


Fibretherm FT12

Instruction Manual



Please read this instruction manual with care before you start operating the system!



Please observe the safety instructions of this manual marked with  in order to avoid any dangerous handling!

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1 Important notes



1.1 How to use this instruction manual

Please make sure that the persons working with the Fibretherm have read and understood this manual in order to observe all the instructions.

This instruction manual must be accessible to all users at any time and is a part of the Fibretherm system!

The instrument will be called 'Fibretherm' in the entire document.

This instruction manual only explains the technical details necessary for the operation of the instrument but is NOT a complete technical description.










The security advises given in this manual have to be observed under all circumstances! The symbols at the border of the text emphasize the dangers cited in the text.

Symbols at the instrument warn of possible dangers and will refer you to this manual!

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1.2 Explanation of symbols

 <p>Attention! Advance notice of danger spots, carefully read instruction manual!</p>	 <p>Attention! Read instruction manual!</p>
 <p>Attention! Hot surface!</p>	 <p>Attention! Use eye protection!</p>
 <p>Attention! Mains voltage!</p>	 <p>Attention! Use protective gloves!</p>
 <p>Attention! Beware of hot liquids and vapours!</p>	 <p>Attention! Be careful to avoid injuries of your hands!</p>
 <p>Attention! Advance notice of substances which might be a health risk or cause irritation!</p>	

2 Safety

2.1 Operation as directed

Fibretherm is a system for the fully automated boiling and filtration process during the Crude fibre-, ADF- and NDF-determination. Up to 12 samples can be digested and filtered simultaneously. Please observe the general regulations and applications for the determination.

Applications for the various areas of usages can be obtained at Gerhardt on request.



Make sure to use the instrument according to our instructions, especially:

- all instructions of this manual
- the regulations in place in the country the instrument is used

All other usage is not recommended!



C. Gerhardt GmbH & Co. KG is not liable for any damages caused due to non recommended usage

- any modifications are not allowed for safety reasons
- repairs of electric, electronic or mechanical components may only be done by authorized personnel!

2.2 Safety instructions



The FIBRE THERM corresponds to the technical standard used at this date and observes the safety rules and regulations in place.

It is understood that the user has to observe

- the accident prevention regulations in place
- the general accident prevention regulations
- EU-regulations or other country specific instructions



Indicating label and danger symbols must not be taken off!



Make sure that no liquid gets into contact with cable connections or the interior of the electrical parts of the unit!

- Danger of electric shock!



In case of an emergency disconnect from mains immediately!



Always pull the mains plug before opening!

- Danger of electric shock!



Prior to each start of the Fibretherm, make sure that the glass container is closed tightly. Danger of burns and splashing liquids!



Make sure to wear protective gloves when taking the glass container out and wear protective glasses as well.

The glass container is very hot and there is the danger of burns!



Attention when handling chemicals! Please observe the manufactures safety instructions (see label) and your national safety regulations!

2 Safety

2.3 Work bench / Authorized user



The FIBRE THERM must not be run in damp or hazardous location. The maximum humidity allowed is 80 %, the maximum room temperature must not exceed 35 °C!



The FIBRE THERM has to be placed on a horizontal and stable footprint.



The FIBRE THERM may only be operated by trained staff or especially trained persons.

The user has to:

- read, comprehend, and observe the operation manual
- wear suitable clothes for laboratory work
- deny access to any unauthorized personnel

2.4. Danger spots at the instrument



- Attention, danger of crushing when the hood is put down on the glass container!



- Attention, danger of burns on the top of the glass ceramic-hotplate!



- Attention, danger of splashing hot or caustic liquids at the tubing connections at the back of the instrument!



- Attention, danger of burns when taking out the hot glass container!



3 Technical description

3.1. Warranty conditions

The FIBRE THERM is manufactured following the high quality guidelines of EN ISO 9001:2000. On the basis of the C. Gerhardt conditions of warranty our products are guaranteed for 1 year, as long as the apparatus is used in accordance with the instructions mentioned in this manual.

Please note that the working parts are excluded from warranty.:

- Glass container, order-no. 52826
- Glass-spacer, order-no.: 1772

3.2. Technical data

Fibretherm FT 12

Order-No.:	175000
Type:	FT 12
Nominal voltage:	230 V, 50 - 60 Hz
Programs:	9
Cooling water consumption:	ca. 3 l/min
Cooling water pressure:	min 0,5 bar
Air pressure:	ca. 4,5 bar
Interface:	2 x RS 485
Dimensions (WxDxH):	330 x 650 x 860 mm
Weight:	ca. 42 kg (empty)

4 Description of the Fibretherm

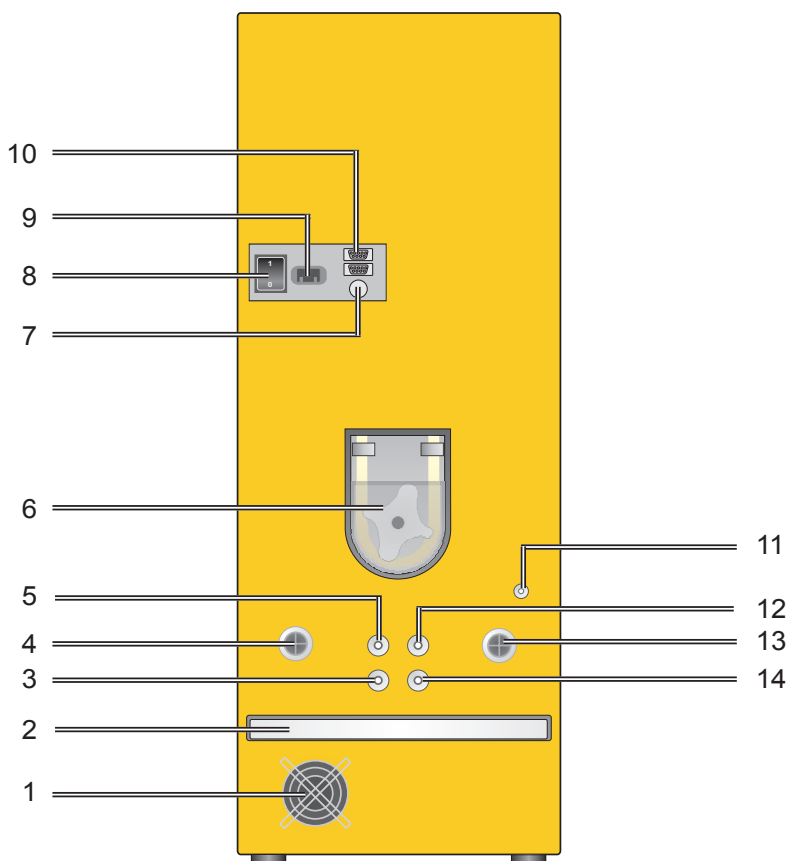
4.1 Front view Fibretherm FT 12



- 1 Control panel (key pad), order-no.: 52918
Input of program and control
- 2 Glass ceramic-heating area, order-no.: 52829
Infrared-heating area, 1800 W
- 3 Protective hood, can be taken out, order-no.: 52816
Behind the hood there is the glass condenser and tubes
- 4 Drip tray, order-no.: 52887
After taking out the glass beaker, you can also take out the drip tray and put it below the protective hood in order to catch any residue of distillate or chemicals. During the analysis you can store the drip tray on the protective hood.
- 5 Quick clamping handle, order-no.: 52856
Quick clamping handle serves for:
A - Inserting and taking out of the drip tray
B - Inserting and taking out of the carousel
- 6 Electronic- and pump cabinet
Electronic and pumps are separated from each other and are built in splash proof.
- 7 Glass container, Order-no.: 52826
The carousel containing the 12 FibreBags is put into the glass container.

4 Description of the Fibretherm

4.2. Rear view Fibretherm



- | | |
|---|---|
| 1 Ventilator
Keeps inside of instrument cool. | 9 Appliance plug with mains cable
Connection for mains cable, Order-No.: 1312 |
| 2 Drip tray, order-no.: 52189
Pull it towards the backside when you want to clean it. | 10 Interface RS 485 (2 x)
Quality control conform to ISO/GLP is possible using the interface RS 485 |
| 3 Suction of sample residue
Connection for PVC-tube 8x12, order-no.: 22604 | 11 Inlet compressed air
Connection for compressed air tubing, order-no.: 52199 |
| 4 Cooling water inlet with cleaning sieve
Connection thread 3/4 inch for water inlet tube 10/17, order-no.: 22802 | 12 Inlet 2 for chemicals (Detergent 2)
Connection for PVC-tube 8x12, order-no.: 22604 |
| 5 Inlet 1 for chemicals (Detergent 1)
Connection for PVC-tube 8x12, order-no.: 22604 | 13 Inlet for cleaning water with cleaning sieve
Connection thread 3/4 inch for cleaning water inlet tube 10/17, order-no.: 22802 |
| 6 Tubing pump
Easily accessible for maintenance | 14 Cooling water outlet
Connection for PVC-tubing 8x12, order-no.: 22604 |
| 7 Socket for level detector
Connection for level detector for set of storage tanks | |
| 8 Mains switch with excessive current protection
Order-no.: 52834
Here you turn instrument on / off. The switch turns off when current consumption is too high. | |

5 Assembly and installation

5.1. Check for transport damage

Before assembling the apparatus please check if the content of the box is complete and intact!

In case of any damage, please notify your carrier (post, rail, road) as well as your supplier!

5.2. Unpack apparatus

You need a connection (cold water pipe) with 1/2 inch thread to connect it to the water supply.



The FIBRE THERM must not be run in damp or hazardous location. The maximum humidity allowed is 80 %, the maximum room temperature must not exceed 35 °C!

