QUICK START MANUAL

ATEQ MF5200

Version 1.01

(Photo no contractual)

www.ateq.com

Reference : MR-MF5200A-U

REVISIONS OF THE ATEQ MF5200 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.

Edition/Revision	**Reference**	**Date** Week/Year	**Chapters up dating**
First edition	MR-MF5200A-U	13/2012	-----

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.
ATEQ is attached to the COFRAC and delivers a certificate following a calibration.

■ 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

Quick start manual

TABLE OF CONTENTS

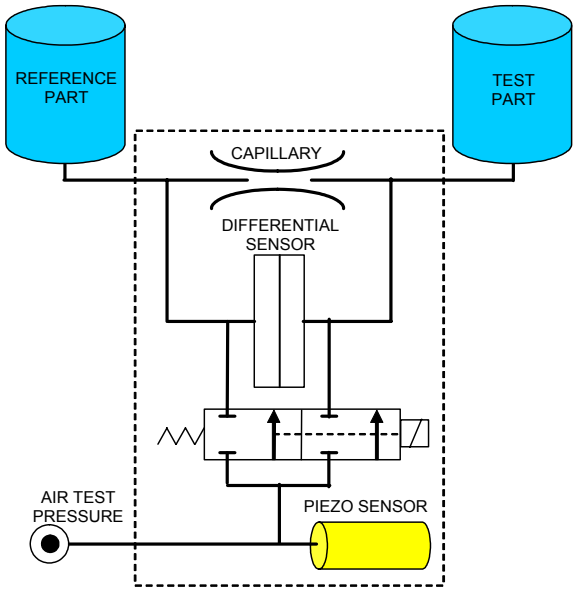
Due to continuing improvements, the information contained in this user manual, the features and design of this device are subject to be changed without prior notice.

PREAMBLE

1. DEFINITION OF THE ATEQ MF5200

The **ATEQ MF570** is compact air/air leak detectors used to test the air-tightness of parts on production lines. It is specially adapted for automatic and semi-automatic workbenches. The method used is based on the flow measurement between the test and reference parts, when both are filled to an identical pressure.

If the side test part is leaking, a pressure difference between the two parts test and reference will be established, the differential sensor will measure the flow at the terminals of this capillary.



With this kind of instrument it is very important to have a reference volume, with if possible the same volume to the test part (the ideal thing is to have to same parts).

2. MEASUREMENT CHARACTERISTICS

2.1. FLOW MEASUREMENT

RANGE ml/min (Full scale)	ACCURACY	Maximum RESOLUTION
2	+/- (2,5% of the flow + 0,002 ml/min)	0,001 ml/min
20	+/- (2,5% of the flow + 0,02 ml/min)	0,01 ml/min
200	+/- (2,5% of the flow + 0,2 ml/min)	0,1 ml/min

2.2. TEST PRESSURE MEASUREMENT

RANGE	ACCURACY	maximum RESOLUTION
F. S. = 75 mbar*	+/- (1,5% of the pressure + 0,2 hPa)	0,1 % F. S.
F. S. < 0,3 bar	+/- (1,5% of the pressure + 1 hPa)	0,1 % F. S.
0,3 ≤ F. S. ≤ 1 bar	+/- (1,5% of the pressure + 3 hPa)	0,1 % F. S.
1 < F. S. ≤ 5 bar	+/- (1,5% of the pressure + 7.5 hPa)	0,1 % F. S.
5 < F. S. ≤ 10 bar	+/- (1,5% of the pressure + 15 hPa)	0,1 % F. S.

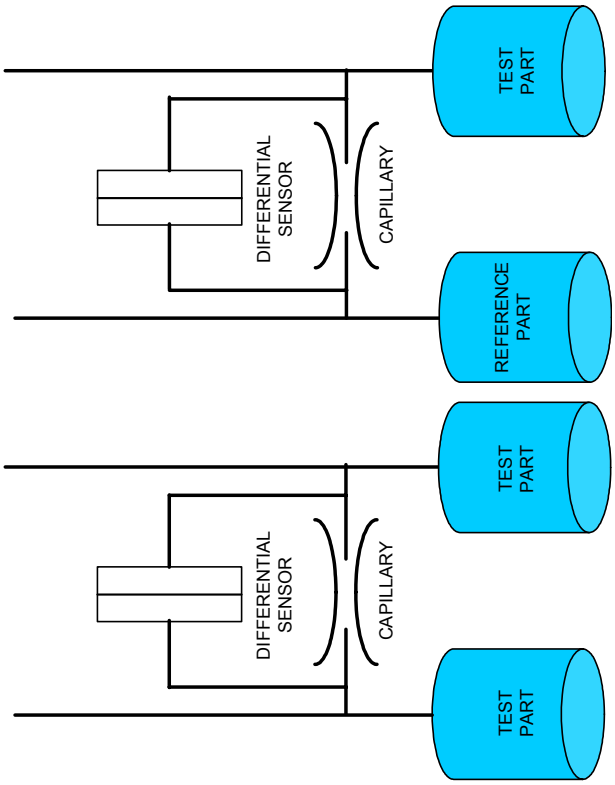
F.S. = Full scale.

