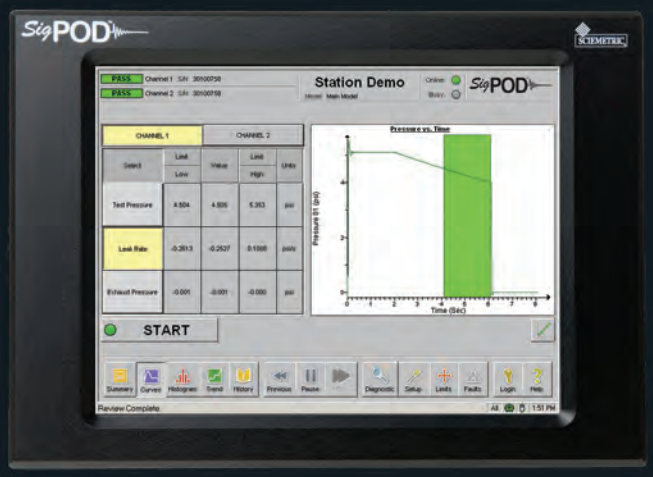
SigPOD® Leak

Fast, accurate, easy to integrate and easy to maintain leak testing



Process Signature Verification for Leak Test:

- Advanced software
- High accuracy
- Industry-leading serviceability
- Part traceability

Standard Products:

- Pressure Decay
- Vacuum Decay
- Mass Flow

SCIEMETRIC®

Powerful 3404 controller manages up to four leak test modules at once

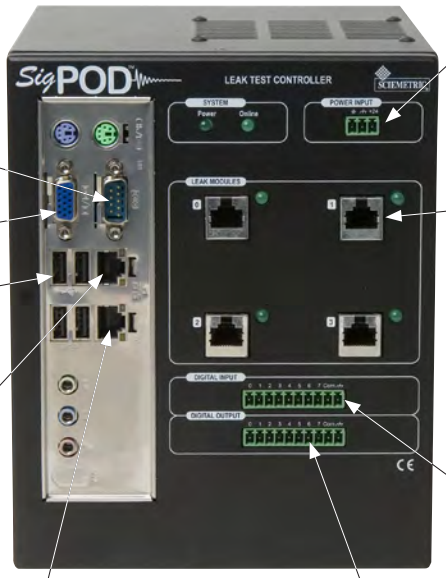
The innovative and modular SigPOD Leak test solution separates the controller and pneumatics so that the compact pneumatics can be placed close to the device under test. The Model 3404 SigPOD Leak Test Controller can connect to and control up to 4 Model 3500 pneumatic SigPOD Leak Test Modules to simultaneously test up to four parts. The larger Model 333-16 controller can connect to and control up to 16 pneumatic modules to simultaneously test up to 16 parts. Designed incorporating years of customer feedback, no leak test system is easier to maintain. The industry-leading packaging, combined with best-in-class software, and a low cost per channel, make SigPOD Leak a great fit for any leak test application.

Optional Touch Screen
- 10.4" best in class display
- 800 x 600 resolution
- Color LCD
- NEMA 12 (IP 52)
- Integrated or remote
- Panel mount available

Base System
- Compact 8" x 6.5" x 8" (HxWxD)

Power Supply
- 24 VDC Input

Serial Port
- Standard RS232C DB9
- Serial number input
- Test results output



Control up to 4 pneumatic modules
- RJ-45 connector for easy setup
- Only 1 cable connection needed per leak module
- Includes power and valve control in one cable

VGA Port
- Supports remote or local screen

USB V2.0
- 4 ports
- Use for system backup, install and data retrieval
- Peripherals

Ethernet
- Data record transfer
- Backup/recall of SigPOD setup and data

QualityWorX (optional)
- Traceability
- Unidirectional or Bidirectional to/from database
- Supports full signature data storage

Field Bus – Ethernet (optional)
- Ethernet/IP
- PROFINET
- Modbus/TCP

Digital Outputs
- 8 Channels
- Can switch up to ±48 VDC at 1 Amp
- Optically isolated

Digital Inputs
- 8 Channels
- ±48 VDC
- Optical isolation

Fast leak testing

Leak testing should not be a bottleneck in the manufacturing process. SigPOD Leak delivers fast cycle time through a number of design and technological advances. With the ability to mount the pneumatics close to the tested part, test volumes are reduced allowing for faster fill times and better repeatability. Plus the embedded software allows you to optimize cycle time using SPC and other tools to manage limits. Finally, the use of signature analysis algorithms to analyze the leak waveform allows decisions to be made more quickly than conventional methods to improve productivity without compromising test accuracy.