Please observe the local water and waste regulations and those of your public water supply company!

Please note that the length of the inlet and outlet tubing is restricted to 2 metres.

The equipment should be located on a fixed laboratory bench, close to the cold water connection and the drain. There should be sufficient space for the set of tanks below the work bench.

Make sure to take a faucet, which can be connected to the inlet tubing permanently.

The water pressure must be at least 0,5 bar in order to activate the integrated pressure detector.

The Fibretherm comes fully pre-assembled. Please unpack the equipment with care!

1. Place the equipment on the work bench.
2. Unpack accessories

The exact contents of the delivery can be checked by the following list.

5.3. Parts list

- 1 x Fibretherm FT 12, ready to use, Order-No.: 1755
- 12 x Glass spacer, Order-No.: 1772
- 4 x PVC-tubing 8/12, 2 m, Order-No.: 22604
- 2 x PVC pipe 10 x1 mm, 400 mm long, Order-No.: 25451
- 2 x Water inlet tubing grey, 10/17, 2 m, Order-No.: 22802
- 1 x Seal ring, Order-No.: 52891
- 1 x Tool hook wrench (50 x 25 mm) for seal ring, Order-No.: 19999
- 1 x Compressed air tubing, Order-No.: 52199
- 1 x Mains cable, Order-No.: 1312
- 1 x Instruction Manual
- 1 x Test report

5 Assembly and installation

5.4. Installation

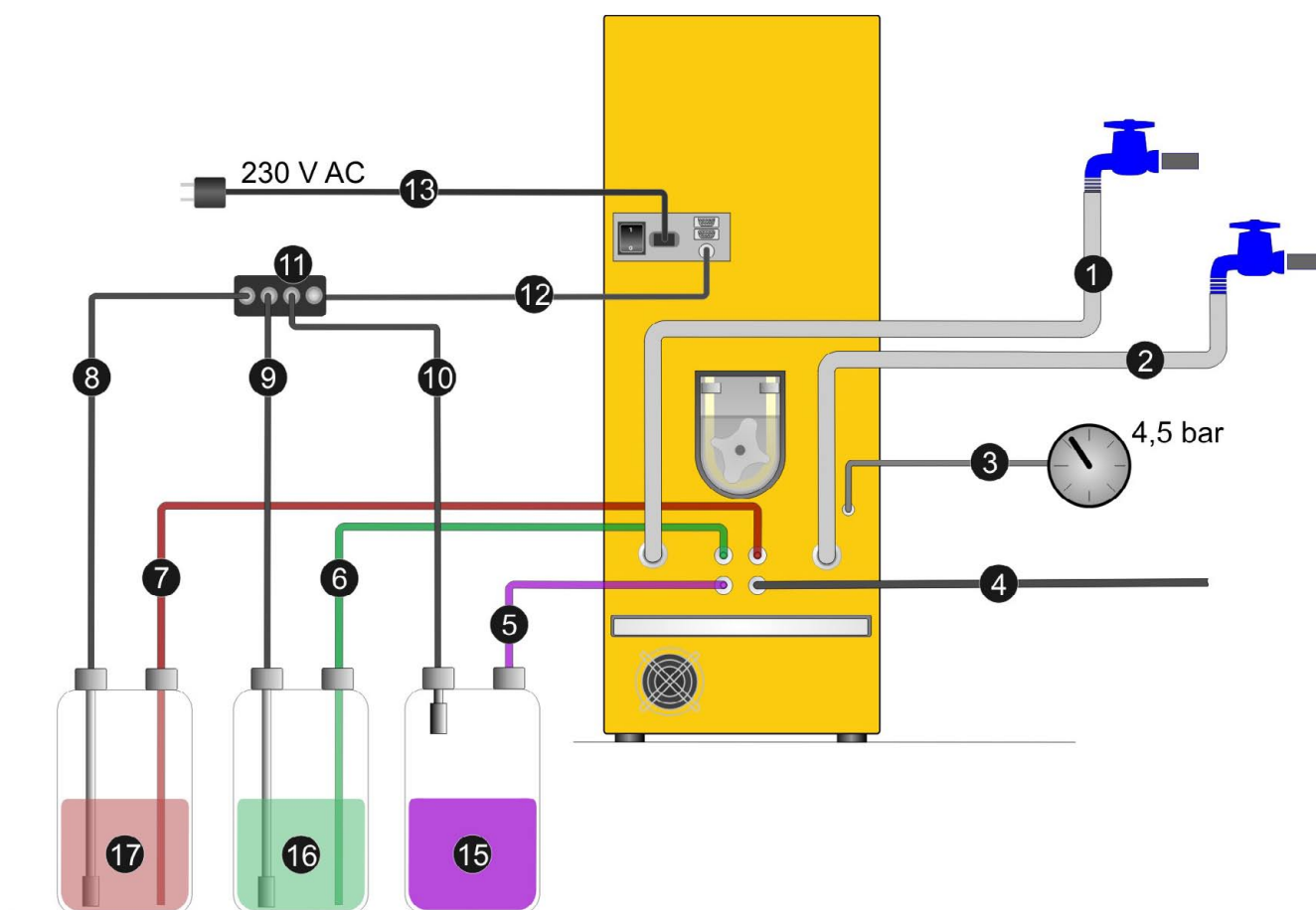
5.4.1. Set up tubing connections

Put the storage tanks for acids, alkalis as well as sample residue under or next to the working bench.

Make sure, however, that those containers are not higher than the Fibretherm!

When establishing the tubing connections, make sure to observe the labeling of the connection at the rear of the instrument. Always make sure that the connections are sitting tight.

Abb. 5.4.1. Tubing diagram



Water inlet tubings

- Connect the water inlet tubing for cooling water (pressure resistant hose 10/17, **Pos.1**) with the cooling water inlet at the rear of the instrument and your in-house water supply.
- Connect the water inlet tubing for the rinsing water (pressure resistant hose 10/17, **Pos.2**) with the rinsing water supply at the rear of the instrument and your in-house water supply.

5 Assembly and installation

Water outlet tubing

- Put the water outlet tubing (PVC-tube 8/12, **Pos. 4**) on the corresponding socket at the rear of the instrument and guide the end of the tube to the drain.

Sample outlet tubing

- Put the sample outlet tubing (PVC-tube 8/12, **Pos. 5**) on the corresponding socket at the rear of the instrument and guide the end of the tube to the sample residue container (Pos. 15).

Chemicals inlet tubing

- Put the chemicals inlet tubing 1 (PVC-tube 8/12, **Pos. 6**) on the corresponding socket at the rear of the instrument and guide the end of the tube to the chemicals reservoir 1 (Pos. 16). Additionally plug the PVC-tubing on the end of the tubing.
- Put the chemicals inlet tubing 2 (PVC-tube 8/12, **Pos. 7**) on the corresponding socket at the rear of the instrument and guide the end of the tube to the chemicals reservoir 2 (**Pos. 17**). Additionally plug the PVC-tubing on the end of the tubing.

Compressed air connection

- Connect the compressed air tube (**Pos. 3**) with the quick coupling and the compressor or the local compressed air supply. Check the tight fit of the tube and set the pressure reducer to 4,5 bar. Please make sure to check the instruction in the manual of the compressor.

Reservoir connection

Tank with level sensor

- Put the diode plugs of the level sensor (**Pos. 8, 9, 10**) to the connector (**Pos. 11**) and connect these with the connection socket for the level monitoring (**Pos. 12**).

5.4.2. Mains connection

Please check the nominal voltage on the product information plate before connecting to the mains. Should the nominal voltage deviate for more than +/- 10%, then you must contact your service engineer.



- Make sure that the mains switch at the rear of the instrument is in position "0"
- Connect the mains cable (**Pos. 14**) to the rear appliance plug first
- Connect the mains cable to the shockproof socket

5 Assembly and installation



5.5. Setting into operation

Attention when working with acids and alkalis! Make sure you observe the safety instructions concerning work with hazardous materials!

1. Turn the instrument on using the mains switch.
2. After turning the instrument on, the display shows following messages:

```
Version 1.15  
Aug 20 2007
```

