

# Operating Instructions

## Bottle washing machine

### GS 21



Inventor of the bottle washing machine with the smart bottle basket

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**Please read all of the Operating Instructions before using the machine**

## Installation and Connection of the Machine

The machine is equipped with the following accessories:

- Power supply 5 x 2.5 mm<sup>2</sup> connected to the rinsing machine,
- Supply hose with fitting connecting pieces and seals,
- draining hose, 1 bottle carrier basket, 1 carrier for crates, 1 template

The following conditions described on the installation plan would be necessary:

- The water outlet should not be higher than 60 mm from the machine base (refer to the illustration)
- Fresh water tap of the machine at a ¾" supply line
- Required water pressure 2.5 bars of permanent flow pressure
- Three-phase power connection with components for current protection (magnetic-thermal and differential). The main switch to be installed on (omnipolar section) should have a clearance between the contacts equal or higher than 3 mm.

**The machine has to be levelled with the height-adjustable feet.**

**Check the correct position inside the machine (basket slipway) with a spirit level - not on the housing.**

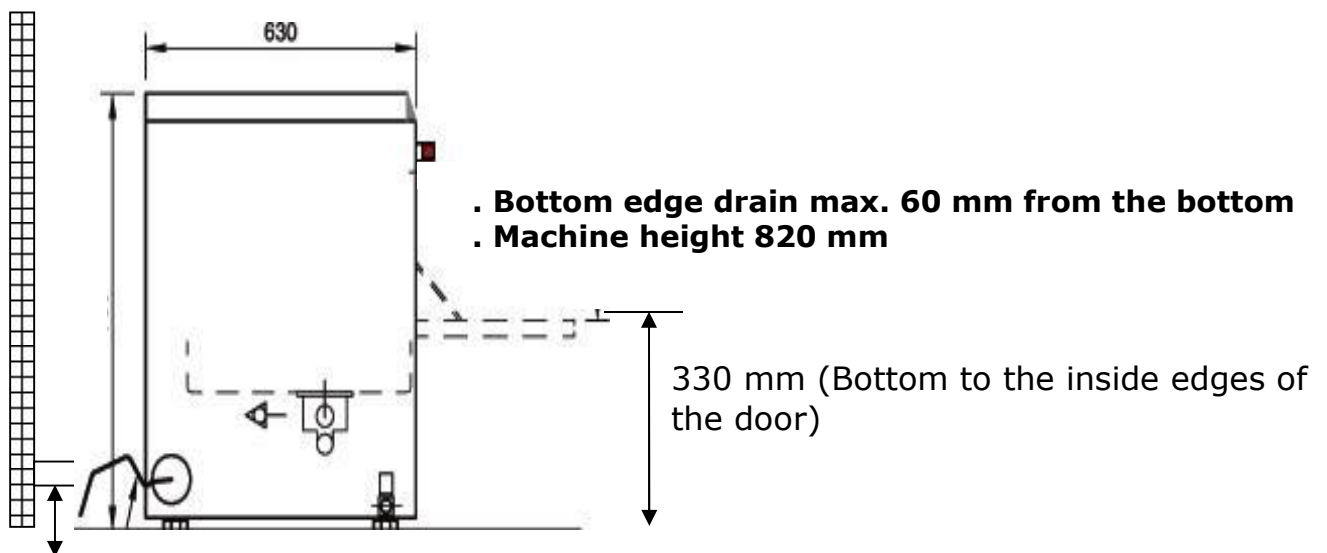
**It has to be necessary that the door can be opened and closed with ease.**

**Remove the white protective film from the machine.**

**The water inlet, water outlet, power cable as well as the hose for the dosing medium are pre-installed in the machine.**

The machine has to be connected on a mains voltage of **400 volts 50 Hz.**

**Attention: The installations need to be performed by a licensed technician!!**



Take the container with chemicals and drill a hole of about 8 mm Ø into the lid.

Insert the hose through the lid and fix the weight and the suction filter on.

Screw the lid back onto the container.

The end of the hose should be placed on the floor.

Attention: There is a risk of acid burns when using chemicals. Observe the hazard warnings.



Assemble the bottle basket, after having correctly installed and connected the machine.

Refer to the instructions on page 12 to 16.

Then, adjust the rinsing nozzles.

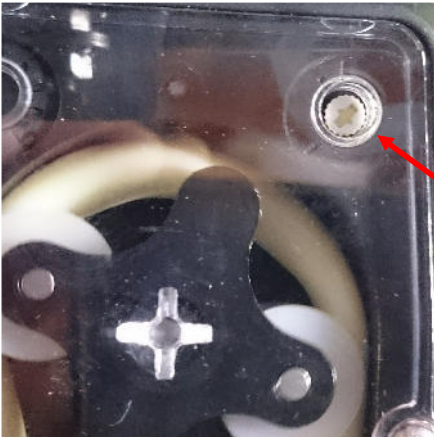
Refer to the instructions on page 17 to 18.

