

*Bar Aid*

## GLASSWASHERS



## BarAid 400 SERIES

## INSTALLATION AND OPERATION INSTRUCTIONS

Starting from Serial No.:  
**8649 4001**

REV. 02.09.2009



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# 1 | IMPORTANT NOTES

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## Use in Accordance with Regulations

This machine is exclusively to be used to wash glasses.

**Do not use for electrically heated cooking and heat conservation appliances.**

## Safety

Never hose down the machine.



The "**Attention**" symbol is shown beside instructions that are essential for the **safe operation** of the machine.

**Please read these passages thoroughly.**

## Liability

Installations and repairs which are carried out by **non authorized technicians** or the use of **other than original spare parts**, and any **technical alterations** to the machine, **may affect the warranty set out in the standard conditions of sale.**

## Machine noise level:

The machine noise level is 62 dB (A).

## Connecting tensions:

The machine described with this operation manual, has following connecting tensions:

**400 V/50 Hz/3 Ph/N/PE** or **230 V/50 Hz/1 Ph/N/PE**

## BASICS REGARDING GLASSWASHING

### Water quality and impact on the cleaning result:

The local supply water quality has a major impact on the wash and rinse result:

A high content of minerals may cause streaky results during the drying process. Minerals which are dissolved in the water remain on the glasses and become visible in the form of spots and streaks.

Authorised service personnel can determine the content of minerals by measuring the electrical conductivity. Values of less than 100  $\mu\text{S}/\text{cm}$  indicate a low content of minerals. Higher contents need to be reduced below the critical level by demineralising the water using specific demineralisation cartridges or a reverse osmosis system.

Just contact your authorised service partner for support.

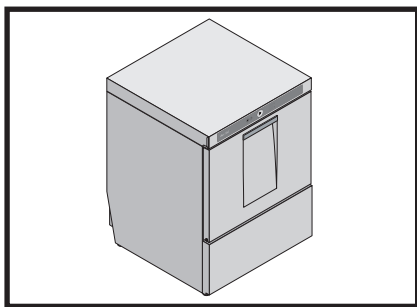
### Other important requirements:

We recommend to use specific glass racks. These racks hold the glasses in slightly inclined positions – this will improve the rinse efficiency.

To avoid unpleasant smelling glasses, you should use specific chlorine-free detergent for glasswashing.

Before washing new glasses the first time with a commercial glasswasher, it is necessary to carry out an intensive basic cleaning to reduce the greasy film which is on most glasses for protection during production. Otherwise, the water will drain badly and streaks will remain on the glasses. The basic cleaning can be done with the machine by repeatedly washing the glasses with manually added special detergent.

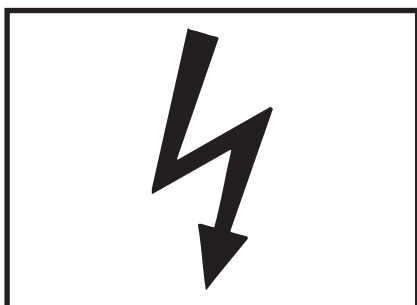
## 2 | INSTALLATION



### 2.1 | LOCATION

- Wall clearance is not required.
- Level machine by turning the feet.
- Distribute machine weight equally onto all feet.

*Vapour may escape from the glasswasher door. Therefore adjacent furniture has to be protected to prevent swelling.*



### 2.2 | ELECTRICAL CONNECTION



**Must be carried out by an authorized technician according to the local and national codes.**

- The electrical supply shall comply with the name-plate data.  
*Adaptation to an alternative electrical supply is achievable as per wiring diagram. Respective schemata are on the inside of top cover.*
- Line fuses and cable cross section shall comply with the requirements.
- A cut-off device shall be provided to connect the supply cord (isolating switch or accessible plug device).

According to EN 60 335 the appliance must be connected to an equipotential conductor. The connecting screw (⚡) is located beside the cable inlet.

