



Operating Manual SmartCHECK TECH2



Order No.: 10107834-T2/02

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1 Safety Regulations

1.1 Correct Use

The MSA test benches of the SmartCHECK TECH2 product family (hereafter referred to as test bench) are designed for testing full face masks, lung governed demand valves, compressed air breathing apparatus, chemical protective suits and closed circuit breathing apparatus. Some of this equipment can only be tested using special adapters.

It is imperative that this operating manual be read and observed when using the device. In particular, the safety instructions, as well as the information for the use and operation of the device, must be carefully read and observed. Furthermore, the national regulations applicable in the user's country must be taken into account for a safe use.

WARNING!

This device is supporting life and health. Inappropriate use, maintenance or servicing may affect the function of the device and thereby seriously compromise the user's life.

Before use the device operability must be verified. The device must not be used if the function test is unsuccessful, it is damaged, a competent servicing/maintenance has not been carried out, genuine MSA spare parts have not been used.

Failure to follow this warning can result in serious personal injury or death.

Alternative use, or use outside this specification will be considered as non-compliance. This also applies especially to unauthorised alterations to the device and to commissioning work that has not been carried out by MSA or authorised persons.

1.2 Liability Information

MSA accepts no liability in cases where the device has been used inappropriately or not as intended. The selection and use of the device are the exclusive responsibility of the individual operator.

Product liability claims, warranties and guarantees made by MSA with respect to the device are voided, if it is not used, serviced or maintained in accordance with the instructions in this manual.

1.3 Safety and Precautionary Measures

The test bench is built and tested in accordance with EN 60950 part 1, protection measures for electronic measuring equipment and was released from the factory in a perfectly safe condition. In order to maintain this condition, and to ensure safe operation, the user must observe the instructions and warning notes which are contained in these instructions for use.

Calibration

Only use a calibrated test bench. MSA recommends one annual calibration.

Connection to the Supply Voltage

Prior to switching on, please ensure that the set operating voltage and mains voltage on the test bench concur. The mains connector can only be connected to a socket with sealed contact. The protective effect must not be removed by an extension without protective wire.

Protective Wire

Any disconnection of the protective wire, inside or outside the test bench, or loosening of the protective wire connection, can make the test bench dangerous. Intentional disconnection is not permitted.

Opening Covers

Do not open any covers or remove parts.

Fuses

Only the stipulated type of fuses with the given rated amperage can be used as a replacement. Do not use patched fuses or short-circuit the fuse holder.

Errors and Unusual Stresses

If it is ascertained that safe operation is no longer possible, the test bench must be shut down and secured against unintentional switching on. Error recovery must be performed by the manufacturer's customer service or by qualified and authorised personnel.

Breathable Air

Only use breathable air which complies with the requirements of EN 12021 or USCGA grade D (or better).

Data Base Entries

All entries in the data base of the test bench have to be checked by the user. The data base entries must comply with the specifications of the devices to be tested.

Oxygen

Keep oxygen cylinder and tubing away from any source of heat.

Never use grease or oil on oxygen equipment. Keep equipment away from all flammable materials such as oil, grease, aerosols, paints, gasoline and solvents.

High Pressures

- Never open filling or shut-off valves when the test bench is under pressure and not connected.
- Always shut down and decompress the complete system prior to carrying out any repair or maintenance work on the test bench.
- In case of damage to the high pressure lines from heat, chemicals, mechanical impact or similar that can be detected, the test bench must be taken out of service and the components concerned must be replaced without delay by an authorised service centre.

2 Description

This manual applies to the test benches according to chapter [2.2 Tests Possible Depending on SmartCHECK Model](#).

Where content does not apply to all configurations this is explicitly stated.

2.1 Overview

The test bench is designed for testing full face masks, lung governed demand valves, compressed air breathing apparatus, chemical protective suits and closed circuit breathing apparatus. Some of this equipment can only be tested using special adapters (see chapter [10 Ordering Information](#)).

All possible tests are listed in chapter [2.2 Tests Possible Depending on SmartCHECK Model](#).

The connections necessary to carry out the tests are described in chapter [6 Testing Devices](#) for all devices.

The test and tolerance values used in the software for MSA devices should be compared with the relevant device servicing manuals.

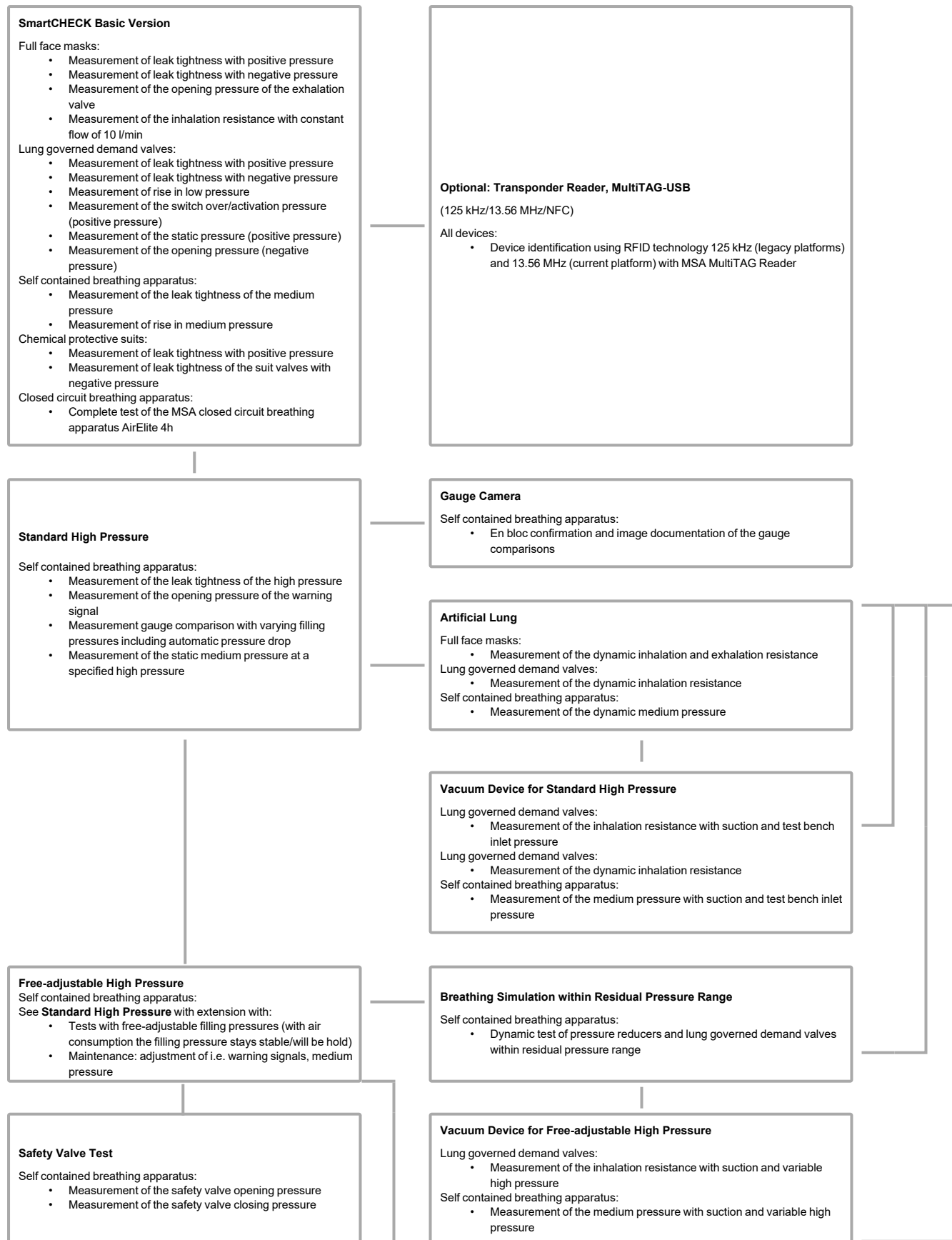


Tolerance and test values for other device manufacturers must be compared with the respective manufacturers or their servicing manuals. MSA accepts no liability for these values.

The user may modify or adjust the test data.

Standard devices are included in the pool database.

2.2 Tests Possible Depending on SmartCHECK Model

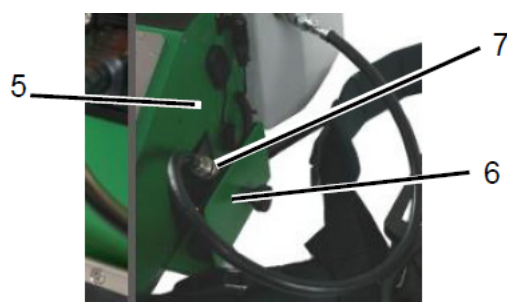
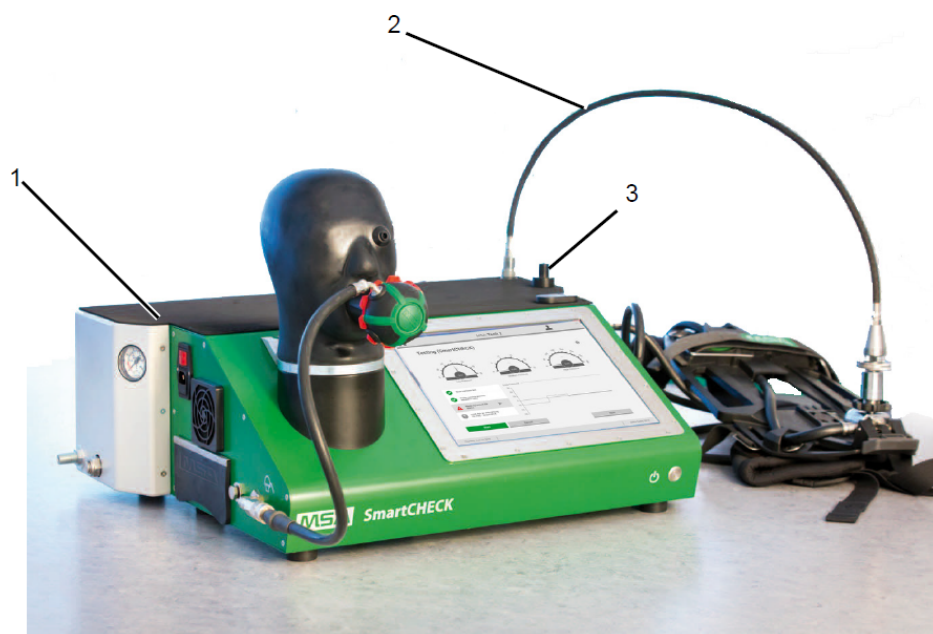


2.3 Operating Elements

SmartCHECK Modules

Additional features of the Modules version are shown below.

Figure 1 SmartCHECK Modules Version



- | | | | |
|---|--|----|---|
| 1 | Artificial lung and high pressure housing | 6 | Spring loaded drawer for fixing gauge during test |
| 2 | High pressure test line | 7 | Pressure gauge |
| 3 | Holder for high pressure test line when not in use | 8 | Pressure gauge camera (internal) |
| 4 | Test adapter | 9 | High pressure inlet |
| 5 | Microphone | 10 | Pressure gauge (inlet pressure) |

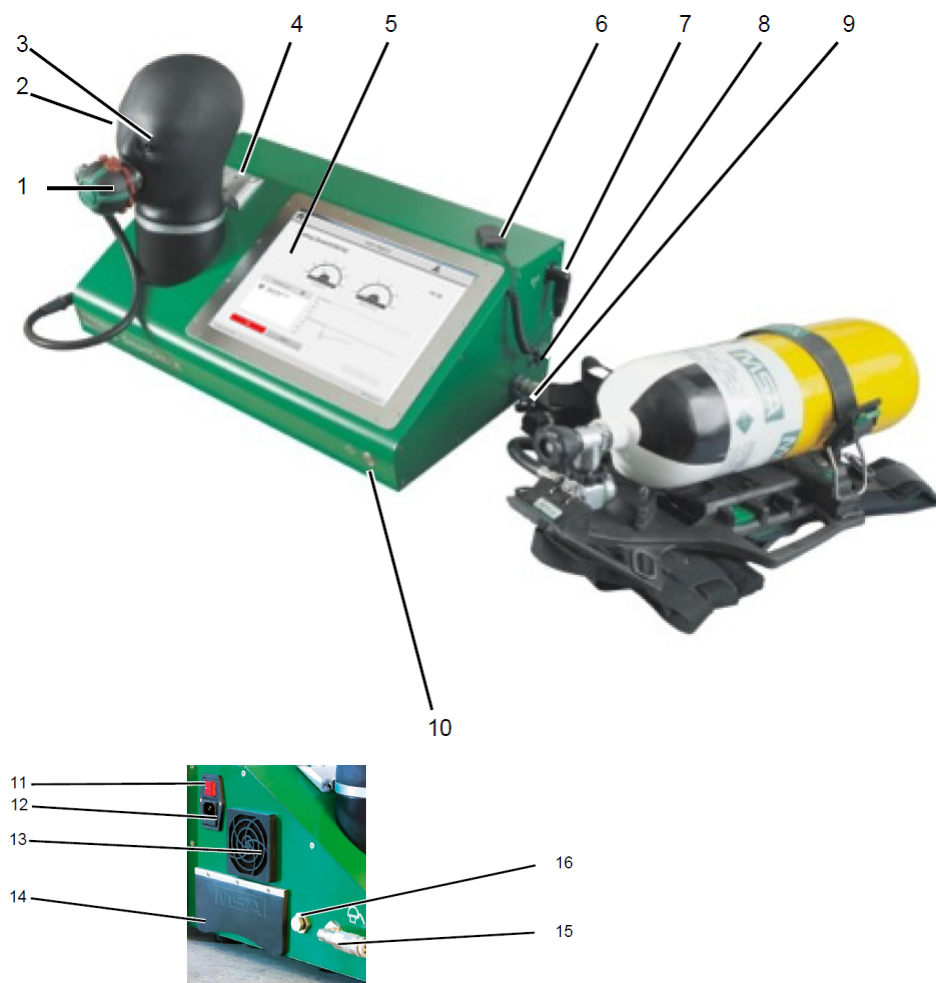
Minimal Configuration for PC Interfaces

The test bench is at least equipped with:

- 2 USB interfaces
- 1 Ethernet port
- 1 serial interface (COM)
- 1 monitor port

SmartCHECK Basic Version (depending on ATO configuration)

Figure 2 SmartCHECK Basic Version (depending on ATO configuration)



1 Connection for lung governed demand valve

2 Test head

3 Measuring point eye

4 Holder for adapter mask helmet combinations

5 Touch screen

6 Transponder antenna (not available for devices without internal transponder reader)

7 Connection for transponder antenna (not available for devices without internal transponder reader)

8 Manual pressure release

9 Medium pressure inlet (nipple) 4 - 10 bar

10 Push button

11 Main switch

12 Power connector/fuse

13 Test bench ventilation: fan with filter

14 PC Interfaces (see next page)

15 Medium pressure outlet (coupling)

16 Calibration connection test head

2.4 MultiTAG-USB Reader Installation



1. Connect the reader.

The installation is automatically done as keyboard emulation.

