

Operation Instructions for washers HS-6 / EH INTELI CONTROL

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EN
INTELI
control
HS-6 / EH

Models	From serial #
HS-6013	2,110,001
HS-6017	2,120,001
HS-6023	2,140,001
HS-6024	2,390,001
HS-6028	2,520,000
HS-6032	2,450,001
HS-6040	2,150,001
HS-6057	2,160,001
HS-6085	2,490,000
HS-6110	2,170,001
EH030	1,460,021
EH040	1,470,060
EH055	1,490,001
EH060	2,400,001
EH070	2,520,000
EH080	2,460,001
EH090	1,500,001
EH130	1,510,001
EH190	2,490,000
EH255	1,520,001

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IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire, electric shock or injury to persons when using the machine, follow basic precautions, including the following:

1. **READ** all instructions before using the machine, and **KEEP** them in a prominent location for customer use.
2. Do not wash articles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, dry cleaning solvents, and other flammable or explosive substances as they **GIVE OFF VAPOURS** that could ignite or explode.
3. **DO NOT ADD** petrol, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapours that could ignite or explode.
4. Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. **HYDROGEN GAS IS EXPLOSIVE**. If the hot water system has not been used for such a period, before using the washing machine, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. As the gas is flammable, do not smoke or use an open flame during this time.
5. Do not allow children to play on or in the washer. **CLOSE SUPERVISION** of children is necessary when the washer is used near children.
6. Before the washer is removed from service or discarded, **REMOVE** the door.
7. **DO NOT TRY TO OPEN THE WASHER'S DOOR** if the drum is moving.
8. Do not install or store the washer where it will be exposed to the **WEATHER**.
9. **DO NOT TAMPER** with controls.
10. **DO NOT REPAIR OR REPLACE** any part of the washer or attempt any servicing, unless this is specifically recommended in the user instructions or in published user-repair instructions that you understand and have the skills to carry out.
11. **DO NOT REMOVE** any safety device **OR MODIFY OR MANIPULATE** any component or part of the machine. **DO NOT INSTALL** any extra elements inside the machine.
12. Any part of the machine that is replaced may affect its operation and the user's safety. For this reason, **USE ONLY THE MANUFACTURER'S ORIGINAL SPARE PARTS**. Failure to comply with this warning can cause serious accidents, malfunctions and the loss of the machine's guarantee and certifications.
13. Failure to comply with or observe the legislation and regulations covering health, safety and prevention of risks in the workplace applicable in the country where the machine has been installed, or actions contrary to common sense, **MAY CAUSE** personal injury or even death to the user.
14. The machine should only be used for those purposes established by the manufacturer and following the instructions for use set out in the instruction manuals. Any use not specified in the manuals may lead to additional risks. Pay special attention to information headed DANGER, WARNING and PRECAUTION.
15. The room where the machine is located **MUST** comply with the environmental conditions (air venting, temperature, humidity, etc.) specified in the technical specifications table. **NEVER INSTALL THE MACHINE IN ENVIRONMENTS** where it will be splashed with water or where there is a very high level of humidity in the atmosphere.
16. Clearly mark out danger areas and **PREVENT** public access to them when the machine is operating. Do not expose yourself to drainage areas or to vapour, condensation, combustion gas or ventilation outlets.
17. All machines working at temperatures present a fire risk. Take **EXTREME** care: **CLEAN** the machine of inflammable materials: lint, fluff, soot, etc. on a regular basis. **KEEP** the environment free of combustible materials and **PLACE** suitable extinguishers near the machine in easily accessible places.

18. All installations required for the proper operation of the machine **MUST** be carried out by a duly accredited Registered Installation Contractors (see Note 3), in compliance with the legal regulations applicable in the country of use.
19. The machine **MUST** be commissioned by the Authorised Technical Service in the presence of the Customer Technical Service (see Notes 2 and 4) or a responsible person appointed by the customer.
20. This machine **MUST BE USED** by personnel who are properly trained in how to use it (see Note 1).
21. **NEVER START THE MACHINE, OR USE IT, IF THE FOLLOWING ARE ABSENT, INCORRECTLY POSITIONED OR MALFUNCTIONING:**
 - COVERS (GUARDS) AND PROTECTIVE DEVICES
 - SAFETY DEVICES
 - CONTROL ELEMENTS
22. **DO NOT USE** the machine if you notice any abnormal noise or smell or if you suspect that the machine is faulty or defective.
23. The inspections required by the regulations applicable to the country where the machine is being used must be carried out. It is advisable to request an overall, detailed service of the machine by the Authorised Technical Service every year (see Note 2).

24.  **WARNING!**
INSPECTION, MAINTENANCE OR REPAIR OPERATIONS

Before carrying out any action on the machine:

- Close and mechanically lock the manual fluid supply valves.
- Check that the bath has **COMPLETELY** drained, that no part of the machine is at a high temperature and that no circuits or containers are under pressure.
- Check that all the machine's moving parts are halted or in their rest position. Securely fix all the machine's moving parts that could cause an accident.

To reduce the risk of electric shock:

- **COMPLETELY** disconnect the machine from the mains power supply and take steps to prevent accidental reconnection. **TURNING OFF THE ON SWITCH OR PRESSING THE STOP KEY IS NOT ENOUGH.**
- Disconnect the electrical connection of any circuit external to the machine; for example external dosing equipment, central vending units, linen feeders or folders, etc. The electrical connection for these circuits is independent of the machine's electrical connection.
- To prevent the risk of electrical discharge caused by residual voltage, wait at least five minutes before removing any guard or cover from the machine.

Failure to follow these warnings may cause a serious accident.

25. **CONTACT** the Installation Contractors or the Authorised Technical Service (see Notes 3 and 2) in the event of any doubt, anomaly or problem.
26. It is advisable to copy and enlarge the **SAFETY INSTRUCTIONS** and place them in a visible place in the laundry.
27. **THE MANUFACTURER ACCEPTS NO RESPONSIBILITY IF THESE SAFETY INSTRUCTIONS AND ALL THE INFORMATION IN THE CORRESPONDING MANUALS ARE NOT FOLLOWED.**

SAVE THIS INSTRUCTIONS.

SYMBOLS USED IN MACHINE LABELLING

	Electrical risk Protective guard for elements carrying an electric current.		High temperature risk Handle with caution. Use adequate protection.
	Mechanical risk Protective guard for moving parts.		Risk of inhaling harmful or irritant vapours Keep the doors/covers closed. Use adequate protection.
	Flame risk (only on some machines) Protective guard for flame.		Risk of falling Use proper access and safety methods.
	Access prohibited		Refer to instruction manual/booklet

SYMBOLS USED IN THIS MANUAL

	Symbol used to highlight a possible HAZARD, WARNING or NOTE.		This symbol is used to emphasise a particular explanation.
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TRANSLATION OF THE ORIGINAL MANUAL

NOTES:

- (1) **Trained personnel** refers to those who have read and understood the Instruction Manual, who have been trained by the Authorised Technical Service or by a representative of the customer present at the start-up who is familiar with the operation of the machine and is authorised to use it.
- (2) **Authorised Technical Service (ATS)** is one that has been recognised under contract and properly trained by the manufacturer.
- (3) **Registered Installation Contractors** are those officially approved by the government of the country the machine is to be installed.
- (4) **Customer Technical Service (CTS)** is one that has been authorised by the customer and which has sufficient basic technical knowledge to correctly interpret and carry out the actions attributed to it in this manual. The manufacturer strongly recommends that the customer should have its own technical service, particularly in laundries with large-scale machinery installations.

IMPORTANT INSTRUCTIONS FOR USE AND PRESERVATION

1. **INTENDED USE OF THE MACHINE AND INAPPROPRIATE USE.** This machine is designed and intended solely for processing fabrics washed in a water bath or that have been previously treated in these conditions. Any use other than this is contraindicated without written authorisation from the manufacturer.
2. Maximum output, performance, reliability and durability are achieved when the machine is installed, used and maintained correctly, and if a comprehensive and detailed service is carried out annually by the Authorised Technical Service.
3. The machine's **MATERIALS** that are in direct contact with the chemical products involved in treating the linen are detailed in the manual.
4. The user must consult the supplier of the chemical products **USED THROUGHOUT THE WHOLE LINEN TREATMENT PROCESS** regarding the risks associated with its products and their combination. It must be confirmed that the products are not flammable, **ARE MUTUALLY COMPATIBLE**, and that they will not cause oxidation or deterioration of the machine or any injury to the people using them.
It should be noted that, under certain conditions of use, hypochlorite (bleach) generates chlorine gas. Chlorine is a corrosive, oxidising substance which, at high concentrations and temperatures, damages stainless steel and elastomers.
This same effect can also be caused by other strongly oxidising agents, including ozone.
5. **FOLLOW** the treatment recommendations for each fabric indicated by its manufacturer. **THE MANUFACTURER OF THE MACHINE accepts no responsibility for damage caused by inappropriate treatment of a fabric.**
6. Periodically **CLEAN** the outside of the machine to prevent damage to its metal parts. This will improve safety and extend its life. To clean the machine, use water and detergent. Rinse with a damp cloth and then dry off. To remove accumulated lint, use a suitable vacuum cleaner. **Water jet or pressurised steam cleaning is prohibited.**
7. **NEVER** use aggressive products to clean the machine or the premises. There are products on the market that give off highly corrosive vapours.
8. If the machine is left idle for long periods of time, it must be thoroughly **PROTECTED** from humidity and temperature variations.
9. Faults arising from improper machine operation may **VOID THE WARRANTY.**
10. When asking for information on your machine, **MENTION** the model and serial number. This information can be found on the specification nameplate incorporated into the machine.

With every machine, the manufacturer provides all the necessary technical information and documents required for its use. **KEEP IT IN GOOD CONDITION.**

1. DESCRIPTION

WASHER EXTRACTOR DESIGNED TO WASH OR TREAT FABRIC IN A WATER BATH.

1.1. Characteristics

Construction characteristics:

- A washing machine capable of spinning at speeds of over 350G and up to 400G, without having to be bolted down. The design of its suspension system: multi-directional springs and shock absorbers to cushion up to 95% of the vibrations produced during the spin cycle.
- Stainless steel inner and outer drum. The openings in the drum blades promote the uniform distribution of bath water and improve the yield of the washer both during the wash and the rinse cycles.
- The drum rotation is produced by an asynchronous motor of alternating current controlled by inverter.
- Hot and cold water connections with a safety mechanism to prevent contaminating by back-flowing into the general potable water system.
- Large capacity drain valve.
- Water inlets and all product dispensers done using a common collector with an anti-siphon mechanism.
- Option for heating the bath using electric heaters or steam injection.

Functional characteristics:

- Operation control of the washer by microprocessor.
- Operation of the washer adaptable to the possibilities of the installation and the needs of the user.
- Temperature control done by hot and cold water mixer in accordance with the programmed temperature and the activation of the heating system. Precision of +/- 2°C (+/- 3.5°F).
- Level control done with an electronic pressure transmitter.
- Series communication between the washer microprocessor and the inverter control of the motor. This communication takes advantage of all the features offered by inverter technology which results in a significant energy savings and an optimal management of the spin cycle. This in turn implies a significant reduction in noise, vibration and wear on the washer components.
- Washing programs: availability of twenty pre-programmed programs.
- Seventy-nine free programs, programmable by the user.
- Programming, copying, modifying and erasing menus. These menus are viewed in graphic mode. This type of viewing facilitates understanding the different operations.
- Memory card that allows storing programs from the washing machine memory and later introducing them into other machines. Thanks to its programming system, the programs programmed into a washing machine with INTELI control are usable in any washing machine with the same control.
- Creating programs at the machine itself or through a PC using the INTELI MANAGER TOOL (IMT) developed by Girbau.
- Multiple controls that assure the safe use of the washer.

1.2. Protection, safety and control elements

Fixed guards: Covers. Protect the user from the contact with dangerous points and accidental machine spattering.

Moving guards:

Dispenser cover.

TILT models. Covers allowing tilting movements of the washer.

Door with interlock microswitch, door lock and delayed opening.

Unbalance microswitch. Additional electromechanical safety to protect against unbalance of drum load during the spin cycle.

Overflow. When the bath level is exceeded by electrovalve failure, the bath is drained through the drain outlet.

Thermal fuse to protect the electric heaters.

Electric circuit safety measures: To protect the electric circuit against external malfunctions and prevent any malfunctioning causing damage to the operator.

Sound alarm: Among other functions, the acoustic signal warns of possible alarms.

1.3. Safety functions

Bath level control. Allows selecting different bath levels during the wash cycle and controls the overflow safety and minimum level of connection to the heating system and door opening.

Temperature control. Allows selecting the bath temperature during the wash cycle and controls the bath insufficient temperature and overheat safeties.

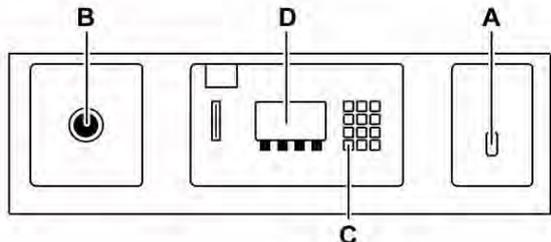
Unbalance control. Repositioning of the washer's load if the inverter power control detects unbalance.

Door opening safety. Allows the opening of the door in safety conditions.

2. CONTROL PANEL

The **INTELI** control offers different user intervention devices upon the washing machine.

2.1. Connection and stop devices



General switch. Switch disconnecter located on the rear part of the washing machine. Totally disconnects the electric supply from the machine.

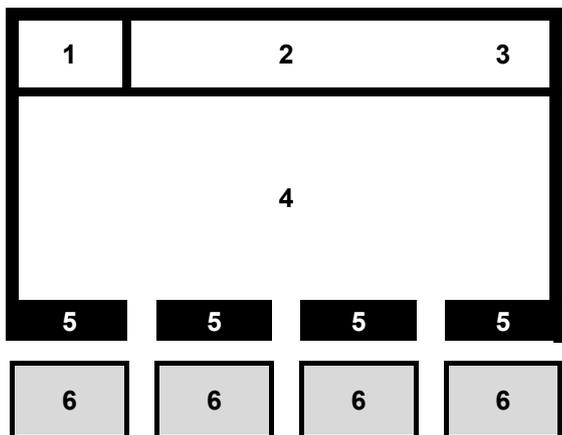
ON switch (A): Switch installed on the front piece of the washing machine.

Emergency stop (B): (only on washing machines with capacity over 150dm³). Red button with lock located in a visible and accessible place on the washing machine.

STOP key (C): key on the numerical keyboard.

2.2. Screen

Allows viewing the different operations that the washing machine and/or the user execute by means of easily understandable graphic icons.

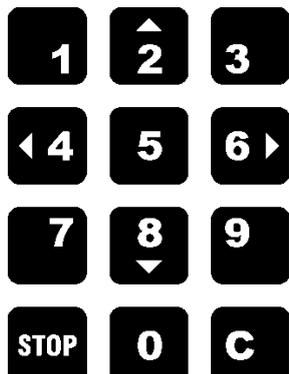


Screen (D) in graphic mode. In graphic visualization, the screen is divided into different parts.

- 1) Function icon
- 2) Program and phase numbers
- 3) System time / Time remaining in the program
- 4) Central screen
- 5) Function of the multi-function keys
- 6) Multi-function keyboard

Screen in text mode. Used in the **CONFIGURATION** mode menus and the **TECHNICAL ASSISTANCE** area. The screen displays messages written in different languages.

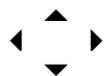
2.3. Keyboards



Numerical keyboard: Used for selecting programs, introducing values...

0 ... 9

Numerical keys: Allows introducing numerical values for selecting programs, programming, configuration, access codes, etc.



The keys with vertical and horizontal arrow symbols allow inserting text.

C

C key: accesses the delayed start of a program and erases written characters.

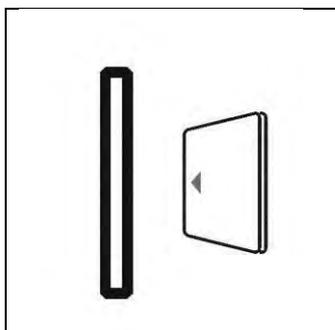
STOP

STOP key: cancels a wash cycle and other functions depending on the one currently in use.



Multi-function keyboard. Made up of four keys (T) that execute different orders depending on what is currently in use. The function of each key is displayed on the graphic screen.

2.4. Card reader



The INTELI control allows storing wash programs on a memory card and copying them onto other washing machines that use the same control. The card has a maximum capacity of 25 programs. Depending on the length of the program, this quantity can be reduced.

3. MAIN MENU. INTERVENTION MODES

The INTELI control is divided into **THREE MAJOR OPERATION AREAS** or user **INTERVENTION MODES**. Each of the three modes is accessed through the **MAIN MENU** made up of three icons identifying each of the modes.



PROGRAM EXECUTION MODE

Covers the functions or interventions destined to:

- Selecting and executing the different wash programs
- Programming the delayed start of a program
- Accessing information about the different functions that the washing machine is executing
- Small specific modifications of the program being executed

All the information that appears on the screen during the execution of a program is in graphic mode.

Information regarding this intervention mode: chapter 4 in this manual.



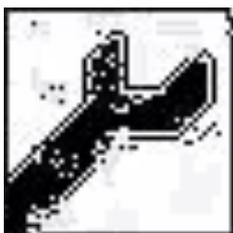
PROGRAMMING MODE

Covers the functions or interventions destined to:

- Knowing the content of the PRE-SET program in the washing machine's memory
- Creating a new wash program, whether it is a new program or copying an already existent program
- Eliminating programs from the washing machine's memory
- Using the resources that the card holds

All the information that appears on the screen in the program management menu is in graphic mode.

Information regarding this intervention mode: chapter 5 and 9 in this manual.



SYSTEM TOOLS MODE

This area offers specific menus for **CONFIGURING THE SYSTEM**.

Among other features:

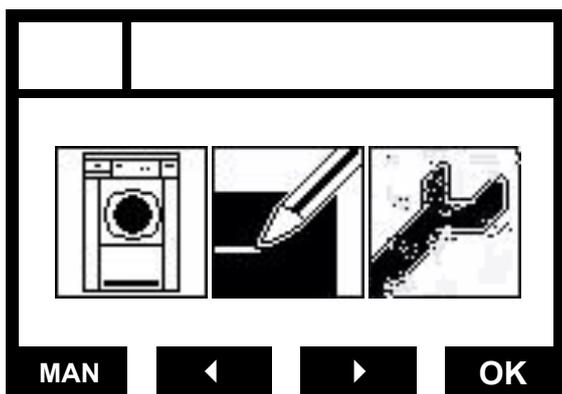
- Configuring operation parameters
- Setting the clock of the system
- Controlling security codes

It also provides a lot of information about the characteristics and life of the washing machine.

The information in this area is in text mode.

Information regarding this intervention mode: chapter 10 in this manual.

4. EXECUTING PROGRAMS



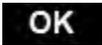
4.1. Starting the washing machine. Main menu

- Open the manual water inlet valves.
- Open the manual steam inlet valves (steam heated washing machines).
- Connect the general switch of the washing machine. Activate the **ON** switch: position **I**.
- The home page will appear and then, the **MAIN MENU**.

4.2. Loading the washing machine. Selecting and starting a wash program



Select the icon of the program to be executed. Use the  and  keys on the multi-function keyboard.