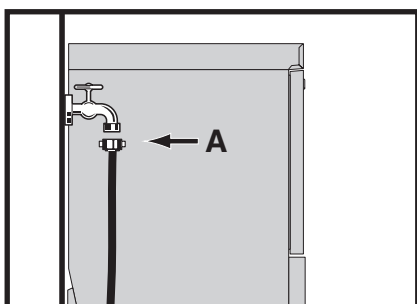
### 2.3 | WATER CONNECTION



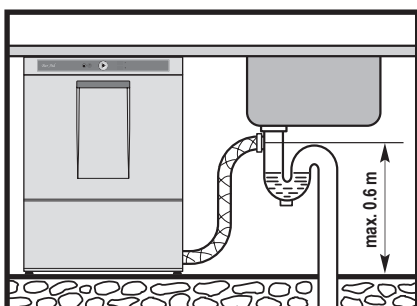
**Must be carried out by an authorized technician according to the national and local codes.**

**The machine must be operated with potable water. The conductivity value should not exceed 100  $\mu\text{S}/\text{cm}$ .**

**For water with an extremely high mineral content an external demineralisation is strongly recommended.**



- **Machines without softener:** Connect to soft and if possible warm water (up to 4° Clark = 0.5 mmol/l, max. 60°C).
- **Machines with softener:** Connect to warm water if possible (up to 37.5° Clark = 5.3 mmol/l, max. 60°C).
- Line flow pressure 0.5 – 10 bar.  
**Important:** the line flow pressure must not be less than 0.5 bar.
- **If the line flow pressure is above 10 bar provide pressure reducer at source.**
- Connect the union nut "A" (3/4") of the water supply hose to the site shut off valve.
- Do **not kink** or **cut** the supply hose. If an extended supply hose is required, use one of the same specifications as the original.

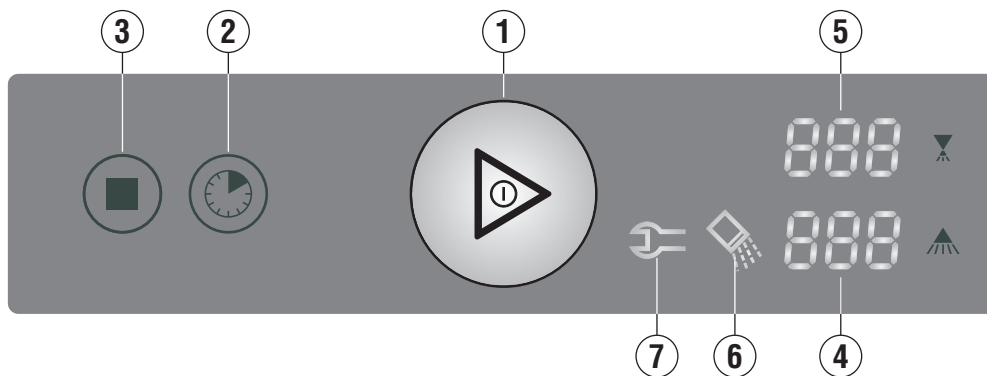


### 2.4 | DRAIN CONNECTION

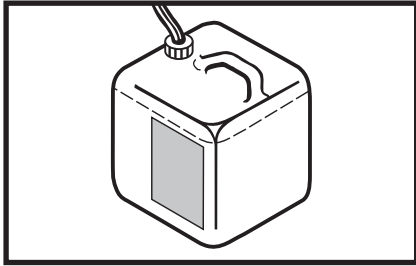
- Connection between machine and site drain must not exceed max. height of 0.60 m.
- Do not kink the drain hose.

### 3 CONTROLS

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- 
- |                            |  |
|----------------------------|--|
| ① Machine <b>ON / OFF</b>  | Pushing this button switches the machine on.<br>As soon as the machine is ready for operation, the wash cycle is started by pushing this button also.<br>By pushing and holding (3 seconds) this button, the drain and self cleaning cycle starts. At the end of the cycle, the machine switches off automatically.<br><b>After switch off, the machine is not voltage free!</b><br>Furthermore the button illuminates to indicate the mode of the machine:<br><b>GREEN</b> (flashing) = Machine fills and starts heating<br>Wash cycle is running<br>Machine draining / switch-off<br><b>GREEN</b> (permanent) = Machine is ready for operation |
| ② <b>Program</b> button    | By pushing this button, it is possible to select between different preset programs, according to the model and equipment.<br>The program no. (e.g. <b>P02</b> ) will be shown in the Display ⑤.  |
| ③ <b>Stop</b> button       | In case of operating error or faults, it is possible to switch-off the machine immediately without the drain cycle, by pushing this button.<br><b>After switch off, the machine is not voltage free!</b>   |
| ④ <b>Display</b>           | e.g. temperature indication <b>Wash</b> (°C) (see chapter 7).  |
| ⑤ <b>Display</b>           | e.g. temperature indication <b>Rinse</b> (°C) (see chapter 7).   |
| ⑥ <b>Salt</b> required     | Indicating the need for regeneration salt to be added.<br>(Only with built-in softener.)   |
| ⑦ <b>Service</b> indicator | Indicating, that the machine has a fault (see chapter 8).  |
-



