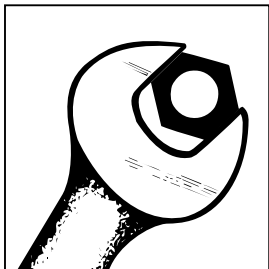


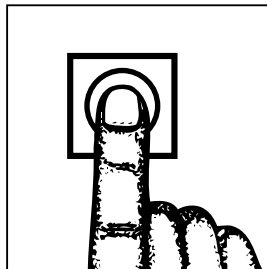


Glass and Dishwashers FX / GX Series

INSTALLATION



OPERATION



Important Notes

- **Use in Accordance with Regulations**

This machine is exclusively to be used to wash ware such as plates, cups, glasses, cutlery, trays etc.

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 is 63 dB (A)

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

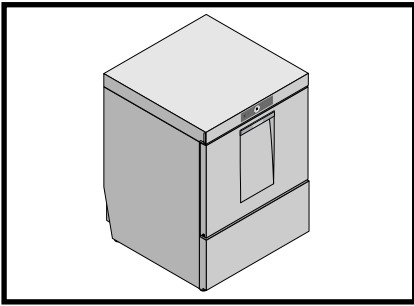
400 V / 50 Hz / 3 Ph / N / PE or 230 V / 50 Hz / 1 Ph / N / PE

Installation and Operation Instructions for Models of FX / GX Series

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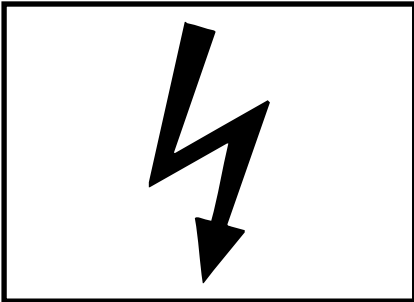
1 Installation

1.1 Location




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

1.2 Electrical connection

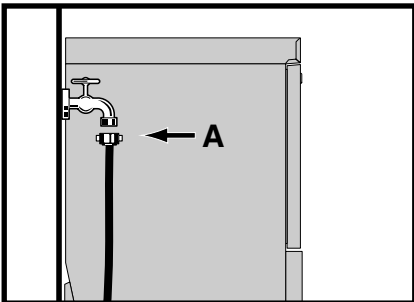


 **Must be carried out by an authorized technician according to the local and national codes.**

- 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 adjacent to the connection terminal.
- 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

1.3 Water connection

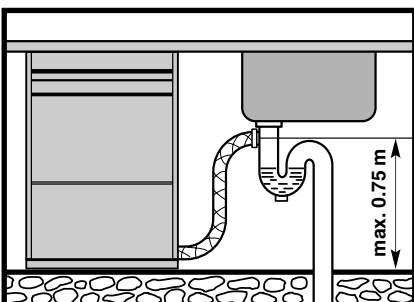


 **Must be carried out by an authorized technician according to the national and local codes.**

**The machine must be operated with potable water.
For water with an extremely high mineral content an external demineralisation is strongly recommended.**

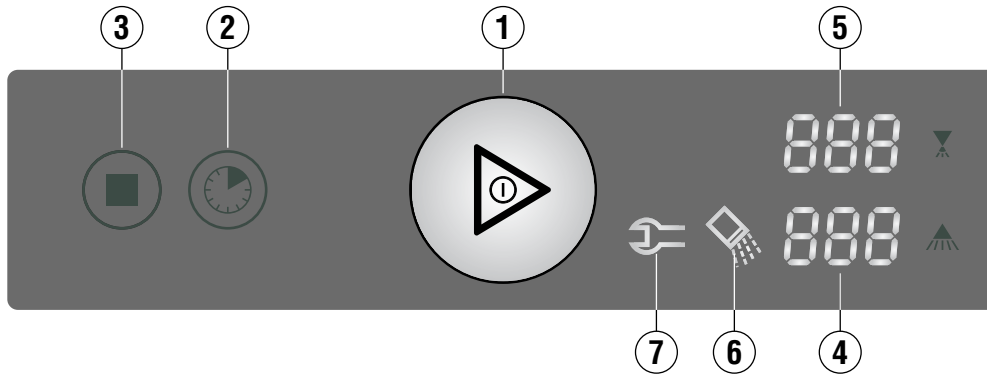
- **Machines without softener:** Connect to soft and if possible warm water (up to 4° Clark = 0.5 mmol/l, **max. 60°C**).
- **Machines with softener:** Connect to warm water (**max. 60°C**) if possible.
- Line flow pressure 0.5 – 10 bar.
Important: the line flow pressure must not be less than 0.5 bar.
- **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.

1.4 Drain connection



- Connection between machine and site drain must not exceed max. height of 0.75 m.
- Do not kink the drain hose.

2 Controls



① Machine **ON / OFF**

Pushing this button switches the machine on.

As soon as the machine is ready for operation, the wash cycle is started by pushing this button also.

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.

After switch off, the machine is not voltage free!

Furthermore the button illuminates to indicate the mode of the machine:

GREEN	(flashing)	= Machine fills and starts heating
GREEN	(permanent)	= Machine is ready for operation
BLUE	(permanent)	= Wash cycle is running
BLUE	(flashing)	= Machine draining / switch-off
RED	(permanent)	= Failure indication (see chapter 7)
GREEN/RED	(alternate flashing)	= Failure indication (see chapter 7)

② **Program** button

By pushing this button, it is possible to select between different preset programs, according to the model and equipment.

The program no. (e.g. **P02**) will be shown in the Display ⑤.

③ **Stop** 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.

After switch off, the machine is not voltage free!

④ **Display**

e.g. temperature indication **Wash** (°C) (see chapter 6).

⑤ **Display**

e.g. temperature indication **Rinse** (°C) (see chapter 6)

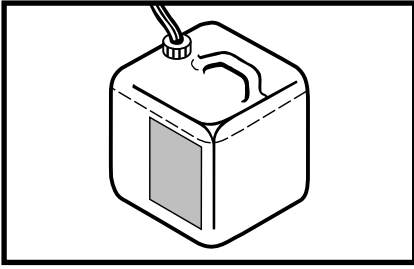
⑥ **Salt** required

Indicating the need for regeneration salt to be added. (Only with built-in softener.)

⑦ **Service** indicator

Indicating, that the machine has a fault (see chapter 7).

3 Start-up



3.1 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 detergent container. Fill the suction hose according to chapter 3.3.

3.2 Rinse aid

- Place the suction hose (**blue marking**) into the rinse aid container. Fill the suction hose according to chapter 3.3.



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

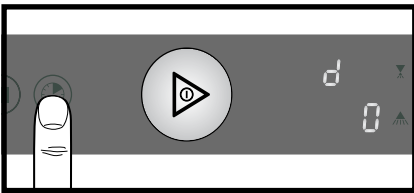
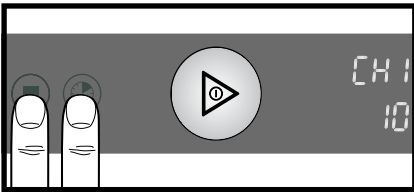
Use only commercial detergent and rinse aid. **Please pay attention to the manufacturers safety instructions.**

3.3 Priming the suction hoses



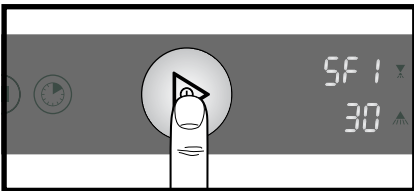
ATTENTION:
The machine has to be switched off.

- **Open the door.**
Push **Stop** button ③ and **Program** button ② simultaneously until the upper **Display** ⑤ shows "CH1" and the lower one ④ "10".
- Push **Program** button repeatedly, until "d" and "0" is displayed.
- **Close the door.**
In the upper **Display** appears "SF1", in the lower one "0".



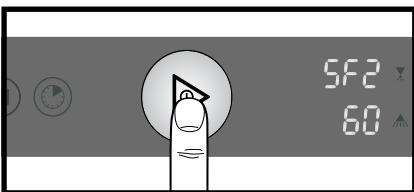
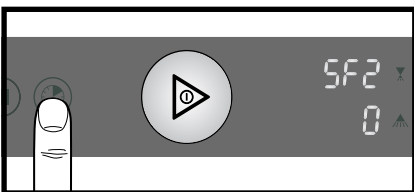
3.3.1 Detergent suction hose

- Pushing the **ON/OFF** button ① activates the hose priming for 30 seconds. Four cycles should be sufficient to fill the standard suction hose. Each cycle can be interrupted by pushing the **ON/OFF** button again.



3.3.2 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 60 seconds. Four cycles should be sufficient to fill the standard suction hose. Each cycle can be interrupted by pushing the **ON/OFF** button again.



3.3.3 Termination of hose priming

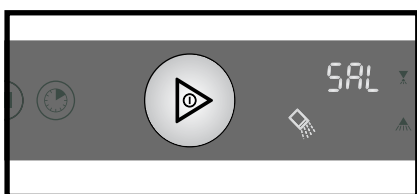
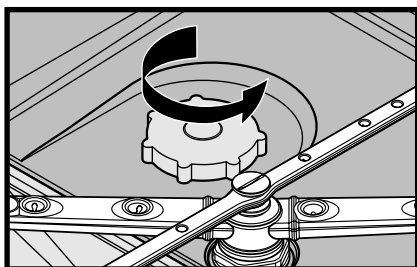
- **Open door and close it again or do not press any button for 10 seconds.**

3.4 Softener (only on option)

The machine will be delivered without salt. For the first run, the softener has to be filled with salt and potable water.



