Operation instructions for Induction Units

BM,BI1K,BI2K,BWK,BWBK,BFW, BI1FP,BI1SP,BI1EG,BI2EG,BI4EG,BWEB, BIH2K, BIH4K,BIHW,BI4SH

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1. <u>General information</u>

These operating instructions contain basic information on what needs to be considered during installation, operation, and maintenance of the equipment. They must be read entirely by the fitter and operators before the equipment is installed and taken into operation. They must always be kept close to the cooking site for reference.

1.1 Area of application

"Berner" cooking units have been designed for the preparation of meals. They can be used for cooking, keeping food warm, as well as for flambeesinging, grilling, etc. Note: Only use pans suitable for induction cooking with these units. You should <u>not</u> use <u>no-name products</u>. The pan bottom must be magnetic. If in doubt, check with the help of a magnet.

2. <u>Products description</u>

2.1 **Products**

BM-Models

BM2.5,BM3.

BI-Models

BI1K ,BI2K, BWK, BWBK, BI1EG, BI2EG, BWEB, BI4EG, ,BIH2K, BIH4K, BIHW, BI4SH.

- Compact modul design
- Easy installation
- service-friendly
- easy operation via power contol knop
- compact high-performance electronics for easy and safe operation
- max. operation safety due to various protectin and control functions
- compact outside dimensions
- low weight

2.2 Technical Data

2.2.1 Operation and Control

Dimensions	B x D x H	Ceramic glass surface
BM	340 x 420 x 100 mm	290 x 290 mm
BI1K	400 x 455 x 120 mm	350 x 350 mm
BI2K	400 x 655 x 120 mm	350 x 560 mm
BI2KT	400 x 755 x 120 mm	350 x 650 mm
BI2KQ	700 x 455 x 120 mm	650 x 350 mm
BWK	400 x 455 x 180 mm	Wok glass Bowl
BWBK	500 x 555 x 235 mm	Wok glass Bowl
BI1EG	variable dimensions	variable dimensions
BI2EG	variable dimensions	variable dimensions
BI4EG	variable dimensions	variable dimensions
BWEB	400 x 400 mm	Wok glass Bowl
BIH2K	400 x 700 x 850 mm	350 x 605 mm
BIH4K	700 x 700 x 850 mm	650 x 605 mm
BIHW	400 x 700 x 850 mm	Wok glass Bowl
BI4SH	variable dimensions	750 x 720 mm

2.2.2 Technical Data

Unit	Voltage	Performance	Weight
BM	1 x 230 V	2.5,3kW	9kg
BI1K5	3 x 400 V	5kW	13kg
BI2K	3 x 400 V	7,10kW	22kg
BI1K	1 x 230 V	2.5,3,3.5kW	11-13kg
BWK5	3 x 400 V	5kW	14kg
BWK	1 x 230 V	2.5,3.5kW	11-13kg
BWBK8	3 x 400 V	8kW	19kg
BI1EG3.5	1 x 230 V	3.5kW	12kg
BI1EG5	3 x 400 V	5kW	12kg
BI2EG	3 x 400 V	7,10kW	21kg
BWEB5	3 x 400 V	5kW	12kg
BWEB3.5	1 x 230V	3.5kW	12kg
BIH2K	3 x 400 V	2 x (3.5kW,5kW)	kg
BIH4K	3 x 400 V	4 x (3.5kW,5kW)	kg
BIHW	1 x 230V/3 x 400 V	3.5kW,5kW,7kW	kg
BI4SH	3 x 400 V	4 x (5kW,7kW)	kg

2.2.3 Function conditions

-	max. tolerance of mains voltage	+5%/-10%
-	frequency	50 / 60 Hz
-	IP Code	IP 43
-	min. Pan-diameter	12cm

3 **Installation**

3.1 Electrical data of the Units

3.1.1. Unit Performance (2,5KW, 3KW) Inductions unit 1-phase (Voltage 230Volt +5% / -10%)

Connection	Color	Frequency	Fuse
Phase	Black	50 Hz / 60 Hz	Empty
N	Blue	Working frequency	<u>Control fuse</u> 1 X 400mA T
Ground	Yellow/Green		(time lag)

3.1.2. Unit Performance (3,5KW)

Inductions unit 1-phase (Voltage 230Volt +5% / -10%)

Connection	Color	Frequency	Fuse
Phase	Black, Brown or 1	50 Hz / 60 Hz	2 X 20A FF
			(super-quick)
N	Blue or 2	Working	Control fuse
		frequency	2 X 160mA T
			(time lag)
Ground	Yellow/Green	22-35 kHz	

