

200-500 ltr.



Translation from the German Original
Operating manual/brewing instructions
Speidels Braumeister

Item No.: 45200, 46500



1	GENERAL INFORMATION	3
2	SAFETY INSTRUCTIONS	3
2.1	General safety notes.....	3
2.2	Safety instructions	4
3	COMPONENTS AND SCOPE OF DELIVERY	5
4	TECHNICAL SPECIFICATIONS FOR BRAUMEISTER.....	6
5	SETTING UP THE BRAUMEISTER	6
6	CLEANING THE BRAUMEISTER	7
7	STORING THE BRAUMEISTER	7
8	PRIOR TO FIRST USE	7
9	MAINTENANCE AND SERVICES.....	7
10	DISPOSAL.....	8
11	WORKING WITH THE BRAUMEISTER	9
11.1	Language selection/time	9
11.2	Brewing control information	9
11.3	Circulation pump information.....	10
11.4	Notes on the container lid.....	10
11.5	Information pertaining to the piping layout and the position of the valves.....	10
11.6	Lifting equipment information	10
11.7	Notes on hygiene	11
11.8	Information about the cooling jacket and water quality	11
12	BREWING WITH THE BRAUMEISTER	12
12.1	Introduction	12
12.2	Preparations.....	12
12.3	Programming/ starting automatic brewing	13
12.4	Mashing	13
12.5	Purification.....	16
12.6	Hops boiling process	17
12.7	Cooling.....	19
12.8	Main fermentation	20
12.9	Maturation	21
13	BREWING EXAMPLE/ BRIEF INSTRUCTIONS	22
14	BREWING FAULTS/TROUBLESHOOTING	26
15	LEGAL ASPECT OF HOME BREWING (VALID IN GERMANY):	27
16	BREWING RECORD	28
17	CLEANING INSTRUCTIONS.....	29
18	GUARANTEE CONDITIONS, HANDLING A GUARANTEE	31

1 General information

Dear customer,

You have purchased a new device from our company. Thank you for your trust in our product. Quality and functionality of our products rate high on our list of priorities.

Please read the user guide before the first use completely and make this any user of the master brewer accessible.

Use according to intended purpose:

The Braumeister is designed and produced to brew beer in quantities of approx. 200 L or 500 L. Prior to each brewing procedure, a safety inspection must be performed for your safety and proper functionality of the Braumeister.



Operating instructions:

These operating and brewing instructions have been compiled to ensure reliable and safe commissioning and operation of the Braumeister right from the start. Please read the instructions carefully and in full before brewing your first beer. Compliance with these notes and instructions will ensure that your Braumeister operates to your utmost satisfaction, and has a long lifespan.



Conformity declaration:

SPEIDEL Tank- und Behälterbau GmbH hereby declares that the “Braumeister” product mentioned in these instructions, and to which this declaration applies, complies with the requirements of the European guidelines.

Manufacturer

Speidel Tank- und Behälterbau GmbH

Krummenstraße 2

72131 Ofterdingen

Germany

www.speidels-braumeister.de

www.speidel-behaelter.de

2 Safety instructions

2.1 General safety notes



- The Braumeister consists nearly completely of stainless steel (electrically conductive). The equipment is categorised as protection class 1 (protective earthing). **In operation the connection of a protective conductor is imperative.**



- The device and mains cable must be inspected regularly for any signs of damage. In the event of signs of damage, **do not use the device!**



- Always disconnect the plug from the socket (pull the plug, not the cable) if you no longer wish to use the device, for cleaning or in the event of a fault. Only properly a trained electrician shall be permitted to perform maintenance and repair work. The terminals may still be live after the equipment has been shut down. Wait at least 3 minutes. **Risk of electric shock!**

- Ensure that you lay the mains cable such that it does not come into contact with sharp objects. The cable must be fully unwound.
- The Braumeister must only be used as intended. It must only be operated in a safe, fault-free condition. Ensure to check the proper condition prior to each use.

Children, pets and frail persons:



- For the safety of your children, keep packaging parts (cartons, polystyrene etc.) out of children's reach. Keep foils out of children's reach. **Asphyxiation risk!**
- This device is not meant to be handled by persons (including children) with limited physical, sensory or mental capabilities, or lack of experience and/or know-how, unless they are being supervised by a person responsible for their safety or the person has received instructions on how to use the device safely.



- Children and pets must be supervised to ensure that they are kept away from the device and do not play with the device.

2.2 Safety instructions



- The temperature of the container, lid, and add-on parts can become extremely high. Towards the end of the brewing process, the boiler contains boiling beer wort. Observe the installation instructions. Never attempt to move the Braumeister while it is hot. Always use pot holders or gloves when working on and with the Braumeister.



Risk of burning!

- When lifting the lid, ensure that the condensation on the underside of the lid flows back into the container. For this, hold the lid over the container at an angle. **Scalding risk!**



- **The Braumeister always operate via a residual current circuit breaker with a tripping current of max. 100 mA type B (AC-DC sensitive).** A technical defect carries the inherent **risk of electrical shock!**



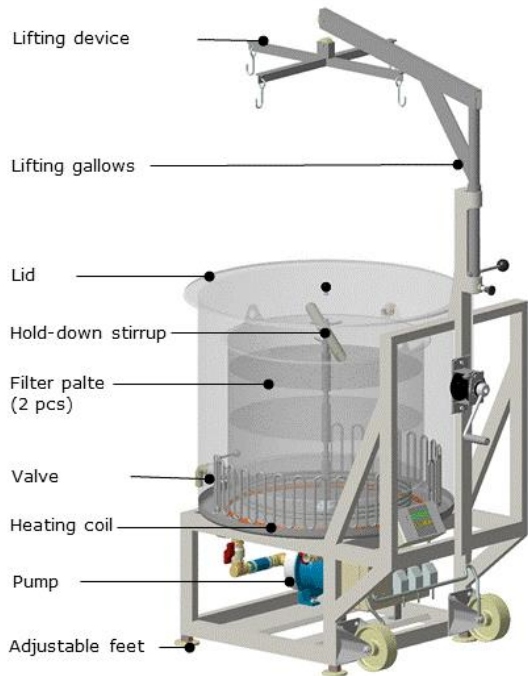
- When performing cleaning activities on the Braumeister always ensure that the plug is disconnected (disconnection from mains). . The terminals may still be live after the equipment has been shut down. Wait at least 3 minutes. Do not spray the device down or allow spray to come into contact with electric components. **Danger of electric shock!**



- Important: It is imperative that you lock the plug connections at the rear of the device (pump and heater) during the operation of the device. Operating the device without securing plug and socket devices can lead to overheating. **Fire hazard!**
- Please use the thermal sleeve available as an accessory for insulation. When using your own insulation ensure that the electronics and the lower part of the Braumeister are sufficiently ventilated, as a heat build-up and damage to the control may otherwise occur.
- The pump must be vented prior to each use to prevent dry running. Venting takes place routinely in automatic operation. In the manual operation, the pump must be switched on and off several times until no more air bubbles escape.
- In order to prevent any danger that may be caused by outdated components, compliance with the maintenance and inspection instructions is mandatory.

3 Components and scope of delivery

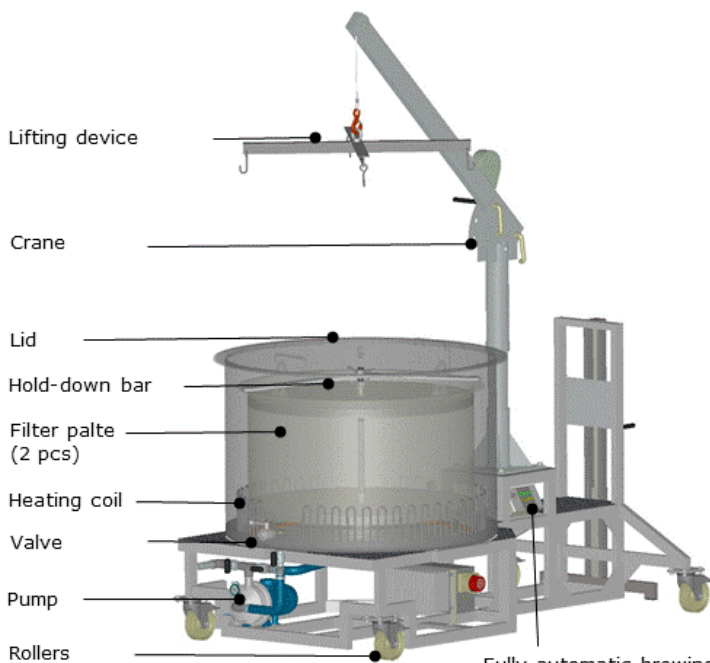
Please refer to the following illustration for components and scope of delivery.



