



# ATEQ F28+ Quick Start Guide





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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

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## GOOD PRACTICES AND SAFETY INSTRUCTIONS

### Safety recommendations

-  If 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.
-  It is dangerous to change the status of the outputs.  
They can control power actuators or other equipment (mechanical, pneumatic, hydraulic, electrical or other) which can cause serious personal injury and damage to surrounding material.
-  For safety and quality measurement reasons, it is important, before powering on the device, to ensure that it is air supplied with a minimum operating pressure (0.6 MPa (87 PSI)  $\pm$  15%).

### Recommendations for the test environment

Keep the test area as clean as possible.

### Recommendations for operators

ATEQ 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 electrical outlet 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.

ATEQ 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 ATEQ 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, ATEQ declines any responsibility for the calibration or the fitting of their instruments that is not done by ATEQ.

ATEQ also declines any responsibility for any modification (program, mechanical or electrical) of the device done without their written consent.



## AIR QUALITY REQUIREMENTS

The air supplied into the device must be clean and dry. Even though the device is provided with a filter, the presence of dust, oil or impurities may cause malfunction.

### Air quality requirements according to ISO standard 8573

- ! The air must be clean and dry.
- ! The presence of impurities, oil or humidity in the air may cause deterioration which will not be covered by the warranty.
- ! When the instrument is working in vacuum conditions, impurities must be prevented from being drawn into its internal components.  
For this purpose we strongly recommend that a suitable airtight filter is installed between the part under test and the instrument.

ATEQ recommends the following characteristics for the air supplied into the device.

Air characteristics		ISO standard 8573 class
Grain size and concentration	0.1 $\mu\text{m}$ and 0.1 mg/m <sup>3</sup>	Class 1
Dew point under pressure	- 40°C dew	Class 2
Maximum concentration of oil	0.01 mg/m <sup>3</sup>	Class 1

### Recommended additional equipment

ATEQ recommends the installation of this additional equipment:

- Air dryer to provide dry air at less than - 40°C dew point
- 25 micron and 1/100 micron double filter.



# Preamble

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## ATEQ F28+, A UNIVERSAL LEAK TESTER

ATEQ F28+ is a leak detector that tests the airtightness of parts.



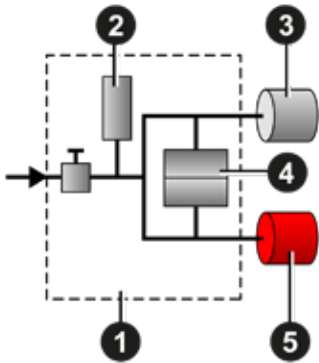
ATEQ F28+ can memorise 128 different test programs.



## LEAK TEST

### Direct measurement principle

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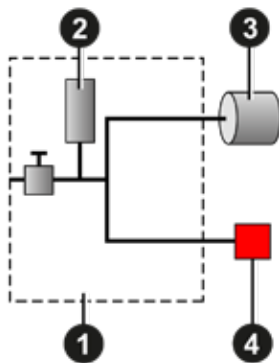


The part under test **3** and the reference part **5** are filled to an identical pressure. A differential sensor **4** measures the pressure variation between the part under test **3** and the reference part **5**. In some applications, the reference part can be replaced by a cap.

- 1 Device
- 2 Pressure sensor
- 3 Part under test
- 4 Differential pressure sensor
- 5 Reference part

### Desensitized test

This mode is used for the measurement of large leaks, when the reject level required is above the full scale of the differential sensor.



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
- 4 Cap on the reference connector

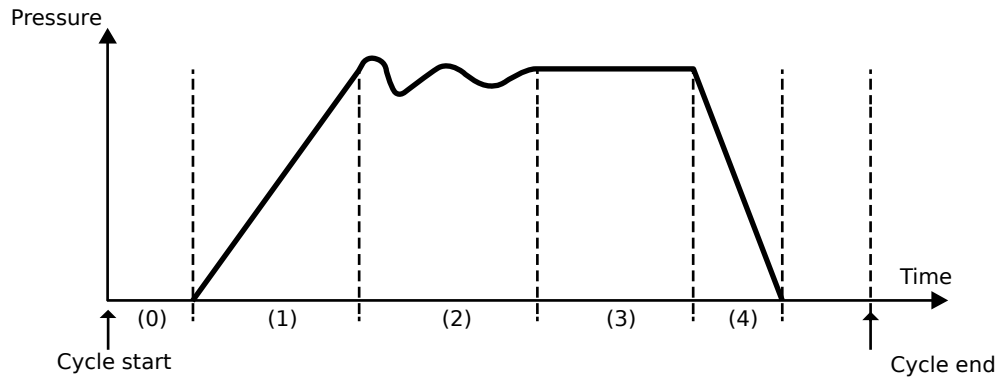
Other types of test are available in option (Burst test, Volume, Operator...).



## PRINCIPLE OF A CYCLE

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

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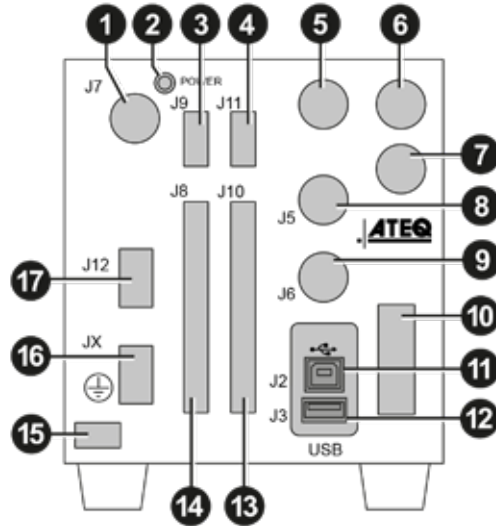
- 0 Waiting phase
- 1 Fill phase
- 2 Stabilization phase
- 3 Test
- 4 Dumping





