

» Speidels Braumeister PLUS 10, 20, 50 litres

Official Instruction Manual (English)

09 / 20





IMPORTANT!

**READ CAREFULLY BEFORE USE,
KEEP FOR FUTURE REFERENCE**

This instruction manual is part of the device. Read and follow the instructions carefully to avoid possible damage and accidents. Keep this manual in a safe place and give it to anyone who operates the appliance.



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Item no. 45050-30: Braumeister PLUS 50 litres

1. General information

Dear customer,

You have purchased a new device from our company. We thank you for your trust. Quality and functionality are the main focus of our products. Please read the instruction manual completely before the first use and make it available to every user of the Braumeister PLUS.

We have written this instruction manual to ensure reliable and safe commissioning and operation of the Braumeister PLUS right from the start.

If you follow these notes and instructions carefully, your Braumeister PLUS will work to your complete satisfaction and have a long service life.

Declaration of conformity

Speidel Tank- und Behälterbau GmbH confirms that the products "Braumeister PLUS 10 litres", "Braumeister PLUS 20 litres" and "Braumeister PLUS 50 litres" (mentioned in this instruction manual) comply with the regulations of the relevant European Directives.

Manufacturer

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Additional Information

Instruction manual as of september 2020



2. Technical data

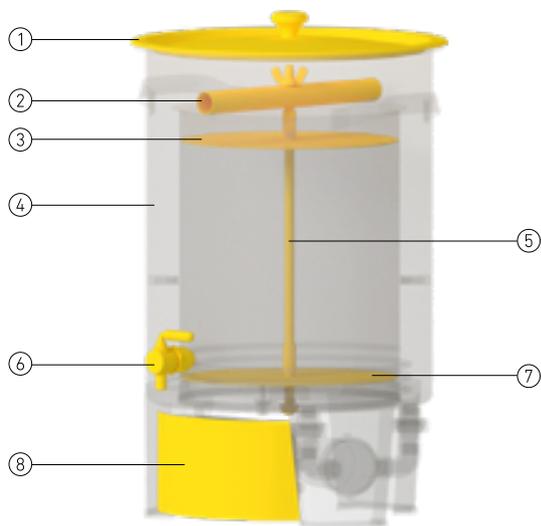
2.1 Functions and application areas

The Braumeister PLUS is designed and produced for brewing smaller quantities of beer. Before each brewing process, the Braumeister PLUS must be checked to ensure that it is in a safe and proper condition.

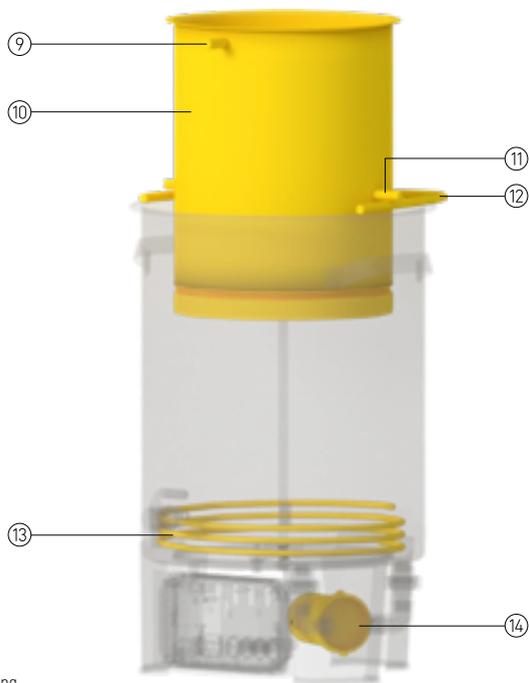
2.2 Components and scope of supply

The components and the scope of supply are shown in the following figure. The Braumeister PLUS is operated with one circulation pump and one heating coil. The Braumeister 50 litres has another additional handle on the back (not shown here).

- | | | | |
|---|-----------------------------------|---|---------------------------------|
| ① | Container lid | ⑧ | Fully automatic brewing control |
| ② | Hold-down bar | ⑨ | Lifting brackets |
| ③ | Screen plate 1 | ⑩ | Malt pipe |
| ④ | Brewing kettle with double jacket | ⑪ | Support bolt |
| ⑤ | Pull rod / level gauge | ⑫ | Support bracket |
| ⑥ | Drain tap | ⑬ | Heating coil |
| ⑦ | Screen plate 2 | ⑭ | Circulation pump |



Braumeister PLUS 50 litres
during the brewing process



Braumeister PLUS 50 litres
during the brewing process during
lautering

2.3 Information on special components

① Container lid



The lid helps with heating to reach the temperatures faster. The ventilation holes prevent pressure build-up in the boiler and allow air to circulate easily. Water condenses on the underside of the lid at higher temperatures. When lifting the lid, make sure that the edge of the lid is held over the opening in the boiler so that the condensation water that runs off (when held at an angle) runs back again.

④ Brewing kettle with double jacket

The double jacket on the Braumeister PLUS offers the main advantage that the trub in the wort can sink to the bottom during the cooling process without disturbance, thus forming a very clear wort before it is drained. Furthermore, there is no turbulence if, for example, a cooling spiral is removed after cooling. The cooling time is similar to that of a cooling spiral. It is possible that trub which quickly settles in the middle of the wort is wrapped around the temperature sensor in an isolating manner and therefore several degrees more are displayed than are actually present in the wort.

The direction of flow through the double jacket is usually from bottom to top. This is where the best convection and trub precipitation was obtained from tests.

After cooling, drain the double jacket (into a collecting vessel – not over the electronics of the Braumeister). The connections fit on common coupling systems such as Gardena (welded on are sockets 1" ET).

Restriction: When brewing with a short malt pipe, the cooling function of the double jacket can only be used to a limited extent due to the small contact surface with the wort. We recommend the optional cooling spiral. The water quality for cooling via the double jacket should be such that it is as low in lime and free of rust particles as possible (water from heavily rusted supply pipes). In the case of water containing lime, a decalcification with stainless steel-compatible substances may be necessary after a certain time to maintain an optimum flow rate.

Note: During the production of the double jacket, slight bulges are created on the inside of the jacket, which form the cavity for the water flow. These are not transport damages or similar.

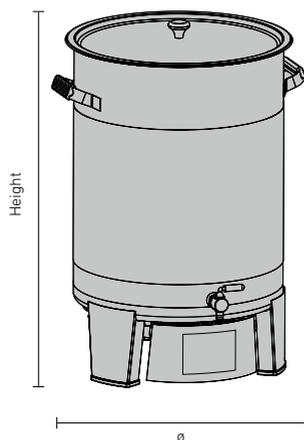
6 Drain tap

The drain tap facilitates cleaning and the draining of the trub during filling. This is done by cleaning from above and at the same time draining the dirty water downwards into a drain or container via the hose supplied. The drain is located in the middle of two bases and thus the Braumeister PLUS can also be emptied completely by tilting it slightly. After cleaning is complete, the Braumeister is still turned upside down to dry out completely and to empty the pumps.