Model 333-16 controller

INDUSTRY-LEADING DESIGN OPTIMIZES LEAK TESTING

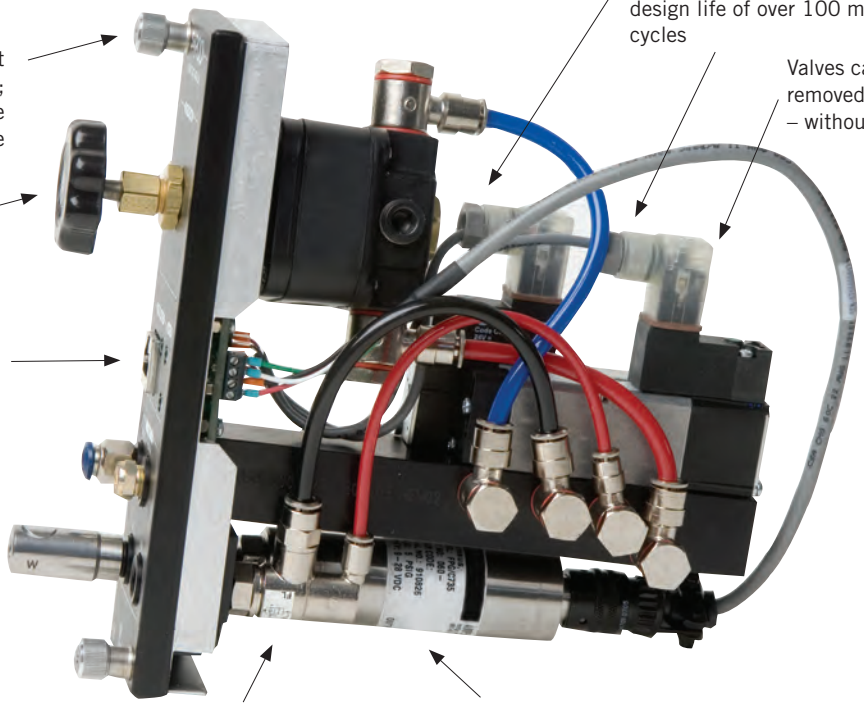
Advanced pneumatics easiest to service

Each leak test channel has its own pneumatic module for ease of maintenance, debug and commissioning.

All connections to the controller are through the front panel, making it easy to mount and stack multiple units.

Extra heat sources have been eliminated to maintain even temperature and improve accuracy.

Compact pneumatic module 8” x 2.6” x 8” (H x W x D) allows placement close to the part under test, reducing test volume and allowing for faster more accurate tests.



Two thumb screws allow the front panel to be removed for servicing; All parts are attached to the face plate for ease of service

Locking regulator for ease of setting pressure

The power supply for the valves is in the controller unit, reducing power dissipation in the pneumatic panel

The two air actuated valves on the main manifold have a design life of over 100 million cycles

Valves can be quickly removed with two screws – without any special tools

One way air piloted check valve can be serviced with common tools

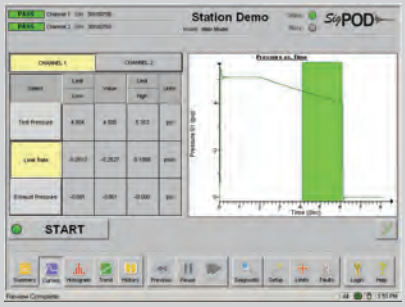
High flow to test volume means faster fill times – decreasing test cycle time

Options

- Pressure Decay
- Vacuum Decay
- Mass Flow
- Flow Restriction

Unbeatable accuracy

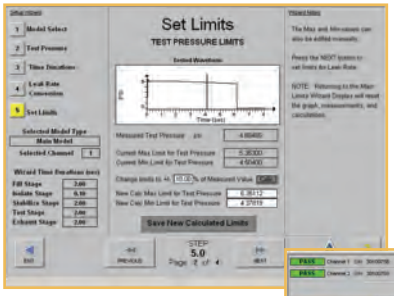
Sciemetric’s signature analysis technology has provided industry-leading Gage R&R in leak testing for years. In SigPOD Leak, even greater accuracy is achieved through the innovative hardware design where every detail was considered in eliminating the environmental factors that can affect the test. For example, all valves are air piloted and use 5 times less power than typical solenoid valves, and the power supply is in the controller unit instead of the pneumatics module, removing extra heat sources that could affect the test. Reducing the overall test volume by being able to place the pneumatics close to the part under test also improves test accuracy and speed.



