ATEQ

ATEQ D620

Quick Start Guide

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User adjustments

Specifications

ATEQ - 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 ± 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 mains before performing any maintenance work.
- Shut off the compressed air supply when working on the pneumatic assembly.
- Do not open a connected device.
- Avoid splashing water on the device.

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° 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° dew point
— 25 micron and 1/100 micron double filter.

Preamble

ATEQ D620, A UNIVERSAL FLOW METER

ATEQ D620 is a universal flow meter that measures flow rates through parts to test.

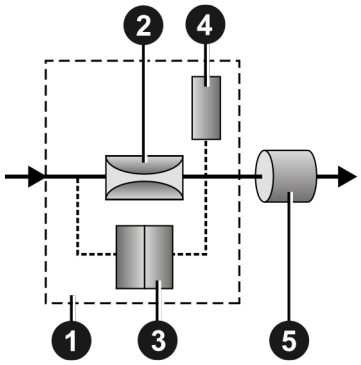
ATEQ D620 can memorise 128 different test programs.

FLOW RATE TEST

The ATEQ D6 series can do direct or indirect measurements. In both cases, the flow meter can also work in depressurization (option).

Measurement principle

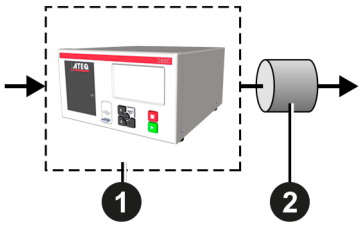
When the fluid (gas) enters the device **1**, it moves through a calibrated flow tube **2** which causes a drop in pressure. The pressure drop is measured by a differential pressure sensor **3**. The pressure of the part under test **5** is measured by the sensor **4**.



1 Device
2 Calibrated flow tube
3 Differential pressure sensor
4 Pressure sensor
5 Part under test

Direct measurement

Once the part is filled, the device measures the flow rate through the part.
The test pressure is applied to the device **1** and then to the input of the part under test **2**.

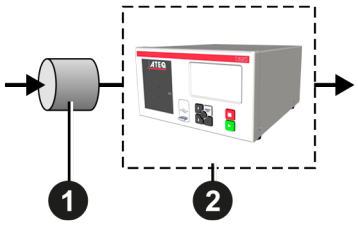


1 Device
2 Part under test

Indirect measurement

The indirect measurement (also called recovery mode or under bell) allows a considerable gain in time as the flow which enters into the device is already stabilized.
The test pressure is first applied to the input of the part under test **1** and then to the device **2**. The output of the device **2** is vented to the atmosphere.

This method allows to test the parts at a higher pressure test (up to 2 MPa).



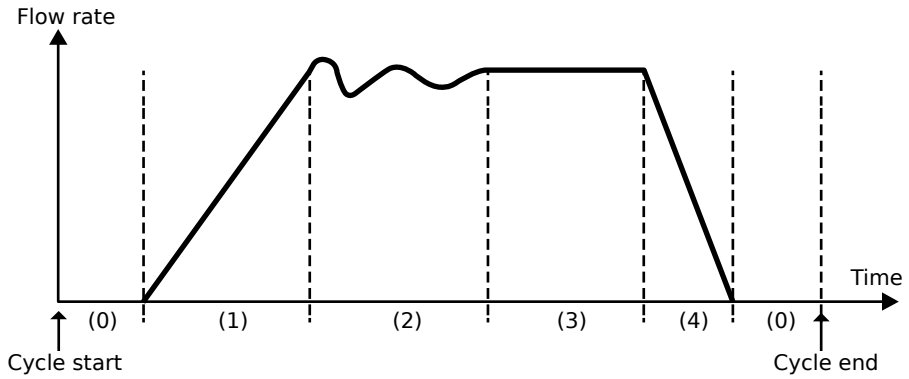
1 Part under test
2 Device

Depending on the part type, it may be possible to use a bell (ex: shower head where it is impossible to recover the flow other than through the use of a bell). This method can only be used if the recovery of the flow is easy.

PRINCIPLE OF A CYCLE

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

An additional Pressure auto zero phase **0** can be placed at the start or at the end of a cycle, depending on the requirement of the operator.

