

Operating Instructions Bottle rinsing machine GS 21 and GS 21 Effizient



**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
Technical changes reserved**

Installation and Connection of the Machine

The machine is equipped with the following accessories:

- Power supply 5 x 2.5 mm² connected to the rinsing machine
- Supply hose with matching connectors and joints
- 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.

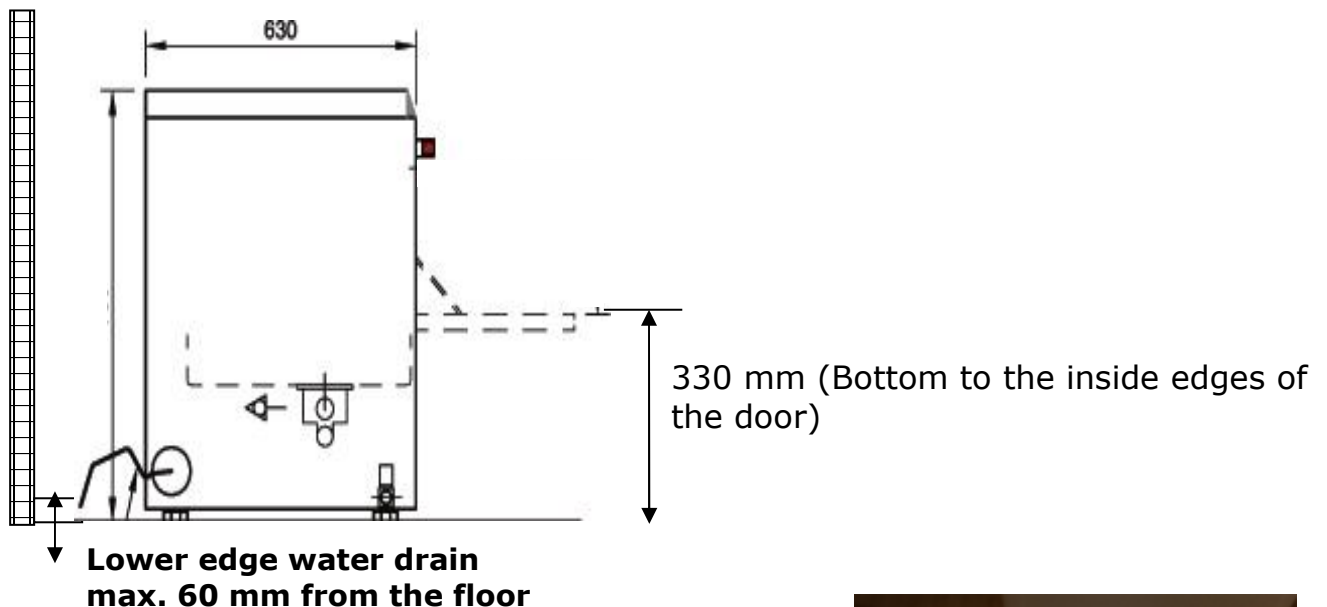
It is necessary that the door can be opened and closed with ease.

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 to a mains voltage of **400 volts 50 Hz.**

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



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 suction filter should lie at the bottom of the container. Attention: There is a risk of acid burns when using chemicals. Observe the hazard warnings. Detergent pump not installed in Modell Effizient



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.

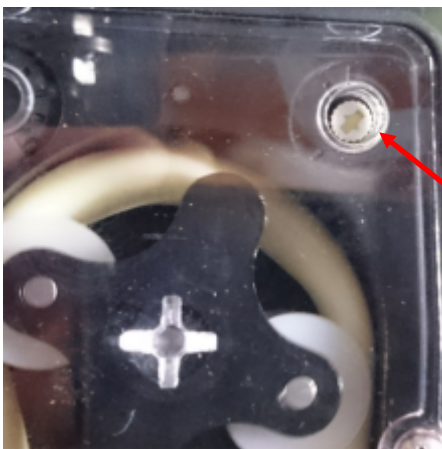
First commissioning

Remove the panel 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 (Detergent pump not installed in Modell Effizient)

with a few turns. Reinstall the Plexiglas cover on the dosing pump and reinstall the panel on the machine.