## 4.1 | DETERGENT / RINSE AID

Use only commercial detergent and rinse aid. **Please pay attention to the manufacturers safety instructions.**



**The dosing pumps can operate to a maximum head height of 1.5 m. Do not confuse the containers !**

### 4.1.1 | DETERGENT

**Do not use any acidic detergent products with the built-in detergent pump! (The ph-value has to be higher than 7.)**

- Place the suction hose into the external detergent container. Fill the suction hose according to chapter 4.2.

### 4.1.2 | RINSE AID

- Place the suction hose (**blue marking**) into the external rinse aid container. Fill the suction hose according to chapter 4.2.

### 4.1.3 | CHANGING THE TYPE OF DETERGENT / RINSE AID

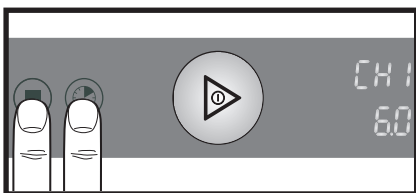
- **Before changing to a different product type** (even from the same supplier), **the suction hoses must be rinsed thoroughly with fresh water** (procedure as described under 4.2). Otherwise, the mixing of different types of chemicals will cause crystallisation, which may result in a malfunction of the dosing pump.

## 4.2 | PRIMING THE SUCTION HOSES

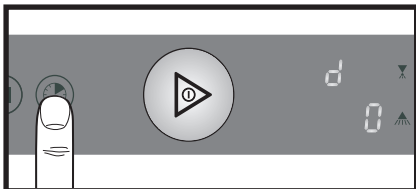
- Is carried out automatically but will take several wash cycles. Therefore we recommend the manual hose priming as follows.



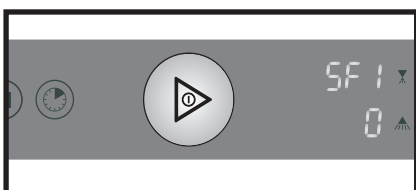
**ATTENTION: The machine has to be switched off.**



- **Open the door.**
- Push **Stop** button (3) and **Program** button (2) simultaneously until the upper **Display** (5) shows "CH1" and the lower one (4) "6.0".



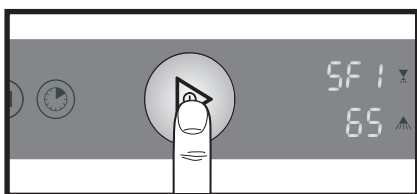
- Push **Program** button repeatedly, until "d" and "0" is displayed.



- **Close the door.**  
In the upper **Display** appears "SF1", in the lower one "0".

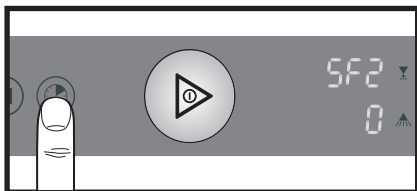
# START-UP

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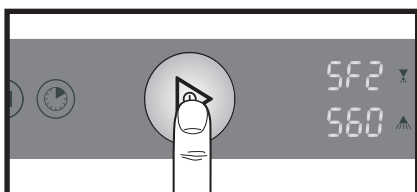
## 4.2.1 | DETERGENT SUCTION HOSE

- Pushing the **ON/OFF** button ① activates the hose priming for 65 seconds.  
Each cycle can be interrupted by pushing the **ON/OFF** button again.



## 4.2.2 | RINSE AID SUCTION HOSE

- Push the **Program** button ②.  
In the upper **Display** ⑤ appears "SF2", in the lower one ④ "0".



- Pushing the **ON/OFF** button ① activates the hose priming for 560 seconds.  
Each cycle can be interrupted by pushing the **ON/OFF** button again.