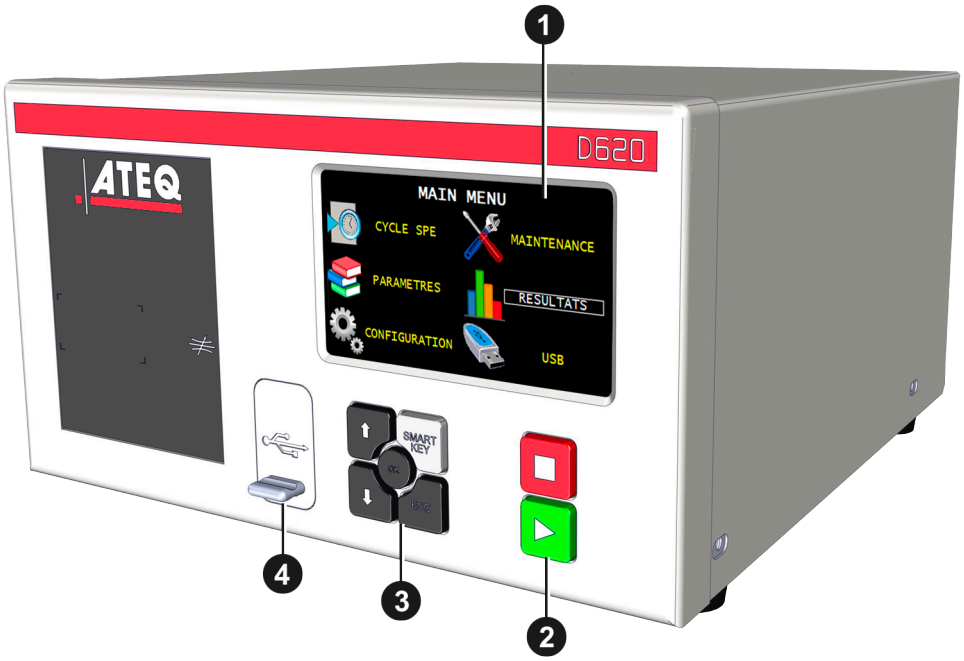


0 Pressure auto zero phase
1 Fill phase
2 Stabilization phase
3 Test
4 Dumping

Your ATEQ D620

FRONT PANEL

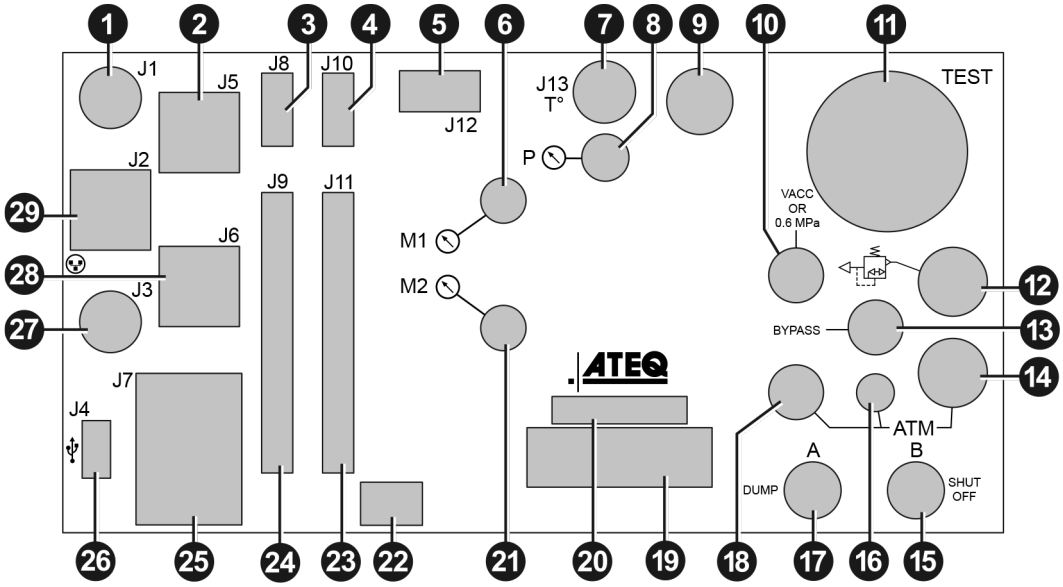
The user interface is located on the front panel.



1 Display
2 Cycle keys
3 Navigation keys
4 USB connectors

For more information, refer to User interface.

CONNECTORS ON THE BACK PANEL (WITH ALL OPTIONS)



Ref	Name	Description
1	J1	Analog outputs - pressure and flow (option)
2	J5	Fieldbus connector
3	J8*	Extender (not operational)
4	J10	Program selection extension connector (option)
5	J12	Printer RS232 connector / Modbus (option) or Profibus (option)
6	M1	External capillary option
7	J13	Temperature probe connector (option for external capillary)
8	P	External back pressure connector (option)
9	-	Input connector to the air filter (valves or regulator air supply)
10	-	0.6 MPa valves air supply input (1 MPa range) or vacuum input
11	TEST	Capillary connector to connect to the part under test
12	-	Regulator output (indirect mode or bypass option or external capillary option)
13	-	Pneumatic output for external bypass option
14	ATM	Output capillary (indirect mode): has to be left to the atmosphere
15	B	Pneumatic output for external shut off option or B automatic connector option
16	ATM	Output to be left to the atmosphere
17	A	Pneumatic output for external dump option or A automatic connector option
18	ATM	Output to be left to the atmosphere
19	-	Air supply energy information
20	ATEQ	Part number / Serial number
21	M2	External capillary connector (option)
22	-	Ground
23	J11	Relay board connector (digital inputs/outputs and 24 V DC - 2 A power supply)
24	J9	Outputs code board connector (digital inputs/outputs)
25	J7	Connector for 24 V DC - 2 A or 100 / 240 V AC power supply (according option provided)
26	J4*	USB (not operational)
27	J3*	Dry contact input for ERD test mode (option)
28	J6	Fieldbus connector
29	J2*	Network (not operational)

* These connectors are not operational. They are provided for future development of our devices.

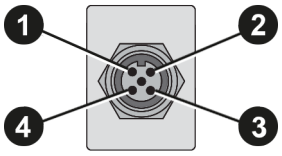
POWER SUPPLY CONNECTORS

The device can be connected to an external power supply (24 V DC - 2 A) or provided with an internal power supply (100 / 240 V AC) (option).

External supply

24 V DC connector (J7)

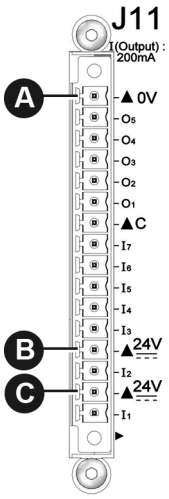
The device can be connected to a 24 V DC - 2 A power supply through a M12 4 pins type connector.



