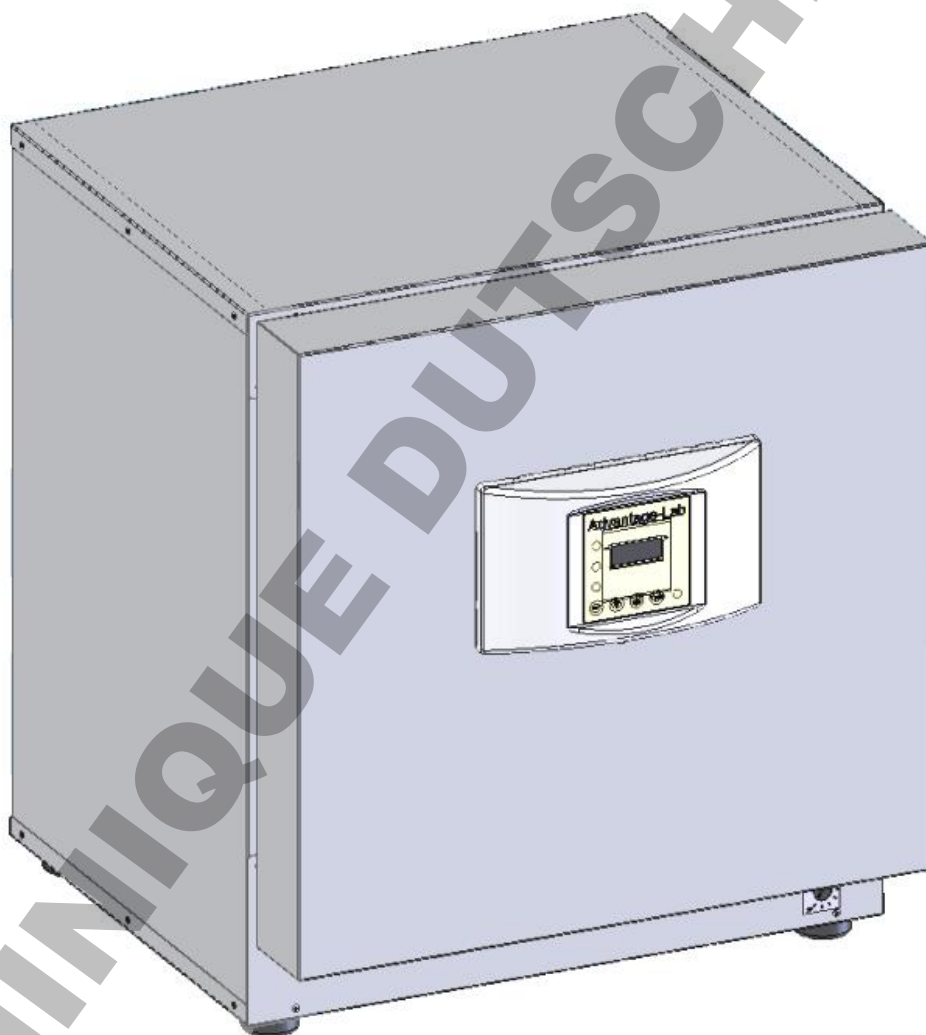


Microbiological Incubators

AL01-06-100 – 53 liters

AL01-07-100 – 115 liters



User Manual

EC - Declaration of Conformity EG – Konformitätserklärung

Manufacturer / Hersteller:	Advantage Lab bvba
Address / Anschrift:	Jachthoornlaan 8 2970 Schilde, Belgium
Product / Erzeugnis:	Microbiological incubator Mikrobiologischer Brutschrank
Type / Typenbezeichnung:	AL01-06- 53 liters AL01-07- 115 liters

This unit corresponds to the following product specification:
Dieses Erzeugnis entspricht den folgenden Produktspezifikationen:

Safety / Sicherheit:
IEC/CEI 61010-1:2001 and IEC/CEI 61010-2-010:2003; DIN 12880:2007

EMC / EMV:
IEC/CEI 61326:1997 + A1:1998 + A2:2000

This unit corresponds to the demands of the low voltage directive 2006/95/EC, and to the EMC directive 89/336/EEC, amended 93/68/EEC, and, corresponding to this, it bears the CE-mark.

Dieses Gerät entspricht den Anforderungen der Niederspannungsrichtlinie 2006/95/EG und der EMV-Richtlinie 89/336/EWG, Änderung 93/68/EWG, und trägt entsprechend die CE-Kennzeichnung.

Content

1	Introduction	4
1.1	General guidelines	4
1.2	Syntax	4
1.3	Safety instructions structure.....	4
2	General safety instructions.....	8
2.1	Intended use	8
2.2	Dangers.....	8
3	Specification of services	11
4	Scope of delivery	11
5	Description of the device	12
5.1	Views of the device	12
5.2	Controller components.....	15
5.3	Technical data	16
6	Transport and storage	18
6.1	Guidelines for safe transport.....	18
6.2	Storage.....	18
7	Installing the AL01-06/07 microbiological incubator.....	19
7.1	Installation location and ambient conditions	19
7.2	Positioning the AL01-06/07 microbiological incubator	22
7.3	Placing two AL01-06/07 microbiological incubators on top of one another.....	23
7.4	Connecting the electrical supply	24
8	Operating the AL01-06/07 microbiological incubator.....	25
8.1	Opening and closing the AL01-06/07 microbiological incubator.....	25
8.2	Adjusting the air exchange of the AL01-06/07 microbiological incubator	25
8.3	Switching on the AL01-06/07 microbiological incubator	26
8.4	Setting the temperature safety device class 3.1	27
8.5	General instructions for setting the operating parameters at the controller.....	28
8.6	Setting of temperature and timer	29
8.7	Setting of advanced operating parameters.....	30
8.8	Inserting sample materials into the AL01-06/07 microbiological incubator.....	31
8.9	Using the timer function	33
9	Cleaning and disinfecting	34
10	Taking the AL01-06/07 microbiological incubator out of service.....	35
11	Adjusting the temperature control	35
12	Trouble shooting	36
12.1	Temperature safety device class 3.1 alarm.....	36
12.2	Controller alarm signals	37
13	Regular checks and maintenance	38
14	Waste disposal	39
14.1	Disposal of the unit in the member states of the EC.....	39
14.2	Disposal of the unit in non-member states of the EC	40
14.3	Disposing of packaging.....	40

1 Introduction

1.1 General guidelines

These operating instructions describe how to set up, operate, clean and adjust the AL01-06/07 microbiological incubator. They apply to these models:

- AL01-06-100
- AL01-07-100

These operating instructions are intended for staff using the equipment in the laboratory.

Other service and maintenance activities should be carried out exclusively by your distributor's customer service agents, and are therefore not explained in this manual.

1.2 Syntax

Syntax	Meaning
AL01-06/07	AL01-06 or AL01-07
Mono spaced	Display
italics	Parameters
<button>	Button to be pressed
"text"	Text to be entered

1.3 Safety instructions structure

These operating instructions employ the terms and symbols below to describe dangerous situations, in line with the harmonization of ISO 3864-2 and ANSI Z535.6.


1.3.1 Safety instructions hierarchy


WARNING LEVELS	
Warning symbols and/or Prohibitory symbols and/or Imperative symbols	Type of danger. Possible consequences. ⊘ Instruction how to avoid the hazard: prohibition ➤ Instruction how to avoid the hazard: mandatory action

1.3.2 Warning levels

Dangers are indicated, according to the severity and likelihood of their consequences, by a word to attract attention, with the associated warning color and, if appropriate, with the safety alert symbol.


 DANGER
Indicates an imminently hazardous situation that, if not avoided, will result in death or serious (irreversible) injury.

 WARNING
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious (irreversible) injury.

 CAUTION
Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor (reversible) injury.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, may result in damage of the product and/or its functions or of a property in its ambience.


1.3.3 Safety alert symbol

	Danger of injury. Follow all the directions indicated by the safety alert symbol in order to avoid injury or death.
---	--

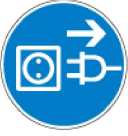

1.3.4 Warning symbols used in this manual

	Danger of electric shock.
	Explosive atmosphere.
	Danger of fire.
	Danger of infection.
	Danger of poisoning.
	Danger of hot surface.
	Danger of damage to health by harmful substance.
	Danger of injury through an object tipping up.
	Danger of injury through lifting heavy objects.
	Danger of environmental damages.


1.3.5 Prohibitory symbols used in this manual

	Do not spray with water.
---	--------------------------

1.3.6 Imperative symbols used in this manual

	Pull the power plug.
	Observe environmental protection.

1.3.7 Information symbol used in this manual

	Important information
---	-----------------------

2 General safety instructions

2.1 Intended use

The AL01-06/07 microbiological incubators are designed to cultivate microorganisms at defined temperatures. It can be used e. g. for determining the number of microorganisms through plate count methods or detecting of pathogenic germs in clinical samples or product samples.

It is intended for use in laboratories in these sectors: life sciences, clinical medicine, veterinary medicine, the pharmaceutical industry, the food industry, toxicology, and fundamental research into biology and preclinical medicine.

Any other use is not intended, and can cause damage and be harmful to health.



The AL01-06/07 should not, in particular, be used to prepare foods intended for consumption or to sterilize or decontaminate medical products or laboratory equipment.

