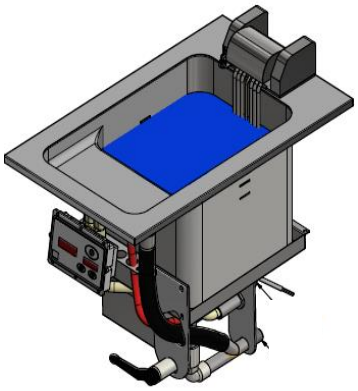
KIENLE®

Deep Frying and Pasta Technology

Made in Germany



Pasta Cooker

Standalone and Built-on Devices

PK 400 PKE 400

PK 600 PKE 600

Installation and Operating Instructions

July 2022

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Product Liability Exclusion

Installations or repairs that are not performed by authorised specialist personnel or not with genuine spare parts as well as all technical modifications to the pasta cooker that are not approved by the manufacturer will lead to voiding of the warranty and product liability of the manufacturer.

KIENLE GmbH reserves the right to make modifications or improvements without prior announcement.

Table of Contents

Safety regulations:

The manual must be read and observed by all individuals
who work with the appliance.
All these individuals must be familiar with and observe the safety regulations.
They must be available at all times at the work site. The installation and operating instructions must be handed over when reselling the pasta cooker.

The electrical connection must be made by a qualified electrician. Observe the water connection instructions.
The appliance is only approved for supervised operation. Clean the pasta cooker regularly.

1. Safety Instructions and Regulations

➔ Follow the safety instructions in the installation and operating instructions!

➔ Caution: Switch off power to the appliance and secure against switching back on before opening the appliance!

Incorrect electrical installation can lead to severe injury or even death. Electrical connections may only be made by a qualified electrician

Incorrect installation, settings, modifications or failure to carry out maintenance work on the appliance can lead to damage to the appliance or injury to persons.

➔ The water supply and drainage connections may only be made by specialists or by an authorised customer service!

➔ The appliance may not be operated without a water connection! Otherwise, it will overheat and be switched off by the control system.

➔ Damages due to failure to observe installation specifications are excluded from the warranty!

Damaged appliances may not be connected!

➔ Repairs and service work may only be carried out by authorised and trained specialist personnel.

1.1. Warning Signs, Hazard Symbols and Information Symbols

CAUTION/ATTENTION! Risk of injury, risk of damage! Warning of possible physical injury, a health risk or property damage!

DANGER! High voltage! Risk of electric shock with possible severe injury or death as a result!

CAUTION! Warning of hot objects or materials and possible injury from burns!

1.2. Basic Safety Instructions and Regulations

The appliance complies with the state of the art and recognised technical safety rules. Nevertheless, there may still be residual risks.

The appliance may only be operated in perfect condition under observance of the operating instructions.
All conversions or modifications to the product may only be made by authorised persons.

The manual must be read and observed by all individuals who work with the appliance.
→ All these individuals must be familiar with and observe the safety regulations.
→ They must be available at all times at the work site.

Electric shock; electrical connections must be made by specialist personnel (see personnel qualification table).

Fire risk; the appliance is only approved for supervised operation

1.3. Intended Use

The appliance is intended for commercial use and may only be operated:

- by trained personnel
- when the appliance is under supervision
- for the intended purpose according to the operating instructions

The appliance may only be used for preparing meals.

1.4. Misuse

- The appliance may not be used for warning, drying and storing objects or for melting materials.
- The appliance may not be operated outdoors and without a water connection.
- Sodium ion exchangers (common in dish washers) are not permitted for these appliances.
- Systems with phosphate and silicate dosing may not be used. They can lead to malfunctions in appliance parts and deposits in the cooking reservoir.
- Systems based on electromagnetic fields offer no calcification protection for this type of appliance.
- The appliance may not be used by children, untrained personnel or individuals with restricted physical, sensory or mental abilities.

1.5. Product-specific Hazards

➔  Avoid **crushing or hitting** hazard for parts of the body:

Observe the instructions on the packaging for storing, lifting or transporting.

➔  Avoid **risk of explosion**:

- The appliance must not be installed in places where there is a risk of explosion.

➔  **Electric shock, fire risk:**

- Do not allow water to spill over live parts.
- Avoid damage to the power cable; damaged power cables must be replaced immediately by specialist personnel.
- Connections may only be made by specialist personnel.
- The appliance may not be operated unsupervised.

➔  **Chemical burns, sensitisation of the skin surface, intoxication**

- Wear protective equipment (gloves, goggles, protective overalls) when handing chemicals.
- Use only suitable chemicals; observe the manufacturer's specifications.
- Disconnect power to the appliance before cleaning.

 ➔ **Burns, scalding:**

- Filling or removing food can cause scalding; the owner is responsible for providing appropriate safety measures and protective equipment as well as warning signs.

➔  **Danger of slipping:**

- Provide appropriate flooring on which there is no danger of slipping when wet.

➔  **Disease-causing germs:**

- National hygiene regulations must be observed and proof provided.

1.6. Personnel Qualification

➔ Observe work safety regulations.

➔ Read the installation and operating instructions carefully before use.

Activity	User group	Qualification/training
Installation/commissioning	Specialist personnel	Authorised electrician (qualified electrician or person with similar training)
Work on the electrical system	Specialist personnel	Authorised electrician (qualified electrician or person with similar training)
Operation, cleaning	Laymen	Instruction by the owner based on the operating instructions, safety briefing
Maintenance, repair	Specialist personnel	Authorised electrician (qualified electrician or person with similar training)
Instruction	Owner	Superior legal person responsible for the intended use, for training and deployment of the authorised persons

2. Transport, Installation

2.1. Checking for Transport Damages

➔ Check the packaging and appliance for transport damages.

➔ If transport damages are suspected, have your shipping agent record the damage immediately – before signing! Then notify the sender.

2.2. Transport

➔ If the appliance has to be transported outdoors in sub-zero temperatures, the water-carrying systems in the appliance must be emptied by the authorised customer service first. The water in the parts would otherwise freeze and damage the appliance.