Rinsing

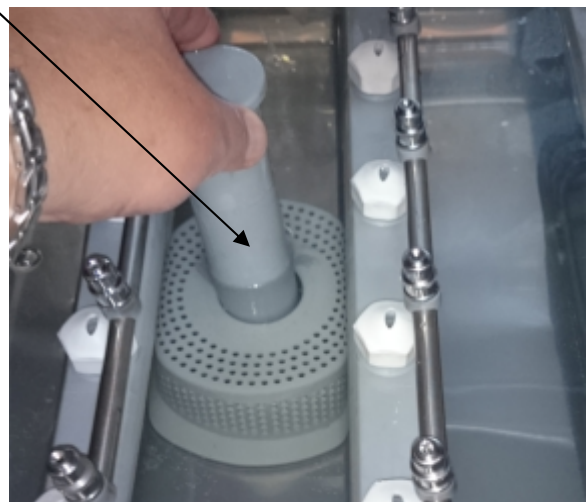


Attention: There is a risk of chemical burns when using chemicals. There always wear safety goggles and gloves.

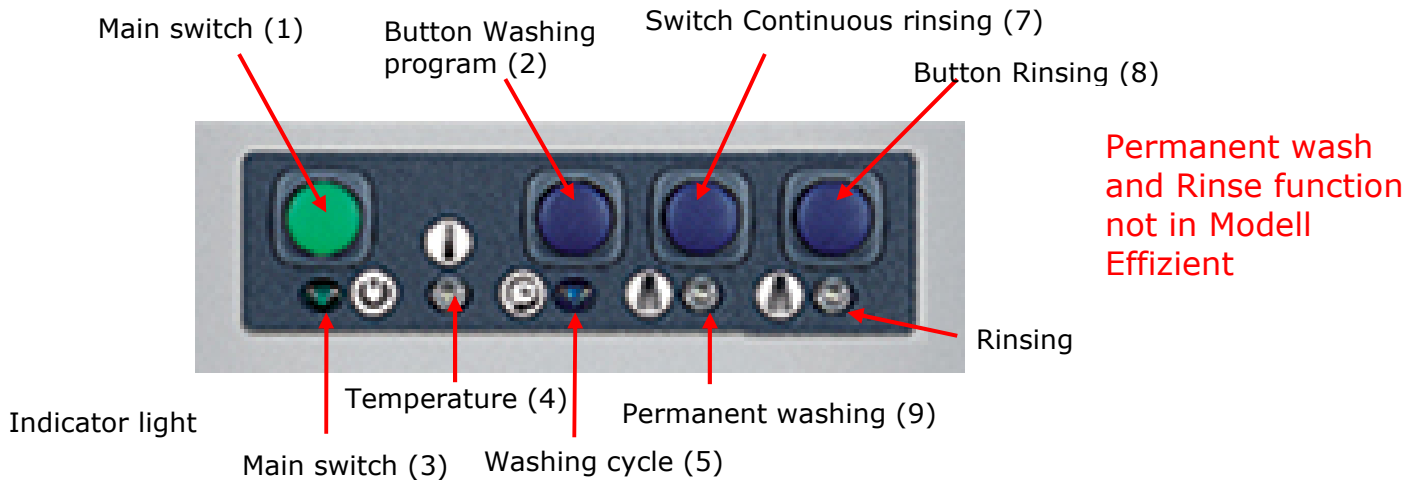
Check if the suction filter is in the required position.

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

Put the surface filter into the machine (first remove the protective film). (Filter not in Modell Effizient)



Close the door and press the mains switch (1) **The green indicator light (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 rinsing cycles the labels need to be removed from the rinsing chamber after each rinsing cycle!

Rinsing

By pressing the rinsing button (8) (indicator light 9 is illuminated) fresh water will automatically be supplied into the interior for 20 sec. In the course of this, the fresh water will be sprayed into and around the bottles. Attention: The machine needs to be switched off and the overflow pipe needs to be removed.

Attention:

Always empty the bottles before rinsing 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 rinsing program. The rubber seals of the flip-top bottles (if they are not infused) need to be removed before rinsing.

Emptying the Machine

Press the **mains switch (1)**. The control lamp is switched off. Open the door, take out the basket with the clean 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.