2.2 Dangers

If the AL01-06/07 microbiological incubators are installed, operated, cleaned, disinfected, adjusted or set up incorrectly, there is a risk of malfunction which could cause harm to human beings and material damage to the equipment and samples.

Therefore the AL01-06/07 should only be installed, operated, cleaned, disinfected, adjusted and set up by qualified persons.

- Persons qualified to install, operate, clean, disinfect and adjust the AL01-06/07 include everyone who has carefully read the user manual.
- Persons qualified to repair the AL01-06/07 only include service engineers authorized by the equipment supplier who have undergone appropriate electrical training and who have carefully read the AL01-06/07 service and user manual.

 DANGER	
	<p>Danger of explosion. Danger to life.</p> <ul style="list-style-type: none">➤ Only install the device where there is no danger of explosion.➤ Do not keep explosive powders or solvent/air mixtures in the vicinity.⊗ Never insert materials into the device that are explosive or inflammable at the interior temperature selected.⊗ Never insert materials into the device that contain explosive or inflammable solvents.⊗ Never insert materials into the device that sublime or pyrolyze to form flammable materials at the interior temperature selected.

DANGER



Danger of electric shock.

Danger to life.

- ⊘ Do not allow the device to get wet while operating or maintaining.
- ⊘ Do not connect any device with a dented or damaged rear panel to the power supply.
- Remove the plug from the power supply before opening the rear panel.
- If a device has a damaged power cable or rear panel, withdraw it from use immediately, remove the power plug and contact your dealer to get it repaired.
- All work on the device's electrical components should be carried out by qualified electricians only.

DANGER



Danger of poison.

Danger to life.

- ⊘ Never insert materials into the device that disintegrate to form poisonous gases at the interior temperature selected.

DANGER



Danger of infection.

Danger to life.

- Obtain information about the biological, chemical and physical properties of all substances and components present in the materials inserted.
- Before introducing potentially pathogenic cells, check which disinfecting methods will kill them.
- If infectious sample material is released during the cultivation period, e.g. through leaking sample containers, you should take suitable contingency measures.

WARNING



Danger of fire.

- ⊘ AL01-06/07 must not be used if the test of the temperature safety device class 3.1 fails.
- In case of temperature safety device test failure withdraw the AL01-06/07 from use immediately, remove the power plug and contact your dealer to get it repaired.
- Only rest the device on a base that is heat-resistant to 100°C.
- ⊘ Do not push anything beneath the device, e.g. paper, plastic film
- Only use the device connected to a power source fused to at least 10Amp (adequate). Follow the regulations of your local electricity supply company.

! WARNING



Contamination of the device with toxic, infectious or radioactive substances.

Danger of poisoning.

Danger of infection.



⊘ Never lead a unit with sticking toxic substances or sources of infection to recycling according to directive 2002/96/EC.

➤ Prior to disposal, clean the unit of sticking toxic substances or sources of infection.

➤ Any unit that may not be safely cleaned or disinfected must be disposed of as special waste according to national law.

! CAUTION



Danger of burnings.

➤ The vent cover at the back of the housing is hot and must not be touched while the unit is operating.

! CAUTION



Danger of breakages.

Danger of injury.

➤ Only place the device on surfaces that can support its weight.

! CAUTION



Danger of toppling.

Danger of injury.

⊘ Never stack more than two AL01-06/07 devices on top of each other.

➤ Always secure the two stacked devices with the flat assembly bars supplied (see chapter 7.3, page 23).

! CAUTION



Danger of injury.

Through the device slipping or tipping over.

Damage to the device.

➤ The device should be lifted by 2 people.

➤ The device should only be transported in its original packaging.

➤ The device should be secured with straps when being transported.

➤ The device should only be lifted along with the supporting pallet from below using mechanical tools (e.g. fork-lift truck).

⊘ The device should not be lifted directly from below using mechanical tools (e.g. fork-lift truck).

⊘ The device should not be lifted or moved by pulling the door.

3 Specification of services

The AL01-06/07 microbiological incubators are designed to cultivate microorganisms at defined temperatures.

The AL01-06 and AL01-07 incubators are available for a 230 V power supply.

The AL01-06/07 consists of an outer casing made from powder-coated steel paneling and an inner, stainless steel chamber for cultivating microorganism samples.

The interior is tempered by a direct heating system that provides an extremely precise internal temperature. The AL01-06/07 can be operated stably within an interior temperature range from 5°C above ambient temperature up to 70°C at ambient temperatures of 18°C to 32°C.

The tempering of the interior of the AL01-06/07 is measured by a Pt100 temperature sensor and adjusted by a controller which monitors and regulates the temperature inside the chamber. The controller is also equipped with a timer function. The timer can be set from 0 to 999 minutes or 0.0 to 99.9 hours alternatively.

The AL01-06/07 is equipped with three safety devices to protect the incubator, its environment and the samples inside from forbidden temperature excesses:

- Electrically controlled temperature limitation

The software of the controller switches off the heating in the AL01-06/07 and triggers audible and visual alarms if an adjustable maximum temperature is exceeded.

This maximum temperature is specified as an offset to the temperature set point (Alarm offset). Alarm offset specifies a temperature difference by which the temperature set point may not be exceeded, e.g. set point: 37°C, Alarm offset: 2°C. In the example, the alarm is triggered after an interior temperature of 39°C is exceeded.

- Temperature safety device class 3.1 (as per DIN 12880).

The temperature safety device serves to protect the incubator, its environment and the samples from unintended temperature excesses. The device is functionally and electrically independent of the temperature control system.

If an error occurs at the controller the safety device assumes the regulatory function.

- Temperature fuse class 1 (as per DIN 12880)

The temperature fuse is triggered off irreversibly if the maximum temperature of 110°C inside the AL01-06/07 is exceeded.

The interior of the AL01-06/07 is closed by a glass door, located behind the outer door enables the samples to be viewed for a short time without disturbing the temperature in the interior and contaminating the samples.

4 Scope of delivery

- AL01-06 or AL01-07 Microbiological Incubator
- 2 trays (additional trays can be ordered)
- Flat assembly bar for stacking (it is vital to keep them, as two flat assembly bars are required to stack two devices, and each device comes supplied with one).

