Contents

Please read these instructions thoroughly before using the **BÜCHI** Glass Oven **B-580**. Keep these instructions in the immediate vicinity of the device so that it can be referred to at any time.

Chapter 2 contains important safety advice. These information is indispensable to the safe operation of the glass oven.

en, Version C

as of Software-Version 1.2 (26 pages)	**Order Code**
B-580 Instructions	**96663**

1 Scope of delivery

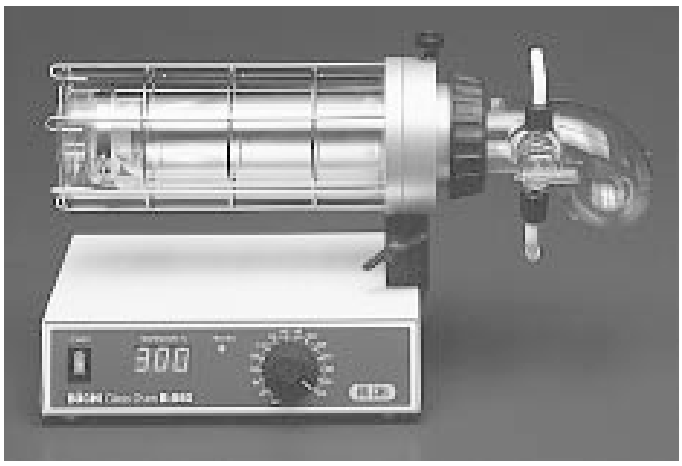

Figure 1: B-580 TO

1.1 Glass oven for drying (TO)

Designation B-580 TO	**Order Code**
B-580 Drying oven 230 V / 50-60 Hz	**37004**
B-580 Drying oven 120 V / 50-60 Hz	**37005**

Table 1: Model B-580 TO

Additional package contents

10 2,0 AT replacement fuses	**19660**
1 3-wire power cord. 1.5m	
Type CH	**10021**
Type Schuko	**10029**
Type GB	**17833**
Type USA	**10023**
Type AUS	**17834**
1 Instructions	
German	**96662**
English	**96663**
French	**96664**
Italian	**96665**
Spanish	**96666**

Table 2: B-580 TO additional package contents

Optional accessories

1 Complete ball tube drive for converting to a ball tube distillation oven	**37013**
1 Complete sublimation accessory for converting to the sublimation model	**37133**

Table 3: B-580 TO optional accessories

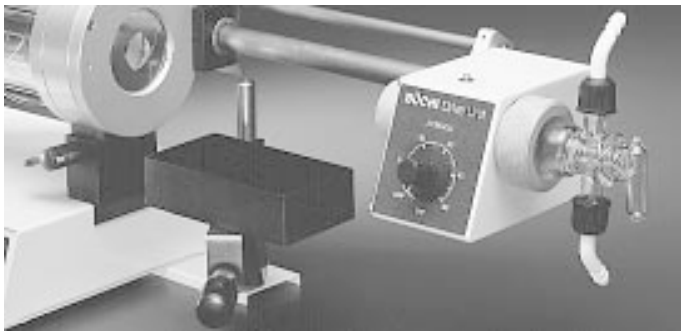

Figure 2: Complete ball tube drive unit

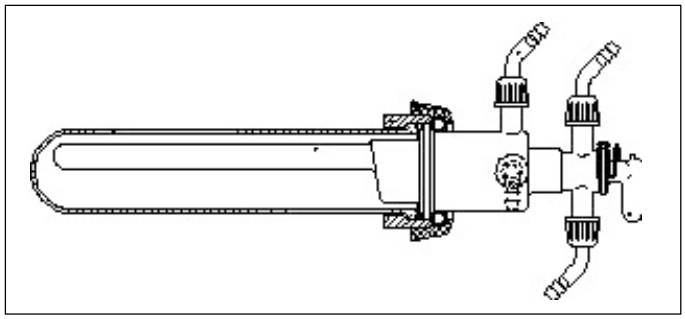

Figure 3: Complete sublimation accessory

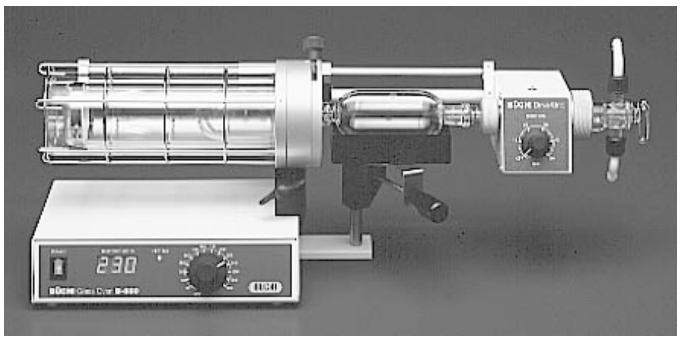

Figure 4: B-580 GKR

1.2 Glass oven for ball tube distillation (GKR)

Designation B-580 GKR	**Order code**
B-580 ball tube distillation oven 230 V / 50-60 Hz	**37006**
B-580 ball tube distillation oven 120 V / 50-60 Hz	**37007**

Table 4: Model B-580 GKR

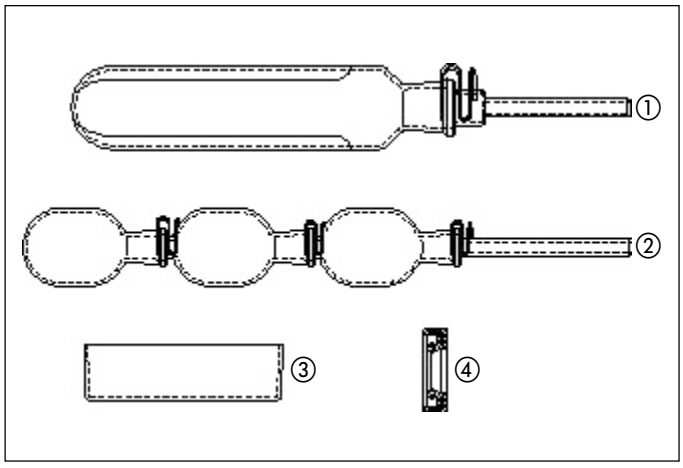

Figure 5: B-580 GKR additional package contents

Additional package contens	
1 30 mm rotation drying flask with vapor and clip ①	**37143**
1 20 ml ball tube with vapor duct and clips ②	**37107**
1 Cooling dish ③	**37152**
1 Replacement gasket for the ball tube drive ④	**37288**
1 10 g tube of vacuum grease	**17595**
10 Replacement fuses (2.0 AT)	**19660**
1 Control cable B-580 GKR	**37024**
2 GL 14 hose nipple	**37287**
1 3-wire power cord. 1.5m	
Type CH	**10021**
Type Schuko	**10029**
Type GB	**17833**
Type USA	**10023**
Type AUS	**17834**
1 Instructions	
German	**96662**
English	**96663**
French	**96664**
Italian	**96665**
Spanish	**96666**

