

# THERMALWATCH®

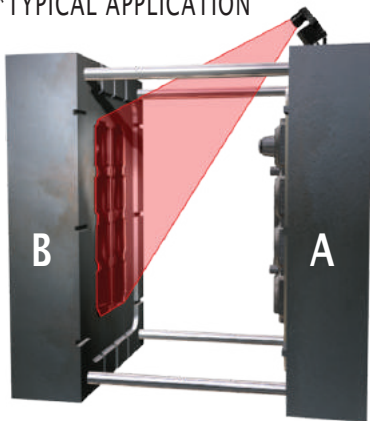
## The Only Complete Infrared Vision System

ThermalWatch is a complete Infrared Camera machine vision system with all components needed to interface and setup on processes or equipment. It can be installed and running within a few hours. The system can be used to measure and verify temperatures in many manufacturing processes.

Temperature change detection during production runs allows resolution of issues that otherwise are unmeasurable by the human eye. Engineers can detect process variations before it affects final product quality and adjust production equipment accordingly.

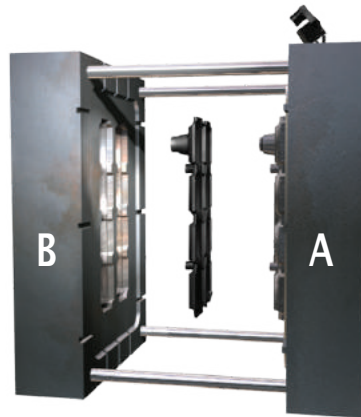
### How ThermalWatch Works\*

\*TYPICAL APPLICATION



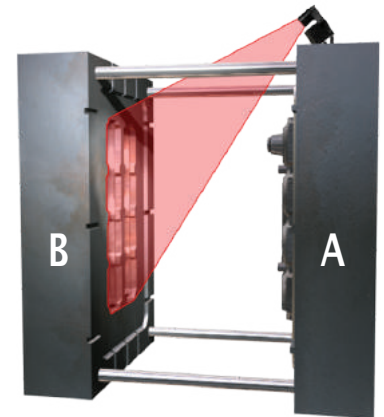
**1. The Mold Opens  
Before Ejector Image is Taken of  
Moving Side**

Surface Temperature of molded parts is confirmed to be in the proper temperature tolerance. In addition, the presence of the part is verified so that it is known that all parts left the fixed side of the mold.



**2. Ejection is Enabled**

If all parts are present and within designated temperature range, then the Ejection Cycle is enabled. Otherwise, the press is stopped, alarm activated, and the failed inspection is displayed.



**3. Ejection is Complete  
After Ejection Image is Taken of  
Empty side**

The relative temperature of the mold surface and the proper ejection of the parts can be verified. If all is within tolerance, then the mold is permitted to close. Otherwise, the same failure routine as #2.

### Process Improvements:

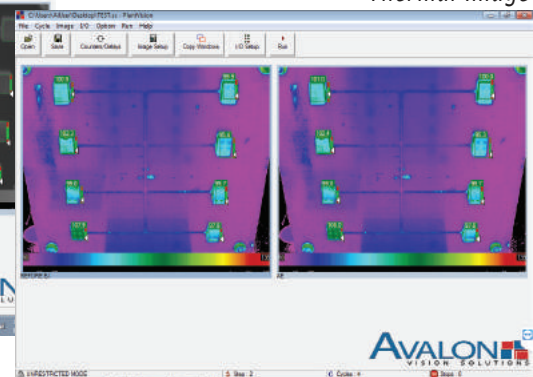
- ✓ Optimize Cycle Time
- ✓ Verification of cavity temperature consistency
- ✓ Part to Part Consistency

### Temperature Changes:

- ✓ Heat Imbalance on Mold Surface
- ✓ Thermal Mapping of Mold Surface
- ✓ Blocked Water Flow