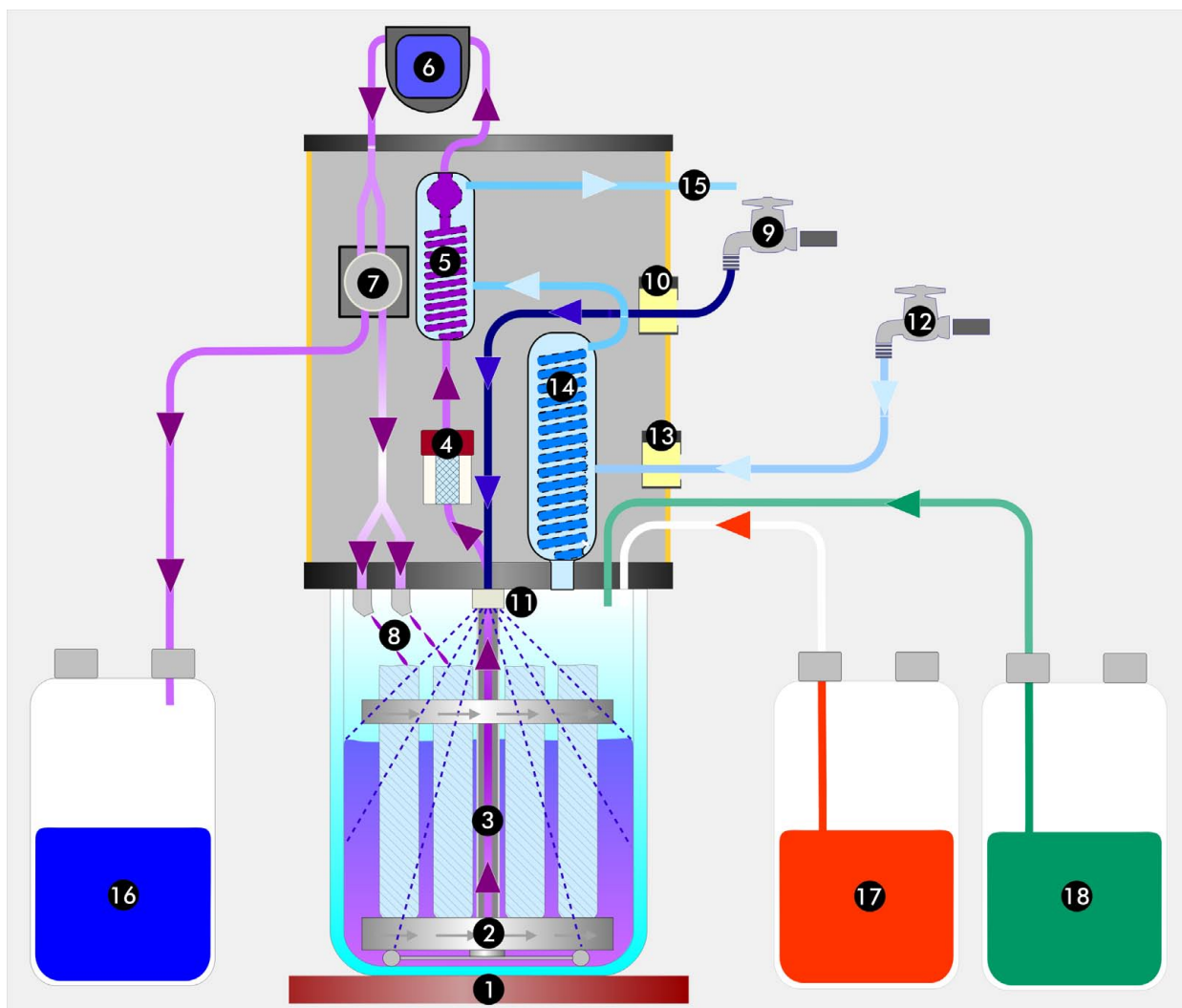
- Display of actual firmware-version and date

```
Fibretherm  
Menu
```

- Main menu

3. You can now define a method or start a method which was previously entered. Make sure to read the following chapters!

6 Schematic diagram Fibretherm



- | | |
|--|--|
| 1 Glass ceramic-hotplate, Order-No.: 52829 | 11 Unit injector element for cleaning water, Order-No.: 52813, incl. seal ring, Order-No.: 52891 |
| 2 Insert rack (carousel), Order-No.: 52805 and FibreBags | 12 Inlet for cooling water |
| 3 Axis carousel (suction pipe for chemicals) | 13 Valve for cooling water (On/Off), Order-No.: 52825 |
| 4 Filter glass, Order-No.: Order-No.: 52846 | 14 Glass condenser big |
| 5 Glass condenser small, Order-No.: 52847 | 15 Cooling water outlet |
| 6 Peristaltic pump, Order-No.: 52849 | 16 Sample waste tank*, 20 l |
| 7 Pinch solenoid valve, Order-No.: 10385 | 17 Chemicals tank acid*, 20 l |
| 8 Unit injector element | 18 Chemicals tank alkali*, 20 l |
| 9 Inlet for cleaning water | |
| 10 Valve for cleaning water (ON/OFF), Order-No.: 17101 | |

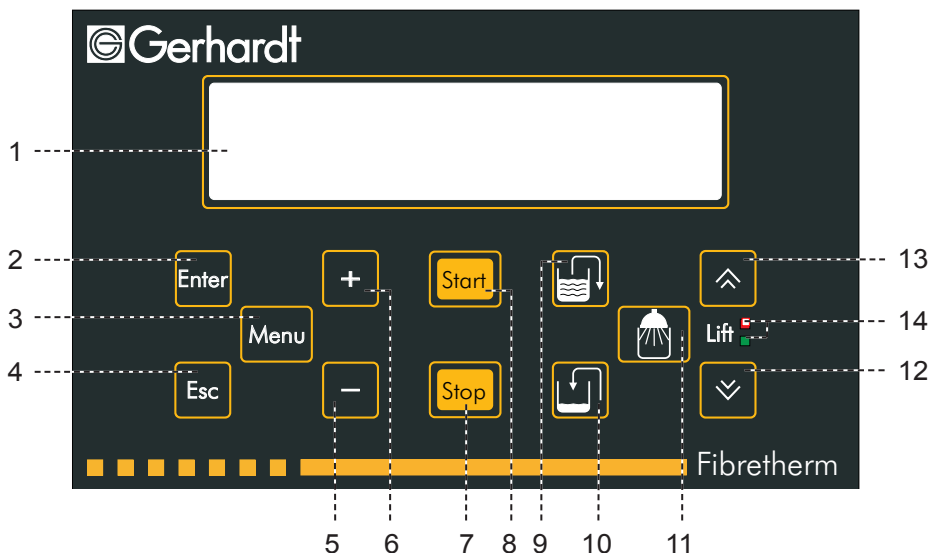
* See chapter 12.3. Accessories - set of storage tanks

7 Control panel

7.1. Keyboard

The Fibretherm can be programmed and controlled via the keyboard of the control panel

Fig. 7.1.:
Keyboard
Fibretherm FT 12

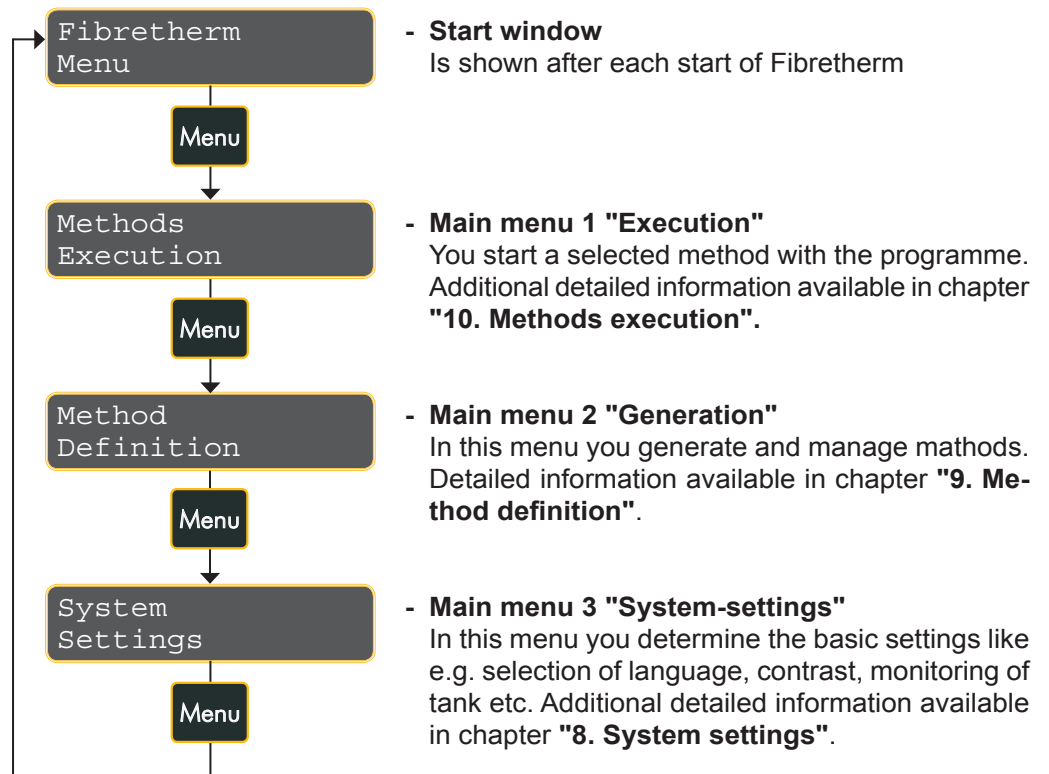


- | | |
|----------------------------|--|
| 1. Display | Displays all relevant information |
| 2. Key "Enter" | Confirms and/or stores the current value |
| 3. Key "Menü" | Calls up main-menu fields |
| 4. Key "Esc" | Aborts current programme step,
Return to previous step,
Return to main menu. |
| 5. Key "+" | Increases value |
| 6. Key "-" | Decreases value |
| 7. Key "Stop" | Aborts the running analysis
Return to main menu |
| 8. Key "Start" | Starts programme |
| 9. Key "Suction" | Residue of chemicals is sucked off manually |
| 10. Key "Addition" | Detergents are added manually |
| 11. Key "Rinsing" | Clean glass container manually |
| 12. Key "Lift up" | Lift is raised manually |
| 13. Key "Lift down" | Lift is lowered manually |
| 14. Status lamps | Red = Lift cannot be moved
Green = Lift can be moved |