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

24 V DC on the relay board connector (J11) (option)

The device can also be connected to a 24 V DC - 2 A power supply through J11 connector on the relay board.



Pin number	Signal
2	+ 24 V DC
4	+ 24 V DC
16	Ground: 0 V

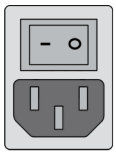
Apply 24 V DC to the pin **2** or **4**.

Internal supply only

100 / 240 V AC connector (J7) (option)

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

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

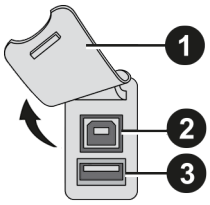


1 ON
0 OFF

DIGITAL LINKS

PC USB connectors (on front face)

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



1 Rubber cover
2 USB connector to PC
3 USB connector to USB key

Do not connect two USB devices at the same time.

Do not use a cable longer than 2 m.

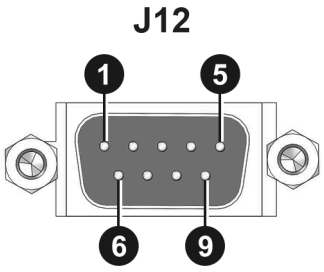
Push the rubber cover **1** slightly forward for an easy access to USB connectors **2** and **3**.

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) or Profibus (option) (J12)

RS232 - SubD 9 pins male connector (printer)

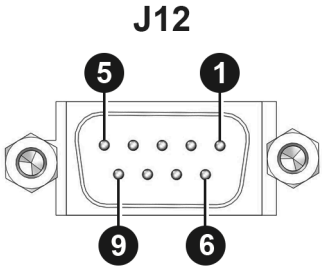
RS232 for printer, bar code reader, PC connection.



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

RS232 - SubD 9 pins female connector (Profibus) option

Profibus: SubD 9 pins female connector.

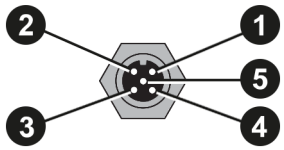


Pin number	Signal
1	PE (ground)
2	Not used
3	Data line A
4	CNTR - A (repeater control signal)
5	DGND (logic ground)
6	VP (supply)
7	Not used
8	Data line B
9	Not used

Devicenet connectors (J5) (J6) (option)

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

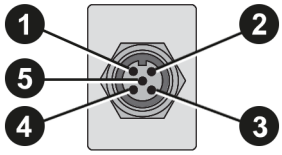
For connection to others ATEQ devices.



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)

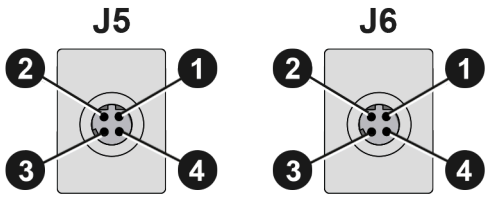
For connection to others ATEQ devices.



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

Profinet connectors (J5 + J6) (option)

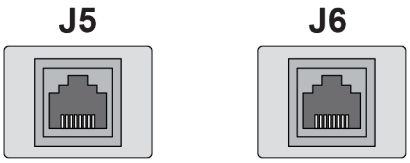
M12 D coded type connector - 4 pins female connector (J5 + J6)



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

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

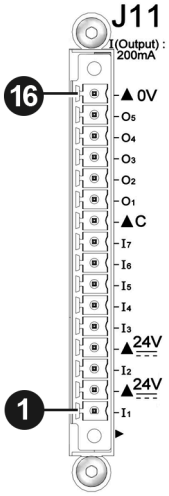
The 24V DC power supply for the digital inputs can be provided by 2 means:
- The internal power supply of the device (0.3A max)
- An external power supply provided by the customer.

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

Relay board connector (J11) (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	High flow fail part
13	Output	Low flow fail part
14	Output	Warning
15	Output	End of cycle
16	0 V	Ground

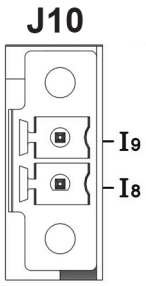
The device can be energized through a the **J11** connector of the relay board (except if internal supply option):
– 0 V to the pin **16**
– 24 V DC to the pin **2** or **4**.

Program selection extension connector (J10) (option)

The J10 connector is an extension of the J11 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 (J11 and J10)

The connectors J11 and J10 (option) enable you to select a program from digital inputs.
Combinations of connector pins to activate for program selection

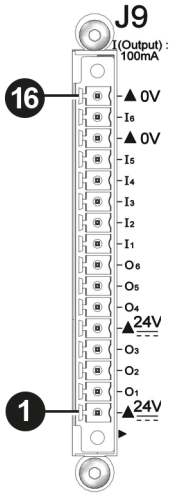
Program number	J11					J10	
	Pin 5 (input 3)	Pin 6 (input 4)	Pin 7 (input 53)	Pin 8 (input 6)	Pin 9 (input 7)	Pin 1 (input 8)	Pin 2 (input 9)
1	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0
3	0	1	0	0	0	0	0
4	1	1	0	0	0	0	0
5	0	0	1	0	0	0	0
6	1	0	1	0	0	0	0
7	0	1	1	0	0	0	0
8	1	1	1	0	0	0	0
9	0	0	0	1	0	0	0
10	1	0	0	1	0	0	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 codes and auxiliary outputs board connector (J9) (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.

Pneumatic supply

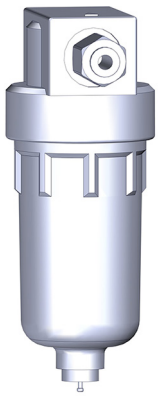
The pneumatic supply has to meet specific requirements recommended by ATEQ. Refer to Good practices and safety instructions section.
A specific filter may be necessary.

