

Mini series test chambers

- Temperature test chambers of mini-desktop series from 37 to 110 liters

Model: ATM

- Standing-mini series temperature test chambers from 16 to 110 liters

Model: ATMS

- Double (chamber/oven) temperature test chambers, standing mini series from 75 to 110 liters

Model: ATSD

- Temperature and humidity test chambers of the mini desktop and standing series in the volume of 75 liters

Model: ATMSC, ATMC

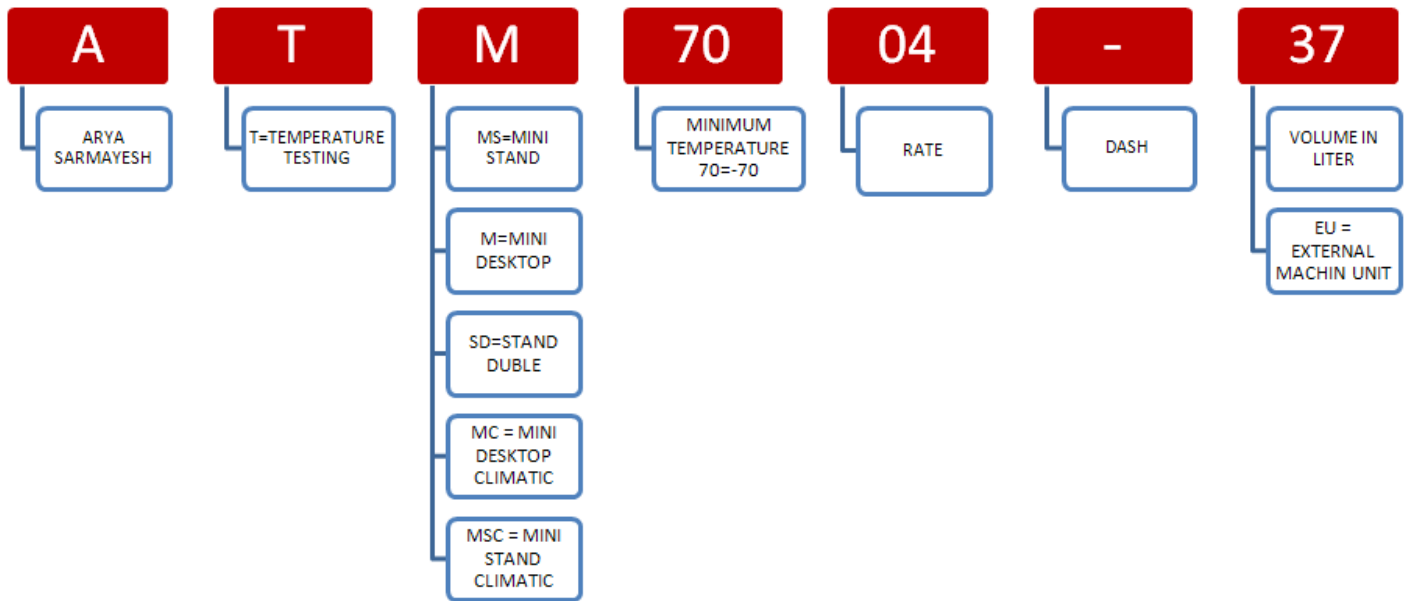


Aryasarmayesh company started its activities in 1967 under the name of Aria Refrigeration, under the management of the late Haj Hassan Balouchian, and at that time, it put the production of all kinds of cold storage, refrigerators, industrial freezers, and all kinds of open refrigerators on its agenda and it started to distributed throughout Iran. In 2008, it was registered under the name of Aryasarmayesh Pardisan Refrigeration Industries Company under the managing director of Engineer Mohammad Ali Balouchian, with the registration number of 1664. In 2015, after an evaluation by Iran president's Vice President for Science and Technology, we succeeded in obtaining knowledge base approval with a rank of 1 for three products, which are as following:

- 1- Temperature shock chambers
- 2- Mini chambers
- 3- Temperature and humidity chambers

In 2017, with a re-evaluation, we succeeded in obtaining approval in the field of advanced machinery and equipment with the title of "first-class manufacturer" in the following products:

- 1- Temperature shock chambers (elevator) level one
- 2- Desktop mini chamber (level one)
- 3- Temperature and humidity chambers (level one)
- 4- Deep freezers negative 80 (level one)
- 5- Deep chillers negative 70 (level one)
- 6- Explosion-proof ovens (level two)
- 7- Vacuum ovens (level two)
- 8- Radar system chillers (level two)
- 9- Laboratory mini chillers and condenser chillers (level two)

MINI SERIES NOMENCLATURE

Outstanding technologies of this series

Various types of chambers from 16 to 110 liters are provided with hermetic compressors, cooled by the return gas temperature, which will guarantee the durability and accuracy of the test.

The approach of this company is special in design, so user comfort and beautiful products are the first priority of the design team of this company.

Also, the engineering team of this company designs and produces unique systems that are very durable and specially optimized in energy consumption.

The use of plate exchangers and the use of shell and tube fitting technology in air evaporators and condensers, the special air circulation system inside the chamber, taking into account aerodynamic points to achieve the appropriate temperature gradient and also solving design problems by allocating optimal space to the tools for easy access to all the equipment, have made this series of chambers surpass other competitors.

Using the latest methods in the world in the design of electrical circuits and special control systems that are programmed by software engineers in the automation department of this company is one of the most prominent technological parts of this company and it is equipped with user-friendly software.

Due to the small dimensions of the temperature and humidity chambers of the mini-series, all humidity generating devices are compactly designed and produced, and the humidity production and control process is very complicated.

Electrostatic leather color coating has guaranteed the beauty and durability of the product.