# Your ATEQ F28+

## FRONT PANEL

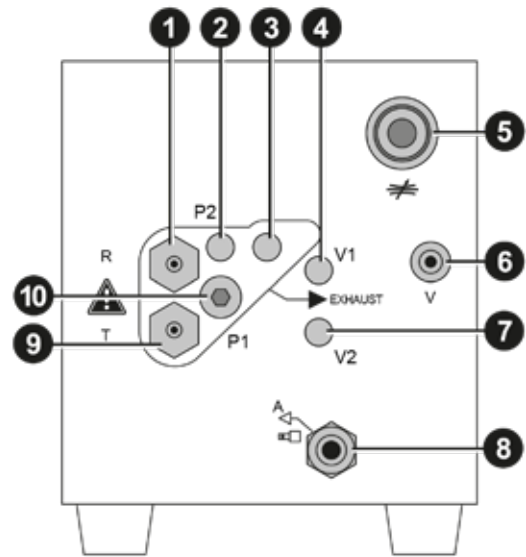


Ref	Name	Description
1	J7	24 V DV power supply
2	-	Power on indicator
3	J9	Program selection extension connector
4	-	Not used
5	-	0.6 MPa (87 PSI) air valve supply
6	-	Regulated air pressure input 1 (option)
7	-	Regulated air pressure input 2 (option)
8	J5	Fieldbus connector (option)
9	J6	Fieldbus connector (option)
10	ATEQ	Part number / Serial number
11	J2	USB connector to PC
12	J3	USB connector to remote control
13	J10	Outputs code board connector (digital inputs/outputs)
14	J8	Relay board connector (digital inputs/outputs)
15	-	Ground
16	JX	Profibus (option)
17	J12	RS232 connector



## CONNECTORS ON THE BACK PANEL (WITH ALL OPTIONS)

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Ref	Name	Description
1	R	Reference part connector
2	P2	Not used
3	-	Exhaust output
4	V1	Differential sealed part connector (option)
5	-	Quick connector
6	V	Calibration check by volume variation connector (option)
7	V2	Differential sealed part connector (option)
8	A	Pneumatic output or A automatic connector (option)
9	T	Test part connector
10	P1	Pressurization output

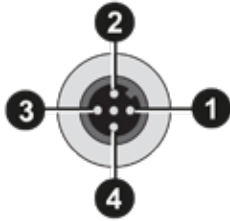


## POWER SUPPLY CONNECTORS

### 24 V DC connector (J7)

The device can be connected to a 24 V DC - 2 A power supply through a M12 4 pins type connector.

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Pin number	Signal
1	+ 24 V DC
2	Not connected
3	Ground: 0 V
4	Not connected

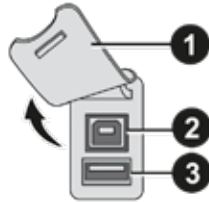


## DIGITAL LINKS

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### PC USB connectors


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




- 1 Rubber cover
- 2 USB connector to PC (J2)
- 3 USB connector to remote control (J3)

 Do not connect two USB devices at the same time.

 Do not use a cable longer than 2 m.

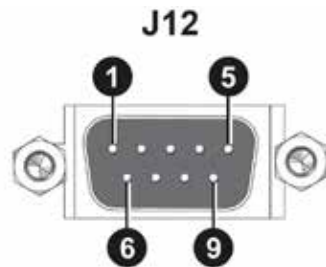
 Push the rubber cover **1** slightly forward for an easy access to USB connectors **2** and **3**.

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

### Printer RS232 connector / Modbus (option)

#### RS232 - SubD 9 pins male connector (printer) (J12)

RS232 for printer, barcode reader, PC connection.



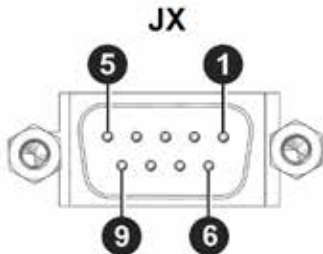
Pin number	Signal
1	Not used
2	RXD data input
3	TXD data input
4	Not used
5	Ground
6	Not used
7	RTS request to send
8	CTS clear to send
9	Not used



## Profibus connector (JX) (option)

### Profibus - SubD 9 pins female connector

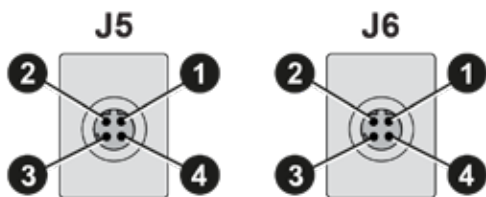
Profibus: SubD 9 pins female connector



Pin number	Signal
1	PE (ground)
2	Not used
3	Data line A
4	CNTR - A (repeater control signal)
5	DGND (logic ground)
6	VP (supply)
7	Not used
8	Data line B
9	Not used

## Profinet connector (J5 + J6)

### M12 D coded type connector - 4 pins female connector (J5 + J6)



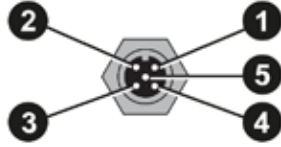
Pin number	Signal
1	Ethernet Tx + (Transmit Data +)
2	Ethernet Rx + (Receive Data +)
3	Ethernet Tx - (Transmit Data -)
4	Ethernet Rx - (Receive Data -)



## Devicenet connectors (J5) (J6) (option)

### M12 type connector - 5 pins male connector (J5) (Devicenet input)

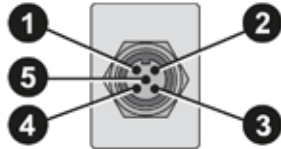
For connection to others ATEQ devices.



Pin number	Signal
1	Drain
2	V+
3	V-
4	CAN_H
5	CAN_L

### M12 type connector - 5 pins female connector (J6) (Devicenet output)

For connection to others ATEQ devices.

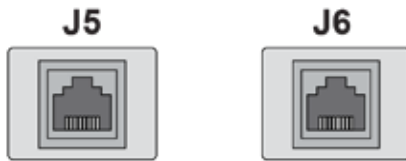


Pin number	Signal
1	Drain
2	V+
3	V-
4	CAN_H
5	CAN_L



## Ethernet connector (J5 + J6) (option)

Standard connection Ethernet TCP / IP protocol.



One of these network protocols is available:

- Ethernet IP
- Profinet
- Ethercat (J5 = Input J6 = Output).



