ATEQ F28+

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

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) ± 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 µm and 0.1 mg/m3	Class 1
Dew point under pressure	- 40°C dew	Class 2
Maximum concentration of oil	0.01 mg/m3	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.

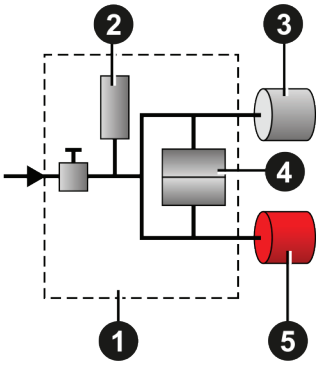
Preamble

ATEQ F28+, A UNIVERSAL LEAK METER

ATEQ F28+ is a universal leak meter that measures flow rates through parts to test.

ATEQ F28+ can memorise 128 different test programs.

Direct measurement principle

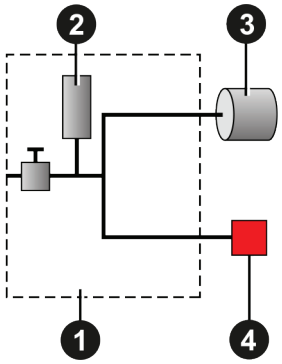


The part under test **3** and the reference part **5** are filled to an identical pressure.
A differential sensor **4** measures the pressure variation between the part under test **3** and the reference part **5**. In some applications, the reference part can be replaced by a cap.

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.



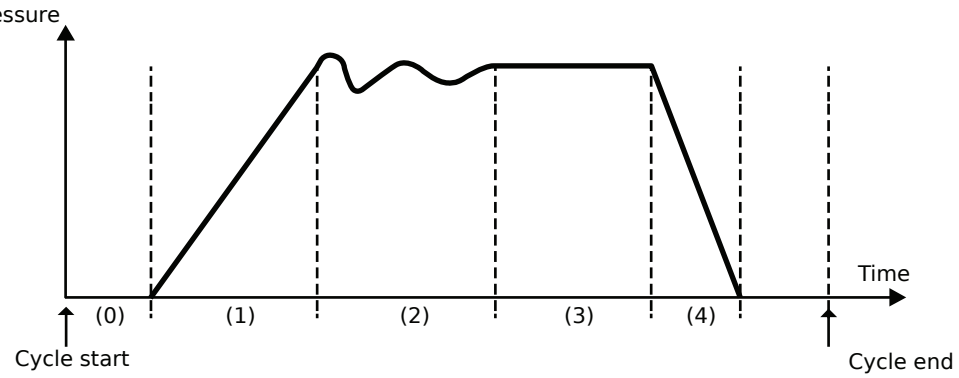
The test pressure is applied to the input of the test part **3**.
The measurement is performed by the pressure sensor **2**.

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.

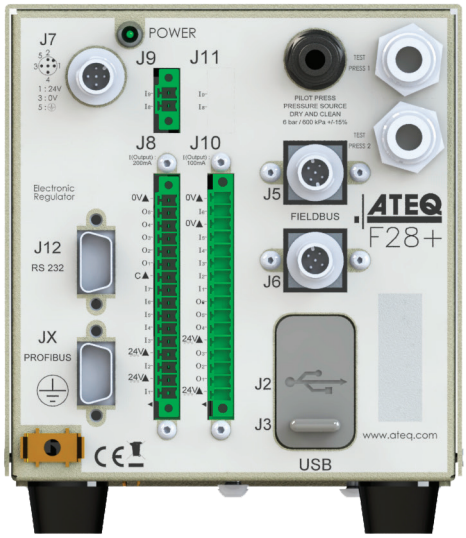


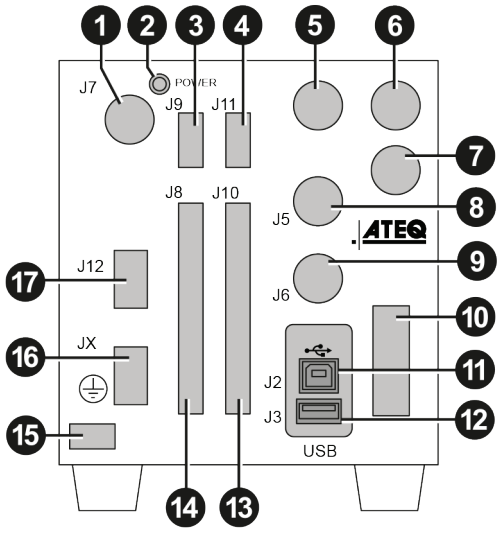
0 Waiting phase
1 Fill phase
2 Stabilization phase
3 Test
4 Dumping

