

Reference Manual
PosiChek³ with 32-Bit Software
Computerized Performance Tester
for Air-Supplied Breathing Apparatus

**Including Enhanced Precision High Pressure
Transducer, Microphone Test and HUD Test**



Honeywell

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27 August 2012 Ver. 4 P/N 13-227

NOTE:
The initial password
for software access is
“setup”



**See section 2.7
for further details**

Note: A copy of the most recent PosiChek Reference Manual is included in the software installation. The PosiChek Manual is located on the PC's hard drive under C:/ Program Files / Posi3.

CAUTION

The PosiChek³ Computerized SCBA Test Bench has been designed to evaluate the performance of Self Contained Breathing Apparatus and other types of respiratory protective equipment. In order to ensure that performance evaluations are conducted and recorded properly, it is essential that the instructions in this manual be read, fully understood, and followed.

**32-Bit PosiChek³ Operations Manual
Version 4
Copyright 2012
by
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Signal Words

The following signal words, as defined by ANSI Z535.4-1998, are used in the PosiChek3 Reference Manual.

 DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 CAUTION indicates a potentially hazardous situation, which if not avoided, may result in moderate or minor injury.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

1. Overview

The PosiChek³ is a computerized test bench designed to evaluate the performance of completely assembled self-contained breathing apparatus (SCBA) and other types of air-supplied respiratory protective equipment. The PosiChek³ incorporates a unique computer-controlled bellows apparatus that simulates breathing into and out of the mouth of a test head in the same manner that air is drawn into and out of the mouth of a human BA wearer. The PosiChek is able to perform dynamic tests to determine if the BA is functioning properly.

Note: For the remainder of this manual, the term “BA” will be used in place of “SCBA or other type of respiratory protective equipment”.

1.1 Testing basics

Testing is accomplished by attaching the BA to the PosiChek and initiating the tests through the PosiChek Software on your PC. Once the software is installed and the PC and the PosiChek are able to communicate, the BA must be physically attached to the PosiChek. For simpler tests, the BA's facepiece serves as the only interface between the PosiChek and the BA. More complex tests require the use of a series of manifolds to deliver pressure levels from predetermined points in the BA's air stream to the PosiChek's internal transducers.

The Complete SCBA Test requires the following connections between the SCBA and the PosiChek.

1. The BA's facepiece is put over the PosiChek's anatomically correct test head, just as it would be placed over the head of a user.
2. The appropriate high or low pressure manifold is inserted between the cylinder and the first stage regulator and then connected to the high pressure inlet fitting located on the PosiChek.
3. If possible, the first stage manifold is connected from a location downstream of the first stage regulator and upstream of the facepiece to the medium pressure inlet on the PosiChek.

Note: Some BA terminology varies by manufacturer. In this manual the term “first stage regulator” may be interchanged with intermediate pressure regulator and pressure reducing regulator.

The PosiChek³ is able to systematically analyze the operational fitness of the BA by means of a series of dynamic tests and functional checks. Since the PosiChek³ is driven by a personal computer, simple menu commands may be used to vary the breathing rate, the tests selected, or other test parameters.

The ability to simulate different work rates and test conditions is what allows the PosiChek³ to test such a wide variety of respiratory protective equipment.

1.2 PosiChek configurations

The PosiChek has been offered in many configurations in the past. Currently there are two configurations available. The standard configuration includes the PosiChek³ with high and low pressure manifolds, first stage manifold, enhanced precision high pressure transducer (new for 2004) and 32-bit software. An optional sound detection system is also available.

54-20-1117-32 Standard PosiChek3 with enhanced precision transducer

54-20-2117-32 Standard PosiChek3 with enhanced precision transducer and sound detection system

1.3 Brand-specific software

Users who plan to service their own SCBA should consider purchasing brand-specific software, which is available directly from the SCBA manufacturer. Brand-specific software includes all relevant data on the manufacturer's current BA offerings and also includes the manufacturer's first stage pressure requirements. Standard PosiChek³ software does not provide pass/fail criteria for first stage performance.

Brand-specific software is currently available directly from the following manufacturers: 3M, Cairns, Draeger, ISI, MSA, Interspiro, Scott and Survivair. In many cases, the SCBA manufacturer is able to provide a model-specific adapter that facilitates the medium pressure connection.

Use of the first stage manifold in conjunction with brand-specific software allows the user to test specific breathing apparatus to the criteria specified by the SCBA manufacturer and allows the user to easily isolate problem components.

1.4 Calibration Requirements

The PosiChek³ must be calibrated annually to maintain the accuracy of the internal transducers. Calibration must be performed either by Honeywell Analytics, or by a Honeywell-sanctioned repair facility.

PosiCheks located in North America must be returned to the Honeywell Analytics Factory annually for calibration. Contact Honeywell Analytics for a Return Authorization Number (RA#) prior to returning the PosiChek.

(800) 711-6776 or (847) 955-8200

1.5 Design Components

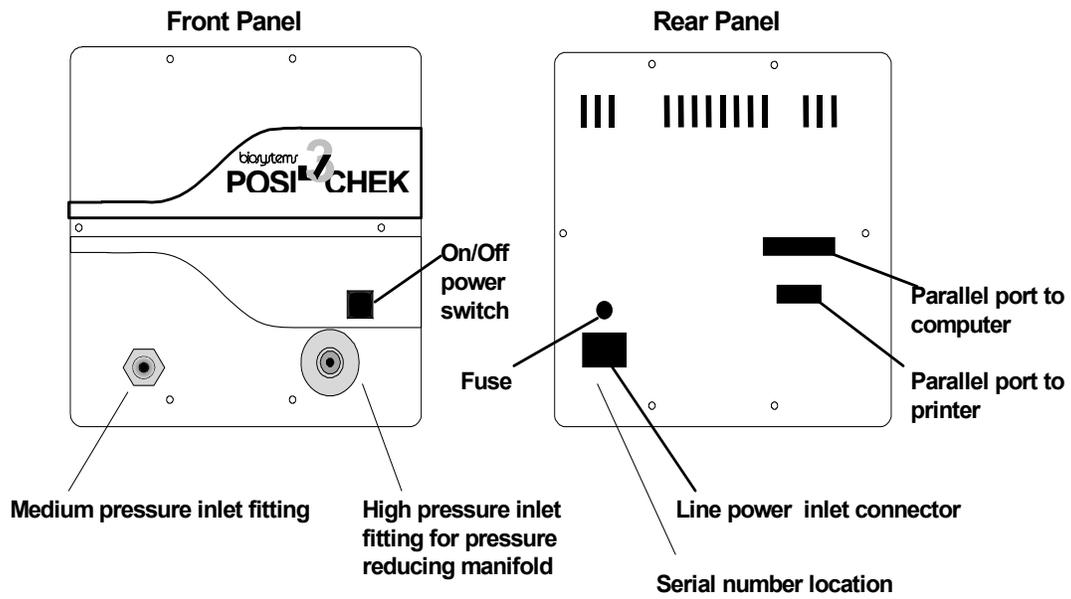


Figure 1.5.1 External View PosiChek³ Chassis

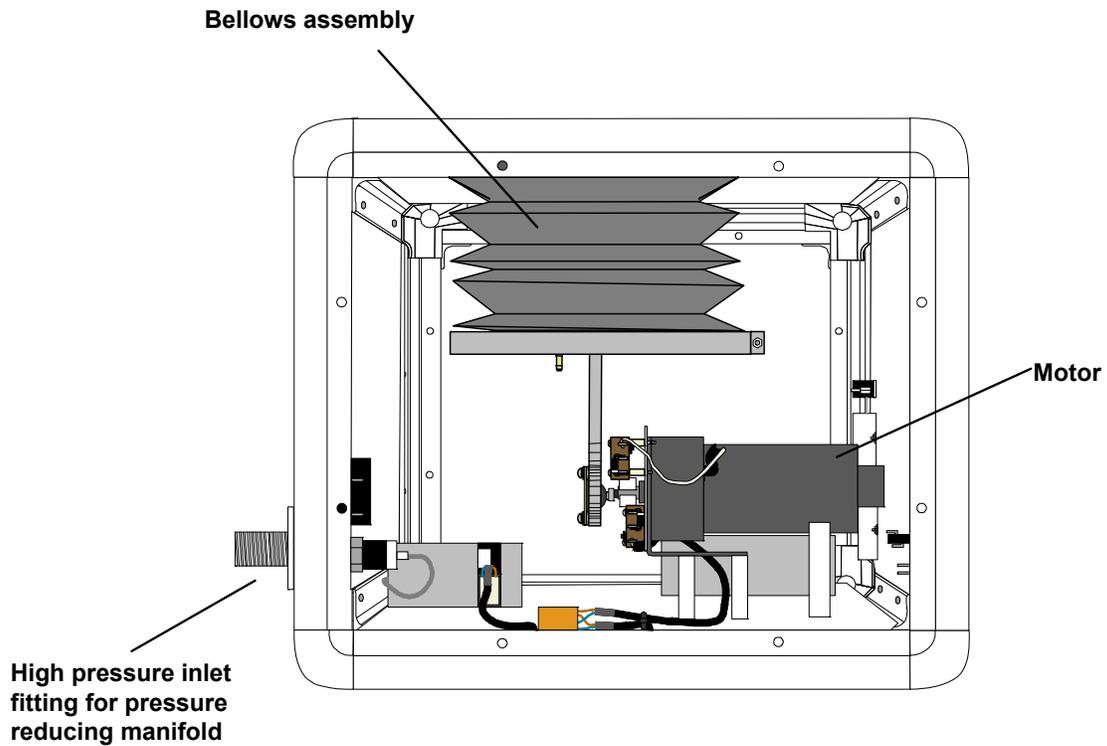


Figure 1.5.2 Internal view of PosiChek³ showing bellows assembly

1.6 Theory

Once the software is installed, and the PC is able to communicate with the PosiChek, the BA is connected to the PosiChek as discussed below in section 2.10. The expansion and contraction of the bellows assembly causes air to be drawn into and expelled out of the BA's facemask. The bellows assembly is driven by a computer-controlled servomotor. The work rate is equal to the volume of air moved by the bellows per minute, which varies with how far the bellows contracts (stroke depth) and the number of cycles per minute (stroke rate).

The PosiChek³ design allows the user to select the appropriate work rate to test a specific BA design. The standard stroke rate is 24 breathing cycles per minute at 1.67 liters per stroke, which produces a work rate of 40 liters per minute. The maximum stroke rate is 30 cycles per minute at 3.4 liters per stroke, which produces a work rate of 102 liters per minute. Since the operation of the bellows assembly is controlled by the PC, a simple menu command is all that is required to vary the work rate by modifying the stroke depth, stroke rate or both.

In the Complete SCBA Test, a pressure-reducing manifold is used to store a relatively small volume of air at cylinder pressure. This small reservoir of air acts like a full cylinder of air, except that it is significantly smaller. Each expansion and contraction of the bellows assembly reduces the pressure in the manifold. As the pressure drops, performance is evaluated from full cylinder pressure to pressure low enough to cause the activation of the low-pressure alarm.

⚠WARNING Do not modify or repair the pressure reducing manifold assembly in any way. Due to the high pressures in the manifold, modifying the pressure reducing manifold, including changing the length of hose, replacing the fittings or otherwise repairing the manifold may cause inaccurate test results and may lead to a potentially hazardous situation which may result in death or serious injury.

The pressure-reducing manifold is connected to the handwheel inlet fitting used to connect the SCBA pneumatics to the SCBA cylinder during normal operation. High (4500 PSI) and low (2216 or 3000 PSI) pressure manifolds are included with purchase of the PosiChek and are to be used with the corresponding types of SCBA.

The source of air used to fill the manifold may be a standard SCBA cylinder, a larger stationary cylinder, or a cascade filling station.

If a stationary cascade system is used, an adjustable pressure-reducing supply regulator is recommended. The pressure-reducing supply regulator is placed in line between the cascade system and the pressure-reducing manifold and is used to control introductory system pressures. Honeywell Analytics offers a pressure-reducing supply regulator as part number 35-0470. Call Honeywell Analytics for more information.

1.7 PosiChek³ design components

Test head: The PosiChek³ test head is anatomically correct and is molded from a firm but pliable material that provides a good mounting surface for sealing the facepiece. The test head is mounted to the top of the PosiChek chassis. A breathing passage leads from the mouth to the bellows assembly. Readings are obtained through a static pressure port located in the left eye of the test head.

Chassis: The chassis includes the following components:

- Bellows assembly (functions as an artificial lung)
- Precision servo motor (controls the bellows)
- Servo position feedback device (measures the position of the bellows)
- Low pressure transducer (measures the pressure in the facepiece)
- Activation pressure transducer (measures the amount of negative pressure needed to start the flow of air in the BA (for units equipped with first breath activation))
- Power supplies for the motor and other internal electronics
- High pressure transducer inlet
- Enhanced precision high pressure transducer (monitors pressure in the pressure reducing manifold during Complete SCBA Test procedures)
- Medium pressure transducer inlet
- Medium pressure transducer (monitors pressure in the system between the first stage regulator and the mask).
- Power switch: The PosiChek³ includes a rocker type power switch is used to turn the instrument on and off. In the ON position, the switch is illuminated in green.
- Computer and printer interface ports
- Microphone jack (optional)

2. Out of the Box

This chapter will cover what to do when your PosiChek³ arrives to prepare it to test BA.

The PosiChek will arrive in two boxes. One box contains nothing but the actual PosiChek unit and the inspection report. The other box contains all of the accessories including the head and the three manifolds.

2.1 Installation overview

The following steps are necessary to begin testing breathing apparatus:

1. Remove the PosiChek and the accessories from the shipping cartons and verify that all parts are present. See section 2.2 for a parts list.

Do not discard the shipping cartons and packing materials – you will need them to return the PosiChek to Honeywell Analytics for its annual calibration.

2. Verify that your PC meets the OS and hardware requirements as described in sections 2.3 and 2.4 below.
3. Install the software (see section 2.5 below).
4. Install the hardware. This includes attaching the head, connecting the PC to the PosiChek and plugging in the PosiChek (see section 2.6 below).
5. Launch the software (see section 2.7 below). **If this is the initial use of the software, “setup” is the password and will open the software.**
6. Name the test results database (see section 2.8 below).
7. Enter the BA that you plan to test into the database (see section 2.9 below).
8. Attach the BA to the PosiChek3 (see section 2.10 below).

2.2 Delivery

The PosiChek3 is delivered with the following items:

- PosiChek3
- Head Assembly (w/attached Tygon™ tube)
- High Pressure Manifold
- Low Pressure Manifold
- First Stage Manifold
- CD-ROM with 32-Bit Software
- Head Gasket
- 4 Standoffs
- 4 Tightening Knobs
- Manual
- Training Video
- Printer Cable

- Power Cable
- 3 High Pressure Manifold Replacement O-Rings
- 3 Low Pressure Manifold Replacement O-Rings
- High Pressure Manifold Replacement Hex-Head Screw
- Spare Fuse

2.3 PC OS requirements

The PosiChek³ 32-Bit Software has the following OS requirements:

- Windows 98, ME, NT (version 4.0 SP5 or higher), 2000, and XP.
- Internet Explorer version 4.01, SP2 or higher.

The PosiChek³ 32-Bit Software is NOT compatible with Windows 3.1.

Microsoft is no longer actively supporting Windows 95. As an unsupported product, Windows 95 is no longer suitable for use with the PosiChek3.

In order to install the software in Windows NT/2000/XP, the software installer must log on as system administrator. The software must be installed on each PC that will be used to conduct tests. After the software has been successfully installed on a workstation, users may be added as needed.

2.4 PC hardware requirements

⚠CAUTION Make sure your computer system meets the minimum requirements prior to attempting to install or use PosiChek³ software. Inadequate system resources may prevent the software from operating properly on your system. The minimum specifications for the computer used to run PosiChek³ Titanium Edition software vary according to the operating system used.

The processor speed and amount of extended memory must meet the **recommended** requirements for the operating system. (Note that the recommended system requirements for an operating system usually exceed the required minimum system requirements of the PosiChek software. If a PC with only the required minimum system is used, both the operating system and the PosiChek program will be slow.)

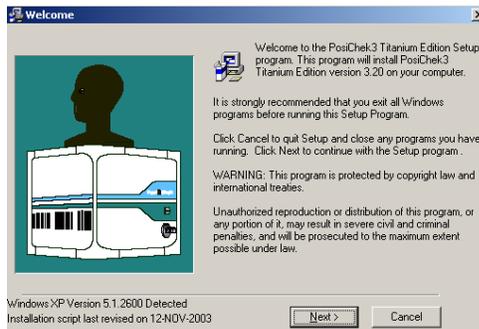
- At least 100 Mb of available hard disk space
- Parallel Port
- CD ROM drive

Note: As of the printing of this manual the PosiChek³ is not USB compatible.

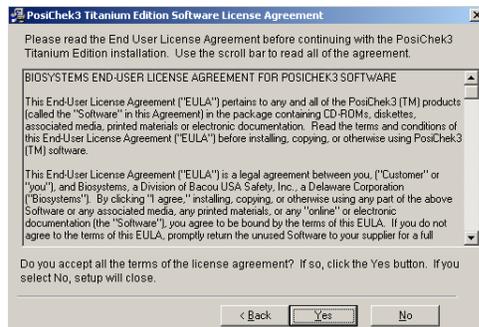
2.5 Software Installation

Software installation involves loading the PosiChek software onto your PC. It is not necessary, but it will significantly increase the speed of the installation if you temporarily disable any anti-virus software that you may have installed.

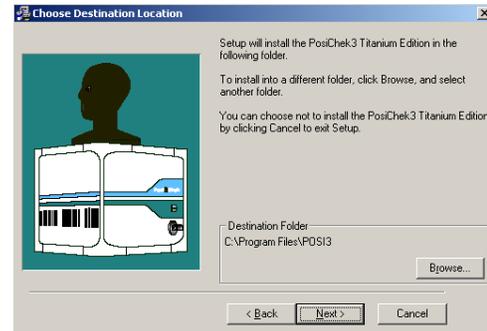
1. Place the CD-ROM into your computer's CD tray and close the tray. If the software fails to set itself up immediately, use Windows Explorer to locate the CD-ROM drive and run the "posi32.exe" program. The following two screens will be shown in succession.



2. At the prompt, press the "Next" button. The End User Licensing Agreement screen will be shown.

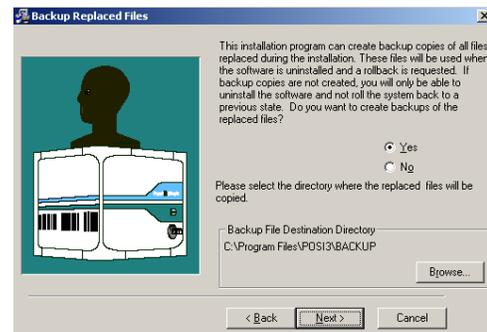


3. Press "Yes" to accept the terms of the agreement. Pressing "No" will cause the installation to be terminated. The program will then prompt you for the destination directory for the software.



4. The default location for standard (non-OEM) software is in the C:\ProgramFiles\Posi3 folder. If this is OK, press the "Next" button. Otherwise, click on the Browse button to specify a different location. Click "Next" to continue.

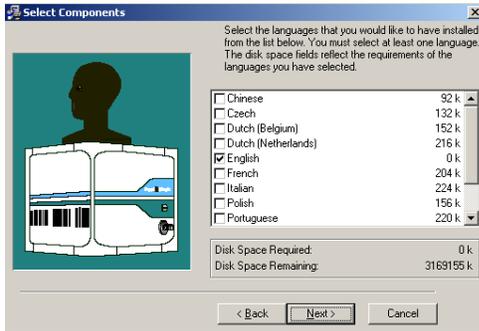
Note: Brand-specific (OEM) versions of the PosiChek software may have different default locations for the software.



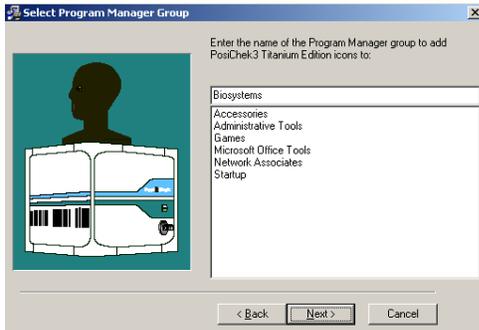
5. The default location for backup files is in the C:\ProgramFiles\Posi3\BACKUP folder. If this is OK, press the "Next" button. Otherwise, click on the Browse button to specify a different location. Click "Next" to continue. The License Information screen will then be shown.



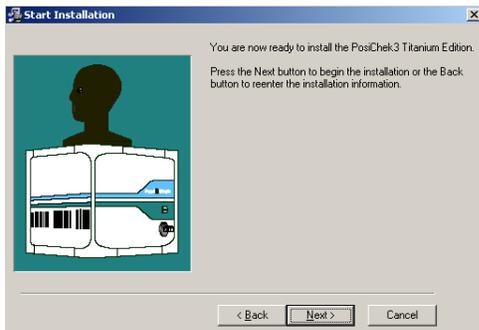
6. Press "Next" to continue. The Select Components/Language screen will then be shown. The PosiChek software offers a number of language options.



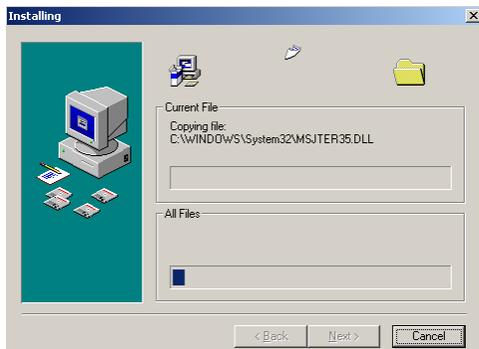
7. Select the appropriate language and press the “Next” button. The software will then ask which Program Manager group will include the PosiChek icons.



8. The default Program Manager Group for the PosiChek software is in the Biosystems folder. Press “Next” once the appropriate Program Manager Group is selected. The Start Installation screen will then be shown.



9. Press “Next” to proceed with the installation. The software will show a series of screens as the software is loaded.



Once the process is complete, the system configuration will be updated.



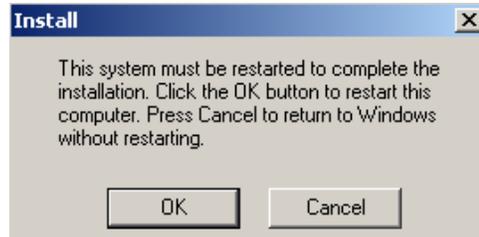
The installation sequence includes a reminder to save the original shipping container. The PosiChek must be factory calibrated once per year. The original shipping container is specifically designed to protect the PosiChek from damage in shipping.

Please save your original shipping container. You will need it to return your PosiChek3 for calibration.

The final screen in the installation sequence will indicate that the installation is complete and show the user to whom the software is registered.



10. Click on “Finish” to proceed. It is necessary to restart your PC to complete the installation.



When the PC has been restarted the PosiChek3 icon will appear on your PC’s desktop screen.



Note: A copy of the most recent PosiChek Reference Manual is included in the software installation. The PosiChek Manual is located on the PC's hard drive under C:/ Program Files / Posi3.

2.6 Hardware

2.6.1 Installing the test head

The test head must be mounted to the top of the PosiChek³ chassis. A gasket installed between the top of the bellows assembly and the bottom of the test head guards against leakage. A TygonTM tube connects the static pressure port located in the left eye of the test head with a hose barb fitting on the bellows chamber base plate. The head is secured by four mounting standoffs and four tightening knobs.

To install the test head on the PosiChek³ chassis:

1. Make sure the base of the test head, gasket, and bellows chamber inlet area (where the test head will be mounted) are clean and free of dust and/or other contaminants.
2. Screw the four standoffs into place at the top of the PosiChek chassis by hand until they are tight. No tools are necessary. The hexagonal standoffs have an arrow etched into one of the sides. **The arrow on the standoff should be pointing upwards when the standoff is properly positioned.**
3. Place the head gasket into position on the bellows chamber inlet. Align the gasket at equal distances between the standoffs.
4. On the bottom side of the head you will find a piece of TygonTM tubing that is already connected to a hose barb inside the head. This tubing is used to connect the static pressure port in the left eye of the test head with the Low Pressure and Activation Pressure transducers located on the inside of the PosiChek chassis. Peer down into the PosiChek chassis. You will see a brass hose barb fitting that is located on the flat bellows plate towards the front of the unit. Complete the connection between the head and the chassis by sliding the open end of the tube over the hose barb fitting on the inside of the bellows chamber base plate. Slide the tube on as far as it will go so that it resists when you try to remove it.

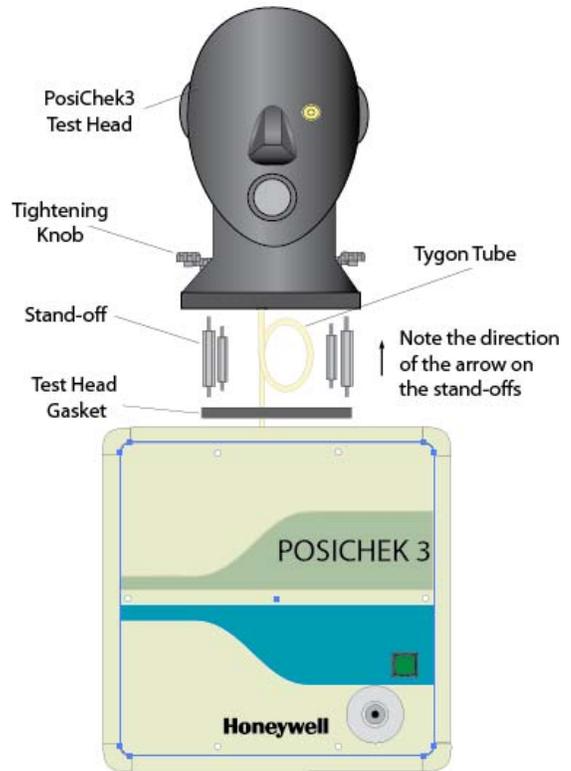


Figure 2.6.1. Test head and mounting hardware

5. Carefully align the test head with the mounting standoffs, and slide the head into place on the PosiChek chassis. Make sure the TygonTM tube from step 4 is not caught or pinched as you slide the head into place.
6. Install the four tightening knobs on top of the threaded standoffs by hand. No tools are necessary. Do not over tighten!

2.6.2 Connecting the PC to the PosiChek.

The PC is connected to the PosiChek through the PC's printer port with a standard printer cable (IEEE 1284 DB25 Male/Centronics 36 Male).

If the PC is unable to communicate with the PosiChek once the two are connected by the printer cable, it may be caused by the PC's printer port settings. The printer port needs to be configured for one-way data transfer (out). Establishing the connection may require a reconfiguration of some of the PC's internal settings.

If the PC is unable to communicate with the PosiChek despite being physically connected by cable, see the PosiChek Troubleshooting Guide.

2.6.3 Powering up

To turn the PosiChek³ on, simply plug the power cord of the PosiChek³ into a grounded 110 VAC

outlet and flip the green rocker switch located on the front panel of the PosiChek³ chassis.

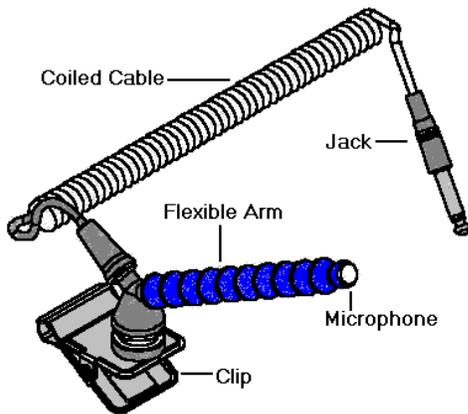
Note: Honeywell Analytics recommends that the PosiChek be plugged into a surge protector. Failure to use a surge protector may lead to sporadic loss of communication between the PosiChek and the PC.

⚠CAUTION Do not attach the pressure-reducing manifold, or mount an SCBA facepiece on the test head prior to turning the PosiChek³ on. Doing so prior to completion of the electronic self test and startup sequence may result in damage to the PosiChek and/or incorrect test data.

2.6.4 Installing the microphone (optional)

If your PosiChek includes the Sound Detection System (SDS), the microphone will need to be installed prior to launching the software.

1. Plug the microphone in. The port for the microphone is located on the PosiChek's left front panel over the medium pressure inlet.



Microphone and Carrier Arm Assembly

2. The software will automatically recognize the microphone when the PosiChek is initialized.

The microphone is only used in the Complete SCBA Test. For further instructions on using the microphone, proceed to section 3.5.2.

2.7 Launching the software

To launch the software, either double click on the PosiChek icon located on your PC's desktop screen or click on the start button to access All Programs/Biosystems/PosiChek3/PosiChek3 Titanium Edition.

Note: A printer must be installed on the PC prior to launching the software.

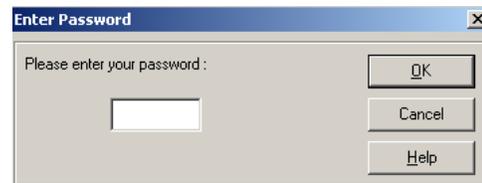


or



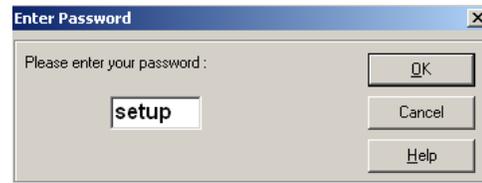
Note: The file location may be different depending on the choices made during software installation.

Once the software is launched, a password must be entered to access the program.

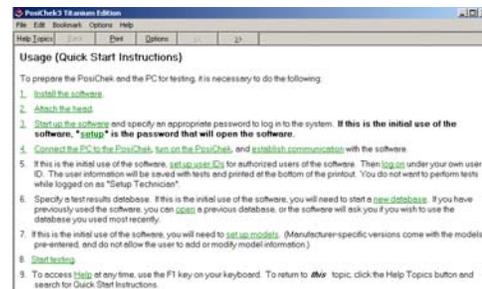


If this is the initial software launch, enter "setup" as the password. For security reasons, the characters that are typed in will not appear on the screen.

Note: The default password for initial software installation is "setup".

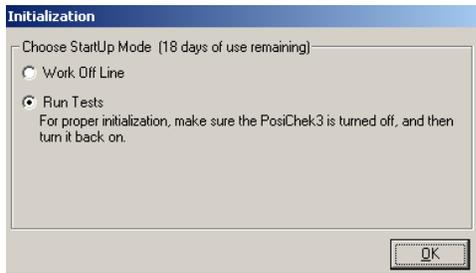


Press OK once "setup" or another valid password is entered. If "setup" is entered as the password, the Quick Start Instructions will be briefly shown.



To close the screen click on the "X" in the upper right corner of the screen. For more information on any of the topics listed, click on the appropriate link.

The Initialization screen will then be shown:

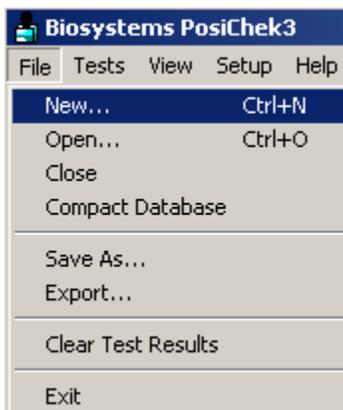


Since this is the first software launch, select “Work Off Line” and click OK. This will allow you to name the database and enter new user settings.

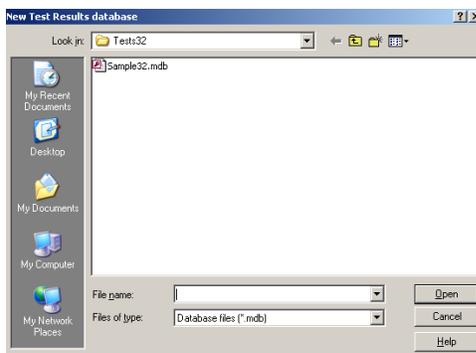
2.8 Name the Database

Once the software has been launched for the first time you must name the database that will be used to store test data. This is a simple matter of clicking on File / New and typing in a name.

