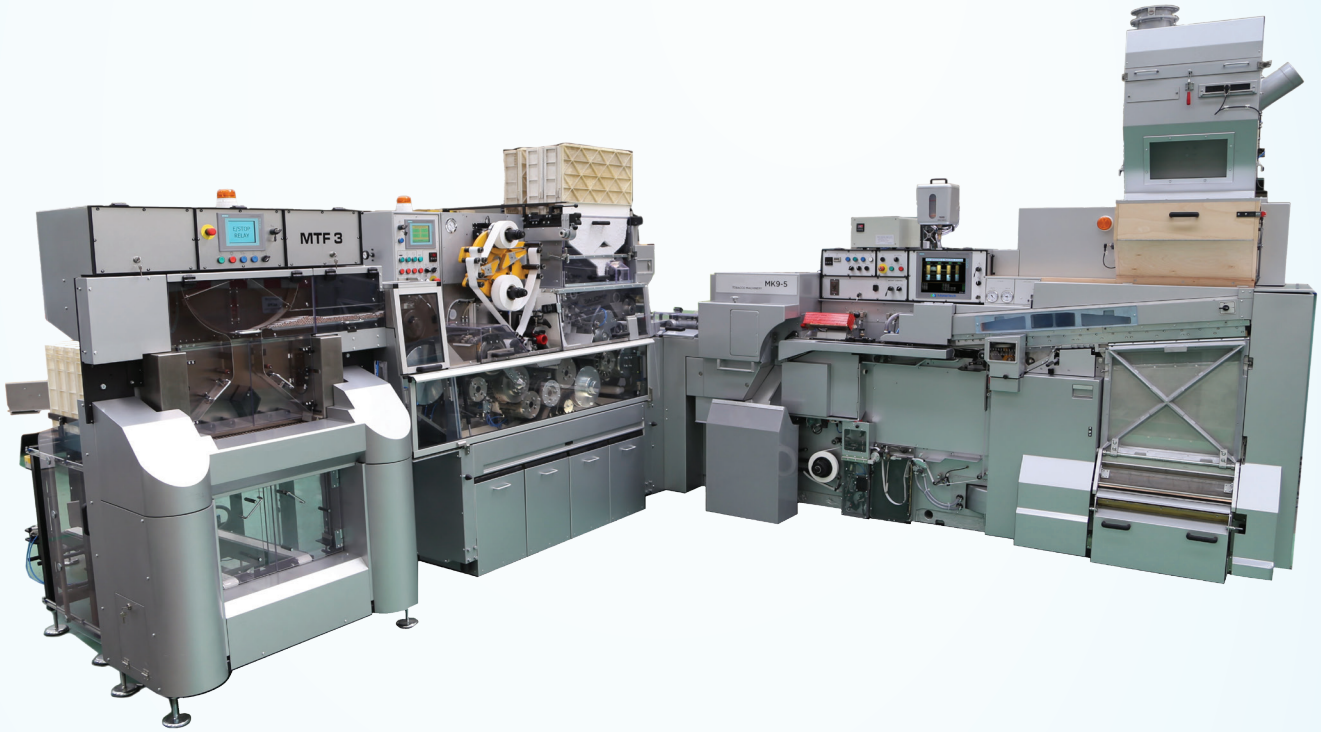
TP Vision is an automated vision based defect system that is customized and dedicated to identifying and eliminating non-conforming cigarettes in real-time, ensuring quality to market, reducing consumer complaints and providing brand protection.







- ✓ High speed high resolution camera
- ✓ High speed image processor
- ✓ Interfaces with any kind of making machine – single or twin track
- ✓ Higher speed versions available upon request



SYSTEM DESCRIPTION

The System comprises of the following:

- Panel with Display
- Software - High speed image processing
- Functional Group - Sensor Assembly and Rejecter Interfacing

The touch panel display provides a real-time indication to the maker's operator and interfaces to the high-speed PLC. The TP Vision software can be customised to suit the application to cater for variations in the colour, geometry and/or size of the cigarette.

The maker's existing rejecter is used, and given a digital signal from the high-speed PLC for each fault from the TP system. The system is independent from the maker and only requires a simple clock pulse input for timing & trigger purposes. Similarly, the output from the TP system can be easily integrated to the maker rejecter.

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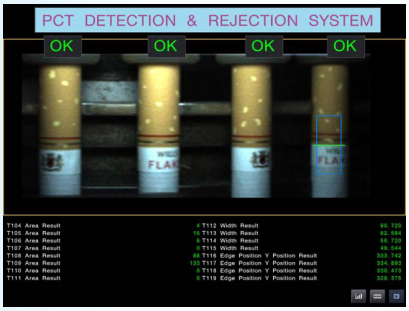
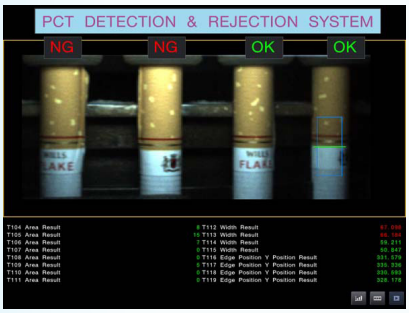
TP VISION SYSTEM IMAGES





SYSTEM SPECIFICATIONS

Camera:	x15 High Speed 310,000 pixel
Optical Measurement Distance:	1–4 in (2.5–10 cm)
LED Illuminator:	White
Weight:	32 lbs (14Kg)
Dimensions:	Dependent upon configuration
Enclosure:	Cast Aluminium, IP65 (NEMA 4), Optional Stainless
Power:	80–260 VAC (50/60 HZ)
Operating Temperature:	0–130°F (0–55°C)
Configuration:	Factory Pre-Configured, auto teach software included, routine reconfiguration not required
Sensor Input/Outputs:	Encoder / Timing signal IN, PNP/NPN rejecter OUT, RS-232/485, Ethernet TCP/IP
Operator interface Panel:	15" (38cm)

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