2. Restart the computer if necessary.

The reader is ready for use.

3 Basic Information Software

3.1 FireGrid Connection Requirements

- FireGrid account for Inventory Management (optional)
- Open communication on:
 - Port 443 to following addresses: <https://summon.msasafety.com/> and <https://camp.safetyio.com/>
- Internet Connection (not provided by MSA)

3.2 Touch Screen Functions

NOTICE

To prevent damage to the touch screen, avoid touching it with sharp objects. Only use fingers or the touch screen pen provided.



While the testing procedure has been optimised for touch screen operation, an external keyboard and a mouse are recommended for data base entries.

Calibration Touch Screen

1. Start the program to calibrate the touch screen via:
Start → All programs → eGalaxTouch → Configure utility (or use the equivalent desktop icon)
2. Tap on tab *Tools*.
3. On this tab, tap on *4 Points Calibration*.
Touch screen calibration opens.
The display shows a white screen with a reticle in the lower left corner.
4. Touch the reticle by finger or touch pen.
 - a. Keep finger or touch pen on the screen until the reticle turns blue.
5. Remove finger or touch pen.
The reticle moves to the lower right corner.
6. Carry out this calibration for all corners.
After calibration is finished, a pop-up- window is displayed.
7. Confirm this window with "OK", then leave the application with "OK".

Using the On-screen Keyboard

The handling of the on-screen keyboard is the same as of a standard keyboard.

The on-screen keyboard will appear when necessary. When minimised it can by default be found on the right side of the screen. Pressing the green panel displays a keyboard shortcut.

Figure 3 On-screen keyboard



3.3 Software Backup Options

MSA does not deliver any backup functionality with the SmartCHECK.

Using the Microsoft integrated backup and restore feature is recommended in combination with an external hard drive.

When using the database in a network please ensure your Administrator performs the related database backup.

3.3.1 Synchronised MSA Models

The following MSA respiratory models are synchronised with FireGrid:

1. M1 SCBA
2. M1 LGDV (AE/AS/AS-B/ESA)
3. G1 Facepiece (AE/AS/ESA/FPTC)
4. AirMaXX
5. AirGo
6. AutoMaXX (AE/AS/ESA/N)
7. UltraElite Facepiece (AE/AS/ESA/N)
8. 3S Facepiece (AE/AS/ESA/N)

List subject to change without notice.

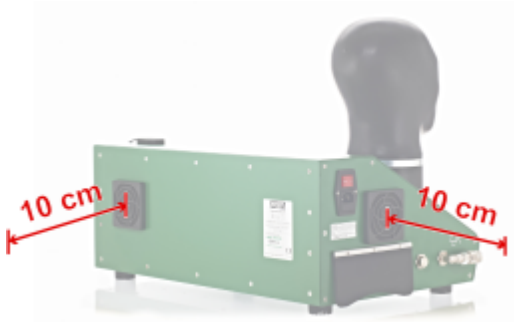
4 Startup

4.1 Setting Up

When setting up the test bench the following conditions have to be met:

- Set up the test bench on an even and stable surface. If necessary fix the test bench.
- Do not block or cover the fans of the test bench. During operation there has to be a minimum distance of 10 cm between the fans of the test bench (see [Figure 4](#)) and a wall.
- At the place of use, contact to water or other liquids must be avoided.
- The test bench may only be operated at temperatures between +5 °C and +60 °C and a relative humidity between 15 % and 80 %.
- During a test of devices the ambient conditions (temperature, humidity) must not change significantly.
- Only carry out tests with acclimatised devices.
- Avoid direct sunlight and proximity to strong electromagnetic fields to ensure reliable test results.

Figure 4 Minimum distances SmartCHECK basic



4.2 Switching On



The test bench is fully operational, all necessary software to operate the device is preinstalled. For testing devices and components no further software installation is required.

1. Attach the power cord to the test bench and connect to the power supply.
2. Optional: Connect transponder antenna (see chapter [2.3 Operating Elements, Figure 2](#)) or MultiTAG-USB reader (see chapter [2.4 MultiTAG-USB Reader Installation](#)) if available.
3. Optional: Connect high pressure feeding line, plug in high pressure test line.
4. Make sure that the opening of the test head is empty (no adapters attached) and clean.
5. Switch on test bench with the power switch on the left side of the test bench.

Power switch glows red.

6. Press push button.

Test bench is powered completely.

Push button glows green continuously.

Integrated computer begins to boot.

Operating system of the computer and testing software are started.

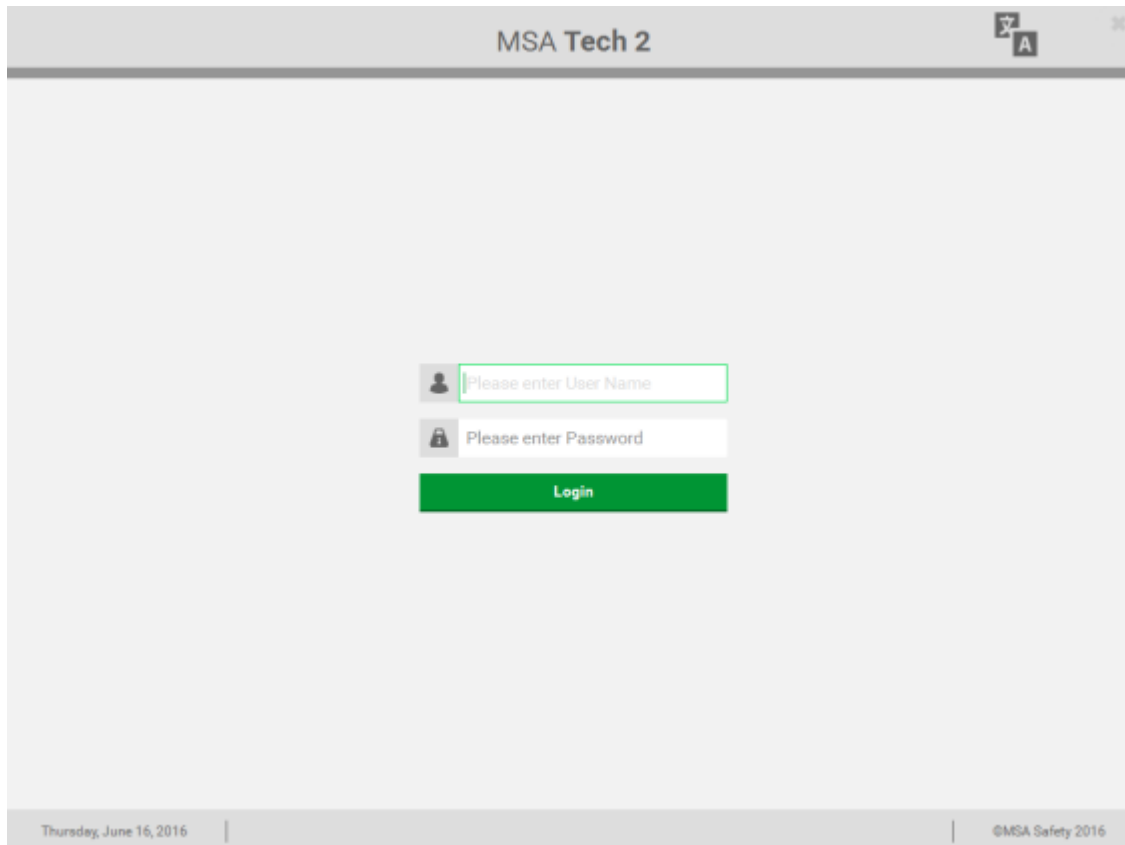


The software can be operated with the touch screen or with mouse and keyboard.

4.3 Logging In

1. Log-in by typing user name and password:

Figure 5 Log-In screen



The image shows the MSA Tech 2 Log-In screen. At the top, there is a header bar with the text "MSA Tech 2" on the left and a small icon with the letter "A" on the right. The main area of the screen is light gray and contains a login form in the center. The form consists of two input fields: the first is labeled "Please enter User Name" and has a user icon to its left; the second is labeled "Please enter Password" and has a lock icon to its left. Below these fields is a green button labeled "Login". At the bottom of the screen, there is a footer bar with the date "Thursday, June 16, 2016" on the left and the copyright notice "©MSA Safety 2016" on the right.

The user name is **admin**, the default password is **adminadmin** (not case sensitive).



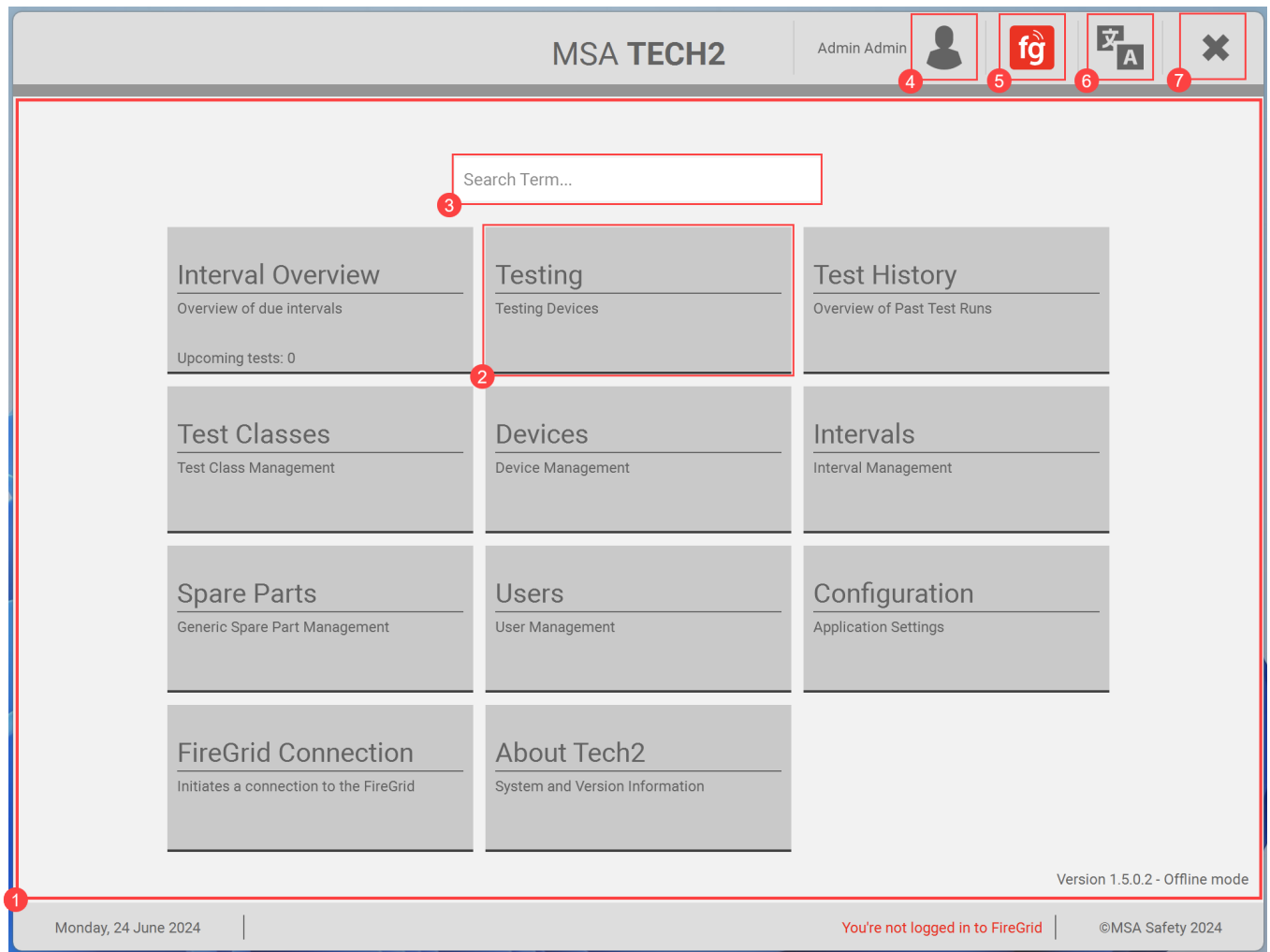
After logging in for the first time, change the password for the administrator.

The password can be changed in the User Management (see chapter [7.1 User Management](#)).

4.4 Main Menu

After logging in, the package navigator is displayed.

Figure 6 Main Menu



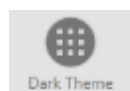
- | | |
|---------------------------------|-------------------|
| 1 Main menu (package navigator) | 5 FireGrid button |
| 2 Package tile | 6 Change language |
| 3 Entry search terms | 7 Close |
| 4 User log out | |

The Main Menu shows all available packages of the software.

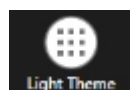
1. Tap on a package tile to open it.

