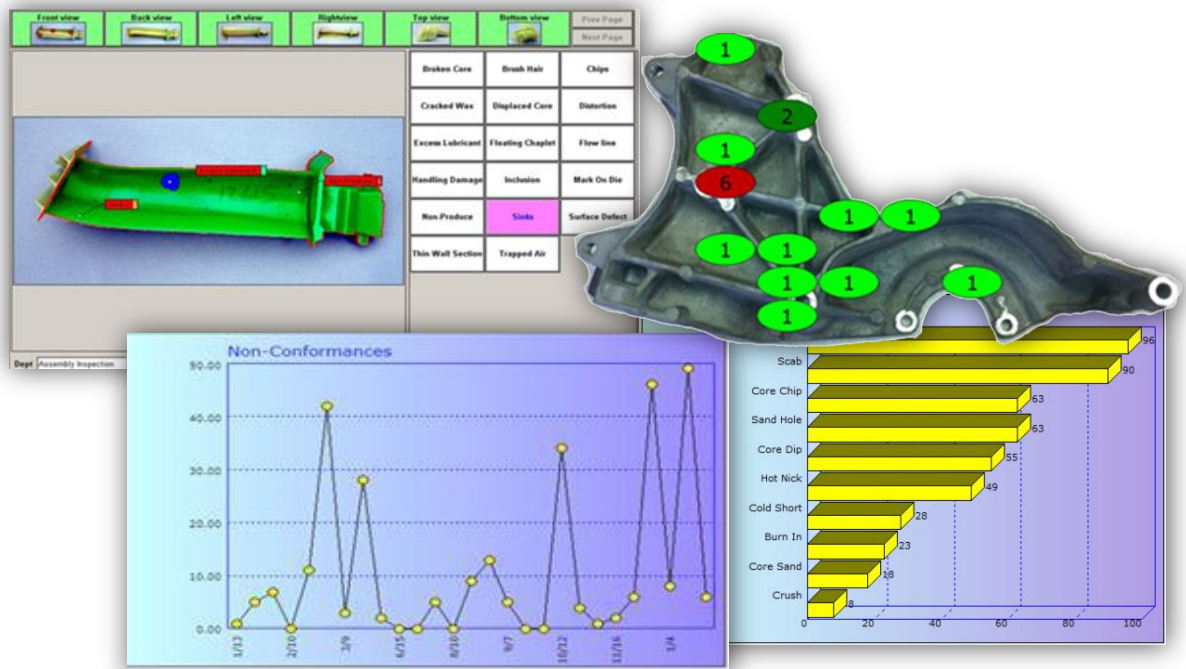




Software for Foundry and Casting Applications

Defect, Scrap and Rework Data Collection & Analysis





Don't Just Collect Data - Use it to Reduce Defects and Scrap

*Every foundry collects data. Few use it effectively. Most record their data using paper and pencil and likely key that data into Excel to create a minimal set of reports that are not produced in real time. ATS Inspect replaces this ineffective system with a paperless data collection operator interface for performing inspections. All data entered is immediately made available for analysis via a web based reporting module. This enables you to have access to the analysis you need on a real time basis. Over 80 available reports allow you to identify where you should invest your time and what the root causes of defects and scrap really are. With ATS Inspect you don't just **collect data**-you **use data** to affect true process improvement and reduce costs.*

Capturing Quality Data

ATS Inspect makes light work of the quality control required by your casting processes. The suite of applications provides a number of different approaches to capturing and analyzing defect, scrap and rework data:

- ▶ Collects and analyzes casting defect data for issues such as porosity, inclusions, flash, short material, cold flow and other common non-conformances.
- ▶ Collects and analyzes variable data such as weight, wall thickness, hole diameters and other measurements to ensure they stay within specified limits.
- ▶ Utilizes electronic checklists to vastly reduce human error and increase quality control efficiency.

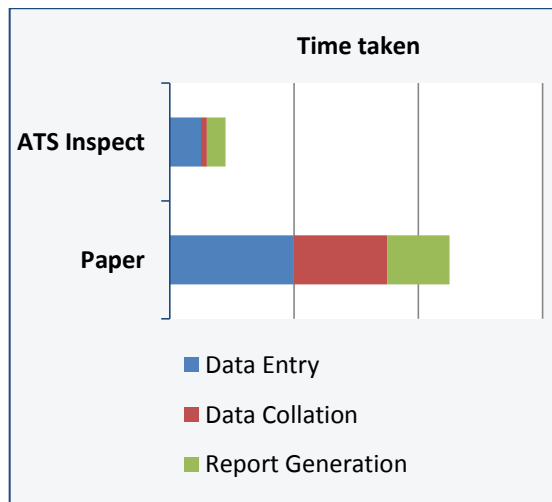
For All Steps on Your Casting Process

ATS Inspect can be adapted to capture quality data in any process used in the foundry industry, including sand casting, investment casting, die casting, permanent mold and lost foam. Inspect software can be used to perform inspections at any step in your casting process, including:

- Die Inspections
- Cast part visual defect inspections
- Measurement data
- Core and Mold Inspections
- Wax pattern and investment inspections
- Rework and repair tracking
- Weld Mapping
- Post-casting processes including inspections of your machined parts and assembled products.