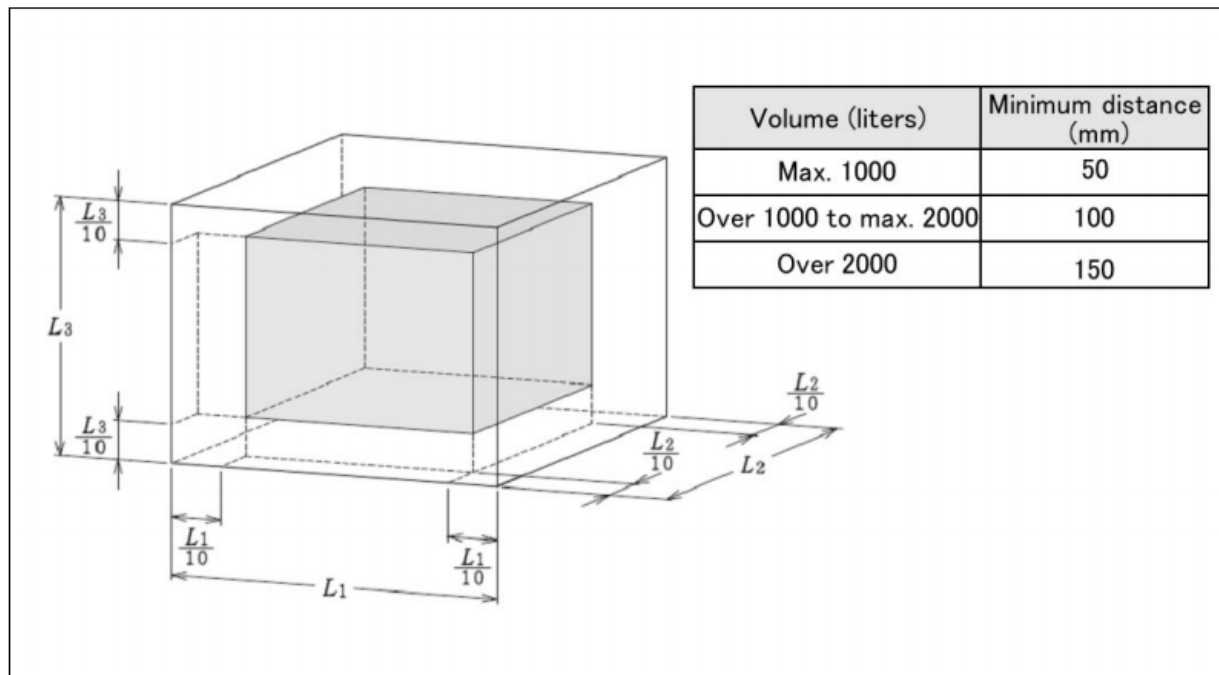
Features:

- ✓ Beautiful design with easy access for subsequent repairs
- ✓ Taking advantage of high technical knowledge and strong engineering team
- ✓ Complying with relevant standards in the design of electrical circuits and cooling systems
- ✓ Strong documentation, including electrical and mechanical diagrams, list of components, installation and setup manuals, software manuals and main sensor calibration reports.
- ✓ Speed in providing after-sales service
- ✓ 24 months warranty or 1000 working hours
- ✓ Very powerful and user-friendly control software
- ✓ Compact and quiet
- ✓ Economical and low cost
- ✓ High speed in temperature change rate
- ✓ uniformity of temperature and humidity; Minimum gradient
- ✓ Operation of the system as a single-phase voltage
- ✓ Equipped with an anti-fog sight glass



We offer a wide range of systems and devices for environment simulation. Whether you are performing temperature, weather, vibration, corrosion, emission, altitude, pressure or combined stress testing, we have the right solution for you and can supply systems in all dimensions. From serial products to integrated customer-specific process systems. The choice is yours! For proper reproducibility and accurate test results, we offer you a solution.

Our systems set new standards in terms of features, performance and design. The standards are designed in such a way that they have a futuristic outlook, collected with care and preserved with dedication. All you need to do is to concentrate on your core business! In this catalog, only a few examples of our capabilities are mentioned. Please contact us for more information.



Working space

Selecting test chamber according to standard requirements

Before choosing the test chamber you need, you must first specify the maximum size of the product to be tested and buy the device according to the following procedure.

The test space refers to an environment that can maintain specific temperature conditions within the permitted range. The test chamber is generally shaped like a rectangular box, and the workspace consists of an area surrounded by the shaded surface shown in the figure above.

The distance of each wall surface around the working space to the surface of the test chamber is called L1, L2 and L3 respectively.

The current standards define the dimensions of the working space by respecting the distance (every dimension of the wall surface of the test chamber divided by 6) from the main wall of the test chamber, which are expressed as L1/6, L2/6 and L3/6 .

The new standards define the dimensions of the working space by respecting the distance (every dimension of the wall surface of the test chamber divided by 10) from the main wall of the test chamber, which are expressed as L1/10, L2/10 and L3/10

However, since it is necessary to consider the effect of thermal diffusion in the space between the inner walls of the test chamber and the test specimens, the distance from the inner walls should be specified as a minimum value, according to the volume of each test chamber .

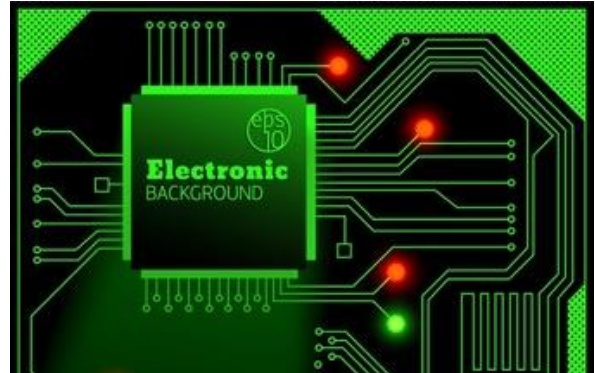
Electronics

From chips to supercomputers

Experiment heat, cool, exposure to moisture, UV, or even vacuum.

The life cycle of modern electronics is short and every second counts!

Using our environmental conditions simulation systems, you can find out if your product is resistant to cold, heat, humidity, vibration, dust and sunlight before presenting it to the market. Fast drying, mild and hardening of the coatings on plastic items such as children's toys, covers of electronic devices is possible using our environmental conditions test chambers. If your production processes require precise weather conditions / or temperature shocks, the solution is to use temperature / humidity test chambers or Aryasarmayesh elevator chambers.



The importance of environmental tests on electronic circuits.

Electronic devices will change their resistance range with temperature change and these changes can have significant effects on the results and outputs of that circuit, which in some cases can be very destructive.

So, these tools should be tested before installing on the main project and get their error range in operating temperatures.

Also, the temperature and humidity tolerance threshold for electronic devices are very important, because even though the final product is inactive in their storage, this tolerance threshold should be taken into account.



Environmental & safety...