With help of the context menu in the main menu screen the user has access to:

Dark Theme



Light Theme



1. Long press on the screen or open the context menu via the on-screen keyboard.

General User Interface Elements

Depending on context, settings can be changed with the following controls:

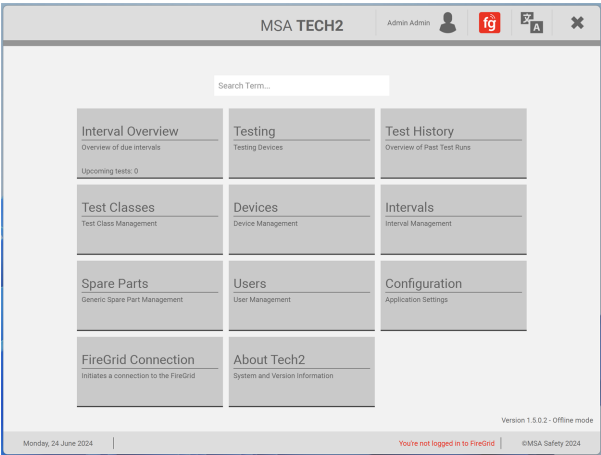
Text field	tapping on a text field activates the on-screen keyboard	10
Selection field	all options are shown after tapping on the arrow	Celsius
Radio button	Choose between two options	☒ ☐
Date	Dates can be entered directly or from the calendar after tapping on the calendar symbols.	15

Mandatory entries are marked with a red asterisk *****.

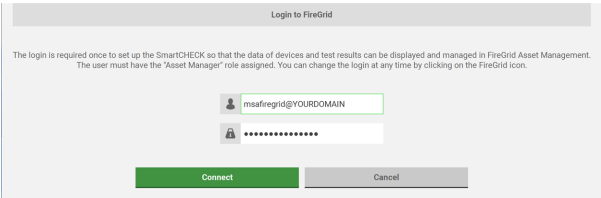
4.5 FireGrid Connection

FireGrid allows the local SmartCHECK data to be synchronised with the FireGrid Inventory.

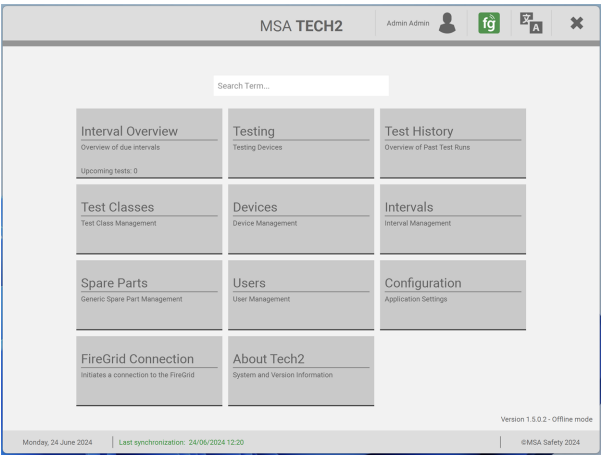
For details on FireGrid Inventory, see FireGrid Inventory manual.



Not connected.



Add user credentials.

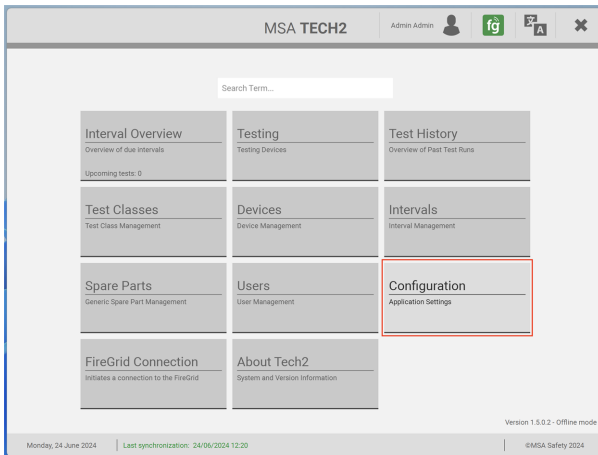


After login, the connection can be established and the login was successful.

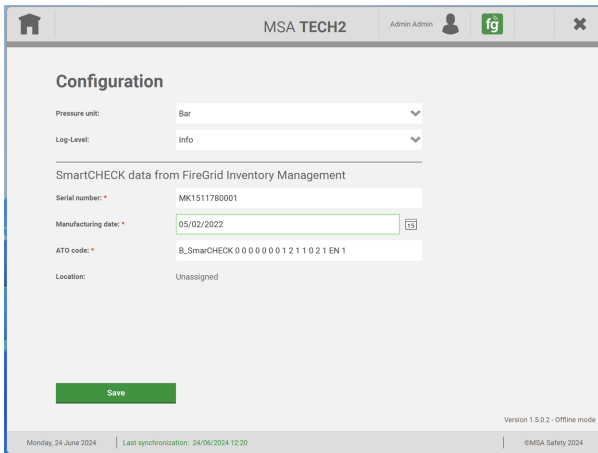
Last synchronisation date and time is displayed in green at the bottom.

Registering SmartCHECK to FireGrid

To register the SmartCHECK to FireGrid, the SmartCHECK has to be added to the Inventory with its Serial Number, ATO Code and Manufacturing Date.



1. Tap on *Configuration* to enter the device details for the SmartCHECK .



2. Select/enter the mandatory SmartCHECK details:

- Serial Number
- Manufacturing Date
- ATO Code

NOTE: Location can only be set after successful registration in FireGrid.

3. Confirm information with "Save" . The application confirms with



4. Confirm with OK.

The Connection is being established.

5. To initialise the connection, restart the application. The application then uses the existing Internet connection to register the SmartCHECK in FireGrid.
6. Refer to system requirements. After successful connection on restart, the *FG icon* in the toolbar is green and the last active synchronisation date is displayed.



Adding location information to FireGrid

1. Open <https://firegrid.safetyio.com> in a standard browser.
2. Change to *Inventory* and add location information to the module addresses to assign the created SmartCHECK asset.



Detailed information on FireGrid:

<https://docs.msasafety.com/firegrid/en-us/FireGrid/Overview.htm>

The SmartCHECK data can no longer be changed within the Configuration.

The location has been assigned to the SmartCHECK asset within FireGrid.

NOTE: If a SmartCHECK asset has an assigned address, the location within Tech2 and FireGrid will be set to the selected address identification when the device is tested on the SmartCHECK

Data Synchronisation

See chapter [3.3.1 Synchronised MSA Models](#).

5 Testing Information for all Devices

The following devices can be tested with the SmartCHECK TECH2:

- Masks
- Lung governed demand valves
- Breathing apparatus
- Chemical protective suits
- Closed circuit breathing apparatus
- Closed circuit breathing apparatus with constant dosage

The test bench accesses a database where test procedures and tolerance values are stored.

WARNING!

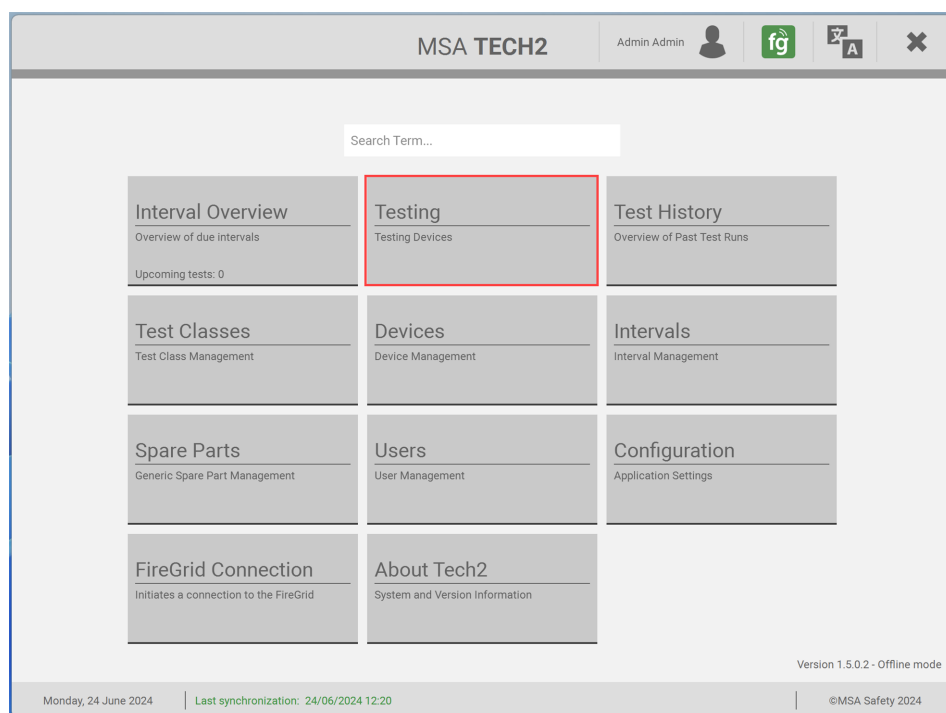
Specifications of the device to be tested and national regulations apply.

The data base entries must comply with the specifications of the devices to be tested.

Failure to follow this warning can result in serious personal injury or death.

5.1 Starting the Test Software

Figure 7 Starting the testing software



1. Tap on the package *Testing*.

The test bench starts, the internal pump fills the test head.

5.2 Connecting Devices

The testing software describes the connection of standard devices.



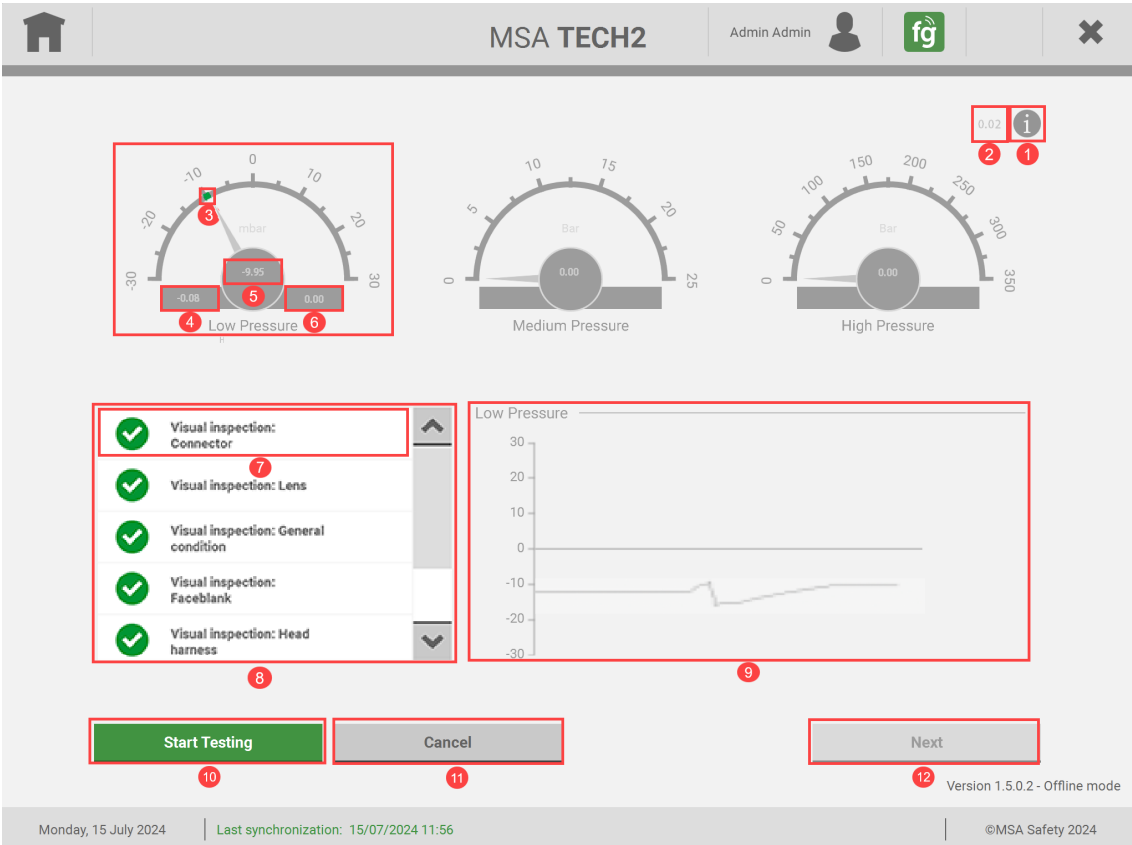
For testing special accessories may be necessary. For detailed information see chapter [10 Ordering Information](#) and the operating manual of the device to be tested.

The testing software provides illustrations how to connect a device. Depending on the type of construction there may be deviations.

1. Follow the on-screen instructions, which can vary depending on the selected type of device.

5.3 Overview Test Screen

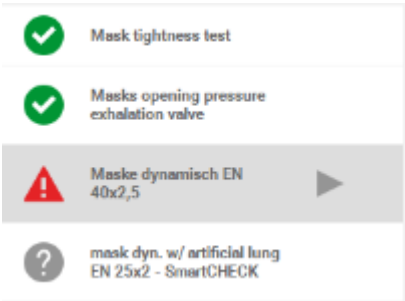
Figure 8 Overview Test Screen



- | | | | |
|---|--|----|--|
| 1 | Device information | 7 | Current test |
| 2 | Timer (Countdown) | 8 | List of tests |
| 3 | Display of tolerance range | 9 | Pressure curve (with graphical tolerance values) |
| 4 | Negative pressure deviation from start value | 10 | Start or stop the test from the list |
| 5 | Current measurement | 11 | End the test and open device selection |
| 6 | Positive pressure deviation from start value | 12 | Go to next page (active after test has finished) |

5.4 Manual Operation

Figure 9 During a test



All tests necessary for the device are listed as buttons.

Tests which have been successfully completed are marked with a green checkmark. Failed or stopped tests are marked with a red exclamation mark. Active, running tests are highlighted grey. Tests not started are marked with a question mark.

During the automatic test process, each test is carried out successively. When an error is detected, the test stops. The test can be repeated or aborted.

Each test can also be started individually by tapping on the start arrow or by tapping *Start Testing*.

Tapping once on a test shows the results of this test if test has already been carried out. Tapping once on a test not yet carried out marks this test, tapping on *Start* starts with this test and the following tests are carried out successively similar to the automatic test routine.