From the File Menu, select New.

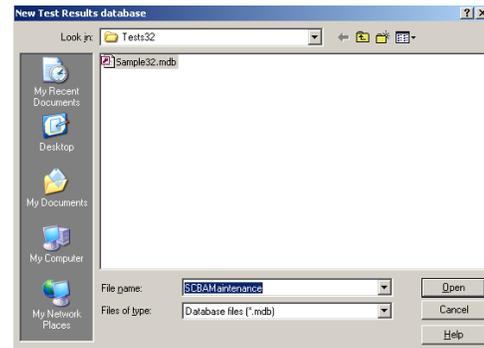


By selecting “New”, you are instructing the software to create a new database. All you have to do is provide a name for it. The New Test Results database screen will be shown. A sample database named Sample32.mdb is included with all PosiChek software. Sample32.mdb is a read-only file and will not accept test results.



Type the name of the new database into the input box next to File name. In the example below, we’ve named the database “SCBAMaintenance”, and the software has created a new database named

“SCBAMaintenance.mdb”. The .mdb extension is added by the PC and signifies that this is a database file.



Press the Open button once the new database name has been entered. The database will then appear in the file.

Note: The database that is currently open is always shown in the upper status bar at the bottom of the screen.



2.9 Entering the BA into the database

The final step concerning the PC is to enter the breathing apparatus (BA) that you plan to test into the database.

Prior to testing with the generic software, you will need to enter specific information about the BA model as well as the unique ID number (serial number) of the apparatus.

Note: Entering incorrect information about a BA may lead to incorrect tests and/or test data.

For brand-specific software, the general information about that brand’s models will already be in the database. You will need to select the correct model and add the serial numbers and other information prior to performing a test.

For record keeping purposes, each apparatus must be given a unique ID number prior to testing. The unique ID is typically the serial number of the apparatus. The apparatus type (model) must be present in the database before a new apparatus can be added.

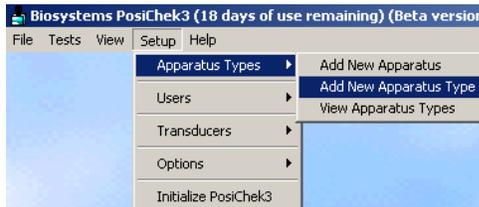
If the apparatus type (model) does not appear in the database, proceed to section 2.9.1. If the apparatus type (model) does appear in the database, proceed to section 2.9.2.

2.9.1 Adding a new apparatus type (model)

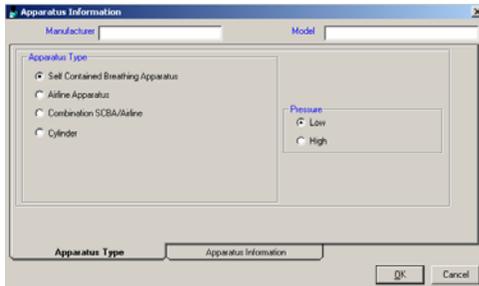
Note: Brand-specific (OEM) versions of PosiChek software include all model/apparatus

type information and do not allow the user to modify model information or to add new models.

1. From the Setup Menu select Apparatus Type followed by Add New Apparatus Type.



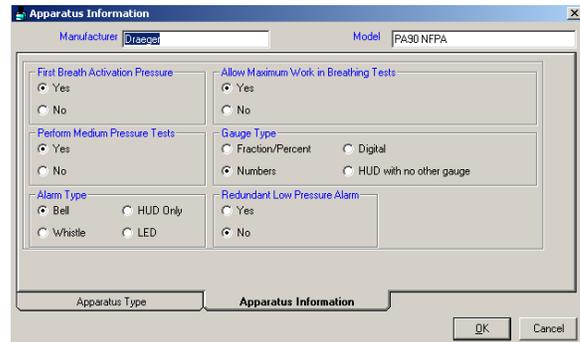
The Apparatus Information screen will be shown.



2. Select the apparatus type by clicking on Self Contained Breathing Apparatus, Airline Apparatus, Combination SCBA/Airline or Cylinder. Select high (4500 psi) or low (2216 psi) pressure as appropriate for the apparatus. Then type the Manufacturer and Model names into the appropriate text boxes. As an example, the information for a Draeger PA90 NFPA Low Pressure SCBA has been entered.

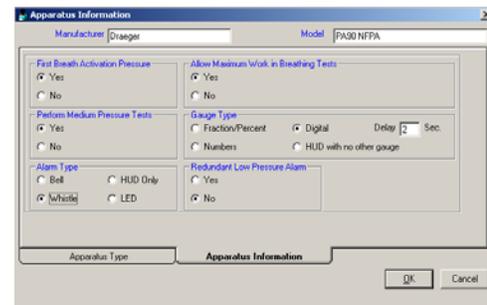


3. Once all fields have been completed in this window, click on the apparatus information tab at the bottom of the window. The apparatus information tab will be different depending on the type of apparatus selected above in step 1.



4. Fill in the information as appropriate for the apparatus.

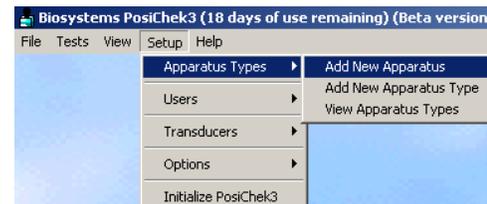
Note: If you are unsure of any of the information that is required in the Apparatus Information window, contact your superior and/or the BA manufacturer for further instructions. Entering incorrect information about a BA may lead to incorrect tests and/or test data.



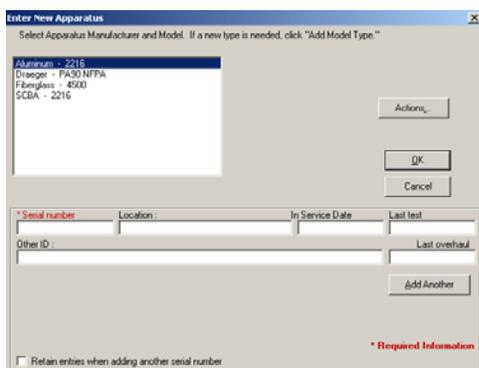
5. Press the OK button once the information has been correctly entered. The software will return to the Enter New Apparatus window. The new apparatus will then appear in the list.

2.9.2 Adding a new apparatus

1. From the Setup Menu select Apparatus Type followed by Add New Apparatus.

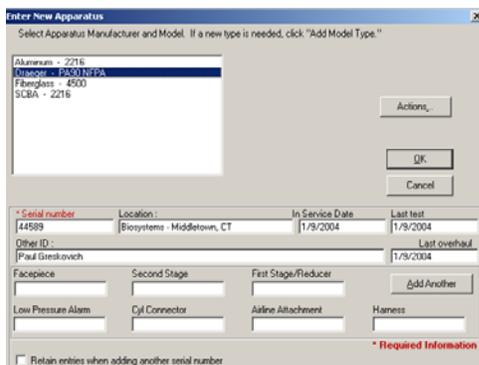


The Enter New Apparatus window will then be shown.



If this is the first launch of the generic software and no apparatus types have been added, the only apparatus shown will be generic models (SCBA 2216 and SCBA 4500). The apparatus type (model) should be added prior to adding the specific apparatus information. Return to section 2.9.1 for instructions on adding the apparatus type.

2. Select the appropriate apparatus type and fill in the appropriate fields. If you plan to enter a series of similar apparatus, click on the check box at the lower left corner for "Retain entries when adding another serial number".



Note: If you plan to track the individual components of the BA, the serial numbers for the components should be added in the appropriate fields at the bottom of the Enter New Apparatus screen. Section 5.3.2.2 below covers changing the field names, and whether the field names are shown in the Enter New Apparatus screen.

3. Click OK once the information has been added.

2.10 Connecting the BA to the PosiChek

Now that the software is installed and running, and the PosiChek is assembled, it is time to connect the BA to the PosiChek. One of the strengths of the PosiChek is its adaptability. For simpler tests, the BA's facepiece serves as the only interface between the PosiChek and the BA. More complex tests require the use of a series of manifolds to deliver

pressure levels from points in the BA's airstream to the PosiChek's internal transducers. Every BA is different, so specific parts and instructions may be required for your BA to be connected to the PosiChek.

The Complete SCBA Test requires the following connections between the SCBA and the PosiChek.

1. The BA's facepiece is put on the PosiChek's anatomically correct test head, just as it would be placed on the head of a user.
2. The appropriate high or low-pressure manifold is inserted between the cylinder and the first stage regulator and then connected to the high-pressure inlet fitting located at the lower right side on the front face of the PosiChek. (See figure 1.5.1 above (page 6))
3. If possible, the first stage manifold is connected from a location downstream of the first stage regulator and upstream of the facepiece to the medium pressure inlet, which is located at the lower left side on the front face of the PosiChek. (See figure 1.5.1 above (page 6))

2.10.1 Identify the major parts

Begin by identifying the three manifolds that are included with the PosiChek. Each of the manifolds comes with a factory label that identifies it by name and part number.

54-21-A03 Assembly, Manifold, 2250 PSI

For the remainder of this manual, this manifold will be called the Low Pressure Manifold. The low pressure manifold can be recognized by its brass T-fitting and black handwheel. This manifold will be used with all low pressure BA (3000 PSI and below).

54-21-A02 Assembly, Manifold, 4500 PSI

For the remainder of this manual, this manifold will be called the High Pressure Manifold. The high pressure manifold can be recognized by its stainless steel T-fitting and handwheel. This manifold will be used with all high pressure BA (above 3000 PSI).

35-751 First Stage Manifold

The first stage manifold is a 3-foot long hose with identical Foster quick disconnect fittings on each end. A model-specific adapter is required to connect the first stage manifold to the BA.

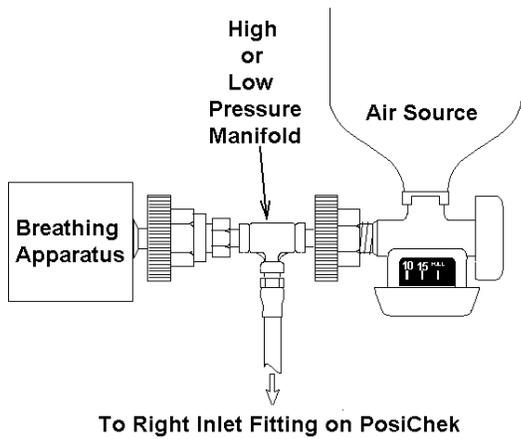
Brand and Model-Specific Parts

In many cases the high or low pressure manifold (as appropriate for the BA) can be used without any special parts to connect the air source to the BA and to the PosiChek.

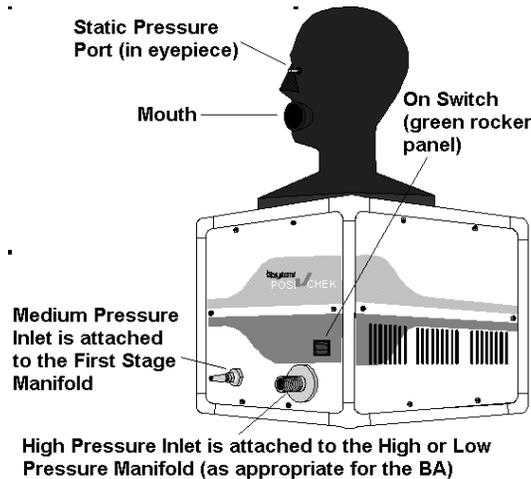
A model-specific adapter and the first stage manifold are necessary to connect the BA to the PosiChek. The connection must be made at some point on the BA where first stage pressure can be measured.

2.10.2. Attach the high or low pressure manifold

Insert the T-side of the high or low-pressure manifold (as appropriate for the BA) between the air cylinder and the first stage regulator. Turn the manifold's handwheel down by hand until it is tight on the air source. Turn the BA's handwheel down until it is tight on the manifold.



Connect the other end of the manifold to the right side inlet on the PosiChek and tighten the handwheel.



2.10.3 Attach the first stage manifold

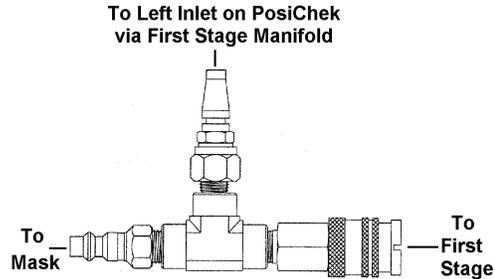
An adapter is required to connect the first stage manifold to the BA. First stage manifold adapters are specific to the SCBA and are only available from the SCBA manufacturer.

If the BA has a quick disconnect fitting between the first stage regulator and the mask proceed to section 2.10.3.1.

Note: Detailed connection instructions for a variety of BA are available in the PosiChek Software's Help File. See chapter 7 for details on using the Help File.

2.10.3.1 BA with Quick Disconnect fitting

If your BA has a quick disconnect fitting downstream of the first stage regulator, open the quick disconnect and insert the T-connection adapter (available from the BA manufacturer). Then use the first stage manifold to connect the T-fitting to the left inlet port on the PosiChek.



Note: The appropriate quick disconnect for your BA may not look like this.

2.10.3.2 Other options

The medium pressure connection from the BA to the PosiChek is unique for every BA. It may be necessary to access first stage pressure through a pressure relief valve or another location. If you have questions concerning the medium pressure connection contact the BA manufacturer, who should be able to provide the model-specific adapter that you need as well as instructions on how to use it.

Note: Detailed connection instructions for a variety of BA are available in the PosiChek Software's Help File. See chapter 7 for details on using the Help File.

3. Performing Tests

This chapter covers test options in detail following the initial setup.

To launch the software, either click on the PosiChek icon located on your PC's desktop screen or click on the start button to access Programs/Biosystems PosiChek3 32 bit software/PosiChek3 Titanium Edition.

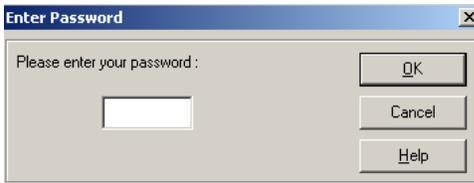


or



Note: The file location may be different depending on the choices made during software installation. OEM software versions require a different path to the software.

Once the software is launched, a password must be entered to access the program.



If this is the initial software launch, enter "setup" as the password. For security reasons, the characters that are typed in will not appear on the screen.

Note: The default password for initial software installation is "setup".



Press **OK** once "setup" or another valid password is entered. If "setup" is entered as the password, the Quick Start Instructions will be shown.

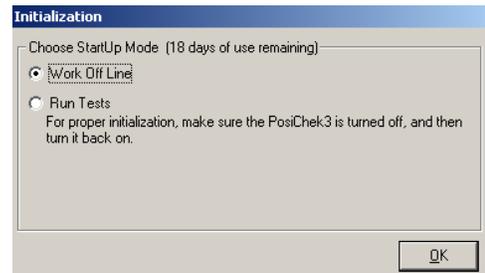


Once the software is launched, you will automatically be prompted to choose between working off line and running tests.

3.1 Working off line

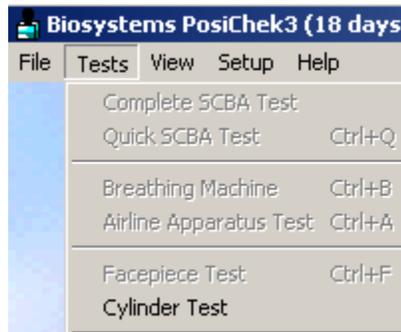
If you do not intend to run tests, then select "Work Off Line" at the initialization screen. This will give you full access to the databases stored on the PC without actually interfacing with the PosiChek. Working off line also bypasses the need to connect the PC to the PosiChek, and the need to initialize the PosiChek's transducers.

If you decide to run tests after selecting "Work Off Line" you will need to initialize the PosiChek before proceeding. See section 3.1.1 for details on initializing the PosiChek.



Note: The PosiChek does not need to be connected to the PC to access stored data. If you only need to access database files, select "Work Off Line" at the Initialization screen.

While working off-line, all tests that involve quantitative measurement will be "grayed out" in the test menu.

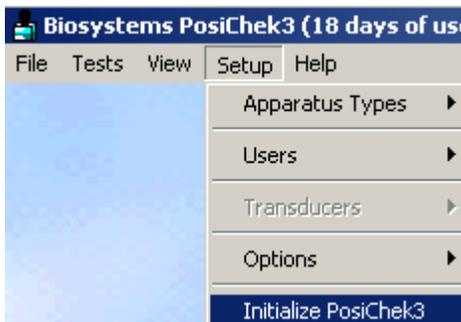


Note: Since the cylinder test only involves a visual inspection and data entry, the Cylinder Test is available in the off-line mode.

3.1.1 Initializing the PosiChek

As discussed above, working off line allows the user to access the PosiChek databases, but will not allow the user to run quantitative tests. Once the “Work Off Line” selection is made at start up, the PosiChek will not be able to run tests. If you decide that you need to run tests, you’ll need to manually initialize the PosiChek as follows:

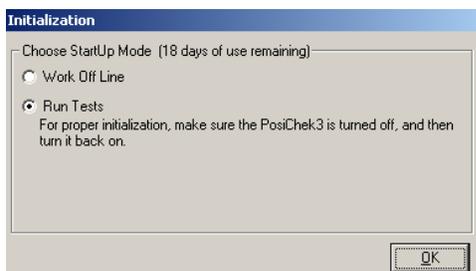
1. From the menu bar, select Setup followed by “Initialize PosiChek3”.



2. The PosiChek software will then display the Initialization screen that is normally shown during start-up.

3.2 Running tests

If you plan to run tests, select “Run Tests” at the Initialization screen. Be sure to turn the PosiChek off and then on again to initialize the instrument.



⚠ CAUTION Initialization includes the zeroing of the PosiChek’s internal transducer assembly. Make sure that the PosiChek head is properly vented and that the pressure reducing manifold is not attached to the PosiChek prior to starting the initialization. Failure to keep the transducer assembly properly vented during initialization may damage the bellows assembly and/or lead to incorrect test data.

3.3 Test Requirements

PosiChek³ software has been designed to function similarly to other Windows-based applications.

Individuals who are comfortable with other Windows applications should find the software easy to run.

Prior to running tests:

1. The PosiChek software must be installed and open. See section 2.5 for details.
2. The PC must be able to communicate with the PosiChek. See section 2.6.2 for details.
3. The BA must be correctly attached to the PosiChek.
4. A database must be open. See section 2.8 for details on creating a new database. Instructions for opening an existing database are given in section 4.2.

3.4 Test Overview

The PosiChek³ offers the following tests:

The Complete SCBA Test provides a complete evaluation of an SCBA. The complete test includes visual inspection, quantitative measurement of facepiece leakage, exhalation valve opening pressure, measurement of activation and static facepiece pressure, alarm and pressure gauge accuracy, breathing test, a measurement of high pressure leakage and verification of pressure gauge accuracy at multiple operating pressures. These additional tests require the use of a pressure-reducing manifold, which contains a relatively small amount pressurized air. The PosiChek controls the release of air from the pressure-reducing manifold, thereby allowing testing of the SCBA at all operating pressures from fully charged to empty.

Note: NFPA compliant breathing apparatus must be tested at least annually on a PosiChek3 in order to maintain compliance. Please reference NFPA 1981 and NFPA 1852 for details.

The Quick SCBA Test takes approximately two minutes to complete and includes visual inspection, quantitative measurement of facepiece leakage, exhalation valve opening pressure, measurement of activation and static facepiece pressure, alarm and pressure gauge accuracy, as well as the breathing test at either standard (40 LPM) or maximum (100 LPM) work rates. One cycle of the Quick SCBA Test consumes less than 1% of the SCBA’s air supply.

The Breathing Machine Test allows the user to conduct customized breathing resistance tests of fully assembled apparatus at work rates and durations specified by the user.

The Airline Apparatus Test evaluates the performance of airline respirators and includes a set of tests similar to those performed in the Complete SCBA Test. The available tests include a visual inspection checklist, facepiece leak test,

activation/static pressure test, and breathing resistance at both standard and maximum work rates.

The Facepiece Test includes visual inspection of the facepiece, facepiece leakage test, exhalation valve opening pressure test and a breathing test.

The Cylinder Test allows the user to track visual inspections and hydrostatic test results for compressed air cylinders.

Test results for all modes of operation (including breathing resistance graphs) can be printed immediately, or stored on your computer in the form of retrievable database files. PosiChek software allows you to search, view, sort, and print reports of stored test results.

3.5 Complete SCBA Test

The Complete SCBA Test provides the most comprehensive evaluation of the SCBA of all the tests offered by the PosiChek. The complete test includes a visual inspection, facepiece leak test, activation pressure test, high pressure leak test, maximum and standard work rate breathing tests, pressure gauge and alarm accuracy tests and a test of the bypass valve. These tests require the use of a pressure-reducing manifold, which allows testing of the SCBA at all operating pressures. If possible, the first stage manifold should be connected from the BA to the PosiChek.

For connection instructions for the Complete SCBA Test see section 2.10.

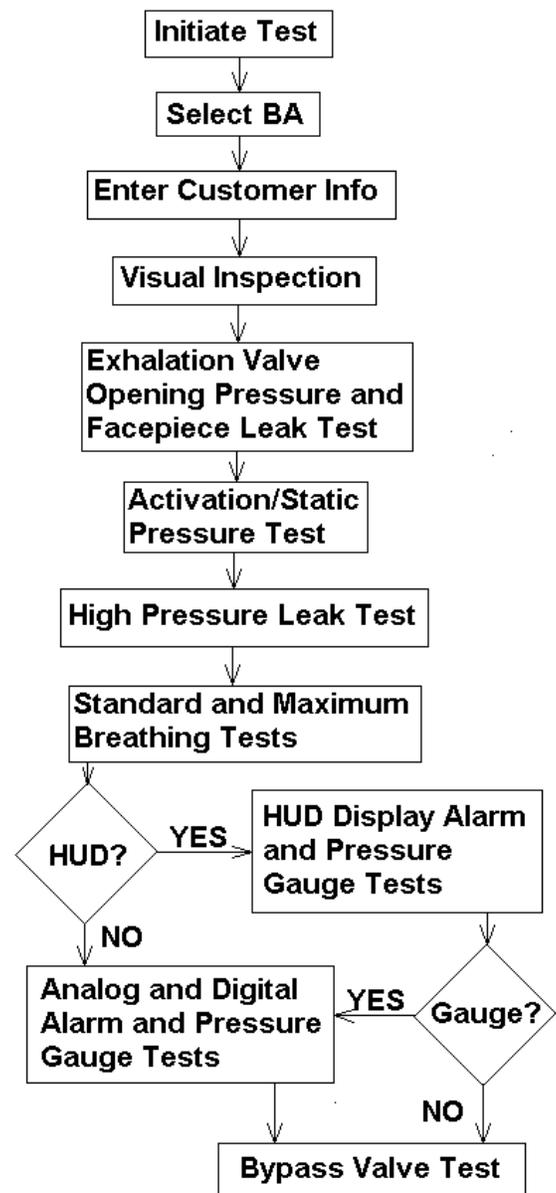
Note: Be sure to use the appropriate high (4500 PSI) or low (2216 or 3000 PSI) pressure manifold for the BA. Use of the incorrect manifold, or any alterations to the manifold, will cause the software to display a warning following breathing tests and may cause an incorrect result in the bypass test.

Note: The NFPA requires that SCBA be tested annually in order to maintain compliance.

Note: The generic PosiChek software does NOT meet the exact specifications of any one manufacturer for most tests.

Please refer to NFPA 1981, NFPA 1852 and OSHA 1910.134 for further details.

Complete SCBA Test Sequence

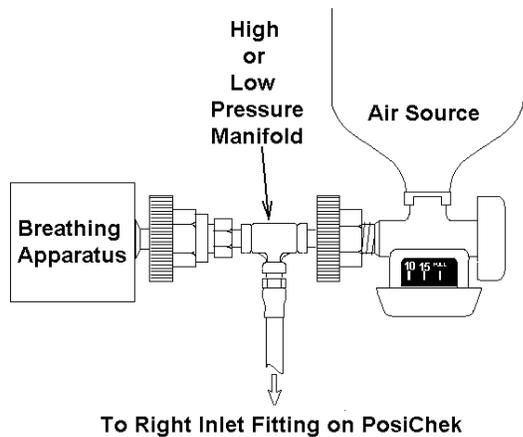


3.5.1 PosiChek – SCBA Connection for Complete SCBA Test

The Complete SCBA Test requires the use of the appropriate high or low pressure manifold and the use of the first stage manifold (if possible).

Note: For instructions on parts identification see section 2.10.1 above.

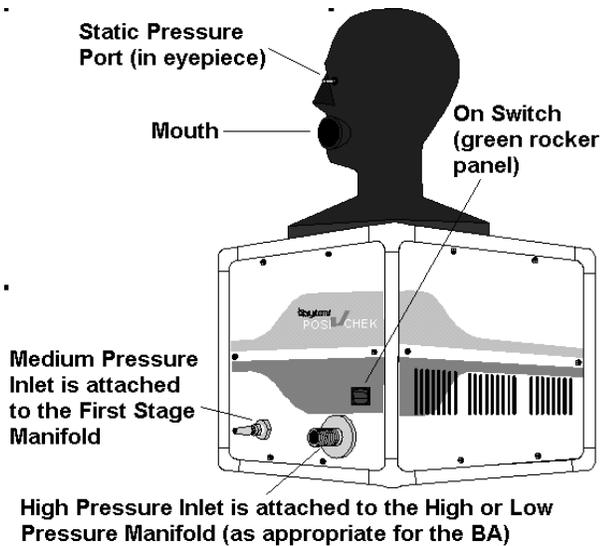
Insert the T-side of the high or low-pressure manifold (as appropriate for the BA) between the air source and the first stage regulator. Turn the manifold's handwheel by hand until it is tight on the air source. Turn the BA's handwheel until it is tight on the manifold.



If a pressure source other than a cylinder is used, make sure to set the supply regulator to an appropriate pressure and to place the pressure supply valve next to the T-fitting on the appropriate high or low pressure manifold.

⚠WARNING: The PosiChek3 is designed for use with pressurized air only. The use of oxygen-enriched air with the standard PosiChek manifolds may lead to explosive conditions.

Connect the single end of the manifold to the right side inlet on the PosiChek and tighten the handwheel.



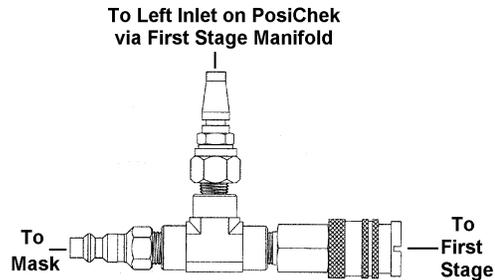
If possible, the First Stage manifold should be connected from a point downstream of the first stage regulator and upstream of the mask regulator. An adapter is required to connect the first stage manifold to the BA. First stage manifold adapters are specific to the SCBA and are only available from the SCBA manufacturer.

Note: Although the first stage manifold connection is not absolutely necessary for use

with the generic software, it will significantly help in the location of problem components.

Note: The first stage manifold connection is a necessity for most OEM software versions.

If your BA has a quick disconnect fitting downstream of the first stage regulator, open the quick disconnect and insert the T-connection adapter (available from the BA manufacturer). Then use the first stage manifold to connect the T-fitting to the left inlet port on the PosiChek.



Note: The appropriate quick disconnect for your BA may not look like this.

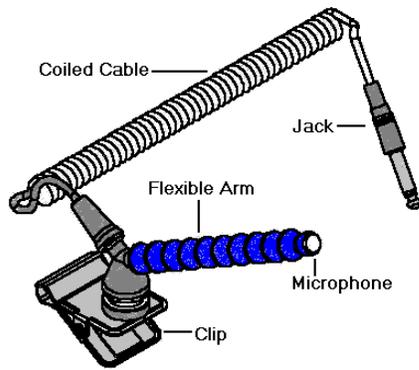
The medium pressure connection from the BA to the PosiChek is unique for every BA. It may be necessary to access first stage pressure through a pressure relief valve or another location.

Note: Detailed connection instructions for a variety of BA are available in the PosiChek Software's Help File. See chapter 7 for details on using the Help File.

If you have questions concerning the medium pressure connection, contact the BA manufacturer. The BA manufacturer should be able to provide the model-specific adapter that you need, instructions on how to use it and any other additional training requirements.

3.5.2 Using the Sound Detection System

If the Sound Detection System is installed on your PosiChek, the microphone must be plugged into the PosiChek prior to system pressurization. The software will automatically recognize the microphone. The following steps should be carried out prior to testing:



Microphone Assembly

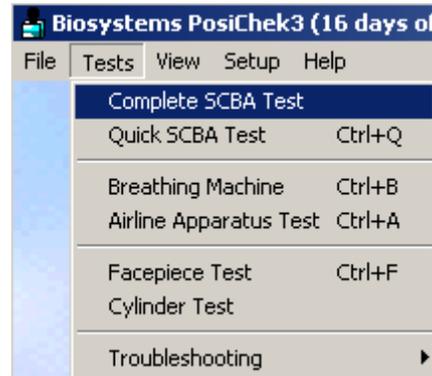
1. Adjust the microphone carrier arm so that the microphone is located about 1 inch from the alarm and proceed with testing. While in use, the software may tell you to move the microphone closer to or further away from the alarm as needed to properly set the alarm levels.

Note: Do not move the microphone during the test sequence unless the software instructs you to. The software "listens" for the alarm while the system is being pressurized and it learns to recognize the sound emitted by the alarm.

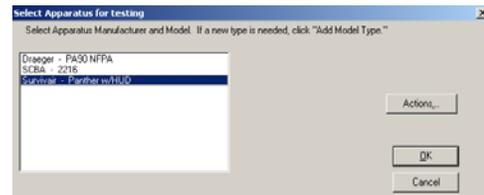
2. During the Alarm Accuracy Test, the raw counts of sound being measured will be displayed while the software is waiting for the alarm to activate. The threshold the software is using to determine when activation occurs will also be displayed. The microphone is positioned very close to the alarm so that the ambient noise in the room does not affect the measurement. When the software detects alarm activation, it will automatically determine whether the test passed. If the test passed, the software will automatically proceed to the next test.
3. If the ringdown test is being performed, the microphone will also detect when the alarm stops.

3.5.3 Conducting the Complete SCBA Test Initiating Tests, Selecting a BA, Customer Info

1. From the Tests Menu select "Complete SCBA Test"

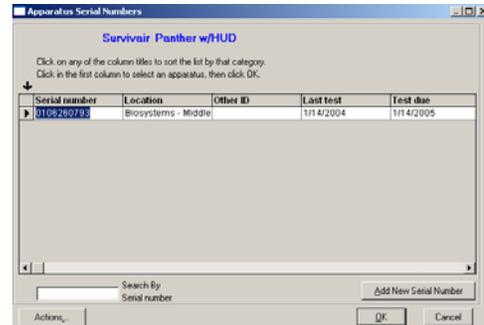


2. The "Select Apparatus for Testing" screen will then be shown. If the BA model is shown in the list, select it by and then press OK.



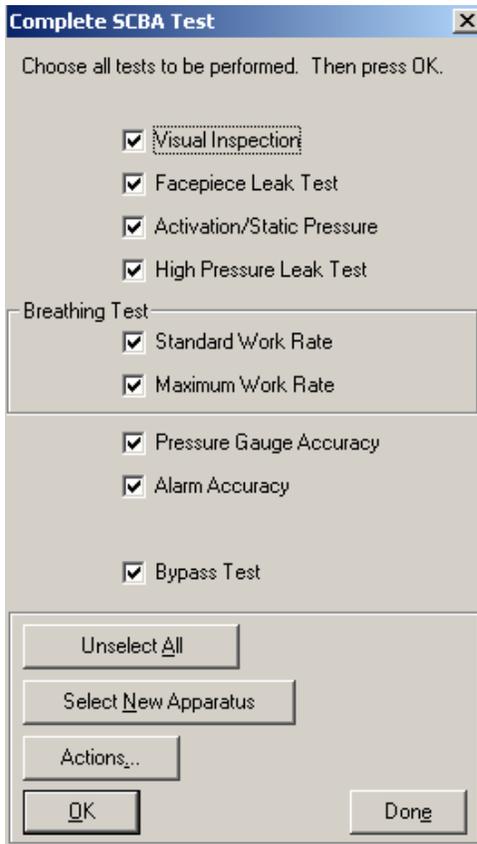
Note: If the BA is not shown in the list, proceed to section 5.1.1 for instructions on adding a new apparatus type.