Table 5: B-580 GKR additional package contents

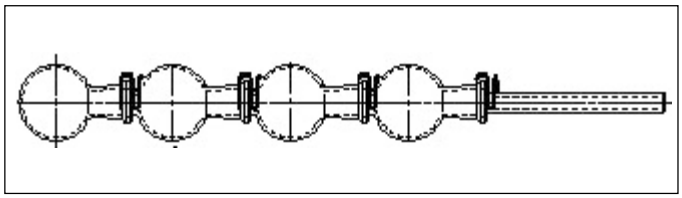

Figure 6a: 10 ml ball tube

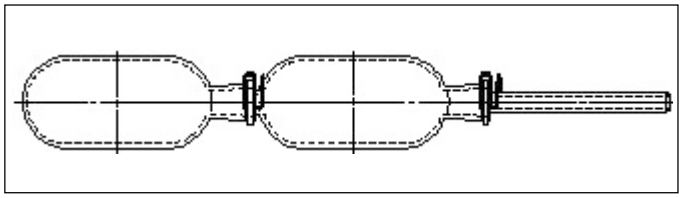

Figure 6b: 40 ml ball tube

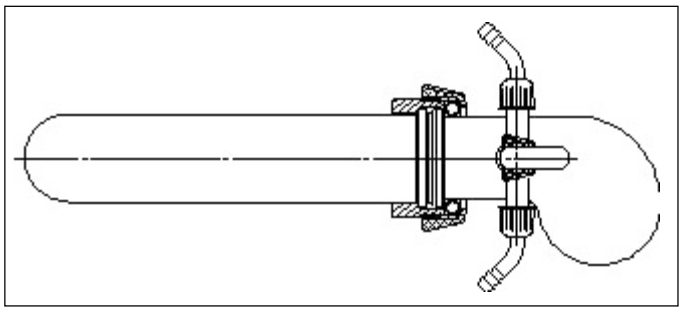

Figure 6c: Drying accessory

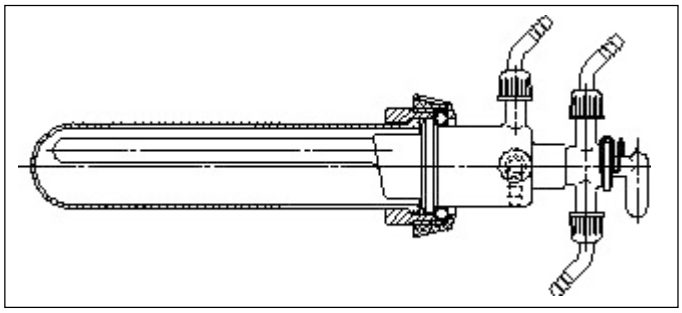

Figure 6d: Complete sublimation accessory

Optional accessories

1	10 ml ball tube with vapor duct and clips	**37118**
1	40 ml ball tube with vapor duct and clips	**37117**
1	Drying accessory for converting to the TO model	**37010**
1	complete sublimation accessory for converting to the sublimation model	**37133**

Table 6: B-580 GKR accessories

Figure 7: Glass Oven for distillations (M)

1.3 Glass Oven for distillations (M)

Designation B-580 M

Glass Oven B-580 M 230 V / 50-60 Hz	**37430**
Glass Oven B-580 M 2120 V / 50-60 Hz	**37431**

Table 7: Model B-580 M

Additional package contents

Rotation drying flask 30 ml with vapor duct and clip	**37143**
Evaporating flask 30 ml	**36478**
Clip	**03279**
Vapor duct	**37073**
Replacement gasket for the ball tube drive	**02862**
10 g of vacuum grease	**17595**
10 Replacement fuses 2,0 AT	**19660**
Control cable B-580 GKR	**37024**
1 3-wire power cord. 1.5m	
Type CH	**10021**
Type Schuko	**10029**
Type GB	**17833**
Type USA	**10023**
Type AUS	**17834**
1 Instructions	
German	**96662**
English	**96663**
French	**96664**
Italian	**96665**
Spanish	**96666**

Table 8: B-580 M additional package contents

Optional accessories

For conversion into GKR	
Ball tube with 2 balls (30 ml)	**37117**
Ball tube with 3 balls (20 ml)	**37107**
Ball tube with 4 balls (5 ml)	**37118**
Cooling device	**37152**
Cooling	**37172**
Connection cock with stop cock	**37233**
Conversion into TO: Drying accessory	**37010**
Conversion for sublimation: Sublimation accessory	**37133**

Table 3: B-580 M optional accessories

2 Safety

The device has been built according to the current state of the art and in accordance with the recognized safety regulations. There are no risks or hazards associated with the use of this device if used according to the instructions.

2.1 Symbols

Stop
Information about hazards which can lead to serious material damage or cause serious or potentially fatal injury.

Warning
Information about hazards which can be harmful to your health and lead to material damage.

Please note
Information about technical requirements. Non-observance can lead to malfunctions, inefficiency and lost production.

2.2 Requirements to be met by the customer

The device may only be used by laboratory personnel and other persons who, due to their training or experience, can recognize the hazards associated with operating the device.
Personnel without this type of training or persons currently in training require careful instructions. These instructions can be considered as the basis for these instructions.

2.3 Proper use

The device has been designed and built as a laboratory device.
Appropriate uses of the device are for the drying, distillation and sublimation of small quantities of substance from room temperature up to 300–C.

2.4 Improper use

Using the device for any other purpose other than those stated above or using in any application that does not correspond to the technical data is considered to be improper usage.
Any damages resulting from such use are the sole responsibility of the operator.

Using the device in the following situations is especially prohibited:

- Using the device in rooms which require explosion-proof equipment.
- Testing samples which, through impact, friction, heat or sparking, may explode or ignite (for example, explosives, etc.).

2.5 General hazards

General hazards arise from:
- When using with mixtures with unknown composition or impurities.
- Flammable gases or solvent fumes in or around the device.
- Damaged glassware.
- When the device is too close to the wall (see Chapter 4, Putting into operation)
- Touching the heating elements, causing burns.

Removing the cover using common hand tools is - except for authorized maintenance personnel, prohibited. The device may not be put into operation if the glassware is damaged.

It may be fatal if any high voltage parts of the device are touched!

2.6 Safety measures

It is required that you wear protective gear such as **protective glasses**, **gloves** and a **lab coat**.

These instructions must be available at all times to the operating personnel at the location where the device has been installed, as it is considered to be a component of the glass oven. This is also true of the copies of the instructions in other languages, which can be ordered later separately.

