

ATEQ H6000
Portable and Fixed
Version 1.11



www.ateq.com

REVISIONS OF THE ATEQ H6000 USER MANUAL

Due to continuing improvements, the information contained in this user manual, the features and design of this device are subject to be changed without prior notice.

<u>Edition/Revision</u>	<u>Reference</u>	<u>Date</u> Week/Year	<u>Chapters up dating</u>
First edition	UM-30200B-U	08/2010	Indices B to be the same as the French version.
Second edition	UM-30200C-U	37/2010	Integrating the portable and fixe modes in the same user manual.
Third edition	UM-30200D-U	06/2011	Modification of the headphones options in the chapter 5.

DECLARATION OF  CONFORMITY 00

We the undersigned, **ATEQ**, manufacturers of the **ATEQ H6000** REF : **302.00** declare that it complies with the requirements of :

- LOW VOLTAGE Directive 73/23/CEE partially modified by Directive 93/68/CEE.

- standard EN 61 010-1 « Safety requirements for electrical equipment for measurement, control and laboratory use »,

- EMC Directive 89/336/CEE partially modified by EMC Directive 92/31/CEE regarding :

- standard EN 61 326-1 « Electrical equipment for measurement, control and laboratory – EMC requirements »,
 - ✓ standard EN 61 000-4-2 « Electrostatic discharge immunity tests »,
 - ✓ standard EN 61 000-4-3 « Radiated, radio-frequency, electromagnetic fields immunity tests »,
 - ✓ standard EN 61000-4-6 « Immunity to conducted disturbances, induced by radio-frequency fields »,
- standard EN 55 011 « Industrial, scientific and medical radio-frequency equipment - limits and methods of measurements ».
- ✓ standard EN 55 022 « Information technology equipment - limits and methods of measurements »,

This enables **ATEQ** to guarantee that this instrument may be used in complete safety under the following environmental conditions :

- indoor use,
- altitude up to 3000 metres,
- ambient operating temperature from 0°C to 50°C,
- 95 % maximum relative humidity without condensation,
- degree of pollution 2 as in CEI 664 (only non-conductive pollution, however a temporary conductivity caused by condensation may occasionally be expected).

Chairman and Managing Director.

Mr. Jacques MOUCHET



ATEQ

Tél. : +33 (0) 1 30 80 10 20 - Fax : +33 (0) 1 30 54 11 00
15, rue des Dames - 78340 LES CLAYES SOUS BOIS – France
www.ateq.com

Recommendations for leak testing instruments

Precautions for the test environment

- Keep the test area as clean as possible.

Precautions for the operators

- **ATEQ** recommends that the operators using the instruments should have a suitable qualification and training with respect to the work bench requirements.

General precautions

- Read the user manual before using the instrument,
- all electrical connections to the instrument must be equipped with a safety system (fuse, circuit breaker...) appropriate to its needs and complying with the standards,
- to avoid electromagnetic interference, the cable connections to the instrument should be less than two meters in length,
- it is essential that the electrical main is earthed,
- disconnect the electrical connections to the equipment before maintenance,
- cut the air supply for any kinds of operation on the pneumatic assembly,
- do not open the instrument when it is powered up,
- avoid water spillage near of the instrument,
- **ATEQ** is at your disposal for any further information concerning the use of the instrument under maximum safety conditions.



We would like to bring to your attention that ATEQ will not be held responsible for any accident connected to the improper use of the instrument, to the work bench or to the lack of compliance with safety rules.

ATEQ Company is free from any responsibility for any adjustment of its instrument which would not have been done by its own technicians.

The ATEQ cannot be held responsible if the instrument (program, mechanics or electronics) has been modified without prior written consent.

ATEQ, THE ASSURANCE OF A COMPETENT AFTER SALES SERVICE

■ THE ATEQ AFTER SALES SERVICE IS :

- a team of qualified technicians,
- a permanent telephone assistance,
- agencies close to you for faster reaction,
- a stock of spare parts available immediately,
- a car fleet for rapid intervention,
- a commitment to quality ...

■ THE OVERHAUL

ATEQ carries out the overhaul of your instruments at interesting prices.

The overhaul corresponds to the maintenance of the instrument (checking, cleaning, replacing of used parts) as part of preventive maintenance.

Preventive maintenance is the best way to guarantee reliability and efficiency. It allows the maintenance of a group of instruments in good operational order and prevent eventual break-downs.

■ MAINTENANCE KITS

The ATEQ After Sales Service proposes, two kits destined for the preventive maintenance of the pneumatic circuits of instruments.

■ CALIBRATION

This may be carried out on site or in our offices.

■ TRAINING COURSES

In the framework of partnership with our customers, ATEQ offers two types of training in order to optimise the usage and knowledge of our instruments. They are aimed at different levels of technician:

- method / control training,
- maintenance / upkeep training.

■ A TARGETED TECHNICAL DOCUMENTATION

A number of technical documents are at your disposal to allow you to intervene rapidly in the event minor breakdowns:

- problem sheets describing and offering solutions to the main pneumatic and electronic problems,
- several maintenance manuals.

■ A QUALITY GUARANTEE

The instruments are guaranteed for parts and labour in our offices:

- 2 years for leak detection equipment,
- 1 year for electrical tests to norms instruments,
- 1 year for the accessories.

Our After Sales Service is capable of rapidly answering all your needs and queries.

We strongly recommend to send the instrument back to ATEQ once a year for re-calibration

PREFACE

Dear Customer,

You have just purchased an **ATEQ** instrument, we thank you for the trust you have placed on our brand. This instrument has been designed to ensure a long and unparalleled life expectancy, and we are convinced that it will give you complete satisfaction during many long years of operation.

In order to maximise the life expectancy and reliability of your **ATEQ** instrument, we recommend that you install this instrument on a secured workbench and advise you to consult this manual in order to familiarise yourself with the functions and capabilities of the instrument.

Our **ATEQ** After Sales Service centre can give you recommendations based on your specific operation requirements.

ATEQ

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ATEQ H6000

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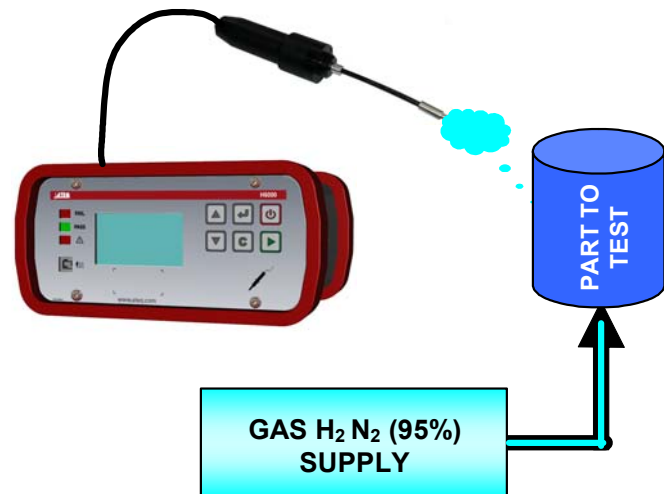
PREAMBLE

1. DEFINITION OF THE ATEQ H6000

The **ATEQ H6000 Portable or Fixed** is a compact gas tracer leak detector.

The **Fixed** version is to install on machines or on work station.

The **Portable** version can be handled by the user to detect leaks on any area, It is completely autonomic.



1.1. SNIFFER

The sniffer contains the measurement components, it is important to handle it with care other :



It is important to not expose the sensor (sniffer) to all types of solvents, oils, glues or vapors that destroy irreparably.

Do not immerse the sniffer!

1.2. GAS

The used gas is hydrogen in nitrogen (H_2N_2). The concentration should not exceed 5%.

1.3. PERIODIC REVIEW

We remind that a calibrated leak is the only component allowing a valid and control for the proper operation of leak detector.

The check frequency is to be determined by the user according to the operating conditions of the leak detector.

2. MEASUREMENTS CHARACTERISTICS

2.1. GAS DÉTECTION MEASUREMENT (H₂)

RANGE	ACCURACY
From 5 10 ⁻⁶ to 1 10 ⁻³ mbar.l/s	10 % of the measured value in laboratory conditions.

3. MEASUREMENT PRINCIPLE

3.1. CONTINUOUS DETECTION

The part is filled to the required pressure level with the gas (H₂N₂).

The instrument detects and displays continuously any leaked gas with the sniffer.

In **Portable** version, the operator decides to stop the test cycle, it would empty and vacuum the test part to a remote location to avoid any gas pollution.

In Fixed version, the measurements cycles are programmed, the device stops the cycle alone and displays the measurement result (pass or fail) and can communicate it.



Important note: in all cases, an efficient ventilation of the test area is requested to renew the surrounding air between two test cycles to avoid the pollution effect.

To optimize the measurement, the operator should fly over the test part with the sniffer at a speed of 1 cm/s.

Chapter 1

INSTRUMENT INSTALLATION

1. ATEQ H6000 APPEARANCE



The **ATEQ H6000** case is made with two anodized aluminum parts assuring durability and lightness. The case is surrounded by two rubbers to protect the device from falls and avoid marking the shocked part.

The sniffer is connected to this case with a wire fitted with "Push / Pull" connectors.



Important note: do not hesitate to revise your instrument annually in ATEQ factory to ensure the accuracy of the measurement

The device exists in two versions: the **Portable** which allows detecting a H₂N₂ gas leak in any area or the **Fixed** version which allows using the device on work stations or machines.

Note: the device version is established at the order and can't be modified later.

2. INSTRUMENT INSTALLATION

2.1. USB CONNECTOR (FRONT FACE)

Allows the connection to a PC. Allows the supervision with the **Winatq300** software:



- ✓ Configuring (save / restore the parameters in a PC).
- ✓ Duplicate an instrument.
- ✓ Up dating the device.
- ✓ Results recovery for archiving and statistic analysis with spreadsheet software's.



See the **Winatq300** software manual.

2.2. SNIFFER CONNECTOR "PUSH-PULL" TYPE



To connect the sniffer. The connector is located on the front or in the rear face.