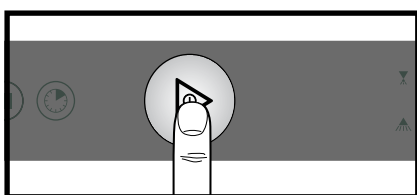
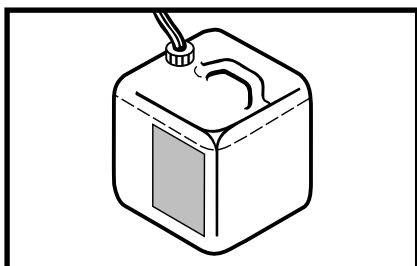
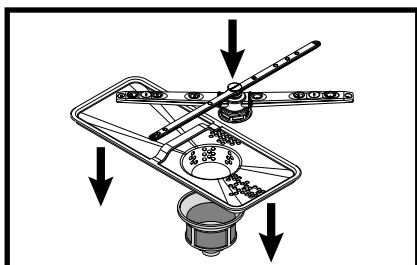
Filling the salt reservoir with cleaning agent will damage the water softener.



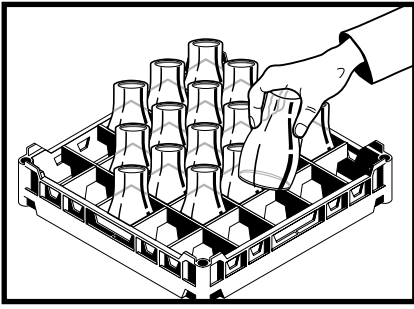
- Open the door.
 - Unscrew the softener lid and fill the softener with **2 kg** of "Granular regeneration salt" (do not use salt tablets).
 - Fill up the softener with potable water (only at the first run).
Clean seal and rim of softener lid carefully, before closing the lid.
 - Close lid and tighten.
 - **Adjust the water hardness according to chapter 8.3 !**
-
- 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.

4 Operation

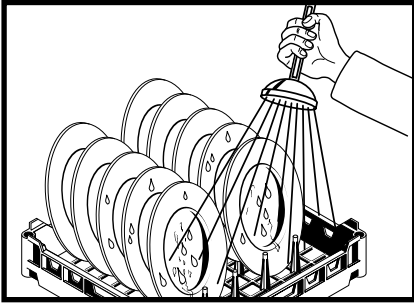
4.1 Preparation



- 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 **green** steady burning light, machine is ready for operation.

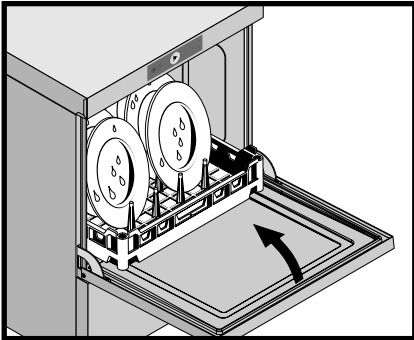


- Place glasses and cups face downwards into the rack.

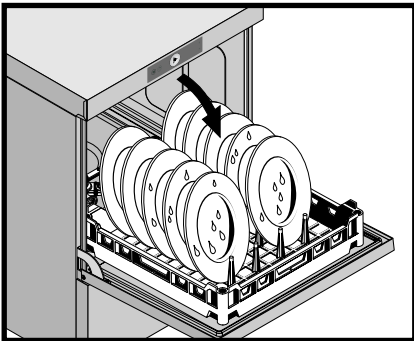


- Remove any food debris before loading plates into rack.
- Spray off greasy food soil.

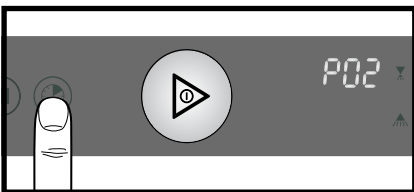
4.2 Run



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



- As soon as the **ON/OFF** button ① changes to **green** light, the wash cycle is finished.
- Open the door and take out rack. Allow dishes to dry for 1 minute approx.



- Select program:

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.

P 01 = Short cycle (for light / medium soiled dishes and glassware)

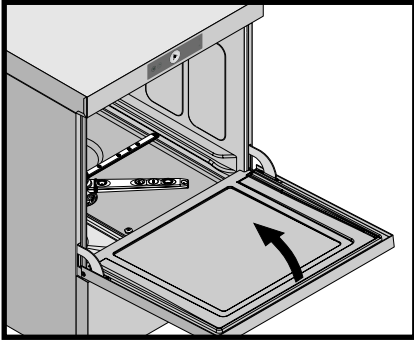
P 02 = Standard cycle (for medium / heavy soiled dishes)

P 03 = Long cycle (for dried on soiling and containers)

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

5 Switch-off and cleaning the machine

5.1 Switch-off



- Close the door.
Push and hold the **ON/OFF** button ① until the button flashes "blue".

NOTE:

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

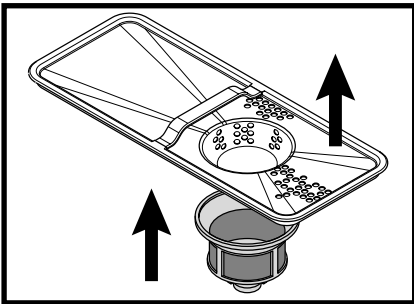
- When the **ON/OFF** button goes off:
Switch off main switch or unplug and close the shut-off valve !

5.2 Cleaning (daily)

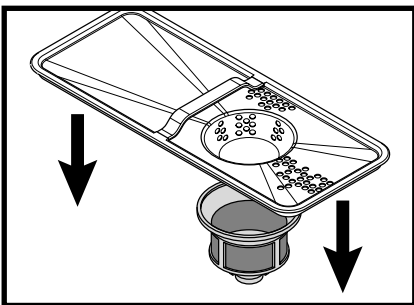


To clean the machine do not use any chloric, acidic or abrasive products and no metallic brushes.

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



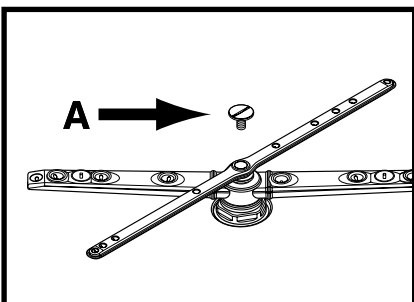
- Flush the fine strainer.
- Clean interior of the machine.



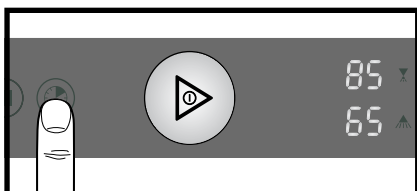
- Put strainers back into place.
- Leave the door open for ventilation.

5.3 Cleaning (weekly)

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



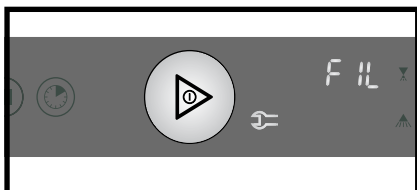
6 Preview of temperatures



- 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.


7 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.

If the **ON/OFF** button ① is flashing **GREEN/RED** alternately – restricted operation may be possible:

CODE	POSSIBLE CAUSE	MEASURES
AL	Drain hose blocked.	Clean drain hose and restart drain cycle.
HEI	Rinse booster heating defective.	Call the after sales service.
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 **ON/OFF** button ① illuminates **RED** and the **Service** indicator ⑦ is illuminated:

CODE	POSSIBLE CAUSE	MEASURES
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.

8 Settings and Counter values



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.

8.1 Adjustment of detergent dosage quantity

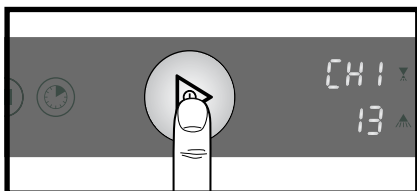
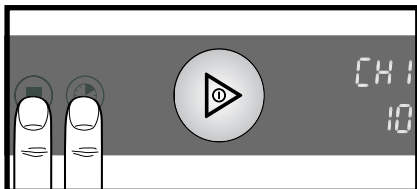
- Push **Stop** button ③ und **Program** button ② simultaneously until in the upper **Display** ⑤ "CH1" appears.

In the lower **Display** ④ appears e.g.:

"10" = pre-adjusted value of the detergent dosage time =
10 s \approx 2,4 g/l.

- To adjust the detergent dosage time, push **ON/OFF** button ① repeatedly, until the desired value (0-50 s \approx 0-11 g/l) appears.

Adjustment should be done in accordance with chemical suppliers recommendations.