14 Circulation pump

The circulation pump can be switched on and off in manual mode. It is important that the pump is vented after filling the liquid in manual mode to ensure that the pump has full capacity and that it does not run dry and may be damaged. This is done by switching the pump on and off several times with water filled in (until no more air bubbles escape and hardly any pump noises can be heard). When in automatic mode, the device will do this on its own. In the automatic brewing process, the pump switches off automatically in case of too high temperatures and only switches on again in a colder state. The power of the pump can be adjusted with the rotary potentiometer. The power recommended by Speidel is marked by an arrow.

2.4 Dimensions, power and energy consumption



BRAUMEISTER PLUS 10 LITRES

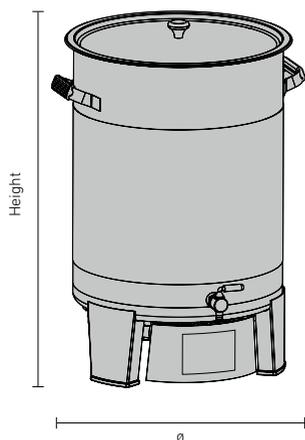
Braumeister PLUS 10 litres

DIMENSIONS

Capacity l	Height cm	ø cm	Box dimensions l x w x h cm
10	48	30	60x40x50

POWER AND ENERGY CONSUMPTION

Weight	12 kg with fittings and lifting brackets
Heating coil	1,200 watts heating power
Pump	27 watts
Power supply	230 V~
Minimum security	10 Amp with Fi circuit breaker
Content	Brewing quantity approx. 10 l finished beer (normal beer) = approx. 11 l beer wort
Max. filling level	uppermost marking on the drawbar = 12 l
Max. malt quantity	2.8 kg



BRAUMEISTER PLUS 20 LITRES

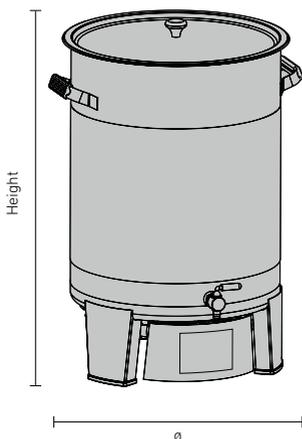
Braumeister PLUS 20 litres

DIMENSIONS

Capacity l	Height cm	ø cm	Box dimensions l x w x h cm
20	60	40	74 x 60 x 61

POWER AND ENERGY CONSUMPTION

Weight	19 kg with fittings and lifting brackets
Heating coil	2,000 watts heating power
Pump	27 watts
Power supply	230V~
Minimum security	Amp with Fi circuit breaker
Content	Brewing quantity approx. 20l finished beer (normal beer) = approx. 11l beer wort
Max. filling level	uppermost marking on the drawbar = 25l
Max. malt quantity	6 kg



BRAUMEISTER PLUS 50 LITRES

Braumeister PLUS 50 litres

DIMENSIONS

Capacity l	Height cm	ø cm	Box dimensions l x w x h cm
50	70	50	74x60x61

POWER AND ENERGY CONSUMPTION

Weight	24 kg with fittings and lifting brackets
Heating coil	3,200 watts heating power
Pump	27 watts
Power supply	230V~
Minimum security	16 Amp with Fi circuit breaker Braumenge ca.
Content	Brewing quantity approx. 50 l finished beer (normal beer) = approx. 53 l beer wort
Max. filling level	uppermost marking on the drawbar = 55 l
Max. malt quantity	13 kg

2.5 Disposal

If you have to dispose of your Braumeister PLUS, please follow the instructions below:

Protect our environment, electrical appliances do not belong in the household waste. Use the collection points provided for the disposal of electrical appliances and hand in any electrical devices that you no longer use. This will help to avoid potential effects on the environment and human health caused by incorrect disposal. You are also contributing to the reuse, recycling and other forms of recovery of waste electronic equipment.

Information on where to dispose of the equipment can be obtained from your local authority or municipal authorities.



3. Safety

3.1 General safety instructions

The device and the power cord must be inspected regularly for signs of damage. If damage is found, the device must not be used any more.

Always unplug the power cord from the wall outlet first (pull the plug, not the cord) when you stop using the machine. This also applies to cleaning or in the event of a malfunction – only then remove the cable from the control unit.

Route the power cord so that it does not come into contact with sharp objects. It must be unrolled and plugged in completely at the device or at the socket. A cable reel must not be used.

An extension cord must not be longer than 3 m.



Do not use multiple sockets as this unit is too powerful. Avoid overloading the electrical fuse. Due to the increased power requirement of the Braumeister PLUS, do not switch any other “large consumers” to the same fuse. **Fire hazard!**

The Braumeister PLUS may only be used for its intended purpose and in a safe and secure condition. Ensure that the Braumeister PLUS is in proper condition before each use.

Children and frail people:

For the safety of your children, do not leave any packaging parts (cardboard, polystyrene, etc.) within reach. Do not let small children play with foil. **There is danger of suffocation!**

This device is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and / or knowledge, unless they are supervised by a person responsible for their safety or have received instructions from that person on how to use the device.

Children should be supervised to ensure that they are kept away from the device and do not play with it.

3.2 Special safety instructions

The container, lid and attachments become very hot. At the end of the brewing process the kettle contains boiling beer wort. Please observe the installation instructions. Never move the Braumeister PLUS while it is hot. When working on and with the Braumeister PLUS, you should always use pot holders or gloves. **Danger of burns!**

When lifting the lid, make sure that the water condensed on the underside runs back into the container. Hold the lid at an appropriate angle over the container. **Risk of scalding!**

The Braumeister PLUS consists almost entirely of stainless steel (electrically conductive). For this reason it may only be operated via a 30 mA residual current circuit breaker. Usually such an RCD is already present in the house installation. **Danger of electric shock!**

Only ever carry out cleaning work on the Braumeister PLUS with the plug disconnected (disconnect from the power supply). Do not spray the unit or spray into the electrical components. **Danger of electric shock!**

Important: To operate the control unit, it is essential to lock the plug connections on the rear of the unit. There is a risk of overheating when operating with unlocked plug connections. **Fire hazard!**

For insulation, please use the "thermal sleeve" accessory offered for this purpose. If you use your own insulation, please ensure that the electronics and the lower area of the Braumeister PLUS remain well ventilated, otherwise heat accumulation and damage to the control unit may occur.

Before each use the pump must be vented to prevent it from running dry. The venting process takes place by itself in automatic mode. In manual mode, switch the pump on and off several times until no more air bubbles escape.



4. Preparation

4.1 Safety instructions



The Braumeister PLUS must be cleaned thoroughly with lukewarm water before first use (chapter "Cleaning 8.1"). Please also observe the safe setup of the Braumeister PLUS below. Ensure that the Braumeister is in proper condition. To do this, check the components listed in chapter "2. Technical Data" for any damage. Also observe the safety instructions in chapter "3. Safety". Otherwise the Braumeister PLUS is designed for immediate use.