3. THE MAIN TYPES OF MEASUREMENT

Direct measurement, indirect measurement and sealed component measurement. These three methods apply to measurements taken both under pressure and in vacuum conditions.

The configuration is determined by the application and must be carried out prior to the use of the instrument.

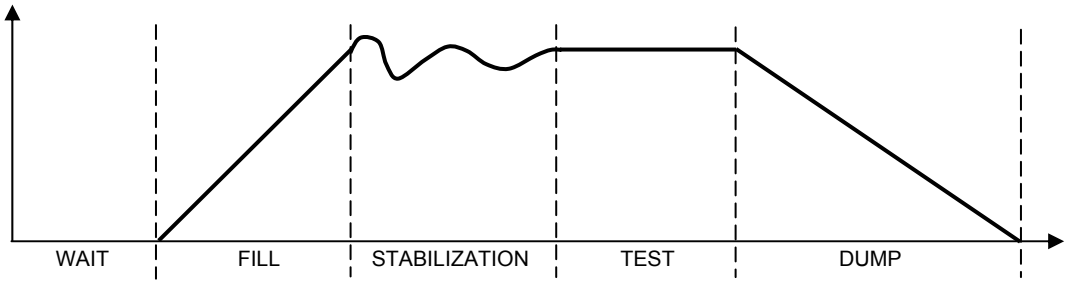
4. THE TWO TYPES OF TEST



Test with reference: Measurement of a pressure variation between a test part and a reference part.

Test with central zero: test two parts at the same time. One part is connected to the test side and the other to the reference side.

5. MEASUREMENT CYCLE



The measurement cycle consists of 5 phases:

	1	2	3	4	5	
Start	**Coupling time**	**Fill time**	**Stabilization time**	**Test time**	**Dump time**	Cycle end

INSTALLATION

See the manuals CDROM for further information.

1. APPEARANCE OF THE ATEQ MF5200

2. ELECTRICS CONNECTORS

2.1. ON/OFF SWITCH

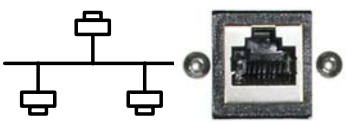
The **ATEQ MF5200** is running under a voltage between 100 and 240 V AC.

I : ON / O : OFF.

2.2. USB CONNECTOR (FRONT FACE)

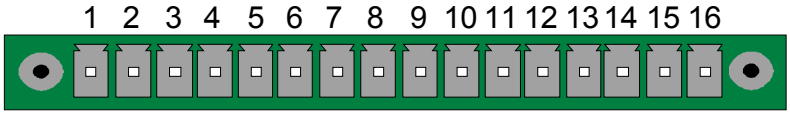
Allows the connection of various elements **USB** compatible (mouse, keyboard, memory etc.).

2.3. J9 ETHERNET CONNECTOR

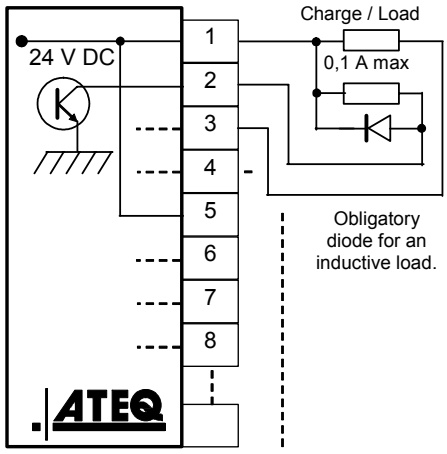


Ethernet connector for connecting the device into an Ethernet network (TCP / IP protocol).