The air is supplied via the filter located on the back panel of the device.

Metallic model air filter

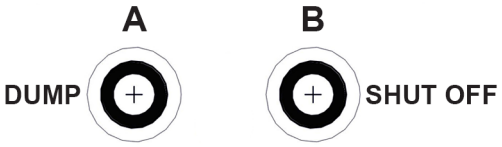
The metallic model filter is used for 1MPa range.
The maximum pressure admissible is 1.2 MPa.

Plastic model air filter



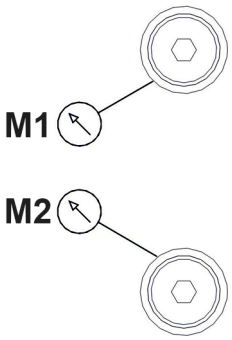
The plastic model filter is used for 0.5 MPa range (direct and indirect modes) or 2MPa range (indirect mode only).
The maximum pressure admissible is 690 kPa.

Pneumatic outputs 0.6 MPa



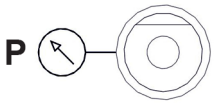
DUMP: pneumatic output to connect to an external valve for dump option.
SHUT OFF: pneumatic output to connect to an external valve for shut off option.
A and B: automatic connectors option. These connectors are used to drive pneumatic caps on the part under test.

External capillary connectors



M1 and M2 connectors are pneumatic inputs used for external capillary connection (option).

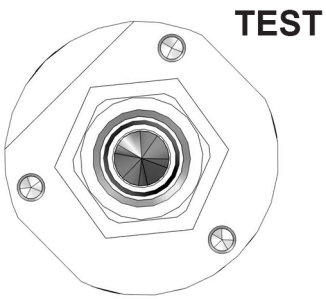
External pressure monitoring connector



The P connector is a pneumatic input used for external pressure monitoring connection (option).

Test connector

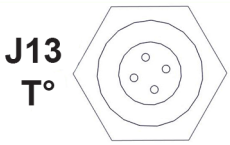
The test connector is used to connect the device to the test to part for both direct and indirect modes.



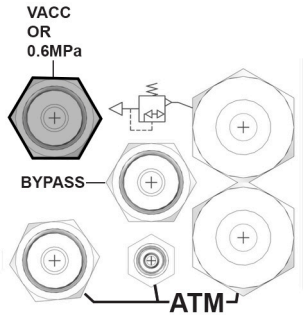
Metallic fitting diameter options (in mm):
- 4/6
- 6/8
- 8/10
- 15
- 20
- 25.

Temperature probe connector

The J13 connector is used for tests with external capillary option.



Air supply input for options

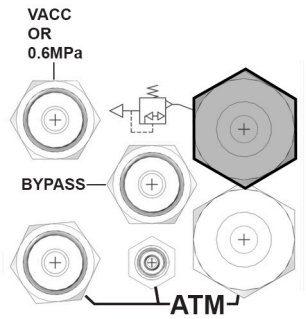


Instant fitting: 6 mm diameter
- 0.6 MPa air supply input for internal valves for 1 MPa range
- Vacuum input for vacuum range.

Metallic fitting: 4/6 mm diameter
- Regulator air supply for 1.1 to 2 MPa range indirect mode.

Regulator output connector

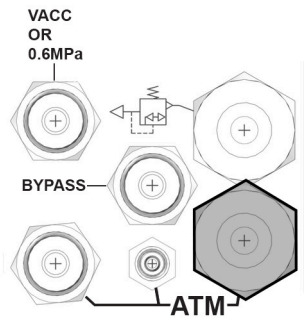
This connector can be used as regulator output in indirect mode, for bypass option or external capillary option.



Instant fitting: 8, 10 or 12 mm diameter for 1 MPa range maximum.
Metallic fitting: 4/6 mm or 6/8 mm diameter for 2 MPa range (indirect mode).

Capillary output connector

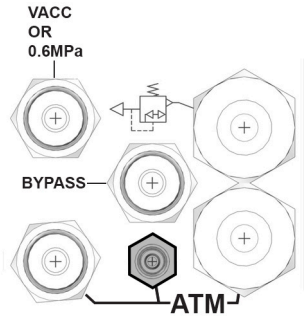
This connector has to be left to the atmosphere for indirect mode.



Instant fitting: 8, 10 or 12 mm diameter.

ATM 4 mm connector

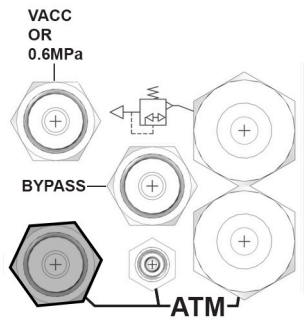
This connector has to be left free to the atmosphere.



Instant fitting: 4 mm diameter.

ATM 6 mm connector

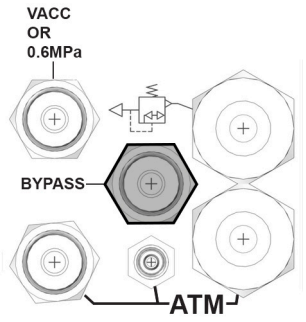
This connector has to be left free to the atmosphere.



Instant fitting: 6 mm diameter.

Pneumatic output for bypass option

This connector is used to connect the device to an external valve for bypass option.



Instant fitting: 6 mm diameter.