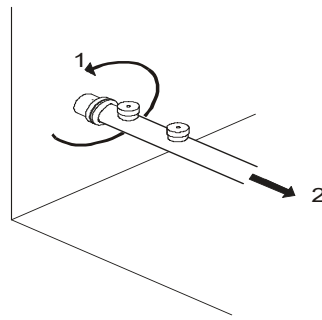
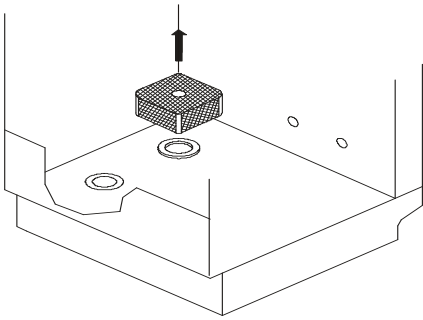
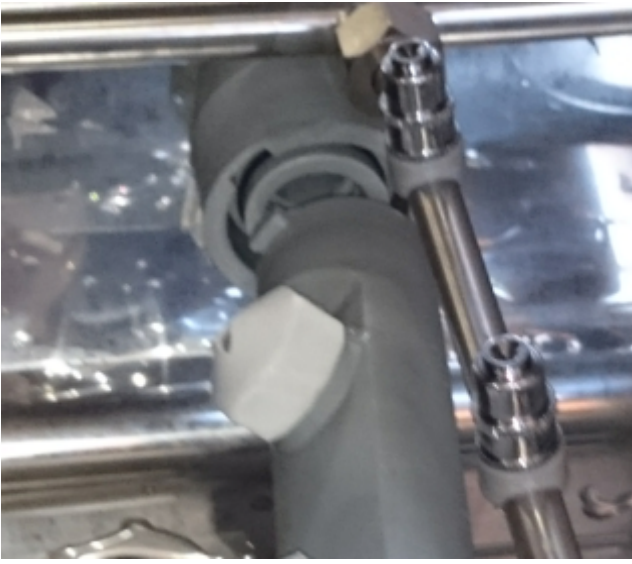
Please observe: All components in the machine run quiet smoothly

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

You may easily clean the interior of the machine. Close the door, 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".

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 – therefore, the level switch does not work, the inlet valve is soiled or defective Contact the after-sales service
The machine fills up with water and heats up, but it is not possible to start the rinsing program	The door contact switch is not in contact/defective, the fine wire fuse is blown Contact the after-sales service
The machine is being filled continuously with water	The overflow pipe is not inserted correctly
The bottles are not clean	The rinsing temperature is too low, the machine does not convey the cleaning agent. The rinsing agent container is empty, the jet nozzles are plugged
The bottles have a grey, smeary film	Insufficient quantity of fresh water per rinsing process – Check the water pressure

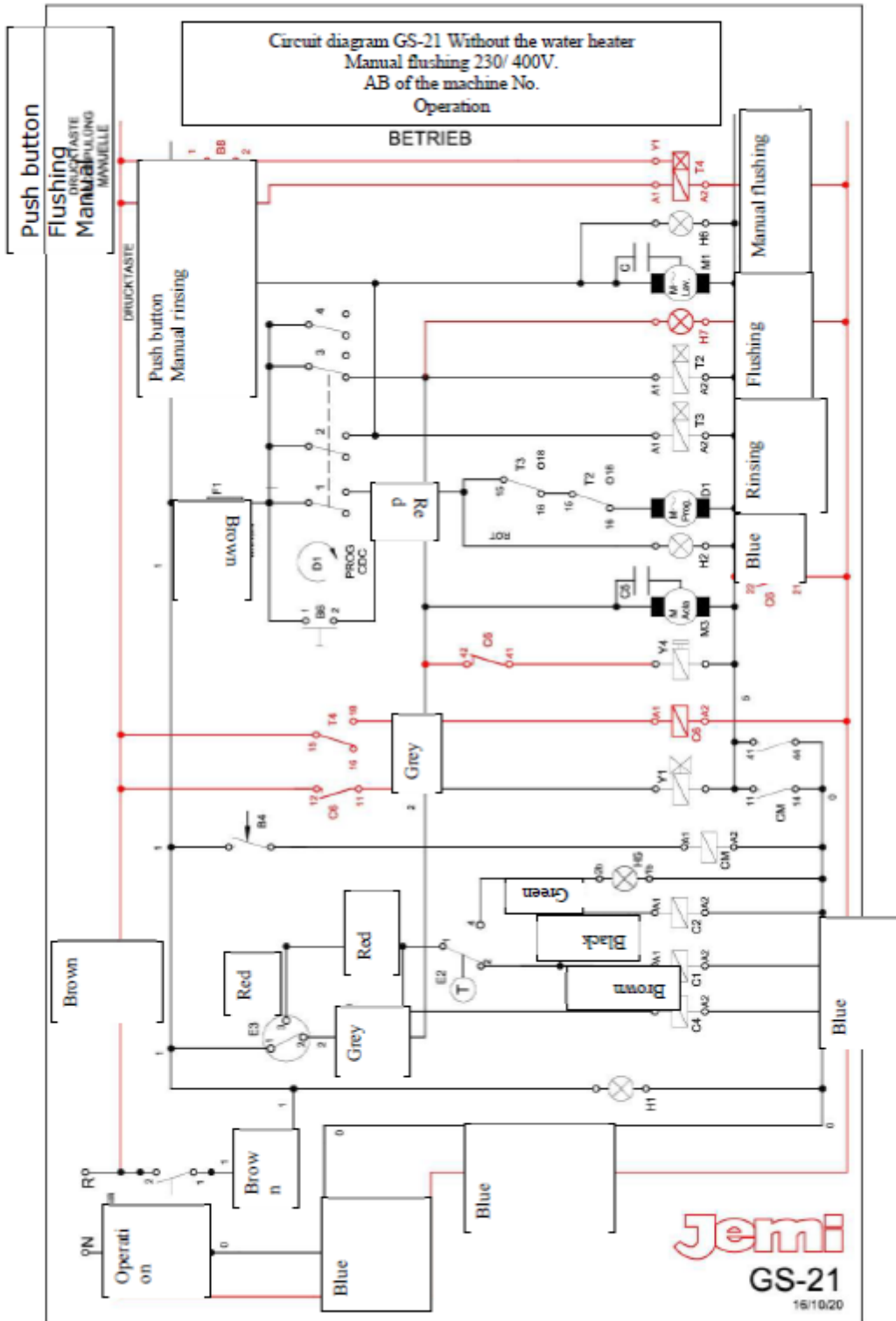
The exterior of the machine should only be wiped with a damp cloth. Please observe that life switches and control lights are in the area of the operating panel.