8.2 Adjustment of rinse aid dosage quantity

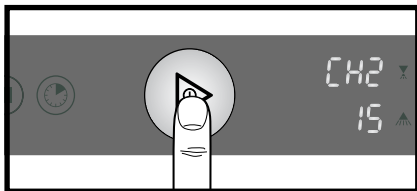
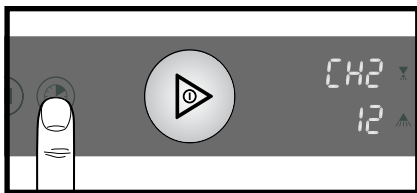
- Push **Program** button ② again. In the upper **Display** ⑤ appears "CH2".

In the lower **Display** ④ appears e.g.:

"12" = pre-adjusted value of the rinse aid dosage time =
12 s \approx 0,3 g/l.

- To adjust the rinse aid dosage time, push **ON/OFF** button ① repeatedly, until the desired value (0-50 s \approx 0-1,5 g/l) appears.

Adjustment should be done in accordance with chemical suppliers recommendations.



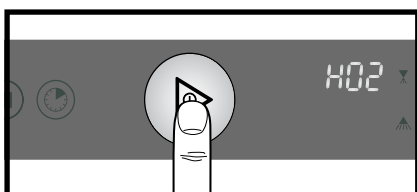
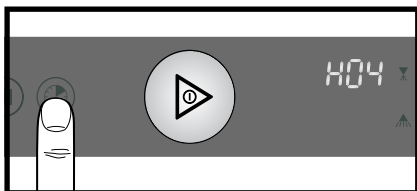
8.3 Adjustment of water hardness (with optional softener only)

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.

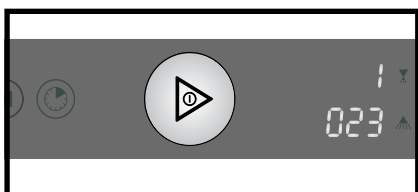
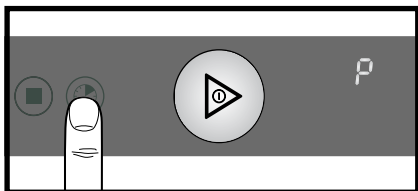
- Push **ON/OFF** button ① repeatedly, until the required value (H01-H04) will be displayed.

H01 = up to 9 °eh / H02 = 10 to 18 °eh / H03 = 19 to 26 °eh /
H04 = 27 to 38 °eh water hardness (°eh = Clark).



8.4 Cycle counter

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

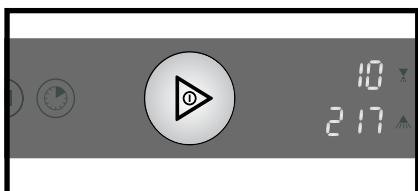
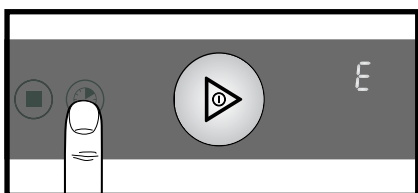


In the lower **Display** ④ appears the value up to **999**.
Thousands will be shown in the upper **Display** ⑤.

Example: 1023 wash cycles
Max. indication: **999 999**

8.5 Water consumption counter

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

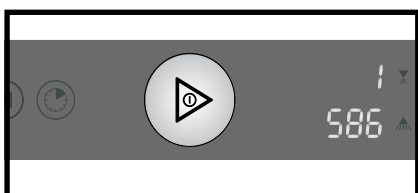
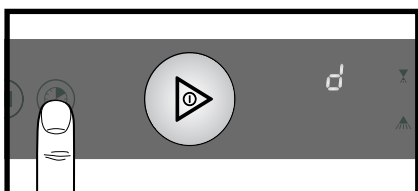


In the lower **Display** ④ appears the value up to **999** liter.
Thousands will be shown in the upper **Display** ⑤.

Example: 10217 liter
Max. indication: **999 999**

8.6 Remaining water quantity counter for external water treatment (only if activated in service mode)

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



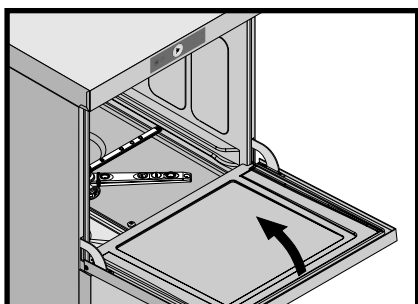
In the lower **Display** ④ appears the value up to **999** liter.
Thousands will be shown in the upper **Display** ⑤.

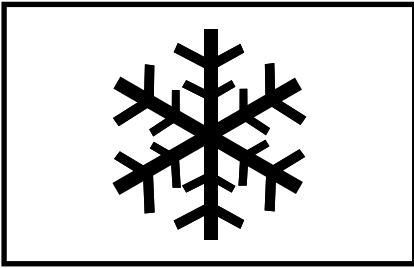
Example: 1586 liter
Max. indication: **999 999**

To reset the counter to pre-set value, push and hold (3 seconds) the **ON/OFF** button ①.

8.7 Termination of setting mode or counter display

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





9

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 3.



10

Maintenance

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

11 Troubleshooting guide

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
Poor wash result		
Dishes 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 point 8.1.
	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.
Dishes or glasses do not dry properly.	Rinse aid concentration too low.	Increase concentration. See also operating instructions point 8.2.
	Dishes still greasy.	<ol style="list-style-type: none"> 1. Detergent concentration too low: increase (see instructions). 2. Check if detergent is appropriate. If not choose a stronger one. 3. Drain soiled water and refill machine. Check pre-scrapping procedure.
	Rack is not suitable for type of dishes (sloping).	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Dishes stay too long in the machine at the end of program.	Take out dishes as soon as cycle is completed to enable them to dry.
Stripes and stains on dishes or 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 for glasses is max. 150 µS/cm and for dishes max. 400 µS/cm.
	Rack is not suitable for type of dishes (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)
	Machine with softener: wrong type of salt used.	Use only granular regeneration salt.

Troubleshooting guide

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
Other malfunctions		
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 dish or 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.

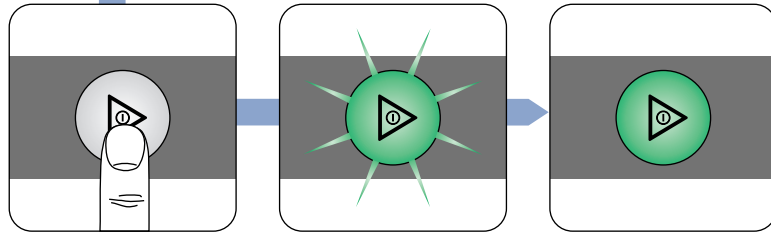
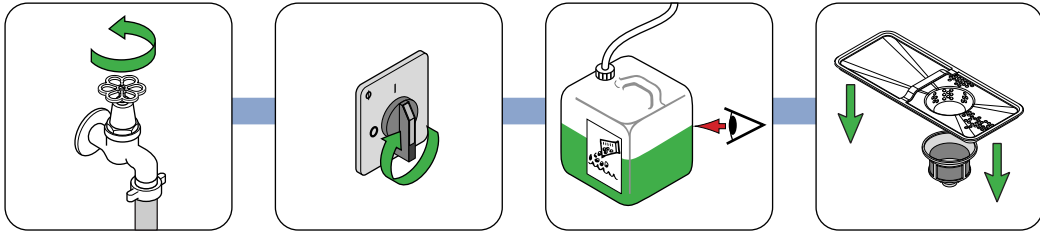
If no button will be pressed during **6 hours**, the machine switches off automatically without draining.

As continued product improvement is a policy of HOBART, specifications are subject to change without notice.

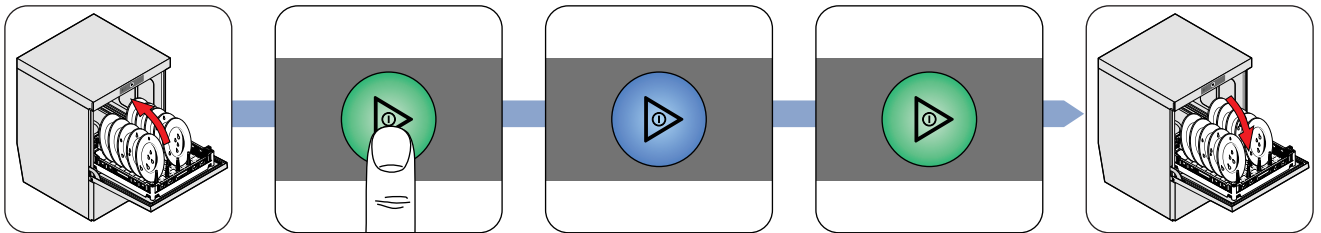
HOBART

FX / GX

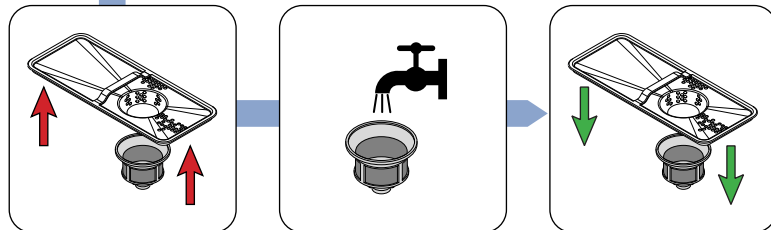
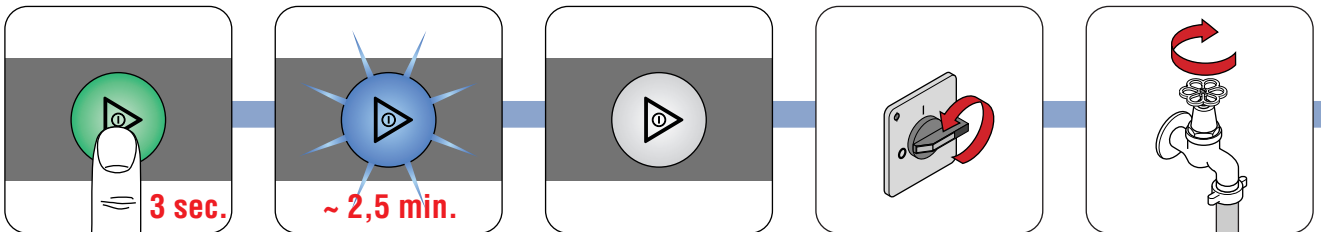
START