3.1.3. Unit Performance (5KW)

Inductions unit 3-phases (Voltage 400Volt +5% / -10%)

Connection	<u>Color</u>	Frequency	Fuse	
Phase	Black, Brown or 1,	50 Hz / 60 Hz	3 X 12,5A FF	
	2, 3		(super-quick)	
Ν	Blue or 4	Working	Control fuse	
		frequency	2 X 100mA T	
			(time lag)	
Ground	Yellow/Green	22-35 kHz		

3.1.4. Unit Performance (7KW,8KW)

Inductions unit 3-phases (Voltage 400Volt +5% / -10%)			
Connection	<u>Color</u>	Frequency	Fuse
Phase	Black, Brown or 1,	50 Hz / 60 Hz	3 X 16A FF
	2, 3		(quick)
Ν	Blue or 4	Working	Control fuse
		frequency	2 X 100mA T
			(time lag)
Ground	Yellow/Green	22-35 kHz	

Installations-environment

- max. ambient temperature

Storage >

>-20°C bis +70°C

in Function $>+5^{\circ}C$ bis $+35^{\circ}C$

- max. relative Atmospheric humidity

Equation > 200 big 000

3.2 Installation requirements

The Induction-Unit have to be placed on a flat horizontal Area. Don't cover the Air supply for the Air circulation. The Place most be allowing a weight up to min. 40 kg. To disconnect the Power the user must have easy access to the power-connection.

3.3 Installation instructions

The following Points must always be observed during installation:

Make sure that the mains voltage corresponds to the voltage indicated on the nameplate of the equipment.

- All electric installations must fulfil the local building code regulations. All regulations issued by the national electricity authorities must be observed.
- The induction unit is equipped with a mains cable and a plug which can be plugged into a socket.
- When using fault-current circuit breakers, these must be designed for a minimum fault current of 30 mA.
- Avoid blocking the air inlet and outlet zones with objects (textiles, walls, etc.).
- Prevent hot ambient air from being drawn into the induction unit (for example, when several units stand next to each other, behind each other, or when the unit is placed close to tilt fryers or ovens). In such cases, use a separate air duct.
- The induction unit must not be placed close to or on top of hot surfaces.
- The unit is equipped with a suction filter. Despite the presence of this filter, you must still make sure that no greasy ambient air resulting from other activities can be drawn into the induction unit (e.g. close to deep fryers, griddles, or tilt fryers).
- The temperature of the drawn-in air must be below $+35^{\circ}$ C.
- The personnel operating the equipment must make sure that all installation, maintenance, and inspection work is done by specially trained and certified personnel only.
- All BI models (BI1K ,BI2K, BWK, BWBK, BI1EG, BI2EG, BWEB, BI4K, BI4HK.) must be fastened (using the included mounting angles).

3.4 Additional Installation instructions for the built-in Model

- The inlet air must be guided through an air duct and passed on directly to the fans via the filters delivered with the equipment. The size of the air inlet should be at least 200 cm².
- The inlet air upstream of the fans must never exceed a maximum temperature +35°C.

- Do not allow a "thermal closed circuit" to occur. Under no circumstances must the outlet air be drawn in again, since this causes the unit to overheat.
- After installation, the equipment's functions must be tested. To do so, determine the maximum cooling plate temperature. The temperature must be measured at the cooling plate base below the induction coil, which is located at the centre of the equipment close to the transistor module (large black block). In continuous operation of at least 2 hours and at an ambient temperature of 20°C, the temperature must not exceed 50°C.
- When using potentiometer lines longer than 60 cm, the lines must be shielded and connected to terminal S of the induction module.
- The mains cable must always be shielded and clean contacts provided at both sides.
- Select and set up the mains isolator so that the equipment is switched on and off no more than 5 times a day.

Our induction units are equipped with cables and plugs that comply with the national regulations.

The Induction-Unit have to be equipped with right Cable an Plug for the Regulations of the Country **WHERE** the Unit is been used.

Make sure that the plug is wired correctly:

For the electric Connection for the Unit take attention. The Law Regulations of the Country have to be adhered!

Warning

Wrong Voltage can damage the Induction Unit Warning

The electrical Connection must only implemented by specially trained staff

4 **Taking the Unit into Service**

4.1 Unit Assembly

<Warning Electrical connections must be installed by trained personnel only.>

Our induction units are equipped with a mains cable which must be connected with a wall socket. If no plug has been installed at the cable, connect the plug as described in chapter 3.