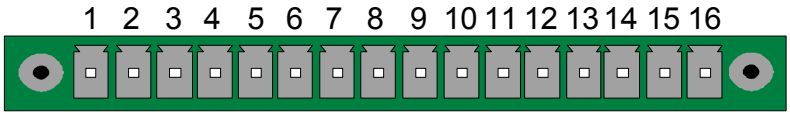
2.4. J1 CONNECTOR OUTPUT CODES / ANALOGUES



Output codes / Analog outputs / temperature sensor.

PIN 1	COMMON (outputs 1, 2, 3) + 24 V DC	OUTPUT CODES 24V DC 100mA Max Outputs	
PIN 2	Output n°1, open collector		
PIN 3	Output n°2, open collector		
PIN 4	Output n°3, open collector		
PIN 5	COMMON (outputs 4, 5, 6) + 24 V DC		
PIN 6	Output n°4, open collector		
PIN 7	Output n°5, open collector		
PIN 8	Output n°6, open collector		
PIN 9	12V Sensor power supply	TEMP° SENSORS	
PIN 10	0V Sensor power supply		
PIN 11	SENSOR n°1 input		
PIN 12	SENSOR n°2 input		
PIN 13	Analogue outputs n°1	ANALOGUE OUTPUTS	
PIN 14	COMMON (analogue output 1)		
PIN 15	Analogue output n°2		
PIN 16	COMMON (analogue output 2)		

2.5. J3 CONNECTOR I/O ALL OR NOTHING



Inputs / All or nothing outputs.

Pin	Standard mode	
1	Input 1 Reset	INPUTS (Activating by 24 V DC) Common + 24 V = 0,3 A maxi
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	
9	Input 7 Program selection	
10	Floating common output	DRY CONTACT OUTPUTS 60V AC / DC Max 200mA Max
11	Output 1 Pass part	
12	Output 2 Test error	
13	Output 3 Reference error	
14	Output 4 Alarm	
15	Output 5 End of cycle	
16	0 V	

The compact mode is a software function which is activated in the **CONFIGURATION / CHANGE I/O / OUTPUT** menu.

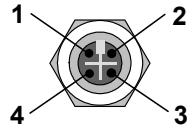
2.5.1. J3 Connector program selection

The various test programs can be selected individually depending on the inputs combination of this connector.

2.5.2. J3 Connector programmable input

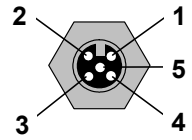
Input 7 of this connector can be configured to start the desired function. The functions which can be programmed and available on this input are all the specials cycle:

2.6. J5 CONNECTOR REMOTE CONTROL (OPTION)



Used for connection of an intelligent remote control (M12 female connector).

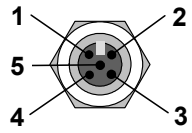
2.7. J6 CONNECTOR DEVICENET INPUT (OPTION)



Reserved for **ATEQ** network

Used for communication with other **ATEQ** instruments (M12 male connector).

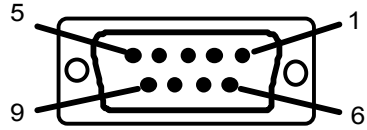
2.8. J7 CONNECTOR DEVICENET OUPUT (OPTION)



Reserved for **ATEQ** network

Used for communication with other **ATEQ** instruments (M12 female connector).

2.9. J8 CONNECTOR RS232 OR PROFIBUS OR EXTERNAL SCREEN



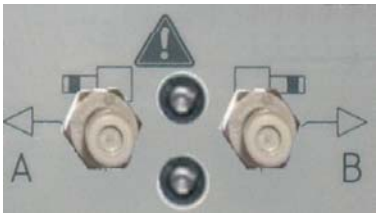
Enables the connection of a printer, bar code reader, PC and memory module.

PIN 1	Not used	PIN 4	Not used	PIN 7	RTS request to send
PIN 2	RXD data input	PIN 5	Earth/Ground	PIN 8	CTS clear to send
PIN 3	TXD data output	PIN 6	Not used	PIN 9	Not used

3. PNEUMATICS CONNECTORS

The automatics connectors or installed on the rear side.