Decalcifying the interior of the machine:

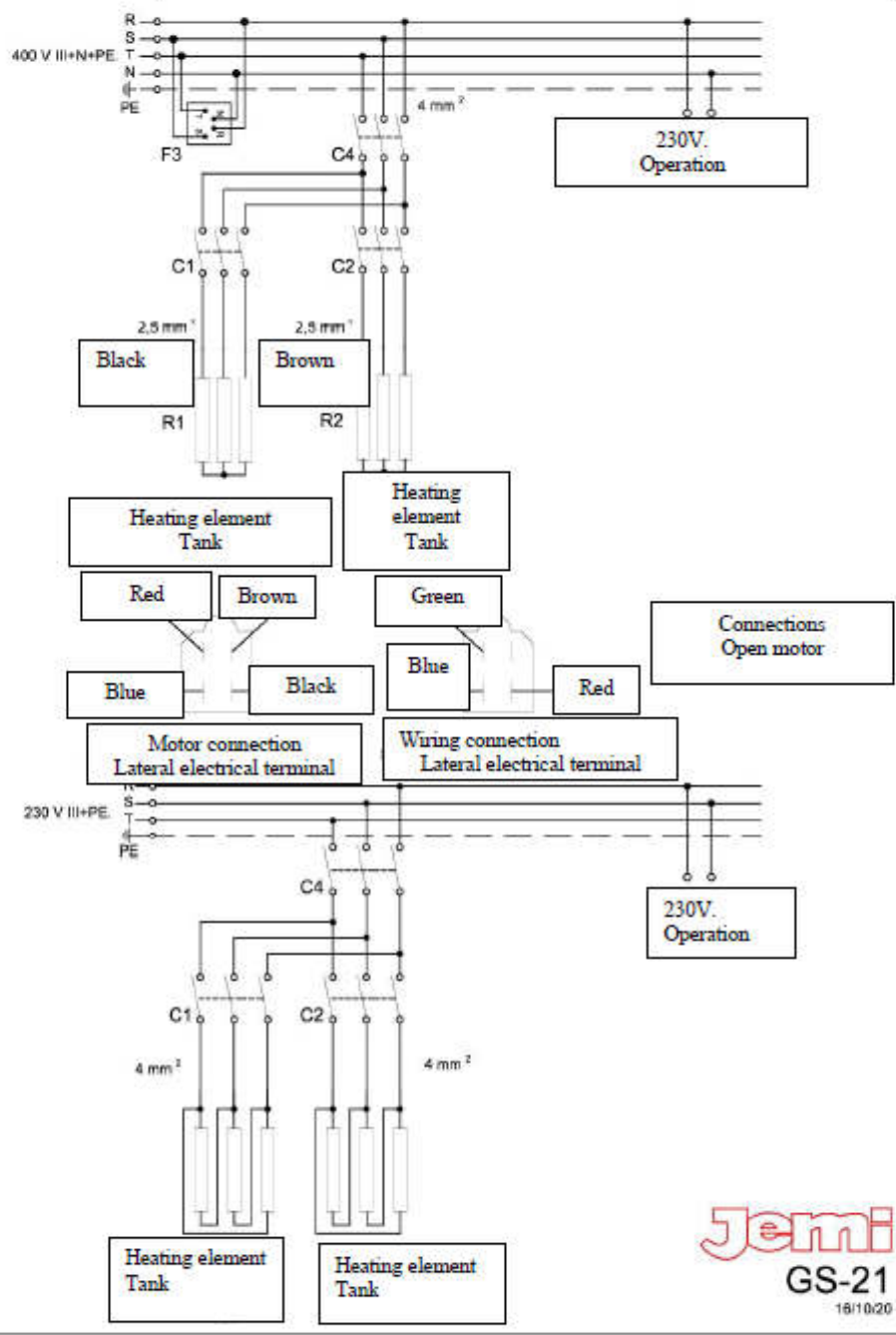
The supply system of the machine is only supplied with cold water. Therefore, it is not necessary to decalcify this area. Decalcify the machine as follows:

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.

Attention: In particular, decalcify the heating elements in the inside of the tank in regular intervals. Otherwise, the heating capacity would be reduced or they might get damaged.



Circuit diagram GS-21 Without water heater
 Manual flushing 230/ 400V.
 AB of the machine No.
 Pumps and heating elements



Jemi
 GS-21
 18/10/20

Electric diagram
 Manual flushing MOD: GS-21 III
 AB of the machine No.

B1	Switch Commissioning
B4	Micro door
B6	Switch
B7	Push button Manual rinsing
B8	Button manual rinsing
C	Motor capacitor
C1	Heater protection water heater
C2	Heater protection tank
C4	Contactactor heating
CM	Relay micro door
C5	Pump capacitor rinsing
C6	Manual rinsing relay
D1	Program switch
E2	Thermostat temperature controller tank
E3	Level pressure regulator
F1	Fuse
F3	Filter anti-parasite capacitor
H1	Indicator commissioning
H2	Indicator rinsing program
H5	Indicator correct temperatures
H6	Indicator light manual rinsing
H7	Indicator rinsing
M1	Rinsing motor
M3	Motor flushing pump (optional)
R1	Heater water heater
R2	Heater tank
Y1	Filling / flushing electric valve
Y4	Cleaning agent dispenser
T2	Program switch flushing
T3	Program switch rinsing
T4	Manual program switch flushing

Technical data:
Hourly output about 190 bottles/h

Rinsing time: 6 min 30 sec.
Pump capacity: 736 W
Circulation rate: 330 ltr. / min.
Tank heater: 2 x 4500 W
Overall connected load: 9736 W
Voltage: 400 Volt

Tank contents: 29 ltr.
Water consumption/rinsing cycle: about 8,7 ltr.
Water pressure permanent flow pressure: 2,5 bar
Water supply line $\frac{3}{4}$ "
Water outlet 50 mm Ø

Rack height: Bottles of up to 400 mm
Basket dimensions: 500 x 500 mm
Equipment of baskets: 1 bottle basket
1 crate carrier for bottle crates