Your ATEQ F28+

FRONT PANEL

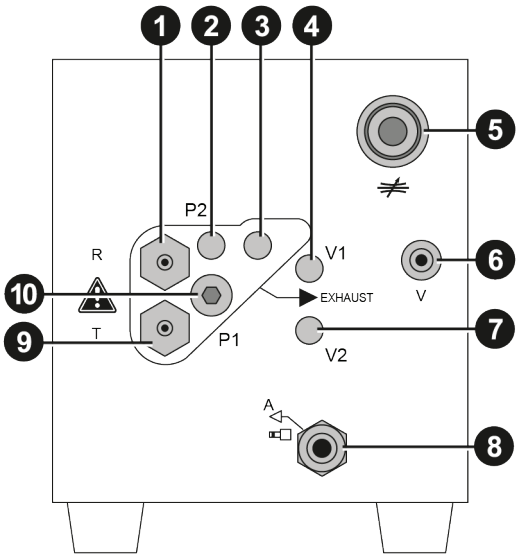
The user interface is located on the front panel.





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

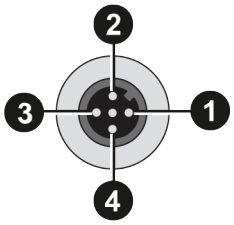
CONNECTORS ON THE BACK PANEL (WITH ALL OPTIONS)



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

24 V DC connector (J7)

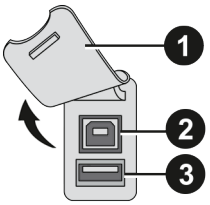
The device can be connected to a 24 V DC - 2 A power supply through a M12 4 pins type connector.



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

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.

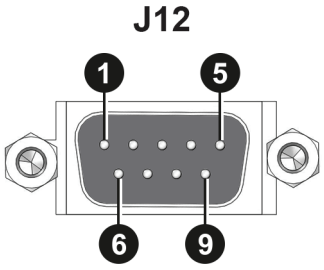
Push the rubber cover **1** slightly forward for an easy access to USB connectors **2** and **3**.

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.

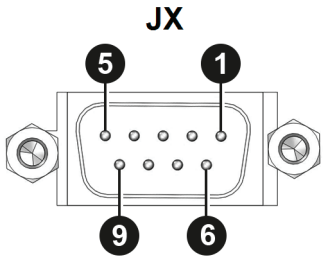


Pin number	Signal
1	Not used
2	RXD data input
3	TXD data input
4	Not used
5	Ground
6	Not used
7	RTS request to send
8	CTS clear to send
9	Not used

Profibus connector (JX) (option)

Profibus - SubD 9 pins female connector

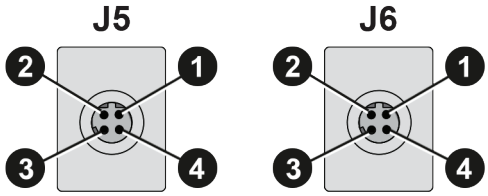
Profibus: SubD 9 pins female connector



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)

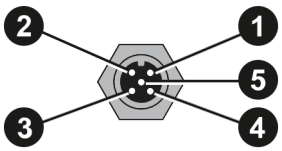


Pin number	Signal
1	Ethernet Tx + (Transmit Data +)
2	Ethernet Rx + (Receive Data +)
3	Ethernet Tx - (Transmit Data -)
4	Ethernet Rx - (Receive Data -)

Devicenet connectors (J5) (J6) (option)

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

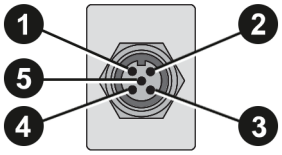
For connection to others ATEQ devices.



