sciemetric

# Rethink Your Leak Test

Leak Test Solutions from the Leader in In-Process Test (IPT)


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# Solving manufacturing's leak test challenges

Many manufacturers say leaks are the #1 issue affecting repairs, warranty, and productivity.

**Do any of these problems sound familiar?**

- ✔ Higher cost and longer cycle times than you'd like
- ✔ Lack of visibility into the test process and outcomes
- ✔ Poor repeatability
- ✔ Untrustworthy test results

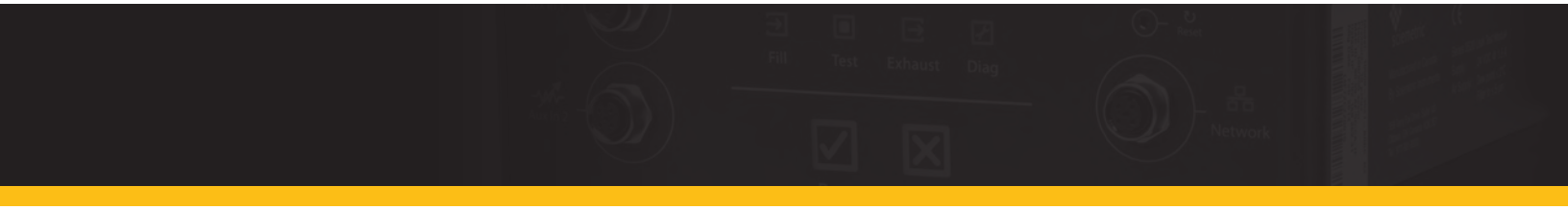
Sciemetric—a world leader and pioneer in In-Process Test (IPT) for discrete manufacturing—has developed patented leak test technology designed to specifically address these issues. When extremely high accuracy is required or large part volumes are being tested, leading automotive OEMs, off-highway equipment makers and industrial manufacturers are replacing competitive or DIY implementations with a Sciemetric leak test solution. Here are just some of the results they're seeing:

- Reduced gage R&R and more confidence in test results
- Leak stations brought in-line to increase efficiency and accuracy without impacting throughput
- Savings in cost and headcount by reducing test stations
- More leaks detected to slash repairs, scrap and warranty issues
- Optimization of tests and continuous process improvement using rich data collected right from the line
- Deployment of an easy-to-learn, easy-to-maintain leak test that meets increasing productivity demands
- ROI in 4 to 6 months

If leak test is causing you more issues than it's resolving, then Sciemetric has the answer. Take a closer look at our 3520 Series Leak Tester.

## Sciemetric leak test solutions support a wide range of tests:

- Pressure decay
- Vacuum
- Flow
- Blockage
- Volume measurement
- Burst testing
- Helium evacuate and fill
- Customizable pressure and flow sequencing



# Purpose-built for the demands of manufacturing

## Find the leaks, every time

### Accurate

The Sciemetric 3520 Series Leak Tester helps you pinpoint leaks reliably and repeatably. Specially designed pneumatics, sensors and electronics combine with advanced software and signature analysis to deliver a complete picture of the health of the unit under test. Dedicated sensors for temperature detection help compensate for environmental factors, seasonal temperature fluctuations, and hot/cold parts and washing that can impact test outcomes.

## Meet your production targets

### Fast

Dual high-speed electronic regulators provide ultra-fast fill and pressure stabilization, keeping these critical stages of the leak test process from becoming a bottleneck. Advanced signature analysis software and digital signal processing algorithms make pass/fail decisions quick and clear-cut, time after time, part after part.

## Test anything, many ways

### Flexible

From one to 1 million cc in volume, the 3520 Series Leak Tester can accommodate almost any part. We support a wide range of leak tests (see the sidebar on the previous page) so you can apply the one that's right for your particular application. Flexible PSV software lets you customize your test and analysis, and include even non-leak tests in your leak configuration—and you can use that same software end-to-end, for setup, calibration, testing, data collection and waveform display.

## Use, maintain and service with ease

### Easy

The 3520 Series makes use and maintenance of your leak tester as simple as possible, with things like web-based setup, easy hardware access for maintenance, and the ability to separate the pneumatic module from the controller so operators can monitor the process from a more convenient location. Auto-tune capability can be used to provide complete tuning of the leak test (including fill time, exhaust time and valve control) for optimized test results with the push of a button. A simple self-test mode enables automatic verification and cross-check of the leak circuit down to the component level, and an external calibration port and easy calibration process give you peace of mind that your leak tester is working as it should.