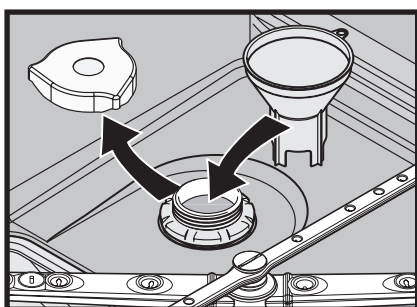
## 4.2.3 | TERMINATION OF HOSE PRIMING

- **Open door and close it again or do not press any button for 10 seconds.**

## 4.3 | SOFTENER (OPTIONAL)

**For the first run, the softener has to be filled with regeneration salt and potable water.**

**!** Filling the salt reservoir with cleaning agent will damage the water softener.



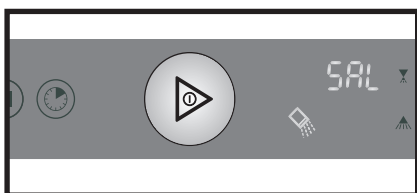
- Open the door.
- Unscrew the softener lid and fill the softener with **1.5 kg** of "Granular regeneration salt" (do not use salt tablets).
- Fill up the softener with potable water (only at the first run).

**Clean seal and rim of softener lid carefully, before closing the lid.**

- Close lid and tighten.

**!** In order to prevent corrosion it is necessary to remove any salt residues from tank bottom.

- **Adjust the water hardness according to chapter 9.3 !**



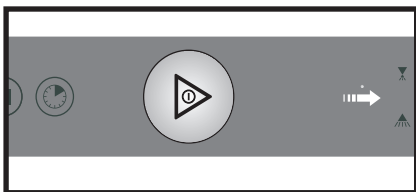
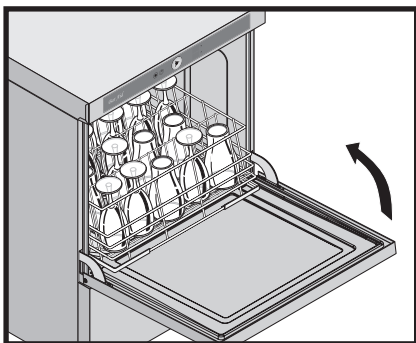
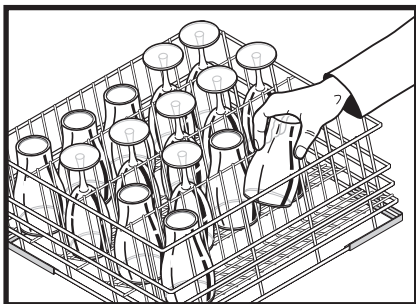
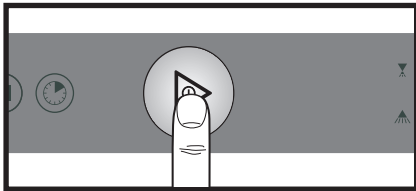
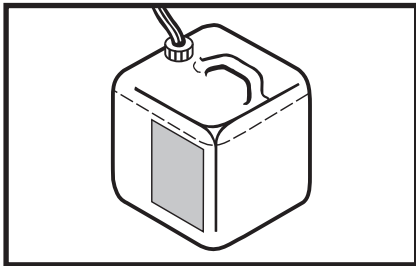
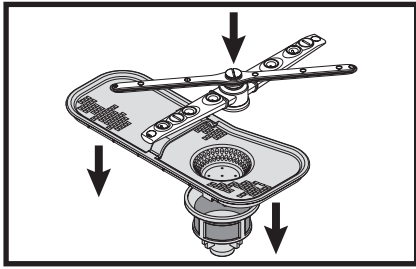
- When the **Salt** indicator ⑥ illuminates during operation, the softener has to be refilled with regeneration salt.  
There will be a slight delay before salt light extinguishes after refill.



## 5 OPERATION

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### 5.1 PREPARATION



- Check correct position of wash/rinse arms and strainers.
- **Open shut-off valve.**
- **Switch on main switch or put the plug in.**

- Check level of detergent and rinse aid containers.

- Close door and push the **ON/OFF** button ①, tank will be filled.
- The **ON/OFF** button flashes **green** during fill and heating cycle. This process can take several minutes. When the button changes to a **green** steady light, machine is ready for operation.

### 5.2 RUN

- First remove lemon peels, tooth-picks, olive pips, paper etc. Then place glasses face downwards into the rack.

- Put rack into the machine and close the door.
- Push the **ON/OFF** button ①. During the wash cycle is running, the button flashes **green**.