STOP



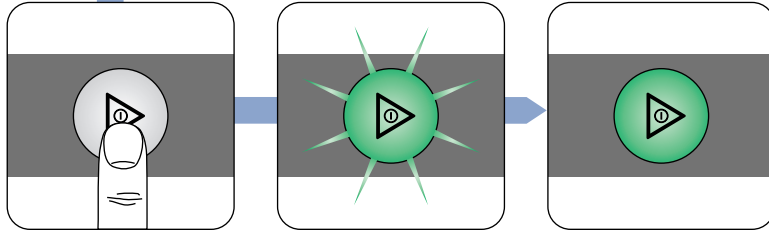
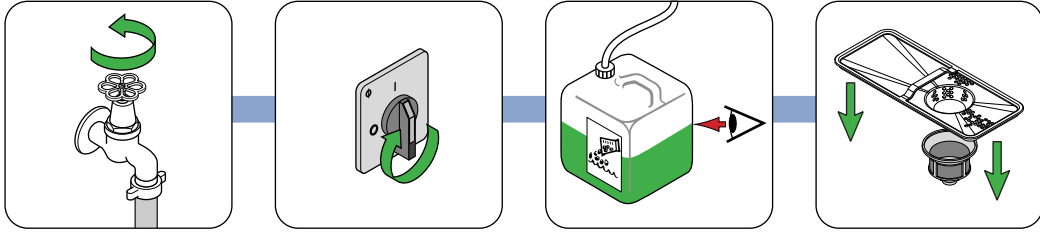
STOP



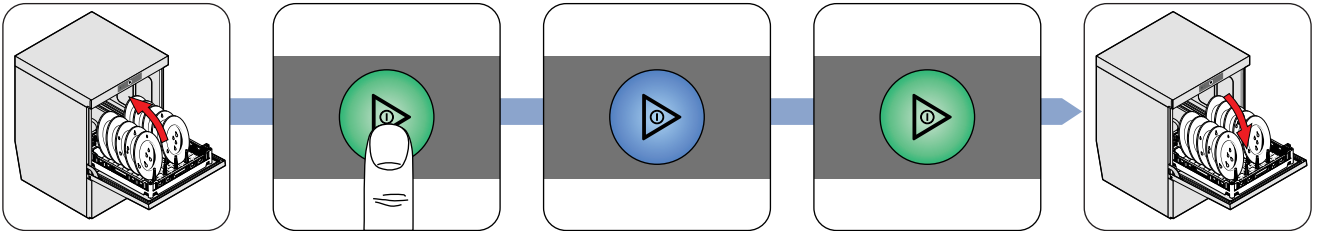
HOBART

FX / GX -S

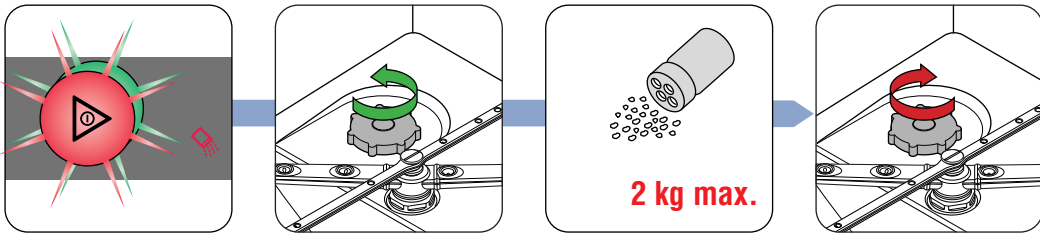
START



↑

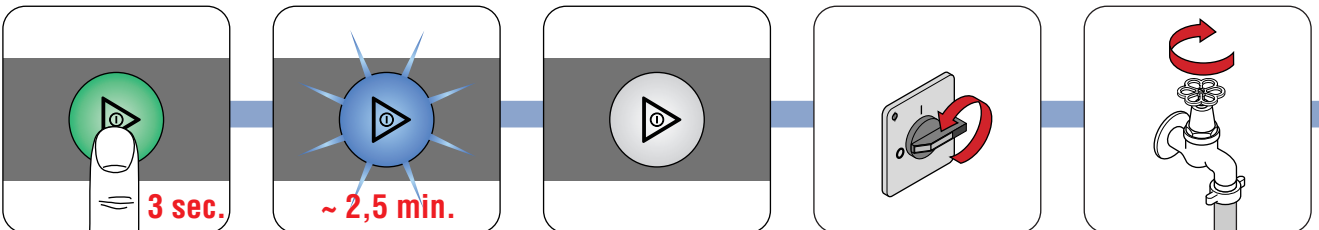


↓



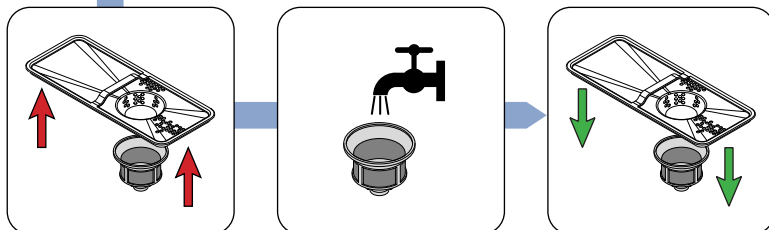
2 kg max.

STOP



3 sec.

3 sec.





GLASS AND DISHWASHERS



FX/GX SERIES

INSTALLATION AND OPERATION INSTRUCTIONS

(original instructions)

Starting from Serial No.:
8654 5000

REV. 06.08.2010

INDEX: 2	FILE:	NO.	HOBART D TSB - 593 E	PAGE	OF		
	DOSSIER: MANUAL RACK			PAGE	1	DE	3
	AKTE: DISHWASHER			SEITE		VON	

SUBJECT: **SERVICE INFORMATION REGARDING DESIGN**
 SUJET: **IMPROVEMENTS (FACELIFT)**
 BETREFF: **ON FXN / GXN / FP / GP DISHWASHERS**

DATE:
 DATE: **30. JULY 2010**
 DATUM:

FOR INFORMATION ONLY

Improvements as listed in this document have been implemented to new machines as from manufacturing date 26. July 2010 onwards.

Start serial numbers are: **FX / GX: 8654 5000**, resp. **FP / GP: 8651 4000**.

1. EEPROMS have new reference numbers and new program-numbers:

The new EEPROM reference numbers are the following: **FXN / GXN / GP: 897547-13, FP 897547-14**
 (please refer also to the table below)

897547-13 all machines excluding FP**897547-14 FP machines only**

	machine	program number		machine	connection value	program number
1	GX(H)-70N	1	1	FP-70 (-90)	3 Phase 6,1kW (3x16A)	1
2	GX(H)S-70N	2	2	FPS-70	3 Phase 6,1kW (3x16A)	2
3	GP-70	3	3	FP-70 (-90)	1 Phase 1,4kW (1x13A)	3
4	GPS-70	4	4	FPS-70	1 Phase 1,4kW (1x13A)	4
5	GP-71	5	5	FP-70 (-90)	1 Phase 2,0kW (1x16A)	5
6	GPS-71	6	6	FPS-70	1 Phase 2,0kW (1x16A)	6
7	GXHK-70N	7	7	FP-70 (-90)	1 Phase 4,1kW (1x25A)	7
8	GXHKS-70N	8	8	FPS-70	1 Phase 4,1kW (1x25A)	8
9	GXHK-71N	9	9	FP-71	3 Phase 6,1kW (3x16A)	9
10	GXHKS-71N	10	10	FPS-71	3 Phase 6,1kW (3x16A)	10
11	FX(L)-70N / FX-70NB / FX-72N / FX-73N / FXMcD-70N / FXMar-70N bis 77N / FXOEM	11	11	FP-71	1 Phase 1,4kW (1x13A)	11
12	FX(L)S-70N / FX(L)S-70NB / FXSNav-70N / FXMcDS-70N	12	12	FPS-71	1 Phase 1,4kW (1x13A)	12
13	FX-71N / FX(L)-80N / FX(L)-81N	13	13	FP-71	1 Phase 2,0kW (1x16A)	13
14	FXS-71N	14	14	FPS-71	1 Phase 2,0kW (1x16A)	14
15	FX400-70	15	15	FP-71	1 Phase 4,1kW (1x25A)	15
16	FX400S-70	16	16	FPS-71	1 Phase 4,1kW (1x25A)	16
17	FXCV-70N bis -75N / FXCVHF-70N	17	17	FPCV-70	3 Phase 6,1kW (3x16A)	17
18	FXBäkoS-70N	18	18	FPS (SEF)		18
19	FXS-74N	19				
20	GXHK (SEF)	20				
21	FX (SEF)	21				
22	GP(SEF)	22				
23	FX-90	23				

2. The programming mode is changed (menu U01):

The dash-number of the EEPROM will be displayed for 2 seconds after selecting menu U01. The software version is displayed subsequently also for 2 seconds.



