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Operating Manual

APT.line™ B 28

Incubators with mechanical control

APT.line™ E 28

Heating ovens with mechanical control

Model	Art. no.
B 28	9010-0002, 9110-0002
B 28 with thermostat class 1	9010-0004, 9110-0004
B 28 (115 V)	9010-0067, 9110-0067
E 28	9010-0001, 9110-0001
E 28 with thermostat class 1	9010-0003, 9110-0003
E 28 (115 V)	9010-0106, 9110-0106

BINDER GmbH

Address	Post office box 102 D-78502 Tuttlingen
Tel.	+49 7462 2005 0
Fax	+49 7462 2005 100
Internet	http://www.binder-world.com
E-mail	info@binder-world.com
Service Hotline	+49 7462 2005 555
Service Fax	+49 7462 2005 93 555
Service E-Mail	service@binder-world.com
Service Hotline USA	+1 866 885 9794 or +1 631 224 4340 x3
Service Hotline Asia Pacific	+852 39070500 or +852 39070503
Service Hotline Russia and CIS	+7 495 98815 17

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EC – declaration of conformity B 25

CE

EG – KONFORMITÄTSERKLÄRUNG
EC - DECLARATION OF CONFORMITY
CE - DECLARATION DE CONFORMITE

Anbieter / Supplier / Fournisseur:	BINDER GmbH
Anschrift / Address / Adresse:	Im Mittleren Ösch 5, D-78532 Tuttlingen
Produkt / Product / Produit:	Brutschränke mit mechanischer Regelung Incubators with mechanical control Incubateurs à régulation mécanique
Typenbezeichnung / Type / Type:	B 28

Die oben beschriebenen Produkte sind konform mit folgenden EG-Richtlinien:
The products described above are in conformity with the following EC guidelines:
Les produits décrits ci-dessus sont conformes aux directives CE suivantes:

Niederspannungsrichtlinie 2006/95/EG Low voltage directive 2006/95/EC Directive basse tension 2006/95/CE	Richtlinie 2006/95/EG des Europäischen Parlaments und des Rates vom 12. Dezember 2006 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen Council Directive 2006/95/EC of 12 December 2006 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits Directive 2006/95/CE du Parlement Européen et du Conseil du 12 décembre 2006 concernant le rapprochement des législations des États membres relatives au matériel électrique destiné à être employé dans certaines limites de tension
EMV-Richtlinie 2004/108/EG EMC Directive 2004/108/EC Directive CEM 2004/108/CE	Richtlinie 2004/108/EG des Europäischen Parlaments und des Rates vom 15. Dezember 2004 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit und zur Aufhebung der Richtlinie 89/336/EWG. Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 98/336/EEC. Directive 2004/108/CE du Parlement Européen et du Conseil du 15 décembre 2004 relative au rapprochement des législations des États membres concernant la compatibilité électromagnétique et abrogeant le directive 98/336/CEE.

Die oben beschriebenen Produkte tragen entsprechend die Kennzeichnung CE.
The products described above, corresponding to this, bear the CE-mark.
Les produits décrits ci-dessus, en correspondance, portent l'indication CE.

Die oben beschriebenen Produkte sind konform mit folgenden harmonisierten Normen:
The products described above are in conformity with the following harmonized standards:
Les produits décrits ci-dessus sont conformes aux normes harmonisées suivantes:

Sicherheit / safety / sécurité:

EN 61010-1:2010	Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte – Teil 1: Allgemeine Anforderungen (DIN EN 61010-1:2011, VDE 411-1:2011)
	Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements (IEC 61010-1:2010, BS EN 61010-1:2010)
	Règles de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 1: Prescriptions générales (CEI 61010-1:2010, NF EN 61010:2011)
EN 61010-2-010:2003	Sicherheitsbestimmungen für elektrische Meß-, Steuer-, Regel- und Laborgeräte – Teil 2-010: Besondere Anforderungen an Laborgeräte für das Erhitzen von Stoffen (DIN EN 61010-2-010:2004)
	Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-010: Particular requirements for laboratory equipment for the heating of materials (IEC 61010-2-10:2005, BS EN 61010-2-10:2003)
	Règles de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 2-010 : Prescriptions particulières pour appareils de laboratoire utilisés pour l'échauffement des matières (CEI 61010-2-10:2003, NF EN 61010-2-10:2005)

EMV / EMC / CEM:

EN 61326-1:2006 + Corr. 1:2008 + Corr. 2:2010	Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 1: Allgemeine Anforderungen (DIN EN 61326-1:2006 + Berichtigung 1:2008 + Berichtigung 2:2011)
	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements (IEC 61326-1:2005 + Corr. 1:2008 + Corr. 2:2010, BS EN 61326-1:2006+ A1:2008)
	Matériel électrique de mesure, de commande et de laboratoire - Exigences relatives à la CEM - Partie 1: Exigences générales (CEI 61326-1:2005 + AC1:2008, NF EN 61326-1:2006 mod.)
EN 61326-2-2:2006	Elektrische Mess-, Steuer-, Regel- und Laborgeräte – EMV-Anforderungen. Teil 2-2: Besondere Anforderungen - Prüfanordnung, Betriebsbedingungen und Leistungsmerkmale für ortsveränderliche Prüf-, Mess- und Überwachungsgeräte in Niederspannungs-Stromversorgungsnetzen. (DIN EN 61326-2-2:2006)
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D-78532 Tuttlingen, 06.06.2013

BINDER GmbH

P. M. Binder

Geschäftsführender Gesellschafter
Managing Director
Directeur général

B. Hofmann

Leiter F & E
Director R & D
Chef de service R&D

EC – declaration of conformity B 25

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Anbieter / Supplier / Fournisseur:	BINDER GmbH
Anschrift / Address / Adresse:	Im Mittleren Ösch 5, D-78532 Tuttlingen
Produkt / Product / Produit:	Wärmeschränke mit mechanischer Regelung Heating ovens with mechanical control Étuves à régulation mécanique
Typenbezeichnung / Type / Type:	E 28

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Content

Dear customer,

For the correct operation of the B incubators and E heating ovens, it is important that you read this operating manual completely and carefully and observe all instructions as indicated. Failure to read, understand and follow the instructions may result in personal injury. It can also lead to damage to the unit and/or poor equipment performance.

1. Safety

This operating manual is part of the components of delivery. Always keep it handy for reference. The device should only be operated by laboratory personnel especially trained for this purpose and familiar with all precautionary measures required for working in a laboratory. To avoid injuries and damage observe the safety instructions of the operating manual.

WARNING

Failure to observe the safety instructions.

Serious injuries and unit damage.

- Observe the safety instructions in this operating manual
- Carefully read the complete operating instructions of the B incubators and E heating ovens.

1.1 Legal considerations

This operating manual is for informational purposes only. It contains information for installing, start-up, operation and maintenance of the product. Note: the contents and the product described are subject to change without notice.

Understanding and observing the instructions in this operating manual are prerequisites for hazard-free use and safety during operation and maintenance. In no event shall BINDER be held liable for any damages, direct or incidental arising out of or related to the use of this manual.

This operating manual cannot cover all conceivable applications. If you would like additional information, or if special problems arise that are not sufficiently addressed in this manual, please ask your dealer or contact us directly by phone at the number located on page one of this manual

Furthermore, we emphasize that the contents of this operating manual are not part of an earlier or existing agreement, description, or legal relationship, nor do they modify such a relationship. All obligations on the part of BINDER derive from the respective purchase contract, which also contains the entire and exclusively valid statement of warranty administration. The statements in this manual neither augment nor restrict the contractual warranty provisions.

1.2 Structure of the safety instructions

In this operating manual, the following safety definitions and symbols indicate dangerous situations following the harmonization of ISO 3864-2 and ANSI Z535.6.

