Programming Clarus Control

An introduction to programming

The machine's program control unit (PCU) has nine standard programs, numbered 991 to 999. If these programs are insufficient for your requirements, you can also program your own wash programs and save them under other unique program numbers.
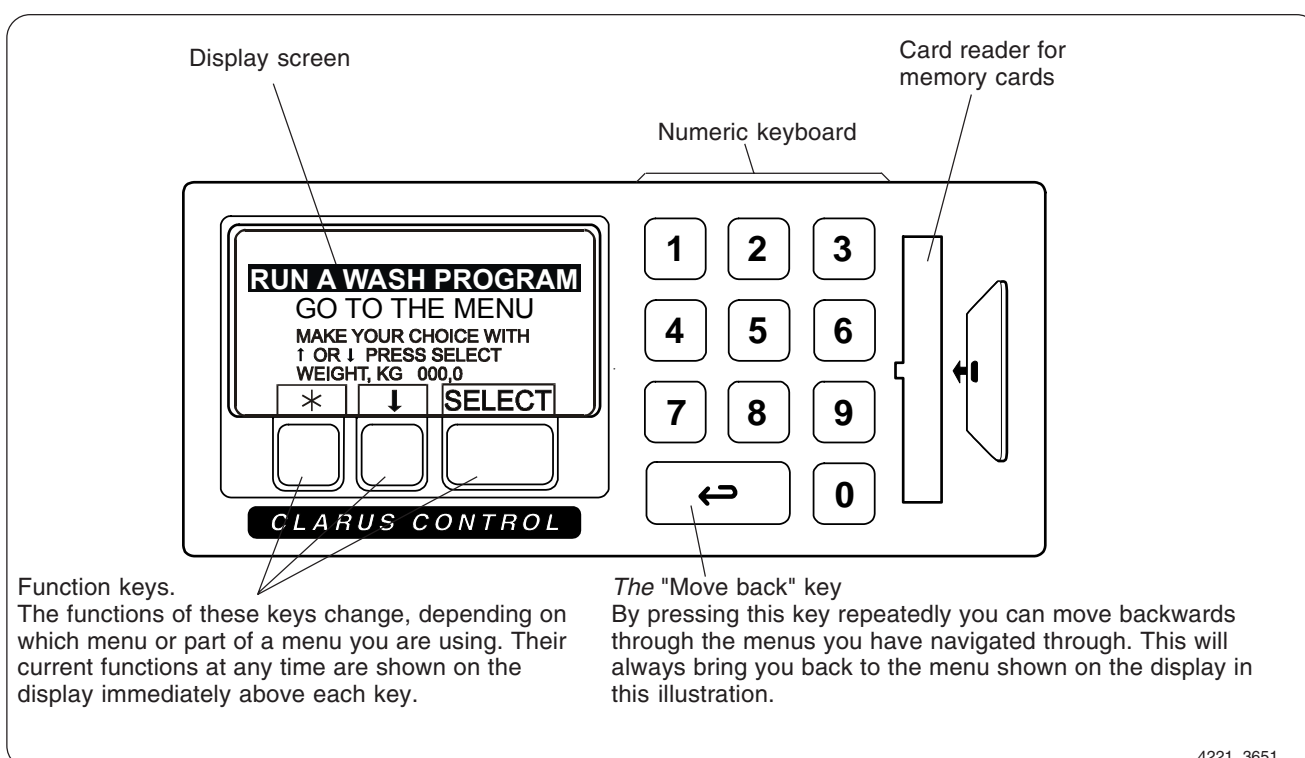
There are two possible approaches to programming :

- You can **create a completely new wash program** by programming a number of individual "program modules" which are arranged in a logical order to form a new program.

- You can **create a new program on the basis of an existing one** by modifying, adding and deleting program modules, then saving the program created under a new program number.

There are also two different levels (modes) available for programming :

- In **Standard** mode you can enter all the basic data required for a wash program. Other variables are set automatically using tried-and-tested standard values, which in most cases work without any problem.

- In **Advanced** mode you have a higher degree of control over all aspects of the program. Using Advanced mode does, however, call for a detailed knowledge of the way in which wash programs work, to ensure that all the possibilities available are used correctly.

It is for you to decide which mode you wish to program in.

Wash programs can be programmed directly on the machine, via the PCU control panel, which is the method described in this manual. Wash programs can also be written on a personal computer and later transferred to the machine's PCU using a memory card. This option is described in a separate manual.

Display screen

Card reader for memory cards

Numeric keyboard

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ PRESS SELECT
WEIGHT, KG   000,0

✳   ↓   SELECT

CLARUS CONTROL

Function keys.
The functions of these keys change, depending on which menu or part of a menu you are using. Their current functions at any time are shown on the display immediately above each key.

The "Move back" key
By pressing this key repeatedly you can move backwards through the menus you have navigated through. This will always bring you back to the menu shown on the display in this illustration.

4221 3651

To create an entirely new program

Select Programming mode

Select Standard or Advanced

Select program module

Select position of module in programme sequence

Answer questions for module

Deside how to continue :

Delete a module

Change data in existing module

Enter text

Conclude programming

Insert Main Data

Insert program number

Continue programming or stop programming

Continue programming or stop programming

Programming finished

To delete a wash programme

Delete a wash program

Questions, Standard mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

Questions, Advanced mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

To program on the basis of an existing program

Select Programming mode

Select Standard or Advanced

Select an existing program

Decide how to continue :

Change data in a module

Delete a module

Insert a new module

Enter text

Conclude programming

Insert Main Data

Insert program name

Insert program number

Continue programming or stop programming

Programming finished

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1. An introduction to programming

To create and write an entirely new program

Select programming mode

Select Standard or Advanced

Select program mode

Select position of module in program sequence

Answer questions for module

Deside how to continue :

Delete a module

Change data in existing module

Enter text

Conclude programming

Insert Main Data

Insert programme name

Insert programme number

Continue programming or stop programming

Programming finished

Questions, Standard mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

Questions, Advanced mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

This is described in detail in Chapter "To create and write an entirely new program". The "questions" asked to help you construct each program module are described in Chapters "Program modules, Standard mode" and Program modules, Advanced mode". The relevant section numbers are shown to the left of each description of the steps below.

To create a new program you must start by selecting programming mode.

Next you decide whether you wish to write the whole program in Standard or Advanced mode.

Standard mode allows you to include all the basic data required, while Advanced mode gives you a higher degree of control over all aspects of the program.

Here you select which program module you want to program. You can choose from the following modules :

Prewash

Used for prewash and brief soaking.

Main wash

Used as the main wash module, with heating and detergent dispensing.

Rinse

Rinsing the wash load.
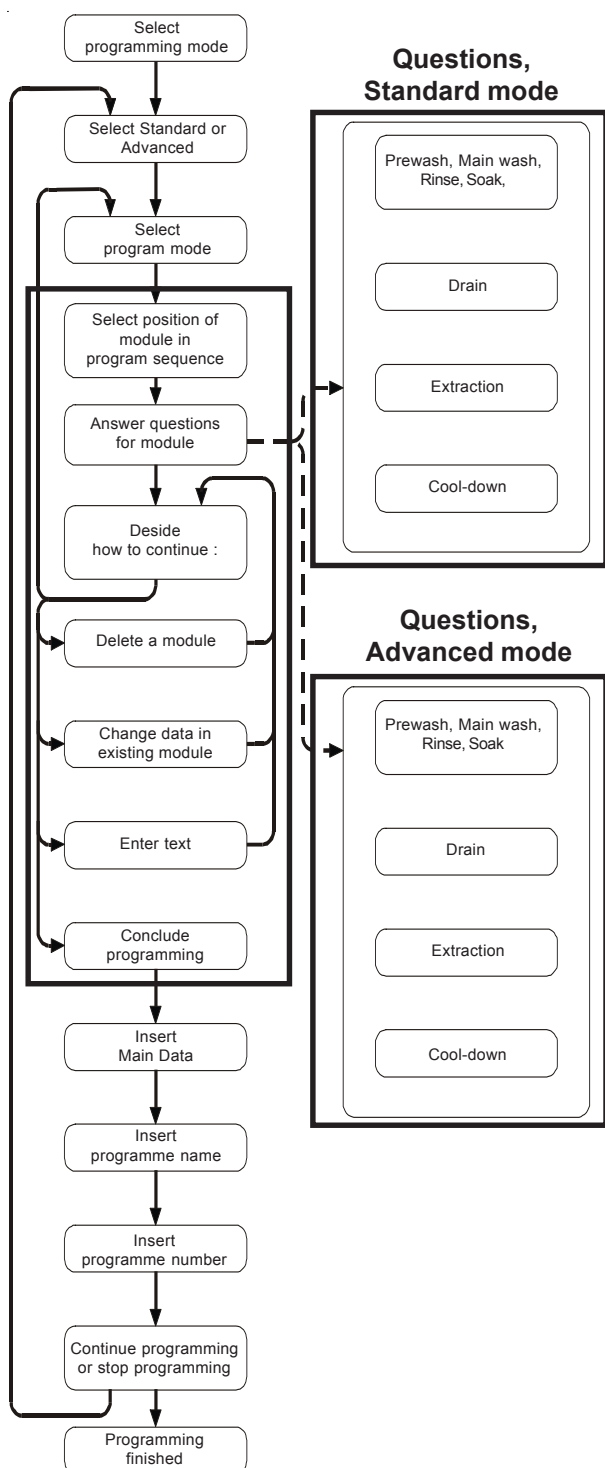
Drain

Drain stage after wash and rinse stages.

Extract

Cool-down

Used for controlled cooling of the wash water to prevent creasing of the wash load.

Soak

Used for longer soak stages.

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Select programming mode

Select Standard or Advanced

Select program mode

Select position of module in program sequence

Answer questions for module

Deside how to continue :

Delete a module

Change data in existing module

Enter text

Conclude programming

Insert Main Data

Insert programme name

Insert programme number

Continue programming or stop programming

Programming finished

Questions, Standard mode

Prewash, Main wash, Rinse, Soak,

Drain

Extraction

Cool-down

Questions, Advanced mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

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Here you determine the position of the module (which you are about to program) in the program sequence.

Once you reach the list of questions in the module, you have to answer a series of questions to determine factors such as times, speeds, temperatures, water and detergent options, and so on. Detailed explanations of each question can be found in these chapters :

Program modules, Standard mode

Program modules, Advanced mode

When you have completed the first program module, you can decide how you wish to continue :

- Program more modules. Once these are finished and in a suitable order they will become a new wash program.

- Modify a module you have programmed already.

- Delete a module you have programmed already.
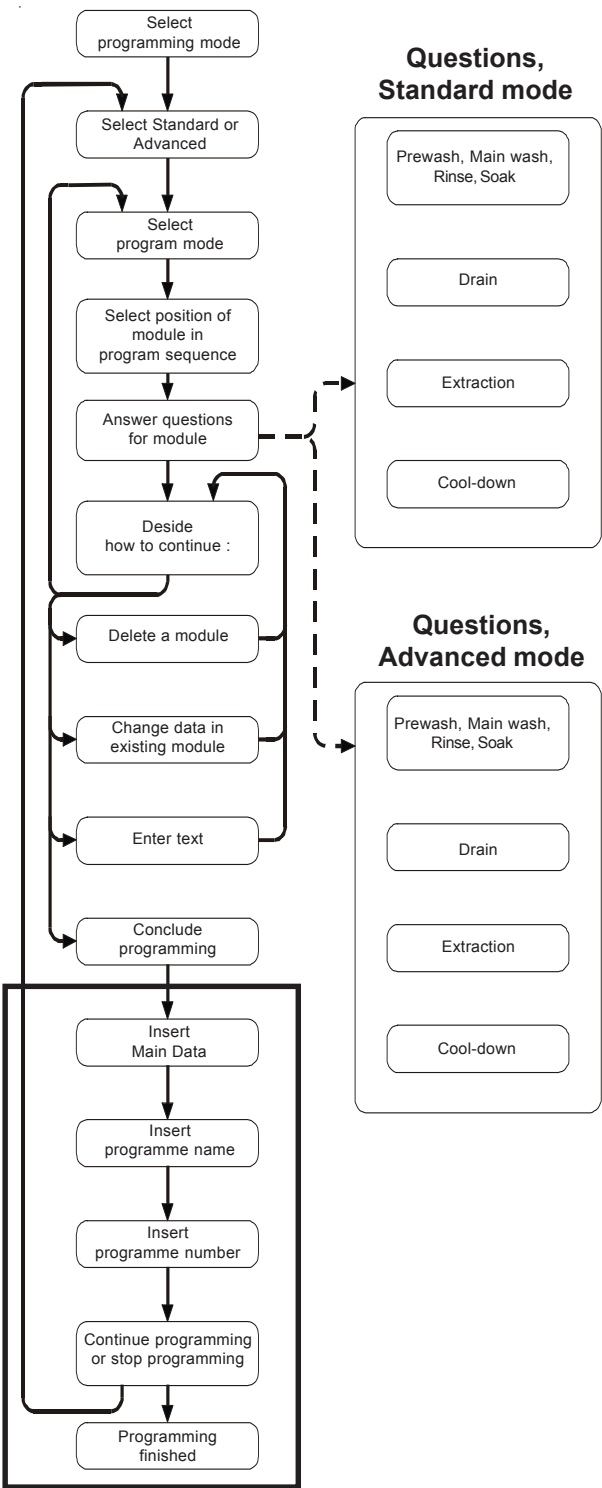
- Enter explanatory text.

- Stop programming.

How to delete an existing program module is described in chapter "To program on the basis of an existing program", section "To delete a module".

How to modify an existing program module is described in chapter "To program on the basis of an existing program", section "To change data in a program module".

This is where you enter text to explain what the program is used for. The text will be displayed when the program is used. No more than 155 characters.

When you have decided to conclude programming, you have to enter the program's "main data", and to give it a name and number. These steps are described in the next three points.

Select programming mode

Select Standard or Advanced

Select program mode

Select position of module in program sequence

Answer questions for module

Deside how to continue :

Delete a module

Change data in existing module

Enter text

Conclude programming

Insert Main Data

Insert programme name

Insert programme number

Continue programming or stop programming

Programming finished

Questions, Standard mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

Questions, Advanced mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

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"Main data" is the name given to various functions which apply to the program as a whole. In Standard mode you can control the functions "buzzer at program end", "start program with extraction", and "calculate weight of load". In Advanced mode you can also program the cycle times for gentle action and normal action.

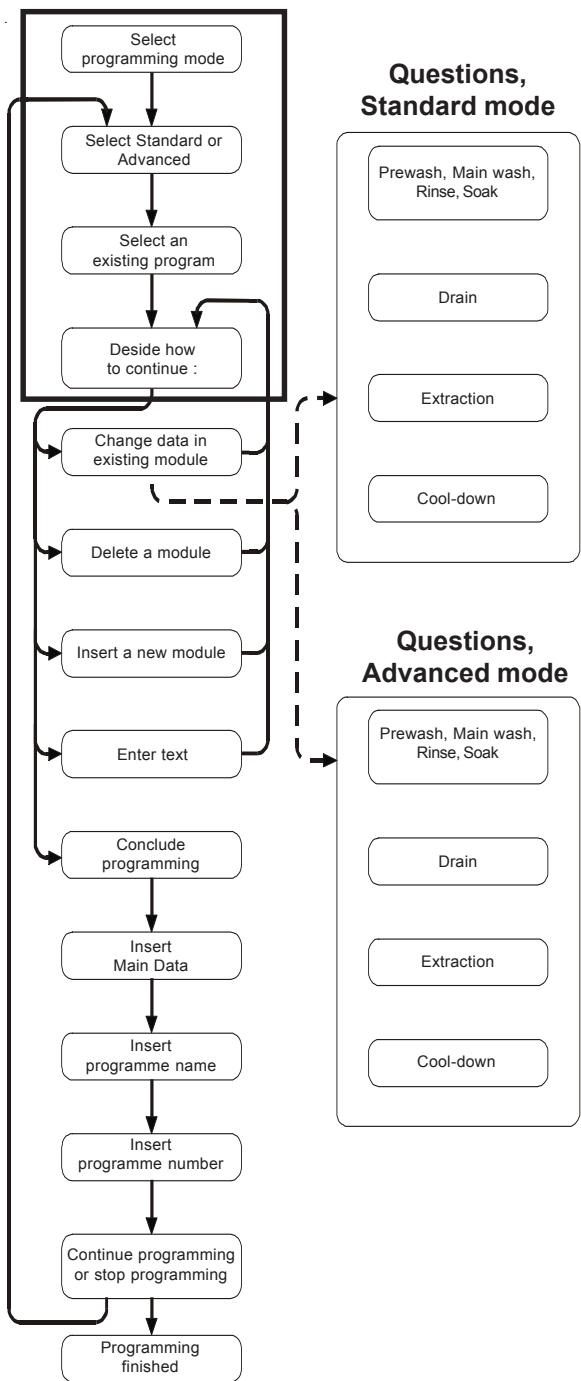The program name may be up to 80 characters long.

You can give the wash program a new program number between 1 and 990. You can also replace an existing wash program by giving the new program the same number as the existing program. Note that the standard programs supplied with the machine (numbered 991 to 999) cannot be deleted or changed.

When the program has been fully programmed, you can choose either to go on and program another wash program, or to exit programming mode.

To program on a basis of an existing program


```
Select
programming mode

Select Standard or
Advanced

Select an
existing program

Deside how
to continue :

Change data in
existing module

Delete a module

Insert a new module

Enter text

Conclude
programming

Insert
Main Data

Insert
programme name

Insert
programme number

Continue programming
or stop programming

Programming
finished
```

**Questions,
Standard mode**

```
Prewash, Main wash,
Rinse, Soak

Drain

Extraction

Cool-down
```

**Questions,
Advanced mode**

```
Prewash, Main wash,
Rinse, Soak

Drain

Extraction

Cool-down
```

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This is described in detail in Chapter "To program on the basis of an existing program". The "questions" asked to help you construct each program module are described in Chapters "Program modules, Standard mode" and "Program modules, Advanced mode". The relevant section numbers are shown to the left of each description of the steps below.

To program on the basis of an existing program, you must start by selecting programming mode.

Next you decide whether you wish to write the whole program in Standard or Advanced mode.

Standard mode allows you to include all the basic data required, while Advanced mode gives you a higher degree of control over all aspects of the program.
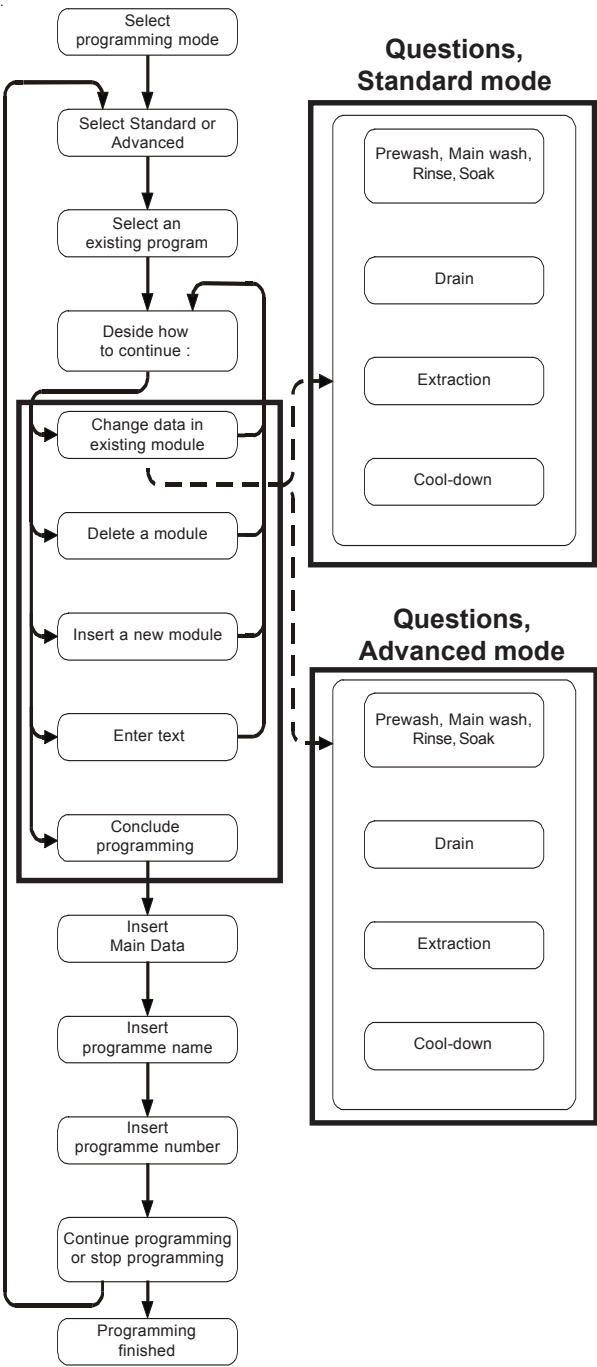
From the machine's program library you select the program you want to serve as the basis for your new program. You can choose any of the standard programs (numbered 991 to 999) supplied with the machine, or another program you have created in the past.

Now you can choose how to change the existing program :

Change parameters in one of the program modules in the existing program.

- Delete one or more modules in the existing wash program.

- Add new program modules and program them.

- Enter new explanatory text.

- Stop programming.