7 Control panel

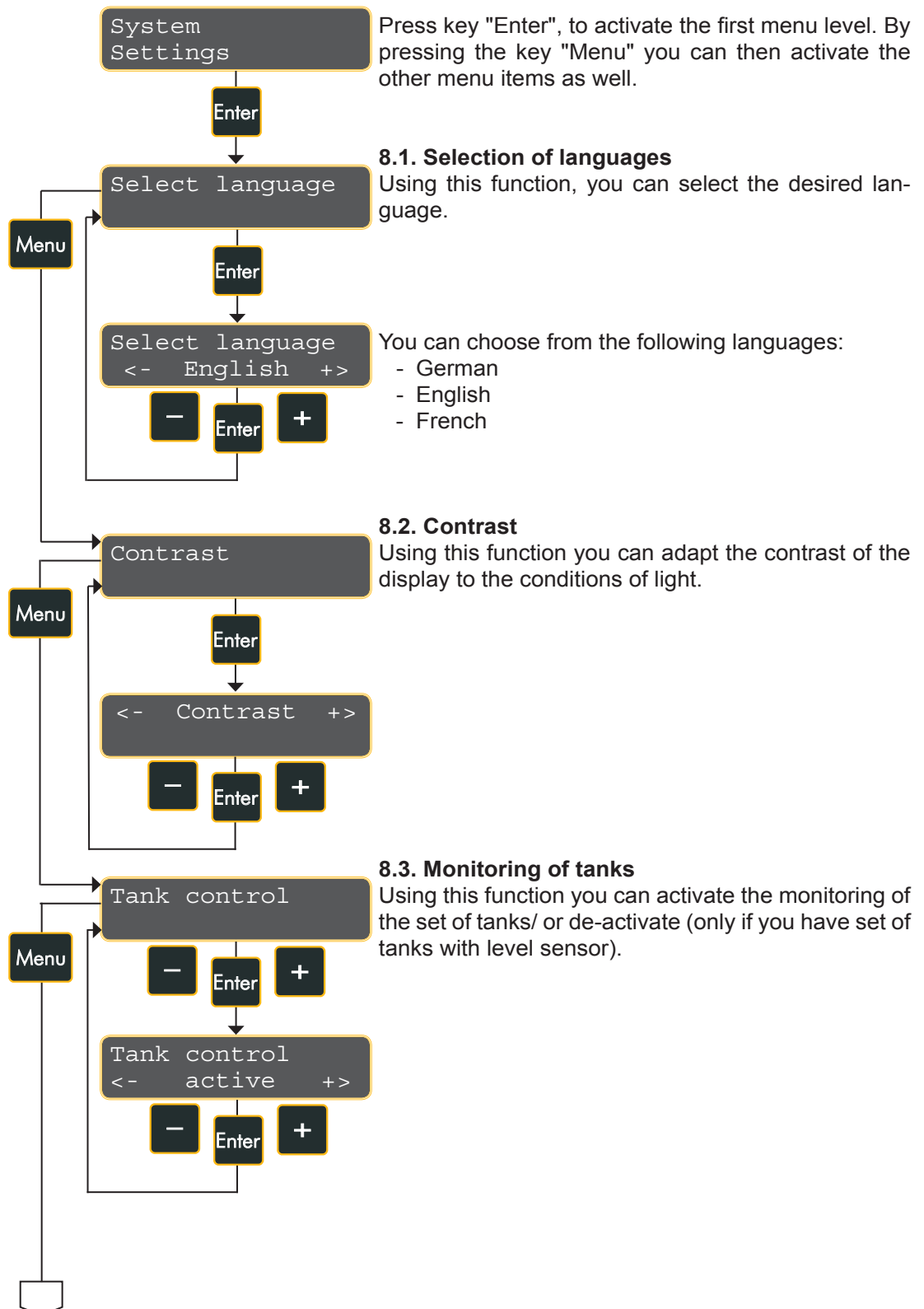
7.2. Main menus

The programme is divided in 3 main menu items which can be accessed by pressing the key **"Menu"**

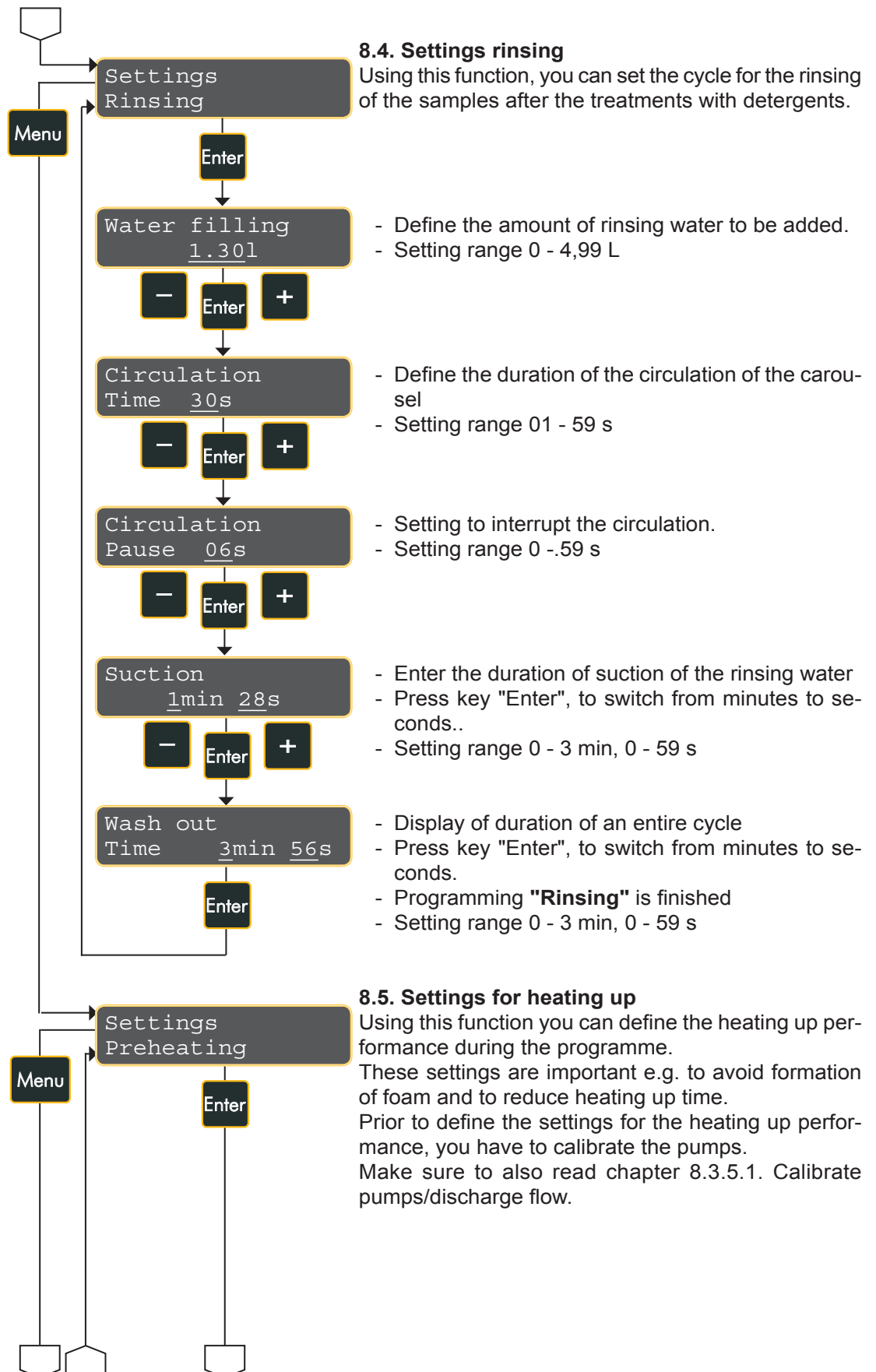


8 System settings

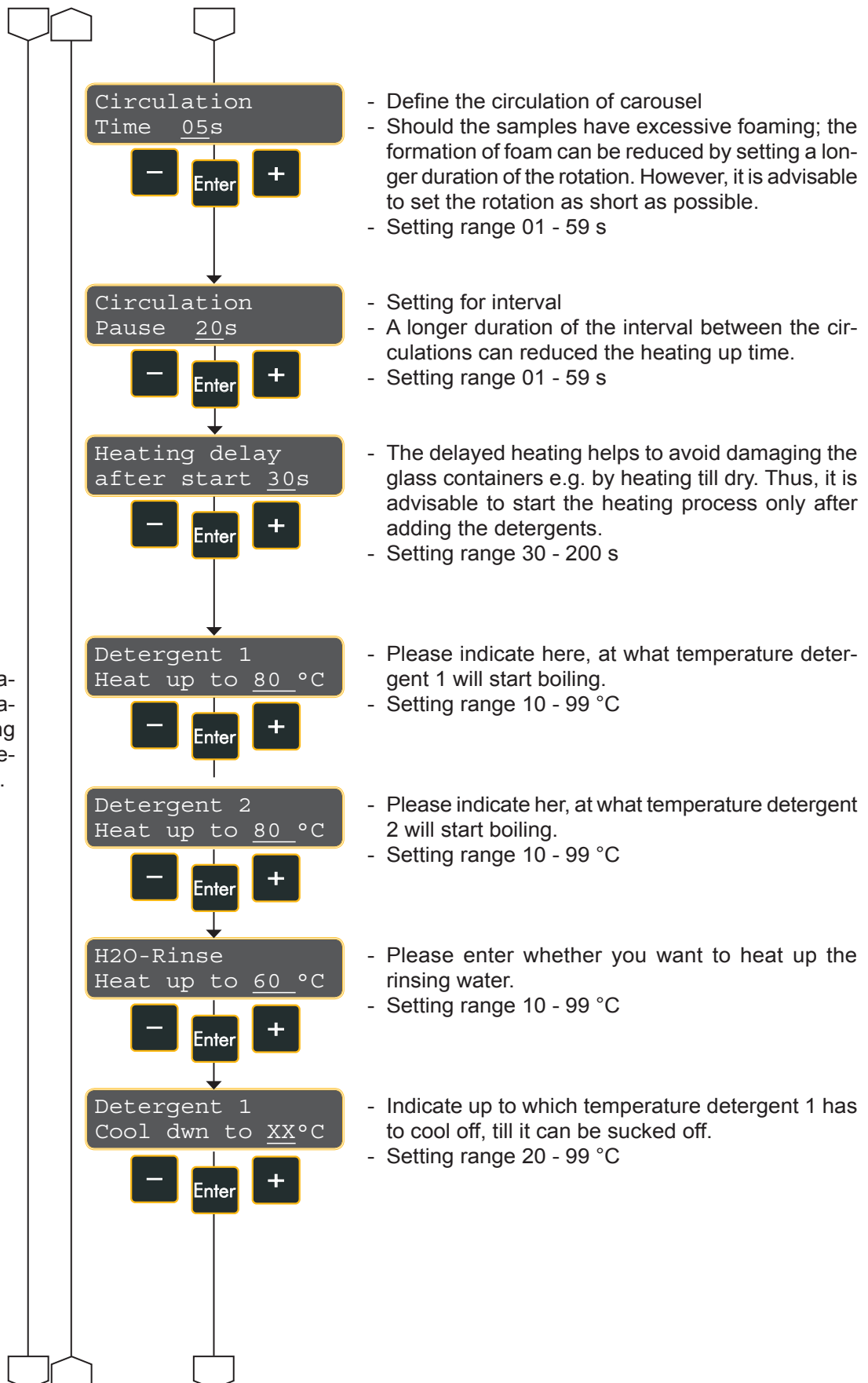
In the main menu "System settings" the following settings are defined: selection of language, contrast, monitoring of tank, settings rinsing, settings heating up and service.