3. New program- and display-functions:

The selected program number and the theoretical cycle time in seconds will be displayed for approx. 5 seconds.
(the example at right shows the display of a FX70N at program 1 = P01; cycle time 90 seconds)



4. Profi FX and GX machines have now the hygiene program H (HYG) as standard

5. The program status of profi-machines is now also indicated by the colour change of the four button segments as known from FP and GP, i. e.:

Filling increasingly GREEN
Draining decreasingly GREEN
Washing from BLUE back to GREEN

6. GP-machines are equipped with cold rinse as standard (in analogy to GXHK-70N)

7. Drying program FP and GP

The drying program has been extended by 2 minutes.
The first 3 minutes are indicated as a count down on the display.
The colour of the ON/OFF button lights green during the 2 minutes extension time.



8. Cycle time overview:

program	GX	GP	FX	FP
P01	60s		90s	80s / (170s*)
P02	90s		180s	150s / (230s*)
P03	120s / intensive-rinse		360s fill and dump program	
COL (P04)	120s with cold rinse		x	x
P04	x	x	x	endless
H (HYG)	600s			
C	x	360s	x	360s
drying	x	180s + 120s	x	180s + 120s

* = with ECO-program
* = with ECO-program

9. Cutlery program C (program 6)

9.1 FP machines

The wash liquid is heated up to approx. 70°C during the wash phase through steam injection. The final rinse water consumption is 4 liters. This mode is to be used to clean cutlery. It can also be used as a stripping program to remove starch layers on dishes (additional powder detergent may be required).

9.2 GP machines

This program is particularly intended to carry out a basic cleaning of new glasses. No steaming is carried out in these machines in contrary to the FP's described in 9.1.

10. Modified customer menu

The adjustment of chemicals (CH1 and CH2) is no longer time-dependent. It is now dependent on concentration (grams per liter). CH3 and CH4 do no longer exist.

The chemicals control can be enabled / disabled via parameter **CH** in the customer menu (see also sub-clauses 11.1 and 11.2).

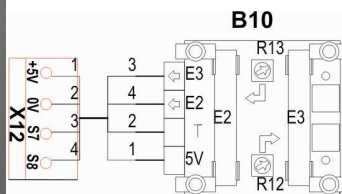
11. Dosing:

All machines are now equipped with the more reliable dosing pumps ref. 01-240195-1/-2 as previously used on FP's and GP's only.

Machines without built-in chemicals containers have an electronic deficiency sensing device (see 11.1). Machines with built-in containers have float switches for sensing absence of chemicals (see 11.2).

11.1 Electronic deficiency sensing device on machines without built-in chemicals containers

All machines without built-in chemicals containers (device code -70) have an electronic deficiency sensing device analog to the AMX series. Machines are delivered with the sensing device disabled (**CH = 0**). The sensing device can be enabled via customer menu (**CH = 1**).



Relevance of **CH** in the customer menu

CH = 0 input S07 + S08 disabled

CH = 1 input S07 + S08 enabled

CH = 2 input S07 enabled

CH = 3 input S08 enabled

S07 = detergent

S08 = rinse aid

Potentiometers basic setting ex manufacturing plant: detergent = 3; rinse aid = 5

The chemicals delivery hoses must be filled to carry out adjustment of the sensing device. For correct adjustment, the particular potentiometer should be turned counter clock wise as far as it will go. Then turn it slowly clockwise until the particular LED lights up. Now turn it to the next higher graduation value.

11.2 Chemicals sensing via float switches on machines with chemicals containers

Profi-machines have the containers for detergent and rinse aid in the bottom section of the machine.

Premax machines have the detergent container in the bottom section; the rinse aid container is a drawer on top at the right as previously.

The float switch sensing is generally enabled (**CH = 1**)

12. Fault memory (menu U04) analog to GCN's and GCP's

All real faults are stored and can be displayed in this menu.

Following procedure is required to read out faults:

1. Switch off the machine and open the door.
2. Press the "Program"- and "Special Function"-button simultaneously for 5 seconds (until **U04** is displayed).
3. Press the "ON/OFF"-button (it lights up in red / green – see at the right)
4. Faults can be paged through by pressing the "Stop"-button



IMPORTANT NOTES

USE IN ACCORDANCE WITH REGULATIONS:

The machine is technical work equipment for express use in the work place.

The machine is exclusively to be used to wash ware such as plates, cups, glasses, cutlery, trays etc.

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 < 70 dB (A).

CONNECTING TENSIONS:

The machine described in this operation manual has following connecting tensions:
400 V/50 Hz/3 Ph/N/PE or 230 V/50 Hz/1 Ph/N/PE

GENERAL INFORMATION ON WASHING GLASSES AND CUTLERY:

The local supply water quality has a major impact on the wash and rinse result. A high content of minerals may cause spots and streaks results during the drying process. Minerals which are dissolved in the water become visible during the drying process in the form of spots and streaks.

Authorised HOBART service personnel can determine the content of minerals by measuring the electrical conductivity. Values of less than 80 Microsiemens/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 HOBART partner for support.

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

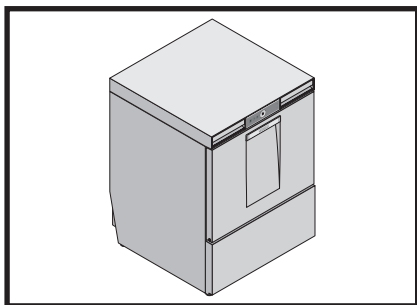
To avoid unpleasant smelling glasses, specific chlorine-free detergent for glass washing should be used.

Before washing new glasses the first time with a commercial glass washer, intensive basic cleaning is mandatory to reduce the greasy film which is on most glasses for protection during production.

The basic cleaning needs to be done with a much higher chemical concentration of detergent (minimum 10 g of detergent per liter). We recommend carrying out the basic cleaning manually in a sink (using gloves and a brush for cleaning).

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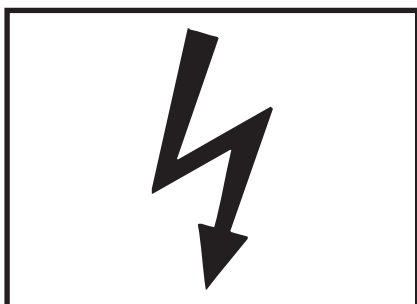
11.2. Other Malfunctions.....24



1.1. LOCATION

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

NOTE: Vapor may escape from the dishwasher door. Therefore, adjacent furniture has to be protected to prevent swelling.



1.2. ELECTRICAL CONNECTION



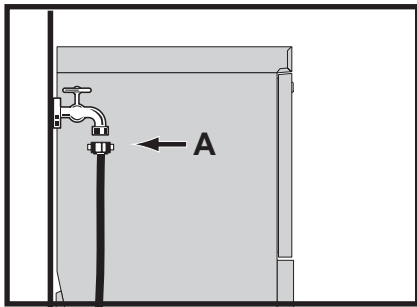
Must be carried out by an authorized technician according to the local and national codes.

For Australia: in accordance with AS/NZS3500.1

- 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 adjacent to the connection terminal.
- 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).

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

1. INSTALLATION



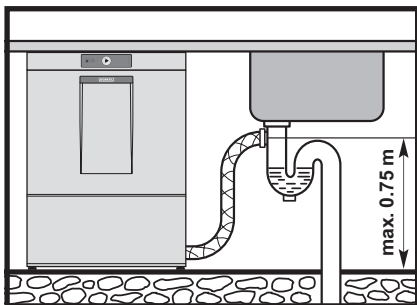
1.3. WATER CONNECTION



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

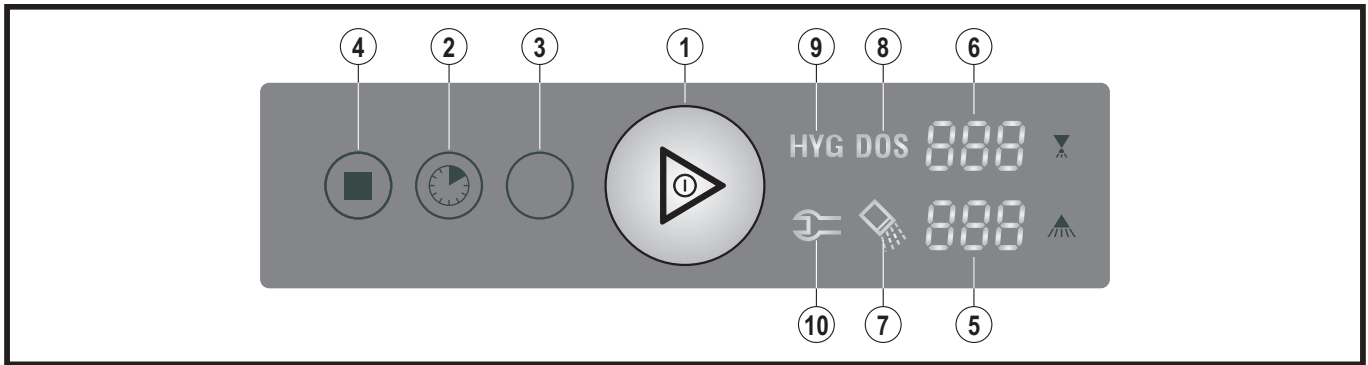
The machine must be operated with potable water. For water with an extremely high mineral content an external demineralisation is strongly recommended.