1. An introduction to programming

```
┌──────────────────┐
│      Select      │
│ programming mode │
└──────────────────┘
        │
┌──────────────────┐
│ Select Standard or│
│     Advanced      │
└──────────────────┘
        │
┌──────────────────┐
│    Select an     │
│ existing program │
└──────────────────┘
        │
┌──────────────────┐
│    Deside how    │
│  to continue :   │
└──────────────────┘
        │
┌──────────────────┐
│  Change data in  │
│ existing module  │
└──────────────────┘
        │
┌──────────────────┐
│ Delete a module  │
└──────────────────┘
        │
┌──────────────────┐
│ Insert a new module│
└──────────────────┘
        │
┌──────────────────┐
│    Enter text    │
└──────────────────┘
        │
┌──────────────────┐
│     Conclude     │
│   programming    │
└──────────────────┘
        │
┌──────────────────┐
│      Insert      │
│    Main Data     │
└──────────────────┘
        │
┌──────────────────┐
│      Insert      │
│  programme name  │
└──────────────────┘
        │
┌──────────────────┐
│      Insert      │
│ programme number │
└──────────────────┘
        │
┌──────────────────┐
│ Continue programming│
│ or stop programming│
└──────────────────┘
        │
┌──────────────────┐
│   Programming    │
│     finished     │
└──────────────────┘
```

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Questions, Standard mode

- Prewash, Main wash, Rinse, Soak
- Drain
- Extraction
- Cool-down

Questions, Advanced mode

- Prewash, Main wash, Rinse, Soak
- Drain
- Extraction
- Cool-down

You can alter any of the parameters in any module. The questions help you to determine factors such as times, speeds, temperatures, water and detergent options, and so on. Detailed explanations of each question can be found in these chapters :

Program modules, Standard mode

Program modules, Advanced mode

Here you are shown how to delete modules you do not require in your new wash program.

You can insert any suitable module wherever you wish in the program. You can choose from

the following modules :

Prewash

Used for prewash and brief soaking.

Main wash

Used as the main wash module, with heating and detergent dispensing.

Rinse

Rinsing the wash load.

Drain

Drain stage after wash and rinse stages.

Extract

Cool-down

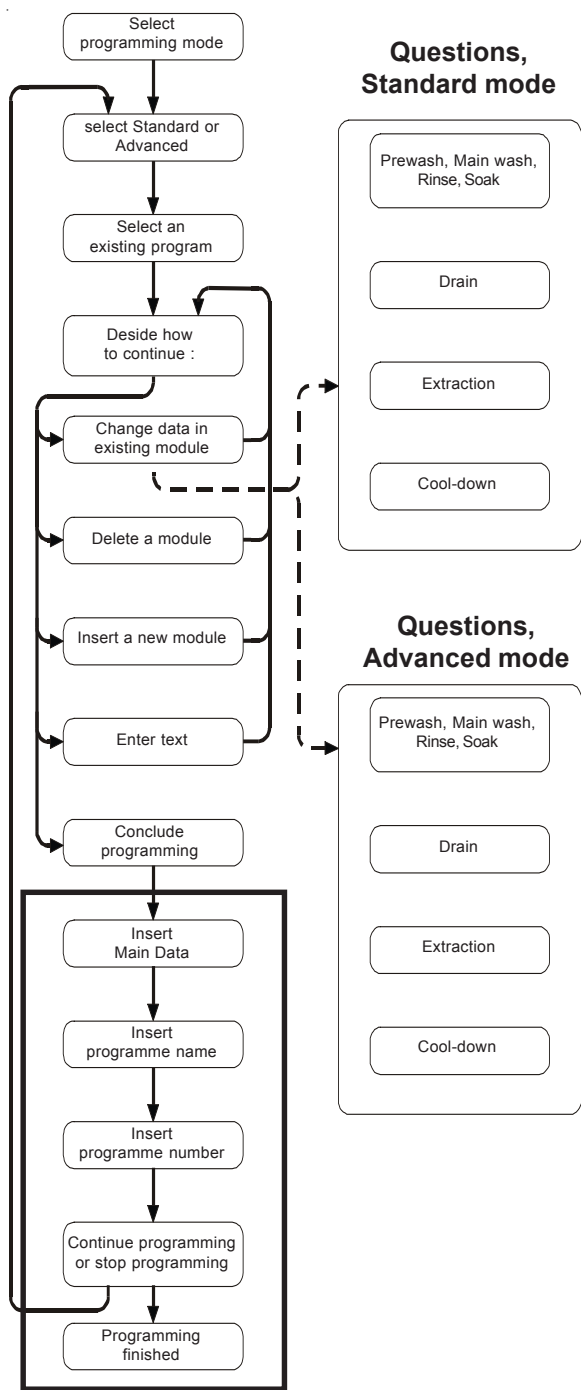Used for controlled cooling of the wash water to prevent creasing of the wash load.

Soak

Used for longer soak stages.

This is where you enter the new text to explain what the program is used for. The text will be displayed when the program is used. No more than 155 characters.

When you have decided to conclude programming, you have to enter the program's "main data", and to give it a new name and number. These steps are described in the next three points.

Select programming mode

select Standard or Advanced

Select an existing program

Deside how to continue :

Change data in existing module

Delete a module

Insert a new module

Enter text

Conclude programming

Insert Main Data

Insert programme name

Insert programme number

Continue programming or stop programming

Programming finished

Questions, Standard mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

Questions, Advanced mode

Prewash, Main wash, Rinse, Soak

Drain

Extraction

Cool-down

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"Main data" is the name given to various functions which apply to the program as a whole. In Standard mode you can control the functions "buzzer at program end", "start program with extraction", and "calculate weight of load". In Advanced mode you can also program the cycle times for gentle action and normal action.

The program name may be up to 80 characters long.

You can give the wash program a new program number between 1 and 990. You can also replace an existing wash program by giving the new program the same number as the existing program. Note that the standard programs supplied with the machine (numbered 991 to 999) cannot be deleted or changed.

When the program has been fully programmed, you can choose either to go on and program another wash program, or to exit programming mode.

To delete a wash programme

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ AND PRESS SELECT
WEIGHT, KG   000,

| ✳ | ↓ | SELECT |

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↓

RUN A WASH PROGRAM
GO TO THE MENU

SELECT

If this menu is not currently display :

Press ⏎ **repeatedly.**

**Press ⇩ to highlight:
« GO TO THE MENU ».**

Press SELECT.

— —

🔲 🔲 🔲 MENU 🔲 🔲 🔲
MAKE A CHOICE :
LIBRARY
PROGRAMMING MODE
SETTINGS 1
MEMORY CARD
SERVICE MODE
↓ STATISTICS

| ⇊ | ↓ | SELECT |

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LIBRARY

PROGRAMMING MODE

SETTINGS 1

MEMORY CARD

SERVICE MODE

STATISTICS

MANUAL MODE

SETTINGS 2

EXIT
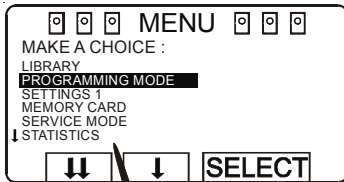
**Press ⇩ once to highlight
« MODE PROGRAMMING ».**
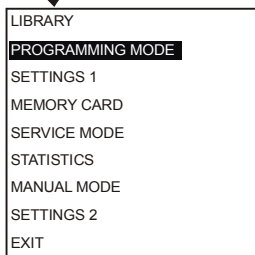
SELECT   **Press SELECT.**

```
PROGRAMMING MODE
MAKE A CHOICE :
STANDARD
ADVANCED
EXIT

   ✳      ⇩     SELECT
```
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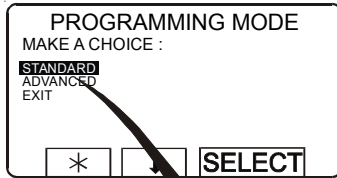
```
STANDARD
ADVANCED
EXIT
```
Check that STANDARD is highlight.

SELECT **Press SELECT.**

Standard or Advanced mode ?

This function is relevant only when you are creating or modifying a program. When you are deleting an entire program, it makes no difference to the result. You can let STANDARD (the default option) remain highlighted.
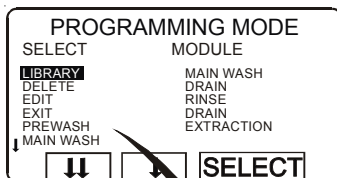
```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY         MAIN WASH
DELETE          DRAIN
EDIT            RINSE
EXIT            DRAIN
PREWASH         EXTRACTION
⇩ MAIN WASH

   ⇩⇩      ⇩     SELECT
```
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⇩

⇩⇩
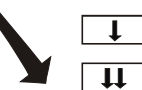
Press ⇩ to highlight: « DELETE PROGRAM ».

Press ⇩⇩ to scroll quickly down through the menu.
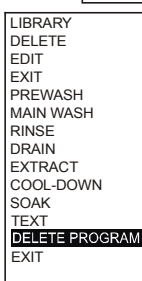
```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

SELECT **Press SELECT.**

Using ⇩⇩ and ⇧⇧ scroll quickly through menus

When the top item in a menu is highlighted, you have the option of scrolling down through the menu faster (this works in the same way in all menus where not all items can be displayed at once) :
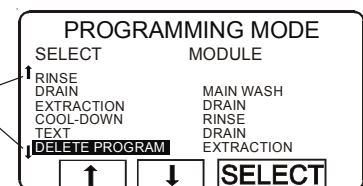
This arrow indicates that there are more items available in the menu.
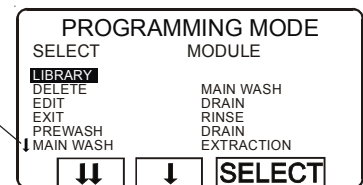
```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY
DELETE          MAIN WASH
EDIT            DRAIN
EXIT            RINSE
PREWASH         DRAIN
⇩ MAIN WASH     EXTRACTION

   ⇩⇩      ⇩     SELECT
```
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If you press ⇩⇩ the next portion of the programming menu will be displayed. The last item in that portion of the menu will be highlighted :

These arrows indicate that there are more items available, above and below those currently displayed.

```
PROGRAMMING MODE
SELECT          MODULE
⇧ RINSE
DRAIN           MAIN WASH
EXTRACTION      DRAIN
COOL-DOWN       RINSE
TEXT            DRAIN
DELETE PROGRAM  EXTRACTION

   ⇧      ⇩     SELECT
```
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Using this feature, you avoid having to press ⇩ repeatedly to move through the menu item by item. Similarly you can use ⇧⇧ whenever the last item on a portion of the menu is highlighted, to move quickly upwards through the menu.

```
PROGRAMMING MODE
PROGRAM LIBRARY
PR. NO.   NAME
1         HEAVY SOILED 90 °C
2         HEAVY SOILED 60 °C
991       NORMAL 95 °C STD
992       NORMAL 60 °C STD
993       NORMAL 40 °C STD
↓994      INTENSIVE 95 °C
   ⇊        ↓   SELECT
```

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↓

⇊

If necessary, use ⇩ or ⇩⇩ to highlight the program to be deleted.

─ *Standard programs can not be deleted* ─
The nine standard programs 991-999 supplied with the machine can not be deleted.

```
1      HEAVY SOILED 90 °C
2      HEAVY SOILED 60 °C
991    NORMAL 95 °C STD
992    NORMAL 60 °C STD
993    NORMAL 40 °C STD
994    INTENSIVE 95 °C
995    INTENSIVE 60 °C
996    PERM. PRESS 60 °C
997    PERM. PRESS 40 °C
998    LOW EXTRACT 1 MIN
999    HIGH EXTRACT 5 MIN
       EXIT
```

SELECT **Press SELECT.**

```
PROGRAMMING MODE
DELETE PROGRAM  NUMBER :      2

ARE YOU SURE  ?

PRESS SELECT OR ANY OTHER KEY
    ↑      ↓    SELECT
```

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If you change your mind and <u>no longer wish to delete</u> this program :
Press any key <u>other than</u> SELECT.

If you do wish to delete this program :
Press SELECT.

SELECT

─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─

```
1      HEAVY SOILED 90 °C
991    NORMAL 95 °C STD
992    NORMAL 60 °C STD
993    NORMAL 40 °C STD
994    INTENSIVE 95 °C
995    INTENSIVE 60 °C
996    PERM. PRESS 60 °C
997    PERM. PRESS 40 °C
998    LOW EXTRACT 1 MIN
999    HIGH EXTRACT 5 MIN
EXIT
```

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Choose 1 or 2 :

1 To delete more programs :
Use ⇩ or ⇧ highlight another program to delete, then press DELETE.

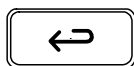**2** To stop deleting programs :
Press ⇩ highlight EXIT.

SELECT **Press SELECT.**

To create and write an entirely new program

The « Move back » key

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If you find you are in the wrong place, or if you want to undo earlier key presses :

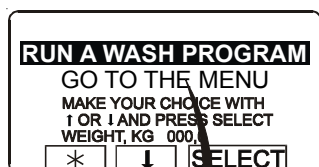**Press the « Move back » key one or more times.**

The "Move back" function

Each press of the "Move back" key moves you back one menu, in reverse order. By pressing this key repeatedly you can return to this menu at any time :

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ PRESS SELECT
WEIGHT, KG 000,0

| ✳ | ↓ | **SELECT** |

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Select programming mode

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ AND PRESS SELECT
WEIGHT, KG 000,0

| ✳ | ↓ | **SELECT** |

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If this menu is not currently display :

Press ⬅ repeatedly.

↓

**Press ⬇ to highlight :
« GO TO THE MENU ».**

RUN A WASH PROGRAM
GO TO THE MENU

SELECT **Press SELECT.**

Password protection of programming function

If required you can implement password protection for the functions **PROGRAMMING** and **SETTINGS 1**.
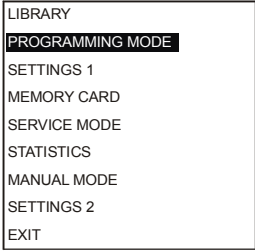
Once you have chosen a password (a four-digit number), both functions will be protected, and accessed using the same password.

Programming the password is done via the function **SETTINGS 1**, which is described in the section "Settings 1" of the Clarus Control Service manual.

⊡ ⊡ ⊡ MENU ⊡ ⊡ ⊡

MAKE A CHOICE :
LIBRARY
PROGRAMMING MODE
SETTINGS 1
MEMORY CARD
SERVICE MODE
↓ STATISTICS

⇊ | ↓ | **SELECT**

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LIBRARY

PROGRAMMING MODE

SETTINGS 1

MEMORY CARD

SERVICE MODE

STATISTICS

MANUAL MODE

SETTINGS 2

EXIT

Press ⇩ to highlight : « DELETE PROGRAM ».

SELECT **Press SELECT.**

Using ⇩⇩ and ⇧⇧ scroll quickly through menus

When the top item in a menu is highlighted, you have the option of scrolling down through the menu faster (this works in the same way in all menus where not all items can be displayed at once) :

This arrow indicates that there are more items available.

⊡ ⊡ ⊡ MENU ⊡ ⊡ ⊡

MAKE A CHOICE :
WASH PROGRAM LIBRARY
PROGRAMMING MODE
SETTINGS 1
MEMORY CARD
SERVICE MODE
↓ STATISTICS

⇊ | ↓ | **SELECT**

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If you press ⇩⇩ the next portion of the programming menu will be displayed. The last item in that portion of the menu will be highlighted :

⊡ ⊡ ⊡ MENU ⊡ ⊡ ⊡

MAKE A CHOICE :
↑ MEMORY CARD
SERVICE MODE
STATISTICS
MANUEL MODE
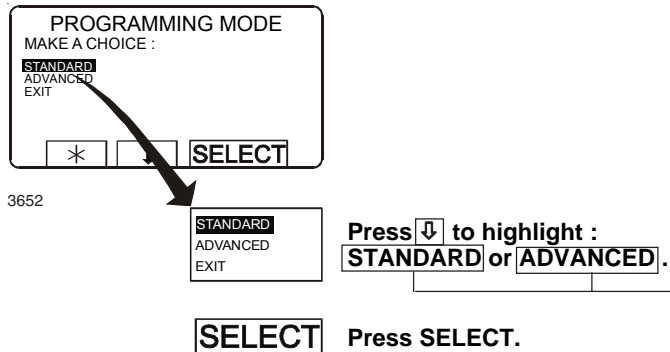SETTINGS 2
EXIT

↑ | ⇈ | **SELECT**

4051

Using this feature, you avoid having to press ⇩ repeatedly to move through the menu item by item.

Similarly you can use ⇧⇧ whenever the last item on a portion of the menu is highlighted, to move quickly upwards through the menu.

Select Standard or Advanced mode

PROGRAMMING MODE
MAKE A CHOICE :
STANDARD
ADVANCED
EXIT

✳ ↲ SELECT

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STANDARD
ADVANCED
EXIT

Press ⇩ to highlight : STANDARD or ADVANCED .

SELECT **Press SELECT.**

Standard or Advanced mode ?

There are two distinct levels (modes) for programming.

In **Standard** mode you can enter all the basic data required for a wash program. Other variables are set automatically using tried-and-tested standard values, which in most cases work without any problem.

In **Advanced** mode you have a higher degree of control over all aspects of the program. Using Advanced mode does, however, call for a detailed knowledge of the way in which wash programs work, to ensure that all the possibilities available are used correctly.

An example :

Via the modules **Prewash, Main wash, Rinse and Soak**, when using **Standard mode** you have control of the following functions :

Wash time, temperature, fill level, five water intake options, type of drum action during filling - heating wash, detergent supply from one of five alternatives, ten signals for liquid supply, flushing cold/hot, spray signal.

In **Advanced mode** you also have control of the following functions :

Temperature hysteresis, max. temperature increase per minute, level hysteresis, drum speeds during filling - heating - wash, and maximum drum acceleration rate.

If you have selected Standard mode

All **Standard mode** modules are described in detail in **chapter "Program modules, Standard mode"**.
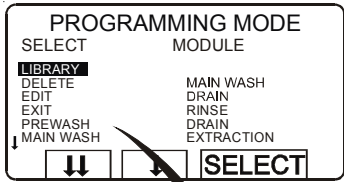
Even if you have selected **Standard mode** for programming, you still have the option of using **Advanced mode** for programming any given module. Each time you access a different module to work through the questions there, you can choose either Advanced or Standard mode.
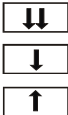

If you have selected Advanced mode

All **Advanced mode** modules are described in detail in chapter "Program modules, Advanced mode" If you selected **Advanced mode** at the start of programming, all programming will continue in Advanced mode. You cannot switch back to Standard mode for some modules only.
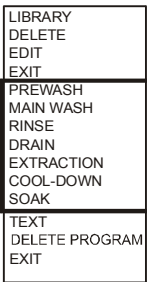
Select program module

```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY
DELETE          MAIN WASH
EDIT            DRAIN
EXIT            RINSE
PREWASH         DRAIN
↓ MAIN WASH     EXTRACTION
   ⇊       ↓      SELECT
```
3655

⇊

↓   **Use the cursor key to …**

↑

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACTION
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

… Highlight one of the seven program modules which go to make up a wash program.

(In this example we choose « PREWASH »).

SELECT   **Press SELECT.**

The wash program modules

The way in which programs are structured, using modules in sequence, is described in detail in chapter **"An introduction to programming"**.

The modules can be programmed in either **Standard** or **Advanced** mode. Standard mode is described in chapter **"Program modules, Standard mode"**, and Advanced mode in chapter **"Program modules, Advanced mode"**.

Prewash

Used for prewash and brief soaking.

Main wash

Used as the main wash module, with heating and detergent dispensing.

Rinse

Drain

Drain stage after wash and rinse stages.

Extract

Cool-down

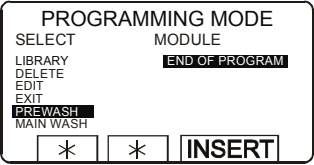Used for controlled cooling of the wash water to prevent creasing of the wash load.

Soak

Used for longer soak stages.

Select position of module in program sequence

```
       PROGRAMMING MODE
SELECT            MODULE
LIBRARY
DELETE         END OF PROGRAM
EDIT
EXIT
PREWASH
MAIN WASH
   ✳      ✳    INSERT
```

3889

Because this is the first module in the new wash program, you do not need to select its position in the program sequence.
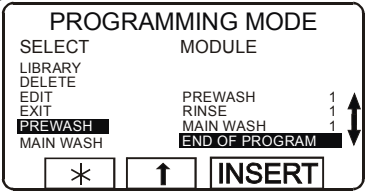
INSERT **Press INSERT.**

Position of module in wash program sequence.

Obviously, when you are about to program the first module in a wash program, you have no choice of position in the sequence. When you program subsequent modules, however, you can use these keys : ⬇ and ⬆ to determine the position of the module in the program sequence.

```
       PROGRAMMING MODE
SELECT            MODULE
LIBRARY
DELETE
EDIT           PREWASH      1
EXIT           RINSE        1
PREWASH        MAIN WASH    1
MAIN WASH      END OF PROGRAM
   ✳      ⬆     INSERT
```

3890

Once you have selected the position, press INSERT.

Note that the new module will be inserted **above (before)** the position highlighted in the list on the right of the display.

If you want the module to be last in the sequence, press INSERT when END OF PROGRAM is highlighted.

2. To create and write an entirely new program

Answer the questions for the module

Name of module

```
PROGRAMMING MODE
PREWASH   1
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                    0
LEVEL
COLD WATER                     N
HOT WATER                      N
↓ COLD HARD WATER             N

  ⇊        ↓       Y/N
```

3658

Sequence number of module

Option to scroll quickly through the menu.