Modifications
Modifications to the device or to the replacement parts or accessories, as well as using any replacement parts or accessories other than those mentioned in these instructions, is only allowed with the expressed written consent of the Büchi Labortechnik AG.

Responsibilities of the Management
The management is responsible for instructing its personnel. To help in this task, you can order these instructions in several other languages.

Protective Shield
The protective shield mounted on the device does not serve to completely protect the operator from coming into contact with hot glass elements. It is only there to protect the operator from burns occurring due to carelessness.

3 Function

3.1 Function principle

The B-580 glass oven comprises of two glass tubes, one inside of the other, made of borosilicate glass. The heating of the tubes is done using a fully transparent, electrically conductive semiconductor layer which has been coated onto the exterior of the inner tube. The heating layer is connected to power by two metal contact rings. The outer jacket tube prevents damage to the heating tube and also protects the operator from touching high voltage components. The controller contains the processor-controlled heating regulator.

① Heating tube
② Jacket tube
③ Controller
④ Wing nut for adjusting the angle of the oven.

The basic instrument can be used for drying, distilling and sublimating if the appropriate accessories are used.

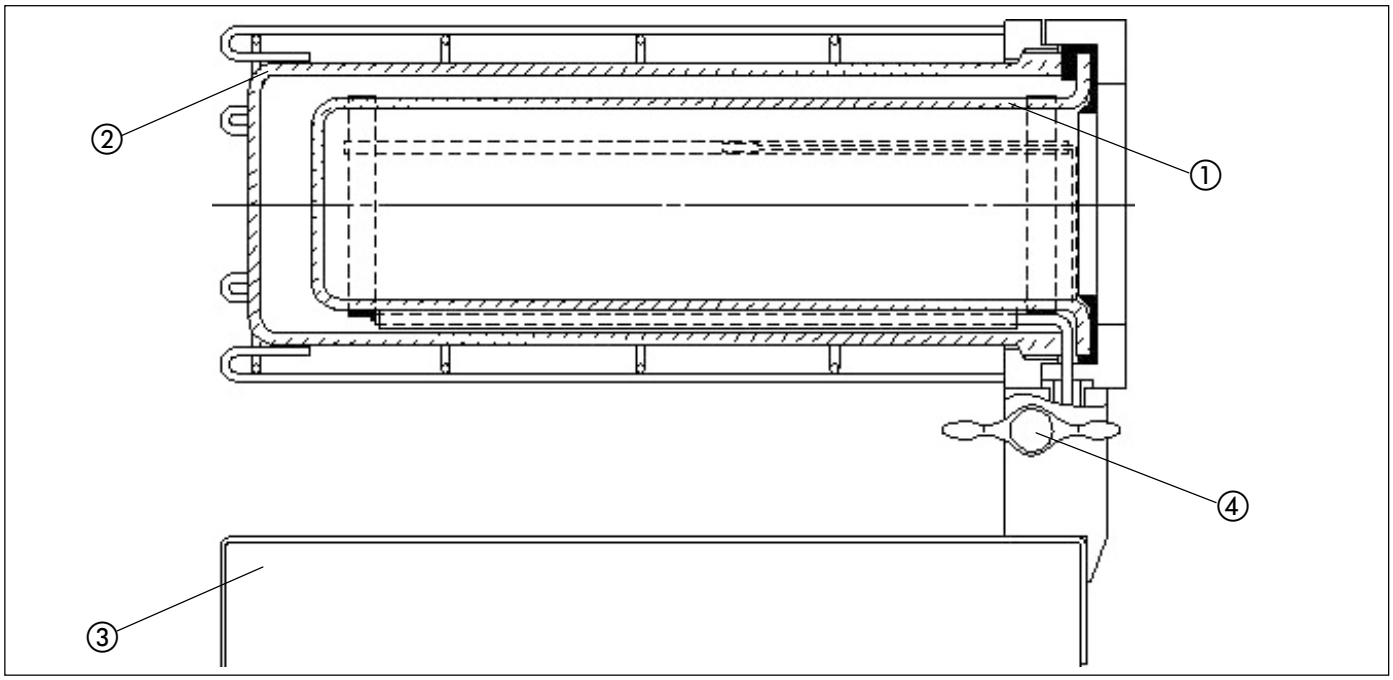

Figure 7: Function principle of the Glass Oven

The electrically conductive semiconductor layer operates at supply voltage. There is a possibility for fatal injuries when the outer jacket tube has been removed.

3.2 Over-temperature switch protection

There is a over-temperature switch for the protection of samples and oven. This switches the heating off when:

- the difference between the current temperature in the oven and the setpoint temperature on the potentiometer is larger than allowed.
- the current temperature in the oven increases to 320 °C

Troubleshooting; Chapter 9.2, Error messages

4 Putting into operation

Please inspect the package for any damage while unpacking. It is important that you recognize any damage which has occurred during transportation while you are unpacking the device. If this is the case, you should immediately ascertain the damage and inform the appropriate authorities (post office, railroad or trucking company).

The original packaging should be saved for eventual transportation at a later date.

4.1 Installation Location

The device must be set up on a clean, stable and level surface.

For safety reasons, there must be at least 30 cm between the wall or other equipment and the rear and sides of the device. No containers, chemicals or other devices should be placed behind the device.

4.2 Power Connections

Check to ensure that the voltage coming out of the electrical socket agrees with the voltage stated on the devices ratings plate. The glass oven must always be connected to a grounded
electrical socket. External couplings and extension cords must have a ground wire (3-pole couplings, cords and sockets). It is prohibited to cut or interrupt the ground wire. In this way, risks associated with internal errors are avoided.

4.3 Connecting the ball tube drive

The ball tube drive is connected to the controller usig the connector cable supplied.
The socket for this cable can be found on the back of the device.

5 Operation

5.1 Operating the B-580 TO

Please ensure that the device has been correctly put into operation according to Chapter 4, Putting into operation.