➔ Transport only by pallet truck on the pallet. Do not drive the pallet truck directly under the appliance, otherwise parts could be damaged.

➔ Secure the appliance against tipping during transport!

➔ Remove all protective films from the appliance before final installation. Remove adhesive residues with white gas or benzene.

2.3. Installation

- ➔ Installation may only be performed by specialist personnel or acceptance must be carried out by specialist personnel at least (before FIRST-TIME commissioning).
- ➔ Install the appliance or level ground. Balance slight unlevelness with the adjustable screw feet.
- ➔ The appliance must be secured against shifting position!
- ➔ For better accessibility for service work, we recommend you to install the water and electrical connections flexibly.
- ➔ Remove all boxes, packaging materials, documents and accessories from the cooking reservoir.

2.4. Observe the Installation Regulations

- ➔ Observe the local technical regulations for kitchens.
- ➔ The installations must be carried out according to the manufacturer's installation instructions and recognised rules of technology.
- ➔ See the work safety information of the employer's liability insurance association.

2.5. Choice of Installation Site

- ➔ Do not install the appliance on inflammable surfaces or against inflammable walls.
- ➔ Install the appliance safe from frost! The ambient temperature at the installation site must not drop below freezing. The water in the parts would otherwise freeze and damage the appliance.
- ➔ Do not install the appliance near to deep dryers! Water from the hose shower must not be allowed to splash into the deep fryer (observe the safety regulations)!
- ➔ No loose parts (e.g. spices) may be stored above the appliance.

2.6. Installation of the Standalone Devices PK400 and PK 600

- ➔ Align the appliance horizontally so that the water in the cooking compartment can drain optimally.
- ➔ Secure the appliance against shifting position.

3. Water Connection

3.1. Notes on water Connection

- ➔ Ask your local water supply company for information about the water quality, water pressure and water hardness prior to installation.
- ➔ Observe the regional regulations and “Technical Rules for Drinking Water Installations” EN 1717!
- ➔ The appliance may only be connected to a water mains that complies with the drinking water ordinances.
- ➔ No connecting pipes of galvanised iron or similar material may be used between the water softener and the appliance (otherwise danger of rust)!
- ➔ Observe the installation and operating instructions for the water softener.

3.2. Cold Water Connection (Standalone Devices)

Risk of damage! The appliance may not be operated without a water connection!

A = water drain 1” AG
B = hand shower option,
drinking water connection ¾”
AG
C = drinking water connection ¾”
AG
D = power cable

Use a pressure-proof, flexible, DVGW-tested hose with a diameter of at least ½ and inch and a ¾-inch screw fitting for the connection. The water supply line must be secured by an easily accessibly shut-off valve that only opens in operation (supervised operation). Make sure that the hose is long enough to be able to move the appliance for service work.

Flush the on-site water pipe and supply hoses before connecting.

Connect the appliance to an easily accessible water stop tap!

The supply hose must not be kinked or deformed! Check all connections for leaks.

For built-in devices - see data sheet.

4. Choice of Water Softener/Water Filter Water Treatment

4.1. Water Treatment System

- ➔ Water softener manufacturers offer systems that are specially designed for pasta cookers. These can also be combined with particulate/fine and activated carbon filters. We recommend the water softener from Brita Co., for example.
- ➔ Do not connect water softeners to pre-softened water.
- ➔ Reverse osmosis systems can generally be a running cost-saving alternative to full and/or partial desalination through filter systems. Osmosis systems draw almost all hardening substances and non-hard minerals from the water. These systems are also required to remove high chloride and silicate concentrations.
- ➔ Particulate/fine filters with filter fineness 5-15 µm filter contaminations such as deposits from water pipes, sand, iron particles or suspended sediments, for example. Select an adequate flow rate of the fine filter so that there is no pressure loss and a sufficient flow volume is ensured.
- ➔ Activated carbon filters eliminate too high chlorine concentrations.

4.2. Requirements for the Soft Water Connection

	Soft water/cold water
Use	For cooking reservoir filling and evaporation compensation. Option: Hose shower
Water temperature	Cold water (maximum 30°C) Do not connect to hot water.
Minimum water pressure	200 kPa = 2 bar (dynamic/flow pressure) A booster pump must be installed if the water pressure is too low. Check the dynamic water pressure, e.g. with the hose shower open.
Maximum water pressure	600 kPa = 6 bar (static) A pressure reducer must be installed if the water pressure is too high.
Water hardness °dH	A water softener must be installed above 3°dH. This largely avoids lime deposits in the cooking reservoir. Danger of corrosion below 3°dH. We urgently recommend you to install a water softener above 5 dH.
Carbonate 0°KH	0°KH At 0°KH, all hardeners are eliminated and there are no lime deposits n heaters and in the cooking reservoir.
Contaminations	Install a water filter with filter fineness 5-15 µm to eliminate deposits in water pipes, sand, iron particles or suspended sediments, for example.

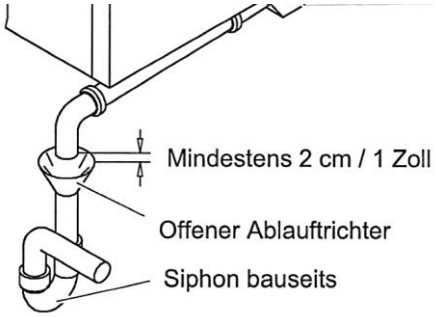
4.3. Conversion for the Units of Water Hardness

		°dH	°e	°fH	ppm	mval/l	mmol/l
German degree	1 °dH =	1	1.253	1.78	17.8	0.357	0.1783
English degree	1 °e =	0.798	1	1.43	14.3	0.285	0.142
French degree	1 °fH =	0.560	0.702	1	10	0.2	0.1

