E-VLT

Quick Start Guide

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ATEQ Manufacturer Plants - Measurement Solution, Global Leader.

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We continuously work on improving our products. This is why information contained in this manual, the device and the technical specifications may be modified without prior notification.

Pictures and figures in this manual are non-contractual.

Safety advisory / Warranty

GOOD PRACTICES AND SAFETY INSTRUCTIONS

Safety recommendations

⚠ The device is supplied with 100 / 240 V AC, it is mandatory to connect it to the ground with a good link to the ground, to protect against electric hazard or electrocution.

Recommendations for the test environment

Keep the test area as clean as possible.

Recommendations for operators

E-XTEQ recommends that the operators who use the devices have training and a level of qualification that correspond to the job to perform.

General recommendations

— Read the user manual before using the device.
— All electrical connections to the device must be equipped with safety systems (fuses, circuit breakers, etc.) adapted to the needs and in accordance with the applicable standards and rules.
— To avoid electromagnetic interference, electrical connections to the device must be shorter than 2 meters.
— Power supply plug must be grounded.
— Disconnect the device from the mains before performing any maintenance work.
— Shut off the compressed air supply when working on the pneumatic assembly.
— Do not open a connected device.
— Avoid splashing water on the device.
E-XTEQ is at your disposal for any information concerning the use of the device under maximum safety conditions.
We draw your attention to the fact that E-XTEQ cannot be held responsible for any accident related to a misuse of the measuring instrument, the workstation or non-compliance of the installation with safety rules.
In addition, E-XTEQ declines any responsibility for the calibration or the fitting of their instruments that is not done by E-XTEQ.
E-XTEQ also declines any responsibility for any modification (program, mechanical or electrical) of the device done without their written consent.

Preamble

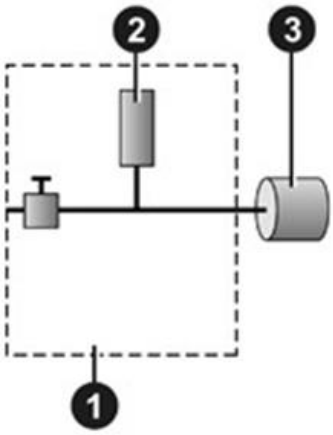
E-VLT

E-VLT is a leak detector able to test large volume like EV battery housing and cooling.

E-VLT can memorise 128 different test programs and 32 batteries sets of programs.

LEAK TEST

Leak test and Desenzitizes Mode



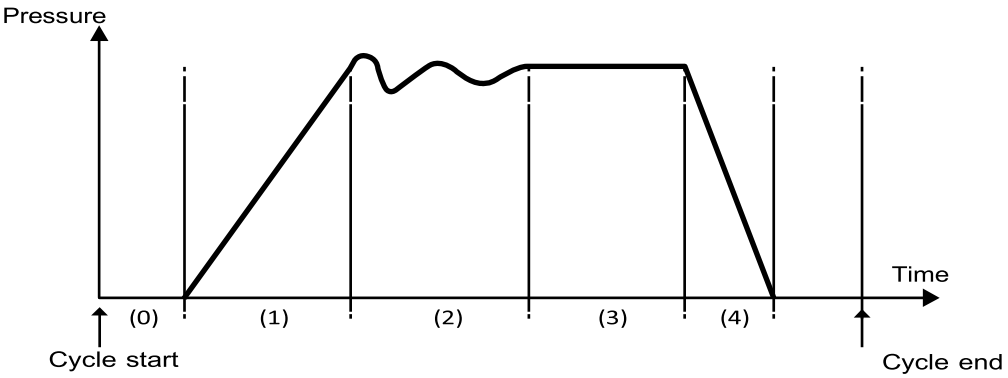
The test pressure is applied to the input of the test part **3**.
The measurement is performed by the pressure sensor **2**.

1 Device
2 Pressure sensor
3 Part under test

Desensitized Mode: there is no leak fullscale. The limit is the test Pressure.

PRINCIPE OF CYCLE

The measurement cycle is made of 4 mains phases : fill, stabilization, test, dumping.



0 Waiting phase
1 Fill phase
2 Stabilization phase
4 Dumping

Your E-VLT

FRONT PANEL

The user interface is located on the front panel.