Confirm with the  key.

Possible icons :



Door closed.

Before starting a wash program, opening the washing machine door is imperative.



Group the fabrics to be washed in homogeneous loads, trying to reach the nominal value of the load. Empty all pockets, fasten buttons, close zippers and remove accessories that are not machine-washable. It is not recommend mixing whites with other colours.

Open the door and load the machine. The LED of washer loading and program selection blinks.

Washer load recommendations according to the type of fabric to wash:

- Cotton fabrics: nominal load
- Synthetic fabrics: between 80% & 90% nominal load
- Delicate fabrics: between 35% & 50% nominal load

Do not overload the machine; the door must be able to close easily.

While door is open the icon indicating door open is displayed on the screen.

Health and safety instructions for loading and unloading the washer



In models with a smaller capacity, installing washing machines on raised bases, in accordance with the instructions set out in the corresponding installation manuals, aids in loading and unloading the machine by avoiding the need to adopt awkward positions.

The **TILT SYSTEM** and **EASY LOAD** options aid the loading and unloading operations.

Use linen collecting and transporting containers that are of a suitable height for the washer size.

Consult the sizes of the washing machine in the corresponding installation manual.

Take care not to overload the machine. Overloading the washer leads to excessive strain when processing the linen.

Certain chemical products that are used in the washing process are toxic. Handle them with care and wear appropriate protection.

Follow the legislation and regulations for Health and Safety in the Workplace in force in the country where the machine has been installed.



Close the door. The last five executed programs are displayed on the screen.

Select program desired. Use either the multi-function keys or the numerical keyboard.

To start a wash cycle, press the  key on the multi-function keyboard.

4.3. Information about functions. Description of the screens

During the course of the wash program, a series of informative screens about functions that the washing machine is executing will appear on the screen. Information about functions is displayed through icons. To know the meaning of each icon, consult Programming a program phase (section 7.3). Below, the most frequent screens and their meaning are shown.



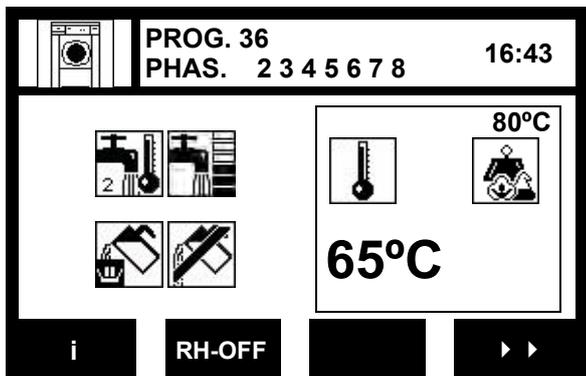
Load selection screen

Information about:

- The linen load fed in.

The default displayed is the machine's nominal linen capacity load ratio **1:10**. There is the possibility of working in a **1:8** load ratio, and it is therefore possible to feed in 20% more than the nominal load.

This function is only available if **LOAD DETECTION** is activated in Manual mode or in Loading cells mode (Section 10.2.1 in this manual).



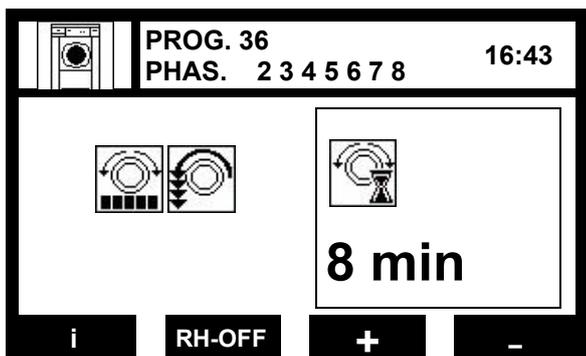
Bath management screen

Information about:

- Type of water
- Bath level
- Dosings
- Programmed temperature (example: 80 °C)
- Bath temperature (example 65 °C)
- Load auto-detection

(Consult the meaning of icons in sections 7.3.1...7.3.5)

Function of the multi-function keyboard: refer to section 2.3.

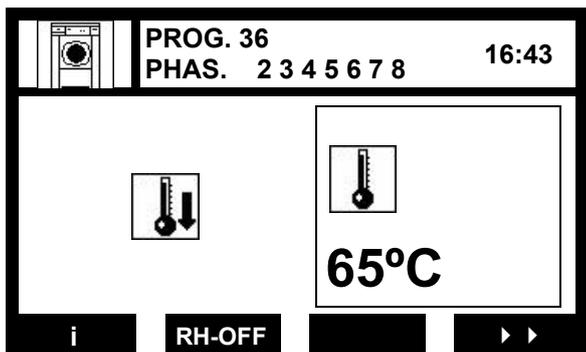


Rotation screen

Information about:

- Type of rotation
- Drum speed
- Rotation time

(Consult the meaning of icons in sections 7.3.9...7.3.11)



Progressive cooling screen

Information about:

- Temperature of the bath

(Consult the meaning of icons in sections 7.3.12)



Bath drainage screen

Information about:

- Drum speed during the bath drainage cycle
- Spin time
- Buzzer

(Consult the meaning of icons in sections 7.3.14...7.3.16)

MODIFYING THE DURATION OF A PROGRAM

Once a program is started, the user can modify the rotation and/or spin time. This intervention will always be possible if the time icon associated with the rotation or spin function appears.

Advancing the program and accessing in order to execute the functions on the following screen is also possible. Intervention keys on the multi-function keyboard.

-  Increase the rotation or spin times
-  Decrease the rotation or spin times
-  Key for advancing to the following function screen

4.4. INFO screen



Screen that gives diverse information to the user.

This screen is accessed by pressing the key  on the multi-function keyboard. This screen is exited by pressing the  key again.

Content of information:

- **Weight of the load (% , kg or lb):** (only for machines with LOAD DETECTION option enabled in Menu 10.2.1. General operation parameters).
- **Bath level:** Column of bath detected by pressure switch.
- **Bath level used (%):** (Only on machines with the PROPORTIONAL BATH LEVEL option activated in Menu 10.2.1. General operation parameters). This reports the percentage of the bath level used to adapt to the reduction in linen load. This information may vary in each phase.
- **Internal temperature:** Value in centigrade or Fahrenheit of the bath depending on the washing machine configuration.
- **Programmed temperature:** Value in centigrade or Fahrenheit according to the washing machine configuration.
- **Unbalance:** Level of unbalance detected (visible during spinning).
- **Motor power (%):** Level of power absorbed by the motor.
- **Clock:** Local time (see Section 10.3)

4.5. Manual modification

MANUAL MODIFICATION is understood as meaning the modification of the value of a function of the phase being run.

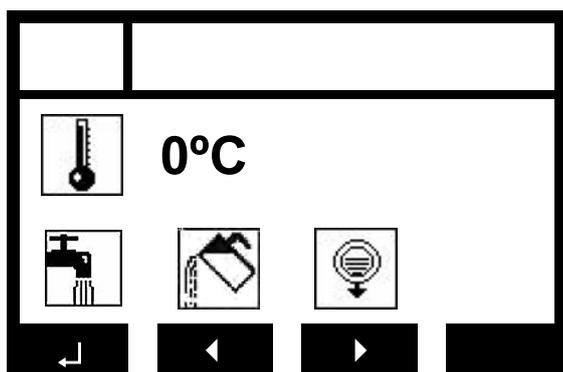
This option allows the user to intervene immediately in the phase being run, modifying the values of the water input, dosing, bath draining and temperature functions programmed. For example, to increase the temperature of a wash phase, increase the level of rinse water, clean the dispenser compartment, etc.

The modified values will return to their original state at the end of the program.

This option is available on models with microprocessor Version 21D/21F or later.

In no case will it be possible to access the manual modification of the phase if the program is in:

- the process of water input and has not yet reached the programmed bath level.
- a draining or spinning process.



Press **i** and then **MAN** to access the MANUAL modification screen.

Use the multifunction keypad's   keys to select the desired function.



Activate the function selected using the numerical keypad.

To activate the functions of water input, dosing and draining, keep the key on the numerical keypad held down.

Manual modification functions



Water input. Press the 1 key to activate the A1 cold water input. Press the 2 key to activate the A2 hot water input.

ATTENTION! The A2 hot water input comes directly from the mains supply, without mixing. The temperature of the water may be high.



Internal/external dosing.

Selecting this function will activate the **MOD** option on the screen allowing the user to change the type of dosing.

Activate the dosing required using the numerical keypad.



In external dosings it is only possible to activate Signals d1 to d9.



Draining.

Press the 1 key to open the washing machine drain.



Temperature (machines with heating only).

Enter the temperature value desired using the numerical keypad.

Confirm the temperature programmed by pressing the  key.

(Consult the meaning of the icons in Sections 7.3.1, 7.3.3, 7.3.5, 7.3.14)



ATTENTION!! Manual modification functions may vary depending on the way the washer is configured.

4.6. Crease-guard stop. RINSE HOLD function

This function allows interrupting the program from advancing before the final spin cycle of the program starts. During the interruption time, the washing machine stops the movement of the drum, except for short rotation movements at very large intervals, keeping the drain closed and the bath inside.

Possible interventions:

The function is activated by the keys on the multi-function keyboard.

- To activate the function, press the **RH-OFF** key **FOR SOME SECONDS**. The key message will change to **RH-ON**.
- Once program interruption is activated, the **CONT** key will blink. Press this key in order to resume the program.
- To deactivate the function before the program is interrupted, press the **RH-ON** key. The key message will change to **RH-OFF**.

4.7. Stop and door opening modes

Description of the washing machine's different stop modes.

End of cycle. Stopping the washing machine functions after the wash cycle ends. The washing machine control circuit remains in operation.

Door opening. After the bath has been drained and the drum rotation has ended, the door lock is released, allowing the door to open.

External end-of-cycle signal. It is possible to use one of the machine's control outputs to issue an end of program or an alarm signal (consult the authorised technical service for connecting this device).

This signal device will remain permanently connected to the end of cycle, providing the door is unlocked.

If an alarm is triggered, this signal device will come on intermittently.

Pressing the STOP key. This interrupts the wash cycle in operation and opens the washing machine's drain valve. The washing machine control circuit remains in operation.

Door opening. After the bath has been drained and the drum rotation has ended, the door lock is released, allowing the door to open.

NORMAL STOP switch. Switch installed on the front piece of the washing machine. Disconnect the washing machine control circuit. **DOES NOT DISCONNECT the entire electric circuit of the machine.**

Door opening:

Models with safety delay by means of thermal device (HS-6013, HS-6017, EH030 and EH040). After a maximum safety time (at times surpassing 3 minutes), the washing machine lock is unlocked.

Other models: Connect the **ON** switch again. After a maximum safety time (at times surpassing 3 minutes), the washing machine lock is unlocked. In **NORMAL STOP** condition the door is not unlocked.

Emergency stop. Red button with lock located in a visible and accessible place on the washing machine. It interrupts the operation of the washing machine. Once the switch is unlocked, the wash program resumes by pressing the **PROG** key of the multi-function keyboard; the **STOP** key cancels the program.

Door opening:

Pushing the **STOP** key and after a maximum safety time (at times surpassing 3 minutes), the washing machine lock is unlocked.

General stop. General switch located on the rear part of the washing machine. **TOTALLY** disconnects the electric supply of the machine. Suitable for maintenance interventions and in situations of prolonged machine stoppage.

Door opening:

Models with safety delay by means of thermal device (HS-6013, HS-6017, EH030 and EH040). After a maximum safety time (at times surpassing 3 minutes), the washing machine lock is unlocked.

Other models: In **GENERAL STOP** condition the door is not unlocked. If the washer's electrical supply cannot be connected, the safety lock will have to be manually unlocked. Refer to chapter 14.

**DOOR FITTED WITH SAFETY LOCK**

Never attempt to open the door if:

- the program has not finished.
- the drum has not come to a complete halt.
- the bath has not been completely evacuated.

4.8. Delayed start of a wash program

Allows the user to program the start time of a wash cycle.

- Programming the start time:
- Load the washing machine, close the door and select the wash program.
- Press the **C** key on the numerical keyboard. On the screen, the current time will appear. Format of 24 hours.
- The   keys of the multi-function keyboard allow selecting minutes / hours. The value being selected blinks.
- Program the desired starting time on the numerical keyboard and confirm with the **START** key. The start time remains on the screen.
- The **STOP** key or the  keys on the multi-function keyboard cancel the delayed start.

4.9. Unbalance control

Before starting spin, the electronic control of the washing machine checks the correct distribution of the load.

If it detects that the load is not well distributed and that can cause an excessive unbalance during the spin, a new positioning of the clothes will be carried out.

If there's still unbalance during the spin of the last phase, the washer can end the washing cycle reducing the spin speed.

Three unbalance levels, which cause different reactions in the washing machine, have been established.

The unbalance level detected is viewed on the INFO screen when the washing machine executes the spin cycle.

- **NO** unbalance..... : allows any spin cycle.
- **LOW** unbalance : allows medium speed spin cycles and high speed spin cycles after a certain number of attempts.
- **MEDIUM** unbalance .. : allows medium speed spin cycles; after a certain number of attempts, it reduces the speed of the high spin cycles.
- **HIGH** unbalance : does not allow the spin cycle.

As a safety feature, a microswitch monitors the movement of the washer suspended group. It is only activated in cases of extreme unbalance. This device prevents executing spin cycles.



To improve the efficiency of the spin of the washer it's advisable to:

- **Load the washing machine up to its nominal value, using the total capacity of the drum.**
- **Load the washer with homogeneous loads.**

4.10. Systems to aid loading and unloading

The systems to aid loading and unloading are options that apply to washing machine models HS-6040, HS-6057, HS-6085, HS-6110, EH090, EH130, EH190 and EH255.

The EASY LOAD SYSTEM. This system aids washer loading by running a filling sequence of hot or cold water and rotating the drum to compress the clothes, thereby enabling the machine's capacity to be used to the full.

This sequence takes around 90 seconds.

After the sequence has ended, the water introduced in will remain inside the machine, even when the door is opened, in order to be used in the wash cycle.

During the loading sequence, the bath level and rotation time cannot be altered.

To aid the unloading of the linen, a system of buttons allows the user to turn the drum with the door open.

To be able to use the **EASY LOAD** system, this option (Board **A10**) needs to be installed in the machine and activated in the **SETUP** menu.

The TILT SYSTEM. The TILT SYSTEM consists of a system of pneumatic actuators and an auxiliary electric control that allows the washer to be tilted forwards and backwards to assist loading and unloading while the door of the machine is open.

At the same time, by operating the corresponding control devices, the drum rotation can be started at a low speed.

With the machine in the loading position, a water inlet can be opened (cold or hot) to soak the dry linen and reduce its volume. The maximum water level allowed in this situation is limited by the program. The water used during this process will be kept inside the washer when a new cycle is started. To drain the water used during the loading process, turn the O/I switch on the machine's control panel off and on again.

To be able to use the **TILT SYSTEM** this option (Board **A10**) needs to be installed in the washer and activated in the **SETUP** menu, with the **TILT SYSTEM** parameter activated.

The TILT + EASY LOAD SYSTEM. This is a combination of the two systems mentioned above. During loading, the washer runs a filling sequence of hot or cold water and rotates the drum to compact the clothes and thus use the machine's capacity to the full. After the sequence has ended, the water introduced in will remain inside the machine, even when the door is opened, in order to be used in the wash cycle.

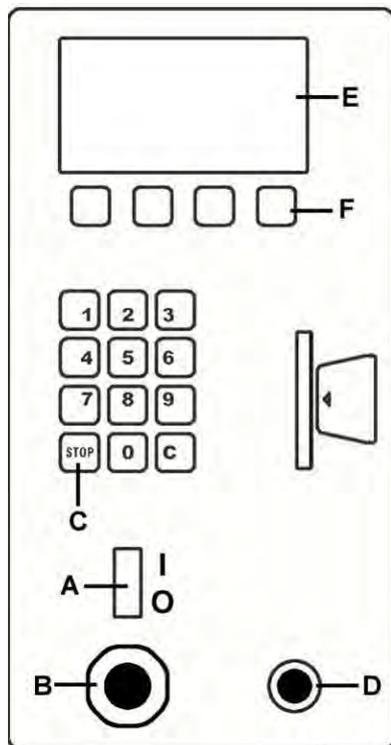
To aid unloading, it allows the user to tilt the machine forward and rotate the drum at a low speed by operating the corresponding control devices.

To be able to use the **TILT + EASY LOAD SYSTEM** control, this option (Board **A10**) needs to be installed in the washer and activated in the **SETUP** menu, with the **TILT SYSTEM** parameter activated and the **EASY LOAD** function activated in the **GENERAL PARAMETERS** menu.

The **TILT SYSTEM** and the **TILT + EASY LOAD SYSTEM** can be operated from the washer's control panel or using the remote control.

To be able to use the remote control function, this option (Board **A11**) needs to be installed in the washer and activated in the **SETUP** menu.

4.10.1. Control panel operation



Control panel devices

ON/OFF switch (A): Switch installed on the front piece of the washing machine.

Emergency stop (B): Red button with lock located in a visible and accessible place on the washing machine.

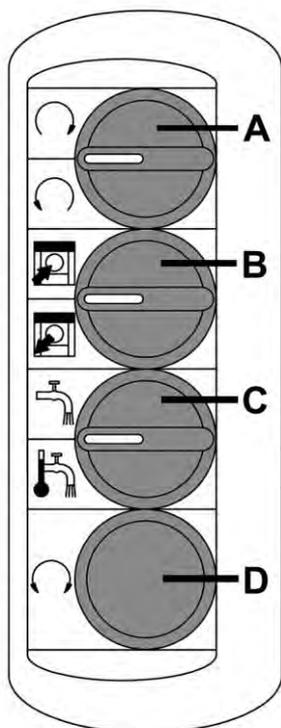
STOP key (C): key on the numerical keyboard.

DRUM ROTATION push-button (D): Activates the drum rotation options of the multi-function keyboard.

Graphics screen (E): It displays the different operations by means of graphic icons.

Multi-function keyboard (F): Allows the user to execute the options for the loading and unloading aid system.

4.10.2. Remote control operation



Remote control devices

ROTATION selector (A): Allows the user to select clockwise or anticlockwise drum rotation.

LOADING/UNLOADING selector (B): Allows the user to select the loading or unloading function.

WATER INPUT selector (C): Allows the user to select the input of hot or cold water during the loading process.

DRUM ROTATION button (D): Activates the remote control's drum rotation selector options.

**CAUTION!**

Because of the washer's tilting movement, there is crushing and shearing hazard between the tilting elements and the building elements.