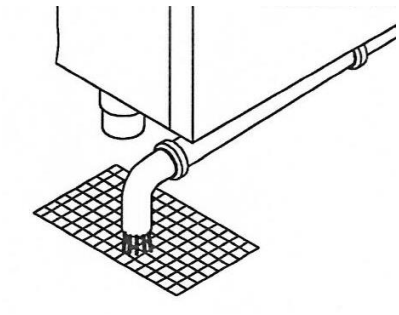
4.4. Connecting the Water Drain – Connection Examples

- ➔ Preferably use the connection examples a) or b)!
- ➔ The waste water system must be designed in accordance with DIN 1986-100 and DIN EN 12056-1.
- ➔ Use a steam temperature-resistant and highly flame-retardant drain pipe (HT-pipe).
- ➔ Do not reduce the pipe diameter.
- ➔ The diameter of the on-site drain pipe must be at least 50 mm.
- ➔ The manufacturer will accept no liability for consequential damages due to faulty connection!
- ➔ The fall to the waste water connection must be approx. 2% to 3%.
- ➔ To prevent a water sack from forming in longer, freely aid drain pipes, the drain pipe can be fixed at shorter distances.
- ➔ Fill the siphon with water.

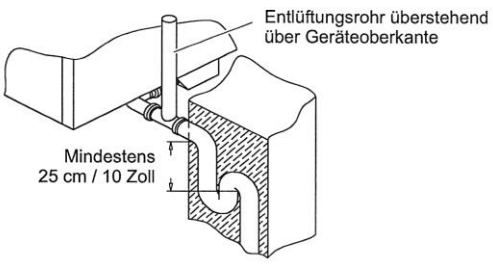
a) Siphon with drain funnel



b) Floor drain with siphon



c) Wall connection with siphon and vent pipe



5. Electrical Connection

➔ The electrical connection may only be made by specialist personnel
- in accordance with the applicable regulations VDE 0100 and
- the regulations of the responsible energy supply company.

➔ An electric main switch must be wired easily accessible. The switch must disconnect the appliance effectively and at all poles from the mains. The contact opening here must be at least 3 mm.

➔ The specialist personnel will instruct the owner and the operating personnel as to where the on-site electric main switch for the appliance is located so that the appliance can be switched off safely in the event of danger to the user.

➔ For safety reasons, we recommend you to install a fault current circuit breaker (FI) > 10 mA.

➔ The dealer or stainless steel company is responsible for ensuring protection class IP65 for built-in devices.

5.1. Technical data

Technical data	PK400 / PKE400	PK600 / PKE600
Cooking reservoir size	GN 2/3	GN 1/1
Voltage	400V 50/60 Hz 3NAC	400V 50/60 Hz 3NAC
Connected load	7.8 kW	15.6 kW
Fuses	16 A	25 A
Power cable	Free cable length: 1.5 m (2 m built-in device), H07RN-F5G 2.5 mm² without plug	Free cable length: 1.5 m (2 m built-in device), H07RN-F5G 4.0 mm² without plug

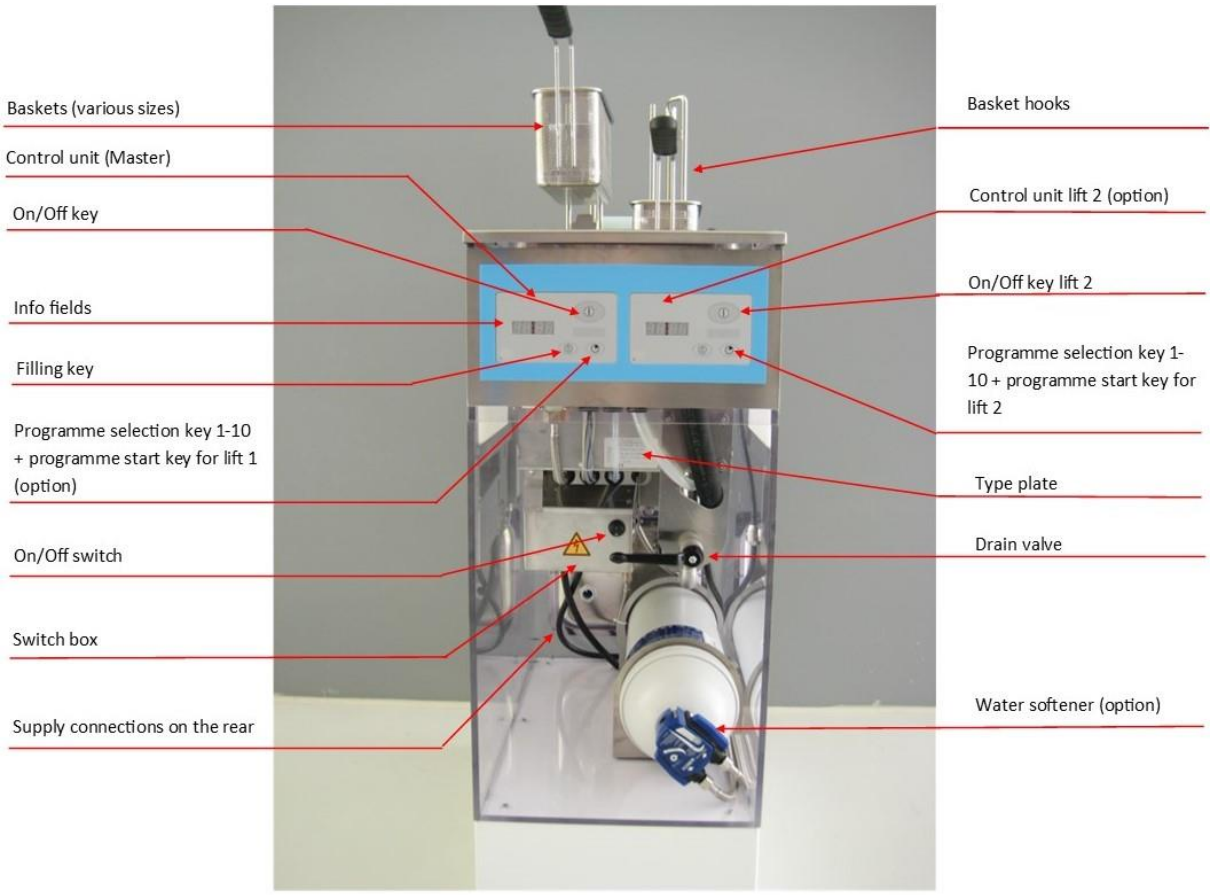
6. Prior to First-time Commissioning

➔ Remove boxes, films, accessories, perforated sheet and containers from the cooking reservoir.