While a test is active and running, only *Cancel* can be used. It is not possible to mark or start tests while they are carried out.

Stop stops a running test, but the system stays pressurised.

Cancel stops a running test, the system depressurises.

5.5 Test Criteria for MSA Respiratory Protection Apparatus

Test criteria are subject to national regulations, applicable national regulations must be observed. For orientation, MSA recommended test criteria can be found in the service manuals for the devices to be tested.

6 Testing Devices



For testing special accessories may be necessary. For detailed information see chapter 10 Ordering Information and the operating manual of the device to be tested.

6.1 Masks

Figure 10 Selecting a device for testing

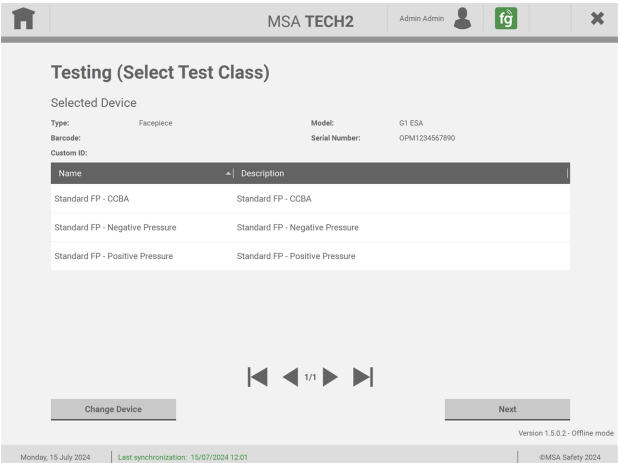


1. Switch on the test bench and log in (see chapter 4.3 Logging In).
2. Start testing by tapping on *Testing* (see chapter 4.4 Main Menu).
3. Select a device for testing. To find a device, enter a search term to the search field and tap on *Search*.

The following identification data are available:

- Device sort (for example full face mask)
 - Device type (for example 3S)
 - Bar code
 - Transponder
 - Serial number
4. Tap on *Next*.

Figure 11 Test class



All test classes applicable for the device sort are listed.

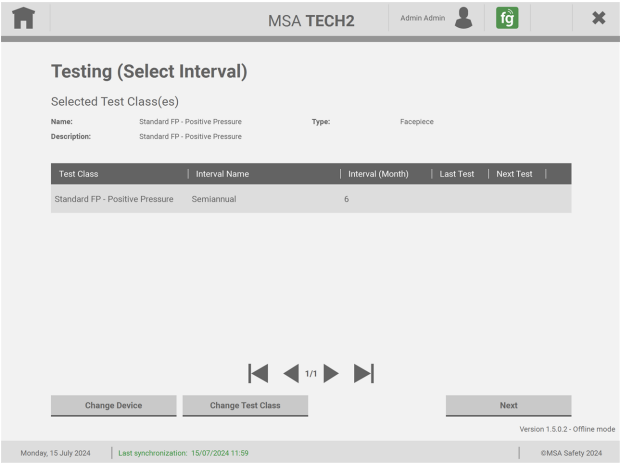
The test class specifies:

- Test intervals
- Spare parts

Test steps with the relevant test specifications

5. Choose the test class applicable for the device.
6. Tap on *Next*.

Figure 12 Test interval



7. Choose the test interval by selecting the displayed entry if multiple entries are displayed select one.

Figure 13 Overview material

Testing (Select Spare Parts)

Selected Test Class(es)

Name: Standard FP - Positive Pressure Type: Facepiece

Description: Standard FP - Positive Pressure

Test Class	Name	Interval (Month)	Last Test	Next Test	Serial Number	Manufacturing Date
☐	Standard FP - Check valves	0				
☐	Standard FP - Exhalation valve	48				
☐	Standard FP - Inhalation valve	0				
☐	Standard FP - Speech diaphragm	72				

Navigation: Back 1/1 Next

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An overview of materials to be used is shown.

8. Choose the used material.

9. Tap on *Next*.

Figure 14 Test screen

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Visual Inspection:

- Connector
- Lens
- General condition
- Faceplate
- Head harness

Start Testing Cancel Next

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The test screen is shown.

10. Tap on *Start Testing*.

Figure 15 Connect mask

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1. Put facepiece onto test head.
2. Pull harness tight.
3. Screw locking screw into lgdv connector.

Yes No

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An illustrated description shows how the device has to be connected.

11. Connect mask to test bench according to instructions.

12. Tap on *Yes*.

The test routine starts.

Figure 16 Test proceeds



Figure 17 Test finished

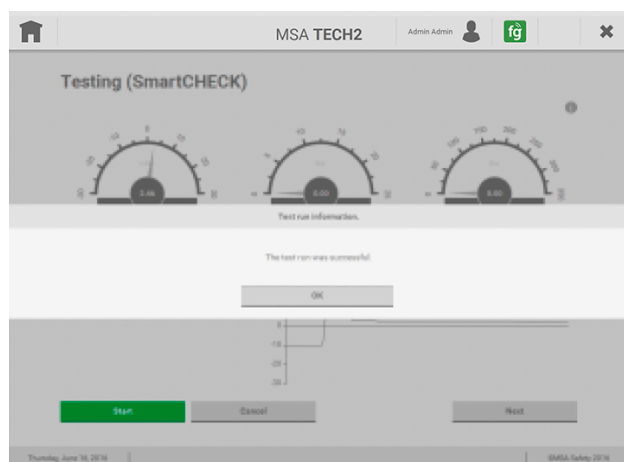
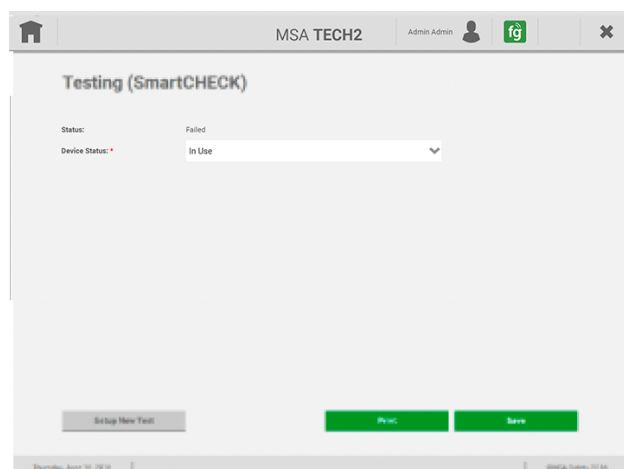


Figure 18 Testing summary options



The start button changes into a stop button. By clicking on *Cancel* you can interrupt the test at any time.

All test necessary for the device are listed as buttons.

Tests which have been successfully completed are marked with a green check mark. Failed tests are marked with a red exclamation mark. Active, running tests are highlighted grey (see chapter 5.4 [Manual Operation](#)).

Once the test procedure has been started, all test sequences proceed completely automatically.

If one of the test fails, the test is aborted and can be started again.

Once the test is finished, a message is displayed to be confirmed by the user.

The test screen is shown.

13. Tap on *Start Testing*.

After a successful test, all individual tests are marked with a green check mark.

14. Tap on *Next* to continue.

The final screen of the testing procedure offers the following options:

Device Status to be selected by the user:

- *In Use* - Device is back in use
- *Service needed* - Test failed and repair is required
- *Retired* - Device to be taken out of service
- *Stock* - Device is put into stock

The *Device Status* is synchronised to FireGrid in combination with SmartCHECK location, test protocol as PDF, test result, next test date.

Setup New Test

The program switches to the device selection within the testing process.

Print

The test report is printed (see chapter 7.8 [Printing](#)). Note: It is necessary to save a test before printing.

Save

The test is saved.

Exit program

The program is ended and the test bench shuts down.

6.2 Lung Governed Demand Valves

The following tests can be carried out for lung governed demand valves (DV):

- DV tightness test positive.
- DV control piston leak test with medium pressure.
- DV switch-over pressure.
- DV static closing pressure.
- DV dynamic breathing resistance with lung simulator (with or without mask)

The test procedure is similar as described for masks (see chapter [6.1 Masks](#)). The screens will appear in the same order, but contain device specific information.

Connecting Medium Pressure Line (for Basic Configuration)

Figure 19 Connecting medium pressure line



1. Supply test device with medium pressure 6 - 10 bar.

NOTICE

In order to test a lung governed demand valve, medium pressure is required otherwise the test bench can be damaged.

Connecting High Pressure Lines (for Configurations with High Pressure Module)

Figure 20 Connecting high pressure lines



1. Open high pressure connection. Watch for sufficient primary pressure.
2. Test preparation: Connect breathing apparatus with high pressure outlet (use Click-adaptor when necessary).
3. Connect breathing apparatus with medium pressure input (use medium pressure hose extension when necessary).

⚠ WARNING!

In order to test a lung governed demand valve, a compressed air breathing apparatus has to be connected. Use the medium pressure from the compressed air breathing apparatus to carry out the breathing tests.

Failure to follow this warning can result in serious personal injury or death.

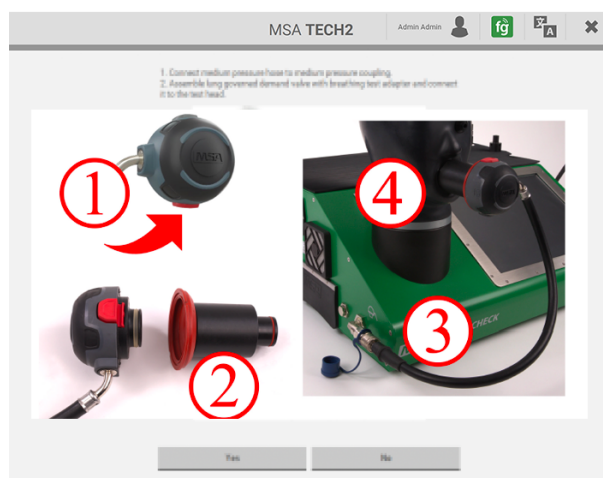
Connecting Adapter

Figure 21 Connecting Lung Governed Demand Valve



1. Demand valve must be in standby.
2. Connect DV with adapter.
3. Connect medium pressure hose to medium pressure coupling.
4. Connect combination of adapter/demand valve with test head.

Figure 22 Connecting the Lung Governed Demand Valve Screen



5. Proceed as described in chapter [6.1 Masks](#).
6. Connect the lung governed demand valve as illustrated.
7. Continue with the test as described in chapter [6.1 Masks](#).

After testing is completely finished

Basic Configuration

- After testing is completely finished, close the medium pressure line (e.g. by closing the cylinder valve) and depressurise the test bench using the button for discharging medium pressure.

Now the medium pressure line can be removed effortlessly.

Configurations with High Pressure Module

- After testing is completely finished, the test bench depressurises automatically.

Now the pressure lines can be removed effortlessly.

6.3 Compressed Air Breathing Apparatus

The following tests can be carried out for compressed air breathing apparatus (SCBA):

- High pressure tightness test
- SCBA Medium pressure test
- Pressure gauge comparison test
- Warning signal test

The test procedure is similar as described for masks (see chapter [6.1 Masks](#)). The screens will appear in the same order, but contain device specific information.

Connecting Medium Pressure Line (for Basic Configuration)

Figure 23 Connecting Breathing Apparatus



1. Connect medium pressure hose of SCBA to test bench medium pressure coupling.
2. Open the cylinder.
3. Adjust high pressure to 200 bar.

Connecting High Pressure Lines (for Configurations with High Pressure Module)

⚠ WARNING!

Only start testing after all necessary connections have been made in the correct order. Otherwise the high pressure line could be propelled uncontrollably by the escaping air.

Failure to follow this warning can result in serious personal injury or death.

Figure 24 Connecting high pressure line



1. Open high pressure connection. Watch for sufficient primary pressure.
2. Test preparation: Connect breathing apparatus with high pressure outlet.
3. For SCBA not equipped with the alpha-click system: Connect the SCBA test adapter to the pressure reducer.
4. Connect breathing apparatus with medium pressure input (use medium pressure hose extension when necessary).

1. Proceed as described in chapter [6.1 Masks](#).
2. Connect the compressed air breathing apparatus as described on the screen.
3. Continue with the test as described in chapter [6.1 Masks](#).

After testing is completely finished

Basic Configuration

- After testing is completely finished, close the medium pressure line (e.g. by closing the cylinder valve) and depressurise the test bench using the button for discharging medium pressure.

Now the medium pressure line can be removed effortlessly.

Configurations with High Pressure Module

For SCBA equipped with the alpha-click system:

- After testing is completely finished, the test bench depressurises automatically.

Now the pressure lines can be removed effortlessly.

For SCBA **not** equipped with the alpha-click system:

WARNING!

Always carry out the disconnection procedure completely as described below in the correct order.

Failure to follow this warning can result in serious personal injury or death.

1. After testing is completely finished, the test bench depressurises automatically.
2. Disconnect the SCBA test adapter from the high pressure test line.
3. Disconnect the test adapter from the pressure reducer.

Now the pressure lines can be removed effortlessly.

6.4 Chemical Protective Suit

The following tests can be carried out for chemical protective suits:

- CPS stabilising pressure
- CPS tightness test
- CPS valve test 1...6

The test procedure is similar as described for masks (see chapter [6.1 Masks](#)). The screens will appear in the same order, but contain device specific information.

WARNING!

Watch the filling and test sequence.

Failure to follow this warning can result in serious personal injury or death.