## DIGITAL INPUTS/OUTPUTS

The 24V DC power supply for the digital inputs can be provided by 2 means:

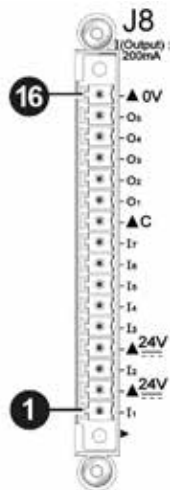
- The internal power supply of the device (0.3A max)
- An external power supply provided by the customer.

**i** | Inputs default mode is PNP. NPN mode is available on request.

### Relay board connector (J8) (option)

#### Characteristics

- Inputs
  - Activation: + 24 V DC.
- Outputs
  - Dry contacts
  - 60 V AC / DC max - 200 mA max.



Pin number	Inputs / outputs	Description
1	Input 1	RESET
2	+ 24 V DC	Common
3	Input 2	START
4	+ 24 V DC	Common
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 (programmable input)
10	Output	Common floating output
11	Output	Pass part
12	Output	Test fail part
13	Output	Reference fail part





Pin number	Inputs / outputs	Description
14	Output	Warning
15	Output	End of cycle
16	0 V	Ground

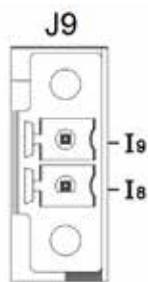
## Program selection extension connector (J9)

The J9 connector is an extension of the J8 connector that enables the selection of 128 programs.

### Characteristics

#### — Inputs

- Activation: + 24 V DC.




Pin number	Inputs/outputs	Description
18	Input 8	Program selection from 33 to 64 (programmable input)
19	Input 9	Program selection from 65 to 128 (programmable input)



## Program selection (J8 and J9)

The connectors J8 and J9 enable you to select a program from digital inputs.  
Combinations of connector pins to activate for program selection

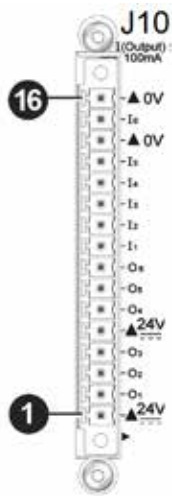
Program number	J8					J9	
	Pin 5 (input 3)	Pin 6 (input 4)	Pin 7 (input 5)	Pin 8 (input 6)	Pin 9 (input 7)	Pin 1 (input 8)	Pin 2 (input 9)
1	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0
3	0	1	0	0	0	0	0
4	1	1	0	0	0	0	0
5	0	0	1	0	0	0	0
6	1	0	1	0	0	0	0
7	0	1	1	0	0	0	0
8	1	1	1	0	0	0	0
9	0	0	0	1	0	0	0
10	1	0	0	1	0	0	0
11	0	1	0	1	0	0	0
12	1	1	0	1	0	0	0
13	0	0	1	1	0	0	0
14	1	0	1	1	0	0	0
15	0	1	1	1	0	0	0
16	1	1	1	1	0	0	0
17 to 32	X*	X	X	X	1	X	X
33 to 64	X	X	X	X	X	1	X
65 to 128	X	X	X	X	X	X	1

 \*X is equal to 0 or 1 in function of the program number.

## Valve code board connector (J10) (option)

### Characteristics

- Outputs:
  - 24 V DC - 100 mA max per output.
- Inputs:
  - Activation: + 24 V DC.



Pin number	Inputs / outputs	Description
1	+ 24 V DC	Common (outputs 1, 2,3)
2	Output 1	Open collector
3	Output 2	Open collector
4	Output 3	Open collector
5	+ 24 V DC	Common (outputs 4, 5, 6)
6	Output 4	Open collector
7	Output 5	Open collector
8	Output 6	Open collector
9	Input 1	Programmable input
10	Input 2	Programmable input
11	Input 3	Programmable input
12	Input 4	Programmable input
13	Input 5	Programmable input
14	0 V	Ground
15	Input 6	Programmable input
16	0 V	Ground



## PNEUMATIC CONNECTORS

Pneumatic connectors used to connect the part under test are located on the back panel of the device, except for pneumatic supply.

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### Pneumatic supply (on front panel)



The pneumatic supply has to meet specific requirements recommended by ATEQ. Refer to Good practices and safety instructions section.

The air is supplied via the 0.6 MPa (87 PSI) valve air supply input (1).

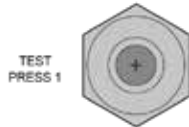
Two other pneumatic inputs (2) and (3) are available for an external regulated air supply (option).

#### 0.6 MPa (87 PSI) $\pm$ 15% valve air supply input (1)



PILOT PRESS

#### Regulated air pressure input 1 (option) (2)



TEST PRESS 1

External regulation: test pressure 1:

— max = sensor full scale

Internal electronic regulation:

— max = regulator full scale

#### Regulated air pressure input 2 (option) (3)



TEST PRESS 2

External regulation: test pressure 2:

— max = sensor full scale

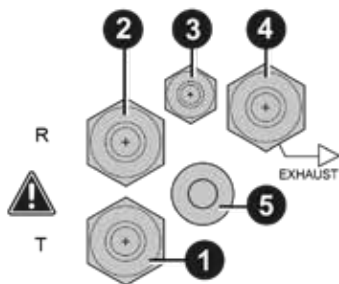
Internal electronic regulation:

— max = regulator full scale



## Test and reference outputs

The outputs enables parts to be connected (test and reference)



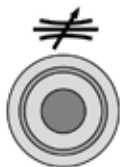
- 1 Test connector
- 2 Reference connector
- 3 Not used
- 4 Exhaust output
- 5 Pressurization output

Metallic fitting available for test (1) and reference (2) connectors:

- 2.7/4 mm
- 3/5 mm
- 4/6 mm
- 6/8 mm

## Quick connector (option)

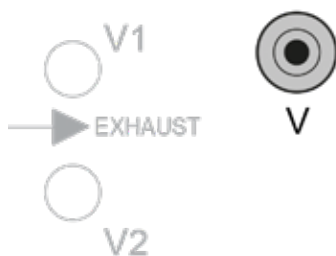
Use this function to check the calibration.