3.1. AUTOMATIC CONNECTOR A AND B (OPTION)

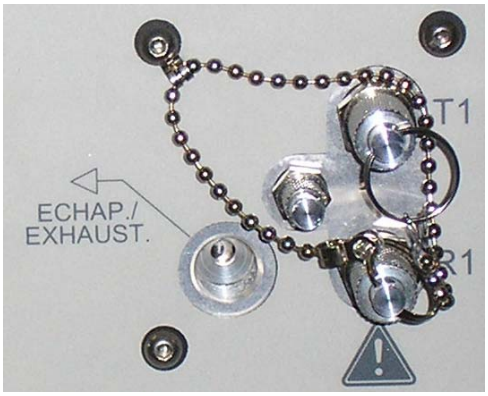


To drive pneumatics caps.

3.2. PNEUMATICS TEST OUTPUTS

These outputs enable parts to be connected (test, reference). The pressurization output is used for the addition of **ATEQ** accessories (Y valve).

Inputs / Outputs on the rear side of the **MF5200**:

	Test output T
	Pressurization output
	Reference output R

4. PNEUMATIC SUPPLY

Air supply is via the filter located on the rear panel of the instrument.

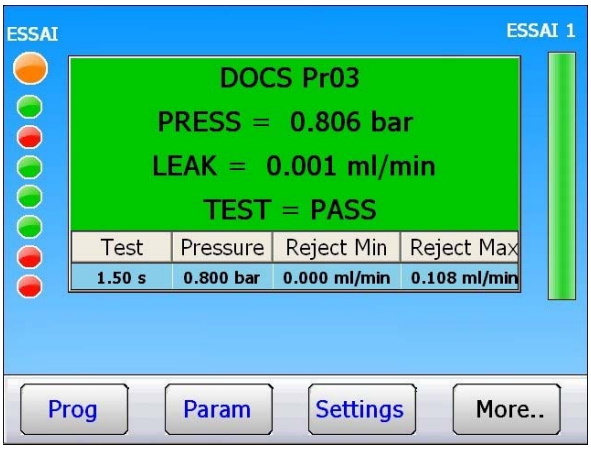
The air must be clean and dry.

The supply pressure must always be between 4 and 8 bar (400 kPa and 800 kPa).

USER INTERFACES

See the manuals CDROM for further information.

1. LCD DISPLAY AND NAVIGATION



Used to display measurements and adjustable parameters.

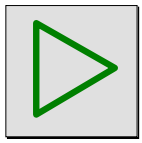
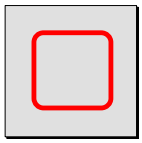
This screen is a touch screen, to access to the different menus, make a slight pressure on the screen with your finger.

Do not use objects, failing to destroy irreparably.

Different screens are available to display the results. To scroll the windows, drag with your finger from the left to the right or vice versa.

***Note**: to return directly to the main menu, press and hold the **Arrow** key.*

2. CYCLE KEYS

KEYS	FUNCTION	KEYS	FUNCTION
	**START** key Start a measurement cycle		**RESET** Key Current measurement cycle stop

3. QUICK CONNECTORS

One quick connector may be mounted on the front panel of the instrument.

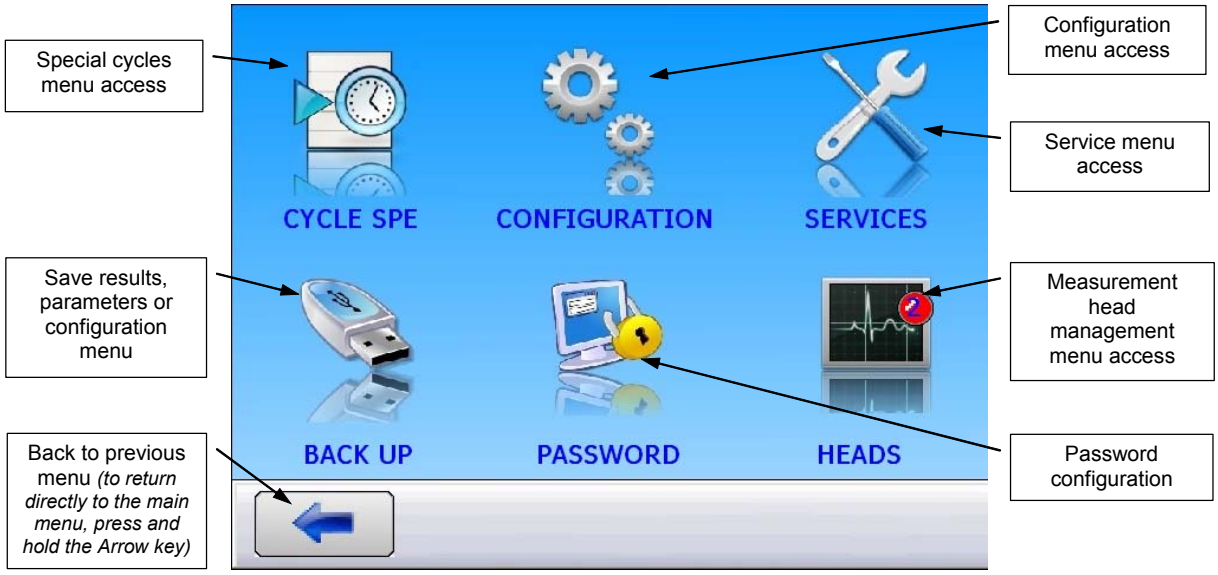
This connector is to check the the calibration. It's used to check the test circuit and enables, by use of a calibrated leak, calculation of the equivalent pressure drop.