```
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                 0 °C
LEVEL                          -
COLD WATER                     N
HOT WATER                      N
COLD HARD WATER                N
WATER FROM TANK 1              N
WATER FROM TANK 2              N
ACTION DURING FILLING          N
ACTION DURING HEAT             N
ACTION DURING WASH             N
COMPARTMENT 1                  N
DETERGENT 1 TIME           00:00
COMPARTMENT 2                  N
DETERGENT 2 TIME           00:00
COMPARTMENT 3                  N
DETERGENT 3 TIME           00:00
COMPARTMENT 4                  N
DETERGENT 4 TIME           00:00
COMPARTMENT 5                  N
DETERGENT 5 TIME           00:00
WATER FLUSH C/H                C
LIQUIDE DETERGENT 1        00:00
LIQUIDE DETERGENT 2        00:00
LIQUIDE DETERGENT 3        00:00
LIQUIDE DETERGENT 4        00:00
LIQUIDE DETERGENT 5        00:00
LIQUIDE DETERGENT 6        00:00
LIQUIDE DETERGENT 7        00:00
LIQUIDE DETERGENT 8        00:00
LIQUIDE DETERGENT 9        00:00
LIQUIDE DETERGENT 10       00:00
LIQUIDE DETERGENT 11       00:00
LIQUIDE DETERGENT 12       00:00
LIQUIDE DETERGENT 13       00:00
DRAIN                          N
EXIT
```

Use the function key or the numeric keys to answer the various questions.

Key	Description
Y/N	Yes/No questions
-/G/N	Drum action
C/H	Cold or hot water
L/M/H	Water level - standard mode
1 2 3 / 4 5 6 / 7 8 9 / 0	Times, temperatures, levels - advanced mode

Press ⇩ to move on the next question.

↓

You can go back and change a question you have answered already by pressing ⇧ repeatedly.

↑

Program module sequence numbering

All wash program modules are automatically given sequence numbers to help distinguish them. The first time a module is used it is given the number 1, the second time 2, and so on. For example :

Prewash	1	Extraction	1
Drain	1	Rinse	1
Main wash	1	Drain	3
Cool-down	1	Rinse	2
Drain	2	Drain	4
		Extraction	2

Different types of questions

The questions in the various modules are of four different types, and to be answered in different ways :

Yes/No questions

The function key display shows **Y/N,** which is a toggle function (the letter to the right of the highlighted question toggles between **N** and **Y** each time it is pressed). All Yes/No questions start with No (**N**) as the default value.

Drum action questions

The function key display shows **-/G/N,** which is a toggle function (the letter to the right of the highlighted question toggles from **-** to **G** to **N** and so on, each time it is pressed).

- = drum at a standstill

G = gentle action

N = normal action

All questions of this type start with normal action (**N**) as the default value.

Cold/hot water

Selection of water temp. for flushing detergent compartment.

Water level questions - standard mode

The function key display shows **L/M/H** and is a toggle function (the letter to the right of the highlighted question toggles from **-,** to **L**, **M** to **H**, each time it is pressed).

- = No water filling

L = Low water level

M = Medium water level

H = High water level

All questions of this type have No water filling **(-)** as a preprogrammed value.

Times, temperatures, levels - advanced mode

To answer these questions, use the numeric keys. The number of digits required will vary.

If you make a mistake while entering digits :

Press ERASE one or several times.

```
        PROGRAMMING MODE
PREWASH  1
↑ LIQUID DETERGENT 10        00:00
  LIQUID DETERGENT 11        00:00
  LIQUID DETERGENT 12        00:00
  LIQUID DETERGENT 13        00:00
  DRAIN                          N
  EXIT
```

↑	↑↑	SELECT

↓

```
3665
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                 0 °C
LEVEL                          -
COLD WATER                     N
HOT WATER                      N
COLD HARD WATER                N
WATER FROM TANK 1              N
WATER FROM TANK 2              N
ACTION DURING FILL             N
ACTION DURING HEAT             N
ACTION DURING WASH             N
COMPARTMENT 1                  N
DETERGENT 1 TIME           00:00
COMPARTMENT 2                  N
DETERGENT 2 TIME           00:00
COMPARTMENT 3                  N
DETERGENT 3 TIME           00:00
COMPARTMENT 4                  N
DETERGENT 4 TIME           00:00
COMPARTMENT 5                  N
DETERGENT 5 TIME           00:00
WATER FLUSH C/H                C
LIQUIDE DETERGENT 1        00:00
LIQUIDE DETERGENT 2        00:00
LIQUIDE DETERGENT 3        00:00
LIQUIDE DETERGENT 4        00:00
LIQUIDE DETERGENT 5        00:00
LIQUIDE DETERGENT 6        00:00
LIQUIDE DETERGENT 7        00:00
LIQUIDE DETERGENT 8        00:00
LIQUIDE DETERGENT 9        00:00
LIQUIDE DETERGENT 10       00:00
LIQUIDE DETERGENT 11       00:00
LIQUIDE DETERGENT 12       00:00
LIQUIDE DETERGENT 13       00:00
DRAIN                          N
EXIT
```

Once you have finished entering all the values :

Press ↓ to highlight « EXIT ».

SELECT

Press SELECT.

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**2. To create and write
an entirely new program**

INSTRUCTION
HANDBOOK

Decide how you wish to continue programming

```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY
DELETE
EDIT             PREWASH      1
EXIT             END OF PROGRAM
PREWASH
↓ MAIN WASH
   ↓↓        ↓    SELECT
```

3666

↓

↑

③ LIBRARY
  DELETE
② EDIT
  EXIT

  PREWASH
  MAIN WASH
  RINSE
① DRAIN
  EXTRACT
  COOL-DOWN
  SOAK

④ TEXT
  DELETE PROGRAM
⑤ EXIT
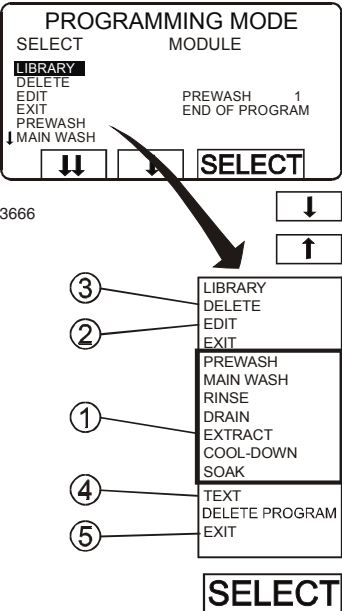
SELECT

Choose 1, 2, 3, 4 or 5 :

1 Continue programming
new program modules :

**Highlight one of the
seven program modules.**

Press SELECT.

**Continue answering
questions as described
earlier.**

2 Modify an existing
module :

**Highlight EDIT and press
SELECT. Then follow the
instructions in chapter
"To program on the basis
of an existing program"
section "To change data
in a program module".**

3 Delete a module :

**Highlight DELETE and
press SELECT. Then
follow the instructions in
chapter "To program on
the basis of an existing
program" section "To
delete a module".**

4 Enter text about the
program :

**Highlight TEXT and then
press SELECT. Then
follow the instructions in
section "Enter text about
the program".**

5 Conclude programming :

**Follow the instructions in
section "Conclude
programming".**
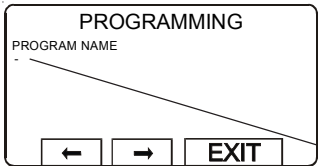

"TEXT" means more information

Before you run a wash program, by pressing TEXT,
the display can show a text which gives more
information about the program. This can be helpful to
be able to choose correct wash program. The same
text can also be shown during the wash cycle.

The text which can be used can consist of max. 150
digits and can be programmed in this function.

Programming text

```
        PROGRAMMING
PROGRAM NAME
-

    [←]   [→]   [EXIT]
```

3922

[←]

[→]

[↓]

```
1 2 3
4 5 6
7 8 9
    0
```

[EXIT]

Enter text (no more than approx. 150 characters) to accompany the program, with the aid of the functions described below.

The cursor shows where the letter/digit/character will be inserted.

The function keys have these functions :

Delete text.

One press :
Enter next letter/digit/ character.

Two presses:
Insert space between words.

Visible when the cursor is <u>not</u> at the far left of a line : **Use this to move the cursor to a new line.**

Use the numeric keys to enter letters/digits/ characters.

Visible when the cursor is at the far left of a line :
Use this to exit (conclude) entering text.

How to enter letters/digits/other characters

Letters, digits and other characters can be inserted using the numeric key pad. Each of the numeric keys gives access to several characters (3-5 per key), as follows:

[1]	[2]	[3]
ABCDE	FGHIJ	KLMNO
[4]	[5]	[6]
PQRST	UVWXY	ZÅÄÖ
[7]	[8]	[9]
01234	56789	= ( )
		[0]
		° + -.

The first time you press a given key, the first character available through that key will appear on the display. One press on [1] produces A. One press on [9] produces =.

Simply press the relevant key the required number of times until the character you want appears on the display. For example, to insert the letter **C**, press key [1] . three times. To insert : **)** (i.e. the end bracket), press [9] three times.

When the character you want is on the display, press [⇨] to insert the next character.

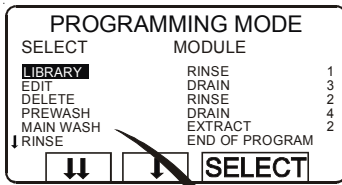To insert a **space** between words, simply press [⇨] a second time.

To **delete** a character, press [⇦] Press it repeatedly to delete several characters.

To **start a new line** press [⇩] .

To **end entering text**, press [⇩] to bring the cursor to the far left of a new line. Then press **EXIT**

Conclude programming

```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY         RINSE        1
EDIT            DRAIN        3
DELETE          RINSE        2
PREWASH         DRAIN        4
MAIN WASH       EXTRACT      2
↓RINSE          END OF PROGRAM

  ↓↓       ↓      SELECT
```
3667

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

Once you have completed programming of all modules in the program :

Press ⇩ ...

... to seven light either of the two "EXIT" options.

↓

SELECT **Press SELECT.**

Insert Main Data

```
PROGRAMMING MODE
MAIN DATA
STANDARD
ADVANCED
EXIT

  ✳        ↓      SELECT
```
3668

```
STANDARD
ADVANCED
EXIT
```
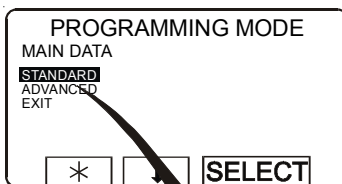
SELECT

This option is presented only if you selected Standard mode at step "Select standard or advanced mode".

Highlight STANDARD or ADVANCED.

Press SELECT.

What is Main Data?

"Main Data" is the name given to various functions which influence the entire wash program.

Standard or Advanced mode ?

Using **Standard** mode (see section Main data, standard mode) you can control the following functions :

Buzzer at program end, start program with extraction, calculate weight of load.

Using **Advanced** mode (see section Main data, advanced mode) you can also control the following functions:

Cycle times for gentle action and normal action.

Main Data, Standard mode

```
      PROGRAMMING MODE
MAIN DATA
BUZZER AT END                    N
START EXTRACT                    N
READY


   ✳      ↓    SELECT
```

3669

```
BUZZER AT END                    N
START EXTRACT                    N
READY
```

┌─ *Buzzer at end* ──────────────────────┐
If you answer **Yes (Y)** :
   The buzzer will sound when the program ends.
   The buzzer signal can be turned off by pressing the
   button with crossed buzzer-symbol.

If you answer **No (N) :**
   No buzzer at program end.
└──┘

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ⇩ .** |

```
BUZZER AT END                    N
START EXTRACT                    N
READY
```

3670

┌─ *Start extract (start with extraction)* ─┐
If you answer **Yes (Y)** :
   The machine will start with a short extraction cycle
   when the program begins. This helps the load to
   soak up water, and the machine does not require so
   much extra filling (repeated topping up).

If you answer **No (N) :**
   No extraction when the program begins.
└──┘

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ⇩ .** |

```
BUZZER AT END                    N
START EXTRACT                    N
READY
```

3672

Once you have answered all
the questions, highlight
READY, then :

| SELECT | **Press SELECT.** |

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**2. To create and write
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Main data, Advanced mode

The first three questions of Advanced mode are the same as in Standard mode, see section "Main data, standard mode.

BUZZER AT END	N
START EXTRACT	N
GENTLE ON TIME	SEC 3
GENTLE OFF TIME	SEC 12
NORMAL ON TIME	SEC 2
NORMAL OFF TIME	SEC 3
READY	

3892

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

Use the machine key to enter the required value.

If wrong digits are given :

Press ERASE.

When ready

[↓] **Press ⇩ .**

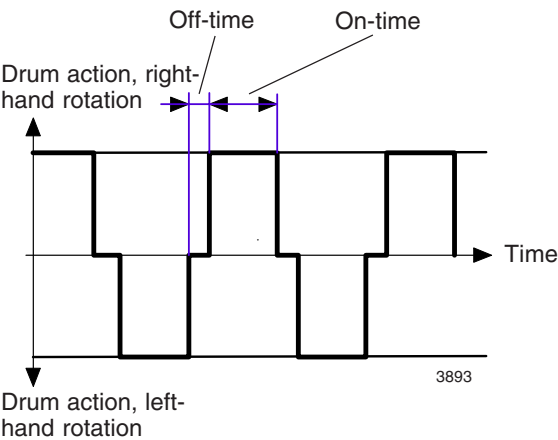─── *Drum action "on-times" and "off-times"* ───

Here you can determine the precise structure of drum action (both "gentle" and "normal" action), by setting the individual lengths of time the drum is to rotate ("on-time") and be at a standstill ("off-time").

The values displayed initially are those recommended by supplier.

3893

BUZZER AT END	N
START EXTRACT	N
GENTLE ON TIME SEC	3
GENTLE OFF TIME SEC	12
NORMAL ON TIME SEC	12
NORMAL OFF TIME SEC	3
READY	

3894

Once you have answered all the questions, highlight READY, then :

[SELECT] **Press SELECT.**

Insert the program name

```
PROGRAMMING MODE
PROGRAM NAME
-

  ←      →      EXIT
```
4215

Enter program name (no more than approx. 150 characters) to accompany the program, with the aid of the functions described below.

The cursor shows where the letter/digit/character will be inserted.

The function keys have these functions :

← **Delete text.**

→

One press:
Enter next letter/digit/character.

Two presses:
Insert space between words.

EXIT

Use the numeric keys to enter letters/digits/ characters.

Use this to exit (conclude) entering text.

How to enter letters/digits/other characters

Letters, digits and other characters can be inserted using the numeric key pad. Each of the numeric keys gives access to several characters (3-5 per key), as follows:

1	2	3
ABCDE	FGHIJ	KLMNO

4	5	6
PQRST	UVWXY	ZÅÄÖ

7	8	9
01234	56789	= ( )

0
° + -.

The first time you press a given key, the first character available through that key will appear on the display. One press on 1 produces A. One press on 9 produces =.

Simply press the relevant key the required number of times until the character you want appears on the display. For example, to insert the letter **C**, press key 1 . three times. To insert : **)** (i.e. the end bracket), press 9 three times.

When the character you want is on the display, press ⇨ to insert the next character.

To insert a **space** between words, simply press ⇨ a second time.

To **delete** a character, press ⇦ Press it repeatedly to delete several characters.

To **start a new line** press ⇩ .

To **end entering text**, press ⇩ to bring the cursor to the far left of a new line. Then press **EXIT**

Insert the program number

```
   PROGRAMMING

PROGRAM NUMBER?


  [ * ]  [ * ]  [ EXIT ]
```
3675

Use the numeric keys to enter the program number.

```
[1][2][3]
[4][5][6]
[7][8][9]
   [0]
```

[EXIT] **Press EXIT**

Allowed program numbers for new programs

The standard programs supplied with machine have No. 991 - 999.

New programs can have numbers 001 - 990.

— — — — — — — — — — — — — — — — — — — —

```
  PROGRAMMING MODE

PROGRAM HAS BEEN STORED
PRESS ANY KEY TO CONTINUE...


  [ * ]  [ * ]  [ * ]
```
3676

The new program will now be stored in the control unit EEPROM.

Once the program has been stored ("loaded"), a process which takes only a matter of seconds, the display will look like this (illustration, left).

```
[1][2][3]
[4][5][6]
[7][8][9]
[↵][0]
```

Press any key.

Continue programming or stop programming

```
  PROGRAMMING MODE
MAKE A CHOICE :
[STANDARD]
ADVANCED
EXIT

  [ * ]  [ ↓ ]  [ SELECT ]
```
3677

[↓]

① ─── STANDARD
②   ADVANCED
        EXIT

[SELECT]

[↓]

        STANDARD
        ADVANCED
③ ─── EXIT

[SELECT]

Choose 1, 2 or 3:

1 Continue programming in Standard mode:

Highlight STANDARD and press SELECT.

2 Continue programming in Advanced mode:

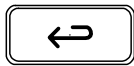**Highlight ADVANCED and press SELECT.**

3 Stop programming:

Highlight EXIT and press SELECT.

To program on the basis of an existing program

The « Move back » key

3627

If you find you are in the wrong place, or if you want to undo earlier key presses :

Press the "Move back" key one or more times.

The "Move back" function

Each press of the "Move back" key moves you back one menu, in reverse order. By pressing this key repeatedly you can return to this menu at any time :

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ PRESS SELECT
WEIGHT, KG   000,0
| ✳ | ↓ | SELECT |

3651

Select programming mode

RUN A WASH PROGRAM
GO TO THE MENU
MAKE YOUR CHOICE WITH
↑ OR ↓ AND PRESS SELECT
WEIGHT, KG   000,0
| ✳ | ↓ | SELECT |

3589

↓

RUN A WASH PROGRAM
GO TO THE MENU

SELECT

If this menu is not currently displayed :

Press ⟵ **repeatedly .**

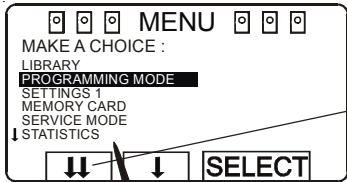**Press ⇩ to highlight « GOT TO THE MENU ».**

Press SELECT.

Password protection of programming function

If required you can implement password protection for the functions **PROGRAMMING** and **SETTINGS 1**. Once you have chosen a password (a four-digit number), both functions will be protected, and accessed using the same password.

Programming the password is done via the function **SETTINGS 1**, which is described in the section "Settings 1" of the Clarus Control manual.
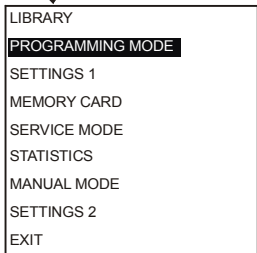
To program on the basis of an existing program

```
⏹ ⏹ ⏹  MENU  ⏹ ⏹ ⏹
MAKE A CHOICE :
LIBRARY
PROGRAMMING MODE
SETTINGS 1
MEMORY CARD
SERVICE MODE
↓ STATISTICS
    ⇟      ↓    SELECT
```
3663

To scroll quickly through menus.

```
LIBRARY

PROGRAMMING MODE

SETTINGS 1

MEMORY CARD

SERVICE MODE

STATISTICS

MANUAL MODE

SETTINGS 2

EXIT
```
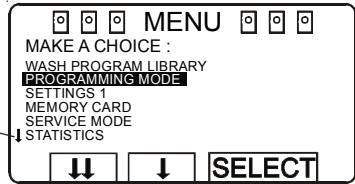
Press ⇩ to highlight PROGRAMMING MODE.

SELECT **Press SELECT.**
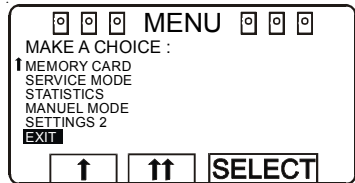
Using ⇟ and ⇞ to scroll quickly menus

When the top item in a menu is highlighted, you have the option of scrolling down through the menu faster (this works in the same way in all menus where not all items can be displayed at once) :

This arrow indicates that there are more items available.