To prevent them, please follow these instructions:

- Keep away from the rear of the washer during the tilt movement.
- The tilting movements have **JUST** been designed as a system to facilitate the washer's loading and unloading operations. **USING THE TILT SYSTEM FOR OTHER PURPOSES, AND ESPECIALLY FOR MAINTENANCE OPERATIONS, IS TOTALLY PROHIBITED. Should an individual become trapped, consult the instructions for freeing a trapped person set out in Chapter 14.**
- DO NOT USE the washer until all the guards are properly located and adjusted.
- In particular take special care to the tilt hinge guards.
- DO NOT MISLEAD NOR CANCEL THE POSITION DETECTORS located on the machine brackets.
- DO NOT MISLEAD NOR CANCEL THE PUSH-BUTTON that activate the drum's rotation with the door open.
- The pressure of the pneumatic circuit specific for tilting is controlled by a pressure regulator located on the electrical panel, with a fixed adjustment of 5 kg/cm² (71 PSI). DO NOT MODIFY NOR MANIPULATE THIS REGULATOR.
- **TO AVOID THE RISK OF DRAGGING, NOBODY MUST TOUCH THE LINEN WHILE ACTIVATING THE DRUM ROTATION DEVICE.**
- Because of the facility of rotating the drum with door open, during loading and unloading operations **NEVER MORE THAN ONE PERSON WILL OPERATE WITH THE MACHINE.**
- The washer is protected against possible incorrect handling, so machine must be in horizontal position before selecting a tilting movement or starting a wash program.
- To prevent accidents caused by being trapped between the door of the washing machine and the loading opening, before starting any tilting movement, the washing machine door must be secured using the hook located on the right-hand side of the door.
- For safety reasons, when using the tilting system **THE OPERATOR MUST KEEP THE WASHER DOOR IN SIGHT AT ALL TIMES.**
- If the loading process involves handling clothing soaked in hot water, hands should be protected with suitable gloves.

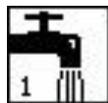
4.11. EASY LOAD system operation

The loading system must **ALWAYS BE STARTED WITH THE DOOR OPEN**. If the main menu window is displayed, press the **OK** key to go to the PROGRAM EXECUTION MODE.

The LOAD and UNLOAD options are displayed on the screen.

Starting the loading sequence

Load the washing machine. Press the **LOAD** key and close the door. Select the type of water. The water used in the Easy Load process is kept in the machine to be used in the washing cycle. Press the **OK** key.



Water inlet A1 (cold)



Water inlet A2 (hot and cold water depending on the washer connections)



Water inlet A3



Loading sequence time remaining.

Once the sequence has ended, the door can be opened without emptying the bath water.

Pressing the **STOP** key while the loading sequence is running halts this operation without emptying the bath water.

Pressing the **STOP** key a second time opens the drain valve and empties the bath water.

ATTENTION! The LOAD sequence cannot be repeated.



Access to the list of programs.

Select and start a washing program. It will start without losing the bath water.

Starting the unloading sequence

Open the washing machine door and press the **UNLOAD** key.

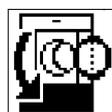


Clockwise rotation.

Press the **DRUM ROTATION** push-button on the control board to activate the multi-function keyboard. On the multi-function keyboard press the key which corresponds to the picture in the screen.

The drum will turn clockwise at low speed.

To select anti-clockwise turning, release and re-press the **DRUM ROTATION** button.



Anticlockwise rotation.

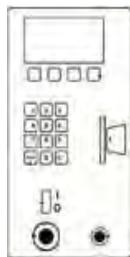
Press the **DRUM ROTATION** push-button on the control board to activate the multi-function keyboard. On the multi-function keyboard press the key which corresponds to the picture in the screen.

The drum will turn anticlockwise at low speed.

To select clockwise turning, release and re-press the **DRUM ROTATION** button.

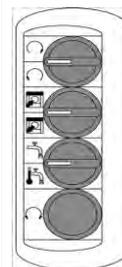
Close the door to access the list of programs or press the **STOP** button to activate the loading function.

4.12. TILT system operation

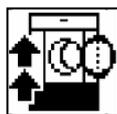


Operation using the control panel

Operation using the remote control



Open the door of the washing machine and secure it with the hook on the right-hand side. If the main menu window is displayed, press the **OK** key to go to the PROGRAM EXECUTION MODE. Run the desired option by pressing the corresponding key on the multifunction keyboard or by activating the selector on the remote control:



Loading position. The system tilts the washer backwards. When the final tilt position is reached, the auxiliary loading and unloading functions can be accessed.
Activate the function corresponding to the figure in order to tilt the washer into the loading position.



Unloading position. The system tilts the washer forwards. When the final tilt position is reached, the auxiliary loading and unloading functions can be accessed.
Activate the function corresponding to the figure in order to tilt the washer into the unloading position.



Loading and unloading functions



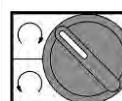
Cold water input. Only in loading position.
Activate the function corresponding to the figure. If the function is not deactivated, the valve closes automatically when it reaches a preset level.



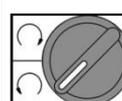
Water inlet A2 (hot and cold water depending on the washer connections). Only in loading position. Activate the function corresponding to the figure. If the function is not deactivated, the valve closes automatically when it reaches a preset level.



Clockwise rotation.
Press the **DRUM ROTATION** button.
Activate the function corresponding to the figure.
The drum will turn clockwise at low speed.
To select anti-clockwise turning, release and re-press the **DRUM ROTATION** button.

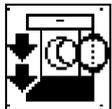


Anticlockwise rotation.
Press the **DRUM ROTATION** button.
Activate the function corresponding to the figure.
The drum will turn anticlockwise at low speed.
To select clockwise turning, release and re-press the **DRUM ROTATION** button.



End of TILT System operation

The **STOP** key on the alphanumeric keyboard closes the auxiliary loading and unloading functions screen and displays the screen for returning the washer to the horizontal position.



Return to horizontal position.

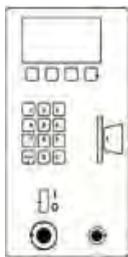
Activate the function corresponding to the figure for tilting the washer back to the horizontal position. Close the door. The action of closing the door also ends the loading and unloading process.

This action does not open the drain valve. If water has been allowed in the loading position, this water will be kept into the washer when a new cycle is started.

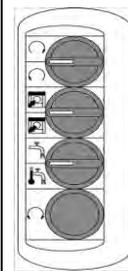


In the horizontal position, the **STOP** key opens the drainage port.

4.13. TILT + EASY LOAD system operation



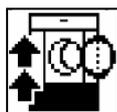
Operation using the control panel



Operation using the remote control

The loading system must always be started with the door open. If the main menu window is displayed, press the **OK** key to go to the PROGRAM EXECUTION MODE.

The **LOAD** and **UNLOAD** options are displayed on the screen.



Starting the loading sequence

Load the washing machine and press the **LOAD** key on the control panel or activate the selector corresponding to the figure on the remote control. Close the door.



Select the type of water. The water used in the Easy Load process is kept in the machine to be used in the washing cycle.

Water inlet A1 (cold)



Water inlet A2 (hot and cold water depending on the washer connections)



Water inlet A3



Press the **OK** key.

Loading sequence time remaining.

Once the sequence has ended, the door can be opened without emptying the bath water.

Pressing the **STOP** key while the loading sequence is running halts this operation without emptying the bath water.

Pressing the **STOP** key a second time opens the drain valve and empties the bath water.

ATTENTION! The LOAD sequence cannot be repeated.



Access to the list of programs.

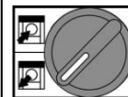
Select and start a washing program. It will start without losing the bath water.

Starting the unloading sequence

Open the door of the washing machine and secure it with the hook on the right-hand side. If the main menu window is displayed, go to PROGRAM EXECUTION MODE.



Unloading position. Activate the function corresponding to the figure in order to tilt the washer into the unloading position.



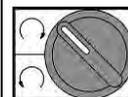
Clockwise rotation.

Press the **DRUM ROTATION** button.

Activate the function corresponding to the figure.

The drum will turn clockwise at low speed.

To select anti-clockwise turning, release and re-press the **DRUM ROTATION** button.



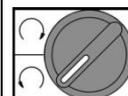
Anticlockwise rotation.

Press the **DRUM ROTATION** button.

Activate the function corresponding to the figure.

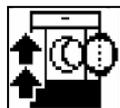
The drum will turn anticlockwise at low speed.

To select clockwise turning, release and re-press the **DRUM ROTATION** button.



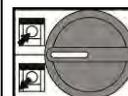
End of TILT System + EASY LOAD operation

The **STOP** key on the alphanumeric keyboard closes the loading and unloading functions screen. The return to horizontal position screen is displayed.

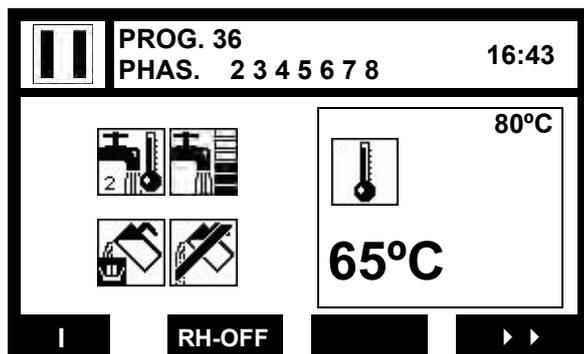


Return to horizontal position.

Activate the function corresponding to the figure for tilting the washer back to the horizontal position. Close the door. The action of closing the door also ends the loading and unloading process.



4.14. Pausing a program as a result of a dosing unit warning



Most dosing units that supply several washing machines simultaneously may issue a command to pause a washing program being run on one of the washers connected to this unit.

The aim of this pause is to send the washing chemicals at the right moment in each machine's washing cycle.

If the machine sends a dosing command while the dosing unit is busy, the unit in turn responds to the machine control with a command to pause the program.

In this case, the machine will pause the program, complete the dosing signal and reach and maintain the drum rotation, bath level and temperature values programmed in the phase.

Once the central dispensing unit cancels the pause command, the washer will continue the cycle at the point where it paused.

The pause command is displayed on the washer display in the form of an icon in the upper left-hand corner.

(Consult the Authorised technical service for connecting the pause signal)



ATTENTION!! This pause will only occur during the dosing time and while the dosing unit is busy. This option is available on models with microprocessor Version 21D/21F or later.

5. PRE-SET PROGRAMS

The washing machine's memory contains twenty pre-set programs.

From software Version 20 onwards these preset programs are numbered 80 to 99 and not 1 to 20 as above.

The content of these programs is unalterable. It can not be modified. However, it can be copied into an empty program and later modified (section 8). This intervention facilitates the process of creating a new program.

The indicated use of each program is merely a guideline.

The total time of the program is approximate. This calculation is based on a washing machine supplied with hot and cold water and a water supply of 5kg/cm².

5.1. Table summarizing the pre-set programs

Pr	Use	Soaking and pre-wash phases	Wash °C / F	Rinse phases	Bleach dosing	Final spin	Time (min)
80	Cotton and very dirty white linen	3	80°C 176F	5	yes	high	66
81	Dirty white cotton	1	65°C 149F	4	yes	high	48
82	White cotton	0	50°C 122F	4	yes	high	35
83	60 e ^W *	0	60°C 140F	2	no	high	31
84	Very dirty white cotton / polyester	3	70°C 158F	4	yes	high	58
85	Dirty white cotton / polyester	1	50°C 122F	4	yes	high	46
86	White cotton / polyester	0	40°C 104F	3	yes	high	27
87	Not very dirty white cotton / polyester	0	40°C 104F	2	yes	high	22
88	Very dirty colour-fast	1	60°C 140F	4	no	high	44
89	Dirty colour-fast	1	50°C 122F	3	no	high	34
90	Colour-fast	0	30°C 86F	3	no	high	26
91	Not very dirty colour-fast	0	20°C 68F	2	no	high	22
92	Very dirty non colour-fast	1	40°C 104F	4	no	medium	41
93	Dirty non colour-fast	1	35°C 95F	3	no	medium	34
94	Non colour-fast	0	30°C 86F	3	no	medium	26
95	Not very dirty non colour-fast	0	20°C 68F	2	no	medium	22
96	Very dirty delicates and wool	1	40°C 104F	4	no	low	38
97	Dirty delicates and wool	1	30°C 86F	3	no	low	31
98	Delicates and wool	0	20°C 68F	3	no	low	25
99	Not very dirty delicates and wool	0	20°C 68F	2	no	low	21

* 60 e^W: Special program in accordance with WTL certification.

* 60 e^W: Cannot be modified. Neither can the phase be sped up while water is entering. Water inputs occur with the drum stationary, as does heating.

5.2. Interpreting the icons in tables of pre-set programs

The pre-set programs only use the functions available in the basic configuration of the washing machine without additional options.

To interpret the functions numerical values, refer to the programming values indicated on chapter 7.3. of this manual.



Approximate time of the program in minutes.
Water supply pressure: recommended values.
These times do not include the times for heating and cooling the bath.



Water inlet
The numerical value indicates the programmed water inlet.



Bath level
The numerical value indicates the level programmed.



Temperature in centigrade. Temperature value of the wash phase is highlighted.
The numerical value indicates the temperature programmed.



Temperature in Fahrenheit. Temperature value of the wash phase is highlighted.
The numerical value indicates the temperature programmed.



Dosing. Pre-set programs only use the internal dosing.
The numerical value indicates the dosing programmed.



Rotation
The numerical value indicates the rotation sequence programmed.



Rotation time
The numerical value indicates the rotation time in minutes.



Gradual cooling
Interprets the numerical value programmed: **0 = NO** cooling **1 = YES** cooling



Draining
Interprets the numerical value programmed: **0 = NO** draining **1 = YES** draining



Rotation speed during draining
The numerical value indicates the rotation speed programmed.



Draining / spin cycle time
The numerical value indicates the draining time in minutes.

Other icons used on the viewing screens of the wash programs



No dosing



Phase without draining



Buzzer at the end of the phase



No buzzer at the end of the phase

5.3. Contents of pre-set programs

Pr 80											66 min
Ph											
1	2	3	20	68	0	5	3	0	1	1	1
2	2	3	40	104	1	5	5	0	1	3	2
3	2	2	60	140	2	5	6	0	0	-	-
4	2	3	80	176	0	5	8	0	1	3	2
5	2	4	40	104	3	5	6	0	1	2	2
6	1	5	0	32	0	5	2	0	1	1	1
7	1	5	0	32	0	5	2	0	1	1	1
8	1	5	0	32	0	5	2	0	1	1	1
9	2	4	0	32	4	5	4	0	1	6	9

Pr 81											48 min
Ph											
1	2	3	40	104	1	5	4	0	1	2	2
2	2	2	65	149	2	5	10	0	1	3	2
3	2	4	30	86	3	5	4	0	1	2	2
4	1	5	0	32	0	5	2	0	1	1	1
5	1	5	0	32	0	5	2	0	1	1	1
6	2	4	0	32	4	5	3	0	1	6	9

Pr 82											35 min
Ph											
1	2	2	50	122	2	5	8	0	1	3	2
2	2	4	30	86	3	5	3	0	1	2	2
3	1	5	0	32	0	5	1	0	1	1	1
4	1	5	0	32	0	5	1	0	1	1	1
5	2	4	0	32	4	5	2	0	1	6	9

Pr 83											31 min
Ph											
1	2	4	60	140	2	5	10	0	1	2	2
2	1	6	0	32	0	5	3	0	1	0	1
3	1	6	0	32	3	5	3	0	1	6	9

Pr 84											58 min
Ph											
1	2	3	20	68	0	4	3	0	1	1	1
2	2	3	40	104	1	4	5	0	1	3	2
3	2	2	60	140	2	5	5	0	0	-	-
4	2	3	70	158	0	4	7	1	1	3	2
5	2	4	30	86	3	4	6	0	1	2	2
6	1	5	0	32	0	4	2	0	1	1	1
7	1	5	0	32	0	4	2	0	1	1	1
8	2	4	0	32	4	4	4	0	1	6	7

Pr 85											46 min
Ph											
1	2	3	30	86	1	4	4	0	1	2	2
2	2	2	50	122	2	5	10	1	1	3	2
3	2	4	30	86	3	4	4	0	1	2	2
4	1	5	0	32	0	4	2	0	1	1	1
5	1	5	0	32	0	4	2	0	1	1	1
6	2	4	0	32	4	4	3	0	1	6	7

Pr 86											27 min
Ph											
1	2	2	40	104	2	5	6	1	1	2	2
2	2	4	30	86	3	5	3	0	1	2	2
3	1	5	0	32	0	5	1	0	1	1	1
4	2	4	0	32	4	5	2	0	1	6	6

Pr 87											22 min
Ph											
1	2	2	40	104	2	5	6	1	1	1	1
2	2	4	30	86	3	5	2	0	1	3	2
3	2	4	0	32	4	5	2	0	1	6	6

Pr 88											44 min
Ph											
1	2	3	40	104	1	4	4	0	1	2	2
2	2	2	60	140	2	5	10	0	1	3	2
3	1	5	20	68	0	4	2	0	1	2	2
4	1	5	0	32	0	4	2	0	1	1	1
5	1	5	0	32	0	4	2	0	1	1	1
6	2	4	0	32	4	4	3	0	1	6	7

Pr 89											34 min
Ph											
1	2	3	30	86	1	4	3	0	1	2	2
2	2	2	50	122	2	5	6	0	1	3	2
3	1	5	0	32	0	4	2	0	1	2	2
4	1	5	0	32	0	4	2	0	1	1	1
5	2	4	0	32	4	4	2	0	1	6	7

Pr 90											⌚	26 min	
Ph													
1	2	2	30	86	2	5	6	0	1	3	2		
2	1	5	0	32	0	4	1	0	1	2	2		
3	1	5	0	32	0	4	1	0	1	1	1		
4	2	4	0	32	4	4	2	0	1	6	7		

Pr 91											⌚	22 min
Ph												
1	2	2	20	68	2	5	6	0	1	3	2	
2	1	5	0	32	0	4	1	0	1	1	1	
3	2	4	0	32	4	4	2	0	1	6	7	

Pr 92											⌚	41 min
Ph												
1	2	3	30	86	1	3	4	0	1	2	2	
2	2	2	40	104	2	4	7	1	1	3	2	
3	1	5	20	68	0	4	2	0	1	2	2	
4	1	5	0	32	0	4	2	0	1	1	1	
5	1	5	0	32	0	4	2	0	1	1	1	
6	2	4	0	32	4	4	3	0	1	5	7	

Pr 93											⌚	34 min
Ph												
1	2	3	25	77	1	3	3	0	1	2	2	
2	2	2	35	95	2	4	6	1	1	3	2	
3	1	5	20	68	0	4	2	0	1	2	2	
4	1	5	0	32	0	4	2	0	1	1	1	
5	2	4	0	32	4	4	2	0	1	5	7	

Pr 94											⌚	26 min
Ph												
1	2	2	30	86	2	4	6	1	1	3	2	
2	1	5	0	32	0	4	1	0	1	2	2	
3	1	5	0	32	0	4	1	0	1	1	1	
4	2	4	0	32	4	4	2	0	1	5	7	

Pr 95											⌚	22 min
Ph												
1	2	2	20	68	2	4	6	1	1	3	2	
2	1	5	0	32	0	4	1	0	1	1	1	
3	2	4	0	32	4	4	2	0	1	5	7	

Pr 96											⌚	38 min
Ph												
1	2	4	30	86	1	3	4	0	1	2	2	
2	2	3	40	104	2	3	7	1	1	2	2	
3	1	5	20	68	0	3	2	0	1	1	1	
4	1	5	0	32	0	3	2	0	1	1	1	
5	1	5	0	32	0	3	2	0	1	1	1	
6	2	4	0	32	4	3	3	0	1	3	5	

Pr 97											⌚	31 min
Ph												
1	2	4	20	68	1	3	3	0	1	2	2	
2	2	3	30	86	2	3	6	1	1	2	2	
3	1	5	20	68	0	3	2	0	1	1	1	
4	1	5	0	32	0	3	2	0	1	1	1	
5	2	4	0	32	4	3	2	0	1	3	5	

Pr 98											⌚	25 min
Ph												
1	2	3	20	68	2	3	6	1	1	2	2	
2	1	5	0	32	0	3	2	0	1	1	1	
3	1	5	0	32	0	3	2	0	1	1	1	
4	2	4	0	32	4	3	2	0	1	3	5	

Pr 99											⌚	21 min
Ph												
1	2	3	20	68	2	3	6	1	1	2	2	
2	1	5	0	32	0	3	2	0	1	1	1	
3	2	4	0	32	4	3	2	0	1	3	5	

6. PROGRAMMING MODE

6.1. Defining programming concepts

Before programming new programs, it is important to be familiar with the main concepts involved in the process. To understand the structure of Inteli control wash programs, two basic concepts must be defined: function and phase.

