



6

Thermostatschränke Thermostatically controlled incubators

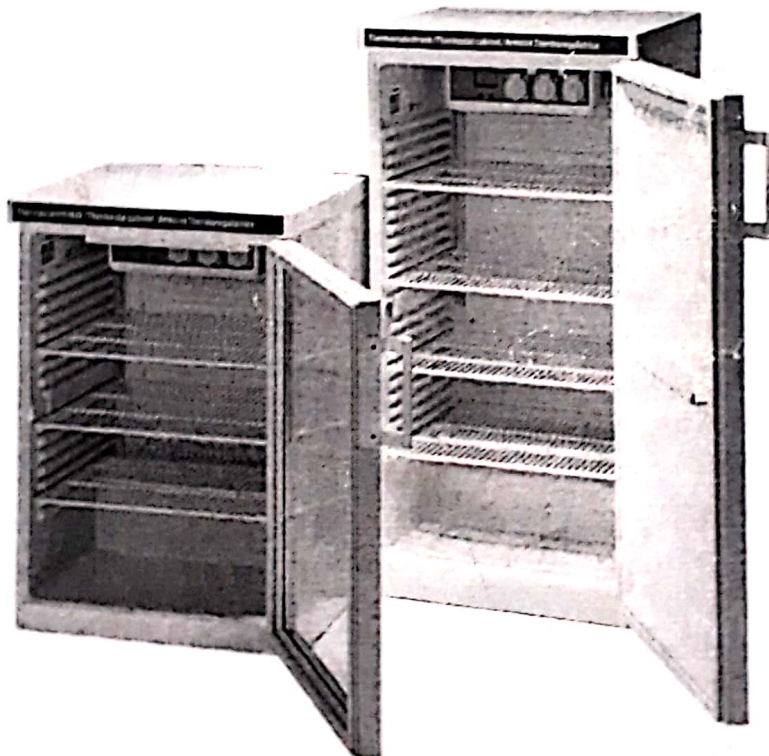
Etuves réfrigérées

ET 618-4/619-4 ; ET 626-5/627-5

ET 636-6/637-6 ; ET 650-8/651-8

750
13

975 0
(250)



FCKW-frei / CFC Free / Sans CFC

Ⓚ	Betriebsanleitung	2 - 11
Ⓒ	Instruction Manual	12 - 21
Ⓕ	Mode d'emploi	22 - 31

Operating instructions



Content

1. Brief description	13
2. Function	13
3. Initial operation	13
3.1. Unpacking the appliance	13
3.2. Environmental protection	13
3.3. Mounting procedures	14
3.4. Installation of the appliance	15
3.5. Electrical connections	15
4. Adjustment and operation	16
4.1. Operating controls and indicators	16
4.2. Setting temperature values	17
5. Maintenance and service	18
5.1 Cleaning	18
5.2 Shut down / non-use	18
5.3 Preparation for transport	18
6. Troubleshooting and repair	19
7. Technical data	20

1. Brief description

The thermostat-controlled incubators are designed to allow continuous regulation of temperature for various fields of application, e.g.

- 20 °C BOD₅ measurement
- 4 °C storage of sewage samples
- 25 °C enzyme activity (TTC-test)
- 37 °C colony count

All temperature control problems in the usual range of 2 °C to 40 °C are solved by the factory set universal plug-in controller which is maintenance-free and reliable.

2. Function

The inner temperature of the fully insulated incubator is controlled exactly by an intergrated corrosion-proof temperature probe which connects or switches-off either the cooling unit or the heating element.

The measured inner temperature is directly indicated by a display. The temperature range of 2 °C to 40 °C can be set in increments of 1 °C with the aid of two tactile response keys. The keyboard is protected by a rugged foil. Aircirculation is provided by 2 radial flow fans with a discharge width of 700 mm² and an output of more than 120 m³/h. This ensures a constant inner temperature throughout the entire incubator.