1 Touchscreen Display
2 USB Connectors

BACK PANEL

1 Part number / Serial number
2 Exhaust output
3 Test part connector
4 Calibration informations
5 Connector for 100 / 240 V AC power supply

COUPLERS

Different couplers are mandatories to test Housing or cooling system.
They must be connected on the test pipe fast connector..

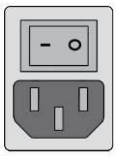
POWER SUPPLY CONNECTORS

100 / 240 V AC connector (J7)

The device can be connected to a 100 / 240 V AC power supply (option).
This connector has a ON/OFF button.

It is mandatory to connect the device with a good link to the ground, to protect against electric hazard or electrocution.

Interruptor ON/OFF



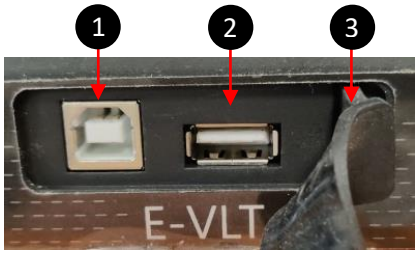
1 ON

0 OFF

DIGITAL LINKS

PC USB connectors (on front face)

USB connectors can be used for connecting miscellaneous compatible USB devices.
The USB connectors are located under the rubber cover 1 (see figure).



1 USB connector to PC

2 USB connector to USB key or barcode reader

3 Rubber cover

Do not use a cable longer than 2 m.

Push the rubber cover 3 slightly forward for an easy access to USB connectors 1 and 2.

Only use this connection for temporary communication.
Connection to a PC cannot be used permanently because the communication can be disconnected by the PC.

User interface

OVERVIEW

KEYS

Cycle keys

The cycle keys are used to start and to stop a measurement cycle.

Key	Name	Function
	**Start**	Starts a measurement cycle and opens the **Measurement cycle** screen.
	**Reset**	Stops the measurement cycle in progress.

Keys

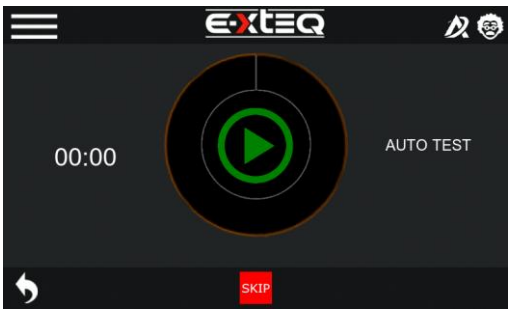
The navigation keys are used to select menus/options and change parameter values.

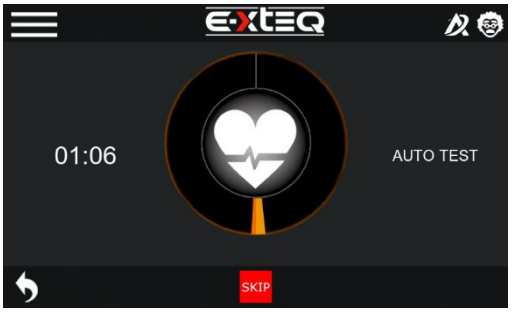
Key	Name	Function
	**OK**	Validation of actual screen.
	**Back**	Returns to previous screen.

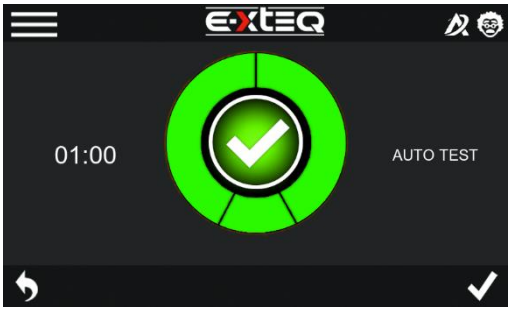
POWER UP

1. Make sure that all the necessary connections are in place.
2. Power up your device

When Power up part under pressure must NOT be connected to the instrument.
Then the instrument propose an autotest.

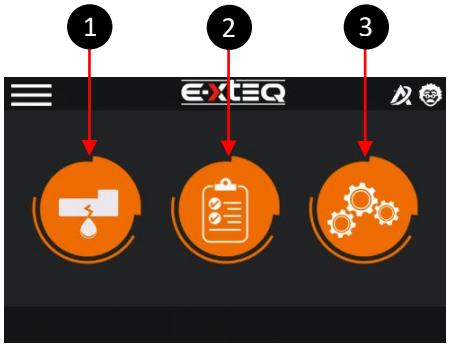






MAIN MENU screen

The **MAIN MENU** screen gives access to different sections for managing the device and the test parameters.