1.2.1 Signal word panel

Depending on the probability of serious consequences, potential dangers are identified with a signal word, the corresponding safety color, and if appropriate, 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 to the product and/or its functions or of a property in its proximity.

1.2.2 Safety alert symbol

Use of the safety alert symbol indicates a **risk of injury**.

Observe all measures that are marked with the safety alert symbol in order to avoid death or injury.

1.2.3 Pictograms

Warning signs			
 Electrical hazard	 Hot surface	 Explosive atmosphere	 Stability hazard
 Risk of corrosion and / or chemical burns	 Harmful substances	 Biohazard	 Pollution Hazard
Mandatory action signs			
 Mandatory regulation	 Read operating instructions	 Disconnect the power plug	 Environment protection
 Wear protective gloves	 Wear safety goggles		

Prohibition signs			
 Do NOT touch	 Do NOT spray with water		

	Information to be observed in order to ensure optimum function of the product.

1.2.4 Word message panel structure

Type / cause of hazard.

Possible consequences.

∅ Instruction how to avoid the hazard: prohibition

➢ Instruction how to avoid the hazard: mandatory action

Observe all other notes and information not necessarily emphasized in the same way, in order to avoid disruptions that could result in direct or indirect injury or property damage.

1.3 Localization / position of safety labels on the unit

The following labels are located on the unit:

Pictograms (Warning signs)	Service label
 Hot surface	

Figure 1: Position of labels on the unit

	Keep safety labels complete and legible.

Replace safety labels that are no longer legible. Contact BINDER Service for these replacements.

1.4 Type plate

The type plate is located at the bottom right on the left-hand side of the unit.

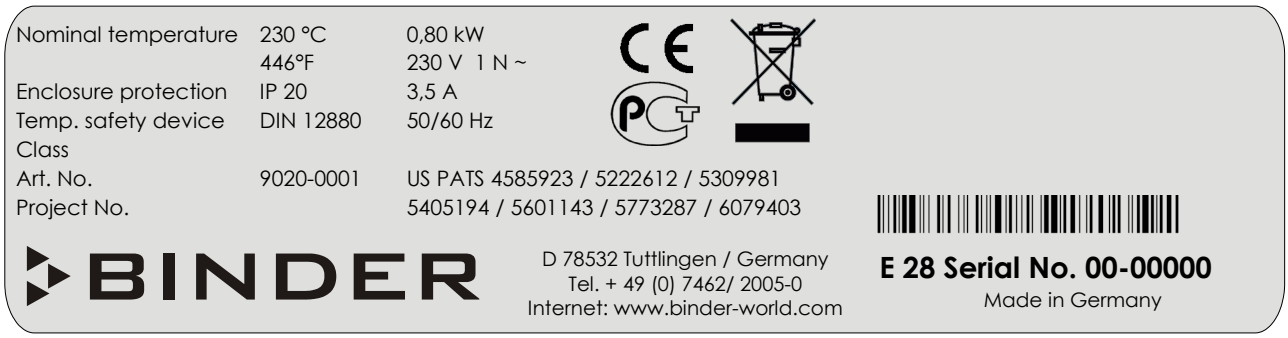


Figure 2: Type plate (example: E 28 regular unit)

Indications of the type plate		Information
BINDER		Manufacturer: BINDER GmbH
E 28		Model E 28
Serial No.	00-00000	Serial No. 00-00000
Nominal temperature	230 °C 446°F	Nominal temperature
Enclosure protection	IP 20	IP type of protection 20 acc. to EN 60529
Temp. safety device	DIN 12880	Temperature safety device acc. to standard DIN 12880
Class		Temperature safety device
Art. No.	9010-0001	Art. No. 9010-0001
Project No.	---	(Special application acc. to project no.)
0,80 kW		Nominal power 0.80 kW
230 V 1 N ~		Nominal voltage 230 V ± 10%, single-phase unit
3,5 A		Nominal current 3.5 Amp
50/60 Hz		Power frequency 50/60 Hz

Symbol on the type plate	Information
CE	CE conformity marking
	Electrical and electronic equipment manufactured / placed on the market in the EC after 13 August 2005 and to be disposed of in a separate collection according to directive 2002/96/EC on waste electrical and electronic equipment (WEEE).
	The equipment is certified in the GOST R certification system of GOSTSTANDARD Russia.

1.5 General safety instructions on installing and operating the B incubators and E heating ovens

With regard to operating the B incubators and E heating ovens and to the installation location, please observe the guideline BGI/GUV-I 850-0 on safe working in laboratories (formerly BGR/GUV-R 120 or ZH 1/119 laboratory guidelines issued by the employers' liability insurance association) (for Germany).

BINDER GmbH is only responsible for the safety features of the unit provided skilled electricians or qualified personnel authorized by BINDER perform all maintenance and repair, and if components relating to chamber safety are replaced in the event of failure with original spare parts.

To operate the unit, use only original BINDER accessories or accessories from third-party suppliers authorized by BINDER. The user is responsible for any risk caused by using unauthorized accessories.

CAUTION

Danger of overheating.

Damage to the unit.

∅ Do NOT install the unit in unventilated recesses.

∅ Do NOT cover the air exhaust slots on top of the housing.

➢ Ensure sufficient ventilation for dispersal of the heat.

Do not operate the B incubators and E heating ovens in hazardous locations.

DANGER

Explosion hazard.

Danger of death.

∅ Do NOT operate the unit in potentially explosive areas.

➢ KEEP explosive dust or air-solvent mixtures AWAY from the unit.

The B incubators and E heating ovens do not dispose of any measures of explosion protection.

DANGER

Explosion hazard.

Danger of death.

∅ Do NOT introduce any substance into the heating/drying oven which is combustible or explosive at working temperature

∅ NO explosive dust or air-solvent mixture in the inner chamber.

Any solvent contained in the charging material must not be explosive or inflammable. I.e., irrespective of the solvent concentration in the steam room, NO explosive mixture with air must form. The temperature inside the chamber must lie below the flash point or below the sublimation point of the charging material. Familiarize yourself with the physical and chemical properties of the charging material, as well as the contained moisture constituent and its behavior with the addition of heat energy.

Familiarize yourself with any potential health risks caused by the charging material, the contained moisture constituent or by reaction products that may arise during the temperature process. Take adequate measures to exclude such risks prior to putting the unit into operation.

DANGER

Electrical hazard.

Danger of death.

∅ The unit must NOT become wet during operation or maintenance.

The B incubators and E heating ovens were produced in accordance with the VDE regulations and were routinely tested in accordance to VDE 0411-1 (IEC 61010-1).

CAUTION

The air exhaust slots on top of the housing, the inner chamber, and the glass door (with B 28) become hot during operation.

Danger of burning.

∅ Do NOT touch the air exhaust slots on top of the housing, the glass door (with B 28), the inner surfaces, or the charging material during operation.

1.6 Intended use

1.6.1 B 28 incubators

The B incubators are designed for exact temperation of harmless materials. Because of their precise temperature accuracy these devices are especially useful for incubation of cultures at a standard temperature of 37 °C / *98.6 °F*. Any solvent content must not be explosive or flammable. A mixture of any component of the charging material with air must NOT be explosive. The operating temperature must lie below the flash point or below the sublimation point of the charging material.

Other applications are not approved.

Do NOT use the unit for drying processes when large quantities of vapor would form and result in condensation.

	Following the instructions in this operating manual and conducting regular maintenance work (chap. 7) are part of the intended use.

	Das Beschickungsgut darf keine korrosiven Inhaltsstoffe enthalten, welche die Komponenten des Gerätes aus Edelstahl, Aluminium und Kupfer angreifen können. Hierzu zählen insbesondere Säuren und Halogenide. Für etwaige Korrosionsschäden durch solche Inhaltsstoffe übernimmt die BINDER GmbH keine Haftung.