## Harness the power of data in the Industrial Internet of Things (IIoT)

### Intelligent

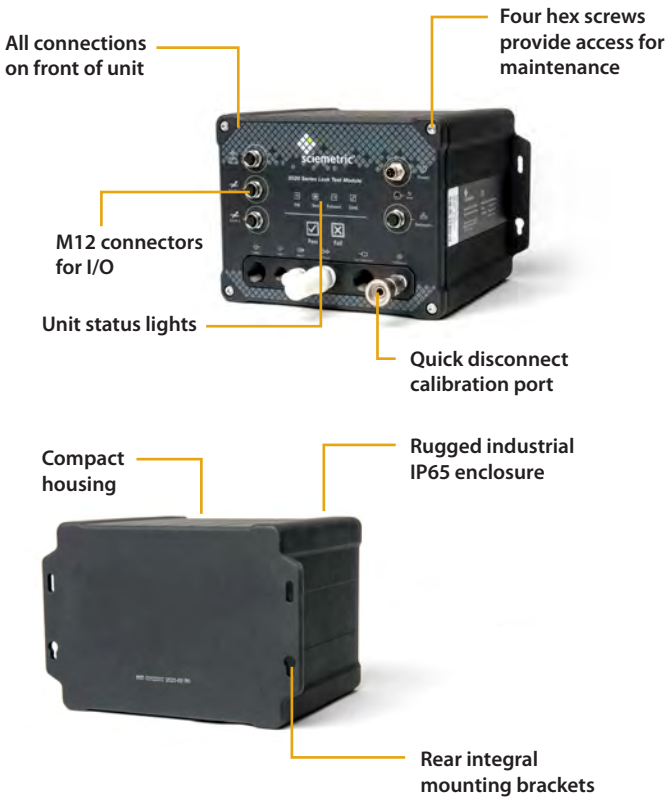
The best thing to come out of a leak test—aside from a part that passes, of course—is data. The 3520 Series Leak Tester can be configured to generate large volumes of information, and, with a Sciemetric solution, that data can be viewed three ways: in-station on a sigPOD process monitor, via Sciemetric Studio desktop software, and through QualityWorX, a suite of enterprise software products from Sciemetric that provides rich visualization and reporting capabilities. The leak test data becomes part of a complete birth history of the manufactured component, which contributes to traceability, helps you make faster and more reliable decisions, and enables you to continually optimize the test station.

# Patented hardware features, uniquely designed for leak test

Everything inside the 3520 Series Leak Tester, from the electronics to the sensors to the pneumatics, is designed to provide a highly accurate, fast leak test. There are two versions, one optimized for very small volumes, and another for medium and large volumes.

### Both models offer these innovative features:

- Absolute pressure control to maintain constant pressure during test
- Multi-stage pressure control to achieve precision leak detection in high volume parts and optimize fill time
- Absolute pressure regulation to mitigate atmospheric pressure changes
- Temperature compensation to mitigate environmental changes
- Automatic calibration to ensure accurate assessment of leak rate




