



Uson

 **Vector**



The Vector is the most advanced leak and flow tester in terms of performance, speed, flexibility and durability. The Vector's embedded Windows™ operating system makes it extremely powerful yet very simple to use.

United States | United Kingdom | Germany

Vector testers are the fastest and most powerful leak and flow testers available, yet are simple to set up and operate. The Vector's unique modular design lets you choose only the features needed while allowing you to easily and economically expand the capabilities of the tester as needed.

The Industry's Fastest Tester

With the Vector's advanced design and unique advanced leak detector software (Patent Pending), it can perform leak and flow tests faster than any other tester available on the market, resulting in increased production rates.

The Industry's Most Accurate Tester

The Vector not only performs tests faster than other testers, it maintains the industry's highest degree of accuracy and repeatability while eliminating false rejects and keeping defective products from reaching the market.

The Industry's Most Versatile Tester

The modular design of the Vector allows you to expand your system's capabilities with the simple addition of software and hardware modules. A single Vector tester can perform up to 10 independent or concurrent tests. The Vector is capable of performing virtually every type of leak and flow test.

Hardware

The Vector is built on a universal platform using common hardware and software across the entire family which increases reliability, reduces downtime and significantly lowers overall ownership costs.

Each version of the Vector consists of three main sub-systems: operator panel, electronics and pneumatics. These sub-systems can be mounted together or separately.

Operator Panel

The Vector operator panel is available in three mounting configurations: a 19" Rack Unit, a NEMA Enclosure Unit and a Bench-Top Unit. You can select either a large 12.1" Color Flat Panel LCD for greater visibility or a more compact 5.5" Color Flat Panel LCD. All Vector operator panels feature high visibility accept and reject lights, a tactile responsive alpha numeric keypad, software-defined function keys, start and stop push buttons, an IR port, a mouse and a lock-out key.

Electronics

Vector electronics are in the form of plug-in modules that are inserted into an electronics cPCI chassis. There are two versions of the electronics chassis. The Standard Electronics Chassis has seven card slots available for plug-in modules. The Expanded Electronics Chassis has 15 card slots available for plug-in modules. Both versions of the electronics chassis are available in a 19" Rack or a NEMA Enclosure.



MCU [Master Control Unit]

The Vector family of testers is based on the powerful Master Control Unit (MCU), which is comprised of the CPU and hard drive. Each MCU features two serial communication ports, a parallel printer port, a USB connector, an Ethernet connector, a VGA connector,

and connectors for an external mouse and keyboard. The MCU has an embedded Windows™ operating system and can support a wide variety of communication protocols including Ethernet/TCP/IP, Modbus, Interbus-S and Profibus.



LTCU [Leak Test Control Unit]

The Leak Tester Control Unit (LTCU) is the core of Vector's power and flexibility. Each LTCU features a 1G Flop RISC microprocessor. The LTCU is available as a single-channel or a dual-channel module. Each channel can

accept up to six sensor inputs that can be configured for high (24 bit) sensitivity.

Each channel has up to eight discrete outputs, four discrete inputs and one analog output. The eight discrete outputs are typically used for pneumatic control and the analog output is typically used to control an electronic regulator or flow controller.

Depending on the configuration of the Vector selected, up to five LTCUs can be installed in a tester. With five dual-channel LTCUs installed, the Vector tester is configured for up to 10 independent channels capable of performing multiple tests on each channel simultaneously and independently.

Optional Electronic Modules

A wide variety of optional modules including Input/Output Modules, Communication Modules and Data Storage Modules are available.

Pneumatics

Vector pneumatics are mounted in a convenient 19" Rack Shelf/Tray or a NEMA Enclosure. The Vector utilizes standard manifold blocks for easy installation and service.

The standard pneumatic valves used in the Vector are commonly powered by 115 VAC or 24 V DC power supply. In addition to the wide variety of standard pneumatic packages, custom pneumatics can be engineered for your application.