➔ Clean the outside of the appliance.

➔ Clean the cooking compartment.

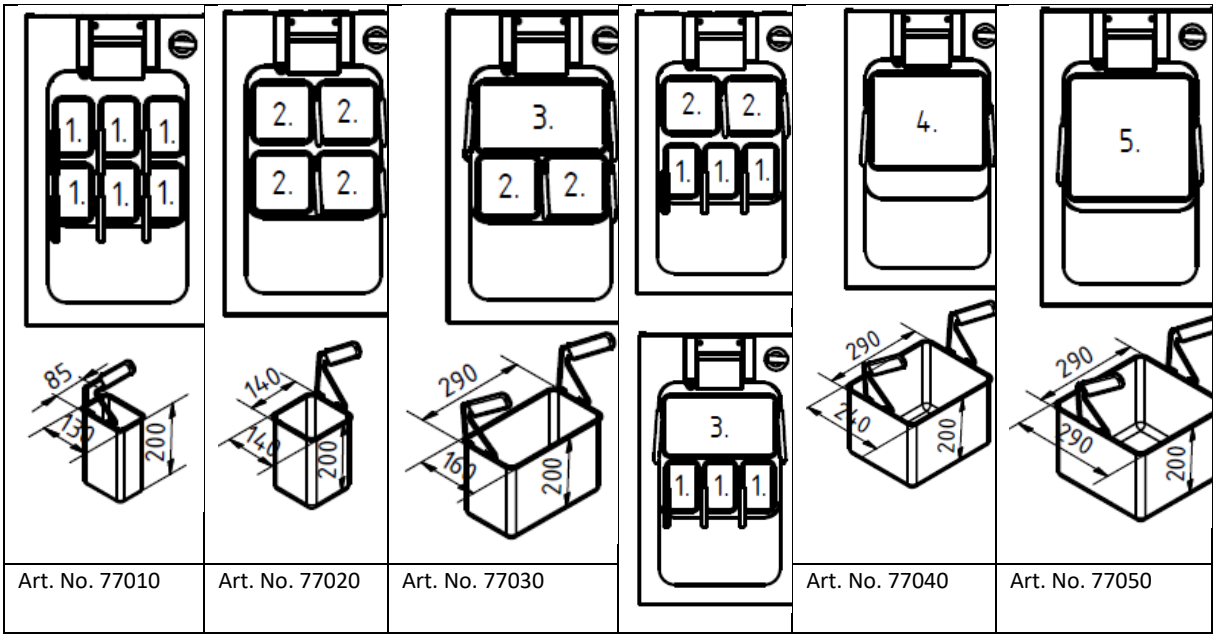
7. Appliance Description



8. Pasta Basket Range

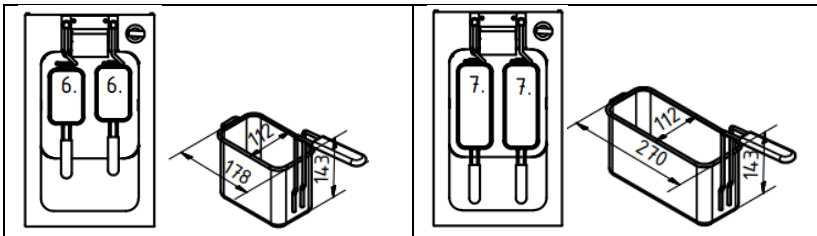
Order No.	Description
77010	**Pasta basket for inserting in pasta cooker without lift** Dimensions: 130 x 85 x 200 mm
77020	**Pasta basket for inserting in pasta cooker without lift** Dimensions: 140 x 140 x 200 mm
77030	**Pasta basket for inserting in pasta cooker without lift** Dimensions: 160 x 290 x 200 mm
77040	**Pasta basket for inserting in pasta cooker without lift** Dimensions: 240 x 290 x 200 mm
77050	**Pasta basket for inserting in pasta cooker without lift** Dimensions: 290 x 290 x 200 mm
77060	**Pasta basket for hanging in pasta cooker with lift** Dimensions: 112 x 178 x 143 mm
77070	**Pasta basket for hanging in pasta cooker with lift** Dimensions: 112 x 270 x 143 mm