Electric installations must be carried out by registered installation companies only, observing the specific national and local regulations. These companies are responsible for correctly interpreting all regulations and performing the installation in compliance with the safety instructions. Indications on warning signs and nameplates must be strictly observed. Make sure that the mains voltage corresponds to the voltage indicated for the unit (given on the nameplate).

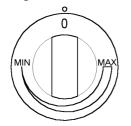
The Induction-unit must always be installed on a clean, plain, and horizontal surface only (table, cupboard, etc.). The equipment stands on non-slip rubber feet which are permanently mounted. It must be placed so that it cannot fall down or be moved due to a slanted position. Make sure that the requirements given in chapter 3.1 "Installation requirements" are fully met.

Power control knob

The knob's position in relation to the marker shows the current mode of operation.

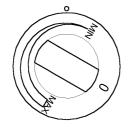
OFF position:

'0' points to the marker (o).



ON position:

Any position between MIN (minimum) and MAX (maximum) that points towards the marker (o).



Before doing an operational check, the user needs to know how the equipment is operated.

Your induction unit has been placed in a suitable location and connected to the mains supply. Make sure that the equipment stands securely and cannot move. The power control knob is in the "0" position.

Remove all objects from the heating zone. Make sure that the heating zone is neither cracked or broken. If the heating zone is cracked or broken, stop immediately, turn off the equipment and pull out the mains plug.

5 <u>Function test</u>



The heating zone is heated by the hot pan. Do not touch the heating zone, which can cause injuries

Use a pan that is suitable for induction and has a minimum bottom diameter of 12 cm.

- Place a pan in the centre of the heating zone and pour in some water.
- Turn the power control knob to the ON position (any position between Min. and Max.). The operation indicator lamp (red LED) either flashes (power level 10%-30%) or lights up continuously (power level 30%-100%). The water is heated.
- Remove the pan from the heating zone the operation indicator lamp must start to flash (pan detection).
- Put the pan back on the heating zone the operation indicator lamp lights up again and the heating process starts anew.
- Turn the power control knob to the 0 position the heating process is stopped and the operation indicator lamp goes off.
- When the operation indicator lamp is on, this means that energy is transferred to the pan.

If the operation indicator lamp stays off or flashes only very briefly, check the following:

- Is the induction unit connected with the mains supply?
- Is the power control knob in the ON position?
- Are you using a pan that is suitable for induction (test with a magnet) and that has a minimum bottom diameter of 12 cm?
- Is the pan in the centre of the heating zone?

To check if the material of your pan is suitable for induction, use a magnet. It must stick slightly to the bottom of the pan. If it does not stick there, your pan is not suitable for use with induction units. Choose a pan recommended for use with induction units.

If the induction unit still does not work, please refer to the "Troubleshooting" section of this manual.

6 **Operating**

6.1 Cooking

The unit can be used immediately. When the operation indicator lamp lights continuously or flashes, energy is transferred to the pan. By turning the power control knob, you can choose the desired power level. How much inductive power is transferred to the pan depends on the position of the potentiometer.

MIN Position > minimum performance MAX Position > maximum performance

There are certain aspects which differ from cooking with traditional cooking systems and which you must pay special attention to:

The food reacts immediately when the cooking level is changed via the power control knob. Empty pans or pots heat up very quickly. <u>NEVER place empty pans</u> on the ceramic hob. Before starting to cook, first put grease or liquid into the pan. Use the power control knob to select the exact power level that matches the desired cooking method.

The pan should always be placed in the centre of the heating zone, or the pan bottom will be heated unevenly. Check the pan continuously when heating oil or grease to prevent it from overheating or burning.

Convenience

The induction equipment only transfers energy as long as a pan is located in the heating zone. This is independent of the position of the power control knob. When you remove a pan from the heating zone, the energy transfer to the pan is stopped immediately. When you put the pan back in the heating zone, the energy level you had selected before is again transferred to the pan.

When turning the power control knob to the OFF position, the cooking process is stopped. However, the equipment still stays ready for work (standby mode). To disconnect the unit completely, you must pull the mains plug.

7 Safety instructions

7.1 Description of warning symbols and indicators

General warning signals If you don't follow the safety instructions, you place yourself in danger of injuries.



This Symbol warning from **dangerous Voltage.** (Picture Sign 5036; IEC 60417-1)



This Symbol warning from **not- ionizing electric magnetic radiation.** (Picture Sign 5140; IEC 60417-1)



Improper use may result in minor injuries or damages.

Warning symbols that are located directly on the equipment must always be observed. Their readability must be ensured at all times.



Before you connect or use the Induction Unit, you have to read the Operation Instructions

Warning: Read the operating instructions before using or servicing the equipment.