⚠ ***As this connector is part of the measurement circuit, all its connections must be air tight.***

STARTING UP AND ADJUSTMENTS

1. MAIN MENU

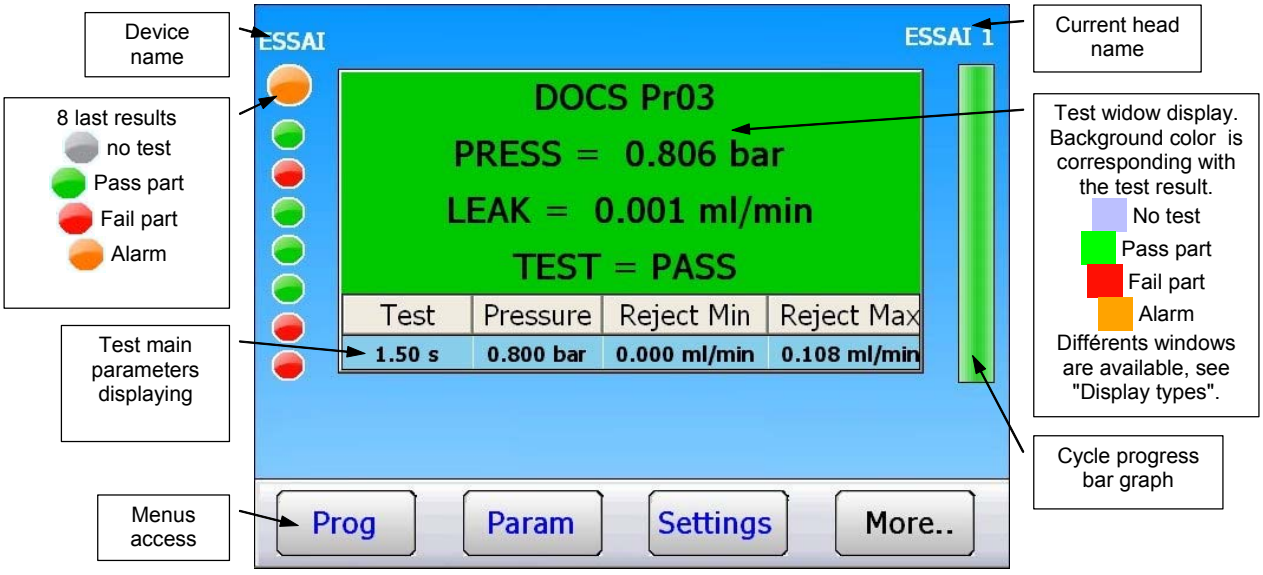
The main menu allows accessing to the different managing menu of the device.



This menu is available by pressing the "**Settings**" button.

2. TEST MENU

The test menu (or window) is the window displayed during a measurement cycle.



Test program creation, run program number or parameters adjust: see the manuals CDROM for further information.

3. TEST TYPE

Test type selection: four tests types are available:

- Leak test (**LEAK**),
- Pressure (**BLOCKAGE**),
- Operator test (**OPERATOR**).

4. PROGRAMS MANAGEMENT

4.1. LEAK TEST PROGRAM CREATION

In the test menu, press the **PARAM** key.

Select the program number to create.

Then select the **LEAK** test type.