Equipment for Pasta Cooker Model 400 without Lift



Art. No. 77010	Art. No. 77020	Art. No. 77030	Art. No. 77040	Art. No. 77050

Equipment for Pasta Cooker Model 400 with Lift

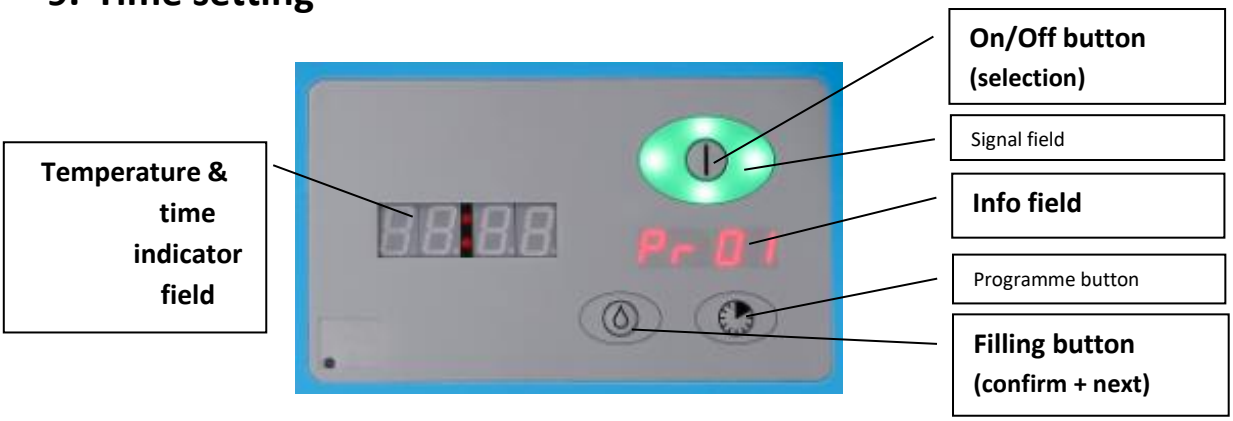


Art. No. 77060	Art. No. 77070

Equipment Examples for Pasta Cooker Model 600 without Lift

12x Art. No. 77010	6x Art. No. 77020	3x Art. No. 77030	2x Art. No. 77040	4x Art. No. 77010 1x Art. No. 77050

9. Time setting



Switch on: Press the On/Off button briefly

Change to programming level: Press the On/Off button briefly 2x (signal panel flashes green/blue)
Press and hold programme button

Year number entry:
e.g. "14" flashes. Select via the On/Off button (0-99).
Confirm and continue with the filling button.

Month date entry:
e.g. "12" flashes. Select via the On/Off button (1-12).
Confirm and continue with the filling button.

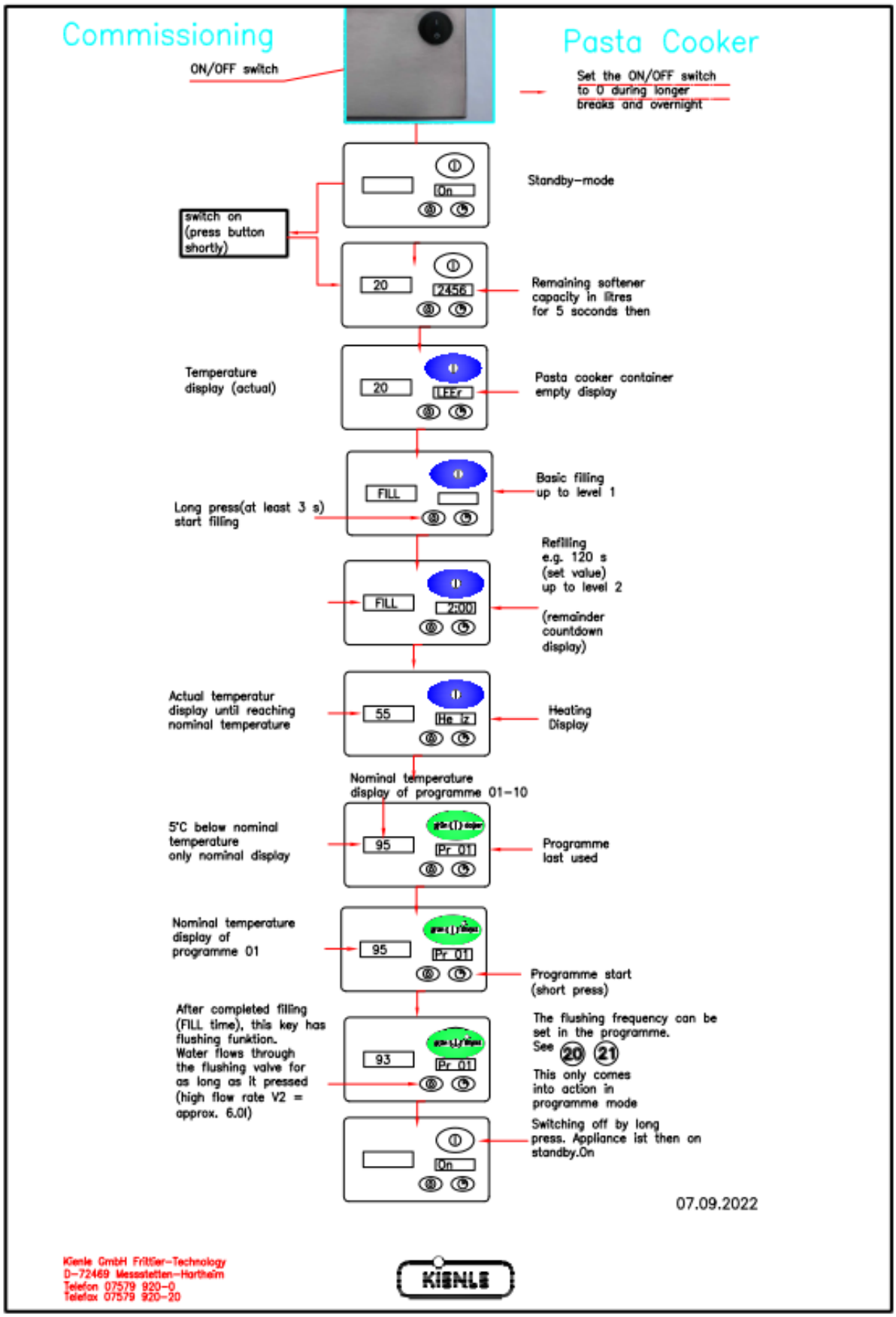
Day date entry:
e.g. "21" flashes. Select via the On/Off button (1-31).
Confirm and continue with the filling button.

Hour time entry:
e.g. "15" flashes. Select via the On/Off button (00-23).
Confirm and continue with the filling button.