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)

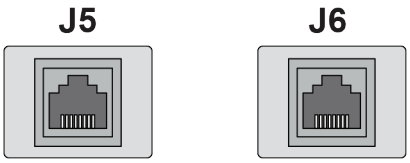
For connection to others ATEQ devices.



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.

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.

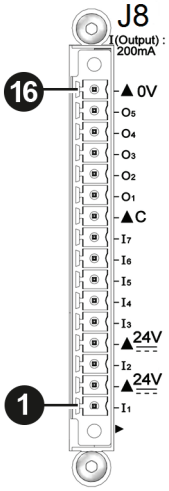
Inputs default mode is PNP. NPN mode is available on request.

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

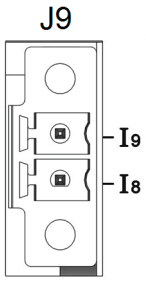
Pin number	Inputs / outputs	Description
14	Output	Warning
15	Output	End of cycle
16	0 V	Ground

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
I8	Input 8	Program selection from 33 to 64 (programmable input)
I9	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

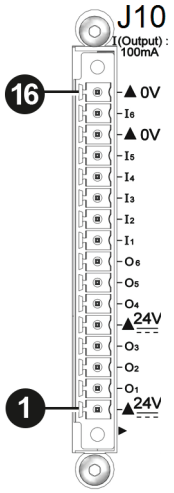
Program number	J8					J9	
	Pin 5 (input 3)	Pin 6 (input 4)	Pin 7 (input 5)	Pin 8 (input 6)	Pin 9 (input 7)	Pin 1 (input 8)	Pin 2 (input 9)
1	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0
3	0	1	0	0	0	0	0
4	1	1	0	0	0	0	0
5	0	0	1	0	0	0	0
6	1	0	1	0	0	0	0
7	0	1	1	0	0	0	0
8	1	1	1	0	0	0	0
9	0	0	0	1	0	0	0
10	1	0	0	1	0	0	0
11	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

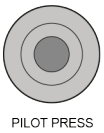
Pneumatic connectors used to connect the part under test are located on the back panel of the device, except for pneumatic supply.

Pneumatic supply (on front panel)

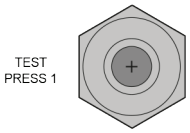
The pneumatic supply has to meet specific requirements recommended by ATEQ. Refer to Good practices and safety instructions section.

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) ± 15% valve air supply input (1)

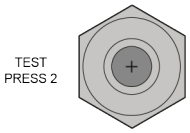


Regulated air pressure input 1 (option) (2)



External regulation: test pressure 1:
— max = sensor full scale
Internal electronic regulation:
— max = regulator full scale

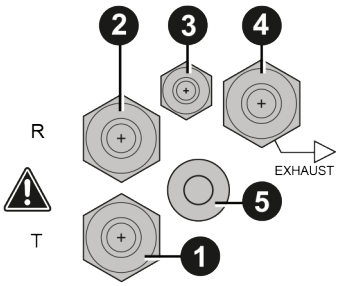
Regulated air pressure input 2 (option) (3)



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)



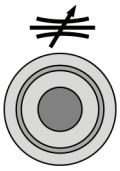
1 Test connector
2 Reference connector
3 Not used
4 Exhaust output
5 Pressurization output

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)

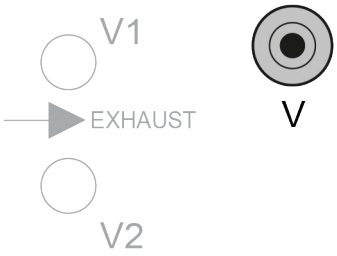
Use this function to check the calibration.



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

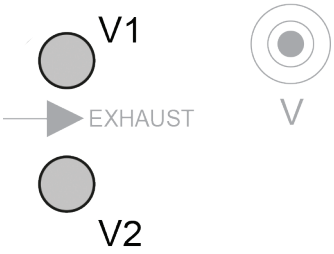
Calibration check by volume variation connector (option) (V)

External volume (closed tube) connection.



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

External volume (closed tube) connection.