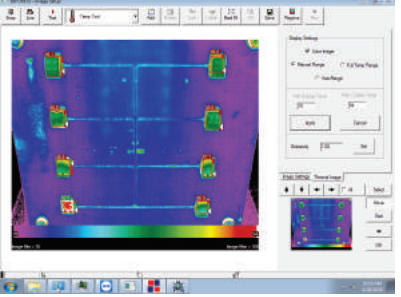


Visible Image

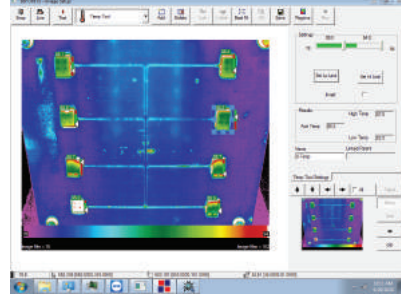


Thermal Image

**Image Settings**

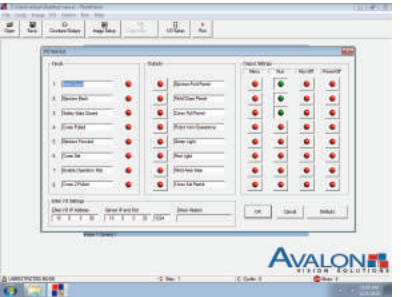


*Thermal Image*



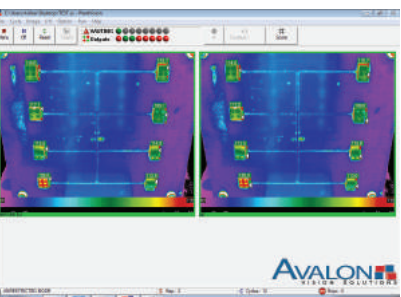
*Temp Tools*

**I/O Setup**

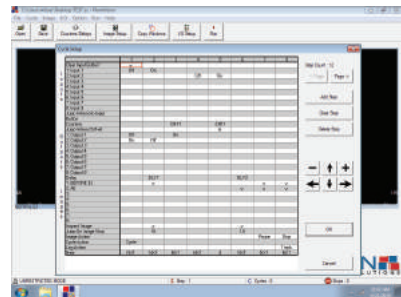


*Label the Inputs & Outputs*

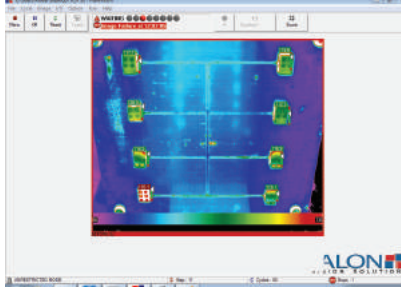
**Run Mode**



*Pass*



*Configure Cycle Setup Template*



*Fail*

# Your Complete System

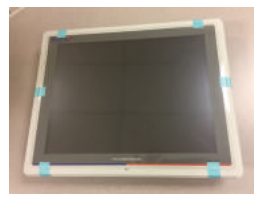
ThermalWatch software with ProcessRx Database and Image Reporting Module, Thermal Camera, Vision Computer with Touchscreen Controls, and Input/Output Module.



*Harsh Environment Camera*



*Standard Camera*



*Vision Computer*



*I/O Module*



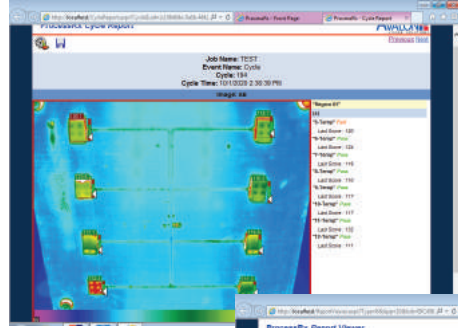
*Alarm Tower*

\*System accuracy (at ambient temperature +/- 2 Degrees C or +/- 3.6 Degrees F or +/- 2% (after calibration at process temperature)

# Featuring the Power of ProcessRx

- Cycle Events
- Failed Image Data
- Run State Events
- Usage Events
- Report Output Options
- Job Tree
- Date Range
- Context Sensitive Display

*Failed Image Data*



*Detailed Reports*



**Avalon Vision Solutions, LLC**  
 422 Thornton Road, Suite 104  
 Lithia Springs, GA, USA 30122  
 Office: 770.944.8445  
 Fax: 770.941.7299  
 info@avalonvision.com

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