Warning! Connect the sniffer before starting the instrument. If not, the device will be fault.

In any case the sniffer connectors won't be plugged or unplugged when the instrument is turn on.

2.2.1. Portable version (following option)



OR



2.2.2. Fixed version (following option)



OR



2.3. SUPPLY / BATTERY BLOCK

2.3.1. Portable version (following option)



Important note: before the first batteries use, make a full charge, wait until the **CHARGE** indicator (green) is lit.

Refer to safety information concerning the batteries in appendices.



The **ATEQ H6000** is running with a 12 V DC battery.
The battery has a LED light for charge state:

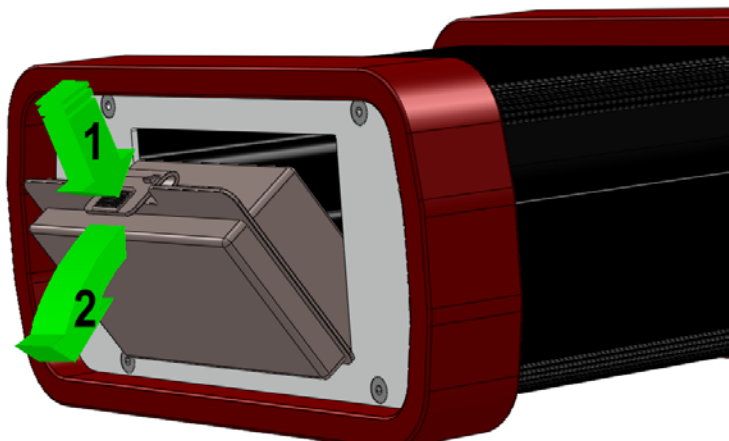
- ✓ **Red:** The battery is charging ●.
- ✓ **Green:** battery full. ●



To remove the battery from the device, proceed as follows:

- 1) Press the burst above to unlock.
- 2) Turn the battery outwards.

To reinstall the battery, do the same operation in the reversal way.



2.3.2. Fixed version (following option)

2.3.3. Power supply / ON/Off switch

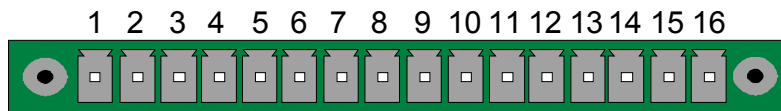


The **ATEQ H6000 Fixed** operates under a supply of 100 to 240 V AC.

I: ON

O: OFF

2.3.4. J1 Connector (Binary inputs/outputs)



Pin	Input/Output	Function	
1	Input 1	Reset	INPUTS (24 V DC Activation) Common + 24 V = 0,3 A maximum
2		Common (+ 24 V)	
3	Input 2	START	
4		Common (+ 24 V)	
5	Input 3	Program selection	
6	Input 4	Program selection	
7	Input 5	Program selection	
8	Input 6	Program selection	DRY CONTACT OUTPUTS 60V AC / DC Max 200mA Max
9	Input 7	Program selection	
10		Floating common output	
11	Output 1	Pass part	
12	Output 2	Fail part	
13	Output 3	Large leak fault	
14	Output 4	Alarm	
15	Output 5	End of cycle	
16		0 V	

2.3.4. 1) Activating a program from the J1 connector inputs

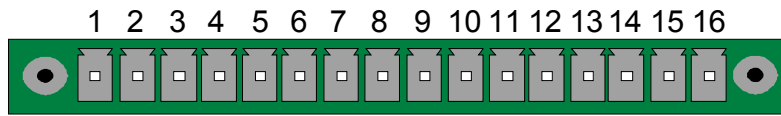
To activate a program from the J3 connector inputs, you have to select pins 5 to 9 (one or more). Binary weight $n + 1$.

- To select program number 1, send an impulse on another input selection and after send a start.
- The inputs are validated only on a changing state 0 to 1 (rising edge). A permanent state at value 1 doesn't update the input.
- If the running program is changed manually from the remote control, it stays at this number if it not changed from the PLC by a rising edge.

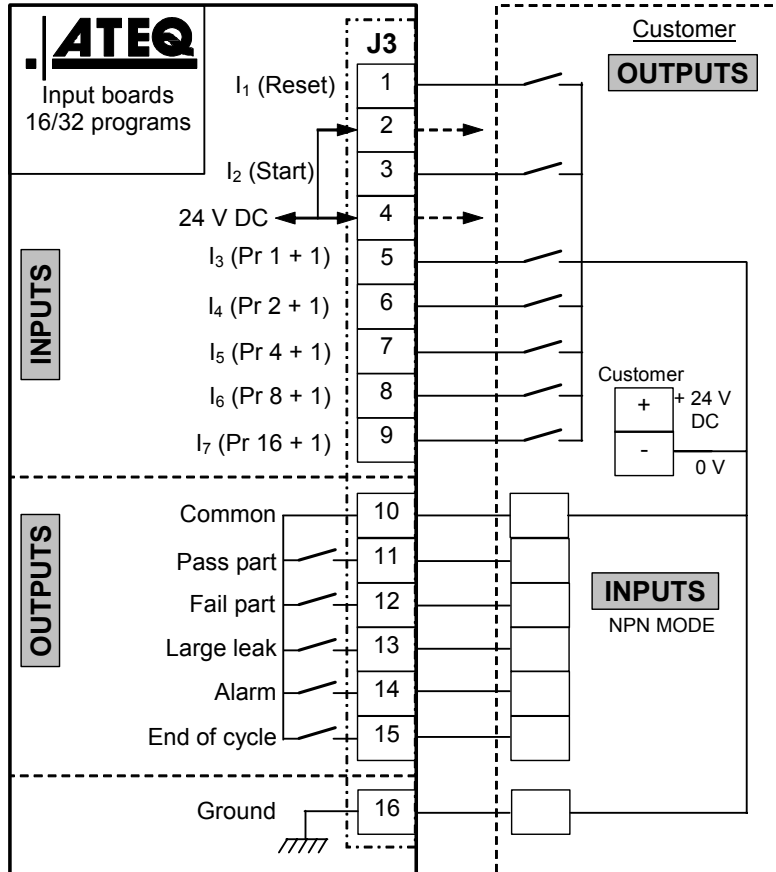
Pin combinations for program selection

Program number	Pin 5 (input 3)	Pin 6 (input 4)	Pin 7 (input 5)	Pin 8 (input 6)	Pin 9 (input 7)
1 (17)	0	0	0	0	0 (1)
2 (18)	1	0	0	0	0 (1)
3 (19)	0	1	0	0	0 (1)
4 (20)	1	1	0	0	0 (1)
5 (21)	0	0	1	0	0 (1)
6 (22)	1	0	1	0	0 (1)
7 (23)	0	1	1	0	0 (1)
8 (24)	1	1	1	0	0 (1)
9 (25)	0	0	0	1	0 (1)
10 (26)	1	0	0	1	0 (1)
11 (27)	0	1	0	1	0 (1)
12 (28)	1	1	0	1	0 (1)
13 (29)	0	0	1	1	0 (1)
14 (30)	1	0	1	1	0 (1)
15 (31)	0	1	1	1	0 (1)
16 (32)	1	1	1	1	0 (1)