- **Function:** Each action performed by the washing machine during a program. Highlighting the most important ones: filling with water, dosing of product, drum movement, draining, etc. The functions are always performed following the same sequence or order of execution.
- **Phase:** The grouping of the functions in the order in which they are performed is defined as a phase. The total number of phases available in the Inteli control memory will vary depending on the options defined in **Configuration**.
- **Association of phases:** The great potential of this system lies in the possibility to program interconnected phases, since not all the phases must necessarily finalize with a draining of the bath.
- This feature allows carrying out modifications, within the same phase, such as: increasing the level or temperature of the bath, dosing products at different moments within the same bath, varying the mechanical action, etc.
- **Program:** Group of phases grouped together in a defined sequence whose execution has the treatment of the fabric as its objective. The maximum number of phases in each program is not previously defined.
- **Programming:** programming is filling with content the functions that make up the phases of a program. It can be done from an empty structure: programming a new program or modifying an already existing program.
It must be mentioned that programs 80 to 99 are programmed at works and their content is unalterable. There is, however, the possibility of copying them over an empty program and later modifying them.
- **Configuration:** The **SYSTEM TOOLS** menu of **INTELI** control contains those parameters determining the washing machine operation. Modifying the value of these parameters the operation of the washing machine can be adapted to the needs of the users and using the machine's possibilities to the maximum.

By default, the washing machine leaves the factory with the basic configuration of operation options. This configuration permits programming the washing machine with many possibilities but with great simplicity. Do not modify the configuration parameters without knowing exactly what the objective of the washing machine operation is.

6.2. Programming mode menus

The **PROGRAMMING** mode screen allows choosing different options:



Programming a new program



Modifying existing programs



Using the card

7. Programming a new wash program

In this chapter, necessary information for programming the content of a **NEW** program is given.

- The information that will appear on the screen is always in graphic mode and programming possibilities are identified by icons.
- The program and phase being programmed appear at the upper part of the screen.

At every programming step, the following are detailed:

- The current operation of the washing machine
- The programmable values and the programming limits
- The identifiable icons of each programming
- The option programmed by default
- The possible links with other menus

Keep in mind during programming:



The distinct programmable options at each operation appear simultaneously on the washing machine screen.



<<<< The option selected is displayed in white over a black background.



To finalize programming, executing **THE END OF PHASE** function is essential (section 7.3.16). Any other end of program mode will cause the washing machine to operate erroneously.

- Using the multi-function keyboard:



Horizontal movement and selection



Vertical movement and selection



Screen advance or return



Confirmation keys. Goes to the next function.



Access key to upper menu. Confirms the option selected.

- Using the numerical keyboard:



When programming numerical values, this icon indicates that programming is done with the numerical keyboard.

7.1. Access to programming a new program

The **PROGRAMMING** mode is accessed through the main menu.

- Connect the general switch of the washing machine.
- Open the washing machine door.
- Activate the **ON** switch: position **I**. The home page will appear and then, the main menu.
- From the open-door position, if the washing machine is already in operation, the main menu can be accessed by pressing the  key.



Select the programming icon and confirm the selection.



Select the programming icon of a new program and confirm the selection. The program number selection screen is accessed.

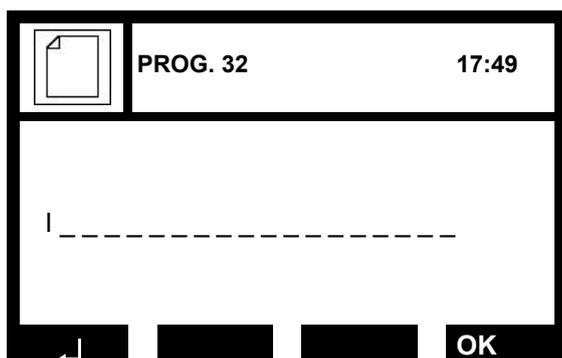


The INTELI control provides 79 programs free of content to be programmed.

On the program list, the first free program appears, selected by default. However, the user can select any free program to be programmed by using the arrow keys or the numerical keyboard.

Confirm the selection.

7.2. Identifying the new program

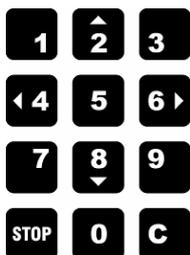


Programming the program name

On this screen, it is possible to program an identifying name to the program by using the different numerical keys.

At the upper part of the new screen, the selected program appears.

The cursor is located in the central square.



Using the numerical keyboard:

The \uparrow \downarrow keys allow introducing alphanumerical characters. The characters are displayed sequentially.

The \leftarrow \rightarrow keys accept the character selected and moves the cursor one position to the right in order to introduce a new character.

Pressing the key \downarrow for the first time, introduces a space.

The **C** key erases the letter to the left of the cursor.

Confirm with  key. The next screen is accessed.

Programming the type of fabric associated with the program. Optional programming.

This parameter makes it possible to associate a type of fabric with the program, in order to be able to automatically detect the load and apply a reduction of water and chemical products proportionally.

The different programmable options appear simultaneously on the screen. The options can be selected using the arrow keys.

Requirements that allow the programming of this function:

- Machines with load detection system configured as **AUTO** in the **SETUP** menu.

Possible programming



No (Load detection off or fabric different from the following options)
 <<< Option programmed by default



Poly-cotton



Cotton



Polyester/Synthetic



Mixed (Mixture of the previous options)

7.3. Programming a program phase

The program and the phase that are being programmed appear at the upper part of the screen. The distinct programmable options at each operation appear simultaneously on the washing machine screen. The options are selected with the arrow keys. The icon of the option selected appears in white on a black background.

The icon of the numerical keyboard indicates that the option or value must be selected with this keyboard.

Once the desired operation is selected, confirm the programming. The next operation is accessed.

To finish programming, executing the end of phase screen is essential (section 7.3.18).

Any other end of program mode will cause the washing machine to operate erroneously.



Optional programming. Attention message that appears when programming some operations. It warns that this function might not appear during the programming process depending on the options in the **CONFIGURATION** menu (section 10.2) or the **SETUP** menu. (To learn more details about the SETUP menu: consult the Technical Assistance Service).

7.3.1. Water inlet

Possible programming



No water inlet



Cold water inlet
 <<< Option programmed by default



Hot and cold water inlet mixture depending on the temperature programmed.
 Value of parameter **A2 = HOT** in **SETUP** menu. Factory value.



Cold water inlet through inlet 2
 Only if value of parameter **A2 = COLD** in **SETUP** menu.

Third inlet option. Optional programming

The third water inlet option permits connecting the washer to a third water supply and to program the water intake from this third inlet.

Main use options

CONNECTION	SETUP	PROGRAMMING	
Connection of a water inlet other than Water 1 and Water 2 inlets. From AS recovery tank.	INDEPENDENT		Water intake from third inlet Water intake from AS recovery tank Temperature programmed in this phase: NO
			Water intake from third inlet Water intake from AS recovery tank Water mixture from third inlet and hot water depending on the temperature programmed
Connection to cold water supply	WATER 1		NON programmable Opens simultaneously with Cold Water (refer to water inlet programming chart)
Connection to hot water supply	WATER 2		NON programmable Opens simultaneously with Hot Water (refer to water inlet programming chart)

Using the third water inlet requires:

- option previously installed in the washing machine.
- configured as a separate inlet in the SETUP menu.

7.3.2. Bath level

This function only appears if the water inlet has been programmed.

Modifying the value of levels is possible in the **CONFIGURATION** menu.

Possible programming



Level L1
Minimum programmable level



Level L2



Level L3
<<< Option programmed by default



Level L4



Level L5



Level L6
Maximum programmable level

7.3.3. Bath temperature – Heating

Water mixture: in washing machines supplied with **hot** and **cold water**, the washer opens the two inlets alternatively until it reaches the programmed temperature, provided that the hot water temperature enables it.

When the programmed water temperature is lower than 35°C / 95F, the two valves open simultaneously.



Programmable range in °C: 0 – 90
Programmable range in °F: 32 – 194
Value programmed by default: 0°C / 32F



Steam or electric heating option

Heating connection: Washing machines with steam or electric heating systems duly activated in the SETUP menu. The heating will be connected while the bath temperature is below the phase programmed temperature. The heating system will not be connected if the bath level inside the washing machine has not reached the set safety level.

7.3.4. Heating gradient



Optional programming

The increase in bath temperature can be controlled in different gradients defined in degrees/minute.

The type and power of heating, the load in the washing machine and the water temperature can modify the heating speed, mainly in the fastest gradients.

Requirements that allow the programming of this function:

- Machine with heating system installed and duly activated in the **SETUP menu**.
- Programming option activated in the corresponding stage of the **CONFIGURATION menu**.
- Temperature programmed in that phase.

Heating gradients



Value in Centigrade degrees: 1° / minute
Value in Fahrenheit degrees: 2.0° / minute



Value in Centigrade degrees: 2° / minute
Value in Fahrenheit degrees: 3.5° / minute



Value in Centigrade degrees: 3° / minute
Value in Fahrenheit degrees: 5.5° / minute

Gradient reachable only with steam heating



Constant heating connection
<<< Option programmed by default

7.3.5. Product dosing

It is possible to programme the dosing of up to four products simultaneously in each phase.

Programming the second product will only be possible if the first dosing has been programmed, and so on successively until the fourth product.

The programming of two concurrent internal doses will only be possible in the first and second dosing position.

The third and fourth position should be exclusively for external dosings or no dosing.

The option of dosing up to four products simultaneously is only available on models with microprocessor Version 21D/21F or later.



Dosing icon of the first product



Dosing icon of the second product



Dosing icon of the third product



Dosing icon of the fourth product

Dosing of products by means of the washing machine dispenser. (Internal dosing)

Dosing icons identify the dispenser compartment.



No dosing in the phase
 <<< Option programmed by default



Dosing in powder product compartment (dosage 1)



Dosing in powder product compartment (dosage 2)



Dosing in liquid product compartment (dosage 3)



Dosing in liquid product compartment (dosage 4)

Washing machines with an external dosing system

The **INTELI** control allows activating four electric signals to control an external dosing system. The connection board **A4** of these four signals is installed as standard in all the washing machines and located at the rear side of the machine. Consult the location and characteristics of the connection in the corresponding Installation Manual.

The external dosing signals programming is independent of product dosing programming through the washer dispenser.

The number that appears in the icons corresponds with the number of the label attached next to the connection terminals.



Dosing by external dosing system



Expanding the number of external dosing signals. The number of electric external dosing control signals can be increased to a maximum of twelve. To have the additional eight signals available, the **A6(I/O2)** inputs and outputs board needs to be enabled in the **SETUP** menu.

Refer to the TECHNICAL ASSISTANCE- SELECTING SETUP CONTROL – TEST PROGRAM SETUP.

For advanced use of the inputs and outputs board **A6(I/O2)**, see Section 7.5 and the appendices of this manual.

7.3.6. Duration of the dosing



Optional programming

In default configurations, the time of each dosing is set at 40 seconds.

However, the **INTELI** control allows programming the length of each dosing.

This function appears after product dosing has been programmed, only if the parameter has been activated in **CONFIGURATION**.



Programmable time range: 1 – 231 seconds
 Value programmed by default: 1 sec.



7.3.7. INFO A6 Mode

The A6 Info mode makes it possible to interact with the **A6(I/O2)** board, and is activated from the menu: System Tools - Configuring operating parameters and programming - Advanced programming options. The A6 Info mode makes it possible to:



Info A6 mode not used.
<<< Option programmed by default



Transfer the linen load value.
Default value: Nominal washing machine load.



Enter a decimal numerical value (0-255) whose conversion to a binary base will activate the corresponding output on the **A6(I/O2) board**.
Default value: 0.



For further information see Section 7.5 and the examples of use in the appendices at the end of this manual.

7.3.8. Information time in Info A6 mode

After choosing any of the A6 info options, the user should choose the length of time that this feature will be enabled on the **A6(I/O2)** board.



Programmable time range: 1 – 255 seconds.
Value programmed by default: 5 sec.



7.3.9. Rotation. Start – Stop Sequence

This function allows selecting distinct start-and-stop drum rotation sequences.

The programmed sequence is maintained during the entire phase.

There are five pre-programmed rotation sequences that are modifiable in the CONFIGURATION of the washing machine.

Value **ON**: drum rotation time in seconds

Value **OFF**: drum rotation time in seconds

Programmable reverse sequences



No rotation
There is no drum movement



Reverse sequence 1



Reverse sequence 2



Reverse sequence 3



Reverse sequence 4



Reverse sequence 5
<<< Option programmed by default

Default values	
WR1	ON: 5sec. – OFF: 55sec.
WR2	ON: 5sec. – OFF: 10sec.
WR3	ON: 5sec. – OFF: 25sec.
WR4	ON: 15sec. – OFF: 15sec.
WR5	ON: 25sec. – OFF: 5sec.

7.3.10. Rotation speed



Optional programming

Programming this function is only possible if the parameter has been activated in CONFIGURATION and a rotation value has been programmed.

Allows selecting a rotation speed in the wash cycle, among four pre-programmed speeds. These speeds are modifiable in the CONFIGURATION menu.

Depending on the load, the drum rotation speed can vary +/- 5 rpm regarding the programmed speed.

Possible programming Rotation speeds in rpm		HS-6013 EH030	HS-6017 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 HS-6032 EH070 EH080	HS-6040 EH090	HS-6057 EH130	HS-6085 HS-6110 EH190 EH225	
	Speed 1	WS1	23	23	22	22	21	19	18	17
	Speed 2	WS2	30	30	29	27	26	26	24	22
	Speed 3	WS3	37	37	36	36	33	30	30	27
	Speed 4 <<< Option programmed by default	WS4	44	44	43	42	42	40	36	32

7.3.11. Rotation time

The rotation time starts when the programmed values for level, dosing and temperature have been reached.



Programmable time range: 0 – 99 minutes

Value programmed by default: 1min.



7.3.12. Gradual cooling

Function that allows gradually reducing the bath temperature by admitting cold water up to 45°C / 113°F.

The cooling is executed once the rotation time ends and before the bath is drained.

This function is only programmable if the temperature programmed in the phase is greater than 50°C / 122°F.

Possible programming:



No gradual cooling

<<< Option programmed by default



Yes, gradual cooling

7.3.13. Cooling gradient



Optional programming

This function only appears if the COOLING GRADIENT parameter has been activated in the CONFIGURATION menu and if **gradual cooling YES** has been programmed in the previous stage.

Controlling the cooling of the bath is possible in different gradients defined in degrees/minute.

The water temperature can modify the cooling speed, mainly in the fastest gradients.

Cooling gradients



Value in Centigrade degrees: 1° / minute
Value in Fahrenheit degrees: 2.0° / minute



Value in Centigrade degrees: 3° / minute
Value in Fahrenheit degrees: 5.5° / minute
<<< Option programmed by default



Value in Centigrade degrees: 5° / minute
Value in Fahrenheit degrees: 9° / minute



Value in Centigrade degrees: 10° / minute
Value in Fahrenheit degrees: 18° / minute

7.3.14. Draining

This function opens the drain valve.

The drum rotation speed during draining and the drain time are programmed in successive operations.

Possible programming:



No draining in the phase



Yes, draining in the phase
<<< Option programmed by default



Optional programming

Machines with double drain

Using the double drain requires:

- option previously installed in the washing machine
- configuration of **two valves** option in the corresponding **DRAIN** step in SETUP menu

Possible programming:



No draining in the phase



Main drain draining
<<< Option programmed by default



Second drain draining

Machines with recovery tank

Pump and valve drain system designed to be connected to a recovery tank.

Operating this system requires:

- double drain set (valve + pump) corresponding to AS recovery tank
- configuration of **valve + pump** option in the corresponding **DRAIN** step in SETUP menu

Possible programming:



No draining in the phase



Main drain draining
<<< Option programmed by default



Pump to tank draining
NOTE. To avoid the pump working without bath, after a draining time, the pump stops and opens drain valve 1.

7.3.15. Draining speed

Programming this function is only possible if draining has been programmed.

There are six programmable speeds during draining.

The speeds 4, 5 and 6 are modifiable in the CONFIGURATION menu.

Possible programming Rotation speeds in rpm		HS-6013 EH030	HS-6017 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 EH070	HS-6032 EH080	HS-6040 EH090	HS-6057 EH130	HS-6085 HS-6110 EH190 EH225	
	Drain without drum rotation	Without rotation									
	Drain <<< Option programmed by default	Rotation sequence and washing speed programmed in wash phase. Draining time non programmable									
	Drain + positioning speed	E2	100	100	87	86	83	83	79	72	66
	Drain + low spin speed	E3	400	375	330	350	335	335	325	300	250
	Drain + medium spin speed	E4	600	570	525	550	530	530	490	450	405
	Drain + medium/high spin speed	E5	800	750	725	725	698	698	680	625	565
	Drain + high spin speed	E6	1000	950	920	966	937	931	870	800	725

7.3.16. Spin time

Programming this function is only possible if drain and rotation speed 2 or higher has been programmed.



Important!

Unlike other Girbau washer controls, INTELI control spin time countdown starts when the positioning speed has been reached and the unbalance value is correct.

Programming the spin time in minutes (default option)



Programmable time range: 1–15 minutes
Value by default: depending on programmed spin cycle



Programming the spin time in seconds (optional programming)

INTELI control allows you to change the unit of time for spinning to be programmed in seconds. This function only appears if **EXTRACT TIME UNIT sec** has been activated in the SETUP menu. This option is available on models with microprocessor Version 21D/21F or later.



ATTENTION!! If changes in the unit of time are made in the settings, or programs from a card are used with different units of time to those of the machine, spin times may suffer alterations.

7.3.17. Buzzer

This buzzer is programmable at the end of each phase.

By default, the buzzer lasts 2 seconds. This value can be modified in the corresponding section of the CONFIGURATION menu.

BUZZER and PAUSE programming.  **Optional programming**

This function appears only if PROGRAMMABLE PAUSE in the CONFIGURATION menu is activated.

The programming of this parameter:

- stops the wash program from advancing to the end of the phase
- activates the buzzer for the seconds selected while configuring the parameters
- keeps rotation programmed in the phase
- does not allow door opening

To resume the wash programme, press the **CONT** key on the multi-function keyboard.

Possible programming:



No buzzer
<<< Option programmed by default



Yes, buzzer



Programme pause and buzzer during the specified time in CONFIGURATION menu.