## First commissioning

Remove the screen below the door, by unscrewing the 2 screws on the left and right. The screws are secured with a split pin.

ATTENTION: PULL THE MAINS PLUG!!

**DO NOT REACH INSIDE THE MACHINE**



The dosing pump is located behind the panel at the left front.

Please check if the setting of the dosing is the same as in the picture on the left.

Position the arrow to 1 o'clock.

Otherwise set with a small screwdriver as illustrated. If the machine is delivered in the cold season, the axial wheel might get stuck on. In this case, remove the Plexiglas cover and turn it manually with a few turns. Reinstall the Plexiglas cover on the dosing pump and reinstall the panel on the machine.



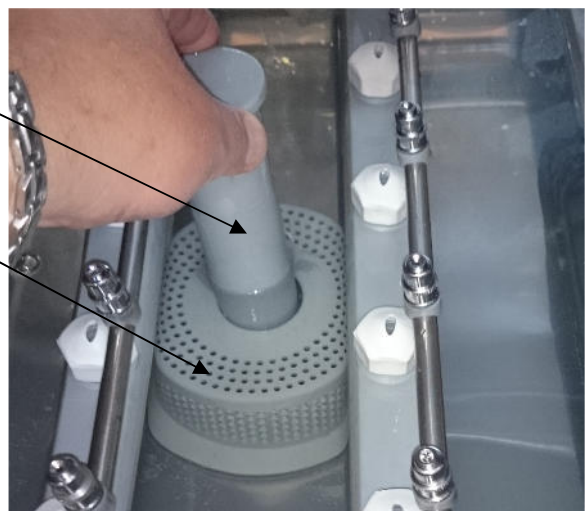
Attention: There is a risk of chemical burns when using chemicals. Therefore, always wear protective goggles and gloves.

## Rinsing

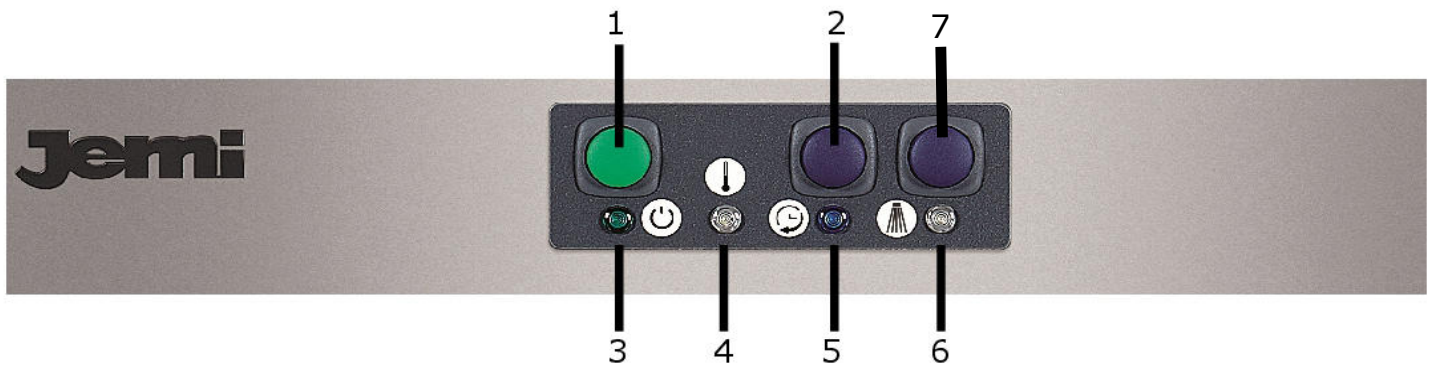
Check if the suction filter is in the required position.

Insert the overflow pipe into the opening of the suction filter.

Put the surface filter into the machine (first remove the protective film).



Close the door and press the main switch (1) **The green display (3) is illuminated.**



The **automatic filling** of the tank is performed via the inlet valve, the pressure increase pump and via the rinsing system. As soon as the machine attained the water level, the machine will automatically close the water inlet by means of a pressure control device. The pressure control device is set serially with an electro valve which is responsible for filling the machine. At the last position, the tank is being heated up.

The machine would be ready for the rinsing process as soon as the correct temperature has been attained in the tank (about 57°C). **The temperature display (4) is illuminated.**

The time required to fill and heat the tank amounts to about 12 to 15 minutes.

#### **Rinsing agent (Cleaning agent)**

The machine is equipped with a cleaning agent dosing device for the automatic dosing of the liquid cleaning agent. When using enzyme powder, it will be supplied manually. Observe the information printed on the packaging.

#### **Opening the door and inserting the basket or carrier for crates**

Press the start button (2) for the rinsing process. The indicator lamp of the rinsing process (5) is illuminated, the different stages of the rinsing process follow one another: **Rinsing, Dosing of the Cleaning Chemicals, Re-rinsing.**

When the rinsing process is completed (6 min. 30 sec.), the control lamp (5) is switched off and the machine can be used for another rinsing process, as soon as the controlling lamp (4) is illuminated again. Depending on how much dirt is on the bottles or crates, the machine can reuse the same soapy water. If the soapy water got too dirty, it would be necessary to replace the soapy water. But at least every 8 to 10 washing cycles.

