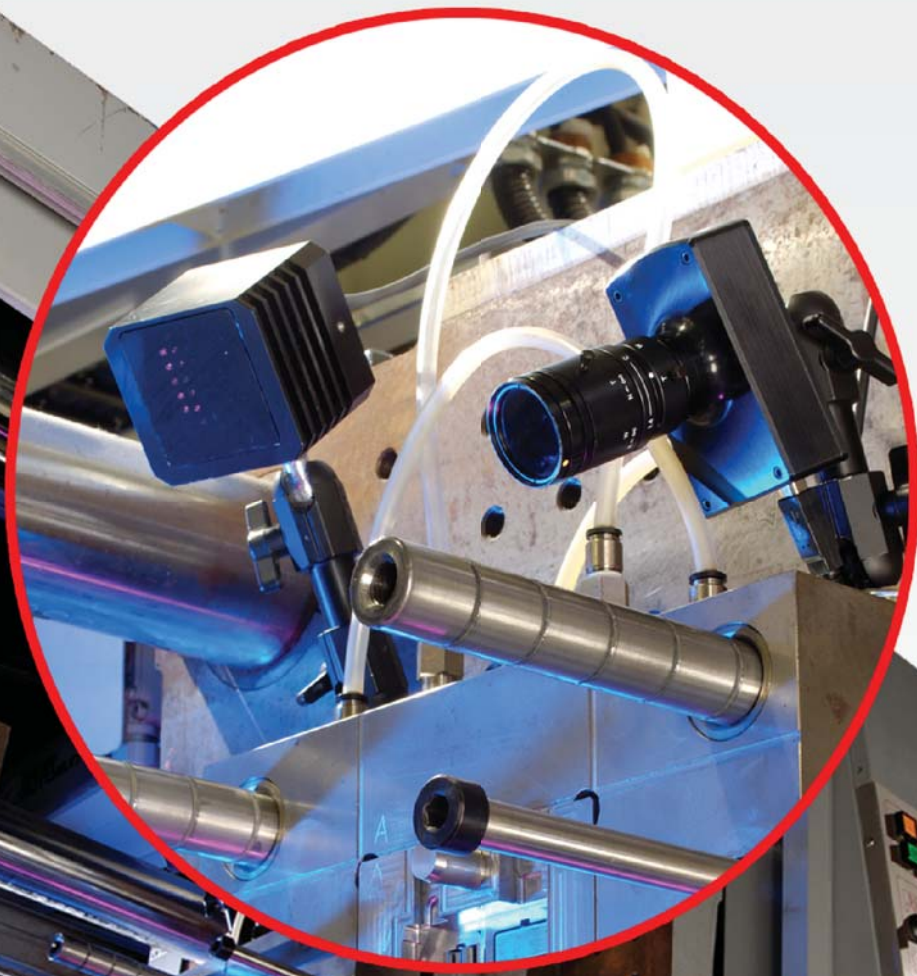
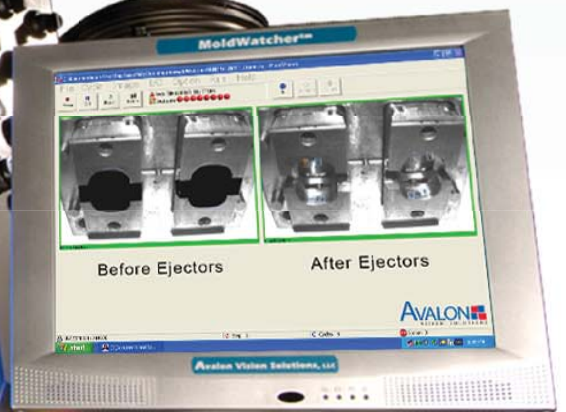