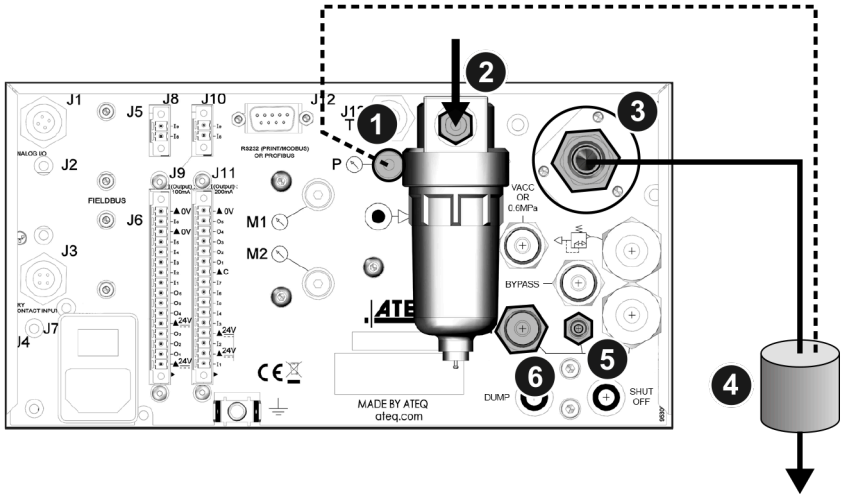
PNEUMATICS CONFIGURATION

According to the part under test and the pressure range, different configurations can be used.

M1 and M2 connectors are always fitted with caps except for external capillary option.

Direct mode - Internal back pressure - until 0.5 MPa

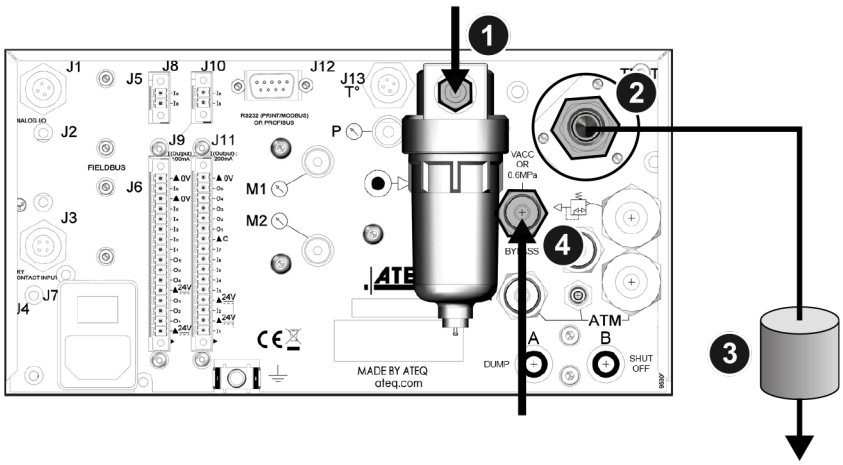
This configuration is used for direct mode at medium pressure range.



Connection	Option / description
Air supply to **2**	Connection of the air supply to the filter input (0.6 MPa)
3 to **4**	Connection of the test output to the part under test (direct mode option)
4 to ATM	Connection of the part under test to the atmosphere (ATM)
4 to **1**	Connection of the test to part to P connector (external back pressure option)
5 to ATM	Connector left free to the atmosphere
6 to ATM	Connector left free to the atmosphere

Direct mode - 1 MPa range

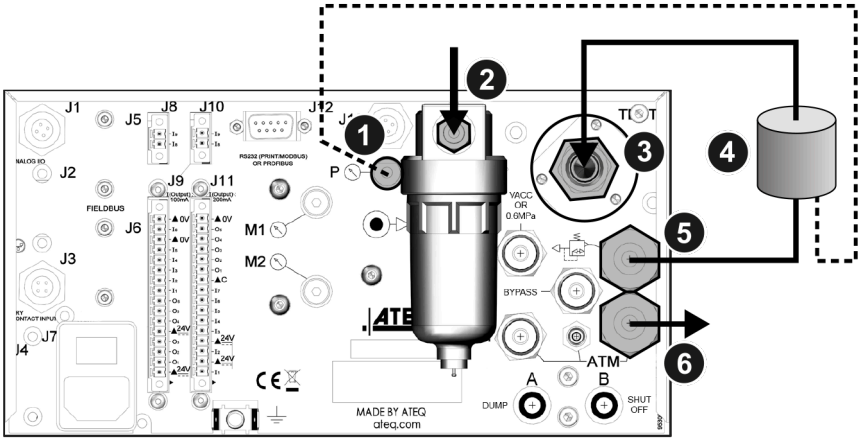
This configuration is used for direct mode at high pressure range.



Connection	Option / description
Air supply to **1**	Connection of the regulator air supply to the filter input (1.2 MPa)
Air supply to **4**	Connection of the air supply to the valve pilot input (0.6 MPa)
2 to **3**	Connection of the test output to the part under test (direct mode option)
3 to ATM	Connection of the part under test to the atmosphere (ATM)

Indirect mode - Internal pressure reading on regulator output - until 0.5 Mpa

Use this configuration for indirect mode at medium pressure range.