The labels need to be removed from the washing room after each washing cycle!

#### **Attention:**

**Always empty the bottles before washing them – Risk of foam formation. Soak heavily soiled bottles in suitable soapy water.**

**When using the continuous rinsing button (7 - control lamp 6 is illuminated) the bottles can undergo an intensive cleaning. Do not leave the machine unattended during the continuous washing program.**

**The rubber seals of the flip-top bottles (if they are not infused) need to be removed before washing.**

## Emptying the Machine

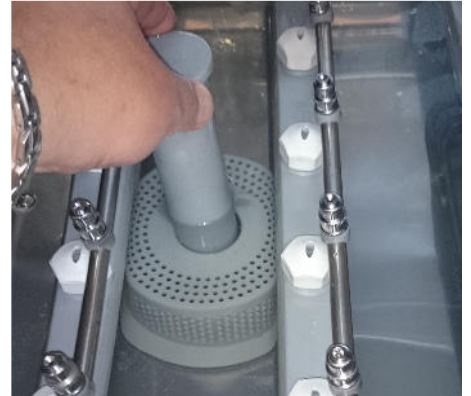
Press the **mains switch (1)**. The control lamp is switched off. Open the door, take out the basket with the clean beer bottles or the crate (if there is a basket in the machine), pull out the **overflow pipe** the rinse water will automatically drain out of the tank.

Make sure that the water drains at even amounts and rapidly out of the tank.

After finishing work, the machine has to be drained. Do not leave soapy water in the machine any longer than it is necessary.

## ATTENTION

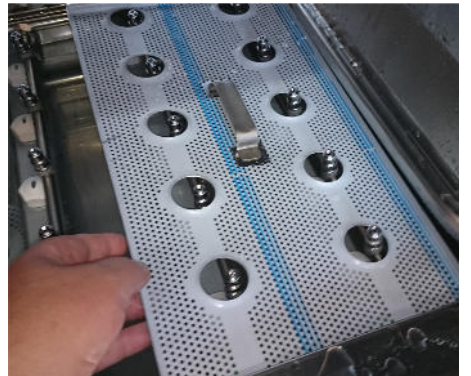
THE WATER TEMPERATURE IN THE TANK COULD BE MORE THAN 53° C; THERE IS A RISK OF MINOR BURNS.



## Interior Cleaning

If the interior of the machine got dirty, it should be **cleaned**.

Remove the surface filters and remove the labels and any dirt.



Remove the suction filter and clean it, if required.

Remove the rinsing arms by slightly turning them to the left and slightly pull them out of the bayonet insertion.

Clean soiled nozzles. If you screw off the nozzles, imperatively reinsert them in the same position.

Please observe: All components in the machine run quiet smoothly.

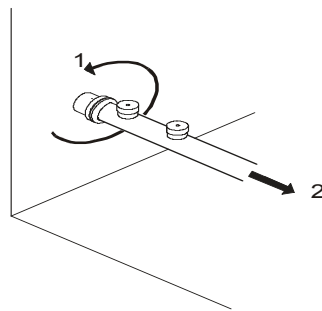
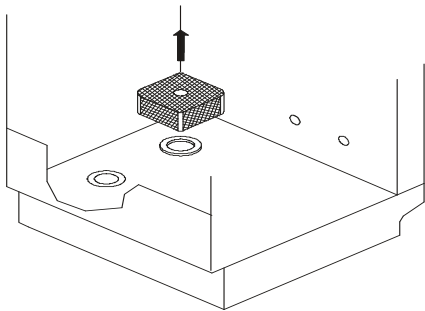
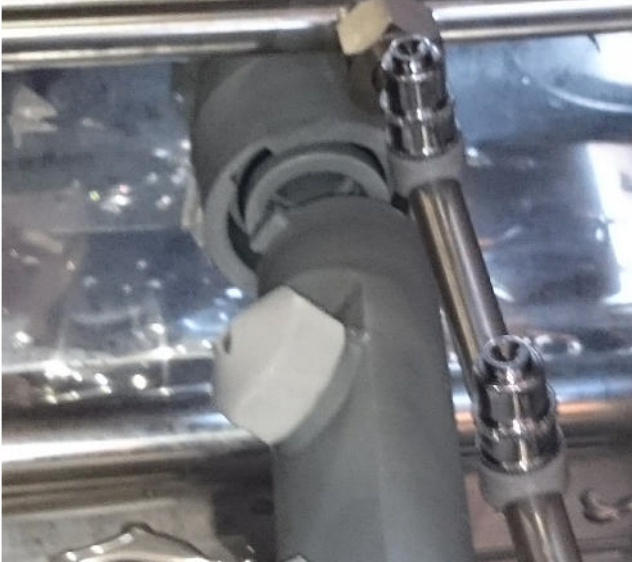
Do not apply any force, otherwise parts might break or get damaged.