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

## Calibration check by volume variation connector (option) (V)

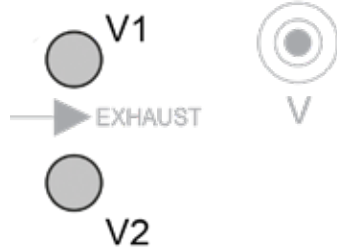
External volume (closed tube) connection.





## Differential sealed part connectors (option) (V1 and V2)

External volume (closed tube) connection.



Metallic fitting available for **V1** and **V2** connectors:  
— 2.7/4 mm

## Pneumatic output 0.6 MPa (87 PSI) (option)

Pneumatic output or **A** automatic connector option.

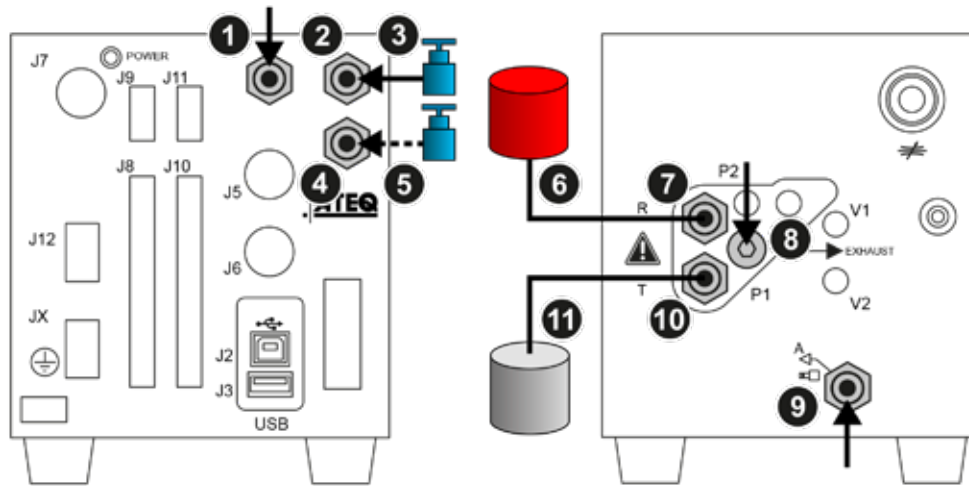




## PNEUMATICS CONFIGURATION

### Direct mode - Test with external regulator

From vacuum until 2 MPa (290 PSI)



#### Connections

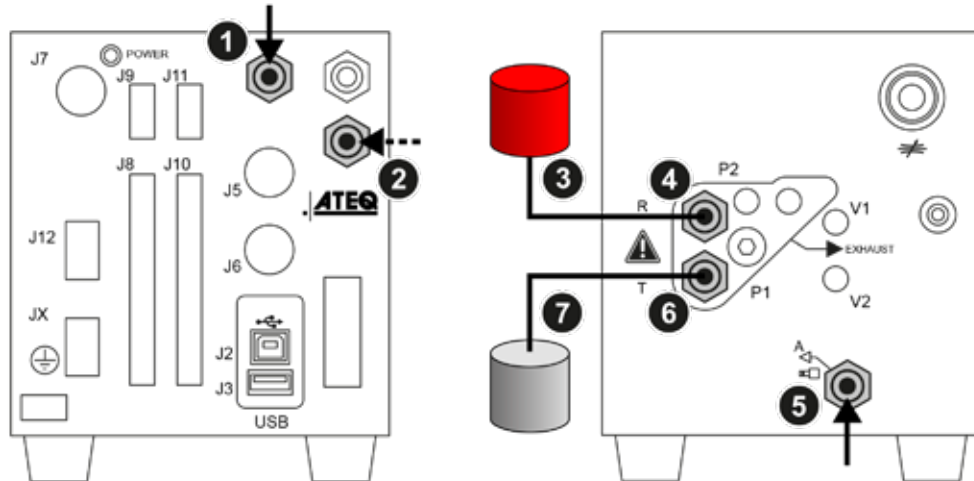
Connection	Option / description
Air supply to 1	Connection of the air supply to the valve air supply input
3 to 2	Connection of an external regulator to the regulated air pressure input 1
5 to 4	Connection of an external regulator to the regulated air pressure input 2 (option)
7 to 6	Connection of the reference output to the reference part
10 to 11	Connection of the test output to the part under test
8	Connection to additional volume (sealed part option)
9	Connection to pneumatic coupler



## Direct mode - Test with internal regulator

From vacuum until 0.5 MPa (72.5 PSI)

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### Connections

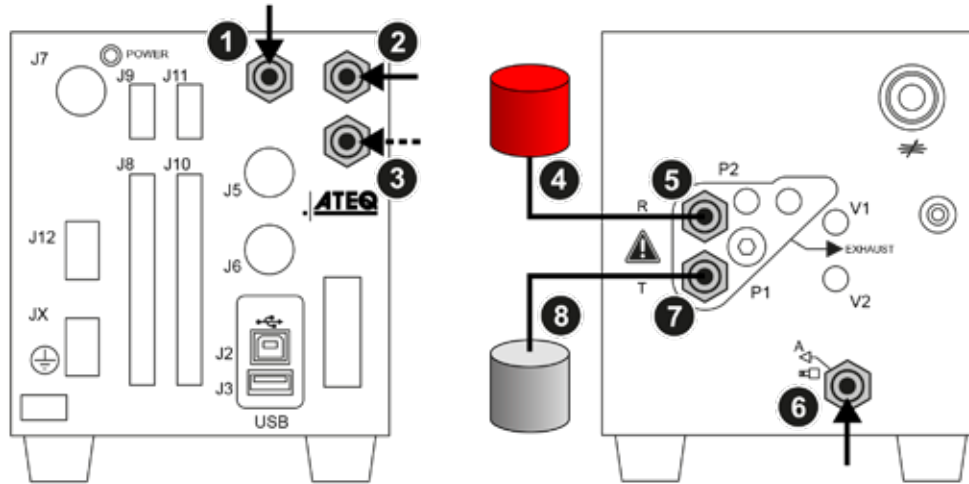
Connection	Option / description
Air supply to 1	Connection of the air supply to the valve air supply input
Vacuum supply to 2	Connection of the vacuum supply to the regulated air pressure input 2 (option)
4 to 3	Connection of the reference output to the reference part
6 to 7	Connection of the test output to the part under test
5	Connection to pneumatic coupler