5 Description of the device

5.1 Views of the device

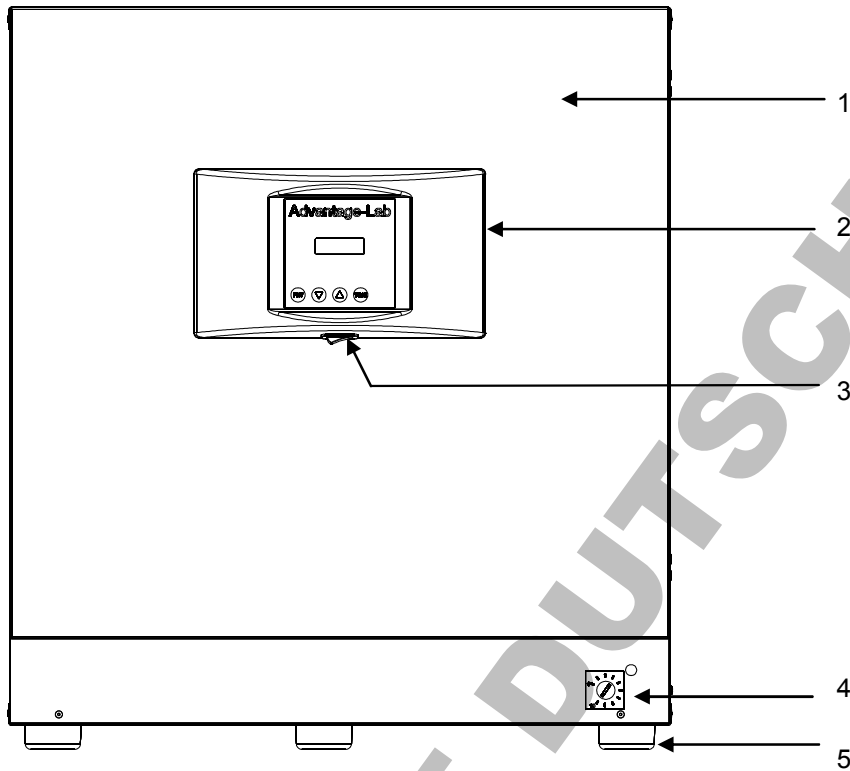


Figure 1: AL01-06/07 front view

1	Outer door
2	Controller
3	On/off switch
4	Thermostat of temperature safety device class 3.1
5	Supporting foot

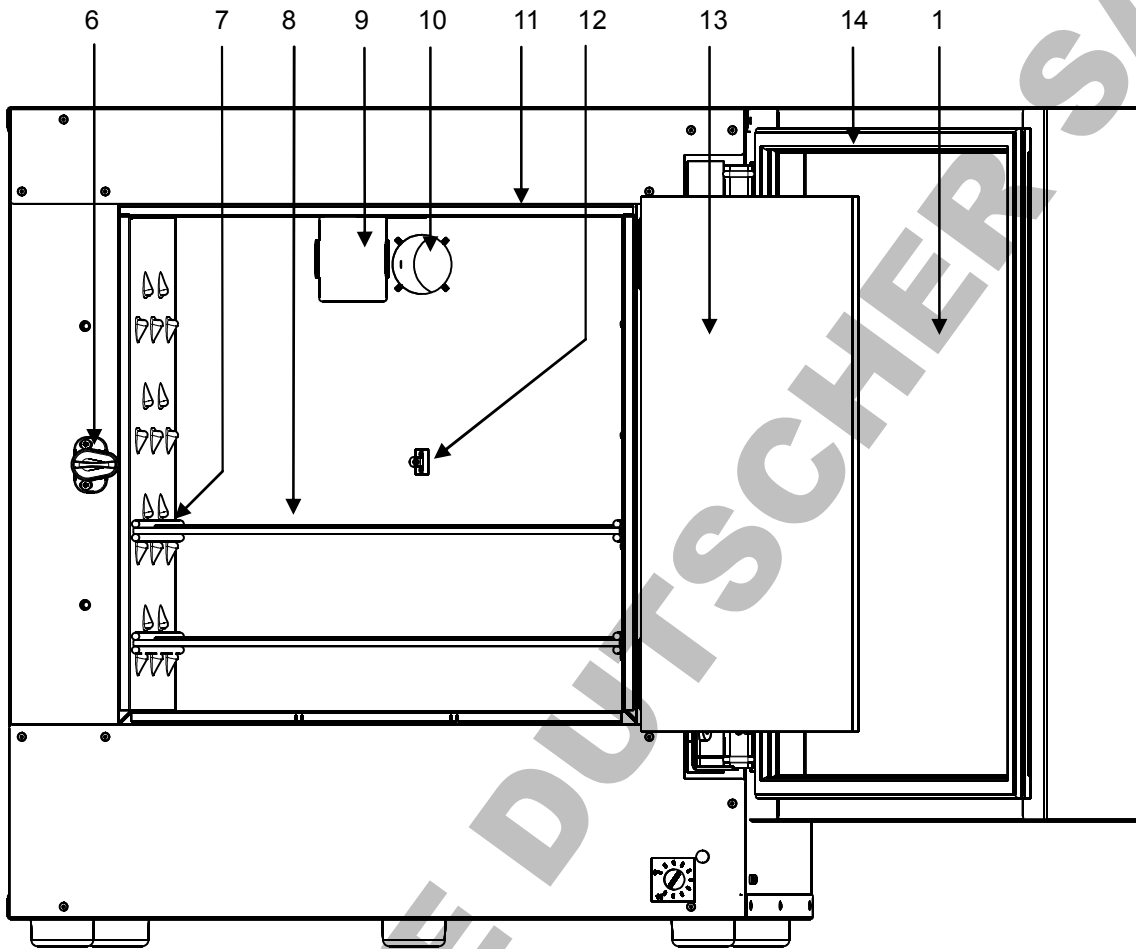


Figure 2: AL01-06/07 front view with outer door and glass door open

1	Outer door
6	Glass door lock
7	Guide bar
8	Tray
9	Ventilation flap
10	Vent
11	Glass door gasket
12	Pt100 temperature sensor
13	Glass door
14	Outer door gasket

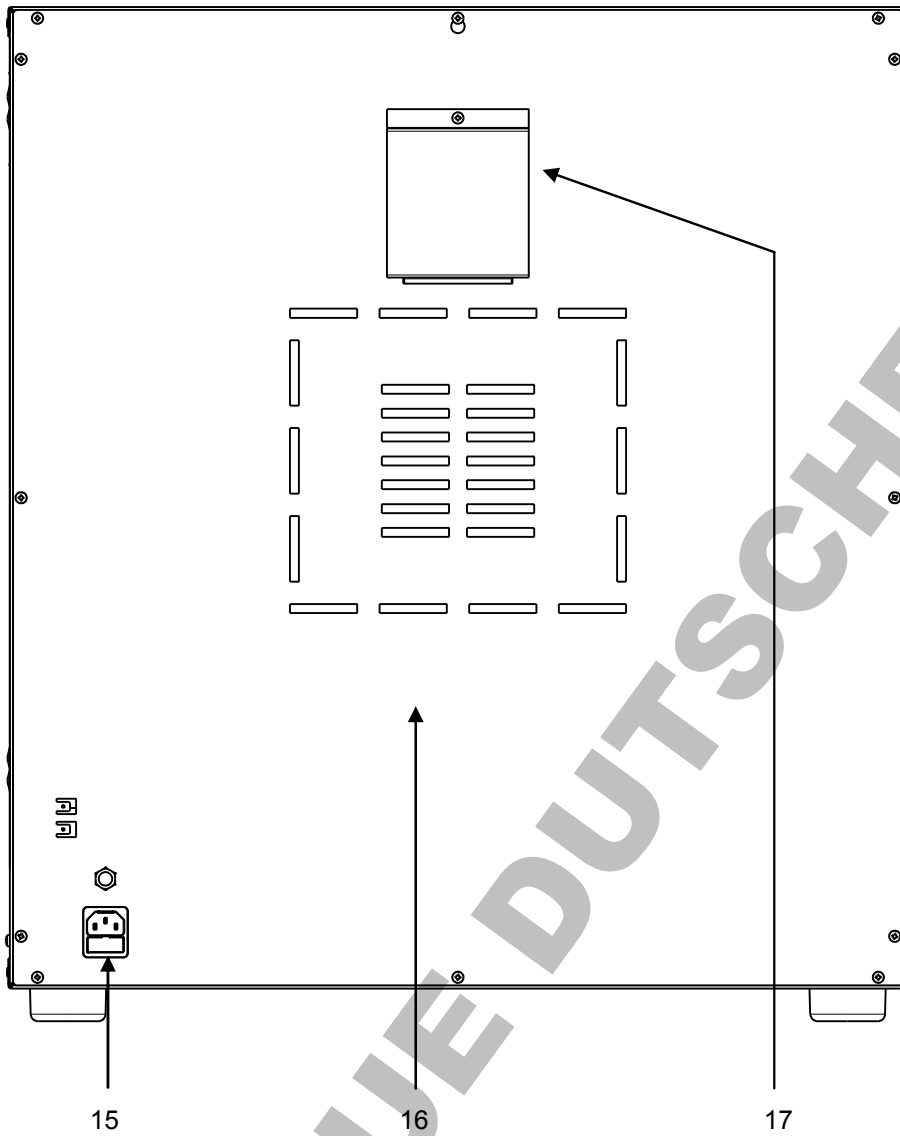


Figure 3: AL01-06/07 rear view

15	IEC connector plug with fuse
16	Rear panel
17	Vent cover

5.2 Controller components

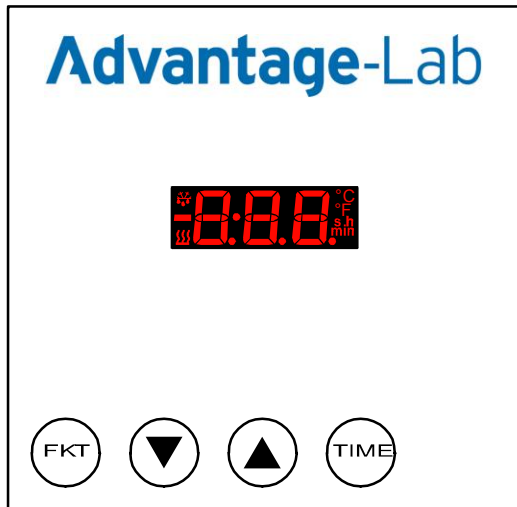


Figure 4: Controller components and display

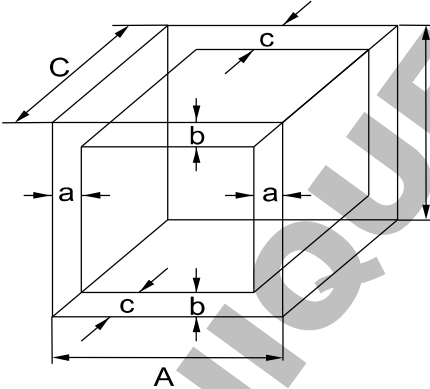
Table 1: Display symbols

Symbol	Meaning
	Value
	Not assigned
	Heating active
°C	Interior temperature displayed as °C
°F	Interior temperature displayed as °F
s	Not assigned
h	Time displayed as h (hours)
min	Time displayed as min (minutes)

Table 2: Controller user interface

Button	Function
	<ul style="list-style-type: none"> Enter operation modes Confirm entry and page forward through the controller's parameter list Confirm alarm and switch off alarm sound
	Reduce the parameter value
	Increase the parameter value
	<ul style="list-style-type: none"> Start timer Terminate timer count down