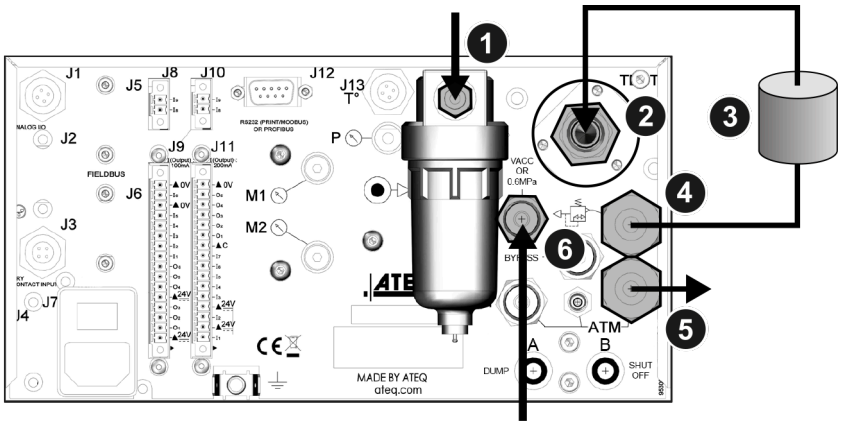


Connections

Connection	Option / description
Air supply to **2**	Connection of the air supply to the filter input (0.6 MPa)
5 to **4**	Connection of the regulator output to the part under test
4 to **3**	Connection of the part to the test input (indirect mode option)
4 to **1**	Connection of the test to part (regulator side) to P connector (external back pressure option)
6 to ATM	Connector left free to the atmosphere

Indirect mode - 1 MPa range

This configuration is used for indirect mode at high pressure range.

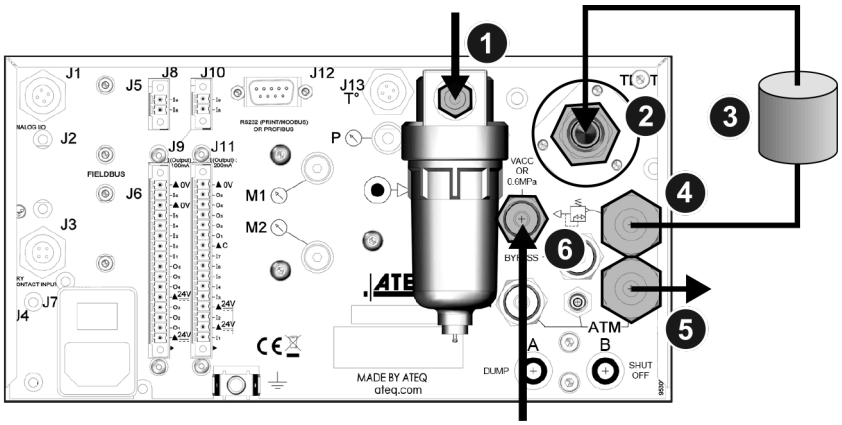


Connections

Connection	Option / description
Air supply to **1**	Connection of the regulator air supply to the filter input (1.2 MPa)
4 to **3**	Connection of the regulator output to the part under test
3 to **2**	Connection of the part to the test input (indirect mode option)
5 to ATM	Connector left free to the atmosphere
Air supply to **6**	Connection of the air supply to the valves pilot input (0.6 MPa)

Indirect mode - 2 MPa range

This configuration is used for indirect mode at high pressure range.



Connections

Connection	Option / description
Air supply to **1**	Connection of the air supply to the input of valves pilot (0.6 MPa)
4 to **3**	Connection of the regulator output to the part under test
3 to **2**	Connection of the part to the test input (indirect mode option)
5 to ATM	Connector left free to the atmosphere
Air supply to **6**	Connection of the air supply to the regulator input (instrument pressure range + 0.1 to 0.2 MPa)

User interface

OVERVIEW

The user interface comprises a display and user keys located on the front panel.

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	**OK**	Returns to the **MAIN MENU** screen or opens menus and options, validates parameters.
ESC	**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	**Smart key**	Starts a measurement cycle (default, programmable).

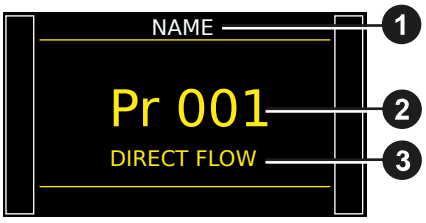
This key is programmable through the **MAIN MENU** screen:
MAIN MENU > **CONFIGURATION** > **MISCELLANEOUS** > **SMART KEY**

DISPLAY

The device uses 4 main screens.

The Program screen

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

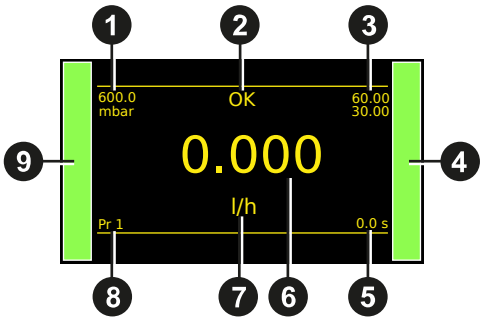


1 Current program name (here **NAME**)
2 Current program number (here **001**)
3 Test type (here **DIRECT FLOW**)

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).

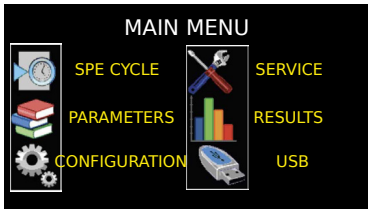


1 Test pressure measurement
2 Test result or step phase
3 Test reject value
4 Vertical line test result
5 Remaining time of the current phase or ready status
6 Flow measurement
7 Measurement unit
8 Current program
9 Vertical line test result

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 specific 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.