8 System settings



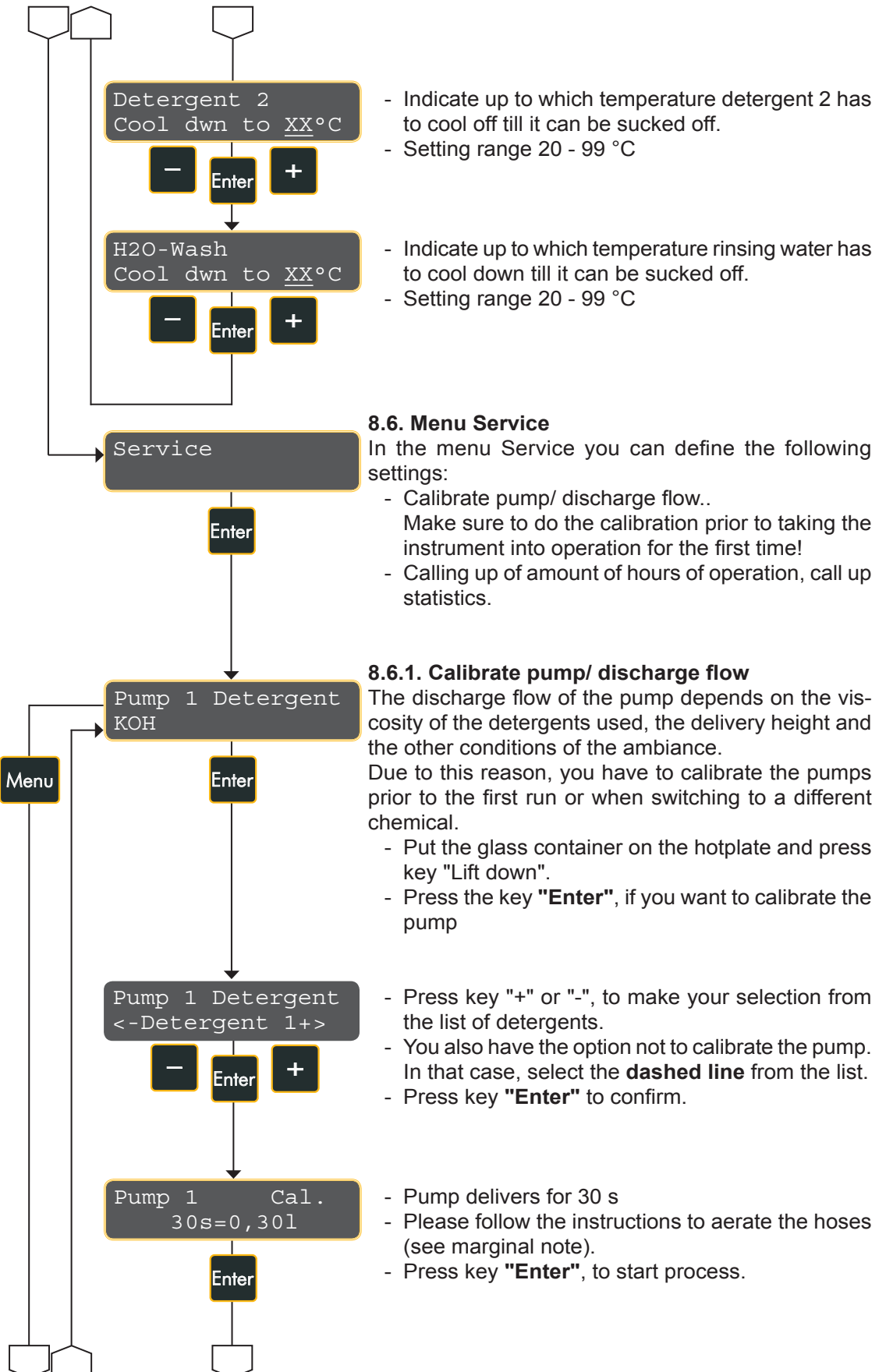
8 System settings



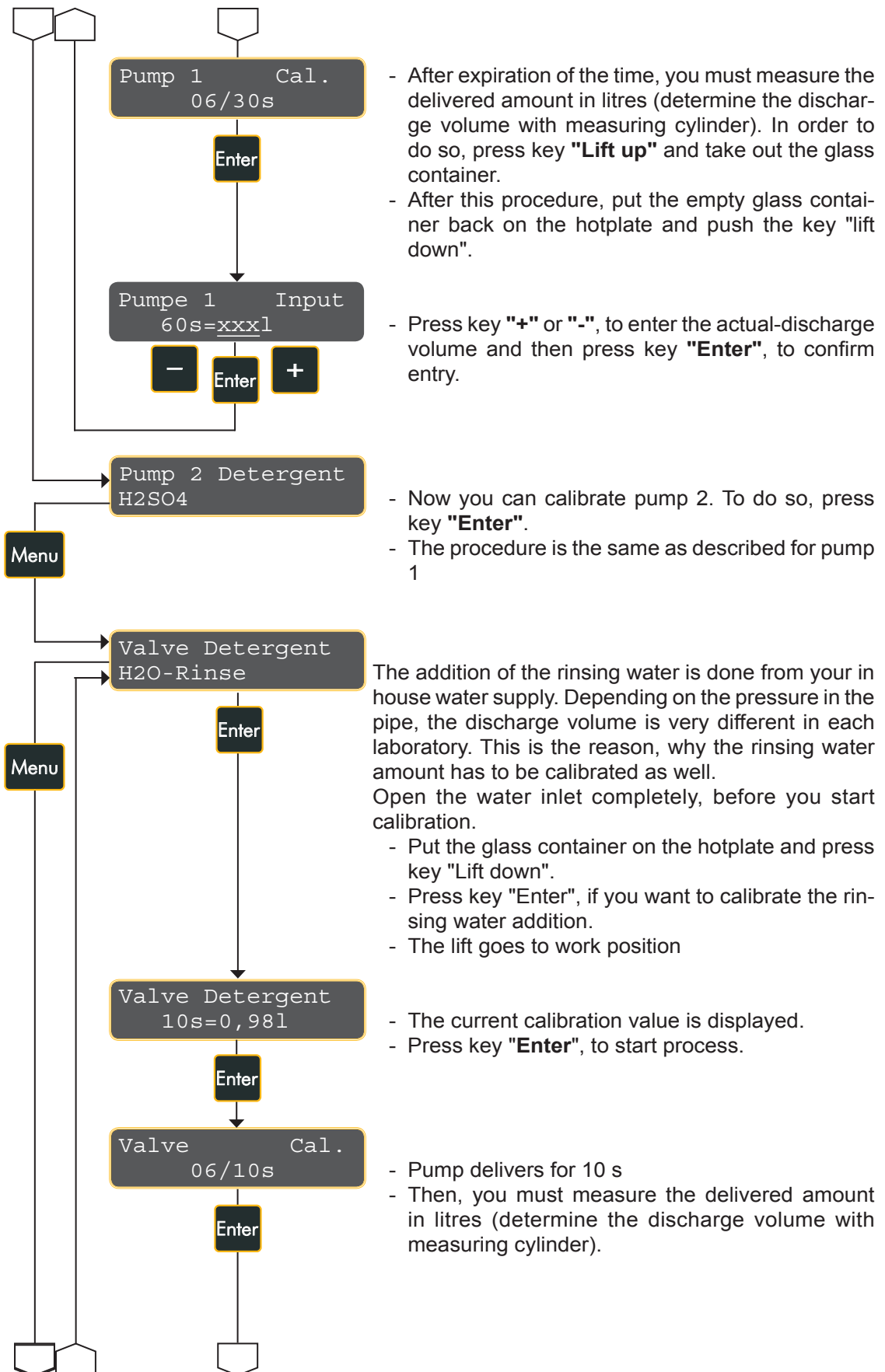
Comment:

When the temperature selected is reached, the operating sequence of the method starts running.