3. The Apparatus Serial Number screen will then be shown. Select the apparatus to be tested and press OK.



Note: If the serial number is not shown see section 5.1.2 for instructions on adding an apparatus to the database.

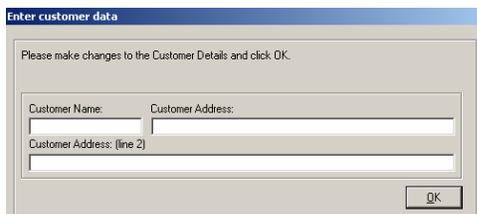
4. The Complete SCBA Test screen will be shown. Select the tests to be performed. Click OK once the tests have been selected.



Note: The NFPA requires that the BA successfully pass every test in the Complete SCBA test.

Note: To change the default tests, see Database Options in section 5.3.2.1.1.

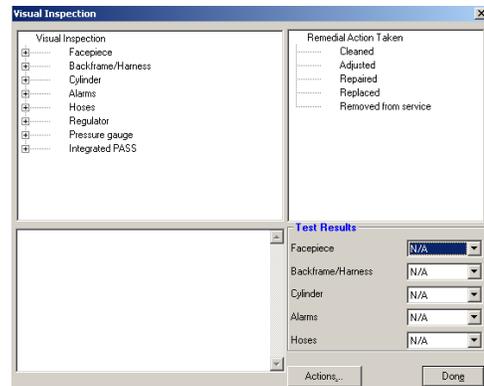
- The "Enter customer data" window will then be shown. Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1. Press the OK button when you are ready to proceed.



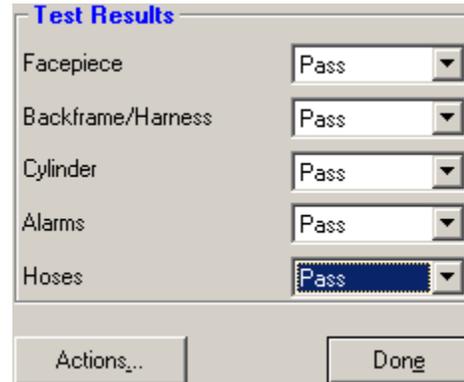
Note: The "Enter Customer Data" screen may be omitted by disabling the "Include Customer Information in Tests" option. See section 5.3.2.

- The visual inspection screen will then be shown. Since the visual inspection is included in many different tests, it is covered in detail below in section 3.11.

Visual Inspection

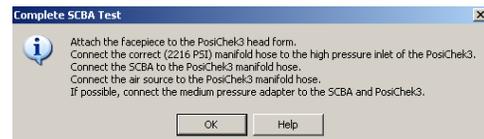


- If all of the components pass the visual inspection, enter "Pass" in the pull-down box for each component under Test Results. Components that fail any of the visual inspection items should be repaired or replaced prior to resuming the test.



Note: For further instruction on the Visual Inspection screen, see section 3.11.

- Press the Done button once the Visual Inspection is complete.

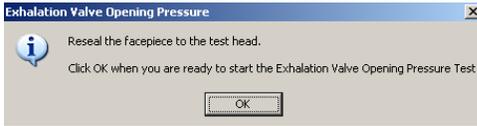


Exhalation Valve Opening Pressure and Facepiece Leak Test

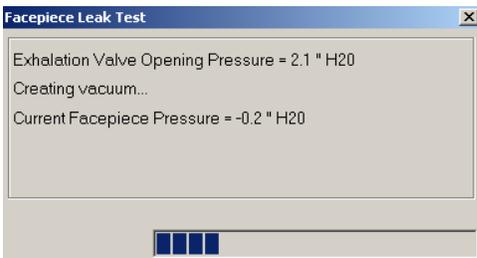
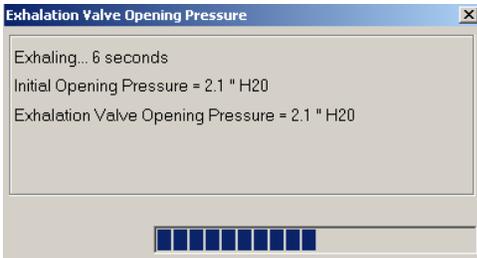
- If you have not already done so, connect the BA to the PosiChek. See section 3.5.1 for instructions on the connections necessary for the Complete SCBA Test. The PosiChek software will then instruct you to break the facepiece seal.



10. Break the facepiece seal and press OK. You should be able to hear the bellows move inside the PosiChek.

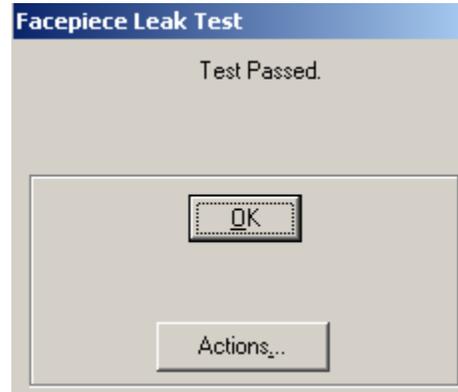


11. Reseal the facepiece and press OK. The PosiChek will then proceed through the Exhalation Valve Opening Pressure test and the Facepiece Leak Test.



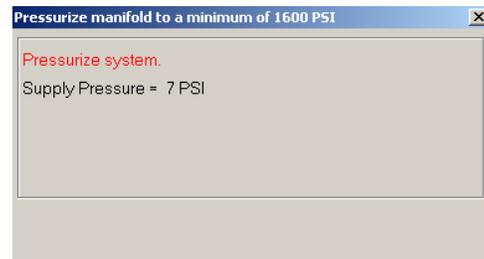
Note: If the facepiece leak test fails, see the Troubleshooting Guide for possible causes and remedies.

12. Upon successful completion of the facepiece leak test and exhalation valve opening pressure test, "Test Passed" will be shown. If either of the tests fails, a window will be shown stating the reason for the failure and a retry option will be given for the test(s) that failed.



Activation/Static Pressure Test

13. Press OK. The PosiChek software will then instruct you to pressurize the system.

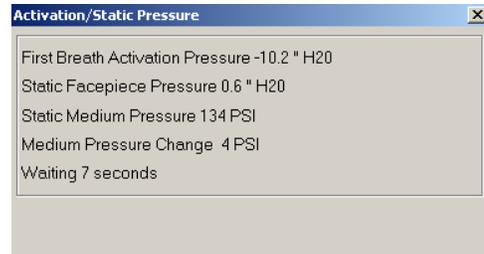


14. Once the system recognizes sufficient pressure, the system will proceed with the test. Some OEM versions of software will ask you to shut off the pressure source before proceeding. If the SCBA includes a first breath activation switch you will be instructed to engage it.

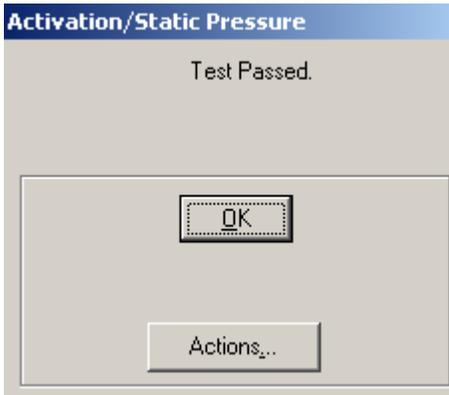
The PosiChek automatically determines the appropriate tests based on the information entered by the user for the apparatus type (model).



15. Press OK once the first breath activation switch has been engaged. Pressure measurements will be shown as the test is performed.

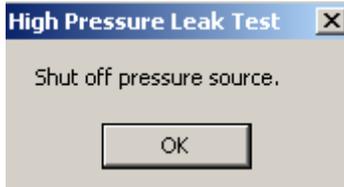


A window will let you know if the BA passed or failed the test. If the test is failed, a retry option will be given.

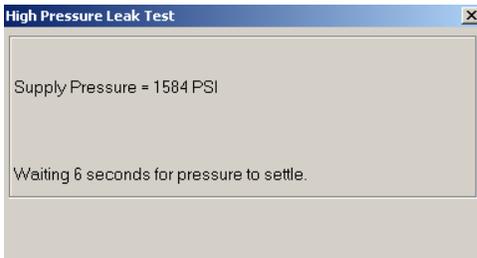


High Pressure Leak Test

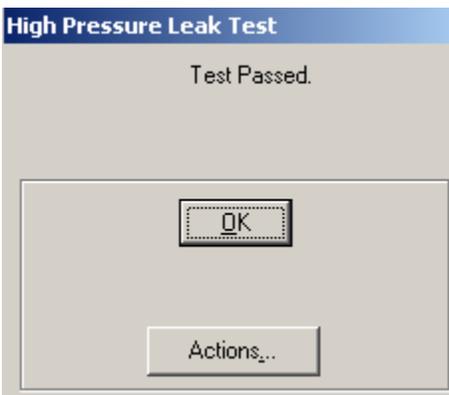
16. Click OK to continue. You may be instructed to re-pressurize the system. You will then be instructed to shut off the pressure source.



17. Click OK to continue to the high pressure leak test. The initial and current high pressure readings will be shown with a countdown.

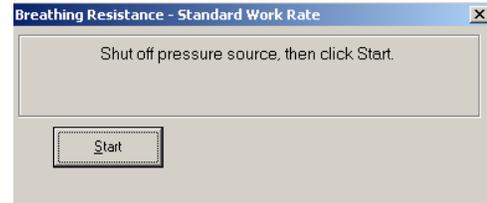


A screen will be shown to indicate whether the test has been completed successfully.

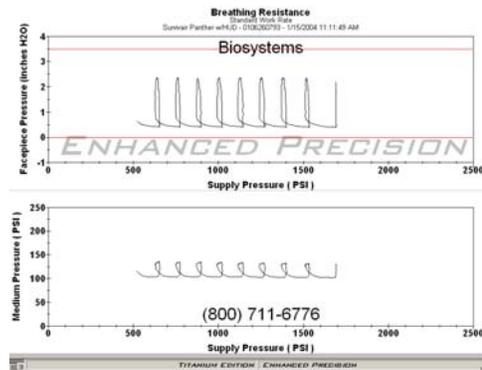


18. Click OK to continue. Depending on the residual pressure in the system, you may or may not be instructed to re-pressurize the system.

Breathing Tests



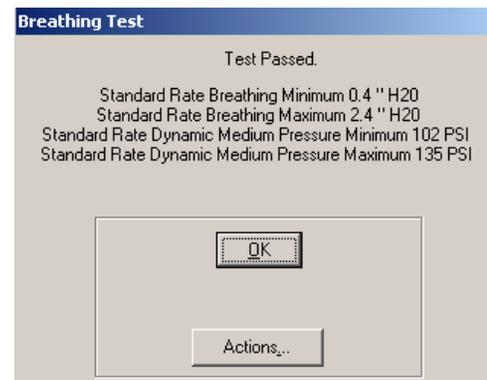
19. Shut off the pressure source and click "Start". The PosiChek will then proceed to the breathing resistance test at the standard work rate of 40 liters/minute. The breathing graph will be shown as the PosiChek empties the manifold. The low pressure alarm will be activated at some point as the pressure drops.



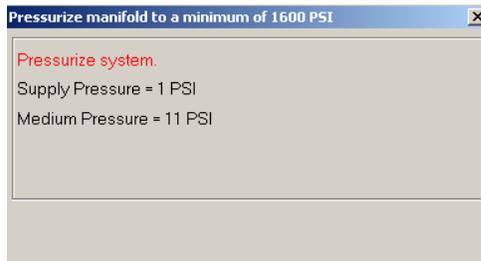
Once the manifold is empty you will be informed that breathing is complete.



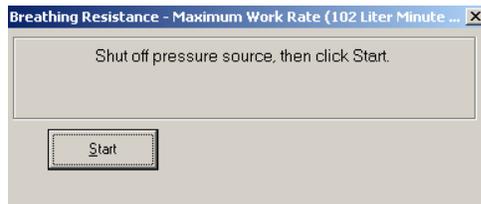
20. Press OK to continue. The quantitative results of the test will then be shown.



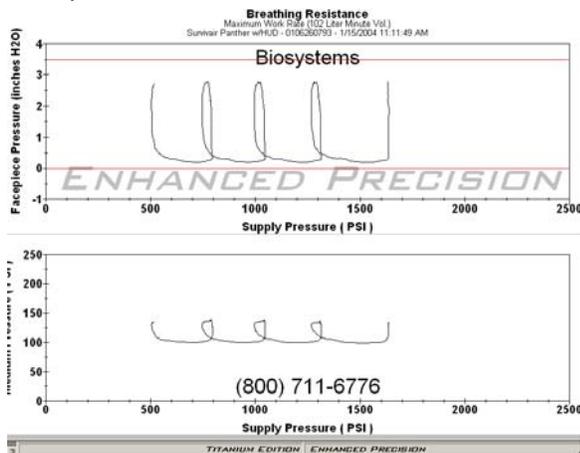
21. Click "OK" to continue to the Maximum Work Rate Breathing Resistance test. You will be instructed to pressurize the system.



Once the PosiChek registers sufficient pressure, you will be instructed to shut off the pressure source.



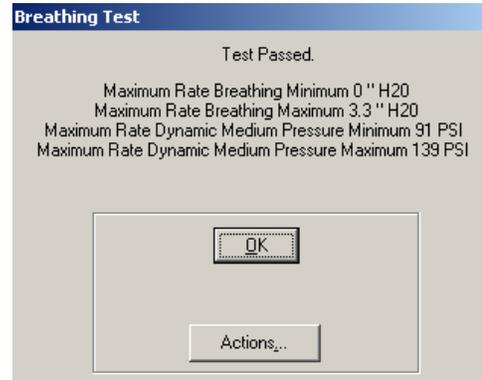
22. Shut off the pressure source and click "Start" to begin the breathing resistance test at the maximum work rate of 102 liters/minute. The breathing graph will be shown as the PosiChek quickly empties the manifold. The low pressure alarm will activate at some point as the pressure drops.



Once the manifold is empty you will be informed that breathing is complete.



23. Press OK to continue. The quantitative results of the test will then be shown.

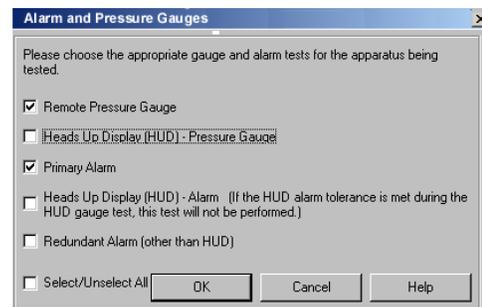


24. Click OK to continue. The PosiChek will then proceed to the alarm and pressure gauge tests.

Alarm and Pressure Gauge Tests

Note: Alarm and pressure gauges vary from one BA to another. PosiChek software will automatically provide appropriate choices for the BA that you are testing based on the information you provided when you entered the model type into the software. OEM software versions will automatically provide appropriate choices for the specific BA.

The next screen to be shown will vary according to the information in the software about the SCBA and may not include all of the options given here.



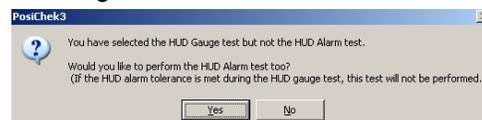
25. Select the appropriate test(s) and click OK.

Note: The next 3 steps (HUD1 – HUD3) are specific to HUD-equipped apparatus. For BA that are not equipped with a Heads Up Display proceed to step 26 below.

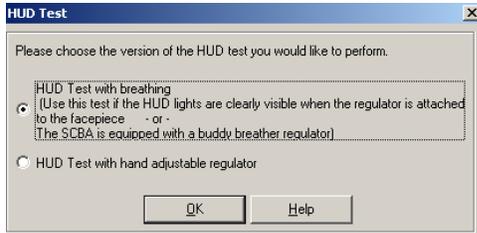
HUD Set Up Instructions

If you are testing an apparatus equipped with a Heads Up Display, the test will proceed as follows:

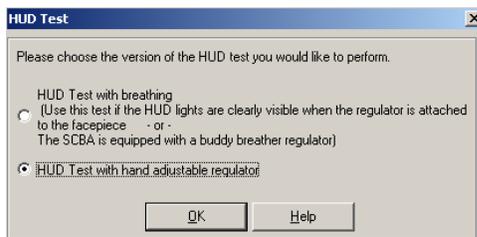
If you chose to bypass the HUD Alarm, you will need to acknowledge this choice.



HUD1. Click Yes to include the HUD Alarm test.
 Click No to proceed without the HUD Alarm test.
 Note that if the HUD alarm tolerance is met by the HUD gauge test, the HUD Alarm test will not be performed. The HUD Test will then prompt you to select the HUD Test with breathing, or the HUD Test with hand-adjustable regulator.



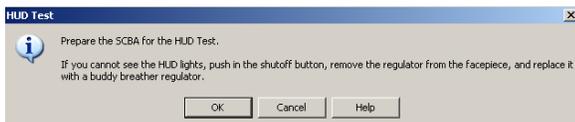
OR



HUD2. Select the choice that is appropriate for the BA to be tested.

If a hand-adjustable regulator is used with a HUD-equipped SCBA, the software will prompt you to reduce or increase the pressure to specific levels as LEDs extinguish or illuminate in the facepiece.

If the HUD-equipped SCBA includes a Buddy Breather and the LEDs are not visible while the standard mask regulator is mounted on the PosiChek, then the Buddy Breather should be used on the PosiChek head while the standard mask regulator is held in the hand to verify the LED changes that serve as pressure indicators.



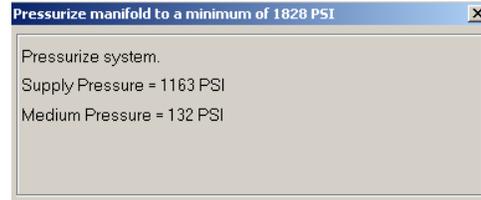
HUD3. Click OK once the appropriate steps have been taken as dictated by the software.
 Proceed to step 26 below. This ends the HUD-specific section.

This is the end of the HUD Set Up Instructions

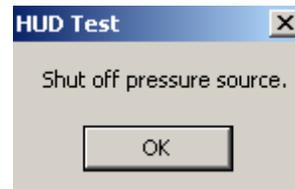
This section pertains to both HUD and Gauge type SCBA tests.

If you have chosen to perform the HUD test with a hand-adjustable regulator, the software will prompt you to reduce or increase the pressure to specific levels as LEDs extinguish or illuminate in the facepiece.

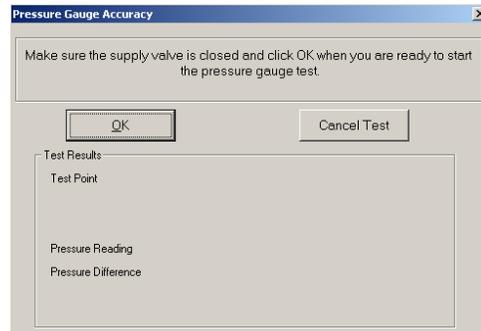
If you have chosen to perform the HUD test with breathing, or are performing standard gauge-type testing you will be instructed to pressurize the system.



Once the PosiChek recognizes sufficient pressure, you will be instructed to shut off the pressure source.



HUD Screen

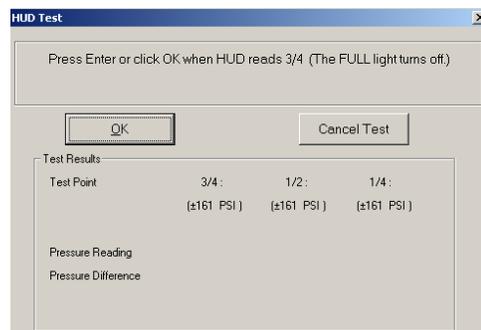


Pressure Gauge Accuracy Screen

26. Click OK to continue.

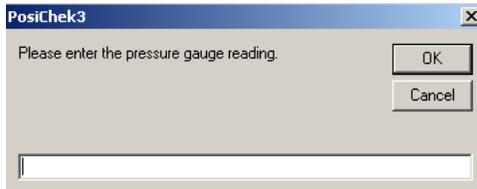
The manifold will be slowly emptied.

HUD versions will be instructed to click OK or press Enter as the LEDs are extinguished to indicate 3/4, 1/2 and 1/4 tank pressures.



HUD Test Screen

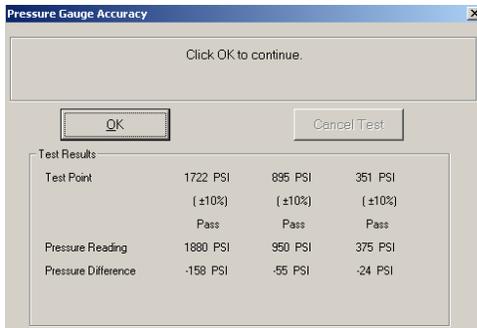
Pressure gauge versions will be instructed to enter the pressure at specific intervals (digital versions) or to press enter at specific intervals (analog versions).



Digital Pressure Gauge Screen

27. Press OK or enter the pressure reading as appropriate.

Once the test has been completed, the following screen will be shown.



28. Press OK to continue. The software will then proceed with the Alarm Accuracy Test.

HUD versions using the buddy breather will be instructed to remove the buddy breather and to reattach the standard regulator.

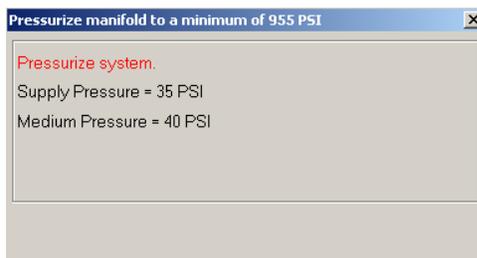


29. If a Buddy Breather was used during the HUD test, remove it from the facepiece, reinsert the standard regulator and then press OK.

You will then be instructed to pressurize the system. The PosiChek will then proceed to the alarm accuracy test.

If the Sound Detection System is installed on your PosiChek, the microphone must be positioned so that it is within 1 inch (2.5 cm) of the audible alarm during the entire Complete SCBA Test sequence.

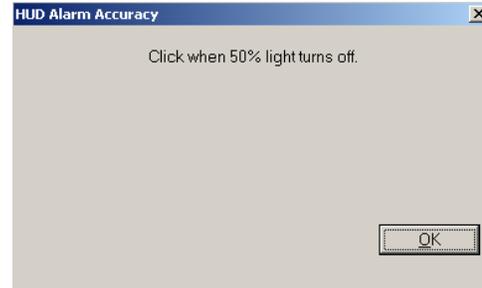
The microphone must be initialized by exposing it to the sound of the alarm before the alarm test is performed. See section 3.5.2 for details.



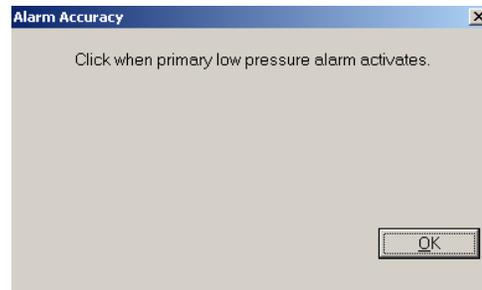
Once sufficient pressure is recognized, you will be instructed to shut off the pressure source.



30. Shut off the pressure source. The PosiChek will then proceed with the alarm accuracy test. The screen may be slightly different depending on your BA.

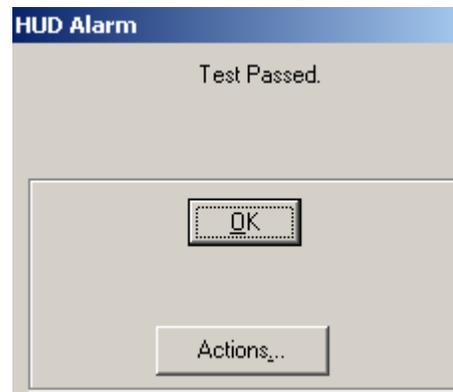


Alarm Accuracy / HUD Screen

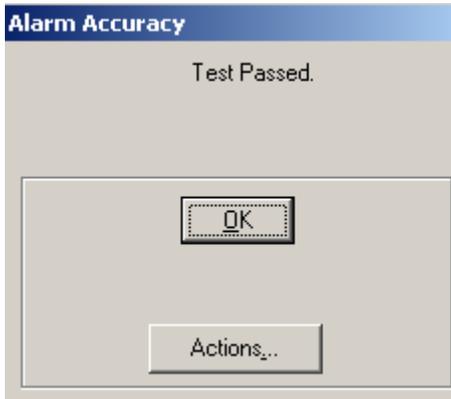


Alarm Accuracy / Primary Alarm Screen

31. Click OK once the 50% light turns off or when the primary low pressure alarm activates (as appropriate). If the test is passed, the following screen will be shown.



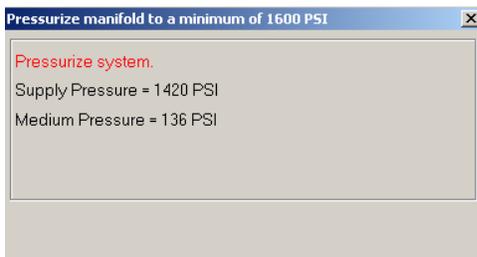
HUD Screen



Gauge Screen

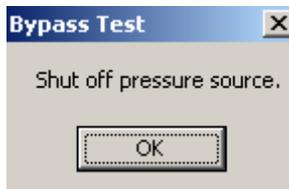
Note: If the BA includes a redundant pressure alarm, the software will proceed with the redundant alarm test.

32. Click OK to continue. Once you've clicked OK, You will be instructed to pressurize the manifold to proceed with the Bypass Test.

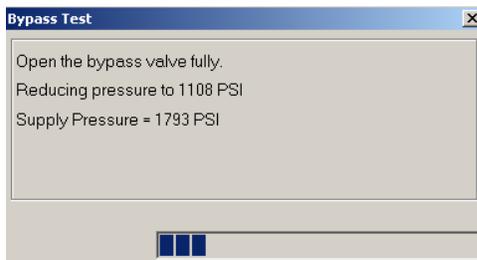


Bypass Test

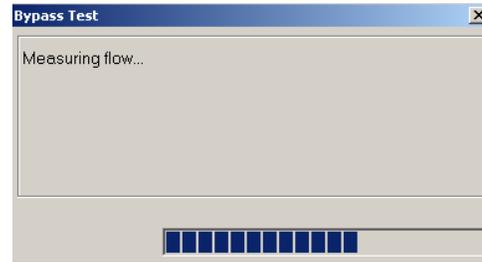
Once the PosiChek recognized stable pressure in the manifold, you will be instructed to shut off the pressure source.



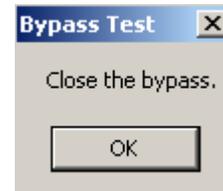
33. Shut off the pressure source and press "OK" to continue. You will then be instructed to open the bypass valve fully.



34. The PosiChek will then calculate the flow through the bypass valve.



35. Once the manifold has been emptied, you will be instructed to close the bypass valve.



36. The Complete SCBA test is now complete. Close the bypass valve and click "OK".

For instructions on completing tests, proceed to section 3.12

3.6 Quick SCBA Test

The Quick SCBA Test takes approximately two minutes to complete and includes visual inspection, evaluation for facepiece leakage, exhalation valve opening pressure, evaluation of activation/static facepiece pressure, alarm and pressure gauge accuracy, as well as breathing resistance at either standard (40 LPM) or maximum (102 LPM) work rates. One cycle of the Quick SCBA Test consumes less than 1% of the SCBA air supply.

Note: The flow test contained in the Quick SCBA test does not meet the yearly test requirements set down by the SCBA manufacturers or the NFPA.

Note: A database must be open to conduct tests.

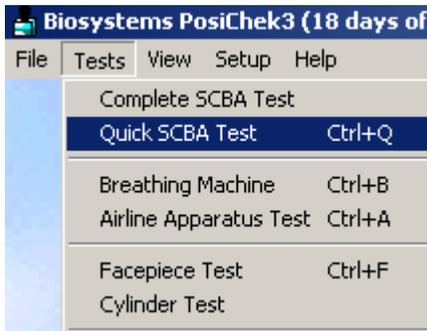
3.6.1 PosiChek – SCBA Connection for Quick SCBA Test

High and medium pressure measurements are not taken during the Quick SCBA test, so it is not necessary to use any of the manifolds (unless it is the only way to connect the BA to the PosiChek). Simply connect the fully assembled SCBA to the PosiChek by slipping the facepiece over the head of the PosiChek.

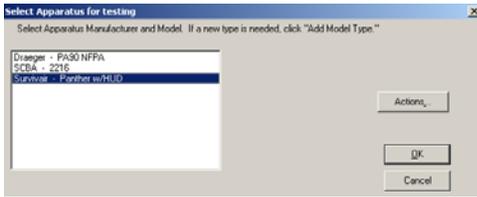
Note: If the first stage manifold is connected from the BA to the PosiChek during the Quick SCBA Test, pressure measurements will be recorded.

3.6.2 Conducting the Quick SCBA Test

1. From the Tests Menu select "Quick SCBA Test"

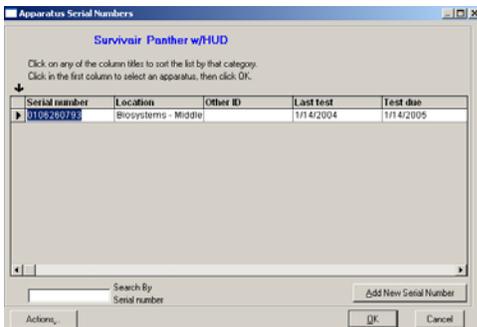


- The "Select Apparatus for Testing" screen will then be shown. If the BA model is shown in the list, select it by clicking on it and then press OK.

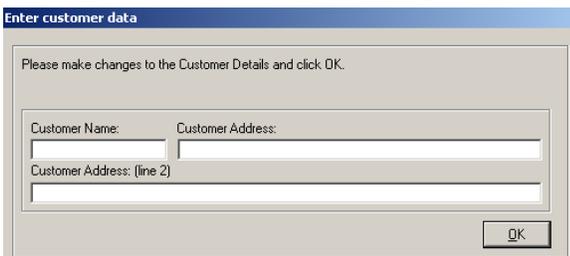


Note: If the BA is not shown in the list, proceed to section 5.1.1 for instructions on adding a new apparatus type.

- The Apparatus Serial Number screen will then be shown. Select the apparatus to be tested and press OK. The Enter Customer Data Screen will then be shown.



Note: If the serial number is not shown see section 5.1.2 for instructions on adding an apparatus to the database.

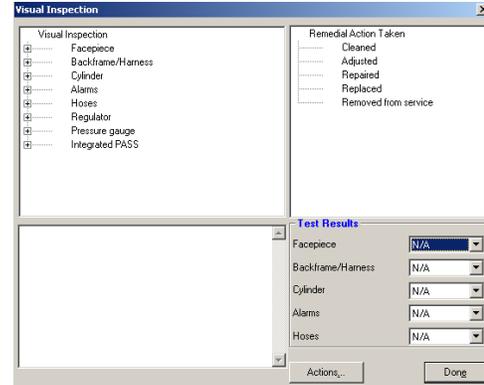


- Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1.

Press the OK button when you are ready to proceed.