Braumeister 200l in brewing process

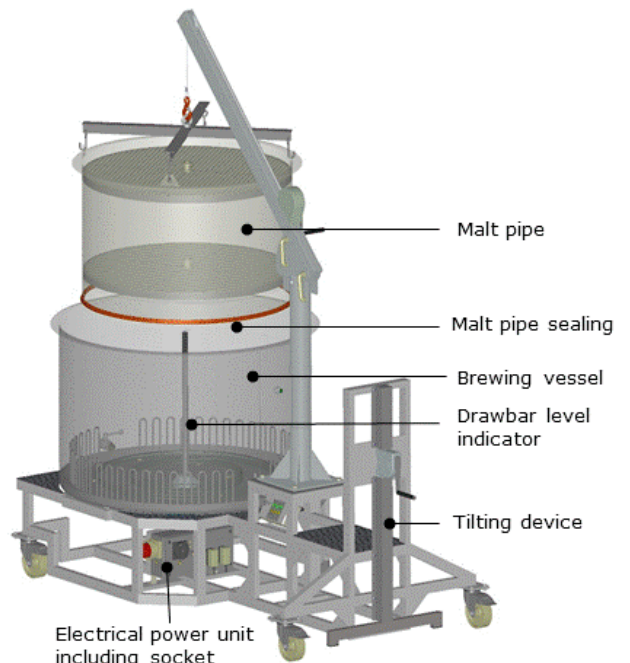


Braumeister 200l at lautering



Braumeister 500l in brewing process

Fully automatic brewing control for temperature and time. Pump control.



Braumeister 500l at lautering

Note: The following illustrations refer to Braumeister 200 L; however, the instruction for the Braumeister 500 L are similar or identical.

4 Technical specifications for Braumeister

Braumeister 200 L

Weight	150 kg including internal fittings and lifting equipment
Dimensions:	L 136 cm x W 90 cm x H 208 cm
Heating coil:	Heating capacity 3 x 3000 Watt
Pump:	1 x 370 Watt – with speed control
Power connection:	400V ~
Min. fuse protection:	16 Amp
Total connection:	9.4 kW
Cooling system:	Double-walled shell area 1.2m ²
Contents	Brewing quantity approx. 200 L ready-to-drink beer (regular beer) = approx. 210 L beer wort
amount of malt:	max. amount of malt 42 kg
max. fill level:	upper marking on tie rod = 230 L
min. fill level:	lower marking on tie rod = 170 L

Braumeister 500 L

Weight	380 kg including internal fittings and lifting equipment
Dimensions:	L 253 cm x W 130 cm x H 277 cm
Heating coil:	Heating capacity 6 x 3000 Watt
Pump:	1 x 370 Watt – with speed control
Power connection:	400V ~
Min. fuse protection:	32 Amp
Total connection:	18.4 kW
Cooling system:	Double-walled shell area 1.8m ² plus cooling spiral (included in delivery)
Contents	Brewing quantity approx. 500 L ready-to-drink beer (regular beer) = approx. 550 L beer wort
amount of malt:	max. amount of malt 120 kg
max. fill level:	Upper marking on tie rod = 575 L
min. fill level:	lower marking on tie rod = 425 L

Note: The following illustrations refer to Braumeister 200 L; however, the instruction for the Braumeister 500 L are similar or identical.

5 Setting up the Braumeister



The Braumeister must be positioned on a stable, secure and horizontal support structure prior to use. Caution! The Braumeister can weigh up to 420 kg or 1000 kg while full and that it contains boiling hot beer wort. Horizontal positioning is a prerequisite for transfer pumping during the brewing process. Avoid placing the equipment on shaky and uneven ground. The Braumeister may not be moved during the brewing process. It is imperative to keep children and frail persons away from the device while it is in operation. **Danger of burning!** Furthermore, exposure to direct sunlight (the lifting rope on 200 L equipment may become brittle) and extreme high temperatures must be avoided



6 Cleaning the Braumeister



The Braumeister must be cleaned immediately after the brewing process. Avoid surface drying of wort and malt remnants, as this will significantly impair the cleaning process. All stainless steel components can be cleaned using a conventional detergent. Abrasive agents and sponges/brushes that cause scratching are not suitable. Ideally, use washing-up brush to clean the heating coil. The pump, its piping, including all valves must be thoroughly flushed. During the tank-to-tank pumping, the valves must be opened and closed during the cleaning process. Once in a while, hoses/pipes must be removed and cleaned, using a separate brush. When cleaning the brewing vessel, ensure water spray or moisture does not come in contact with the electrical components. The current supply must be disconnected for performing cleaning activities on the Braumeister. Before starting the brewing process, remove all dust and dirt from the Braumeister and all internal fittings by means of warm water. Also rinse the pump and lines by means of transfer pumping. Caution: Ensure that you include the malt pipe seal and drainage tap as well. Make sure that no detergent remnants whatsoever remain in the Braumeister, as these could have a negative impact on the foam stability of the beer. In order to ensure the valves are dry and discharged completely, they must remain open. Please refer to the detailed cleaning instructions on page 29 (cleaning set available as an accessory).

7 Storing the Braumeister

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

8 Prior to first use

Clean the Braumeister thoroughly using lukewarm water prior to initial use (see Chapter 6). Refer to the safe installation of the Braumeister. See description in Chapter 5. Ensure that the Braumeister is in a flawless condition. Refer to the safety instructions in Chapter 2. The Braumeister is designed for immediate use.

9 Maintenance and services

Compliance with the following maintenance and service information as well as the intervals is highly recommended.

Braumeister 200 L

Component	Prior to any brewing process	every 12 months or after 20 brewing processes	every 24 months or after 40 brewing processes
Lifting rope (Item No.: 63212)	Visual inspection for damage		Replacement
Cable winch (Item No.: 64272)		Lubrication according to separate instructions	
Hoses (Item No.: 77337)			Replacement



Malt pipe seal (Item No.: 77362)			Replacement
Filter cloth (Item No.: 77350)		Replacement	

Braumeister 500 L

Component	Prior to any brewing process	every 12 months or after 20 brewing processes	every 24 months or after 40 brewing processes
Hoisting equipment	Visual inspection for damage	According to hoisting equipment instructions	
Geared winch for tilted position (Item No.: 78030)		Lubrication according to separate instructions	
Hoses (Item No.: 77337)			Replacement
Malt pipe seal (Item No.: 77381)			Replacement
Filter cloth (Item No.: 77350)		Replacement	

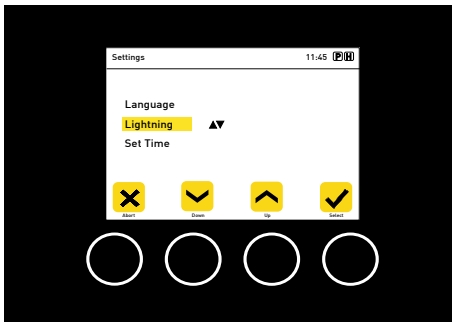
10 Disposal



Meaning of the “refuse bin” symbol on the Braumeister: Protect our environment; electrical devices should not be disposed of as household refuse. Make use of collection points for disposal of electrical devices and hand in all electrical devices that you no longer wish to use at these points. In this manner, you can avoid a potential impact on the environment and human health caused by incorrect disposal. This is your contribution to recycling and other forms of use of waste electrical and electronic equipment. You can find information on where to dispose of the devices from your district or municipal administration.

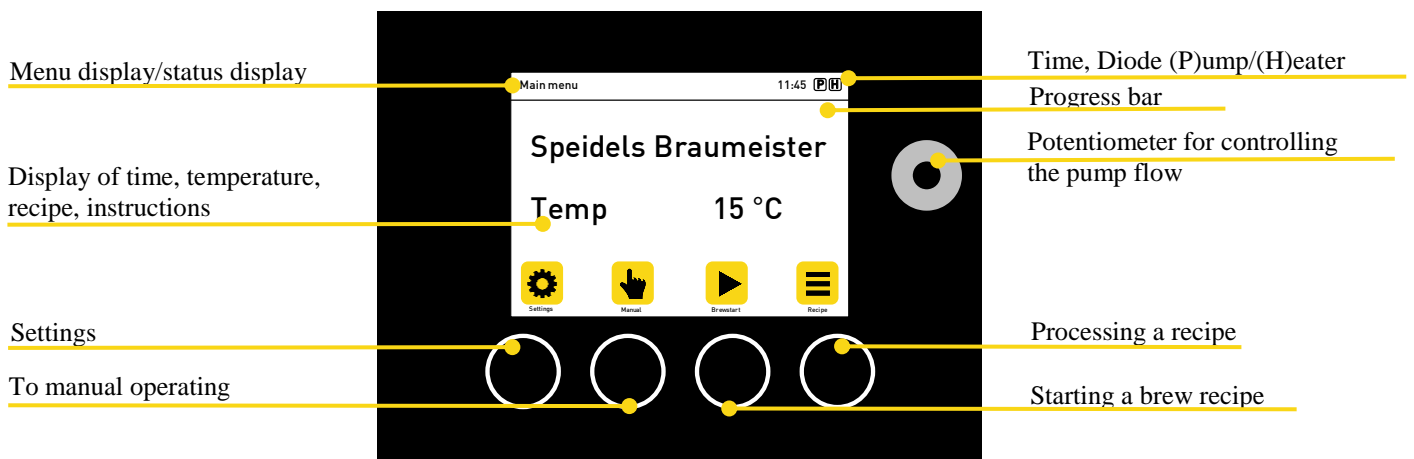
11 Working with the Braumeister

11.1 Language selection/time



When pressing the *Settings* button in the ‘Start’ menu, the language, illumination, and time screen opens. The arrow keys allow you to make a selection, and choosing the *Select* function takes you to the various options. These, in turn, can also be selected by activating the arrow keys. Acknowledge your selection by pressing the *Select* button. Press the *Abort* button to return to the Start menu.