7.3.18. End of phase or program

When the last operation of the phase has been programmed, a screen with two options appears:



Access to programming a new phase.

The acceptance of this option creates a new one.

The number of the phase appears in the upper, central box on the screen and the first operation of the new phase appears in the central box.



End of program. The previous menu is directly accessed.

The microprocessor is ready again to receive new programming or modification orders.

By pressing the  key several times, the top menus are accessed.

7.4. Manual program. Definition and use

The **MANUAL PROGRAM** allows the user to create a customised program of a single phase for immediate use. This option is available on models with microprocessor Version 21D/21F or later.

Creating a MANUAL PROGRAM

Press **MAN** on the main menu.

Program the various options which will appear successively on the washer screen.

This process is similar to programming a program phase. **See Section 7.3 PROGRAMMING A PROGRAM PHASE.**

When the last function of the **MANUAL PROGRAM** has been programmed, two options will appear on the screen:



Run the **MANUAL PROGRAM**.



Do not run the **MANUAL PROGRAM**.

7.5. INFO A6 mode

By using A6 Info mode, the external dosing signals pertaining to the A6(I/O2) board can be used to increase the number of simultaneous doses or as a mode for binary based communication with a smart external unit (PLC or similar).



See the examples of use in the appendices

Appendices showing examples of the use of the A6 Info mode can be found at the end of this manual.

7.5.1. External dosing signals used in INFO A6 mode

INFO A6 mode options

This communication mode adds the following possibilities:



Info A6 mode not used.
<<< Option programmed by default

Transfer of the load value

Allows the value of the linen load to be transferred via the outputs of the **A6(I/O2)** board. This load value is transferred in kg regardless of whether the machine is configured to work in kg or lbs.



This option requires **Load Detection** to be activated in the menu. Modifiable values table. Similarly, it may be worthwhile activating some of the following options from the same menu (see Chapter 10):

- Proportional bath level.
- Proportional dosing time.

Default value: Nominal washing machine load.

Transferring a numerical value



Enter a decimal numerical value (0-255) whose conversion to a binary base will activate the corresponding output on the **A6(I/O2)** board. See Section 7.5.2 and the output activation table for the A6(I/O2) board in Section 7.5.3.

7.5.2. Typical uses of the INFO A6 mode for transferring a numerical value

There are two main uses for numerical value transfers:

Used to activate three or more dosings simultaneously.

With this selection it is possible to dose three or more products (up to a maximum of eight) in a single washing phase using the outputs d5...d2...d5 of the **A6(I/O2)** board. The numerical value entered represents the outputs of the **A6(I/O2)** board to be activated (see the output activation table for the **A6(I/O2)** board in Section 7.5.3).

It is possible to have a total of up to ten dosing signals in the same phase:

-  : First dosing: 1 internal or external signal (**A4** board).
-  : Second dosing: 1 internal or external signal (**A4** board).
-  : Third dosing: up to 8 external signals (**A6(I/O2)** board).

The three dosing groups may have a different time between them, however, the dosings assigned in the third dosings will have the same time and be equal to the value entered in the parameter:

- Information time in Info A6 mode  (see Section 7.3.8).



Used to transfer a decimal number

Another application for this selection can occur on machines connected to an external smart control unit (PLC or similar). With this option, using the Inteli control alphanumeric keypad, the user can enter a decimal number such as the program number of an external dosing control unit.

7.5.3. A6 (I/O2) board outputs activation table

The columns from 0 to 255 represent the range of decimal values that can be selected using the Inteli control alphanumeric keypad. Columns d5-d12 represent the equivalence of these decimal values to the activation of the outputs of the **A6(I/O2)** board (white indicates 0 - no activation).



Note that the outputs activation table is divided up according to the number of outputs activated.

d5	d6	d7	d8	d9	d10	d11	d12	d5	d6	d7	d8	d9	d10	d11	d12	d5	d6	d7	d8	d9	d10	d11	d12	d5	d6	d7	d8	d9	d10	d11	d12
NO ACTIVATION								134						134	225						225	109							109		
0							0	26					26	30				30	173							173					
ACTIVATION OF 1 OUTPUT								42					42	46				46	205				205	205							205
1							1	74					74	78				78	117							117					
2							2	138					138	142				142	181							181					
4							4	50					50	54				54	213							213					
8							8	82					82	86				86	229							229					
16							16	146					146	150				150	121							121					
32							32	98					98	102				102	185							185					
64							64	162					162	166				166	217							217					
128							128	194					194	198				198	233							233					
ACTIVATION OF 2 OUTPUTS								28					28	58				58	241				241	241							241
3							3	44					44	90				90	62							62					
5							5	76					76	154				154	94							94					
9							9	140					140	106				106	158							158					
17							17	52					52	170				170	110							110					
33							33	84					84	202				202	174							174					
65							65	148					148	114				114	206							206					
129							129	100					100	178				178	118							118					
6							6	164					164	210				210	182							182					
10							10	196					196	226				226	214							214					
18							18	56					56	60				60	230							230					
34							34	88					88	92				92	122							122					
66							66	152					152	156				156	186							186					
130							130	104					104	108				108	218							218					
12							12	168					168	172				172	234							234					
20							20	200					200	204				204	242							242					
36							36	112					112	116				116	126							126					
68							68	176					176	180				180	190							190					
132							132	208					208	212				212	222							222					
24							24	224					224	228				228	238							238					
40							40							124				124	246							246					
72							72	15					15	188				188	250							250					
136							136	23					23	220				220	252							252					
48							48	39					39	236				236	ACTIVATION OF 6 OUTPUTS												
80							80	71					71	244				244	63							63					
144							144	135					135	120				120	95							95					
96							96	27					27	184				184	159							159					
160							160	43					43	216				216	111							111					
192							192	75					75	232				232	175							175					
ACTIVATION OF 3 OUTPUTS								139					139	248				248	207				207	207							207
7							7	51					51	240				240	119							119					
11							11	83					83	ACTIVATION OF 5 OUTPUTS								183						183			
19							19	147					147	31				31	215							215					
35							35	99					99	47				47	231							231					
67							67	163					163	79				79	123							123					
131							131	195					195	143				143	187							187					
13							13	29					29	55				55	219							219					
21							21	45					45	87				87	235							235					
37							37	77					77	151				151	243							243					
69							69	141					141	103				103	125							125					
133							133	53					53	167				167	189							189					
25							25	85					85	199				199	221							221					
41							41	149					149	59				59	237							237					
73							73	101					101	91				91	245							245					
137							137	165					165	155				155	249							249					
49							49	197					197	107				107	ACTIVATION OF 7 OUTPUTS												
81							81	57					57	171				171	127							127					
145							145	89					89	203				203	191							191					
97							97	153					153	115				115	223							223					
161							161	105					105	179				179	239							239					
193							193	169					169	211				211	247							247					
14							14	201					201	227				227	251							251					
22							22	113					113	61				61	253							253					
38							38	177					177	93				93	254							254					
70							70	209					209	157				157	ACTIVATION OF 8 OUTPUTS												
																			255							255					

Alternatively, using the outputs activation table the user can also calculate the decimal number to enter via the alphanumeric keypad by knowing the value associated with each output on the **A6(I/O2)** board as described in the following table:

Dosing output	d5	d6	d7	d8	d9	d10	d11	d12
Associated value	1	2	4	8	16	32	64	128

Example: To find the *decimal number equivalent* to the combination of dosings d7, d10 and d12, add up the values associated with these dosings:

$$\text{equivalent decimal number} = 4+32+128=164$$

Thus, 164 is the number to be entered via the alphanumeric keypad to activate Outputs d7, d10 and d12 of the **A6(I/O2)** board.

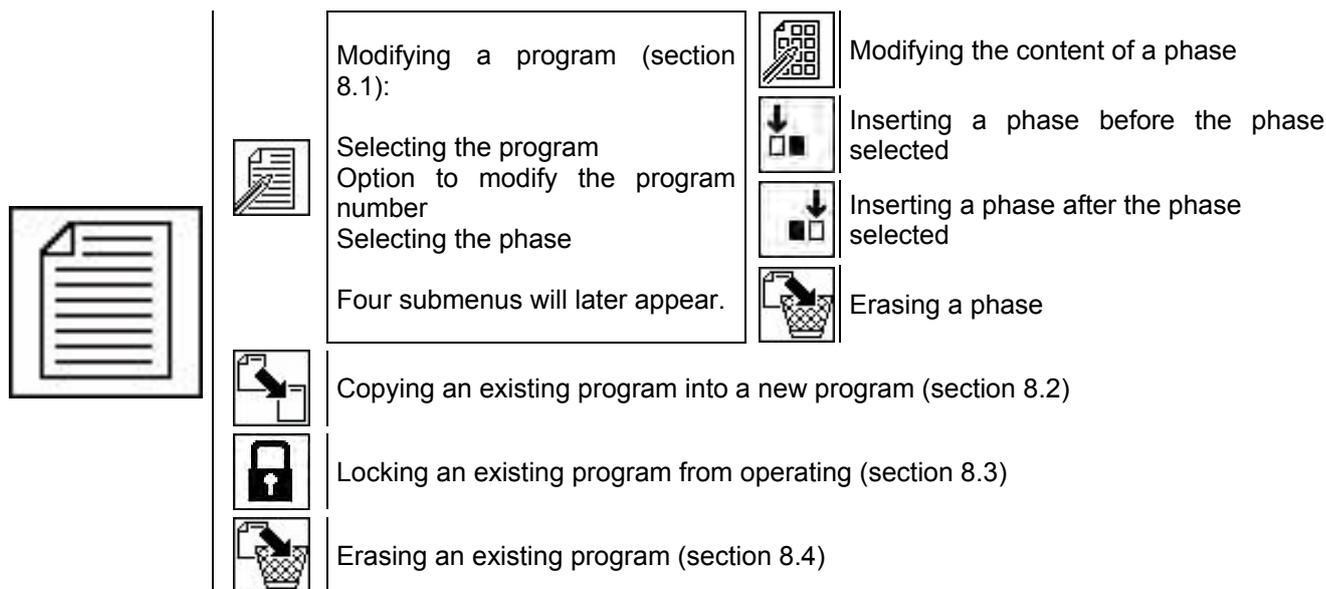
8. MODIFYING PROGRAMS

The objective of this menu is providing the user with resources that allow:

- modifying programmed programs
- programming new programs from the copy and modifying programs in use
- eliminating programs out of use with the objective of maintaining the maximum capacity of the microprocessor memory.

Some of the options offered by the MODIFICATION menu are grouped into submenus.

General map of the MODIFICATION menu



8.1. Modifying a program

Modification options:

- Modifying the name of a program and the type of fabric associated
- Modifying the content of a phase
- Inserting a phase
- Erasing a phase

Program 83: **60 e^W** cannot be modified.

8.1.1. Selecting a program and modifying the name and the type of fabric



From the main menu (section 4.1), select the icon corresponding to the PROGRAMMING mode (section 6.3). The icons of different menus appear.



Select the **MODIFICATION** icon.

The icons of different modification options will appear.

Consult the general map of the MODIFICATION menu in the start-up section of chapter 8.



Select the **MODIFYING A PROGRAM** icon. The list of programs will appear.

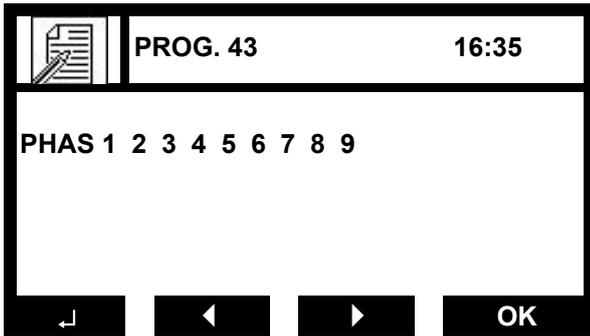
Select the program that you want to modify.

Confirm the selection.

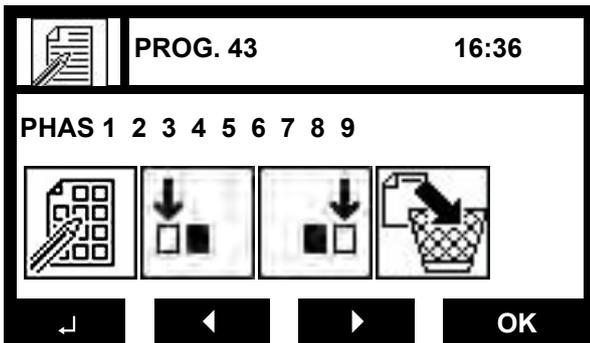
The modifying program name screen is displayed. If you want to introduce or modify the program name, continue on this screen following section 7.2. Confirm the modification.

The screen for modifying the type of fabric associated is displayed. Confirm the modification. The following screen appears.

8.1.2. Selecting phase and intervention



Select the phase that you want to modify. Confirm the selection.
The following screen appears.



Options for modifying a phase

- Modifying or viewing the content of the phase (8.1.3)
- Inserting a phase before the phase selected (8.1.4)
- Inserting a phase after the phase selected (8.1.4)
- Erasing a phase (8.1.5)

Select the desired action and confirm the selection.

8.1.3. Modifying and viewing the content of a phase

Permits viewing, and modifying if desired, the content of the phase selected. Modifying the parameters will only be possible in programs recorded by the user.

The programming limits of the different operations are the same as those defined in the corresponding sections of the **PROGRAMMING** menu.



Select the icon and confirm the selection.

From this moment on, the same screens used during programming a new program will appear.

The program and the phase being modified appear in the upper, central box.

Modifying the operations will be done following the same steps as those in section 7.3 as well as the following ones.

To finalize the modification of the content of the phase, accessing the end of phase screen (7.3.18) is imperative.

8.1.4. Inserting a phase

Allows inserting a new phase before or after the phase selected.

The content of the inserted phase by default is the same as that of a new phase being programmed.

The numbering of the program phases is automatically modified.

Select the function.



Inserting a phase before the phase selected



Inserting a phase after the phase selected

Confirm the selection. The program is ready again to modify the inserted phase.

8.1.5. Erasing the phase selected

Eliminates the phase selected.

The numbering of the program phases is automatically modified.



Select the operation and confirm the selection. Erasure of the phase is immediate.

8.2. Copying a program into an empty program

Allows copying the content of a program recorded into an empty program.

The program of origin can either be a program created by the user or one of the twenty programs pre-set in the microprocessor memory.

The copied program can be modified following the indications in section 8.1.

Copying a program



From the main menu (section 4.1), select the icon corresponding to the PROGRAMMING mode (section 6.3).



Select the **MODIFICATION** icon.

The icons of different modification options will appear.

Consult the general map of the MODIFICATION menu in the start-up section of chapter 8.



Select the **COPY** icon. The program list will appear.

The original program will blink at the icon on the upper left side.

Select the program that you want to modify. Confirm the selection.

The list of free programs will appear. The target program will blink at the icon on the upper left side.

The first program available appears by default. However, selecting any of the free programs is possible.

Select the target program. Confirm the selection.

The machine is ready again to modify the copied program.

To quit the option, access the upper menu by pressing the  key.



8.3. Locking and unlocking the use of a program

Option that allows the user to lock the use of one or more selected programs, using an access code. See Section 10.5 MANAGING ACCESS CODES.

Locking usage



From the main menu (Section 4.1), select the icon corresponding to the PROGRAMMING mode (Section 6.3). The icons for the different menus are displayed.



Select the **MODIFICATION** icon.
The icons of different modification options will appear.
Consult the general map of the MODIFICATION menu in Chapter 8.



Select the **LOCKING** icon. The program list will appear.
Select the program to be locked using an access code.

Press the **SEL** key to confirm the locking order. The lock icon appears next to the selected program number, indicating that the program is protected by an access code.
The machine is ready again to lock a new program.



To unlock a locked program, select the program and press the **SEL** key. The locking icon will disappear.

To quit the option, access the upper menu by pressing the key.

On running a locked program, the message ENTER ACCESS CODE appears on the screen.

Type in the access code entered in the UNLOCKING CODE MODIFICATION menu and then press the **OK** key.

The option for locking using an access code is only available on models with microprocessor Version 21D/21F or later.

8.4. Erasing a program

Eliminate the contents of programs set by the user (up to number 79).

Before executing the order, the microprocessor requests confirmation to erase. If erasure is confirmed, the content of the program is IRRECOVERABLE.

The content of the last twenty programs cannot be deleted.

Erasing a program



From the main menu (section 4.1), select the icon corresponding to the PROGRAMMING mode (section 6.2).



Select the **MODIFICATION** icon.
The icons of different modification options will appear.
Consult the general map of the MODIFICATION menu in the start-up section of chapter 8.



Select the **ERASE** icon. The program list will appear.
Select the program you want to erase. Confirm the selection.



The following screen prompts confirmation to erase.
Confirm to erase the program contents.
The machine is ready again to erase a new program.

To quit the option, access the upper menu by pressing the key.

8.5. Modifying the name and viewing the content of pre-set programs

The twenty pre-set programs are not modifiable; however, modifying the name and/or viewing their content is possible.



Once a phase is selected, the icon indicates that modifying its content is not possible.

The **OK** key allows successively viewing the content of the phase.

To finalize viewing the content of the phase, accessing the end of phase screen (7.3.18) is imperative.

9. USING THE CARD

The washing machine card is a memory device that allows storing wash programs.

Card Operational Characteristics.

EXCLUSIVELY USED FOR GIRBAU WASHING MACHINES.

It is compatible with every washing machine that incorporates INTELI control.

Thanks to the programming system of INTELI control, the programs stored on the card can be copied onto any washing machine model with INTELI control.

The content of the card's memory is limited. Its capacity will oscillate between 20 and 25 programs, depending on their volume.

While the programs are stored on the card, its content is not modifiable.

Once stored on the card, modifying or programming the name of each program is possible.

Programs can be selected by using the multi-function keyboard or by selecting the program number on the numerical keyboard.

Introduce the card with the face of the chip on the left side.

Accessing the CARD usage menu



From the main menu (section 4.1), select the icon corresponding to the PROGRAMMING mode (section 6.2).



Select the **CARD** icon. The submenu contained on the CARD menu will appear.

Submenu map



Copy from machine to card
Programming or modifying the program name



Copy from card to machine



Viewing the content of the card
Modifying program name possible



Erasing program from the card

9.1. Copy from machine to card

Allows selecting a program from the washing machine's memory and copy it onto the card. Once copied, the program name can be modified.

In each copying operation, only one program can be copied.

Copying the program



Access the **copying program from machine to card submenu**.

At the icon in the upper box, the image of the washing machine blinks.

The washing machine program list appears.

Select the source program for the copy.

Validate the selection by pressing the **SEL** key from the multi-function keyboard.



In the icon of the upper box, the image of the card blinks.

The list of empty programs appears.

Select the target program to be copied onto. By default, the number of the first free program on the card is selected. Selecting another target program to be copied onto is possible.

Validate the selection by pressing the **SEL** key from the multi-function keyboard.

The following screen appears.



If the program has been identified in the washing machine, the program number will appear on the screen.

You can introduce a new name or modify an existing one.

Proceed on this screen according to section 7.2. Confirm the modification.

The program has been saved on the card with the new name.

The machine is ready again to copy a new program.

To quit the option, access the upper menu by pressing the **←** key.