7.2 <u>Dangers resulting from not observing the safety instructions</u>

Not observing the safety instructions may lead to danger to people, the surroundings, and the induction unit itself. We are not liable for any damages caused by a failure to observe the safety instructions.

Specifically, not observing the safety instructions could result in the following risks (among others):

- risk of personal injuries as a result of electric factors
- risk of personal injuries because of overheated pans
- risk of personal injuries because of overheated ceramic hob surface

7.3 Safe Application

To ensure safe use, you must observe all of the safety instructions given in this manual, the existing national regulations for accident prevention with electrical systems as well as any company-specific work, operation, and safety instructions.

7.4 Operator Safety instructions

The surface of the ceramic hob is heated by the heat of the pan. To avoid injuries (burns), do not touch the surface of the ceramic hob.

- In order to avoid overheating the pan, never heat an empty pan.
- Turn off the heating zone when you take away the pan for a longer period of time. This way, the heating process doesn't restart automatically as soon as a pan is put on the heating zone again. As a result, the pan will not be heated inadvertently, i.e., if someone wants to use the induction unit, they must first start the heating process by turning the knob to the 'ON' position.
- Do not put paper, carton, textiles, etc. between the pan and the ceramic hob they could catch fire.
- Since metal objects heat up very quickly when put in contact with the turned on heating zone, never place objects other than pans on the induction unit (closed cans, aluminium foil, cutlery, jewellery, watches, etc.).
- People with a cardiac pacemaker should contact their doctor to find out whether it is safe for them to be near induction systems.
- Do not place credit cards, phonecards, cassettes, or other magnet-sensitive objects on the ceramic hob.
- The induction unit is equipped with an internal air cooling system. Avoid blocking the air inlet and outlet areas with objects (e.g. textiles). This would cause the unit to overheat and switch off.
- Prevent liquids from entering the equipment, and try not to let water or food flow over the pan edge. Do not jet-clean the equipment.
- If the ceramic glass is cracked or broken, the induction unit must be turned off and separated completely from the mains supply. Do not touch any parts inside the induction unit.

7.5 <u>Improper operation</u>

The working of the induction equipment can only be guaranteed when it is used correctly. The equipment must always be operated within the limits given in the technical data.

7.6 Modification / use of spare parts

Contact the manufacturer if you intend to make any modifications to the equipment. For safety reasons, always use original parts and accessories only which have been approved by the manufacturer. If you use anything other than the original components, the manufacturer will not assume any liability for any costs that result.

7.7 Pan detection

Pans with a diameter smaller than 12 cm are not detected by the system. During operation, the operation indicator lamp is on. When using the equipment without a pan or with a pan made of a material not suitable for induction, no current is induced and the operation indicator lamp flashes only very briefly.

7.8 <u>Heating zone monitoring</u>

The heating zone is monitored by a temperature sensor beneath the ceramic glass surface. It can detect overheated pans (hot oil, empty pans); when this occurs, the energy supply is stopped. Only when the temperature has lowered to a normal value $(230 \ ^{\circ}C)$ does the system resume inducing energy to the pan.

Attention!

Only the cooking unit is protected against overheating – not the pan. The overheated pan is detected only if the ceramic surface has reached the turn-off temperature of 260 $^{\circ}$ C as a result of the heat given off by the pan.

7.9 Noises

The cooling fans are audible but switch off from time to time. Due to different operating frequencies, whistling noises may occur when several units are used in close proximity to each other or when multi-zone units with large coils are used.

To reduce the noises:

Change the power settings; use different cooking utensils; increase the distance between the coils.

8 When the unit is not in use

When the induction unit is not in use, make sure that the power control knob is not turned on inadvertently. If you do not use the induction unit for a longer period of time (several days), pull the mains plug from the socket. Make sure that no liquids can get into the induction unit, and do not use excessive amounts of liquid to clean the equipment.

9 **Troubleshooting**



Do not open induction unit! High voltage!

The induction unit may only be opened by approved, specially trained service personnel.

If the heating zone (ceramic glass surface) is cracked or broken, stop working with

the equipment at once. Turn off the induction unit immediately and pull the mains

plug from the socket. Do not touch any parts inside the unit.