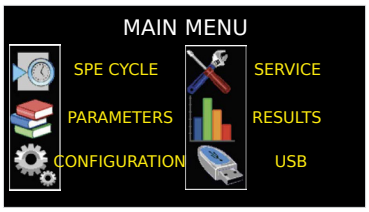
2. Power up your device.
When power-up is completed, the **Program** screen is displayed, with last program used on screen.

PREPARING A PROGRAM

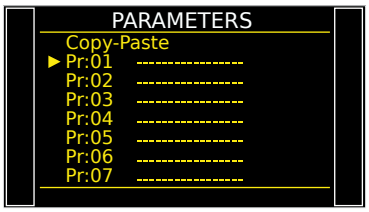
Use this procedure to configure a new test program.
On the **MAIN MENU** screen:

ACCESSING THE PARAMETERS

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



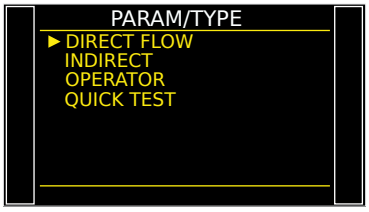
The program list is displayed.



SELECTING A PROGRAM NUMBER

2. Select the program to configure and press **OK**.

A list of the available measurement types is displayed:
- **DIRECT FLOW** type
- **INDIRECT** type
- **OPERATOR** type
- **QUICK TEST** type.



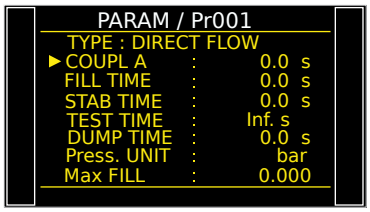
CONFIGURING THE ASSOCIATED MEASUREMENTS

3. Select a measurement type and press OK.

The parameters of the selected measurement type are displayed.

4. Define the measurement cycle parameters.

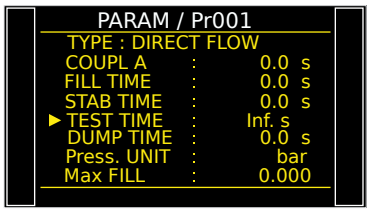
See: Modifying a parameter.



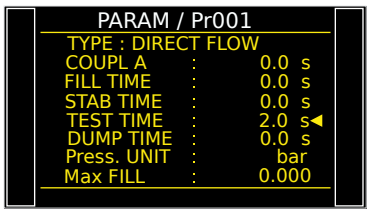
MODIFYING A PARAMETER

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

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

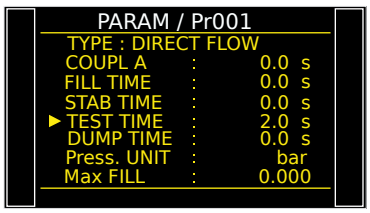


An arrow ◀ is displayed on the right of the parameter being modified.



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.



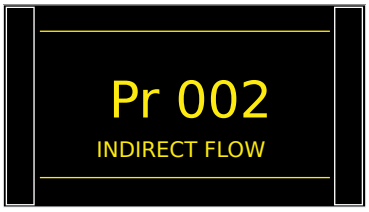
3. Repeat these steps until all parameters are set.

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 .



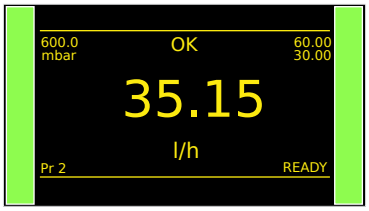
STARTING AND STOPPING CURRENT CYCLE

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:
WAITING
FILL
STABIL.
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

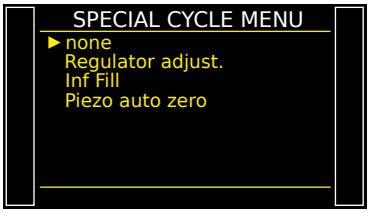
OPTIONS OF THE MENUS

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

For more information, refer to the Reference Manual.

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).



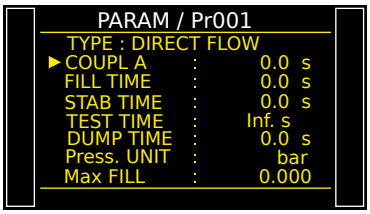
Label	Special cycle	Description of the cycle
none	None	No special cycle selected
Regulator adjust.	Regulator adjustment	Adjustment of regulator in front panel
Inf Fill	Infinite fill	Pressurize the part with a infinite fill time
Piezo auto zero	Piezo auto zero	Auto zero cycle on the piezo sensor

TO START SPECIAL CYCLES...

1. On the **SPECIAL CYCLE MENU** screen, select a cycle, and press OK to validate.
2. Press **Start** ▶ to execute 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 **FLOW** 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 flow
TEST TIME	Test time	The flow in the part must be between the minimum and maximum reject level.
Press. UNIT	Pressure units	Pressure unit (bar, mbar, PSI, Pa, kPa, MPa)
Max PRESS	Maximum fill pressure	Maximum level of the fill pressure
Min PRESS	Minimum fill pressure	Minimum level of the fill pressure
FLOW UNIT	Reject unit	Flow rate unit displayed: — SI System: ml/h, l/h, ml/s, ml/min, sccm, l/min, m3/h — US System: in3/h, ft3/h, in3/min, in3/s, sccm.
Max Flow	Maximum reject	Upper flow rate limit. Above this limit, the part is considered as defective.
Min Flow	Minimum reject	Lower flow rate limit. Under this limit, the part is considered as defective.
FUNCTIONS	Functions	Access to additional functions