#### Machines with built-in Softener:

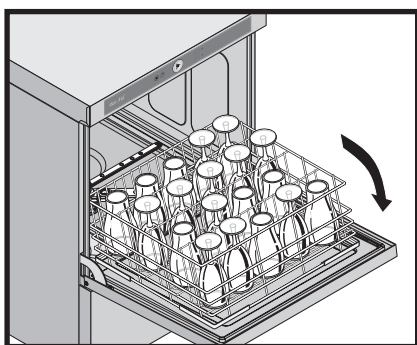
If during regeneration\* a program has been started, cycle time is extending up to 4 minutes.

\* Indicated by a moving light point at the rinse temperature display.

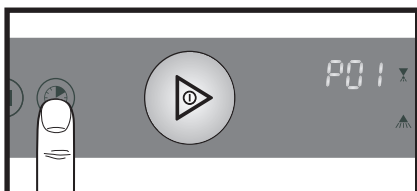
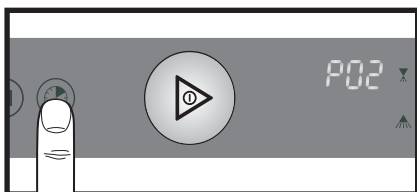
- As soon as the **ON/OFF** button ① changes to steady **green** light, the wash cycle is finished.

## OPERATION

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- Open the door and take out rack.  
Allow glasses to dry for 2 minutes approx.



### - PROGRAM SELECTION

The machine is operating automatically with standard cycle time. If needed, it is possible to select a shorter or longer program.

To show the present program, push the **Program** button ② before starting the wash cycle.

To change the program, push the **Program** button again.

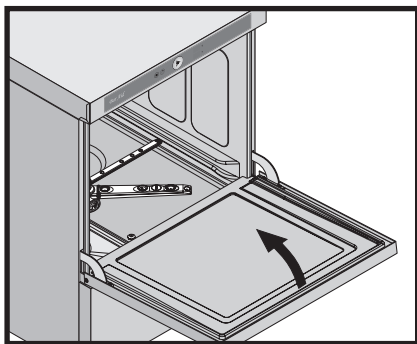
**P01** = Short cycle (for light / medium soiled glassware)

**P02** = Standard cycle (for medium / heavy soiled glassware)

The machine continues with the chosen cycle time until it is switched off or another program is chosen.

## 6 SWITCH-OFF AND CLEANING THE MACHINE

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### 6.1 SWITCH-OFF

- Close the door.
- Push and hold (**min. 3 seconds**) the **ON/OFF** button ①. The button flashes **green** during the drain cycle.

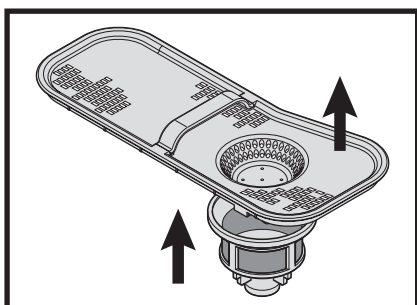
#### NOTE:

During the drain cycle, the interior of the machine is cleaned automatically. A final inspection is recommended to remove any food debris.

#### Machines with built-in Softener:

If the drain cycle has been started while regeneration is running, cycle time is extending up to 4 minutes.

- When the **ON/OFF** button goes off:  
**Switch off main switch or unplug and close the shut-off valve !**

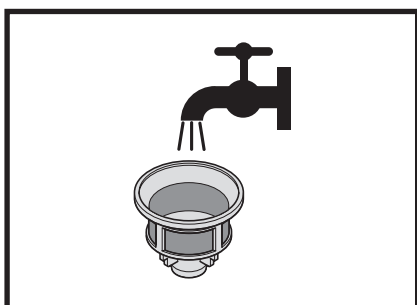


### 6.2 CLEANING (DAILY)

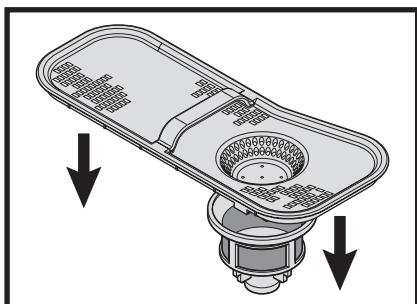


**To clean the machine do not use any chloric, acidic or abrasive products and no metallic brushes.**

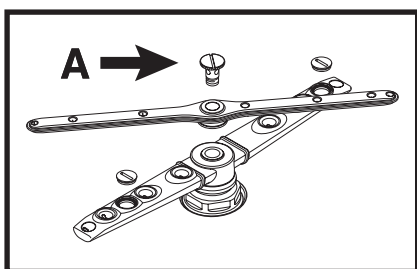
- Open the door, take out and clean strainers.  
Please ensure that food debris does not enter pump intake!