- Connect to warm water, if possible (max. 60°C).
- For use of switchable cold water rinse, connect to cold water, if possible (max. 20°C).
- Water hardness:
 - Machines without softener: max. 3.75° Clark = 0.5 mmol/l.
 - Machines with softener: max. 37.5° Clark = 5.3 mmol/l.
- Line flow pressure 0.5 – 10 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.



1.4. DRAIN CONNECTION

- Connection between machine and site drain must not exceed max. height of 0.75 m (GXH: 0.6 m).
- Do not kink the drain hose.



① **ON/OFF** button

Pushing this button switches the machine on.

As soon as the machine is ready for operation, the wash cycle is started by pushing this button also.

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. After switch off, the machine is not voltage free!

Furthermore, the button illuminates to indicate the mode of the machine:

- GREEN** = Machine is ready for operation
- BLUE** = Wash cycle is running
- RED** (permanently) = Failure indication (see section 7.)
- GREEN/RED** (alternating) = Failure indication (see section 7.)



The status of the program is indicated by the color change of the four button segments:

- Filling increasingly GREEN
- Draining decreasingly GREEN
- Washing from BLUE back to GREEN

② **Program** button

By pushing this button, it is possible to select between different preset programs, according to the model and equipment. The program no. (e.g. P02) will be shown in the display ⑥.

③

No function.

④ **Stop** 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.

After switch off, the machine is not voltage free!

⑤ **Display**

e.g. temperature indication Wash (°C) (see section 6.)

⑥ **Display**

e.g. temperature indication Rinse (°C) (see section 6.)

⑦ **Salt** required

Indicating the need for regeneration salt to be added. (Only with built-in softener.)

⑧ **Detergent/Rinse Aid** indicator

Indicates detergent or rinse aid deficiency.

⑨ **Hygiene** indicator

Indicates that a hygiene cleaning should be carried out (see section 5.4.).

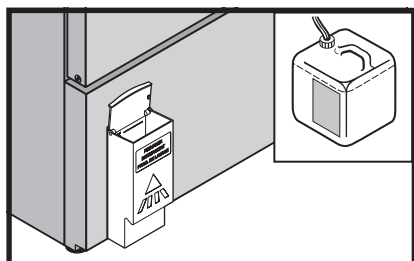
⑩ **Service** indicator

Indicates that the machine has a fault (see section 7.).

3. START-UP



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



3.1. DETERGENT

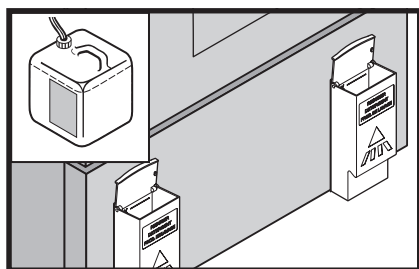


Attention:
Do not use any acidic detergent products with the built-in detergent pump! (The ph-value has to be higher than 7.)!

- Place the suction hose into the detergent container.
- Fill the suction hose according to section 3.4.
- The dosing pump can operate to a max. head height of 1.5 m.

MACHINES WITH INTEGRATED DETERGENT CONTAINER (OPTION):

- Open the container and fill it with detergent up to the marking "MAX" by using a funnel. Do not overfill the container!



3.2. RINSE AID

- Place the suction hose into the rinse aid container.
- Fill the suction hose according to section 3.4.
- The dosing pump can operate to a max. head height of 1.5 m.

MACHINES WITH INTEGRATED RINSE AID CONTAINER (OPTION):

- Open the drawer and fill the integrated reservoir with rinse aid up to the marking "MAX".

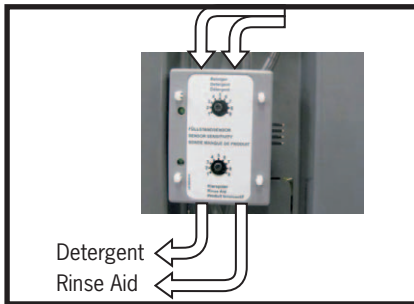
3.3. CHEMICAL SENSOR START-UP



All below-mentioned steps must be carried out by service technicians qualified by Hobart. Make sure to observe all precautionary measures required when working near live components.

Before removing the housing, make sure the machine is voltage-free.

- Carry out hose filling SF1 and SF2 via the customer menu (see section 3.4.).
- Watch both hoses until the sensor-operated filling is completed.
- The control LEDs must light up. If necessary, readjust the potentiometers (increase setting).
 - Factory setting: potentiometer setting for detergent = 3
 - Factory setting: potentiometer setting for rinse aid = 5
- Activate the sensor by using CH = “1” in the customer menu (see section 8.7.).



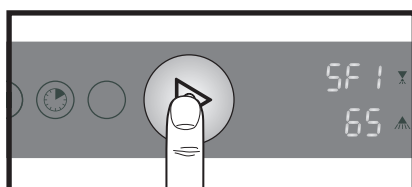
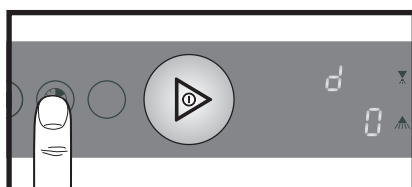
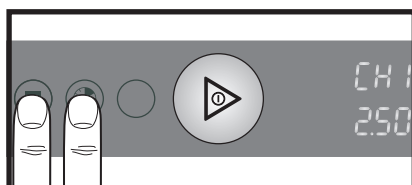
3.4. PRIMING THE SUCTION HOSES



Attention:
The machine has to be switched off.

Is carried out automatically if chemical sensor is activated, but will take several wash cycles. Therefore, we recommend manual hose priming as follows:

- Open the door.
- Push Stop button ④ and Program button ② simultaneously until
 - the upper display ⑥ shows “CH1” and
 - the lower display ⑤ shows “2.50”.
- Push Program button repeatedly, until
 - the upper display shows “d” and
 - the lower display shows “0”.
- Close the door.
 - The upper display shows “SF1”,
 - The lower display shows “0”.

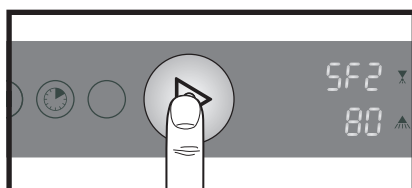
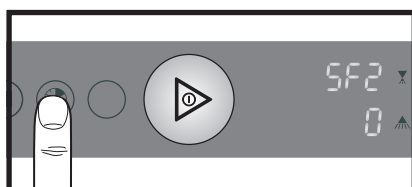


3.4.1. DETERGENT SUCTION HOSE

- Pushing the ON/OFF button ① activates the hose priming for 65 seconds.
- Check the fill level thereafter, and if necessary, repeat.
- Each cycle can be interrupted by pushing the ON/OFF button again.

3.4.2. RINSE AID SUCTION HOSE

- Push the Program button ②.
 - The upper display ⑥ shows “SF2”,
 - The lower display ⑤ shows “0”.
- Pushing the ON/OFF button ① activates the hose priming for 80 seconds.
- Check the fill level thereafter, and if necessary, repeat.
- Each cycle can be interrupted by pushing the ON/OFF button again.



3.4.3. TERMINATION OF HOSE PRIMING

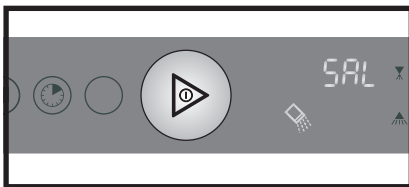
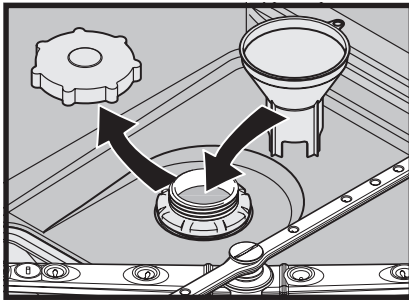
- Open door and close it again, or do not press any button for 10 seconds!