9.2. Copy from card to machine

It allows selecting a program on the card and copying it onto an empty washing machine program.

Once copied, the program can be modified by following the instructions in section 8.1.

In each copying operation, only one program can be copied.

Copying the program



Access the **copy program from card to machine submenu**.

In the icon of the upper box, the image of the card blinks.

The list of programs contained on the card appears.

Select the source program for the copy.

Validate the selection by pressing the **SEL** key from the multi-function keyboard.



In the icon of the upper box, the image of the card blinks.

The washing machine's list of empty programs appears. By default the number of the first free program of the machine is selected. Selecting another target program to be copied onto is possible.

Validate the selection by pressing the **SEL** key from the multi-function keyboard.

The machine is ready again to copy a new program.

To quit the option, access the upper menu by pressing the **←** key.



9.3. Consulting the card and changing the program name

It permits consulting the content of the card.

If a program is selected, its identifying name can be modified.

Access the **viewing content of the card submenu**. The list of programs stored on the card will appear.

If you want to modify the program name, select it.



Validate the selection by pressing the **SEL** key from the multi-function keyboard.

The modifying the name screen will appear.

Proceed on this screen according to section 7.2. Confirm the modification. The program has been saved on the card with the new name.

The machine is ready again to select a new program on the card.

To quit the option, access the upper menu by pressing the  key.



9.4. Erasing a program on the card

It allows erasing a selected program on the card, after having selected it.

Access the **erasing a program from the card submenu**.

The list of programs stored on the card will appear.



Select the program you want to erase. Validate the selection by pressing the **SEL** key from the multi-function keyboard.

The following screen prompts confirmation to erase.

Confirm to erase the program contents.

The machine is ready again to erase a new program.

To quit the option, access the upper menu by pressing the  key.



10. SYSTEM TOOLS

The INTELI control offers a group of tools destined to preparing, personalizing, informing and controlling the global operation of the washing machine.

Within this group of tools, there are two large groups or intervention areas:

- CONFIGURING the system.
- CONSULTING washing machine characteristics, executed programs and operations and alarms detected by the washing machine control.
- TEXT MESSAGES. The user can programme a text message that will appear after a certain operation time, also programmable.
- RECOVERY TANK CLEANER. Optional tool. It can only be seen when the drain option in the **SETUP** menu has been configured as **VALVE** and **PUMP** double drain. The recovery tank is cleaned by the sequential filling and emptying of the recovery tank allowing the elimination of residues from the inside of the tank.

Managing and using these areas appear on the screen in written text.

Accessing the TOOLS mode menus

The system TOOLS mode is accessed from the main menu (chapter 3).

Connect the general switch of the washing machine.

Open the washing machine door.

Activate the ON switch: position I. The home page will appear and then, the main menu.

If the washing machine is already operating, the main menu can also be accessed by pressing the  key.



Select the configuration icon and confirm the selection.
The distinct menus of the TOOLS mode appear.



Multi-function keyboard



Menu selection



Multi-function keyboard. Access to the selected menu

10.1. Configuration menu. Introduction and access

This intervention menu offers the possibility to activate or modify a group of parameters and values, distributed among different submenus, which condition the washing machine's operation.

The submenus are:

- Configuring the parameters for usage and programming (10.2)
- Setting the clock
- Configuring the card
- Managing the security codes

Selecting the options and modifying the values of the distinct parameter are done using the keys on the washing machine's control panel.



Multi-function keyboard. Selects the submenus, parameters, etc.



Validates the value of the parameter.



Multi-function keyboard. Modifies the value of the parameter or the programmable options.



Multi-function keyboard. Accesses the previous menu. Validates the value of the parameter or the selected option.



Numerical keyboard

Modifies the values of parameters with numerical content.

Its usage is indicated in a specific way.

10.2. Configuring operation and programming parameters

Below, the distinct parameters found in the CONFIGURATION menu are listed.

Shown at each parameter:

- Identification of the parameter: description that appears on the screen.
- Explanation of the parameter.
- Configurable values or range.
- Factory settings: the factory settings of the washing machine will depend on the purchase specifications.
- Configuration by default: is the option programmed by default at the washing machine control. The values configured by default will always appear when a GENERAL INITIALIZATION is executed or when a new control board is installed onto the washing machine.
- When the factory settings value and the default configuration value coincide, it is only indicated as the factory value.

To provide better access the parameters are grouped in three submenus:

- Modifiable values table. Section 10.2.1.
- Advance programming options. Section 10.2.2.
- Operation parameters. Section 10.2.3.

10.2.1. Operation parameters

LANGUAGE

Permits selecting the language of all the written messages.

Programmable values ESP (Spanish) | ENG (English) | FRA (French) | ALE (German)

Factory settings depending on specification

Value by default Spanish

SCREEN CONTRAST

Permits modifying the contrast on the washing machine screen.

Programmable values 0 (less contrast) ... 9 (more contrast)

Factory settings 5

TEMPERATURE UNIT

Permits selecting the unit that the temperature values are displayed .

Programmable values C (Centigrade degrees)| F (Fahrenheit degrees)

Factory settings depending on specification

Value by default centigrade

BEEP WHEN PRESSING THE KEY

When pressing a key, the microprocessor emits an acoustic beep. This beep can be annulled.

Programmable values YES / NO

Factory settings YES

PROGRAMMED DURATION OF THE BUZZER

Modifies the number of acoustic beeps at the end of the phase (section 7.3.14).
The multi-function and numerical keyboard can be used interchangeably.

Programmable values 0 – 20
Factory settings..... 2

PERMISSION OF ACCELERATION

Permits inhibiting the acceleration function described in section 4.4.

Programmable values YES / NO
Factory settings..... YES

EXTERNAL BUZZER

Option available only in machines with **A6** (I/O2) input and output board installed and activated in the **SETUP** menu.

If the external buzzer is activated, the electrical circuit between terminals X4-5 and X4-6 of the **A6**(I/O2) board closes when the machine beeps at the end of the cycle or due to an alarm. This option permits monitoring the acoustic beeps to the outside of the machine.

It is a free voltage circuit. Maximum voltage: 240V AC. Maximum current: 1A.

Programmable values YES / NO
Factory settings..... NO

DOSING TEMPERATURE CONTROL 2 (INTERNAL)

(Option only available in HS-6013, HS-6017; EH030 and EH040 models.)

The **YES** temperature control option at the second internal dosing 2 (factory settings) will supply this dispenser compartment with a hot and cold water mixture depending on the temperature programmed at the phase.

Programming the **NO** option at the second internal dosing 2 will supply this dosing department with cold water.

Programmable values YES / NO
Factory settings..... YES

LOAD DETECTION

Activates a weighing mode in accordance with the programmable value:

NO

MANUAL: Programming the load manually using the keypad.

AUTO: Detecting the load automatically. Applies to Programs 1 to 95. This mode is incompatible with Easy Load and Tilt systems to aid loading.

Programmable values

CEL: Detection by loading cells. For this option to operate, the scales assembly and weight display module need to be installed. (HS-6023, HS-6024, HS-6028, HS-6032, HS-6040, HS-6057, HS-6085 and HS-6110 models only).

Factory settings..... AUTO

WEIGHING UNITS

This option only appears if the manual LOAD DETECTION option or that by loading cells has been activated.

Programmable values **KG:** The weight of the load is in kg.
LB: The weight of the load is in lb.
Factory settings..... KG.

PROPORTIONAL WATER LEVEL

This option only appears if the manual, automatic or loading cell LOAD DETECTION option has been activated.

Modify the bath level values in proportion to the load selected and in accordance with the machine's limits.

Programmable values YES / NO
Factory settings..... NO

PROPORTIONAL DOSING TIME

This option only appears if the PROPORTIONAL WATER LEVEL option is activated.
Modify the dosing times in proportion to the selected load.

Programmable values YES / NO
Factory settings..... NO

EXTERNAL DOSING TIME 1

This modifies the external dosing time 1 value in seconds. This only applies to the preset programs (80-99).

Programmable values 0...255
Factory settings..... 30

EXTERNAL DOSING TIME 2

This modifies the external dosing time 2 value in seconds. This only applies to the preset programs (80-99).

Programmable values 0...255
Factory settings..... 30

EXTERNAL DOSING TIME 3

This modifies the external dosing time 3 value in seconds. This only applies to the preset programs (80-99).

Programmable values 0...255
Factory settings..... 30

EXTERNAL DOSING TIME 4

This modifies the external dosing time 4 value in seconds. This only applies to the preset programs (80-99).

Programmable values 0...255
Factory settings..... 30

PURGING HOT WATER

Option that permits purging the hot water inlet piping.

Whenever the temperature programmed at the phase is equal to or greater than 50°C, the hot water inlet valve of the washing machine and the drain remain open simultaneously during the time specified in this section.

Configuration only permitted in machines supplied with hot and cold water: value A2 = C in SETUP.

The multi-function and numerical keyboard can be used interchangeably.



This option can increase the water consumption of the washing machine.

Programmable values 0...250 seconds
Factory settings..... 0 seconds (NO hot water purge)

PURGE DRAIN

Configuration only allowed for machines with drain kit activated (SETUP activation) and programmed purge.

This option allows selecting the drain through which the purging water will be drained.

Programmable values Drain 1
..... Drain 2
Factory settings..... Drain 1

CLEANING DISPENSERS

Option that opens the water inlet valves of the four dispenser compartments, before the final drain of the program, during the time specified in this section.

Its objective is to get rid of product remains that could have been deposited inside.

The multi-function and numerical keyboard can be used interchangeably.



This option can increase the water consumption of the washing machine.

Programmable values 0...30 seconds

Factory settings..... 0 seconds (NO dispensers cleaning)

CLEANING THE DISTRIBUTOR

Option that opens a cold water inlet valve once the external product dosing has finished.

Its objective is to get rid of product remains that could have been deposited inside the distributor.



This option can increase the water consumption of the washing machine.

Programmable values YES / NO

Factory settings..... YES

MINIMUM BATH TEMPERATURE

Configuration only permitted in machines supplied with hot and cold water. Value A2 = C in SETUP.

Option destined to maintain a minimum cold water temperature of 18°C/64F in all the programs.

In the **YES** configuration, whenever the temperature programmed is less than 18°C/64F, the washing machine mixes hot and cold water until reaching this temperature. The temperature is increased by mixing water, never by connecting the heating system.

Programmable values YES / NO

Factory settings..... NO

THE EASY LOAD SYSTEM

An option that allows the user to activate the TILT + EASY LOAD system to aid loading and unloading as described in Section 4.10.

This configuration is only possible in machines with the TILT SYSTEM installed.

Requires the BOARD A10 and TILT SYSTEM parameters to be activated in the SETUP menu.

Programmable values YES / NO

Factory settings..... NO

PUMP SWITCH

Switching delay time of pump with valve normally open (N.O.) or normally closed (N.C.) after detecting that there is no water level left during draining/spinning.

A configuration only associated with machines with draining variations: Pump + Drain N.O. or Pump + Drain N.C.

It requires the draining variations to be activated in the SETUP menu.

Programmable values 10/ 250 seconds

Factory settings..... 60 seconds

NETWORK IDENTIFIER

This parameter assigns a network identifier to the washer. This identifier enables the communication of the washer with the environment through a protocol based on RS-485.

Programmable values 0 (disabled communication) / 1..99 (enabled communication)

Factory settings..... 0

(For further information, see the Communication Protocol Instruction Manual)

10.2.2. Advanced programming options

PROGRAMMABLE DOSING TIME

Activates the programming described in section 7.3.6. that permits programming the duration at each dosing.

Programmable values YES / NO

Factory settings..... NO

PROGRAMMABLE ROTATION SPEED

Activates the programming described in section 7.3.10. that permits programming the drum rotation speed in the wash cycle.

Programmable values YES / NO

Factory settings..... YES

PROGRAMMABLE HEATING GRADIENT

Activates the programming described in section 7.3.4. that permits programming distinct heating gradients.

Programmable values YES / NO

Factory settings..... NO

PROGRAMMABLE COOLING GRADIENT

Activates the programming described in section 7.3.13. that permits programming distinct cooling gradients.

Programmable values YES / NO

Factory settings..... NO

INFO A6 MODE

Activates the programming described in section 7.5, which allows the advance use of the A6(I/O2) board.

Programmable values YES / NO

Factory settings..... NO

PROGRAMMABLE PAUSE

Activates the programming described in section 7.3.17 that permits programming the pause in the programme at the end of a phase. The PAUSE also activates the buzzer (beep).

Programmable values 0: Programme pause not programmable.

1 - 20: programmable pause and buzzer time in seconds.

Factory settings..... 0

SPIN TIME UNIT - SECONDS

Activates the programming described in section 7.3.16 that permits programming the spin time in seconds.

Programmable values MIN / SEC

Factory settings..... MIN

10.2.3. Modifiable values tables

BATH LEVELS

Modifying the value of the six bath levels within the established limits is possible, always **respecting the ordering criteria from lowest to highest**. The value of each level in millimetres must always be higher than the lower level and smaller than higher level.

The programmed height of the bath is approximately equivalent to the height of the water visible through the lower part of the drum, expressed in millimetres.

These values must be checked with the drum stopped (programming NO rotation in the phase).

Values programmable by the numerical keyboard.

Programming limits and table of factory settings depending on the machine model.

LEVEL	level values by default in mm machines WITHOUT heating system									programmable ranges	
	HS-6013 EH030	HS-6017 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 HS-6032 EH070 EH080	HS-6040 EH090	HS-6057 EH130	HS-6085 HS-6110 EH190 EH225	minimum	maximum	
L1	36	38	16	58	70	41	17	8	L1	L2 – 1mm	
L2	66	78	54	100	114	91	75	75	L1 + 1mm	L3 – 1mm	
L3	95	110	88	133	153	136	128	143	L2 + 1mm	L4 – 1mm	
L4	122	140	120	166	190	178	176	205	L3 + 1mm	L5 – 1mm	
L5	147	167	155	199	225	217	222	263	L4 + 1mm	L6 – 1mm	
L6	172	195	187	230	259	252	265	323	L5 + 1mm	L max	
L max	239	271	187	293	323	235	323	380	-----	-----	
Example of programming levels>>>>>>> (based on a washer HS-6017 / EH040 model)							Programmable L3 (level 3) range: min: L2 + 1= 79mm. max: L4 – 1= 139mm.				



ATTENTION!

In certain machines with a heating system the L1 level and L2 level are increased.

LEVEL	level values by default in mm machines WITH heating system									programmable ranges	
	HS-6013 EH030	HS-6017 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 HS-6032 EH070 EH080	HS-6040 EH090	HS-6057 EH130	HS-6085 HS-6110 EH190 EH225	minimum	maximum	
L1	66	58	18	66	70	41	17	8	L1	L2 – 1mm	
L2	68	78	54	100	114	91	75	75	L1 + 1 mm	L3 – 1mm	



ATTENTION!

Increasing the bath levels increases the water and energy consumption of the washing machine.

The habitual usage of the bath level greater than the default value of level 6 considerably reduces the life of the seals and bearings.

Do not increase the level values if it is not absolutely necessary.

ROTATION (Start and stop sequences)

Modifying the start and stop times of the five pre-established rotations is possible.

Programmable range:

ON: minimum: 1 second; maximum 25 seconds

OFF: minimum: 1 second; maximum: 55 seconds

Minimum start and stop time: 15 seconds

Values programmable by the numerical keyboard.

To maintain the order criteria from lowest to highest, the ON time of each rotation can't never be less than the start time of the lower rotation and will always be equal to or higher than the start time of the higher rotation.

Programming limits and table of factory settings

WR	values by default (sec)		programmable ON range	
	ON	OFF	min.	max.
WR1	5	55	$WR1 \geq 2\text{seg.}$	$WR1 \leq WR2$
WR2	5	10	$WR2 \geq WR1$	$WR2 \leq WR3$
WR3	5	25	$WR3 \geq WR2$	$WR3 \leq WR4$
WR4	15	15	$WR4 \geq WR3$	$WR4 \leq WR5$
WR5	25	5	$WR5 \geq WR4$	$WR5 \leq 25\text{seg}$

WASH ROTATION SPEEDS

Modifying the value of the four drum rotation speeds in the wash cycle within the established limits is possible, always **respecting the ordering criteria from lowest to highest**.

The value of each speed is expressed in rpm and it should always be higher than the lowest spin value and smaller than the highest spin value.

Values programmable by the numerical keyboard.

Programming limits and table of factory settings depending on the machine model.

WS	washing speed by default, in rpm							programmable ranges	
	HS-6013 HS-6017 EH030 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 HS-6032 EH070 EH080	HS-6040 EH090	HS-6057 EH130	HS-6085 HS-6110 EH190 EH225	minimum	maximum
WS min	17	16	16	16	13	13	13	-----	-----
WS1	23	22	22	21	19	18	17	WS min	WS2 - 1
WS2	30	29	27	26	26	24	22	WS1 + 1	WS3 - 1
WS3	37	36	36	36	33	30	27	WS2 + 1	WS4 - 1
WS4	44	43	42	42	40	36	32	WS3 + 1	WS max
WS max	44	43	42	42	40	36	32	-----	-----

SPIN SPEEDS

Modifying the value of the spin speeds within the established limits is possible, always **respecting the ordering criteria from lowest to highest**.

The value of each spin speed is expressed in rpm and it should always be higher than the lowest spin value and smaller than the highest spin value.

Values programmable by the numerical keyboard

Programming limits and table of factory settings depending on the machine model.

E	spin speed by default, in rpm						programmable ranges	
	HS-6013 EH030	HS-6017 EH040	HS-6023 EH055	HS-6024 EH060	HS-6028 EH070	HS-6032 EH080	minimum	maximum
E2	100	100	87	86	83	83	no modif.	no modif.
E3	400	375	330	350	335	335	E2 + 1	E3 def.
E4	600	570	525	550	530	530	E3 + 1	E4 def.
E5	800	750	725	725	698	698	E4 + 1	E5 def.
E6	1000	950	920	966	937	931	E5 + 1	E6 def.

E	spin speed by default, in rpm				programmable ranges	
	HS-6040 EH090	HS-6057 EH130	HS-6085 EH190	HS-6110 EH225	minimum	maximum
E2	79	72	66	66	no modif.	no modif.
E3	325	300	250	250	no modif.	no modif.
E4	490	450	405	405	E3 + 1	E4 def.
E5	680	625	565	565	E4 + 1	E5 def.
E6	870	800	725	725	E5 + 1	E6 def.

10.3. Setting the clock

The washing machine clock will allow the delayed start of programs (see section 4.7). This menu permits setting the clock.

Access the set clock menu. The following parameters appear:

Minute	nn
Hour	nn
Day week	-----
Day month	nn
Month	nn
Yearnn

Modify the value of each parameter using the **MOD** key on the multi-function keyboard. The numerical values can also be modified by using the numerical keyboard.

Access to the next parameter or going to the previous menu confirms the selection.

The numerical values must be formed with two digits. Example:

- third day of the month03
- month of November11
- year 2005:05

10.4. Initializing the card

This operation will be executed only in new cards or when there are problems recording data.

This operation erases the content of the card.

Access the **CARD** menu.

The message **INITIALIZING THE CARD** appears.

Confirm operation using the **SEL** key on the multi-function keyboard. The card will be operative.

10.5. Managing access codes

Protecting programs from running is possible using a four-digit security code.