Connecting Medium Pressure Line (for Basic Configuration)

Figure 25 Connecting medium pressure line



1. Supply test device with medium pressure 6 - 10 bar.

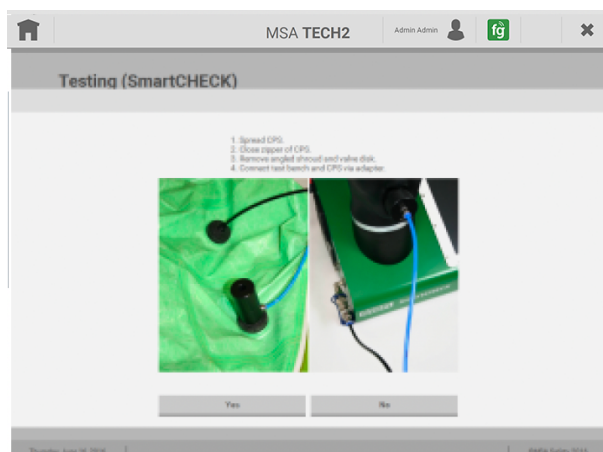
Connecting High Pressure Lines (for Configurations with High Pressure Module)

Figure 26 Connecting high pressure line



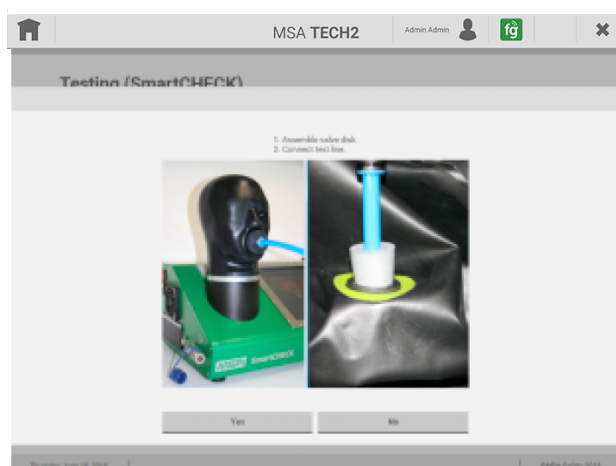
2. Open high pressure connection. Watch for sufficient primary pressure.
3. Test preparation: Connect breathing apparatus with high pressure outlet (use Click-adaptor when necessary).
4. Connect breathing apparatus with medium pressure input (use medium pressure hose extension when necessary).

Figure 27 Connecting CPS



1. Spread CPS (see fig. [Figure 29](#)).
2. Close zipper of CPS.
3. Remove angled prechamber and valve disks.
4. Connect test bench and CPS via adapter.
5. **Watch the filling and test sequence.**

Figure 28 Connecting CPS



6. Assemble valve disk.
7. Connect test line.

Figure 29 Spreading out CPS



1. Proceed as described in chapter [6.1 Masks](#).
2. Spread out and connect the chemical protective suit.
3. Continue with the test as described in chapter [6.1 Masks](#).

After testing is completely finished

Basic Configuration

- After testing is completely finished, close the medium pressure line (e.g. by closing the cylinder valve) and depressurise the test bench using the button for discharging medium pressure.

Now the medium pressure line can be removed effortlessly.

Configurations with High Pressure Module

- After testing is completely finished, the test bench depressurises automatically.

Now the pressure lines can be removed effortlessly.

6.5 Closed Circuit Breathing Apparatus

The following tests can be carried out for Closed Circuit Breathing Apparatus:

- Inhalation valve
- Exhalation valve

6 Testing Devices

- Tightness test
- Surplus valve
- Make device operational ready
- IC-Air test

The test procedure is similar as described for masks (see chapter [6.1 Masks](#)). The screens will appear in the same order, but contain device specific information.

WARNING!

For testing the Closed Circuit Breathing Apparatus the battery must be disconnected from the electronic distributor. Otherwise the respiratory protective device will be started.

Failure to follow this warning can result in serious personal injury or death.

Tightness test must be executed with dry air only.

The testing procedure requires the tester to change connections at certain points for certain tests. All safety related steps regarding the equipment will be displayed at the appropriate time, showing these messages cannot be switched off. Here all necessary actions are listed for an overview.

Disconnecting battery

Figure 30 Disconnecting battery of closed circuit breathing apparatus



1. Disconnect battery from the electronic distributor before test.

Inhalation/Exhalation Valve

Figure 31 Connecting adapter hose to test head.



1. Connect adapter hose with inserted adapter unit to test head.

Figure 32 Screwing adapter into inhalation side



2. Screw adapter into inhalation side (marked white at the top) of the respiratory protective device.

Figure 33 Screwing adapter into exhalation side



3. Screw adapter into exhalation side (bottom) of the respiratory protective device.

Tightness Test/Surplus Valve

Figure 34 Connecting breathing hose assembly to test head



1. Remove the breathing hose assembly from the socket on the left hand shoulder harness.
2. Connect the breathing hose assembly with adapter to the test head.

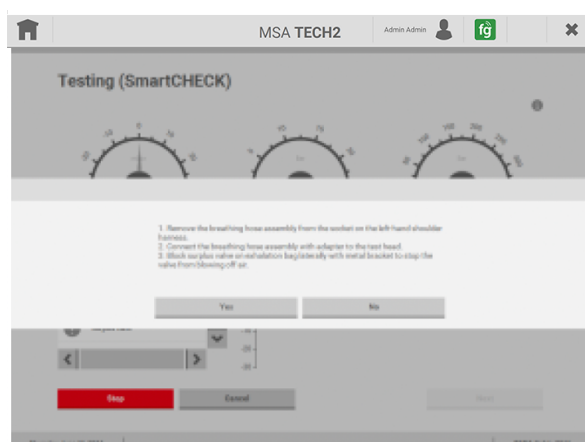
Tightness Test/Surplus Valve

Figure 35 Blocking surplus valve on exhalation bag



3. Block surplus valve on exhalation bag laterally with metal bracket to stop the valve from blowing off air.

Figure 36 Connecting breathing hose assembly with adapter



1. Proceed as described in chapter [6.1 Masks](#).
2. Follow the instructions regarding adapters and connections displayed by the software.
3. After testing is finished, make sure that the apparatus is ready for use again:
 - a. Unblock surplus valve on exhalation bag laterally (remove metal bracket).
 - b. Carry out self-test (IC-Active test).

6.6 Closed Circuit Breathing Apparatus with Constant Dosage

The SmartCHECK has been tested by BAM (Federal Institute for Materials Research and Testing) for safety with regards to operating with oxygen.

The following tests can be carried out for Closed Circuit Breathing Apparatus with Constant Dosage:

- Low pressure warning
- Leak test with negative pressure
- Inhalation valve
- Exhalation valve
- Drainage valve
- Relief pressure valve
- High pressure leak test
- Constant dosage
- Minimum valve
- Bypass valve
- Residual pressure warning

The test procedure is similar as described for masks (see chapter [6.1 Masks](#)). The screens will appear in the same order, but contain device specific information.

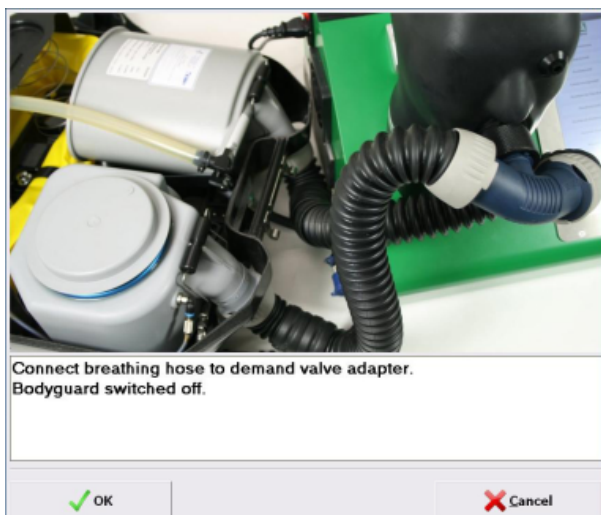
⚠ WARNING!

During the testing procedure the software displays several warnings. Follow all instructions given in those warnings to avoid damage to the test equipment or the test bench.

Failure to follow this warning can result in serious personal injury or death.

The testing procedure requires the tester to change connections at certain points for certain tests. All safety related steps regarding the equipment will be displayed at the appropriate time, showing these messages cannot be switched off. Here all necessary actions are listed for an overview.

Figure 37 Connecting device



1. Connect breathing hose to demand valve adapter.
2. Bodyguard switched off.

Figure 38 Bypass



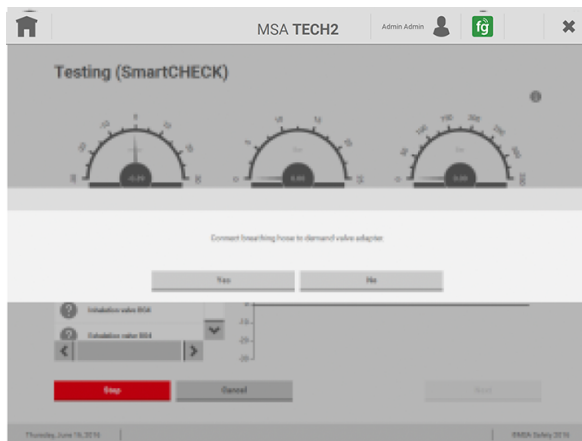
1. Push red button of the bypass valve briefly.
Oxygen shall be audible when flowing into the closed circuit system (flow noise).

Figure 39 Sealing cap



1. Put the open side of the sealing cap R 22 086 over the plunger.
2. Hold sealing cap until the filled breathing bag is holding it.

Figure 40 Connecting breathing hose assembly



1. Proceed as described in chapter [6.1 Masks](#).
2. Follow the instructions regarding adapters and connections displayed by the software.
3. After testing is finished, make sure that the apparatus is ready for use again.

7 Using the Software

The illustrations featured may vary due to software updates and different licences.

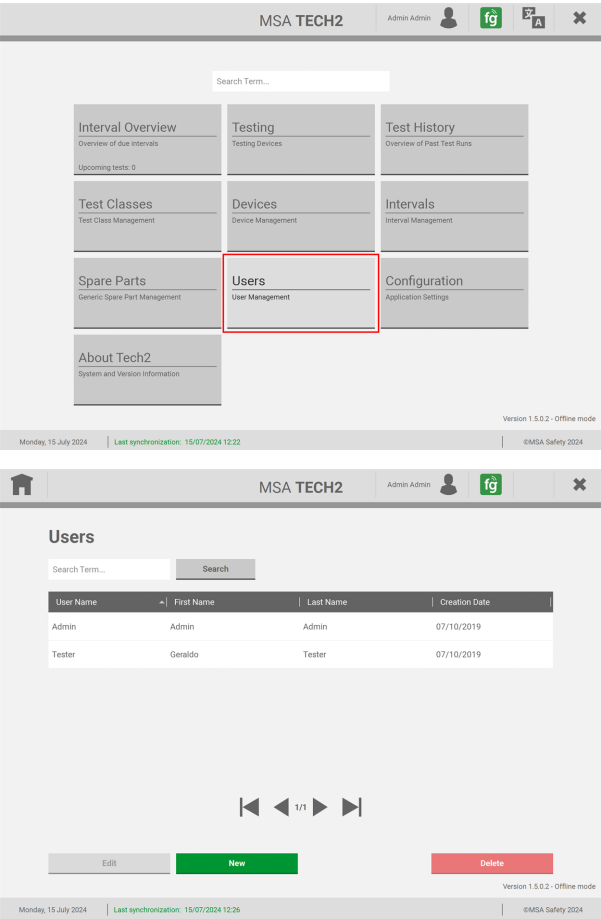


- While the testing procedure has been optimised for touch screen operation, an external keyboard and a mouse are only recommended for data base entries.
- To avoid losing saved tests and data base entries, make sure that the main database is backed up continuously.
- Do not delete the user, tests may be stored under the ID number.
- It is recommended to install an antivirus software on the test bench.
- MSA offers software maintenance contracts, contact MSA for details.
- If problems occur with the software that cannot be fixed, contact MSA.

If the test bench is integrated in a network, further licenses may be necessary, because the license included in the scope of delivery is a single-user license (see chapter 10 Ordering Information).

7.1 User Management

In this package, the user accounts of the test bench can be edited, created or deleted.



1. Choose *Users* in the main menu.

All users are listed.

2. To add or edit a user, tap on the relevant button.

MSA TECH2

Admin Admin

fg

⌵

⌵

✕

Users

Salutation:

User Name: *

User Name

First Name: *

First Name

Last Name: *

Last Name

Email:

Email

Password: *

Password

Confirm Password: *

Confirm Password

RFID:

Connect

User Role: *

Tester

Force Password Change:

☐

Back

New

Save

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3. Enter the data.
4. Save changes with Save.

Passwords must be at least 8 characters long without any restrictions concerning choice of characters.

To connect the user account to the SmartCHECK logon card, press the *Connect* button and follow the instructions on the screen.

User cards can only be assigned to one person.

Several User Roles are available and can be selected for the user (see table below).

NOTE:

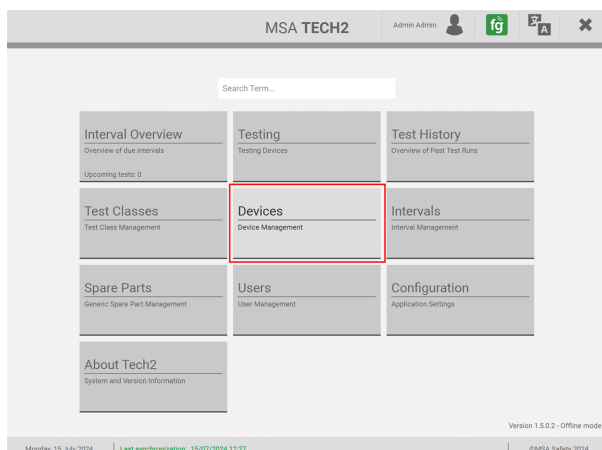
- To avoid losing saved tests and data base entries, make sure that the main database is backed up continuously.
- Do not delete the user, tests may be stored under the ID.

Table 1 User Roles

Package	Action	Administrator	Tester	Manager	Exporter
Devices	Add	X	X	X	X
	Edit	X	X	X	X
	Details	X	X	X	X
	Manage Models	X		X	X
Spare Parts	Add	X		X	X
	Edit	X		X	X
	Delete	X			
Intervals	Add	X		X	X
	Edit	X		X	X
	Delete	X			
Interval Overview	View	X	X	X	X
Testing	Use	X	X	X	X
Test History	View	X	X	X	X
	Details	X	X	X	X
	Export Test Runs	X			X
	Reset Export	X			X
User Management	Add	X			
	Edit	X			
	Delete	X			
	Edit own dataset	X	X	X	X
	Change own role				
Test Classes	Add	X		X	X
	Edit	X		X	X
	Delete	X			
Configuration	View	X			
Free Testing	View	X	X	X	X

7.2 Devices

In this package, device data can be changed, deleted or created.