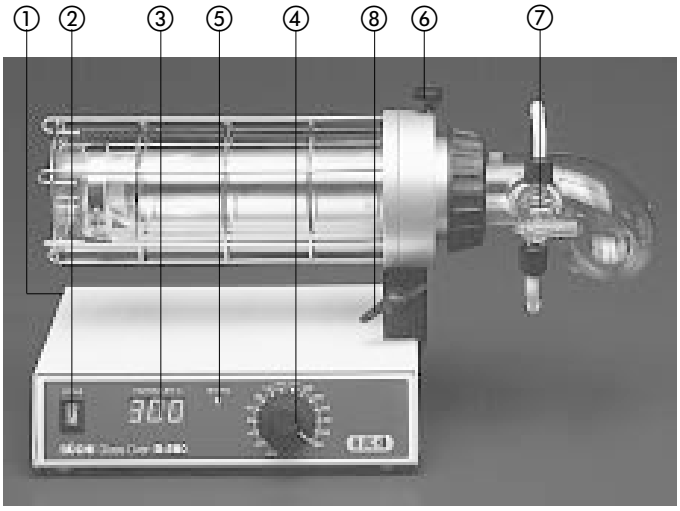

Figure 8: B-580 TO

5.1.1 Operational and Display Elements

① Unit sockets with main fuses
② Main power switch
③ Digital display showing the current temperature
④ Set point potentiometer for setting the desired oven temperature
⑤ Pilot lamp, on when heater is turned on
⑥ Screw used to fasten the drying accessory to the unit
⑦ Glass cock for evacuation/aeration
⑧ Lever for fastening the oven to the controller

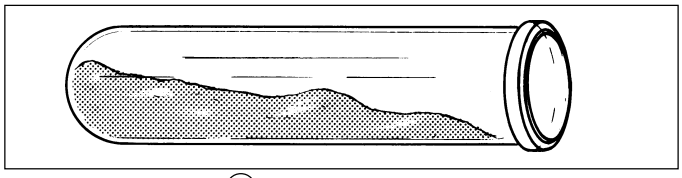

Figure 9: Direct Drying (A)

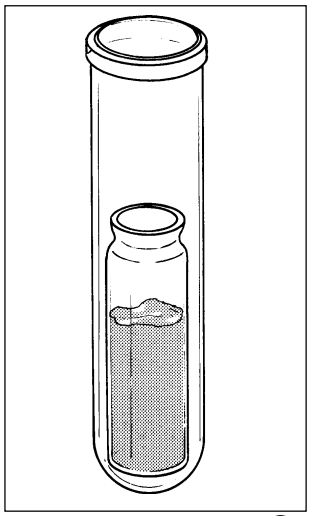

Figure 10a: Indirect Drying (B)

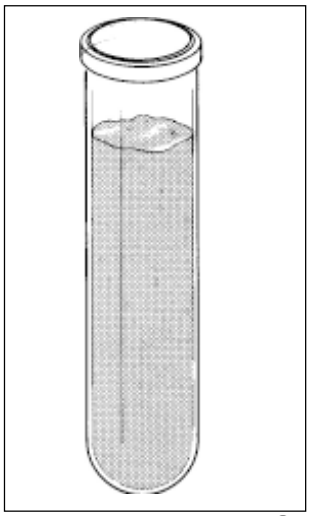

Figure 10b: Indirect Drying (B)

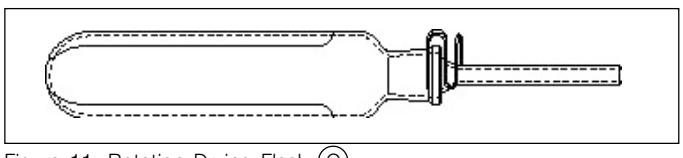

Figure 11: Rotation Drying Flask (C)

5.1.2 Filling with the Material to be Dried

The material to be dried can be placed in the drying tube in various ways. The method chosen depends mainly on the amount of substance.

Example (A)
A large quantity of the material to be dried is placed directly in the drying tube. With this method, existing glass boats, metal dishes, etc., may be used. This drying method should not be used for hygroscopic samples, as these may absorb moisture after having been dried during transfer to another container.

Example (B)
The material to be dried is placed in its container and the container is placed in the drying tube. The drying oven must be operated in the vertical position for this method. The advantage of this method is that the substance does not need to be transferred from one container to another after drying, and that its container can be sealed immediately after drying.

Example (C)
A hard surface layer is created while drying some substances which increases the drying time dramatically. This can be avoided by rotating the container regularly. It is therefore recommended to use the notched rotation drying flask which can only be used in conjunction with an electrical ball tube drive
(Büchi drive, order code 37013, Büchi rotation drying flask, order code 37143). The procedure for working with the rotation drying flask is described in Chapter 5.2.8.

5.1.3 Placing the Drying Tube in the Drying Oven

If the material to be dried has been placed in the drying tube according to Chapter 5.1.2, the tube and the end cap are screwed together. The entire assembly is then placed in the drying oven and fastened with the screw. You should ensure that the cock is vertical and that the reservoir in the end cap is directed downwards.

The oven temperature must be set for drying and, if necessary, the vacuum must be connected. After drying, aeration follows, either using the air in the environment or using an inert protective gas using the corresponding gas connection. The assembly is taken out of the oven and left to air-cool.

In order to lower the power and water usage, it is recommended that you work with a regulated vacuum. You will need a B-720 vacuum controller (Büchi part nr. 34860 (230V) or 34960 (120V)) in addition to a vacuum source.

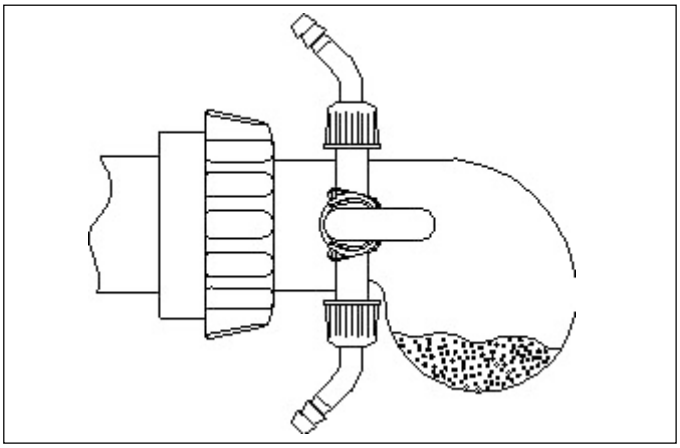

Figure 12: Desiccant

5.1.4 Working with Desiccants

The drying of substance samples containing water can be accelerated and optimized by using desiccants such as silica
gels, CaCl2 or P2O5. Such desiccants are placed in the rear part of the end cap. When filling with a free-flowing desiccant, you must make sure that the end cap remains clean between the aeration cock and the flange. If dust particles should nevertheless stick to the sides, then the end cap must be cleaned afterwards. Otherwise, there is a hazard of these particles will be taken with the flow of air when aerating the evacuated drying tube, thereby adding impurities to the material to be dried.

The safety guidelines on the original packaging of the P2O5/CaCl2 should be observed.