The  symbol next to the list of programs indicates that access for running the program is protected.

The same code also protects the running of the PROGRAMMING and SETUP menus.

The initial code for accessing both functions is **1 2 3 4**. The user can change it and introduce a new code.

Access the **ACCESS CODE** menu.

Distinct option appear:

- PROGRAMMING MENU. The **MOD** key enables and disables the menu's password protection.
- CONFIGURATION MENU. The **MOD** key enables and disables the menu's password protection.
- ACCESS CODE MODIFICATION The **MOD** accesses the screen for entering the new access code for locking the aforementioned menus.
The message ENTER NEW CODE will appear. Enter the new code.
The **OK** key memorizes the new code.
The  key allows quitting the option without modifying the code.
- CHANGE UNLOCKING PASSWORDS. Program locking. The **MOD** key accesses the screen for entering a new code.
The message ENTER NEW CODE will appear. Enter the new code.
The **OK** key memorizes the new code.
The  key allows quitting the option without modifying the code.

The initial value of the access codes can be restored by means of the specific order in the SETUP menu. Consult the Technical Assistance Service.

11. INFORMATION MENU

The information menu allows access to information concerning the configuration and to the life of the washing machine:

- **General information.** About the washing machine model and the control characteristics.
- **Operation counters.** There is a counter associated with each one of the main washing machine operations that is increased each time said operation is executed.
- **Alarm counters.** There is a counter associated with each one of the main system alarms that is increased with the appearance of each alarm.
- **Executed program counters.** This counter registers the individual quantity of executions of each program.
- **Load counters.** These counters only appear if the option PROPORTIONAL DOSING TIME has been activated in the **Configuration of general operating parameters** menu (section 10.2.1).

To move among counters and within each counter use the MULTI-FUNCTION KEYBOARD of the washing machine.

	To move among counters and within each counter
	
	Counter selection
	Setting the counter at zero (some counters only)
	Accessing to previous level

There is an option on the **SETUP** menu that allows setting the value of the different counters at zero. Below, the distinct parameters that make up the INFO menu are listed.

11.1. General information. Content

- Machine model. Identifies the washing machine model
- Program version
- A5 Board version (I/O1)
- A6 Board version (I/O2). Only machines with A6 board installed and activated in SETUP menu
- A10 Board version (TILT). Only machines with A10 board installed and activated in SETUP menu
- Free programs
- Free phases
- Updated information

11.2. Operation counters

- Operating time
- Programs executed
- E2 spin cycles executed
- E3 spin cycles executed
- E4 spin cycles executed
- E5 spin cycles executed
- E6 spin cycles executed
- Unbalances detected by the microswitch
- Low-level unbalances
- Medium-level unbalances
- High-level unbalances

11.3. Alarm counters

List of controlled alarms depending on the machine models.

ALARM COUNTERS	HS-6013; EH030 HS-6017; EH040	HS-6023; EH040 HS-6024; EH060 HS-6028; EH070 HS-6032; EH080 HS-6040; EH055 HS-6057; EH130 HS-6085; EH190 HS-6110; EH155
Inverter communication failure	X	X
Inverter auto-locked	X	
Inverter sequence failure	X	
Accel. Inv. Over-current		X
Decel. Inv. over-current		X
Inverter over-current	X	X
Motor overheating	X	X
Inverter over-voltage	X	X
Inverter low voltage		X
Inverter phase failure		X
Inverter overheating	X	X
Inv. thermal relay overload		X
Inverter overload		X
General inverter failure	X	X
Unidentified inverter failure	X	X
Inverter configuration failure		X
Inverter disconnect. relay failure		X
Inverter detection relay failure		X
Communication failure. A5 Board (I/O1)	X	X
Communication failure. A6 Board (I/O2)	X	X
Communication failure. A10 Board (TILT)	X	X
Unbalance control failure	X	X
Unbalance microswitch failure	X	X
Bath level failure	X	X
Temperature probe failure	X	X
Door lock failure	X	X
Water failure	X	X
Bath overlevel	X	X
Heating failure	X	X
Bath overtemperature	X	X
Drain failure	X	X

11.4. Executed program counters

This counter registers the individual quantity of executions of each program. The counter increases at the end of the program.

On the multi-function keyboard the **DEL** function appears. This function allows erasing the counter related to the selected program.

11.5. Load counters

The use of this menu requires **LOAD DETECTION** to be activated in **Manual** mode or in **Loading cells** mode in the **General operating parameters settings menu**.

This counter registers the quantity of linen washed in each machine program.

The counter increase is set by the value in kilograms or pounds introduced when starting each program and it is executed at the end of the program.

On the multi-function keyboard the **DEL** function appears. This function allows erasing the counter related to the selected program.

12. TEXT MESSAGES

This menu allows writing three text messages and determining when they appear after a number of hours programmed.

12.1. Programming messages and moment of display

Access to the TEXT MESSAGES menu following the steps indicated in section 10.

The three text messages available appear on the screen.

An asterisk next to some of the messages indicates that the message is programmed.

Select one of the three messages and confirm the selection by the **SEL** key on the multi-function keyboard. The following screen appears.

In the position **PROGRAMMED TIME**, programme time the message has to appear using the numeric keyboard.

In the position **ACCUMULATED TIME** will appear the time elapsed since the message was programmed.

Press the  key and access to the text line. Enter the text of the message. Follow the indications for text writing in section 7.2.

Register in the memory the programming and start the time counting by pressing the  key.

Other actions:

- The **RESET** key on the multi-function keyboard re-initialises time counting.
- Erase the programming of the message duration by programming 00000 in the position TIME ACCUMULATED.
- Erase the programmed message by key **C** on the numeric keyboard.

13. CLEANING OF RECOVERY TANK MENU

(available only in models with AS recovery tank)

Introduction and access

This menu allows programming and starting a filling and draining sequence of the tank recovery to better get rid of the rests inside the recovery tank.

Options:

- **Number of washes.** To program the number of washes to be executed during each cleaning operation. A wash is meant to be a water filling and emptying cycle. At each wash the washer fills water up to a preset level. Once this level is reached, the water is pumped from inside the washer to the recovery tank. The pump operation is intermittent to create a higher turbulence inside the tank. Once the washes set time is over, the pump operation is interrupted and the main drain is opened and the bath from the inside of the washer is drained.
- **Wash time.** To program each wash time (time in minutes)
- **Water inlet** to be used: cold and hot
- **Washing start.** Start order for the cleaning sequence

13.1. Configuration of parameters and wash start

Follow the keyboard use instructions in section 10.1.

The number values programming can be done either through the multi-function keyboard or the alphanumeric keyboard.

NUMBER OF WASHING

Programming the number of washings to carry out during each cleaning

Programmable values 1 a 5 washings

Factory settings..... 1

WASHING TIME

Programming of each wash time

Programmable values 1 to 5 minutes

Factory settings..... 1

WATER INLET

Definition of type of water to be used for the tank cleaning

Programmable values cold water / hot water

Factory settings..... cold water

WASH START

Start wash process command

Action..... Close the door.

Press **OK** key from the function keyboard.

14. TROUBLESHOOTING

14.1. Freeing a person trapped inside the washing machine



WARNING!

VERY IMPORTANT:

Should an individual become trapped, **NEVER CARRY OUT FOLLOWING OPERATIONS OUT:**

- Pressing the EMERGENCY STOP
- Disconnecting the NORMAL STOP switch
- Disconnecting the GENERAL STOP switch
- Disconnecting the compressed air supply

These actions PREVENT THE DOOR FROM UNLOCKING AND OPENING AND THE FUNCTIONING OF THE TILT SYSTEM.

Procedure in case entrapment of a person or an animal inside the washer:

1. **Press the STOP key.** Interrupts the wash cycle in operation and opens the drain of the washing machine. The washing machine control circuit remains in operation.
2. **Open the door.** After the bath has been drained and the drum rotation has ended, the door lock is unlocked allowing for the opening of the door.
3. **If door is not released:**
 - 3.1. **Manually releasing of the security lock.** Consult next section **14.3.**
Specific information for HS-6023, HS-6024, HS-6028, HS-6032, HS-6040, HS-6057, HS-6085, HS-6110, EH055, EH070, EH080, EH090, EH130, EH190, EH255 models.
 - 3.2. **Door disassembly.** Consult next section **14.4.**
Specific information for HS-6013, HS-6017, EH030, EH040 models.

14.2. Freeing a person trapped by the TILT system

Procedure to follow in the event of a person being trapped by the TILT system:

1. **Open the door** of the washing machine and secure it with the hook on the right-hand side.
2. **Press** the key corresponding to the tilting movement needed to free the trapped person.



Loading position. The system tilts the washer backwards. On the multi-function keyboard, press the key corresponding to the icon to tilt the washer to the loading position.



Unloading position. The system tilts the washer forwards. On the multi-function keyboard, press the key corresponding to the icon to tilt the washer to the unloading position.

14.3. Manually releasing of the security lock

Specific information for HS-6023, HS-6024, HS-6028, HS-6032, HS-6040, HS-6057, HS-6085, HS-6110, EH055, EH070, EH080, EH090, EH130, EH190, EH255 models.

In order to open the door in case of a power supply failure, completely insert a 0.2 in (3 mm) and an approximate length of 4 inches (100 mm) bar through the hole located on underside of the safety lock cover and at the same time turn the handle downwards.

 **WARNING!**

MANUAL OPENING OF THE SAFETY LOCK MUST ONLY BE USED IN SITUATIONS OF LACK OF POWER SUPPLY, FAILURE OR JUSTIFIED EMERGENCY. NEVER USE THE MANUAL RELEASE OF THE LOCK AS A USUAL WAY TO OPEN THE DOOR.

BEFORE MANUAL RELEASING THE SAFETY LOCK, VERIFY THAT THE BATH LEVEL DOES NOT EXCEED THE DOOR OPENING LEVEL.

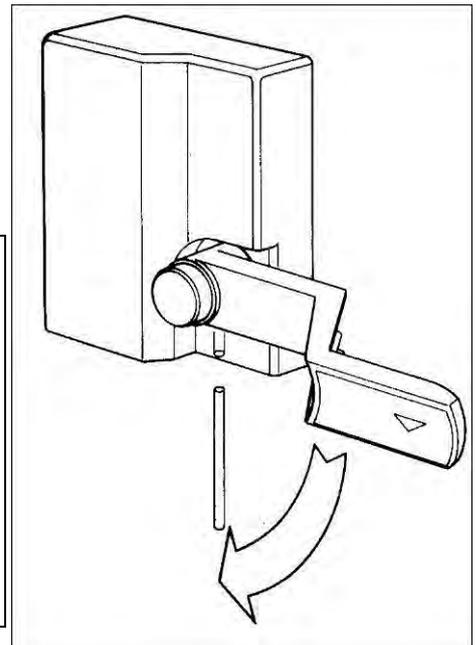


Fig. 14.1

14.4. Disassembling the door of the washing machine

 **CAUTION**

Only by the Authorised Technical Service except in emergency situations. Procedure recommended in problems caused by a failure in the realising of the door of the machine.

Specific information for HS-6013, HS-6017, HS-6023, HS-6024, HS-6028, HS-6032, EH030, EH040, EH055, EH060, EH070, EH080 models.

Before disassembling the door of the washing machine:

- Verify that the bath level does not exceed the door opening level.
- Close and mechanically interlock the manual water supply valves.
- Close and mechanically lock the manual steam inlet valve (steam heated washing machines).
- Disconnect and mechanically lock the External Automatic Switch or the switch disconnecter of the washing machine.

Door disassembly.

- Remove the protective caps of the hinge locking screws (Fig. 14.2). In models HS-6024, HS-6028, HS-6032, EH060, EH070 and EH080, first remove the plastic guard (Fig. 14.3/A).
- Disassemble the hinge locking screws (Fig. 14.4).

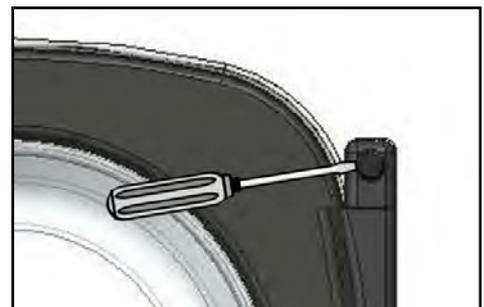


Fig. 14.2

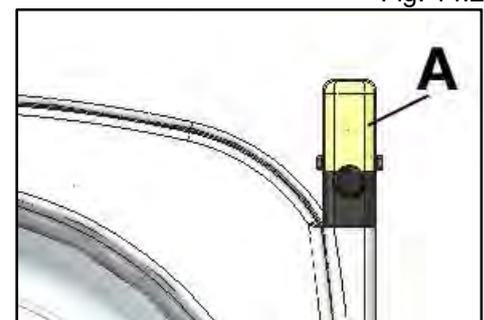


Fig. 14.3

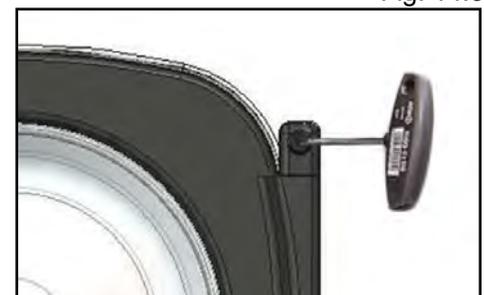


Fig. 14.4

14.5. What to do when...

Some of the washing machine's operating problems can be solved through the intervention of the user. These problems are detailed below.

Should you have any questions, remember to consult the Authorised Technical Service.

.....the wash cycle ends with the report: PERSISTENT UNBALANCE.

This report indicates that the final spin cycle is not possible because the load is unbalanced.

- Unload the machine and load it again.
- Begin the wash cycle and accelerate the program to the last phase.
- The washing machine will repeat the last spin cycle without refilling with water.
- If the problem persists, or occurs often, contact the Authorised Technical Service.

.....the machine makes a strange noise during the spin cycle.

- Check the levelling of the machine. See Instruction Manual for Installation.
- Tighten the locking screws on the outside panels.
- If the problem persists, contact the Authorised Technical Service.

.....the door may have a leak.

- Clean the door seal of any possible deposits or remains of cloth.

.....there is water leaks inside the washer cabinet.

- Check the outlet draining pipe.
- Check the seals on the water inlet hoses; tighten the connection couplings.
- Check the condition of the door seal and if there are any ruptures.
- If the problem persists, seal all of the water inlets and contact the Authorised Technical Service.

.....you have forgotten the access code for the advanced operating mode.

- Call the Authorised Technical Service.

.....the clock stops working correctly

- Possible battery failure. Contact the Authorised Technical Service to have it replaced.

14.6. System alarms

When a washing alarm appears, the buzzer sounds and a warning appears on the screen.

On the multi-function keyboard, the symbols **STOP** and **?**.

Pressing the **STOP** key stops the buzzer.

Pressing the **?** key information about the alarm appears.

Below, the main alarm messages, the most likely causes and some interventions to carry out are listed.

ALARM MESSAGE	LIKELY CAUSE	RESPONSE
EMERGENCY STOP	EMERGENCY push-button activated	Unlock push-button and press restart key. Consult STOP MODES (4.7).
INVERTER COMMUNICATION FAILURE	Inverter supply failure Deficient circuit connections	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER AUTO-LOCKED	Inverter protections activated	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER SEQUENCE FAILURE	Inverter protections activated	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER OVER-CURRENT	Motor failure Short circuit in motor connection cables Inverter failure Inverter protections activated	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
MOTOR OVERHEATING	Motor thermal protections disconnected	Disconnect the washing machine supply for at least 30 minutes. If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER OVER-VOLTAGE	Incorrect supply voltage Inverter failure Motor or motor connection failure Inverter protections activated	Disconnect the washing machine supply (note 1). If the failure persists ask to the authorised installing company for an overhaul of the machine's power supply. If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER LOW VOLTAGE	Insufficient voltage supply of the washing machine Inverter protections fuses blown Wiring or inverter feeding contactor failure Inverter filter failure	Disconnect the washing machine supply (note 1). If the failure persists ask to the authorised installing company for an overhaul of the machine's power supply. If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER PHASE FAILURE	Phase failure in the electrical supply of the machine Inverter protections fuses blown. Wiring or inverter feeding contactor failure Inverter filter failure	Disconnect the washing machine supply (note 1). If the failure persists ask to the authorised installing company for an overhaul of the machine's power supply. If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER OVERHEATING	Excessive room temperature Inverter ventilation failure	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER OR INVERTER THERMAL RELAY OVERLOAD	Inverter output current higher than the set overload current (inverter internal value)	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
GENERAL INVERTER FAILURE	Inverter protections activated	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
UNIDENTIFIED INVERTER FAILURE	Inverter protections activated	Disconnect the washing machine supply for at least 30 minutes. If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER CONFIGURATION FAILURE	Lack of concordance between the theoretical inverter operating parameters and the actual inverter operating parameters	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
INVERTER DISCONNECT. RELAY FAILURE	Program control relay or corresponding circuit operating failure Inverter failure	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.

ALARM MESSAGE	LIKELY CAUSE	RESPONSE
INVERTER DETECTION RELAY FAILURE	Washing machine microprocessor failure	
FAULT DETECTION A5 (I/O1) BOARD	Board I/O1 failure	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
BOARD A5 (I/O1) COMUNIC.FAILURE	Main board connection circuit failure Connection failure	
FAULT DETECTION A6 (I/O2) BOARD	SETUP error	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
BOARD A6 (I/O2) COMUNIC.FAILURE	Board I/O2 failure Main board connection circuit failure Connection failure	
FAULT DETECTION A10 (TILT) BOARD	A10 Board (TILT) failure	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
BOARD A10 (TILT) COMUNIC.FAILURE	Main board connection circuit failure Connection failure	
INVERTER IDENTIFICATION ERROR	Inverter model not compatible with the washing machine model Inverter identification plug failure or error.	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
UNBALANCE CONTROL FAILURE	Inverter detects an unbalance value outside the established limits	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
UNBALANCE SWITCH FAILURE	Unbalance detection circuit failure	Call the Authorised Technical Service.
BATH LEVEL FAILURE	Level control device failure	Disconnect the washing machine supply (note 1). If the problem is not solved or if it repeats: call the Authorised Technical Service.
TEMPERATURE PROBE FAILURE	Temperature control device failure	Call the Authorised Technical Service.
DOOR LOCK FAILURE	Door badly closed Door lock device failure	Disconnect the washing machine supply for at least 2 minutes. Open and close the door again. Check the state of the door seal. If the problem is not solved or if it repeats: call the Authorised Technical Service.
WATER FAILURE	Water supply failure Water inlet valve failure Level control device failure	Check water entry pressure. Check manual water inlet valves. Check the state of the filters at the water inlet filters. If the origin of the problem is not detected, contact the Authorised Technical Service.
BATH OVERLEVEL	Water or dosing inlet valve lock failure Level control device failure	Close manual water inlet valves. Call the Authorised Technical Service.
HEATING FAILURE	Electric heating system failure Steam supply failure Steam valve failure Temperature control device failure	Machines with electric heating: Call the Authorised Technical Service. Machines with steam heating: check steam supply pressure and steam inlet filter. If the origin of the problem is not detected, contact the Authorised Technical Service.
BATH OVERTEMPERATURE	Failure in heating system Temperature control device failure Machines with steam heating: steam inlet valve obstructed	Call the Authorised Technical Service. Machines with steam heating: close manual water inlet valves.
DRAIN FAILURE	Drain pipes or valve obstructed Drain valve failure	Check drain pipes. If the origin of the problem is not detected, contact the Authorised Technical Service.