2.3.5. J1 Connector (binary inputs/outputs) diagram

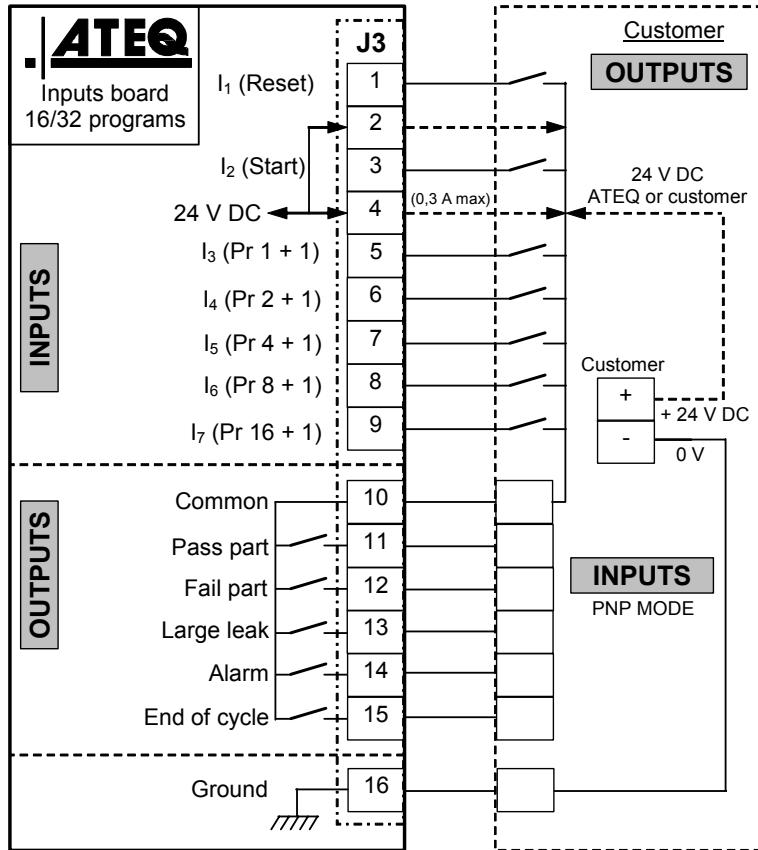


2.3.5. 1) PLC in NPN mode connection



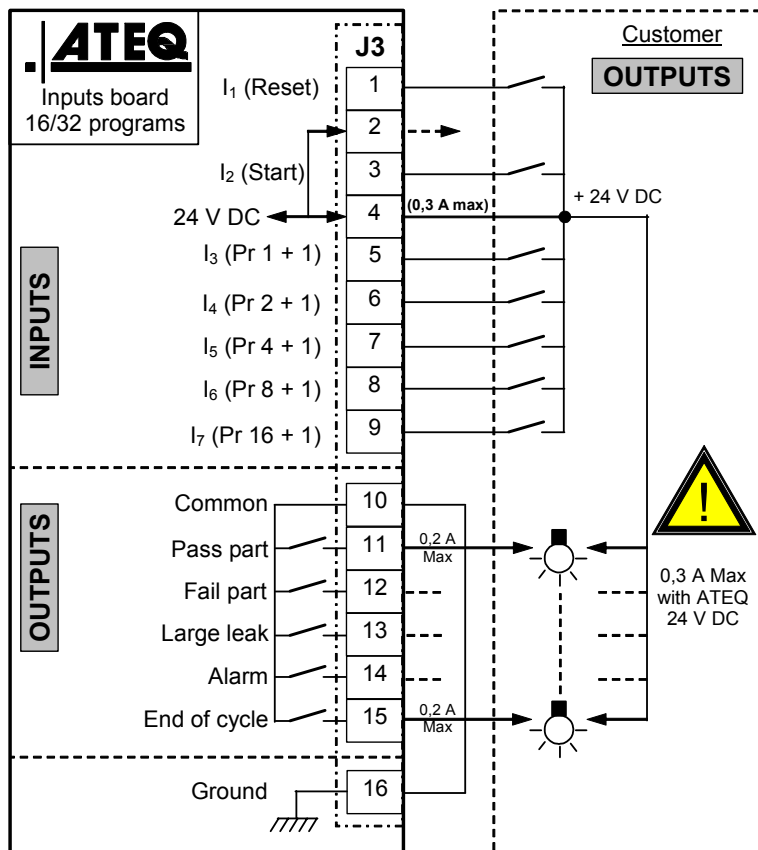
Note: The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) **OR** through an external power supply provided by the customer.

2.3.5. 2) PLC in PNP mode connection



Note: The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) **OR** through an external power supply provided by the customer.

2.3.5. 3) Lights connection



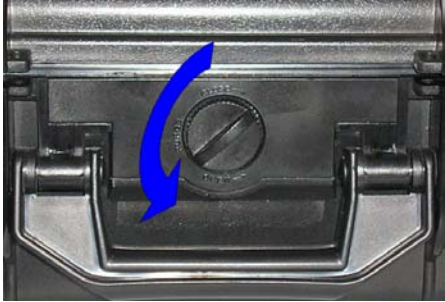



Note: The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) **OR** through an external power supply provided by the customer.

Chapter 2

USER INTERFACES

1. CARRYING CASE

1.1. OPEN THE CARRYING CASE

<p>Before opening, turn to open the purge button (left rotation).</p>	
<p>Push the two buttons at the bottom of the locks.</p> <p>The locks will be released.</p>	
<p>Lift the two locks to release the cover.</p>	
<p>Then open the cover to access to the instrument.</p>	

1.2. CARRYING CASE PRESENTATION

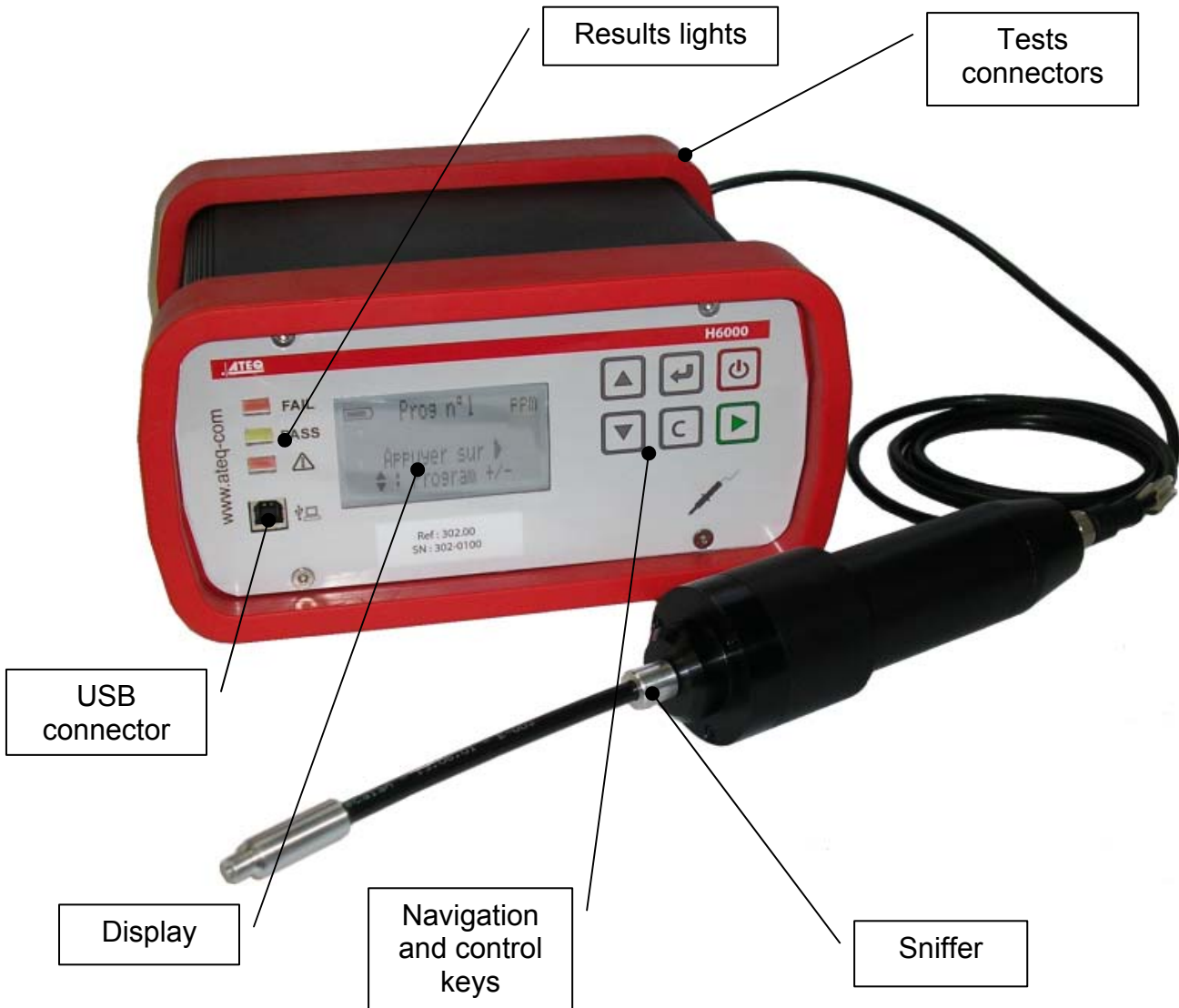


Important note: do not charge the battery when it installed into the carrying case, you must remove it to avoid overheating. See the instructions concerning the battery in the appendices.

1.3. CLOSE THE CARRYING CASE

<p>Before closing the housing box, open the purge button (left turn).</p>	
<p>Close the cover and lock the two locks.</p>	
<p>Then close the purge button (right turn) to complete the sealing.</p>	

2. H6000 PORTABLE OR FIXED PRESENTATION



2.1. SNIFFER


The sniffer is fitted with a buzzer and vibrator allowing during the measurement helping the leak detection; it makes a sound with at a frequency higher or lower:

- ✓ Low frequency: small leak.
- ✓ High frequency: large leak or near the reject level.





If the reject level is over passed, the vibrator runs during one second.

2.2. KEYBOARD PRESENTATION


2.2.1. On / Off key

KEY	FUNCTION
	<p>Instrument off: this key switch on the device.</p> <p>Instrument on:</p> <ol style="list-style-type: none"> 1) Long press will turn off the device (more than 3 seconds). 2) Quick press to stop the measurement (less than 1 second).

2.2.2. Navigation keys

KEY	FUNCTION
	Move up or increase the numeric values.
	Move down or decrease the numeric values.
	<p>ENTER key</p> <p>Quick press: Enter in the special cycle's menu, parameter entering and parameter validation.</p> <p>Long press (3 seconds): Enter in the parameters and configuration menu.</p>
	<p>"C" for CANCEL</p> <p>Return to the previous function or menu. Escape without parameter's modification.</p>

2.3. START CYCLE KEY

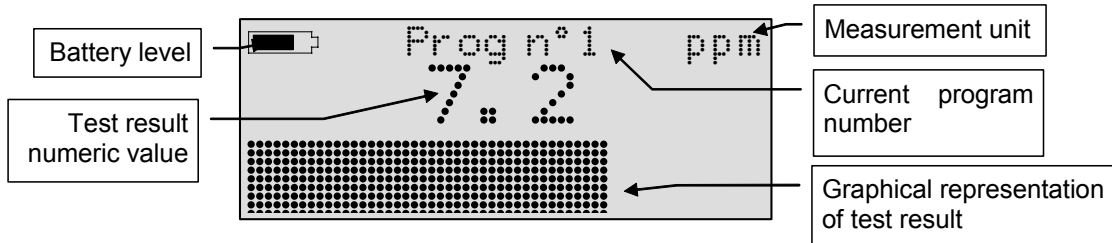
KEY	FUNCTION
	<p>START key</p> <p>Starting a measurement cycle.</p>

2.4. LCD DISPLAY







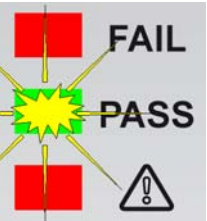
To display the measurement results and the parameters to adjust.

Display detail:



2.5. FUNCTIONS OF THE INDICATORS LIGHTS

The  symbol represents an indicator which is lit.

 <p>Pass part light.</p>	 <p>Fail part light.</p>	 <p>Warning</p>	 <p>Flashing light indicating the sensor is in cleanup phase.</p>
--	--	--	---

3. BATTERY LEVEL



Battery full.



When the display indicates an almost empty battery level, it is better to recharge.



Empty battery, recharge it (flashing) the instrument will turn off.

Note: if the instrument doesn't turn on, before any service on the device, recharge completely the battery or replace it with a full one.