1.6.2 E 28 heating ovens

The E heating ovens are suitable for drying and heat treatment of solid or pulverized charging material, as well as bulk material, using the supply of heat. The solvent content must not be explosive or flammable. A mixture of any component of the charging material with air must NOT be explosive. The operating temperature must lie below the flash point or below the sublimation point of the charging material.

Other applications are not approved.

Do NOT use the unit for drying processes when large quantities of vapor would form and result in condensation.

	Due to the special demands of the Medical Device Directive (MDD), these ovens are not qualified for sterilization of medical devices as defined by the directive 93/42/EWG.

	Following the instructions in this operating manual and conducting regular maintenance work (chap. 7) are part of the intended use.

	Das Beschickungsgut darf keine korrosiven Inhaltsstoffe enthalten, welche die Komponenten des Gerätes aus Edelstahl, Aluminium und Kupfer angreifen können. Hierzu zählen insbesondere Säuren und Halogenide. Für etwaige Korrosionsschäden durch solche Inhaltsstoffe übernimmt die BINDER GmbH keine Haftung.

2. Unit description

BINDER incubators B and heating ovens E are heated electrically and are ventilated naturally.

BINDER incubators B and heating ovens E are NOT regularly equipped with any temperature safety device consequently correspond to class 0 according to DIN 12880. Operating is allowed under supervision only.

CAUTION

Danger of overheating.

Damage to the unit.

Damage to the charging material.

∅ Do NOT operate an unsupervised unit.

➢ Operate the unit under supervision only.

The units can be optionally equipped with a temperature safety device class 1.0 according to DIN 12880 (chap. 6).

The inner chamber, the pre-heating chamber and the interior side of the doors are all made of stainless steel (material no. 1.4301 (V2A) in Germany, US equivalent 304). The housing is RAL 7035 powder-coated. All corners and edges are also completely coated.

When operating the heating oven E at temperatures above 150 °C, the impact of the oxygen in the air may cause discoloration of the metallic surfaces (yellowish-brown or blue) by natural oxidation processes. These colorations are harmless and will in no way impair the function or quality of the unit.

Temperature range:

- Incubators B: Setting range 30 °C / *86 °F* up to 70 °C / *158 °F*, control range by 5° above room temperature up to 70 °C / *158 °F*.
- Heating ovens E: 60 °C / *140 °F* up to 230 °C / *446 °F*.

2.1 B 28 unit overview

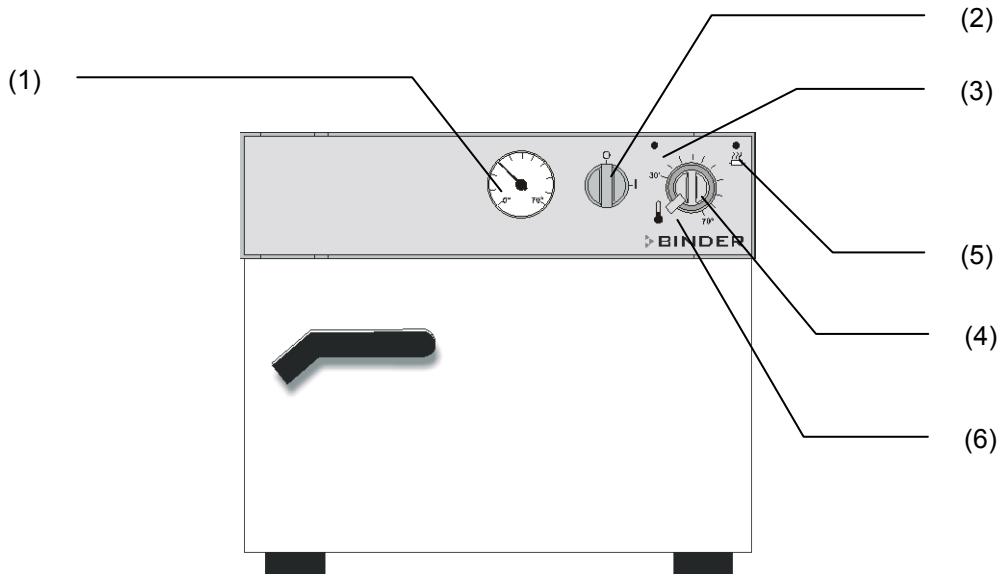


Figure 3: B 28 incubator

(1) Control thermometer
(2) Main power switch
(3) Pilot lamp green (ready to operate)
(4) Thermostat
(5) Pilot lamp yellow (heating active)
(6) Thermostat brake

2.2 E 28 unit overview

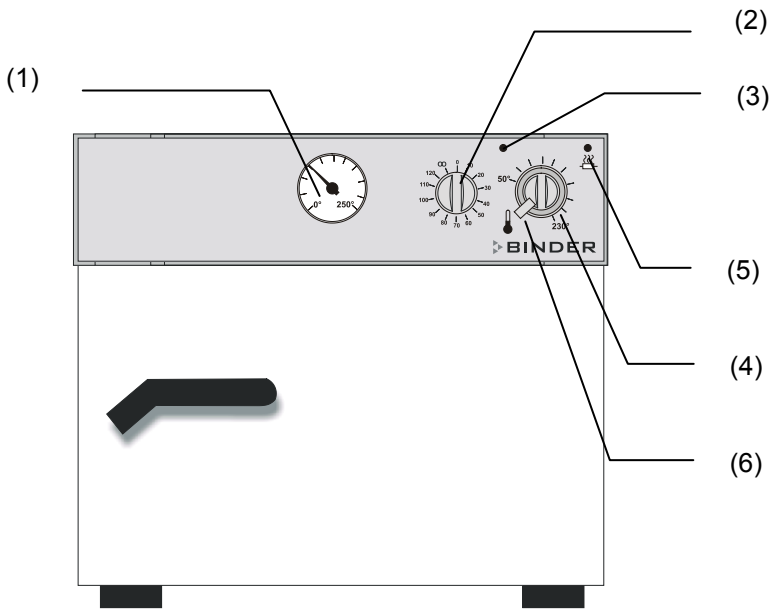


Figure 4: E 28 heating oven

(1) Control thermometer
(2) Timer 0-120 minutes (also main power switch)
(3) Pilot lamp green (ready to operate)
(4) Thermostat
(5) Pilot lamp yellow (heating active)
(6) Thermostat brake

3. Completeness of delivery, transportation, storage, and installation

3.1 Unpacking, and checking equipment and completeness of delivery

After unpacking, please check the unit and its optional accessories, if any, based on the delivery receipt for completeness and for transportation damage. Inform the carrier immediately if transportation damage has occurred.

The final tests of the manufacturer may have caused traces of the shelves on the inner surfaces. This has no impact on the function and performance of the unit.

Please remove any transportation protection devices and adhesives in/on the unit and on the doors and remove the operating manuals and accessory equipment.

CAUTION

Sliding or tilting of the unit.

Damage to the unit.

∅ Do NOT lift or transport the unit using the door or the handle.

➢ Lift the unit at the four lower corners with the aid of 2 people.

If you need to return the unit, please use the original packing and observe the guidelines for safe lifting and transportation (chap. 3.2).

For disposal of the transport packing, see chap. 8.1.

Note on second-hand units (Ex-Demo-Units):

Second-hand units are units that were used for a short time for tests or exhibitions. They are thoroughly tested before resale. BINDER ensures that the chamber is technically sound and will work flawlessly.

Second-hand units are marked with a sticker on the unit door. Please remove the sticker before commissioning the unit.

3.2 Guidelines for safe lifting and transportation

After operation, please observe the guidelines for temporarily decommissioning the unit (chap. 8.2).

CAUTION

Sliding or tilting of the unit.

Damage to the unit.

➢ Transport the unit in its original packaging only.

➢ For moving or shipping, secure the oven with transport straps.