Error	Possible cause	Error: corretion by User- or Service staff
Pan does not heat; operation indictor lamp is OFF (dark)	No current supplied	Control:, is the unit connected to the power (Power cable connected ?), check Fuses.
	Power control knob in OFF position	Turn Power control knob in ON position.
	Pan too small (pan bottom diameter smaller than 12 cm)	Use the right Pan.
	Pan not placed in the centre of the heating zone (pan cannot be detected)	Put the Pan in the middle of the Heating Zone.
	Unsuitable pan	Choose for the Induction suitable Pan *1.
	Induction unit defective	Contact your Dealer for the Repairservice. Disconnect the Unit from the Power.
Insufficient heating power; operation indicator lamp is ON	Pan used not ideal	Choose for the Induction suitable Pan. Compare the result with your Pan.
	Air cooling system blocked	Take sure, the Air circulation is working (not Blocked).
	Air filter clogged Ambient temperature too high (cooling system cannot keep hob at its normal operating temperature)**)	Clean Filter or replace Filter. Take sure, in the Air circulation come no hot Air. Reduce temperature. The Temperature may not higher like 40°C / 110 °F.

	One phase missing	Check the Fuses.
	Induction unit defective	Contact your Dealer for the Repairservice. Disconnect the Unit from the Power.
The system does not react when you turn the power control knob.	Power control knob defective	Contact your Dealer for the Repairservice. Disconnect the Unit from the Power.
The heating power switches on and off within a few minutes. The fan is working.	Air cooling system blocked	Take sure, the Air circulation is working (not Blocked).
	Fan dirty	Clean Fan.
The heating power switches on and off within a few minutes. The fan does <u>not</u> work.	Fan or fan control defective	Contact your Dealer for the Repairservice. Disconnect the Unit from the Power.
The heating power switches on and off within a few minutes (after longer, continuous operation).	Coil overheated, heating zone too hot	Turn Unit OFF, put Pan away and wait until the Heating Zone is cooled down.
	Empty pan	Turn Unit OFF, put Pan away and wait until the Heating Zone is cooled down.
	Overheated oil in pan	Turn Unit OFF, put Pan away and wait until the Heating Zone is cooled down.
Small metal objects (e.g. spoons, knifes, etc.) are being heated on the heating zone.	Incorrect pan detection setting	Check the Logic print (only for the Service staff "Dealers"!).

*) To check if your pan is suitable for induction, use a magnet. The magnet must stick slightly to the bottom of the pan. If it does not stick there, your pan is not suitable for use with induction units. Choose a pan material that is suitable for induction.

**) The fan starts to work when the cooling plate temperature exceeds 45°C. At cooling plate temperatures over 70°C, the control printed circuit board reduces the power level automatically to keep the power printed circuit board at normal operating conditions. The induction unit will continue to work with reduced maximum performance.

10 Cleaning

Dirt / stain type	Cleaning agent
Minor stains and dirt	Moist cloth (Scotch cloth) with
	some industrial kitchen
	cleaning agent
Greasy stains (sauces,	Polychrom
soups, etc.)	Sigolin chrom,
	Inox crème
	Vif Super Reiniger
	Supernettoyant,
	Sida,
	Wiener Kalk
	Pudol System Pflege
Lime and water stains	Polychrom
	Sigolin chrom,
	Inox crème
	Vif Super-Reiniger
	Supernettoyant
Strongly shimmery,	Polychrom
metallic discolorations	Sigolin chrom
Mechanical cleaning	Razor blade
	Non-abrasive sponge

List of cleaning agents for specific types of dirt and stain:

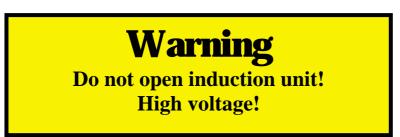
Do not use abrasive cleaning agents, steel wool, or abrasive sponges, since these may damage the ceramic surface.

Residues of cleaning agents must be removed from the ceramic hob with a moist cloth (Scotch cloth), since they can corrode during heating. Correct maintenance of the induction hob includes regular cleaning, careful treatment, and service.

No liquids may enter the unit!

11 Maintenance

The user must make sure that all safety-relevant components always are in perfect working condition. The induction unit must be inspected at least once a year by a specially trained technician from your supplier. The air filter must be checked for clogging at least every 6 months.



The induction unit must only be opened by specially trained service personnel.

12 **Disposal**

When the induction unit has reached the end of its service life, it must be disposed of correctly.

Avoid misuse:

The equipment must not be used by someone who is not qualified to do so. Make sure that an induction unit you want to dispose of is not taken into operation again. The induction unit consists of common electro-mechanic and electronic parts. No batteries are used.

The user is responsible for disposing of the induction unit correctly and safely.

Note for Waste management :

Units that for this point decide, can be shiped to us. We take

only Post-paid packets

Delivering address:



Berner- Kochsysteme GmbH & Co KG Sportplatzweg 5 – D-87471 Durach-Weidach Tel. 0831/697247-0; Fax. 0831/697247-15 E-Mail: Berner-Kochsysteme@t-online.de