Chapter 3

STARTING UP AND ADJUSTMENTS





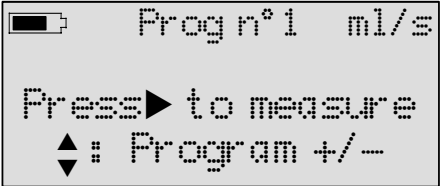
**CAUTION**

Do not unnecessarily overexposing the probe. This causes a loss of sensitivity during the cleanup.

If looking for very small leaks (less than 10 ppm) the lifetime of the sensor will be smaller, it oxidizes. Ensure in this case to check regularly with a standard calibrated leak (see paragraph 3 "Reject level adjustment cycle").


1. RUNNING THE H6000

1.1. ALL VERSIONS

Press  to turn on the device.	
Check the battery level.	
The device warms the sensor for two minutes (during this period, any measurement is impossible).	
Then the device is waiting for a start cycle.	

1.2. PORTABLE VERSION ONLY

The **H6000** device is running with its integrated battery.

Check the battery level.	
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Note: if the device doesn't turn on, charge fully the battery or replace it with a charge full one.

2. MEASUREMENT RUNNING

The measurement is prompted by pressing the



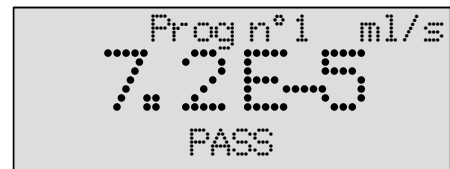
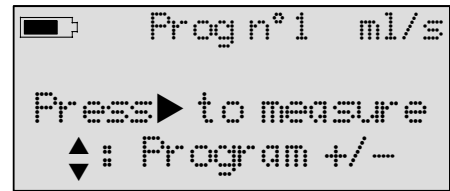
key on the front face.

The device is waiting for leak detection...

During the measurement the device displays the numeric value and the bar graph.

In fixed version, at the end of the test time, the device is displaying the higher value detected and the result:

PASS, RECOVERABLE or FAIL.



2.1. REJECT LEVEL

To adjust the reject level from a calibrated leak, see paragraph 3 "Reject level adjustment cycle" in this chapter.

2.2. BAR GRAPH

The "Bar graph" displays the proportion of the measurement between zero and the set reject value.




2.3. SOUND AND VIBRATE ALERTS

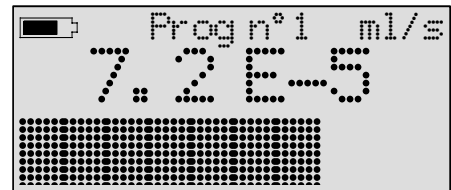
During the measurement, to help the leak detection, the sniffer makes a sound with a frequency higher or lower according with the leak value:

- ✓ Low frequency: small leak.
- ✓ High frequency: large leak or near the reject level.

If the reject level is over passed, the vibrator runs during one second.

2.4. SAVING RESULTS

During the measurement, when the user is pressing the  key, the last maximum value is recorded in the memory card (SD).







It is possible to recovery all the recorded results from the **Winateq300** software and making later statistics calculations with a PC.

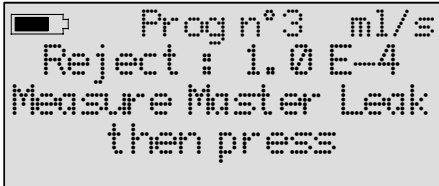





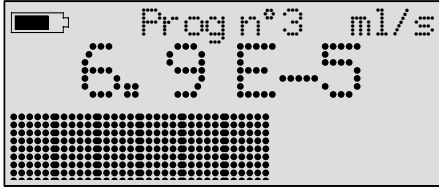
3. REJECT LEVEL ADJUSTMENT CYCLE

To adjust the reject level, it must had a calibrated leak connected to a H₂N₂ à 5% maximum gas source. The calibrated leaks and the **CDH6000** supply are available in option to help for the reject level adjustment (see chapter 5) or contact **ATEQ**.



The standard leaks are calibrated to deliver a known quantity of gas (5% hydrogen) at a given pressure.

<p>In stand by cycle mode, select the current program to configure.</p>	
<p>Quick press the  key to enter the special cycle menu. By using the  and  keys, select the "Reject Settings" cycle and validate with the  key.</p>	
<p>The adjust cycle is starting. The instrument is waiting a leak measurement.</p>	
<p>Approach the sniffer on the end of the calibrated leak (near the orifice).</p>	

<p>The instrument detects a leak and displays the maximum measured.</p>	
<p>Discard the sniffer from the calibrated leak until the display shows -----, Then approach again the sniffer on the calibrated leak (near the orifice). This operation is to done minimum three times.</p>	
<p>Validate with the  key. Else cancel by pressing the  key.</p>	
<p>The instrument is recording the leak value in the maximum reject level parameter of the current program and goes in the measurement mode.</p>	
<p>Check a new time by approaching the sniffer to the calibrated leak, the instrument must display the measured value matching the value of calibrated leak and indicates "Fail" when reached.</p>	

4. STOP THE MEASUREMENT

The measurement stops by quick press on the



key.



Chapter 4

FUNCTIONS OF THE INSTRUMENT

1. MENU STRUCTURE


1.1. MAIN MENU

To access to the main menu, press and hold the ENTER  key until the main menu appears (about 3 seconds).

MAIN MENU	Under menu 1	Under menu 2	Under menu 3
MODE	Unlock		
V	Lock		
V	Erase (password)		
V			
PROGRAM	Pr 01 to Pr 128		
V	Sequences 1 to 32		
V			
NAME			
V			
Wait (*)	0.0 to 650.0 s		
V			
Test (*)	0.0 to 650.0 s		
V			
Reject Unit	ppm > ml/s > ml/mn		
V			
Reject	0.1 > 999 (ppm) / 1.0 E-6 > 1.0 E-3 (ml/s) / 1.00 E-6 > 1.00 E-2 (ml/mn)		<i>The reject values are different according to the unit selected</i>
Recovery levels (*)	On / Off		
V			
Maximum level (*)	0.1 > 999 (ppm) / 1.0 E-6 > 1.0 E-3 (ml/s) / 1.00 E-6 > 1.00 E-2 (ml/mn)		<i>This parameter appears is the "Recovery Levels" is validated. The maximum is the reject level</i>
V			
Short cycle	Yes / No		
V			
Surveillance	0 % to 100 %		
V			
End of cycle	No		
V	Yes	Stop	
V		Research	
V			
System settings	Concentration H ₂	0% to 100% (step 0.1%)	

Language	>	English
∨		French
∨		
Date	>	Day / Month / Year
∨		
Hour		Hour / Minutes
∨		
Backlight	>	0% to 100% (step 10 %)
∨		
Auto off	>	Never to 30 min
∨		
Buzzer	>	Yes / No
∨		
Reset program		
∨		
Reset all programs		
∨		
Calibration	>	Day / Month / Year

1.2. SPECIAL CYCLES MENU




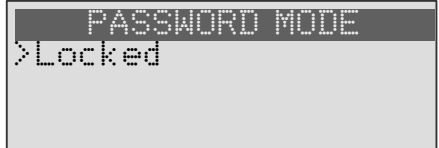





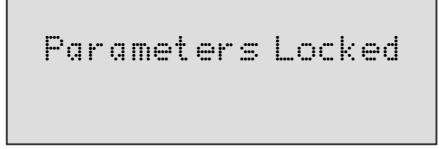
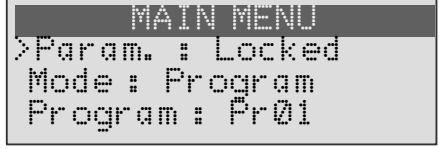
To access to the special cycles menu, press briefly the **ENTER**  key (less than one second).

MAIN MENU	Under menu 1	Under menu 2
SPECIAL CYCLE	Ack cable replaced	<i>Reset service cable counter.</i>
	∨	
	Ack cable replaced	<i>Reset service filter counter.</i>
	∨	
	Reject settings	
	Reset sequence	<i>These messages appear only in Sequence mode and sequence started.</i>
	Tests – TO DO-	
	Tests –CANCEL-	


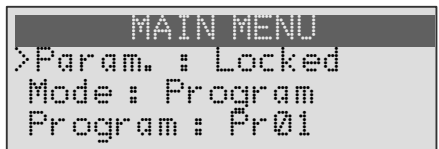
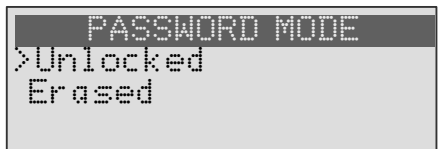
2. LOCK / UNLOCK






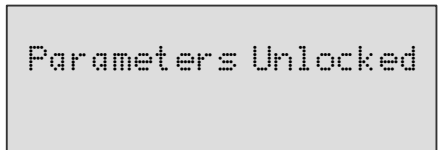

This function allows locking the test parameters access; this to avoid any hazardous parameters modification. The password by default is 0000.

2.1. LOCK OPERATION

<p>Press and hold the  key (three seconds) to enter into the main menu and select the Param. : Unlocked function.</p>	
<p>Choose the Locked mode and validate with the  key.</p>	
<p>For the first time (no password entered) the instrument asks to enter one, enter 4 numbers (replace 0000 with your personal code) by using the ,  and  keys several times.</p> <p><i>Note: once the password is entered, the instrument won't require it for the next locks.</i></p>	
<p>When the password is entered, validate with the  key, the instrument displays: Parameters Locked.</p>	
<p>To lock the parameters access, select the Parameters : Lock function.</p>	


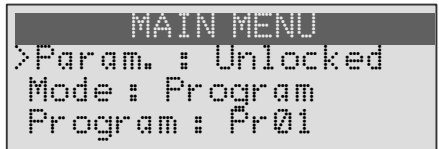
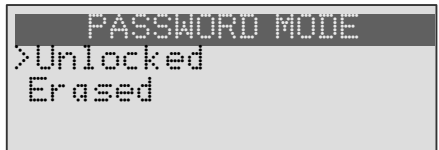





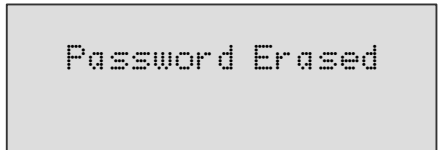
2.2. UNLOCK OPERATION

<p>Press and hold the  key (three seconds) to enter into the main menu, select the Param. : Locked function.</p>	
<p>To unlock the parameters access, select the Unlocked function.</p>	

<p>The instrument asks the password, enter the 4 numbers by using the ,  and  several times.</p>	
<p>When the password is entered, validate with the  key the message Parameters Unlocked appears.</p>	
<p>If the password is incorrect, the message Password error is displayed.</p>	

2.3. PASSWORD ERASE

The deletion of the password of the Lock / Unlock function needs to know the current password. After deletion, the current password becomes the password by default (0000).