∅ Do NOT lift or transport the unit using the door or the handle.

➢ Lift the unit at the four lower corners with the aid of 2 people.

- Permissible ambient temperature range during transport: -10 °C up to +60 °C / *14 °F up to 140 °F*.

You can order transport packing and pallets for moving or shipping purposes from BINDER Service.

3.3 Storage

Intermediate storage of the unit is possible in a closed and dry room. Observe the guidelines for temporary decommissioning (chap. 8.2).

- Permissible ambient temperature range during storage: -10 °C up to +60 °C / *14 °F up to 140 °F*.
- Permissible ambient humidity: max. 70 % r.H., non-condensing

When after storage in a cold location you transfer the unit to its warmer installation site, condensation may form. Before start-up, wait at least one hour until the chamber has attained ambient temperature and is completely dry.

3.4 Location of installation and ambient conditions

Set up the incubator B or the heating oven E on an even and non-flammable surface, free from vibration and in a well-ventilated, dry location and align it using a spirit level. The site of installation must be capable of supporting the unit's weight (see technical data, chap. 9.3 and 9.4). The chambers are designed for setting up inside a building (indoor use).

CAUTION

Danger of overheating.

Damage to the unit.

∅ Do NOT set up units in non-ventilated recesses.

➢ Ensure sufficient ventilation for dispersal of the heat.

- Permissible ambient temperature range during operation: +18 °C up to +40 °C / *64.4 °F up to 104 °F*. At elevated ambient temperature values, fluctuations in temperature can occur.

	The ambient temperature should not be substantially higher than the indicated ambient temperature of +25 °C / *77 °F* to which the specified technical data relate. Deviations from the indicated data are possible for other ambient conditions.

- Permissible ambient humidity: 70 % r.H. max., non-condensing.
- Installation height: max. 2000 m / *6.6 ft.* above sea level.

When placing several units of the same size side by side, maintain a minimum distance of 250 mm / *9.84 in* between each unit. Wall distances: rear 100 mm / *3.94 in*, sides 160 mm / 6.*29 in*. Spacing above the unit of at least 100 mm / *3.94 in* must also be maintained.

The devices are not suitable for stacking.

To completely separate the unit from the power supply, you must disconnect the power plug. Install the unit in a way that the power plug is easily accessible and can be easily pulled in case of danger.

Do not install or operate the unit in hazardous locations.

	**DANGER** **Explosion hazard.** **Danger of death.** ∅ Do NOT operate the unit in potentially explosive areas. ➢ KEEP explosive dust or air-solvent mixtures AWAY from the vicinity of the unit.

4. Installation of the equipment

4.1 Electrical connection

- **B 28, E 28:**

  Shockproof plug, power supply voltage 230 V (1N~) +/- 10 %, 50/60 Hz

  Fixed power connection cable of 1800 mm / *5.9 ft* in length

- **B 28 (115 V), E 28 (115 V):**

  NEMA plug 5-15P, power supply voltage 115 V (1N~) +/- 10 %, 60 Hz

  Fixed power connection cable of 1800 mm / *5.9 ft* in length

- Prior to connection and start-up, check the power supply voltage. Compare the values to the specified data located on the unit's type plate (on the left-hand side of the unit, see chap. 1.4).
- When connecting, please observe the regulations specified by the local electricity supply company as well as the VDE directives (for Germany)
- Pollution degree (acc. to IEC 61010-1): 2
- Over-voltage category (acc. to IEC 61010-1): II

	**CAUTION** **Danger of incorrect power supply voltage.** **Damage to the equipment.** ➢ Check the power supply voltage before connection and start-up. ➢ Compare the power supply voltage with the data indicated on the type plate.

See also electrical data (chap. 9.3 and 9.4).

	To completely separate the unit from the power supply, you must disconnect the power plug. Install the unit in a way that the power plug is easily accessible and can be easily pulled in case of danger.

5. Start up

5.1 Turning on the unit

Warming chambers may release odors in the first few days after commissioning. This is not a quality defect. To reduce odors quickly we recommend heating up the chamber to its nominal temperature for one day and in a well-ventilated location.

5.1.1 Turning on the B 28 incubator by the main power switch

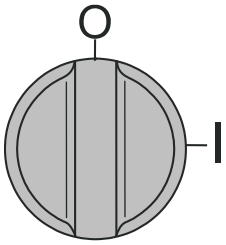


Figure 5: Main power switch ON/OFF (B 28)

Set the main power switch (2) to position **I**. The green pilot lamp (3) shows the unit is ready for operation.

5.1.2 Turning on the E 28 heating oven by the 0-120 minutes timer

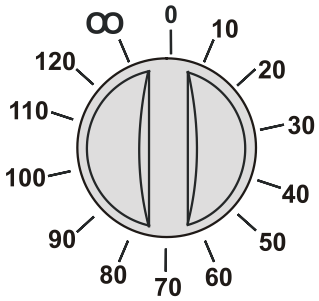


Figure 6: Timer 0-120 minutes (E 28)

In the zero-position (0) the heating is permanently deactivated.

When you turn the timer counter-clockwise up to position (∞), the chamber will work in continuous operating mode, i.e. the heating will operate permanently. The green pilot lamp (3) shows the unit is operating.

Set the operating time for the heating by turning the timer clockwise. The green pilot lamp (3) shows the unit is operating. When the time expires, the heating will turn off automatically. The pilot lamp (3) light will go out.

5.2 Temperature setting

The adjustment of the temperature level is identical for E and B. The temperature controllers only differ in the temperature range:

Set the thermostat knob (4) to the desired temperature. Lock it by turning the thermostat brake (6).

Illumination of the yellow pilot lamp (5) indicates that the heating is on. When the working temperature is reached, the yellow pilot lamp flashes indicating operation of the thermostat.

	To ensure exact temperature control, always set the temperature by turning the thermostat knob (4) clockwise. Before setting any temperature, turn the thermostat knob back to the left stop.

5.3 Fresh air supply

Use the ventilation slide inside the chamber on top at the ceiling to adjust fresh air supply.

If the ventilation slide is completely open, this may negatively influence the spatial temperature accuracy, which may decrease by up to 5 %.

The air exhaust slots on top of the housing become hot during operation. Do not cover them.

CAUTION

Danger of overheating.

Damage to the unit.

∅ Do NOT touch the air exhaust slots on top of the housing, the glass door (with B 28), the inner surfaces and the charging material during operation.

∅ Do NOT cover the air exhaust slots on top of the housing.

5.4 Using the E 28 for hot-air sterilization

Sterilizing load: Instruments, glass and glass instruments, syringes (no synthetic material or surgical cotton wool).

Sterilizing temperature: 180 °C / *356 °F*.

Sterilizing time: Unless laid down by special organizations of your country, we recommend 30 minutes after reaching the sterilizing temperature. When using sterilizing boxes, the sterilizing time must be increased by another 15 - 30 minutes.

	Due to the special demands of the Medical Device Directive (MDD), these ovens are not qualified for sterilization of medical devices as defined by directive 93/42/EWG.

6. Temperature safety device class 1 (option)

The unit can be optionally equipped with a temperature safety device class 1 acc. to DIN 12880. It serves to protect the unit and prevents dangerous conditions caused by major defects.

	This option permits unsupervised operating of the device.

If the nominal temperature is exceeded by about 25 degrees, the over temperature protective device permanently turns off the unit.

When the unit has cooled down, you can turn on the heating by pressing the reset button at the back of the unit. If the heating elements turn off repeatedly, have a specialist investigate and remove the reason of the failure. The reset button is located on the unit rear, at the bottom right side.

	If the temperature safety device acts repeatedly, please contact an authorized service or BINDER Service.

7. Maintenance, cleaning, and service

7.1 Maintenance intervals, service

DANGER

Electrical hazard.

Danger of death.