3.5. SOFTENER (OPTIONAL)

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



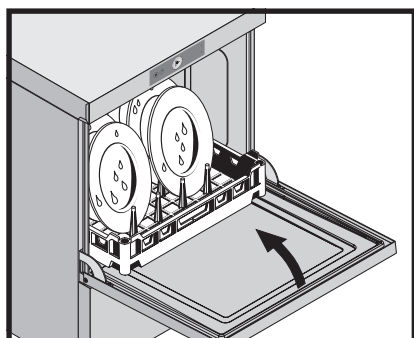
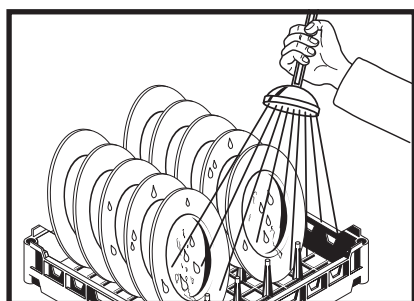
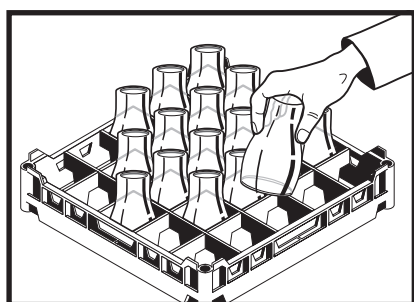
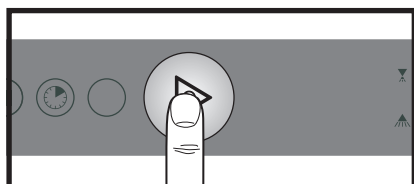
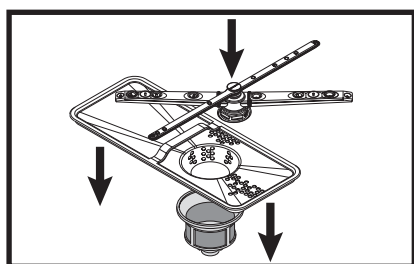
Attention:
Filling the salt reservoir with cleaning agent will damage the water softener.



- Open the door.
- Unscrew the softener lid and fill with 2 kg of “Granular regeneration salt” using a funnel (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 section 8.3.!
- When the Salt indicator ⑦ illuminates during operation, the softener has to be refilled with regeneration salt.
- There will be a slight delay before salt light extinguishes after refill.

4. OPERATION

4.1. 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 will become gradually green during fill and heating cycle. This process can take several minutes.
 - When the button becomes completely green, machine is ready for operation.
-
- Place glasses and cups face downwards into the rack. First remove leftovers such as lemon peels, olive pits, tooth picks, paper etc.
-
- Remove any food debris before loading plates into rack.
 - Spray off greasy food soil.

4.2. RUN

- Put rack into the machine and close the door.
- Push the ON/OFF button ①. During the running wash cycle, the color of the ON/OFF button changes from blue increasingly back to green.
- As soon as the ON/OFF button illuminates completely green, the wash cycle is finished.
- Open the door and take out rack. Allow dishes to dry for approx. 1 minute.
- If activated, a drying process (duration 3 minutes) will start automatically at the end of wash cycle. The running drying process is indicated by a rotating blue segment on green background in the ON/OFF button, while the display shows the remaining seconds of the runtime.

SELECT PROGRAM:

- The machine runs automatically using the Standard cycle program. If needed, it is possible to select a different 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. The theoretical runtime is then shown in the lower display.

P01 = Short cycle

P02 = Standard cycle

P03 = Long cycle

FX: with exchange of tank water

GX: with increased rinse volume

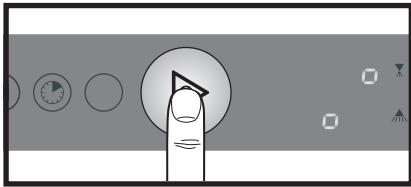
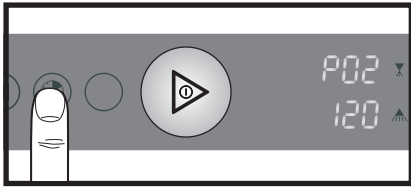
P04 = GXHK only: Cold Water Rinse (display "COL")

H = Hygiene cycle (see section 5.4.)

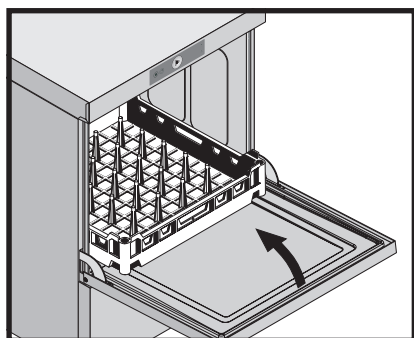
An endless cycle will be indicated by moving light points in the displays. To stop the wash cycle, push ON/OFF button ① (After 20 minutes the machine will stop automatically.). After a short break, rinse starts automatically.

The Special cycle "Cold Water Rinse" (GXHK model) is indicated on the display by the letters "COL".

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



5. SWITCH-OFF AND CLEANING THE MACHINE



5.1. SWITCH-OFF

- Close the door.
- Push and hold (approx. 3 seconds) the ON/OFF button ① until the first segment of the blue illuminated button goes out.

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

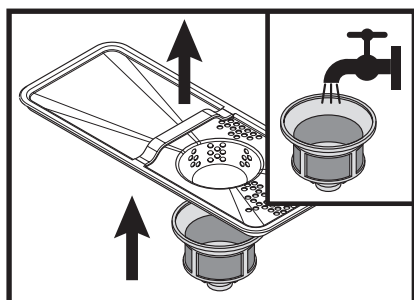
- When the ON/OFF button has gone out completely:
 - Switch off main switch or unplug and close the shut-off valve!

NOTE: If no button is pressed for 6 hours, the machine switches off automatically without draining.

5.2. CLEANING (DAILY)

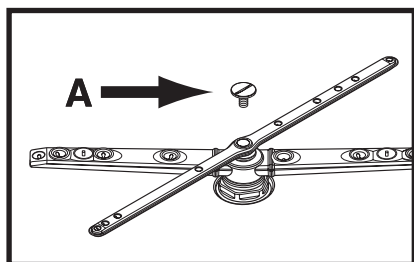


Attention:
To clean the machine do not use any chloric, acidic or abrasive products and no metallic brushes.



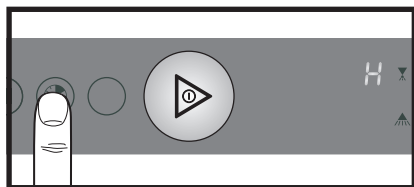
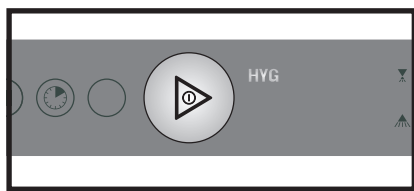
- Open the door, take out and clean strainers. Please ensure that food debris does not enter pump intake!
- Flush the fine strainer.
- Clean interior of the machine.
- Put strainers back into place.
- Leave the door open for ventilation.

5.3. CLEANING (WEEKLY)



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

5.4. HYGIENE CLEANING

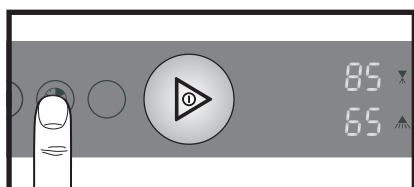


After reaching a pre-set number of wash cycles the Hygiene indicator ⑨ lights up to indicate that an automatic hygiene cleaning of the machine interior should be carried out.

- Before end of operation: Take out rack and put one HOBART-Hygiene-Cleaner Tab into the machine interior.
- Close the door.
- Push **OFF** button ② repeatedly until the upper display shows "H".
- Push **ON/OFF** button ①.

As the Hygiene Program runs (duration 10 minutes), the green illuminated segments go out one after the other. At the end of the cycle, the machine switches off automatically.

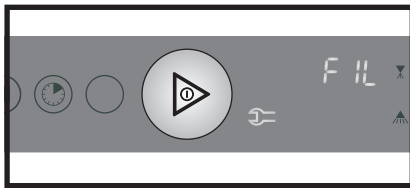
NOTE: If necessary, hygiene cleaning should be carried out before reaching the pre-set number of wash cycles. With regular use, the machine interior will remain free of food debris and deposits.



- 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.



According to the issue, a code will be shown in the upper display ⑥ (see table below).

Die ON/OFF-Button ① flashes GREEN/RED alternately – restricted operation may be possible:

CODE	POSSIBLE CAUSE	MEASURES
AL	Drain hose is blocked.	Restart drain cycle. Clean drain hose if necessary.
HEI	Rinse booster heating defective.	Call the after sales service.
d 0	OPTION: External demineralisation cartridge depleted.	Replace cartridge.
SAL	 Salt deficiency (only with built-in softener)	Refill the softener with granular regeneration salt.

Die ON/OFF-Button ① illuminates RED and the Service indicator ⑩ illuminates:

CODE	POSSIBLE CAUSE	MEASURES
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.	Restart drain cycle. Clean drain hose if necessary.
	Fill system or drain system defective.	Call the after sales service.
F01 - -1/- -2	Temperature probe "rinse booster" defective.	Call the after sales service.
F02 - -1/- -2	Temperature probe "tank" defective.	Call the after sales service.
F03 - -1/- -2	Pressure transmitter "rinse booster" defective.	Call the after sales service.
F04 - -1/- -2	Pressure transmitter "tank" defective.	Call the after sales service.
F04 - -3/- -4	Pressure transmitter tank fault	1. Drain machine and refill. 2. Call the after sales service.
ERR	Communication fault.	Call the after sales service.