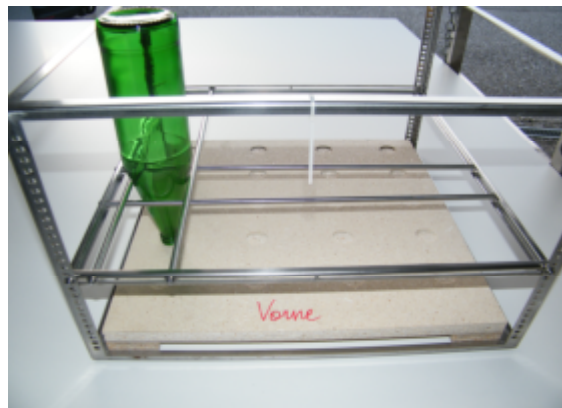
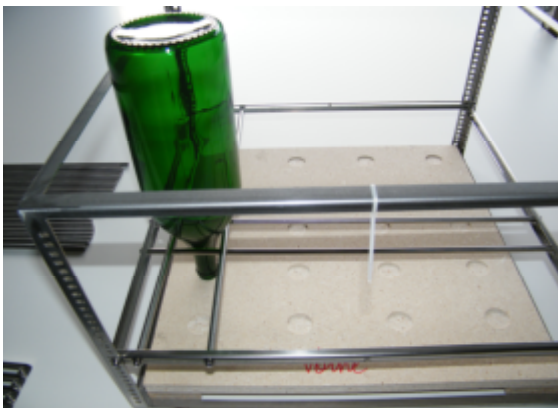
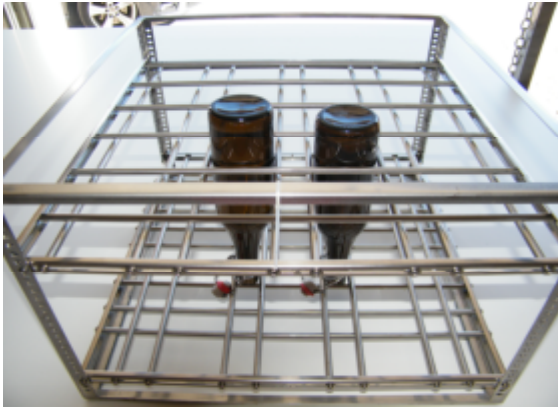
Dimensions:
Width: 580 mm
Depth: 630 mm
Height without feet: 820 mm
Height incl. feet 830 mm

Manual Dispensing:

When filling the machine for the first time, add 64 grams of detergent. After each Wash circle 19 grams. The dosing quantity can be increased or reduced depending on how dirty or clean the bottles are.

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, and much more.



Scope of delivery:

- 1 pcs Basic basket
- 8 pcs Support rails
- 36 pcs Supporting bars
- 88 pcs screws + washers (+ reserve)
- 1 pcs Template for the basket mounting
- 1 pcs Screw connection for rinsing arm
- 1 pcs Magnet
- 1 pcs Cable tie per basket



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 the like. The basket is square, but it only has **one correct** front. Be aware that the skids are running from the front to the rear.

Then put your bottle (in our example a 0.75 l flip-top bottles) on the recess of the template.

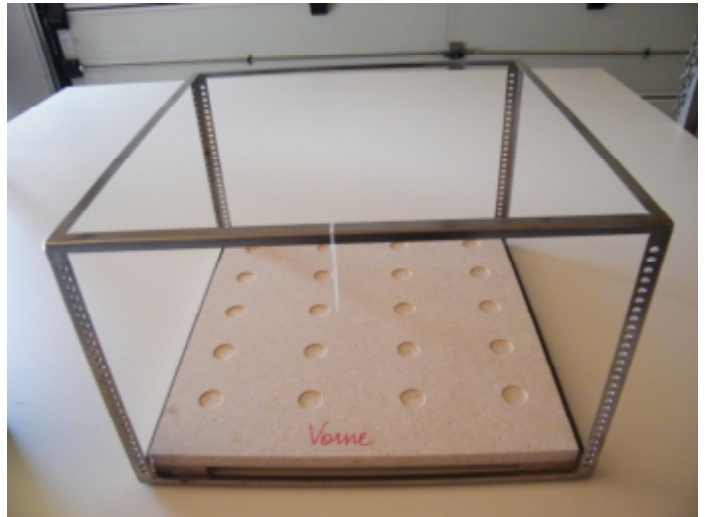
Then mount the support rail at the height which best allows to hold the bottle at the bottle neck.

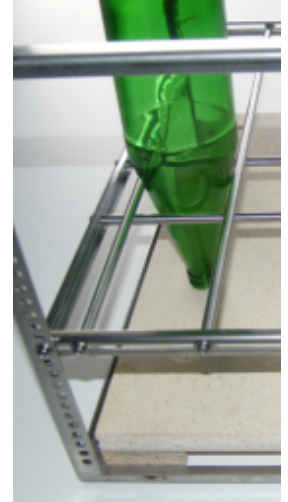
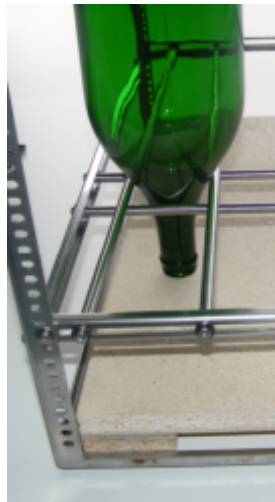
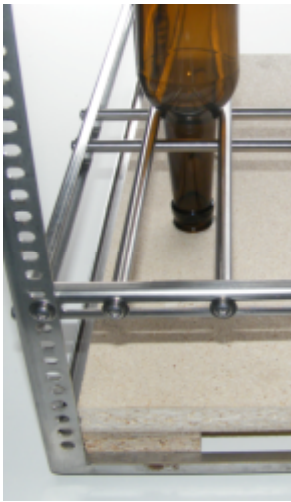
Then mount the lateral and rear support rail.