```
⏹ ⏹ ⏹  MENU  ⏹ ⏹ ⏹
MAKE A CHOICE :
WASH PROGRAM LIBRARY
PROGRAMMING MODE
SETTINGS 1
MEMORY CARD
SERVICE MODE
↓ STATISTICS
    ⇟      ↓    SELECT
```
4050

If you press ⇟ he next portion of the programming menu will be displayed. The last item in that portion of the menu will be highlighted :

```
⏹ ⏹ ⏹  MENU  ⏹ ⏹ ⏹
MAKE A CHOICE :
↑ MEMORY CARD
SERVICE MODE
STATISTICS
MANUEL MODE
SETTINGS 2
EXIT
    ↑      ⇞    SELECT
```
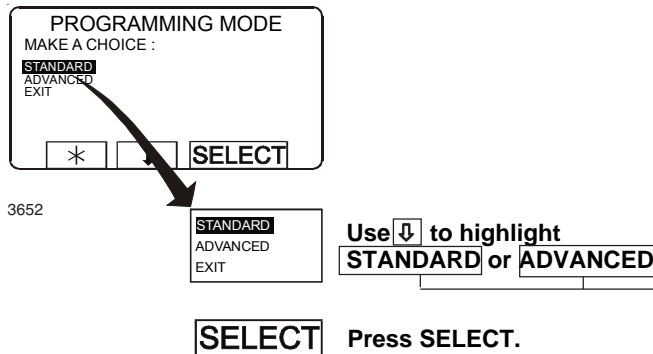4051

Using this feature, you avoid having to press ⇩ repeatedly to move through the menu item by item.

Similarly you can use ⇞ whenever the last item on a portion of the menu is highlighted, to move quickly upwards through the menu.

Select Standard or Advanced mode

```
┌─────────────────────────────┐
│   PROGRAMMING MODE          │
│ MAKE A CHOICE :             │
│ STANDARD                    │
│ ADVANCED                    │
│ EXIT                        │
│                             │
│  ┌───┐ ┌───┐  ┌────────┐    │
│  │ * │ │   │  │ SELECT │    │
│  └───┘ └───┘  └────────┘    │
└─────────────────────────────┘
```

3652

```
┌──────────────┐
│ STANDARD     │
│ ADVANCED     │
│ EXIT         │
└──────────────┘
```

Use ⇩ to highlight
|STANDARD| or |ADVANCED|

|SELECT| Press SELECT.

Standard or Advanced mode ?

There are two distinct levels (modes) for programming.

In **Standard** mode you can enter all the basic data required for a wash program. Other variables are set automatically using tried-and-tested standard values, which in most cases work without any problem.

In **Advanced** mode you have a higher degree of control over all aspects of the program. Using Advanced mode does, however, call for a detailed knowledge of the way in which wash programs work, to ensure that all the possibilities available are used correctly.

An example :

Via the modules **Prewash, Main wash, Rinse and Soak** when using **Standard mode** you have control of the following functions :

Wash time, temperature, fill level, five water intake options during filling, type of drum action during filling - heating - wash, detergent supply from one of five alternatives, ten signals for liquid supply, flushing cold/hot, spray signal.

In **Advanced mode** you also have control of the following functions :

Temperature hysteresis, max. temperature increase per minute, level hysteresis, drum speeds during filling - heating - wash, and maximum drum acceleration rate.

If you have selected Standard mode

All **Standard mode** modules are described in detail in **chapter "Program modules, Standard mode"**.

Even if you have selected **Standard mode** for programming, you still have the option of using **Advanced mode** for programming any given module. Each time you access a different module to work through the questions there, you can choose either Advanced or Standard mode.
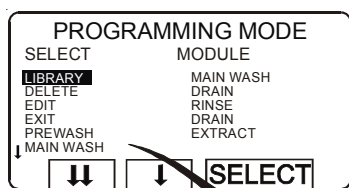

If you have selected Advanced mode

All **Advanced mode** modules are described in detail in **chapter "Program modules, Advanced mode"**.
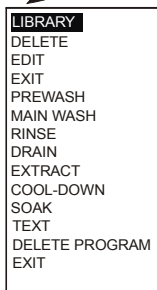
If you selected **Advanced mode** at the start of programming, all programming will continue in Advanced mode. You cannot switch back to Standard mode for some modules only.

3. To program on the basis of an existing program
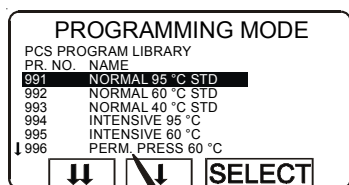
Select the existing program to adapt

```
      PROGRAMMING MODE
SELECT            MODULE
LIBRARY           MAIN WASH
DELETE            DRAIN
EDIT              RINSE
EXIT              DRAIN
PREWASH           EXTRACT
↓ MAIN WASH
   ⥥      ↓    SELECT
```

3895

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

Check that PROGRAM LIBRARY is highlight…

SELECT   … **and press SELECT.**

- -

```
      PROGRAMMING MODE
PCS PROGRAM LIBRARY
PR. NO.  NAME
991      NORMAL 95 °C STD
992      NORMAL 60 °C STD
993      NORMAL 40 °C STD
994      INTENSIVE 95 °C
995      INTENSIVE 60 °C
↓ 996    PERM. PRESS 60 °C
   ⥥      ↓    SELECT
```

3896

↓

Use ⇓ to highlight the program you want to adapt (such as 996 PERM. PRESS 60 °C).

991	NORMAL 95 °C STD
992	NORMAL 60 °C STD
993	NORMAL 40 °C STD
994	INTENSIVE 95 °C
995	INTENSIVE 60 °C
996	PERM. PRESS 60 °C
997	PERM. PRESS 40 °C
998	EXTRACT LOW 1 MIN
999	EXTRACT HIGH 5 MIN

SELECT   **Press SELECT.**

What is the program library ?

The program library lists all wash programs, both user and standard programs, showing their program numbers and names, for example :

1	OWN PROG. 40 DEGREES
2	OWN PROG. 60 DEGREES
3	OWN PROG. 90 DEGREES
991	NORMAL 95°C
992	NORMAL 60°C
993	NORMAL 40°C
994	INTENSIVE 95°C
995	INTENSIVE 60°C
996	PERM.PRESS 60°C
997	PERM.PRESS 40°C
998	EXTRACT LOW 1 MIN
999	EXTRACT HIGH 5 MIN

Each time a new program is stored in the machine program memory, its number and name will also be inserted automatically into the program library.

The program library can be used :

- When programming an existing program, which shall be modified.
- When programming a new program with an old as background.
- When choosing a suitable wash program.

To change data in a program module

```
PROGRAMMING MODE
SELECT        MODULE
LIBRARY       MAIN WASH
DELETE        COOL-DOWN
EDIT          DRAIN
PREWASH       RINSE
MAIN WASH     DRAIN
  ⇊      ↓    SELECT
```

The modules of the program selected will be shown on the right-hand side of the display.

3897

↓   **Use ⇩ to highlight EDIT.**

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

SELECT   **Press SELECT.**

```
PROGRAMING MODE
SELECT        MODULE
LIBRARY       MAIN WASH    1
DELETE        COOL-DOWN    1
EDIT          DRAIN        1
EXIT          RINSE        1
PREWASH       DRAIN        2
MAIN WASH
  ✳      ↓    SELECT
```

After you have highlighted **EDIT** and pressed **SELECT**, the first five program modules will be displayed, with the first of them highlighted.

3898

↓

If you want to edit some module other than the first (MAIN WASH 1), press ⇩ repeatedly to highlight the right one.

```
MAIN WASH         1
COOL-DOWN         1
DRAIN             1
RINSE             1
DRAIN             2
RINSE             2
DRAIN             3
RINSE             3
DRAIN             4
EXTRACT           1
END OF PROGRAM
```

Program module sequence numbering

All wash program modules are automatically given sequence numbers to help distinguish them. The first time a module is used it is given the number 1, the second time 2, and so on.

EDIT   **Press EDIT.**

```
        PROGRAMMING MODE
MAIN WASH   1
PAUSE WITH BUZZER               N
WASH TIME                   00:00
TEMPERATURE                     0
LEVEL                           -
COLD WATER                      N
HOT WATER                       N
↓ COLD HARD WATER               N
    ⇊        ↓       Y/N
```
3899

Option to scroll quickly through the menu.

```
PAUSE WITH BUZZER               N
WASH TIME                   00:00
TEMPERATURE                 0 °C
LEVEL                           -
COLD WATER                      N
HOT WATER                       N
COLD HARD WATER                 N
WATER FROM TANK 1               N
WATER FROM TANK 2               N
ACTION DURING FILL              N
ACTION DURING HEAT              N
ACTION DURING WASH              N
COMPARTMENT 1                   N
DETERGENT 1 TIME            00:00
COMPARTMENT 2                   N
DETERGENT 2 TIME            00:00
COMPARTMENT 3                   N
DETERGENT 3 TIME            00:00
COMPARTMENT 2                   N
DETERGENT 4 TIME            00:00
COMPARTMENT 5                   N
DETERGENT 5 TIME            00:00
WATER FLUSH C/H                 C
LIQUIDE DETERGENT 1         00:00
LIQUIDE DETERGENT 2         00:00
LIQUIDE DETERGENT 3         00:00
LIQUIDE DETERGENT 4         00:00
LIQUIDE DETERGENT 5         00:00
LIQUIDE DETERGENT 6         00:00
LIQUIDE DETERGENT 7         00:00
LIQUIDE DETERGENT 8         00:00
LIQUIDE DETERGENT 9         00:00
LIQUIDE DETERGENT 10        00:00
LIQUIDE DETERGENT 11        00:00
LIQUIDE DETERGENT 12        00:00
LIQUIDE DETERGENT 13        00:00
DRAIN                           N
EXIT
```

Use the function key or the numeric keys to alter the answers to the various questions.

Y/N	Yes/No questions
-/G/N	Drum action
C/H	Cold or hot water
L/M/H	Water level - standard mode

| 1 2 3 |
| 4 5 6 | Times, temperatures, levels - advanced mode
| 7 8 9 |

| 0 |

Press ⇩ to move on to the next question.

| ↓ |
| ↑ |

You can go back and change a question you have answered already by pressing ⇧ repeatedly.

The wash program modules

All modules and module questions are described in the chapters :

"Program modules, standard mode" and **"Program modules, advanced mode".**

Different types of questions

The questions in the various modules are of four different types, and to be answered in a different way:

Yes/No questions

The function key display shows **Y/N,** which is a toggle function (the letter to the right of the highlighted question toggles between **N** and **Y** each time it is pressed). All Yes/No questions start with No (**N**) as the default value.

Drum action questions

The function key display shows **-/G/N,** which is a toggle function (the letter to the right of the highlighted question toggles from **-** to **G** to **N** and so on, each time it is pressed).

- = drum at a standstill

G = gentle action

N = normal action

All questions of this type start with normal action (**N**) as the default value.

Cold/hot water

Selection of water temp. for flushing detergent compartment.

Water level questions - standard mode

The function key display shows **L/M/H** and is a toggle function ((the letter to the right of the highlighted question toggles from **L**, **M** to **H** each time it is pressed).

L = Low water level

M = Medium water level

H = High water level

All questions of this type have Low level (**L**) as a preprogrammed value.

Times, temperatures, levels -advanced mode

To answer these questions, use the numeric keys. The number of digits required will vary.

If you pressed wrong digits:

Press **ERASE** once or several times.

	↓
PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DURING WASH	N
COMPARTMENT 1	N
DETERGENT 1 TIME	00:00
COMPARTMENT 2	N
DETERGENT 2 TIME	00:00
COMPARTMENT 3	N
DETERGENT 3 TIME	00:00
COMPARTMENT 4	N
DETERGENT 4 TIME	00:00
COMPARTMENT 5	N
DETERGENT 5 TIME	00:00
WATER FLUSH C/H	C
LIQUIDE DETERGENT 1	00:00
LIQUIDE DETERGENT 2	00:00
LIQUIDE DETERGENT 3	00:00
LIQUIDE DETERGENT 4	00:00
LIQUIDE DETERGENT 5	00:00
LIQUIDE DETERGENT 6	00:00
LIQUIDE DETERGENT 7	00:00
LIQUIDE DETERGENT 8	00:00
LIQUIDE DETERGENT 9	00:00
LIQUIDE DETERGENT 10	00:00
LIQUIDE DETERGENT 11	00:00
LIQUIDE DETERGENT 12	00:00
LIQUIDE DETERGENT 13	00:00
DRAIN	N
EXIT	

3900

Once you have finished modifying values as required :

Press ⇩ to highlight "READY".

SELECT   **Press SELECT.**

To delete a module

```
   PROGRAMMING MODE
SELECT        MODULE
LIBRARY       MAIN WASH    1
DELETE        COOL-DOWN    1
EDIT          DRAIN        1
EXIT          RINSE        1
PREWASH       DRAIN        2
↓ MAIN WASH
      ⇊      ↓    SELECT
```

3907

After you have chosen **DELETE**, the first five program modules will be displayed. The first module will be highlighted.

↓

Press ⇩ to highlight "DELETE".

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT

SELECT
```

Press SELECT.

— — — — — — — — — — — — — — — — — — —

```
   PROGRAMMING MODE
SELECT        MODULE
LIBRARY       MAIN WASH    1
DELETE        COOL-DOWN    1
EDIT          DRAIN        1
EXIT          RINSE        1
PREWASH       DRAIN        2
↓ MAIN WASH
      ⇊      ↓    SELECT
```

3908

↓

If necessary press ⇩ to highlight the module you want to delete (e.g. COOL-DOWN 1).

```
MAIN WASH        1
COOL-DOWN        1
DRAIN            1
RINSE            1
DRAIN            2
RINSE            2
DRAIN            3
RINSE            3
DRAIN            4
EXTRACT          1
END OF PROGRAM
```

DELETE

Press DELETE.

MAIN WASH	1
DRAIN	1
RINSE	1
DRAIN	2
RINSE	2
DRAIN	3
RINSE	3
DRAIN	4
EXTRACT	1
END OF PROGRAM	

①

3909

The module will now have been deleted.

Choose 1 or 2 :

⬇

⬆

1 Delete more modules:

Use ⬆ or ⬇ to highlight another module.

DELETE

Press DELETE.

⬇

2 Stop deleting :

PRESS ⬇ to highlight END OF PROGRAM.

MAIN WASH	1
DRAIN	1
RINSE	1
DRAIN	2
RINSE	2
DRAIN	3
RINSE	3
DRAIN	4
EXTRACT	1
END OF PROGRAM	

②

3910

EXIT

Press EXIT.

To insert a new module


```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY         MAIN WASH    1
DELETE          COOL-DOWN    1
EDIT            DRAIN        1
EXIT            RINSE        1
PREWASH         DRAIN        2
MAIN WASH
        ↓↓      ↓       SELECT
```

3912

↓ **Use ↓ and ↑ to…**

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

…highlight one of the seven possible wash program modules (e.g. COOL-DOWN).

SELECT **Press SELECT.**

— — — — — — — — — — — — — — — — — — —


```
PROGRAMMING MODE
SELECT          MODULE
DRAIN           DRAIN        3
EXTRACT         RINSE        3
COOL-DOWN       DRAIN        4
SOAK            EXTRACT      1
TEXT            END OF PROGRAM
        ↓↓      ↓       INSERT
```

3911

Now the last four modules will be displayed. **END OF PROGRAM** will be highlighted.

↓

Press ↑ to determine where the new module will be inserted in the program sequence.

```
MAIN WASH       1
DRAIN           1
RINSE           1
DRAIN           2
RINSE           2
DRAIN           3
RINSE           3
DRAIN           4
EXTRACT         1
END OF PROGRAM
```

The module will be inserted <u>above</u> the module you highlight.

To insert the module last in the program, you should highlight **END OF PROGRAM.**
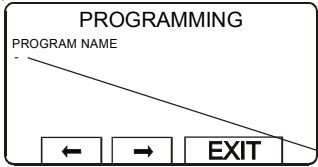
INSERT **Press INSERT.**

Now you can answer the questions as described in chapter "To create and write an entirely new program ", section "Select position of module in program sequence" and following sections.

Programming text

PROGRAMMING

PROGRAM NAME

←   →   EXIT

3922

←

→   **Delete text.**

↓   One press :
Enter next letter/digit/ character.

1	2	3
4	5	6
7	8	9
	0	

Two presses :
Insert space between words.

EXIT   Visible when the cursor is <u>not</u> at the far left of a line : **Use this to move the cursor to a new line.**

Use the numeric keys to enter letters/digits/ characters.

Visible when the cursor is at the far left of a line :

Use this to exit (conclude) entering text.

Enter text (no more than approx. 150 characters) to accompany the program, with the aid of the functions described below.

The cursor shows where the letter/digit/character will be inserted.

The function keys have these functions :

How to enter letters/digits/other characters

Letters, digits and other characters can be inserted using the numeric key pad. Each of the numeric keys gives access to several characters (3-5 per key), as follows :

1	**2**	**3**
ABCDE	FGHIJ	KLMNO

4	**5**	**6**
PQRST	UVWXY	ZÅÄÖ

7	**8**	**9**
01234	56789	= ( )

0
° + -.

The first time you press a given key, the first character available through that key will appear on the display. One press on ⌷1⌷ produces A. One press on ⌷9⌷ produces =.

Simply press the relevant key the required number of times until the character you want appears on the display. For example, to insert the letter **C**, press key ⌷1⌷ . three times. To insert : **)** (i.e. the end bracket), press ⌷9⌷ three times.

When the character you want is on the display, press ⇨ to insert the next character.

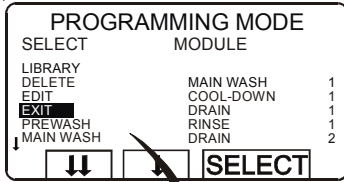To insert a **space** between words, simply press ⇨ a second time.

To **delete** a character, press ⇦ Press it repeatedly to delete several characters.

To **start a new line** press ⇩ .

To **end entering text**, press ⇩ to bring the cursor to the far left of a new line. Then press **EXIT**

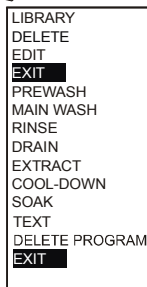# 3. To program on the basis of an existing program

Conclude programming

```
PROGRAMMING MODE
SELECT          MODULE
LIBRARY
DELETE          MAIN WASH    1
EDIT            COOL-DOWN    1
EXIT            DRAIN        1
PREWASH         RINSE        1
MAIN WASH       DRAIN        2

   ⏬      ↓   SELECT
```

3913

Once you have completed programming :

↓   **Press ⇩…**

```
LIBRARY
DELETE
EDIT
EXIT
PREWASH
MAIN WASH
RINSE
DRAIN
EXTRACT
COOL-DOWN
SOAK
TEXT
DELETE PROGRAM
EXIT
```

… to highlight either of the two EXIT !

SELECT   **Press SELECT.**

Main data
Main data, Standard mode

┌─ **What is Main Data ?** ─────────────┐
"Main Data" is the name given to various functions which influence the entire wash program.
└──────────────────────────────────────┘

```
      PROGRAMMING MODE
  996      PERM.PRESS 60°C
MAIN DATA
BUZZER AT END                    N
START EXTRACT                    N
READY

   ┌───┬───┬─────┐
   │ ✳ │ ↓ │ Y/N │
   └───┴───┴─────┘
```

3915

```
┌──────────────────────────────┐
│ BUZZER AT END              N  │
│ START EXRACT               N  │
│ READY                         │
└──────────────────────────────┘
```

┌─────┐
│ Y/N │   **Answer Yes (Y) or No (N).**
└─────┘
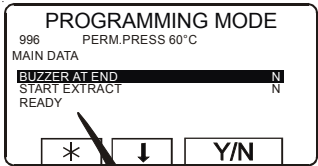
┌───┐
│ ↓ │   **Press ⇩ .**
└───┘

┌─ **Buzzer at end** ─────────────────────┐
If you answer **Yes (Y)** :
  The buzzer will sound when the program ends. The buzzer signal can be turned off by pressing the crossed buzzer-symbol.

If you answer **No (N) :**
  No buzzer at program end.
└───┘

```
BUZZER AT END               N
START EXTRACT               N
READY
```

3670

Y/N	**Answer Yes (Y) or No (N).**

↓	**Press ⇩.**

┌─ *Start extract (start with extraction)* ─────┐

If you answer **Yes (Y)** :
   The machine will start with a short extraction cycle when the program begins. This helps the load to soak up water, and the machine does not require so much extra filling (repeated topping up).

If you answer **No (N) :**
   No extraction when the program begins.

└──┘

```
BUZZER AT END               N
START EXTRACT               N
READY
```

3672

Once you have answered all the questions, highlight READY, then :

SELECT	**Press SELECT.**

Main data, Advanced mode

The first three questions of Advanced mode are the same as in Standard mode, see section "Main data, standard mode".

BUZZER AT END	N
START EXTRACT	N
GENTLE ON TIME	SEC 3
GENTLE OFF TIME	SEC 12
NORMAL ON TIME	SEC 2
NORMAL OFF TIME	SEC 3
READY	

3892

Use the machine key to enter the required value.

```
1 2 3
4 5 6
7 8 9
  0
```

If wrong digits are given :

Press ERASE.

When ready,

↓ **Press ⇩ .**

Drum action "on-times" and "off-times"

Here you can determine the precise structure of drum action ("both gentle" and "normal" action) by setting the individual lengths of time the drum is to rotate ("on-time") and be at a standstill ("off-time").

The values displayed initially are those recommended by supplied.

Drum action, right-hand rotation

On-time   Off-time

Time

Drum action, left-hand rotation

3893

BUZZER AT END	N
START EXTRACT	N
GENTLE ON TIME SEC	3
GENTLE OFF TIME SEC	12
NORMAL ON TIME SEC	12
NORMAL OFF TIME SEC	3
READY	

3894

Once you have answered all the questions, highlight READY, then :

SELECT **Press SELECT.**

Insert the program name

PROGRAMMING MODE

PROGRAM NAME

← → EXIT

4215

←

→

1	2	3
4	5	6
7	8	9
	0	

EXIT

Enter program name (no more than approx. 150 characters) to accompany the program, with the aid of the functions described below.

The cursor shows where the letter/digit/character will be inserted.

The function keys have these functions :

Delete text.

One press :
Enter next letter/digit/character.

Two presses :
Insert space between words.

Use the numeric keys to enter letters/digits/characters.

Use this to exit (conclude) entering text.

How to enter letters/digits/other characters

Letters, digits and other characters can be inserted using the numeric key pad. Each of the numeric keys gives access to several characters (3-5 per key), as follows :

1	2	3
ABCDE	FGHIJ	KLMNO

4	5	6
PQRST	UVWXY	ZÅÄÖ

7	8	9
01234	56789	= ( )

0
° + -.