4.2 Setup



The Braumeister PLUS must be placed on a stable, secure and horizontal base before use or before the brewing process. Please note that the Braumeister PLUS when filled can weigh up to 30 kg / 50 kg / 90 kg and is full of boiling hot beer wort. The recirculation during the brewing process requires horizontal installation. Avoid a shaky base. A stable wooden crate or a table that is not too high is most suitable. The Braumeister PLUS must not be moved during the brewing process. The handles are only intended for transport and handling when empty. Keep children and infirm persons away from the appliance when in use. Once the Braumeister PLUS has been safely set up, connect the machine to the power supply. You can now put the Braumeister PLUS into operation.



4.3 Storage and transport



The Braumeister PLUS must be stored in a dry place. Avoid contact with ferrous or rusty objects.



Only transport the Braumeister when empty and with the handles provided. The unit must be disconnected from the power supply before transportation and must never be moved while it is in operation. **Risk of scalding!**

4.4 Modification

A modification of the Braumeister PLUS is expressly not permitted, except by adding accessories tested by the manufacturer. Unauthorised modifications to the unit can lead to serious safety risks and safe use cannot continue to be guaranteed. If improper changes are made to the unit, the warranty will become void. See also Appendix "C Warranty Conditions, Warranty Processing".



5. Control unit

5.1 Setup

The Braumeister PLUS is controlled via the touch display, which is mounted on the bottom of the Braumeister's base. The following functions can be found on the start display:



Start display

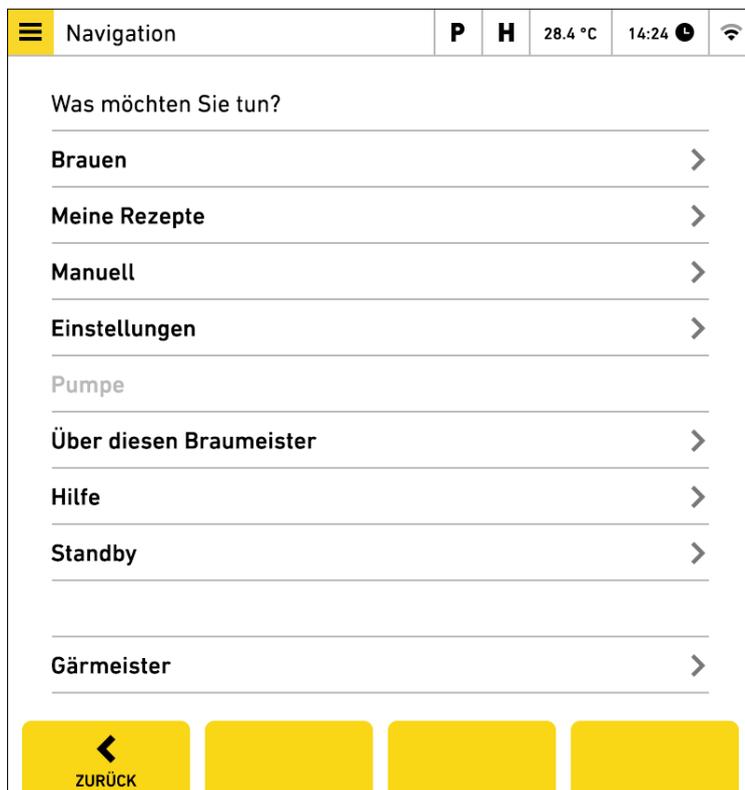
- ① Menu / Status
- ② Time, temperature, recipe and instructions
- ③ Time
- ④ On / Off Pump (P) / Heating (H), Temperature
- ⑤ Wi-Fi
- ⑥ Brewing of a recipe
- ⑦ Edit recipes
- ⑧ Manual operation
- ⑨ Settings

5.2 Starting point

When you start up your Braumeister PLUS for the first time, you are automatically guided through the set-up process. Here you can also connect to My Speidel right at the start.

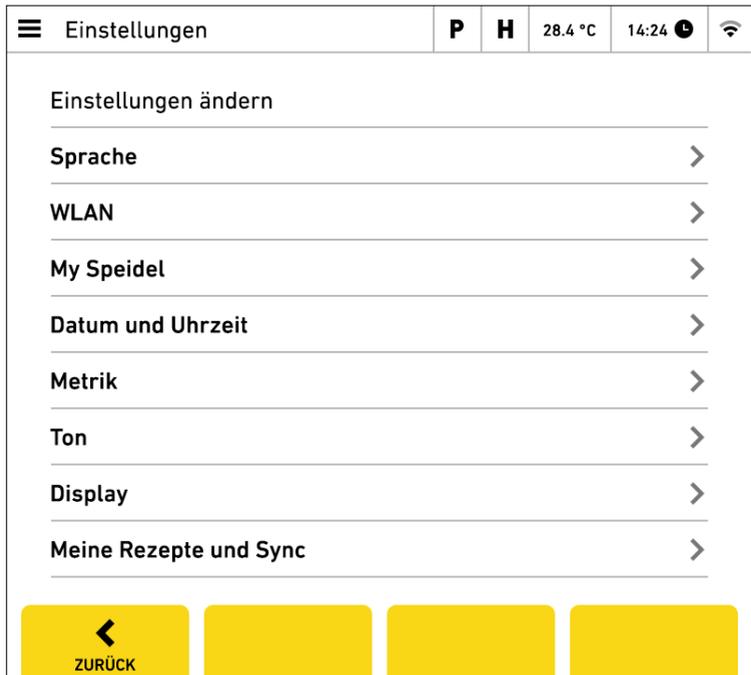
To make subsequent changes to the settings from the setup process, please follow these steps:

You can call up the **Navigation** via the menu display. Tap the **Settings** section with your finger.



Navigation

In the **Settings** section you will find options for setting language, Wi-Fi, metrics, sound, etc.



Settings

To change settings, simply select the desired area with your finger. You can then make the desired change in the new window.



Language settings

5.3 Functions



Press **Brew**, select a recipe and start the brewing process with **Select**. Then follow the instructions on the display. For a detailed description, see chapter "6. Brewing".



In **My Recipes**, your recipes can be saved, created on the machine or synchronised via My Speidel.

To change a recipe, select the relevant recipe with your finger and then press **Edit**. You can then scroll with your finger to navigate through the recipes. Simply use your finger to select items you want to adjust. You can then make changes using the appearing keyboard. When you've made all your changes, click **Back**. A window appears where you can save your changes.

Recipes can also be developed, stored and exchanged via the customer portal www.myspeidel.com. Furthermore, it is possible to manage the Braumeister (or other devices) and monitor the brewing process online.



In manual mode, the pump and the heating can be switched on or off. The **P** and the **H** in the menu bar show whether the pump or the heating is on.



If the letter is yellow, the pump or heater is activated. If the symbol is only half yellow, the pump is activated but not on because the liquid is, for example, still too hot. You set the setpoint temperature using the temperature controller.



In the **Settings** section you will find options for setting language, Wi-Fi, metrics, sound, etc.



In all operating modes (automatic / brewing start, recipes and manual operation) you can return to the start menu by **Cancel** or pressing **Back** several times.