5.3 Technical data

	AL01-06	AL01-07
Outer casing		
Material	Powder-coated steel	
Width	620 mm	820 mm
Height	680 mm	760 mm
Depth	622 mm	732 mm
Minimum rear clearance	100 mm	100 mm
Minimum lateral clearance to adjacent devices and walls	150 mm	150 mm
Outer door swing radius	110°	110°
Side width increase when outer door is 90° open	145 mm	145 mm
Interior		
Material	Stainless steel	
Width	401 mm	600 mm
Height	401 mm	480 mm
Depth	330 mm	400 mm
Interior volume	53 l	115 l
Volume of usable space	27 l (as per DIN 12880) A (width of interior) = 401mm B (height of interior) = 401mm C (depth of interior) = 330mm a, b, c = clearance of usable space from the interior walls a = 0.1 * A = 40 mm b = 0.1 * B = 40 mm c = 0.1 * C = 33 mm $V_{USE} = (A - 2 * a) * (B - 2 * b) * (C - 2 * c)$	59 l (as per DIN 12880) A (width of interior) = 600mm B (height of interior) = 480mm C (depth of interior) = 400mm a = 0.1 * A = 60 mm b = 0.1 * B = 48 mm c = 0.1 * C = 40 mm
 <p>The clearance of the usable space from the interior walls should be 1/10 of the width, height or depth.</p>		
Interior fittings	<ul style="list-style-type: none"> supplied: 2 chrome-plated trays maximum: 4 chrome-plated trays 	
Maximum load capacity of trays	<ul style="list-style-type: none"> 10 kg per tray 35 kg in sum of all trays 	<ul style="list-style-type: none"> 15 kg per tray 45 kg in sum of all trays
Weight		
Weight incl. 2 trays	45 kg	68 kg
Total weight incl. packaging	approx. 52 kg	approx. 83 kg




	AL01-06	AL01-07
Heating system		
Heating system	Direct heating system	
Air convection	natural	
Temperature data (interior)		
Temperature measuring principle	Pt 100	
Setable temperature range	5°C above ambient temperature up to 70°C	
Temperature deviation as a function of space at 37°C set temperature *	±0.6°C	±0.7°C
Temperature deviation as a function of time at 37°C set temperature *	±0.2°C	±0.2°C
Heating up time from 25°C to 98% of the set temperature 37°C *	42 minutes	71 minutes
Recovery time after the door is opened for 30 secs at 37°C set temperature *	7 minutes (to 98% of the set temperature)	5 minutes (to 98% of the set temperature)
Overtemperature protection devices		
Electrically controlled temperature limitation	Alarm offset 0°C to 99.9°C (see Table 4, page 30)	
Temperature safety device class 3.1 (as per DIN 12880)	20°C to 90°C	20°C to 90°C
Electrical data		
IP protection type as per EN 60529	20	20
Nominal voltage (±10%)	230 V 50/60 Hz	230 V 50/60 Hz
Power supply type	1/N/PE	1/N/PE
Protection system	Class 1	Class 1
Nominal power	0.20 kW	0.25 kW
Energy consumption at 37°C	17.5 W	23.1 W
Installation category as per IEC 61010-1	II	II
Pollution degree as per IEC 61010-1	2	2
Fusing	5 x 20 mm, 230 V / middle time-lag M, 10 Amp	
Ambient climate		
Operating temperature	18°C to 32°C	
Storage temperature	-10°C to +60°C	
Operating air humidity	Up to 70 % r.H. - non-condensing	
Storage air humidity	Up to 85 % r.H. - non-condensing	
Altitude of installation location	max. 2000 m above sea level	

* All technical data are specified at an ambient temperature of +25°C and a power supply voltage fluctuation of ±10 %. The temperature data are determined in accordance to DIN 12880.

All indications are average values, typical for chambers produced in series. We reserve the right to alter technical specifications at all times.


6 Transport and storage

6.1 Guidelines for safe transport


 CAUTION	
 	<p>Danger of injury. Through the device slipping or tipping over. Damage to the device.</p> <ul style="list-style-type: none"> ➤ The device should be lifted by 2 people. ➤ The device should only be transported in its original packaging. ➤ The device should be secured with straps when being transported. ➤ The device should only be raised along with the supporting pallet from beneath using mechanical tools (e.g. fork-lift truck). ⊖ The device should not be lifted directly from below using mechanical tools (e.g. fork-lift truck). ⊖ The device should not be lifted or moved by pulling the door.

6.1.1 Transporting a used AL01-06/07

1. Switch off the AL01-06/07 using the power switch.
2. Pull the power plug.
3. Clean and disinfect the AL01-06/07 and its trays (see chapter 9 on page 34).
4. Remove the trays.
5. Dry the interior of the AL01-06/07 and the trays.
6. Wrap up the trays in bubble wrap.
7. Pack the trays in the original box and put them inside the AL01-06/07.
8. Pack the AL01-06/07 in its original packaging.

	<ul style="list-style-type: none"> • Take care that the AL01-06/07 does not become wet while being transported. • During transport, maintain the permitted ambient temperature of -10°C to +60°C.
---	---

6.2 Storage


	<ul style="list-style-type: none"> • Only store the AL01-06/07 in enclosed, dry areas. • The permitted storage temperature is -10°C to +60°C, while the maximum permitted storage air humidity is 85 % r.H. - non-condensing.
---	---

6.2.1 Storing a used AL01-06/07


1. Switch off the AL01-06/07 using the power switch.
2. Pull out the power plug.
3. Clean and disinfect the AL01-06/07 and its trays (see chapter 9 on page 34).
4. Dry the interior of the AL01-06/07.
5. Store the AL01-06/07 in a suitable place.

7 Installing the AL01-06/07 microbiological incubator



The AL01-06/07 microbiological incubator is designed to be used in laboratories in enclosed spaces. The minimum requirements for the location where the AL01-06/07 is to be installed are given below.

	When installing the AL01-06/07 in a laboratory or in a room similar to a laboratory, please comply with the national safety regulations that apply.
---	---

7.1 Installation location and ambient conditions

	Place the AL01-06/07 up in such a way that the On/Off switch is always accessible and that the device can be switched off immediately in case of danger.
---	--




7.1.1 Avoiding explosions

 DANGER	
	<p>Danger of explosion. Danger to life.</p> <ul style="list-style-type: none">➤ Only install the device where there is no danger of explosion.➤ Do not keep explosive powders or solvent/air mixtures in the vicinity.

The AL01-06/07 provides no protection against explosions.

Never install or operate the AL01-06/07 in a location where explosive gases, powder or solvent-air mixtures could penetrate.

7.1.2 Avoiding wetting

 DANGER	
 	<p>Danger of electric shock. Danger to life.</p> <ul style="list-style-type: none">➤ Do not allow the device to get wet while operating or maintaining.

The AL01-06/07 is not waterproof. Do not install the AL01-06/07 in locations where water could be sprayed about, e.g. in the vicinity of sinks or safety showers.



7.1.3 Ventilation



CAUTION	
	<p>Danger of overheating. Damage to the device.</p> <ul style="list-style-type: none">➤ Ensure that there is sufficient ventilation to disperse the heat.➤ Maintain a clearance of 150 mm to adjacent devices and walls.⊘ Do not install the device in unventilated alcoves.

While operating the AL01-06/07 produces substantial amounts of heat.

The AL01-06/07 should only be installed in well-ventilated locations where the heat produced will be well dispersed. However, it should be shielded from strong gusts of air.

7.1.4 Supporting surface

 WARNING	
	<p>Danger of fire.</p> <ul style="list-style-type: none">➤ Only rest the device on a base that is heat-resistant to 100°C.⊘ Do not push anything beneath the device, e.g. paper, plastic film

 CAUTION	
	Danger of breakages. Danger of injury. ➤ Only place the device on surfaces that can support its weight.

- The surface used to support an AL01-06 must be capable of bearing at least 90 kg.
- The surface used to support an AL01-07 must be capable of bearing at least 120 kg.
- A maximum of two AL01-06/07 devices may be stacked on top of one another, and they should be secured together using two flat assembly bar.
- The surface used to support two stacked AL01-06 devices must be capable of bearing at least 180 kg.
- The surface used to support two stacked AL01-07 devices must be capable of bearing at least 240 kg.
- The supporting surface should be flat and level so that the AL01-06/07 can be placed in a way that the samples put in are at level.
- There must be a clearance of at least 150 mm to the walls and other equipment.




CAUTION	
Danger of contaminated samples. ⊙ Do not place the device on the floor.	

To avoid the samples in the AL01-06/07 becoming contaminated, the device should not be placed directly on the floor.

7.1.5 Ambient climate for operating the AL01-06/07 microbiological incubator

- Ambient temperature: 18°C to 32°C
The ideal ambient temperature for the AL01-06/07 should be by at least 5°C below the intended interior operating temperature, e. g. interior operating temperature 35°C: ambient temperature +18°C to +30°C.
- Keep the device out of direct sunlight.
- Keep the device away from strong gusts of air (e.g. heating and ventilation systems).
- Ambient air humidity: max. 70 % r.H., non-condensing
- Altitude of installation location: max. 2000 m above sea level

7.2 Positioning the AL01-06/07 microbiological incubator

 CAUTION	
 	<p>Danger of injury. Through the device slipping or tipping over.</p> <p>Damage to the device.</p> <ul style="list-style-type: none">➤ The device should be lifted by 2 people at the device's 4 supporting feet.➤ The device should only be raised along with the supporting pallet from beneath using mechanical tools (e.g. fork-lift truck).⊘ The device should not be lifted directly from below using mechanical tools (e.g. fork-lift truck).⊘ The device should not be lifted or moved by pulling the door.



The minimum requirements for the location of the AL01-06/07 are described in chapter 7.1 on page 19.

1. Place the AL01-06/07 on the intended supporting surface.

Ensure there is sufficient clearance of at least 150 mm between the device and walls and other equipment.