11.2 Brewing control information



Automatic operating mode: Press *Brewstart*, select a recipe and press *Select* to start. Follow the instructions. A detailed description can be found in the chapter below “Brewing with the Braumeister”.

Recipes: Up to 10 recipes can be stored when selecting the *Recipe* function. When you receive the equipment, 2 recipes are included. Use the arrow keys to select a recipe first, create a new one or delete a recipe. Pressing the *Select* function to change an existing recipe. The arrow keys allow you to modify any entries. Use the *Select* key to move to the next recipe item until you have reached the end. Once all items of the recipe have been acknowledged by pressing the *Select* key, the recipe is applied and stored.

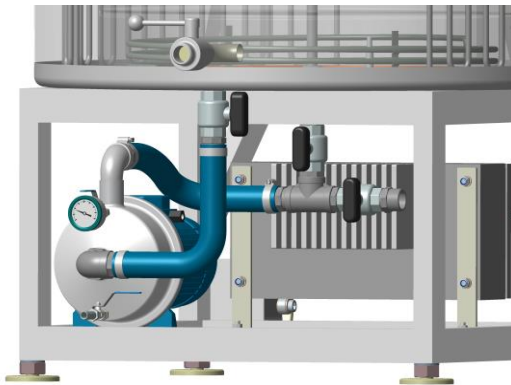
Manual operation: During the manual operating mode, the pump and the heater can be switched on and off. The symbols on the upper right-hand corner indicate whether the pump is on or off. If the symbol is highlighted in yellow colour, the pump is on. A light yellow colour of the symbol indicates that the pump is activated, however, it is not started. This indicates that the liquid is still too hot or the heater is activated but the actual value is higher than the setpoint. Use the *Temperature* button on the right-hand side to set

the target temperature; then, activate the arrow keys and the *Select* button.

Cancel:

When pressing the *Abort* button, you are taken back the Start menu; regardless of the operating mode you are currently in (Automatic/Brew start/Recipes, and Manual mode). While in Automatic mode, the red-coloured light elements are lit. A prompt will be displayed asking whether the procedure shall be finally aborted or whether this process shall continue.

11.3 Circulation pump information



While in the manual mode, the circulation pump can be switched on and off. It is important to vent the pump while in manual operating mode after filling it with liquid, so as to ensure that it does not run dry and possible incur damage. This can be achieved by filling the pump with water and switching it on and off several times (until no more air bubbles escape). The automatic mode occurs automatically. During the brewing process and while in manual mode, the pump

switches off automatically as soon as the temperature exceeds 88°C. This protects the system. If the temperature drops to 84°C the operation continues. The speed and the flow of the pump can be regulated by using the rotary knob on the control panel. When using the 500 L Braumeister, the recirculation pressure is optimised at approx. 0.2 bar or 0.15 bar (displayed on the pump's pressure gauge during the mash process). In order to prevent excessive pressure in the malt pipe, a pressure of 0.2 bar or 0.15 bar must not be exceeded. The pump output is limited to approx. 0.25 bar for the 200 L equipment and 0.2 bar for the 500 L Braumeister.

11.4 Notes on the container lid



The lid assists in reaching the temperatures more quickly in the heating up phase. Higher water temperatures cause condensation to occur on the underside of the lid. When lifting the lid, ensure that you hold the lid rim over the vessel opening (at an angle) so that the condensation can run back into the vessel.

11.5 Information pertaining to the piping layout and the position of the valves

By default, the Braumeister uses 3 feed-through and drain valves on the bottom as well as one valve on the vessel itself. Valves at the bottom must be positioned differently depending on the application and the section of the brewing process. The valve on top of the vessel is used to remove the wort; at the same time it serves as inlet for the whirlpool application. The following description of the brewing process describes the relevant valve positions again and in more detail.

11.6 Lifting equipment information

The entire equipment comprises the lifting device, the cable winch, the cable, and cross bar incl. hooks. Prior to each brewing process, these components must be visually inspected for damage and their flawless condition must be insured. Additional



information and safety instructions can be found in the attached winch instructions. If the handle for the winch is not used, it can be folded to save space. The cable must also be visually inspected for damage. Check for brittle condition and appearance of ageing (refer to Chapter 9 Maintenance and services) If the malt pipe has been removed, this equipment can only be pivoted in one direction and must be lowered in this place. While pivoting the malt pipe, it should be put down as soon as possible and any load must be removed.

11.7 Notes on hygiene

Hygiene is of top priority when brewing beer. Especially in the cold process area (while cooling off, when decanting and while fermenting), the beer and the wort are susceptible to infection, which causes the beer to spoil, meaning that all work could be in vain. For this reason, take particular care in ensuring that all containers (fermentation vessel, bottles) and work materials (spoon, taps, seals) are meticulously clean. In order to disinfect these vessels and equipment, a sulphurous acid (not to be confused with sulphuric acid) or similar agent is recommended. You may purchase these items at a local hobby wine-making or beer-making store. Mix and dilute the powder with water and push this solution into the fermentation lock for disinfection of the fermentation vessel, all other equipment and even your hands. We recommend preparing a bucket with sulphurous acid, for example, and using this solution for disinfecting your hands and all equipment during the brewing process and prior to decanting. Fill the fermentation vessel with a little sulphurous acid, close it and let it stand for a few hours. Shake the vessel several times at intervals. Empty it and allow to drip-dry prior to use. Rinsing the vessel with water is not necessary. A few drops or a little residue of the sulphurous acid in the beer is completely harmless. Storage and maturation vessels are disinfected in the same way as fermentation vessels. Where the beer is filled into flip-top bottles for maturation after fermenting, disinfect the bottles by heating in the oven. Remove rubber seals and disinfect by boiling in hot water or bathing in sulphurous acid. Heat the bottles in the oven until they reach a temperature of approx. 130°C. Then switch the oven off and allow the bottles to cool to room temperature again. Cap using the disinfected seals. In this manner you can ensure that the fermented beer is filled into meticulously clean bottles. The disinfection process should be performed a few days before the end of maturation, to ensure that the filling procedure can take place quickly and without rush.

11.8 Information about the cooling jacket and water quality

In order to optimise the cooling effect, relatively cold water must be used as cooling medium. The greater the temperature difference between the cooling water and the temperature of the wort, the faster the cooling process is ensured. The so-called “whirlpool effect” causes the wort to flow in a circular current. This also accelerates the cooling effect (see chapter “Cooling”).

In order to prevent corrosive damage, clogging or contamination inside the double-walled shell, only clean water/cooling medium must be used that does not contain iron particles. Therefore, do not use pipes/fittings or similar equipment made of steel as supply lines to the double-walled shell. Prior to starting the operation, a water analysis may be required. You may install screens and filters in order to prevent dirt and iron particles to enter the system.



12 Brewing with the Braumeister

12.1 Introduction

Making beer with the Braumeister can be split into different phases, whereby each phase is individually described below. First, all phases are described in general. This way, the brewing procedure applies to all beer types and recipes. An actual brewing example for first-time brewers and a special recipe with precise indications of quantity, brewing times and temperature levels are provided in the chapters that follow. Before starting to brew beer, we recommend that you gain an overview of the individual steps required for preparing a ready-to-drink beverage. To ensure that you do not miss any steps and to allow you to gain an overview of your brewing procedures in retrospect, we recommend keeping a brewing record (see Record in the attachment or go to www.speidels-braumeister.de). Another tip: Allow yourself a day for your first brewing attempt, and where possible have another person join you, as it is much more fun together and another set of hands can be very helpful. Note that brewing beer requires a little experience and that each brewing process is an improvement on the previous one. So don't be disappointed if your first batch of beer does not quite meet your expectations. This is perhaps best illustrated by the words of a witty German poem that suggests that the beer from the first batch is weak and stale and is bound to cause flatulence, while the second one is mediocre, causing you to pass more liquid than you consumed. The third attempt results in a true beer enjoyed by gentlemen and ladies.