Various materials are used in your products. They must be safe for humans and the environment, their molecules must be correctly formed and bonded to meet your long-term goals.

We have designed and produced safe explosion-proof products to test chemicals, to provide you with the highest security.

We provide you with suitable tools to test the strength of construction materials and components.

Choose the best.

You just share your needs with our sales department, and we will solve your problems!



Test whatever you want

No need to risk! By conducting tests on your products, from bricks to printed circuit fibers, or even projects resulting from research and development, you will promote and ensure their quality. We will support you on your journey.

Precisely engineered

We know what is important to your testing: reliable, accurate and repeatable results. For this reason, we design our test rooms exactly according to these demands. Because incorrect results lead to incorrect conclusions. According to your needs, relying on our comprehensive expertise and years of experience. Rest assured that we eliminate interference factors at the design stage.



Automotive industry

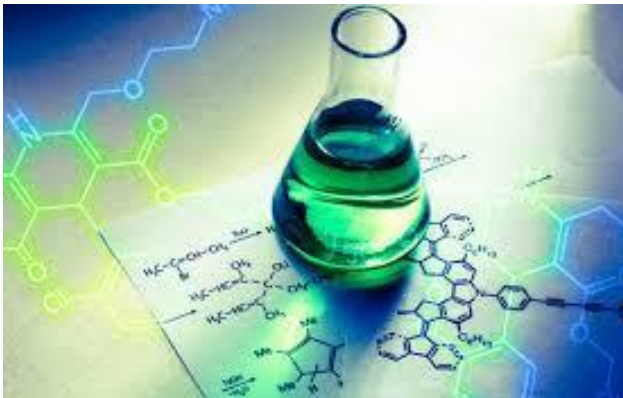
From the gears to the body

Test it, heat it, cool it, expose it to high and low humidity, expose it to UV light or even static pressure.

Moving in the desert, going to port cities and back, traversing hard and cold roads and all this is possible if you have a lightweight vehicle with the best possible degree of connection.

You won't have any problems using Aria cooling test systems to simulate environmental conditions, heating technology, air flow, height, vibrations and pressure, as well as atmospheric and corrosion behaviors!

Using our technology, you can make measurements with the necessary accuracy. Just put the piece in the compartment and touch the power button!



Spring, summer, autumn and winter - seasonal differences, different climate zones - your products must have sufficient resistance during manufacturing, transportation, storage and use. Climatic test chambers help you test the effect of temperature and humidity on your products, in terms of properties, during performance and shelf life.

Reproducibility, along with the certificate of tests under accelerated conditions according to the developed standards, will give your customers confidence in how to transport, maintain and use this product.

In order to control the processes during production and to ensure the proper functioning of its products, this company has prepared numerous procedures and tests, the documentation of which can be provided.

Optimum air conduction provides the best performance in these classes. AriaNet's innovative user interface allows you to schedule and control your tests anytime, anywhere - even from your computer, tablet or smartphone.

air space

Test it, heat it, cool it, rotate it on three axes, expose it to high and low humidity, observe it in a vacuum, expose it to ultraviolet radiation, or even put it under static pressure.

Successful takeoff and safe landing are the most important tasks defined for the aerospace industry. You can use Aria Cooling's environmental simulator systems to simulate all important parameters, in tests during and after the tool production process. The dimensional accuracy of each component must be tested to ensure their complete compatibility with the system. This is also true for composite materials with different coefficients of thermal expansion.

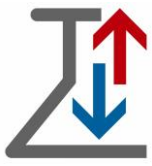
Get ready to fly!



We offer a wide range of systems and devices for simulating atmospheric conditions. If you are running temperature, vacuum, vibration, corrosion, emissivity, altitude, pressure or combined stress testing projects, we have the right solution and can supply systems of all sizes. From standard series products to customer-ordered systems. The choice is yours! We are always ready to redesign according to your needs and achieve the required accuracy in tests.

Our systems set new standards in terms of features, performance and design. They are designed in a futuristic way, carefully assembled and presented to you with the right conditions.

This way you can focus on your main work! Only a few examples of our products are mentioned in this catalog. Please contact us for more information.



Mini series chambers are very suitable and low-cost for testing parts and small products and have the ability to perform all kinds of cyclic tests in the form of ramp, step and linear.

The purpose of temperature tests is to check the resistance of a sample to the environmental effects of temperature. These tests are performed with the aim of finding out the stability and reaction of products to low and high temperatures during use and storage.

In research and development laboratories, the performance and how to use a product is determined in one step and quickly.

Aryasarmayesh company has provided the highest efficiency with the least occupied space for research and development engineers and quality control engineers with its mini series chambers.

The high rate of temperature changes of this series of compact and small mini-chambers (refer to the product's technical guide) has provided a basis for performing all kinds of tests while being very quiet.

These test chambers have been fully upgraded and will meet your future technological developments and many measures have been taken to ensure customer reliability and user-friendliness.

Aryasarmayesh mini desktop chambers are produced in different sizes and two temperature ranges.

Mini Desktop Series Temperature Test Chambers: This series of chambers are produced under the (ATM) model and are designed to be installed in laboratories that suffer from a lack of space or want to have parts, materials and products at the lowest cost. Test your small dimensions.

This series of chambers can be placed on the tables in the laboratory or on the wheeled table model (AT3R) of Aria Sarmayesh.

This series of chambers have the sizes of 37, 75, 110 liters and they benefit from the minimum temperature of -40 and -70 and the maximum temperature of +180 degrees Celsius.