Vision Mold Protection

Prevent problems before they occur
Your Injection Molding Experts

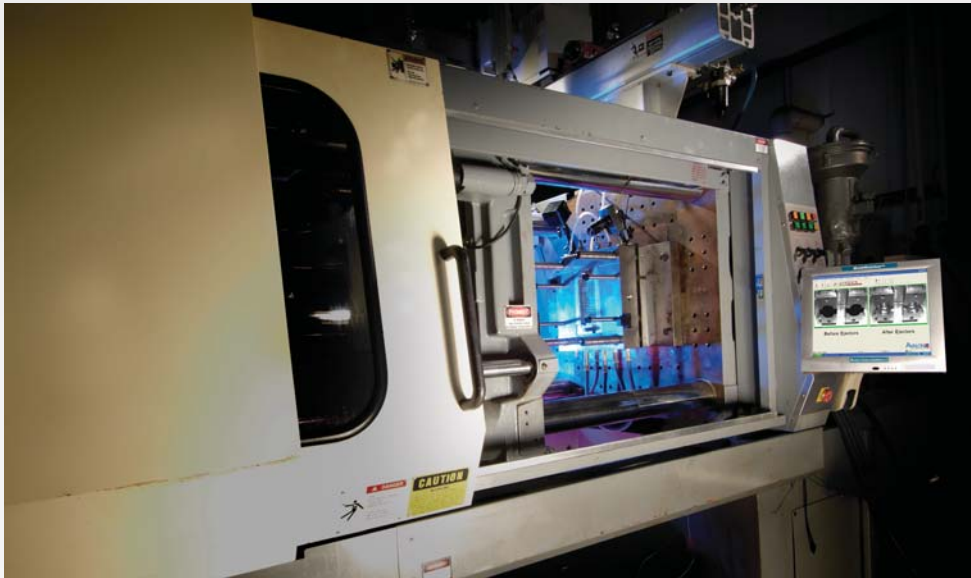


Patented Near Infrared lighting and camera solution provides reliable vision inspections. Flexible magnetic mounts allow rapid mold changes.



MoldWatcher™

prevents traumatic mold crashes
that cost a fortune and possibly a customer



With each cycle, mold presses run a high risk of experiencing extreme damage due to molded parts or slides sticking. Standard mold protection options only detect the problem as it occurs. Vision mold protection prevents the problem before it occurs. Avalon's patented MoldWatcher system will alert operators and stop the press before any hazardous force can be put on the mold. This prevents severe mold damage in addition to the related down-time, which can often be more expensive and troubling than the mold damage itself.

MoldWatcher works equally well with robots or sprue pickers

Vision mold-protection prevents unscheduled down-time

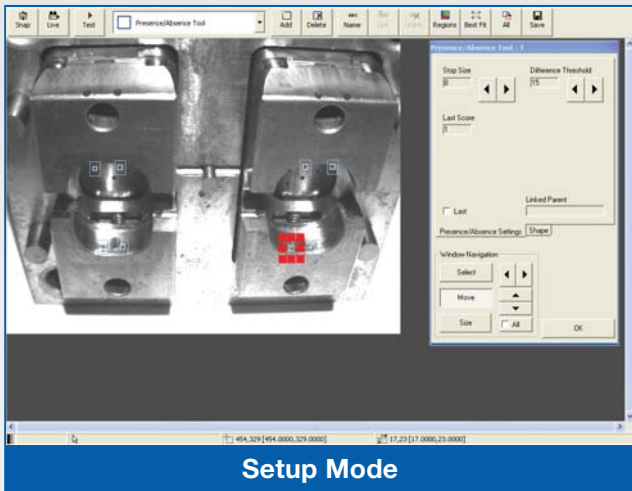
MoldWatcher can be installed on horizontal and vertical shuttle or rotary injection molding machines.

In the case of a horizontal press, MoldWatcher automatically inspects for inserts or quality of the part while in the mold and the empty cavity, cores and slides after the part is ejected. This insures that no stray parts are left behind to damage the mold during the next cycle.

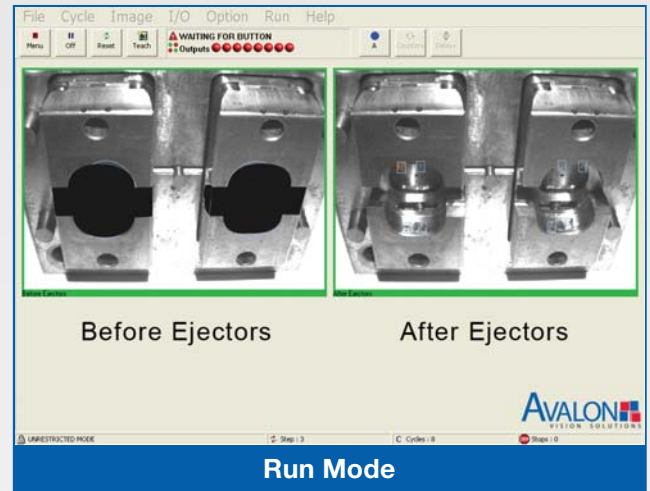
While on a vertical press, it ensures that all inserts are properly placed prior to permitting the table to index and the mold to close. The system will also detect miscellaneous items that may have been left on the lower mold half. After ejection, the system checks to ensure all parts have left the upper mold half.