5.2 Operating the B-580 GKR

Please ensure that the device has been correctly put into operation according to Chapter 4, Putting into operation

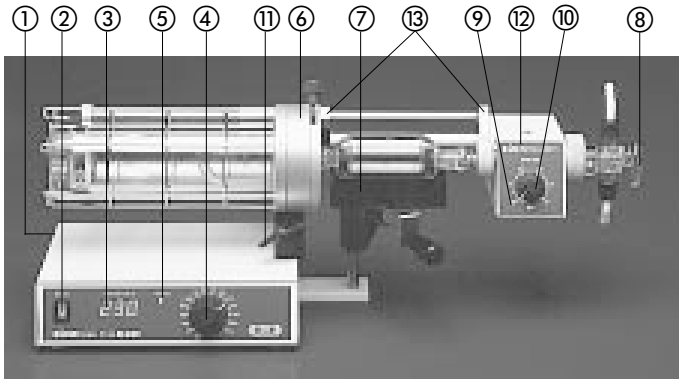

Figure 13: B-580 GKR

5.2.1 Operational and display elements

① Unit sockets with main fuses
② Main power switch
③ Digital display showing the current temperature
④ Set point potentiometer for setting the desired oven temperature
⑤ Pilot lamp, on when heating is turned on
⑥ Lever used to open the iris diaphragm
⑦ Glass ball cooling apparatus
⑧ Glass cock for aeration
⑨ Drive unit for rotating the glass ball
⑩ Set point potentiometer for setting the rotation speed
⑪ Lever for setting the angle of the oven
⑫ Lever for adjusting the vapor duct
⑬ Control cable for ball tube drive

5.2.2 Cooling

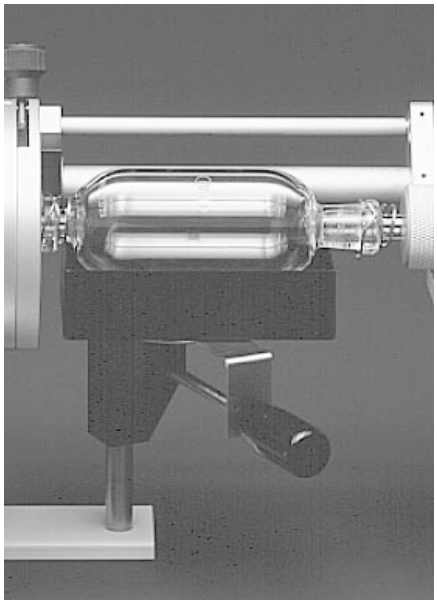
Figure 14: Cooling

For substances with a low boiling point, air-cooling is not always sufficient to make the vapor in the balls outside of the oven area condense. In this case, it is recommended to use a cooling apparatus. You can fill the dish with tap water, ice-water, an ice-salt mixture, dry ice or a dry ice-alcohol mixture.

The cooling dish is designed so that either a small glass ball can be cooled by turning the dish sideways, or two small or one large glass ball can be cooled by turning the dish length-wise.

The cooling dish is made of polyethylene. This material is not resistant to chlorinated solvents. For this reason, cooling mixtures containing these types of solvents may not be used.
The dish may not come in contact with the metal flange.

Dry ice and dry ice-alcohol mixtures will cause injury if they come in contact with skin.

If dry ice-solvent mixtures are used, then there must always be dry ice in the solvent as long as the temperature in the glass oven is higher than 50–C.

5.2.3 Assembly/disassembly of the vapor duct

The vapor duct is inserted into the drive unit as follows:

The aeration tap, together with the seal, is screwed from the right into the drive unit. The seal is lightly greased on the sealing side.

The vapor duct with its screw and cone is pushed from the left into the drive unit, such that it passes the seal in the aeration tap on the other side of the drive unit. To tighten the screw of the vapor duct, press the tube adjustment lever down

Repeat the greasing of the vapor duct if necessary.

5.2.4 Working procedure for a simple distillation

The liquid to be distilled is placed in the vertical glass tube with only one taper-ground connection using a pipette. The glass tube can be filled up to the „max“ mark. The desired number of glass balls are connected to each other and secured against unwanted release with the clips. The ball tube is connected to the vapor duct and pushed into the oven. The aperture is closed and the electrical drive is turned on. The oven temperature is increased until distillation begins. This temperature can lie between 10-40 °C above the boiling point.
If you are distilling in a vacuum, then the taper-ground surfaces must be lightly greased.

If the user is only interested in the distilled product and not in the residue, the first ball that is sticking out of the oven can be cooled. The platform with cooling dish which is mounted on the device can be used to accomplish this. By connecting the glass cock to a vacuum source, the temperature of thermolabile substances can be dropped down to the boiling point.

If the goal of the distillation is the distilled product and not the residual product in the oven, then you may not operate using a very low pressure vacuum. It is recommended that you then regulate the vacuum pressure.

In order to guarantee the longest possible lifespan of the glass balls, the aperture should not be screwed onto the glass ball when the rotation drive is turned on.

5.2.5 Working procedure for a rough separation of a mixture with several components

Mixtures can be partially separated if the difference in the boiling points between the individual components is fairly large (> 20C°). All of the glass balls are placed in the oven except for the glass ball farthest right. The temperature is increased until distillation begins. The first fraction is caught in the far right ball. If the volume of the first fraction stops increasing, then the distillation of the fraction with the lowest boiling point is complete. The next ball is pulled out of the oven and the temperature is increased again.

It is also recommended here to lower the boiling point by connecting to a suitable vacuum when dealing with thermolabile substances.

In order to lower the power and water usage, it is recommended to use a regulated vacuum. In addition to a vacuum source, a B-720 vacuum controller is also needed (Büchi order code 34860 (230V) or Büchi order code 34960 (120V).

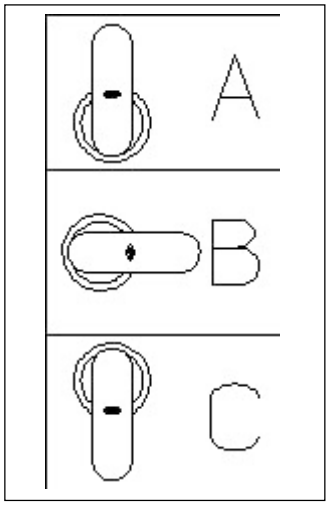

Figure 15: Aeration cock

5.2.6 Aeration

After having finished vacuum distillation (position A), the device is turned off and the aeration cock is turned to position B. You may now turn off the pump. By turning to position C, the distillation chamber is aerated either with the air in the environment or, with the corresponding connection, a safe, inert gas.

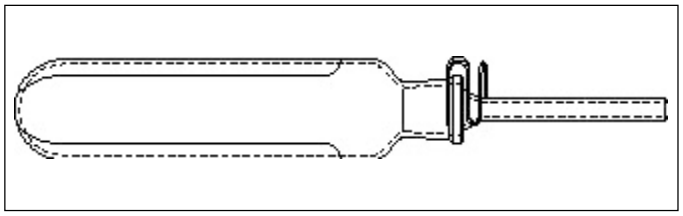
Figure 16: Rotation drying tube

5.2.7 Working procedure for rotation drying

The vapor duct used for the ball tube distillation must be removed and the vapor duct for rotation drying installed in order to do rotation drying. See Chapter 5.2.3 for information on how to convert the device.