Standard equipment

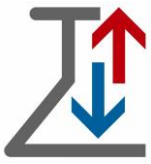
- Equipped with two Danfoss compressors in ATM 7004 models and one Danfoss compressor in ATM 4004 models.
- Use of 316 stainless steel plate exchanger in the inter-cooler evaporator in models with a temperature of -70 degrees Celsius.
- Bypass system for cooling system
- Safety thermostat (secondary protection system against high and low heat) inside and outside
- The door is equipped with 7 layers anti-steam glass and internal lighting
- One adjustable floors
- The location of adjustable floors
- Air condenser
- Aria Soft software to run programs up to 64 segments and fix mode
- Touch screen monitor
- Cable passage channel inside the 95mm diameter chamber equipped with permanent and temporary cover
- Equipped with SSR for heaters and compressors
- Long stainless steel Ariasarmayesh fan shaft



Optional equipment

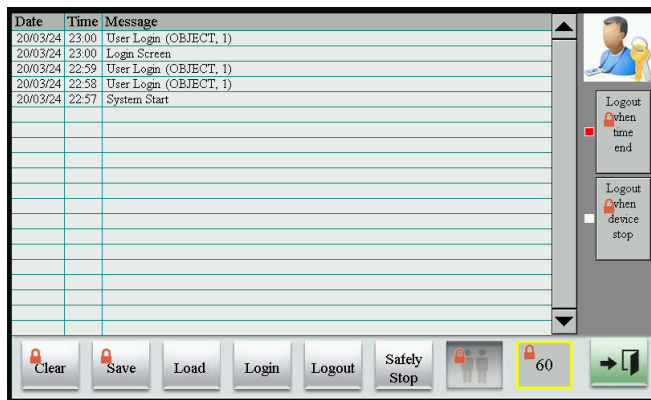
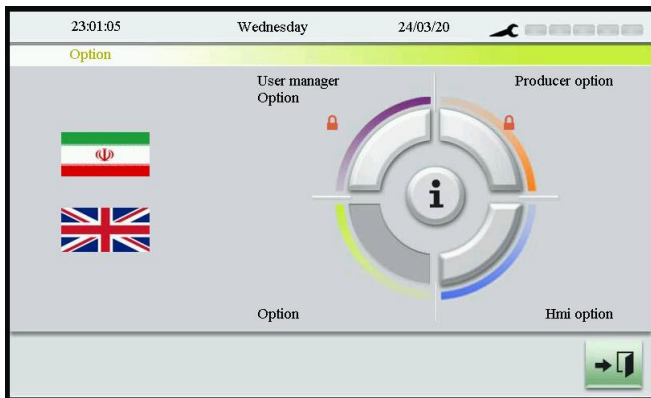
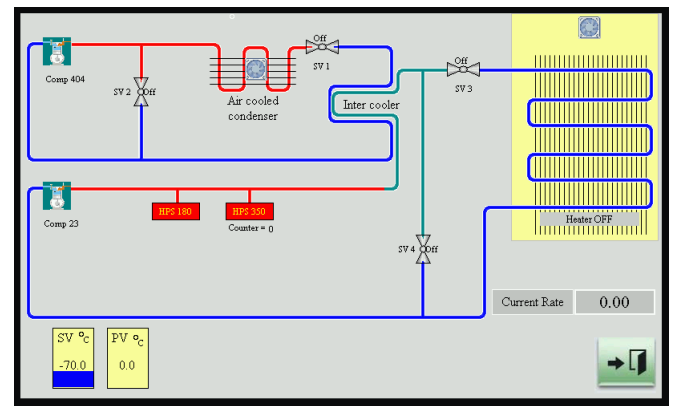
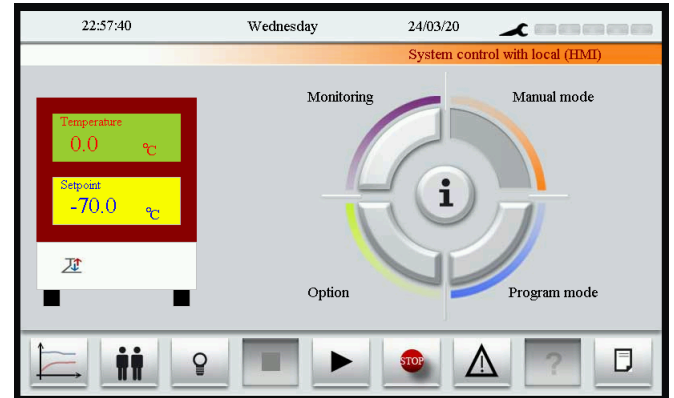
- ❖ Special table with wheels, 110 cm wide, 80 cm deep and 80 cm high
- ❖ Specific voltages
- ❖ Additional internal floors and additional port
- ❖ Communication software with computer and laptop by Modbus network
- ❖ Installation of temperature and pressure sensors and display of superheat and subcool temperatures
- ❖ The system of producing and injecting dry air into the chamber to prevent the formation of dew when moving from negative to positive temperature





Control software capabilities

- ✓ Run both program and manual
- ✓ Displaying and drawing graphs with the ability to zoom on different points and save on the external memory
- ✓ Data logging and saving as an Excel file for an unlimited period
- ✓ Display errors occurred in the system and save the error table
- ✓ Specify the access level of users up to 32 users, by the administrator
- ✓ The possibility of viewing the names of users and the operations performed by each user and inserting them into the table and storing them on the external memory
- ✓ Non-linear sensor error correction (calibration)
- ✓ Show the physical system in motion
- ✓ Bilingual Persian / English



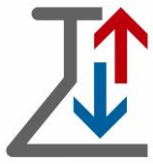
- ✓ The possibility of executing a recipe and defining a program up to 64 segments in the form of ramp, step and stabilization
- ✓ The possibility of running a specific program on a defined date and time (cookie clock)
- ✓ The possibility of repeating a program up to 1000 times (cycle)
- ✓ Access to the user manager settings section to manage subordinate users and program section settings and other settings
- ✓ Resolution and light settings and system clock and date
- ✓ Settings of the graph section with the ability to hide each of the graphs
- ✓ Simple definition of a program with user-friendly features
- ✓ Equipped with a table of errors and the ability to fix errors
- ✓ Factory reset button
- ✓ The possibility of zooming in on the current temperature
- ✓ The possibility of setting the communication system (local, Modbus, VNC) as an option



<i>Convincing technology. Reliable results.</i>											
The performance data at a glance											
Type	Exterior housing dimensions (1) HxWxD	Test space dimensions HxWxD	Minimum temperature (2)	Maximum temperature	Temperature changing rate, cooling (3)	Temperature changing rate, heating (3)	Temperature deviation in time (4)	Temperature homogeneity in space (5)	Temperature gradient (6)	Maximum heat compensation (7)	Heat compensation at -20 °C
	mm	mm	°C	°C	K/min	K/min	K	K	K	W	W
ATM 4003-37	670*950*780	400*320*290	-40	180	3.3	4.1	± 0.1 to ± 1.0	±0.5 to ±1.5	≤3.0	400	250
ATM 7003-37	670*950*780	400*320*290	-70	180	3.4	4.1				500	280
ATM 4002-75	670*1060*920	400*430*430	-40	180	2.2	3.0				355	170
ATM 7002-75	670*1060*920	400*430*430	-70	180	2.3	3.0				410	200
ATM 4001-110	870*1060*920	600*430*430	-40	180	1.5	1.6				295	100
ATM 7001-110	870*1060*920	600*430*430	-70	180	1.4	1.6				335	120

1-The required clearances can be reduced by dismantling components and the dimensions are taken without taking into account the wall brackets.
 2-Temperatures >+5 °C are permitted in continuous operation; temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.
 3- According to IEC 60068-3-5; average, measured in the supply air .
 4-In the middle of the test space when it is empty and in steady state, without specimen, without heat radiation and without additional equipment, depending on temperature.
 5-Relative to the selected set point in the temperature range from the minimum temperature up to +120 °C.
 6 - Up to +120 °C according to IEC 60068-3-5:2001 or JJF 1101-2003.
 7- At +20 °C.