- Flush the fine strainer.
- Clean interior of the machine.



- Put strainers back into place.
- Leave the door open for ventilation.

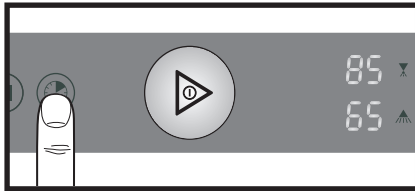


### 6.3 CLEANING (WEEKLY)

- Loosen the retaining screws (**A**) by turning them counter-clockwise.
- Take out wash and rinse arms and flush.

## 7 | PREVIEW OF TEMPERATURES

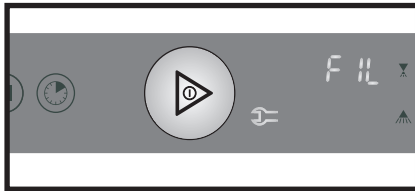
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- Press and hold (3 seconds) the **Program** button ② until the actual temperatures (°C) are displayed (top = rinse, bottom = wash). The indicators go out 10 seconds after releasing the **Program** button.


Permanent temperature display can be activated on request by the service technician.

## 8 | FAULTS



According to the fault, an error code will be shown in the upper display ⑤ (see table below).

Please report the error code to the service technician.

CODE	POSSIBLE CAUSE	MEASURES
d 0	OPTION External demineralisation cartridge depleted.	Replace cartridge.
SAL 	Salt deficiency (only with built-in softener)	Refill the softener with granular regeneration salt.

The **Service** indicator ⑦ is illuminated and:

CODE	POSSIBLE CAUSE	MEASURES
AL	Drain hose blocked.	Restart drain cycle. Clean drain hose if necessary.
HEI	Rinse booster heating defective.	Call the after sales service.
FIL	Shut-off valve is closed.	Open shut-off valve at site and switch on machine again.
	Fill valve or fill system defective.	Call the after sales service.
SIE	Tank strainer not correctly positioned.	Put strainer correctly in place.
UL	Drain hose blocked.	Clean drain hose and restart drain cycle.
	Fill system or drain system defective.	Call the after sales service.
F01	Temperature probe "rinse booster" defective.	Call the after sales service.
F02	Temperature probe "tank" defective.	Call the after sales service.
F03	Pressure transmitter "rinse booster" defective.	Call the after sales service.
F04	Pressure transmitter "tank" defective.	Call the after sales service.

## OTHER INDICATIONS

Moving light point in the upper display:

CODE	CAUSE	MEASURES
. . .	Softener regeneration active (only with built-in softener).	None.

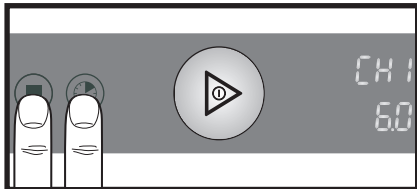


**ATTENTION:**  
The machine has to be switched off.

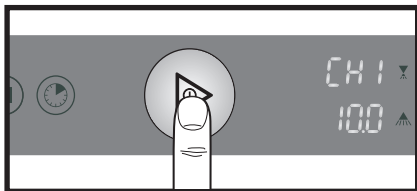
- Open the door.

**If the door will be closed or if no button is pressed for 10 seconds, the indicator automatically switches off and the new settings will be saved.** Therefore the setting procedure can be interrupted at any time.

## 9.1 | ADJUSTMENT OF DETERGENT DOSAGE QUANTITY

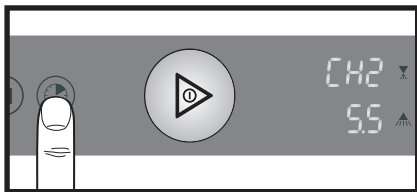


- Push **Stop** button ③ und **Program** button ② simultaneously until in the upper **Display** ⑤ "CH1" appears.
- In the lower **Display** ④ appears e.g. "6.0":  
pre-adjusted value of the detergent dosage time = 6.0 s ≈ 2.6 g/l.