The material to be dried is placed in the drying flask and the tube is connected to the vapor duct. The tube is then placed in the oven and the temperature and speed of rotation are set.

It is also possible here to work under a vacuum.

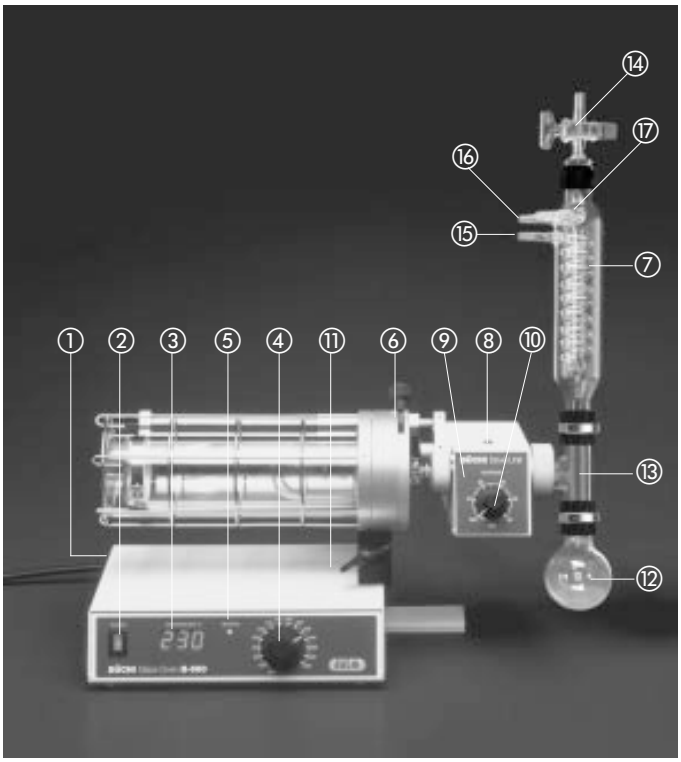

Figure 17: Glass oven for distillation (M)

5.3 Operating the B-580 M

Please ensure that the device has been correctly put into operation according to Chapter 4, Putting into opeation.

5.3.1 Operational and display elements

① Unit sockets with main fuses
② Main power switch
③ Digital display showing the current temperature
④ Set point potentiometer for setting the desired oven temperature
⑤ Pilot lamp, on when heating is turned on
⑥ Lever used to open the iris diaphragm
⑦ Condenser
⑧ Stift zur Arretierung des Dampfdurchführungsrohres
⑨ Drive unit for rotating the glass ball
⑩ Set point potentiometer for setting the rotation speed
⑪ Lever for setting the angle of the oven
⑫ Receiving flask
⑬ Distribution piece
⑭ Aeration cock
⑮ Cooling water outlet
⑯ Cooling water inlet
⑰ Vacuum connection

5.3.2 Installation of the glass assembly

The distribution piece is installed on the right hand side of the stepmotor. The condenser ist screwed onto the distribution piece by the SVL22 screw connection with the corresponding seal, such that the in- and outlets of the condenser are upper facing. The receiver flask is connected to the down-facing side of the distribution piece 5.2.3.

5.3.3 Cooling

The evaporated substance passes through vapor duct and condenses in the condenser. The condensate runs through the distribution piece and is collected in the receiver flask.

The cooling medium enters the condenser at the lower of the two connections. The connection beyond is the outlet of the cooling medium. The third connection to the condenser housing is for the application of vacuum.

Water or salt water mixtures are used as cooling media.

5.3.4 Application of a vacuum and aeration

Vacuum is applied via the third connection of the condenser housing. When the tap is in the horizontal position the system is sealed and distillation can proceed.

For aeration or temporary vacuum release, the tap is turned to the vertical postion.

5.3.5 Working procedure

The sample is transferred into the evaporating flask by a pipette. The flask is fixed to the vapor duct with a clamp and then gently eased into the heating tube.

If the sample to be distilled is more than 30 ml, the heating tube needs to be tipped by the lever screw.

In order to avoid loss of heat, the aperture is closed. The rotation and the cooling are started. The heating tube is heated up to the desired temperature. If a vacuum is applied, grease the glass joint.

If the vacuum has to be controlled, a BÜCHI Vacuum Controller can be used.

The operation of a rotating drying flask is described in Chapter 5.2.7.

5.4 Converting the Glass Oven

5.4.1 From drying to sublimation

Figure 17: Glass oven with sublimation accessory

With the help of the sublimation accessory, sublimated components can be separated onto a cold-trap insert.Cooling water is used for cooling. The upper nippel is to be used as the outlet for the cooling water.

One usually works under a vacuum when sublimating. You should make sure that the O-ring is clean when placed into its holder before screwing the two glass parts together.
Turn off the device and let cool. Release the drying accessory by throwing the lever and pull out. The sublimation accessory (Büchi order code 37133) can now be pushed into place and screwed tight.

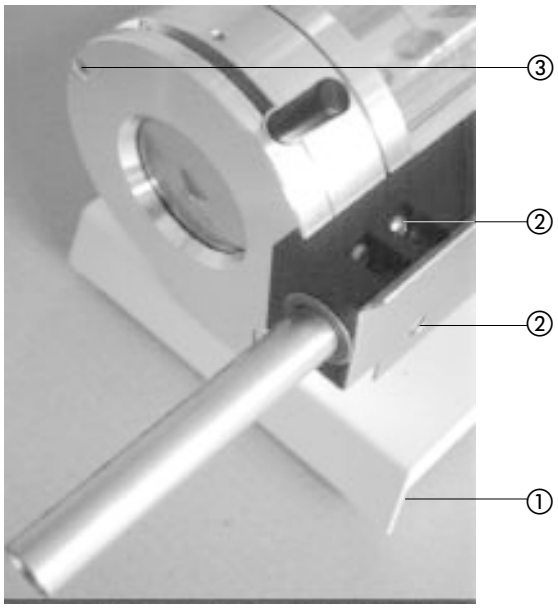

Figure 18: Mounting the drive

5.4.2 From Drying to Ball Tube Distillation

First, turn the device off and allow to cool, then remove the power cord from the back of the device. The entire drying accessory, including the fastening screws, must be removed. Remove the right rear screw on the bottom of the device ① and screw the cooling support onto the device using this screw.

The rotation drive can be fastened with the black holder to the metal flange using the two screws ②. Adjust the iris diaphragm using the small screw on the face of the flange ③.

Insert the cable into the connector on the rear of the device.

To operate the ball tube drive, see Chapter 5.2.

5.4.3 From Ball Tube Distillation to Drying

Converting from ball tube distillation to drying is done by following the instructions in Chapter 5.3.2 in the opposite order.