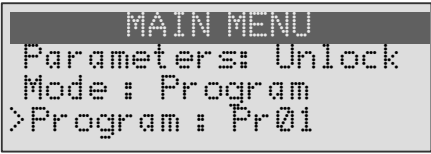


<p>Press and hold the  key (three seconds) to enter into the main menu, select the Param. : Locked or Param. : Unlocked function.</p>	
<p>To delete the password, select the Erased function.</p>	
<p>The instrument asks the current password, enter the 4 numbers by using the ,  and  several times.</p>	
<p>When the password is entered, validate with the  key, the instrument displays Password Erased.</p>	

3. PROGRAM NUMBER CHOICE





The Program is running individually and unitary. The program to run choice is made by the user.

128 different programs can be created from the front face of the device.










3.1. MAIN MENU MODE

<p>In the main menu, put the cursor in front of Program to select the program to run, validate with the  key.</p>	
<p>Select the program to run and validate with the  key.</p>	

3.2. CYCLE MODE

<p>To select the program to run in the CYCLE mode, use the  and  keys, then run the test program with the  key.</p>	
---	---


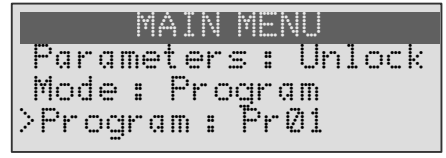


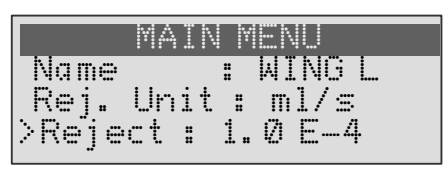



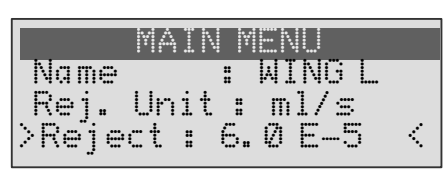

4. TEST PROGRAM CREATION

<p>Press and hold the  key (three seconds) to enter into the main menu.</p>	<pre> MAIN MENU >Parameters : Unlock Mode : Program Program : Pr01 </pre>
<p>In the main menu, put the cursor in front of Program to select the program to edit and validate with the  key.</p>	<pre> MAIN MENU Parameters : Unlock Mode : Program >Program : Pr01 </pre>
<p>Select the program to editing then validate with the  key.</p>	<pre> PROGRAMS LIST PR01 >PR02 PR03 </pre>
<p>By using the  key, go to the NAME parameter and validate with the  key.</p>	<pre> MAIN MENU Mode : Program Program : Pr02 >Name : </pre>
<p>Enter the name by using the ,  and  keys several times, when the name is entered, validate with the  key.</p>	<pre> MAIN MENU Mode : Program Program : Pr02 >Name : WING L </pre>
<p>The program is created and the test parameters can be entered. The test parameters appear after the menu.</p>	<pre> MAIN MENU Program : Pr02 >Name : WING L Rej. Unit : ml/s </pre>

5. PARAMETERS SETTING

Now adjust the test cycle parameters.

The process to adjust the parameters is the same for all.

<p>Press and hold the  key (three seconds) to enter into the main menu.</p>	
<p>By using the  key, move down up to the test parameters and validate with the  key, the cursor goes on the right side to confirm the parameter edition.</p>	
<p>By using the  and  keys, adjust the parameter to the hope value and validate with the  key, the cursor back to the left side of the display.</p>	
<p>Adjust the others parameters by using the same process.</p>	

5.1. COMMON PARAMETERS TO ADJUST (PORTABLE AND FIXED)

With the **Portable** version, the user manages the device and the measurement. He determines when he starts and stops the measurement cycle (infinite test time).The device displays the leak value and the result in relation with the rejects levels.

For the **Fixed** version, the user doesn't need to manage the measurement. The device displays the leak level during the test time and communicates the results.

5.1.1. Program name (NAME)

This function allows personalizing a program, for example to identify it with the part to test name. Enter 7 alphanumeric characters maximum.

5.1.2. Reject unit

This is to choose the instrument measurement unit. Choice among: ppm (parts per millions), ml/s, ml/mn.

5.1.3. Reject

This parameter defined the level which the part is declared fail.

Note: the reject level can be automatically adjusted with a calibrated leak, see chapter 3, paragraph 3 "Reject level adjustment cycle".

5.2. AUTOMATISM WITH THE FIXED VERSION (OPTION)

5.2.1. Waiting time (Wait)

The wait time is cycle start parameter. To temporize the measurement starts after the start cycle (key pressing).

5.2.2. Test time (TEST)

Time during the device will make its measurement. At the end of this time, the device will display the results.

It may find a compromise between the length of test time, the sharpness of the leak detection, the reject level and the desired quality. More the leak detection will be sensitive; more the test time will be longer and reject level low.

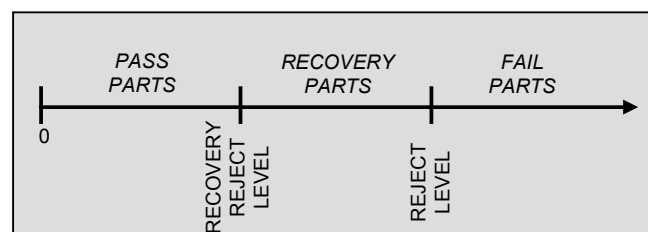
5.3. ADDITIONAL FUNCTION WITH THE FIXED VERSION

5.3.1. "Recovery" function

This option offers the option of two reject (FAIL) levels: non-tolerance level (the fail part cannot be worked on) and a recovery reject level (the part is fail but may be reworked to become acceptable. This option is particularly used in casting, when parts may be treated via impregnation.)

For recoverable parts, the Pass (OK) and Fail (NOK) outputs are both activated simultaneously.

When the "Recovery" function is validated, you have to set the recovery reject level in the parameters.



5.3.2. "Short cycle" function

When this function is validated, it allows to not carrying out the complete test cycle when the device detects a large leak on the part (important H₂N₂ leak).

Once the large leak is detected, the cycle stops immediately. This is to warn quickly the user to avoid any pollution on the sensor and on the test area.

5.3.3. "Surveillance" function

This function stops the user to start a new cycle while the pollution level is not below the reject level set in percent.

Example : if the reject level is $6,0 \cdot 10^{-5}$ ml/s and the "surveillance" level is 75%, while the pollution level is not below $4,5 \cdot 10^{-5}$ ml/s ($0,75 \times 6,0 \cdot 10^{-5}$) the device display the "Surveillance" error at each start cycle key press and the "Alarm" light is flashing until the next start cycle.



5.3.4. "End of cycle" function

The "End of cycle" function allows choosing between two different modes at the end of the test cycle, the "Stop" mode and the "Research" mode. This mode is only working with the fail parts. A "Recovery" part is treated as a "Fail part" with this function.

5.3.4. 1) "Stop" mode

In this mode, when the part is declared fail, the user (or the PLC) must, to run a new cycle, validate by pressing the **RESET** key. When the user has press this key, the "Fail Part" and "End of cycle" outputs are activated. The pass part case is the same as the normal mode.

5.3.4. 2) "Research" mode

In this mode, when the part is failed, the device returns to the measurement mode with an infinite test time. The "Fail Part" output is activated. This allows the user to make a new leak search to localize it. At the end of the research, the user stops the cycle by pressing the **RESET** key. The "Fail part" and "End of cycle" outputs are then activated. The pass part case is the same as the normal mode.

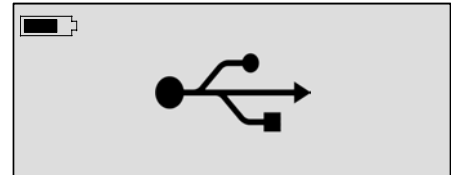
6. SEQUENCE MODE RUNNING

The sequence mode allows chaining several programs the ones after the others following a defined order. Each program is a step. The sequences can contain until 999 steps. A test program can be several times in the same sequence, or in several sequences.







The tests cycles are chained according the user who will run the steps whatever the result of each test (pass part or fail part). He can skip a step, either by reset or marking it "to do" to carry out later or he can cancel it.


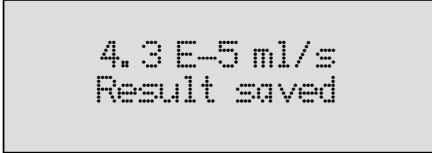





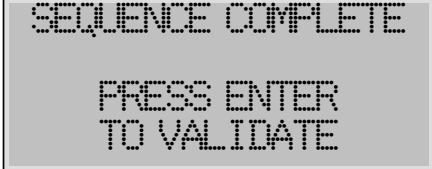

The sequences programming can only be done from the **Winateq300** software, for their management: creation, modification or deletion, see the user manual of this software.



The opposite screen appears when the device is connected to the software from the **USB** link.