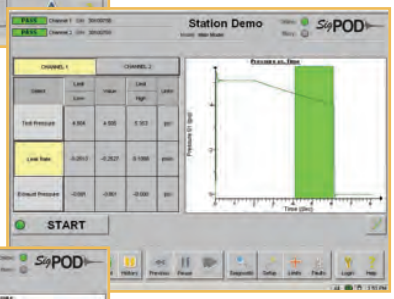
Powerful, intuitive software

SigPOD software uses advanced Process Signature Verification technology which is proven to deliver the most accurate defect detection. The Windows-based software offers a range of other features:

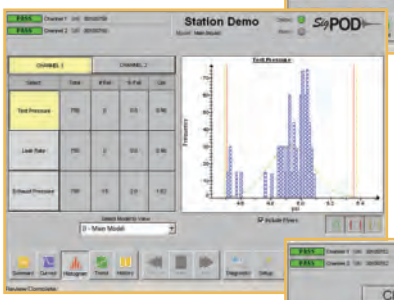
- Setup wizard helps you to configure the system in minutes, right out of the box
- Easy to use, intuitive and operator-friendly interface that is common across applications
- Screens tailored for different users: engineers, supervisors and operators
- In-station SPC for limit management that uses production statistics to calculate optimal test limits
- Histogram, trends, feature and history views with one-click drill-down



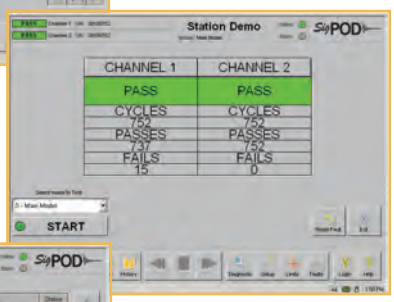
Wizard



Curves view



Histogram



Summary

History

Industrial packaging

A number of mounting options are available for both the Controller and Leak Module.

DesktopTFT

Machine mount TFT

DIN rail

Multi-unit desktop joins Controller and up to four Leak Modules into one unit

Wall mount (also available for Leak Module)

Use for a range of applications

SigPOD Leak can be used for many leak test applications where seal integrity and the ability to detect leaks quickly and reliably are critical. Medical components and devices, automotive sub-assemblies, pneumatic components, closed containers of any type are only some of the applications for SigPOD Leak.

TRACEABILITY

Complete traceability and analytics with QualityWorX®

QualityWorX software transforms manufacturing production data into manageable, actionable information. It collects and stores information from the shop floor and provides the most advanced analytics to help you access and analyze your data to make quick decisions.

Reduce costs

- ✔ Reduce scrap, unnecessary rework and lost machine cycles by analyzing defect data, establishing root cause, and implementing corrective action rapidly
- ✔ Reduce and avoid defects

Have complete traceability

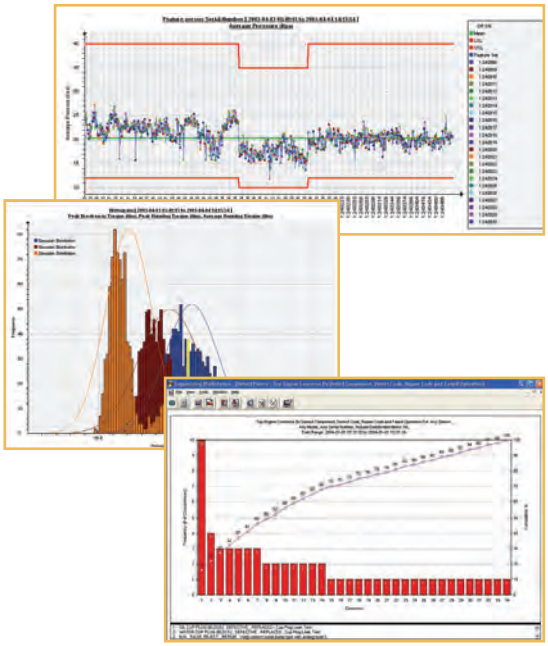
- ✔ Provide evidence of compliance that a product was made to specification
- ✔ Limit impact of recalls by pinpointing affected parts by batch or serial number

Manage quality while maximizing yield

- ✔ Monitor process and product changes
- ✔ Scientific pass/fail limit management to reduce failures and optimize cycle times and production output
- ✔ Accelerate line launches using historical process data to compare against new lines

QualityWorX scales to collect data from a single process or an entire assembly line. Sciemetric makes it easy to integrate to meet your plant's requirements.

Learn more and download the product brochure at **www.qualityworx.com**.