Model 3670 Leak Test Station


Model 3675 Leak Test Station

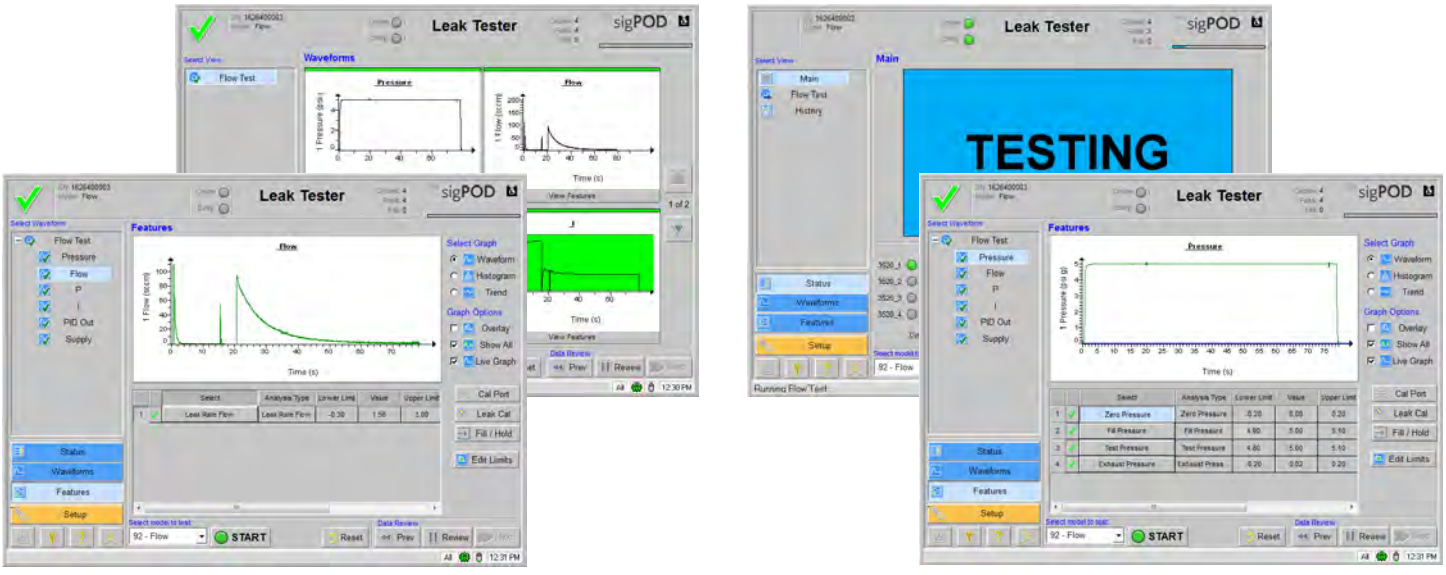
If you prefer an all-in-one solution for your plant, you can deploy Sciemetric's innovative leak test technology in a full turnkey setup. The Model 3670 holds four 3520 Series Leak Testers while the Model 3675 is a lower cost option, accommodating three. Both models come with everything you need to perform your leak test, plus a range of optional accessories.

# Powerful software to manage your leak test

Sciemetric's Process Signature Verification (PSV) software uses signature analysis and signal processing algorithms to dramatically reduce the time taken to make pass/fail decisions. Whether you choose to run the PSV software on a computer or on a Sciemetric sigPOD controller tailored for leak testing, you'll experience an intuitive and user-friendly interface with screens specific to engineers, supervisors and operators. Just a single click drill-down lets you see histograms, trends and feature-based or historical views quickly and easily. In-station SPC stores and uses real production statistics to calculate optimal test limits, increasing the reliability of your test. The system collects a complete process signature for use in future analyses so you can optimize the leak test, compare results over time or different stations, and more.

**Some of the unique features of the PSV software for leak test include:**

- Software correction to determine true flow and compensate for sensor errors
- Curves fit to leak profile to better evaluate pass/fail
- Signature analysis of the entire leak curve to gather as much data as possible about the process
- Automatic generation of a parametric model of the leak circuit (waveform) to ensure reliable, repeatable results
- Optimal test parameters calculated from parametric model to set appropriate test limits and from sample data to increase accuracy




**Sciemetric's Process Signature Verification (PSV) software**

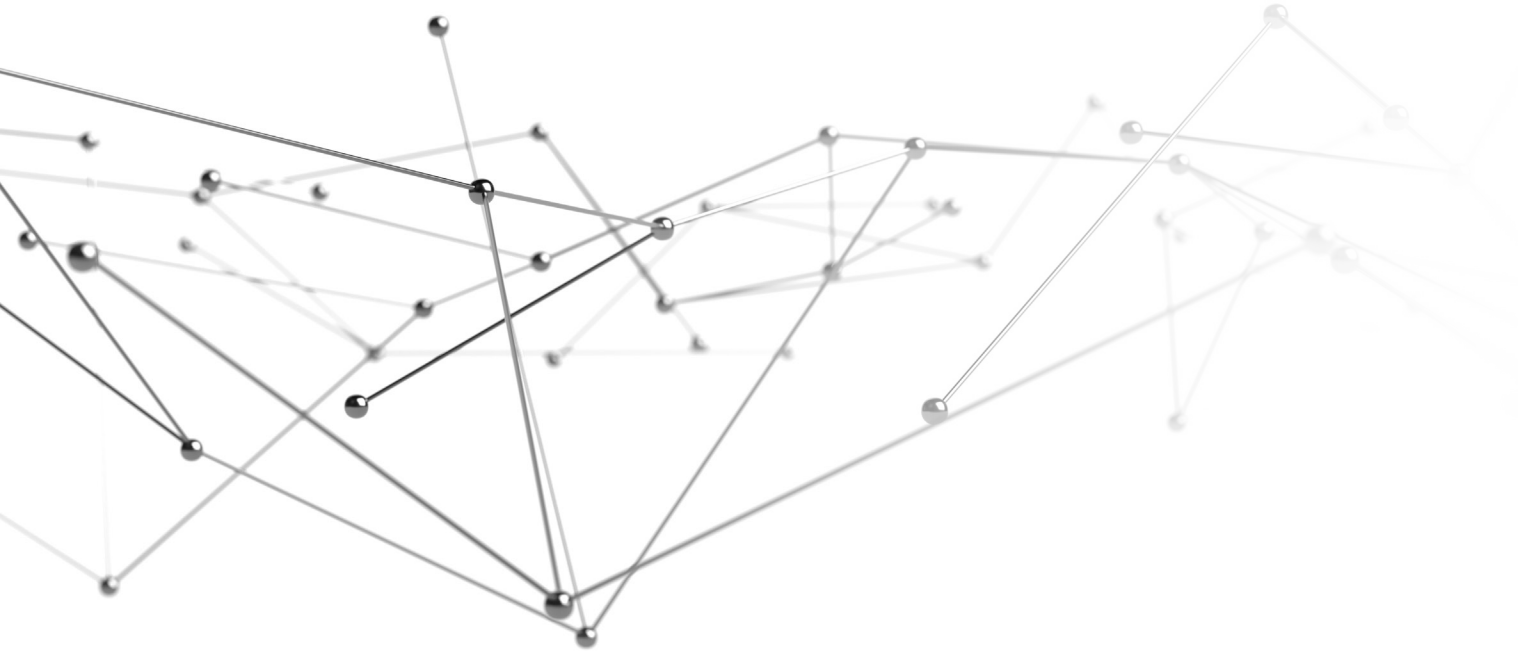
# A connected device in the Industrial Internet of Things (IIoT)