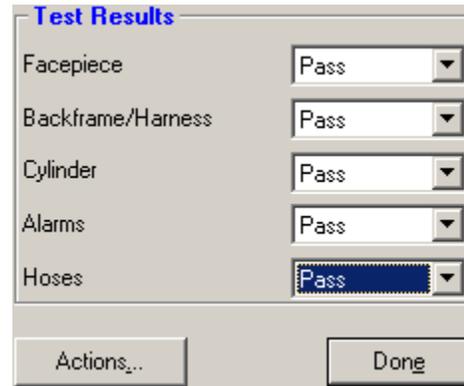
Note: The "Enter Customer Data" screen may be omitted by disabling the "Include Customer Information in Tests" option. See section 5.3.2.

The visual inspection screen will then be shown.



Note: For further instructions on the Visual Inspection screen, see section 3.11.

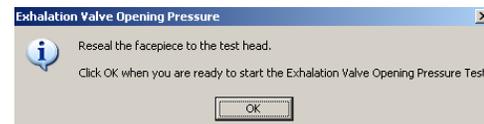
- If all of the components pass the visual inspection, enter "Pass" in the pull-down box for each component under Test Results.



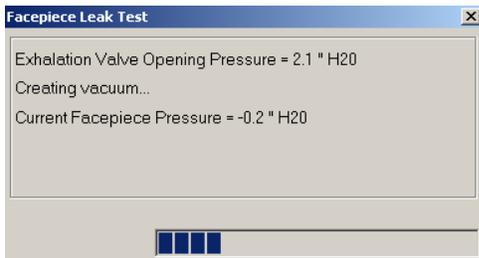
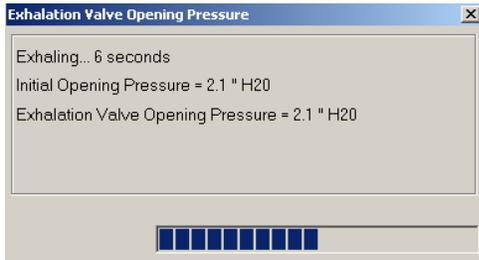
- Once the visual inspection has been completed, press the "Done" button. The PosiChek software will then instruct you to break the facepiece seal. Do not reseal the facepiece until you are instructed to do so.



- Press the OK Button once the seal is broken.

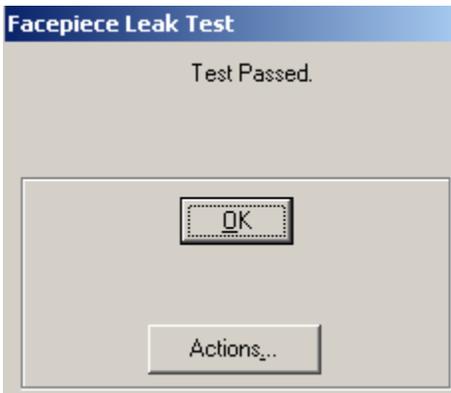


- Reseal the facepiece and press OK. The PosiChek will then proceed through the Exhalation Valve Opening Pressure test and the Facepiece Leak Test.

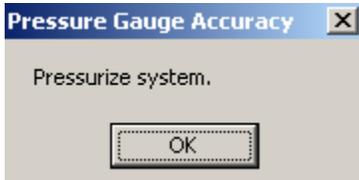


Note: If the facepiece leak test fails, see section the Troubleshooting Guide for possible causes and remedies.

- Upon successful completion of the tests, Test Passed will be shown. Press OK. If the tests fail, a window will be shown stating “Unable to create vacuum” and a retry option will be given.

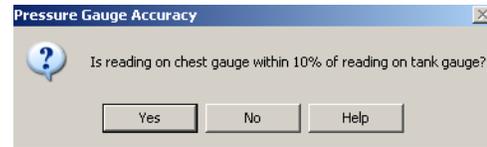


- Click OK. The PosiChek software will then instruct you to pressurize the system.



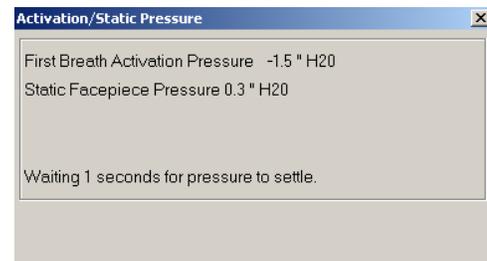
- The Pressure Gauge Accuracy test will then begin. Compare the reading on the chest gauge with the reading on the tank gauge. If the two readings are within 10% of each other, press

OK. If the readings are not within 10% of each other, the SCBA will fail the test.



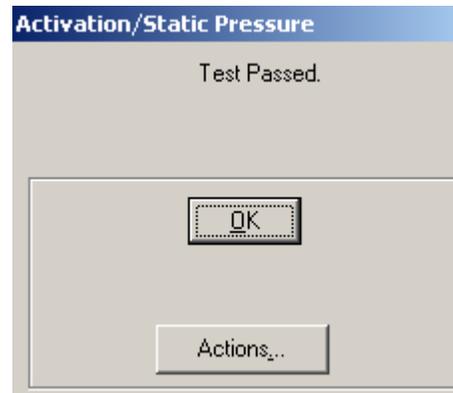
Note: If the apparatus type information for the BA indicates that the apparatus is equipped with first breath activation, then the first breath activation test will be performed.

- Click Yes or No as appropriate. The Posi will then move on to the Static Facepiece Pressure Test. The positive pressure inside the facepiece must be maintained for 15 seconds to pass the test.

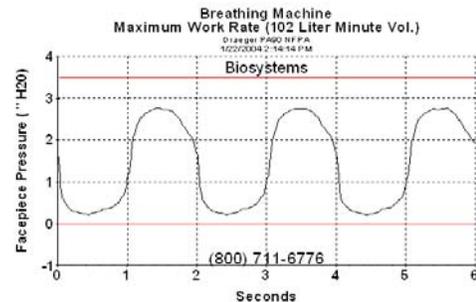


Note: Medium pressure values will be displayed here if the medium pressure transducer is connected.

- Press OK once the test passes.



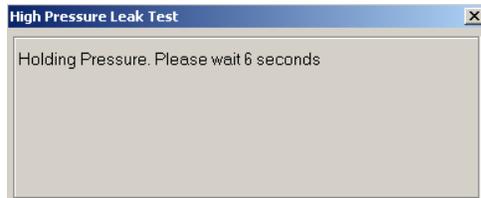
- Press OK to move on to the Breathing Test. The following graph will appear as the PosiChek empties the manifold.



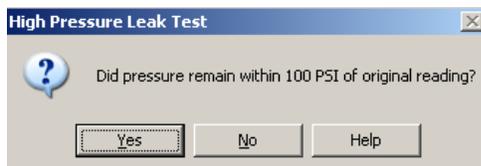
- The Breathing Test occurs over a six-second interval. Once the test is complete, you will be instructed to pressurize the system as the PosiChek moves on to the High Pressure Leak Test.



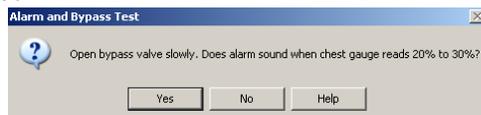
- Shut off the pressure source as instructed and press OK.



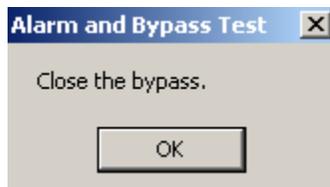
- The High Pressure Leak Test takes 10 seconds to accomplish. Once the ten seconds are up, you will be asked if the pressure remained within 100 PSI of the original reading.



- Press "Yes" if the pressure remained within 100PSI of the original reading. The Alarm and Bypass Test is next.



- When instructed, slowly open the bypass valve while reading the chest pressure gauge. Click "Yes" if the alarm sounds at 20-30% of the original pressure.



- When instructed, close the bypass and click OK. This concludes the Quick SCBA test.

For instructions on completing tests, proceed to section 3.12.

For information on viewing, printing and storing data after a test has been completed, proceed to section 6.1.

3.7 Breathing Machine

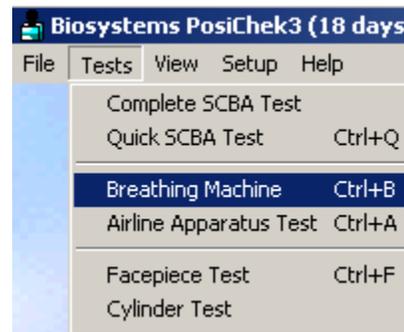
The Breathing Machine Test allows the user to conduct breathing tests over a specified interval at either the standard work rate (40 liters/minute) or the maximum work rate (102 liters/minute).

3.7.1 PosiChek – BA Connection for the Breathing Machine Test

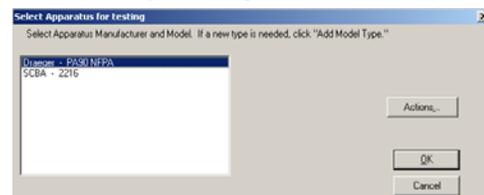
During the Breathing Machine Test, only facepiece pressures are measured, so it is not necessary to connect the BA to the medium or high pressure transducer inlet. Simply seal the fully assembled BA's facepiece onto the PosiChek's head (which must be correctly attached to the PosiChek) and begin the test.

3.7.2 Conducting Breathing Machine Test

- To begin the breathing machine test, click on Tests, followed by Breathing Machine.

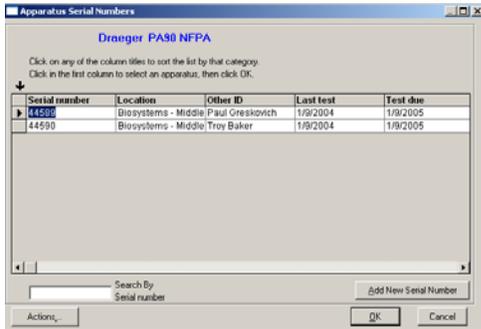


- The "Select Apparatus for Testing" screen will then be shown. If the BA model is shown in the list, select it by clicking on it and then press OK.

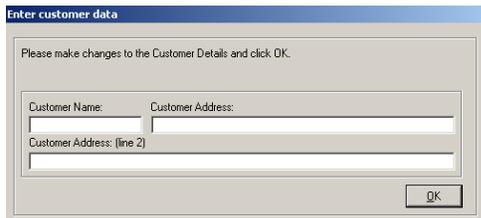


Note: If the BA is not shown in the list, proceed to section 5.1.1 for instructions on adding a new apparatus type.

- The Apparatus Serial Number screen will then be shown. Select the apparatus to be tested and press OK. The Enter Customer Data screen will then be shown.



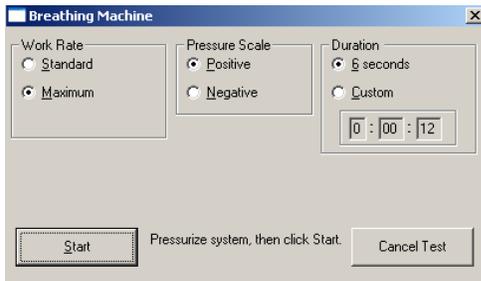
Note: If the serial number is not shown see section 5.1.2 for instructions on adding an apparatus to the database.



- Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1. Press the OK button when you are ready to proceed. The visual inspection screen will then be shown. Since the visual inspection is included in many different tests, it is covered in detail in section 3.11.

Note: The “Enter Customer Data” screen may be omitted by disabling the “Include Customer Information in Tests” option. See section 5.3.2.

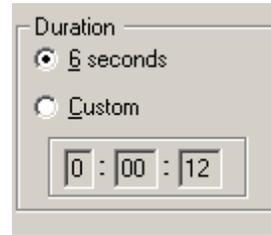
Press the OK button when you are ready to proceed. Since this is the Breathing Machine test, the Work Rate Options screen will be shown.



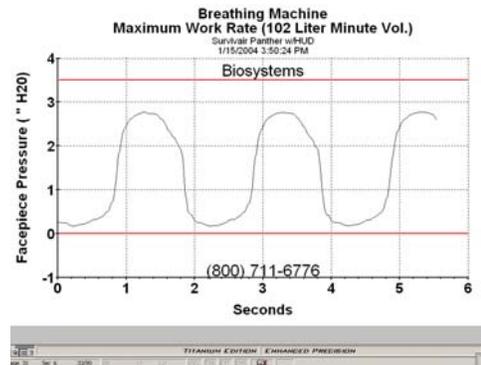
Select the Standard (40 liters/minute) or Maximum (102 liters/minute) work rate as needed.

The Pressure Scale option controls the scale of the vertical axis of the display graph. Selecting “Positive” will result in a graph with a range mostly above 0. Selecting negative will result in a graph with a range that includes negative values. The default setting is for a positive scale.

The duration setting controls the length of the test. The default setting is 6 seconds. Other lengths of time may be entered as needed by the user by clicking on the Custom button and then modifying the timer below the button.



Once the settings have been adjusted as needed, pressurize the system and click on the Start button to begin the test. The Breathing Machine Work Rate Graph will immediately be shown.



Upon completion of the test, the Breathing Complete window will be shown.



For instructions on completing tests, proceed to section 3.12

For information on viewing, printing and storing data after a test has been completed, proceed to section 6.1.

3.8 Airline Apparatus Test

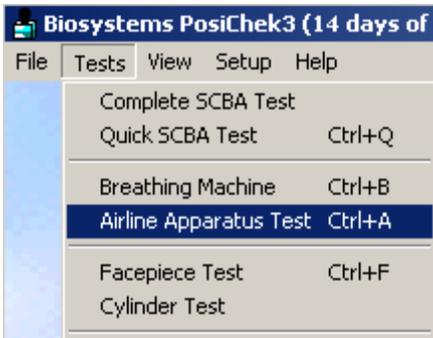
The airline apparatus test evaluates a fully assembled airline respirator by performing a visual inspection, facepiece leak test, activation / static pressure test, standard and maximum work rate breathing tests and a bypass valve flow test. The Airline Apparatus test cycle is appropriate whenever it is not possible to attach the high pressure manifold to the BA.

3.8.1 PosiChek – BA Connection for the Airline Apparatus Test

During the Airline Apparatus Test, only facepiece pressures are measured, so it is not necessary (and it may not be possible) to connect the BA to the high pressure transducer inlet. Simply seal the fully assembled BA's facepiece onto the PosiChek's head (which must be correctly attached to the PosiChek) and begin the test. Medium pressure measurements will be taken if the intermediate pressure can be accessed and connected to the medium pressure transducer inlet on the left side of the PosiChek.

3.8.2 Conducting the Airline Apparatus Test

1. From the Tests Menu select Airline Apparatus Test.

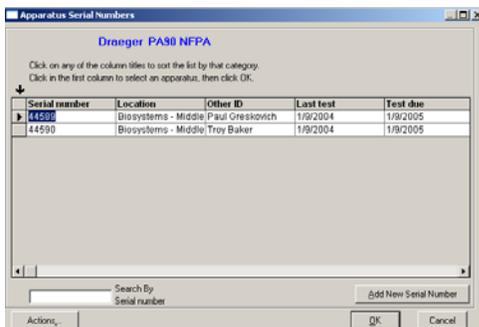


The "Select Apparatus for Testing" screen will then be shown.



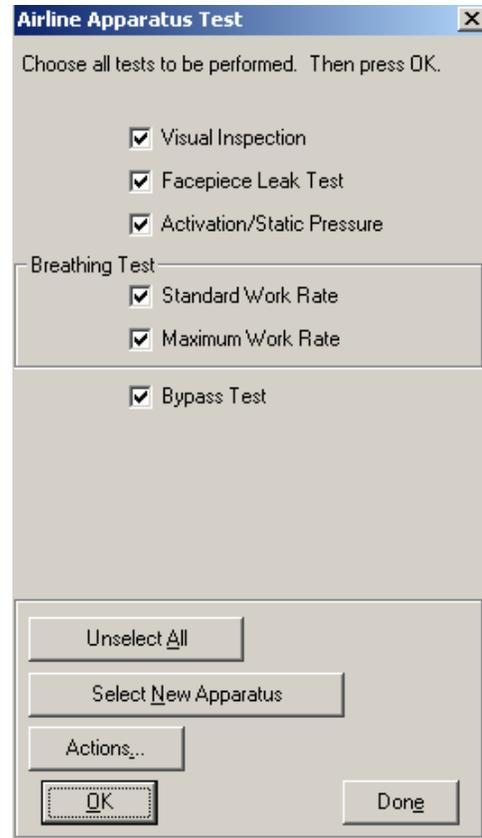
2. If the BA model is shown in the list, select it by clicking on it and then press OK. The Apparatus Serial Number screen will then be shown.

Note: If the BA is not shown in the list, proceed to section 5.1.1 for instructions on adding a new apparatus type.



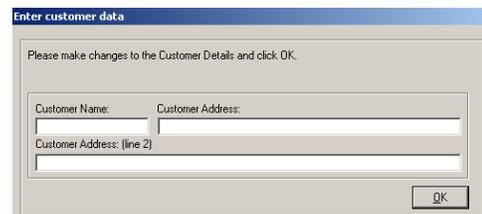
3. Select the apparatus to be tested and press OK. The Airline Apparatus Test list will then be shown.

Note: If the serial number is not shown see section 5.1.2 for instructions on adding an apparatus to the database.



Note: To change the default tests, see the Database Options menu in section 5.3.2.1.1.

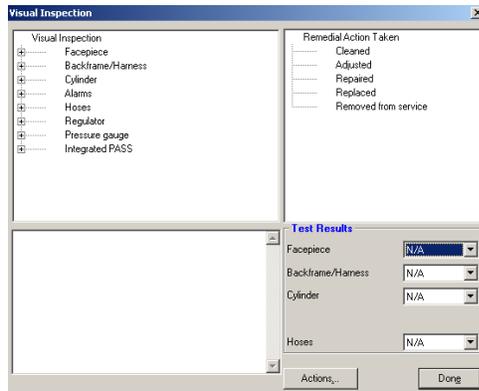
5. Select the tests that you would like to perform. For the purposes of this instructional manual, all tests will be performed. Click "Done" once the tests have been selected. The Enter customer data window will then be shown.



6. Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1. Press the OK button when you are ready to proceed. The visual inspection screen will then be shown. Since the visual inspection is

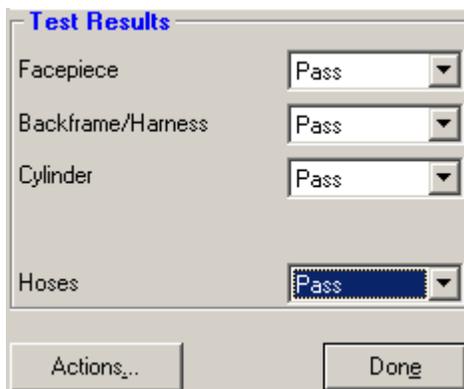
included in many different tests, it is covered in detail in section 3.11.

Note: The “Enter Customer Data” screen may be omitted by disabling the “Include Customer Information in Tests” option. See section 5.3.2.



Note: For further instruction on the Visual Inspection screen, see section 3.11.

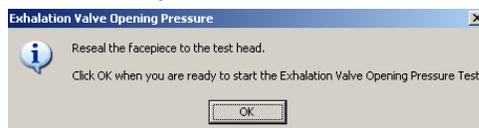
7. Perform the visual inspection and enter pass or fail as appropriate in the pull-down boxes underneath test results.



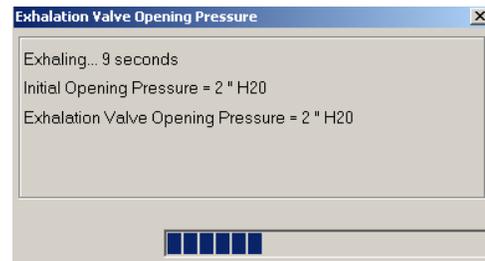
8. Once the visual inspection has been completed, press the “Done” button. The PosiChek software will then instruct you to break the facepiece seal and will then proceed with the Exhalation Valve Opening Pressure test.



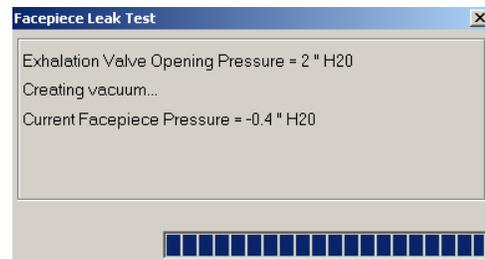
9. Break the facepiece seal and click OK. Do not reseal the facepiece until you are instructed to do so. The PosiChek will then instruct you to reseal the facepiece.



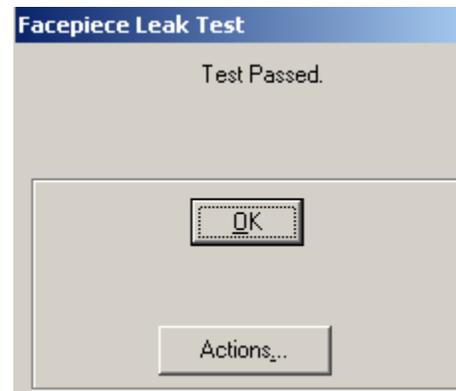
10. Click OK once the face piece has been resealed. The PosiChek will then proceed with the exhalation valve opening pressure test.



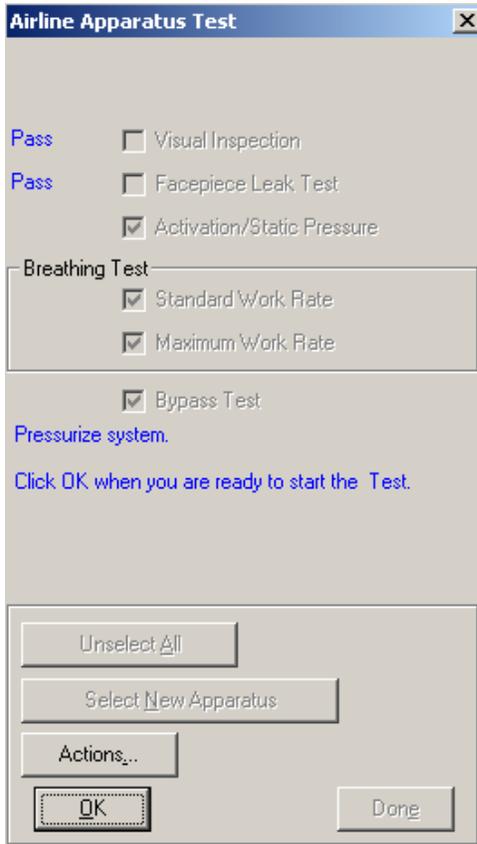
Once the PosiChek successfully completes the exhalation valve opening pressure test, it will proceed automatically to the facepiece leak test. If the test fails, you will be given the opportunity to retest.



Once the facepiece leak test is successfully completed, a window will tell you that the test has been passed.



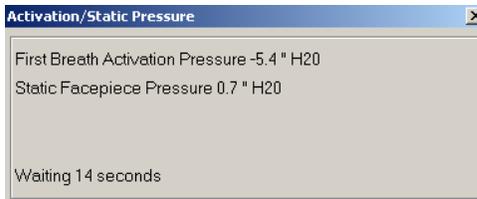
11. Click OK to continue. The PosiChek software will then show the Airline Apparatus test window and instruct you to pressurize the system.



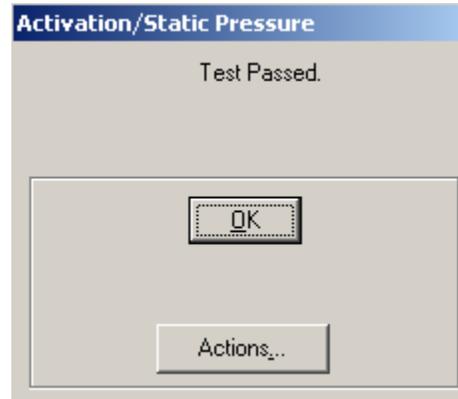
12. Click OK once the system has been pressurized. The PosiChek will then proceed with the first breath activation pressure test. If the apparatus is equipped with a first breath activation switch, you will be notified to engage it



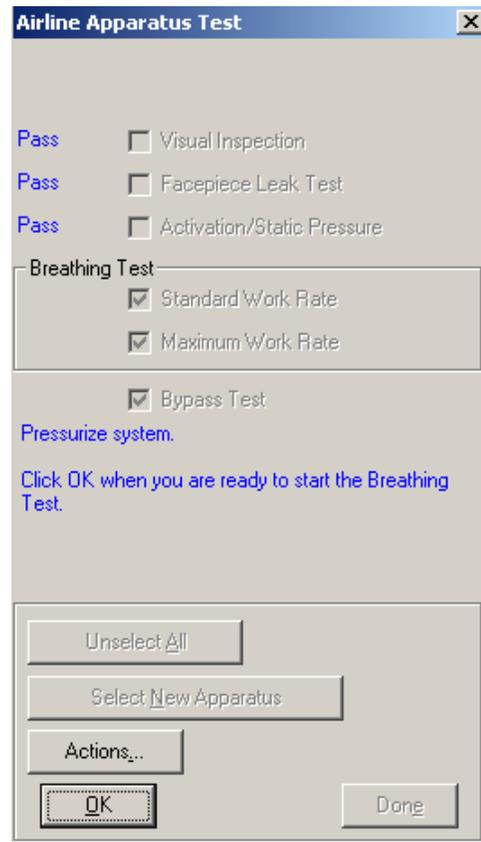
13. Engage the switch and press OK.



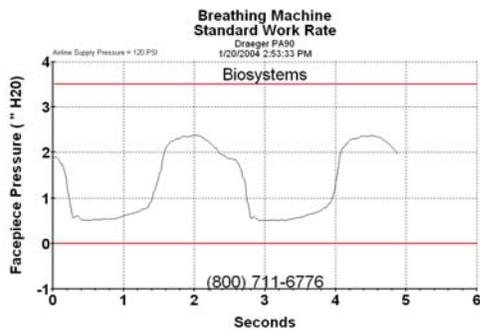
14. Once the test is completed, a window will appear indicating that the test was passed. If the test is failed, you will be given the opportunity to retest.



15. Click OK to continue. The PosiChek will then show the Airline Apparatus test window and instruct you to pressurize the system.



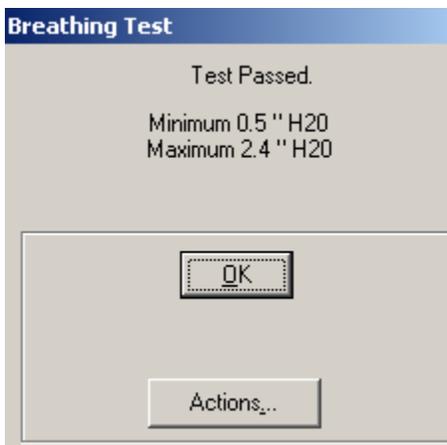
16. Click OK once the system is pressurized. The PosiChek will immediately begin the standard work rate test.



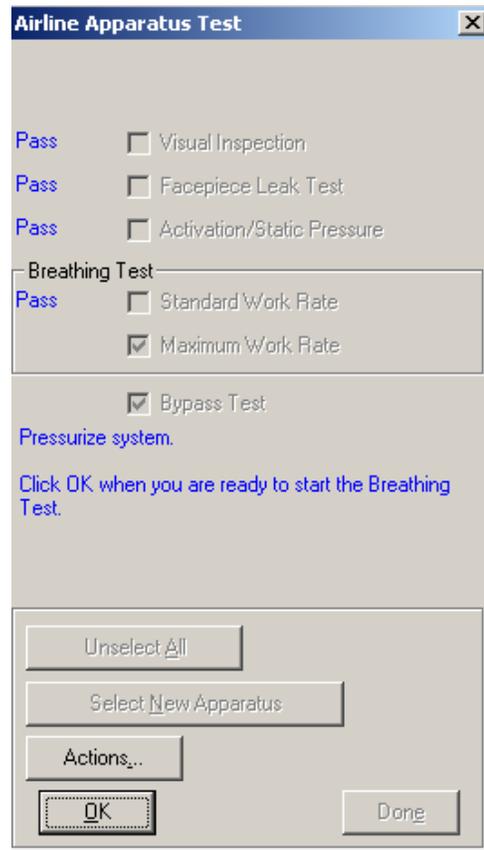
Upon completion of the test, the breathing complete window will be shown along.



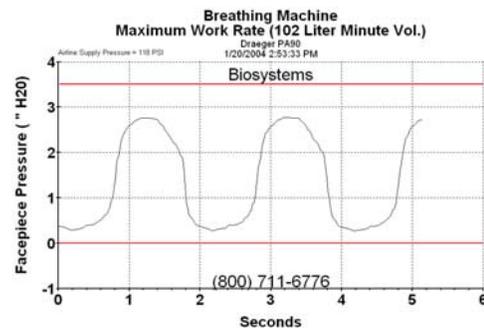
17. Press OK to continue. The results of the test will be shown.



18. Click OK to continue. You will be instructed to pressurize the system.



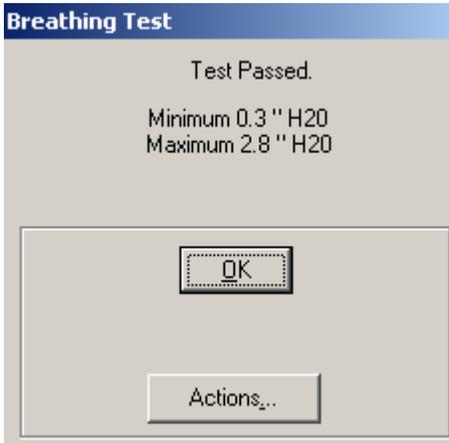
19. Click OK once the system has been pressurized. The PosiChek will immediately begin the max work rate test.



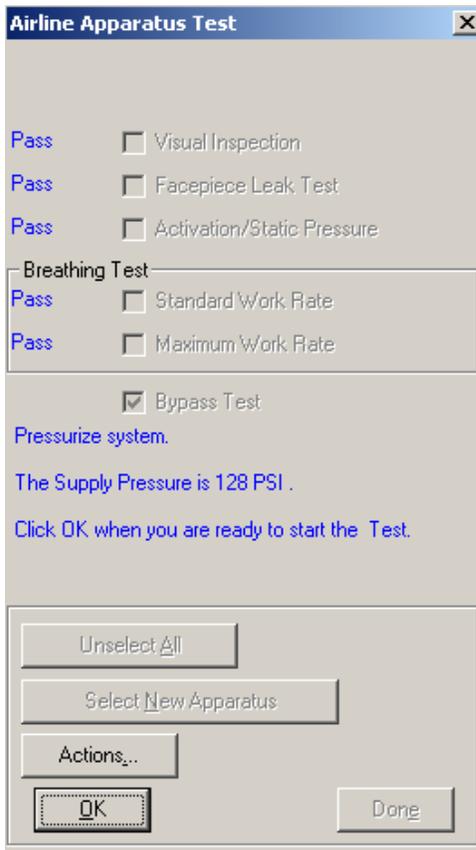
At the completion of the Breathing Machine test, a window will be shown indicating that the breathing is complete.



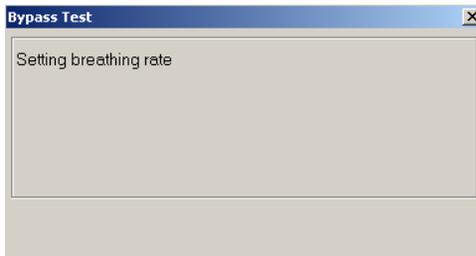
20. Click OK to continue. The test passed window will be shown along with the minimum and maximum pressure readings for the test.



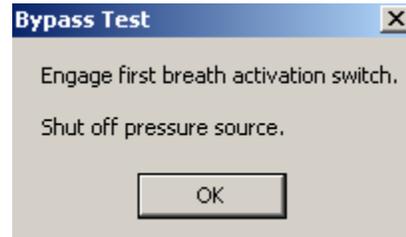
21. Click OK to continue. You will be instructed to pressurize the system for the last time.



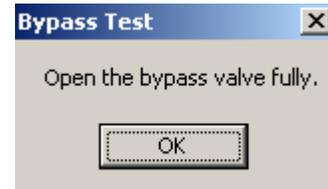
22. Click OK once the system is pressurized. The PosiChek will briefly indicate that it is setting the breathing rate.