The first time you press a given key, the first character available through that key will appear on the display. One press on 1 produces A. One press on 9 produces =.

Simply press the relevant key the required number of times until the character you want appears on the display. For example, to insert the letter **C**, press key 1 . three times. To insert : **)** (i.e. the end bracket), press 9 three times.

When the character you want is on the display, press ⇨ to insert the next character.

To insert a **space** between words, simply press ⇨ a second time.

To **delete** a character, press ⇦ Press it repeatedly to delete several characters.

To **start a new line** press ⇩ .

To **end entering text**, press ⇩ to bring the cursor to the far left of a new line. Then press **EXIT**

Insert the program number

```
PROGRAMMING MODE

ENTER A PROGRAM NUMBER ?

  ✳    ✳    EXIT
```

3918

┌─────────────────────────────────┐
│ Allowed program numbers for new programs │
├─────────────────────────────────┤
│ The standard programs supplied with machine have No. 991 - 999. |
│ New programs can have numbers 001 - 990. |
└─────────────────────────────────┘

[1] [2] [3]
[4] [5] [6]   **Use the numeric keys to enter the new program number.**
[7] [8] [9]
    [0]

| EXIT | **Press EXIT**

```
PROGRAMMING MODE

PROGRAM HAS BEEN STORED
PRESS ANY KEY TO CONTINUE...

  ✳    ✳    ✳
```

3676

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[↵] [0]

The new program will now be stored in the control unit EEPROM.

Once the program has been stored ("loaded"), a process which takes only a matter of seconds, the display will look like this (illustration, left).

Press any key.

Continue programming or stop programming

```
┌─────────────────────────────────┐
│    PROGRAMMING MODE             │
│  MAKE A CHOICE :                │
│  STANDARD                       │
│  ADVANCED                       │
│  EXIT                           │
│                                 │
│   ┌──┐ ┌──┐ ┌──────────┐       │
│   │ * │ │ ↓ │ │ SELECT  │       │
│   └──┘ └──┘ └──────────┘       │
└─────────────────────────────────┘
```

3677

① ②

```
┌──┐
│ ↓ │
└──┘
┌──────────────┐
│ STANDARD     │
│ ADVANCED     │
│ EXIT         │
└──────────────┘
```

SELECT

Choose 1, 2 or 3 :

1 Continue programming in Standard mode:

Highlight STANDARD and press SELECT.

2 Continue programming in Advanced mode :

Highlight ADVANCED and press SELECT.

③

```
┌──┐
│ ↓ │
└──┘
┌──────────────┐
│ STANDARD     │
│ ADVANCED     │
│ EXIT         │
└──────────────┘
```

SELECT

3 Stop programming :

Highlight EXIT and press SELECT.

Program modules, Standard mode

The Prewash, Main wash, Rinse and Soak, Standard mode

PREWASH, MAIN WASH, RINSE or SOAK

```
PROGRAMMING MODE
PREWASH   1
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                    0
LEVEL                          -
COLD WATER                     N
HOT WATER                      N
COLD HARD WATER                N
    ⇊        ↓        Y/N
```
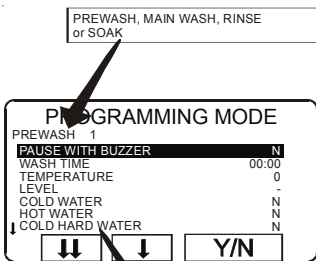
3697

```
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                 0 °C
LEVEL                          -
COLD WATER                     N
HOT WATER                      N
HARD COLD WATER                N
WATER FROM TANK 1              N
WATER FROM TANK 2              N
ACTION DURING FILL             N
ACTION DURING HEAT             N
ACTION DURING WASH             N
COMPARTMENT 1                  N
DETERGENT  TIME            00:00
COMPARTMENT 2                  N
DETERGENT 2 TIME           00:00
COMPARTMENT 3                  N
DETERGENT 3 TIME           00:00
COMPARTMENT 4                  N
DETERGENT 4 TIME           00:00
COMPARTMENT 5                  N
DETERGENT 5 TIME           00:00
WATER FLUSH C/H                C
LIQUIDE DETERGENT 1        00:00
LIQUIDE DETERGENT 2        00:00
LIQUIDE DETERGENT 3        00:00
LIQUIDE DETERGENT 4        00:00
LIQUIDE DETERGENT 5        00:00
LIQUIDE DETERGENT 6        00:00
LIQUIDE DETERGENT 7        00:00
LIQUIDE DETERGENT 8        00:00
LIQUIDE DETERGENT 9        00:00
LIQUIDE DETERGENT 10       00:00
LIQUIDE DETERGENT 11       00:00
LIQUIDE DETERGENT 12       00:00
LIQUIDE DETERGENT 13       00:00
DRAIN                          N
EXIT
```

To access this function, see chapter "To create and write an entirely new program.

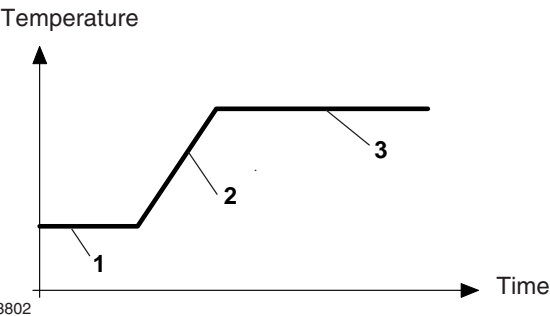**Answer the various questions. Press ⇩ to move on to the next question.**

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

The questions are identical for the Prewash, Main wash and Rinse modules.

Soak can be programmed for a longer time (up to 27 hours and 46 min.) Other modules are max 1 hour.

The module consists of three different parts :

3802

1 Water filling

The motor may be at a standstill, on gentle action or normal action. Detergent may be dispensed.

2 Water heating

The motor may be at a standstill, on gentle action or normal action.
If heating is not programmed the program advances to normal action.

3 Motor action at correct temperature and water level

The motor may be at a standstill, on gentle action or normal action. Temperature and water level are monitored and can be adjusted when necessary.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3698

Y/N **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

Pause with buzzer

If you answer **Yes (Y)** :
   The washer extractor will stop and the buzzer will sound before the program module starts.

   Turn off the buzzer by pressing the button with crossed buzzer-symbol. Start the program by pressing **START**.

If you answer **No (N)** :
   The program module will start without pause or buzzer.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3699

Use the numeric keys to enter the required value.

1 2 3
4 5 6
7 8 9
0

If wrong digits are given :
Press ERASE.

↓ When ready,
Press ⇩.

Wash time

Prewash, Mainwash and Rinse
   The maximum wash time is 59 minutes and 59 seconds, in increments of 1 second.

Soak
   The maximum wash time is 27 hours and 46 minutes in steps of 1 minute.

Time taken for filling and heating water is not included in the programmed time.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3700

Use the numeric keys to enter the required value.

1 2 3
4 5 6
7 8 9
0

If wrong digits are given :
Press ERASE.

↓ When ready,
Press ⇩.

Temperature

Choose a temperature between 0 - 98°C or 0 - 208°F (whole degrees, no decimals).

To change temperature scale °C/°F

You can change the temperature scale using the "SETTINGS" function, which is described in the Service Manual.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3775

Answer :

- = No water filling

L = Low water level

M = Medium water level

H = High water level

$\boxed{\text{L/M/H}}$

$\boxed{\downarrow}$ **Press** $\boxed{\Downarrow}$.

Fill level

The function key display shows $\boxed{\text{L/M/H}}$ and is a toggle function ((the letter to the right of the highlighted question toggles from **L**, **M** to **H** each time it is pressed).
- = No water filling
L = Low water level (50 units)
M = Medium water level (70 units)
H = High water level (90 units)
L, **M** and **H** are standard levels, properly tested for each type of machine.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3799

$\boxed{\text{Y/N}}$ **Answer Yes (Y) or No (N).**

$\boxed{\downarrow}$ **Press** $\boxed{\Downarrow}$.

Cold water

If you answer **Yes (Y) :**
The drum will fill with cold water until the correct water level is reached.
If you answer **No (N) :**
No cold water filling.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
LEVEL	-
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3800

$\boxed{\text{Y/N}}$ **Answer Yes (Y) or No (N).**

$\boxed{\downarrow}$ **Press** $\boxed{\Downarrow}$.

Hot water

If you answer **Yes (Y) :**
The drum will fill with hot water until the correct water level is reached.
If only hot water valve is open and the water temperature is higher than the programmed, the cold water valve will automatically open to adjust the temperature.
If you answer **No (N) :**
No hot water filling.

4. Program modules, Standard mode

```
PAUSE WITH BUZZER            N
WASH TIME                00:00
TEMPERATURE               0 °C
LEVEL                        -
COLD WATER                   N
HOT WATER                    N
COLD HARD WATER              N
WATER FROM TANK 1            N
WATER FROM TANK 2            N
ACTION DURING FILL           N
ACTION DURING HEAT           N
```

3814

Cold and hot water - correct temperature on intake

If you answer **Yes (Y)** to both of these questions, both the cold water and the hot water valves will open when the machine is filling. If the set temperature limit is exceeded, the hot water valve will be closed. When the temperature has fallen 4 °C below the set temperature limit, the hot water valve will open again.

In this way you can achieve the correct water temperature even in an unheated washer extractor.

Note, however, that the water valves will close when the correct water level is reached, regardless of whether the correct temperature has been reached.

```
PAUSE WITH BUZZER            N
WASH TIME                00:00
TEMPERATURE               0 °C
LEVEL                        -
COLD WATER                   N
HOT WATER                    N
COLD HARD WATER              N
WATER FROM TANK 1            N
WATER FROM TANK 2            N
ACTION DURING FILL           N
ACTION DURING HEAT           N
```

4211

Y/N	**Answer Yes (Y) or No (N).**

↓	**Press ⇩.**

Cold hard water

If you answer **Yes (Y)** :
   The drum will fill with cold hard water until the correct water level is reached.

If you answer **No (N)** :
   No cold hard water filling.

```
PAUSE WITH BUZZER            N
WASH TIME                00:00
TEMPERATURE               0 °C
LEVEL                        -
COLD WATER                   N
HOT WATER                    N
COLD HARD WATER              N
WATER FROM TANK 1            N
WATER FROM TANK 2            N
ACTION DURING FILL           N
ACTION DURING HEAT           N
```

4212

Y/N	**Answer Yes (Y) or No (N).**

↓	**Press ⇩.**

Tank water

If you answer **Yes (Y)** :
   The drum will be filled from the specified tank (e.g. a tank for reuse of water or a special laundry product).

If you answer **No (N)** :
   No filling from these sources.

___

ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DURING WASH	N
COMPARTMENT 1	N
DETERGENT 1 TIME	00:00
COMPARTMENT 2	N
DETERGENT 2 TIME	00:00
COMPARTMENT 3	N
DETERGENT 3 TIME	00:00
COMPARTMENT 4	N
DETERGENT 4 TIME	00:00

Options :

- = Drum at standstill

G = Gentle action

N = Normal action

3801

-/G/N

↓ **Press ⇩.**

___ *Drum action at different stages* ___

The program module consists of three different stages :

3802

During each of these stages you can determine whether the drum is to be at a standstill, on gentle action or normal action.

Options for each question :

- = Drum at standstill

G = Gentle action

N = Normal action

You can set the drum "on-times" and "off-times" for gentle action and normal action when programming via "Insert Main Data, Advanced mode", **see the section "Main Data".**

___

ACTION DURING WASH	N
COMPARTMENT 1	N
DETERGENT 1 TIME	00:00
COMPARTMENT 2	N
DETERGENT 2 TIME	00:00
COMPARTMENT 3	N
DETERGENT 3 TIME	00:00
COMPARTMENT 4	N
DETERGENT 4 TIME	00:00
COMPARTMENT 5	N
DETERGENT 5 TIME	00:00

3804

Y/N   **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

___ *Detergent options for machines with detergent dispensers* ___

For machines with integral detergent dispensers there are five options for detergent dispensing.

If you insert Yes (Y), water will flush through that compartment throughout the time that the drum is filling with water at the beginning of the program module.

```
ACTION DURING WASH          N
COMPARTMENT 1               N
DETERGENT 1 TIME         00:00
COMPARTMENT 2               N
DETERGENT 2 TIME         00:00
COMPARTMENT 3               N
DETERGENT 3 TIME         00:00
COMPARTMENT 4               N
DETERGENT 4 TIME         00:00
COMPARTMENT 5               N
DETERGENT 5 TIME         00:00
```

```
1  2  3
4  5  6
7  8  9
   0
   ↓
```

Detergent dispensing in machines with detergent compartments

Here you can determine the length of time water will be flushed through each individual compartment.

```
COMPARTMENT 2               N
DETERGENT 2 TIME         00:00
COMPARTMENT 3               N
DETERGENT 3 TIME         00:00
COMPARTMENT 4               N
DETERGENT 4 TIME         00:00
COMPARTMENT 5               N
DETERGENT 5 TIME         00:00
WATER FLUSH C/H             C
LIQUIDE DETERGENT 1      00:00
LIQUIDE DETERGENT 2      00:00
```

4213

Water for flushing detergent compartment

Every time detergent is supplied from a detergent compartment, the compartment is flushed out to remove residues of detergent. Here you can specify if the compartment is to be flushed clean using cold or hot water.

C/H	**Specify cold (C) or hot (H) water.**
↓	**Press ⇩.**

```
WATER FLUSH C/H              C
LIQUIDE DETERGENT 1      00:00
LIQUIDE DETERGENT 2      00:00
LIQUIDE DETERGENT 3      00:00
LIQUIDE DETERGENT 4      00:00
LIQUIDE DETERGENT 5      00:00
LIQUIDE DETERGENT 6      00:00
LIQUIDE DETERGENT 7      00:00
LIQUIDE DETERGENT 8      00:00
LIQUIDE DETERGENT 9      00:00
LIQUIDE DETERGENT 10     00:00
LIQUIDE DETERGENT 11     00:00
LIQUIDE DETERGENT 12     00:00
LIQUIDE DETERGENT 13     00:00

DRAIN                       N
EXIT
```

3805

Use the numeric keys to enter the required value.

If wrong digits are given:

Press ERASE.

When ready :

↓ **Press ⇩.**

Detergent options for supply of detergent from external system

For machines with an external detergent supply system there are ten control signals which can open external supply valves for a specified time.

The valves open for the time set, starting from when the water filling in the drum is finished.

The maximum time is 4 minutes and 10 seconds, in increments of 1 second.

```
LIQUIDE DETERGENT 2      00:00
LIQUIDE DETERGENT 3      00:00
LIQUIDE DETERGENT 4      00:00
LIQUIDE DETERGENT 5      00:00
LIQUIDE DETERGENT 6      00:00
LIQUIDE DETERGENT 7      00:00
LIQUIDE DETERGENT 8      00:00
LIQUIDE DETERGENT 9      00:00
LIQUIDE DETERGENT 10     00:00
LIQUIDE DETERGENT 11     00:00
LIQUIDE DETERGENT 12     00:00
LIQUIDE DETERGENT 13     00:00
DRAIN                       N
EXIT
```

4082

Y/N **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

Drain

A streamlined means of programming the drain stage. If you require times and settings different from those listed below you must answer **No (N)**, then program a separate drain module immediately after this module, see the section "Drain, standard mode".

If you answer **Yes (Y)** :

The program module will end with a drain sequence with these settings:

No pause before drain.

Drain plus normal speed

50 sec.

Distribution time   40 sec.

(These times are default values, but can be altered through the function SETTINGS 2, see service manual.)

If you answer **No (N)** :

No drain.

```
LIQUIDE DETERGENT 2        00:00
LIQUIDE DETERGENT 3        00:00
LIQUIDE DETERGENT 4        00:00
LIQUIDE DETERGENT 5        00:00
LIQUIDE DETERGENT 6        00:00
LIQUIDE DETERGENT 7        00:00
LIQUIDE DETERGENT 8        00:00
LIQUIDE DETERGENT 9        00:00
LIQUIDE DETERGENT 10       00:00
LIQUIDE DETERGENT 11       00:00
LIQUIDE DETERGENT 12       00:00
LIQUIDE DETERGENT 13       00:00
DRAIN                          N
EXIT
```

3813

SELECT

Once you have answered all the questions, highlight READY, then :

Press SELECT to exit the program module.

Drain, Standard mode

```
        PROGRAMMING
DRAIN     1
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
READY
┌──────┬──────┬──────┐
│  ✳   │  ↓   │ Y/N  │
└──────┴──────┴──────┘
```
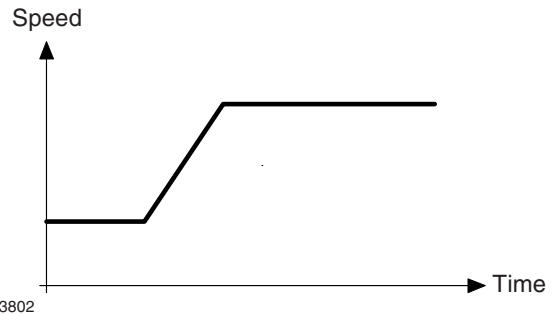
3803

```
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
READY
```

To access this function, see chapter "To create and write an entirely new program".

Answer the various questions in the module. Press ⇩ to move on to the next question.

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

Drain module can consist of part 1 or 2, or both 1 and 2 depending on how one wants the program :

3802

1 Drain time
The drain will be open. The motor may be at a standstill, on gentle action or normal action. During this time the drum water will be discharged.
If this time is set to 0 the drain module will only consist of distribution time.

2 Distribution time
The drain will be open. The motor runs at distribution speed. During this time the wash load will be distributed evenly around the walls of the inner drum. If this time is set to 0 the drain module will only consist of draining time.

```
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
READY
```
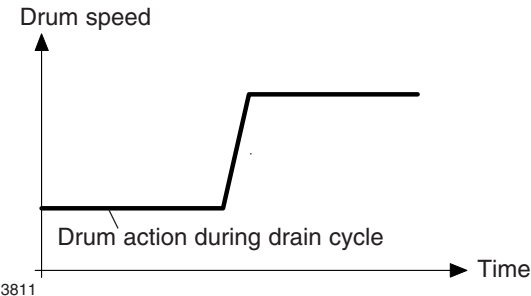
3808

┌──────┐
│ Y/N │ **Answer Yes (Y) or No (N).**
└──────┘

┌──────┐
│ ↓   │ **Press ⇩.**
└──────┘

Pause before drain

If you answer **Yes (Y)** :
The washer extractor will stop and the buzzer will sound before the drain opens.

Turn off the buzzer by pressing the button with crossed buzzer-symbol. Start the program by pressing **START**.

If you answer **No (N)** :
The program module will open, with no pause.

┌─ *Drum action during drain cycle* ─────────────┐

Here you can determine the drum action during the time programmed for the drain cycle :

Drum speed

Drum action during drain cycle

Time

3811

Options :

- = Drum at standstill

G = Gentle action

N = Normal action
└───┘

```
PAUSE BEFORE DRAIN        N
ACTION                    N
DRAIN A                   N
DRAIN TIME            00:50
DISTRIBUTION TIME    00:40
READY
```

3806

-/G/N

Options :

- = Drum at standstill

G = Gentle action

N = Normal action

↓ **Press ⇩.**

┌─ *Choose drain valve* ─────────────────────────┐

If the machine has two drain valves (for example to allow water to be reused during some wash sequences) here you can specify which drain valve is to open.

If you answer **Yes (Y)** :

The machine's normal drain will remain closed during the drain sequence. The drain valve for water recovery will open instead.

If you answer **No (N)** :

The machine's normal drain will open during the drain sequence. The drain valve for water recovery will remain closed.
└───┘

```
PAUSE BEFORE DRAIN        N
ACTION                    N
DRAIN A                   N
DRAIN TIME            00:50
DISTRIBUTION TIME    00:40
READY
```

4223

Y/N **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

┌─ *Drain time* ─────────────────────────────────┐

Here you can determine the drain time :

The maximum time is 42 minutes and 30 seconds, in increments of 10 seconds.

Drum speed

Drain time

Time

3812
└───┘

```
PAUSE BEFORE DRAIN        N
ACTION                    N
DRAIN A                   N
DRAIN TIME            00:50
DISTRIBUTION TIME    00:40
READY
```

3807

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :

Press ERASE.

When ready,

↓ **Press ⇩ .**

```
PAUSE BEFORE DRAIN          N
ACTION                      N
DRAIN A                     N
DRAIN TIME              00:50
DISTRIBUTION TIME       00:40
READY
```

3809

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :

Press ERASE.

When ready

↓

Press ⇩.

Distribution time

Here you can determine the length of time the drum operates at distribution speed :

The maximum time is 42 minutes and 30 seconds, in increments of 10 seconds.

Drum speed

Distribution time

Time

3815
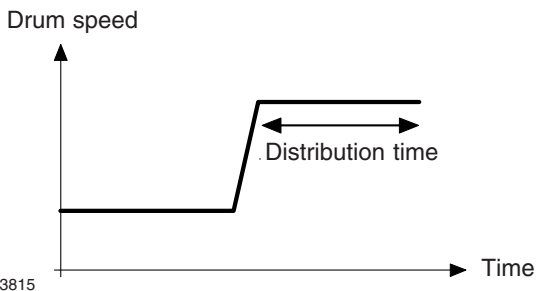
```
PAUSE BEFORE DRAIN          N
ACTION                      N
DRAIN A                     N
DRAIN TIME              00:50
DISTRIBUTION TIME       00:40
READY
```
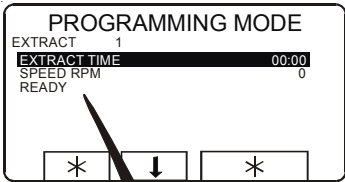
3810

SELECT

Once you have answered all the questions, highlight READY, then :

Press SELECT to exit the program module.