∅ The unit must NOT become wet during operation or maintenance work.

∅ Do NOT remove the rear panel of the unit.

➢ Before conducting maintenance work, turn off the unit and disconnect the power plug.

➢ Ensure all maintenance work is conducted by licensed electricians or experts authorized by BINDER.

Ensure regular maintenance work is performed at least once a year.

The warranty becomes void if maintenance work is conducted by non-authorized personnel.

Replace the door gasket only when cold. Otherwise, the door gasket may become damaged.

We recommend taking out a maintenance agreement. Please consult BINDER Service.

BINDER telephone hotline:	+49 (0) 7462 2005 555
BINDER fax hotline:	+49 (0) 7462 2005 93555
BINDER e-mail hotline:	service@binder-world.com
BINDER service hotline USA:	+1 866 885 9794 or +1 631 224 4340 (toll-free in the USA) x3
BINDER service hotline Asia Pacific:	+852 39070500 or +852 39070503
BINDER service hotline Russia and CIS	+7 495 98815 17
BINDER Internet website	http://www.binder-world.com
BINDER address	BINDER GmbH, post office box 102, D-78502 Tuttlingen

International customers, please contact your local BINDER distributor.

7.2 Cleaning and decontamination

Clean the unit after each use to avoid potential corrosion damage by ingredients of the test material.

DANGER

Electrical hazard.

Danger of death.

∅ Do NOT spill water or cleaning agents over the inner and outer surfaces.

➢ Before cleaning, turn off the unit and disconnect the power plug.

➢ Completely dry the appliance before turning it on again.

7.2.1 Cleaning

Disconnect the chamber from the power supply before cleaning. Pull the power plug.

Wipe the surfaces with a moistened towel. In addition, you can use the following cleaning agents:

Exterior surfaces inner chamber racks door gaskets	Standard commercial cleaning detergents free from acid or halides. Alcohol based solutions. We recommend using the neutral cleaning agent Art. No. 1002-0016.
Instrument panel	Standard commercial cleaning detergents free from acid or halides. We recommend using the neutral cleaning agent Art. No. 1002-0016.
Zinc coated hinge parts rear unit wall	Standard commercial cleaning detergents free from acid or halides. Do NOT use a neutral cleaning agent on zinc coated surfaces.

	We recommend using the neutral cleaning agent Art. No. Art. Nr. 1002-0016 for a thorough cleaning. Any corrosive damage that may arise following use of other cleaning agents is excluded from liability by BINDER GmbH. Any corrosive damage caused by a lack of cleaning, is excluded from liability by BINDER GmbH.

	**CAUTION** **Danger of corrosion.** **Damage to the unit.** ∅ Do NOT use acidic or chlorine cleaning detergents. ∅ Do NOT use a neutral cleaning agent on other kind of surfaces e.g., the zinc coated hinge parts or the rear unit wall.

	For surface protection, perform cleaning as quickly as possible. After cleaning, completely remove cleaning agents from the surfaces with a moistened towel. Let the unit dry.

	Soapsuds may contain chlorides and must therefore NOT be used for cleaning.

	With every decontamination method, always use adequate personal safety controls.

Following cleaning, leave the unit door open or remove the access port plugs.

	The neutral cleaning agent may cause health problems in contact with skin and if ingested. Follow the operating instructions and safety hints labeled on the bottle of the neutral cleaning agent.

Recommended precautions: To protect the eyes use sealed protective goggles. Suitable protective gloves with full contact: butyl or nitrile rubber, penetration time >480 minutes.

CAUTION

Contact with skin, ingestion.

Skin and eye damage due to chemical burns.

∅ Do not ingest. Keep away from food and beverages.

∅ Do NOT empty into drains.

➢ Wear protective gloves and goggles.

➢ Avoid skin contact.

7.2.2 Decontamination

Disconnect the chamber from the power supply prior to decontamination. Pull the power plug.

You can use the following disinfectants:

Inner chamber	Standard commercial surface disinfectants free from acid or halides. Alcohol-based solutions. We recommend using the disinfectant spray Art. No. 1002-0022.

	For chemical disinfection, we recommend using the disinfectant spray Art. No. 1002-0022. Any corrosive damage that may arise following use of other disinfectants is excluded from liability by BINDER GmbH.

	With every decontamination method, always use adequate personal safety controls.

In case of impurity of the interior with biological or chemical hazardous goods, there are three possible procedures depending on the type of contamination and of the charging material.

(1) The heating ovens E can be hot air sterilized at 190 °C / *374 °F* for at least 30 minutes. All inflammable goods must be removed from the interior before.

(2) Spray the inner chamber with an appropriate disinfectant.

Before start-up, the unit must be absolute dry and ventilated, because explosive gases may form during the decontamination process.

(3) If necessary, have strongly contaminated inner chamber parts removed by an engineer for cleaning, or have them exchanged. Sterilize the inner chamber parts in a sterilizer or autoclave.

	In case of eye contact, the disinfectant spray may cause eye damage due to chemical burns. Follow the operating instructions and safety hints labeled on the bottle of the disinfectant spray.

Recommended precautions: To protect the eyes use sealed protective goggles.

CAUTION

Eye contact.

Eye damage due to chemical burns.

∅ Do NOT empty into drains.

➢ Wear protective goggles.

After using the disinfectant spray, allow the unit to dry thoroughly, and aerate it sufficiently.

7.3 Sending the unit back to BINDER GmbH

If you return a BINDER product to us for repair or any other reason, we will only accept the product upon presentation of an authorization number that has previously been issued to you. An authorization number will be issued after receiving your complaint either in writing or by telephone **prior** to your sending the BINDER product back to us. The authorization number will be issued following receipt of the information below:

- BINDER product type and serial number
- Date of purchase
- Name and address of the dealer from which you bought the BINDER product
- Exact description of the defect or fault
- Complete address, contact person and availability of that person
- Exact location of the BINDER product in your facility
- A contamination clearance certificate (chap. 10) must be faxed in advance

The authorization number must be applied to the packaging in such a way that it can be easily recognized or be recorded clearly in the delivery documents.

For security reasons we cannot accept a unit delivery if it does not carry an authorization number.

8. Disposal

8.1 Disposal of the transport packing

Packing element	Material	Disposal
Straps to fix packing on pallet	Plastic	Plastic recycling
Transport box with metal clamps	Cardboard	Paper recycling
	Metal	Metal recycling
Edge protection	Styropor®	Plastic recycling
Protection of doors and racks	PE foam	Plastic recycling
Bag for operating manual	PE foil	Plastic recycling
Insulating air cushion foil (packing of optional accessories)	PE foil	Plastic recycling

If recycling is impossible, all packing parts can also be disposed of with normal waste.

8.2 Decommissioning

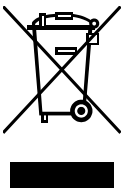
Turn off the main power switch (2). Disconnect the unit from the power supply.

	When turning off the main power switch ON / OFF (2), the stored parameters remain saved.

- Temporal decommissioning: See indications for appropriate storage, chap. 3.3.
- Final decommissioning: Dispose of the unit as described in chap. 8.3 to 8.5.

8.3 Disposal of the unit in the Federal Republic of Germany

According to directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE), BINDER devices are classified as “monitoring and control instruments” (category 9) only intended for professional use“. They must not be disposed of at public collecting points.



The B incubators and E heating ovens bear the symbol for the marking of electrical and electronic equipment manufactured / placed on the market in the EC after 13 August 2005 and be disposed of in separate collection according to the directive 2002/96/EC on waste electrical and electronic equipment (WEEE) and German national law for electrical and electronic equipment (Elektro- und Elektronikgerätegesetz, ElektroG). WEEE marking: crossed-out wheeled bin with solid bar under. A significant part of the materials must be recycled in order to protect the environment.