Paperless Manufacturing

Human error is reduced to a minimum by removing the requirement of re-entering information from a paper record into the database or Excel for analysis. With ATS Inspect information is entered directly into the system. Time and money are saved by avoiding duplicate data input.



Data can be entered using a PC, tablet or handheld device. Entering data directly into the system reduces the risk of human error.

Create a “Digital Thread” for your Serialized Parts

If your castings are serialized, you can easily capture the serial number associated with each part through keyboard entry, barcode scanner or other electronic method. ATS Inspect then creates and builds a “digital thread” for each part as it passes through the production process. Defects and repairs are collected throughout all your inspection points and combined into one record that is easily accessed. If your customer calls with a question regarding a specific part you supplied, you can literally retrieve and view the entire part inspection and rework history in a matter of seconds!

If your process allows for repairs such as weld and blend, you can review the entire history of what cracks or other defects were found, were they repaired and were the repairs “bought off”.

Simple Defect and Repair Entry

An easy-to-use operator interface is one of ATS Inspect’s principal strengths. When recording defect data ATS Inspect displays digital images of the part or assembly and uses simple touch screen tools. Defects can be found, flagged and automatically routed to rework in a few seconds.

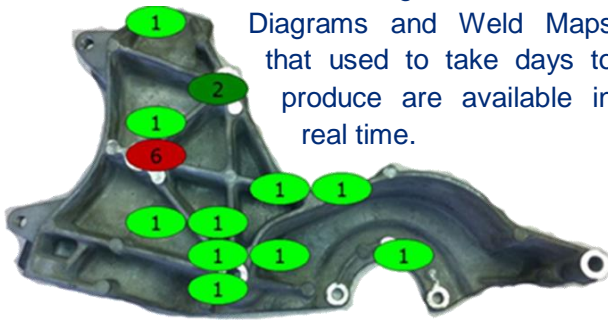
Capture Both the Type and Exact Location of Defects

In foundry applications, knowing the location of the defect as well as the type of defect is critical to making the right process change to eliminate that issue.

Digital photos and CAD drawings can be imported and included in inspection screens for defect location accuracy. When an operator/inspector touches the part image on the ATS Inspect data collection screen, the software captures the exact location of the defect along with the defect type.



Having the type of defect and the exact location allows you to make the right decision regarding adjustments such as injection pressure changes, gating changes, chemistry adjustments or other modification that will reduce defects from occurring. Concentration

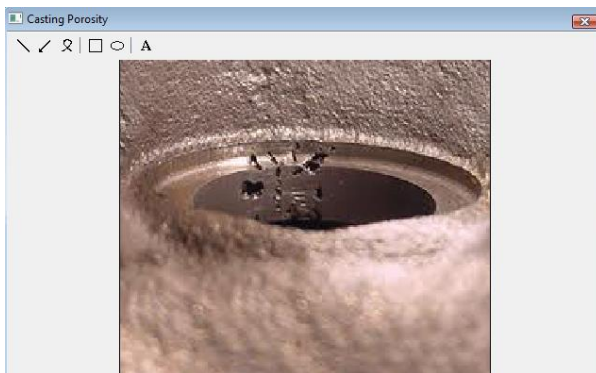


Diagrams and Weld Maps that used to take days to produce are available in real time.

When reviewing repairs at another station the operator can view the same image and easily identify the defects and then record the result of the repairs.

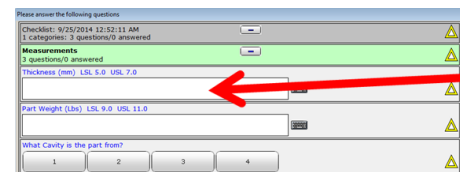
Reference Documents

It's often useful to have some extra information about how to carry out an inspection. This is where Reference Documents come in handy. Operator instructions, visual aids or whatever else you may need can be accessed by the operator when they need them most. Having immediate access to job aids and work instructions improve the quality of the data entered and assist in proper defect identification.