Extraction, Standard mode

PROGRAMMING MODE
EXTRACT   1
EXTRACT TIME   00:00
SPEED RPM   0
READY

✳   ↓   ✳

3818

EXTRACT TIME   00:00
SPEED RPM   0
READY

To access this function, see sections "To start a wash program from the program library" - "Pause" .

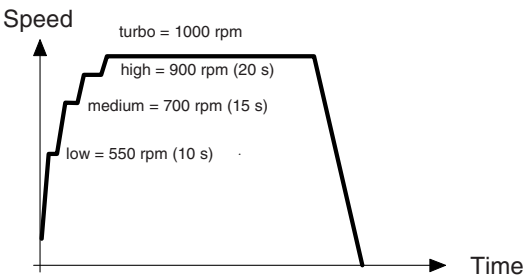**Answer the various questions in the module. Press ⇩ to move on to the next question.**

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

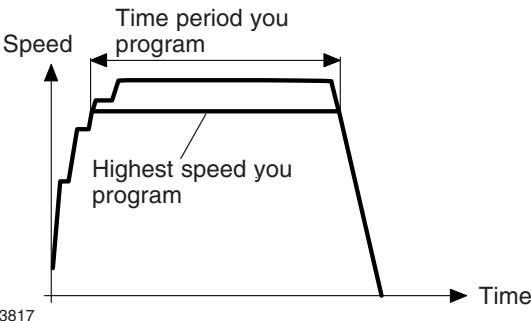For machines with **frequency-controlled motors**:
The extraction time module consists of a single extraction period, for which you can determine extraction time and speed. The machine does not accelerate to its highest speed immediately, however. Instead it accelerates in several steps, because some of the water needs to be extracted at lower speeds. Shown below are the standard values the machine has when delivered :

Speed

turbo = 1000 rpm

high = 900 rpm (20 s)

medium = 700 rpm (15 s)
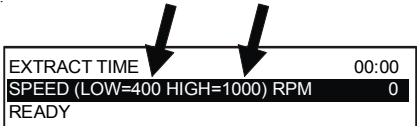
low = 550 rpm (10 s)

Time

3816

If you program a low (maximum) extraction speed, the number of acceleration steps at the beginning of extraction may be reduced.

The time you program is the period the machine will run at its highest speed.

Speed

Time period you program

Highest speed you program

Time

3817

For machines **without frequency-controlled motors** you must choose one of the extraction speed options shown on the display.

EXTRACT TIME   00:00
SPEED (LOW=400 HIGH=1000) RPM   0
READY

3822

```
EXTRACT TIME            00:00
SPEED RPM                   0
READY
```
3819

1 2 3
4 5 6
7 8 9
0

↓

Use the numeric keys to enter the required value.

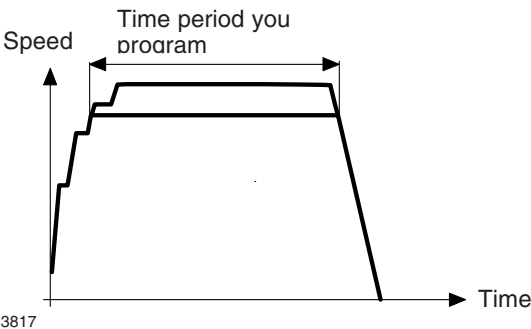If wrong digits are given :
Press ERASE.

When ready
Press ⇩.

Extraction time

The maximum extraction time is 59 minutes and 59 seconds, in increments of 1 second.

The period during which the drum is reaching its correct speed is not included in the "extraction time".

3817

```
EXTRACT TIME            00:00
SPEED RPM                   0
READY
```
3820

1 2 3
4 5 6
7 8 9
0

↓

Use the numeric keys to enter the required value.

If wrong digits are given :
Press ERASE.

When ready
Press ⇩.

Extraction speed

For machines with frequency-controlled motors :
Enter the extraction speed you require. The maximum speed varies from one machine to another.

If you enter a value which is too high, the value will be changed to the maximum allowed when you press ⇩ .

For machines without frequency-controlled motors :
If the machine does not have a frequency-controlled motor, the available extraction speed options will be shown on the display.

```
EXTRACT TIME                       00:00
SPEED (LOW=400 HIGH=1000) RPM          0
READY
```
3822

Enter one of these values. **Note that no other values are allowed.**

```
EXTRACT TIME            00:00
SPEED RPM                   0
READY
```
3821

SELECT

Once you have answered all the questions, highlight READY, then :

Press SELECT to exit the program module.

Cool-down, Standard mode

```
      PROGRAMMING MODE
COOL-DOWN        1
QUICK COOL-DOWN              N
ACTION                      N
END TEMP               55 °C
READY

    ⊛       ↓       Y/N
```
3824

```
QUICK COOL-DOWN              N
ACTION                      N
END TEMP               55 °C
READY
```

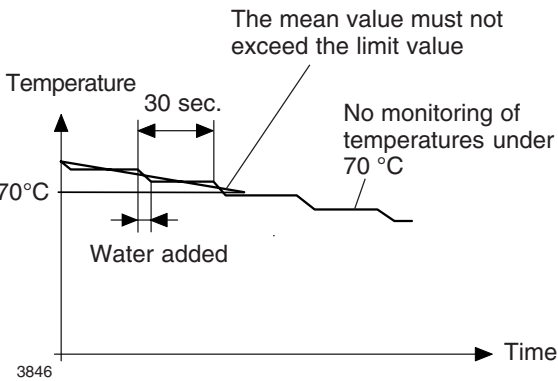To access this function, see chapter "To create and write an entirely new program".

Answer the various questions in the module. Press ⇩ to move on to the next question.

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

The cool-down module is used to achieve controlled cooling of the wash water. This helps prevent creasing of the wash load.

During the cool-down sequence cold water is added for a brief period at 30 second intervals. When temperature is over 70 °C the cool down is monitored so that the limit value (4 °C/min) is not exceeded. If the limit value is exceeded, no water will be added until the mean value is acceptable again.

If temperature is under 70 °C no monitoring is done.

The mean value must not exceed the limit value

Temperature

30 sec.

No monitoring of temperatures under 70 °C

70°C

Water added

Time

3846

```
QUICK COOL-DOWN          N
ACTION                   N
END TEMP             55 °C
READY
```

3825

| Y/N |

Answer Yes (Y) or No (N).

| ↓ |

Press ↓.

Quick cool down

If you answer **Yes (Y)** :
The machine will fill with cold water to a fixed higher level. The machine **does not** monitor the drop in temperature of the wash water. This function is used mainly for reducing the temperature of the water before it is discharged.

Do not use this function to prevent creasing of the wash load!

If you answer **No (N)** :
The machine makes a controlled cool-down as described earlier.

```
QUICK COOL-DOWN          N
ACTION                   N
END TEMP             55 °C
READY
```

3843

| -/G/N |

Options :

- = Drum at standstill

G = Gentle action

N = Normal action

| ↓ |

Press ↓.

Drum action during cool-down

Allows you to determine drum action during cool-down.
Options :

- = Drum at standstill
G = Gentle action
N = Normal action

```
QUICK COOL-DOWN          N
ACTION                   N
END TEMP             55 °C
READY
```

3844

1	2	3
4	5	6
7	8	9
0

| ↓ |

Use the numeric keys to enter the required value.

If wrong digits are given :
Press ERASE.
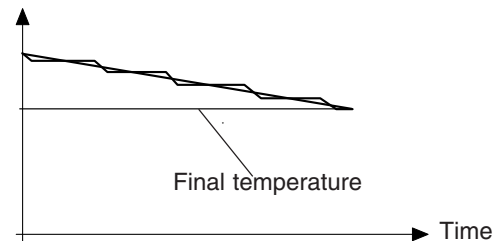
When ready
Press ↓.

Final temperature

Enter the temperature you require for the water when cool-down has ended.

Temperature

Final temperature

Time

3847

```
QUICK COOL-DOWN          N
ACTION                   N
END TEMP             55 °C
READY
```
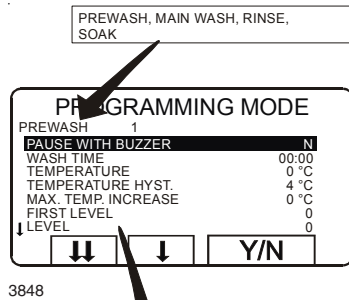
3845

| SELECT |

Once you have answered all the questions, highlight READY, then :

Press SELECT to exit the program module.

Program modules, Advanced mode

The Prewash, Main wash, Rinse and Soak, Advanced mode

PREWASH, MAIN WASH, RINSE, SOAK

```
        PROGRAMMING MODE
PREWASH      1
PAUSE WITH BUZZER              N
WASH TIME                  00:00
TEMPERATURE                 0 °C
TEMPERATURE HYST.           4 °C
MAX. TEMP. INCREASE         0 °C
FIRST LEVEL                    0
↓ LEVEL                        0
    ⇊        ↓       Y/N
```

3848

To access this function, see chapter "To create and write an entirely new program".

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
TEMPERATURE HYST.	4 °C
MAX. TEMP. INCREAS	0 °C
FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DURING WASH	N
SPEED DURING FILL RPM	48
SPEED DURING HEAT RPM	48
SPEED DURING WASH RPM	48
ACCELERATION RPM/SEC	20
COMPARTMENT 1	N
DETERGENT 1 TIME	00:00
COMPARTMENT 2	N
DETERGENT 2 TIME	00:00
COMPARTMENT 3	N
DETERGENT 3 TIME	00:00
COMPARTMENT 4	N
DETERGENT 4 TIME	00:00
COMPARTMENT 5	N
DETERGENT 5 TIME	00:00
WATER FLUSH C/H	C
LIQUIDE DETERGENT 1	00:00
LIQUIDE DETERGENT 2	00:00
LIQUIDE DETERGENT 3	00:00
LIQUIDE DETERGENT 4	00:00
LIQUIDE DETERGENT 5	00:00
LIQUIDE DETERGENT 6	00:00
LIQUIDE DETERGENT 7	00:00
LIQUIDE DETERGENT 8	00:00
LIQUIDE DETERGENT 9	00:00
LIQUIDE DETERGENT 10	00:00
LIQUIDE DETERGENT 11	00:00
LIQUIDE DETERGENT 12	00:00
LIQUIDE DETERGENT 13	00:00
DRAIN	N
READY	

Answer the various questions in the module. Press ⇩ to move on to the next question.
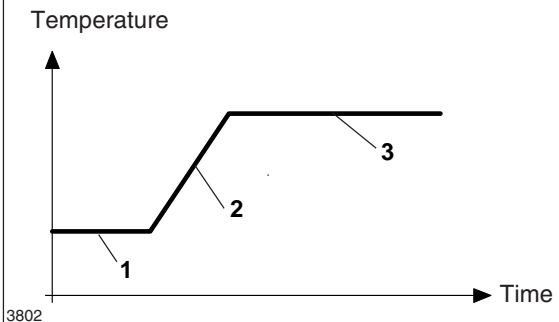
You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

The questions are identical for the Prewash, Main wash, Rinse and Rinse repeat modules.

Soak can be programmed for a longer time (up to 27 hours and 46 min.) Other modules are max 1 hour.

The module consists normally of three different parts:

Temperature

3802

1 Water filling

The motor may be at a standstill, on gentle action or normal action. Detergent may be dispensed.

2 Water heating

The motor may be at a standstill, on gentle action or normal action.
If heating is not programmed the program advances to normal action.

3 Motor action at correct temperature and water level

The motor may be at a standstill, on gentle action or normal action. Temperature and water level are monitored and adjusted.

Usable default values

When you are programming a new program module, some of the questions will already have usable default values in place. These are the standard values which are used if you program in Standard mode.

You can naturally change these values, but they are there to provide an indication of settings which normally work well.

```
PAUSE WITH BUZZER          N
WASH TIME              00:00
TEMPERATURE             0 °C
TEMPERATURE HYST.       4 °C
MAX. TEMP. INCREASE     0 °C
FIRST LEVEL               0
LEVEL                     0
LEVEL HYST.              20
COLD WATER                N
HOT WATER                 N
COLD HARD WATER           N
```

3849

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ⇩.** |

Pause with buzzer

If you answer **Yes (Y)** :
  The washer extractor will stop and the buzzer will sound before the program module starts. Turn off the buzzer by pressing the button with crossed buzzer-symbol. Start the program by pressing **START**.

If you answer **No (N)** :
  The program module will start without pause or buzzer.

```
PAUSE WITH BUZZER          N
WASH TIME              00:00
TEMPERATURE             0 °C
TEMPERATURE HYST.       4 °C
MAX. TEMP. INCREASE     0 °C
FIRST LEVEL               0
LEVEL                     0
LEVEL HYST.              20
COLD WATER                N
HOT WATER                 N
COLD HARD WATER           N
```

Use the numeric keys to enter the required value.

3850

1	2	3
4	5	6
7	8	9
0

If wrong digits are given :

Press ERASE.

When ready,
Press ⇩.

Wash time

Prewash, Mainwash, Rinse
  The maximum wash time is 59 minutes and 59 seconds, in steps of 1 second.

Soak
  The maximum wash time is 27 hours and 46 minutes, in steps of 1 minute.

Time taken for filling and heating water is not included in the programmed time.

```
PAUSE WITH BUZZER        N
WASH TIME            00:00
TEMPERATURE          0 °C
TEMPERATURE HYST.    4 °C
MAX. TEMP. INCREASE  0 °C
FIRST LEVEL          0
LEVEL                0
LEVEL HYST.          20
COLD WATER           N
HOT WATER            N
COLD HARD WATER      N
```

3851

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :
Press ERASE.

[↓] When ready,
Press ⇩ .

Temperature

Choose a temperature between 0 - 98 °C or 0 - 208 °F (whole degrees, no decimals).

To change temperature scale °C/°F

You can change the temperature scale using the "SETTINGS" function, which is described in the Service Manual.

```
PAUSE WITH BUZZER        N
WASH TIME            00:00
TEMPERATURE          0 °C
TEMPERATURE HYST.    4 °C
MAX. TEMP. INCREASE  0 °C
FIRST LEVEL          0
LEVEL                0
LEVEL HYST.          20
COLD WATER           N
HOT WATER            N
COLD HARD WATER      N
```

3852

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :
Press ERASE.

[↓] When ready,
Press ⇩ .

Temperature hysteresis

Once the drum has filled with water to the right level, it is heated to the wash temperature you have programmed. During the wash the water will cool down somewhat. When the water temperature has reached a lower limit (which you determine using this function), heating restarts and the water temperature is brought back up to the correct level.

Temperature hysteresis is the number of degrees between the wash temperature and the temperature at which heating needs to restart.
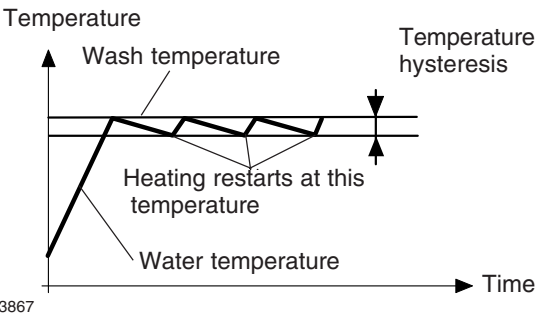
3867

An example :

Wash temperature :   60 °C

Temperature hysteresis : 4 °C

The water is initially heated to 60 °C. When the temperature has fallen to 56 °C, heating restarts and the water temperature is brought back up to 60 °C.

PAUSE WITH BUZZER	N
WASH TIME	00:00
TEMPERATURE	0 °C
TEMPERATURE HYST.	4 °C
MAX. TEMP. INCREASE	**0 °C**
FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N

3853

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :

Press ERASE.

When ready,
Press [↓].

Maximum rate of temperature increase

This parameter, expressed in degrees per minute, is used to determine the rate at which the water may be heated to wash temperature.

An example :

Say you were to set this parameter to allow a maximum temperature increase rate of 3 °C per minute. If we assume that the machine heats the water 3 °C in 20 seconds,, then heating would be switched off after 20 seconds and would remain off for 40 seconds. The same pattern would continue throughout the heating period, so that the average rate of temperature increase would never exceed 3 °C per minute.

3868
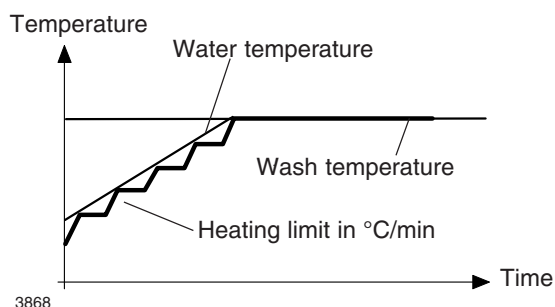
If you program a too fast temperature increase which is to fast for the machine, the heating will be made without any interruptions.

If the value is set to 0 the function is not activated and the heating is done without any interruptions.

WASH TIME	00:00
TEMPERATURE	0 °C
TEMPERATURE HYST.	4 °C
MAX. TEMP. INCREASE	0 °C
FIRST LEVEL	**0**
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N

3854

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :

Press ERASE.

When ready,
Press [↓].

First level

For the relevant water level data, see the next function, "FILL LEVEL".

After water is first added to a drum containing a dry load, the level always falls slightly because the load absorbs water.

For this reason you are able to program a "first level" (i.e. the initial filling level) which is slightly higher than the level used during the rest of the wash, to avoid a situation where the water has to be topped up repeatedly during the first part of the wash.

If the parameter on this line is 0, this function will not be used. Instead the drum will fill to the "FILL LEVEL" set.
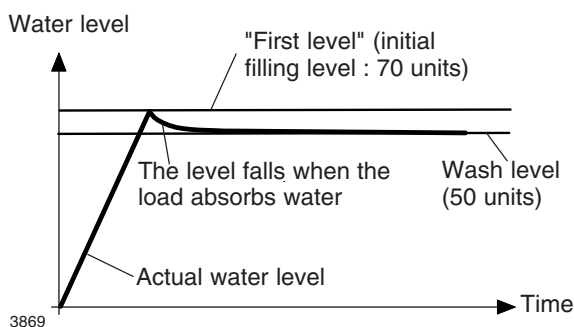
3869

WASH TIME	00:00
TEMPERATURE	0 °C
TEMPERATURE HYST.	4 °C
MAX. TEMP. INCREASE	0 °C
FIRST LEVEL	0
LEVEL	**0**
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N

3855

```
1 2 3
4 5 6
7 8 9
  0
```

Use the numeric keys to enter the required value.

If wrong digits are given :
Press ERASE.

↓ When ready,
Press ⇩.

Fill level

Enter a water filling level from 0 - 255, whole numbers only.

The "Fill level" is measured in "scale units", which correspond to different water levels for different machines. Printed below is a conversion table for this machine.

Water volume adjusted to laundry weight

(Only machines with frequence controlled motor)

When Main data is programmed (see chapter "Insert Main data") you can activate the function "Count weight". When this function is activated the machine runs a short program sequence in the beginning of the wash program where the laundry weight is calculated.

This value is then used when filling water. This mean correct amount of water compared with weight.

Because of this the level you program here can vary depending on laundry weight.

Machine 237 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
75	11	9
85	-	-
90	23	50
95	26	65
100	33	90
105	36	100
110	43	116
115	48	128
120	-	-
125	58	160
130	66	180
135	73	195
140	78	206
145	84	220
150	93	242
155	100	258
160	108	272
165	113	285
170	123	308
175	131	325
180	139	3.8
185	144	376
190	157	376
195	164	385

* Distance above bottom of inner drum.

Machine 230/250 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
70	11	0
75	13	6
85	16	40
90	21	55
95	25	65
100	29	77
105	35	100
110	39	115
115	45	135
125	56	155
130	63	180
135	70	195
140	77	215
145	82	228
150	90	240
155	97	260
160	105	278
165	114	296
170	122	315
175	130	328

* Distance above bottom of inner drum.

--- *Machine 337 - Conversion table, water level* ---

Scale Units	Quantity of water (litres)	Water level* (mm)
25	5	0
35	5	0
45	5	0
55	5	0
60	5	0
65	5	0
75	14	8
85	23	35
95	34	65
100	40	75
105	49	96
110	58	118
115	66	132
125	72	165
130	82	182
135	103	197
140	112	220
145	122	235
150	132	249
155	143	266
160	155	285
165	168	305
170	-	-
175	-	-

* Distance above bottom of inner drum.

--- *Machine 340/350 - Conversion table, water level* ---

Scale Units	Quantity of water (litres)	Water level* (mm)
75	15	6
85	25	40
90	29	55
95	34	65
100	43	77
105	49	100
110	59	115
115	66	135
125	80	155
130	87	180
135	92	195
140	112	215
145	120	225
150	128	240
155	142	260
160	150	278
165	160	296
170	170	315
175	186	328
200	246	400

* Distance above bottom of inner drum.