6. Brewing

6.1 Introduction

The beer production with the Braumeister PLUS can be carried out in different phases, with each phase being explained separately here.

First, these phases are described in general terms, so that the brewing process applies to all beer types and recipes. A concrete brewing example for the first time brewer and a special recipe with the exact quantities, brewing times and temperature levels are given in the following chapter.

Before you start brewing beer, it is best to get an overview of the individual steps that ultimately lead to the finished beverage. To ensure that you don't miss any steps and to get an overview of your brewing processes afterwards, it is advisable to keep a brewing log (this can be done handwritten on paper, but also digitally via My Speidel).

One more piece of advice: When trying to brew for the first time, you should take a day and possibly brew with a second person, as it is simply more fun that way and you can use a little help. Please always remember that brewing beer requires some experience and you get better from brewing process to brewing process. So don't be disappointed if the first beer doesn't quite meet your expectations.

6.2 Preparations

Getting the ingredients

Obtain the necessary brewing ingredients (hops, malt and yeast) in advance. It is important that the malt is fresh. After grinding (breaking up the grains – not too fine, see “The right grinding pattern” on page 29), the malt should be used as quickly as possible. The quantities vary somewhat depending on the recipe, with the malt quantity ranging from 2-2.5/4-5/9-11 kg and the hop quantity from 15-40/20-80/50-150 g. The hops are mostly offered in pressed form as pellets. For fermenting, dry yeast is recommended at first because it is easy to store and has a longer shelf life, but later special liquid yeasts are also recommended. These ingredients can be obtained from home brewer stores or via the internet.



Example: Hop pellets



Example: Barley



Example: Water



Example: Dry yeast



Cleaning the equipment

Before brewing, the Braumeister is rinsed out with warm water and the pump is flushed by switching it on. The other equipment such as the beer spindle, cooking spoon and fermentation tank are ready and have also been cleaned. See also the instructions in Chapter "8.1 Cleaning".



Hygiene

Hygiene is the top priority when brewing beer. Especially in cold areas (during cooling, filling and fermentation) the beer or beer wort is exposed to the risk of infection. This can cause the beer to spoil and ruin all the work. You should therefore pay particular attention to absolutely clean vessels (fermentation barrel, bottles) and working materials (spoons, taps, seals). The use of special disinfectants is particularly suitable for disinfecting these vessels and objects. These are available in specialist winery shops and in home brewery stores. These are also suitable for filling into the airlock, for disinfecting the fermentation container and the other equipment. The disinfection of bottles and / or maturing kegs is carried out in the same way as for the fermentation tank. This guarantees that the fermented beer is filled into absolutely clean bottles or maturing kegs. For the maturing vessels, this should be done a few days before the end of fermentation so that the filling process can take place quickly and without rushing.

Softening of the brewing water

If necessary, the brewing water can be softened. For this purpose, the water (cold tap water) is boiled for 30 minutes in the Braumeister PLUS, then cooled down and stored temporarily in the fermentation tank until the brewing process is complete. The separated lime has settled on the bottom of the container and is disposed of. The Braumeister PLUS is designed for brewing approx. 10 l / 20 l / 50 l of finished beer (normal beer). For this purpose, 15-20 l / 25-30 l / 55-60 l of brewing water are required. For the beginner respectively for the first brewing attempts, normal (hygienically perfect, colourless and odourless) cold tap water can also be used to keep the effort at the beginning a little bit within limits. Basically the brewing water should have a hardness of less than 14 °dH.

The right grinding pattern



Clearance of 1.2 mm; clearly too finely grinded.



Clearance of 1.4 mm; not yet completely optimal.



Ideally with a clearance of 1.6 mm; suitably grinded. If whole grains do not break when pressed on, the grain has been too coarsely grinded.

6.3 Programming / starting the brewing automation

Plug in the Braumeister PLUS. The control unit is in its basic state.



Start display

To program a recipe and its time and temperature values, press **My Recipes**. Then select the recipe you want to edit from the menu. New recipes can be created or deleted. Furthermore, you can also manage and synchronize your recipes via **www.myspeidel.com**.

Three standard recipes are available at the beginning. To change a recipe, select the recipe with your finger and then press **Edit**. You can then use your finger to scroll. Simply use your finger to select items you want to customize. Afterwards make changes using the appearing keyboard. When you've made all your changes click **Save**.

Meine Rezepte		P	H	28.4 °C	14:24	
Rezept auswählen ...		SORT: DATUM		NAME		
● Müncher Helles	Pils	21.06.2019		▼		
Weihnachtsbier	Lager	16.04.2019		▲		
Rastphasen		Hopfenkochen				
1. 63 °C	40 min	99 °C		70 min		
2. 72 °C	30 min	Hopfungaben				
3. 78 °C	10 min	70/60/50/45/30/10 min		vor Ende		
4. 78 °C	10 min					
5. 78 °C	10 min					
6. 78 °C	10 min					
7. 78 °C	10 min					
8. 78 °C	10 min					
9. 78 °C	10 min					
10. 78 °C	10 min					
				DETAILANSICHT		
● Weizen 38 °	Weizenbier	07.12.2017		▼		
Rauchbier	Rauch-Pilse...	19.11.2017		▼		
Bohemian Lager	Lager	07.11.2017		▼		
India Pale Ale	Ale	03.10.2017		▼		
Eichenbock	Bockbier	09.05.2017		▼		

Edit a recipe

6.4 Mashing

The mixing of malt grist and water is called mashing. The aim of the entire mashing process is to extract the malt starch stored in the malt and convert it into sugar with the help of enzymes in the malt. The different enzymes are effective at different temperatures, which is why the different temperature stages are then passed through.



The mashing process

6.4.1 Information on mashing

First, 12l / 23l / 55l brewing water is filled into the boiler. The malt pipe is not yet installed. The markings on the drawbar indicate the fill level (BM PLUS 10l: 8l, 10l, 12l), (BM PLUS 20l: 12l, 15l, 20l, 25l; (BM PLUS 50l: 20l, 25l, 30l, 45l, 50l, 55l)

Confirm with **Brewing** that you have filled in water. The pump and the heating will then switch on. The pump switches on and off several times for ventilation. Pump and heating are switched on until the programmed mashing temperature is reached. The (P)umping and (H)eating symbols light up yellow. The display shows the set and actual temperature. The upper status display shows the status, e.g. Automatic 3, which means that the brewing automatic was started with recipe 3. After that, the display shows which phase the program is in. When the mashing temperature is reached, a signal tone sounds, now follow the instructions on the display.

When you have filled in the malt, confirm this with **Continue**. To be on the safe side a second "Malt filled in?" query comes up. With **Continue** you can now start the actual brewing process with the Braumeister PLUS. The pump and heating are switched on. The wort rises in the pipe and overflows. The cycle is established and the malt is washed out by the pumping over the next phases.



Mashing process



Pour in the malt



Enquiry if malt is already fillt in

6.4.2 Mashing explained step by step



Insert malt pipe

Insert the malt pipe with the seal facing downwards. The seal and malt pipe must be centred and absolutely flat on the boiler bottom.



Inserting the screen plate

Slide the screen plate with the sleeve up to the bottom edge.