2. Place the trays onto the guide bars in the interior space.

7.3 Placing two AL01-06/07 microbiological incubators on top of one another

 CAUTION	
	<p>Danger of toppling. Danger of damage to health.</p> <ul style="list-style-type: none">⊘ Never stack more than two AL01-06/07 devices on top of one another.➤ Always secure stacked devices to one another using both flat assembly bars supplied.

The AL01-06/07 is designed so that two devices can be stacked on top of one another. To ensure that they are safely positioned, the two devices should be attached to one another using both flat assembly bars supplied. One flat assembly bar is supplied with each AL01-06/07.

1. Place the lower AL01-06/07 at the intended location. Leave enough space between the rear panel of the device and the wall behind the device so that you can turn screws into the rear panel of the AL01-06/07 using a TX20 screwdriver.
2. Unscrew two of the screws which fix the upper edge of the rear panel of the lower AL01-06/07.
3. Fasten two flat assembly bars with these screws at the upper edge of the rear panel (see Figure 5).
4. Place the second AL01-06/07 on top of the first.
5. Unscrew two of the screws which fix the lower edge of the rear panel of the upper AL01-06/07.
6. Place the upper AL01-06/07 with the empty drilling holes overlapping the holes in the lower AL01-06/07's flat assembly bar.
7. Screw the two assembly bars to the rear panel of the upper AL01-06/07 using the screws of step 5.

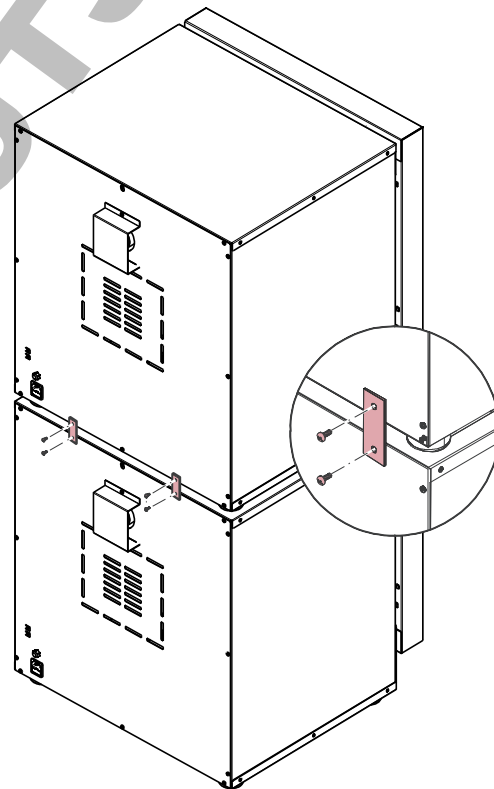






Figure 5: Placing two AL01-06/07 devices on top of one another

7.4 Connecting the electrical supply

 DANGER	
	<p>Danger of electric shock. Danger to life.</p> <ul style="list-style-type: none">⊘ Do not connect any device with a dented or damaged rear panel to the power supply.➤ Where a device has a damaged power cable or rear panel, withdraw it from use immediately, remove the power plug and contact your dealer to get it repaired.
 WARNING	
	<p>Danger of fire.</p> <ul style="list-style-type: none">➤ Only use the device connected to a power source fused to at least 10Amp (adequate).➤ Observe the regulations of your local electricity supply company.
CAUTION	
<p>Danger of damage to the device.</p> <ul style="list-style-type: none">➤ The device should only be operated at the supply voltage shown on the rating plate. Using a different supply voltage will damage the device.	

The AL01-06/07 is available for a power supply of 230 V, 50/60 Hz AC 1/N/PE.

1. Before connecting the AL01-06/07 to your power supply, verify that the supply voltage is the same as the supply voltage shown on the rating plate. If it is not the same, you must not connect this AL01-06/07 to your power supply.
2. Using the power plug, connect the AL01-06/07 to an adequately fused power source.

8 Operating the AL01-06/07 microbiological incubator

8.1 Opening and closing the AL01-06/07 microbiological incubator

The outer door of the AL01-06/07 must be closed while the device is operating normally in order to ensure that there are stable climatic conditions in the interior.

The interior of the AL01-06/07 is closed by a glass door, located behind the outer door enables the samples to be viewed for a short time without disturbing the temperature in the interior and contaminating the samples.

1. To open the outer door, insert your fingers into the gap between the outer door and the casing, and carefully pull the door towards you.
2. To open the glass door, push the lock to the left and pull the door open.
3. To close the doors, follow steps 1. and 2. in reverse order.

8.2 Adjusting the air exchange of the AL01-06/07 microbiological incubator

CAUTION



Danger of burnings.

- The vent cover at the back of the housing is hot and must not be touched while the unit is operating.



If the ventilation flap is completely open, the temperature accuracy can be negatively influenced.

1. Shift the ventilation flap so that no condensation inside the AL01-06/07 takes place (see Figure 6).

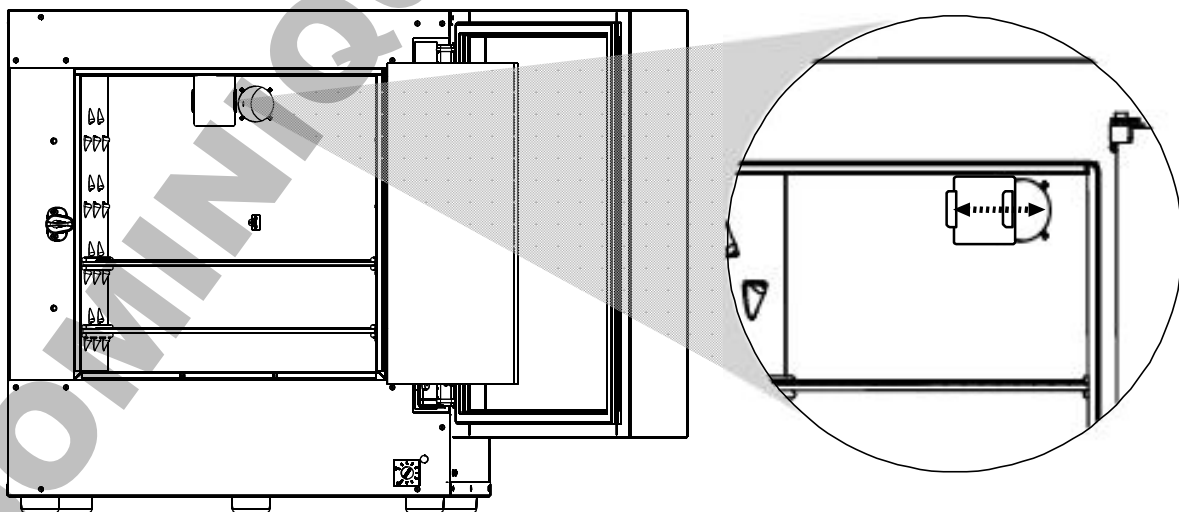


Figure 6: Adjusting the air exchange

8.3 Switching on the AL01-06/07 microbiological incubator

CAUTION

Danger of samples being destroyed.


- ⊙ During the equilibration phase after the device is switched on, undefined climatic conditions are produced within the device. During this phase, do not place any sample materials in the device.

1. Check that the interior of the AL01-06/07 is empty, except the trays.
2. If you do not know what the AL01-06/07 was last used for, for hygiene purposes you should clean and disinfect the interior (see chapter 9 on page 34).
3. Using the on/off switch on the bottom of the controller, switch on the AL01-06/07.

There is a subsequent brief startup phase with the controller display flashing.

After a few seconds, the display shows the current interior temperature of the AL01-06/07 (see example in Figure 7).

4. On the controller, set the desired interior temperature that is to be used to operate the AL01-06/07 (see chapter 8.6 on page 29).

The display symbol  shows that the heating is active.

Only insert samples into the AL01-06/07 when it has reached its stable operating state (see chapter 8.8 on page 31).

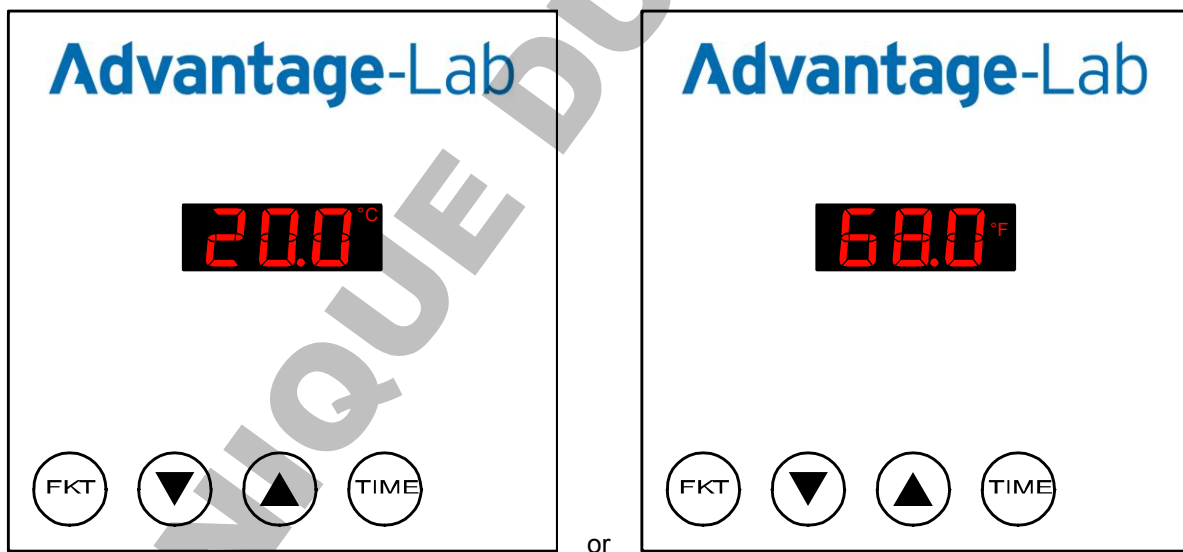


Figure 7: Basic mode: display is showing the current interior temperature (in °C or °F) (example)

8.4 Setting the temperature safety device class 3.1



The temperature safety device must be checked at every change of the interior temperature set point and readjusted if necessary.