Attention:

Mount the front and rear support rails at the same height and fix them with the screws. Only tighten the screws slightly. Mount the lateral support rails displaced by one hole of the frame to the bottom.

Then only slightly tighten the screws. Only tighten the screws after having completed the "level".



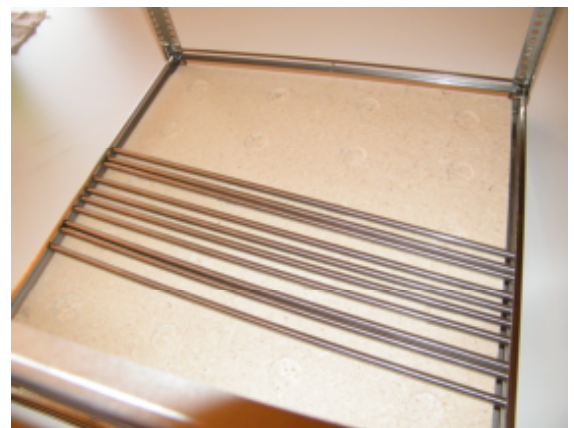


Mount the support rail at different heights depending on the bottle type or bottle neck.

Also check how many bottles can be used in the bottle basket depending on the type or size of the bottle. Also the number of the transversally mounted support bars would change depending on the number of bottles.

Place the support bars on the bottom level of the support rails. Up to 10 pcs depending on the size of the bottle. Then position the support bars (2 pcs each) at the 5 recesses of the template from the front to the rear.

Take one screw with one washer each and mount the support bars. Only slightly tighten the screws, in order to be still able to shift the support bars.

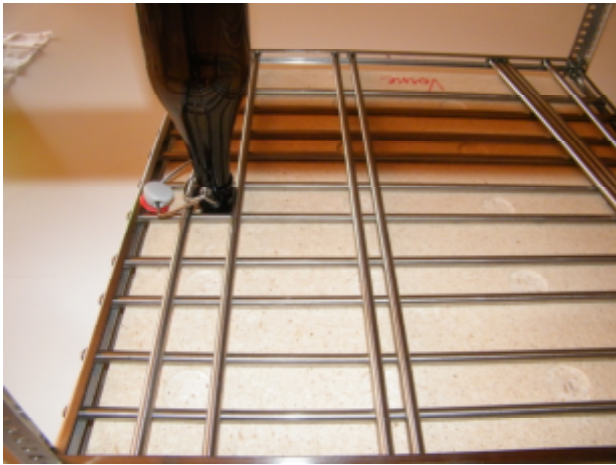


Important: Always check the position of the bottle mouth, in order that it is exactly positioned with the recess of the template.

Attention: Only tighten the screws, if the position of the support bar exactly matches with the recesses of the template.

Then inset the support bars into the support rails from the front to the rear. Max. 8 pcs for 4 rows of bottles.

Also position them above the recesses of the template.



Always check the exact position of the bottle mouth with the recess of the template.

If it matches you can tighten the screws on the support bars.

When using a cordless screwdriver, it is recommended, not to use the maximum torque output of the cordless screwdriver.



As soon as the bottom level of the bottle basket is assembled, you can assemble the upper level of the bottle basket.