Manufacturers in all markets today are contemplating the evolution of their Big Data strategy and their next steps to realize the value of the IIoT, an environment in which intelligent software and connected, data-generating machines equipped with sensors have the power to reduce costs and improve productivity across the plant and throughout the supply chain.

Sciemetric offers a comprehensive testing, processing monitoring, and data management solution that not only improves your leak test results, but collects, displays, and analyzes all the part and process data, putting it at your fingertips for better decision-making. The 3520 Series Leak Tester is a connected device in the IIoT that generates a rich set of data about your leak test process. When combined with PSV software and QualityWorX data management from Sciemetric, all the data from multiple leak testers is gathered and stored in one place so you can compare and analyze results, and optimize leak test across the production line.

**QualityWorX data management**

This intelligence helps you answer not just the "what" of leak testing, but also the "why"—and that's exactly the insight you need to drive improvement to your bottom line.



# Working together for your success

## Leak test services

At Sciemetric, we know that leak test can be intimidating. That's why, from our first point of contact, we're focused on making sure the system is correct for your application and that it's working the way you expect. We offer a range of services and support to ensure your success throughout the lifecycle of your leak tester.

### Consultation

Our leak test experts specialize in collaborating with you to identify and deliver a leak tester that's optimized for your part and your production schedule. We'll analyze your particular situation and apply engineering expertise and design reviews to determine the right solution for your leak test challenges.

### Installation Support

Our integration, commissioning, and launch support services will give you the confidence that your leak tester will be up and running as quickly as possible and performing to your specifications.

### Training

Our engineering and maintenance training course will teach your manufacturing engineers all they need to know to support your new leak tester.

### Maintenance and Calibration

Once your leak test solution is installed, we offer full managed or à la carte services to keep your leak tester working as it should. Leak testers typically require regular maintenance and calibration to ensure they are performing properly. We offer annual NIST-traceable calibration, annual inspection of the unit, on-site minor repairs, firmware upgrades as required, and off-site major repairs and burn-in. If your Sciemetric Leak Tester becomes unstable or inconsistent for any reason, or if you have new personnel who are unfamiliar with the system, we can provide engineering, maintenance, and operator training; general maintenance, and debugging support; back-ups and restoration of software and firmware; and system configuration and set-up. You can request services at any time through our self-service portal, email, or tiered telephone support systems.


Contact Sciemetric to learn more about how we can help you improve your leak test.

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## About Sciemetric

Since 1981, Sciemetric's process monitoring and quality management systems and software have enabled some of the world's leading automotive, medical and industrial manufacturers to gain visibility into and control over their manufacturing processes. On the production floor, Process Signature Verification (PSV) technology provides the most accurate determination of process health and part quality while collecting all data. Manufacturing managers use Sciemetric's analytic tools to transform the data into actionable information to reduce costs, manage quality, and maximize yield while providing proof of process compliance and complete line-wide traceability. Visit sciemetric.com for more information.



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