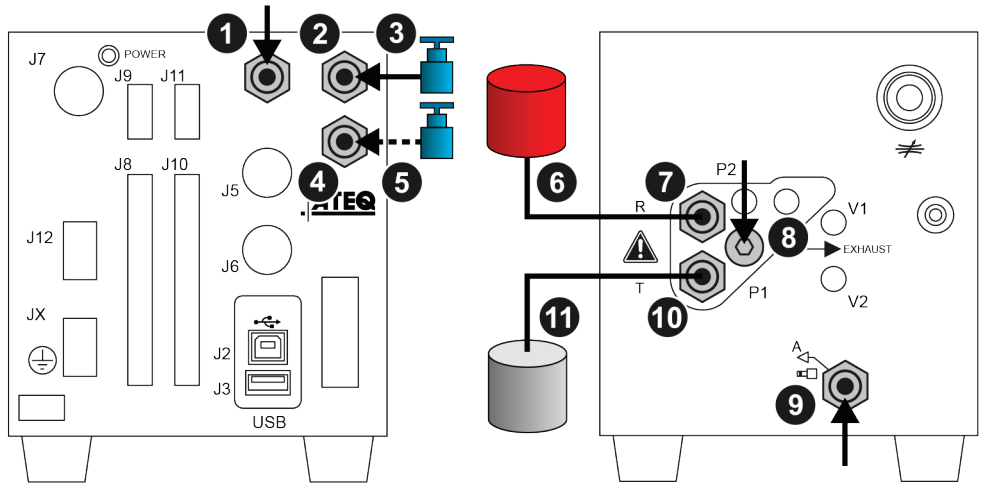


Pneumatic output 0.6 MPa (87 PSI) (option)

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

Direct mode - Test with external regulator

From vacuum until 2 MPa (290 PSI)

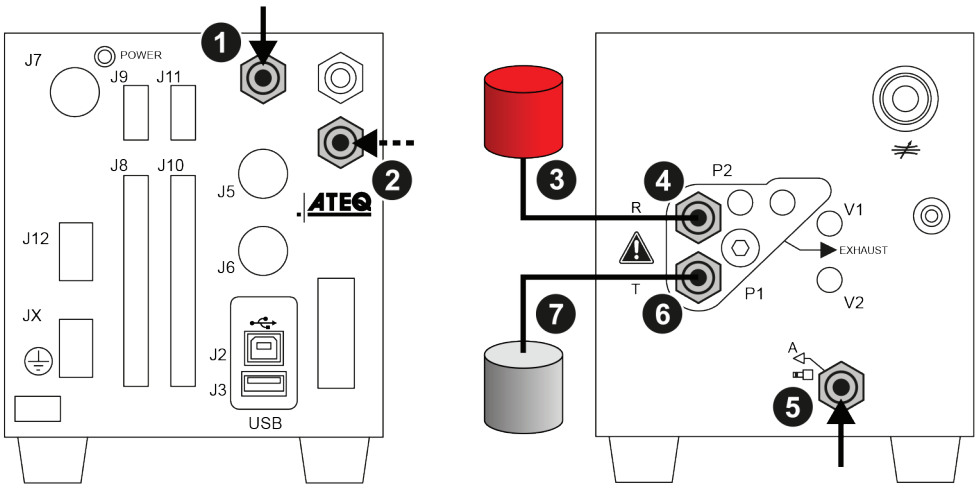


Connections

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)