## Direct mode - Test with internal regulator

From 0.6 MPa (87 PSI) until 2 MPa (290 PSI)



### Connections

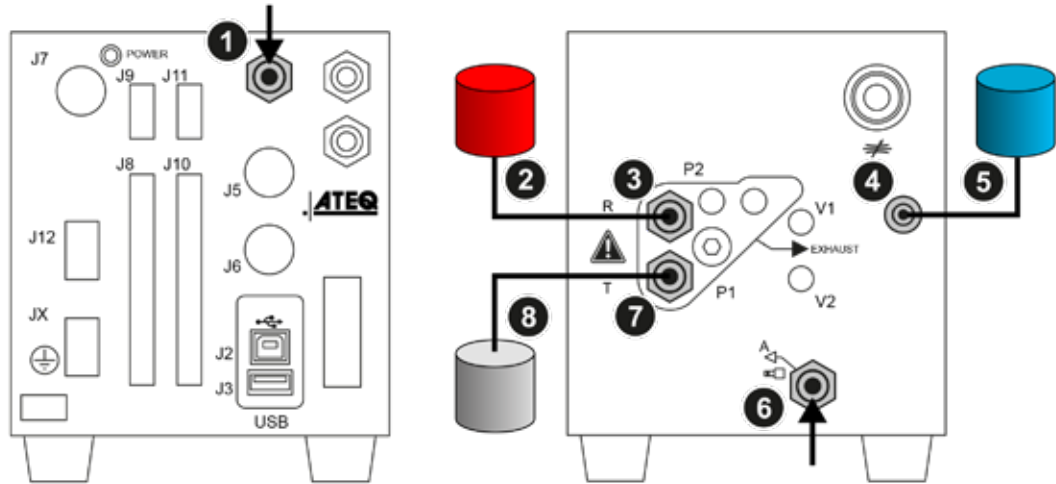
Connection	Option / description
Air supply to 1	Connection of the air supply to the valve air supply input
Air supply to 2	Connection of the air supply to the internal pressure regulator
Vacuum supply to 3	Connection of the air supply to the internal vacuum regulator
5 to 4	Connection of the reference output to the reference part
7 to 8	Connection of the test output to the part under test
6	Connection to pneumatic coupler



## Direct mode - Option test check by pressure drop

Maximum pressure: 0.4 MPa (58 PSI)

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### Connections


Connection	Option / description
Air supply to 1	Connection of the air supply to the valve air supply input
3 to 2	Connection of the reference output to the reference part
7 to 8	Connection of the test output to the part under test
4 to 5	Connection of the external volume output to an additional volume, if necessary (option)
6	Connection to pneumatic coupler

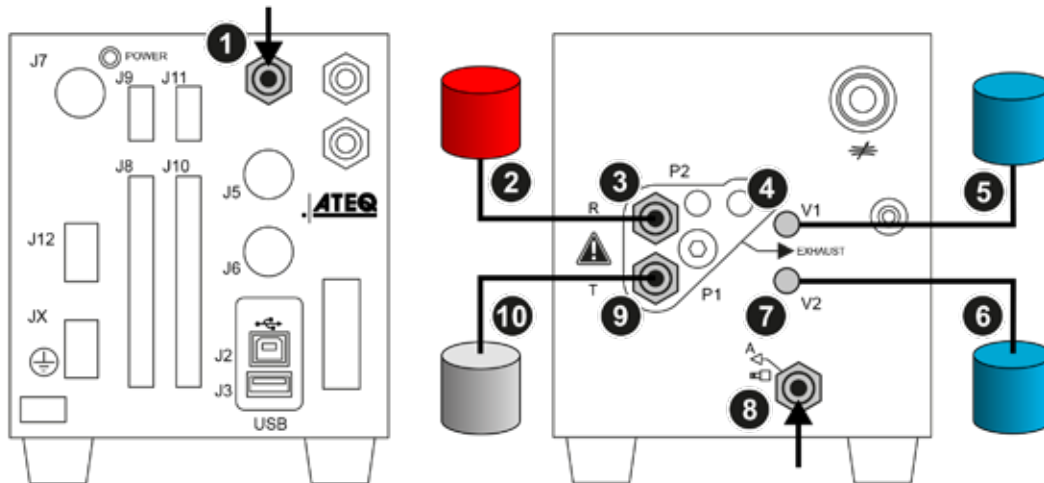


## Direct mode - Sealed part differential volume test

Maximum pressure: 1 MPa (145 PSI)

This configuration can be used for test of small test part volumes.

 Protect volumes and pipes from air blowing and temperature variations.



### Connections

Connection	Option / description
Air supply to 1	Connection of the air supply to the valve air supply input
3 to 2	Connection of the reference output to the reference part
9 to 10	Connection of the test output to the part under test
4 to 5	Connection of the volume output V1 to an additional volume, if necessary (option)
7 to 6	Connection of the volume output V2 to an additional volume, if necessary (option)
8	Connection to pneumatic coupler



# User interface (remote control)

The ATEQ F28+ can be set up and supervised using a remote control (option) connected to the USB connector.

**i** | The ATEQ F28+ can also be set up and supervised on a PC with a specific software (Winat eq 300).

## OVERVIEW



- 1 Display
- 2 Cycle keys
- 3 Navigation keys





## KEYS

### Cycle keys





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

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Key	Name	Function
	<b>Start</b>	On the <b>Program</b> screen, starts a measurement cycle and opens the <b>Measurement cycle</b> screen.
	<b>Reset</b>	Stops the measurement cycle in progress and returns to the <b>Program</b> screen.


### Navigation keys

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

Key	Name	Function
	<b>Up key</b>	Scrolls up or increases numerical values.
	<b>Down key</b>	Scrolls down or decreases numerical values.
	<b>OK</b>	Returns to the <b>MAIN MENU</b> screen or opens menus and options, validates parameters.
	<b>Esc</b>	Returns to previous screen (until the <b>Program</b> screen), escapes without modifying parameters.