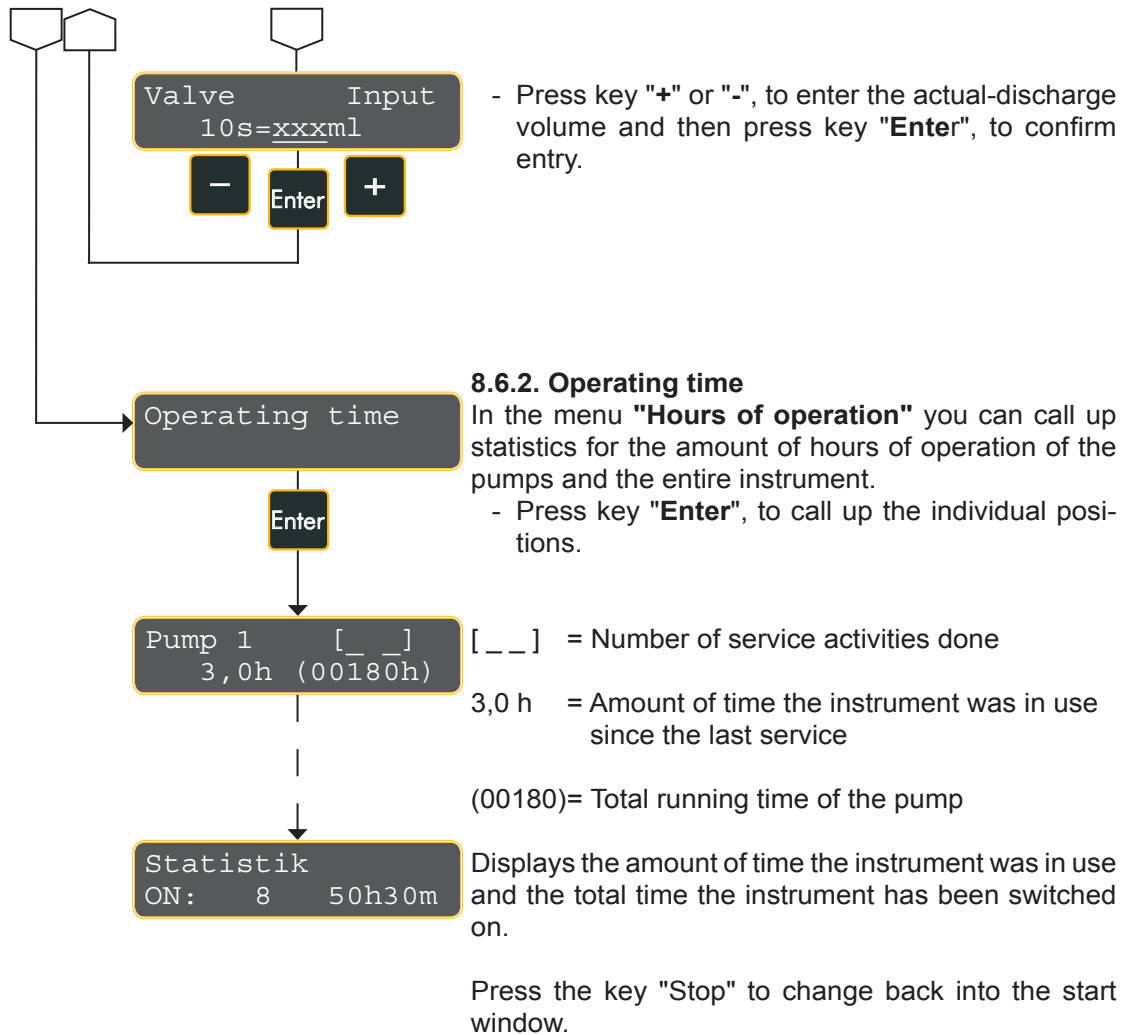
8 System settings



8 System settings



8 System settings



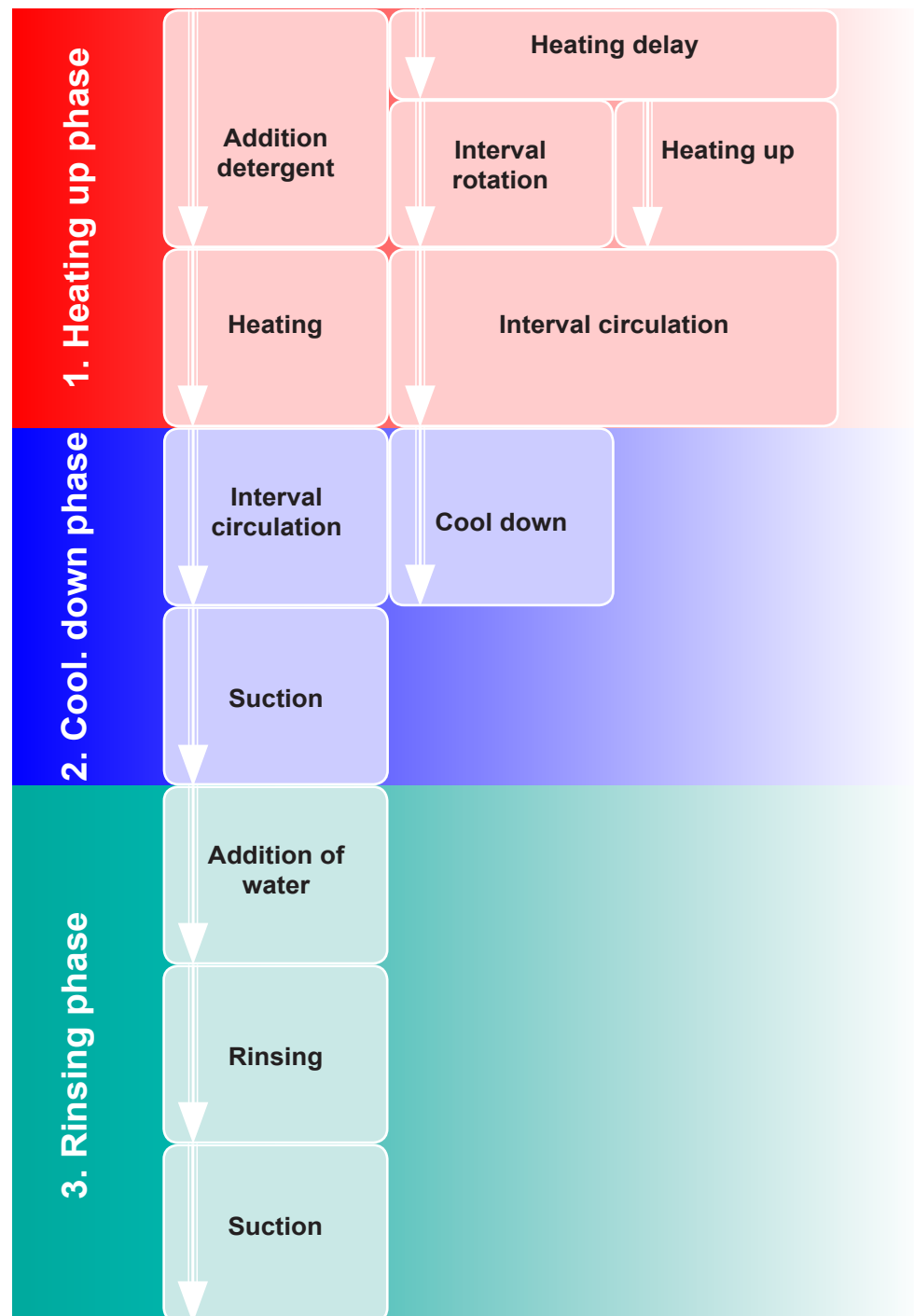
9 Methods definition

9.1. Graphic presentation of the method

The following illustration gives you a graphic presentation of the schedule of the program. Each step of the method is divided into 3 phases:

1. Heating up phase
2. Cooling down phase
3. Rinsing phase

Fig. 8.1.
General method
execution



9 Methods definition

9.2. Methods definition - define programme

In the main menu "Prepare methods" you can prepare, manage and delete up to 9 programmes. The programmes are stored under method number 1 to 9. Method number 0 is defined as the test programme.

On page 22 you can find some examples for programming. Should you wish to obtain detailed info as well as sample programmes for the various procedures, contact us for application notes.

Comment

Press key "Esc", to get back to the previous programming step..

Methods
Definition

Enter

For each method, up to 4 boiling phases (A to D) have to be defined.

The following programme for the determination of crude fibre in animal feed gives you an example for the programming:

Method No X
Edit

-

Enter

+

- Enter method number, which has to be worked on or prepared (0 - 9).

Example: Methode number 1

Comment

When selecting the dashed line, the selected boiling phase is skipped.

<A>: Detergent
-< H2SO4 +>

-

Enter

+

- Selection of detergents for Boiling phase A by pressing key "Plus" or "Minus":

In case you have selected a detergent, which has not been used to calibrate the pump, there will be an exclamation mark in the display.

Example: Selection H₂SO₄

<A>: Add
H2SO4: X.XX l

-

Enter

+

- Amount to be added define detergents

- Press key "Enter" , to switch between position before and after the comma.

- Setting range 0,00 - 4,99 litre

Example: 1,30 l amount to be added

<A> Heating-Pwr
50%

-

Enter

+

- Setting of heating power, which is sufficient to maintain boiling of solution.