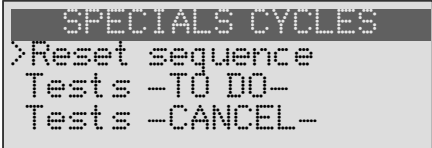


Sequence running:

<p>The instrument must be in the "Sequence" mode. Function to validate in the main menu.</p>	
<p>By using the  and  keys select the sequence to run (here S01). Press on the  key to run the sequence (or make a contact with the probes).</p>	
<p>The instrument is waiting the measurement of the first step of the sequence. The sequence step (here 1/3) and the program name are displayed alternatively.</p>	
<p>The instrument detects the leak and displays the maximum measured.</p>	
<p>Save the step result by pressing the  key.</p>	
<p>To skip to the next step, the user must press on the  key. Run the second step by pressing the  key.</p>	


<p>Save the step result by pressing the  key.</p>	
<p>So continue with the other steps until the sequence end. At the last step, the user must press on the  key to go to the sequence validation and saving.</p>	
<p>The opposite message appears; press on the  key to validate the sequence. To stay in the sequence without validation, press on the  or  key.</p>	
<p>When this message is displayed, the sequence is saved.</p>	


Note: the user can at any time return to a previous step by pressing the  key and come back by pressing on the  key. So, he can navigate through the sequence.

<p>During the sequence running, if the user presses the  key, the special cycle's menu appears to manage the sequence.</p>	
---	--

With these functions, it's possible to:


- **Reset sequence:** to delete the current sequence, thus cancel all the tests carried out in the sequence and start a new sequence.
- **Tests -TO DO- :** to display all the steps remaining in the sequence (or the skipped ones) to ease these steps to retrieve.
- **Tests -CANCEL- :** to display all the steps which are be cancelled in the sequence to ease these steps to retrieve.




<p>To cancel a step, the user must press on the  key. The message "CANCEL" appears and the step is declared cancelled.</p>	
--	--

Note: if the user presses again the  key, the just cancelled step becomes a "**TO DO**" step. If the cancelled step had been already carried out, it becomes "**TO DO**" too.

7. SYSTEM SETTINGS






The **SYSTEM SETTINGS** menu allows configuring the instrument following the user preferences.

At any time, to return to the main menu or the measurement mode, press the  key one or several times.

<p>In all cases, to access to the SYSTEM SETTINGS menu, Press and hold the  key (three seconds) to enter to the MAIN MENU and select the SYSTEM SETTINGS menu.</p> <p>Validate with the  key.</p>	
--	--








7.1. CONCENTRATION H₂ (CONC. H2)

The H₂ concentration in the gas H₂N₂ can be different according to the provider (concentration in the supply bottle). This parameter must be adjusted according to the identification displayed on the high pressure bottle (adjustable from 0% to 100% by steps of 0.1%).

<p>In the SYSTEM SETTINGS menu, select the Conc. H2 function, validate with the  key. By using the  and  keys, adjust the new value. Validate with the  key to confirm.</p>	
---	--

7.2. LANGUAGE







This function allows choosing the language displayed. The resident languages in the device are: English and French.


<p>In the SYSTEM SETTINGS menu, select the Language function and validate with the  key.</p>	
<p>By using the  and  keys, select the language.</p>	
<p>Validate with the  key to confirm the new displayed language.</p>	

7.3. LIGHTING THE SCREEN

The brightness of the backlighting can be set so as to suit the backlighting to the ambient lighting or your personal preferences. The screen backlighting is programmable and can be altered. This adjust is from 0% (backlight off) to 100% (maximum light).


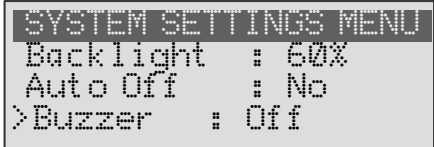




Backlighting of low brightness will save battery power. Specify a setting that suits the way you use the instrument.

<p>In the SYSTEM SETTINGS menu, select the Backlight function and validate with the  key.</p>	 <pre> SYSTEM SETTINGS MENU Date : 10/08/09 Hour : 10:25 >Backlight : 60% </pre>
<p>By using the  and  keys, select the backlight intensity from 0 % (off) to 100 % (maximum) by step of 10 % then validate with the  Key.</p>	 <pre> SYSTEM SETTINGS MENU Date : 10/08/09 Hour : 10:25 Backlight : 80% < </pre>

Note: the backlight intensity is modified after the validation with the  key.



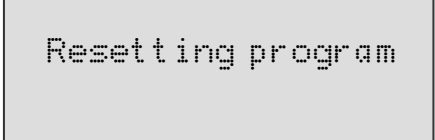
7.4. BUZZER

The **Buzzer** function allows ringing a beep during the measurement test time.

<p>In the SYSTEM SETTINGS menu, select the Buzzer function and validate with the  key.</p>	 <pre> SYSTEM SETTINGS MENU Backlight : 60% Auto Off : No >Buzzer : Off </pre>
<p>By using the  and  keys, select On or Off to validate or not the beep ringing and then confirm by using the  key.</p>	 <pre> SYSTEM SETTINGS MENU Backlight : 60% Auto Off : No >Buzzer : On </pre>


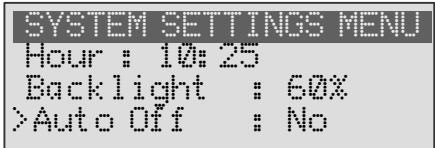




7.5. PROGRAMS DELETION

This function will erase one or all the programs to reset them.

<p>In the SYSTEM SETTINGS menu, select the Reset program function to delete the current program or Reset all programs. To delete all the programs contained in the device.</p> <p>Warning! : <i>Until the validation, the program or all the programs will be definitively deleted!</i></p> <p>Validate with the  key.</p>	
<p>The instrument deletes the program or all.</p>	

7.6. AUTO OFF (PORTABLE DEVICE ONLY)











This feature conserve battery life by automatically turning the instrument off after a user-defined period of time within there has been no key activity.

<p>In the SYSTEM SETTINGS menu, select the Auto Off function and validate with the  key.</p>	
<p>By using the  and  keys, adjust the time before turn off from No (never turn off) to 30 minutes. Validate with the  key.</p>	

7.7. DATE AND TIME (FIXED DEVICE ONLY)












The device has a built in clock (hour, minutes) and an internal calendar (day, month and year) which allows dating the events and the archives.

7.7.1. Date

<p>In the SYSTEM SETTINGS menu, select the Date function then confirm with the  key.</p>	<pre>SYSTEM SETTINGS MENU >Date : 10/08/10 Hour : 15:35 Backlight : 60%</pre>
<p>By using the  and  keys, set the day.</p>	<pre>SYSTEM SETTINGS MENU Date : 01/08/10 Hour : 15:35 Backlight : 60%</pre>
<p>Validate with the  key. The cursor goes to the month setting. By using the  and  keys, set the month.</p>	<pre>SYSTEM SETTINGS MENU Date : 01/09/10 Hour : 15:35 Backlight : 60%</pre>
<p>Validate with the  key. The cursor goes to the year setting. By using the  and  keys, set the year.</p>	<pre>SYSTEM SETTINGS MENU Date : 01/09/10 Hour : 15:35 Backlight : 60%</pre>
<p>To save the date, validate with the  key.</p>	<pre>SYSTEM SETTINGS MENU >Date : 10/08/09 Hour : 15:35 Backlight : 60%</pre>




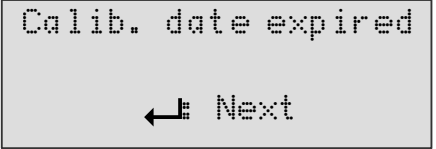
7.7.2. Hour

Proceed with the same way of the date to set the time.

<p>In the SYSTEM SETTINGS menu, select the Hour function then confirm with the  key.</p>	
<p>By using the  and  keys, set the hour.</p>	
<p>Validate with the  key. The cursor goes to the minutes setting. By using the  and  keys, set the minutes.</p>	
<p>To save the time, validate with the  key.</p>	

7.8. CALIBRATION (DATE, FIXED DEVICE ONLY)

This function allows to the user programming a date for the next calibration.

<p>In the SYSTEM SETTINGS menu, select the Calib. function to set a new date for the next calibration and validate with the  key.</p>	
<p>When the date is passed, at the device turning on the opposite message appears. Press on the  key to continue the measurements. Make a calibration and set the new date for the next calibration. To change the date, proceed by the same way as the normal date.</p>	

Chapter 5

ACCESSORIES

1. ACCESSORIES PROVIDED WITH THE INSTRUMENT

1.1. COMMON ACCESSORIES PORTABLE AND FIXED

1.1.1. USB Cable



The **USB** cable (supplied with the device) allows the connection between the instrument and a personal computer.

1.2. FIXED VERSION ACCESSORIES

1.2.1. Power supply



The power supply cable of the **H6000 Fixed** allows its connection to the mains supply network (from 100 to 240V AC).

1.3. PORTABLE VERSION ACCESSORIES

1.3.1. Power supply



The power supply (fitted with the instrument) converts a network voltage (100 to 240 V AC) into a 24 V DC low voltage supply. It has no power switch and works as soon as it is plugged in.

It allows supplying the battery device which manage itself the charge.

It is protected against surges and short circuits via a thermal fuse (do not use any other type of fuse).

The instrument is not designed to work during the battery charge.

1.3.2. Batteries



See the battery use conditions in the "**Safety precautions**" paragraph in the appendices.



The 12V DC 4400 mA/h battery with Lithium Polymer (Li-Po) technology is integrated into a case of our design.

The charge is done with the power supply (see above) which is directly plugged on the battery with a jack connector. The battery is fitted with a LED which indicates the charge state.

2 batteries are supplied with the instrument.

The battery charge time is less than 3 hours. The charge can be carried out without the battery installed on the instrument.



Important note: do not charge the battery when it is installed into the carrying case, you must remove it to avoid overheating. See the instructions concerning the battery in the appendices.

1.3.3. Soft carrying case



The soft carrying case allows the user to carry easier the device on the test area.

1.3.4. Carrying case

Strong case with the dimensions: Large 520, Depth 440 and high 230 for the storage of the following components:



- ✓ 1 measurement device **H6000**,
- ✓ 1 second battery,
- ✓ 1 power supply for battery charging,
- ✓ 1 sniffer,
- ✓ 1 sniffer cable,
- ✓ 1 USB cable.