12.2 Preparations

Procuring the ingredients

Organise the required brewing ingredients (hops, malt and yeast) in good time. Ensure that the malt is fresh. After crushing the malt (breaking open the corns – not too fine) use it up as quickly as possible. The quantities vary slightly, depending on the recipe. However, for the 200 L Braumeister, the amount of malt is 38-42 kg and the amount of hops is about 200-400 g. The 500 L Braumeister requires 90-120 kg of malt and 400-700 g of hops. Normally, the hops is supplied in a pressed form as pellets. We recommend using dry yeast for fermentation as it can be stored more easily and has a longer shelf life. Later, special liquid yeast may be used. These ingredients are available at commercial outlets for hobby brewers and via the internet.

Cleaning the devices

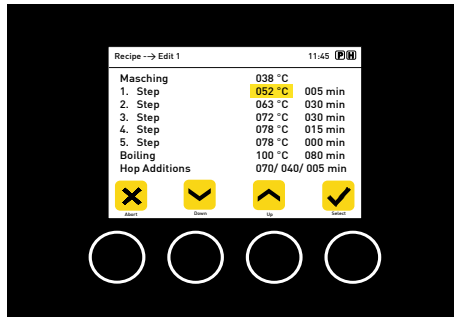
Before starting the brewing process, rinse the Braumeister with warm water and flush the pump by switching it on. All other equipment such as the beer spindle, wooden spoon and fermentation vessel should be ready for use and clean. See also the notes in the chapters "Notes on hygiene" and "Cleaning the Braumeister" in this regard.

Decalcifying the water for brewing

Where required, the brewing water can be decalcified. For this, boil the water (cold tap water) in the Braumeister for 30 minutes, allow it to cool and then store it temporarily, for example in the fermentation vessel, until you are ready to start brewing. Dispose of the precipitated calcium that has collected at the bottom of the container. The Braumeister is designed to brew approx. 200 L or 500 L ready-to-drink beer (regular beer). You will require 250-300 L or 600-650 L brewing water. However, normal (perfectly hygienic, colourless and odourless) cold tap water can also be used by beginners, that is, for first brewing attempts, to keep the effort slightly in check to start

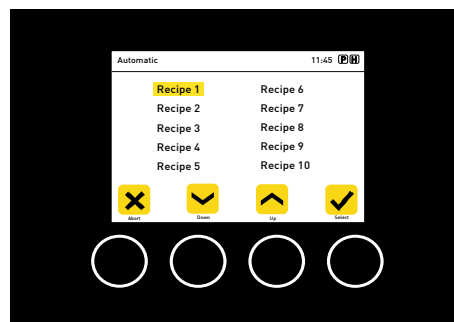
off with. In principle, the brewing water should display a hardness less than 14°dH. The softer the water, the better it is suited to brewing.

12.3 Programming/ starting automatic brewing



Plug in the Braumeister. The control is now in a basic state. In order to program a recipe, its time and temperature values, press the *Recipe* button. Use the arrow keys in the menu display above to select the recipe with which you would like to work. You can also create new recipes (up to 10) or delete recipes. Two standard recipes are included with the delivery. Press *Select* to invoke the recipe. Continue pressing *Select* while in the recipe step by step until you reach the end.

Use the arrow keys during this process to set the time and temperature. The recipe will be stored if the recipe is confirmed at the end and the cursor in the recipe selection skips to the menu bar. You may program up to 5 resting periods. If a resting period is not required, simply program it with 0 minutes. Three batches of hops with the same time before the end (refers to the time of how long the hops will be brewed) of the brewing process can be brewed. By pressing *Abort*, you are taken back to the Start menu.

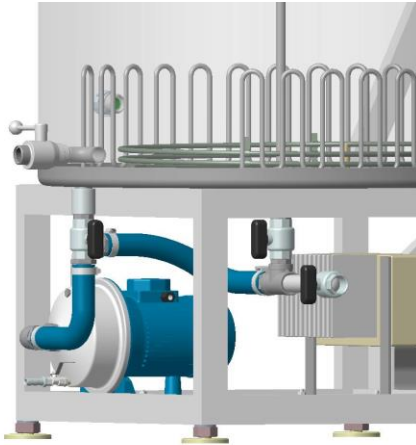


Go to the Start menu and press *Brewstart* and select the respective previously programmed and verified recipe. Start by pressing the *Select* Button. Subsequently, the water starts filling. Follow the instructions in the program.

12.4 Mashing

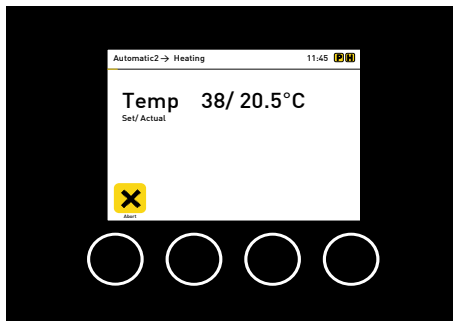
Mixing the malt grist with water is known as mashing. The aim of the entire mashing process is to separate the malt starch contained in the malt from the malt and to convert it into sugar with the help of the enzymes contained in the malt. The various enzymes act at different temperatures, which is why the process undergoes different temperature levels.

Mashing in

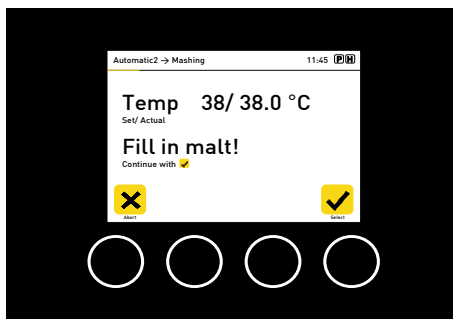


Start off by filling 230 L or 575L brewing water into the vessel (to the upper marking). The malt pipe is not yet inserted. The markings on the tie rod indicate the filling level of 170 L, 200 L and 230 L or 425 L, 500 L and 575 L. The valve position during the heating phase is shown in the illustration on the left-hand side.

Press *Select* to acknowledge that the water has been filled. This switches on the pump and the heating. The pump switches on and off several times for the purpose of venting.

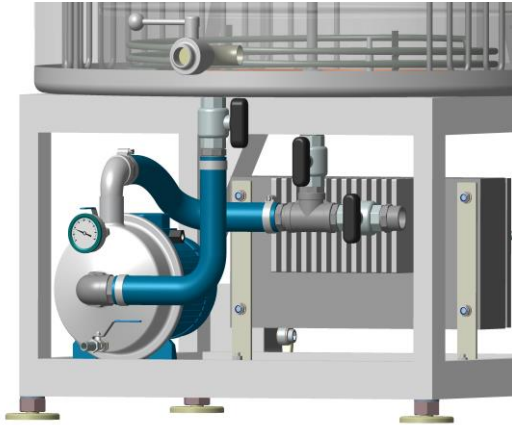


The pump and the heater are switched on until the programmed mashing-in temperature has been reached. The (P)ump and (H)eating symbols illuminate in yellow colour. The target and actual temperatures are shown on the display. The upper status display indicates for instance Automatic3. This means that the brew automatic mode with recipe 3 was started. Subsequent, a message appears indicating the current program phase. Set the speed controller to approx. 80% of its maximum level (10 on top).

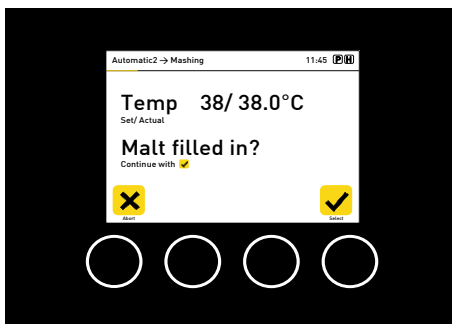


When reaching the mashing-in temperature, a signal will be sounded and the lights will be blinking. This must be acknowledged by pressing the *Select* button. This switches the pump off. Now, follow the instructions on the brew control.

The malt pipe can now be inserted into the vessel, with the seal facing downwards. Ensure that the pipe is clean, centred and flush on the base. Now, build the first screen floor (sleeve facing up) into the malt pipe. Subsequently, pour the entire amount of coarsely crushed malt into the malt pipe. Use a wooden spoon to stir in the malt. Ensure that the malt is carefully added to the malt pipe so that nothing falls into the vessel, as this could block the pump. Place the filter cloth on top of it, followed by the screen plate (sleeve facing up). For the 500 L Braumeister, a distance sleeve is inserted when using up to 100 kg of malt. This ensures that the screen is pushed down further and the malt submerges even deeper. Now, screw the first wing nut onto the thread of the tie rod. This will push the screen plate downwards. Subsequently, the retaining tube is placed down and the second wing nut is used to push down the malt pipe towards the seal of the malt pipe.