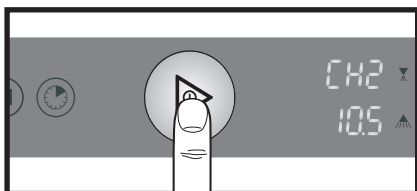


- To adjust the detergent dosage time, push **ON/OFF** button ① repeatedly, until the desired value (0-50 s ≈ 0-21.6 g/l) appears.  
*Adjustment should be done in accordance with chemical suppliers recommendations.*

## 9.2 | ADJUSTMENT OF RINSE AID DOSAGE QUANTITY



- Push **Program** button ② again.  
In the upper **Display** ⑤ appears "CH2".
- In the lower **Display** ④ appears e.g. "5.5":  
pre-adjusted value of the rinse aid dosage time = 5.5 s ≈ 0.3 g/l.

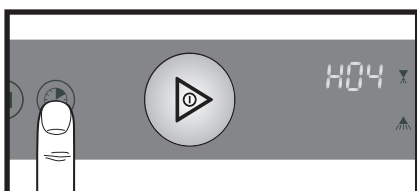


- To adjust the rinse aid dosage time, push **ON/OFF** button ① repeatedly, until the desired value (0-50 s ≈ 0-2.7 g/l) appears.  
*Adjustment should be done in accordance with chemical suppliers recommendations.*

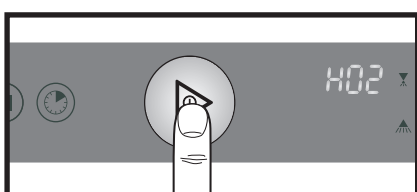
## 9.3 | ADJUSTMENT OF WATER HARDNESS

**With optional softener only.**

To adjust the softener to the local water hardness (obtain details from local water authority):

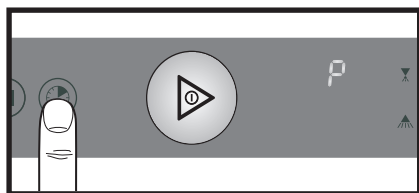


- Push **Program** button ② repeatedly until in the upper **Display** ⑤ "H04" appears.

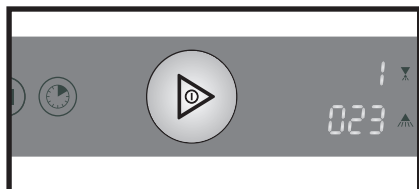


- Push ON/OFF button ① repeatedly, until the required value (H01-H04) will be displayed.  
**H01 = up to 9 °eh / H02 = 10 to 18 °eh / H03 = 19 to 26 °eh / H04 = 27 to 38 °eh** water hardness (°eh = Clark).

## 9.4 | CYCLE COUNTER

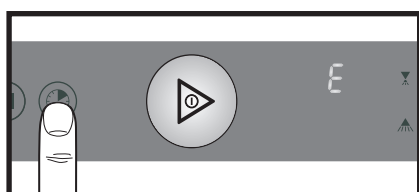


- Push **Program** button ② again.  
The display will show alternately "P" or the number of wash cycles.

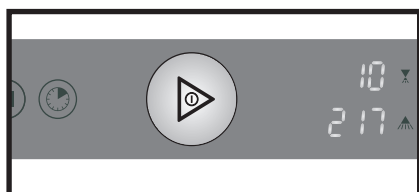


- In the lower **Display** ④ appears the value up to **999**.  
Thousands will be shown in the upper **Display** ⑤.  
Example: 1023 wash cycles  
Max. indication: **999 999**

## 9.5 | WATER CONSUMPTION COUNTER



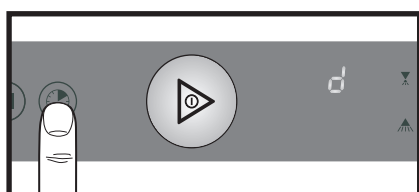
- Push **Program** button ② again.  
The display will show alternately "E" or the water consumption (liter).