The temperature being set at the temperature safety device must be higher than the temperature set point of the controller. Otherwise the temperature safety device switches off the AL01-06/07 before the temperature set at the controller is reached.

The temperature safety device class 3.1 (as per DIN 12880) serves to protect the unit, its environment and the samples from unintended temperature excesses. The device is functionally and electrically independent of the temperature control system. If an error occurs at the controller the safety device assumes the regulatory function.

The temperature safety device has an operating range from 20°C to 90°C.

- If the control knob is turned to its end-stop (maximum temperature), the temperature safety device class 3.1 functions as a safety device for the AL01-06/07 and switches off the heating if the interior temperature reaches 90°C.
- If the temperature safety device is set to a temperature somewhat higher than that selected on the controller, it switches off the heating if the controller fails and the interior temperature reaches these value.
- If the selected temperature of the safety device is reached in case of controller failure the red alarm lamp lights up (see chap. 12.1 on page 36).
- When the interior temperature decreases below the temperature set at the safety device, the red alarm lamp extinguishes and the heating resets automatically.

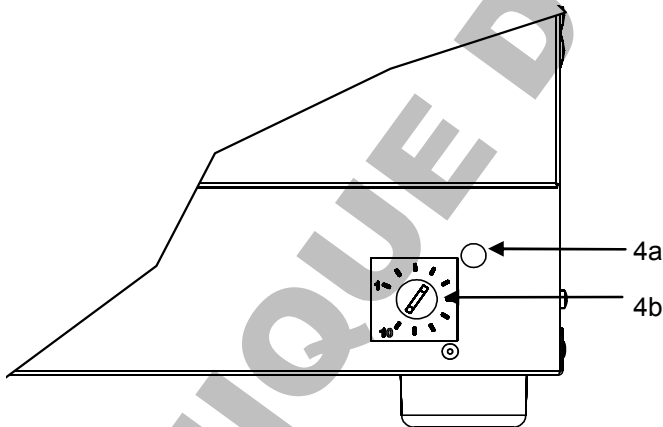


Figure 8: Temperature safety device



4a	Alarm lamp
4b	Control knob

8.4.1 Setting the temperature safety device

1. For using the temperature safety device to protect the AL01-06/07 turn the control knob clockwise to maximum.
2. For using the temperature safety device to protect the samples inside the AL01-06/07 use the following method for the setting of the temperature safety device:
 - Turn the control knob clockwise to maximum.
 - On the controller of the AL01-06/07, set the desired the temperature (see chapter 8.6 on page 29).
 - Wait until the interior temperature reaches the temperature set point.
 - Turn the control knob stepwise anti-clockwise until the red alarm lamp lights up.
 - Turn the control knob slightly clockwise from the value at which the red alarm lamp extinguishes.

8.4.2 Testing the temperature safety device

1. Switch on the AL01-06/07.
2. Turn the control knob clockwise to maximum.
3. When the interior temperature reaches a temperature greater than 20°C, turn the control knob anti-clockwise.
4. When the setting of the temperature safety device remains below the interior temperature, the red alarm lamp (4a) must light up.

 WARNING	
	<p>Danger of fire.</p> <ul style="list-style-type: none">⊘ Do not use the AL01-06/07 if the test of the temperature safety device fails.➤ In case of temperature safety device test failure, withdraw the AL01-06/07 from use immediately, remove the power plug and contact your dealer to get it repaired.

8.5 General instructions for setting the operating parameters at the controller

The controller has two operation modes 1 and 2, for setting different parameters and altering their values.

- Press the <FKT> button to enter into the operation mode menu.
- The controller's display shows alternately the selected parameter (e.g. SP) and its value (e.g. 37.0) (see Figure 9).

After 60 seconds without pressing any button the controller will automatically return to its basic mode displaying the current interior temperature (see Figure 7) with accepting every changed value.

- Move to the next parameter by pressing the <FKT> button.

Pressing the <FKT> button will confirm the change made to the value of the current parameter and the AL01-06/07 will control towards the new set point.

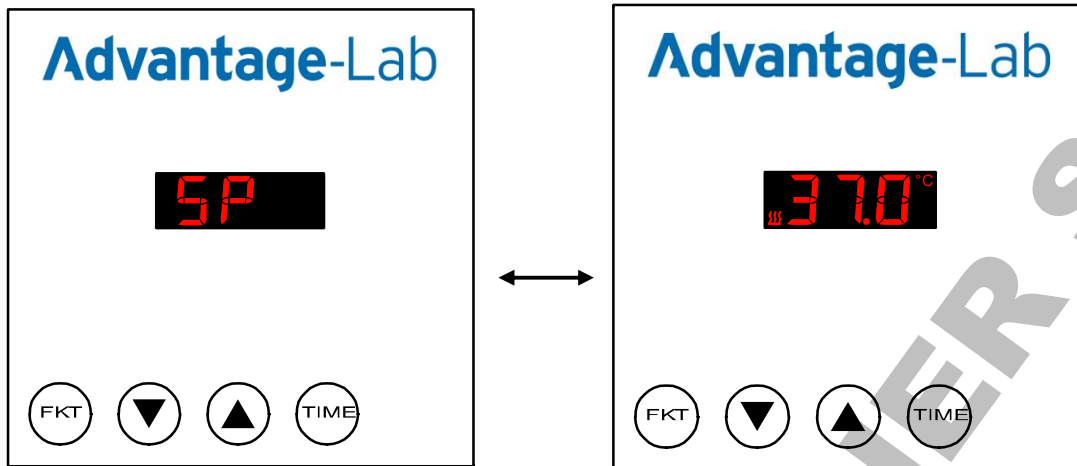


Figure 9: Displaying the parameter for the temperature set point (example)

- Press the <▲> and <▼> buttons to change the values of the parameters.
For certain parameters pressing the buttons <▲> and <▼> enables selection between fixed values.
There are parameter values which can only be read, but not changed, e.g. the Firmware revision di.1 (see Table 4 on page 30).



2 seconds after you have made a change to the value of a parameter the new value is accepted automatically and cannot be set back by any function.

- To go back to the basic controller display showing the current interior temperature (see Figure 7), press the <FKT> button repeatedly, or press the <FKT>+<▼> buttons simultaneously, or wait for 60 seconds without pressing any button.

8.6 Setting of temperature and timer

1. From the basic controller display, press the <FKT> button to go to the operation mode 1.
2. Use the <FKT>, <▲> and <▼> buttons to successively set the values for the following parameters: (see Table 3).

Table 3: Operating parameters that can be set in operation mode 1

Parameter	Code	Default Value	Value Range	Note
Temperature set point	SP	37.0°C	0.0°C to 70.0°C	The Temperature set point must be by at least 5°C above the ambient temperature in order to ensure a stable temperature inside the AL01-06/07.
Timer unit	t.Un	min	<ul style="list-style-type: none"> • min • hr 	<ul style="list-style-type: none"> • minutes • hours If Timer unit will be changed Timer initial value is set to 0. When the timer counts down the Timer initial value cannot be changed.
Timer initial value	t.st	0	<ul style="list-style-type: none"> • 0 to 999 min • 0.0 to 99.9 hr 	Initial value from which the timer counts down after being started by pressing the <TIME> button. <ul style="list-style-type: none"> • t.st=0: no timer operation

8.7 Setting of advanced operating parameters



1. From the basic controller display, press the <FKT> button for 5 seconds to go to the operation mode 2.
2. Use the <FKT>, <▲> and <▼> buttons successively set values for the following parameters: (see Table 4).

Table 4: Operating parameters that can be set in operation mode 2



Parameter	Code	Default Value	Value Range	Note
Alarm function	AL.F	oFF	<ul style="list-style-type: none"> • oFF • on 	Switching on/off the offset alarm function (see chapter 12.2.1 on page 37).
Alarm offset	AL.o	2.0°C	0°C to 99.9°C	Temperature difference by which the temperature set point may not be exceeded. e.g. Temperature set point: 37°C, Alarm offset: 2°C. In the example, the offset alarm is triggered after an interior temperature of 39°C is exceeded (see chapter 12.2.1 on page 37).
Alarm hysteresis	AL.H	0.5°C	0 to 99.9°C	Temperature difference by which the sum of Temperature set point and Alarm offset has to drop before the offset alarm reacts and unit heating assumes normal control. e.g. Temperature set point: 37°C, Alarm offset: 2°C, Alarm hysteresis: 0.5°C. The offset alarm will be switched off when the interior temperature drops to 38.5°C.
Temperature Unit	Uni	°C	°C °F	Display of temperature as °C or °F Temperature values are always stored in °C and will be converted into °F if Uni=°F is selected
Offset Temperature	oF.t	Last value set	-25.0°C to 25.0°C	This parameter is used to adjust the temperature sensor. (see chapter 10 on page 35)
Firmware revision	di.1			Parameters for service maintenance only
Firmware revision	di.2			
Data set date (year)	di.3			These values are part of the data for creating the controller's data set. Parameters for service maintenance only
Data set date (month)	di.4			
Data set date (day)	di.5			
Data set version number	di.6			Parameters for service maintenance only

8.8 Inserting sample materials into the AL01-06/07 microbiological incubator

The AL01-06/07 microbiological incubator is designed to cultivate microorganisms at defined temperatures.