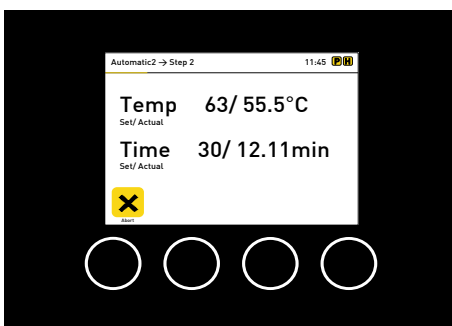
After the malt has been added, set the valve position as shown in the illustration on the left-hand side. Caution: When using the 200 L Braumeister, the pressure inside the malt pipe/pressure line must not exceed 0.2 bar. When using the 500 L Braumeister, the pressure inside the malt pipe/pressure line must not exceed 0.15 bar. This will prevent the malt to coagulate, cause the recirculation to be reduced, and may damage the screen plates. Set the speed controller to pos. 7-8 to ensure the optimum pressure. However, the pressure should conform with the pressure inside the pump since that pressure also depends on the amount of malt, size of grain, and recipe.



Once you have filled the malt, acknowledge it by pressing the *Select* button. For safety reasons, you will receive the prompt “Malt filled?” And by pressing *Select* the actual brew process commences with the Braumeister. The pump and the heating switch on. The wort rises up in the pipe and overflows. The cycle has begun and the malt is washed out by means of transfer pumping in the next phases.

Protein rest:

In the protein rest, the large protein molecules in the malt are split into small components. Protein rest is important for purification and full body, but especially for foam stability and carbon dioxide binding capacity of the beer. The temperature is around 52°C, and is maintained for 0-10 minutes, depending on the recipe programmed. In order to achieve a better stability of the foam, some recipes omit this phase.



The display now indicates the rest, target, and actual temperature, and the target and actual time. After the target temperature has been reached, the countdown starts. All other phases are processed fully automatically. The display indicates in the respective times and temperatures.

By pressing in the *Abort* button, the brewing process will be interrupted. Subsequently, a prompt will be displayed asking whether the Automatic process shall be continued or if the entire process shall be cancelled. During this time, the red light is blinking.

Maltose rest:

In the second phase, the maltose rest, starch molecules are converted to fermentable sugar with the help of additional enzymes present in the malt. This phase is an important stage in the brewing procedure for alcohol formation, as the largest quantities of sugar are formed here. Extending the rest period means gaining more sugar in the wort, which leads to a stronger beer. Shortening the time results in beer

with a fuller body, due to the increased dextrins. The temperature is around 63°C and is maintained for a period of approx. 35 minutes. As is the case in the first phase, the control shows the relevant data in the display. All following processes (phase 2 to phase 5) are handled fully automatically by the control system. During this period, the pump is switched off briefly every 10 minutes (pump break), to reposition the malt and thereby achieve a better yield. The lid of the Braumeister is in place to save energy.

Sugar rest 1:

During the third mashing phase additional starch components are split with the help of enzymes active at this temperature level, and liquefied in the wort. The temperature is around 73°C and is also maintained for 35 minutes.

Sugar rest 2:

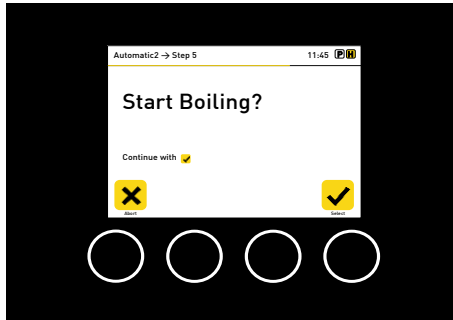
In the last phase the residual starches continue to saccharify, thereby forming even more extracts that cannot be fermented. This gives the beer slightly more body. The wort is heated to 78°C under continuous transfer pumping and then maintained at this temperature for 10-20 minutes. An iodine test can be used to determine whether the wort still contains residual starch. For this, allow a little wort to drip onto a white plate and add a little iodine. If the sample turns brownish red or yellow, sufficient saccharification has taken place. Where this is not the case, the last temperature level must be maintained for a longer period.

12.5 Purification



After completion of the programmed brewing phases, another signal tone is emitted. Press *Select* again to acknowledge it. The pump switches off and you are prompted to start purifying (“Remove malt pipe”). Purification means separating the crushed malt from the beer wort. Purifying with the Braumeister is a relatively easy, fast and clean exercise, compared to many other home brewing methods, and represents a central concept of the Braumeister. Remove the thumb screw including

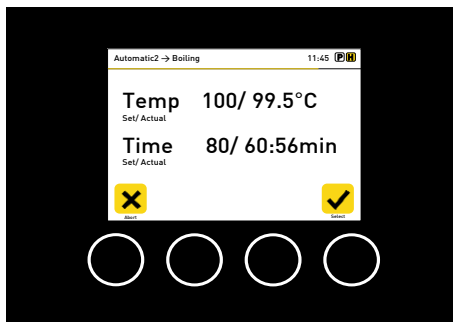
the retaining bracket and the second thumb screw above the screen plate. Use the hoist, the cable winch, and the crossbar to remove the malt pipe carefully and slowly out of the vessel until the malt pipe is removed completely from the wort and the residual wort drips through the draff back into the vessel. Subsequent rinsing the malt draff and replenishing, the last remaining amount of extracts can be separated and the yield can be increased (to optimise it, add 2 x 10 L or 2 x 20 L) by adding the liquid slowly. This process is known as “sparging” (process not essential). This so-called “sparging the draff” is performed by pouring water at 78°C (max 78°C – not boiling water) into the top of the malt pipe. During the lautering process, the temperature remains constant at the pre-programmed temperature of 78°C. After 15 to 20 minutes of lautering, the malt pipe is removed completely by pivoting the hoist forward and using the cable winch to lower the pipe into a collecting vessel or similar container. For safety reasons, we recommend using heat-resistant gloves for this part of the process, as all components will have reached extremely high temperatures.



After removing the malt pipe, acknowledge it by pressing the *Select* button. In order to start the hops boiling process, press the *Select* button again. The pump and the heating switch on again and the automatic process continues.

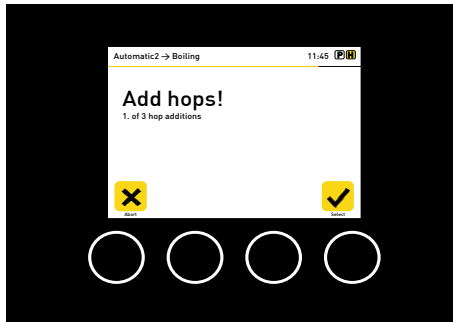
Once the lautering process is complete, the wort content should be checked. This is important for ensuring the required original wort content of the wort, so as to be able to adjust the subsequent alcohol content of the beer as well. Fill a graduated cylinder (accessory) and determine the wort level at the time of sampling. For this, use the upper three filling level rings on the tie rod; they indicate 170, 200 and 230 L or 425, 500, and 575 L). Estimate the levels between these markings correspondingly. For measuring the original wort using a beer spindle (accessory), first cool the wort sample to 20°C to ensure an exact measurement. A water bath with ice cubes or similar is suitable for this. However, as the original wort is proportional to a certain liquid level, you do not need to wait until you have performed the measurement. Simply continue with the next phase of hops boiling and subsequently correct or adjust the original wort.

12.6 Hops boiling process



As described in the previous section, automatic brewing continues and the hops boiling process is started. At 88°C the pump switches off automatically (below 84°C the pump switches back on again). The display continues to indicate the time and the temperature of this phase. As the target temperature of 100°C cannot always be reached, timing starts after a waiting period of 5 minutes without increase in temperature. When pressing the *Select* button during the Automatic mode, the target

temperature and target time can be corrected or changed. Wort is boiled during this phase. On the one hand, coagulable proteins are excreted and on the other hand wort is sterilised, which means that all bacteria that could potentially spoil the beer during fermentation are destroyed. As already mentioned in the description of the previous phase, the original wort can be adjusted by means of evaporated water or by topping up water. Hops is also added during the boiling period of 80-90 minutes, which imparts the required bitterness as well as the aroma to the beer. Depending on the recipe and taste, the amount of hops added can vary. Once the wort sample at the end of the previous phase has been measured in terms of original wort, it is set by means of the liquid level. Where the original wort content is equal to the target value, the level must be maintained right to the end by topping up boiling water. Where the original wort is too high, the wort is diluted by topping up with water and increasing the liquid level correspondingly. Care must be taken to replace evaporating water as well. Conversely, the liquid level must be decreased (through water evaporation) if the original wort content is too low, which leads to a higher concentration of sugar in the wort and consequently also to a higher alcohol content in the beer. It is essential that the boiling phase in the brewing vessel is performed without a lid. This prevents the wort from boiling over, but more importantly, it is also necessary for the hops boiling process to ensure that all unwanted aromatic substances can evaporate from the hops, as they would otherwise impact negatively on the taste of the beer.