OTHER INDICATIONS

CODE	POSSIBLE CAUSE	MEASURES
CH1	Detergent deficiency.	Replace container, respectively, fill optional integrated container. After container replacement, it can take several wash cycles until the indicator goes out. If required, hose priming should be carried out according to section 3.4.
CH2	Rinse aid deficiency.	

8. SETTINGS AND COUNTER VALUES



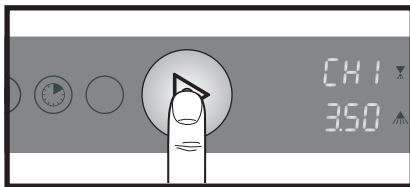
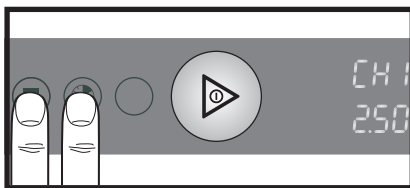
Attention:
The machine has to be switched off.

- Open the door.

If the door is closed, or if no button is pressed for 15 seconds, the indicator automatically switches off and the new settings will be saved.

Therefore, the setting procedure described below can be interrupted at any time.

8.1. ADJUSTMENT OF DETERGENT DOSAGE QUANTITY



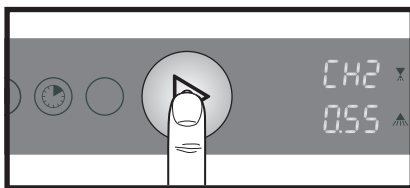
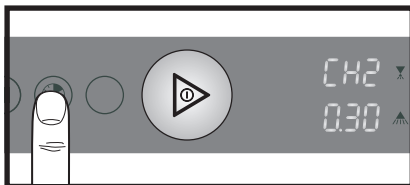
- Push Stop button ④ and Program button ② simultaneously until

- the upper display ⑥ shows “CH1” and
- the lower display ⑤ shows e.g. “2.50” pre-adjusted value of the detergent dosage = 2.50 g/l.

- To adjust the detergent dosage, push the ON/OFF button ① repeatedly, until the desired value (0.00 - 9.50 g/l) appears.

NOTE: Adjustment should be done in accordance with chemical supplier's recommendations.

8.2. ADJUSTMENT OF RINSE AID DOSAGE QUANTITY



- Push Program button ② again.

- The upper display ⑥ shows “CH2”.
- The lower display ⑤ shows E.g.: “0.30” = pre-adjusted value of the rinse aid dosage time = 0.30 g/l.

- To adjust the rinse aid dosage, push the ON/OFF button ① repeatedly, until the desired value (0.00 - 2.00 g/l) appears.

NOTE: Adjustment should be done in accordance with chemical supplier's recommendations.

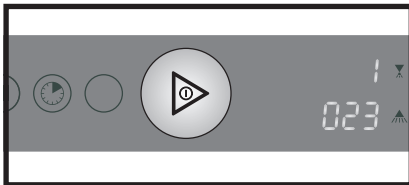
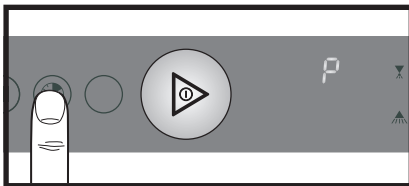
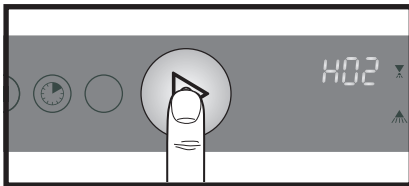
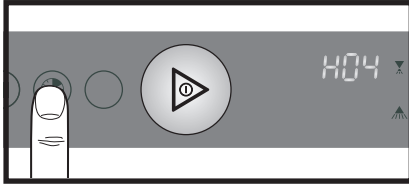
8.3. ADJUSTMENT OF WATER HARDNESS

With optional softener only.

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

- Push Program button ② again until
 - the upper display ⑥ shows "H04".

- Push ON/OFF button ① repeatedly until the desired setting (H01-H04) appears.
 - H01 = up to 9°eh
 - H02 = 10 to 18°eh
 - H03 = 19 to 26°eh
 - H04 = 27 to 38°eh



8.4. CYCLE COUNTER

- Push Program button ② again.
 - The display will show alternately "P" or the number of wash cycles.
 - The lower display ⑤ shows the values from 1 to 999.

Thousands will be shown in the upper display ⑥.

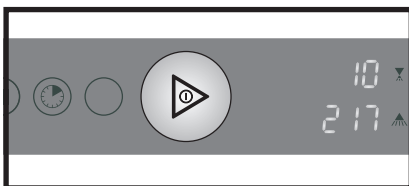
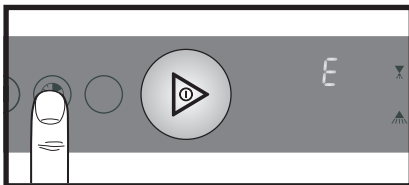
- Example: 1023 wash cycles
- Max. Indication: 999 999

8.5. WATER CONSUMPTION COUNTER

- Push Program button ② again.
 - The display will show alternately "E" or the water consumption (liter).
 - The lower display ⑤ shows the values from 1 to 999.

Thousands will be shown in the upper display ⑥.

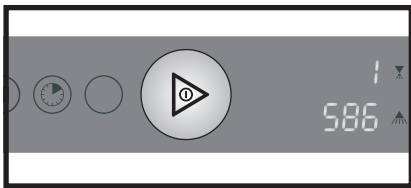
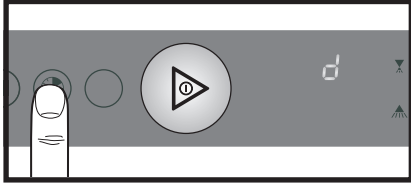
- Example: 10217 liter
- Max. Indication: 999 999



8. SETTINGS AND COUNTER VALUES

8.6. REMAINING WATER QUANTITY COUNTER FOR EXTERNAL WATER TREATMENT

NOTE: 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)
 - The lower display ⑤ shows values from 1 to 999.

Thousands will be shown in the upper display ⑥.

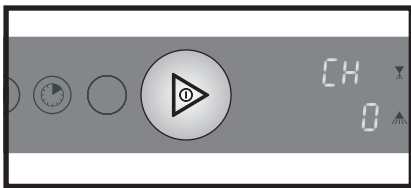
- Example: 1586 liter
- Max. Indication: 999 999

To reset the counter to the pre-set value, push and hold (3 seconds) the ON/OFF button ①.

8.7. ACTIVATION/DEACTIVATION OF CHEMICAL SENSOR

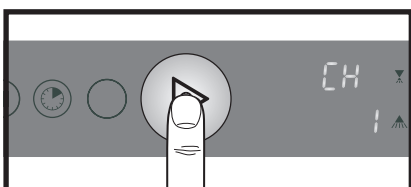
Default setting:

- Chemical sensor deactivated
 - The upper display ⑥ shows „CH“,
 - The lower display ⑤ shows „0“.



Activating the chemical sensor:

- Push ON/OFF button ① repeatedly until the desired setting appears.
 - The upper display ⑥ shows „CH“,
 - The lower display ⑤ shows:
 - „0“ = sensor deactivated
 - „1“ = sensor activated for detergent and rinse aid
 - „2“ = sensor activated for detergent
 - „3“ = sensor activated for rinse aid

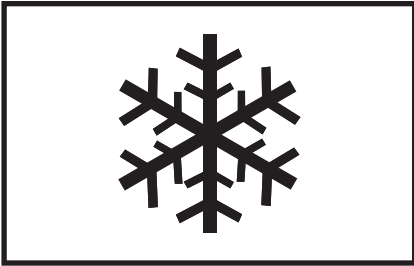


8.8. TERMINATION OF SETTING MODE/COUNTER DISPLAY

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



This should be carried out by HOBART service personnel!



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

Reset for operation according to section 3.



In order to maintain the warranty, as well as a permanently safe, efficient, and trouble-free operation of the machine, the required maintenance must be carried out by authorized service technicians.

For this reason, we recommend the conclusion of an inspection and maintenance contract which assures qualified support by specially trained service technicians according to a time scheduled based on the operating conditions.

11.1. POOR WASH RESULT

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
Dishes 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.
	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.
Dishes or glasses do not dry properly.	Rinse aid concentration too low.	Increase concentration (see instructions).
	Dishes still greasy.	Detergent concentration too low: increase (see instructions). Check if detergent is appropriate. If not, choose a stronger one. Drain soiled water and refill machine. Check pre-scrapping procedure.
	Rack is not suitable for type of dishes (sloping).	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Dishes stay too long in the machine at the end of program.	Take out dishes as soon as cycle is completed to enable them to dry.

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
Stripes and stains on dishes or 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 for glasses is max. 100 µS/cm and for dishes max. 400 µS/cm.
	Rack is not suitable for type of dishes (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)
	Machines with softener: wrong type of salt used.	Use only granular regeneration salt.

11.2. OTHER MALFUNCTIONS

TYPE OF FAILURE	POSSIBLE CAUSE	REMEDY
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 dish or 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.

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