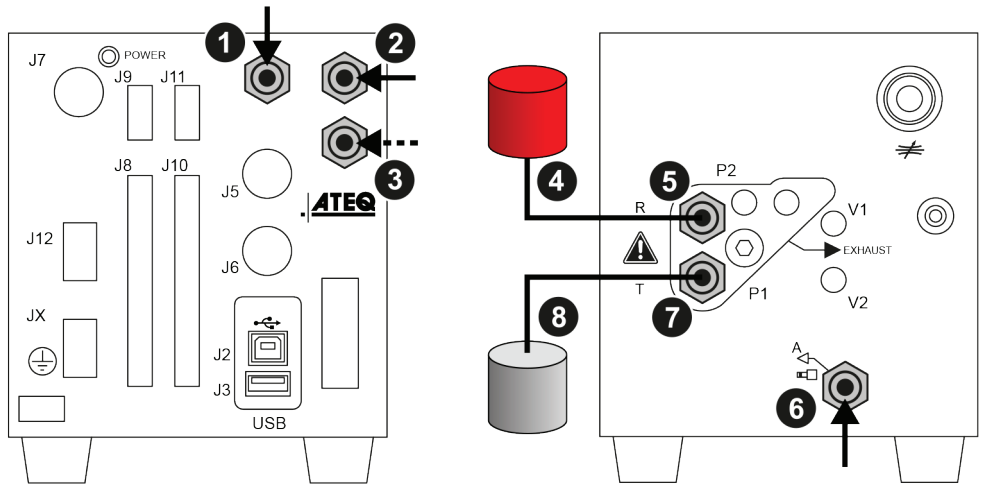


Connections

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)

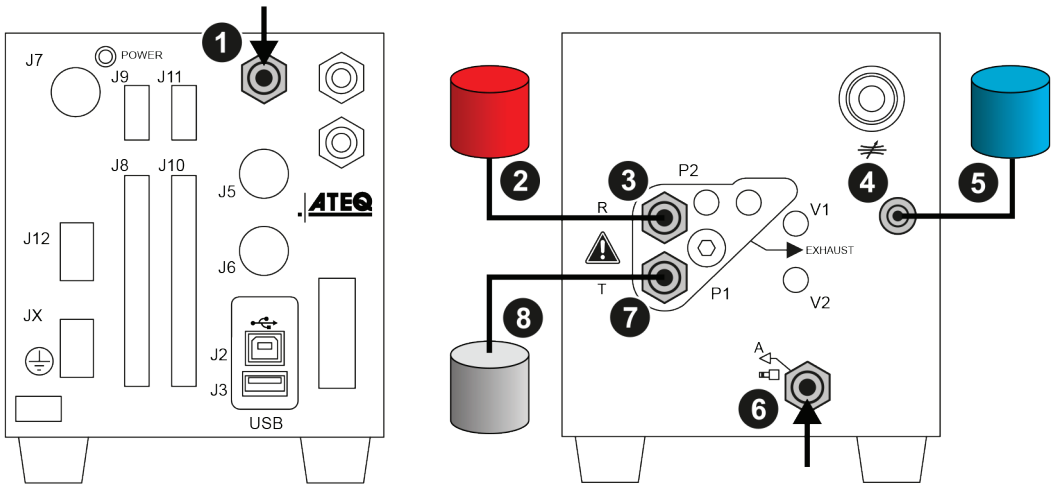


Connections

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)



Connections

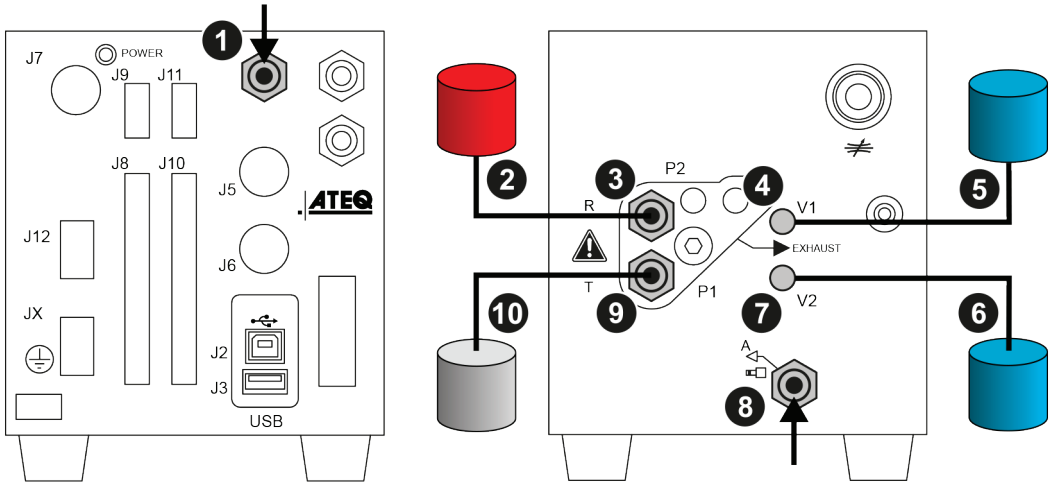
Connection	Option / description
Air supply to **1**	Connection of the air supply to the valve air supply input
3 to **2**	Connection of the reference output to the reference part
7 to **8**	Connection of the test output to the part under test
4 to **5**	Connection of the external volume output to an 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)
6	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.