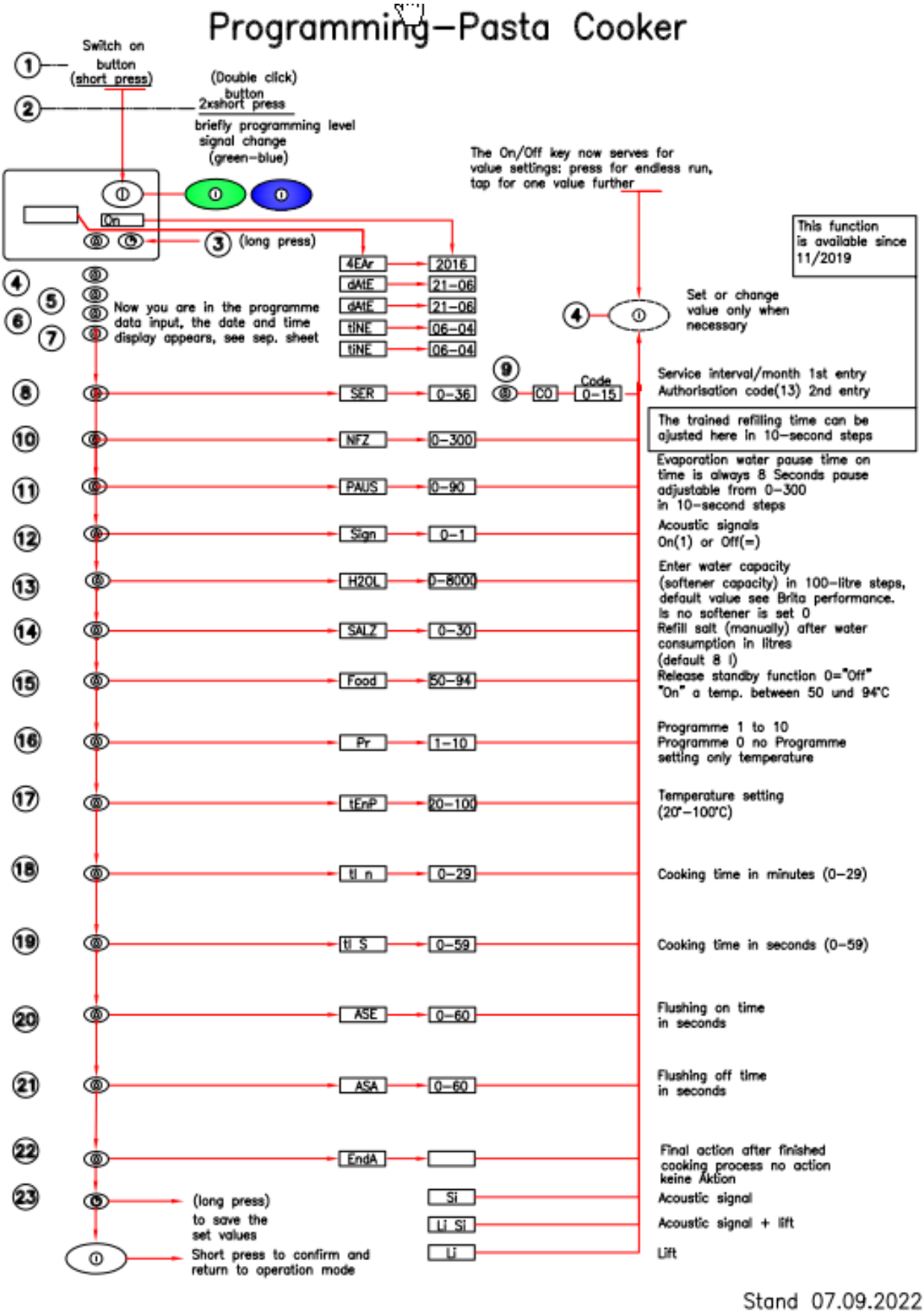
Minute time entry:
e.g. "08" flashes. Select via the On/Off button (1-60).
Confirm and continue with the filling button.

Continue with the basic settings, audible signal …

10. Commissioning/Quick Guide



11. Programming



12. Correct Cooking Salt Dosing

What is the correct salt dose?

Pasta is dosed with between 10 and 12 grammes of salt per litre of water.
(Other products with slightly different amounts.)

A 150 ml ladle holds approx. 240 g of cooking salt.

Pasta cooker PK 400 Water capacity 24 litres First dosing 240 g fine cooking salt.

Refilling after 8 litres (salt display) 80 g (= approx. 4 tablespoons)

Pasta cooker PK 600 Water capacity 45 litres First dosing 480g fine cooking salt.

Refilling after 16 litres (salt display) 160 g (= approx. 8 tablespoons)

How does salt dissolve quickest?

The particles move faster in hot water than in cold water.
Therefore the crystals dissolve faster in hot water.

Always dose into a reservoir filled with hot water!

Overdosing is harmful to the health and to the appliance.

Undissolved salt crystals sink to the bottom where they stay,

attack the metal surfaces and cause pitting.

13. Cleaning Instructions for Pasta Cookers

General note:

- ➔ Only dose salt into the reservoir filled with hot water.
- ➔ Do not dose too much salt. The water has only a limited absorbency. Overdosed salt sinks to the bottom and is no longer dissolved. More frequent dosing is kinder on the appliance and improves the product quality.
- ➔ The cooking reservoir must be emptied and thoroughly cleaned once a day in normal operation (approx. 2 to 4 hours) and at least twice in increased application (approx. 4 to 8 hours).

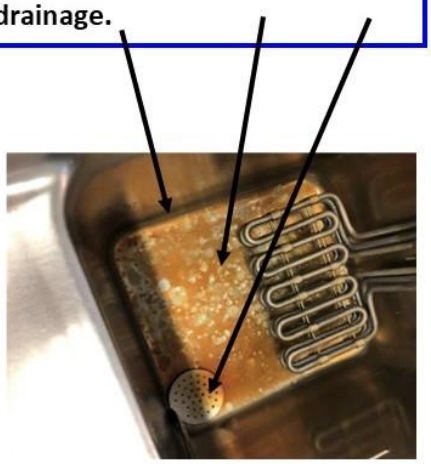
Cleaning the reservoir:

- ➔ Fully open the drain tap. The water must drain rapidly (no sieve over the drain). The drain system must be installed according to our instructions.
- ➔ Rinse out the reservoir, preferably with the built-in hand shower.
- ➔ Then clean with a mild detergent and a soft washing-up brush to remove all salt deposits. No salt residue may remain in the reservoir.
- ➔ Rinse out again with clean water.
- ➔ No sharp and scouring tools and cleaners may be used for cleaning and possible decalcification. These will damage the surface of the reservoir.