- Setting range 0 - 100 %

Example: 50 %

<A> Circulation
Time 10s

-

Enter

+

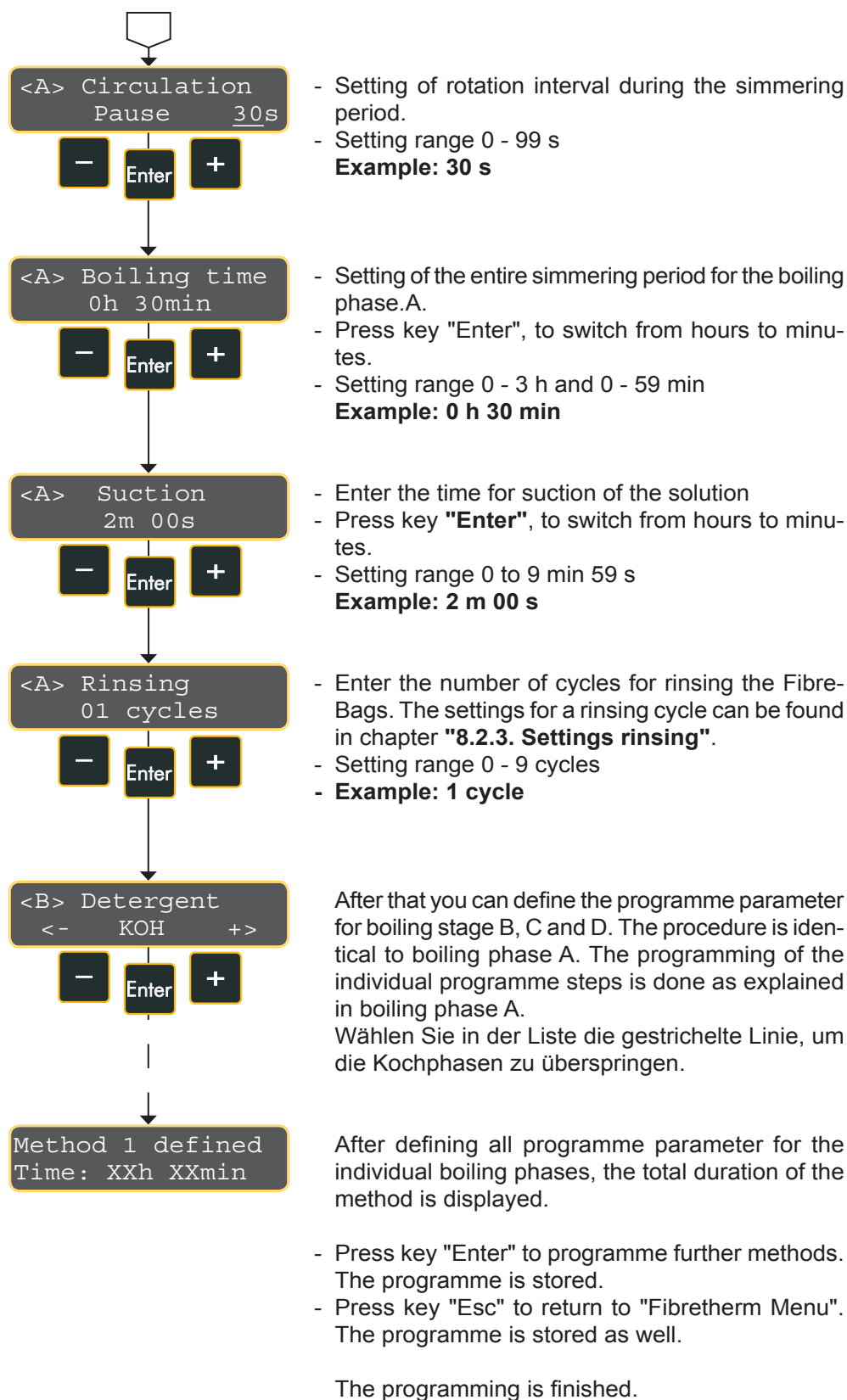
- Setting of duration of circulation during the simmering period.

- Setting range 0 - 59 s

Example: 10 s



9 Methods definition



Comment

In order to rinse with hot water, be kind enough to set a boiling phase with the selection "**H2O-Rinse**". During this boiling phase, the rinsing water can be heated up.

9 Methods definition

9.3 Examples for programming*

Settings Rinsing	ADF	NDF	Crude Fibre	Parameter
Water filling	1,3	1,3	1,3	Liter
Rotation time	9	9	9	Seconds
Rotation pause	4	4	4	Seconds
Suction	1 min 45 s	1 min 45 s	1 min 45 s	min / s
Wash out time	1 min	1 min	1 min	min / s
Settings Preheating				
Rotation time	10	10	10	Seconds
Rotation pause	25	25	30	Seconds
Heating delay after start	30	30	30	Seconds
ADF / H ₂ SO ₄ heat up to	85		85	°C
NDF / KOH heat up to		85	85	°C
H ₂ O-Wasch heat up to	85	85	85	°C
ADF / H ₂ SO ₄ cool down to	95		95	°C
NDF / KOH cool down to		95	95	°C
H ₂ O Wash cool down to	95	95	95	°C
Special methods / parameter				
Methods definition	X	Y	Z	No.
<A> Detergent	ADF-Solution		H ₂ SO ₄	Type
<A> Add	1,3		1,3	Liter
<A> Heating power	40		40 - 50	%
<A> Rotation time	10		10	s
<A> Rotation pause	20		30	s
<A> Boiling time	1 h 0 min		0 h 30 min	h / min
<A> Suction	2 min 0 s		2 min 0 s	min / s
<A> Rinsing	2		2	Cycles
 Detergent		NDF-Solution	KOH	Type
 Add		1,3	1,3	Liter
 Heating power		30 - 40	35 - 45	%
 Rotation time		10	10	s
 Rotation pause		15	25	s
 Boiling time		1 h 0 min	0h 30 min	h / min
 Suction		2 min 0 s	2 min 0 s	min / s
 Rinsing		2	2	Cycles
<C> Detergent	H ₂ O-Wash	H ₂ O-Wash	H ₂ O-Wash	Type
<C> Add	1,3	1,3	1,3	Liter
<C> Heating power	55	55	55	%
<C> Rotation time	10	10	10	s
<C> Rotation pause	15	15	15	s
<C> Boiling time	0 h 5 min	0 h 5 min	0 h 5 min	h / min
<C> Suction	2 min 0 s	2 min 0 s	2 min 0 s	min / s
<C> Rinsing	0	0	0	Cycles
<D> Detergent	H ₂ O-Wash	H ₂ O-Wash		Type
<D> Add	1,3	1,3		Liter
<D> Heating power	55	55		%
<D> Rotation time	10	10		s
<D> Rotation pause	15	15		s
<D> Boiling time	0 h 2 min	0 h 2 min		h / min
<D> Suction	2 min 0 s	2 min 0 s		min
<D> Rinsing	0	0		Cycles
Meth. X defined Time				h / min

*Settings can vary depending on sample type

10 Methods execution



When working with Fibretherm, make sure to always wear protective clothes (gloves, protective glasses, lab coat).



When taking out the glass container, wear protective gloves and wear protective eye glasses. The glass container is very hot and there is the danger of burns!



Be careful when working with acids and alkalis!
Make sure to observe the safety regulations according to the current regulation of handling hazardous materials!

10.1. Loading of sample carousel

Please note, that we can only give you a general overview in this manual how to proceed with FibreBags.

Should you need detailed information for a specific method, contact us for application sheets. There, you will find detailed info about sample preparation as well as programming.

1. Put the sample material in the bags (FibreBags).
2. Put the glass spacer into the bags.
3. Load the bags into the sample carousel at the previewed positions (Position 1 - 12).
Should you analyse less than 12 samples, you have to put a glass spacer in the positions of the carousel which are not taken. This way, the carousel will run more evenly during the analysis.
4. Put the sample carousel into the glass container carefully. Always use the quick clamping handle, order-no. 52856, to set in the carousel. Remove the quick clamping handle after setting in the carousel.
5. Place the glass container axial on the previewed position of the hotplate. Push the container all the way back to the catch at the rear end.
6. Now, you can start the programme as described in chapter 10.2.

10 Methods execution

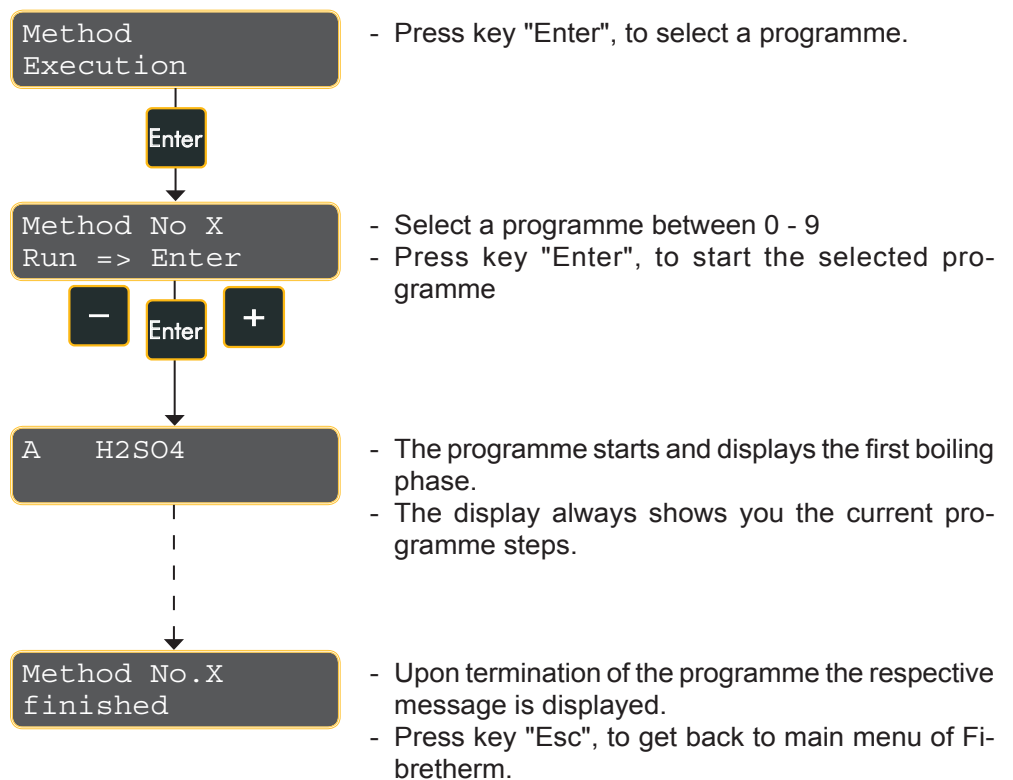


10.2. Start programme









Prior to each start of Fibretherm, make sure to check whether the glass container is closed tightly. Danger of burns and splashing liquids!