Note 1. When the message “Disconnect the washing machine supply” appears, it is recommended to:

- Disconnect the ON switch.
- Wait the safety time for disconnecting the door (approximately 3 minutes). Open the door.
- Connect the ON switch again.
- Start a new wash cycle.

15. MAINTENANCE



Caution

- The users must refrain from carrying out actions reserved for the **Authorised Technical Services**.
- Before performing any work on the washing machine, disconnect and mechanically lock the external switch, and close and mechanically lock the manual water inlet valves.
- Check the temperature of the parts to be handled, to avoid the risk of burns.
- The dispenser may contain residues of chemical products. When cleaning this component, avoid direct contact with the skin and use eye protection.
- The draining pump and valve may contain residual water. When handling these components, avoid direct contact with the skin and use eye protection.
- Remember to reassemble **ALL** of the panels and place them correctly after any maintenance work.
- It is highly recommendable asking the **Authorised Technical Service** a register or report of all the maintenance and service work done on your washer.

Operations described

USER-MAINTENANCE INSTRUCTIONS

- Cleaning the washer (Section 15.1)
- Cleaning the door seal (Section 15.2)
- Cleaning the solenoid valve filters (Section 15.3)
- Checking safety devices (section 15.4)



ONLY TO BE PERFORMED BY AUTHORISED TECHNICAL SERVICE

- Cleaning the dispenser (section 15.5)
- Greasing the bearing housing (section 15.6)
- Checking the condition of the bearing housing seals (Section 15.7)
- General revision (Section 15.8)
- Recovery tank cleaning (section 15.9)

15.1. Washing machine cleaning

- We recommend periodic cleaning of the outside of the washing machine. Use a damp cloth or sponge.
- To remove traces of grease, use mild soap and rinse as required.
- Never use abrasive products or tools that could scratch or damage the surface of the washing machine.

15.2. Door seal cleaning

- Use a damp cloth or sponge.
- Be especially careful to remove traces of laundry products or pieces of fabric that could be caught between the folds of the seal.
- Never use abrasive products or tools that could cut or damage the seal.

15.3. Cleaning the solenoid valve filters

 **Only by qualified personnel.**

Required tools:

- Disassembly of the fittings: slip-joint pliers or pipe wrench 35 mm.
- Disassembly of the filter supports: wrench 34 mm.
- Disassembly of the filters: pliers.

Steps to follow

- Disconnect and mechanically lock the external switch. Close and mechanically interlock the manual water supply valves.
- Check the temperature of the hot water inlet hose, so as to avoid the risk of burns.
- Disassemble the fittings that connect the hoses to the washing machine.
- Disassemble the filter supports.
- Remove the filters from their housings and clean the filters with pressurised water. Place them back into their housings.
- Assemble the supports to the electrovalves.
- Assemble the hoses in their corresponding inputs. Tighten the fittings.
- Connect the external switch, open the manual water input valves and check the water tightness of the coupling.

15.4. Verifying the safety mechanisms

Verifying the door lock

DAILY check the safety mechanism on the door lock.



CAUTION. Only by qualified personnel

Use great prudence in checking the safety mechanisms.

Carry out the verification described in following while the drum is turning at washing speed and never at a higher speed.

If there is a failure in the door lock, never place one's hand in the loading area of the washer.

Verification procedure:

- Disconnect the ON switch. The washing machine screen is off.
- Close and mechanically interlock the manual water supply valves (and steam inlet valve in washers with this option included.)
- Open the washing machine door.
- Connect the **ON/OFF** switch. On the screen the door open icon is displayed.
- Close the door. Select and start a wash cycle.
- After about a minute from starting the cycle, check that the door is locked.
- Press the **STOP** key to finish the verification.
- After a safety delay of no more than 30 seconds, the door will be unlocked.
- The verification is finished.
- If no anomaly has been detected, open the fluid inlet valves.



CAUTION

If noticing anything other than what was described during the operation, disconnect the washer, do not use it, and **URGENTLY** contact the Authorised Technical Service.

Verifying the Emergency Push-Button.(Appliances with Emergency Push-Button only)

WEEKLY check the Emergency Push-Button.

Verification procedure:

- Connect the **ON/OFF** switch. On the screen the door open icon is displayed.
- Close the door. Select and start a wash cycle.
- After about a minute from starting the cycle, activate the **EMERGENCY** button. The buzzer will sound and the drum will stop rotating. On the screen the Emergency Push-button activated message is displayed.
- Unlock the emergency button turning it in the direction of the arrows and press **START** on the multifunction keyboard to resume the machine's operation.
- After a safety delay of no more than 3 minutes, the machine operation is resumed.
- Press the **STOP** key to end the washing cycle. The verification is finished.



CAUTION

If noticing anything other than what was described during the operation, disconnect the washer, do not use it, and **URGENTLY** contact the Authorised Technical Service.

15.5. Cleaning the dispenser



Only by the Authorised Technical Service.

- Disconnect and mechanically lock the external switch. Close and mechanically interlock the manual water supply valves.
- Clean the dispenser by using a cloth or sponge dampened with water. Warm water makes cleaning easier. Never use abrasive products, solvents or tools that could scratch or damage the dispenser.

Once the dispenser cleaning and assembly operations are finished:

- Connect the external switch and open the manual water inlet valves.
- Start a washing program that uses a bleaching agent and softener and check that both compartments drain properly.

HS-6013, HS-6017, HS-6023, HS-6024, HS-6028, HS-6032, EH030, EH040, EH055, EH060, EH070, EH080 models

Disassembly and assembly

- Open the fastening clasps on the top cover. The dispenser is now accessible.
- Dismount the siphon tubes from the liquid compartment by pulling them upwards.
- To clean the lower basin, remove the leak seal and separate the two dispenser bodies by separating the side lips (see figure).

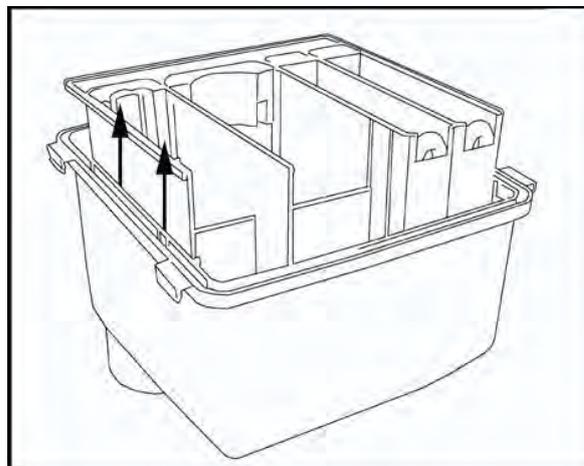


Fig. 15.1

Once the cleaning operations are over:

- Remount the two dispenser bodies and check that the side lips fasten both pieces.
- Replace the siphon tubes.
- Check that the dispenser is set well in its bracket.
- Check condition of top cover seal. If seal is damaged, deformed or has lost elasticity, it must be replaced. Replace the seal.
- Assemble the top cover. Close the clasps.



VERY IMPORTANT

The protection of the dispenser seal is necessary to prevent humidity and corrosion inside the machine and the premature damage of the electrical and electronic circuits of machine control.

15.6. Greasing the bearing housing



Operation reserved for the **Authorised Technical Services** or the **trained Customer Technical Service**.

In models HS-6085, HS-6110, EH-190, EH255 models the bearing housing needs to be greased on a regular basis as a preventive maintenance action to ensure smooth operation and the longest useful life. To do so, apply the amounts of Shell Alvania 3 grease or similar which appear in the following table:

	QUANTITY	
	A	B
Every 5000 hours	120 g (0.265 lb)	80 g (0.176 lb)
Change oil seals	1200 g (2.65 lb)	700 g (1.54 lb)

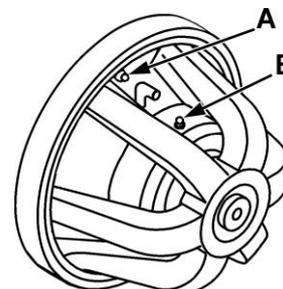


Fig. 15.2

* When changing oil seals: **CHANGE USED GREASE** and thoroughly clean the bearing housing.

15.7. Checking the condition of the bearing housing seals

 **Only by the Authorised Technical Service.**

At regular intervals check that no water is leaking out of the bearing drain pipe located at the back of the washer at the bottom. Water loss indicates that the seals are in poor condition and need to be replaced.

15.8. General revision

 **Only by the Authorised Technical Service.**

As preventive maintenance action, it is very important to ask the Authorised Technical Service for a periodic overhaul of the washing machine.

Recommended periodicity: every year or each 2000 washing cycles.

15.9. Recovery tank cleaning

 **Only by qualified personnel.**

Action to be carried out only in machines with recovery tank installed.
Procedure described in section 13. System Tools.

16. SERVICE REMOVAL



- Removing the washer from service requires the Authorised Technical Service or a company specialised in management of waste.
- Never release the washer unsecured.
- **To release the washer and subsequent transportation, refer to the same specifications and cautions indicated for Installation.**

When removing the machine from service:

- Disconnect the external switch and lock it mechanically. Remove the power wires.
- Close and mechanically interlock the manual water supply valves. Remove water supply hoses.
- Assemble the shipping restraints.
- Disassemble the door of the washing machine (consult the Authorised Technical Service).

16.1. Dismantling

Most of the machine's components are made with recyclable or recoverable materials.

The injected pieces bear information on the materials that were used to make them.

The main materials are:

- Steel plates
- Stainless steel plates
- Aluminium
- Borosilicate glass
- Polypropylene (PP)
- EPDM and NBR elastomers
- Electronic components



Management of waste electronic equipment

The manufacturer is obliged to advise that in compliance with directive 2002/96/EC about management of waste electronic equipment:

The electronic components installed in the washing machine, must be dismantled and delivered to treatment facilities authorised for this purpose.

APPENDICES TO THE MANUAL

A. Examples of the use of INFO A6 mode

Below are some examples with practical applications of the Info A6 mode.

A.1. INFO A6 mode with the machine connected to a smart external control unit

If the washing machine is connected to a smart external control unit (PLC or similar), the A6 Info mode will make it possible to transfer the value of the load entered as well as a decimal code that activates a function of the smart control unit.

For this case, the user needs to transfer a linen load value of 20 kg (44 lb) and the decimal code 8 in an HS-6040 washer. To do so it is advisable to create the program 1 with two phases at the beginning of the washing cycle which allow this information to be transferred as shown below:

	Pr 1														
Ph															
1	0	0	0	32	0	1	5		5	0	0	0	0	0	0
2	0	0	0	32	0	2	5		5	0	0	0	0	0	0
3	2	3	40	104	1	0	0	0	0	5	4	0	1	2	2
4	2	2	65	149	2	0	0	0	0	5	10	0	1	3	2
5	2	4	30	86	3	0	0	0	0	5	4	0	1	2	2
6	1	5	0	32	0	0	0	0	0	5	2	0	1	1	1
7	1	5	0	32	0	0	0	0	0	5	2	0	1	1	1
8	2	4	0	32	4	0	0	0	0	5	3	0	1	6	9

Phase	Symbol	Value	Description
Ph1		1	Signal that notifies the smart control unit that the value transmitted from the A6(I/O2) board will be the weight of the load.
		5	Duration of the previous signal. Sufficient time should be programmed for the smart control unit to be able to read it.
		20	Weight of the load. On machines with a weight control system, the weight of the load is automatically read by the washing machine's microprocessor, on machines without a weight control system, it must be entered manually using the alphanumeric keypad. In this case, 20kg (44lb). This value cannot be changed while the program is running.
		5	Duration of the previous signal. Sufficient time should be programmed for the smart control unit to be able to read it.
Ph2		2	Signal that notifies the smart control unit that the value transmitted from the A6(I/O2) board will be the desired decimal number.
		5	Duration of the previous signal. Sufficient time should be programmed for the dosing control unit to be able to read it.
		8	Decimal number to be transferred to the smart control unit.
		5	Duration of the previous signal. Sufficient time should be programmed for the smart control unit to be able to read it.

A.2. INFO A6 mode as a trigger of external signals

If the machine is connected to an individual dosing system using pumps controlled directly from the A6 board, the Info A6 mode can be used to trigger the signals corresponding to these pumps to dose the desired product at the right time.

A.2.1. Example of using multiple external dosings of the same duration

A washing process which requires dosing six different products in the same phase, two of them via the machine's internal dosing and the remaining four using four pumps outside the washing machine, connected to Outputs d6, d8, d11 and d12 of the A6(I/O2) board.

The first internal dose should last 5 seconds, the second for 15 seconds and the remaining four for 10 seconds.

The following table shows how to enter this information when setting a program:

Pr 2		48 min														
Ph																
1	2	3	60	140	1	5	2	15	202	10	5	6	0	0	2	2
2	1	5	0	32	0	0	0	0	0	0	5	2	0	1	1	1
3	1	5	0	32	0	0	0	0	0	0	5	2	0	1	1	1
4	2	4	0	32	4	8	0	0	0	0	5	3	0	1	6	9

Phase	Symbol	Value	Description
Ph1		1	Selection of first dosing, powder product compartment.
		5	Duration of the first dosing. In this case, 5 seconds.
		2	Selection of second dosing, powder product compartment.
		15	Duration of the second dosing. In this case, 15 seconds.
		202	Selection of the A6(I/O2) board signals that must be activated. If the table in Section 7.4.3 is consulted, it will show that 202 corresponds to Outputs d6, d8, d11 and d12.
		10	Dosing time: 10 seconds. As Outputs d6, d8, d11 and d12 are activated in the same phase, all four will have the same duration.

A.2.2. Example of using multiple external dosings of different durations

Based on example A.2.1, if the products being used via the external dosing require different dosing times, then a sufficient number of phases need to be created to regulate this time. Let us suppose that d6 and d8 need to be triggered in the same phase and require a dosing time of 10 seconds, whereas d11 and d12 require a time of 20 seconds, and therefore their triggering should be performed in a different phase from d6 and d8. To adapt this information to the program, proceed as illustrated in the following table:

Pr 3		48 min														
Ph																
1	2	3	60	140	1	5	2	15	10	10	5	0	0	0	--	--
2	2	3	60	140	0	0	0	0	192	20	5	6	0	0	2	2
3	1	5	0	32	0	0	0	0	0	0	5	2	0	1	1	1
4	1	5	0	32	0	0	0	0	0	0	5	2	0	1	1	1
5	2	4	0	32	4	td*	0	0	0	0	5	3	0	1	6	9

Phase	Symbol	Value	Description
Ph1		1	Selection of first dosing, powder product compartment.
		5	Duration of the first dosing. In this case, 5 seconds.
		2	Selection of second dosing, powder product compartment.
		15	Duration of the second dosing. In this case, 15 seconds.
		10	Selection of the A6(I/O2) board signals that must be activated. If the table in Section 7.4.3 is consulted, it will show that 10 corresponds to Outputs d6 and d8.
		10	Dosing time: 10 seconds. Outputs d6 and d8 are triggered in the same phase and will both have the same duration.
Phase 2 will begin after all the functions programmed in the previous phase have been run: the level and temperature of the bath and the dosing of the different products.			
Ph2		192	In this case, 192 means that Outputs d11 and d12 of the A6(I/O2) board will be triggered.
		20	Dosing time: 20 seconds. Outputs d11 and d12 are triggered in the same phase and will both have the same duration.

td: Indicates the dosing time established by default.

B. Use of bath and proportional dosing in a machine connected to a dosing control unit

This example shows how to use the proportional dosing function in programs involving external dosing.

To be able to use proportional dosing, select the following options from the general operating parameters (see Section 10.2.1) of the Tools menu:

- Load counters
- Proportional bath level
- Proportional dosing

Also activate Info A6 mode in the advanced programming options (See section 10.2.2).

Remember:

- The proportional bath level modifies the bath level values in proportion to the load selected, and in accordance with the machine's limits and the concentration of the product.
- Proportional dosing modifies the external dosing times controlled directly by the washing machine in proportion to the reduction of the bath level.

In a machine connected to an external dosing control unit and configured to work with bath level and with proportional dosing, the bath proportion is controlled directly by the washing machine, and the amount of product dosed must be calculated from the central dosing control unit.

To influence the time of dosing and therefore influence the adjustment of the dosage depending on the load, a timing signal must be entered to tell the central dispensing unit when the dosing is required and for how long. This timing signal may be a dosing output outside of the washer (board A4). Thus, the time assigned to this output will be the time onto which the machine will apply the corresponding percentage of reduction.

Below is an example of programming, based on the use of the Info A6 mode in a washing machine with a 40kg nominal load.

For this case, a washing load value of 20 kg and the decimal code 8 need to be transferred in an HS-6040 machine.

The explanation on the previous page is summarised in the following program setting table:

	Pr4											66	min	
Ph														
1	0	0	0	32	1	5		5	0	0	0	0	0	0
2	0	0	0	32	2	5		5	0	0	0	0	0	0
3	2	3	20	68	0	0	0	0	5	3	0	1	1	1
4	2	3	40	104	3	10	0	0	5	5	0	1	3	2
5	2	2	60	140	3	10	0	0	5	6	0	0	-	-
6	2	3	80	176	0	0	0	0	5	8	0	1	3	2
7	2	4	40	104	3	10	0	0	5	6	0	1	2	2
8	1	5	0	32	0	0	0	0	5	2	0	1	1	1
9	2	4	0	32	3	10	0	0	5	4	0	1	6	9

Phase	Symbol	Value	Description
Ph1		1	A signal that notifies the dosing control unit that the value transmitted from the A6(I/O2) board will be the weight of the load.
		5	Duration of the previous signal. Sufficient time should be programmed for the dosing control unit to be able to read it.
		20	Weight of the load. On machines with a weight control system, the weight of the load will be automatically read by the washing machine's microprocessor; on machines without a weight control system, it must be entered using the alphanumeric keypad. In this case, the washing machine's load (20kg) represents 50% of the nominal load.
		5	Duration of the previous signal. Sufficient time should be programmed for the dosing control unit to be able to read it.
Ph2		2	A signal that notifies the dosing control unit that the value transmitted from the A6(I/O2) board will be the dosing program corresponding to the washing program being programmed.
		5	Duration of the previous signal. Sufficient time should be programmed for the dosing control unit to be able to read it.
		8	Dosing program corresponding to the washing program being programmed.
		5	Duration of the previous signal. Sufficient time should be programmed for the dosing control unit to be able to read it.
Ph4, 5, 7, 9		3	A signal triggering the external dosing. The product being dosed is determined by the external dosing control unit.
		10	Duration of the previous dosing triggering signal. This value represents the duration of the dosing for the nominal load. The machine proportionally reduced the duration of the signal depending on the load fraction. This time reduction can be used by the dosing control unit to adjust the amount of product dosed in proportion to the reduction in the bath level applied in each phase. Thus, if 20kg (50% of the nominal load) has been entered, the time assigned to this signal will be reduced by between 0 and 50% according to the programmed level, the use of heaters and even the machine model. Remember that the information regarding the bath level used during the running of the program can be consulted using the information screen (see Section 4.4).