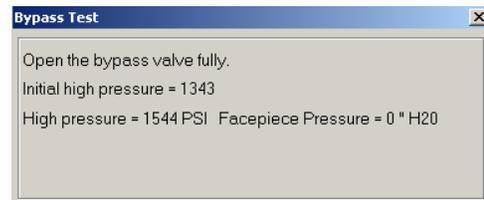
23. If the apparatus has a first breath activation switch as defined in the Apparatus settings, you will be instructed to engage it and to shut off the pressure source.



24. Click OK. You will then be instructed to open the bypass valve fully.

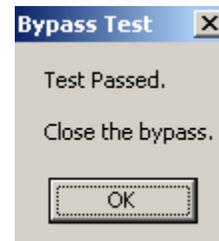


25. Open the bypass valve fully and click OK.

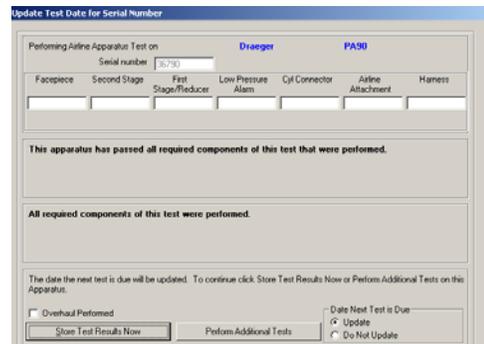


Once the bypass valve has been opened, the PosiChek will display the facepiece pressure.

Upon successful completion of the test, you will be instructed to close the bypass valve



26. Click OK once the bypass valve has been closed. The test is now complete. The update test data screen will then be shown.



For instructions on completing tests, proceed to section 3.12

For information on viewing, printing and storing data after a test has been completed, proceed to section 6.1.

3.9 Facepiece Test

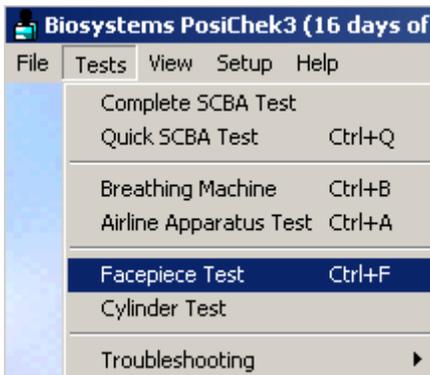
The Facepiece Test includes visual inspection of the facepiece, facepiece leakage test, exhalation valve opening pressure test and an optional breathing test.

3.9.1 PosiChek – BA Connection for the Facepiece Test

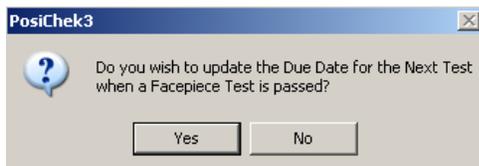
During the Facepiece Test, only facepiece pressures are measured, so it is not necessary (and it may be impossible) to connect the BA to the high pressure transducer inlet. Simply seal the fully assembled BA's facepiece onto the PosiChek's head (which must be correctly attached to the PosiChek) and begin the test.

Note: The facepiece seal may be tested without being attached to the remainder of the BA by slipping the facepiece only over the PosiChek's head and completely blocking the regulator hose or the facepiece inlet.

3.9.2 Conducting the Facepiece Test

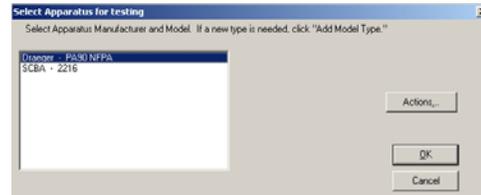


The software will ask if you'd like to update the due date for the next Facepiece Test.



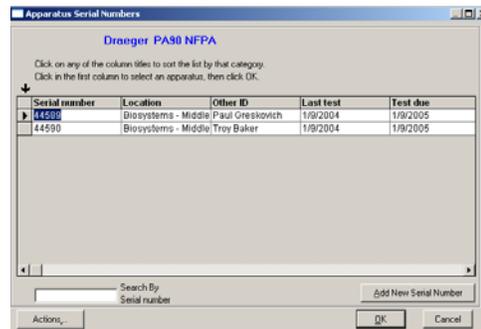
Click yes to update the due date. If you do not plan to track facepiece testing data independently of other tests, click No.

The "Select Apparatus for Testing" screen will then be shown. If the BA model is shown in the list, select it by clicking on it and then press OK.

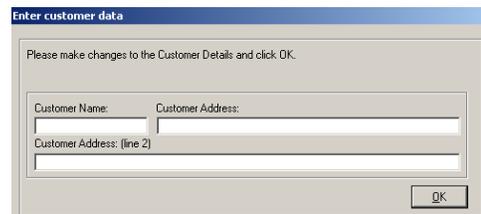


Note: If the BA is not shown in the list, proceed to section 5.1.1 for instructions on adding a new apparatus type.

The Apparatus Serial Number screen will then be shown. Select the apparatus to be tested and press OK.

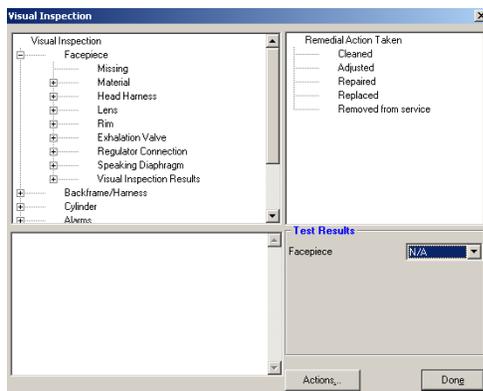


Note: If the serial number is not shown see section 5.1.2 for instructions on adding an apparatus to the database.



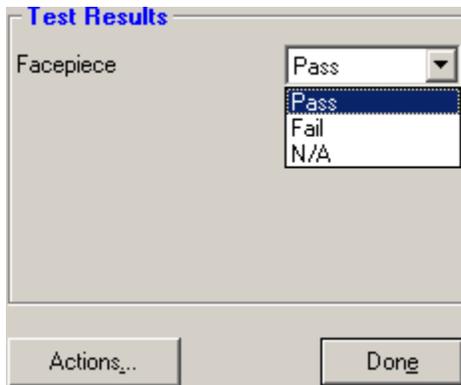
Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1. Press the OK button when you are ready to proceed. The visual inspection screen will then be shown. Since the visual inspection is included in many different tests, it is covered in detail in section 3.1.1.

Note: The "Enter Customer Data" screen may be omitted by disabling the "Include Customer Information in Tests" option. See section 5.3.2.



Note: For further instruction on the Visual Inspection screen, see section 3.11.

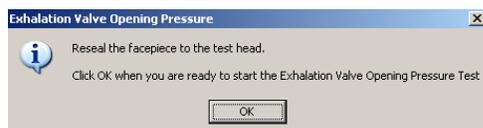
Perform the visual inspection and enter pass or fail as appropriate in the pull-down box underneath test results.



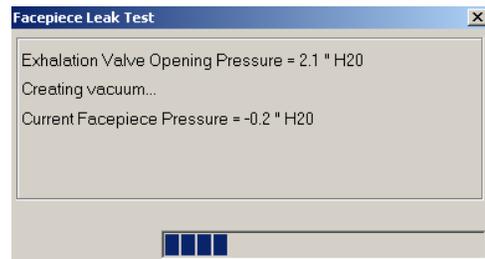
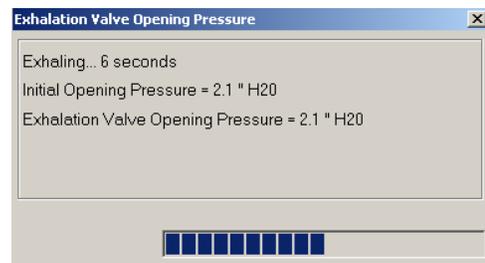
Once the visual inspection has been completed, press the “Done” button. The PosiChek software will then instruct you to break the facepiece seal. Do not reseal the facepiece until you are instructed to do so.



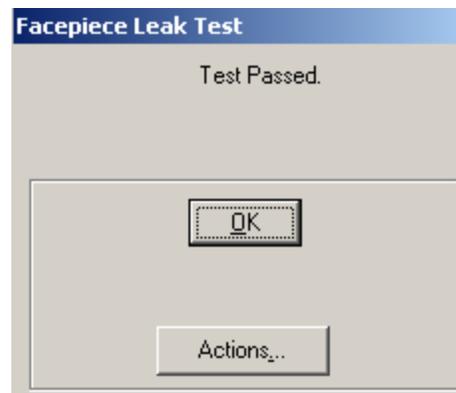
Press the OK Button once the seal is broken.



Reseal the facepiece and press OK. The PosiChek will then proceed through the Exhalation Valve Opening Pressure test and the Facepiece Leak Test.



Upon successful completion of the tests, Test Passed will be shown. Press OK. If the tests fail, a window will be shown stating “Unable to create vacuum” and a retry option will be given.



Press OK to continue. The View Test Results screen will then be shown.

After the facepiece leak test is performed, it is recommended that you perform a breathing test to challenge the exhalation valve under actual working conditions. The software will prompt for whether you'd like to perform a breathing test. To proceed with the breathing test, pressurize the system and then click "Yes". If the facepiece is rated for maximum rate breathing tests a maximum rate test will be performed. Otherwise a standard rate test will be performed.

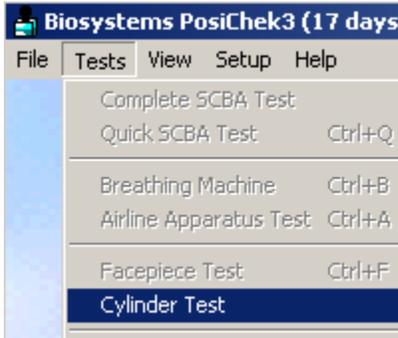
For instructions on completing tests, proceed to section 3.12

For information on viewing, printing and storing data after a test has been completed, proceed to section 6.1.

3.10 Cylinder Test

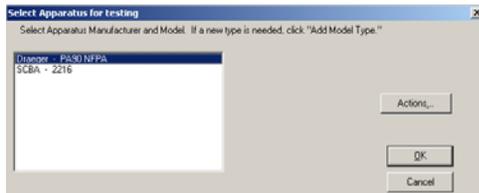
The cylinder test includes a visual inspection of the air cylinder and the ability to track hydrostatic tests. The Cylinder Test performs no actual quantitative tests, but is simply used to store hydrostatic test data and the record of visual inspections.

To initiate the cylinder test, click on Tests at the Menu Bar, followed by Cylinder Test.



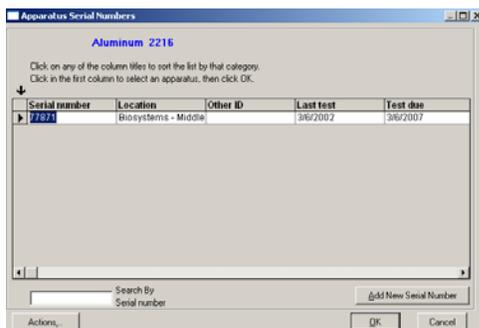
If the cylinder model is shown in the list, select it by clicking on it and then press OK. New apparatus may be added by right clicking on the screen and then selecting "Add Model Type". The apparatus serial number screen will then be shown, which includes all cylinders of the given type and are arranged by serial number.

Note: Brand-specific software versions include all apparatus information, so the Actions button does not include the option to add apparatus information.



Select the appropriate cylinder type and press OK.

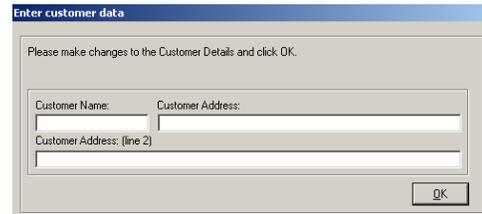
You will then be prompted to select the serial number of the cylinder.



Note: If the serial number is not shown, it will need to be added to the database. See section

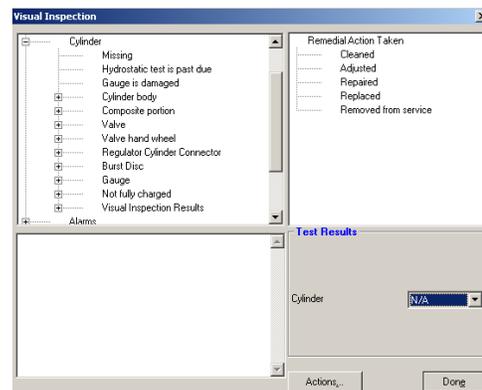
5.1.2 for instructions on adding an apparatus to the database.

Select the serial number and press OK. The "Enter Customer Data" screen will then be shown:



Customer data may be added at the discretion of the user and is not necessary for proper testing. This information may help you to locate specific data in the future through the View Test Results option as discussed in section 6.1. Press the OK button when you are ready to proceed. The visual inspection screen will then be shown. Since the visual inspection is included in many different tests, it is covered in detail in section 3.11.

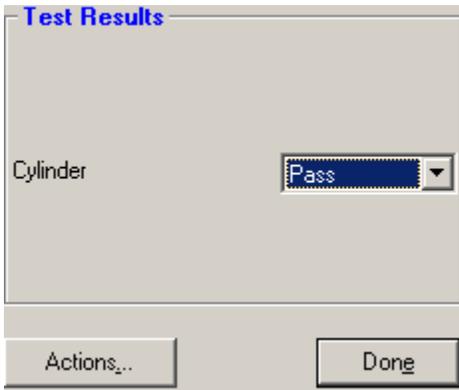
Note: The "Enter Customer Data" screen may be omitted by disabling the "Include Customer Information in Tests" option. See section 5.3.2.



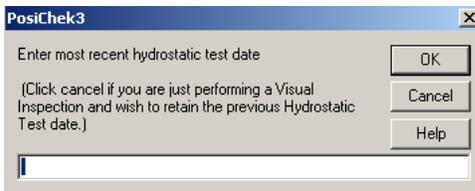
Note that the cylinder inspection section is already opened. The cylinder inspection includes an inspection of all aspects of the cylinder.

Note: For further instructions on the Visual Inspection screen, see section 3.11.

Once the visual inspection is complete, enter "Pass" in the test results section (as long as the cylinder passed the inspection).



Click on the “Done” button once the results of the visual inspection and test results are logged. You will then be prompted to enter the date of the most recent hydrostatic test of the cylinder.



Enter the date of the last hydrostatic test. The PosiChek software will accept dates in the following formats:

MM/DD/YY e.g. 03/06/04

MM-DD-YY e.g. 03-06-04

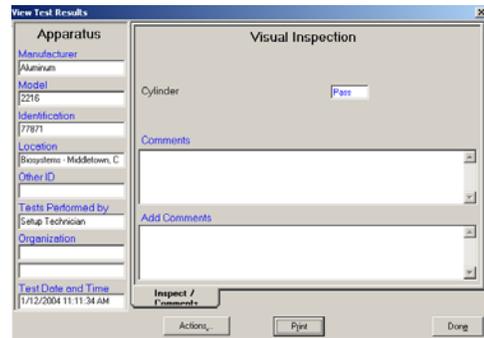
Month D, YYYY e.g. March 6, 2004

If a date is entered in an unacceptable format, the cursor will be returned to the text input line.

Click “OK” once the date has been entered. The PosiChek software will then prompt you as to whether the cylinder has been overhauled.



Click “Yes” or “No” as appropriate. The PosiChek software will then show the “View Test Results” screen.



Click “Done” to continue.

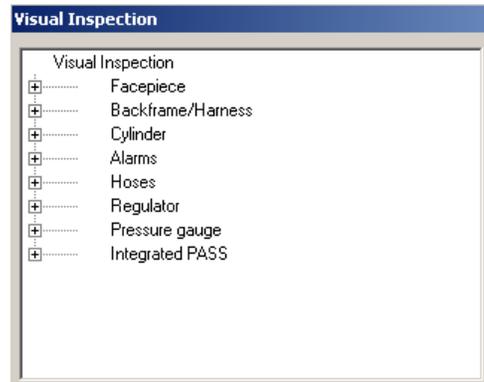
For instructions on completing tests, proceed to section 3.12

For information on viewing, printing and storing data after a test has been completed, proceed to section 6.1.

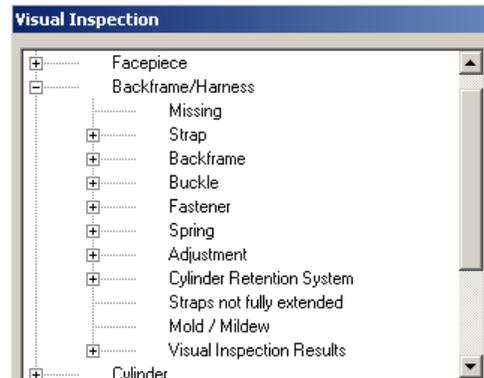
3.11 Visual Inspections

The Visual Inspection appears in many of the tests offered by the PosiChek. Any information added during the course of the Visual Inspection will be retained in the test record.

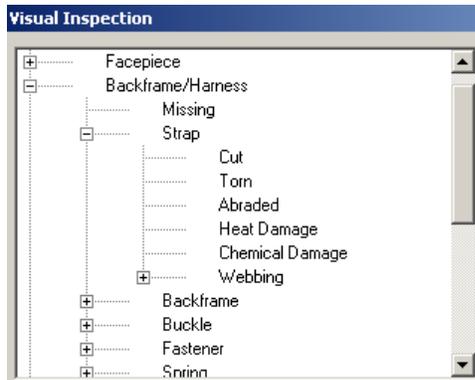
As an example, let’s say that upon visual inspection, an abraded strap is located in the SCBA harness, which is then replaced.



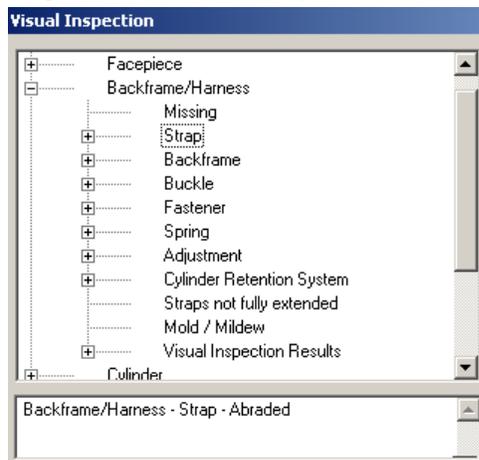
1. Click on Backframe/Harness. The + symbol will become a – symbol as the list opens.



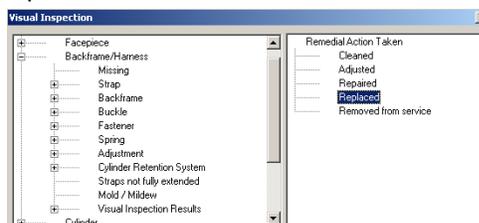
- Click on Strap. The + symbol will then become a – symbol as the list opens.



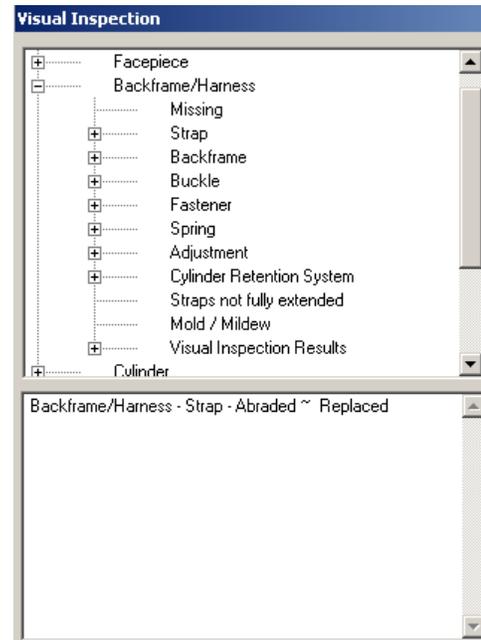
- Double-click on “Abraded”. Text will be added noting that an abraded strap was found.



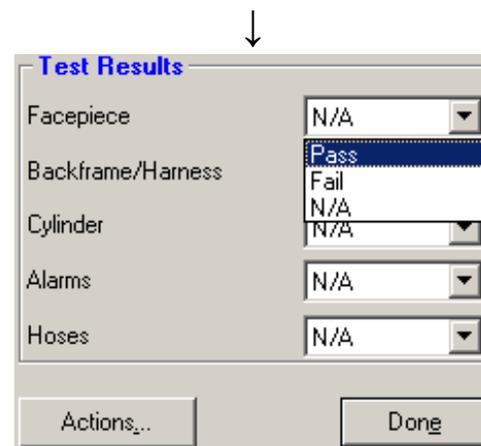
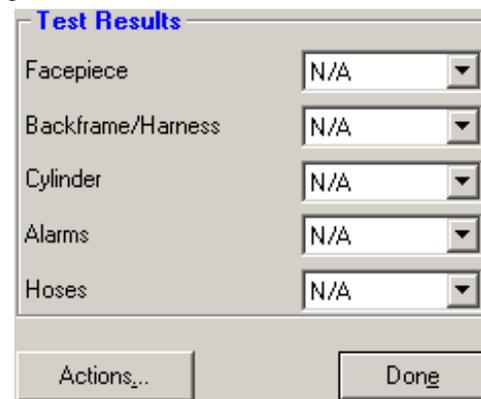
- Since the strap was replaced, go to the “Remedial Action Taken” window and click on “Replaced”.



“Replaced” will then be added after “Abraded” in the window at the lower left.



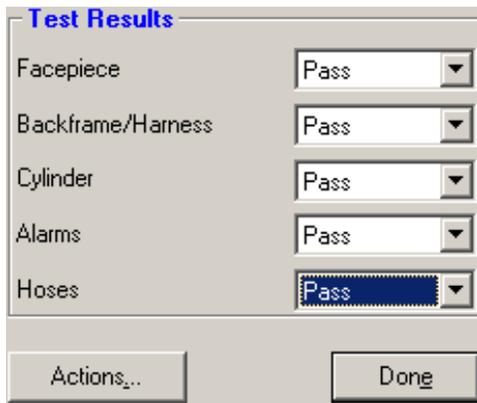
- Once the visual inspection is complete, enter Pass or Fail in the “Test Results” at the lower right.



- Once Pass or Fail has been entered for each item, press Done.

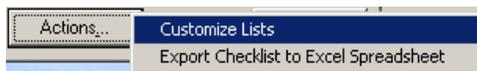
Note: To accelerate this process, once a Pass/Fail input box is selected, press “p” to

enter “pass” and automatically shift the focus to the next input box.



3.11.1 Adding visual inspection items

To add an item to the Visual Inspection list, click on the “Actions” button and select “Customize Lists.”

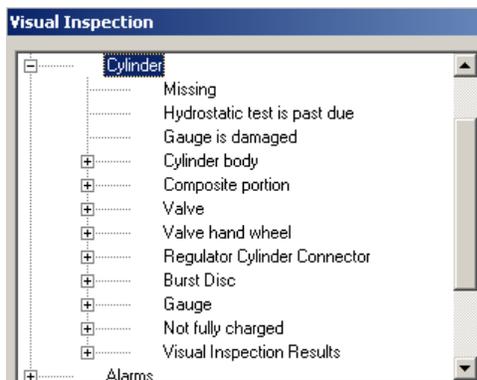


The customize lists options will then appear over the bottom half of the screen.

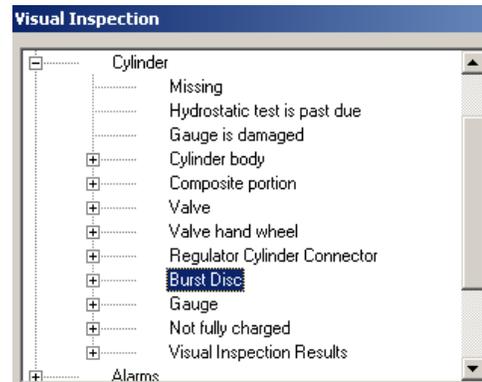


As an example, we will add a “Cylinder Protector Sleeve” option under the cylinder inspection list.

Click on cylinder so that the cylinder options are shown.



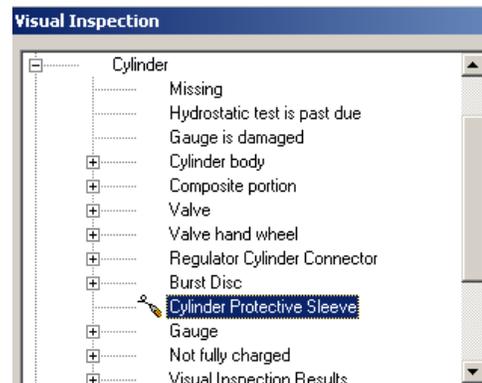
Click on the option that should be positioned above the new entry. In this case, “Cylinder Protector Sleeve” will be located between “Burst Disc” and “Gauge”.



Press the Add button at the bottom.



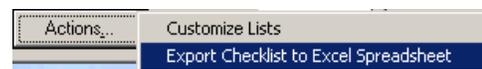
Type the new entry into the highlighted box and press “Enter”. The new item will then appear in the list.



If the new entry is in the wrong location, the “Indent”, “Outdent”, “Up” and “Down” commands are used to move the entry. Click “Done” once the entry is properly positioned.

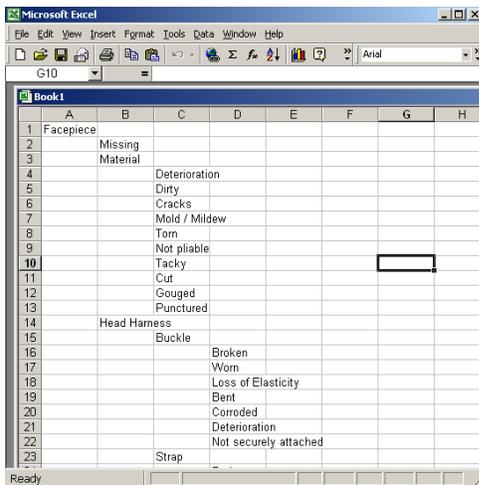
3.11.2 Export Checklist to Excel

To export the checklist to Excel, click on the “Actions” button and select “Export Checklist..”



MS Excel will be automatically opened on your PC.

Note: Your PC must be equipped with Microsoft Excel to use this function.

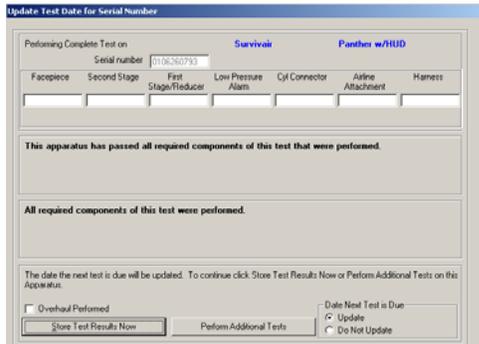


Data added in the course of a visual inspection will not be carried into the Excel Spreadsheet. Only the checklist itself will be copied into Excel.

Results are saved into the open database and may be accessed using View / Results (see section 6.1) or by the File / Export command (See section 4.6). The spreadsheet is only available to be printed and used as a checklist.

3.12 Completing tests

Once a test is completed, a test results screen will be shown.



Note: Screen pictures in this section may be slightly different depending on the test that was performed.

The software automatically notes any tests that were either failed or not performed in the two boxes underneath the component serial numbers. If any tests were failed, this will be your last chance to retest before storing the data. To return to testing, click on "Perform Additional Tests".

Click "Store Test Results Now" or "Perform Additional Tests" as needed.

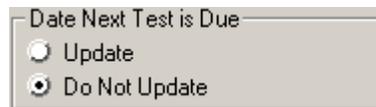
Note: If you are tracking individual BA components, and any of the components have been replaced in order to pass the test, the serial number for the new component should be entered in the input box below the component.

At the lower right corner of the screen there may be an option to update or not update the date the next test is due.

If all of the required tests have been successfully passed for a Complete SCBA test or an Airline Apparatus test, the option will default to "Update" the due date. Select "Do Not Update" if you do not wish to update the due date.



If all the required tests that were performed were passed, but you did not perform all of the required tests, the option will default to "Do Not Update" the due date. Select "Update" if you wish to update the due date without passing all of the required tests.



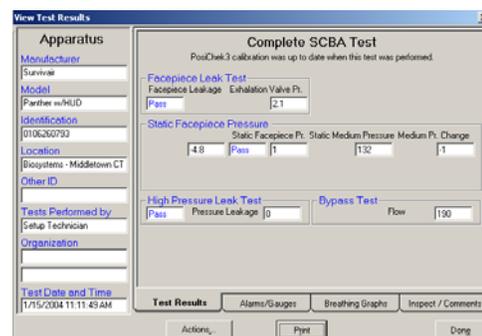
Note: The test record will show that required tests were bypassed if the test due date is updated while the BA has not passed all of the required tests.

If required tests failed, you will not be given the option to update the due date.

Section 5.3.2.1.1 covers modifications to the list of required tests for the Complete SCBA Test and Airline Apparatus Test.

To store the test results in the database that you selected earlier, click on the "Store Test Results Now" button. The results of the tests will then be displayed.

Once "Store Test Results Now" is selected, the "View Test Results" screen will be shown.



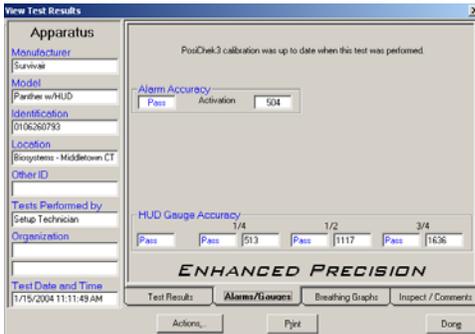
The View Test Results screen contains all of the data that was generated during testing. Specific Data can be accessed by clicking on one of the tabs at the bottom of the screen. The time and date of the test are shown at lower left



To print a comprehensive report of this SCBA test, click on the “Print” button.

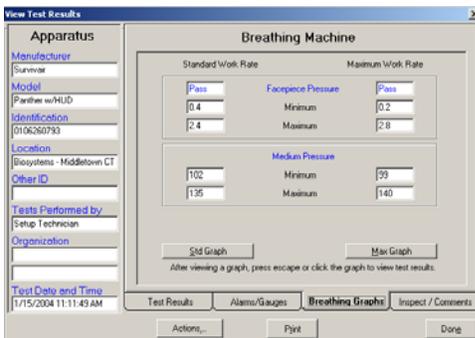
3.12.1 Alarms/Gauges

The Alarms/Gauges tab contains test results on alarm and gauge accuracy. The HUD test results also appear here.

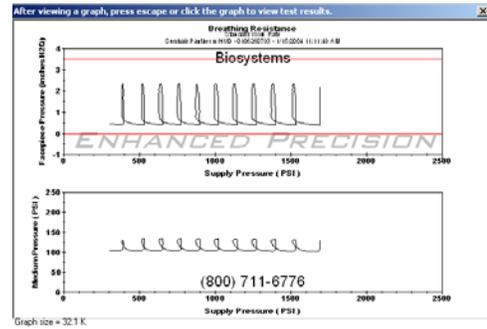
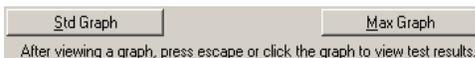


3.12.2 View breathing graphs

If the test that was performed involved a breathing machine or breathing resistance test, a “Breathing Graphs” option will be shown in the View Test Results screen. To view Breathing Graphs, click on the Breathing Graphs tab. The results of the Breathing Resistance tests will then be displayed.



To view a graph of the breathing machine or breathing resistance test click on the Std Graph button or the Max Graph button and the appropriate graph will be shown.

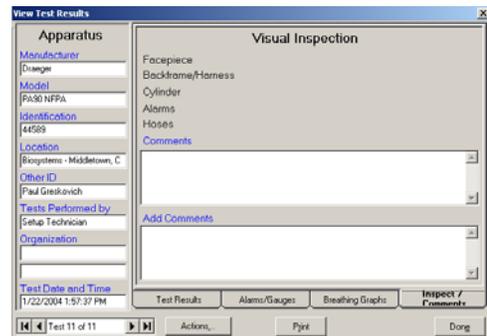


If both the standard and maximum work rate tests were performed, the right and left arrow keys may be used to toggle between the two graphs.