1 Battery selection and test Menu
2 Results Menu
3 Instrument configuration

PREPARING A PROGRAM

Use this process to configure a new test program.

On the MAIN MENU screen :

1. Select « Battery » Menu

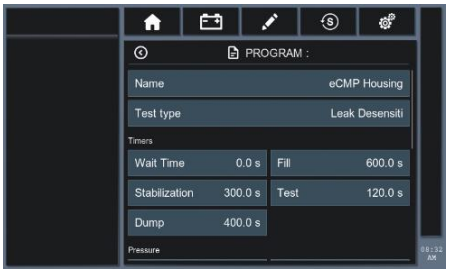
2. Select « Parameters » Menu
   (requires Expert Rights)

The program list is displayed.

1. Home : returns to main menu
2. Group parameters (Batteries)
3. Programs parameters
4. Special cycles (Autozero, …)
5. Configuration

3. Select the program number you want to edit.

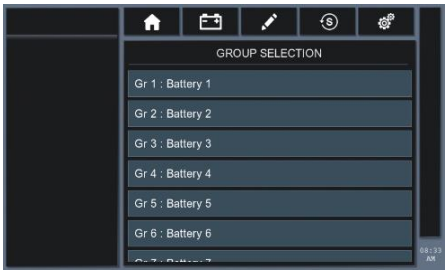
4. Modify parameters
   For more details refer to chapter :
   User Adjustment / Program parameters



5. Press Home to come back to main menu

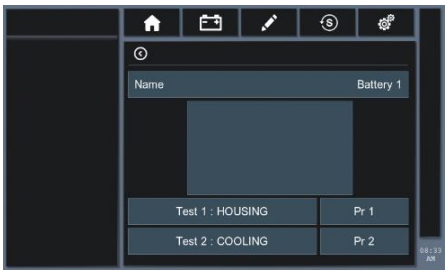
PREPARING A BATTERY GROUPS PROGRAMS

1. Select « Battery » Menu



2. Select the battery group you want to edit

3. Modify parameters
   For more details refer to chapter :
   User Adjustment / Battery parameters



4. Press HOME to come back to main menu

SELECTING A BATTERY TO TEST

1. Select « Battery » Menu

2. Select « Battery list » Menu

3. Select the correct battery in the list

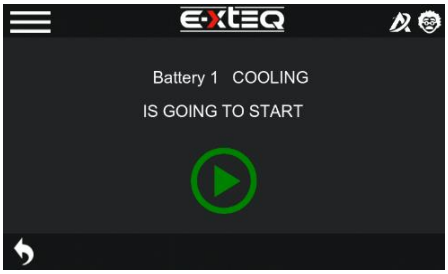
4. Select TEST TYPE (Housing or Cooling)
   Prepare and connect the correct coupler

STARTING AND STOPPING CYCLE

When the expected program is selected.

Starting a measurement cycle

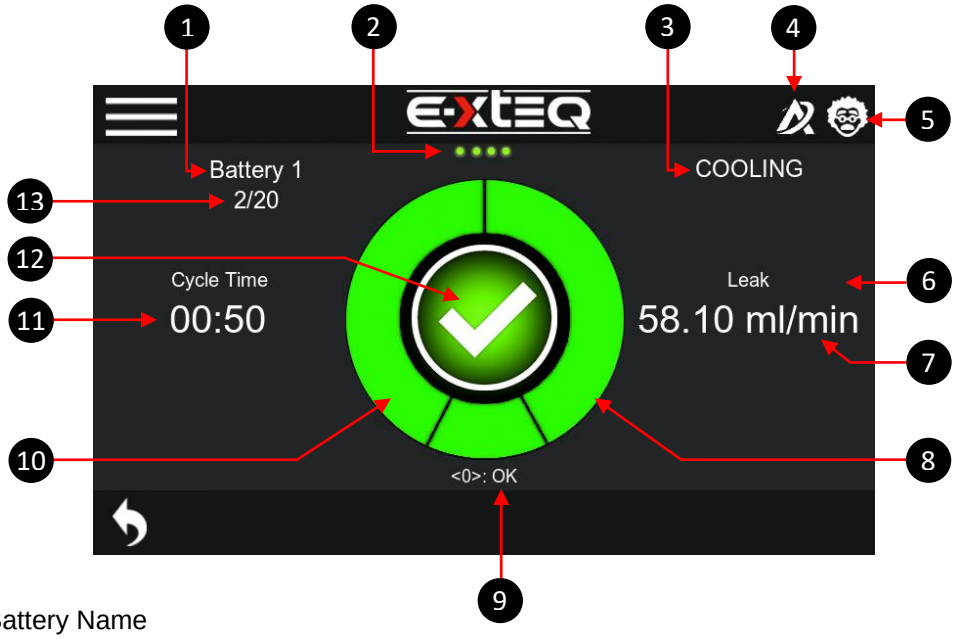
1. Press **Start**.
The cycle phases of program are successively displayed :
FILL
STABILISATION
TEST
DUMP