Adding hops originally also served to better preserve the beer. Depending on the type of hops and bitter substance content, add the first batch of hops to the boiling wort 10 to 15 minutes after boiling has started. The hops remains in the wort during the entire boiling period, as its substances only begin to unfold their effect after boiling for some time, thereby imparting the intended hops bitterness to the beer. The resins and oils in the hops are also released, which then ultimately gives the wort its

malt flavour. You can then add another batch of hops approx. 10 min before the end of the boiling period, which merely adds to the flavour. Additional excretion of bitter substances is no longer possible in the remaining time. The hops amount varies according to recipe and beer type. The amount also depends on the hops itself, as the hops may vary according to cultivation location and year. Hops can be added in the form of pellets or dried hop blooms (**only in a hop bag**). The bitter substance content in beers is indicated in bitter units (BU) and is around 10-20 BU in wheat beers and 25-45 BU in Pilsners. The bitter substance content of hops is indicated in % alpha acid, which can be between 2-4% (approx. 8% in pellets). The following formula can be used to calculate the hops quantity:

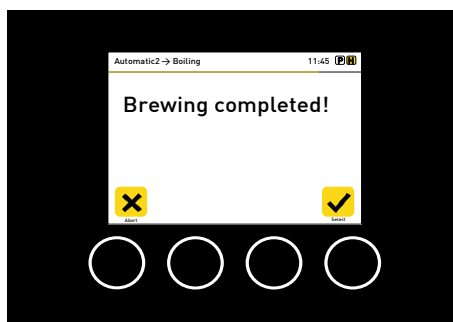
$$\text{Hopfenmenge in Gramm} = \frac{\text{Bittereinheiten (BE)} \times \text{Liter Bier} \times 10}{\% \text{ Alphasäure} \times \% \text{ Bitterstoffausnutzung}}$$

A bitter substance concentration of 30% can be assumed for a total boiling period of 80-90 minutes

Example:

A volume of 200 L of wheat beer with a bitter substance content of 15 BU is to be brewed. The hops available has an alpha acid content of 3%. Thus, the following hops quantity is derived, which is added at the beginning of the boiling process. The hops added shortly before the end of the boiling process is not included in this calculation, as no more noteworthy bitter substance amounts are imparted to the wort in this short period of time.

$$\text{Gramm Hopfen} = \frac{15 \text{ BE} \times 200 \text{ Liter} \times 10}{3\% \times 30\%} = 330 \text{ g}$$



Once the boiling time has elapsed, another signal tone is emitted, indicating the end of the brewing procedure. Use the *Select* button to acknowledge it. The heating switches off.

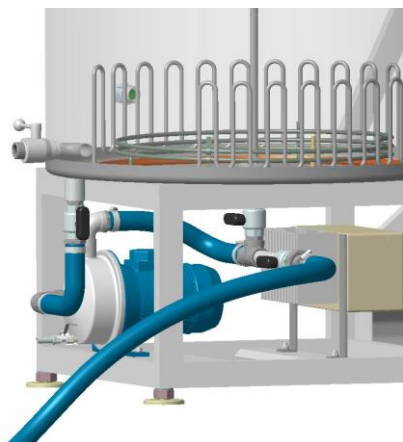
12.7 Cooling

From now on, it is essential that you work in absolutely sterile conditions, as any contamination through bacteria in the air or through unclean devices during all subsequent work steps could lead to all your work being in vain. All devices used must be thoroughly cleaned or disinfected. Please see the notes in the chapter “Notes on hygiene”. After connecting the cooling jacket to a cold water source (cold tap water), we recommend to use the “whirlpool effect” in order to settle the hot trub. This effect causes the trub substances that are contained in the wort to sink to the bottom, resulting in a clearer wort.



Connect the hoses and position the valves as seen in the illustration on the left-hand side. Selecting a low pump speed (set to 6-8) ensures a consistent rotation of the wort inside the vessel. Caution: The pump will only restart again at 86°C. The consistent rotation will also optimise the cooling process. Cooling the liquid from 100°C to approx. 25°C (if using ice-cold water) requires approx. 50 min/120 min.

During the cooling process, this trub slowly settles on the base of the container, where it remains once the clear wort is drained. Avoid stirring or moving the cooled wort, as this will cause the settled trub to whirl up again and also flow into the fermentation vessel. Caution: First, the water at the outlet of the wort cooler is still close to boiling temperature (scalding risk). This water can be re-used for cleaning activities at a later stage. It is especially important to cool the wort quickly between 40° and 20°, as it is particularly susceptible to infection at this range. Once the wort has cooled to 20°C, pump the wort into a suitable vessel. However, prior to this, 4-8% wort (8-16 L for 200 L, bottom-fermented beer approx. 4%, top-fermented beer up to 8%) must be drawn off into a lockable vessel and stored in a cool room. This is added to the fermented beer at a later stage, so as to achieve secondary fermentation and sufficient formation of carbon dioxide in the filled bottles or barrels.



Use a suitable clean hose for bottling. The hose connection and the position of the valve can be seen in the illustration on the left-hand side (Caution: If the hose is sloping and the valve is open, the wort drains immediately!). Now, switch the pump to ‘Manual’ mode (in order to switch to ‘Manual’ mode press the first and second button on the left simultaneously); this makes it easier to pump out the wort.

At first, use the speed controller to pump at high speed; reduce the flow rate later in order to minimise the drainage of the trub substances.

The fermentation vessel or container should be significantly larger than the quantity of wort to allow sufficient fermentation space and to prevent overflowing of the fermentation foam. The last remains and the trub at the base of the Braumeister can be

disposed of. Please clean the Braumeister as quickly as possible after use so as to avoid surface drying. This facilitates the cleaning process considerably.



In order to position the Braumeister for cleaning purposes, fold down the rear bracket or turn the winch to tilt the Braumeister. Connect the hose to a drain pipe and position the valves as seen in the illustration on the left-hand side. Now, the Braumeister can be cleaned from the top, using an appropriate brush and water. The dirty water can be pumped (in 'Manual' mode) down the sewer drain.

12.8 Main fermentation

Once the cooled wort has been filled into a fermentation vessel, add the yeast to the wort. We recommend using dry yeast as it is easy to add to the vessel. This is the phase in which you need to decide whether you would like to prepare bottom-fermented or top-fermented beer. Top-fermented yeast requires 15 to 23°C for the fermentation process, whereby bottom fermented yeast becomes active at 4 - 12°C. The amount of yeast depends on the respective recipe and the desired type of beer. Wheat beer and Kölsch are top-fermented beers. Märzen and Pils, however, are bottom-fermented beers. Alcoholic fermentation of the beer is started by the activity of beer yeast organisms, which causes the fermentable sugar to be converted into alcohol and carbon dioxide. After adding the yeast, immediately seal the container with a lid and fermentation lock. Disinfectant should be filled into the fermentation lock so as to ensure that no foreign organisms enter the vessel. It is imperative that you perform this work step in absolutely sterile conditions as well to prevent the beer from becoming infected by foreign organisms. The vessel may never be completely sealed to allow the CO₂ resulting from the fermentation to escape. Place the vessel in a darkened room that has the correct temperature for the yeast. A cooling tank can be used for fermentation of bottom-fermented beer. Top-fermented beers can be fermented at room temperature. Maintaining the temperature is extremely important. Temperatures that are too low cause the yeast cells to become active too slowly or not at all. Temperatures that are too high can lead to the yeast cells dying off. Fermentation should be active 12 hours after the yeast has been added; you can determine this by simply checking for escaping gas bubbles from the fermentation lock. Fermentation takes 4-7 days. Dark yeast spots may occur on the fermentation foam during the fermentation process. These can be removed by means of a sterile wooden spoon. Should you remove wort via the drainage tap during the main fermentation period (e.g. for measurements using the beer spindle), immediately clean the tap and disinfect using a cotton-wool ball and disinfectant where necessary. This prevents surface drying and subsequent infection by inherent bacteria during decanting.



12.9 Maturation

During secondary fermentation or maturation, all sugars remaining from the main fermentation process and added sugars are fermented – causing the green beer to build up carbon dioxide, which is of significance for subsequent formation of foam, foam stability and freshness. The beer also matures to perfection as regards taste, and a natural clarity is achieved as well. As soon as fermentation is complete (no escaping of fermentation gases), the beer can be decanted. For this, prepare the following: maturation containers/bottles and, if necessary, defrost the wort.