The performance data refer to +25 °C ambient temperature and +18 °C cooling water temperature, 220 V/50 Hz nominal voltage, without specimen, without optional equipment and without heat compensation. The product needs fluorinated gases for functioning. Depending on the type, it contains refrigerants R404 and R23 or R 508b.
 In general, all Aria Sarmayesh temperature chambers can be equipped with an internal dry air production system, which prevents the formation of dew on the part under test and will be optional, and a letter 'D' will be added at the end of the model with this feature. A box measuring 55 cm depth, 35 cm wide and 116 cm height will be placed next to the chamber . All Ariasarmayesh temperature chambers can be designed to be explosion-proof, the dimensions of which are the same as simple chambers, and only two letters ' EX ' are added to the end of the model.
 We reserve the right to make any technical changes without prior notice.



Aria cooling mini standing chambers are produced in different sizes and two temperature ranges.

Standing Mini Series Temperature Test Chambers:
This series of chambers are produced under the (ATMS) model and are designed to be installed in laboratories that do not have a lot of available space or the parts to be tested have small dimensions, so there is a justification for testing them in There are no large chambers.

This series of chambers have sizes of 16, 75 and 110 liters and they benefit from the minimum temperature of -40 and -70 and the maximum temperature of +180 degrees Celsius.

Mini_ series chambers have the ability to perform all kinds of cyclic tests in the form of ramp, step and linear.



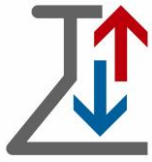
Beautiful design, high quality and precision are the unique features of these chambers.

The lighting of the chamber and the 7-layer viewing glass equipped with a heater allows the user to observe the inside of the chamber and the product under the test at any temperature without disturbing the steam.

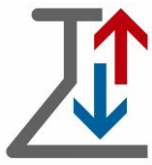
This series of chambers are equipped with two temperature sensors, one sensor will act as the main sensor and will be responsible for temperature control, and the other sensor will be connected to a digital thermostat and will be responsible for the safety thermostat.

Inside the test chamber, there are four columns, each column has grooves that are 3 cm apart from each other, and the rack support bracket can move on these columns, and the user will have the ability to adjust the inner rack of the chamber according to his needs.





<i>Convincing technology. Reliable results.</i>												
The performance data at a glance												
Type	Exterior housing dimensions (1) HxWxD	Test space dimensions HxWxD	Minimum temperature (2)	Maximum temperature	Temperature changing rate, cooling (3)	Temperature changing rate, heating (3)	Temperature deviation in time (4)	Temperature homogeneity in space (5)	Temperature gradient (6)	Maximum heat compensation (7)	Heat compensation at -20 °C	
	mm	mm	°C	°C	K/min	K/min	K	K	K	W	W	
ATMS 4004-16	685*465*655	205*310*230	-40	180	4.0	4.5	± 0.1 to ± 1.0	±0.5 to ±1.5	≤3.0	250	70	
ATMS 4002-75	1520*630*890	400*430*430	-40	180	2.4	3.0				355	170	
ATMS 7002-75	1520*630*890	400*430*430	-70	180	2.3	3.0				410	200	
ATMS 3501-110	1720*630*890	600*430*430	-35	180	1.5	2.8				290	120	
ATMS 6001-110	1720*630*890	600*430*430	-60	180	1.5	2.8				340	150	
<p>1-The required clearances can be reduced by dismounting components and the dimensions are taken without taking into account the wall brackets.</p> <p>2-Temperatures >+5 °C are permitted in continuous operation; temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.</p> <p>3- According to IEC 60068-3-5; average, measured in the supply air .</p> <p>4-In the middle of the test space when it is empty and in steady state, without specimen, without heat radiation and without additional equipment, depending on temperature.</p> <p>5-Relative to the selected set point in the temperature range from the minimum temperature up to +120 °C.</p> <p>6 - Up to +120 °C according to IEC 60068-3-5:2001 or JJF 1101-2003.</p> <p>7- At +20 °C.</p>												
<p>The performance data refer to +25 °C ambient temperature and +18 °C cooling water temperature, 220 V/50 Hz nominal voltage, without specimen, without optional equipment and without heat compensation. The product needs fluorinated gases for functioning. Depending on the type, it contains refrigerants R404 and R23 or R 508b.</p> <p>In general, all Aria Sarmayesh temperature chambers can be equipped with an internal dry air production system, which prevents the formation of dew on the part under test and will be optional, and a letter 'D' will be added at the end of the model with this feature. A box measuring 55 cm depth, 35 cm wide and 116 cm height will be placed next to the chamber . All Ariasarmayesh temperature chambers can be designed to be explosion-proof, the dimensions of which are the same as simple chambers, and only two letters ' EX ' are added to the end of the model.</p> <p>We reserve the right to make any technical changes without prior notice.</p>												



Double Aria cooling mini standing chambers are produced in different sizes and two temperature ranges.

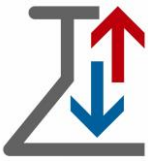
Double standing mini series temperature test chambers: this series of chambers are produced under the (ATSD) model and can perform cold and hot tests at the same time.

In fact, the lower part of the chamber is like mini chambers and can perform cold and hot tests cyclically, but the upper part is basically an oven and can perform positive temperature tests in fixed mode.