Click anywhere on the graph to return to the View Results screen.

3.12.3 Enter comments

To add comments into the database after testing is complete, from the View Test Results Screen, click on the Inspect/Comments tab.



Enter comments as needed in the “Add Comments” field. All comments will be stored with the date, time and name of the person logged into the system.

3.12.4 Concluding the test

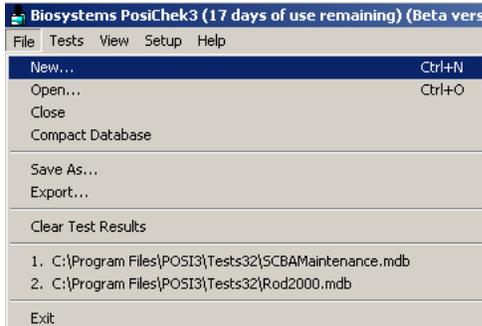
Once you have finished viewing and printing test results, press the Done button. At this point, you may be given the option to select another apparatus for testing. Click Done to end the testing or to move on to another type of test.

4. File Menu / Database Options

The File Menu contains all database controls.

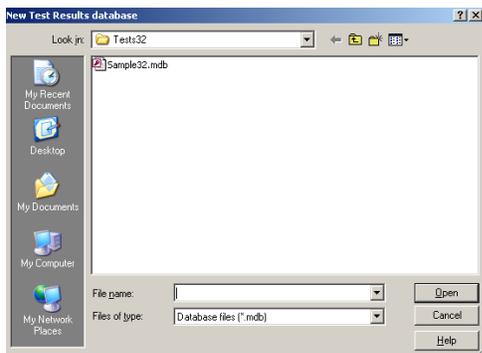
4.1 Create new database

From the File Menu, select New.



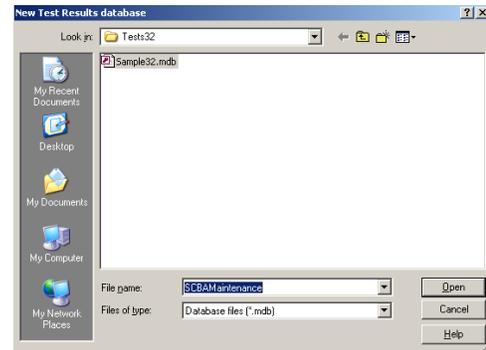
By selecting “New”, you are instructing the software to create a new database. All you have to do is provide a name for it. The “New Test Results database” screen will be shown.

A sample database named Sample32.mdb is included with all PosiChek software. Sample32.mdb is a read-only file and will not accept test results.



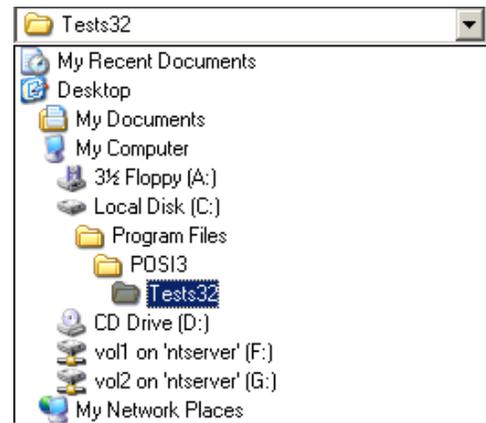
Note: The Database file(s) shown in “New Tests Results database” window may not be opened through the File / New command. To open an existing database you must use the File / Open command. See section 4.2 below for details.

Type the name of the new database into the input box next to File name. In the example below, we’ve named the database “SCBAMaintenance”, and the software has created a new database named “**SCBAMaintenance.mdb**”. The .mdb extension is added by the PC and signifies that this is a Microsoft Access database file.

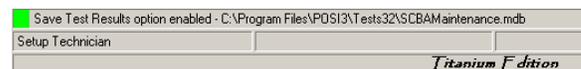


Press the Open button once the new database name has been entered. The database will then appear in the file.

Note: To save the new database to a different folder, use the browse function by clicking on the down arrow at the right edge of the input box that shows “Tests 32” and specify the new location.



The database that is currently open is always shown in the upper status bar at the bottom of the screen.

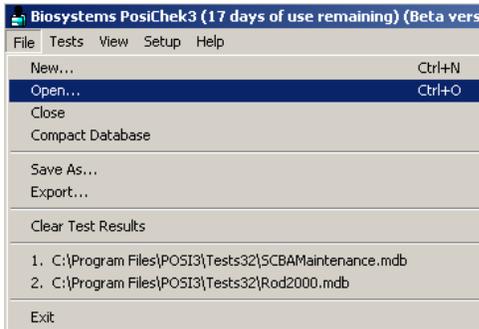


4.2 Open existing database

When opening an existing database, the PosiChek software always verifies that the database is in the format required by the PosiChek software. Databases may need to be updated prior to opening if the PosiChek software has been recently updated.

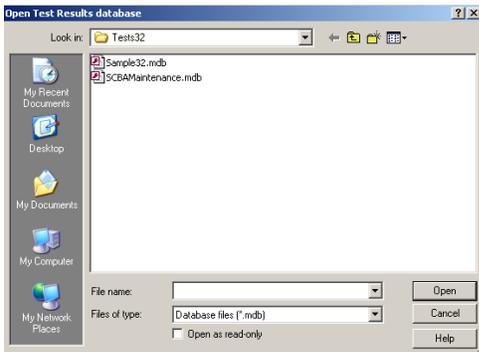
To open an existing database:

1. From the File menu select Open.



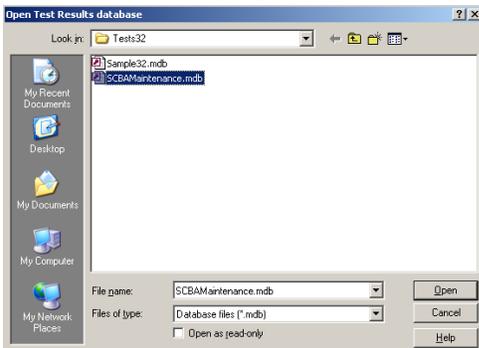
1. The Open Test Results database screen will then be shown. The PosiChek software will automatically open the Test32 folder, which is the default directory for database files.

If the database is located in a different directory, you will need to locate it by navigating to it. Click on the arrow at the left edge of the "Look in" input box and specify the new location.



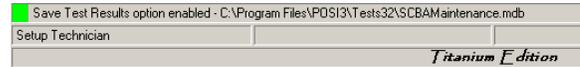
Note: A sample database named Sample32.mdb is included with all PosiChek software. Sample32.mdb is a read-only file and will not accept test results.

1. Select the database to open. All test results in the current operating session will then be stored in this database until it is closed and another database is opened.



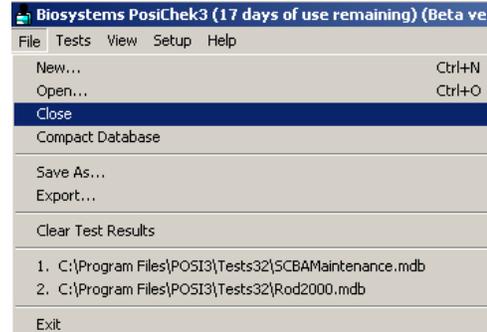
2. Click "Open".

The database that is currently open is always shown in the upper status bar at the bottom of the screen.

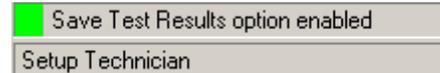


4.3 Close database

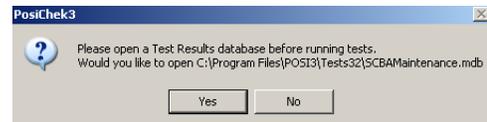
To close a database, select "Close" from the File Menu.



Once a database has been closed, the uppermost status bar will show Test Results option enabled or disabled (depending on the setting).



Note: A database must be opened before any tests can be conducted. If a test is initiated without an open database, the PosiChek software will prompt you to open the last database that was open.

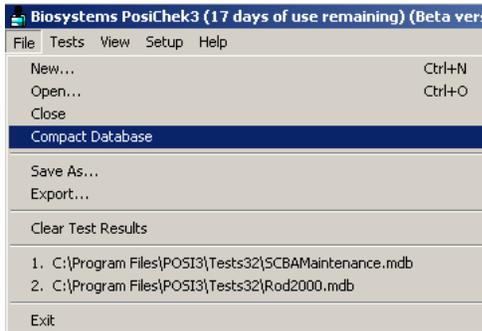


4.4 Compact database

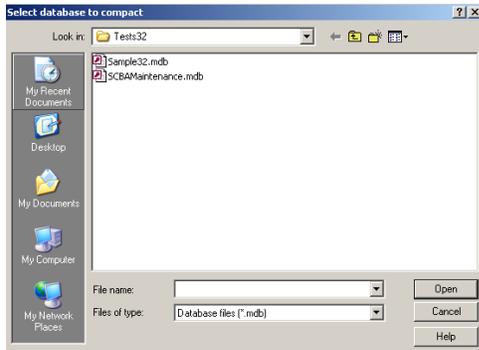
The compact database command will shrink the size of the database. Although the database will be smaller, it will still be accessible for information and may still be used as the active database for information storage.

The Compact Database command will sometimes repair a damaged database. Unless tests or apparatus have been deleted from the database, the compact database command will not affect the size of the database.

Select Compact Database from the File Menu.

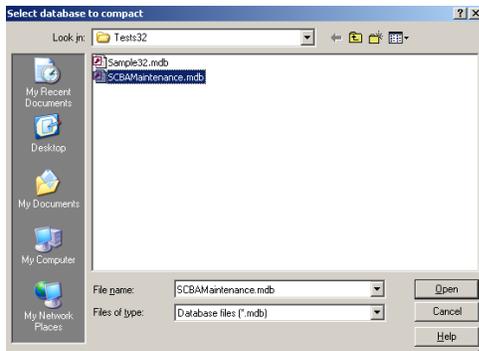


The PosiChek software will prompt you for the name of the database that you would like to compact.

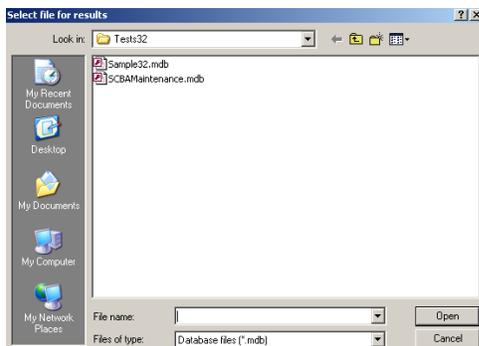


Select the database that you would like to compact.

Unlike most options in the File Menu, the Compact Database command does not require a database to be open.



Click Open once the database has been selected. The PosiChek software will then prompt you to select a file for the results of the compaction.



Either select an existing file or create a new database file by typing the name of the new database into the input box next to File name. For the purpose of this example, a new file named “CompactedSCBAMaintenance” will be created for the results of the compaction.

Note: If an existing database file is selected, the PosiChek software will clear the selected database of any existing data and then save the compacted file as the same name.

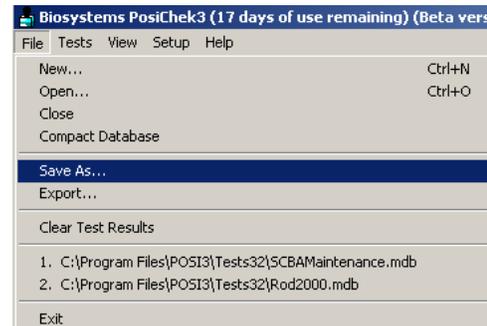


Click Open once the results database has been named. The PosiChek software will then compact the database and save the results to the specified file.

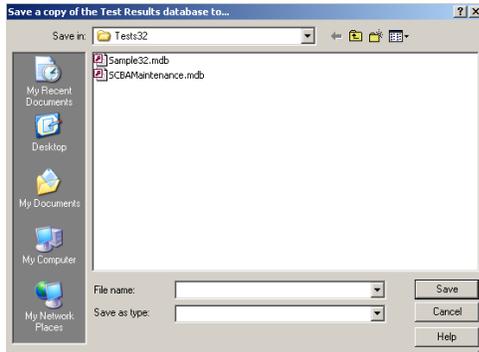
4.5 Save database as

The “Save As” command from the File Menu allows the user to save a secondary copy of the database that is currently open.

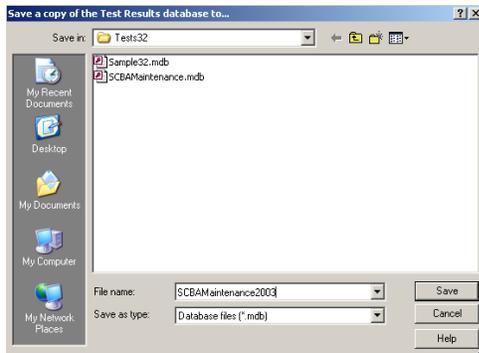
1. Click “Save As” from the File Menu.



The Save dialog box will then be shown.

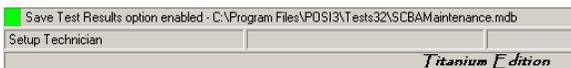


Enter the file location for the database copy. Name the new database file by typing the name into the File name input box. For the purpose of this example, the file has been named SCBAMaintenance2003 (since it contains all tests conducted in 2003).



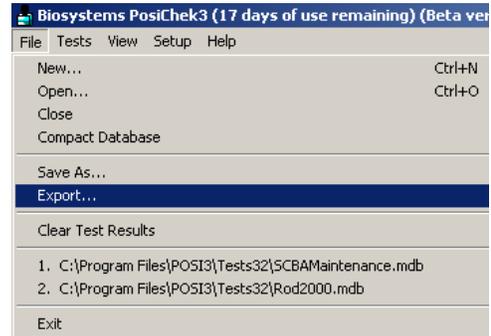
Click "Save" to save the copy of the database.

Note: The database that was open when the Save As command was initiated will still be the open database after the Save As command has been executed. The database that is currently open is always shown in the uppermost status bar at the bottom of the screen.

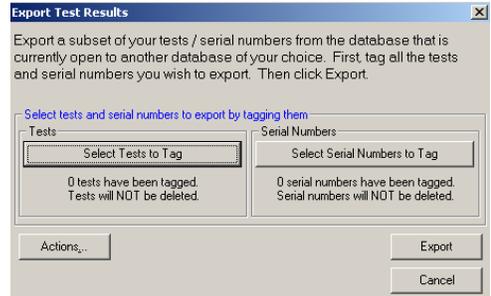


4.6 Export data

The Export menu option allows the user to export specific test or apparatus data from any of the database files to either a new database file or an existing database file. Select Export from the File Menu.



The Export Test Results window will be shown.

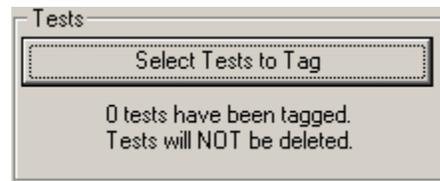


Tests and apparatus must be tagged before they can be exported. The software will prompt you to either select tests to tag (for export) or to select serial numbers to tag (for export).

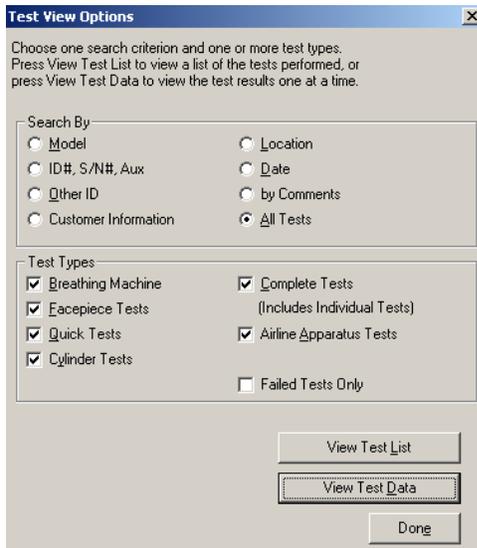
For instructions concerning exporting specific tests, proceed to section 4.6.1. For instructions concerning importing serial number information proceed to section 4.6.2.

4.6.1 Export from Select Tests option

To select specific tests for export, click on the "Select Tests to Tag" button.



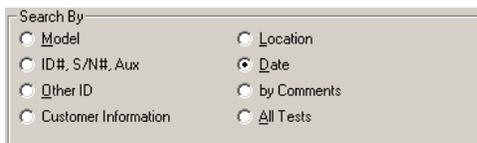
The Test View Options screen will then be shown. Note that "0 tests have been tagged". Tests must be tagged before test data can be exported.



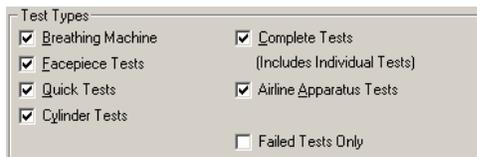
The Test View Options screen initiates a search query that will help the user to locate specific tests for export. The Test View Options screen is divided into two sections.

The “Search By” section includes a number of options (radio buttons) that help to define the database query that will be used to narrow the search. Only one option in the “Search By” section can be selected at a time.

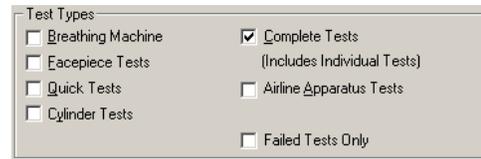
As an example, if you know want to export specific data from test results that were performed on a certain date or dates, click on Date.



Once the Search By selection has been made, move down the screen to the “Test Types” section. Unlike the “Search By” section, multiple items can be selected simultaneously in the “Test Type” section. The Test Type default setting has every box highlighted except “Failed Tests Only”.

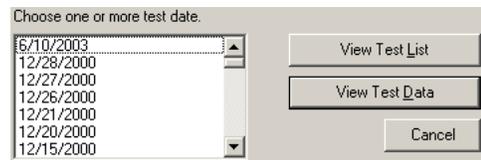


To narrow down the test results, select only the type of test(s) that you would like to export. As an example, if you want to export data from a Complete Test, then select the Complete Tests option and deselect all other tests.



For the purposes of this example, we’ve now created a query that will search the database for all Complete SCBA Tests and list them by Date.

Once the query has been defined (by making selections in the Search By and Test Type option boxes), click on View Test List or View Test Data to run the query. Since the “Search By” options was defined by date, you will be prompted to select the date of the test(s). If you’ve selected an option other than date, then the corresponding selection option will be given.



Select the date(s) of the tests that you would like to view. To select multiple dates, hold the Ctrl (control) key down while you click.



In the example, the date 6/10/2003 has been selected, so the database query that will show us all Complete Tests that took place on 6/10/2003.

To view the tests in the form of a list, click on View Test List and proceed to section 4.6.1.1 below.



To view the tests in the form of the original graphic records, click on View Test data and proceed to section 4.6.1.2 below.



4.6.1.1 Select tests to export from View Test List option

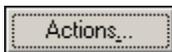
Once the View Test List button is pressed, the data generated by the search query will be shown as a list. If no tests meet the search criteria, then the PosiChek software will indicate that no records were found.

Test Types	Organization (line 1):	Manufacturer	Model/Serial number	Location	Other ID	PF	Tagged
C	Sure-Flo Inc.	MSA	Ultral N0108577	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0173216	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0017080	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0327048	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0223565	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0162051	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0023160	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0052150	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0196052	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	401 AC045181	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	401 AC006283	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0055144	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0154255	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral QK155073	Olade Hill		Pa	
C	Sure-Flo Inc.	MSA	Ultral NF034043	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0285328	Oretha RI		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0306074	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral QM307176	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	401 AB302108	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral T0318039	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0286092	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0067496	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0285379	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0283219	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0192128	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral NE240051	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	401 H08358	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0321223	Oretha RI		Pa	
C	Sure-Flo Inc.	MSA	Ultral TH245169	Oretha FC		Pa	

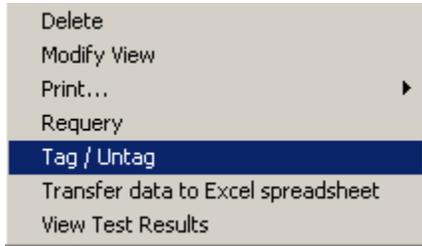
To tag a specific test for export, first select the test by clicking in the box to the left of the Test Types column for the appropriate test (row). To select multiple tests, hold the Ctrl (control) key down while you click.

Test Types	Organization (line 1):	Manufacturer	Model/Serial number	Location	Other ID	PF	Tagged
C	Sure-Flo Inc.	MSA	Ultral N0108577	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0173216	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0017080	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0327048	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0223565	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0162051	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0023160	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0052150	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0196052	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	401 AC045181	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	401 AC006283	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0055144	Blairs FD		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0154255	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral QK155073	Olade Hill		Pa	
C	Sure-Flo Inc.	MSA	Ultral NF034043	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0285328	Oretha RI		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0306074	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral QM307176	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	401 AB302108	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral T0318039	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0286092	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0067496	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0285379	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0283219	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0192128	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral NE240051	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	401 H08358	Oretha FC		Pa	
C	Sure-Flo Inc.	MSA	Ultral N0321223	Oretha RI		Pa	
C	Sure-Flo Inc.	MSA	Ultral TH245169	Oretha FC		Pa	

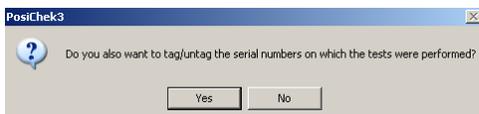
Once the test has been selected, then click on the Actions button at the bottom left to access the options listing.



Click on Tag / Untag to select (or deselect) the test for export.



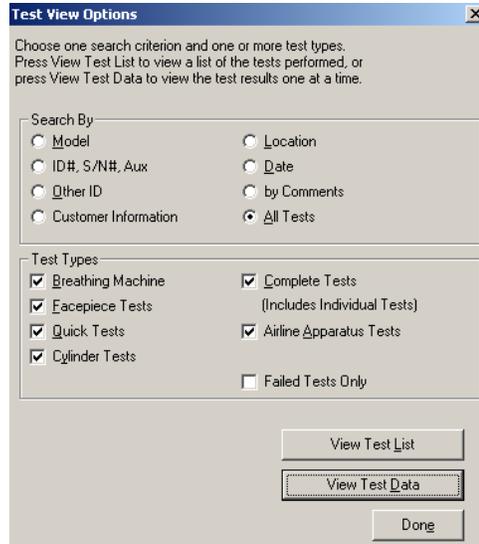
You will be prompted as to whether you'd like to tag the serial numbers on which the tests were performed.



Click Yes to select export the serial number information as well. Click No to export this/these tests only. Once items have been tagged, "TAGGED" will appear in the lower left hand corner of the window along with the number of records (or serial numbers).



Click "Done" to continue. The Test View Options screen will then be shown again. This will allow you to select additional tests for the export.



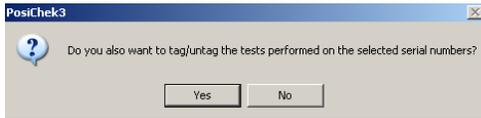
Select more tests as needed by following the instructions given above. Once all of the tests and serial numbers needed have been selected for export, click the "Done" button to return to the Export Test Results screen.

Proceed to section 4.6.3 for instructions on completing the export once tests and/or serial numbers have been tagged.

4.6.1.2 Export tests from View Test Data option

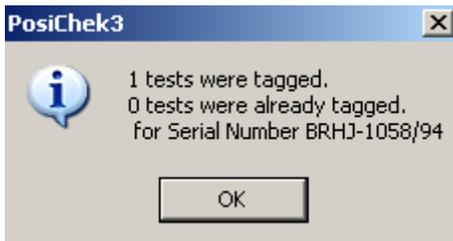
Once the View Test Data button is pressed, the data generated by the search query will be shown in the same form as when the tests were first conducted. If no tests meet the search criteria, then the PosiChek software will indicate that no records were found.

Once the apparatus has been selected, press the Done button. The software will prompt you as to whether you would like to tag/untag the tests performed on the specific serial number(s).

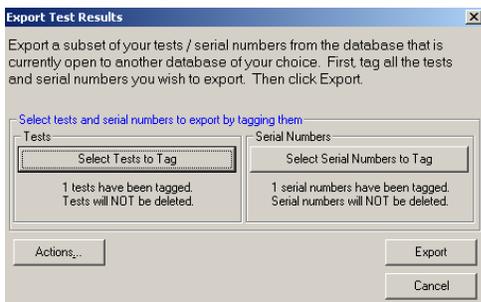


To tag the apparatus alone (no tests) select “No” when prompted by the software.

If you plan to export test results for the apparatus, select “Yes” to tag all tests for the specified serial number for export. The following screen will be shown for each serial number that is exported.



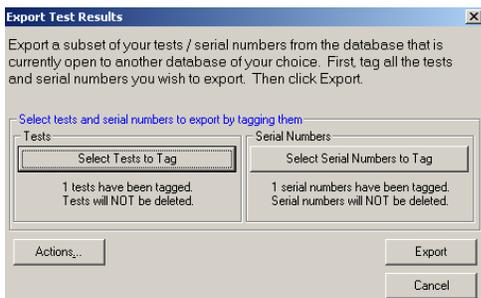
The Export Test Results screen will then be shown.



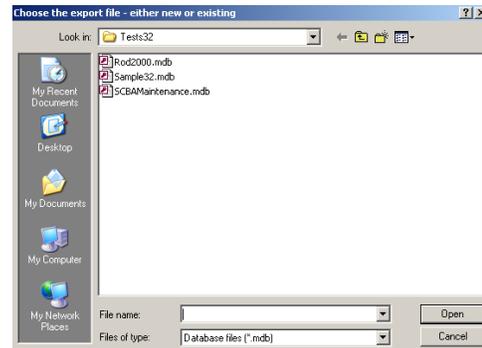
Proceed to section 4.6.3 for instructions on completing the export once tests and/or apparatus have been tagged.

4.6.3 Completing the Export

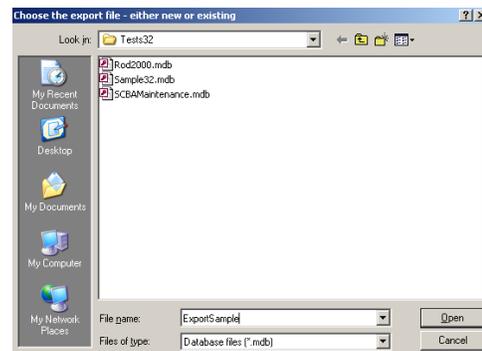
Once the necessary tests and apparatus have been selected, the software will return to the “Export Test Results” window.



Click Export to export the results that have been selected. A Save Dialog box will be shown.



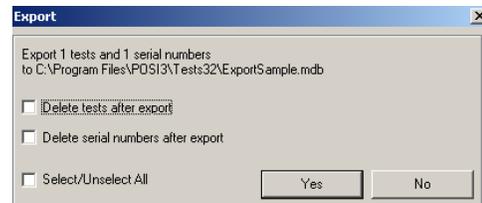
To save the export as a new file, enter the file name in the input box next to file name and click Open.



To export to an existing file, click on the file so that it is displayed in the input box next to File name and click Open.

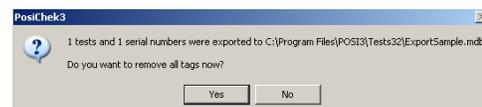
Note: If exporting to an existing file, the data will be added to the data that already exists in the file.

The software will then give you the option to delete serial number and/or test data following the export.



To delete the tests and/or serial numbers following the export of data, select the appropriate options at the left side of the window. To maintain the data, do not select any of the delete options.

Click YES to complete the export. You will then be prompted as to whether you’d like to remove the tags.



If you plan to export these tests to another file, click no and you will be returned to the main screen. You may enter the export procedure again and export the

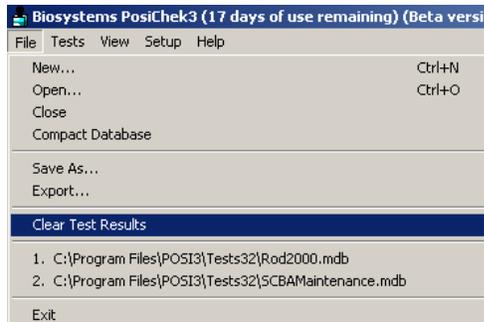
tests as needed. Click yes to remove tags and conclude the export.

The software will then close down.

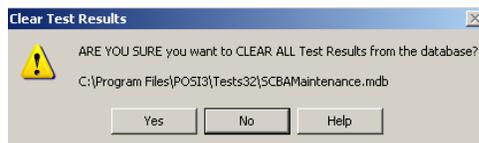
4.7 Clear test results

The Clear Test Results command allows the user to completely empty the database that is currently open, while leaving the database file itself intact to receive new data. For users who plan to archive tests, the Clear Test Results command should be used after the data from the file is either exported or saved to another file.

From the File Menu select Clear Test Results.



The software will immediately prompt you as to whether you are sure that you want to clear the test results from the specified database.

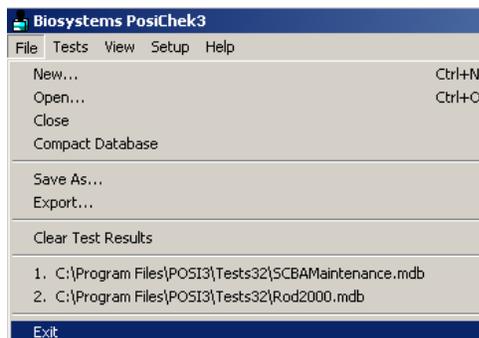


Click Yes to clear the database. Once the database has been cleared, the database will be empty, but considered open by the PosiChek software.

Note: Information that is cleared through the Clear Test Results option will not be retrievable from that particular database file, and may be lost entirely.

4.8 Exit

To close down the software, select Exit from the File menu.



5. Setup Menu / Apparatus and User Options

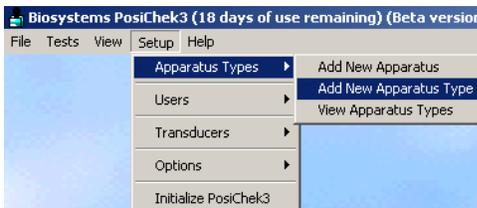
5.1 Apparatus Options

For record keeping purposes, each apparatus should be given a unique ID number. The serial number of the apparatus is usually a good choice since it is a unique identifier. The apparatus type (model) must be entered into the database before a new apparatus can be added. If the apparatus type (model) does not appear in the database, proceed to section 5.1.1. If the apparatus does appear in the database, proceed to section 5.1.2.

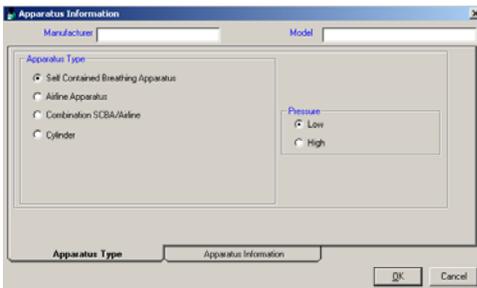
5.1.1 Adding a new apparatus type (model)

Note: Brand-specific (OEM) versions of PosiChek software include all model/apparatus type information and do not allow the user to modify model information or to add new models.

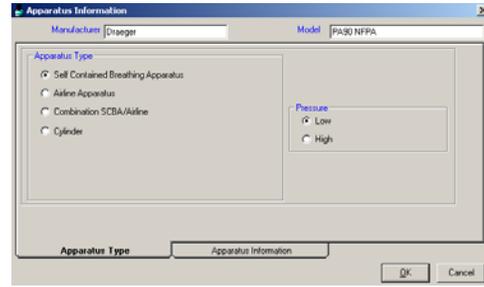
1. From the Setup Menu select Apparatus Type followed by Add New Apparatus Type.