Using kegs or bottle is the best available method for secondary fermentation; however, special beer pressure tanks may also be used. Here too, it is important to work under sterile conditions. All devices must therefore be thoroughly cleaned and disinfected prior to use. These preparations should take place during the fermentation process or even earlier to ensure that you do not inflict unnecessary pressure on yourself on the day of bottling, and can concentrate on more important matters.

You may either start filling at approx. 0.5° Plato above the final fermentation level or, if the final fermentation has been reached, carefully add the separately stored and cooled wort to the “unmatured” beer in the fermentation vessel. Do this 1-2 hours prior to the bottling stage. This allows whirled up trub to settle again. Attach a pipe that reaches the base of the bottles to the drainage tap for bottling. In this way, you can avoid extreme frothing and ensure that loss of carbon dioxide is kept to a minimum. Fill the casks 90-95% (fermentation space) and seal immediately. Also take care not to whirl up and decant the sediment in the fermentation vessel. After bottling, store the beer for 1-2 days at the same temperature as used in the main fermentation. Subsequently, the top-fermented beer is stored at 10-12°C and the bottom-fermented beer is stored at 0-2°C. Important: During secondary fermentation, it is essential to check the bottles for excess pressure after approx. 12 hours and again in the first 2-3 days, and to briefly ventilate once where required, so as to avoid excess pressure from the CO₂. Store the bottles in an upright position so that any trub can settle on the base. This type of beer production results in naturally cloudy beer. In days gone by, nutritious beer was always naturally cloudy and is today also still preferable, as it contains valuable B vitamins bonded on the yeast cells. The first tasting can take place after a storage period of 2-4 weeks. Slightly longer storage periods result in an even more mature taste. Your home-brewed beer is now ready. Serve cold and enjoy with your friends! Cheers!

13 Brewing example/ brief instructions

The following example serves to illustrate your first brewing procedure with the Braumeister on a step-by-step basis using an actual recipe:

Beer type: Pale wheat beer/ top-fermented
 Beer quantity: 200 L/500 L ready-to-drink beer
 Original wort: 11-12°Plato

Ingredients:

- 38 kg or 100 kg **roughly** crushed brewing malt (50% wheat malt, 50% barley malt, and a touch of caramel malt where required)
- 270 L/650 L medium-hard brewing water or tap water (230 L/550 L to start and the remainder for topping up)
- 300 g or 500 g hops with 3% alpha acid (approx. 200 g/350 g immediately after brewing has started and approx. 100 g/150 g 10 minutes prior to the end of the brewing time)
- Top-fermented dry yeast



Procure ingredients according to above information

Clean the Braumeister and store it in a suitable place. Install power supply and provide hoses for fresh water and drain water.

Also clean all additional equipment required, such as malt shovel, wooden spoon, wort hydrometer, cooling coil, fermentation vessel including accessories etc, and have readily accessible.

Programming the recipe – *Recipe* button. While in the programming mode, you can set the times, temperatures, and hops batches depending on the recipe. A suitable standard recipe is already stored. After confirming all inputs and pressing the *Select* button, the recipe will be saved. Go back by pressing *Cancel* and start the Automatic mode by selecting the desired recipe in the *Brewstart* menu. The Braumeister guides you through the following brewing procedure.



Add 230 L/575 L brewing water – to the upper marking on the tie rod or filling level indicator.

Follow the instructions of the brew control by pressing *Select*, acknowledging that water has been added. Venting of the pump takes place automatically, followed by heating up to the programmed mashing-in temperature.



When the mashing-in temperature has been reached, a signal tone is emitted; press *Select* to acknowledge it. Then insert the malt pipe (with pulled-on seal facing downwards). Ensure that the seal is centred on the malt pipe and sits absolutely flush on the vessel base. Slide in the filter plate to the lower edge.

Pour the malt into the malt pipe and stir thoroughly. Next, install the filter cloth and place the filter plate on top of it. Use the thumb screw to tighten the assembly. Subsequently, use the retaining bracket and the second wing nut to carefully press down the malt pipe. Ensure that no malt is spilled, as this could block the pump.



Press the *Select* button to continue the Automatic mode. Lightly coloured brewing water rises up and spills over. The cycle has begun. The next brewing phases take place fully automatically, as programmed. During some of the brewing phases, the control causes a short pump break to reposition the malt. The display shows the actual and the setpoint temperatures as well as the setpoint and actual run time. Set the pump speed and the rotary potentiometer to ensure the recirculation pressure reaches barely 0.2 bar (set speed level to 8-9).

After the brew phases are completed, as signal is sounded again. Press the *Select* button to acknowledge it. Remove the thumb screw and retaining tube. All parts are extremely hot. Therefore, the use of kitchen gloves is highly recommended. Use the lifting equipment and the winch to remove the malt pipe from the vessel. While in the upper-most position, let the malt drip off. Use the wooden spoon to pierce the malt several times to allow the beer wort to drain more effectively. Top up with water, if necessary. Remove the malt pipe with the malt completely after 15-20 minutes.





Continue by pressing the *Select* button in order to start the hops boiling process. Do not close the lid. Avoid the hops boiling over. Add the first batch of hops (200 g or 350 g) 10 minutes after the boiling point has been reached. Do not close the lid during the hops boiling process either. Steam must be able to escape. Top up evaporated water quantity or adjust original wort. Ten minutes before the brewing process is finished, add the last batch of hops (100 g or 150 g).

in order to clear the wort from the hot trub and to ensure a rapid cooling process, use a hose to connect the pump to the drain valve (see detailed instructions). To do this, generate the whirlpool effect. At the same time, run cold water through the cooling jacket. Caution: Initially, boiling hot water flows through the cooling jacket. Cool beer wort to 20°C. From now on ensure sterility so as to avoid infection. Allow the excreted trub to settle on the base.



Pump the wort (see position of valve in detailed description) through a hose into the sterile fermentation vessel. First disinfect the vessel and filling aids with a disinfectant. Do not allow sediment on the base of the vessel to flow out.

Add a sufficient amount of dry yeast (2 or 4 sachets at 14 g) to the wort and seal the fermentation vessel by means of the fermentation lock filled with a disinfectant.

Store the container in the dark room at a temperature between 16 - 20°C The fermentation starts after approx. 12 hours Remember: Add 12 L of wort to the vessel and store in a cool place (prior to adding yeast). Fermentation duration: 3-5 days. Fermentation is complete when no more fermentation bubbles escape. Prepare the maturation bottles and kegs while fermentation is in progress.

Carefully shake the tapped off wort 1 hour before adding to the fermentation vessel. Or add to the fermentation vessel while at approx. 0.5 °Plato above the final fermentation level. First remove a little foam from the top using a ladle. Do not move the vessel again before bottling. Use a hose to fill into bottles, kegs or maturation vessels (accessory). Do not fill bottles more than 90-95%. Allow bottles to stand at even temperature for 1-2 days and ventilate briefly on a daily basis (only in case of excess pressure). Then, allow the beer to mature a further 3-4 weeks at a temperature of 10-15°C.



Cheers!

Additional recipes can be found here:
www.speidels-braumeister.de





14 Brewing faults/troubleshooting

Do not repair the device yourself. Rather seek an authorised specialist. To avoid risks, defective controls/mains cables or other electrical components may only be replaced or repaired by the manufacturer, our customer service or a person with similar qualifications.

Problem when brewing:	Troubleshooting
<i>Wort fountains shoot up during circulation</i>	Malt is crushed too finely Crush malt yourself where necessary (only crack open malt) Turn the supply valve clockwise to reduce the flow further
<i>Pump blocked</i>	Take more care when pouring into malt pipe. No malt into vessel! Clean the pump
<i>Reaching correct temperature takes too long</i>	Close lid during heating up period. Use the thermal sleeve. Place Braumeister in wind-protected location.
<i>Condensation forces its way out of the lid</i>	Set up Braumeister in vertical position.
<i>Circulation process does not start</i>	Check whether pump is operating and vented. Check even positioning of malt pipe on vessel base and proper sealing.
<i>Wort flows too slowly or not at all during purification</i>	Use wooden spoon to pierce malt from top to bottom filter plate several times. Malt is crushed too finely -> Break open corns only, do not grind finely.

Problem with beer:	Troubleshooting
<i>Beer smells and tastes sour</i>	Ingress of bacteria: pour beer away. Work more thoroughly in cold-process area. Brewing times possibly not long enough, therefore excess starch residue in beer. The process of letting additional water trickle through the malt can be omitted. Top-up water too hot (> 80°C)
<i>Alcohol content too high</i>	Decrease original wort content by adding water during the hops boiling process.
<i>Alcohol content too low</i>	Increase original wort content by increasing boiling time (water evaporation).
<i>Various foreign odours</i>	More cleanliness. Avoid contact with mould and non-precious metals. Avoid light in beer storage area.
<i>Fermentation does not start</i>	Add more yeast. "Activate" yeast. Check fermentation temperature. Ventilate wort by stirring.