Reservoirs damaged by poor cleaning no longer fall under the warranty.

Poorly cleaned reservoir with visible salt deposits and already damaged surface.

Insert sieves prevent rapid drainage.



14. Pasta Cookers and Stainless Steel

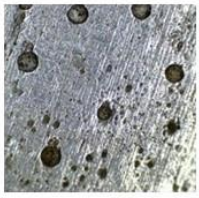
Causes

All cooking reservoirs from Kienle are made of high-quality stainless steel 1.4401 AISI 316 (V4A) material. Despite this high-quality material, there are still several points to be considered to avoid damage. The most common causes are rust bloom and pitting.

Rust bloom on stainless steels

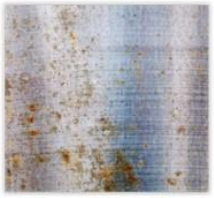
Rust bloom occurs when metal particles transferred by air or water settle on the stainless steel. The metal particles usually settle in recesses, notches, at edges, etc. It is not the stainless steel itself that rusts, but the metal particles. These can also be transferred by dirty pans when the pasta baskets are washed together with non-stainless materials.
If you find such deposits (small brown stains) in the reservoir, these must be removed immediately with a soft fleece suitable for stainless steel.

pitting



Pitting of stainless steels

rust bloom



Two articles from the technical press (see end of text for source):

MatNo. 1.4401 (X5CrNiMo17-12-2), AISI 316, (V4A)

"Austenitic stainless steel with excellent corrosion resistance. Application: According to DVGW Work Sheet W541 (Basic requirements for stainless steel pipes for domestic drinking water installation), the steel material1.4401 (in addition to 1.4404, 1.4521 and 1.4571) is most frequently used. This is chromium-nickel steel with molybdenum additive. …"
https://de.wikipedia.org/wiki/Edelstahl#WNr._1.4401_(X5CrNiMo17-12-2),_AISI_316,_(V4A)

"Even though high-grade steel is referred to colloquially as "stainless", rusting and pitting can still occur through improper handling and poor care.

Pitting corrosion describes small corrosion spots which can occur as dotted holes in the surface of high-grade steels. The pitting often spreads considerably in the depth trough-like and often remains unnoticed for a long time at first due to the relatively low visibility at the surface.

Generally, every high-grade steel has a passive layer in the form of a thin oxide coating which protects against rust and corrosion. This passive layer is formed by the reaction of oxygen with the chromium part of the high-grade steel. However, the passive layer can be damaged by external influences and contaminants. High chloride concentrations are particularly which may often be contained in unsuspicious media such as city water are particularly critical. Very low and very high pH values can also damage the passive layer of the stainless steel. Analyse your media to make absolutely sure. Regular and careful cleaning is generally recommended to avoid damage to the passive layer and ensure a long life of your stainless steel container. …" https://www.behaelter-kg.de/de/wissenswert/fachwissen/lochfrass-und-rostbefall-auf-edelstahl-welche-ursachen-und-losungen-gibt-es.html

Pasta Cookers and Stainless Steel - Care

Rust bloom on stainless steels

If you discover rust bloom, find the source of the rusting material that has contaminated the cooking reservoir and eliminate this source.
The brown rust bloom particles must be removed immediately. You can use a fleece suitable for stainless steel to do this. Several examples can be found on the Internet.

Pitting in stainless steels

There are two main reasons for pitting in the past cooker reservoir:

Heavy overdosing of cooking salt

The cooking water has a limited absorbency for cooking salt. Overdosed salt sinks to the bottom, no longer dissolves and damages the metal surface. This is also favoured by the temperature.

<u>The recommended amount for the first dose:</u>

PK400 24 l to 10g/l 240 g cooking salt
Redosing after 8 l 80 g cooking salt

PK600 45 l to 10g/l 450 g cooking salt
redosing after 16 l 150 g cooking salt.

Poor cleaning

Cleaning of the cooking reservoir is an important factor. If salt residues are left lying at the bottom after cleaning the cooking reservoir, these must be removed first. Leftover, hard-baked salt residues are extremely aggressive in connection with water and temperature.
The high acid concentration also attacks the passive protective layer on the surface of stainless steel.

Always follow our cleaning instructions!

Do not use concentrated acids for decalcification.

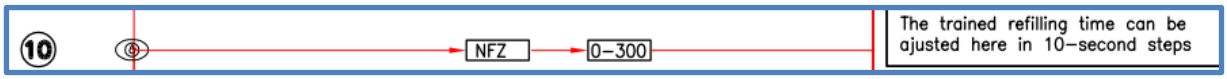
Decalcificants with different acid contents can also attack the surface.

We recommend softened water, if necessary with a suitable upstream softener.

15. Operating Notes for Pasta Cookers

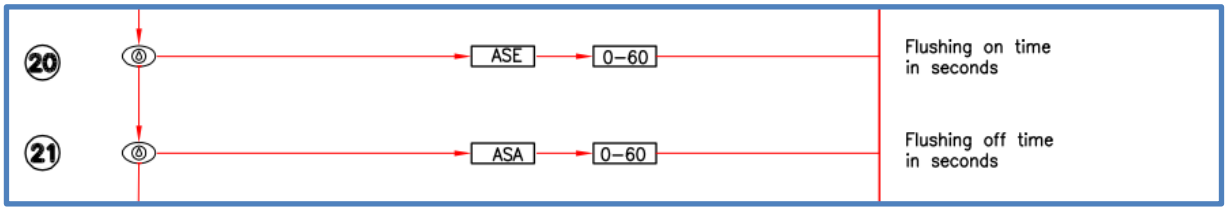
- Only fill the cooking reservoir with softened water. Lime deposits bind starch residues and reduce the heating output and can lead to faults.