The ATEQ F28+ can also be set up and supervised on a PC with a specific software (Winateq 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.

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

Navigation keys

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

Key	Name	Function
	**Up key**	Scrolls up or increases numerical values.
	**Down key**	Scrolls down or decreases numerical values.
	**OK**	Returns to the **MAIN MENU** screen or opens menus and options, validates parameters.
	**Esc**	Returns to previous screen (until the **Program** 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
	**Smart key**	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.

The Program screen

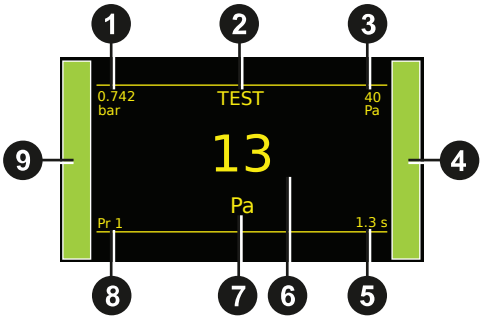
Use the **Program** screen to select a test program.

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

Access at startup of the device or by pressing several times **Esc** ESC.

The Measurement cycle screen

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



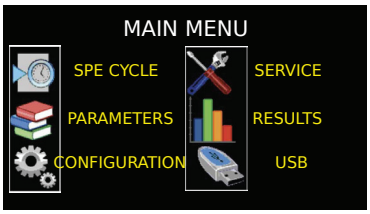
1 Test pressure measurement
2 Test result or step phase
3 Test reject value
4 Vertical line test result
5 Remaining time of the current phase or ready status
6 Leak measurement
7 Measurement unit
8 Current program
9 Vertical line test result

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.

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



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

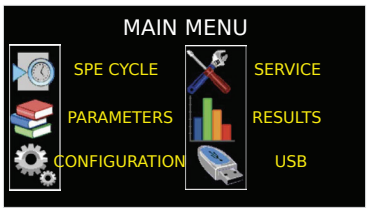
2. Power up your device.
When power-up is completed, the **Program** screen is displayed with last program used on screen.

PREPARING A PROGRAM

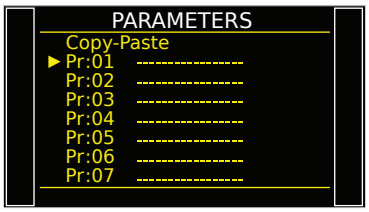
Use this procedure to configure a new test program.
On the **MAIN MENU** screen:

ACCESSING THE PARAMETERS

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



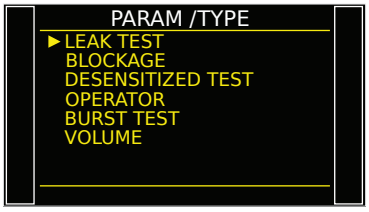
The program list is displayed.



SELECTING A PROGRAM NUMBER

2. Select the program to configure and press OK.

A list of the available measurement types is displayed:
- **LEAK TEST** type
- **BLOCKAGE** type
- **DESENSITIZED TEST** type
- **OPERATOR** type
- **BURST TEST** type (option)
- **VOLUME** type (option)



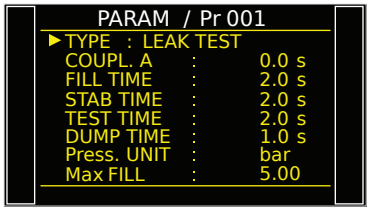
CONFIGURING THE ASSOCIATED MEASUREMENTS

3. Select a measurement type and press OK.

The parameters of the selected measurement type are displayed.

4. Define the measurement cycle parameters.

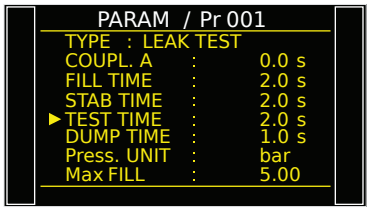
See: Modifying a parameter.