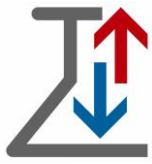
This series of chambers has a size of 75 liters and uses the minimum temperature of -40 and -70 and the maximum temperature of +180 degrees Celsius, and its oven section is also capable of performing tests between the ambient temperature range of +7 degrees Celsius to +180 degrees. It has Celsius.

Double standing mini series chambers have the ability to perform all kinds of cyclic tests in the form of ramp, step and linear, and temperature shock tests can be easily performed in it. The working method is to set the lower chamber to a negative temperature and set the upper chamber to a positive temperature, and then the product will be moved manually by the user.





<i>Convincing technology. Reliable results.</i>													
The performance data at a glance for duple chamber & oven 75 liters													
Dimensions			Chamber side						Oven Side		General		
Type	Exterior housing dimensions (1) HxWxD	Test space dimensions HxWxD	Minimum temperature (2)	Maximum temperature	Temperature changing rate, cooling (3)	Temperature changing rate, heating (3)	Maximum heat compensation (7)	Heat compensation at -20 °C	Minimum temperature	Maximum temperature	Temperature deviation in time (4)	Temperature homogeneity in space (5)	Temperature gradient (6)
	mm	mm	°C	°C	K/min	K/min	W	W	°C	°C	K	K	K
ATSD 4002-75	2100*630*890	400*430*430	-40	180	2.4	3.0	355	170	40	180	± 0.1 to ± 1.0	±0.5 to ±1.5	≤3.0
ATSD 7002-75	2100*630*890	400*430*430	-70	180	2.3	3.0	410	200	40	180			
ATSD 4003-75	2100*630*890	400*430*430	-40	180	3.0	3.8	380	200	40	180			
ATSD 7003-75	2100*630*890	400*430*430	-70	180	3.1	3.8	430	230	40	180			
<p>1-The required clearances can be reduced by dismounting components and the dimensions are taken without taking into account the wall brackets.</p> <p>2-Temperatures >+5 °C are permitted in continuous operation; temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.</p> <p>3- According to IEC 60068-3-5; average, measured in the supply air .</p> <p>4-In the middle of the test space when it is empty and in steady state, without specimen, without heat radiation and without additional equipment, depending on temperature.</p> <p>5-Relative to the selected set point in the temperature range from the minimum temperature up to +120 °C.</p> <p>6 - Up to +120 °C according to IEC 60068-3-5:2001 or JJF 1101-2003.</p> <p>7- At +20 °C.</p>													
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If you don't have a lot of available space or you don't have three-phase electricity in your collection, the best choice is the Mini Aria cooling chambers.

Due to the small dimensions of this series of chambers, this series has tried to make it possible to easily access all the tools to provide after-sales services in the future.

Do not worry about the formation of steam on the glass! This series of chambers is equipped with a sight glass with a heater and due to the presence of lighting inside, it provides the possibility for the user to observe the product under test.

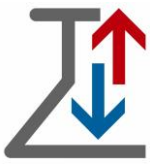
It is also possible to charge distilled water during the test, the distilled water tank is installed inside the engine door of the lower house and is hinged at an angle with the door, and the user can charge the distilled water without opening the test compartment door.

Next to the door of the engine room, a sight glass has been installed that will display the amount of distilled water and the floor inside the compartment can also be rigged.

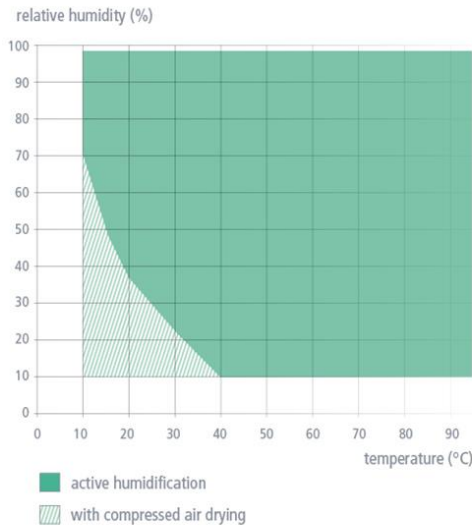
The steam production system is located inside the test chamber, and by producing hot steam, it can provide suitable conditions for a precise test for the user. The water level adjustment system will be gravity, which is specific to this company, and the automatic ventilation system of Aria Sarmish. It is also installed in the water circulation circuit.

This series of chambers are designed to be portable and have rotating wheels equipped with locks, and four adjustable bases are intended for leveling the device.

The relative humidity of the system is extracted using a dry sensor and a wet sensor according to a symmetrical chart, which is one of the most accurate methods of calculating humidity.



Temperature/humidity working range



Adjustable humidity range in environmental conditions test chambers

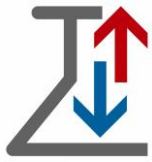
The controllable humidity range for temperature and humidity chambers (climatic) is between 20% and 98% as a standard, and if high-pressure ADTH model air dryers are used, this 20% can be up to 10%, and if air dryers are used, ADTCH moisture minimum humidity can be reduced up to 5%.

There is no limit in providing high humidity, that is, in temperatures between 10 and 90 degrees Celsius, providing humidity up to 98% will not be a problem, but there are limitations in humidities below 70% and temperatures below 40 degrees. will be according to the presented chart.

By injecting dry air, produced by ADT Aria cooling systems, you can simulate the tests you need without restrictions.

In addition, Aria Cooling provides systems that will include dry air as an internal pack on the chamber and will be available to our dear customers under the title of "D" chambers.





The purpose of environmental tests is to check the resistance of a sample to the environmental effects of temperature and humidity. These tests are carried out with the aim of finding out the stability and reaction of products to low temperatures, high temperatures and various humidity during use and storage.

In research and development laboratories, the performance and how to use a product is determined in one step and quickly.

To achieve the best results, it is important to be aware of the standards associated with your product.

Put your quality control team at the highest level of familiarity with the relevant standards!

Leave the tests to Aria cooling chambers! Just put your part/product in the compartment and press the start button!

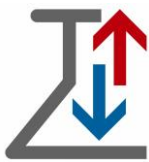


With its medium series chambers, Ariasarmaish has provided the highest efficiency with the least occupied space for research and development engineers and quality control engineers.

The high rate of temperature changes of this series of compact and medium chambers (refer to the product's technical guide) has provided a basis for performing all kinds of tests while being very quiet.