The parameters menu is displayed, access at each parameter by pressing the corresponding key and by using the numerical keyboard, enter the values and validated by **ENTER**. Press the "**RETURN**" key to back to the test menu.

4.2. CURRENT PROGRAM SELECTION

From the test menu, press the **PROG** key.

The programs list is displayed; the current program appears in **yellow** key.

Select the new current program by pressing the corresponding key, the color changes and becomes **yellow**. Press the "**RETURN**" key to back to the test menu.

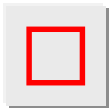
5. PARAMETERS

Main parameters to configure: see the manuals CDROM for further information.

Fill time:	Time to fill the part to the test pressure.
Stabilization time:	Time to equalize the pressure between the **TEST** and **REFERENCE** components.
Test time:	Leak measurement time, it depends of the reject level value and the work mode programmed.
Dump time:	Time to back the part to the atmospheric pressure. Dump time by default is zero.
Pressure unit:	Pressure unit (bar, mbar, PSI, Pa, kPa, MPa).
Maximum fill:	Maximum level of the fill pressure.
Minimum fill:	Minimum level of the fill pressure.
Fill instruction:	Test pressure that the device will automatically regulate. ***Remind**: the input pressure must be at least greater than 100 kPa (1 bar) of the test pressure.*
Reject unit :	Leak unit displayed. If a flow unit is selected, two parameters are added.
Test reject:	Level for the test part is fail.
Volume unit:	Determinate the explained unit for the test and reference volumes.
Reference volume:	Determinate the reference part volume.
Test volume:	Determinate the test part volume.
***NB**: The **Test Volume** and **Reference volume** parameters are very important to be informed and their values must be the more exact possible, since that the leak value is directly depending of the pressure drop thus the volume. If the volumes are unknown, the instrument can determine them with the "**Volume calculation**" special cycle.*	
Reference reject:	Level for the reference part is fail (possible problem on this part). ***Note**: when the reference reject value is 0, the device takes into account the absolute value of the symmetrical test reject.*
Functions :	Extended parameters access menu, that must be activated in the **CONFIGURATION** then **EXTENDED MENUS** menu. ***Note**: if no extended parameter has been activated from these menus, the **FUNCTION** menu is empty.*

Edition, duplication, deletion or copy of a test program, program number to start: see the manuals CDROM for further information.

6. START AND STOP A MEASUREMENT CYCLE

Press the **START** key to launch the measurement cycle.	
Press the **RESET** key to stop the current measurement. The "**READY**" message indicates that the device is waiting for a new test cycle.	

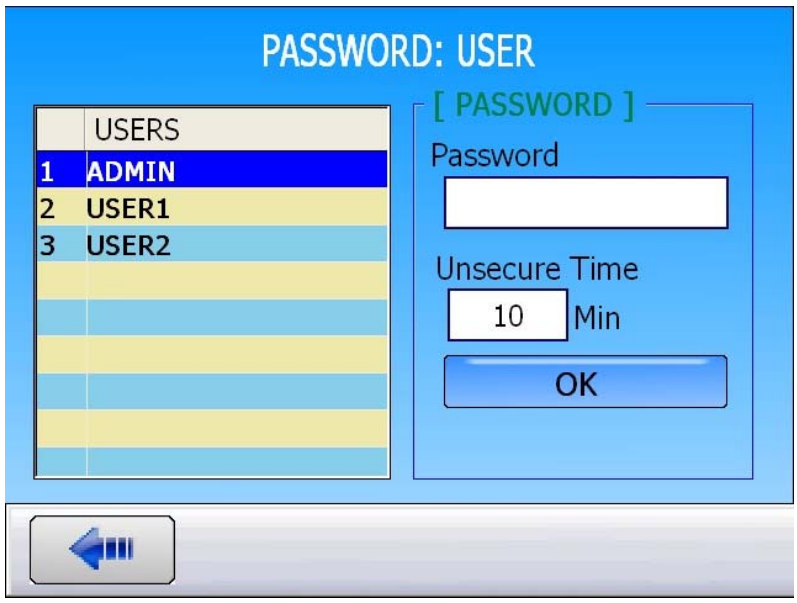
7. PASSWORD

The password gives or locks access to the device.

The default identifier is **admin**; and its password is **admin**.

The administrator can select different rights following the user. See the "**User rights**" menu.

We invite the administrator to create all the different accounts for each user with the corresponding rights.