### Smart key

**Smart key** is a programmable key that provides direct access to a function selected by the user.

Key	Name	Function
	<b>Smart key</b>	Starts a measurement cycle (default, programmable).

This key is programmable through the **MAIN MENU** screen:  
**MAIN MENU > CONFIGURATION > MISCELLANEOUS > SMART KEY**



## DISPLAY

The device uses three main screens.

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### The Program screen

Use the **Program** screen to select a test program.

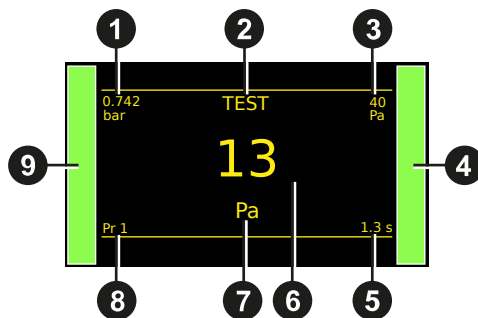


- 1 Current program name (here **NAME**)
- 2 Current program number (here **001**)
- 3 Test type (here **LEAK TEST**)


 Access at start-up of the instrument or by pressing several times **Esc** .

### The Measurement cycle screen

The **Measurement cycle** screen displays the different values of the current test (or last one).



- 1 Test pressure measurement
- 2 Test result or step phase
- 3 Test reject value
- 4 Vertical line test result
- 5 Remaining time of the current phase or ready status
- 6 Leak measurement
- 7 Measurement unit
- 8 Current program
- 9 Vertical line test result

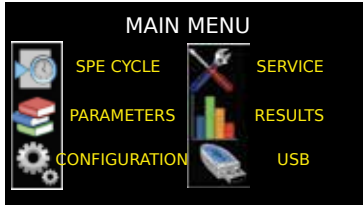
 A star (\*) can be displayed after the measurement unit **7** when the standard conditions function is validated.  
Refer to the Reference Manual.

### The MAIN MENU screen



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

**i** Access: from the **Program** screen, press **OK**.



Option	Description
<b>SPE CYCLE</b>	Specific procedures necessary to ensure the proper operation of measurement cycles (for example, adjustment of a pressure regulator).
<b>PARAMETERS</b>	Parameters of the test programs.
<b>CONFIGURATION</b>	General configuration of the device.
<b>SERVICE</b>	Maintenance of the device.
<b>RESULTS</b>	Test results, backup and display options.
<b>USB</b>	USB connection functions (backup, restore).



# Starting up

## POWER UP

1. Make sure that all the necessary connections are in place.

Electrical: such as power supply, inputs/outputs  
Pneumatic: including line pressure supply

2. Power up your device.

When power-up is completed, the **Program** screen is displayed with last program used on screen.



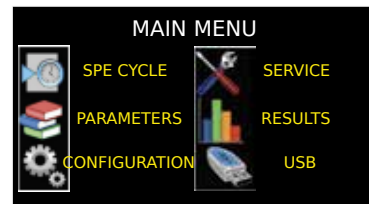
## PREPARING A PROGRAM

Use this procedure to configure a new test program.

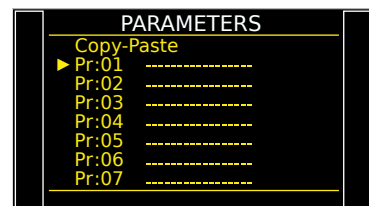
On the **MAIN MENU** screen:

### ACCESSING THE PARAMETERS

1. Select **PARAMETERS** using the up/down keys and press .



The program list is displayed.

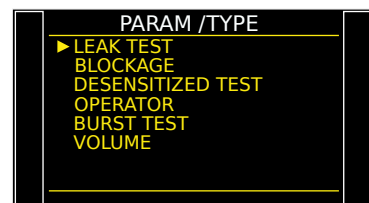


### SELECTING A PROGRAM NUMBER

2. Select the program to configure and press .

A list of the available measurement types is displayed:

- **LEAK TEST** type
- **BLOCKAGE** type (option)
- **DESENSITIZED TEST** type (option)
- **OPERATOR** type (option)
- **BURST TEST** type (option)
- **VOLUME** type (option)







## CONFIGURING THE ASSOCIATED MEASUREMENTS

3. Select a measurement type and press **OK**.

The parameters of the selected measurement type are displayed.

4. Define the measurement cycle parameters.

See: Modifying a parameter.

PARAM / Pr 001	
▶TYPE : LEAK TEST	
COUPL. A :	0.0 s
FILL TIME :	2.0 s
STAB TIME :	2.0 s
TEST TIME :	2.0 s
DUMP TIME :	1.0 s
Press. UNIT :	bar
Max FILL :	5.00

## MODIFYING A PARAMETER

Use this procedure to complete the test program setup.

On the **PARAMETERS** screen of the program (see: Preparing a program):

1. Press up/down to select the parameter to modify, and press **OK**.

PARAM / Pr 001	
TYPE : LEAK TEST	
COUPL. A :	0.0 s
FILL TIME :	2.0 s
STAB TIME :	2.0 s
▶TEST TIME :	2.0 s
DUMP TIME :	1.0 s
Press. UNIT :	bar
Max FILL :	5.00

An arrow is displayed on the right of the parameter being modified.

PARAM / Pr 001	
TYPE : LEAK TEST	
COUPL. A :	0.0 s
FILL TIME :	2.0 s
STAB TIME :	2.0 s
▶TEST TIME :	2.0 s ◀
DUMP TIME :	1.0 s
Press. UNIT :	bar
Max FILL :	5.00

2. Use the up/down keys to modify the parameter value, and press **OK** to validate.

The arrow returns to the left of the modified parameter.

PARAM / Pr 001	
TYPE : LEAK TEST	
COUPL. A :	0.0 s
FILL TIME :	2.0 s
STAB TIME :	2.0 s
▶TEST TIME :	1.0 s
DUMP TIME :	1.0 s
Press. UNIT :	bar
Max FILL :	5.00

3. Repeat these steps until all parameters are set.

4. To return to the **MAIN MENU** screen, press **Esc** as many times as necessary.



## SELECTING A PROGRAM

If necessary, you can select another program.