Insert fine sieve

Place a fine sieve on the screen plate.



Fill in malt

Please fill in the malt carefully and make sure you do not spill anything. Otherwise the pump could clog.



Stir in the malt

Stir the malt well with a wooden spoon and let it swell for a few minutes.



Insert fine sieve

Place the second fine sieve on the malt.



Inserting the screen plate

Slide the second screen plate with the sleeve up to the bottom edge.



Put on the hold-down bar

Please place the hold-down bar in the appropriate position.



Secure the hold-down bar

Secure the hold-down bar with the wing nut.

Protein rest

During the protein rest, the large protein molecules of the malt are split into small building blocks. The protein rest is important for the clarification and palatibility, but especially for the foam stability and the carbonic acid binding capacity of the beer. The temperature is approx. 52 °C and is maintained for 5-20 minutes depending on the programmed recipe. For better foam stability, this phase is omitted in some recipes.

The display now shows the rest, set and actual temperature and the set and actual time. Time counting starts when the target temperature is reached. The other phases are processed fully automatically. The display also shows the corresponding times and temperatures.

With **Cancel** the brewing process can be interrupted. Afterwards, a query appears asking whether the automatic system should continue or whether a complete abort is desired.

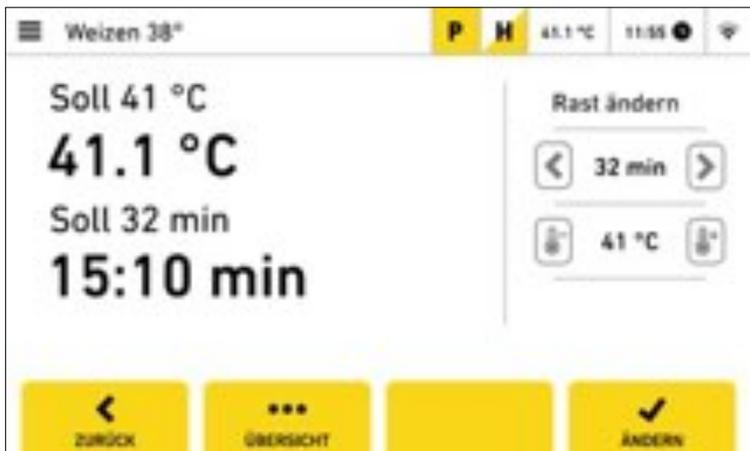
Click on **Overview** to get an overview of the current status of the brewing process.

The **Help** button provides you with assistance in various areas of the brewing process. Like mashing, for example.

Maltose branch

During the second phase, the maltose branch, the starch molecules are converted into fermentable sugars with the help of other enzymes found in the malt. This phase is an important stage in the brewing process for the formation of alcohol, because this is where the largest quantities of sugar are produced. Prolonging the resting period means that more sugar is produced in the wort, resulting in a drier beer. Shortening the time means that the beer becomes more full-bodied due to more dextrins.

The temperature is approx. 63 °C and is maintained for a period of approx. 35 minutes. As in the first phase, the controller shows the relevant data on the display. The entire further process (phase 2 to phase 5) is controlled fully automatically by the control system. During the entire mashing process, the pump is switched off briefly every 10 minutes (pump pause) to move the malt to a new position and thus achieve a better yield. The lid of the Braumeister is on for energy saving.



Edit resting phases

Saccharification rest 1

In the third mash phase, further starch components are broken down with the aid of enzymes active at this temperature level and liquefied in the wort. The temperature stage is about 73 °C and is also maintained for about 35 minutes.

Saccharification rest 2

In the last phase, residual starches saccharify and thus form even more non-fermentable extracts, which make the beer a little more full-bodied. The wort is heated up to 78 °C with constant pumping and kept there for 10 minutes. An iodine sample can be used to determine whether residual starch is still present in the wort. To do this, drip some wort onto a white plate and add some iodine. If the sample discolours brown-red or yellow, saccharification is sufficient. If not, the last temperature stage must be kept longer.

6.5 Lautering

Once the programmed brewing phases have been completed, a signal tone sounds again. This is also acknowledged with **Continue**. The pump switches off and you are prompted to purge ("remove malt pipe").

6.5.1 Information about lautering

Lautering is the separation of the malt grist from the beer wort. Compared to many other home brewing methods, lautering with the Braumeister PLUS is a relatively simple, quick and clean process and represents a central concept of the Braumeister.

The malt pipe is placed on the lower support bolts and hung in the support bracket so that the beer wort drips from the malt into the boiler. The malt grains can be washed out afterwards with sparge water to remove the last traces of extract. In German this process is called "Anschwänzen" (process not absolutely necessary).

The so-called "Anschwänzen" is done by pouring 78 °C hot water (max. 78 °C! – no boiling water) into the top of the malt pipe. Remove the upper sieve plate incl. sieve cloth and loosen the malt grains slightly with the help of a long wooden spoon. During lautering, the temperature remains constant at the preset temperature of 78 °C.



After 15-20 minutes of lautering, remove the malt pipe completely and dispose of the malt grains. For safety reasons, it is always recommended to work with heat-resistant gloves, as all parts now have high temperatures. After removing the malt pipe, confirm this with **Continue**.



To start hop boiling press **Continue** again and then **Start now**. The pump and heating switch on again and the automatic system continues.

Now that the lautering process is complete, the wort content should be checked. This is important in order to bring the wort to the desired original wort content, so that the later alcohol content of the beer can also be adjusted.



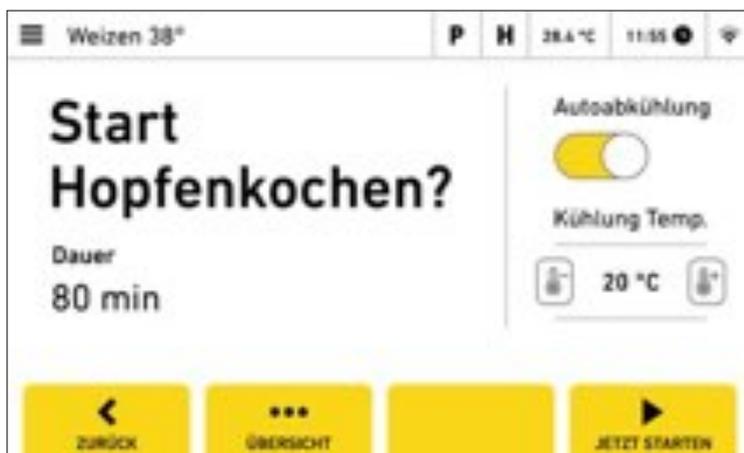
The lautering process

Take a filling into a measuring cylinder (accessory) and determine the fill level of the wort at the time of removal. Use the three upper level rings on the drawbar as an aid, which indicate 8 / 10 / 12 l or 15 / 20 / 25 l or 45 / 50 / 55 l. Estimate the liquid level in between accordingly. To measure the original gravity with a beer spindle (accessory), the wort removed

must be cooled down to 20 °C to obtain an exact measurement. Cooling in a refrigerator or similar is suitable for this purpose. However, since original gravity is related to a certain liquid level, there is no need to wait until you can take the measurement. Simply continue with the next phase of hop boiling.