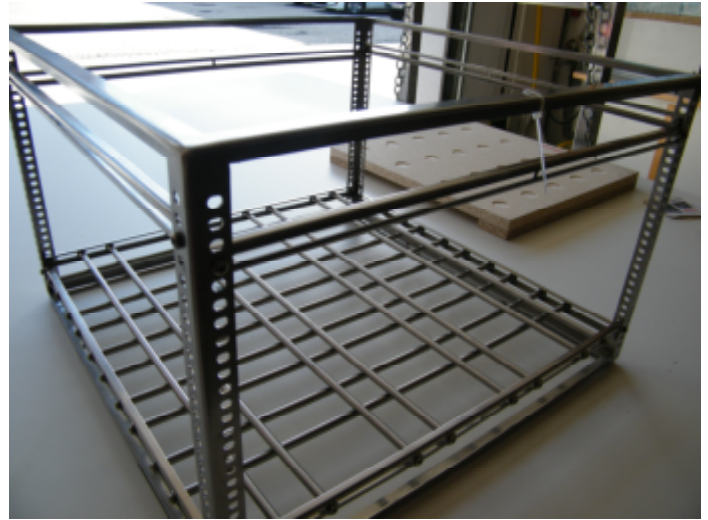
First mount the support rails, as for the bottom level.

Here too, make sure that the support rails need to be mounted at the same height and the lateral support rails need to be mounted by one hole to the bottom on the basket frame.

Then place the support bars from the left to the right as well as from the front to the rear on the support rails.

When inserting the bottles into the upper level, always make sure that they need to stand up straight or slightly inclined to the left in the bottle basket.

Important:
Bottles with the same bottle neck or bottle diameter but different heights can be used in the same basket.



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.



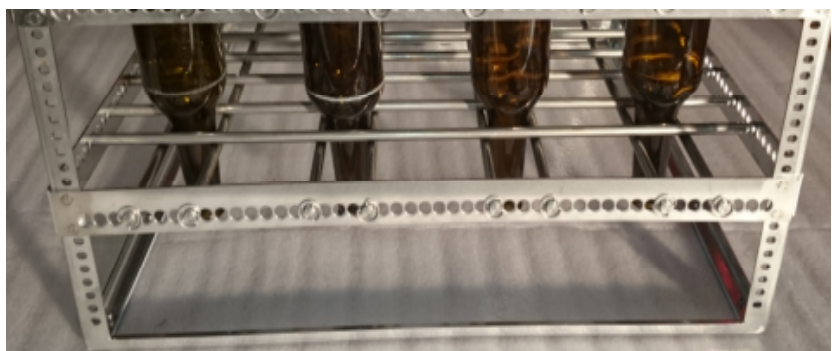
Remove the upper rinsing arm by turning the grey plastic nut.



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

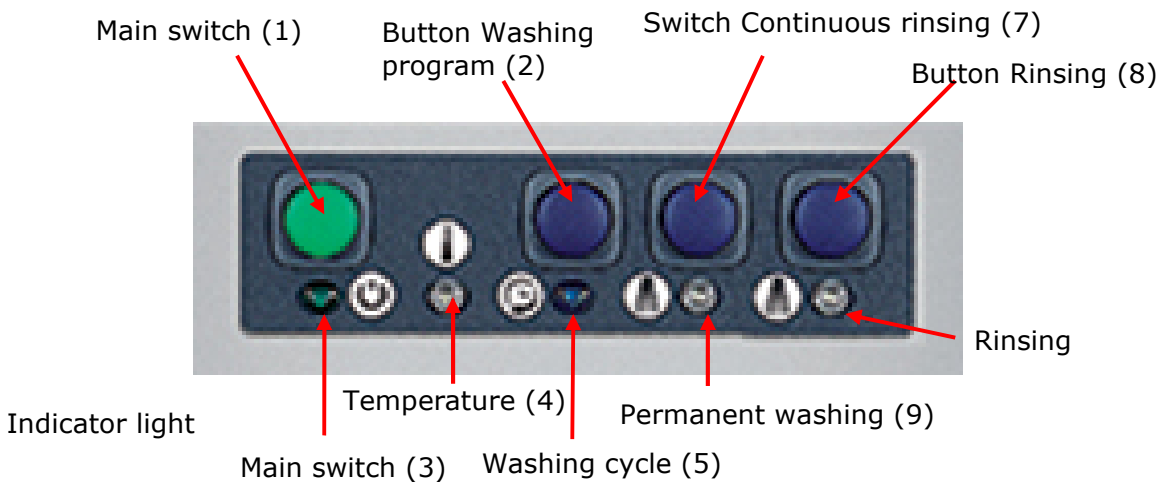


Put your bottles in the first row of the basket and put it into the machine.



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 arm and turn it into the correct position. The rinsing arm can be turned laterally (to the left and to the right) and extracted or slid in.

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.



Icon photo: Since end of 2017 there are no more fitted nozzles.