1. Press up/down  .



## STARTING AND STOPPING CURRENT CYCLE

Use the front panel keys to start/stop a measurement cycle.  
With the desired program displayed on the **Program** screen:

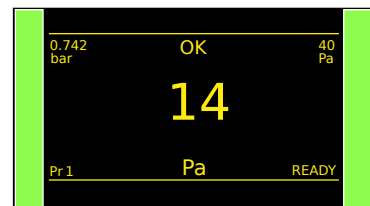
### STARTING A MEASUREMENT CYCLE


1. Press Start .

The cycle phases of the program are successively displayed:


**FILL**  
**STABILISATION**  
**TEST**  
**DUMP**

At the end of the cycle, the results are displayed and **READY** appears at the bottom right of the screen.



During the measurement cycle, you may press  to access the **MAIN MENU** screen and set parameters for a next measurement cycle.

### STOPPING A CYCLE

2. Press Reset  to immediately stop the current measurement cycle and return to the **Program** screen.



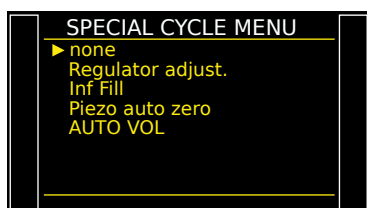
# User adjustments

## OPTIONS OF THE MENU

Different menus are accessible on the **MAIN MENU** screen.

### SPE CYCLE menu

Use this menu to carry out specific procedures necessary to ensure the proper operation of specific measurement cycles (for example, adjustment of pressure regulator).





Label	Special cycle	Description of the cycle
none	None	No special cycle selected
Regulator adjust.	Regulator adjustment	Adjustment of regulator in front panel
Inf Fill	Infinite fill	Pressurize the part with a infinite fill time
Piezo auto zero	Piezo auto zero	Auto zero cycle on the piezo sensor
AUTO VOL	Automatic volume	Volume calculation for automatic program selection

**i** | Some parameters are displayed when specific functions are activated.

Label	Special cycle	Description of the cycle
Custom Unit Learn	Custom unit learn	Define unit on a master leak
Custom Unit Check	Custom unit check	Check correct unit learning on a master leak

### TO START SPECIAL CYCLES...

1. On the **SPECIAL CYCLE MENU** screen, select a cycle, and press **OK** to validate.
2. Press **Start**  to start the cycle.
3. To stop the current cycle press **Reset** .

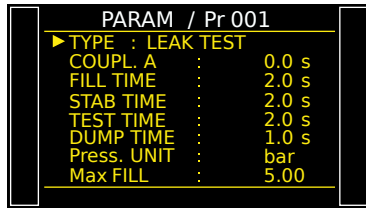




## PARAMETERS menu

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

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Default parameters of the **LEAK** type tests

Label	Parameter	Description
<b>COUPL. A</b> or <b>COUPL. B</b>	Coupling time	Required times when instrument manage automatic jigs
<b>FILL TIME</b>	Fill time	Time to pressurise the part under test
<b>STAB TIME</b>	Stabilization time	Time to stabilise the pressure on the test and reference parts
<b>TEST TIME</b>	Test time	Time for leak measurement
<b>DUMP TIME</b>	Dump time	Time to vent the part to atmosphere
<b>Press. UNIT</b>	Pressure units	Pressure unit (bar, mbar, PSI, Pa, kPa, MPa)
<b>Max FILL</b>	Maximum fill pressure	Maximum level of the fill pressure
<b>Min FILL</b>	Minimum fill pressure	Minimum level of the fill pressure
<b>LeakUnit</b>	Reject unit	Measurement units
<b>Test FAIL</b>	Test fail	Upper leak rate limit for the test part. Above this limit, the part is considered as defective.
<b>Ref. FAIL</b>	Reference fail	Reference part reject level
<b>FUNCTIONS</b>	Functions	Access to additional functions

## Additional functions

Label	Function	Description
<b>24V OUTPUTS</b>	Auxiliaries output 24 V	Available outputs for external automatism
<b>ABSOLUTE</b>	Absolute	Display the absolute value of the results
<b>ATF</b>	ATF time	Absorb the important leak variations at the defined time
<b>ATRO/ATR1 / ATR2/ATR3</b>	ATR 0 - 3	Specific filters on leak measurement
<b>AUTO CONNECT</b>	Automatic connector	Function to manage automatic jigs
<b>BUZZER</b>	Buzzer	Buzzer activation configuration
<b>CODE READER</b>	Bar code reader	Bar code configuration
<b>CUT OFF</b>	Cut off	All the measurements that are lower than the configured rate have the value 0
<b>DISP. OPT.</b>	Display option	Display of an additional information on a second line
<b>DISPLAY MODE</b>	Display Mode	Leak measurement resolution



Label	Function	Description
<b>DUMP OFF</b>	Dump off	Disable the dump phase in the program parameters
<b>END OF CYCLE</b>	End of cycle	Several automatism case depending on fail part management
<b>EXT. DUMP</b>	External dump	The test part is vented to atmosphere through an external valve
<b>FILL MODE</b>	Fill types	Special filling methods
<b>FILTER</b>	Filtering	Stabilize the measurement values
<b>FLOW LEVEL</b>	Flow level	Add a minimum fail parameter
<b>MINI-VALVE</b>	Mini valve	Access to highest time resolution (fast test) and auto zero time
<b>NAME</b>	Name	Program customization
<b>NO NEGATIVE</b>	No Negative	Replace negative value per 0
<b>N TESTS</b>	N TESTS	Repeats the test when the results get close to the reject level
<b>PEAK HOLD</b>	Peak hold	Give as result, the highest flow during the test time
<b>PR:SEQUENCE</b>	Sequencing	Allowed program automatic sequencing
<b>PRE-FILL</b>	Pre-fill types	Special filling methods
<b>PRESSURE DROP</b>	Pressure drop	Pressure drop mode function in the Desensitized mode
<b>REF. VOLUME</b>	Reference volume	Adjust the reference volume value with flow units only
<b>REWORK LIMIT</b>	Rework limits	Additional levels for specific reworkable parts
<b>Sd Part</b> <b>SD PART 2</b> <b>SD PART 3</b>	Sealed part	Several optional ways to test sealed parts
<b>SEALED DIFF</b>	Sealed differential	Allows testing small parts volume difference between test and reference volumes
<b>SIGN</b>	Sign	Return opposite result
<b>STAMPING</b>	Stamp	Pneumatic or electric output to identify the part
<b>STD CONDITIONS</b>	Standard conditions	Standard conditions correction with parameters
<b>SYNC. TEST</b>	Synchro test	A programmable input allows to pass from Stabilization to Test phase
<b>T+R TEST</b>	Test and reference test	Display which part has failed during a test with two parts
<b>TEMP.CORR. 1</b>	Temperature correction	Software temperature test part correction
<b>TEST CHECK</b>	Calibration check	Calibration check by adding a volume at the end of test time
<b>UNITS</b>	Units	Access to International System or American or Custom Units
<b>VALVE CODES</b>	Valve codes	Available outputs for external automatism