You may easily clean the interior of the machine.

Close the doors, switch on the machine by pressing (1) the mains switch and wait for about 20 sec. The fresh water sprays into the interior.

**(It is necessary to take out the overflow pipe)**





Take off the pump filter and the surface filter and rinse them under flowing water. Take out the rinsing arms by slightly turning them to the left.

To perform the cleaning, it is recommended to place the beer crates on the crate carrier included in the delivery.

The beer crates should be cleaned at the end of the bottle rinsing process. If the soapy water is very dirty, replace it first (refer to Draining the Machine).



Insert the overflow pipe into the door frame, so that the interior may "air".

Insert the overflow pipe into the door frame, so that the interior may "air".

## Possible Troubleshooting / Decalcification

### Malfunction

### Possible cause / Remedy

It is not possible to switch on the machine

The power supply to the machine is interrupted, cause within the machine,  
**Contact the after-sales service**

The machine is not being filled with water

the check valve provided by the customer is closed, the air trap is soiled – the level switch does not work,  
The inlet valve got dirty or is defective,  
contact the after-sales service

The machine fills up with water and also heats it up, Door contact switch is not in contact/defective,

The rinsing program cannot be started

The fine wire fuse is blown,  
**Contact the after-sales service**

The machine is continuously filled with water The overflow pipe is not correctly inserted,

The bottles are not clean

The rinsing temperature is too low,  
Cleaning agent forgotten,  
The machine does not convey the cleaning agent,  
The rinsing agent container is empty,  
The jet nozzles are plugged

The bottles have a grey film

Scarce quantity of fresh water per smearly rinsing process – Check the water pressure

The exterior of the machine should only be wiped with a damp cloth.  
Please observe that life switches and control lights are in the area of the operating panel.

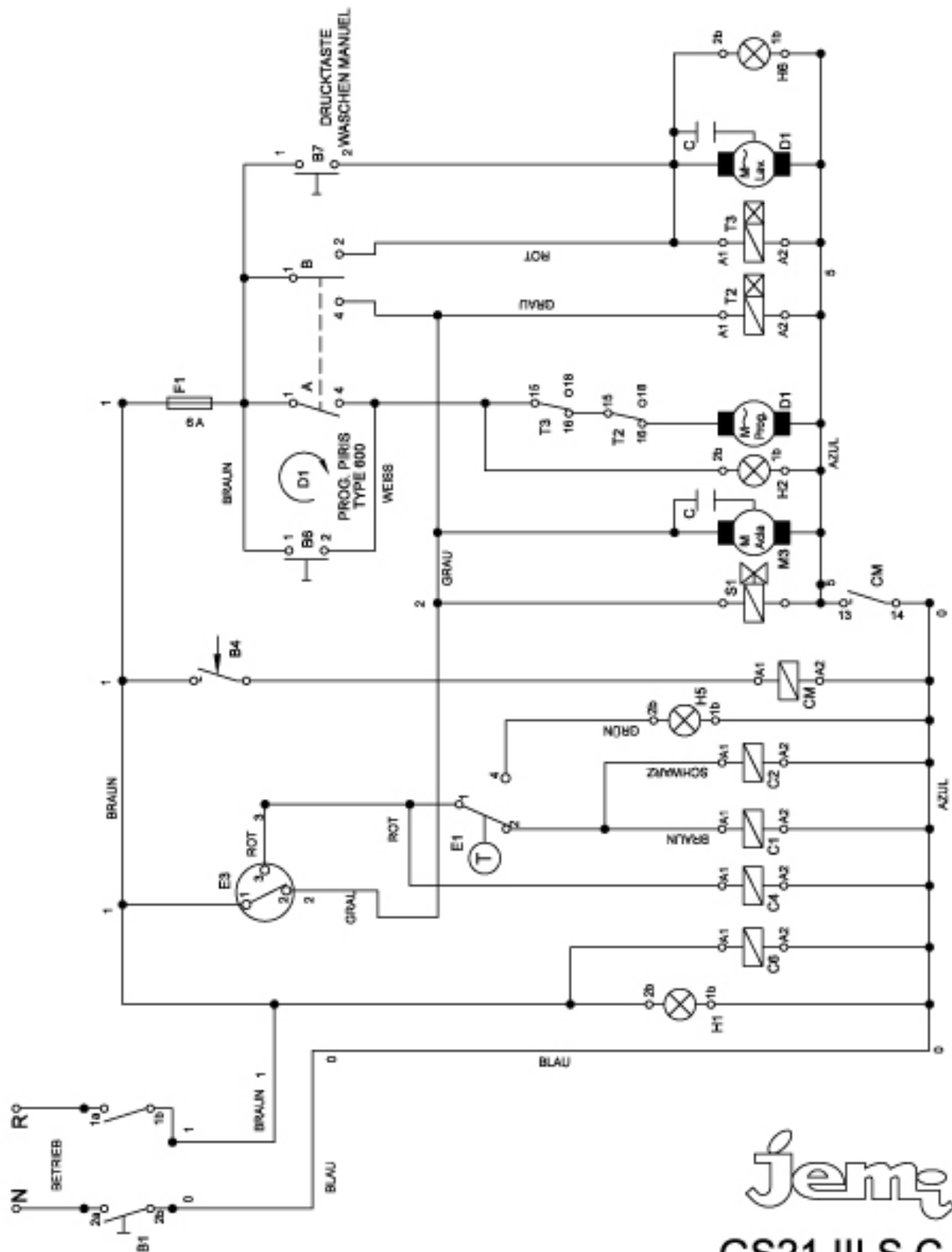
Decalcifying the interior of the machine:

The supply system of the machine is only supplied with cold water. Therefore, it is not necessary to decalcify this area. Decalcify the machine as follows:

Clean the interior of the machine (refer to the instructions on the pages 5 and 6). Remove the surface filter and the overflow pipe. Spray the interior, the overflow pipe, the suction filter and the surface filter with a decalcifier (diluted or according to the instructions). Put the overflow pipe and the suction filter on the surface filter. Wait during the exposure time of the decalcifier. Switch on the machine and wait for about 20 sec. Switch off the machine. Then reinsert the suction filter and the overflow pipe according to the instructions. It is also possible to hose out the interior after the decalcifying with a water hose. Attention: Only spray into the interior of the machine.

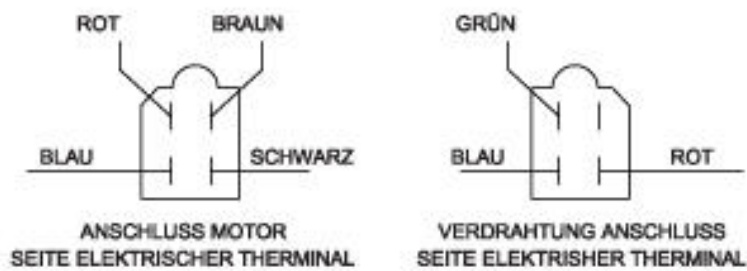
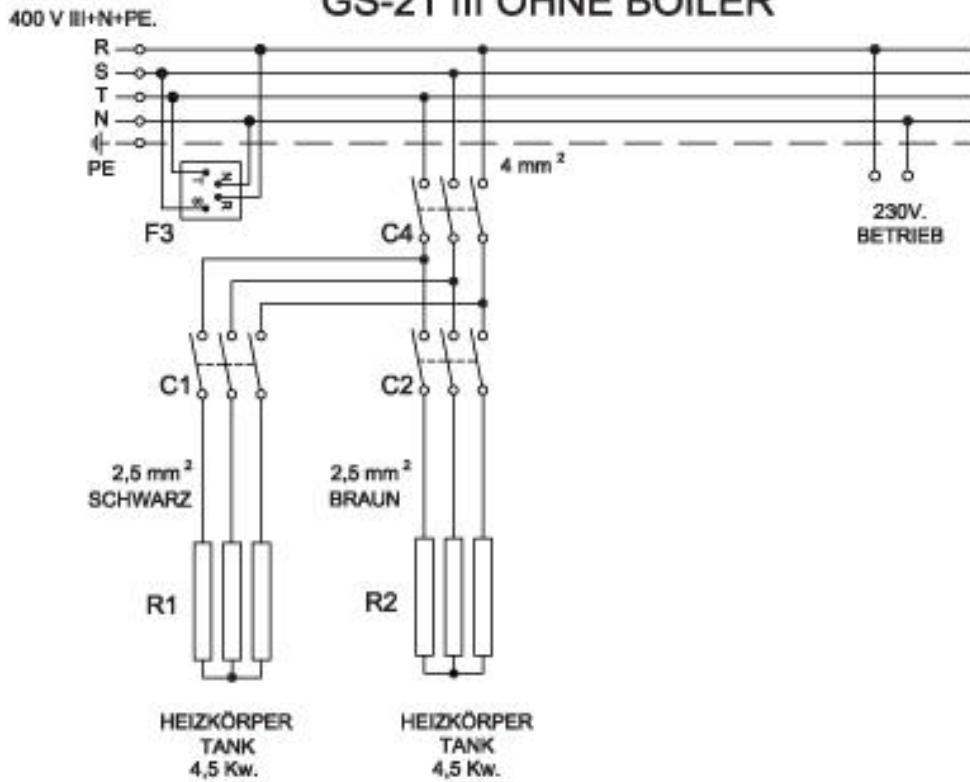
# ELEKTRISCHE SCHALTPLAN GS-21 OHNE BOILER 230V. III / 400V.