--- *Machine 467 - Conversion table, water level* ---

Scale Units	Quantity of water (litres)	Water level* (mm)
25	8	0
35	8	0
45	8	0
55	8	0
60	8	0
65	8	0
75	24	16
85	45	54
95	56	73
100	62	84
105	87	119
110	92	130
115	102	145
125	140	190
130	142	192
135	158	216
140	178	240
145	190	265
150	200	270
155	220	280
160	245	300
165	262	330
170	-	-
175	-	-

* Distance above bottom of inner drum.

--- *Machine 470/500 - Conversion table, water level* ---

Scale Units	Quantity of water (litres)	Water level* (mm)
70	16	0
75	18	6
85	33	40
90	40	55
95	51	65
100	54	77
105	70	100
110	79	115
115	89	135
125	104	155
130	123	180
135	138	195
140	148	215
145	161	228
150	169	240
155	192	260
160	202	278
165	219	296
170	237	315
175	248	328
200	320	400

* Distance above bottom of inner drum.

Machine 667 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
25	8	0
35	7	0
45	8	0
55	8	0
60	8	0
65	8	0
75	8	0
85	36	12
95	58	55
100	72	62
105	95	70
110	105	100
115	113	115
125	133	135
130	165	166
135	179	178
140	185	190
145	199	194
150	237	233
155	261	252
160	270	264
165	278	275
170	-	-
175	-	-

* Distance above bottom of inner drum.

Machine 670/650 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
75	29	6
85	53	40
90	61	55
95	74	65
100	89	77
105	94	100
110	121	115
115	138	135
125	170	155
130	194	180
135	200	195
140	229	215
145	245	228
150	266	240
155	289	260
160	308	278
165	334	296
170	346	315
175	382	328
200	500	400

* Distance above bottom of inner drum.

Machine 607 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
10	22	-
15	26	10
20	34	30
25	39	45
30	41	50
35	50	63
40	63	85
45	65	95
50	78	115
55	84	123
60	88	130
65	92	150
70	115	170
75	121	182
80	129	195
85	140	205
90	158	235
95	167	245
100	180	261
105	195	275
110	203	290
115	217	305
120	231	320
125	242	335
130	256	350

* Distance above bottom of inner drum.

Machine 690 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
20	29	10
30	40	40
40	51	65
50	70	90
60	86	126
65	99	147
75	118	176
85	143	207
95	161	230
100	170	244
105	185	265
110	200	279
115	215	294
125	245	317
130	260	338
135	280	350
140	294	372
145	311	387
150	325	401
155	346	418
160	-	-

* Distance above bottom of inner drum.

Machine 807 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
10	28	-
15	32	5
20	41	22
25	43	30
30	48	45
35	59	68
40	69	75
45	82	90
50	90	109
55	102	122
60	116	132
65	125	150
70	136	162
75	151	182
80	164	195
85	179	205
90	191	225
95	207	242
100	216	251
105	231	260
110	251	280
115	271	295
120	287	312
125	308	330
130	328	340
135	342	355
140	361	370
150	397	400
160	435	430

* Distance above bottom of inner drum.

Machine 890 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
25	-	-
30	43	-
40	61	62
50	83	89
60	108	123
65	120	139
75	148	170
85	173	199
95	208	230
100	218	238
105	236	258
110	253	275
115	271	289
125	310	317
130	332	334
135	352	349
140	376	364
145	397	384
150	419	395
155	433	408
160	-	-

* Distance above bottom of inner drum.

Machine 1107 / 1080 - Conversion table, water level

Scale Units	Quantity of water (litres)	Water level* (mm)
20	35	-
30	50	32
40	74	65
50	94	84
60	121	120
65	138	125
75	168	166
85	202	200
95	230	226
100	255	242
105	275	257
110	293	272
115	317	285
125	363	315
130	390	332
135	413	347
140	434	358
145	461	378
150	482	390
155	510	404
160	-	-

* Distance above bottom of inner drum.

WASH TIME	00:00
TEMPERATURE	0 °C
TEMPERATURE HYST.	4 °C
MAX. TEMP. INCREASE	0 °C
FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	**20**
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N

3856

Use the numeric keys to enter the required value.

1 2 3
4 5 6
7 8 9
0

If wrong digits are given :

Press ERASE.

↓ When ready,
Press ⇩.

Level hysteresis

Once the drum has filled with water, the water level is monitored during both heating and washing.

If the water level falls below a certain level (which you determine using this function), more water will be added to achieve the correct level.

Level hysteresis is the number of "scale units" between the current water level set and the level at which filling (topping up) restarts.

Level

Correct water level

Level hysteresis

Filling restarts here

Water level in drum

Time
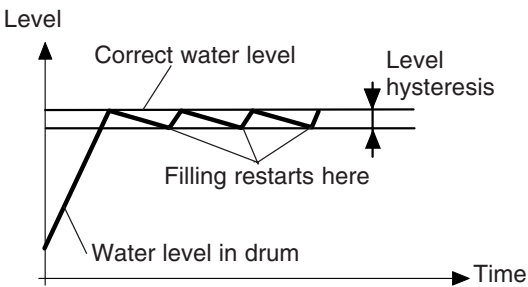
3867

An example (levels expressed in "scale units") :

Water level :   150

Water hysteresis : 20

The drum is initially filled to level 150. If the level falls below 130, filling restarts to bring the level back to 150.

The hysteresis value can be programmed from 0 to 255, in increments of 1.

MAX. TEMP. INCREASE	0 °C
FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N

3857

Cold water

If you answer **Yes (Y)** :
   The drum will fill with cold water until the correct water level is reached.

If you answer **No (N)** :
   No cold water filling.

Y/N	**Answer Yes (Y) or No (N).**

↓	**Press ⇩.**

FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DIRING WASH	N

3858

Hot water

If you answer **Yes (Y)** :
   The drum will fill with hot water until the correct water level is reached.

   If only hot water valve is open and the water temperature is higher than the programmed, the cold water valve will automatically open to adjust the temperature.

If you answer **No (N)** :
   No hot water filling.

Y/N	**Answer Yes (Y) or No (N).**

↓	**Press ⇩.**

FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DURING WASH	N

3866

Cold and hot water - correct temperature on intake

If you answer **Yes (Y)** to both of these questions, both the cold water and the hot water valves will open when the machine is filling. If the set temperature limit is exceeded, the hot water valve will be closed. When the temperature has fallen 4 °C below the set temperature limit, the hot water valve will open again.

In this way you can achieve the correct water temperature even in an unheated washer extractor.

Note, however, that the water valves will close when the correct water level is reached, regardless of whether the correct temperature has been reached.

FIRST LEVEL	0
LEVEL	0
LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DUIRNG WASH	N

3859

Only machines with hard water connection.

Cold hard water

If you answer **Yes (Y)** :
  The drum will fill with cold hard water until the correct water level is reached.

If you answer **No (N)** :
  Cold hard water will not be added.

Y/N **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

LEVEL HYST.	20
COLD WATER	N
HOT WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DUIRNG WASH	N
SPEED DURING FILL. RPM	48
SPEED DURING HEAT. RPM	48

3860

Applies only to certain machines.

Water from tank

If you answer **Yes (Y)** :

The drum will be filled from the specified tank (e.g. a tank for reuse of water or a special laundry product).

If you answer **No (N) :**

No filling from these sources.

Y/N **Answer Yes (Y) or No (N).**

↓ **Press ⇩.**

LEVEL HYST.	20
COLD WATER	N
HARD WATER	N
COLD HARD WATER	N
WATER FROM TANK 1	N
WATER FROM TANK 2	N
ACTION DURING FILL	N
ACTION DURING HEAT	N
ACTION DURING WASH	N
SPEED DURING FILL. RPM	48
SPEED DURING HEAT. RPM	48

3861

Options :

 - = Drum at standstill

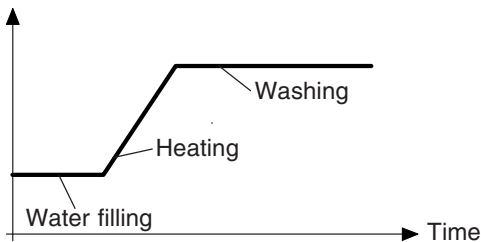**D = Gentle action**

N = Normal action

-/G/N

↓ **Press ⇩.**

Drum action at different stages

The program module consists of three different stages :

3802

During each of these stages you can determine whether the drum is to be at a standstill, on gentle action or normal action.

Options for each question :

- = Drum at standstill

G = Gentle action

N = Normal action

You can set the drum action "on-times" and "off-times" for gentle action and normal action when using "Insert Main Data, Advanced mode", **see section "Main data, advanced".**

```
WATER FROM TANK 2            N
ACTION DURING FILL           N
ACTION DURING HEAT           N
ACTION DURING WASH           N
SPEED DURING FILL. RPM      48
SPEED DURING HEAT. RPM      48
SPEED DURING WASH RPM       48
ACCELERATION RPM/SEC        20
COMPARTMENT 1                N
DETERGENT 1 TIME         00:00
COMPARTMENT 2                N
```

3862

Only for machines with frequence controlled motor.

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

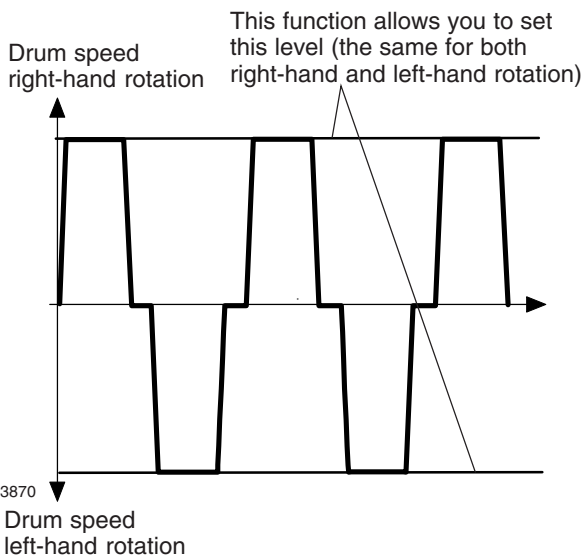If wrong digits are given :
Press ERASE.

↓ When ready,
Press ⇩.

Individual drum speeds for various stages

The program module consists of three different stages :

water filling, heating and washing. You can determine the drum speed individually for each of these stages.

This function allows you to set this level (the same for both right-hand and left-hand rotation)

Drum speed right-hand rotation

3870

Drum speed left-hand rotation

```
ACTION DURING WASH           N
SPEED DURING FILL. RPM      48
SPEED DURING HEAT. RPM      48
SPEED DURING WASH. RPM      48
ACCELERATION RPM/SEC        20
COMPARTMENT 1                N
DETERGENT 1 TIME         00:00
COMPARTMENT 2                N
DETERGENT 2 TIME         00:00
COMPARTMENT 3                N
DETERGENT 3 TIME         00:00
```

3863

Only for machines with frequence controlled motor.

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :
Press ERASE.

↓ When ready,
Press ⇩.

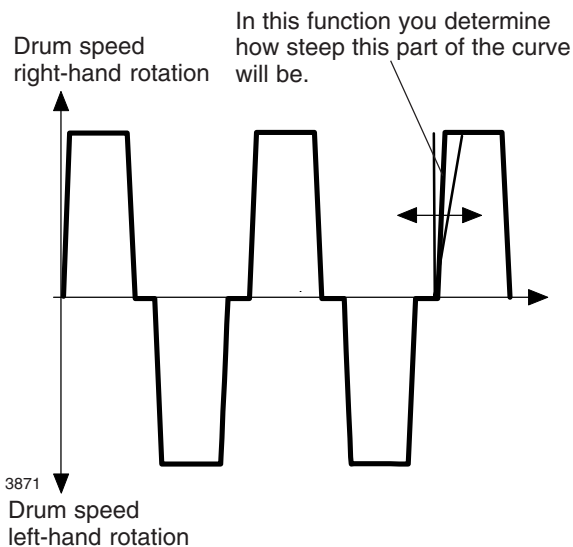## *Acceleration rate*

This function allows you to determine the rate of acceleration for the drum, i.e. the rpm per second at which its speed should increase until it reaches the speed(s) you set in the function above. This setting will apply to both normal action and gentle action.

Drum speed right-hand rotation

In this function you determine how steep this part of the curve will be.

3871

Drum speed left-hand rotation

```
ACCELERATION. RPM/SEC        20
COMPARTMENT 1                 N
DETERGENT 1 TIME           00:00
COMPARTMENT 2                 N
DETERGENT 2 TIME           00:00
COMPARTMENT 3                 N
DETERGENT 3 TIME           00:00
COMPARTMENT 4                 N
DETERGENT 4 TIME           00:00
COMPARTMENT 5                 N
DETERGENT 5 TIME           00:00
```

3864

Water for flushing detergent compartment

Every time detergent is supplied from a detergent compartment, the comparment is flushed out to remove residues of detergent. Here you can specify if the compartment is to be flushed clean using cold or hot water.

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ⬇.** |

```
ACCELERATION. RPM/SEC        20
COMPARTMENT 1                 N
DETERGENT 1 TIME           00:00
COMPARTMENT 2                 N
DETERGENT 2 TIME           00:00
COMPARTMENT 3                 N
DETERGENT 3 TIME           00:00
COMPARTMENT 4                 N
DETERGENT 4 TIME           00:00
COMPARTMENT 5                 N
DETERGENT 5 TIME           00:00
```

Detergent dispensing in machines with detergent compartments

Here you can determine the length of time water will be flushed through each individual compartment.

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
    [0]

If wrong digits are given :

Press ERASE.

| ↓ | **Press ⬇.** |

```
COMPARTMENT 2              N
DETERGENT 2 TIME        00:00
COMPARTMENT 3              N
DETERGENT 3 TIME        00:00
COMPARTMENT 4              N
DETERGENT 4 TIME        00:00
COMPARTMENT 5              N
DETERGENT 5 TIME        00:00
WATER FLUSH C/H            C
LIQUIDE DETERGENT 1     00:00
LIQUIDE DETERGENT 2     00:00
```

4213

`C/H`

`↓`

Water for flushing detergent compartment

Every time detergent is supplied from a detergent compartment, the compartment is flushed out to remove residues of detergent. Here you can specify if the compartment is to be flushed clean using cold or hot water.

```
WATER FLUSH C/H             C
LIQUIDE DETERGENT 1      00:00
LIQUIDE DETERGENT 2      00:00
LIQUIDE DETERGENT 3      00:00
LIQUIDE DETERGENT 4      00:00
LIQUIDE DETERGENT 5      00:00
LIQUIDE DETERGENT 6      00:00
LIQUIDE DETERGENT 7      00:00
LIQUIDE DETERGENT 8      00:00
LIQUIDE DETERGENT 9      00:00
LIQUIDE DETERGENT 10     00:00
LIQUIDE DETERGENT 11     00:00
LIQUIDE DETERGENT 12     00:00
LIQUIDE DETERGENT 13     00:00

DRAIN                       N
EXIT
```

Use the numeric keys to enter the required value.

Detergent options for supply of detergent from external system

For machines with an external detergent supply system there are ten control signals which can open external supply valves for a specified time.

The valves open for the time set, starting from when the water filling in the drum is finished.

The maximum time is 4 minutes and 10 seconds, in increments of 1 second.

3805

`1` `2` `3`
`4` `5` `6`
`7` `8` `9`
`0`

If wrong digits are given :
Press ERASE.

`↓`

When ready,
Press `⇩` **.**

Drain

A streamlined means of programming the drain stage. If you require times and settings different from those listed below you must answer **No (N)**, then program a separate drain module immediately after this module, see the section "Drain, advanced mode".

If you answer **Yes (Y)** :

The program module will end with a drain sequence with these settings :

No pause before drain.

Drain plus normal speed

50 sec.

Distribution time   40 sec.

(These times are default values, but can be altered through the function SETTINGS 2, see service manual.)

If you answer **No (N)** :

No drain.

LIQUIDE DETERGENT 2	00:00
LIQUIDE DETERGENT 3	00:00
LIQUIDE DETERGENT 4	00:00
LIQUIDE DETERGENT 5	00:00
LIQUIDE DETERGENT 6	00:00
LIQUIDE DETERGENT 7	00:00
LIQUIDE DETERGENT 8	00:00
LIQUIDE DETERGENT 9	00:00
LIQUIDE DETERGENT 10	00:00
LIQUIDE DETERGENT 11	00:00
LIQUIDE DETERGENT 12	00:00
LIQUIDE DETERGENT 13	00:00
DRAIN	N
EXIT	

4082

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ↓.** |

LIQUIDE DETERGENT 3	00:00
LIQUIDE DETERGENT 4	00:00
LIQUIDE DETERGENT 5	00:00
LIQUIDE DETERGENT 6	00:00
LIQUIDE DETERGENT 7	00:00
LIQUIDE DETERGENT 8	00:00
LIQUIDE DETERGENT 9	00:00
LIQUIDE DETERGENT 10	00:00
LIQUIDE DETERGENT 11	00:00
LIQUIDE DETERGENT 12	00:00
LIQUIDE DETERGENT 13	00:00
DRAIN	N
EXIT	

3919

Once you have answered all the questions, highlight READY, then :

| SELECT | **Press SELECT to exit the program module.** |

Drain, Advanced mode

```
      PROGRAMMING MODE
DRAIN      1
PAUSE BEFORE DRAIN            N
ACTION                       N
DRAIN A                      N
DRAIN B                      N
DRAIN C                      N
DRAIN D                      N
↓
    │  *  │    ↓  │ SELECT │
```

3872

```
PAUSE BEFORE DRAIN            N
ACTION                       N
DRAIN A                      N
DRAIN B                      N
DRAIN C                      N
DRAIN D                      N
DRAIN TIME                00:50
DISTRIBUTION TIME         00:40
SPEED DURING DRAIN RPM       48
ACC. DURING DRAIN RPM/SEC    20
READY
```
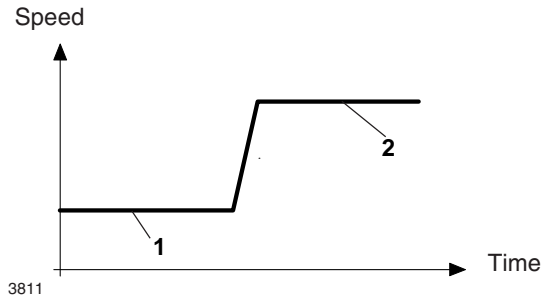
To access this function, see chapter "To create and write an entirely new program".

Answer the various questions in the module. Press ⇩ to move on to the next question.

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

Drain module can consist of part 1 or 2, or both 1 and 2 depending on how one wants the program :

3811

1 Drain time
The drain will be open. The motor may be at a standstill, on gentle action or normal action. During this time the drum water will be discharged.
If this time is set to 0 the drain module will only consist of distribution time.

2 Distribution time

The drain will be open. The motor runs at distribution speed. During this time the wash load will be distributed evenly around the walls of the inner drum.
If this time is set to 0 the drain module will only consist of draining time.

Usable default values

When you are programming a new program module, some of the questions will already have usable default values in place. These are the standard values which are used if you program in Standard mode.

You can naturally change these values, but they are there to provide an indication of settings which normally work well.

```
PAUSE BEFORE DRAIN         N
ACTION                     N
DRAIN A                    N
DRAIN B                    N
DRAIN C                    N
DRAIN D                    N
DRAIN TIME             00:50
DISTRIBUTION TIME      00:40
SPEED DURING DRAIN RPM    48
ACCELERATION RPM/SEC      20
READY
```

3873

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ↓.** |

Pause before drain

If you answer **Yes (Y)** :
  The washer extractor will stop and the buzzer will sound before the drain opens.

  Turn off the buzzer by pressing the button with crossed buzzer-symbol. Start the program by pressing **START**.

If you answer **No (N)** :
  The program module starts, with no pause.

```
PAUSE BEFORE DRAIN         N
ACTION                     N
DRAIN A                    N
DRAIN B                    N
DRAIN C                    N
DRAIN D                    N
DRAIN TIME             00:50
DISTRIBUTION TIME      00:40
SPEED DURING DRAIN RPM    48
ACC. DUIRNG DRAIN RPM/SEC 20
READY
```
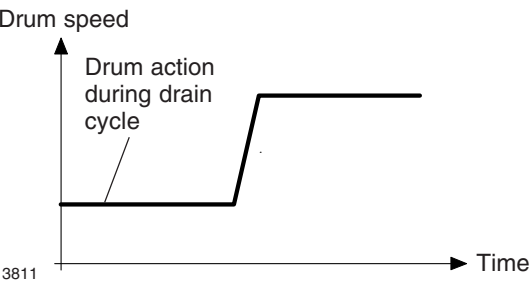
3874

Options :

 - = Drum at standstill

D = Gentle action

N = Normal action

| -/G/N |

| ↓ | **Press ↓.** |

Drum action during drain cycle

Here you can determine the drum action during the time programmed for the drain cycle :

Drum speed

Drum action during drain cycle

3811   Time

Options :
 - = Drum at standstill
 G = Gentle action
 N = Normal action

```
PAUSE BEFORE DRAIN          N
ACTION                      N
DRAIN A                     N
DRAIN B                     N
DRAIN C                     N
DRAIN D                     N
DRAIN TIME               00:50
DISTRIBUTION TIME        00:40
SPED DURING DRAIN RPM       48
ACC. DURING DRAIN RPM/SEC   20
READY
```

4225

Y/N	**Answer Yes (Y) or No (N).**
↓	**Press ⇩.**

Choose drain valve

If the machine has two drain valves (for example to allow water to be reused during some wash sequences) here you can specify which drain valve is to open.