The "**Unsecure time**" parameter is the time while the access is available for the selected user, when this time is up, the locking will be on and the user must type its password again to enter parameters.

CONFIGURATION MENU

See the manuals CDROM for further information.

1. EXTENDED MENUS

The extended menu gives access to additional functions.

If these functions are activated in the extended menus, they will be found in the **FUNCTION** menu when the program ist created. If no additional function is activated, the **FUNCTION** menu is empty.

1.1. ACTIVATION AND ADJUSTEMENT OF THE ADDITIONAL FUNCTIONS

Activate the functions in the test parameters "Functions" menu of each program.

1.2. ADDITIONAL FUNCTION LIST

- Name
- Program sequence
- Units
- Filter
- Automatic Connector
- Transient Attenuation (ATR)
- Pre Fill Type
- Fill Type
- Valves Codes
- Auxiliaries Outputs 24 V DC
- End Of Cycle
- Blow mode
- Mini-Valve
- Rework Limit
- Peak Hold
- Stamp Function
- Temperature 1 Correction
- Standard conditions
- No Negative

2. SPECIAL CYCLES

To start a special cycle, select it in the "**Special cycles**" menu, then pres the  key.

To stop it, press the  key or for some cycles the end is automatic.

See the manuals CDROM for further information.

2.1. STANDARD SPECIAL CYCLES

Following the extended menus validations or following the device options, some des special cycles can appear:

None: no special cycle selected.

Infinite fill: to pressurize the part with a infinite fill time.

Piezo auto zero: to run an auto zero cycle on the piezo sensor and on the electronic pressure regulator.

ATR Learning: cycle to enter ATR parameters; this is to run at each switching on of the device or after a long time without measurement.

Volume calculation: cycle to calculate the volume of the test circuit.

2.2. SERVICE SPECIAL CYCLES

These special cycles are used to perform operations pressure settings and services on the pressure sensors and the valves.

Calibration of pressure sensor 1 on regulator 1 / Calibration of pressure sensor 1 on regulator / Calibration pressure sensor 2 / Differential sensor calibration / Sensor status / Valve Auto-test:

3. OTHERS MENUS

Parameters service: to save, recover or delete the test cycles parameters.

Result menu: this is to manage the results, display, reset or print.

Language menu: to choose the language displayed on the screen.

Stand by menu: to turn off the device without unplug it. Stand by can be immediate or scheduled with run and stop hours.

ACCESSORIES AND CHARACTERISTICS

See the manuals CDROM for further information.

1. ACCESSORIES FITTED WITH THE DEVICE

Power supply:

The power supply cable of the MF5200 allows its connection to the mains supply network (from 100 to 240V AC).

2. ACCESSORIES IN OPTION

Master leaks: the master leaks are used to check the device calibration.

Micrometer valve and **Leak Calibrator** (CDF).

Automatic connectors with expandable seals

Filtration kit.

Singles **remote controls**.

3. TECHNICAL CHARACTERISTIC OF THE MF5200

Case dimensions H x L x D (mm):	140 x 250 x 250
Overall dimensions (mm):	140 x 250 x 320
Electric power supply:	100 à 240 V AC / 2 A
Pneumatics connections:	3/5, 4/6 or 6/8
Weight (kg)**:**	about 6
Format :	½ 19 inches
Running temperature:	+10°C to +45°C
Storage temperature:	0°C to +60 °C

ERRORS AND FAULTS

See the manuals CDROM for further information.

1. ERROR MESSAGES

The **ATEQ MF5200** can display error messages if there are operational problems.

Reference fault / **Test** fault / Pressure in excess of the **full scale** / Error on the **differential sensor** / Pressure in **excess of the max. threshold** / Pressure **below the min. threshold** / **ATR** fault / **Valve commutation** fault / **PROG Error** / **Inappropriate size** for the selected unit of pressure / **Auto-test** fault /

2. IN CASE OF OPERATION DOUBT

If a test machine begins to detect too many fail parts (more than three consecutively), it is advisable to carry out a **check on the whole unit.** The quality of the manufacture and operation of the leak detector should be the last things considered.

There is a possibility that the seals may be cut by shavings or worn by repetitive squashing. This can be prevented by regular servicing and replacement of the seals.

If all the other checks do not resolve the problem, the instrument's circuit may be checked.

ATEQ does not accept any liability in regard to calibrations and settings to its instruments which are not carried out by its own personnel.

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