 DANGER	
	<p>Danger of explosion. Danger to life.</p> <ul style="list-style-type: none">⊘ Never insert materials into the device that are explosive or flammable at the interior temperature selected.⊘ Never insert materials into the device that contain explosive or inflammable solvents.⊘ Never insert materials into the device that sublimate or pyrolyze to form flammable materials at the interior temperature selected.

 DANGER	
	<p>Danger of poison. Danger to life.</p> <ul style="list-style-type: none">⊘ Never insert materials into the device that disintegrate to form poisonous gases at the interior temperature selected.⊘ Never insert materials into the device that react with moisture to form poisonous gases.

 DANGER	
	<p>Danger of infection. Danger to life.</p> <ul style="list-style-type: none">➤ Obtain information about the biological, chemical and physical properties of all substances and components present in the materials inserted.➤ Before introducing potentially pathogenic cells, check which disinfecting methods will kill them.➤ If infectious sample material is released during the cultivation period, e.g. through leaking sample containers, you should take suitable contingency measures.

CAUTION	
<p>Danger of mechanical damage.</p> <ul style="list-style-type: none">➤ AL01-06: The trays inside the unit may be loaded to a maximum of 10 kg of sample material including containers respective 35 kg in total on all trays.➤ AL01-07: The trays inside the unit may be loaded to a maximum of 15 kg of sample material including containers respective 45 kg in total on all trays.	

CAUTION

Danger of samples being disturbed.

⊗ During the equilibration phase after the device is switched on, undefined climatic conditions are produced within the device. During this phase, do not place any sample materials in the device.

1. Before you can insert sample material into the AL01-06/07, you should determine whether the operating temperature that was set has stabilized.
To do this, you should check the controller's temperature display every 10 to 15 minutes after you have switched the AL01-06/07 on, or set a new temperature point.
2. Wait for 30 minutes after the temperature has reached its set point so that the interior temperature of the AL01-06/07 can become stable.
3. Loading of the samples should be done as quickly as possible. This helps to ensure that the temperature inside the AL01-06/07 settles back down fast to the set point after the samples have been inserted.
4. Open both doors of the AL01-06/07 and place the samples into the device's usable area very quick.



The usable area as per DIN 12880 is that part of the interior where the temperature fluctuations listed in the technical data are maintained.



- The usable area of the AL01-06 starts 33 mm from the front and rear panels of the interior and 40 mm from the side panels, top and bottom of the interior.
- The usable area of the AL01-07 starts 40 mm from the front and rear panels of the interior, 60 mm from the side panels of the interior and 60 mm from the top and bottom of the interior.

CAUTION

Danger of samples being disturbed.

- ⊗ Do not remove the trays from the device in order to load them.
- ⊗ Never load the trays when they are pulled out. The trays and samples could tip over and fall on the floor.
- ⊗ Do not place samples on the interior base.
- ⊗ Do not place samples outside the usable area.

5. Close both doors.
The AL01-06/07 will automatically re-set the interior temperature to the set point defined.
6. If you wish to view your samples while the experiment is underway, open the outer door for a very short time and leave the glass door closed.
7. After completing the experiment, remove the samples from the AL01-06/07.
8. Clean and disinfect the AL01-06/07 (see chapter 9 on page 34).

 DANGER	
	<p>Danger of infection. Danger to life.</p> <p>➤ If infectious sample material is released during the cultivation period, e.g. because sample containers break, you should take suitable contingency measures.</p>

8.9 Using the timer function

You can use the timer function to switch off the incubator heating after a defined time. The timer can be set from 0 to 999 minutes or 0.0 to 99.9 hours, alternatively.

1. Set the timer parameters to the required values (see chapter 8.6 on page 29).

2. Press the <TIME> button to start the timer.





While the timer counts down, the remaining time and the interior temperature are displayed alternately.

3. You can terminate the count down by pressing the <TIME> button.

t . °F and the interior temperature are displayed alternately and the incubator heating is switched off. The count down cannot be continued.

4. When the time has elapsed the controller will give an acoustic signal of 5 beeps, t . °F and the interior temperature will be displayed alternately while the incubator remains switched off.

9 Cleaning and disinfecting

 DANGER	
  	<p>Danger of electric shock.</p> <p>Danger to life.</p> <ul style="list-style-type: none"> ➤ Pull the power plug before cleaning. ➤ Do not pour water or cleaning agents excessively onto the inner or outer surfaces. ➤ Dry the device completely before starting to operate it again.

CAUTION	
<p>Danger of damage.</p> <p>The interior of the unit is made from stainless steel.</p> <ul style="list-style-type: none"> ⊙ Do not use any corrosive, oxidizing, acid or halide-containing cleaning or disinfecting agents for cleaning purposes. ➤ Only use cleaning or disinfecting agents that can be removed from the device using water and/or ventilation. ⊙ Any residual cleaning or disinfecting agents left on the surface may cause discoloration or may attack the stainless steel. 	

CAUTION	
<p>Danger of samples being disturbed.</p> <ul style="list-style-type: none"> ➤ Only use cleaning or disinfecting agents that can be removed from the device using water and/or ventilation. ⊙ Any residual cleaning or disinfecting agents left in the unit may pollute the samples. 	

1. Remove the power plug before beginning to clean the device.
2. If necessary, disinfect the interior of the AL01-06/07, the glass door, the inside of the outer door and the gaskets using an appropriate disinfectant.
3. Clean the interior thoroughly, including the glass door, the inside of the outer door, and the gaskets, with a neutral cleaning agent suited for use in laboratories or one containing ethanol or propanol.
4. Clean the outer casing of the AL01-06/07 with a damp cloth adding a small amount of a neutral cleaning agent or one containing ethanol or propanol, if required.
5. Thoroughly remove all residues of cleaning and disinfecting agents from the interior with sterile, deionized water.
6. Use sterile cloths to dry off any residual water adhering to the interior of the AL01-06/07 and the inside of the glass door.
7. If necessary, ventilate the interior thoroughly.

10 Taking the AL01-06/07 microbiological incubator out of service

1. Switch off the AL01-06/07 using the power switch.
2. Pull out the power plug.
3. Clean and disinfect the AL01-06/07 and its trays (see chapter 9 on page 34).
4. Dry the interior of the AL01-06/07 fully.
5. Where necessary, store the AL01-06/07 (see chapter 6.2 on page 18).

11 Adjusting the temperature control

The temperature display and control must be checked for accuracy every year and, if necessary, readjusted.

To adjust the temperature control, you need an electronic measuring and display instrument that has a valid calibration certificate and which has been approved by a recognized standards or calibration authority or regulatory body.

Measuring range: $\geq 20^{\circ}\text{C}$ to 70°C at 10 % r.H. to 70 % r.H.

The sensor should be connected to the display instrument via a slim cable that can be placed over the door gasket without this causing a leak.

1. Attach the reference measuring instrument's temperature sensor to a tray in the center of the AL01-06/07's usable area (see chapter 5.3 on page 16).
2. Place the sensor cable out over the door gaskets in such a way that the glass door and outer door can both be closed and sealed.
3. Close the glass door and the outer door.
4. Switch on the AL01-06/07 and set the temperature at which you usually operate the device.
5. Before making adjustments, you should determine whether the operating parameters that were set have stabilized.

To do this, look at the controller's temperature display every 10 or 15 minutes.

6. Wait for 60 minutes after the interior temperature has first reached the set point so that the temperature can stabilize.
7. Compare the temperature displayed at the controller to the reading of the reference measuring instrument.

The temperature control needs to be adjusted if the temperature displayed on the controller deviates by more than $\pm 0.5\text{ K}$ from the temperature shown by the reference measuring instrument including the measurement uncertainty.

e.g.:	Reference measuring instrument measurement uncertainty:	$\pm 0.5\text{ K}$
	Permitted deviation of controller display from reference temperature:	$\pm 1.0\text{ K}$
	Controller display:	37.0°C
	Temperature measured with reference measuring instrument:	36.0°C
	⇒ Temperature control does not need to be adjusted.	
	Controller display:	37.0°C
	Temperature measured with reference measuring instrument:	35.9°C
	⇒ Temperature control needs to be adjusted.	

8. Calculate the temperature difference:

(Measured reference temperature) minus (Controller displayed temperature)
e. g. $35.9^{\circ}\text{C} - 37.0^{\circ}\text{C} = -1.1^{\circ}\text{C}$

9. To adjust the temperature control, access the Δ Offset temperature parameter in the operation mode 2 (see chapter 8.7 on page 30).
10. Press the \blacktriangle and \blacktriangledown buttons to enter the temperature difference calculated (see step 8).
11. Confirm the temperature entry by pressing $\text{FKT} + \blacktriangledown$ simultaneously. The AL01-06/07 temperature control has now been readjusted.