1. Choose *Devices* in the main menu.

All devices saved in the data base are listed.

7.2.1 Editing Devices

1. Select a device from the list:

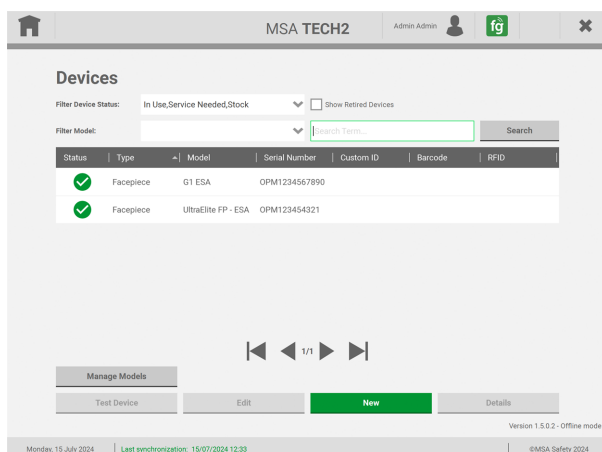
Using the search field, the number of data sets can be limited.

The following identification data are available:

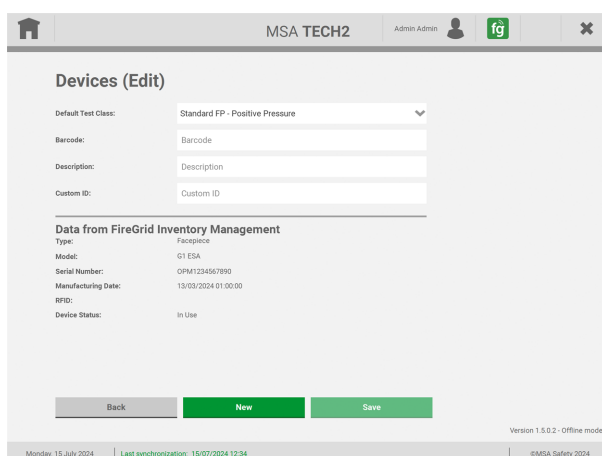
- Type* (e.g. Facepiece)
- Model (e.g. G1 ESA)
- Serial Number
- Custom ID
- Barcode
- RFID

* If SCBA is selected as the Type, the optional Control Module Radio Serial Number data field is displayed and can be added.

If added in combination with Telemetry, FireGrid is able to keep track of the hours under pressure for the devices.



When used with FireGrid, equipment should be entered in FireGrid as FireGrid provides more options for entering equipment related data.



2. Open the data set with *Edit*.

- a. When the device is synchronised with FireGrid, not all data fields can be edited.
- b. When the device is not synchronised with FireGrid, all data fields can be edited.

MSA TECH2

Admin Admin

fg

Devices (Edit)

Type: *

Facepiece

Model: *

UltraElite FP - ESA

Serial Number: *

OPM123454321

Manufacturing Date:

10/10/2019

RFID:

RFID

Device Status: *

In Use

Default Test Class:

Standard FP - Positive Pressure

Barcode:

Barcode

Description:

Description

Custom ID:

Custom ID

Back

New

Save

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3. Make the necessary changes.
4. Save with Save.

7.2.2 Adding Devices

MSA TECH2

Admin Admin

fg

Devices

Filter Device Status:

In Use,Service Needed,Stock

Show Retired Devices

Filter Model:

opm

Search

Status	Type	Model	Serial Number	Custom ID	Barcode	RFID
	Facepiece	G1 ESA	OPM1234567890			
	Facepiece	UltraElite FP - ESA	OPM123454321			

Manage Models

Test Device

Edit

New

Details

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1. In the device list, open a new data set with New.

MSA TECH2

Admin Admin

fg

Devices

Type: *

Facepiece

Model: *

G1 ESA

Default Test Class:

Standard FP - Positive Pressure

Serial Number: *

OPM1234567890

The serial number is not unique in combination with the type.

Barcode:

Barcode

RFID:

RFID

Manufacturing Date:

Description:

Description

Device Status: *

Custom ID:

Custom ID

Back

New

Save

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Serial Number and barcode must be unique per Type. Transponder/RFID must be unique throughout the application as a unique identifier.

The application already checks the Serial Number during entry to prevent duplicate entries per model.

- a. Serial number exists.

MSA TECH2

Admin Admin

fg

Devices

Type: *
Model: *
Default Test Class:
Serial Number: *
Barcode:
RFID:
Manufacturing Date:
Description:
Device Status: *
Custom ID:

Facepiece

G1 ESA

Standard FP - Positive Pressure

OPM1234567891

Barcode

RFID

13/02/2024

Description

Custom ID

Serial Number is available for this type

Back

New

Save

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b. Serial number is free to choose.

MSA TECH2

Admin Admin

fg

Devices

Type: *
Model: *
Default Test Class:
Serial Number: *
Barcode:
RFID:
Manufacturing Date:
Description:
Device Status: *
Custom ID:

Facepiece

G1 ESA

Standard FP - Positive Pressure

OPM1234567891

Barcode

RFID

13/02/2024

Description

In Use

Custom ID

Serial Number is available for this type

Back

New

Save

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2. Make the necessary entries.
3. Save with **Save**.

7.2.3 Detail View

MSA TECH2

Admin Admin

fg

Devices

Filter Device Status: In Use,Service Needed,Stock

Show Retired Devices

Filter Model:

Search Term:

Search

Status	Type	Model	Serial Number	Custom ID	Barcode	RFID
✓	Facepiece	G1 ESA	OPM1234567890			
✓	Facepiece	UltraElite FP - ESA	OPM123454321			

Manage Models

Test Device

Edit

New

Details

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1. Select a device from the list.

MSA TECH2

Admin Admin

fg

Devices (Details)

Type: *
Model: *
Manufacturing Date:
Description:
Device Status:
Last Device Status:

Facepiece

G1 ESA

13/03/2024

In Use (Admin, 15/07/2024)

In Use

Barcode:
RFID:
Serial Number:
Custom ID:
Location:
Assigner:

OPM1234567890

Due Date
Interval

No data.

Due Date
Spare Part

No data.

Back

Edit

Spare Part History

Test Run History

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2. Tap on *Details*.

Listed are:

- Intervals related to the device
- Spare parts with the exchange date

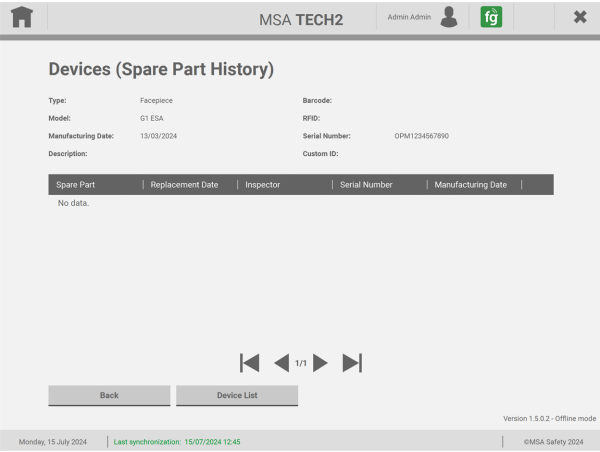
Shows more detailed information from FireGrid as well as locally stored information.

3. Open the spare part history with *History of Spare Parts / Test Run History*.

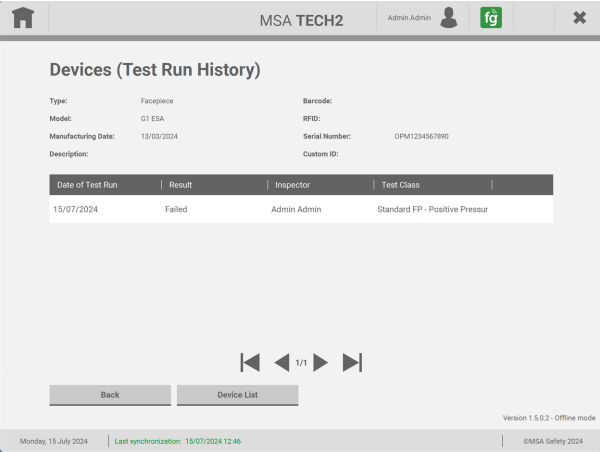
GB

39

7 Using the Software



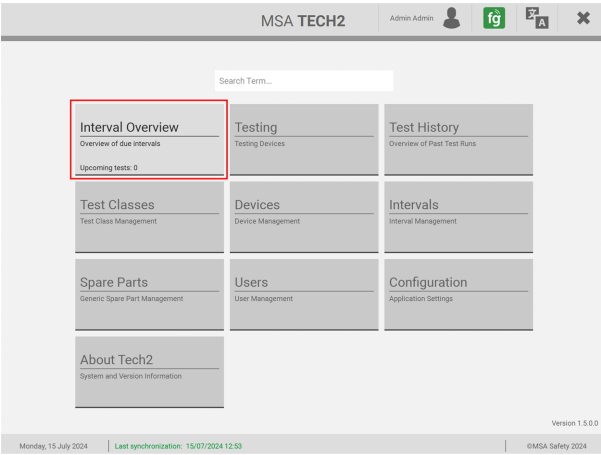
The spare parts are listed.



The test runs are shown.

7.3 Interval Overview

The Interval Overview allows to keep track of due intervals for tests and spare parts. The number of overdue tests is displayed directly on the tile.



MSA TECH2 Admin Admin fg A X

Interval Overview (Due List)

Time Filter: Today From: To: 31/07/2024

Type: Model: Spare Parts:

Search

Model (Type)	Serial Number	Custom ID	Barcode	Due Date	Interval Name	Spare Part Name
No data.						

Total: 0

Analyze Print

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MSA TECH2 Admin Admin fg A X

Interval Overview (Due List)

Time Filter: Today From: To: 31/07/2024

Type: LGDV Model: Spare Parts:

Search

Model (Type)	Serial Number	Custom ID	Barcode	Due Date	Interval Name	Spare Part Name
No data.						

Total: 0

Analyze Print

Version 1.5.0.0

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MSA TECH2 Admin Admin fg A X

Interval Overview (Due List)

Time Filter: Next 365 Days From: To: 31/07/2025

Type: LGDV Model: Spare Parts:

Search

Model (Type)	Serial Number	Custom ID	Barcode	Due Date	Interval Name	Spare Part Name
▼ (1) M1 LGDV ESA (LGDV)				04/07/2025		
▼ (1) M1 LGDV ESA (LGDV)				04/07/2025		
▼ (1) M1 LGDV ESA (LGDV)				30/05/2025		
▼ (1) M1 LGDV ESA (LGDV)				08/03/2025		
▼ (1) M1 LGDV ESA (LGDV)				13/04/2025		

Total: 1059

Analyze Print

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The Due List allows detailed filtering of due tests with individual preferences:

- *Custom* allows to select an individual time period using the date picker fields to specify a time frame.
- *Today* allows to see all due tests that are due today.
- *Tomorrow* allows to see all due tests that are due tomorrow.
- *Next 7 Days* allows to see all due tests in the next 7 days, etc.

Additional filters can be selected based on Type and Model or Part. Perform the search by pressing *Search*.

Depending on the search selections the application displays the due intervals on individual pages.

Analyze provides an overview of required spares.

Print allows to print the current view of devices that are due for testing.

7.4 Intervals

In this package, the test intervals for the devices can be changed, created or deleted.

MSA TECH2 Admin Admin fg A X

Search Term...

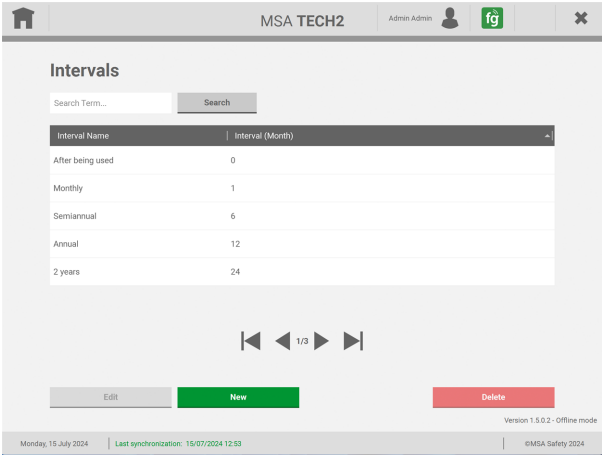
Interval Overview Overview of due intervals Upcoming tests: 0	Testing Testing Devices	Test History Overview of Past Test Runs
Test Classes Test Class Management	Devices Device Management	Intervals Interval Management
Spare Parts Generic Spare Part Management	Users User Management	Configuration Application Settings
About Tech2 System and Version Information		

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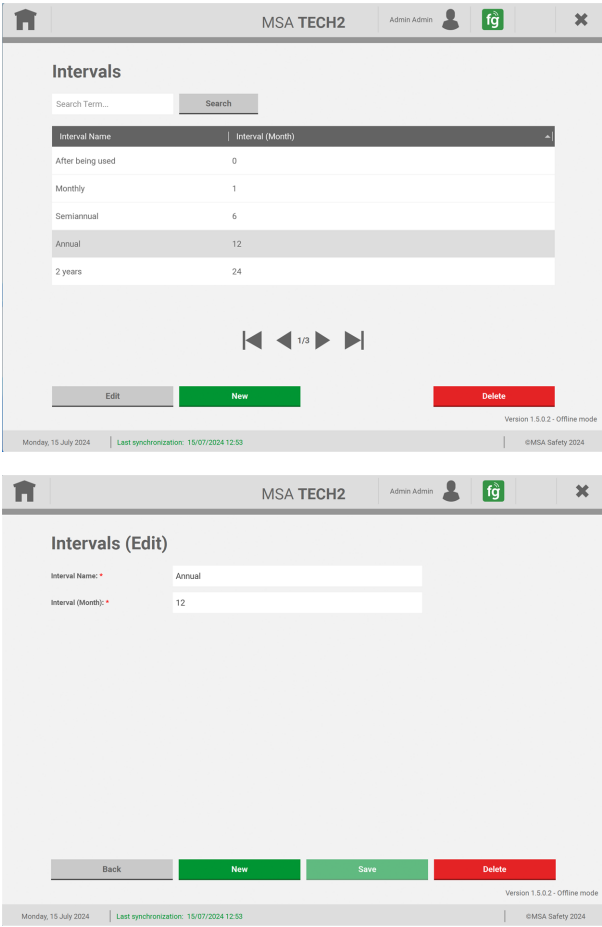
1. Choose *Intervals* in the main menu.