Electronic Checklists

ATS Inspect utilizes electronic checklists to record issues and to make sure all required visual checks, measurements and other critical information is captured during an inspection. Wall thickness measurements, hole presence and diameter information and other documentation is prompted for as an inspector moves through the checklist. This eliminates paper checklists and the difficulty of preserving, retrieving and using checklist data for later review and analysis.



Insert recorded values in checklists



Minimal Training Requirements

Operators are guided through the data entry process using an intuitive workflow. The operator is only ever shown the information and options that are relevant to them in that location at that time.

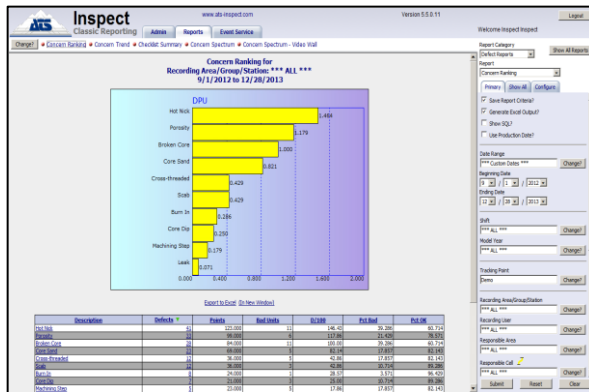
We know that entering data within the limitations of your cycle time is paramount. A complete inspection takes only a few moments and will not sacrifice production speed for data.

Real Time Analysis That Puts Money in Your Pocket

The powerful reporting abilities of ATS Inspect allow you to fully utilize the recorded data for analyzing trends and process issues over multiple production runs, as well as providing full access to the digital thread for all information related to a single part.

Collected data and checklist information can be viewed in real-time in a wide range of charts and reports. You can even export reports to spreadsheets and PDFs.

The web-based reports can be viewed anywhere in the world using a web browser on a secure connection. This allows management to review production even while on the road.



Display recorded data in charts and tables

Reports can be generated for each product tracked in the system, and can be based on factors such as serial number, inspection date, cast date, production area, operator, cavity, die number, lot number, and process parameter values. Any data entered can be used.

ATS Inspect provides over eighty out of the box reports including:

- ▶ Pareto Analysis of defect types and defects by part number
- ▶ Concentration Diagrams and Weld Maps
- ▶ Trend Reports for all or designated defects
- ▶ Management "Dashboard" Reports
- ▶ Single Unit History Reports
- ▶ Defects by responsible area/cell
- ▶ Defects by Production Hour
- ▶ Many Others

On top of all this you will have the ability to create your own fully customized reports using ATS Reporting Services which has at its core Microsoft SSRS. Designing reports in-house

means you can respond to the needs of your business as soon as they arise.

Automated Report Distribution

Up-to-the-minute reports can also be scheduled to be sent to the relevant people at regular intervals automatically. Do you need that report on your desk first thing Monday morning? It'll be there.

Instant Event Notification

Personnel can be instantly informed of quality issues throughout the production facility by utilizing ATS Inspect's automated messaging service that conveys information via e-mail and static display devices such as overhead monitors. It can even be configured to send out information-based or exception-based messages.



Criteria for event messaging are user defined and may include:

- ▶ Quality thresholds
- ▶ Production thresholds
- ▶ Critical issues
- ▶ Quality statuses
- ▶ Production statuses

Customize User Interfaces

ATS Inspect allows you to design custom screens that will be used by the operator collecting data. This flexibility also allows you to use different data collection platforms as need dictates in your facility.



Create easy-to-use screens in Form Composer

Fast Installation and Configuration-by Your Personnel

For both attribute and variable data collection the entire setup, from installation through to the first use on the production line, couldn't be simpler. Out of the box ATS Inspect has everything you need to be up and running with the minimum of hassle.

ATS Inspect is designed to be configured, maintained and modified by your quality personnel without paying for system modifications or having to know any programming skills. This lowers the long term cost of ownership and results in a flexible system that can be deployed in any foundry application.

Exchanging Data With Your ERP/MES System

ATS Inspect includes a Comm Server interface allowing data to be exchanged with your existing ERP/MES systems. OPC Server service is also available which allows connected OPC clients to capture and process ATS Inspect information such as concerns, quantities, checklist and tracking information. ATS Applied Tech Systems is also a full service System Integrator. If you need ATS Inspect to be integrated with your other enterprise systems, we can make it happen.

A Complete Solution

For attribute and variable data ATS Inspect has all bases covered, from checklists through to analysis and reporting. For further information please go to www.ats-inspect.com or give us a call.

ATS is an **Independent Solution Provider**, with over 25 years' experience in the manufacturing systems arena and a wealth of experience undertaking Continuous Improvement initiatives and Manufacturing IT solution design, deployments and 24/7 support assignments.

www.ats-global.com