These test chambers have been fully upgraded and will meet your future technical developments and many measures have been taken to ensure customer reliability and user-friendliness.

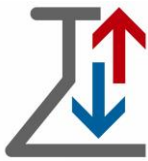
Ariasarmayesh's technical team is proud to provide you with Open Loop systems as a supplement in addition to closed cycle systems and in order to achieve a high speed temperature transfer rate.



Standard equipment

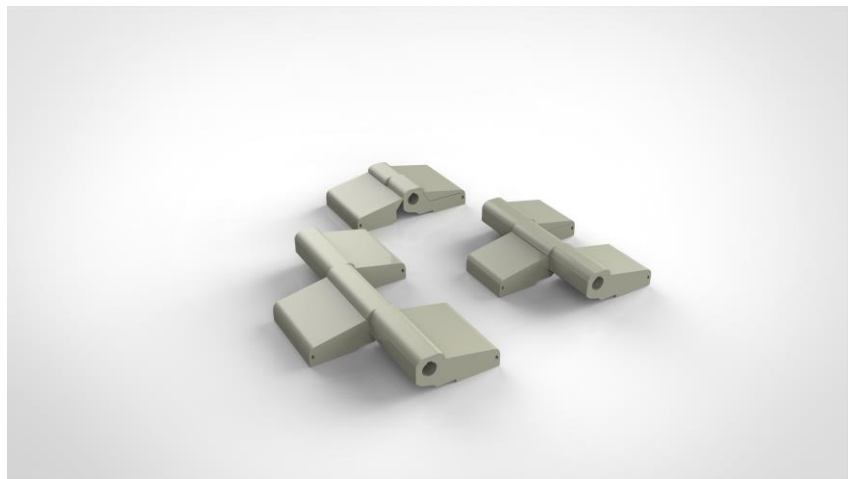


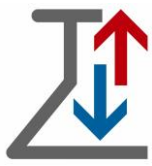
- ✓ On a 7-inch full-color touch screen
- ✓ Equipped with PLC
- ✓ Use of 316 stainless steel plate exchanger in the intermediate evaporator in models with a temperature of -70 degrees Celsius and systems that use a cold water condenser.
- ✓ Bypass system for cooling system
- ✓ Safety thermostat (secondary protection system against high and low heat) inside and outside
- ✓ Security physical thermostat (heater protection system in case of air circulation interruption) external
- ✓ The door is equipped with 6 layers anti-steam glass and internal lighting
- ✓ One adjustable rack
- ✓ The location of adjustable rack
- ✓ Air Condenser / Water Condenser
- ✓ Aria Soft software to run programs up to 100 segments and fix mode
- ✓ Cable passage channel inside the 95 mm diameter chamber equipped with permanent and temporary cover
- ✓ Equipped with SSR for heater and long fan shaft stainless steel Ariasarmayesh and sealed umbilical
- ✓ Equipped with an intelligent and optimized air distribution system
- ✓ Equipped with a dry air injection system into the chamber if dry air is available to prevent dew formation
- ✓ Equipped with PT100 sensors calibrated in 10 points
- ✓ Equipped with a possible error correction system for sensors in 6 zones
- ✓ Equipped with rotating and locking wheels for easy carrying and Teflon height adjustment
- ✓ Equipped with a stainless steel mirror test chamber and air acceleration distributor passing through the sensors
- ✓ Equipped with a smart heater for the silicone strips around the door
- ✓ Equipped with French TECAMSE / German DWM / German BITZER / DANFOSS compressors
- ✓ Equipped with CASTEL / CARLY / DANFOSS oil separator



Optional equipment

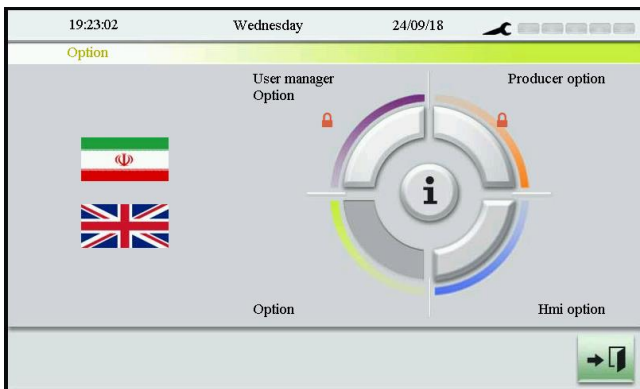
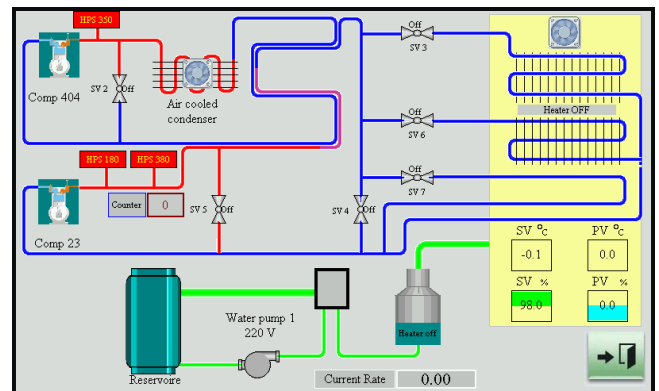
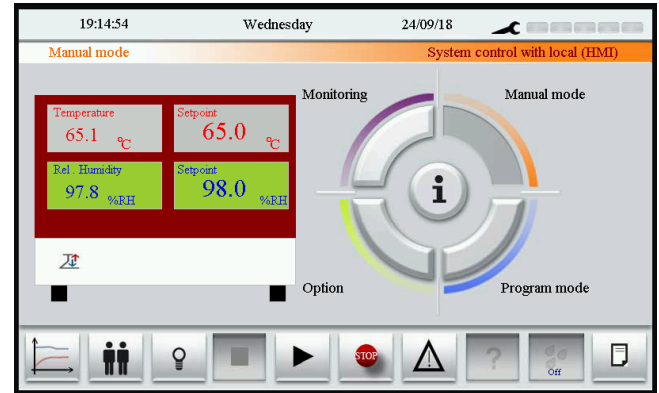
- ✓ The dry air supply system of the ADTH model can be provided as a separate device that is placed next to the chamber and its connections will be connected to the chamber and has a separate software, and it is designed in an integrated way with the chamber itself and is designed by the software. The chamber itself will be controlled.
- ✓ Specific voltages
- ✓ Additional internal floors and additional port
- ✓ Communication software with computer and laptop by Modbus and Profibus network
- ✓ Custom dimensions and custom capabilities
- ✓ The possibility of installing compressors in a separate unit outside the test environment
- ✓ Software customization according to customer needs
- ✓ Installing additional sensors with the ability to select them as reference sensors
- ✓ Adjustment of air acceleration by inverter
- ✓ Production of all kinds of chambers with rates desired by the customer
- ✓ Adding an open loop system (by liquid nitrogen and CO2 cylinders) to access the temperature transfer rate at a higher speed in case of lack of space
- ✓ Making special brackets to connect parts inside the test chamber.
- ✓ Designing special nozzles and connections for gas injection / connecting ports required by the customer