3. Initial operation

3.1. Unpacking the appliance

Inspect the appliance immediatly after unpacking for any damage which might have occured during shipment. If any items are missing or damaged please contact the carrier and file a claim for damages. Contents of the delivery should be checked against the delivery note.

3.2. Environmental protection information

Please dispose of the packaging correctly! Take it to the nearest official disposal point instead of throwing it in the garbage can! Take proper care that the refridgerant circuit pipes of the worn-out appliance are not damaged before it is taken to a suitable environmentally recognised refuse dump. This will ensure that the coolant contained within the appliance is not released into the environment but recycled.

3.3. Mounting

Conversion of the right-hand door to a left-hand door

- The appliance is usually delivered with the door mounted right-hand.
- Close the door and remove the hinge bracket ❶
- Remove the door in a downward movement
- Remove the upper hinge pin ❷ and insert it on the opposite side

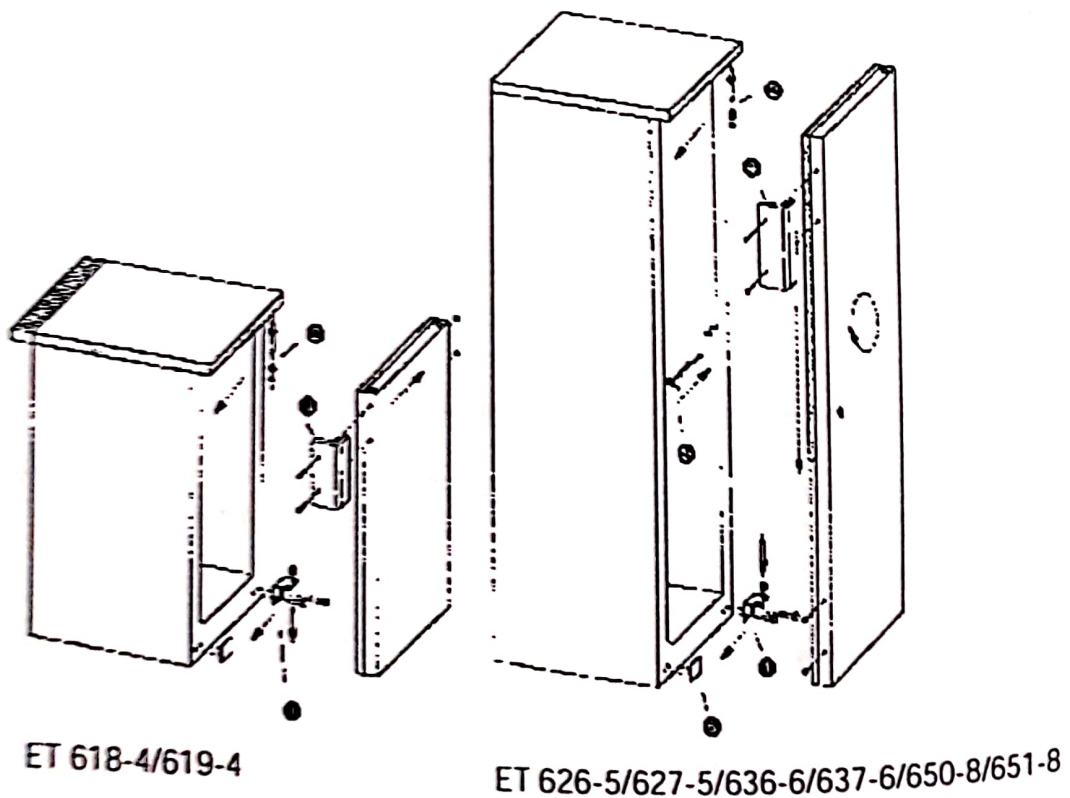
Only ET 618-4/619-4:

- Hang the door on its hinge pin and close the door
- Mount the hinge bracket ❶ on the left side of the incubator (having first removed the plastic cover).
- Remove the handle ❸ from the left side of the door
- Remove the plastic cover from the right side of the door and screw the door handle on

Only ET 626-5/627-5/636-6/637-6/650-8/651-8:

- Rotate the door 180°, transfer door handle ❹ and locking latch ❺ on the door
- Remove plastic cover ❻
- Hang the door on its hinge pin and close the door
- Mount the hinge bracket ❶ by screwing it to the left side of the incubator

Check the fit of the door, adjust it, if necessary, using the oblong slots



3.4. Installation of the appliance

When choosing a location for the appliance the following points should be taken into account:

- no direct exposure to sunlight
- no proximity to any form of heating
- well ventilated rooms

The floor of the working area should be flat and level. Any unevenness can be compensated with the aid of the two adjusting feet (wrench size 22 mm).

The rear side of the appliance may be placed directly against the wall. The convection grids on the rear side of the appliance are not to be covered (e.g. table tops etc).

The carrying capacity of the retractable grids are about 45 kg.

Overall dimensions of the appliances in mm:

	Height	Width	Depth
ET 618-4	850	600	600
ET 619-4	885	600	600
ET 626-5	1216	600	600
ET 627-5	1216	600	600
ET 636-6	1590	600	600
ET 637-6	1590	600	600
ET 650-8	1516	752	710
ET 651-8	1516	752	710

3.5. Electrical connections

Connect the power cord to a shock-proof wall outlet. Any repositioning of the wall outlet may only be undertaken by a trained specialist. The VDE recommendations must be observed.

	Line voltage	Power consumption in watts
ET 618-4	230V/50Hz	200 VA
ET 619-4	230V/50Hz	210 VA
ET 626-5	230V/50Hz	230 VA
ET 627-5	230V/50Hz	240 VA
ET 636-6	230V/50Hz	230 VA
ET 637-6	230V/50Hz	240 VA
ET 650-8	230V/50Hz	230 VA
ET 651-8	230V/50Hz	240 VA

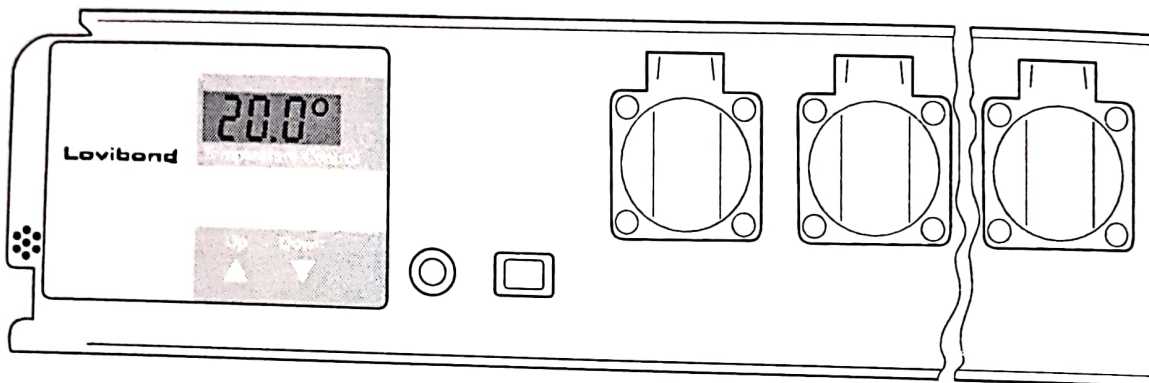
Prior to putting the thermostat-controlled incubator into operation we recommend a thorough inner and outer cleaning of the appliance (see paragraph "cleaning" on page 8).

4. Adjustment and operation

4.1. Operation controls and indicators

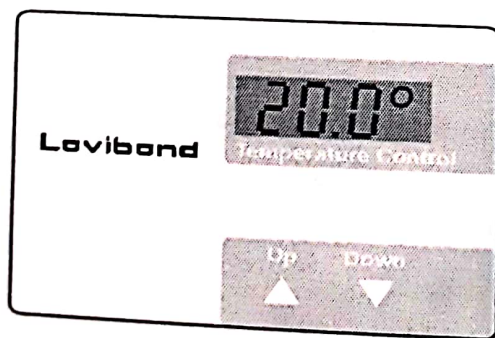
The appliance is equipped with an ON/OFF switch. The display immediately shows the actual inner temperature of the incubator. Control system and thermostat-controlled incubator are protected by an easy access fuse (slow-blow 6,3 A) situated on the front panel.