NightHawk cameras integrated with MoldWatcher into PC based press controls



Setup Mode



Run Mode

- Setup on new molds in 5-10 minutes
- Customizable Toolbar in user interface
- Archives setup files for easy job retrieval
- Touchscreen for easy operator interface
- Single touch "Teach" updates the system
- Two inspections per cycle ensure protection
- Communicates with all injection machines
- SPI/Euromap module eliminates wiring

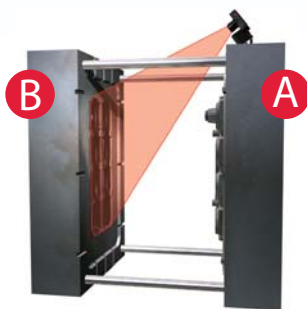
Setting up for a new mold or running an existing setup is very straight-forward. A new mold setup can be implemented in just minutes and if a change is made to an existing job, the "Teach" function captures and updates the reference image with the touch of a button.

Once a setup has been completed, it can be saved to disk and the job can be run by executing a single "Teach" cycle.

The "Presence/Absence" mold inspection tool is extremely robust and easy to use. The "Live Score" mode allows the user to instantly see the variance caused by problematic features so they can be confident the sensitivity adjustment will be optimal and the system will respond only to valid problems.

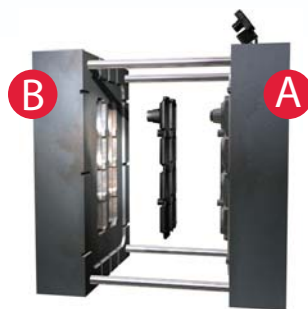
Avalon's patented near infrared (NIR) camera/light technology solves potential problems that can occur due to visible ambient plant lighting. Unlike incandescent lighting, DarkLight-IR is not affected by press vibration. The USB 2.0 camera is a dual-mode design with resolution up to 1280 x 1024 for high-resolution inspection of part and mold details where cycle time permits.

How Vision Mold Protection Works



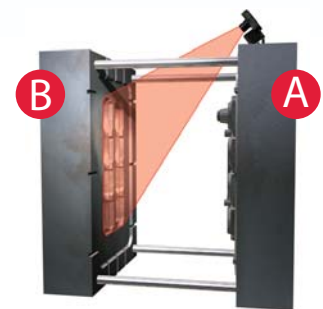
1. The Mold Opens Before Ejector Image Is Taken.

Presence of all parts on "B" side (moving) verifies the absence of parts from "A" side. Part quality and insert placement can also be verified. If good, ejectors are permitted to proceed.



2. Ejection Is Enabled

If all parts are not present, the press is stopped. If bad parts are detected, the response is programmable by stopping the press or re-routing the bad product by reversing a conveyor, etc. If all parts are present and good, ejection is allowed.



3. Ejection Is Complete After Ejector Image Is Taken.

Absence of all parts on "B" is verified. This can also verify slides, ejector pins, cores, etc. If good, the mold is permitted to close for the next cycle. If problems are detected, the press is stopped.

USB 2.0 Camera



C-mount lens
 Global shutter
 256 Grayscale
 640 x 480 or 1280 x 1024 pixel resolution
 NIR Technology eliminates plant lighting effects
 USB 2.0 Cable: "Off the shelf", inexpensive & reliable, variable lengths
 Flexible magnet or bolt on mounts

NightHawk™



CCD, 256 Grayscale, 640 x 480 pixel resolution
 18:1 Motorized optical zoom lens
 Focus, Iris, and Zoom controlled within MoldWatcher
 NIR Technology eliminates plant lighting effects
 Flexible magnet or bolt on mounts

DarkLight-IR™



High-intensity near-infrared LED light rated at 100,000 hours
 6 Watts @ 5ma, 12V DC
 Size: 2.75" x 2.75" x 2.75"
 Flexible magnet or bolt on mounts

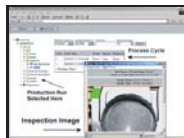
1.7Ghz Pentium Processor
 15"-17" High-brightness touch screen U.I.
 40 GB HDD (minimum)
 2 - 10/100 Ethernet (NIC) Port
 2 - Serial, 1 - Mini-Din Mouse/KB, 1 - VGA out
 USB 2.0 ports for USB cameras
 CD-ROM Drive, 3.5" Floppy Disk Drive
 Swing arm mount available
 Operating Temperature: 0 to 45°C
 Power requirements: 70 Watts, 100-240V AC
 UL, CE

MoldWatcher Controller



Include **Process Rx** for only **\$1500**

Powered by Process Rx™, the leading process documentation system that provides statistical and imaging reporting.



Your Local Avalon Representative

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 Lithia Springs, Georgia 30122
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