Control software capabilities

- Implementation in two ways, program and manual
- Displaying and drawing graphs with the ability to zoom on different points and save them on the external memory and load previous files and check them with the possibility of taking pictures and saving them in jpeg format.
- Data logging and saving as an Excel file for an unlimited period
- Displaying errors occurred in the system with the ability to disable them and save the error table on the external memory
- Specify the access level of users up to 32 users, by the administrator
- The possibility of viewing the names of users and the operations performed by each user and inserting them into the table and storing them on the external memory
- Non-linear sensor error correction (calibration)
- Displaying the physical system in motion and specifying the fluid movement path in the system
- Display all errors in three languages according to the user's choice



Date	Time	Message
18/09/24	19:22	User Login (OBJECT, 1)
18/09/24	19:22	Login Screen
18/09/24	19:16	User Login (OBJECT, 1)
18/09/24	19:14	User Login (OBJECT, 1)
18/09/24	19:14	User Login (OBJECT, 1)
18/09/24	19:14	User Login (OBJECT, 1)
18/09/24	19:14	User Login (OBJECT, 1)
18/09/24	19:14	User Login (OBJECT, 1)
18/09/24	19:13	System Start

- Support for three languages: Farsi/English/Arabic
- The possibility of executing a recipe and defining a program up to 100 segments in the form of ramp, step and stabilization and defining a loop up to 1000 repetitions.
- The possibility of running a specific program on a defined date and time (cookie clock)
- Senior user settings section to restrict low-level users and manage power outages, programs, errors and anti-dew system
- Cooling and heating system rate calculation section according to IEC60068-3-5 standard
- The possibility of defining infinite programs and saving them on the external memory with different names
- The possibility of remote communication with computers, laptops, tablets, smartphones through Modbus and Profibus protocols as an option.
- Software user guide



Convincing technology. Reliable results.
The performance data at a glance

Type	Exterior housing dimensions (1) HxWxD	Test space dimensions HxWxD	Minimum temperature (2)	Maximum temperature	Temperature changing rate, cooling (3)	Temperature changing rate, heating (3)	Temperature deviation in time (4)	Temperature homogeneity in space (5)	Temperature gradient (6)	Maximum heat compensation (7)	Maximum heat compensation at -20 °C	Minimum temperature (2)	Maximum temperature	Humidity range	Temperature deviation in time (4)	Temperature homogeneity in space (5)	Humidity constancy in time (8)	Dewpoint temperature range (9)
	mm	mm	°C	°C	K/min	K/min	K	K	K	W	W	°C	°C	% RH	K	K	% RH	°C
PERFORMANCES FOR			TEMPERATURE TESTS									CLIMATE TESTS						
ATMSC 4002-75	1470*630*1250	400*430*430	-40	180	2.3	3.4	± 0.1 to ± 0.5	±0.5 to ±1.5	≤3.0	310	150	+10	+90	10.0 to 98.0	±0.1 to ±0.5	±0.5 to ±1.0	±1.0 to ±3.0	-3.0 to +89.5
ATMSC 7002-75	1470*630*1250	400*430*430	-70	180	2.3	3.4				355	170							
ATMSC 4003-75	1470*630*1350	400*430*430	-40	180	3.1	3.4				355	170							
ATMSC 7003-75	1470*630*1350	400*430*430	-70	180	3.1	3.4				410	200							
ATMSC 4001-110	1670*630*1250	600*430*430	-40	180	1.1	1.5				280	120							
ATMSC 7001-110	1670*630*1250	600*430*430	-70	180	1.1	1.5				325	140							
ATMSC 4002-110	1670*630*1250	600*430*430	-40	180	2.0	2.4				210	150							
ATMSC 7002-110	1670*630*1250	600*430*430	-70	180	2.0	2.4				355	170							
Calibration values (factory calibration):		+60 °C and -20 °C for all ATC 40																
		+60 °C and -35 °C for all ATC 70																

- 1) The required clearances can be reduced by dismounting components.
- 2) Temperatures >+5 °C are permitted in continuous operation ; temperatures <+5 °C are permitted discontinuously or with the addition of a compressed air dryer.
- 3) According to IEC 60068-3-5; average, measured in the supply air.
- 4) In the middle of the test space when it is empty and in steady state, without specimen, without heat radiation and without additional equipment, depending on temperature.
- 5) Relative to the selected set point in the temperature range from the minimum temperature up to +120 °C and/or at humidity >20% RH.
- 6) Up to +120 °C according to IEC 60068-3-5:2001 and/or JJF 1101-2003.
- 7) At +20 °C for temperature tests/in the range from +25 °C to max. temperature at a relative humidity up to 90% RH for climate tests.
- 8) In the middle of the test space and in steady state, depending on climate value.
- 9) Discontinuous operation (+4 to -3 °C).

The performance data refer to +25 °C ambient temperature and +18 °C cooling water temperature, 220 V/50 Hz nominal voltage, without specimen, without optional equipment and without heat compensation. The product needs fluorinated gases for functioning. Depending on the type, it contains refrigerants R404 and R23 or R 508b. In general, all Aria Sarmayesh temperature chambers can be equipped with an internal dry air production system, which prevents the formation of dew on the part under test and will be optional, and a letter 'D' will be added at the end of the model with this feature. A box measuring 55 cm depth, 35 cm wide and 116 cm height will be placed next to the chamber . All Ariasarmayesh temperature chambers can be designed to be explosion-proof, the dimensions of which are the same as simple chambers, and only two letters ' EX ' are added to the end of the model. We reserve the right to make any technical changes without prior notice.