The appliance has been factory set for a working temperature of 20 °C. This however can be changed at any time between 2 °C and 40 °C.



- UP** arrow key adjustment of the high limit temperature
- Down** arrow key adjustment of the low limit temperature

By pressing the "UP" or "DOWN" key the desired temperature-value is achieved. With regard to the BOD measurement this is always 20 °C.



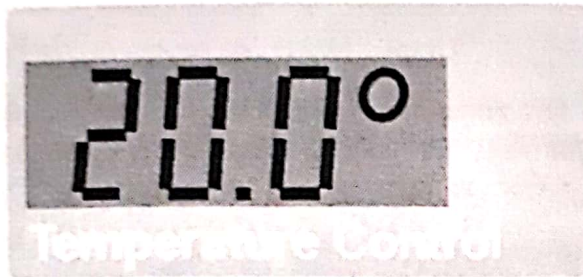
The illustration shows the actual temperature of 20.0 °C.

4.2. Setting the temperature values

The factory set temperature value of 20 °C is to be increased to 25 °C.

Simply press the "UP" arrow key and adjust to the required temperature to 25 °C.

The plug-in unit now regulates the air temperature of the thermostat controlled incubator to between 24 and 26 °C.



The actual temperature can be read-off at any time (see also illustration of the display at the bottom of the previous page).

All temperatures between 2 °C and 40 °C can be set accordingly.

Should it be necessary to lower the working temperature, follow the directions given at the top of the page, using now the "DOWN" arrow key.

Power failure will not result in a loss of temperature set values. This applies to a switch off of the instrument as well. The data are stored in a network independent electric storage and automatically recalled when the appliance is switched on.

4.3 Verification of the inner temperature

To check the inner temperature use a thermometer or temperature measuring instrument (measuring accuracy 0,1 °C). Place a glass-vessel (BOD-bottle) with stirring unit filled with 500 ml water on the middle grid of the thermostat-controlled incubator. The sensor must not touch the wall of the vessel. The water will take a little time to temper. It is best therefore to wait 1 hour before taking a reading. ←

4.4 Other operation controls

On the front side of the temperature control unit there are covered shock-proof sockets for the connection of BOD's appliances or stirring apparatuses.

The control unit is connected by means of a 4-pole plug on the bottom of the incubator.

5. Maintenance and controls

5.1 Cleaning

Every 6 - 8 months the inside of the unit should be freed of dust. At the same time, retractable grids at the rear side of the appliance should be freed of dust using a dry dusting brush. Care must be taken that no cables are pulled out or tubing bent or damaged in the process.

For a thorough cleaning of the inside of the appliance (e.g. after a long period of storage) use lukewarm water containing some detergent or other mild domestic cleaner on the plastic surfaces.

5.2 Shut down/non-use

If the thermostat-controlled incubator remains unused over a long period it should be switched off (disconnect plug from the mains or switch off or remove the fuse) and cleaned (see above!). To avoid bad odours the door should remain open during this period of non-use.

Prior to all work on the inside of the unit the mains plug of the thermostat-controlled incubator must be pulled out of the mains connection (not just a switching-off at the mains).

The appliance has an automatic defrosting device. Defrosted water collects in an evaporator tray and is evaporated automatically. Attention must be paid that the defrosted water can drain off freely through the drainage opening in the back panel of the incubator. The drainage opening should, when necessary be cleaned with the aid of a suitable device (e.g. bottle brush).



5.3 Preparation for transport

The appliance must be sent shock-proof-packed (preferably in its original packing). The packing is to be labelled as correspondingly ("keep dry/attention, fragile").

6. Troubleshooting and repair

Attention !!!

Before undertaking any repair work disconnect plug from mains! Only trained specialists should work on electrical devices.