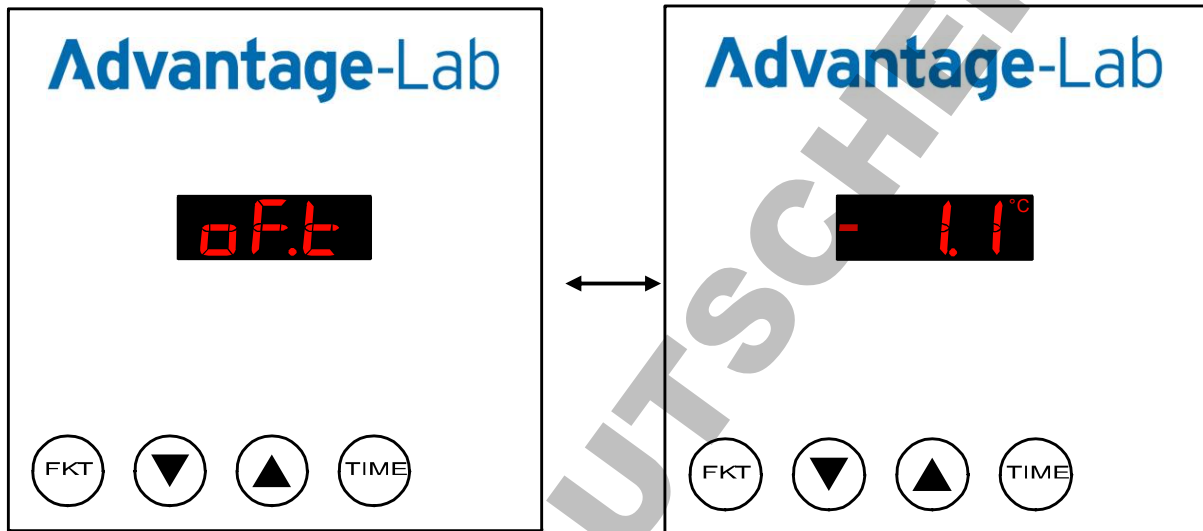


Figure 10: Setting of adjusting parameter (example)

12 Trouble shooting

12.1 Temperature safety device class 3.1 alarm

When the interior temperature exceeds the temperature set at the temperature safety device the red alarm lamp lights up.

- The alarm signal is emitted immediately when the fault occurs.
- Visual display: red alarm lamp of the temperature safety device is lighting
- Audible alarm: no audible alarm

Actions:

1. Check the temperature setting of the temperature safety device (see chap. 8.4 on page 27).

The temperature being set at the temperature safety device must be higher than the temperature set point SP of the controller (see chap. 8.6 on page 29).

If necessary, change the temperature setting of the temperature safety device.




2. If you can exclude point 1. as the source of the alarm, it may be that the device is faulty.

Disconnect the unit from the power supply and contact your dealer.

12.2 Controller alarm signals

When operational faults occur in the AL01-06/07 during normal operation, the controller indicates visual and audible alarm signals.

Table 5: Alarms

Alarm Code	Alarm	Description
	Offset alarm	see chapter 12.2.1
	Break of temperature sensor, exceeding of measuring range	see chapter 12.2.2
	Short circuit of temperature sensor, underflow of measuring range	see chapter 12.2.3



You may use the <FKT> button to confirm and thus switch off the audible alarm signal.

The visual alarm display may not be switched off but will resume when the reason for the fault has been remedied or the temperature returns to within its tolerance limits (see Table 4 on page 30).

12.2.1 Offset alarm

The alarm offset temperature has been exceeded (see Table 3 on page 29).

- The alarm signal is emitted immediately when the fault occurs.

- Visual display:  alternately actual temperature, e. g. 
- Audible alarm: buzzer (intermittent sound)

Actions:

1. Check the setting of the parameter AL. ◦ Alarm offset (see Table 3 on page 29).

The Alarm offset should be $\geq 2^{\circ}\text{C}$.

If necessary, change this parameter dependent on the other operating parameters.

2. Check whether samples were inserted into the AL01-06/07 that produce heat under the climate conditions in the device.
3. Check the ambient climate.


The ambient temperature must be at least by 5°C below the temperature set point of the AL01-06/07.

The AL01-06/07 must be protected from direct sunlight. The AL01-06/07's installation location must be sufficiently ventilated to prevent any buildup of heat in the device.

4. If you can exclude points 1. to 3. as the source of the fault, it may be that the device is faulty. Please contact your dealer.

12.2.2 Break of temperature sensor, exceeding of measuring range

- The alarm signal is emitted immediately when the fault occurs.


- Visual display:  (flashing)
- Audible alarm: buzzer (intermittent sound)

Actions:

- Switch off the AL01-06/07.
- If necessary, clean and disinfect the AL01-06/07 (see chapter 9 on page 34).
- Please contact your dealer.

12.2.3 Short circuit of temperature sensor, underflow of measuring range

- The alarm signal is emitted immediately when the fault occurs.

- Visual display:  (flashing)
- Audible alarm: buzzer (intermittent sound)

Actions:


- Switch off the AL01-06/07.
- If necessary, clean and disinfect the AL01-06/07 (see chapter 9 on page 34).
- Please contact your dealer.


13 Regular checks and maintenance

Table 6: Maintenance plan

Interval	Action
Weekly	Dust the outer casing
	Check the power cable for damage
After each experiment	Clean and disinfect the device (see chapter 9 on page 34).
	Check the device for mechanical damage and corrosion
	Check that the door gaskets are properly seated and that there is no mechanical damage
Annually	Check the temperature control and, if necessary, adjust it

⚠ DANGER


	<p>Danger of electric shock. Danger to life.</p> <ul style="list-style-type: none"> ⊘ Do not dismount the rear panel of the unit. ➤ If a device has a damaged power cable or rear panel, withdraw it from use immediately, remove the power plug and contact your dealer to get it repaired.
---	---

	<p>If the device has damaged gaskets, withdraw it from use and have your dealer replace the gaskets.</p>
---	--

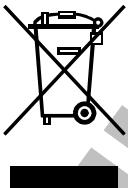
14 Waste disposal

14.1 Disposal of the unit in the member states of the EC


⚠ WARNING

	<p>Contamination of the device with toxic, infectious or radioactive substances. Danger of poisoning. Danger of infection.</p> <ul style="list-style-type: none"> ⊘ Never lead a unit with sticking toxic substances or sources of infection to recycling according to directive 2002/96/EC. ➤ Prior to disposal, clean the unit of sticking toxic substances or sources of infection. ➤ Dispose of a unit which you cannot safely clean or disinfect as special waste according to national law.
---	--

According to directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE), the AL01-06/07 is classified as “monitoring and control instrument” (category 9) only intended for professional use.

	<p>The AL01-06/07 bears the label for electrical and electronic equipment manufactured / distributed on the market in the EC after 13 August 2005 and to be disposed of according to the directive 2002/96/EC on waste electrical and electronic equipment (WEEE). WEEE label: crossed-out wheeled bin with solid bar below.</p>
---	--

CAUTION

	<p>Violation of existing law.</p> <ul style="list-style-type: none"> ⊘ The AL01-06/07 must not be disposed of at public collecting points. ➤ The AL01-06/07 should be disposed of professionally at a recycling company which is certified according to implementation of the directive 2002/96/EC into national law.
---	---

Certified companies disassemble used Advantage-Lab equipment into recyclable components according to directive 2002/96/EC. In order to exclude any health hazard for the employees of the recycling companies, the devices must be free from toxic, infectious or radioactive substances.



It is the user's responsibility that the unit is free from toxic, infectious or radioactive substances prior to handing it over to a recycling company.

- Prior to disposal clean the unit from all introduced or sticking toxic substances.
- Prior to disposal disinfect the unit from all sources of infection. Be aware of the fact that sources of infection might be located as well outside the inner chamber.
- If you cannot safely clean the unit from toxic substances and sources of infection, dispose of it as special waste according to national law.

14.2 Disposal of the unit in non-member states of the EC

CAUTION



Danger of environmental damages.

- Refer to national legislation when disposing of used equipment.

14.3 Disposing of packaging

Packaging components	Material	Type of disposal
Pallet	Non-wood (compressed wood shavings)	Wood recycling
Inner and outer packaging	Cardboard	Paper recycling
L-section	PE foam	Plastics recycling
Bubble wrap	PE foil	Plastics recycling
Padded parts on pallet	PE foam	Plastics recycling
User manual bag	PE foil	Plastics recycling
Straps for fixing to pallet	Plastic	Plastics recycling

Where recycling is impossible, all the packaging parts can also be disposed of along with household waste collection.

Manufacturer:

Advantage Lab bvba
Jachthoornlaan 82970
Schilde

Belgium

Internet: www.advantage-lab.com

The reproduction, distribution and utilization of this document as well as the communication of its content to others without explicit authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.

© by Advantage Lab GmbH, 2006

DOMINIQUE DUTSCHER SAS

DOMINIQUE DUTSCHER SAS