7 Using the Software



All possible test intervals for the devices are listed.

7.4.1 Editing Intervals

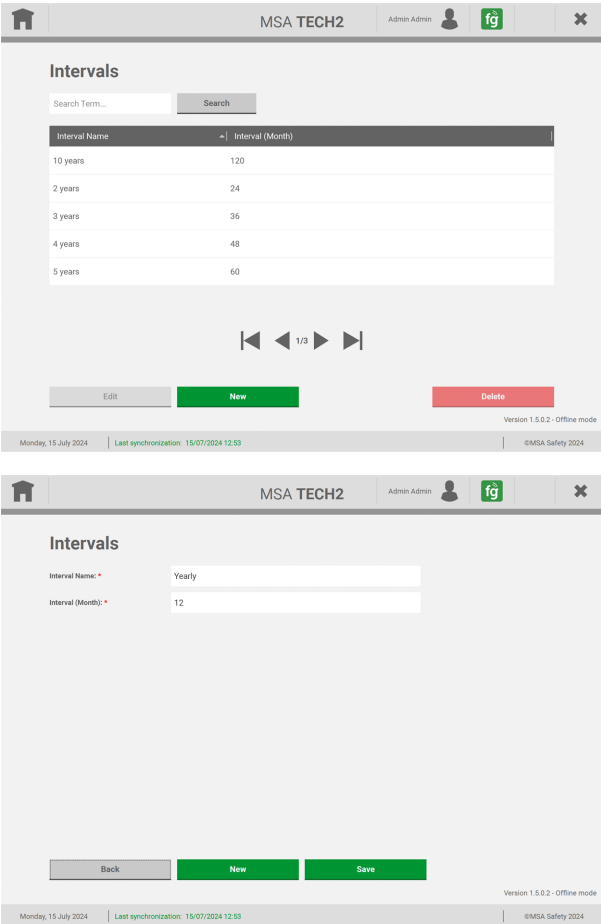


- 1. Select an interval from the list.
- 2. Tap on *Edit*.

- 3. Enter the data.
- 4. Save with *Save*.

The edited interval is displayed in the list.

7.4.2 Adding Intervals

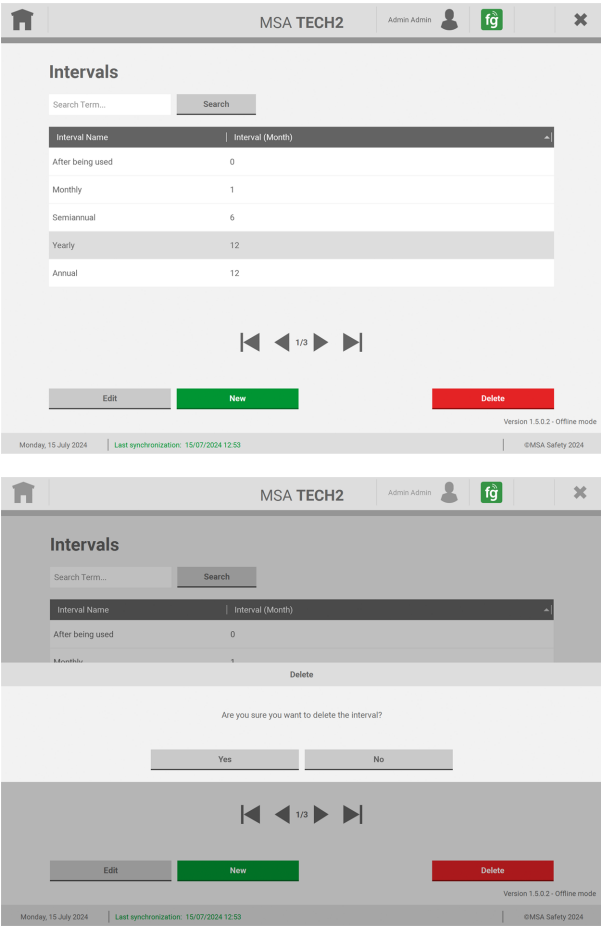


1. In the device intervals list, tap on *New*.

- 2. Enter the data.
- 3. Save with *Save*.

The new interval is displayed in the list.

7.4.3 Deleting Intervals



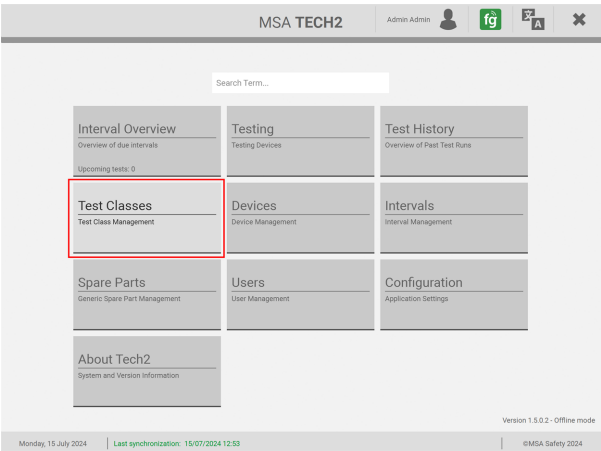
- 1. Select an interval from the list.
- 2. Tap on *Delete*.

The interval is removed from the list.

- 3. Confirm to delete the selected interval from the database.

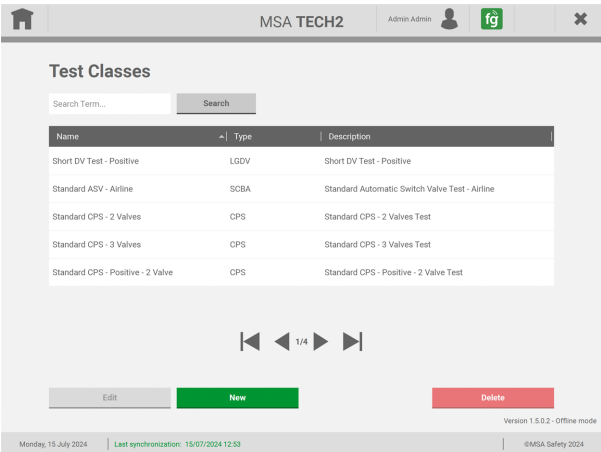
7.5 Test Classes

Test classes consist of intervals, spare parts and test sequences with specifications for the different device sorts. In addition to the standard entries, it is possible to add new test classes for devices or edit existing test classes. Test sequences cannot be changed, only different test specifications can be entered.

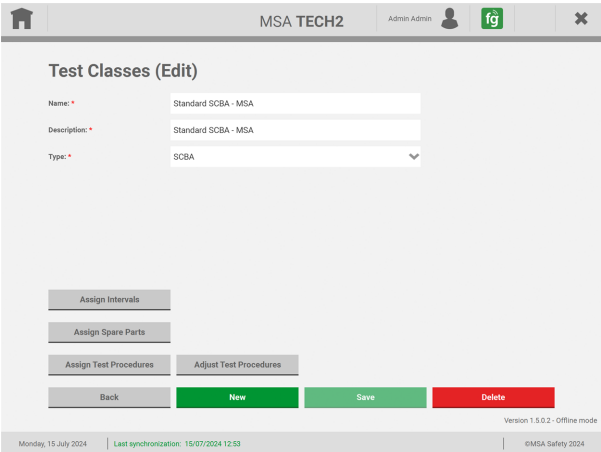


1. Choose *Test Classes* in the main menu.

7.5.1 Editing Test Classes



1. Select a test class from the list.
2. Open the data set with *Edit* or create a new test class with *New*.



- Every test class needs:
- Name
 - Description
 - Type

Additionally, it is possible to assign or adjust intervals, spare parts and test procedures.

7.5.2 Assigning Intervals to Test Classes

1. In the editing mode of a test class, tap on *Assign Intervals*.

Test Classes (Assign Intervals)

Assign intervals to the selected test class

Test Class: Standard SCBA - MSA
Description: Standard SCBA - MSA
Type: SCBA

Interval Name	Interval (Month)
☐ After being used	0
☐ Monthly	1
☒ Semianual	6
☐ Annual	12
☐ 2 years	24

Navigation: 1/3

Buttons: Back, Save

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2. Select one or more intervals from the list.
3. Save with **Save**.

The intervals are assigned to the test class.

7.5.3 Assigning Spare Parts to Test Classes

Test Classes (Assign Spare Parts)

Assign spare parts to the selected test class

Test Class: Standard SCBA - MSA
Description: Standard SCBA - MSA
Type: SCBA

Name	Interval (Month)
☒ Gauge	0
☒ High pressure O-ring	0
☒ Pressure reducer	72
☐ Canister AirElite 1	0
☐ Canister AirElite 2	0

Navigation: 1/2

Buttons: Back, Save

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1. In the editing mode of a test class, tap on **Assign Spare Parts**.

2. Select one or more spare parts from the list.
3. Save with **Save**.

The spare parts are assigned to the test class.

7.5.4 Assigning Test Procedures to Test Classes

Test Classes (Assign Test Procedures)

Assign intervals to the selected test procedures

Test Class: Standard SCBA - MSA
Description: Standard SCBA - MSA
Type: SCBA

Test Procedure	Description	JSDN
☒ Visual inspection: General condition	General condition	100280
☒ Visual inspection: Harness	Harness	100279
☒ Visual inspection: High pressure gasket	High pressure gasket	100273
☒ Visual inspection: High pressure tightness test ready for use device	High pressure tightness test ready for use device	100034
☒ Visual inspection: Medium pressure hose	Medium pressure hose	100259

Navigation: 1/18

Buttons: Back, Save

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1. In the editing mode of a test class, tap on **Assign Test Procedures**.

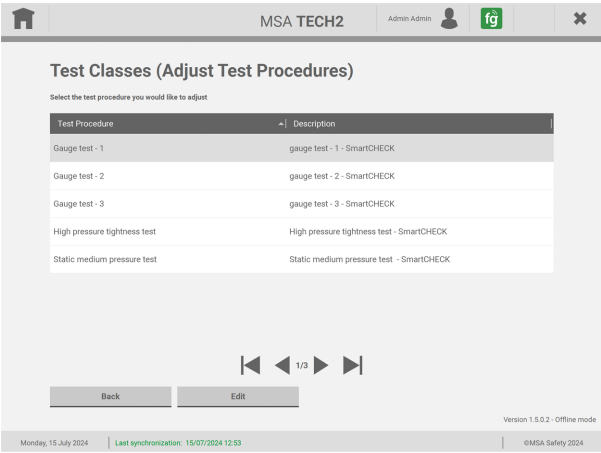
2. Select one or more test procedures from the list.
3. Save with **Save**.

The test procedures are assigned to the test class.

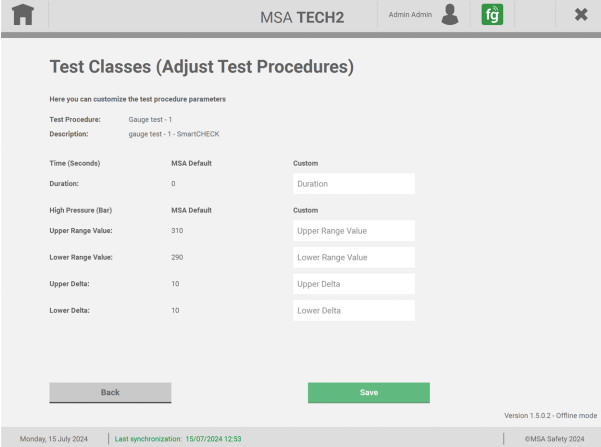
7.5.5 Adjusting Test Procedures for Test Classes

1. In the editing mode of a test class, tap on **Assign Intervals**.

7 Using the Software



- 2. Select a test procedure from the list.
- 3. Tap on Edit. The tolerances and minimum/ maximum values can be edited.



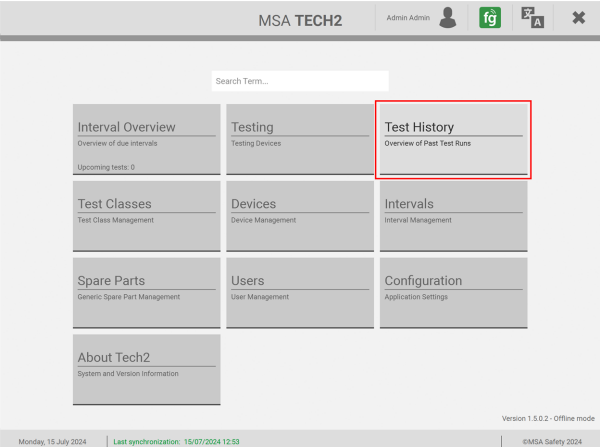
The default values are shown next to the text fields for editing.

- 4. Save with Save.

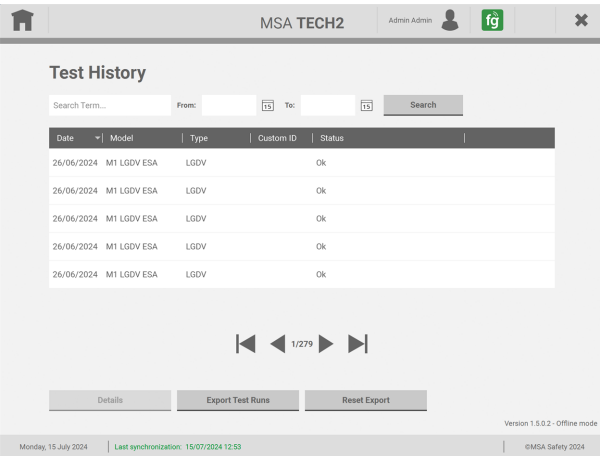
The test procedure is adjusted.