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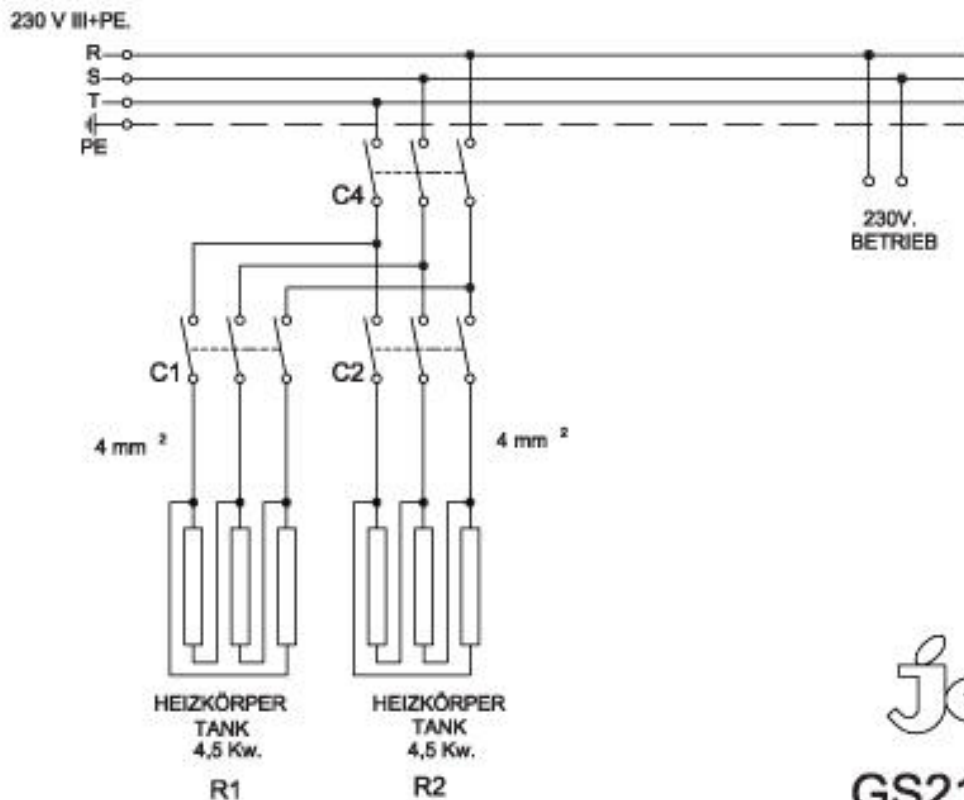


**Jem**  
GS21 III S.C.  
22/08/15

# ELEKTRISCHES SCHEMA GS-21 III OHNE BOILER



ANSCHLÜSSE  
OFFENER MOTOR  
1 HP



**Jem**

**GS21 III S.C.**  
27/04/15

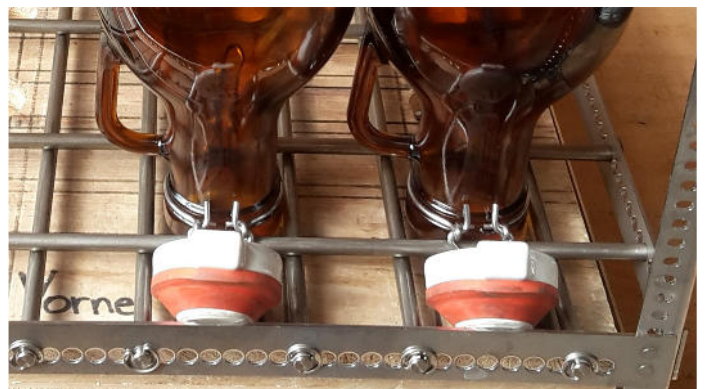
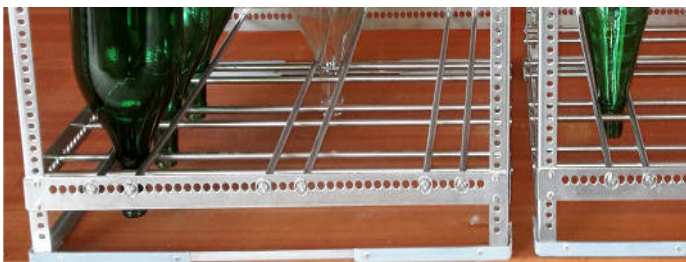
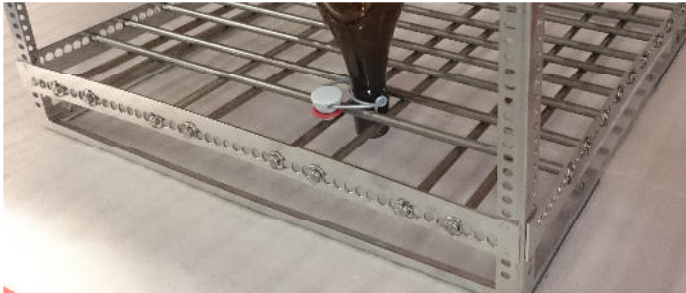
## Legend of the circuit diagram