Others functions are available depending on software version.



## CONFIGURATION menu

Use this menu to configure your ATEQdevice.

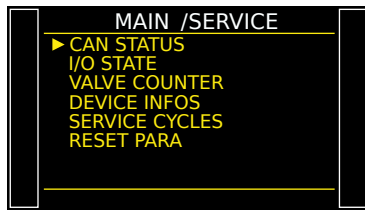
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Label	Function	Description
<b>LANGUAGE</b>	Language	Selection of the language displayed on the screen
<b>PNEUMATIC</b>	Pneumatics	Configuration of the pneumatics functions of the device
> <b>AUTO VOL</b>	-	Configuration of volume calculation for automatic program selection (option)
> <b>ELEC. REG.</b>	-	Activation of the electronic regulator
> <b>REGUL. CTRL.</b>	-	Configuration of the electronic regulator (external or auto) (option)
> <b>PERM. REG.</b>	-	The electronic regulator is active every time
> <b>PIEZO AUTO AZ</b>	-	Configuration the frequency of the auto zero
> <b>AZ SHORT</b>	-	Deactivation of the linearization of the regulator during the auto zero process (option)
> <b>Press. UNIT</b>	-	Pressure unit by default for the new programs
> <b>DUMP LEVEL</b>	-	Configuration of the minimum dump level pressure
> <b>LINE P. MIN</b>	-	Minimum level for checking line pressure (option)
> <b>BLOW MODE</b>	-	Blowing mode when test cycle is not running (option)
> <b>EXT. DUMP</b>	-	Configuration of the external dump (option)
> <b>DUMP OFF</b>	-	Remove dump time parameter on the selected program that becomes 0 second
<b>AUTOMATISM</b>	Automatism	Configuration of the different communications between the device and its environment
> <b>RS232</b>	-	Configuration of the communication type on the RS232 port
> <b>USB</b>	-	Configuration of the connection type on the USB port
> <b>Date &amp; Time</b>	-	Setup of the built-in clock
> <b>OUTPUTS CONFIG.</b>	-	Configuration of the programmable outputs
> <b>INPUTS CONFIG.</b>	-	Configuration of the programmable inputs
> <b>CODE READER</b>	-	Bar code reader configuration
<b>SECURITY</b>	Security	Security functions
> <b>ACCESS</b>	-	Parameters access mode (key or password)
> <b>START OFF</b>	-	Deactivation of the <b>Start</b>  on the instrument front panel. Programs can only be started from the instrument relay board.
<b>MISCELLANEOUS</b>	Miscellaneous	
> <b>SMART KEY</b>	-	Configuration of the assigned function to the <b>Smart key</b> 



## SERVICE menu

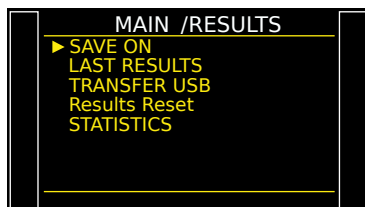
Use this menu to do the maintenance of your device (status check, internal tests...).



Label	Function	Description
<b>CAN STATUS</b>	Internal network state	State of the internal network of the device
<b>I/O STATE</b>	Inputs/outputs state	State of the inputs/outputs
<b>VALVE COUNTER</b>	Valves wear function	Approximate state of the valves wear
<b>DEVICE INFOS</b>	Device information	Information about the device, program version, built in components etc.
<b>SERVICE CYCLES</b>	Special service cycles	Allows to display more special cycles to carry out device internal tests (see Service special cycles)
<b>RESET PARA</b>	Parameters reset	Reset to factory configuration

## RESULTS menu

In this section, manage measurements results.



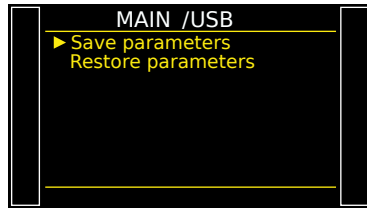
Label	Function	Description
<b>SAVE ON</b>	-	Define memory location (internal or external USB stick)
<b>LAST RESULTS</b>	Results display	Last 1500 results carried out by the device
<b>TRANSFER USB</b>	Results transfer	Transfer all results to USB stick on CSV file
<b>Results Reset</b>	Results erasing	The results are lost after the reset
<b>STATISTICS</b>	Results statistics	Statistics for each program



## USB menu

This section describes save and restore parameters on an external USB device.

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Label	Description
<b>Save parameters</b>	Save parameters on an external USB memory device for restoring later
<b>Restore parameters</b>	Restore parameters from an external USB memory device





# Specifications

## CHARACTERISTICS

Technical characteristics of the device.

Main characteristics

Characteristics	Values
Dimensions: height x width x depth	157 x 299 x 136 mm (6.18 x 11.77 x 5.35")
Weight	About 3.5 kg (7.70 lb)
Electrical power supply	24 V DC - 2A
Overvoltage category	II
Pressure range	Several ranges from vacuum to 2 MPa (290 PSI)
Leak measurement range	3 FS: 50 / 500 / 5000 Pa
Protection	Device protection level IP2
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')
Relative humidity	80 % at 31 °C (87 °F) and 50 % at 40 °C (104 °F)