You can abort the programme at any time by pressing key **"Stop"**.

1. Turn on the instrument
2. You are in the **"Fibretherm menu"**.
3. Press key **"Menu"**, to switch to menu item **"Method execution"**.



10.2.1. Functions during the programme run

- | | |
|---|--|
|  | 1. Polling of actual-temperature
Turn down key "Enter" to obtain the actual temperature. |
|  | 2. Stopping programme
Press key "Stop", to abort programme. Then press key „Enter" to continue programme or press key "Esc" to confirm abortion. |
|   | 3. Change heating power
Press key "+" or "-", to change heating power |
|   | 4. Increase remaining time of operation
Press keys "Menu" and "+" simultaneously |
|   | 5. Decrease remaining time of operation
Press keys "Menu" and "-" simultaneously |

11 Error messages

Esc

Enter

After the problem is solved, press key "Enter" to continue with current procedure. Should it not be possible to solve the problem, press "Esc" to abort the procedure.

Error message	Reason for error	Actions to be taken
Error: Method not defined	The programme is not defined.	Check programme..
Error: FLASH Checksum	Micro controller faulty	Contact customer service
Error: No sample tube	Beaker glass for Fibre-Bags is not inserted.	Insert glass beaker, check whether it is in correct position.
Error: Tank control	Reservoir tank for chemicals is empty or chemical residue tank is full.	Fill up reservoir tank or empty the residue tank.
Error: Hood or lift-position	Hood- front protective hood is not put on properly. Position of lift - Lift is not fitted correctly on the glass beaker.	Put front protective hood in correct place.. Check position of the glass beaker
Error: Water, or air pressure	Water – rinsing water supply or cooling water supply faulty. Air pressure – compressed air supply faulty.	Check rinsing water supply and tubing connection. Check compressed air supply and tubing connections.
Error: Beaker full	Glass container too full – addition of chemicals might have been set on too long.	Check programming and if necessary, reduce amount of chemicals which are added..
Error: Temp. sensor	Temperature sensor faulty	Contact customer service.

11 Error messages

Error message	Reason for error	Actions to be taken
Error: Temp. too high	The boiling temperature set was exceeded	Let liquid cool down and continue with procedure. Should the problem occur again, call customer service.
Error: Temp. too low	The boiling temperature set was not reached. Maybe heating broken.	Re-start procedure. Should the problem occur again, call customer service.
Error: Communication	Internal system error	Contact customer service.
Method stopped <Enter> or <Esc>	The current programme has been aborted due to a error message or by pressing key "Stop".	Press key "Enter" to continue with programme.
Check detergent	Check detergent: calibration of pumps does not correspond to the chemicals used.	Calibrate pumps again.
Display does not work	There might be problems with fluctuating voltages.	Please press both keys for lift simultaneously. Should the error reoccur, call customer service.

12 Maintenance

Please make sure that only original C. Gerhardt spare parts are used.

To minimize malfunctions of the FIBRE THERM, we recommend having it checked by authorized service personnel annually.



12.1. Service and cleaning

Make sure to wear gloves at all times when cleaning the components.

To avoid damage by corrosion, leaking liquids (especially acids and alkali) must be wiped off and neutralized immediately to prevent damage to casting, lacquer or housing.



Never use abrasive cleaners! In most cases it will be sufficient after each use to clean the plates using a moist cloth and some household washing-up liquid. Subsequently rub dry.

12.2. Spare parts

Order-No.:	Description
52826	Glass container, 5,0 l
52887	Drip tray black
52189	Drip tray white
52891	Seal ring for shower
52816	Plastic hood, front cover
52829	Ceramic plate (cooking ranged) 320 x 320 mm
52846	Filter glass, diameter . 42 x 70 mm
1312	Mains cable 3,0 m
52918	Keyboard
52849	Autoclude peristaltic pump
52830	Bearing for carousel
52847	Condenser small
52825	Condenser big
16605	Screw cap GL 45
16608	Silicone-seal for GL 45
16601	Screw cap GL 14
16609	Silicone-seal for GL 14 with connection, straight
16610	Silicone-seal for GL 14 with connection, bent
	Tubings
22802	Water inlet tubing 10/17 mm, 2 m
22604	PVC-tubing 8/12 mm, 2 m
52199	Pressure inlet tube, 5 m

12 Maintenance

12.3. Accessories

Order-No.:	Description
1776	FibreBags for crude fibre (bag with 100 pcs..)
1775	FibreBags for ADF/NDF (bag with 100 pcs.)
1772	Glass-spacer
52856	Quick clamping handle
52805	Insert rack (carousel) cplt. with quick clamping device
1757	Set of tanks, complete incl. level sensor and connecting cable
4261	Data cable DK 42 for RS 485, 2m
4262	Data cable DK 45 für RS 485, 5 m
4265	Terminator plug AST für RS 485
4260	RS-Adapter
	Set of storage tanks
1757	Set of storage tanks FTK 3 3 x 20 l tanks incl. level detector
1757/1	Set of storage tanks FTK 3/1 3 x 10 l tanks incl. level detector
1756	Set of storage tanks FTK 2 2 x 20 l tanks incl. level detector
1756/1	Set of storage tanks FTK 2/1 2 x 10 l tanks incl. level detector

Further accessories and information about the Fibretherm program can be found in the product catalogue or at your local dealer!

12 Maintenance

12.4. Trouble shooting

Make sure to handle error messages as described in chapter 11. Error Messages.

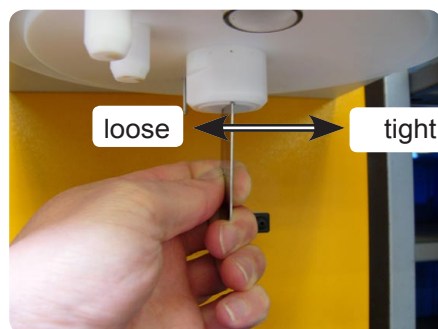
12.4.1. Excess current switch

The excess current switch (Mains switch) cuts off in case of excessive current consumption. Switch on the switch again.

12.4.2. Suction is not working properly

Sealing between carousel axle and spray head for rinsing water is leaking. In such a case, you must tighten the sealing cone using the chuck tool, order no.: 19999 (also see ill. 12.4.A.). Should the problem occur again, please contact customer service!

Fig. 12.4.A
Set up sealing cone



Make sure that the sealing is not too tight, because the carousel might get stuck at the spray head when the lift is going up. This might then cause damages at the carousel and the glass container!

12.4.3. Sample carousel does not turn evenly

1. Sample carousel is not loaded evenly. Make sure to distribute load evenly.
2. Sealing between carousel axle and spray head for rinsing water is set too tightly. In such a case, you must loosen the sealing cone using the chuck tool, Art.-Nr.: 19999 included in the delivery, (also see ill.: 12.4.A.) Should the problem occur again, please contact customer service!
3. Smear a bit of silicone paste on the upper part of the carousel axle.

In case of more problems or failures of your Fibretherm, please contact your local dealer or:

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www.gerhardt.de

12 Maintenance

12.5. Disposal

The disposal of the packaging and the parts used has to be done according to the rules and regulations which are valid in the country of installation. Should the product itself be disposed of, make sure to observe the local rules and regulations..



12.5.1. Information for the Disposal of Electric and Electronic Instruments within the European Union

The disposal of electrically operated instruments is settled within the European Union by national regulations, which are based on the EU-directive 2002/96EC about electric and electronic used-instruments (WEEE). Thus, all instruments delivered after August 13th 2005 must not be disposed into the communal domestic waste.

Since the regulations about disposal of waste might vary from one country to the other within the European Community, we kindly ask you to contact your supplier or dealer.

In Germany, this obligation for identification will be valid as of March, 23rd 2006. As of this date, C. Gerhardt will take back all instruments delivered after August, 13th, 2005 without charges and will dispose of them according to the regulations, or Gerhardt will come to an agreement with the last user of the unit. For all instruments delivered prior to August 13th, 2005 the last user will be held responsible for the proper disposal. The only crucial factor accepted, for the chronological placement, is the serial number at the back of the instrument.

12.5.2. Ban on Materials according to ROHS Regulation 2002/95/EG

Ban on materials from the ROHS regulation 2002/95/EG is not valid for the electro- and electronic instruments of category 8 and 9 and thus not for those instruments described in this instruction manual. However, we want to draw your attention to the fact that we feel obliged to observe the regulations for the RoHs for all our products. Please be kind enough to contact us if you have any further questions.

12.5.3. Transfer

We kindly ask you to always make sure to add this instruction manual to the product in case of transferring it to another party.