B1	Main switch
B4	Microswitch of the door
B6	Switch
C	Condenser of the motor
C1	Contactor of the radiator
C2	Contactor of the radiator
C4	Contactor
CM	Relay microswitch door
D1	Program switch
E2	Thermostat tank
E3	Level switch
F1	Fuse
F3	Filter interference capacitor
H1	Display commissioning
H1	Display washing program
H5	Temperature control lamp
M1	Washing pump
M3	Booster pump
R1	Radiator
R2	Radiator
SI	Inlet valve (magnetic valve water inlet)
T2	Timer rinsing
T3	Timer washing



# Bottle Basket

The system of our bottle basket suits/fits almost all types of bottles. No matter if you need to rinse NRW-, long necked, NF- or flip-top bottles, wine bottles, juice bottles, milk bottles, yoghurt jar, etc. etc. etc.



Scope of delivery:



- 1 pc basic basket
- 8 pcs support rails
- 32 pcs locknuts + reserve
- 36 pcs support rails
- 72 pcs clips + reserve
- 1 pc Template for the basket mounting
- 1 pc Screw connection for rinsing arm

## Assembly of the bottle basket

Put the template on the table and put the bottle basket over the template.

Attention:

The template is marked with the word **FRONT.**  
Also mark the basket with a cable tie or something similar to that.  
The basket is square, but it only has **one correct** front.



Then put your bottle (in our example a 0.75 l crown cap bottle) on the deepening of the template.

Then mount the support rail at the height which best allows to hold the bottle at the bottle neck.

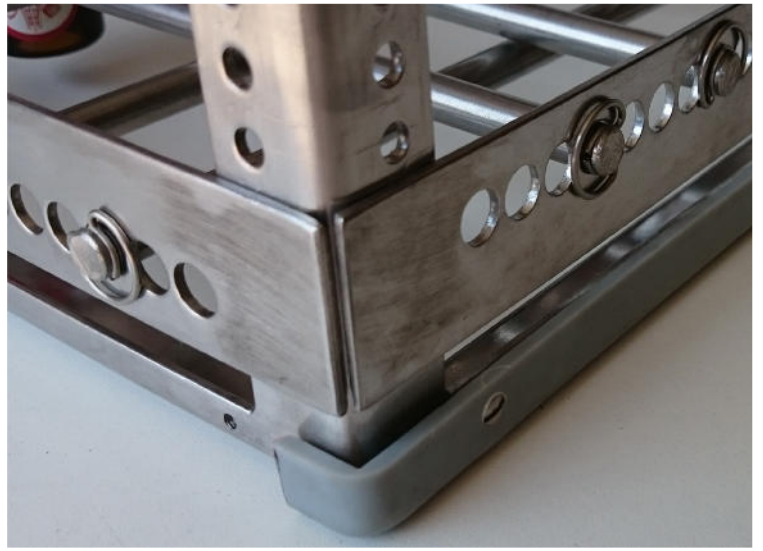


Then mount the lateral and rear support rail.

Attention:

Mount the support rails at the front and rear in the same way.  
Left and right rotated with an angle of 180 degrees!!!





Do not overtighten the locknuts included in the delivery!!

Put a clamp on one end of the support rail and shift it through the opening of the support rail from the front to the rear. Put another clamp on the other end.



Take another supporting bar, put the clamp on one end and pass it through the opening of the support rail.

At this, observe that the bottle has been correctly positioned. Fix the clamp at the other end of the supporting bar.

Repeat this process until all 4 rows are mounted from the front to the rear.

Observe that the bottles always have to stand upright.



Turn the basket by 90° to the side (in our picture e.g. to the left).

Then insert the “later” supporting bars into the openings of the support rail.

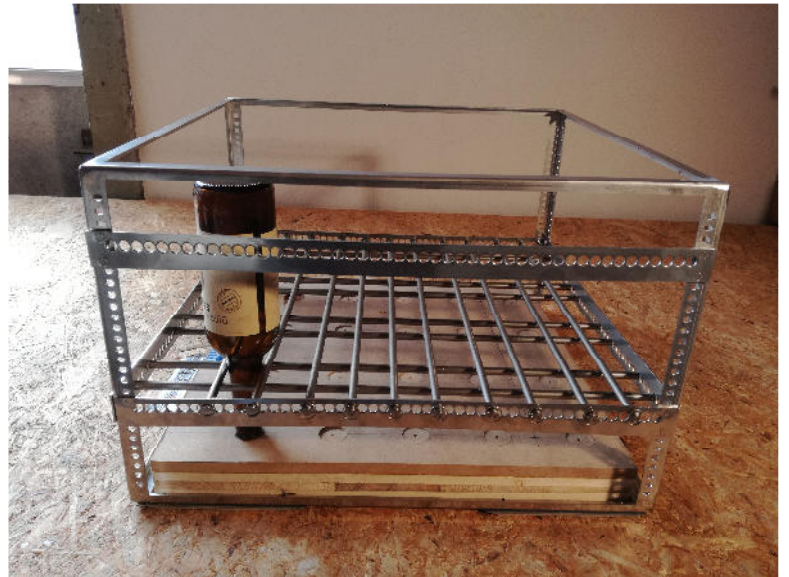


After having mounted laterally all 5 rows, check all positions of the bottles once again.