The drying accessory can be fixed on the flange using the fixing screw (Büchi order code 37070, additional package contents B-580 GKR).

To find out how to operate the drying oven, see Chapter 5.1.

5.4.4 Conversion from GKR into M

First of all the glass assembly on the right of the drive unit is removed. The spring and the screw are removed from the aeration from the aeration trap and are installed in the same way on the distribution piece.
The distribution piece with spring and screw is installed on the right side of the drive unit. The condenser and the receiver flask are installed. There has to be a seal in each SVL22 connection.

If the cooling device of the GKR can also be removed, see Chapter 5.4.2.

6 Maintenance

All guidelines which are meant to keep the glass oven in working order should be followed. This also includes a periodic cleaning and checking of all visible damage.

6.1 Cleaning

The housing of the B-580 glass oven is coated with paint. Clean only with dry rag or a rag moistened with alcohol.

While cleaning the oven, you should make sure that the iris diaphragm does not become dirty.
The inner oven space is best cleaned with a moist rag. Any kind of solvent may be used to do so.

Never rinse the oven out with running water or wash it using a lot of water. Water could get between the outer and inner glass layers where the heater is and cause an electrical short circuit. If water should accidentally get in the iris diaphragm, you should dry it out by placing the entire oven in a vacuum (vacuum drying closet) at 40–C for several hours before you start using it again.

6.2 Service

The service of the device is limited to the ball tube drive, in which the vacuum gasket and the rubber seal in the GL 14 may leak after prolonged usage.

6.3 Customer service

The device may only be serviced by authorized service personnel. Such persons are persons with fundamental technical training and knowledge of the hazards associated by not following the safety precautions. Büchi customer service centers have a device-specific service instructions which can only be obtained by authorized personnel.

The addresses of the official Büchi customer service centers can be found on the back cover of these instructions. Contact one of these locations in case you encounter malfunctions or if you have technical questions, and if you have application-specific problems.

The Customer Service Department of the Büchi company is available for the following services:

- Replacement parts (please use the part numbers listed in the replacement parts list in the Appendix)
- Repair services
- Maintenance services
- Technical consulting.

7 Taking out of operation

The device must be thoroughly cleaned.

7.1 Storage/Transport

The device must be stored and transported in the original packaging, and must be thoroughly clean.

7.2 Disposal

To dispose of the glass oven in an environmentally friendly manner, you will find a list of the materials of all major parts in Chapter 9, Appendix. This guarantees that you can separate the parts for recycling. To dispose of electrical parts, refer to the appropriate guidelines. You also must observe the regional and local laws regarding disposal.

8 Replacement parts

Only original Buechi supply and replacement parts guarantee the safe use and functionality of the device. The use of replacement parts and supplies other than Büchi replacement parts and supplies is only allowed with the consent of the manufacturer. For assembly and disassembly purposes, replacement parts may only be used according to the descriptions in Chapter 6, Maintenance. The manufacturing of this product according to these instructions is prohibited.

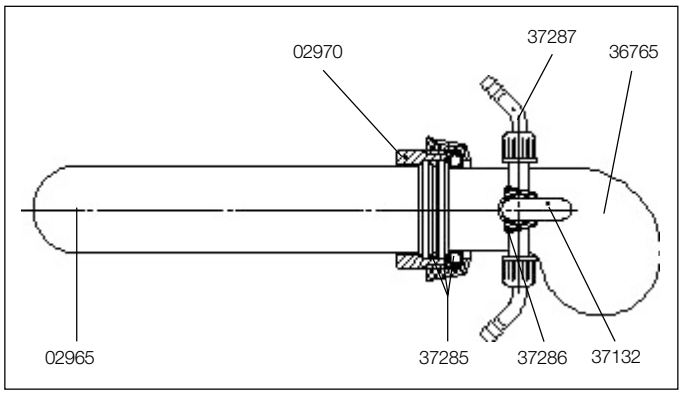

Figure 19: Drying accessory

8.1 B-580 TO replacement parts

Drying accessory cpl.	**37010**
Drying tube	**02965**
Flange ring	**02970**
10 Device fuses (230 V/120 V)	**19660**
End cap for drying	**36765**
Cock	**37132**
Set Flange srew, spring and flange seal	**37285**
Set STJ clips (12 pieces)	**37286**
Set hose nipples GL 14 (4 pieces)	**37287**

Table 7: B-580 TO replacement parts

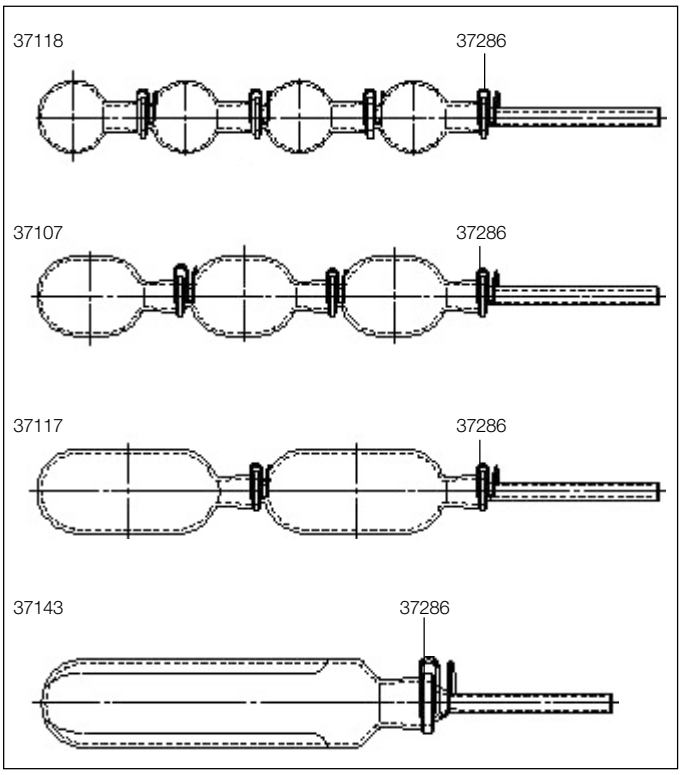

Figure 20: Ball tubes

8.2 B-580 GKR replacement parts

10 ml ball tube with vapor duct and clips	**37118**
20 ml ball tube with vapor duct and clips	**37107**
40 ml ball tube with vapor duct and clips	**37117**
Rotation drying flask with vapor duct and clips	**37143**