At the end of the device’s service life, have the device disposed of according to the German national law for electrical and electronic equipment (Elektro- und Elektronikgerätegesetz, ElektroG) from 23 March 2005, BGBl. I p. 762 or contact BINDER service who will organize taking back and disposal of the unit according to the German national law for electrical and electronic equipment (Elektro- und Elektronikgerätegesetz, ElektroG) from 23 March 2005, BGBl. I p. 762.

	CAUTION
	Violation against existing law. ∅ Do NOT dispose of BINDER devices at public collecting points. ➢ Have the device disposed of professionally at a recycling company that is certified according to the German national law for electrical and electronic equipment (Elektro- und Elektronikgerätegesetz, ElektroG) from 23 March 2005, BGBl. I p. 762. *or* ➢ Instruct BINDER Service to dispose of the device. The general terms of payment and delivery of BINDER GmbH apply, which were valid at the time of purchasing the unit.

Certified companies disassemble waste (used) BINDER equipment in primary substances for recycling according to directive 2002/96/EC. The devices must be free from toxic, infectious or radioactive substances in order to eliminate any health hazards to the employees of the recycling companies.

	Prior to handing the unit over to a recycling company, it is the user’s responsibility that it is free from toxic, infectious or radioactive substances. • Prior to disposal, clean all introduced or residual toxic substances from the unit. • Prior to disposal disinfect the unit from all sources of infection. Be aware that sources of infection may also be located outside the inner chamber. • If you cannot safely remove all toxic substances and sources of infection from the unit, dispose of it as special waste according to national law. • Fill out the contamination clearance certificate (chap. 10) and enclose it with the unit.

WARNING

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

Danger of intoxication.

Danger of infection.

∅ NEVER take a unit contaminated with toxic substances or sources of infection for recycling according to directive 2002/96/EC.

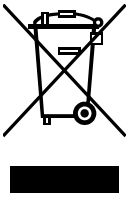
➢ Prior to disposal, remove all toxic substances and sources of infection from the unit.

➢ A unit from which all toxic substances or sources of infection cannot be safely removed must be considered as “special” waste according to national law. Dispose of it accordingly.

8.4 Disposal of the unit in the member states of the EC except for the Federal Republic of Germany

According to directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE), BINDER devices are classified as “monitoring and control instruments” (category 9) only intended for professional use“. They must not be disposed of at public collecting points.

The B incubators and E heating ovens bear the symbol for the marking of electrical and electronic equipment manufactured / placed on the market in the EC after 13 August 2005 and be disposed of in separate collection according to the directive 2002/96/EC on waste electrical and electronic equipment (WEEE). WEEE marking: crossed-out wheeled bin with solid bar under.



At the end of the device’s service life, notify the distributor who sold you the device, who will take back and dispose of the unit according to the directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment (WEEE).

CAUTION

Violation against existing law.

∅ Do NOT dispose of BINDER devices at public collecting points.

➢ Have the device disposed of professionally at a recycling company that is certified according to conversion of the directive 2002/96/EC into national law.

or

➢ Instruct the distributor who sold you the device to dispose of it. The agreements apply that were agreed with the distributor when purchasing the unit (e.g. his general terms of payment and delivery).

➢ If your distributor is not able to take back and dispose of the unit, please contact BINDER service.

Certified companies disassemble waste (used) BINDER equipment in primary substances for recycling according to directive 2002/96/EC. The devices must be free from toxic, infectious or radioactive substances in order to eliminate any health hazards to the employees of the recycling companies.

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

- Prior to disposal, clean all introduced or residual toxic substances from the unit.
- Prior to disposal, disinfect the unit from all sources of infection. Be aware that sources of infection may also be located outside the inner chamber.
- If you cannot safely remove all sources of infection and toxic substances from the unit, dispose of it as special waste according to national law.
- Fill out the contamination clearance certificate (chap. 10) and enclose it with the unit.

WARNING

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

Danger of intoxication.

Danger of infection.

∅ NEVER take a unit contaminated with toxic substances or sources of infection for recycling according to directive 2002/96/EC.

➢ Prior to disposal, remove all toxic substances and sources of infection from the unit.

➢ A unit from which all toxic substances or sources of infection cannot be safely removed must be considered as “special” waste according to national law. Dispose of it accordingly.

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

CAUTION

Alteration of the environment.

➢ For final decommissioning and disposal of the oven, please contact BINDER Service.

➢ Follow the statutory regulations for appropriate, environmentally friendly disposal.

The main board of the oven includes a lithium cell. Please dispose of it according to national regulations.

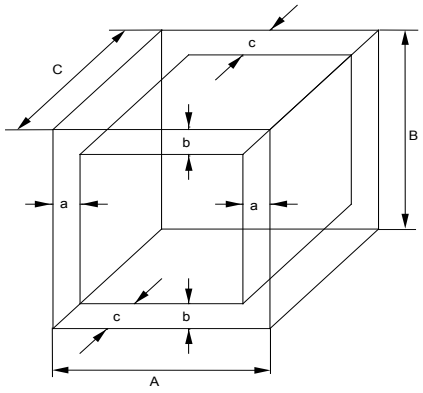
9. Technical description

9.1 Factory calibration and adjustment

This unit was calibrated and adjusted in the factory. Calibration and adjustment were performed using standardized test instructions, according to the QM DIN EN ISO 9001 system applied by BINDER (certified since December 1996 by TÜV CERT). All test equipment used is subject to the administration of measurement and test equipment that is also constituent part of the BINDER QM DIN EN ISO 9001 systems. They are controlled and calibrated to a DKD-Standard at regular intervals.

9.2 Definition of usable volume

The usable volume illustrated below is calculated as follows:



A, B, C = Internal dimensions (W, H, D)
a, b, c = Wall clearances

a = 0.1 x A
b = 0.1x B
c = 0.1 x C

VUSE = (A - 2a) x (B - 2b) x (C - 2c)

Figure 7: Determination of the useable volume

Technical data refers to the so defined usable volume.

	Do NOT place samples outside this usable volume. Do NOT load this volume by more than half to enable sufficient airflow inside the chamber. Do NOT divide the usable volume into separate parts with large area samples. Do NOT place samples too close to each other in order to permit circulation between them and thus obtain a homogenous distribution of temperature.

	E 28: At working temperatures below approx. 70 °C / *158 °F* and very low charge, temperature variations due to physical reasons can occur. In order to reduce them we recommend charging the oven with at least 20% of the usable volume.

9.3 B 28 technical data

Exterior dimensions		
Width	mm / *inch*	580 / *22.83*
Height (incl. feet)	mm / *inch*	402 / *15.83*
Depth	mm / *inch*	425 / *16.73*
incl. door handle	mm / *inch*	85 / *3.35*
Wall clearance rear	mm / *inch*	100 / *3.94*
Wall clearance side	mm / *inch*	160 / *6.30*
Number of doors		1
Number of inner glass doors		1
Interior dimensions		
Width	mm / *inch*	400 / *15.75*
Height	mm / *inch*	280 / *11.02*
Depth	mm / *inch*	250 / *9.84*
Interior volume	l / *cu.ft.*	28 / *0.99*
Number of racks, regular / max.		2/4
Load per rack	Kg / *lbs*	10 / *22*
Permitted total load	Kg / *lbs*	25 / *55*
Weight (empty)	Kg / *lbs*	23 / *51*
Temperature data		
Temperature range, by 5 °C above ambient up to	°C	70 / *158*
Temperature fluctuation at 37 °C / *98.6 °F*	± K	1
Electrical data		
IP system of protection acc. to EN 60529	IP	20
Nominal voltage (±10 %) 50/60 Hz	V	230 1N~
Nominal power	kW	0.25
Power plug		shock proof plug
Installation category acc. to IEC 61010-1		II
Pollution degree acc. to IEC 61010-1		2
Electrical data, 115V type (for USA and Canada)		
IP system of protection acc. to EN 60529	IP	20
Nominal voltage (±10 %) 50/60 Hz	V	115 1N~
Nominal power	kW	0.20
Power plug	NEMA	5-15P
Installation category acc. to IEC 61010-1		II
Pollution degree acc. to IEC 61010-1		2

All technical data is specified for unloaded units with standard equipment at an ambient temperature of +25 °C / *77 °F* and a power supply voltage fluctuation of ±10. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width and depth of the inner chamber.