- Make sure that cooking reservoir is filled up to the overflow. If this is repeatedly not the case in the filling process, you can prolong the refilling time in the programme (item 10). Standard setting is 120 s. You can increase it to 130 – 140 s.



- If the water level drops during the cooking time (products which absorb a lot of water), you can increase (or adapt – basic setting is 90 s, a lower value means more water) the evaporation water compensation in the programme (item 11).

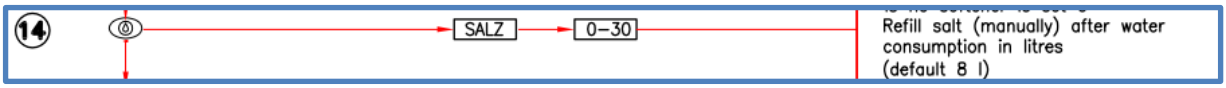
- If you work mainly with programmes and the lift, we recommend increasing the starch flushing. You can shorten the off time ASA in the programme (item 21). This maintains the water level up to the overflow and you have clean water (containing little starch).



- If you have water loss in the cooking reservoir despite the right setting, you can refill this manually at any time with the key labelled with a droplet.

- Salt filling (see also the chapter salt Dosing): Add the first dose of salt after filling with water. It is best to do this when the water has already heated up, then the salt dissolves and spreads better in the water. Do not pour salt into the reservoir before it is filled with water.

- Salt refilling (see also the chapter Salt Dosing) is set to 8 l water consumption. You can change this value at any time in the programme (item 14). When the “Salt” display appears, pour the required amount of salt into the water and press the programme key briefly to confirm.



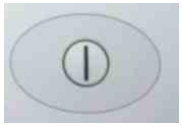
- The cooking reservoir must be emptied and thoroughly cleaned once a day in normal operation (approx. 2 to 4 hours) and at least twice in increased application (approx. 4 to 8 hours).

- Never leave the water in the cooking reservoir overnight or during longer cooking breaks. This is unhygienic and leads to blockages in the drain system.

- After draining the water, clean the cooking reservoir and the appliance with a suitable cleaning agent and rinse again afterwards. Do not use acids!

- Do not forget to close the fresh water valve (on-site tap) overnight and switch off the power supply, at least at the black I-0 switch on the substructure.

- When times are not particularly busy and you wish to save energy and steam development, you can switch the appliance to standby mode at any time. To do this, press the on/off button briefly and the appliance switches automatically to standby (temperature 50°C – 94°C selectable) (on/off button flashes blue).
  Press the on/off key again for use and you will have the cooking temperature back in a few minutes.



16. Customer Service

In case of malfunctions, contact your dealer or the nearest service point.
However, avoid false alarms and therefore check before requesting a technician whether

- the fuses of the electrical power supply are intact
- the plug is inserted
- the appliance has been commissioned correctly
- the water tap is open.

Please state the appliance type and appliance number for every report to the service point. You will find these on the type plate behind the door on the switch box housing.

We recommend you to enter these data below.

Type _____

Appliance number _____

Voltage _____

Commissioned on _____

Service point _____

Phone number _____

17. Maintenance

➔ The owner is obliged to service and clean the appliance at regular intervals. The appliance may only be operated in a technically perfect and undamaged condition. Only genuine spare parts may be used, otherwise tests and approvals will expire. Switch off the power supply to the appliance and secure against switching back on before replacing electrical or mechanical components.

➔ The appliance must be checked at least once a year by the specialist personnel (see §5 DGUV Regulation 3, Table 1A)

No.	Service Checklist	Checked/Name
1.	Check housing and cooking reservoir for damage	
2.	Lift up the heater to check whether the magnetic limit switch switches off	
3.	Check the power cable for damage	
4.	Check connector plug or connecting socket (if available) for charring	
5.	Check/tighten connections to the power contactor in the switch box	
6.	Check the contactor for charred connections	
7.	Check on/off switch	
8.	Measure heating output - current consumption	
9.	Check data cable from the control to the operating element for damage	
10.	Operating element – check all keys and display segments	
11.	Check operating elements/membrane for damage, holes, tears	
12.	Check whether all cable glands are undamaged and tight	
13.	Check water supply lines/hoses for damage and leakage	
14.	Check function of pressure switch	
15.	Check drain pipe and drain valve for leakage and smooth operation	
16.	Fill the appliance, start up and check proper functioning	
17.	Check lift/lowering device (option) for smooth running (must not be jerky)	
18.	Grease lift bar bearing (option) (use food-safe greases)	
19.	Safety check according to DGUV (German Social Accident Insurance) passed	
20.	Function check – device working perfectly	

18. Fault Messages

Message in info field		What to do
E 03	Temperature rises too fast	Check water Press on/off switch (reset)
E 05	Heater limit switch	Check position of heater - must be on the reservoir bottom. Check magnet.
E 06	Limit switch load shedding	Bridge missing from control board.
E 07	Heater limit switch	Bridge missing from control board.
E 10	Temperature (T+ T- input) too high	Check water level. Press on/off switch (reset)
E 11	Temperature (S+ S- input) too high	Check water level. Press on/off switch (reset)
E 12	Board temperature above 100°C	Check installation: Poor ventilation, temperature in substructure too high.
E 16	System test (temperature error)	Press on/off switch (reset)
E 17	System test (temperature difference error)	Check water level and heater. Press on/off switch (reset)
E 20	Water credit used up	Change filter, reset credit: Press the Start key twice briefly (double click), then press the filling and programme keys together.
E 30	Temperature probe	Temperature probe defective, probe possibly broken.
Fill out	Filling time exceeded	Check: Water tap closed, drain open, filling valve defective?

19. Disposal

Switch off the power supply and secure against switching back on before dismantling the appliance.

NOTE Commercial electrical appliances may not be thrown in with the communal waste disposal or household waste.
Old appliances are not valueless waste! Valuable raw materials can be salvaged by environmentally friendly disposal.