7.6 Test History

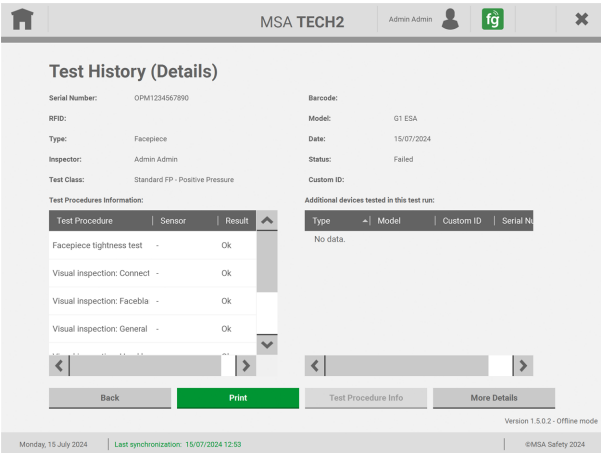
In this package, all tests and their values are listed.



- 1. Choose *Test History* in the main menu.

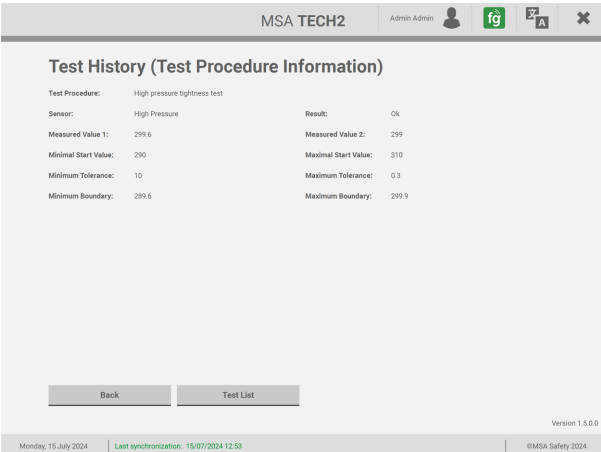


- 2. Select a test from the list.
- 3. Tap on *Details*.



4. Select a test procedure.
5. Print the test procedure overview with *Print* or show further details for a special test procedure with *Details*.

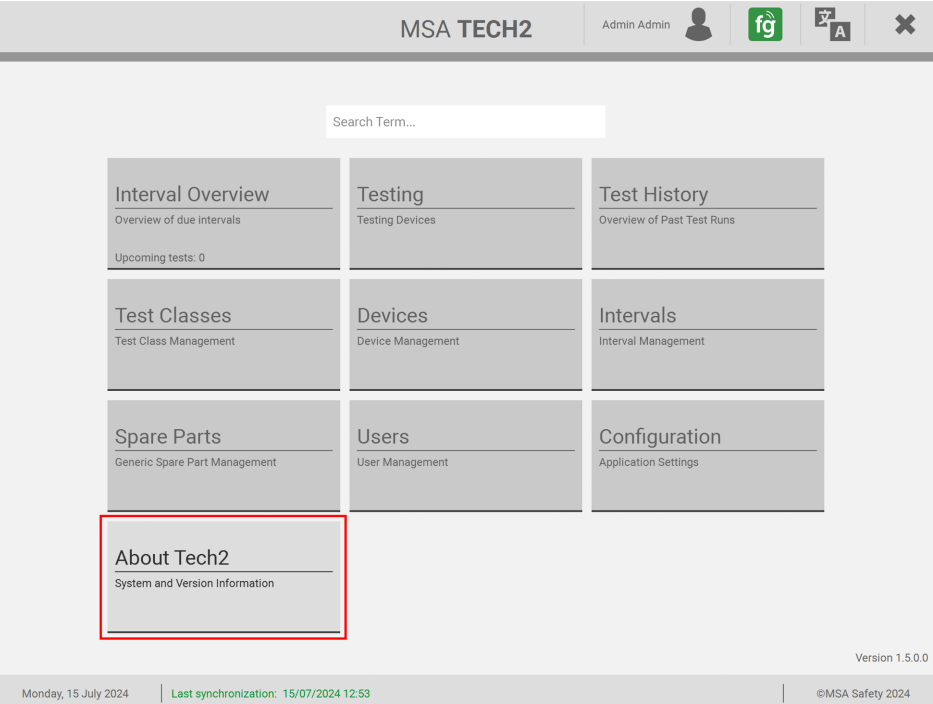
Details



All values of the test are displayed.

7.7 About

In this package, general information about the software and licenses can be found.



7.8 Printing

Test reports can be printed directly after the test (see e.g. Figure 18) or from *Test History* (see step 5. in chapter 7.6 *Test History*).

8 Maintenance

WARNING!

Before carrying out maintenance work, depressurise the test bench and unplug the power cable from the electrical outlet.

Failure to follow this warning can result in serious personal injury or death.

8.1 Test Bench

Check the filters of the fans (see [2.3 Operating Elements](#), [Figure 2](#)) every three months. The filters should only be lightly soiled.

1. Replace damaged filters.

Cleaning the filters

1. Remove the filter casings by pulling them off.
2. Take out the fleece filters.
3. Clean the fleece filters under running water.
4. Let the fleece filters dry completely.
5. Put the filters back into the casings and clip the casings to the test bench.

8.2 Test Head

In order to protect the test head from premature ageing protect test head against sun radiation with the protective hood supplied.

In case it is not in use, keep the test head covered.

When necessary, not more often than every three months, apply the provided silicone oil **sparingly** on the test head (see chapter [10.7 Accessories](#)) and leave it on overnight (uncovered). If necessary, remove any excess oil the next day.

NOTICE

Overuse of silicone oil damages the test head.

8.3 Touch Screen

WARNING!

Before cleaning the touch screen, unplug the power cable from the electrical outlet.

Failure to follow this warning can result in serious personal injury or death.

1. Clean the touch screen only with the provided microfibre cloth or special screen-cleaning tissue.
2. To clean the touch screen, lightly dampen the cloth with water. If possible, use a solution suitable for the antistatic coating.

Handle the touch screen with care as surfaces can scratch and show scuff marks.

WARNING!

Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.

Avoid using detergent of any kind as some detergents leave a milky film on the surfaces.

Do not allow water or other liquids to spill on or into the test bench.

Failure to follow this warning can result in serious personal injury or death.

8.4 Pressure Gauge Camera

The pressure gauge camera is located behind a window. Clean this window similar to the touch screen.

8.5 High Pressure Lines

In case of damage to the high pressure lines from heat, chemicals, mechanical impact or similar that can be detected, the test bench must be taken out of service and the components concerned must be replaced without delay by an authorised service centre.

8.6 Annual Calibration

Only use a calibrated test bench. MSA recommends one annual calibration.

9 Technical Data

The technical data can vary, depending on the test bench configuration. Below three exemplary configurations are listed.

9.1 SmartCHECK - Basic Version

Measurements without test head [L x W x H]	Ca. 600 x 370 x 250 mm
Measurements with test head [L x W x H]	Ca. 600 x 370 x 470 mm
Weight test bench	Ca. 23 kg
Operating temperature range	+5 °C - +60 °C
Operating humidity range	Between 15 % and 80 %
Operating voltage range	110V - 240V AC 50/60Hz
Fuses	2 A
Air supply requirements	Breathable air [min. EN 12021 or USCGA grade D]
Medium pressure	6 - 10 bar

9.2 SmartCHECK - Modules (with Lung and Standard High Pressure)

Measurements [L x W x H]	Ca. 720 x 600 x 250 mm
Weight test bench	Ca. 46 kg
Operating temperature range	+5 °C - +60 °C
Operating humidity range	Between 15 % and 80 %
Operating voltage range	110V - 240V AC 50/60Hz
Fuses	2 A
Air supply requirements	Breathable air [min. EN 12021 or USCGA grade D]
Medium pressure	6 - 10 bar
High pressure	300 - 315 bar

9.3 SmartCHECK - Modules (with Lung and Adjustable High Pressure)

Measurements [L x W x H]	Ca. 720 x 600 x 250 mm
Weight test bench	Ca. 50 kg
Operating temperature range	+5 °C - +60 °C
Operating humidity range	Between 15 % and 80 %
Operating voltage range	110V - 240V AC 50/60Hz
Fuses	2 A
Air supply requirements	Breathable air [min. EN 12021 or USCGA grade D]
Medium pressure	6 - 10 bar
High pressure	300 - 315 bar

10 Ordering Information

10.1 Required for putting into service first-time

Description	Part No.
Shut-off valve 300 bar, SmartCHECK	10144939
High pressure supply line	10096973
Test equipment HP Hose Cylinder connection	10099265
Fitting hose 8S/8L, test equipment	10144991
Straight reduction 08L/08S, SmartCHECK	10146804
Elbow socket 08S, SmartCHECK	10146805
Power supply cable EU/CE, test equipment	10144984
Power supply cable UK, test equipment	10145003
Power supply cable US, test equipment	10145004
Power supply cable AU, test equipment	10145005
Power supply cable CN, test equipment	10144983
Gasket 5 pcs, test adaptor, SmartCHECK	10145936
High pressure supply hose, SmartCHECK	10146803

10.2 Test Adapters for Testing of Masks

Description		Part No.
Plug Screw, Thread Rd 40 [negative pressure masks with round thread]		D2055754
Plug Screw, M 45x3 [positive pressure masks with M 45 x 3 thread]		D2055755
Adapter, Plug, Mask Leak Test, LGDV 88, 96 AS [positive pressure masks with quick connect]		D5175524

10 Ordering Information

Description		Part No.
Adapter, Mask Leak Test, PS-MaXX [positive pressure masks with AutoMaXX quick connect]		10035659
Ultra Elite Sealing cap [for sealing the exhalation valve of Ultra Elite masks]		D2056703
3S Test cap, assembly [for sealing the exhalation valve of the positive pressure 3 S mask]		D4074895
Exhalation Valve Closure [for sealing the exhalation valve of the negative pressure 3 S mask]		D5135039-SP
Exhalation Valve Closure 3S/CPS, Spare (for sealing the exhalation valve of the negative pressure 3 S mask)		D5135047-SP
Exhalation Valve Closure 3S/CPS, Spare [for sealing the exhalation valve of the negative pressure 3 S mask]		D513504-SP
Exhalation Valve Closure, Advantage 3000 [for sealing the exhalation valve of Advantage 3000 masks]		10039031
Adapter, tightness tester, Advantage 1000		10017835

Description		Part No.
Mask Sealing 3S-R [with 5/16 central thread]		10108442
Mask Sealing 3S-R-GUS [with M 8 central thread]		10108420
		10108176
BG 4 Mask Seal Plug		10108178
Adapter, DWplug, mask leaktest [positive pressure masks with Dräger quick connect]		D5175525
Adapter, ISplug, mask leaktest [positive pressure masks with Interspiro quick connect]		D5175526
Holder for MHC masks, complete		10108526
Adapter, Mask Leak Test, G1 FPTC		10177677

10.3 Test Adapters for Testing of Lung Governed Demand Valves

Description		Part No.
LGDV test adapter RD40, SmartCHECK		10144996

10 Ordering Information

Description		Part No.
LGDV test adapter M45x3, SmartCHECK		10144998
Test Adapter LGDV 88, 96 AS, SmartCHECK		10145001
LGDV Test Adapter ESA, SmartCHECK		10145000
Test LGDV AutoMaXX AS, SmartCHECK		10145002
LGDV test adapter G1 FPTC		10177678

10.4 Test Adapters for Testing of SCBA

Description		Part No.
High Pressure Test Line SCBA SmartCHECK		10144992
SCBA test adapter 200 bar, SmartCHECK		10144993
SCBA test adapter 300 bar, SmartCHECK		10144994
Medium pressure extension line 1,5 m	D4066815	
Medium pressure		10046165

Description		Part No.
extension hose 0,5m		
Test Adapter, AirGo Compact		10103503
BD Compact Test adapter		10029681
Test adapter-Kit MicroMaXX		10056761

10.5 Test Adapters for Testing of Chemical Protective Suits

Description		Part No.
CPS Leak Test Accessory [with safety valve]		10108449
CPS Valve Leak Test Accessory		10108450

10.6 Test adapters for Testing of Closed Circuit Breathing Apparatus

Description		Part No.
AirElite Leak Test Accessories [complete set in a case]		10108185
AirElite Valve Leaktest Adapt [part of 10108185]		10108187
Air Elite Leak Test Adapter [connects test head with Air Elite quick connect, part of 10108185]		10108186
BG 4 Leak Test Adapter [connects test head with BG 4 quick connect]		10108177

10.7 Accessories

Within Scope of Delivery

Description	Part No.
Microfibre cloth 40 x 40 cm SmartCHECK	10109451
Silicon oil/bottle 100 ml	10115053
Touchpen	10115112
Protective Hood for Test Head	10115131

Not Within Scope of Delivery

Description		Part No.
LP-Leaktest Access. Eye-Mouth		10108271
Printer for Test Equipment		10045962
TFT-Monitor 17" for Test Equipment		10055641
TFT-Monitor 19" for Test Equipment		10093491-SP
Handheld bar code reader		10047444
XCVR:IR, IRDA, PC-JET EYE [jet eye RS 232]		655505
PA 37, DA 300-2 Test gauge, assembly (test gauge for 200 bar cylinders)		D4065902
Test gauge (cylinder press. - 400bar) (test gauge for 300 bar cylinders)		D4080929
Tool for push to connect Adapters		10035756
Barcode Labels for using inside [masks] or outside [SCBA or cylinders] 100 pieces		
Barcode Labels – outside		10025420
Barcode Labels – inside		10025422
Tool, Valve Exchange masks and suits		D2055038
MultiTAG-USB reader (125 kHz/13.56 MHz/NFC)		10239005