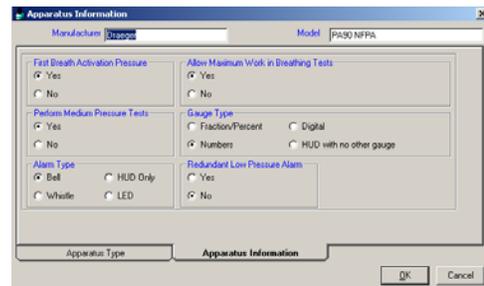
The Apparatus Information screen will be shown.



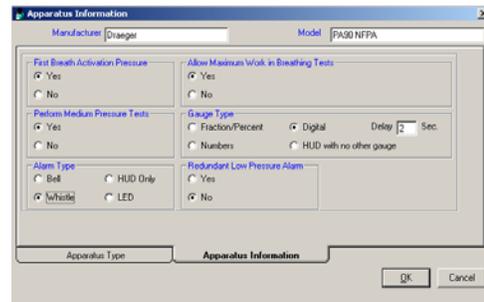
2. Select the apparatus type by clicking on Self Contained Breathing Apparatus, Airline Apparatus, Combination SCBA/Airline or Cylinder. Select high or low pressure. Then type the Manufacturer and Model names into the appropriate text boxes. As an example, the information for a Draeger PA90 NFPA Low Pressure SCBA has been entered.



3. Once all fields have been completed in this window, click on the apparatus information tab at the bottom of the window. The apparatus information tab will vary depending on the type of apparatus selected above in step 2.



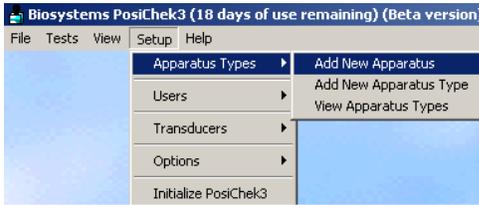
4. Fill in the information as appropriate for the BA.
Note: If you are unsure of any of the information that is required in the Apparatus Information window, contact your superior and/or the BA manufacturer for further instructions. Incorrect information about a BA may lead to incorrect tests and/or test data.



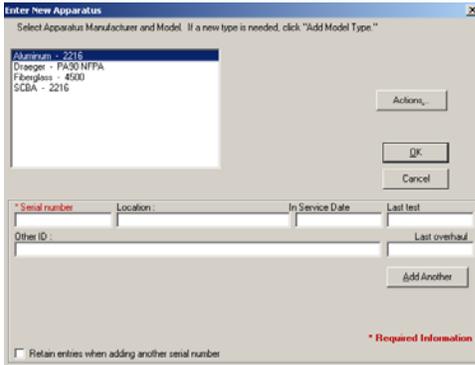
5. Press the OK button once the information has been correctly entered. The software will return to the Enter New Apparatus window. The new apparatus will then appear in the list that appears in the "Enter New Apparatus" screen.

5.1.2 Adding a new apparatus

1. From the Setup Menu select Apparatus Type followed by Add New Apparatus.

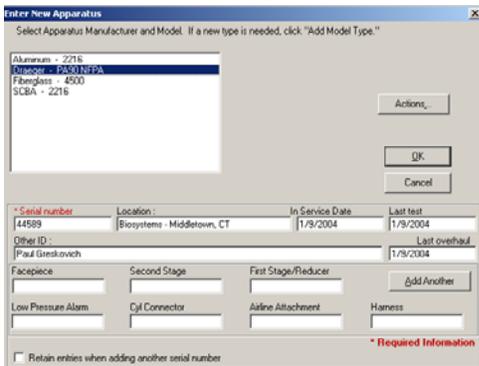


The Enter New Apparatus window will then be shown.



If this is the first launch of the generic software and no apparatus types have been added, the only apparatus shown will be generic models. The apparatus type (model) should be added prior to adding the specific apparatus information. Return to section 5.1.1 for instructions on adding an apparatus type.

2. Select the appropriate apparatus type and fill in the appropriate fields. If you plan to enter a series of similar apparatus, click on the check box at the lower left corner for "Retain entries when adding another serial number".



If you plan to track the individual components of the BA, the serial numbers for the components should be added in the appropriate fields at the bottom of the Enter New Apparatus screen. Section 5.3.2.2 below covers changing the field names, and whether the field names are shown in the Enter New Apparatus screen.

3. Click OK once the information has been added.

5.2 User Options

The PosiChek software requires a user to log on before it will grant access to database information and test functions. Passwords are used to open the PosiChek software and to log specific users into the system. Since the software requires a user to log in prior to running tests, the name of the person who logged in (with their password) is maintained with the test results.

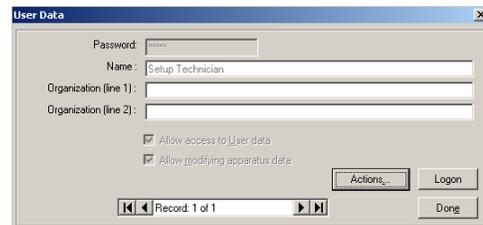
The software also includes provisions to limit access to user and apparatus data. The system administrator should set the user's system rights based on the users skill level and level of responsibility.

5.2.1 Adding a new user

1. From the Setup Menu select User / User List.



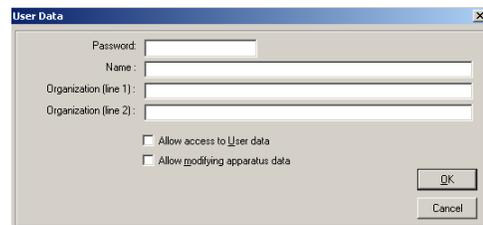
If this is the first launch of the software, or if no additional users have been entered, the name "Setup Technician" will be the only entry listed in the User Data screen.



2. Click on the "Actions" button. The Add, Change and Delete options will be shown.



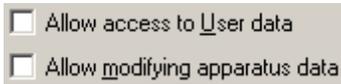
3. Click on Add. A blank user data screen will then be shown.



4. Fill in the fields as needed. The Name and Password fields must be completed.

Note: Personal information entered in the User Data window will appear on all printed reports

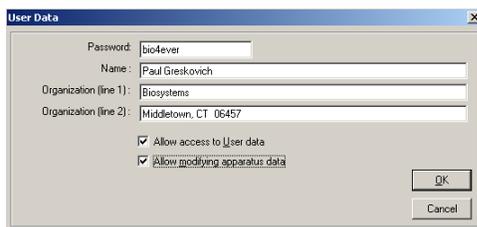
Access to advanced database functions is controlled through the two check boxes at the bottom of the screen.



The SCBA administrator should have full access to both user and apparatus data. For any other personnel who will use the PosiChek, access should be granted based on knowledge and responsibility level.

To lock the user out of user and apparatus information, leave the checkboxes unchecked. To allow the user access to user and/or apparatus data, click on one or both of the check boxes as needed.

5. Click on the check boxes as needed.



6. Click "OK" when done. The new user will then be added to the database file.

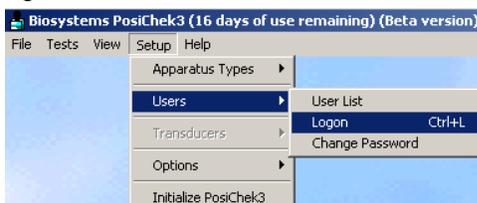


7. If you wish to log on as the user that you just created, click the Logon button. Click done to exit the User Data screen.

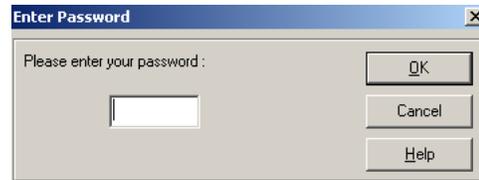
5.2.2 Logging a user into the system

The PosiChek software requires a user to log in prior to running the software. If a new user logs into the system after a different user opened the software, then the user that opened the software will be automatically logged out.

1. From the Setup menu select "Users" followed by "Logon".



2. The "Enter Password" screen will then be shown.



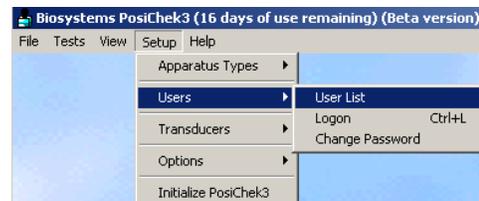
3. Enter your password and click OK. Note that the new user will now appear in the status bar at the bottom of the screen.



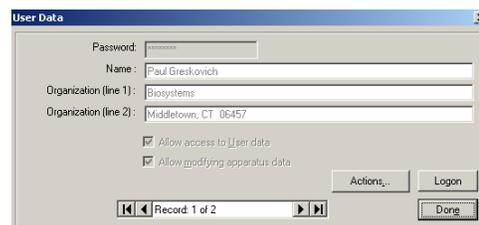
5.2.3 Editing user information

The PosiChek software includes provisions for limiting a user's access to certain parts of the system. Once a user has been entered into the system, the user's system rights and other information can be modified as follows:

1. From the Setup menu, select Users followed by User List.



2. The User Data screen will then be shown.



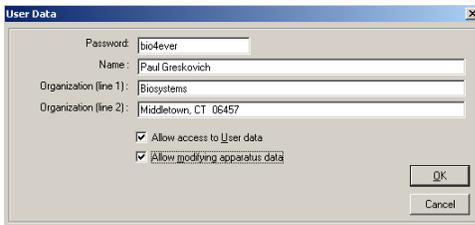
The Data Control is located at the center bottom of the window and controls access to existing user data records. Only one record can be displayed at a time. The record number and total number of records are contained within the data control bar.



3. Clicking on the inner arrows of the data control will cause the previous or next test to be shown. To skip to the first record, click on the furthest arrow to the left. To view the last record, click on the furthest arrow to the right. Once the appropriate user record is shown, click on the "Actions" button. The Add, Change and Delete options will then appear.



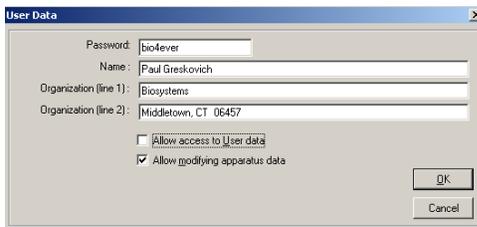
- Click on Change. The user data may then be changed as needed.



- Access to user and apparatus data is controlled by the two checkboxes towards the bottom of the window. Clicking on the checkboxes will change the setting.

The SCBA administrator should have full access to both user and apparatus data. For any other personnel who will use the PosiChek, access should be granted based on knowledge and responsibility level.

To lock the user out of user and apparatus information, leave the checkboxes unchecked. To allow the user access to user and/or apparatus data, click on one or both of the check boxes as needed.

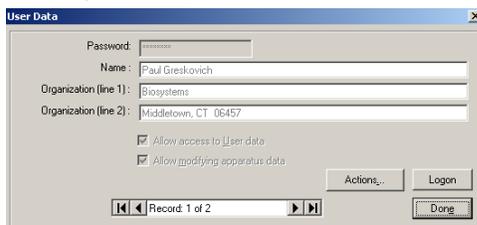


- Once the settings have been changed as needed, click on OK. Then click on Done to exit from the User Data screen.

5.2.4 Deleting a user

To delete a user:

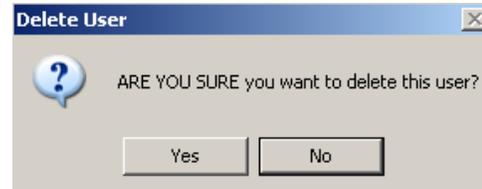
- Access the User Data as described in section 5.2.3 steps 1-3.



- Use the data control to access the specific record for deletion. Once the appropriate user record is shown, click on the Actions button. The Add, Change and Delete options will then appear.



- Click on Delete. The software will then prompt you as to whether you are sure that you want to delete the user.

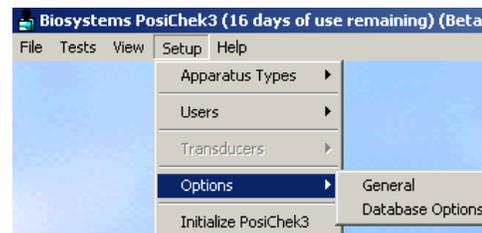


- Click on Yes to delete the user. The User Data screen will be shown again. Click on Done to leave the user data screen.

5.3 Setup Options

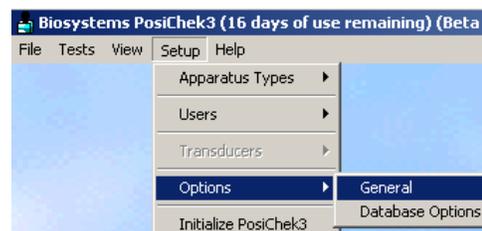
The Options selection from the Setup menu controls many of the PosiChek software's default settings.

To access the general setup choices, from the Setup Menu, select Options. Setup / Options is divided into General and Database Options.



5.3.1 General options

To access the General setup options, click on Setup / Options / General.



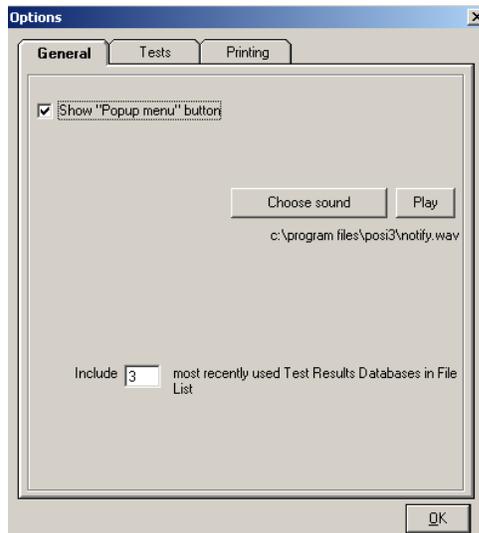
General setup options is divided into three tabbed pages: General, Tests and Printing.

5.3.1.1 General Tab

The General options contains the following controls:

- Display control for the Actions buttons. If the display option is enabled, the Actions button will appear on all screens with an option for the button. If disabled, the buttons will not appear and the user will need to right click in the window to access the options.

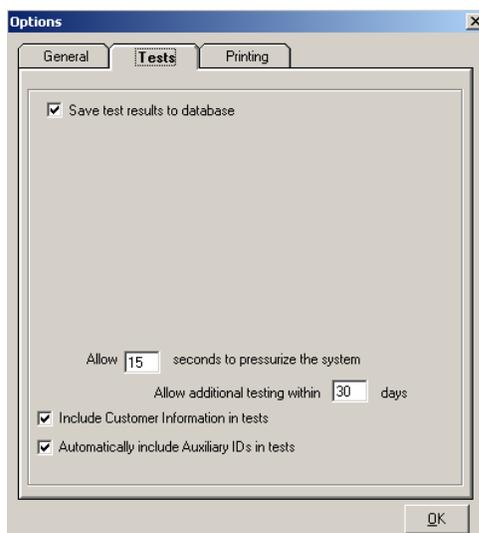
- Sound program file control. This allows the user to select different sounds for use in the software.
- Number of test results databases that will be listed at the bottom of the File Menu.



5.3.1.2 Tests Tab

The Tests tab features the following controls:

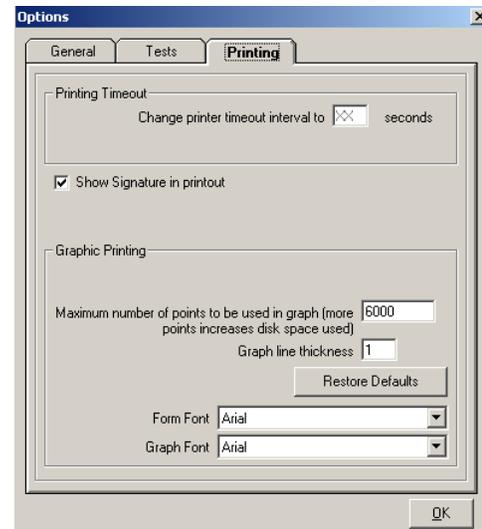
- Enable/disable control for Save test results to database
- Control for the number of days to allow additional testing before the test is recorded as a failure.
- Control for whether customer information will be saved with the data.
- Control for whether auxiliary IDs will be included in test results.



5.3.1.3 Printing Tab

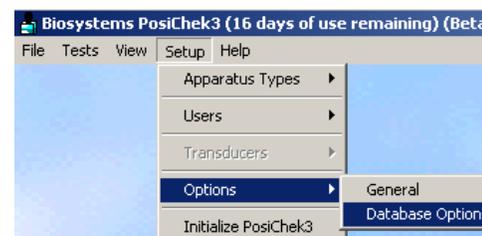
The Printing tab features the following selections:

- Printer timeout interval setting
- Control for showing or not showing a signature in the printout
- Graphic controls for the maximum number of points in the graph, line thickness, and form and graph fonts



5.3.2 Database setup options

To access the database setup choices, from the Setup Menu, select Options / Database Options.



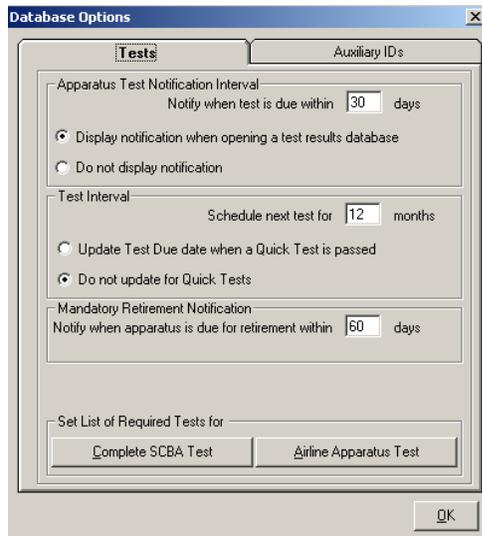
Database options is divided into two tabbed pages.

5.3.2.1 Tests

The tests tab features controls for the following:

- Apparatus Test notification interval setting. This is the number of days in advance that you would like to be notified when an apparatus is coming due for testing.
- Display/Do not display test due notification when opening a test results database. This controls whether the software notifies you that an apparatus is either due or will be due for testing.
- Test interval setting. This controls how frequently the software will require apparatus to be tested. The NFPA requires that all apparatus used in the United States be tested on an annual basis.

- Update/Do not update the test interval when a Quick Test is passed.
- Mandatory retirement notification setting. This is the number of days in advance that you would like to be notified when an apparatus is coming due for retirement.



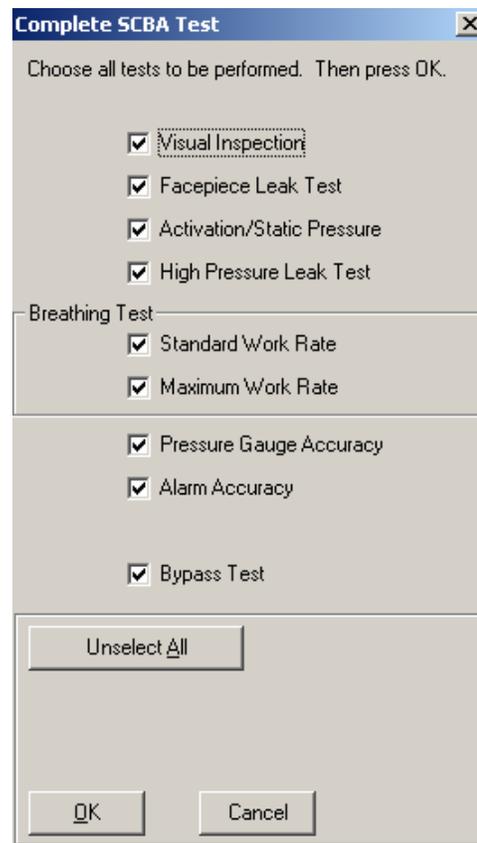
5.3.2.1.1 Changing the list of required tests

At the bottom of the Tests tab are two buttons that control access to the required test lists for the Complete SCBA Test and the Airline Apparatus Test. By modifying the test list, the user can select the tests that must be passed to update the test due date for the apparatus. If any of the tests selected here are failed while performing a Complete SCBA test or an Airline Apparatus test, then the test due date for the apparatus will not be updated.

Click on either the “Complete SCBA Test” button or the “Airline Apparatus Test” button.



If “Complete SCBA Test” is selected, the following screen will be shown. A similar screen will be shown if “Airline Apparatus Test” is selected.



Select or deselect tests as needed. Remember that all tests selected here must be passed for the apparatus due date to be updated.

5.3.2.2 Auxiliary IDs

The Auxiliary ID tab features the following controls:

- Overhaul notification interval setting. This is the number of days in advance that you would like to be notified when an apparatus is coming due for overhaul.
- Display / Do Not Display setting for the overhaul notification.
- Overhaul interval setting
- Auxiliary ID settings
- Display / Do not display Auxiliary IDs

PosiChek software allows independent tracking of up to seven components of the SCBA (or other). The names of the seven components are listed under “Rename Auxiliary IDs and may be changed as needed.

Beneath the input boxes for the seven components is the control for showing or not showing the components in the test data.

Database Options

Tests **Auxiliary IDs:**

Overhaul Notification Interval
Notify when overhaul is due within days

Display notification when opening a test results database
 Do not display notification

Overhaul Interval
Schedule next overhaul for months

Rename Auxiliary IDs:

<input type="text" value="Facepiece"/>	<input type="text" value="Cyl Connector"/>
<input type="text" value="Second Stage"/>	<input type="text" value="Airline Attachment"/>
<input type="text" value="First Stage/Reducer"/>	<input type="text" value="Harness"/>
<input type="text" value="Low Pressure Alarm"/>	<input type="text" value=""/>

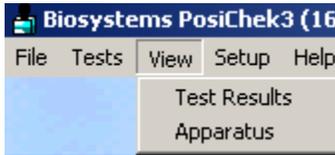
Show Auxiliary IDs
 Do not show Auxiliary IDs

Restore Defaults

OK

6. View Menu / Search Options

Test results and specific information about the apparatus that are saved in the databases can be accessed by clicking on the “View” menu option.



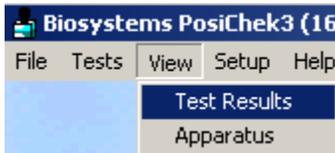
6.1 View Test Results

As discussed above, the PosiChek stores all data in databases that are defined by the user. Initially, it will be easy to find specific test data since the overall size of the database(s) will be relatively small. As the database grows, it will become increasingly difficult to find specific information. The PosiChek software includes a built-in database “query” to help you locate information.

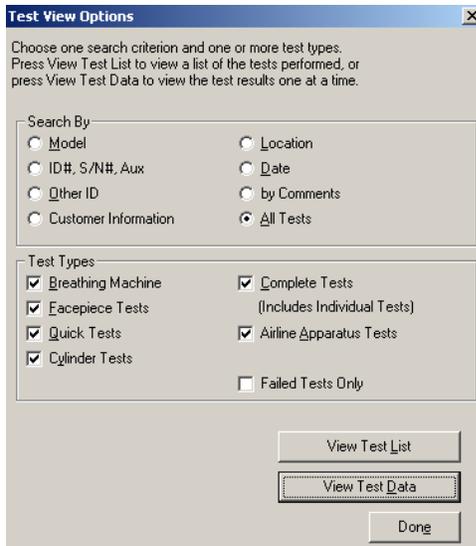
To view test results a test results database must be open.

For instructions on opening an existing database, see section 4.2.

Once the appropriate database is open, select “Test Results” from the View Menu.



The Test View Options screen will then be shown:



As tests are run and the data is stored, the database will grow and it will become increasingly difficult to

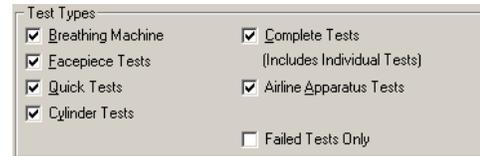
locate specific tests. The Test View Options screen is divided into two sections.

The “Search By” section includes a number of options (radio buttons) that help to define the database query that will be used to narrow the information. Only one option in the “Search By” section can be selected at a time.

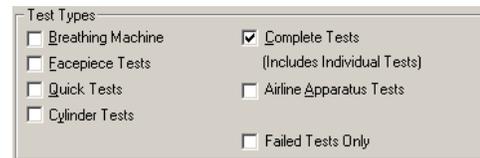
As an example, if you know want to access specific data from test results that were performed on a certain date or dates, click on Date.



Once the Search By selection has been made, move down the screen to the “Test Types” section. Unlike the “Search By” section, multiple items can be selected simultaneously in the “Test Type” section. The default setting has every box checked except “Failed Tests Only”.



To narrow down the test results, select only the type of test that you would like to retrieve. As an example, if you are searching for the data from a Complete Test, then select the Complete Tests option and de-select all other tests.



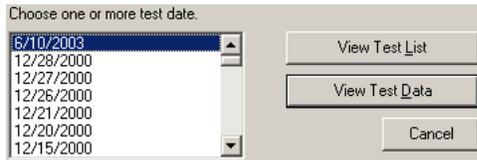
Once the Search By and Test Type options have been selected, you are ready to search the database. For the purposes of this example, we’ve now created a query that will search the database for all Complete SCBA Tests by Date.

6.1.1 View Tests

Once the query has been defined as discussed in section 6.1, click on View Test List or View Test Data to run the query. Since the example query was defined by date, you will be prompted to select the date of the test. The software will display all test dates corresponding to the “Search By” and “Test Type” selections.



Select the date(s) of the test(s) that you would like to view. To select multiple dates, hold the control key (Ctrl) down while you click. For the purpose of this example the date 6/10/2003 has been selected.

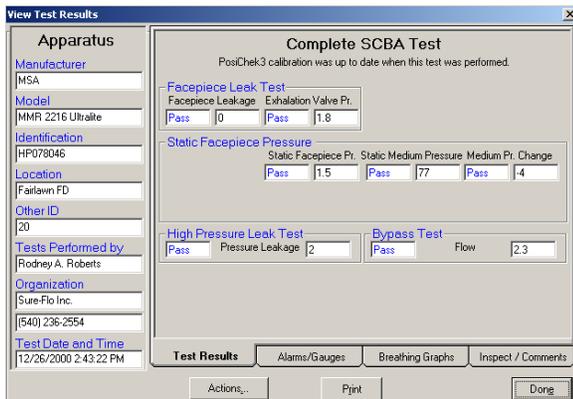
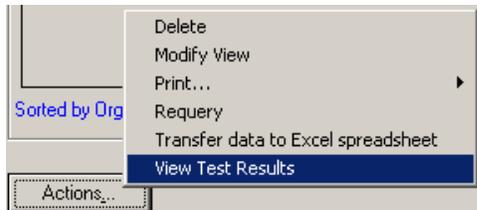


To view the results of the query in the form of a list, click the View Test List button.

Test Types	Organization (line 1)	Manufacturer	Model	Serial number	Location	Other ID	P/F	Tagged
C	Sure-Flo Inc.	MSA	MMR	HP078046	Fairlawn 11	20	Pass	
C	Sure-Flo Inc.	MSA	MMR	17651-RK	Fairlawn 11	17	Pass	

Note: To modify the columns viewed or the sort order of the list, click on the Actions button and select Modify View. For further instructions on the “Modify View” command see section 6.2.4 below.

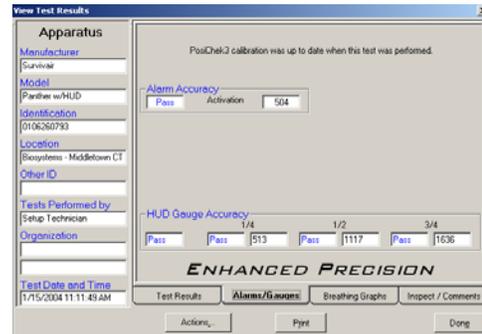
To view the test results in their original form, select a test by clicking on it. Then click on the “Actions” button followed by View Test Results”.



The View Test Results screen contains all of the data that was generated during testing. Data is accessed by clicking on one of the four tabs at the bottom of the screen. To print a comprehensive report of this SCBA test, click on the “Print” button.

6.1.1.1 View alarms / gauges

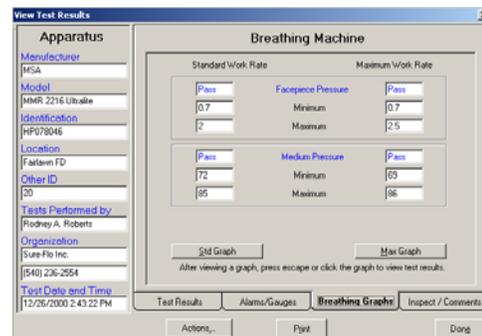
To view the information on alarms and gauges, click on the Alarms/Gauges Tab. The following screen will then be shown.



Note that in this case the SCBA passed all alarm and gauge tests.

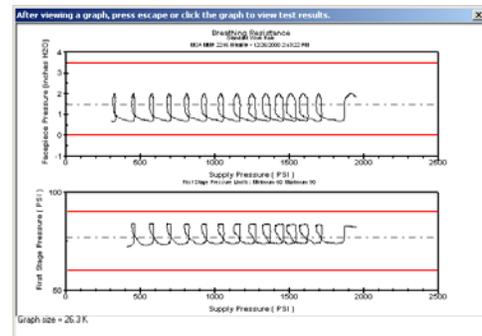
6.1.1.2 View breathing graph data

To view the Breathing Graphs, click on the Breathing Graphs Tab. The following screen will then be shown.



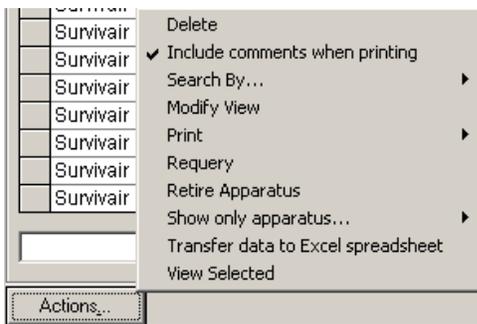
Breathing Graphs screen

Depending on the tests that were run, the Std Graph, Max Graph or both buttons may be highlighted. Click on one of the buttons to view the actual breathing graph.



6.1.1.3 Add inspection comments

To add comments into the database, click on the Inspect/Comments tab.

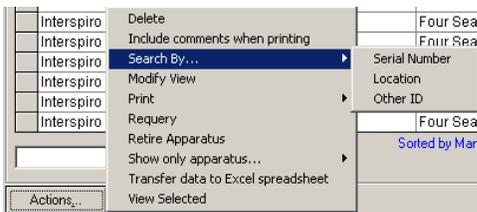


Clicking on “Include comments when printing” again will deselect it and cause the comments not to be included in the printout.

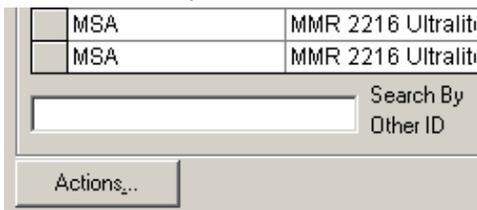
6.2.3 Search By..

The “Search By...” option allows the user to quickly locate apparatus by serial number, location or other ID. The “Search By...” option works in conjunction with the search by input box located directly above the Actions button.

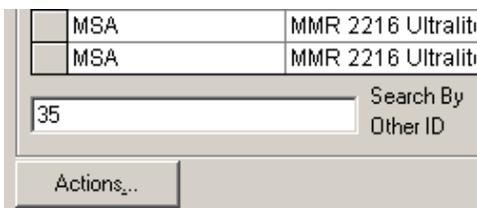
To use the “Search By...” function first access the apparatus list as discussed above in section 6.2. Then click on the Actions button at the lower left corner of the screen and select “Search By...”.



Select Serial Number, Location or Other ID as appropriate for your search. The selection will then be shown next to the input box located directly above the Actions button. In the example below, the search will be made by “Other ID”



Enter the search parameter in the input box.



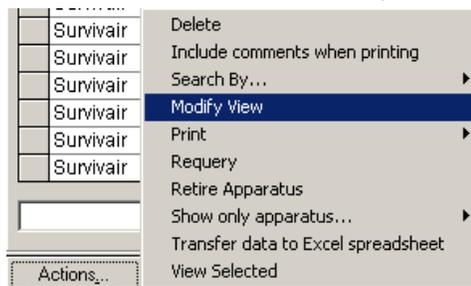
The software will automatically locate the first data record with a matching entry and mark it with an arrow.