End of resting



Start of hop boiling

6.5.2 Lautering explained step by step



Safety notice

As all parts are very hot, the use of safety or kitchen gloves is strongly recommended.



Remove hold-down bar

First remove the wing screw and then the hold-down bar.



Put on the draining bar

Place the draining bar on the edge of the brewing kettle.



Pull out the malt pipe

Carefully pull out the malt pipe with both hands at the lifting bracket and ...



Place malt pipe on top

... place the malt pipe on the lower bolts on the draining bar.

6.6 Hop boiling

As described in the previous section, the automatic system is continued and hop cooking is started. The display shows the time and temperature of the phase again. The cooking time automatically starts to count down after a certain waiting time without any further temperature increase. With **Edit** the setpoint temperature and setpoint time can still be corrected or changed during automatic operation.

In this phase the beer wort is boiled. On the one hand, coagulable proteins are excreted and on the other hand the wort is sterilized. This means that all microorganisms that could otherwise spoil the beer during fermentation are destroyed.

As already mentioned in the description of the previous phase, the original wort can be adjusted here by means of evaporating water or by adding water. During boiling for 80-90 minutes the hops are added, which gives the beer the necessary bitterness and wort. The amount of hops added can vary depending on the recipe and your taste. When



Boiling wort

the original gravity of the wort taken at the end of the previous phase is measured, it is adjusted with the liquid level. If the original extract corresponds to the set value, the level is to be kept at the same level until the end by adding boiling water. If the original gravity is too high, the wort is diluted by pouring more boiling water and the liquid level is increased accordingly. Care must be taken to ensure that the evaporating water is also replaced. On the other hand, if the original extract is too low, the liquid level is lowered (by evaporating the water), which leads to a higher sugar concentration in the wort and thus also to a higher alcohol content in the beer. The boiling phase must be carried out with the brewing kettle open. On the one hand, this prevents the wort from boiling over and is especially necessary for hop boiling, so that unwanted aromatic substances can evaporate from the hops, which would leave a negative taste in the beer. The hopping of beer was originally also used to improve the preservation and conservation of beer.

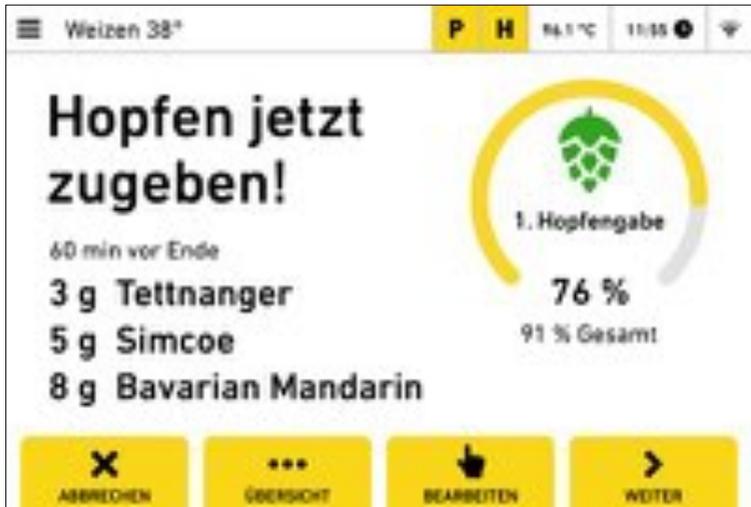
When it is time to add more hops, depending on the settings, acoustic signals sound at the times programmed in the recipe.

Depending on the type of hops and bitter content, add the first hops to the boiling wort 10 to 15 minutes after the start of boiling. The hops remain in the wort until the end of the boiling time because its substances only take effect after a longer boiling time and release the intended hop bitterness into the beer. This also dissolves the resins and oils contained in the hops, which finally complete the wort together with the malt aroma. A further addition of hops can then be made approx. 10 minutes before boiling, which only contributes to the aroma. A further elimination of bitter substances in the remaining time is no longer possible.

The type and quantity of hops and the number of hop add-ons vary according to the recipe and type of beer. Six hop add-ons can be programmed. The addition of hops can be in the form of pellets or dried hop cones. The amount of bitter substances in beers is given in bitter units (BE) and is 10-20 BE for wheat beers and 25-45 BE for pilsner beers. The amount of bitter substances of the hops is given in % alpha acid, which can be between 2-15%. With the following formula the amount of hops can be calculated: (see "Formula for the hop quantity" on page 46).



Hop boiling



Hop addition during the hop boiling process

Formula for the hop quantity

$$\text{Hop quantity in grams} = \frac{\text{Bitter units (BE)} \times \text{litres of beer} \times 10}{\% \text{ alpha acid} \times \% \text{ bittering agent utilisation}}$$

With a total cooking time of 80-90 minutes, a bitter substance utilization of 30 % can be assumed.

Example

The brewing of 20 litres of wheat beer with a bitter content of 15 BE is planned. The available hops have an alpha acid content of 3 %. This results in the following amount of hops, which is added at the beginning of the boiling process. The hops which are added shortly before boiling are not taken into account in this calculation, because in this short time no more significant bitter substance quantities are released into the wort.

$$\text{Grams of hops} = \frac{15 \text{ BE} \times 20 \text{ litres} \times 10}{3\% \times 30\%} = 33 \text{ g}$$

End of hop cooking

When the boiling time has expired, a signal tone is emitted again to indicate the end of the brewing process. This is confirmed with **Finished**. The heating is switched off.



Brewing is completed

6.7 Cooling down

From now on, you must work **absolutely sterile**, as contamination from airborne microorganisms or unclean equipment can destroy the success of your work in all further steps. All equipment used from now on must be thoroughly cleaned or disinfected. Please observe the instructions in the chapter "8.1 Cleaning". With a solenoid valve, which is available separately, you can also use the "auto cooling" function.



Before the cooling starts, we recommend stirring the still hot wort thoroughly with a long wooden spoon. This creates a so-called “whirlpool effect”, which promotes the sinking of suspended solids in the wort and thus clarifies the wort. The cooling process is mainly used to cool the wort and to further settle the proteins and hop components knocked out during boiling. These trub substances settle slowly on the bottom and remain on the tank bottom when the clear wort is drained. Stirring or moving the cooled wort should be avoided at all costs, as otherwise the settled trub will be stirred up again and flow off into the fermentation tank.

The cooling is done with cold water. The water flowing through the cooling spiral or the double jacket extracts the heat from the wort and cools it down to the desired temperature in 20-30 minutes. Caution: At the beginning, almost boiling water flows at the outlet of the wort cooler (**danger of scalding!**). This water can be reused for later cleaning work. Above all, it is important to cool down quickly between 40 °C and 20 °C, where the wort is particularly susceptible to infection. When the wort has cooled down to 20 °C, carefully remove the cooling spiral from the kettle and drain the beer wort via the drain tap into a disinfected fermentation barrel (see accessories). Before this, however, approx. 5 % (0.5l for 10l or 1.0l for 20l or 2.5l for 50l) wort is poured into a sealable container and then stored in a cool place. This later serves as an addition to the fermented beer in order to achieve secondary fermentation and sufficient carbonic acid formation in the filled bottles. Use a suitable and clean hose or a funnel for filling.