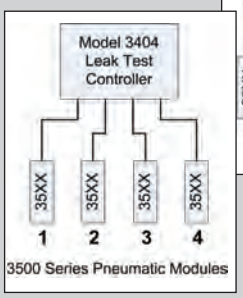


Universal data collection

No other software can collect data from as broad a range of sources on the production floor as QualityWorX: from test systems to PCs and PLCs, it stores serial numbers, dates, shift, time, sub-component information, machine performance, details of the operations and complete process data including waveforms.

Higher Channel Count Applications

Figure 1



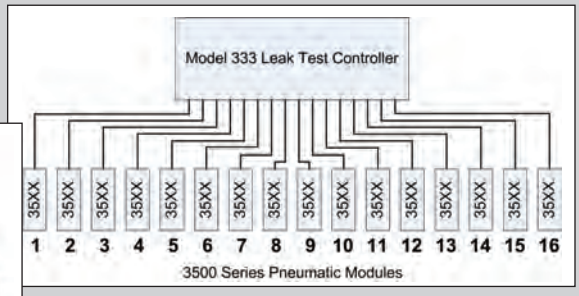


Figure 2

Higher channel count leak test applications are supported by networking multiple 3404 leak controllers (see *Figure 1*), or by using the more powerful Model 333-16 rack mounted controller which can connect to up to 16 model 3500 pneumatic modules and test up to 16 parts simultaneously (see *Figure 2*). This expanded channel capacity gives the Sciemetric leak test systems one of the lowest costs per channel in the industry.

GENERAL SPECIFICATIONS

Controllers

SigPOD Model 3404 Leak Test Controller

• Leak Channels Supported	4
• Supply Voltage	24 VDC (22 to 28 VDC)
• Hard Disk Size	120 GB HD minimum
• Ethernet	1
• USB	4 Ports (V2.0)
• RS232 Serial Ports	1
• Chassis Dimensions	8 x 6.5 x 8 in, 203 x 165 x 203 mm (H x W x D)
• Chassis Weight	4 lbs (1.8 kg)
• Mounting Options	Desktop, Multi-unit Desktop, Wall mount, Din Rail Mount
• Operating Temperature	5 to 45 ˚C
• Environment	IP30 (protected against penetration of particles 0.098" 2.5 mm or more and not protected against vertical water)
• Number of Digital Channels	8 inputs and 8 outputs with common return line

Model 333-16 Leak Test Controller

• Leak Channels Supported	16
• Supply Voltage	90-135/180-265 VAC rms
• Hard Disk Size	120 GB HD minimum
• Ethernet	1
• USB	2 Ports (V2.0)
• RS232 Serial Ports	2
• Chassis Dimensions	7 x 17.3 x 16.5 in, 178 x 439 x 419 mm (H x W x D)
• Chassis Weight	50 lbs (22.7 kg)
• Mounting Options	19" Rack Mount, Desktop
• Operating Temperature	10 to 45 ˚C
• Environment	IP30 (protected against penetration of particles 0.098" 2.5 mm or more and not protected against vertical water)
• Number of Digital Channels	16 inputs and 16 outputs internal
• Expansion Slots	1 ISA or 1 PCI minimum

Pneumatic Modules

General

• Cable Length	Standard 2 meters, maximum 10 meters
• Mounting Options	Desktop, multi-unit desktop, wall mount, DIN rail mount
• Power	Integrated with connection cable
• Flow Restrictor	Variable flow, optional
• Air Supply Requirements	Dry air, filtered to 5 microns
• Maximum Input Pressure	145 PSI
• Minimum Input Pressure	30 PSI or 20 PSI above highest pressure used if higher
• Approvals	CE
• Chassis Dimensions	8 x 2.6 x 8 in, 203 x 66 x 203 mm (H x W x D)

3501 – Pressure Decay

• Pressure Range Selection	5, 10, 30, 50, 100 (psi), for custom contact factory
• Fittings	Staubli or Swagelok

3511 – Vacuum

• Pressure Range Selection	5, 10, 15 (psiv), for custom contact factory
• Fittings	Staubli only

3521 – Flow

• Flow Range Selection	Contact Factory
• Pressure Range Selection	Contact Factory

Specifications are subject to change without notice. Please contact Sciemetric for latest specifications.

About Sciemetric

Founded in 1981, Sciemetric Instruments provides its manufacturing intelligence software and test platforms to companies around the world to detect and analyze manufacturing defects as they occur, improve quality, increase productivity and decrease costs across the entire production lifecycle. Customers include Toyota, Medtronic, Hewlett-Packard, Honda, Cummins, Boston Scientific, Ford and Bosch Rexroth. Headquartered in Ottawa, Canada, the company has its North American sales office in the U.S. and European offices in the UK.

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