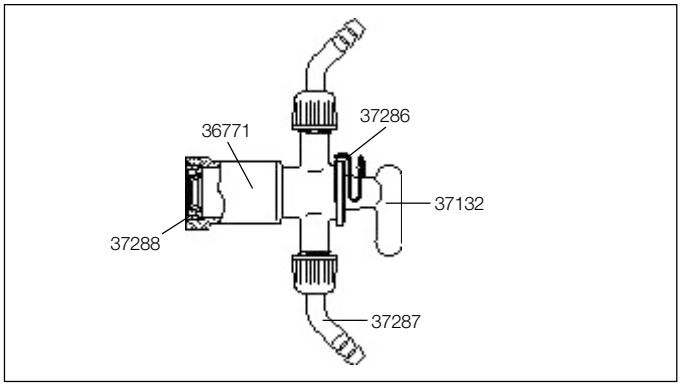

Figure 21: Connection cock with stop cock

10 230 V/120 V device fuse	**19660**
Connection cock	**36771**
Control cable B-580 GKR	**37024**
Cock	**37132**
Cooling dish	**37152**
Set STJ clips (12 pieces)	**37286**
Set hose nipples GL-14 (4 pieces)	**37287**
Set vacuum gaskets (5 pieces)	**37288**

Table 8: B-580 GKR replacement parts

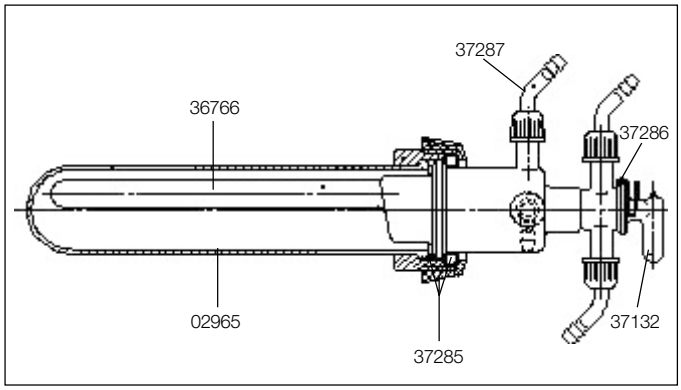

Figure 21: Sublimation accessory

8.3 Sublimation accessory replacement parts

Complete sublimation accessory	**37133**
Drying tube	**02965**
Flange ring	**02970**
Sublimation insert	**36766**
Cock	**37132**
Set flange screw, spring and gasket	**37285**
Set STJ clips (12 pieces)	**37286**
Set hose nipples GL 14 (4 pieces)	**37287**

Table 9: Sublimation accessory replacement parts

8.3 B-580 M replacement parts

Description	Order No.
Rotation drying flask with vapor duct	**37143**
Evaporating flask	**36478**
Vapor duct	**37073**
Condenser	**00772**
Receiving flask (50 ml)	**00774**
Distribution piece	**37428**
Aeration cock (on top of the condenser)	**00799**
Set vacuum gaskets (5 pieces)	**37288**
Set STJ clips (12 pieces)	**37286**
Screw connection SVL 22	**05149**
Seal for screw connection SVL 22	**04155**
Screw SVL 22	**05149**
10 fuses 120 V / 220 V	**19660**
Control cable B-580 GKR	**37024**

Table 10: B-580 M replacement parts

9 Appendix

9.1 Technical data

Supply voltage		230 V/120 V
Frequency		50-60 Hz
Power		max. 450 W
Warm-up time		approx. 10 min. (from 20°C to 300°C)
Temperature regulation range		40-300°C
Temperature accuracy		+/- 5°C (in the middle of the oven at 300°C)
TO	Drying volume Dimensions Weight	max. 100-250 ml 400 x 225 x 195 mm (length x width x heigth) 5,0 kg
GKR	Distillation volume Rotational speed Dimensions Weight	max. 10-60 ml 0-50 rpm 650 x 300 x 195 mm (length x width x heigth) 6,8 kg
Ambient temperature		5-40°C

Table 11: Technical data

9.2Troubleshooting

Error message	Possible cause	Remedy
Main switch does not light up	Device is turned off, power supply voltage is missing or fuse defective	Switch on the device, check power supply voltage and fuses
No temperature indication	LED or print defective	Check power supply voltage/fuses and adjust/replace them if not ok → send device to to service center
Oven does not heat	No power supply voltage or fuses defective, button of potentiometer on 0, heating defective	Check yellow LED display (Heating) LED ok: Heating defective → contact service center not ok: Check power supply voltage/fuses if ok: Heating or print defective → service center not ok: Connect power supply voltage or replace fuses
Motor does not turn (GKR only)	Device is turned off, no mains voltage or fuses defective, interfaces of control cable connecting main device and ball tube drive defective, gasket blocks the drive, motor or motorprint defective	Switch on the device, check mains voltage, fuses and control cable of the ball tube drive if ok: Dismantle gasket Motor turns: Gasket is worn Clean vapor duct Grease or replace gasket Motor does not turn: Motor or motorprint defective → send device to to service center
E1	Internal PT-1000 detector defective	Send device to service center
E2	HW error print	Send device to service center
E3	Over-temperature active	Switch the device off and on again if it's not ok → send device to service center

Table 12: Troubleshooting

9.3 Materials used

Designation	Materials	Material code
Housing	Steel sheet metal	ST 12
Heating tube	Borosilicate glass	
Glass jacket tube	Borosilicate glass	
Cooling dish	Hard polyethylene	HD-PE
Heater fixture (bottom)	Aluminium	ALMGSI 1
Heater fixture (top)	Polypropylene	PPO
GKR insert	Polypropylene	PPO
GKR housing	Crastine	PETP
Cooling insert	Polypropylene	PPO
Heating flange	Aluminium	ALMGSI 1

Table 13: Materials

9.4 Declaration of conformance

We
BÜCHI Labortechnik AG
Postfach, CH-9230 Flawil
Switzerland

declare under our sole responsibility that the product:
BÜCHI Glass Oven **B-580**

to which this declaration relates is in conformity with the following standards:

EN 61010-1:1993 (~ IEC 1010-1, VDE 0411-1)
Safety requirements for electrical equipment for mesurement, control an laboratory use: General requirements

EN 50014:1993
Limits and methods of measurement of radio disturbance characteristics of electrical motoroperated and thermal Rotavapors for household and similar purposes, electric tools and similar electrical apparatus

EN 50082-1:1992
Electromagnetic compatibility - Generic immunity standard: Residential, commercial, light industry.

EN 60555-2:1987 (~ IEC 555-2)
Disturbances in supply systems caused by hosehold Rotavapors and similar electrical equipment: Harmonics

EN 60555-3:1987 (~ IEC 555-3)
Disturbances in supply systems caused by hosehold Rotavapors and similar electrical equipment: Voltage fluctuations

EN 61000-3-2: 1995/1996
Limits for harmonic current emissions
EN 61000-3-3: 1995
Limitation of voltage fluctuations and flicker

following the provisions of EU-Directive:
Directive 73/23/EEC
Directive 89/336/EEC

Flawil, 16.02.2001

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