Take a support rail and fix it at a height which allows to remove the bottle.

If you use labels which are soluble in water, it is recommended to mount the top support rails in a way that the support bars do not cover the labels.



Mount the remaining 3 support rails of the drain in the same way as on the bottom frame.



When mounting the supporting bars, make sure that the bottles stand upright or, if there is no other option, slightly inclined to the left in the basket.

The bottom supporting bars are installed in the same way as the top supporting bars.



Always observe the position of the bottle.

When all supporting bars are mounted, check all positions of the bottle once again.

Please observe:  
The basket can only be inserted in the correct position into the machine.



## Setting the rinsing nozzles

Condition of the machine:  
The machine is switched off.  
The tank is empty.

Open the door and remove  
the surface filter as well as  
the overflow pipe from the  
machine.



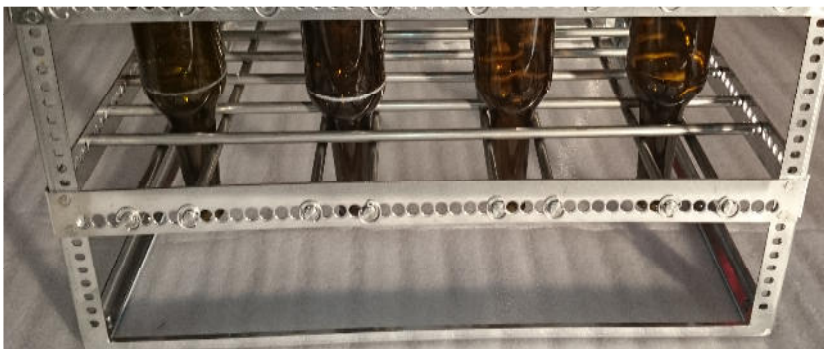
Remove the upper rinsing arm by  
turning the grey plastic nut.



Insert the Allen screw  
included in the delivery into  
the thread; do not  
overtighten it.

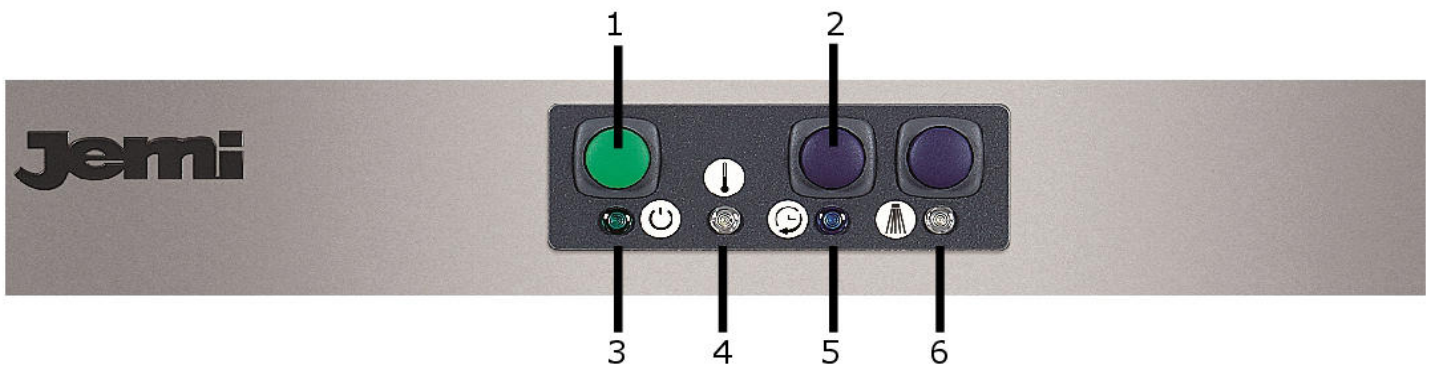


Put your bottles in the first row  
of the basket and put it into  
the machine.



The door remains open. Press the main switch (1)

**The green indicator light (3) is illuminated.**



Take the magnet which is included in the delivery and insert it into the fold on the right below the switch panel.



Then the machine will start with the filling process. The water flows out of the bottom rinsing nozzles in the bottles.

Then you can see if the angle of the rinsing nozzles sprays directly into the bottle mouth.



If one or several rinsing arms do not spray into the bottle opening, take an open-end spanner (wrench opening 20), loosen the nut of the rinsing arm and turn it into the correct position.



After having set the rinsing nozzles, mount the top rinsing arm on the machine again.

Then continue with the instructions under the item "Rinse" on page 3.

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