At the end of the test time, the result is display.

Measurement cycle screen

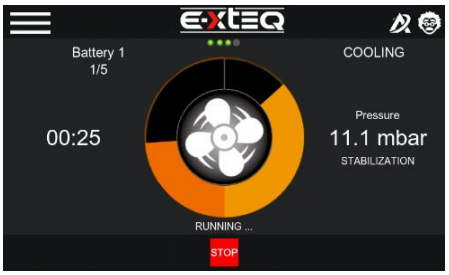
It displays the different values of the current test (or last one).



1 Battery Name
2 Step progress
3 Battery type of test
4 Cloud connection (Not available yet)
5 User Right (Normal/Expert)
6 Pressure or Leak measurement
7 Cycle step (Fill, Stab, Test, Dump, Ready)
8 Bargraph : Pressure according to target or leak according to reject level
9 Result of the test (Pass, Fail, Alarm code)
10 Countdown Bargraph
11 Time remaining to finish test
12 In the center :
When ready ; Start key
Duting cycle : Cycle step icon
When cycle is finished : Result icon (PASS / FAIL / ALA)
13 Quantity program executed / Total in « Auto chain » mode.

Stopping a cycle

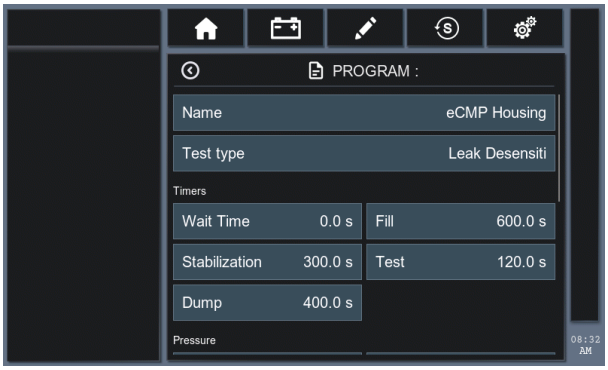
1. Press **Stop** to immediately stop the current measurment.



User adjustments

PROGRAM PARAMETERS

Use this menu to configure the measurement cycle associated to each test program.



Groups	Parameters	Descriptions
	Name	Text field to easily organise program (Ex: batteryName Housing) Test type: Leak per default
Timers	Waiting time	Time before starting the cycle
	Fill Time	Necessary time to fill the battery at the pressure instruction As soon as the instruction is reached, the fill time is shortened
	Stabilisation time	Necessary time to get a correct measurement during test time
	Test time	Necesary time to get a representative measurement (20 Pa) of the part with a leak closed to reject level (ex. leak of 0.1 Pa/s, it is advised to have 180s test time)
	Dump time	Time required to dump the part through the instrument, for housing (low pressure) couplers can be unplug to earn time
Pressure	Pressure unit	Select correct unit in the list
	Set Fill	Pressure instruction (Target)
	Min and Max pressure	At the end of filling time pressure needs to be between these 2 levels
Leak	Leak unit	Select correct unit in the list
	Max reject	Level to declare part under test as FAIL
	Std Patm and Temperature	Requested parameters when specific unit as sccm is used
	Offset	Manual offset that can be subtracted to the leak measurement. It is a usefull parameter to shorten stabilisation time (Reserved to expert)
	Volume	It's a necessary coeficient to convert pressure decay (in Pa) to leak (in flow unit like ml/min)
Options	Filter time	Usefull function to limit external pertubation during test time with flow unit, this time max must be inferior to 0.5*Test time
	Sign	Change the sign of the measurement, (vaccum test)
	Leak search	If the part is declared as leaking, the instrument maintains the pressure at the end of the test to let the operator look for the leak. The test must must be stopped manually