Software

The Vector's software is best described as extremely powerful, yet very simple. This description may not seem feasible. However, you will quickly appreciate the simplicity of the Vector as you easily navigate through the intuitive Windows™ based menu structure.

Easy to Program

Programming the Vector is simple and straightforward. The Vector software is structured around a wide variety of preformatted test configurations. You can use one of the preformatted tests, with your accept/reject limits, or you can easily modify any of the preformatted tests to fit your specific application. An unlimited number of test configurations can be stored on the Vector's 20GB hard drive.

Easy to Use

With the Vector, you are not forced to purchase an application specific tester. In other words, you are not required to buy a mass flow tester, a pressure decay tester, a differential pressure tester, a vacuum tester, etc. The Vector software is so flexible that it allows you to customize the tester for your application. If your application is best served by a mass flow test technique, you can configure the Vector as a mass flow tester. If your application is best served by a differential pressure test technique, you can configure the tester as a differential pressure tester. In addition to supporting unlimited types of tests, the unique flexibility of the Vector software gives you the ability to add or change functionality as your future requirements may dictate.

The Vector software has the power and flexibility to allow you to run multiple types of tests concurrently or sequentially, multiple test sequences, and multiple test parts in a single tester. For example, you can configure the Vector to run a flow test followed by a leak test.

As a result, a single Vector tester can run a series of tests that would have required a number of testers in the past.

The Vector software incorporates many innovative features such as: On-Board Help, On-Board Diagnostics, Data Logging (to Hard Drive, Memory Stick or LAN), On-Board Repeatability Analysis, On-Board SPC, Advanced Test Sequencing and Remote Troubleshooting (via internet).

Advanced Leak Detector

The most dramatic innovation of the Vector is the introduction of Uson's new Advanced Leak Detector (Patent Pending) software. The Vector Advanced Leak Detector is the culmination of over four decades of leak testing experience at Uson. Depending on your application, the Advanced Leak Detector can reduce test cycle times by up to 70%. Contact Uson or your local Uson representative to find out how much time you can save with the Advanced Leak Detector.

Available Configurations

The Vector features a wide variety of standard and custom configurations to fit your specific application requirements.



NEMA Enclosure Version (6U)



NEMA Enclosure Version (3U)



Bench-Top Version

Due to a program of continuous development, specifications may be changed without notice.

Specifications

19" Rack Version or NEMA Enclosure Version

Operator Panel

Standard 5.5" color flat panel LCD display
Optional 12.1" color flat panel LCD display

Electronics

Standard electronic chassis with 7 card slots for plug-in modules
Optional expanded electronic chassis with 15 card slots for plug-in modules
Electronic chassis can be mounted locally or remote

Pneumatics

Pneumatics may be mounted locally or remote

Bench-Top Version

Operator Panel

Standard 5.5" color flat panel LCD display

Electronics

Integral electronics chassis with 4 card slots available for plug-in modules
Optional expanded electronics chassis with 5 card slots available for plug-in modules

Pneumatics

Standard integral mounted pneumatics
Optional expanded chassis mounted pneumatics

Operative Systems

Windows™ Embedded XP

Test Pressure Ranges

Vacuum to 5,000 PSI

Resolution

Transducer dependent
0.000001 PSI possibilities

Flow Ranges

0.01 cc/min to 1000 SLPM
Other ranges available upon request

No of Channels

Configurable up to 10 totally independent
*Excluding bench top version (4 channel max)

No of Programs

No restrictions

Communications Protocol

Ethernet/TCP/IP
Profibus
Modbus
Interbus/S
RS232
Parallel interface

Testing Modes

Pressure decay, differential pressure decay, pressure increase, mass flow and vacuum configurations

Options

Signature analysis
Custom pneumatics
I/O interface

Software Features

Versatile, flexible pressure plot capabilities, online, real time statistical analysis package, on board tools including cycle time calculations, virtual leak calculator, built-in maintenance history, FMEA

Manufacturing Standards

To ISO 9001:2000
Certified to CE requirements

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