The last litres are filled by carefully inclining the Braumeister - as long as no trub substances are drained into the fermentation container. The fermenting barrel or fermenting vessel should be considerably larger than the amount of wort in order to have enough fermentation space and to prevent the fermentation foam from overflowing. The rest and the trub on the bottom of the Braumeister can be poured away. Please clean the Braumeister as soon as possible to prevent it from drying out, which makes the cleaning process much easier.

6.8 Main fermentation

After the cooled wort has been filled into a fermenting barrel (PE barrels with drain tap and stainless steel fermentation tanks can be found in our online shop), the yeast is added to the wort. For this purpose, dry yeast is recommended, which is simply added to the barrel.

In this phase it is decided whether you want to prepare bottom- or top-fermented beer.

Top-fermenting yeast needs 15-23 °C for the fermentation process, whereas bottom-fermenting yeast is active at 4-12 °C. Thus, the addition of yeast also depends on the recipe and the type of beer desired. Top-fermented beer types are wheat beer and Kölsch. Bottom-fermented beers are e.g. Wheat beer, Pils and IPA beers. The alcoholic fermentation of the beer is set in motion by the activity of the brewer's yeast organisms, during which the fermentable sugar is converted into alcohol and carbonic acid. After the yeast is added, the vessel is immediately closed with a lid and an airlock. Sulphurous acid or disinfection broth (**not to be confused with sulphuric acid!**) should be filled into the airlock to prevent foreign organisms from entering the barrel.



The fermentation and storage barrel UF 60 litres



Please also remember that you should work absolutely sterile to avoid an infection of the beer with foreign organisms. The keg must never be closed completely so that the CO₂ produced by fermentation can escape.



The fermentation barrel 60 litres

Place the barrel in a darkened room at the temperature required for the yeast. Bottom-fermented beer can be fermented in a refrigerator that is not too cold, while top-fermented beer can be fermented at room temperature. Beginners should therefore start with top-fermented beers, as not everyone has an additional refrigerator available.

It is particularly important to maintain the temperature. Too low temperatures cause the yeast cells to become active only slowly or not at all. If temperatures are too high, the yeast cells can die. The fermentation should be active 6-12 hours after the yeast has been added, which can easily be seen from the escaping gas bubbles through the airlock. The fermentation time is 2-4 days. During the fermentation process, dark yeast spots may appear on the fermentation foam, which are skimmed off with a sterile cooking spoon. If you draw off wort via the drain tap during the main fermentation (e.g. for measurements with the beer spindle), the tap must be cleaned immediately afterwards and, if necessary, disinfected with a cotton ball and sulphurous acid to prevent drying and later infection by adhering bacteria during filling.

6.9 Maturing

During secondary fermentation or maturing, the sugars (remaining from the main fermentation and subsequently added) are fermented. The young beer is enriched with carbonic acid, which is important for the later formation of froth, foam and freshness, and matures to perfection in taste. During the maturing process, the beer also undergoes natural clarification. Once the fermentation process is complete (no escape of fermentation gases), the beer can be bottled.



Example of bottles for maturing

The following preparations must be made beforehand:

Prepare the maturing container as well as the bottles and bring cooled wort to room temperature. The best option available to you is secondary fermentation in bottles – which is also preferred by most hobby brewers.

Other options include various pressure-resistant containers such as special 5-litre cans or real beer and pressure kegs. Even at this stage, sterile working is still essential. All equipment must therefore be thoroughly cleaned and disinfected before use. When using flip-top bottles, the following procedure for bottle sterilisation is recommended: Rinse and clean bottles thoroughly with warm water and disinfect them with a suitable

disinfectant for food items.

This preparation should take place during the fermentation process or even earlier so that you do not get unnecessarily hectic on the day of bottling.

The defrosted wort is now carefully added to the young beer in the fermentation tank 1-2 hours before bottling. This allows any trub that has been stirred up to settle again. A hose is used for bottling, which is placed on the drain tap and reaches down to the bottom of the bottle. This prevents excessive foaming and not too much carbon dioxide is lost.

The bottles are filled to 90-95 % (fermentation chamber) and sealed immediately. Make sure that the sediment in the fermenting barrel is not stirred up and is also filled. After bottling, the beer is stored for 1-2 days at the same temperature as during the main fermentation. Afterwards, the beer is stored at temperatures as cool as possible.

Important: During post-fermentation, the bottles must be checked for overpressure after approx. 12 hours and then during the first 2-3 days. If necessary, they must be briefly vented to avoid overpressure caused by CO₂. The bottles are stored upright so that trub particles can settle on the bottom.

This type of beer production is a naturally cloudy beer. A nutritious beer used to be naturally cloudy and is still preferable today because it contains the valuable B vitamins bound to the yeast cells. The first tasting can take place after a storage period of 2-4 weeks. A slightly longer storage period will result in an even more ripe taste. Your self-brewed beer is now ready and you can serve it cooled and enjoy it with your friends! Cheers!



7. Notes

7.1 Symbols

VISUAL SYMBOLS



Follow the instruction manual!



Always remove the plug from the socket before carrying out any work on the appliance!



Wear gloves or potholders!



Attention / Warning!



Attention, electrical voltage!



Attention, hot surface! Danger of burns!



Do not hose down electrical parts!



No access for unauthorised persons



General prohibition sign



No alcohol during pregnancy



The product must not be disposed of as household waste.

ACOUSTIC SIGNALS

At certain points in the brewing process, the Braumeister PLUS emits a signal tone at certain times. This signal tone is intended to inform you that the next step in the process is about to be taken (follow the corresponding instructions on the display).

7.2 Troubleshooting

Do not repair the appliance yourself, but consult an authorised technician. To avoid any hazards, a defective control unit / mains cable or other electrical components may only be replaced or repaired by the manufacturer, our customer service or a similarly qualified person.

BREWING MISTAKES

Brewing problem	Troubleshooting
Wort fontains shoot up when circulating	Malt is too finely ground. Grind the malt yourself if necessary (page 29)
Pump clogged	Insert the fine screen / filter cloth and screen plate more thoroughly. Pour the malt more carefully into the malt pipe. The malt must not fall into the boiler!
Pump makes noise	The pump seal is too strong tightened (hand tight is sufficient) or not properly vented.
Temperature start-up time is very long	Put the lid on during heating. Place the Braumeister sheltered from the wind.
Condensation water leaks out of the lid	Set up Braumeister horizontally.
Circulation process does not get going	Check that the pump is working and that it is vented. Check that the malt pipe and seal with gasket are evenly distributed.
Wort flows off too slowly or not at all during lautering	Prick several times with a wooden spoon from the top to the lower sieve plate. Malt is too finely ground. Only break up the grains, not grind them finely.