2. OPTION ACCESSORIES

2.1. SECOND SNIFFER (OPTION)



It is possible to get in option a second sniffer, in order to continue the tests while the first is in maintenance.

2.2. CALIBRATED LEAK (OPTION)



Calibrated leaks are made to deliver a known quantity of gas H_2N_2 (5% hydrogen) at a given pressure.

They allow adjusting the reject level or checking the instrument calibration.

2.3. HEADPHONE (OPTION)



This headphone allows the user hearing the sound frequency changes due to H_2N_2 gas concentration variations.

See chapter 3, paragraph 2.3 "Sound and vibrate alerts".

It allows the user to isolate the external noises and facilitate the detection of fine leaks.

It's connected on the sniffer.

This headphone provided by **ATEQ**, has a knob for volume, adjust the volume according to the preferences of the user.



Important note: We draw attention, the ATEQ H6000 device has no adjust sound volume, it's only by the headphone potentiometer, if the user plugs a headphone that not fitted with, the volume may too strong and causes severe and irreversible hearing trauma.

The ATEQ company can not be held responsible for the effects caused to the user if he doesn't use a headphone specified by it.



2.4. CDH6000 CALIBRATOR (OPTION)

2.4.1. CDH6000 Appearance






The **CDH6000** must be fitted with a calibrated leak to deliver a known quantity of gas H_2N_2 (5% hydrogen) at a given pressure.



2.4.2. CDH6000 Warm-up

The **CDH6000** is a gas H_2N_2 (5% hydrogen) supply allowing the **H6000** calibration checking. It must be used with one or several calibrated leaks.

If the pressure displayed on the gauge of **CDH6000** can not exceed 1 bar, change the cartridge (maximum pressure: 4 bars)

To purchase cartridges filled with gas H_2N_2 (5% hydrogen) contact **ATEQ**.

 <p><i>Cartridge extraction.</i></p>	 <p><i>Cartouche extracted.</i></p>
<p>To change the cartridge, remove it by pressing the button on the connector.</p> <p>Then, reinsert a new cartridge by pushing to the bottom.</p>	

 <p>CLIC !</p>	<p>Install the calibrated leak on the output connector of the CDH6000.</p>
<p>Adjust the pressure by pressing on the left to increase or right to decrease buttons until having 1 bar on the gauge. (1 bar = characteristic pressure value of the calibrated leak).</p>	



Tip: when the operator has finished using the calibrator **CDH6000**, disconnect the calibrated leak and store in its case and avoid the excessive pollution of the test area.

3. SPARE PARTS

3.1. SNIFFER FILTER



The filter may be regularly changed or when the instrument request it (filter end of life) see chapter 6, paragraph 1.1 "Changing the filter". These parts are provided by **ATEQ**.

3.2. SNIFFER CABLE



The cable may be regularly changed or when the instrument requests it (cable end of life) see chapter 6, paragraph 1.2 "Changing the cable". This part is provided by **ATEQ**.

3.3. SNIFFER NOSE



The nose sniffer is a component that can become worn as it is in direct contact with parts to be tested. It's available in spare part and provided by **ATEQ**.

Chapter 6

SERVICE

1. PREVENTIVE MAINTENANCE

The device includes components that wear out over time and use, maintenance counters are associated with each wear components which are decreasing while using the device. Replace these elements when the device requests, in order to keep the measurement quality.

The counters are implemented for a conventional use of the device. The measurement module is naturally wearing (oxidation) in the event of prolonged miss of hydrogen.

If these elements are not changed as it should, leak detection and the measurement sensitivity will be reduced.

The components to be changed are:

- ✓ The **filter** into the sniffer (operation performed by the user).
- ✓ The link **cable** between the sniffer and the device (operation performed by the user).
- ✓ The measurement **sensor** (operation performed by the **ATEQ** after sales service).
- ✓ The airflow **fan** in the sniffer (operation performed by the **ATEQ** after sales service).



Tip 1: if not using the device, turn it off or enable the automatic shutdown to save the wear components.


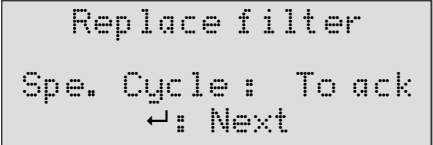
Tip 2: get a second sniffer, to limit the downtime of the instrument due to maintenance of the fan and / or sensor carried by ATEQ in these premises.






Important note: do not hesitate to revise your instrument annually in **ATEQ** factory to ensure the accuracy of the measurement

1.1. CHANGING THE FILTER






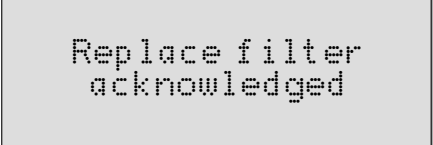
It should change the filter regularly or when the message **"Replace Filter"** appears on the screen.

<p>The press of the  key allows erasing the message until the next turn on.</p>	
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Procedure to changer the sniffer filter:


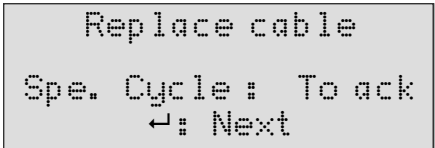
<p>Turn off the device. Remove the pipe from the sniffer body, use a 10 open-end wrench to unscrew.</p>	
<p>Catch the filter into the pipe fixing hole and replace a new one.</p>	
<p>Raise the body tube on the sniffer, tighten moderately. Turn on the device.</p>	

While the filter is changed, acknowledge the operation in the special cycle menu.

<p>Press the  key to access to the special cycles menu. Select the "Ack filter replaced" menu with the  and  keys then validate with the  key.</p>	
<p>The message "Replace filter acknowledged" confirms the counter resetting.</p>	

1.2. CHANGING THE CABLE







It should change the cable regularly or when the message "**Replace cable**" appears on the screen.

<p>The press of the  key allows erasing the message until the next turn on.</p>	
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Procedure for changing the link cable between the instrument and the sniffer:










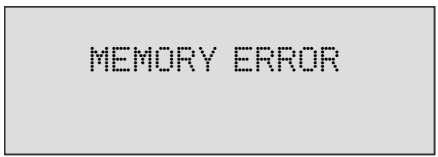

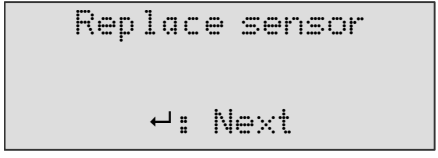
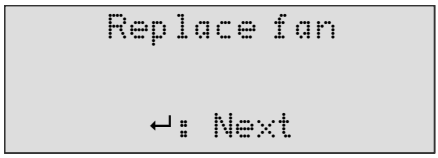
- ✓ Turn off the instrument.
- ✓ Unplug the cable on the sniffer side, then on the instrument side.
- ✓ Take a new one and plug it on the instrument and the sniffer.
- ✓ Turn on the instrument.

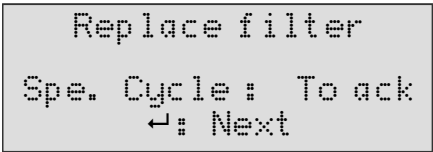
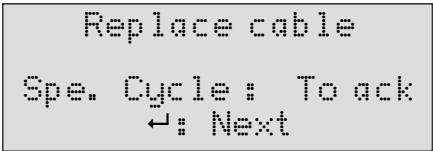


While the cable is changed, acknowledge the operation in the special cycle menu.

<p>Press the  key to access to the special cycles menu.</p> <p>Select the "Ack cable replaced" menu with the  and  keys then validate with the  key.</p>	
<p>The message "Replace cable acknowledged" confirms the counter resetting.</p>	

2. ERROR MESSAGES

The **ATEQ H6000** can display error messages if there are operational problems.

PROBLEM	LIGHTS	DISPLAYED MESSAGES
<p>DEFAULT CARD SENSOR ALARM</p> <p>The sniffer is not detected by the device. Action: turn off the device and connect the sniffer, turn on again, if the default is still display, change the cable, if the problem persists, contact ATEQ after sales services.</p>	 FAIL  PASS 	
<p>POLLUTION DEFAULT</p> <p>Leak or important pollution. Action: ventilate the area and wait that any saturation has gone away, start again the measure.</p>		
<p>Password error</p> <p>The password entered is wrong. Action: try again with the right password.</p>	 FAIL  PASS 	
<p>MEMORY ERROR</p> <p>The internal memory is full. The device can run measurements, but the results and the programs modifications are not saved. Action: empty the memory (delete some results files).</p>		
<p>SD CARD FAULT</p> <p>Internal memory failure. The device can run measurements, but the results and the programs modifications are not saved. Action: contact ATEQ after sales services.</p>		
<p>Replace sensor</p> <p>The sensor reaches the end of life, it is necessary to replace it with a new one. Measurements with a wear sensor may be erroneous. Action: contact ATEQ after sales services for its replacement.</p>		
<p>Replace fan</p> <p>The fan reaches the end of life, it is necessary to replace it with a new one. Measurements with a wear fan may be erroneous. Action: contact ATEQ after sales services for its replacement.</p>		

PROBLEM	LIGHTS	DISPLAYED MESSAGES
<p>Replace filter</p> <p>The filter is clogged and reaches the end of life; it is advisable to replace it with a new one preventively to avoid any error measurements. Measurements with a wear filter may be erroneous. This can be performed by the user.</p> <p>Action: see paragraph 1.1 "Changing filter" and reset the counter in the special cycle's menu.</p>		
<p>Replace cable</p> <p>The cable reaches the end of life; it is advisable to replace it with a new one preventively to avoid any risk of failure. Measurements with a wear cable may be erroneous. This can be performed by the user.</p> <p>Action: see paragraph 1.2 "Changing cable" and reset the counter in the special cycle's menu.</p>		
<p>CONFIGURATION ERROR</p> <p>A fatal internal configuration error occurs.</p> <p>Action: try to switch of and restart the instrument, if the problem persists, contact ATEQ after sales services.</p>		
<p>PARAMETERS ERROR</p> <p>One or several parameters in the test parameters or in the system settings or not compatible.</p> <p>Action: try to make a reset of the system and restart the instrument, if the problem persists, contact ATEQ after sales services.</p>		

3. PROBABLES FAILURES

The **ATEQ** Company disclaims any responsibility if the instruments calibration and adjustment would not be performed by its services.