All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

If the cabinet is fully loaded, the specified heating up times may vary according to the load.

9.4 E 28 technical data

Exterior dimensions			
Width		mm / *inch*	580 / *22.83*
Height (incl. feet)		mm / *inch*	402 / *15.83*
Depth		mm / *inch*	425 / *16.73*
incl. door handle		mm / *inch*	50 / *1.97*
Wall clearance rear		mm / *inch*	100 / *3.94*
Wall clearance side		mm / *inch*	160 / *6.30*
Number of doors			1
Interior dimensions			
Width		mm / *inch*	400 / *15.75*
Height		mm / *inch*	280 / *11.02*
Depth		mm / *inch*	250 / *9.84*
Interior volume		l / *cu.ft.*	28 / *0.99*
Number of racks, regular / max.			2 / 4
Load per rack		Kg / *lbs*	10 / *22*
Permitted total load		Kg / *lbs*	25 / *55*
Weight (empty)		Kg / *lbs*	22 / *49*
Temperature data			
Temperature range		°C	60 up to 230 *140 up to 446*
Temperature fluctuation	at 70 °C / *158 °F*	± K	1.5
Temperature uniformity (variation)	at 70 °C / *158 °F*	± K	3
Heating up time (up to 98 % of the set value)	to 70 °C / *158 °F*	minutes	28
	to 150 °C / *302 °F*	minutes	36
Recovery time after door was opened for 30 sec (up to 98 % of the set value)	at 70 °C / *158 °F*	minutes	11
	at 150 °C / *302 °F*	minutes	19
Air change (air flap open)	at 70 °C / *158 °F*	x/h	30
Electrical data, 230V type			
IP system of protection acc. to EN 60529		IP	20
Nominal voltage (±10 %) 50/60 Hz		V	230 1N~
Nominal power		kW	0.80
Power plug			shock proof plug
Installation category acc. to IEC 61010-1			II
Pollution degree acc. to IEC 61010-1			2
Electrical data, 115V type (for USA and Canada)			
IP system of protection acc. to EN 60529		IP	20
Nominal voltage (±10%) 60 Hz		V	115 1N~
Nominal power		kW	0.80
Power plug		NEMA	5-15P
Installation category acc. to IEC 61010-1			II
Pollution degree acc. to IEC 61010-1			2

All technical data is specified for unloaded units with standard equipment at an ambient temperature of +25 °C / *77 °F* and a power supply voltage fluctuation of ±10. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width and depth of the inner chamber.

All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

If the cabinet is fully loaded, the specified heating up times may vary according to the load.

9.5 Equipment and Options

	To operate the unit, use only original BINDER accessories or accessories / components from third-party suppliers authorized by BINDER. The user is responsible for any risk arising from using unauthorized accessories.

	B 28	E 28
Standard equipment		
Hydraulic-mechanic thermostat	●	●
Analog thermometers	●	●
Timer 0-120 minutes	--	●
Inner glass door	●	--
Adjustable ventilation slide	●	●
Options / accessories		
Rack, chrome-plated	○	○
Perforated shelf, stainless steel	○	○
Temperature safety device class 1 acc. to DIN 12880	○	○
Rubber pads for safe stacking (4 pieces)	○	○
Neutral cleaning agent (liquid concentrate)	○	○

Legend: ● Standard equipment ○ Optional -- Not available

9.6 Accessories and spare parts

	BINDER GmbH is only responsible for the safety features of the unit only, provided skilled electricians or qualified personnel authorized by BINDER perform all maintenance and repair, and if components relating to chamber safety are replaced in the event of failure with original spare parts. The user is responsible for any risks arising from using unauthorized accessories/components.

Accessories and spare parts:

	B 28	E 28
Description	**Art. no.**	**Art. no.**
Rack, chrome-plated	6004-0001	6004-0001
Perforated shelf, stainless steel	6004-0028	6004-0028
Door gasket silicone	6005-0001	6005-0001
Rubber pads for safe stacking (4 pieces)	8012-0001	8012-0001
Temperature safety device class 3.1	5006-0006 (0 °C up to 100 °C)	5006-0001 (50 °C up to 300 °C)
Temperature safety device class 1 (option)	5006-0004 (105 °C, tolerance -9 °C)	5006-0002 (260 °C, tolerance -25 °C)
Thermometer	5016-0001 (10 °C bis 70 °C)	5016-0002 (0 °C bis 250 °C)
Radial switch 2-poles	5017-0002	--
Radial switch timer 0-120 minutes	--	5017-0014
Neutral cleaning agent, 1 kg	1002-0016	1002-0016

10. Contamination clearance certificate

10.1 For units located outside North America and Central America

Declaration regarding safety and health

Erklärung zur Sicherheit und gesundheitlichen Unbedenklichkeit

The German Ordinance on Hazardous Substances (GefStofV), and the regulations regarding safety at the workplace, require that this form be filled out for all products that are returned to us, so that the safety and the health of our employees can be guaranteed.

Die Sicherheit und Gesundheit unserer Mitarbeiter, die Gefahrstoffverordnung GefStofV und die Vorschriften zur Sicherheit am Arbeitsplatz machen es erforderlich, dass dieses Formblatt für alle Produkte, die an uns zurückgeschickt wird.

	Note: A repair is not possible without a completely filled out form. Ohne Vorliegen des vollständig ausgefüllten Formblattes ist eine Reparatur nicht möglich.

- A completely filled out form must be transmitted via Fax (+49 (0) 7462 2005 93555) or by letter in advance, so that this information is available before the equipment/component part arrives. A second copy of this form must accompany the equipment/component part. In addition, the carrier should be notified.

  Eine vollständig ausgefüllte Kopie dieses Formblattes soll per Telefax (Nr. +49 (0) 7462 2005 93555) oder Brief vorab an uns gesandt werden, so dass die Information vorliegt, bevor das Gerät/Bauteil eintrifft. Eine weitere Kopie soll dem Gerät/Bauteil beigefügt sein. Ggf. ist auch die Spedition zu informieren.

- Incomplete information or non-conformity with this procedure will inevitably lead to substantial delays in processing. Please understand the reason for this measure, which lies outside our area of influence and will help us to speed up this procedure.

  Unvollständige Angaben oder Nichteinhalten dieses Ablaufs führen zwangsläufig zu beträchtlichen Verzögerungen in der Abwicklung. Bitte haben Sie Verständnis für Maßnahmen, die außerhalb unserer Einflussmöglichkeiten liegen und helfen Sie mit, den Ablauf beschleunigen.

- **Please print and fill out this form completely.**

  Bitte unbedingt vollständig ausfüllen!

1.	**Unit/ component part / type:** / Gerät / Bauteil / Typ:
2.	**Serial No.**/ Serien-Nr.:
3.	**Details about utilized substances / biological substances** / Einzelheiten über die eingesetzten Substanzen/biologische Materialien:
3.1	**Designations** / Bezeichnungen:
a)	_____
b)	_____
c)	_____
3.2	**Safety measures required for handling these substances** / Vorsichtsmaßnahmen beim Umgang mit diesen Stoffen:
a)	_____
b)	_____
c)	_____

3.3 **Measures to be taken in case of skin contact or release into the atmosphere** / Maßnahmen bei Personenkontakt oder Freisetzung:

a) _____

b) _____

c) _____

d) _____

3.4 **Other important information that must be taken into account** / Weitere zu beachtende und wichtige Informationen:

a) _____

b) _____

c) _____

4. **Declaration on the risk of these substances (please checkmark the applicable items)** / Erklärung zur Gefährlichkeit der Stoffe (bitte Zutreffendes ankreuzen) :

❑ **4.1** **For non toxic, non radioactive, biologically harmless materials** / für nicht giftige, nicht radioaktive, biologisch ungefährliche Stoffe:

We hereby guarantee that the above-mentioned unit / component part… / Wir versichern, dass o.g. Gerät/Bauteil...