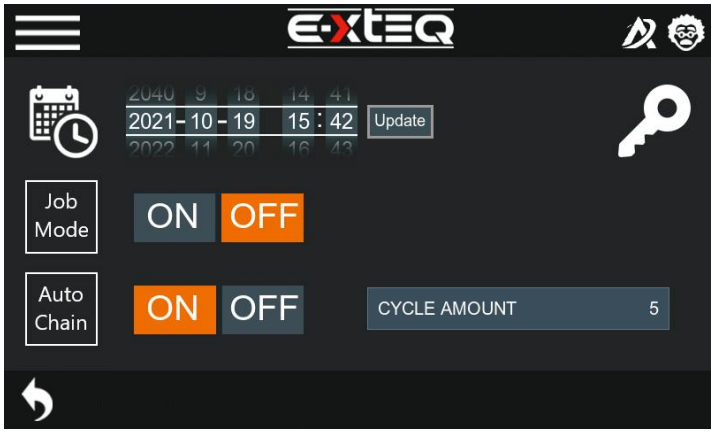
BATTERY PARAMETERS

Use this menu to name and affect Test Programs.

Parameters	Descriptions
Name	Displayed name in the battery list menu
Picture	Displayed pictures in the battery list menu (Not available yet)
Test 1 Housing	Program selected to make Housing TEST
Test 2 Cooling	Program selected to make Cooling TEST

CONFIGURATION MENU

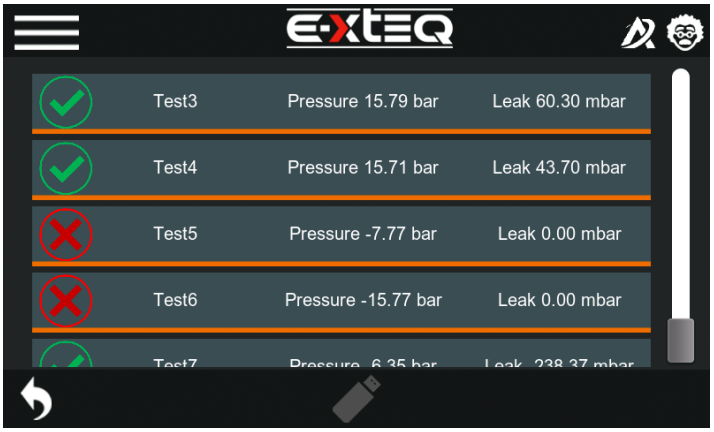
Use this menu to configure your E-VLT device.



Parameters	Descriptions
Date	Define correct Date and Time. it is important for results stored.
Job Mode	Using this mode, the instrument requires to make housing and cooling on a specific battery. At the end of the test a special file records the tests.
Autochain	This mode automatically makes the specified quantity of tests and generates a dedicated result file.

RESULTS MENU

In this section you can observe the results of the last 50 cycles.



Connecte a USB memory stick and press the white key to transfer data from the instruments :

- Key/SerialNumber/Campaign : all the measurement done with auto chaining mode
- Key/SerialNumber/Results : all the measurement done
- Key/SerialNumber/jobs/ : all the measurement done with Job mode

FCC Warning
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any inte rference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferenceto radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Specifications

CARACTERISTICS

Technical characteristics of the device.

Main characteristics :

Characteristics	Values
Mass	About 8,5 kg (18.7 lbs)
Electrical power supply	100 / 240 V AC ≂ 55 W - 50/60 Hz
Overvoltage category	II
Air supply	From -10 to 250 kPa
Pneumatic connections:	Fast connector Staubi RBE 03
Operation temperature	+5 °C to + 45 °C (+ 41 °F to 113 °F)
Storage temperature	0 °C to +60 °C (32 °F to 140 °F)
Operation altitude	Up to 2000 m (6500 ft)
Relative humidity	80 % at 31 °C (87 °F) and 50 % at 40 °C (104 °F)

Dimensions (in millimeters) :