Manufacturer	Model	Serial number	Location	Other ID	Last test	Test due
MSA	MMR 2216 Ultralite	19970-RK	Westview FD	35	11/27/2000 9:43:01	11/27/2001
MSA	MMR 2216 Ultralite	19956-RK	White Sulphur Spr	01	8/1/2000 11:46:26	8/1/2001
MSA	MMR 2216 Ultralite	AN252232	Lebanon FD		3/30/2000 11:15:2	3/30/2001

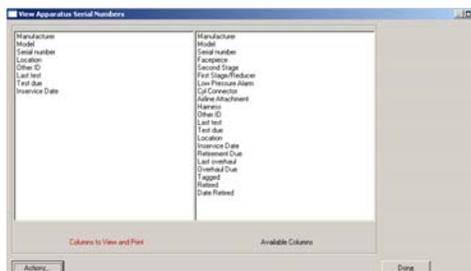
6.2.4 Modify view

The Modify view command controls the fields of information that are displayed when the apparatus list is accessed through the View / Apparatus and View / Tests / View Test Lists commands. Any of the data fields that appear in the database may be entered to be viewed and/or printed in the apparatus list as needed by the user.

To make changes to the settings, first open the apparatus list as discussed above in section 6.2. Then click on the Actions button at the lower left corner of the screen and select “Modify View”.



The following screen will be shown. The fields that will appear in the viewed or printed report will appear in the left column. The available fields appear in the right column.



When the PosiChek software is opened for the first time, the system is configured so that the information displayed when the apparatus list is viewed is identical to the information that will be printed when the apparatus list is printed.

The View contains the following controls for the column settings:

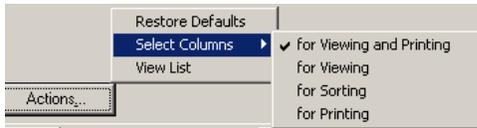
- Columns for Viewing and Printing
- Columns for Viewing
- Columns for Sorting
- Columns for Printing

The Columns setting that is currently open for modification is shown near the bottom of the screen.



If you do not need to separate the view and print functions, leave the setting as “Columns to View and Print” and do not access the “for Viewing” or “for Printing” options. Any adjustments made in “Columns to View and Print” will be carried over into viewed and printed reports.

If you prefer separate the View and Print functions, or you would like to change the method by which the data is sorted in these spreadsheets click on the Actions button at the bottom of the screen followed by “Select Columns” and choose the appropriate option. The option that is currently open will have a checkmark in front of it.



Select Columns for Printing, Viewing or Sorting as needed. The Columns setting will change to indicate the setting that is now ready for modification.

Columns to Sort by

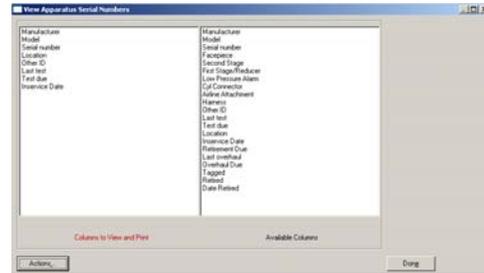
Note: For Viewing and Printing, The PosiChek software will default to the most recently modified file for each selection. If you modify the options in “Select Columns for Viewing and Printing”, changes made will be reflected in both types of report. If changes are made to “Select Columns for Printing”, they will supercede any earlier print settings, whether they were made in “for Printing” or “for Viewing and Printing”. The same is true for viewed reports.

The default values for the Viewing and Printing options are as follows:

- Manufacturer
- Model
- Serial Number
- Location
- Other ID
- Last Test
- Test Due

The view and print lists are sorted according to the settings entered in “View Columns to Sort” The default sort settings are as follows:

- By Manufacturer
- By Model
- By Serial Number



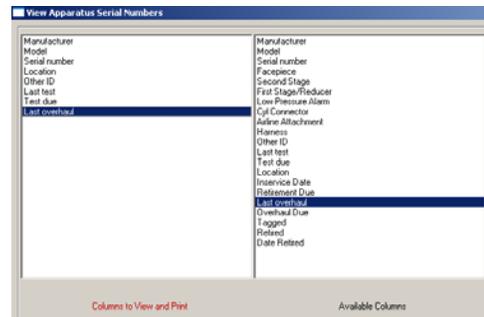
The items contained in the column on the left are the active items for the Columns setting. The items listed in the column on the right are the fields that are available.

To add a new column heading from the available list (right) to the View and Print list (left), click on the item and then drag it over into the other column. Items may be removed from the View and Print list (left) to the available list (right) by reversing the process.

The item will be highlighted once it is selected.



Drag the item into the left column and then drop it there. It will immediately appear in the new list.



To restore the default settings, click on the Actions button followed by Restore Defaults.



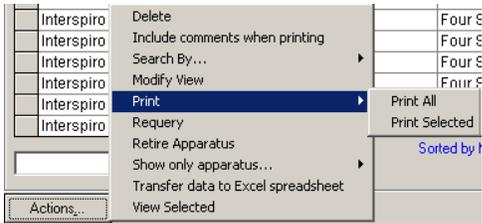
To return to the apparatus list, click on the Actions button followed by View List.



6.2.5 Print (apparatus info)

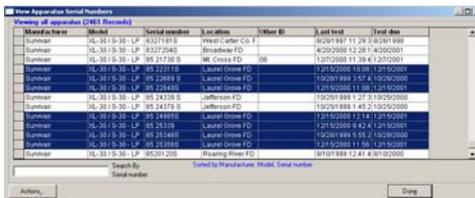
The Print command from the View Apparatus menu allows the user to print apparatus data.

To print apparatus data, first access the apparatus list as discussed above in section 6.2. Then click on the “Actions” button at the lower left corner of the screen. Select “Print”.

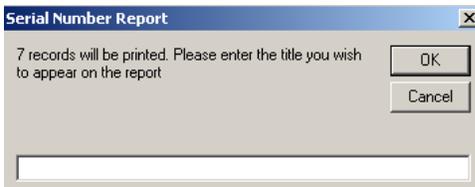


To print the data file for all apparatus, select “Print All”.

To print the data file for a specific apparatus, first select the specific apparatus for printing by clicking in the column to the left of manufacturer for the appropriate apparatus (row). To print the information from more than one apparatus, hold down the Ctrl (control) key and click as many apparatus as needed.



Regardless of the number of data records that you intend to print, the software will prompt you for a title for the report.

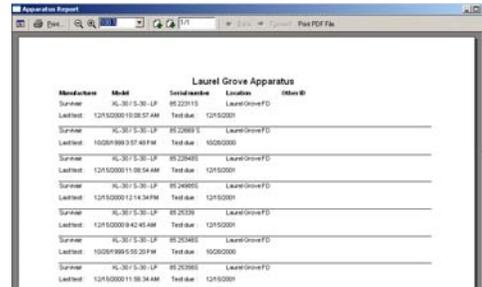


Note: The standard report contains the apparatus make(s), model(s) and serial number(s) so there is no need to add these fields to the report title. If you have modified the columns printed settings, you may need to add these in manually.

Enter the title.

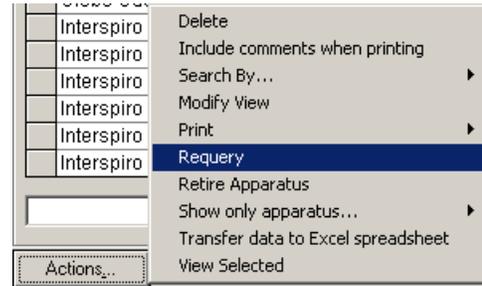


Press OK. The report will then be shown. It may be printed directly or saved as a PDF file. Use the command buttons at the top of the screen to print or store the report.



6.2.6 Requery

The “Requery” command will re-execute the latest search query. To requery, click on the Actions button at the lower left corner of the screen and select “Requery”.



Note: The “Requery” command is only needed when more than one user can access the database at once, which typically only occurs when the database is stored on a network.

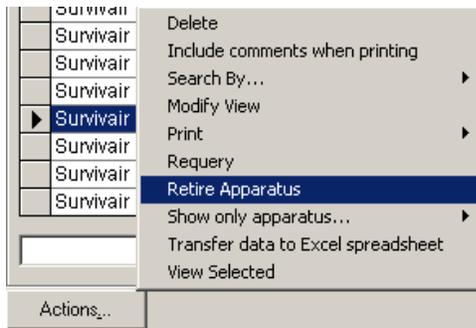
6.2.7 Retire apparatus

To retire an apparatus from service, first access the apparatus list as discussed above in section 6.2. Then select the specific apparatus for retirement by clicking in the column to the left of manufacturer for the appropriate apparatus (row).

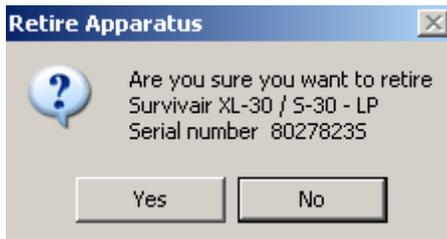


Once the apparatus has been selected, click on the “Actions” button at the lower left corner of the

screen. Once the window is shown, select “Retire Apparatus”.



The software will prompt you to confirm that the apparatus will be retired.



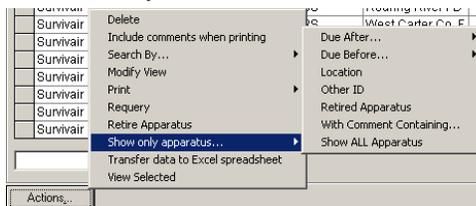
Select Yes to retire the apparatus. The data for the apparatus will still be accessible from the View Apparatus menu by using the Show Only... feature and selecting Retired Apparatus.

6.2.8 Show only apparatus...

When View Apparatus is initially selected, a list of all apparatus in the open database is displayed. As the database grows, more and more apparatus will be shown in this list, and it will be increasingly difficult to locate a specific apparatus. The “Show only apparatus...” command allows the user to narrow the apparatus shown by selecting only those apparatus that meet certain criteria.

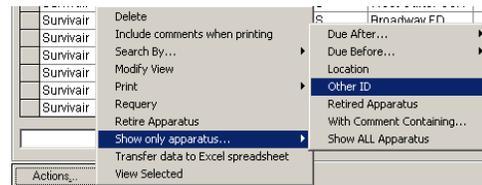
To narrow the list:

1. Access the apparatus list as discussed above in section 6.2. Click on the “Actions” button at the lower left corner of the screen and select “Show only apparatus”. A second window will appear that will allow you to narrow the search results.

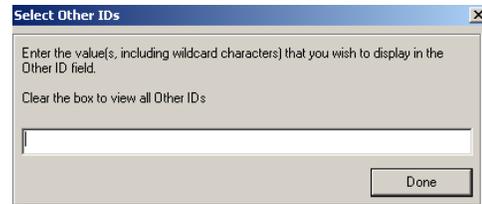


Note: The “Show only apparatus...” option initiates a search query that should help you to locate specific apparatus. This manual will not cover every search alternative given under “Show only apparatus”.

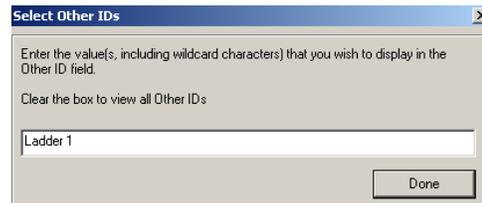
2. Select the search parameter that is most likely to locate the apparatus. As an example, if you happen to know that the apparatus belongs to “Ladder 1” and you filled in the “Other ID” field with “Ladder 1”, then select Other ID.



The following screen will then be shown:



3. Type the Other ID into the input box.



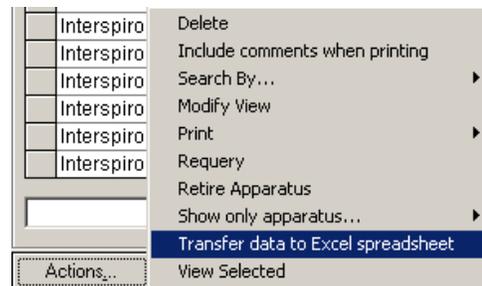
4. Click OK to perform the search. In this case, any apparatus with the field for Other ID equal to “Ladder 1” will be displayed.



6.2.9 Transfer data to Excel Spreadsheet

Since the PosiChek stores data in a database, it can be easily transferred into Microsoft Excel.

To transfer data, first access the apparatus list as discussed above in section 6.2. Then select the apparatus for data transfer. Once the apparatus are selected, click on the Actions button at the lower left corner of the screen and select “Transfer data to Excel spreadsheet”.

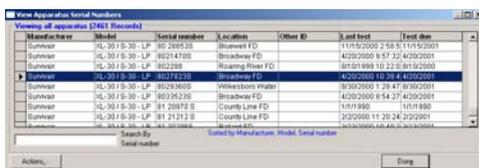


Once the data has been transferred, Excel will open with the data shown. Click File / Save, and specify the file name and location to save the file to a local or network drive.

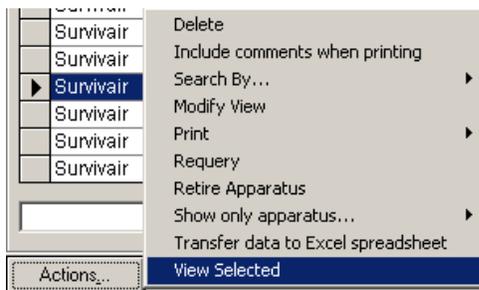
Note: Only the fields actively selected will be transferred into Excel. See section 6.2.4 for details on adding and removing fields.

6.2.10 View/edit selected apparatus

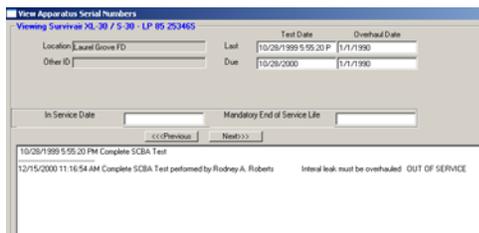
The View Selected command allows the user to access all test data for a specific apparatus. To view the apparatus data, first access the apparatus list as discussed above in section 6.2. Then select the specific apparatus by clicking in the column to the left of manufacturer for the appropriate apparatus (row).



Once the apparatus has been selected, click on the Actions button at the lower left corner of the screen. Once the window is shown, select "View Selected" from the menu.



The data will then be shown.

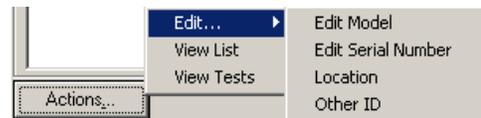


Once the data is displayed, clicking on the Actions button will grant access to the Edit functions and Test data.



The Edit option allows the user to access and change the identifying information on tests and serial

numbers and is typically used to correct spelling errors or other mistakes made upon data entry.



Select the appropriate item to edit. An input box will be given for the new information. Since these are changes to critical apparatus information, the software will prompt you to update all test data related to this apparatus as well.

The View List option will return the user to the prior screen.

The View Tests option will allow the user to view all tests performed on the selected apparatus.

7. Help Menu

The Help Menu is designed to aid the user with any problems that they may encounter while running the PosiChek. The Help option is located on the Main Menu Bar and gives four options.



Note: Detailed connection instructions for a variety of BA are available in the PosiChek Software's Help File. To access the

7.1 Help / Contents

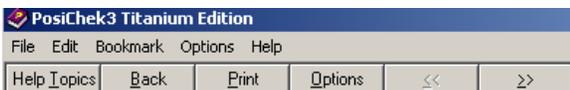
The Contents option includes a version of this manual, which is broken down by chapter and subject.



The introductory screen will then be shown.



The Help Controls are located near the top of the screen.



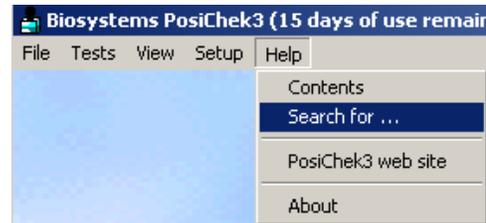
Click the "Help Topics" button at the top to access the Help Topics Index. See section 7.2 for further details.

Use the scroll arrows to move through the help topics list.

Click on any topic in the list at right to view the subject matter.

7.2 Help: Search For

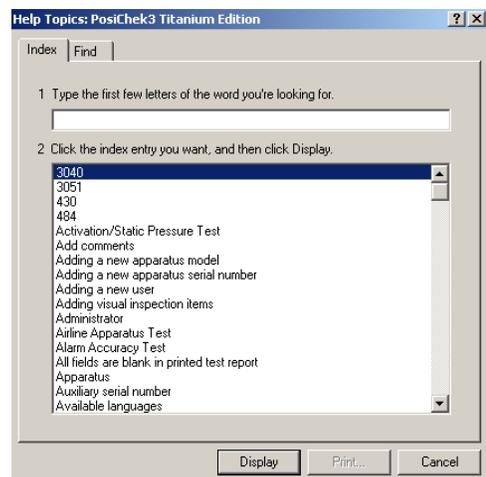
The Search For option in Help includes an Index and Find tabs that allow the user to search for specific information relative to the PosiChek.



The Help Topics Index screen will be shown.

7.2.1 Index

The Index tab allows the user to initiate a search of the help file by individual word or by index entry. Topics are arranged alphabetically. Double click on a topic to view details.



7.2.2 Find

The Find option under Help / Search For option allows you to custom search the help file.

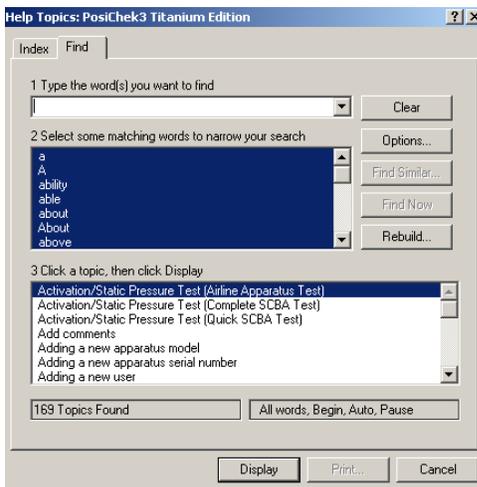


To use the Find option, you will first need to create a list that will include the words in your help file.

Select Click Next to continue with “Minimize database size (recommended)” selected.

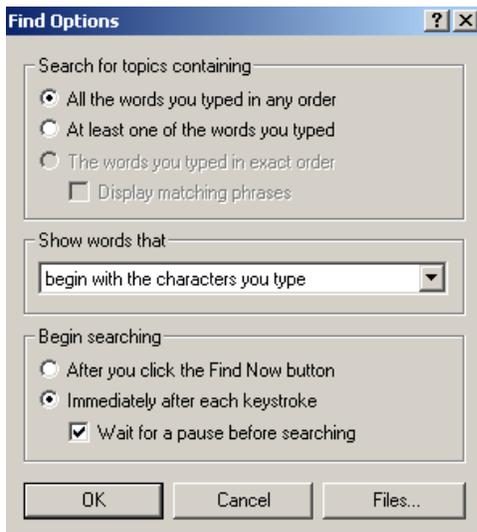


Click Finish to begin creating the word list. Once the word list has been created the following screen will be shown.



Click on a topic to access relevant files.

The Options button on the right side of the list contains higher level controls for the search.



7.3 PosiChek website

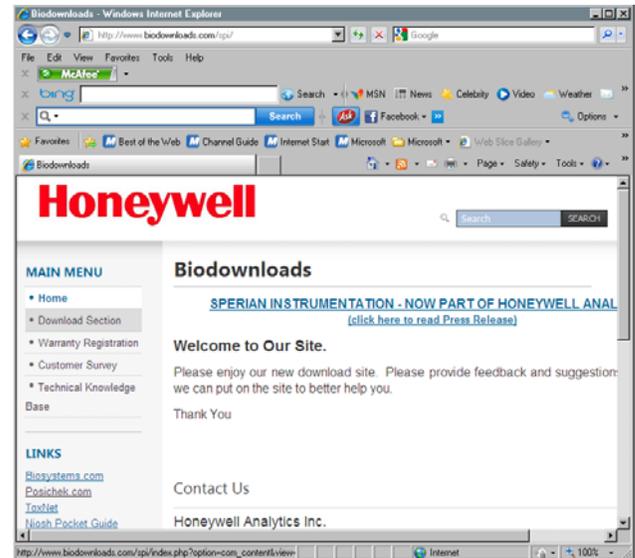
The PosiChek software contains a link to the PosiChek website, which is located at the following address:

<http://www.biodownloads.com>

Click on PosiChek3 web site from the Help Menu to access the site.



Note: Your PC must be connected to the Internet to access the website.



Note: OEM software versions will also include a link to the specific BA manufacturer’s website.

7.4 About

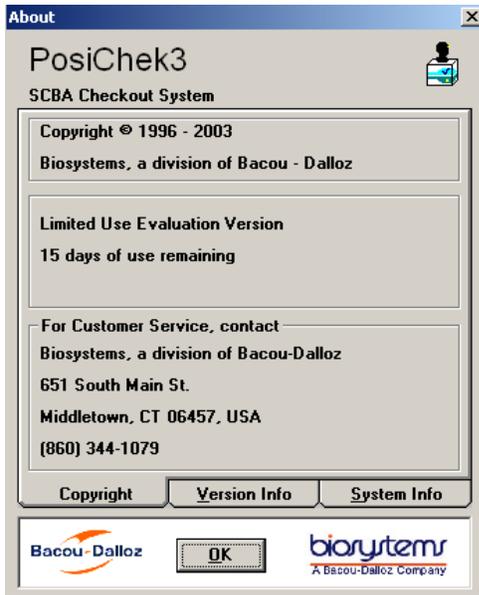
The Help About option is divided into three tabbed pages: Copyright, Version Info and System Info.



7.4.1 Copyright

The Copyright tab includes information about the person or company to whom the software is

licensed. It also includes Sperian Instrumentation's address and phone number.



Press OK to return to the main menu.

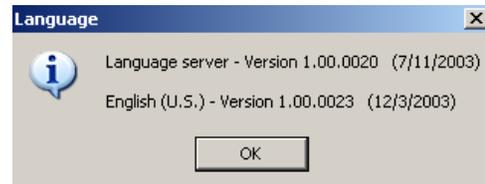
7.4.2 Version

The Version tab contains a listing of the version, revision and release date of PosiChek software that you are currently using.



Note: The PosiChek's firmware version and serial number will be shown in the screen above if the PosiChek has been initialized.

Click on the Language button for details concerning the software's current operating language.



Press OK to return to the main menu.

7.4.3 System info

The System info tab includes information about the parallel port and parallel port registers.



Press OK to return to the main menu.

8. Software Updates

PosiChek software is under continuous development. Software updates are frequently included when the PosiChek is returned from its annual calibration. The new version of software will need to be loaded into the PC. When updating software, do not uninstall or delete the existing version of software because it contains some base components that will be used by the new version during installation.

Note: Information located in PosiChek databases including test results, user information, apparatus types, apparatus models and serial numbers will not be changed or lost

as a function of installing a new version of software.

To update your software, place the CD-ROM into your computer's CD tray and close the tray. If the software fails to set itself up immediately, use Windows Explorer to locate the CD-ROM drive and run the "setup.exe" program. The software will proceed to load itself onto the PC in much the same manner as the initial software installation, which is discussed above in section 2.1.1.

Note: After a software update, the PosiChek databases may also need to be updated. If this is the case, the software will automatically prompt you to update your database(s).

Appendices

Appendix A: Glossary

The following is a list of terms used in this manual. Many manufacturers of breathing apparatus have their own specific terms for various parts of the breathing apparatus. The purpose of this glossary is to relate the terms used in this manual to the terms used by SCBA manufacturers.

Activation Pressure: The negative pressure needed to start the flow of air in a breathing apparatus that is equipped with the first breath activation feature. The Activation Pressure Transducer is the transducer used to measure facepiece pressure during the Activation Pressure test. It has a slightly larger range and somewhat less accuracy than the facepiece pressure transducer.

Airline Apparatus: Breathing Apparatus that has no first stage and accepts a supply pressure no higher than 300 PSI.

Apparatus: Serial number, Unit ID

Apparatus Type: Model

BA: Breathing Apparatus. Self-contained breathing apparatus or other type of respiratory equipment.

Brand-specific: PosiChek³ software comes in a standard version, and in brand-specific versions for Draeger, Interspiro, ISI, 3M, MSA, Scott, and Survivair. The standard version allows you to enter your own models (apparatus types), but you cannot enter pass/fail criteria for the various tests. General values for the pass/fails are used, which should allow all BAs in good working condition to pass. No pass/fails are given for any value read by the medium pressure transducer.

Brand-specific versions of the software come with the various models already entered in the software, and the user is not allowed to add or change models. The models contained in brand specific software contain the pass/fail criteria recommended by the manufacturer of the breathing apparatus. Brand-specific versions of the software should be purchased from the specific manufacturer, and generally comes in a kit that includes a connector for the medium pressure.

Some brand-specific versions of the software contain tests not contained in any other version.

Bypass: Brand-specific terms include Purge.

Dynamic Pressure: Pressure measured when the lung is moving.

Facepiece pressure: The pressure typically found in the facepiece of an SCBA. Generally between 0 and 3.5 " H₂O. The low pressure transducer measures pressures in this range.

First Breath Activation: A feature found in some BA where a sharp inhalation is required to start the flow of air.

First Stage: The part of the BA that reduces the pressure from the supply to a lower, medium pressure.

High pressure: This term may refer to the supply pressure of the SCBA, or, to a supply pressure of 4500 PSI. The high pressure transducer measures the supply pressure of the SCBA.

Low Pressure: This term may refer to Facepiece Pressure, or, to a supply pressure of 2216 or 3000 PSI. The low pressure transducer measures Facepiece Pressure.

Maximum Rate, Maximum Work Rate: The max breathing rate is 102 L/min (3.4 L/breath x 30 breaths/minute)

Medium Pressure: The pressure output from the first stage regulator of the BA, or the supply pressure of an Airline Apparatus. The medium pressure transducer measures this pressure. The term "intermediate pressure" is often used in OEM software versions or by certain manufacturers.

OEM Version: Brand-specific version of the software.

Second Stage: The part of the BA that reduces the pressure from medium pressure to breathable pressure used in the facepiece.

Standard Rate: The standard breathing rate is 40 L/min (1.67 L/breath x 24 breaths/minute)

Static Pressure: Pressure measured when the lung is not moving.

Supply pressure: The maximum pressure of the pressure source used to supply air to a BA. For SCBA, this would be a cylinder that comes in three different pressures: 2216 PSI, 3000 PSI, and 4500 PSI. For Airline Apparatus, this would be an airline that typically contains a maximum pressure of 300 PSI.

Work rate: The amount of air that is “breathed out” by the PosiChek during a breathing test given in terms of liters per minute. See also Breathing Rate, Standard Rate, Maximum Rate.

Appendix B: Operating Ranges

1. Power Requirements

Line Voltage range 88 VAC to 132 VAC (use 2A input fuse); or
176 VAC to 250 VAC (use 1A input fuses).

Line Voltage selection Fuse change required; otherwise it is automatic.

Line Frequency 47 to 440 Hz

Maximum Power Consumption 120VA

2. Environmental Characteristics

Ambient Temperature Ranges

Operating 41° F to 113° F (5° C to 45° C)

Storage 14° F to 113° F (-10° C to 45° C)

3. Physical Characteristics

Size (excluding head)

Height 14.1 inches (358 mm)

Width 13.5 inches (343 mm)

Depth 16.0 inches (406 mm)

Weight (excluding head) 34 pounds (15.4 kg)

4. Fuse requirements

120 VAC Systems 2A, Slow Blow, 250 VAC, Type 3AG

220 VAC Systems 1A, Slow Blow, 250 VAC, 5 x 20 mm

Appendix C: Cleaning Instructions

Use a clean, slightly dampened cloth to clean the instrument. Dampen the cloth with a household soap and water solution.

Do not use any ketone based cleaner, such as acetone.

Do not clean the instrument while it is connected to the AC main supply.

Check that all openings are free of any dirt and/or debris.

Check that the instrument is completely dry before connecting it to the AC main supply.

Appendix D: Complete SCBA Test Pass / Fail Criteria for Generic Software

Users who plan to service their own SCBA should purchase brand-specific software, which is available from the SCBA manufacturer for 3M, Cairns, Draeger, Interspiro, ISI, MSA, Scott and Survivair breathing apparatus. Contact Honeywell Analytics for more information.

The NFPA requires that SCBA be tested annually *according to the manufacturer's specifications* in order to maintain compliance. Please reference NFPA 1981 and NFPA 1852 for details.

The following pass/fail criteria are used in the generic PosiChek3 software. The values used by manufacturer specific versions of the software fall within these limits. Standard PosiChek³ software does not provide pass/fail criteria for first stage performance. Results are simply presented in the form of a graphic flow trace of pressure reducer performance, along with the minimum and maximum first stage values. When a test is performed with no pass/fail criteria, the value measured is given, but you will not be informed whether the test passed or failed.

Activation Pressure no Pass/Fail is given (pressure must remain negative)
High Pressure Leak Test Test duration 10 seconds
 Pressure Change allowed (2216 apparatus) 50 PSI (4500 apparatus) 100 PSI

Facepiece Leak Test Test duration 5 seconds
 Starting Pressure -1.0 " H2O
 Allowable Leakage 0.9 " H2O (pressure must remain negative)

Alarm Activation Pressure
 Low pressure (2216) apparatus
 Minimum 400 PSI
 Maximum 645 PSI
 Low pressure (3000) apparatus
 Minimum 540 PSI
 Maximum 870 PSI
 High pressure (4500) apparatus
 Minimum 810 PSI
 Maximum 1305 PSI

Exhalation Valve Opening Pressure no Pass/Fail is given

Activation Pressure no Pass/Fail is given
Static Facepiece Pressure Test Duration 15 seconds
 Minimum 0.6 " H2O Maximum 1.5 " H2O

Static Medium Pressure no Pass/Fail is given
Medium Pressure Change no Pass/Fail is given
Bypass Flow no Pass/Fail is given

Breathing Tests - Facepiece Pressure
 Minimum 0 " H2O **Maximum 3.5 " H2O**

Breathing Tests - Dynamic Medium Pressure no Pass/Fail is given
Pressure Gauge Test Maximum Error Allowed 10%
 Test Point 1 Test Point 2 Test Point 3 (Gauge and apparatus type)
 3/4 1/2 1/4 (Percent Gauge)
 3000 2000 1000 (High Pressure - 4500)
 1500 1000 500 (Low Pressure - 2216)

Appendix E: Honeywell Analytics, Inc. PosiChek3 Warranty

Honeywell warrants PosiChek³ SCBA performance testers manufactured and sold by Honeywell Analytics, to be free from defects in materials and workmanship for a period of 1 year from the date of purchase.

The Honeywell Analytics PosiChek³ Warranty is voided by abuse, mechanical damage, alteration, or repair procedures not made in accordance with the PosiChek³ Reference Manual. Damages to the PosiChek³ that result from abuse, alteration, power fluctuations including surges and lightning strikes, incorrect voltage settings, or repair procedures not made in accordance with the PosiChek Reference Manual are not covered by the Honeywell Analytics standard warranty.

The obligation of Honeywell Analytics under this warranty is limited to the repair or replacement of components deemed by the Honeywell Analytics's Instrument Service Department to have been defective under the scope of this standard warranty. To receive consideration for warranty repair or replacement procedures, products must be returned with transportation and shipping charges prepaid to Honeywell Analytics. It is necessary to obtain a return authorization number from Honeywell Analytics prior to shipment.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. HONEYWELL ANALYTICS WILL NOT BE LIABLE FOR LOSS OR DAMAGE OF ANY KIND CONNECTED TO THE USE OF ITS PRODUCTS OR FAILURE OF ITS PRODUCTS TO FUNCTION OR OPERATE PROPERLY.