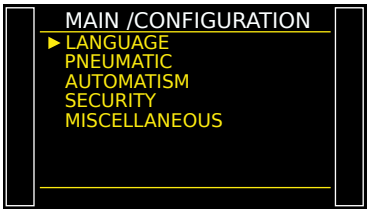
Additional functions

Label	Function	Description
24V OUTPUTS	Auxiliaries output 24 V	Available outputs for external automatism
ANALOG OUTPUT	Analog output	Duplicate the flow and pressure measurements on the analogues outputs
ATR1 / ATR2	ATR 1 - 2	Specific filters on flow measurement
AUTO CONNECT	Automatic connector	Function to manage automatic jigs
AUTO MODE	Automatic mode	Starts automatically when pressure reach min pressure level
BUZZER	Buzzer	Buzzer activation configuration
CODE READER	Bar code reader	Bar code configuration
DISPLAY MODE	Display Mode	Flow measurement resolution
END OF CYCLE	End of cycle	Several automatism case depending on fail part management
FILL MODE	Fill types	Special filling methods

Label	Function	Description
FILTER	Filtering	Stabilize the measurement values
MEAS. DELAY	Measurement delay	During this time reject levels are not controlled (perturbations)
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
OFFSET	Offset	Flow offset
PEAK HOLD MAX	Peak hold	Give as result, the highest flow during the test time
PR:SEQUENCE	Sequencing	Allowed program automatic sequencing
PRE-FILL	Pre-fill types	Special filling methods
PRESS. AZ	Pressure auto zero	Define if Pressure auto zero is done before, after the cycle or on demand (not done automatically)
PRESS. CORR.	Pressure correction	Calculate flow measurement at a specific pressure value, whatever the real test pressure is
REG. MODE	Regulator mode	Define the method to control the electronic pressure / flow regulator
REWORK LIMIT	Rework limits	Additional levels for specific reworkable parts
SIGN	Sign	Return opposite result
STAMPING	Stamp	Pneumatic or electric output to identify the part
STD CONDITIONS	Standard conditions	Calculate measured flow in other ATM pressure and temperature condition (displays the unit with an *)
UNITS	Units	Access to International System or American or Custom Units
VALVE CODES	Valve codes	Available outputs for external automatism

CONFIGURATION menu

Use this menu to configure your ATEQ device.

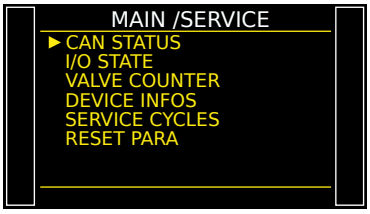


Label	Function	Description
LANGUAGE	Language	Selection of the language displayed on the screen
PNEUMATIC	Pneumatics	Configuration of the pneumatics functions of the device
> **READY STATUS**	-	Out of cycle electronic regulator instruction choice
> **Press. UNIT**	-	Pressure unit by default for the new programs
AUTOMATISM	Automatism	Configuration of the different communications between the device and its environment

Label	Function	Description
> **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.
MISCELLANEOUS	Miscellaneous	
> **SMART KEY**	-	Configuration of the assigned function to the **Smart key** SMART KEY
> **BARGRAPH**	-	Bargraph display configuration

SERVICE menu

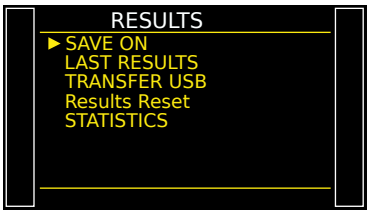
Use this menu to do the maintenance of your device (status check, internal tests...).



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
RESET PARA	Parameters reset	Reset to factory configuration

RESULTS menu

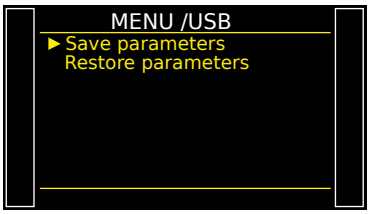
In this section, manage measurements results.



Label	Function	Description
SAVE ON	-	Define memory location (internal or external USB stick)
LAST RESULTS	Results display	Lasts 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 later restoration
Restore parameters	Restore parameters from an external USB memory device

Specifications

CHARACTERISTICS

Technical characteristics of the device.
Main characteristics

Characteristics	Values
Case dimensions: Height x Width x Depth	150 x 250 x 270 mm
Overall dimensions	150 x 250 x 360 mm
Format	Half 19-inch rack
Mass	About 8 kg (17.6 lbs)
Electrical power supply	– 100 / 240 V AC - 50 W - 50/60 Hz – 24 V DC - 2 A.
Overvoltage category	II
Pneumatic air supply (0 to 0.5 MPa range)	Air supply: 0.6 MPa ± 15%
Pneumatic air supply (0.6 to 1 MPa range)	– Regulator input: 1.2 MPa ± 10% – Valves supply: 0.6 MPa ± 15%
Pneumatic air supply (1.1 to 2 MPa range)	– Regulator input: instrument pressure range + 0.1 to 0.2 MPa – Valves supply: 0.6 MPa ± 15%
Protection	Device protection level IP2
Pneumatic connections: (inside / outside diameters)	4/6 to 26 mm
Operation temperature	+5 °C to + 45 °C (+ 41 °F to 113 °F)
Storage temperature	0 °C to +60 °C (32 °F to 140 °F)
Operation altitude	Up to 2000 m (6500 ft)
Relative humidity	80 % at 31 °C (87 °F) and 50 % at 40 °C (104 °F)