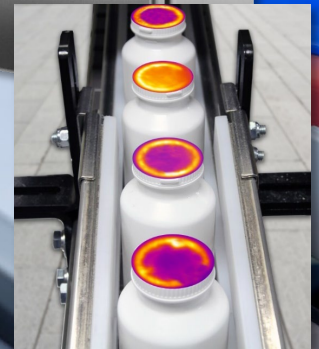




Thermal Seal Inspection for  
Bottle Cap Seal Inspection



**MoviTHERM TSI for Bottle Cap Seal Inspection** is an “out of the box” solution for 100% in-line integrity inspection for induction-sealed bottling lines. Leveraging infrared camera technology, *TSI* provides fast and reliable non-contact measurements to ensure proper temperatures are maintained across the entire sealed surface, resulting in high-quality adhesion.

**Features:**

- ✓ High-performance infrared camera.
- ✓ Standard powder-coated Industrial Electrical Enclosure with Touch-Screen PC and application software (Optional Stainless-Steel enclosure available).
- ✓ Interactive inspection Recipe Programmer to accommodate multiple products.
- ✓ Robust bi-directional PLC interface to transfer status messages and PASS/FAIL results to a plant PLC (Ethernet/IP or Modbus).
- ✓ Image FTP to transfer fault images to a remote server for offline review.

**RELIABLE DEFECT DETECTION**

Intelligent programming identifies the most common seal defects and causes.

- Missing Cap
- Missing Seal
- Over-Power / Under-Power
- Fold-Over Seal
- Double Seal
- Under Torqued Cap
- Miss-threaded Cap

**PEACE OF MIND**

Safeguard your brand promise with 24/7 intelligence and reporting.

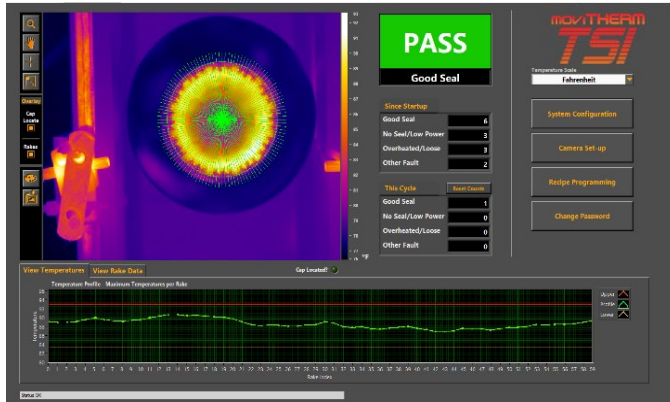
- Maintain sterile packaging and prevent contamination
- Ensure consumer confidence and satisfaction
- Prevent costly recalls and returns
- Performance awareness with statistical data output and report generation

**EASY INTEGRATION**

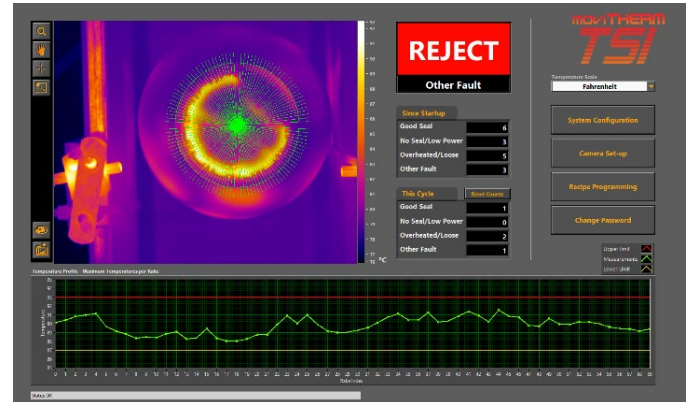
Speaks the most common industrial languages for easy integration.

- Standard Ethernet/IP interface.
- Ready for digitalization (IIoT, Cloud, Industry 4.0).
- Built-in digital I/O for alerting and product ejection.
- Optional FDA CFR 21 Part 11 Compliance for Electronic Records Keeping

## Panel Display Output



Thermal image data validates a good seal "fingerprint."



Fold-over fault flagged as a bad seal.

### What is required for my installation?

All that is required for the installation is standard 110VAC/15A power, one Ethernet cable to each camera, and the I/O connections. The cameras are powered over Ethernet (PoE), which makes installation very convenient. No additional camera power supplies or cables are required.

### How can I interface with my equipment?

The system offers flexible interface options. This allows interfacing with existing equipment to access status information, pass/fail, system health, and inspection data through various interfaces.

- ✓ 24VDC discrete I/O
- ✓ 4-20mA Current Loop Output
- ✓ Ethernet/IP and ModBUS TCP

### Does MoviTHERM help with commissioning?

Absolutely! In fact, we recommend hiring MoviTHERM for the commissioning and training phase of the system deployment. Nobody knows our systems better than we. We design and build them! Additionally, you gain access to thermography experts to assure that you achieve the best return on investment.

## Specifications

|                      |  |
|----------------------|--|
| Panel Enclosure      | Type 4,4X,12,13, 24 x 24 x 8" (600 x 600 x 210mm – H x W x D)  |
| Panel Display        | 15" HMI Panel PC Multi-Touch Projected Capacitive Touch  |
| Panel Processor      | i7-3.0GHz (up to 4.70GHz) Intel Octo-Core (8 cores) CPU - 12MB Cache, UHD Graphics 630 (65W)<br>16GB DDR4 2400MHz SODIMM RAM<br>256GB SSD SATA 6.0Gb/s 560/530MB/s 2.5" - Samsung 860 PRO<br>Microsoft Windows 10 IoT Enterprise 2019 LTSC 64-BIT - License For i7, XEON |
| Panel Power          | Switching power supply, 12 VDC (adjustable) output, 13A, 156W, 120/240 VAC nominal input   |
| IR Camera Sensor     | Uncooled microbolometer or Cooled InSb   |
| IR Camera Resolution | 320 x 240, 640 x 480, or 640 x 512 pixels  |
| IR Camera Frame Rate | 30 or 125 Hz   |
| IR Camera Accuracy   | ±2°C (±3.6°F) or ±2% of reading  |
| IR Camera Power      | 24/48 V DC 8 W max or 24 VDC (<24 W steady state)  |

\*Specifications are subject to change without notice. 12/2022

\*Exact system components and IR camera model are site dependent.