<i>Beer is cloudy</i>	Store beer for longer period. Colder conditions for secondary fermentation. Do not bottle precipitate.
<i>Carbon dioxide too low</i>	Too much carbon dioxide lost during bottling or through hose. Freeze more wort and add prior to bottling.
<i>Carbon dioxide too low – beer foams over</i>	Pressure too high – ventilate flip-top bottles more frequently. Decanting took place too soon – fermentation was not complete. Too much wort added prior to bottling.
<i>Poor foam stability</i>	Too little carbon dioxide. Decrease protein rest. Higher temperature for mashing in. Remove hot break more thoroughly. Lower temperatures for fermentation.

15 Legal aspect of home brewing (valid in Germany):

Hobby brewers who produce beer in their own residence for personal consumption may produce up to 200 l beer per year, tax-free. This beer may not be sold. Hobby brewers must provide the chief customs office responsible with notification prior to starting the first brewing procedure. The following is stipulated in the Ordinance on the Implementation of the German Beer Tax Law (BierStV) and applies only to German hobby beer makers. However, compliance with local regulations is strongly recommended.

If producing more than 200 L of beer, it is subject to taxation. This must be reported to the customs office, indicating the amount of brew and the applicable duty must be paid. Contact your local customs office for detailed information.

If you are not a certified master brewer, the private use and consumption or the direct sale of beer is limited to 500 hL (50,000 L) per year. Producing any quantity exceeding this limit requires the proper training as brew master.

Serving beer requires a “Schankrecht” (a licence to sell alcohol). Nevertheless, this is subject to the above-mentioned rules and regulations.

By referring to the rules and regulations above, we cannot be held responsible as to their integrity or accuracy. Contact your local liquor-licensing authorities and request a copy of the pertinent by-laws.

In Germany, go to www.zoll-d.de .



16 Brewing record

Basic data					
Date:		Start of brewing procedure – time:		End of brewing procedure – time:	
Recipe					
Malt kg – Hops g – Water l:					
Brewing procedure					
Procedure phase		Temperature		Duration	
Mashing in:					
1 Protein rest phase:					
2 Maltose rest phase:					
3 Sugar rest 1 phase:					
4 Sugar rest 2 phase:					
Iodine test:		Purification:		Replenishment – litres:	
ACTUAL wort content measurement:		°Plato:		Litres:	
TARGET wort content measurement:		°Plato:		Litres:	
Wort boiling:		Total duration:	1 Hop addition:	2 Hop addition:	3 Hop addition:
Filtering:	Cooling:	Wort removal:	Bottling:	Wort content - °P:	Yeast addition:
Fermentation process/ after-fermentation process					
Start of fermentation – date:		Fermentation temperature:		Residual extract - quick fermentation check - °P:	Filling the target extract - °P:
Bottling date – date:		Filling the actual amount of extract - °P:		Wort addition in L:	Maturation vessel:
Tasting					
Taste, colour, behaviour of foam, carbon dioxide, faults:					
Improvements					

17 Cleaning instructions



Immediately after the brewing process, it is strongly recommended to place the Braumeister into its cleaning position (see illustration on the left-hand side). Use water to dilute the trub substances and pump out the residue. Observe the correct position of the valve.

Use a brush and the water hose to remove any remainder of the brew from the vessel's interior and the heating coils. While cleaning, ensure to pump off all dirty water. Use fresh water to pump through the inlet of the vessel. This will rinse this line and the valve as well. Remember, the outlet and the inlet openings must be included in the cleaning process.

The malt pipe and the filter plate can be removed when cleaning.



If a visual inspection ascertains that the Braumeister is clean, the equipment must be disinfected. To do this, add water until the heating coils are submerged several centimetres below the water level. Now, heat the water to 30°C. During this process, the water is recirculated. Add a small amount of Halapur (alkaline disinfectant - see 'Accessories' below) Ensure to clean all hoses and valves and connect the hose to the vessel's valve to the "whirl pool". During the recirculation process, ensure to open and close all valves several times. This will assure that all valves are being cleaned. This includes also all valves on the pump.

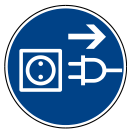
Continue this process for approx. 15 - 20 minutes. Next, drain the alkaline disinfectant from the vessel and use fresh water to rinse the container several times, following the process mentioned above. Ensure to remove all disinfectant residue from the vessel.

Finally, open all valves, including the pump valves, in order to ensure the water can drain completely and the components can dry (if necessary, the valve must be opened and closed several times).

Once in a while, the hoses in the lower area must be removed and cleaned, using a separate brush.



Accessories Cleaning set (Item no.: 78027)



In order to clean the exterior of the Braumeister, only a damp cloth is required. Never attempt to spray the Braumeister with water. Electrical components must come in contact with water. When cleaning the exterior of the Braumeister, ensure to disconnect the power.



18 Guarantee conditions, handling a guarantee

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 non-authorised 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 – (0)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.



de	Sollte die beiliegende Betriebsanleitung nicht in einer für Sie verständlichen Sprache vorliegen, so kontaktieren Sie diesbezüglich bitte Ihren zuständigen Händler.
en	If the accompanying instructions are not in a language that you can understand, please contact your local dealer in this regard.
fr	Si les instructions accompagnant dans une langue qu'ils comprennent, vous donc s'il vous plaît contacter votre revendeur local.
es	Si las instrucciones que acompañan estar en un idioma que comprendan, que por favor contacte a su distribuidor local.
pt	Se as instruções que acompanham estar em uma linguagem que eles entendem, você por favor contacte o seu revendedor local.
pl	Jeśli instrukcje towarzyszące są w języku, który rozumieją, tak, proszę skontaktuj się z lokalnym dealerem.
no	Hvis instruksjonene som følger med være på et språk de forstår, du så ta kontakt med din lokale forhandler.
fi	Jos ohjeet mukana olevan he ymmärtävät, olet niin ota yhteyttä paikalliseen jälleenmyyjään.
sv	Om instruktioner vara på ett språk de förstår, behaga dig så kontakta din lokala återförsäljare.
da	Hvis anvisningerne ledsager være på et sprog, de forstår, så du bedes kontakte din lokale forhandler.
it	Se le istruzioni che accompagnano in una lingua che capiscono, ti prego pertanto di contattare il rivenditore locale.
el	Εάν οι οδηγίες που συνοδεύουν να είναι σε γλώσσα που κατανοούν, σας γι 'αυτό παρακαλώ επικοινωνήστε με τον τοπικό σας αντιπρόσωπο.
hu	Ha a mellékelt használati utasításnak kell olyan nyelven, amit megértene, akkor ezért kérjük, forduljon a helyi forgalmazóhoz.
nl	Als de instructies die bij in een taal die zij begrijpen, je zo kunt u contact opnemen met uw lokale dealer.
ro	În cazul în care instrucțiunile care însoțesc să fie într-o limbă pe care o înțelege, vă rugăm să vă contactați distribuitorul local.
ru	Если инструкции сопровождающих быть в понятном для них языке, вы поэтому, пожалуйста, обратитесь к вашему дилеру.
sk	Ak Návodý príložený byť v jazyku, ktorému rozumie, si tak obráťte sa na miestneho predajcu.
sl	Če navodila, ki spremljajo, so v jeziku, ki ga razumejo, zato vas prosimo, obrnite na lokalnega prodajalca.
bg	Ако инструкциите, придружаващи се в разбираем за тях език, можете да се обърнете към местния дилър.
sr	Ако се прате упутства бити на језику који они разумеју, тако да вас молимо да се обратите свом локалном дистрибутеру.
hr	Ako upute prate se u jeziku koji razumiju, pa vas molimo da se obratite svojem lokalnom zastupniku.
cs	Pokud Návodý přiložené být v jazyce, kterému rozumí, jsi tak obraťte se na místního prodejce.
tr	talimatları anladıkları bir dilde olması eşlik ederseniz, bu nedenle yerel satıcınıza başvurun.
zh	如果指示随行在他们理解的语言，所以请您联系当地的经销商。
ja	命令は、彼らが理解できる言語になるに伴う場合は、そのお近くの販売店に連絡してください。
ko	지침 그들이 이해하는 언어에 동행하는 경우, 당신은 귀하의 지역 대리점에 문의하시기 바랍니다.
th	หากคำแนะนำการประกอบอยู่ในภาษาที่พวกเขาเข้าใจคุณตั้งนั้นโปรดติดต่อตัวแทนจำหน่ายในประเทศของคุณ
vi	Nếu các hướng dẫn đi kèm có trong một ngôn ngữ mà họ hiểu, bạn nên xin vui lòng liên hệ đại lý địa phương của bạn.