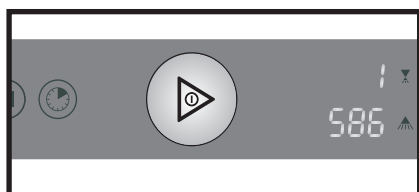
- In the lower **Display** ④ appears the value up to **999** liter.  
Thousands will be shown in the upper **Display** ⑤.  
Example: 10217 liter  
Max. indication: **999 999**

## 9.6 | REMAINING WATER QUANTITY COUNTER FOR EXTERNAL WATER TREATMENT

**Only available if activated in service mode (S18). The capacity (liter) of the water treatment has to be stored via C79/80.**



- Push **Program** button ② again.  
The display will show alternately "d" and/or the remaining water quantity (liter).

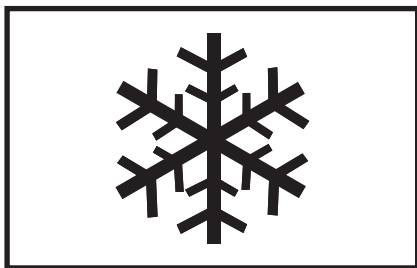


- In the lower **Display** ④ appears the value up to **999** liter.  
Thousands will be shown in the upper **Display** ⑤.  
Example: 1586 liter  
Max. indication: **999 999**
- To reset the counter to pre-set value, push and hold (3 seconds) the **ON/OFF** button ①.

## 9.7 | TERMINATION OF SETTING MODE OR COUNTER DISPLAY

- **Close the door, open and close it again or do not press any button for 10 seconds.**

## 10 | FROST PREVENTION



In case of frost or longer operation pauses (e.g. for seasonal operations) the machine must be completely drained.

This should be carried out by **after sales service**.

**Reset for operation according to chapter 4.**

## 11 | MAINTENANCE



For trouble free operation we recommend you enter into a service contract with your local Service Office.

## 12 | TROUBLESHOOTING GUIDE

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
<b>Poor wash result</b>		
Glasses are not clean.	Wash arms stiff (you should be able to turn them easily by hand).	Take out wash arms and clean them thoroughly. Check water outlet from machine to wash arms is clear.
	Wash arm nozzles are clogged (visual check).	Take out wash arm, remove cleaning cap and rinse wash arm thoroughly until soil is removed. Replace correctly.
	Rinse arm nozzles are clogged (possibly by lime deposit)	Remove rinse arms and decalcify them in separate container.
	Detergent concentration is too low or too high.	Check setting of detergent concentration. See also operating instructions chapter 9.
	Coarse strainer soiled.	Take out strainer, empty and clean it.
	Fine strainer soiled or obstructed by lime.	Take out fine strainer. If heavily soiled soak in a vinegar solution. Then clean it thoroughly until the pores are free. Cleaning is to be done daily (see operating instructions).
	Wrong program selected for heavily soiled dishes.	Select program with longer wash cycle.
Glasses do not dry properly.	Rinse aid concentration too low.	Increase concentration. See also operating instructions chapter 9.
	Rack is not suitable for type of glasses (sloping).	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Glasses stay too long in the machine at the end of program.	Take out glasses as soon as cycle is completed to enable them to dry.

# TROUBLESHOOTING GUIDE

GB

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
<b>Poor wash result</b>		
Stripes and stains on glasses.	Rinse aid concentration too high.	Reduce quantity (see instructions).
	Hard water or high mineral content.	Check water quality. Obtain details from local water authority. Recommended values: Ideal degree of hardness is 4° Clark. Ideal conductivity value is max. 100 µS/cm.
	Rack is not suitable for type of glasses (sloping).	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Insufficient rinse aid concentration causes stains	Increase quantity (see instructions)
	<b>Machine with softener:</b> wrong type of salt used.	Use only granular regeneration salt.
<b>Other malfunctions</b>		
Glasses are totally or partially cloudy	Surface of glasses is rough and porous, this is called glass corrosion	This is not caused by a malfunction on the machine. Replace with new glasses.
Glass breakages.	Use of inappropriate glass racks.	Use appropriate racks.
Machine suddenly stops during wash program.	Machine is connected to a "maximum power supply unit" which cuts out the energy consumer at a given point, or machine is interlocked with another energy consumer unit.	Connect machine separately (call electrician).
	Blown site fuse.	Check site fuses.

If no button will be pressed during **6 hours**, the machine switches off automatically without draining.





The manufacturer retains the right at all products changes or improvements without announcement.