Although switched ON - no display or control function

Cause: safety fuse defect

Remove defect fuse and replace it with a new fuse (slow-blow 6.3 A)



Correct display of inside temperature but no regulation to the temperature setpoint

Cause: compressor of the cooling system or control unit is defect

Contact your dealer or supplier. If necessary send in the control unit or thermostat-controlled incubator for repair (original packing!).

7. Technical data

construction:	fully insulated incubator with universal plug-in temperature
control unit operation:	robust, water protected foil front panel, 2 keys with tactile acknowledgement
range of adjustment:	2 °C to 40 °C; adjustable in 0.1 °C-increments
constancy of temperature:	20 °C, ± 1.0° C (see 4.3)
climate class:	10 °C to 32° C
ambient temperature:	10° - 35°C
display:	3 digit for actual and target temperature, resolution 0.1 °C
refrigerating unit:	compressor-system
heating unit:	heating element
fan:	radial, discharge capacity 120 m ³ /h
power requirement:	230V/50Hz

ET 618-4

capacity:	180 Ltr.
power consumption:	200 VA
overall dimensions:	600 deep x 600 wide x 850 high mm with worktop 600 deep x 600 wide x 820 high mm without worktop
inside dimensions:	513 deep x 441 wide x 702 high mm (with 3 retractable grids and 1 bottom grid)
weight:	39.0 kg
Order Code:	2 42 82 00

ET 619-4

overall dimensions:	600 deep x 600 wide x 885 high mm
inside dimensions:	513 deep x 441 wide x 734 high mm
power consumption:	210 VA
weight:	50.0 kg
Order Code:	2 42 82 10

same as ET 618-4, door, however, double glazed insulated in anodized aluminium frame

ET 626-5

capacity:	260 Ltr.
power consumption:	230 VA
overall dimensions:	600 deep x 600 wide x 1215 high mm
inside dimensions:	513 deep x 441 wide x 1047 high mm (with 4 retractable grids and 1 bottom grid)
weight:	49.0 kg
Order Code:	2 42 82 20

ET 627-5

power consumption:	240 VA
weight:	66.5 kg
Order Code:	2 42 82 25

same as ET 626-5, door, however, double glazed insulated in anodized aluminium frame

ET 636-6

capacity: 360 Ltr.
power consumption: 230 VA
overall dimensions: 600 deep x 600 wide x 1590 high mm
inside dimensions: 513 deep x 441 wide x 1418 high mm
(with 5 retractable grids and 1 bottom grid)
weight: 64,5 kg
Order Code: 2 42 82 30

ET 637-6

power consumption: 240 VA
weight: 82.0 kg
Order Code: 2 42 82 35

same as ET 636-6, door, however, double glazed insulated in anodized aluminium frame

ET 650-8

capacity: 500 Ltr.
power consumption: 230 VA
overall dimensions: 710 deep x 752 wide x 1516 high mm
inside dimensions: 537 deep x 652 wide x 1338 high mm
(with 5 retractable grids and 1 bottom grid)
weight: 79,5 kg
Order Code: 2 42 82 40

ET 651-8

power consumption: 240 VA
weight: 98.5 kg
Order Code: 2 42 82 45

same as ET 650-8, door, however, double glazed insulated in anodized aluminium frame

Mode d'emploi

Sommaire

1.	Description rapide	23
2.	Mode d'action	23
3.	Première mise en marche	23
3.1.	Déballage de l'appareil	23
3.2.	Protection de l'environnement	23
3.3.	Procédures de montage	24
3.4.	Connexions électriques	25
3.5.	Installation de l'appareil	25
4.	Réglage et fonctionnement	26
4.1.	Commandes et indicateurs de fonctionnement	26
4.2.	Réglage des valeurs de température	27
5.	Entretien et révision	28
5.1	Nettoyage	28
5.2	Coupure / non-utilisation	28
5.3	Préparation pour le transport	28
6.	Détection des pannes et réparation	29
7.	Données techniques	30