❑ Has not been exposed to or contains any toxic or otherwise hazardous substances / weder giftige noch sonstige gefährliche Stoffe enthält oder solche anhaften.

❑ That eventually generated reaction products are non-toxic and also do not represent a hazard / auch evtl. entstandene Reaktionsprodukte weder giftig sind noch sonst eine Gefährdung darstellen.

❑ Eventual residues of hazardous substances have been removed / evtl. Rückstände von Gefahrstoffen entfernt wurden.

❑ **4.2** **For toxic, radioactive, biologically harmful or hazardous substances, or any other hazardous materials** / für giftige, radioaktive, biologisch bedenkliche bzw. gefährliche Stoffe oder anderweitig gefährliche Stoffe.

We hereby guarantee that … / Wir versichern, dass …

❑ The hazardous substances, which have come into contact with the above-mentioned equipment/component part, have been completely listed under item 3.1 and that all information in this regard is complete / die gefährlichen Stoffe, die mit dem o.g. Gerät/Bauteil in Kontakt kamen, in 3.1 aufgelistet sind und alle Angaben vollständig sind.

❑ That the unit /component part has not been in contact with radioactivity / das Gerät/Bauteil nicht mit Radioaktivität in Berührung kam

5. **Kind of transport / transporter / Transportweg/Spediteur:**

Transport by (means and name of transport company, etc.) Versendung durch (Name Spediteur o.ä.)

_____

Date of dispatch to BINDER GmbH / Tag der Absendung an BINDER GmbH:

_____

We hereby declare that the following measures have been taken / Wir erklären, dass folgende Maßnahmen getroffen wurden:

- ❑ Hazardous substances were removed from the unit including component parts, so that no hazard exists for any person in the handling or repair of these items / das Gerät/Bauteil wurde von Gefahrstoffen befreit, so dass bei Handhabung/Reparaturen für die betreffenden Person keinerlei Gefährdung besteht
- ❑ The unit was securely packaged and properly identified / das Gerät wurde sicher verpackt und vollständig gekennzeichnet.
- ❑ Information about the hazardousness of the shipment (if required) has been provided to the transporter / der Spediteur wurde (falls vorgeschrieben) über die Gefährlichkeit der Sendung informiert.

We hereby commit ourselves and guarantee that we will indemnify BINDER GmbH for all damages that are a consequence of incomplete or incorrect information provided by us, and that we will exempt BINDER GmbH from eventual damage claims by third parties./ Wir versichern, dass wir gegenüber BINDER für jeden Schaden, der durch unvollständige und unrichtige Angaben entsteht, haften und BINDER gegen eventuell entstehende Schadenansprüche Dritter freistellen.

We are aware that, in accordance with Article 823 of the German Civil Code (BGB), we are directly liable with regard to third parties, in this instance especially the employees of BINDER GmbH, who have been entrusted with the handling / repair of the unit / component. / Es ist uns bekannt, dass wir gegenüber Dritten – hier insbesondere mit der Handhabung/Reparatur des Geräts/des Bauteils betraute Mitarbeiter der Firma BINDER - gemäß §823 BGB direkt haften

Name: _____

Position/Title:_____

Date / Datum:_____

Signature / Unterschrift: _____

Company stamp / Firmenstempel:

	Equipment that is returned to the factory for repair must be accompanied by a completely filled out contamination clearance certificate. For service and maintenance on site, such a contamination clearance certificate must be submitted to the service technician before the start of any work. No repair or maintenance of the equipment is possible, without a properly filled out contamination clearance certificate.

10.2 For units in North America and Central America

Product Return Authorization Request

Please complete this form and the Customer Decontamination Declaration (next 2 pages) and attach the required pictures. E-mail to: IDL_SalesOrderProcessing_USA@binder-world.com

After we have received and reviewed the complete information we will decide on the issue of a RMA number. Please be aware that size specifications, voltage specifications as well as performance specifications are available on the internet at www.binder-world.us at any time.

Take notice of shipping laws and regulations.

	Please fill:	
Reason for return request	○ Duplicate order	
	○ Duplicate shipment	
	○ Demo	*Page one completed by sales*
	○ Power Plug / Voltage	115V / 230 V / 208 V / 240V
	○ Size does not fit space	
	○ Transport Damage	Shock watch tripped? *(pictures)*
	○ Other (specify below)	
	_____	
Is there a replacement PO?	○ Yes ○ No	
If yes -> PO #		
If yes -> Date PO placed		
Purchase order number		
BINDER model number		
BINDER serial number		
Date unit was received		
Was the unit unboxed?	○ Yes ○ No	
Was the unit plugged in?	○ Yes ○ No	
Was the unit in operation?	○ Yes ○ No	
Pictures of unit attached? *Pictures of Packaging attached?*	○ Yes ○ No ○ Yes ○ No	Pictures have to be attached!

	Customer Contact Information	Distributor Contact Information
Name		
Company		
Address		
Phone		
E-mail		

Customer (End User) Decontamination Declaration

Health and Hazard Safety declaration

To protect the health of our employees and the safety at the workplace, we require that this form is completed by the user for all products and parts that are returned to us. (Distributors or Service Organizations cannot sign this form)

	NO RMA number will be issued without a completed form. Products or parts returned to our NY warehouse without a RMA number will be refused at the dock.

A second copy of the completed form must be attached to the outside of the shipping box.

1.	**Unit/ component part / type**:
2.	**Serial No.**
3.	List any exposure to hazardous liquids, gasses or substances and radioactive material
3.1	**List with MSDS sheets attached where available or needed (if there is not enough space available below, please attach a page):**
a)	_____
b)	_____
c)	_____
3.2	**Safety measures required for handling the list under 3.1**
a)	_____
b)	_____
c)	_____
3.3	**Measures to be taken in case of skin contact or release into the atmosphere**:
a)	_____
b)	_____
c)	_____
d)	_____
3.4	**Other important information that must be considered**:
a)	_____
b)	_____
c)	_____

4. Declaration of Decontamination

For toxic, radioactive, biologically and chemically harmful or hazardous substances, or any other hazardous materials.

We hereby guarantee that

4.1 Any hazardous substances, which have come into contact with the above-mentioned equipment / component part, have been completely listed under item 3.1 and that all information in this regard is complete.

4.2 That the unit /component part has not been in contact with radioactivity

4.3 Any Hazardous substances were removed from the unit / component part, so that no hazard exists for a persons in the shipping, handling or repair of these returned unit

4.4 The unit was securely packaged in the original undamaged packaging and properly identified on the outside of the packaging material with the unit designation, the RMA number and a copy of this declaration.

4.5 Shipping laws and regulations have not been violated.

I hereby commit and guarantee that we will indemnify BINDER Inc for all damages that are a consequence of incomplete or incorrect information provided by us, and that we will indemnify and hold harmless BINDER Inc. from eventual damage claims by third parties.

Name: _____

Position: _____

Company: _____

Address: _____

Phone #: _____

Email: _____

Date: _____

Signature: _____

Equipment returned to the NY warehouse for repair must be accompanied by a completed customer decontamination declaration. For service and maintenance works on site, such a customer decontamination declaration must be submitted to the service technician before the start of work. No repair or maintenance of the equipment is possible without a completed form.