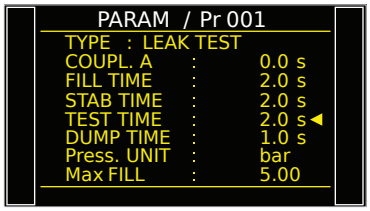
MODIFYING A PARAMETER

Use this procedure to complete the test program setup.
On the **MAIN MENU** screen of the program (see: Preparing a program):

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

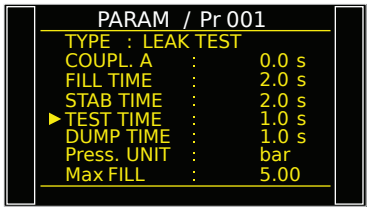


An arrow is displayed on the right of the parameter being modified.



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.



3. Repeat these steps until all parameters are set.

4. To return to the MAIN MENU screen, press Esc 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 OK 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.

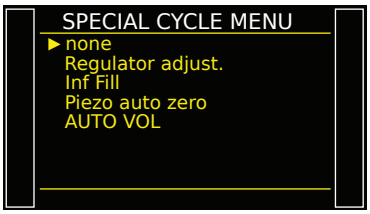
User adjustments

OPTIONS OF THE MENUS

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

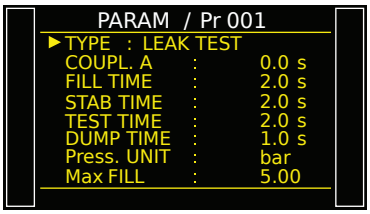
Other cycles are available only when specific functions are used:
- **Custom Unit Learn**: see: Customized unit learn
- **Custom Unit Check**: seeCustomized unit check

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.



Default parameters of the **LEAK** type tests

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

Additional functions

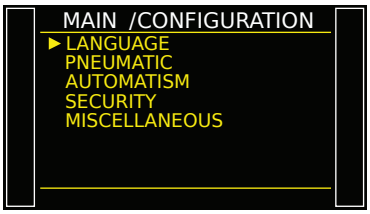
Label	Function	Description
24V OUTPUTS	Auxiliaries output 24 V	Available outputs for external automatism
ABSOLUTE	Absolute	Display the absolute value of the results
ATF	ATF time	Absorb the important leak variations at the defined time
ATR0/ATR1 / ATR2/ATR3	ATR 0 - 3	Specific filters on leak measurement
AUTO CONNECT	Automatic connector	Function to manage automatic jigs
BUZZER	Buzzer	Buzzer activation configuration
CODE READER	Bar code reader	Bar code configuration
CUT OFF	Cut off	All the measurements that are lower than the configured rate have the value 0
DISP. OPT.	Display option	Allows to display two lines for measurement with a selected information
DISPLAY MODE	Display Mode	Flow measurement resolution

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

Others functions are available depending on software version.

CONFIGURATION menu

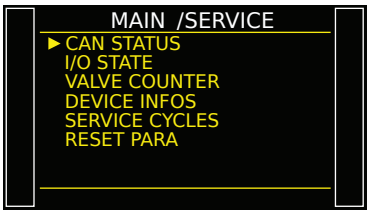
Use this menu to configure your ATEQ device.



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

SERVICE menu

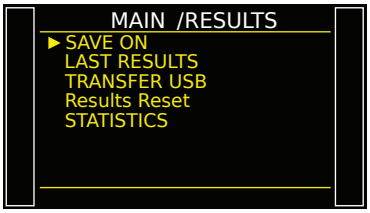
Use this menu to do the maintenance of your device (status check, internal tests...).



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

RESULTS menu

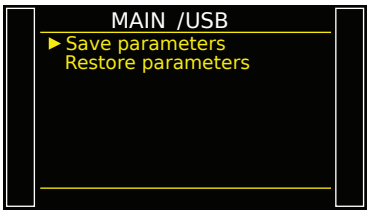
In this section, manage measurements results.



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

USB menu

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



Label	Description
Save parameters	Save parameters on an external USB memory device for restoring later
Restore parameters	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)