If you answer **Yes (Y)** :

The machine's normal drain will remain closed during the drain sequence. The drain valve for water recovery will open instead.

If you answer **No (N)** :

The machine's normal drain will open during the drain sequence. The drain valve for water recovery will remain closed.

```
PAUSE BEFORE DRAIN          N
ACTION                      N
DRAIN A                     N
DRAIN B                     N
DRAIN C                     N
DRAIN D                     N
DRAIN TIME               00:50
DISTRIBUTION TIME        00:40
SPEED DURING DRAIN RPM      48
ACC. DURING DRAIN RPM/SEC   20
READY
```

4226

Y/N	**Answer Yes (Y) or No (N).**
↓	**Press ⇩.**

Extra drain valves

Here you can control a further three drain valves in addition to the two in the previous function. These drain valves will open and close without affecting the two drains in the previous function.

If you answer **Yes (Y)** :

The specified drain will open throughout the drain sequence.

If you answer **No (N)** :

The drain will remain closed.

```
PAUSE BEFORE DRAIN                 N
ACTION                             N
DRAIN A                            N
DRAIN B                            N
DRAIN C                            N
DRAIN D                            N
DRAIN TIME                      00:50
DISTRIBUTION TIME               00:40
SPEED DURING DRAIN RPM             48
ACC. DURING DRAIN RPM/SEC          20
READY
```
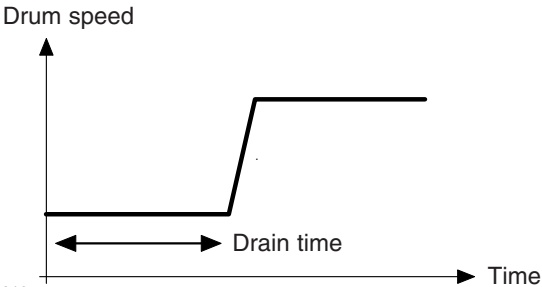
3875

⬚1 ⬚2 ⬚3
⬚4 ⬚5 ⬚6
⬚7 ⬚8 ⬚9
⬚0

Use the numeric keys to enter the required value.

If wrong digits are given :
Press ERASE.

⬚↓ When ready,
Press ⇩.

Drain time

Here you can determine the drain time:

Drum speed

Drain time

Time

3812

The maximum time is 42 minutes and 30 seconds, in increments of 10 seconds.

```
PAUSE BEFORE DRAIN                 N
ACTION                             N
DRAIN A                            N
DRAIN B                            N
DRAIN C                            N
DRAIN D                            N
DRAIN TIME                      00:50
DISTRIBUTION TIME               00:40
SPEED DURING DRAIN RPM             48
ACC. DURING DRAIN RPM/SEC          20
READY
```
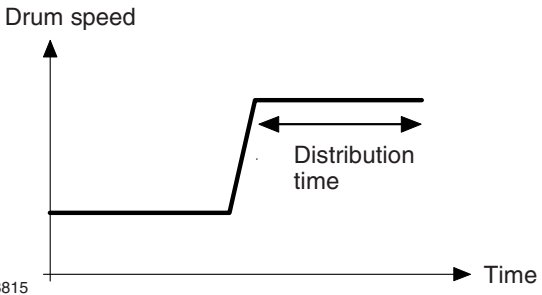
3876

⬚1 ⬚2 ⬚3
⬚4 ⬚5 ⬚6
⬚7 ⬚8 ⬚9
⬚0

Use the numeric keys to enter the required value.

If wrong digits are given :
Press ERASE.

⬚↓ When ready,
Press ⇩.

Distribution time

Here you can determine the length of time the drum operates at distribution speed:

Drum speed

Distribution time

Time

3815

The maximum time is 42 minutes and 30 seconds, in increments of 10 seconds.

```
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN B                        N
DRAIN C                        N
DRAIN D                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
SPEED DURING DRAIN RPM         48
ACC. DURING DRAIN RPM/SEC      20
READY
```
3877

Only for machines with frequence controlled motor.

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :

Press ERASE.

↓

When ready,
Press ⇩ .

Drum speed during drain

This function allows you to determine drum speed during the drain stage. The speed will apply to both normal action and gentle action.

Drum speed right-hand rotation

This function allows you to set this level (the same for both right-hand and left-hand rotation)

3870

Drum speed left-hand rotation

```
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN B                        N
DRAIN C                        N
DRAIN D                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
SPEED DURING DRAIN RPM         48
ACC. DURING DRAIN RPM/SEC      20
READY
```
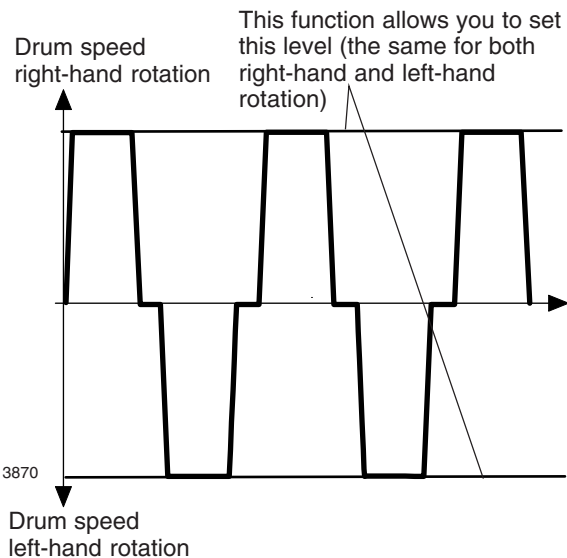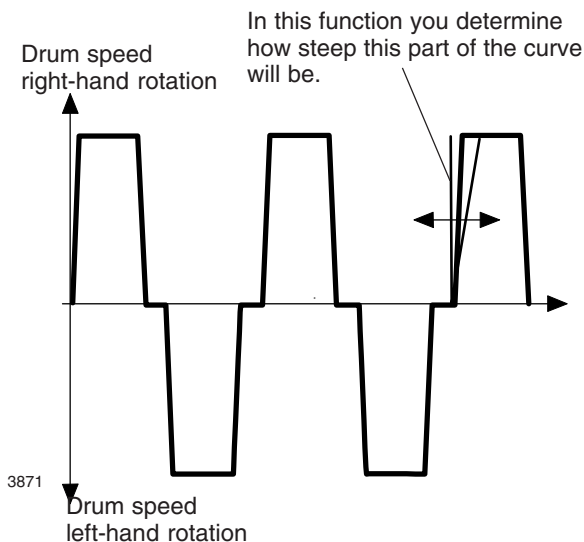3878

Only for machines with frequence controlled motor.

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :

Press ERASE.

↓

When ready,
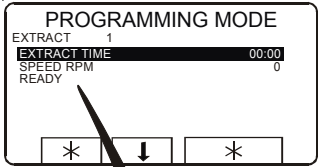**Press ⇩ .**

Acceleration rate during drain

This function allows you to determine the rate of acceleration for the drum, i.e. the rpm per second at which its speed should increase until it reaches the speed(s) you set in the last function. This setting will apply to both normal action and gentle action.

Drum speed right-hand rotation

In this function you determine how steep this part of the curve will be.

3871

Drum speed left-hand rotation

```
PAUSE BEFORE DRAIN              N
ACTION                         N
DRAIN A                        N
DRAIN B                        N
DRAIN C                        N
DRAIN D                        N
DRAIN TIME                  00:50
DISTRIBUTION TIME           00:40
SPEED DURING DRAIN RPM         48
ACC. DURING DRAIN RPM/SEC      20
READY
```
3879

SELECT

Once you have answered all the questions, highlight READY, then :

Press SELECT to exit the program module.

Extraction, Advanced mode


```
PROGRAMMING MODE
EXTRACT        1
EXTRACT TIME              00:00
SPEED RPM                     0
READY
     *        ↓        *
```
3818

```
EXTRACT TIME              00:00
SPEED RPM                     0
READY
```

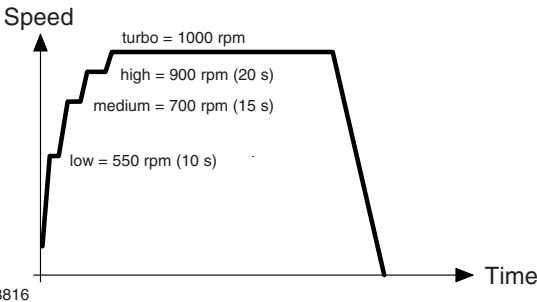To access this function, see sections To create and write an entirely new program.

Answer the various questions in the module. Press ⇩ to move on to the next question.

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

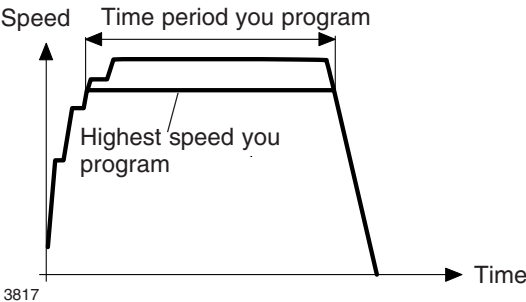**For machines with frequency-controlled motors**:

The extraction time module consists of a single extraction period, for which you can determine extraction time and speed. The machine does not accelerate to its highest speed immediately, however. Instead it accelerates in several steps, because some of the water needs to be extracted at lower speeds. Shown below are the standard values the machine has when delivered :

Speed
turbo = 1000 rpm
high = 900 rpm (20 s)
medium = 700 rpm (15 s)
low = 550 rpm (10 s)
Time
3816

If you program a low (maximum) extraction speed, the number of acceleration steps at the beginning of extraction may be reduced.

The time you program is the period the machine will run at its highest speed.

Speed — Time period you program
Highest speed you program
Time
3817

For machines without frequency-controlled motors you must choose one of the extraction speed options shown on the display.


```
EXTRACT TIME                          00:00
SPEED (LOW=400 HIGH=1000) RPM             0
READY
```
3822

```
EXTRACT TIME              00:00
SPEED RPM                     0
READY
```
3819

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :
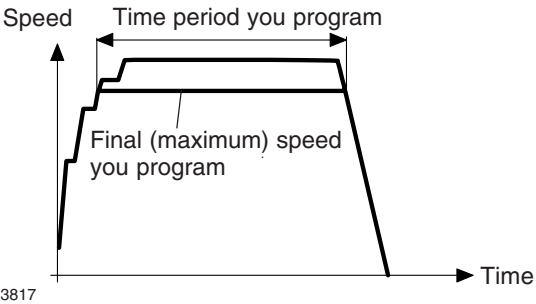**Press ERASE.**

↓

When ready,
Press ⇩.

Extraction time

The maximum extraction time is 59 minutes and 59 seconds, in increments of 1 second.

The period during which the drum is reaching its correct speed is not included in the "extraction time".

Speed — Time period you program

Final (maximum) speed you program

Time

3817

```
EXTRACT TIME              00:00
SPEED RPM                     0
READY
```
3820

Use the numeric keys to enter the required value.

1	2	3
4	5	6
7	8	9
	0	

If wrong digits are given :
Press ERASE.

↓

When ready,
Press ⇩.

Extraction speed

For machines with frequency-controlled motors :

Enter the extraction speed you require. The maximum speed varies from one machine to another.

If you enter a value which is too high, the value will be changed to the maximum allowed when you press ⇩ .

For machines without frequency-controlled motors :

If the machine does not have a frequency-controlled motor, the available extraction speed options will be shown on the display.

```
EXTRACT TIME                    00:00
SPEED (LOW=400 HIGH=1000) RPM       0
READY
```
3822

Enter one of these values. **Note that no other values are allowed.**

```
EXTRACT TIME              00:00
SPEED RPM                     0
READY
```
3821

Once you have finished :

Check that READY is highlighted.

SELECT

Press SELECT to exit the program module.

Cool-down, Advanced mode

```
         PROGRAMMING MODE
COOL-DOWN      1
QUICK COOL-DOWN                          N
ACTION                                   N
VALVE ON TIME 100 - 70°C IN SEC.         3
VALVE ON TIME 70°C - END IN SEC.         5
END TEMP.                            55 °C
SPEED RPM                               48
ACCELERATION RPM/SEC                    20
  ┌─────┬─────┬─────┐
  │  ✳  │  ↓  │ Y/N │
  └─────┴─────┴─────┘
```

3880

```
QUICK COOL-DOWN                          N
ACTION                                   N
VALVE ON TIME 100-70 °C IN SEC.          3
VALVE ON TIME 70 °C-END IN SEC.          5
END TEMP                             55 °C
SPEED RPM                               48
ACCELERATION RPM/SEC                    20
READY
```

To access this function, see chapter "To create and write an entirely new program".

Answer the various questions in the module. Press ⇩ to move on to the next question.

You can go back and change questions already answered by pressing ⇧ repeatedly.

The module structure

The cool-down module is used to achieve controlled cooling of the wash water. This helps prevent creasing of the wash load.
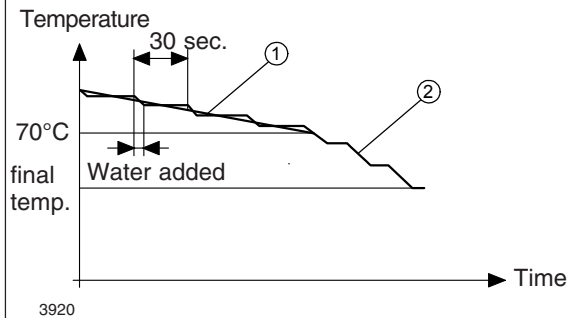
During the cool-down sequence cold water is added for a brief period at 30 second intervals. The sequence is divided into two distinct sections :

1   98 °C - 70 °C.

You program the length of time during which the cold water valve opens every 30 seconds, but the machine monitors constantly to ensure that the cool-down rate does not exceed the limit value, which is 4 °C/minute when the machine is delivered. If the limit value is exceeded, no water will be added until the mean value is acceptable again.

2   70 °C - final temperature

You program the length of time during which the cold water valve opens every 30 seconds. The rate of cool-down is not monitored during this stage. The valve opens and closes depending on the programming mode.

3920

Usable default values

When you are programming a new program module, some of the questions will already have usable default values in place. These are the standard values which are used if you program in Standard mode.

You can naturally change these values, but they are there to provide an indication of settings which normally work well.

```
QUICK COOL-DOWN                        N
ACTION                                 N
VALVE ON TIME 100 - 70 °C IN SEC.      3
VALVE ON TIME 70 °C - END IN SEC.      5
END TEMP                            55 °C
SPEED RPM                             48
ACCELERATION RPM/SEC                  20
READY
```

3881

| Y/N | **Answer Yes (Y) or No (N).** |

| ↓ | **Press ⬇.** |

Quick cool down

If you answer **Yes (Y)** :
   The machine will fill with cold water to a fixed higher level. The machine **does not** monitor the drop in temperature of the wash water. This function is used mainly for reducing the temperature of the water before it is discharged.

   Do not use this function to prevent creasing of the wash load !

If you answer **No (N)** :
   The machine makes a controlled cool down as described earlier.

```
QUICK COOL-DOWN                        N
ACTION                                 N
VALVE ON TIME 100 - 70 °C IN SEC.      3
VALVE ON TIME 70 °C - END IN SEC.      5
END TEMP                            55 °C
SPEED RPM                             48
ACCELERATION RPM/SEC                  20
READY
```

3882

Options :

- = Drum stop

D = Gentle action

| -/G/N | **N = Normal action** |

| ↓ | **Press ⬇.** |

Drum action during cool-down

Allows you to determine drum action during cool-down. Options :

   - = Drum at standstill

   G = Gentle action

   N = Normal action

```
QUICK COOL-DOWN                      N
ACTION                               N
VALVE ON TIME 100 - 70 °C IN SEC.    3
VALVE ON TIME 70 °C - END IN SEC.    5
END TEMP                          55 °C
SPEED RPM                           48
ACCELERATION RPM/SEC                20
READY
```

3883

```
1  2  3
4  5  6
7  8  9
   0
```

↓

Use the numeric keys to enter the required value.

If wrong digits are given :

Press ERASE.

When ready,
Press ⇩ .

Valve on-time in seconds

The cool-down sequence is divided into two stages according to the water temperature:

1 100 °C to 70 °C

Here the machine monitors the sequence to ensure that the average cool-down rate does not exceed a set rate (normally 4 °C per minute). If the rate set is exceeded, no water will be added until the mean value is acceptable again.

2 70 °C to final temperature

The rate of cool-down is not monitored during this stage. The valve opens and closes depending on the programming mode.

During the cool-down sequence cold water will be added for a fixed period at intervals of 30 seconds. It is this period (the valve "on-time") which you can determine here. You can program different "on-times" for the two temperature ranges described above.

Temperature

30 sec.

①

②

70°C

Final temp.

Water added

Time

3920
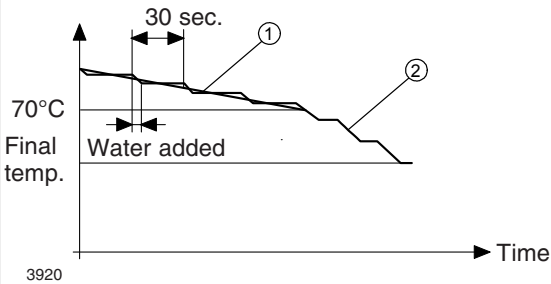
The valve on-time can be programmed from 0 to 30 seconds, in increments of 1 second.

5. Program modules, Advanced mode

```
QUICK COOL-DOWN                          N
ACTION                                   N
VALVE ON TIME 100 - 70 °C IN SEC.        3
VALVE ON TIME 70 °C - END IN SEC.        5
END TEMP                              55 °C
SPEED RPM                               48
ACCELERATION RPM/SEC                    20
READY
```

3885

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :
Press ERASE.

[↓] When ready,
Press ⇩.

Final temperature

Enter the temperature you require for the water at the end of cool-down.

Final temperature

3921

```
QUICK COOL-DOWN                          N
ACTION                                   N
VALVE ON TIME 100 - 70 °C IN SEC.        3
VALVE ON TIME 70 °C - END IN SEC.        5
END TEMP                              55 °C
SPEED RPM                               48
ACCELERATION RPM/SEC                    20
READY
```
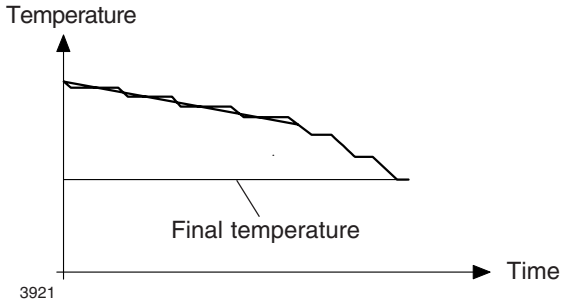
3886

Only for machines with frequence controlled motor.

Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :
Press ERASE.

[↓] When ready,
Press ⇩.

Drum speed during cool-down

You can determine the drum speed during cool-down. The speed will apply to both normal action and gentle action.

Drum speed right-hand rotation

This function allows you to set this level (the same for both right-hand and left-hand rotation)

Drum speed left-hand rotation

3870

```
QUICK COOL-DOWN                      N
ACTION                               N
VALVE ON TIME 100 - 70 °C IN SEC.    3
VALVE ON TIME 70 °C - END IN SEC.    5
END TEMP                          55 °C
SPEED RPM                           48
ACCELERATION RPM/SEC                20
READY
```

3887

Only for machines with frequence controlled motor.
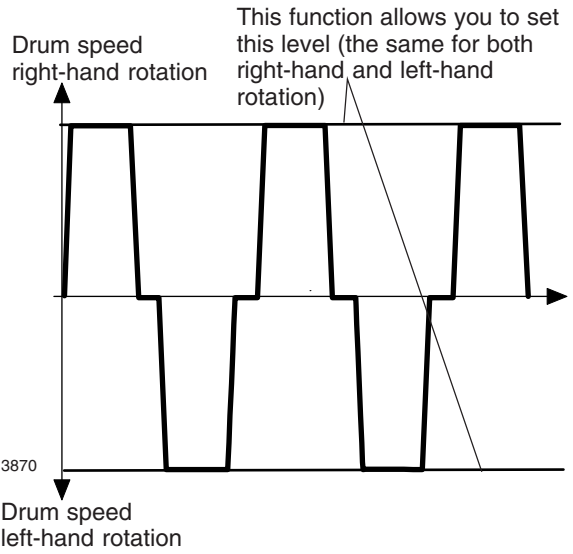
Use the numeric keys to enter the required value.

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[0]

If wrong digits are given :

Press ERASE.

[↓]

When ready,
Press ↓.

___ *Acceleration rate during drain stage* ___

This function allows you to determine the rate of acceleration for the drum, i.e. the rpm per second at which its speed should increase until it reaches the speed you set in the last function. This setting will apply to both normal action and gentle action.

Drum speed right-hand rotation

In this function you determine how steep this part of the curve will be.

3871

Drum speed left-hand rotation

```
QUICK COOL-DOWN                      N
ACTION                               N
VALVE ON TIME 100 - 70 °C IN SEC.    3
VALVE ON TIME 70 °C - END IN SEC.    5
END TEMP                          55 °C
SPEED RPM                           48
ACCELERATION RPM/SEC                20
READY
```

3888

Once you have finished :

Check that READY is highlighted.

Press SELECT to exit the program module.

[SELECT]

Electrolux

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