If a failure with the device appears, see the following list (left column) to identify the fault, make checks or actions steps (right column) in the same order.

3.1. PORTABLE VERSION DEVICE

Identified failure	Remedial action
1 – The device doesn't turn on.	<ol style="list-style-type: none"> 1) Charge fully the battery. 2) Change the battery by a new one. 3) Check the electrics contacts between the battery and the device. 4) Contact the ATEQ after sales service.
2 – Wrong or false measures.	<ol style="list-style-type: none"> 1) Check the battery charge. 2) Wait until the sensor is less saturated (end of the flashing green "PASS" light), repeat the test. 3) Ventilate the test area, from hydrogen saturation. 4) Check the calibration of the instrument, if failed; return it to the ATEQ after sales serves. 5) Change the components displayed by the messages (filter, cable, sensor or fan). 6) Contact the ATEQ after sales service.

3.2. FIXED VERSION DEVICE

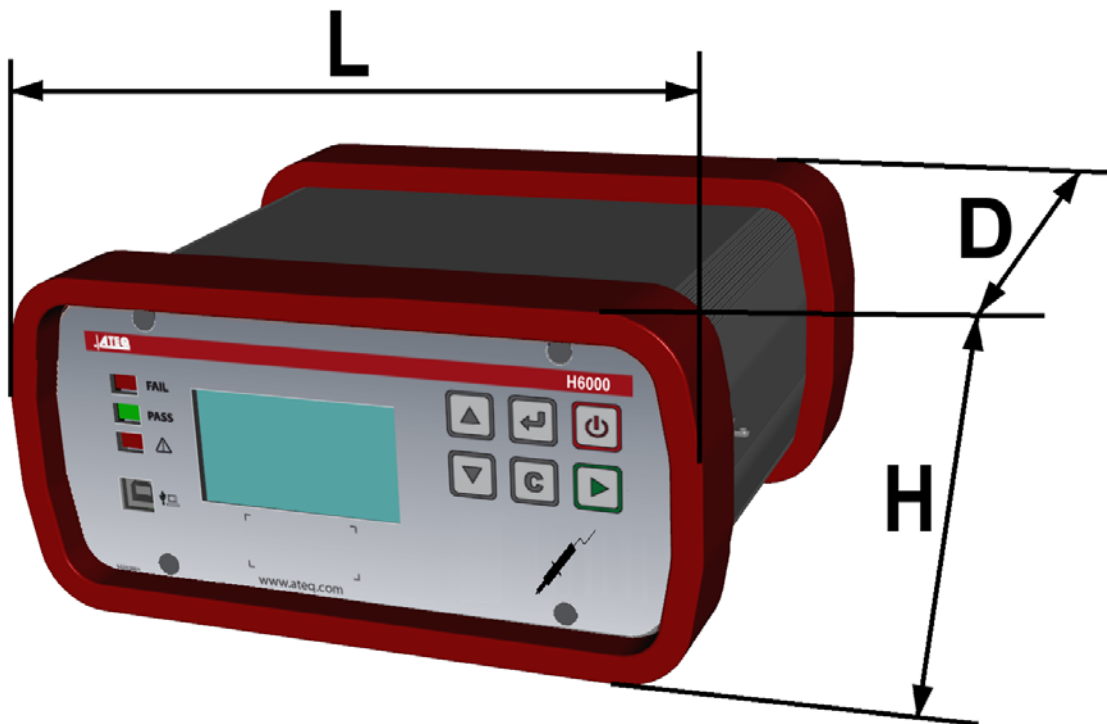
Identified failure	Remedial action
1 – The device doesn't turn on.	<ol style="list-style-type: none"> 1) Check the power supply. 2) Contact the ATEQ after sales service.
2 – Wrong or false measures.	<ol style="list-style-type: none"> 1) Check the power supply. 2) Wait until the sensor is less saturated (end of the flashing green "PASS" light), repeat the test. 3) Ventilate the test area, from hydrogen saturation. 4) Check the calibration of the instrument, if failed; return it to the ATEQ after sales serves. 5) Change the components displayed by the messages (filter, cable, sensor or fan). 6) Contact the ATEQ after sales service.

Appendices ATEQ H6000

1. TECHNICAL CHARACTERISTICS

	H6000 Portable	H6000 Fixed
Power supply:	24 V DC concentric jack	100 to 240 V AC 50 / 60 Hz ; Fuse = 3.5 A.
Battery:	Lithium Polymer (see security cautions below)	/
Weight (kg):	Device only: 2,65 (3,00 with sniffer and cable)	
Display :	LCD 4 lines 60 mm x 32 mm	
Temperatures:		
Use and battery charge:	0° C to +45° C (+32° F to +113° F)	
Storage (Li-Po battery conditions):	-10° C to +50° C (+14° F to +122° F)	

2. DIMENSION DRAWING



L : 240 mm / H : 120 mm / D : 210 mm

3. SAFETY INFORMATION



You must read and understand these safety instructions and warnings before using or charging your lithium polymer batteries (Li-Po).

Operating environment

Remember to follow any special current regulations any area, and always switch off your device when its use is prohibited or when it may cause interference or danger.

Use the device only in its normal operating positions.

Your device and its enhancements may contain small part. Keep them out of the reach of small children.

About Charging

Use only the charger supplied with your device. Use of another type of charger will result in malfunction and/or danger.

Use the specified battery in the equipment.

When the green LED turns off, the charge is complete.

About the Charger

Do not use the charger in a high moisture environment. Never touch the charger when your hands or feet are wet.

Allow ventilation around the charger when using it. Do not cover the charger with paper or other objects that will reduce cooling. Do not use the charger while it is inside a carrying case.

Connect the charger to a proper power source. The voltage requirements are found on the product case and/or packaging.

Do not use the charger if the wires become damaged. Do not attempt to service the unit. There are no serviceable parts inside. Replace the unit if it is damaged or exposed to excess moisture.

This charger is not a toy and should not be used by children or infirm persons without proper training or supervision.

Do not use it as a power source.

Unplug it before attempting to service or clean it.

About the Battery

CAUTION: *This unit contains an internal Lithium Polymer battery. The battery can burst or explode, releasing hazardous chemicals. To reduce the risk of fire or burns, do not disassemble, crush, pierce or dispose of the battery or the instrument in fire or water, do not short circuit or short the contacts with a metal object.*

Use a specified charger approved by the **ATEQ** manufacturer and supplied with the device.

Safety for Lithium Polymer battery use

NEVER leave the battery unattended during the charging process. Remove the battery on a nonflammable surface. The battery must imperatively be placed on a non-flammable surface during charging (ceramic platter or metal box).

Charge the Lithium Polymer battery **ONLY** with the charger provided.

NEVER use a Ni-MH (Nickel Metal Hydride) type battery charger to charge a Lithium Polymer battery.

If the battery begins to overheat more than **60°C** (140° F), **STOP IMMEDIATELY** the charge. The battery should **NEVER** exceed **60°C** (140° F) during the charging process.

NEVER charge a battery pack immediately after use and while still hot. Leave it cool down to ambient temperature.

If you see some smoke or some liquid out of the battery, stop the charge immediately. Disconnect the battery from the charger and place it in an isolated area for at least 15 minutes. **DO NOT USE THE BATTERY AGAIN**, but replace it with new one.

Keep a fire extinguisher for electrical fires handy while charging the battery. In the unlikely event that the Lithium Polymer battery will ignite, **DO NOT** use water to extinguish the fire, take some sand or fire extinguisher described above.

Do not pierce, cut or **NEVER** compress the jacket of a Lithium Polymer battery. If the battery is swelling up or if the cover is damaged, **DO NOT USE AGAIN**. Replace with a new one.

It must neutralize the Lithium Polymer battery elements unusable. The neutralization process must be performed with very strict security fit. It is recommended that you contact a specialist in this type of battery to perform this task, which is responsible to collect the battery out of use and gives to a specialized recycler.

Do not dispose of Lithium Polymer batteries to the dustbin.

The Lithium Polymer battery is not suitable for children under 14 years. Do not let a Lithium Polymer battery reach of children

To prevent leakage or other hazards, do not store batteries above **60°C** (140°F). Never leave the battery inside a car (for example) where the temperature could be very high or in a place where temperatures could exceed **60°C** (140°F). Store the battery in a dry place to avoid contact with liquid, whatever the type. Store the battery only on a nonflammable surface, heat resistant, non conductive and away from all flammable materials or sources. Always store the battery out of reach of children.

A Lithium Polymer battery should be stored with a minimum charge of 30%. If you store completely discharged, it will quickly become unusable.

If you don't follow these safety precautions, you may cause serious personal injury and damage to property; you may even cause a fire!

The **ATEQ** Company disclaims any responsibility for damage sustained in case of non compliance with these safety instructions.

Using a Lithium Polymer battery has a high risk of fires and can cause serious damages to property and persons, the user agrees to accept the risk and responsibility.

The **ATEQ** Company couldn't control the proper use of the battery for each customer (charge, discharge, storage etc.), It can not be held responsible for damage to persons and property.

Important instructions (for service personnel only)

CAUTION: *Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.*

Replace only with the same or equivalent type recommended by the manufacturer **ATEQ**.

Use the battery only in the specified equipment.

The battery must be recycled or disposed of properly.

4. RECYCLING

Do not dispose of the rechargeable Lithium-Ion battery or the device to the dustbin.



These components must be collected and recycled.



The crossed-out wheeled dustbin means that within the EU the product must be taken to separate collection at the product end-of life. This applies to your tool but also to any enhancements marked with this symbol. Do not dispose of these products as unsorted municipal waste. For further information, please contact **ATEQ**.

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