BEER MISTAKES

Beer mistakes	Troubleshooting
Beer smells and tastes sour	Bacteria have settled down: Pouring beer away. Work more thoroughly in cold areas. Brewing times may be too short, resulting in too many starch residues in the beer. The sparge water is too hot (> 80 °C).
Alcohol content too high	Reduce original gravity by adding water during hop boiling.
Alcohol content too low	Increase original gravity by boiling for longer (water evaporates).
Foreign smells of all kinds	Work with greater cleanliness. Avoid contact with mould and non-precious metals. Avoid exposing the beer to light during storage.
Fermentation does not start	Add more yeast. "Activate" yeast. Check fermentation temperature. Aerate wort by stirring.
Beer has cloudiness	Store beer longer. Post-ferment colder. No precipitation with bottling.
Carbon dioxide too low	Too much carbon dioxide is lost during filling or tubing. Freeze more wort and add before filling.
Carbon dioxide too high – beer froths over	Too much pressure – deaerate flip-top bottle more often. Bottling too early – fermentation was not yet finished. Wort addition before bottling is too high.

BEER MISTAKES

Beer mistakes

Poor foam retention

Yield too low

Troubleshooting

Too little carbon dioxide. Shorten protein rest. Mash in at a higher temperature. Remove hot trub better. Ferment at lower temperatures.

Stir in malt better, malt quantity too high, an increase of the malt quantity above the indicated optimal quantities leads to strong pressing of the malt and to a worse washing out.

8. Maintenance

8.1 Cleaning

The Braumeister PLUS must be cleaned immediately after the brewing process. Avoid drying of wort and malt residues, which makes cleaning much easier.



All stainless steel parts can be cleaned with a standard household detergent. Not suitable are scouring agents and sponges and brushes which cause scratches.

The heating coil is best cleaned with a pipe cleaner thread.

The pump and the drive ball inside it should also be rinsed regularly. To do this, simply turn the Braumeister PLUS upside down and loosen the screw connection, which should only be hand-tightened. The pump can be completely removed from the Braumeister PLUS simply by unscrewing the plug screw connection.

When cleaning the brewing kettle, make sure that no splashing water or moisture gets to the electrical components.

Before brewing, the Braumeister PLUS and the associated interior fittings must only be cleaned of dust and dirt using warm water. Rinse the pump and pipes by pumping them over as well.

Attention: If you run the pump for cleaning for more than a few seconds, make sure that it is well ventilated to avoid running dry (by switching it on and off several times, the pump is well ventilated). Make sure that you also include the malt pipe seal and the drain tap. Make sure that no more detergent remains in the Braumeister PLUS. This can have a negative effect on the foam content of the beer.



Pour water up to approx. 2 cm above the heating coil and heat it manually to ~35 °C using the control unit. Attention: The pump must be vented by switching it on and off several times! **Then disconnect the Braumeister from the power supply again!** Now brewing residues can be removed from the inside of the container and the heating coil with a brush, preferably directly after each brew.



Basic cleaning also includes cleaning the suction and discharge openings. After cleaning the heating coil, the inner container wall, and the suction and pressure openings, the Braumeister is emptied and the entire container is rinsed again.



Now the pump is to be cleaned. Open the pump. It should be possible to open the pump casing by hand. If this is not the case, please loosen the union nut with a small squared timber and hammer.



The rotor ball is now visible inside the pump. **Caution:** Rotor ball can fall out! Damage to the rotor blades will lead to subsequent failure of the pump!



The rotor ball is removed from the housing for cleaning. Any brewing residues must not clog the holes and must therefore be removed carefully.



The pump casing should also be cleaned. Then put the cleaned rotor ball back into the casing. **Finally, please tighten the screw connection of the pump only by hand.**



Accessories: Cleaning set
(Item no. 78027)

8.2 Maintenance / updates

With regular cleaning and care, the Braumeister PLUS has a long service life. Updates can be downloaded and installed automatically.

If your machine is defective, have it repaired by a repair service approved by us. You can return the appliance to us using the return form. You can find the form at www.speidels-braumeister.de/downloads.

Appendix



The following legal regulations apply only to the German market. Please contact your local authorities for information about the legal regulations in your country.

A Legal aspects of home brewing

Hobby brewers who brew beer in their own household for their own consumption may produce up to 200 litres of beer per year tax-free. This beer may not be sold. The hobby brewer must notify the relevant main customs office before the first brewing operation. This is laid down in the Regulation implementing the Beer Tax Act (BierStV):

§ 2 - Production by home and hobby brewers

(1) Beer produced by household and hobby brewers in their households exclusively for their own consumption and not sold shall be exempt up to a quantity of 2 hl per calendar year. Beer produced by household brewers in non-commercial municipal breweries is considered to be produced in the households of household brewers.

(2) Home and hobby brewers must notify the main customs office in advance of the start of production and the place of manufacture. The notification shall indicate the quantity of beer expected to be produced in the calendar year. The main customs office may allow facilitations.

The customs office responsible for you, where you must declare your first brewing operation, can be found at www.zoll.de. A notification to the customs office can be made by fax or letter and could look like the following as an example:

Adresse Hauptzollamt

Adresse Absender

Datum

Anzeige für die Herstellung von Bier im Privathaushalt

Sehr geehrte Damen und Herren,

zum eigenen Verbrauch beabsichtige ich in meiner oben genannten Wohnung Bier herzustellen.

Herstellungsort:

(falls abweichend von Absenderadresse)

Herstellungsdatum:

Biermenge:

20 Liter obergäriges Weizenbier
Stammwürzegehalt ca. 11°Plato

Im Kalenderjahr XXXX beabsichtige ich, nicht mehr als 200 Liter Bier herzustellen.

Mit freundlichen Grüßen

Unterschrift

B Warranty conditions and transaction processing

Conditions

Statutory guarantee conditions apply. The guarantee period for users is reduced to the regulations applicable to commercial customers to the extent that they are making use of a device suitable for commercial use, including in part.

Transmission of a copy of proof of purchase is a prerequisite for guarantee claims against us or one of our dealers. For verification of the guarantee refer to the note on handling a guarantee below.

For quick processing of guarantee claims, please inform us immediately in writing upon noticing defects, and include a fault description and photos where applicable.

No guarantee is given for defects due to non-adherence to the operating instructions, improper treatment or normal wear and tear of the device. Guarantee claims are also excluded in terms of brittle components or expendables such as seals or similar. Finally, guarantee claims are excluded where work is performed on the device by nonauthorised parties.

Handling

Should your device display any defects within the guarantee period, please inform us of your guarantee claim. The fastest and most convenient option is to return the device or the notice of defect to the dealer / agent responsible or directly to us:

email: verkauf@speidel-behaelter.de
or fax to: 0049 7473 9462 99

Please provide us with your full address including contact details. In addition, we require the type designation of the device in question, a short fault description including photos, where applicable, the purchase date (copy of invoice) and the dealer from whom you purchased the new device.

After verifying your notification of defect, we will contact you as soon as possible to agree the next step. Please, under no circumstances, send us your device by Carriage Forward.



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Prices and technical design of the products are subject to change.