

Manual ACS 900

English



Version 20-16

1	SAFETY INSTRUCTIONS	2
1.1	EMERGENCY - STOP SWITCH	2
1.2	SECURITY OF THE DOORS	2
1.3	VENTILATION	2
1.4	OPERATING TEMPERATURE	3
1.5	USING OF LIQUIDS	3
2	BRINGING INTO SERVICE OF THE ACS 900.....	4
2.1	UNPACK AND INSTALL	4
2.2	PREPARING OF GLASSES (CLEANING POSITIONS).....	4
2.3	SWITCH ON OF THE DEVICE.....	5
2.4	INSTALLATION OF THE GLASSES	6
3	EXPLANATION OF THE CONTROL UNIT	7
3.1	FUNCTIONS OF THE BUTTONS	7
3.2	SELECTING BY USING KEYBOARD	7
3.3	INFORMATION ON THE DISPLAY	8
4	CREATE YOUR OWN CLEANING PROGRAMS	9
4.1	EXPLANATION OF THE SETTINGS	9
4.2	CREATE OWN CLEANING PROGRAM.....	10
5	WORKING WITH THE ACS 900.....	13
5.1	START A CLEANING PROGRAM.....	13
5.2	BREAK OF THE CLEANING PROGRAM.....	14
5.3	USING A PASSWORD	15
6	TECHNICAL DATA.....	16
7	DECLARATION OF CONFORMITY	18
8	DISPOSAL.....	19

1 Safety instructions

1.1 Emergency - stop switch



It stops the mechanical parts of the ACS 900 in case of danger immediately.

Every movement of the ACS 900 is stopped by pressing the emergency stop and an active process is interrupted.

The display is not switched off by the emergency stop switch.

Only after release of the emergency stop switch, the ACS 900 can be used again.

To do this, the switch must be returned by turning in direction of the arrow in its original position.

An interrupted process does not start automatically. The process must be restarted manually.

1.2 Security of the doors

Once the doors are opened, the ACS 900 immediately stops the process. A buzzer will sound. The ACS 900 goes into pause mode (see chapter "break of cleaning program"). Only when the doors are closed, the ACS 900 can be operated. After closing the door, the interrupted process (e.g. cleaning program) must be started manually.



The activation of the emergency stop switch and the security of the doors set the ACS 900 in break mode. This is the same function as in **chapter 5.2 Break of the cleaning program**.

1.3 Ventilation

- In general, the area in which you are working must be adequately ventilated.
- The obligatory ventilation in the process area must take place through windows or a ventilation system which can circulate at least the same quantity as the fan → 175m³/h.

1.4 Operating temperature

- The ACS 900 must be operated at room temperature (18 °C to 28 °C).

1.5 Using of liquids

The design of the machine allows the use of WF-4 cleaning solution and S-3 rinsing fluid without any danger.

- This is because:
- The fluid tanks are always covered by special rubber seals during the cleaning period, on Standby-Position and if the device is switched off.
 - The electronic system is constructed so that there are no electrical contacts which allow a sparking.
 - The motors of the ACS 900 are encapsulated stepper motors.

- No external sources of ignition in the process area
- If other products are used, the following criteria MUST be complied with:
 - Ultrasonic bath: only liquids with a flash point above 40°C
 - Glass troughs: only liquids with a flash point above 24°C

Cleaning For cleaning metallic parts, especially in the watch industry, it is recommended to use the cleaning fluid WF-4 in position 1

Rinsing For subsequent rinsing in Positions 2, 3 and 4, we recommend S-3 rinsing fluid.

2 Bringing into service of the ACS 900

2.1 Unpack and install

1. Take out ACS 900 and accessories from the packaging and install on designated location
 - The outlet of the fan (above) must not be covered.
 - On top of the ACS 900, a fan is installed for ventilation of the Interior during the cleaning process. After the operation, it turns off automatically after 5 minutes.
 - The inlet of the heating fan (rear) must not be covered.
2. Keep the packaging for eventual returns for repairs
3. Remove the packaging material from the ACS 900.
4. Check ACS 900 and accessories for completeness. (additional accessories can be purchased from the customer service)
5. Connect ACS 900 by using enclosed connecting cable to the power.

2.2 Preparing of glasses (cleaning positions)

Position	Description
Position 1	Cleaning bath (with or without ultra-sound)
Position 2	Cleaning bath or 1 st rinsing bath
Position 3	Rinsing
Position 4	Cleaning or lubrication bath
Position 5	Blank (load and drying position)

Fill glasses up to the mark with appropriate cleaning or rinsing solution (max 0, 55 l).

The ultrasonic bath has no marker, filling quantity is max. 0.55 l.

2.3 Switch on of the device

Switch on the ACS 900 by using the main switch on the right side, on the rear. The ACS 900 performs its initialisation process.

1. Basket rises
2. Plate rotates to position 5
3. Basket goes to Standby-Position
4. Basket turns until the closure of the basket-holder is in front



This initialisation process will **always** be carried out when the ACS 900 is turned on.

During the initialization process, the doors must not be opened or be open.

If the ACS 900 is switched on with open door, after closing the doors it must be switched off and on again.

Then, the ACS 900 is in its „**Standby-Position**“:

- Position 5 of the plate is in front
- Metal frame of the basket-holder is the front
- In the display, an arrow moves to the right

2.4 Installation of the glasses



The plate rotates only at closed doors.

If the doors stay open while choosing a function, a buzzer will sound and the ACS 900 cannot move.

Description		Comments
1. Press LOAD		Display shows: <i>next or pos. (1 – 5)</i>
2. Press ENTER		Basket-holder moves upwards Plate turns on POS. 1 Display shows: <i>Goes to next position</i> Pressing 1, 2, 3, 4 or 5, confirmed by ENTER, the plate turns directly to the selected position.
3. Place Ultrasonic tank in position 1		If the ultrasound is not desired, a glass can be installed instead.
4. Press ENTER		The plate rotates to the next position, POS. 2.
5. Place glass in position 2		
6. Next position		Charge the following position as described in point 2
7. Press EXIT		The ACS 900 goes to Standby-Position.

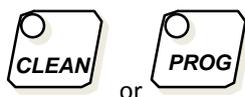
3 Explanation of the control unit

3.1 Functions of the buttons

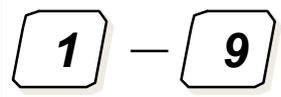
Button	Function
	Interrupts the current process
	Selects a cleaning program
	Creates a cleaning program
	Movement of the plate
 — 	Functions keys
	Leaves active function
	Confirms selected function

3.2 Selecting by using keyboard

By pressing the buttons

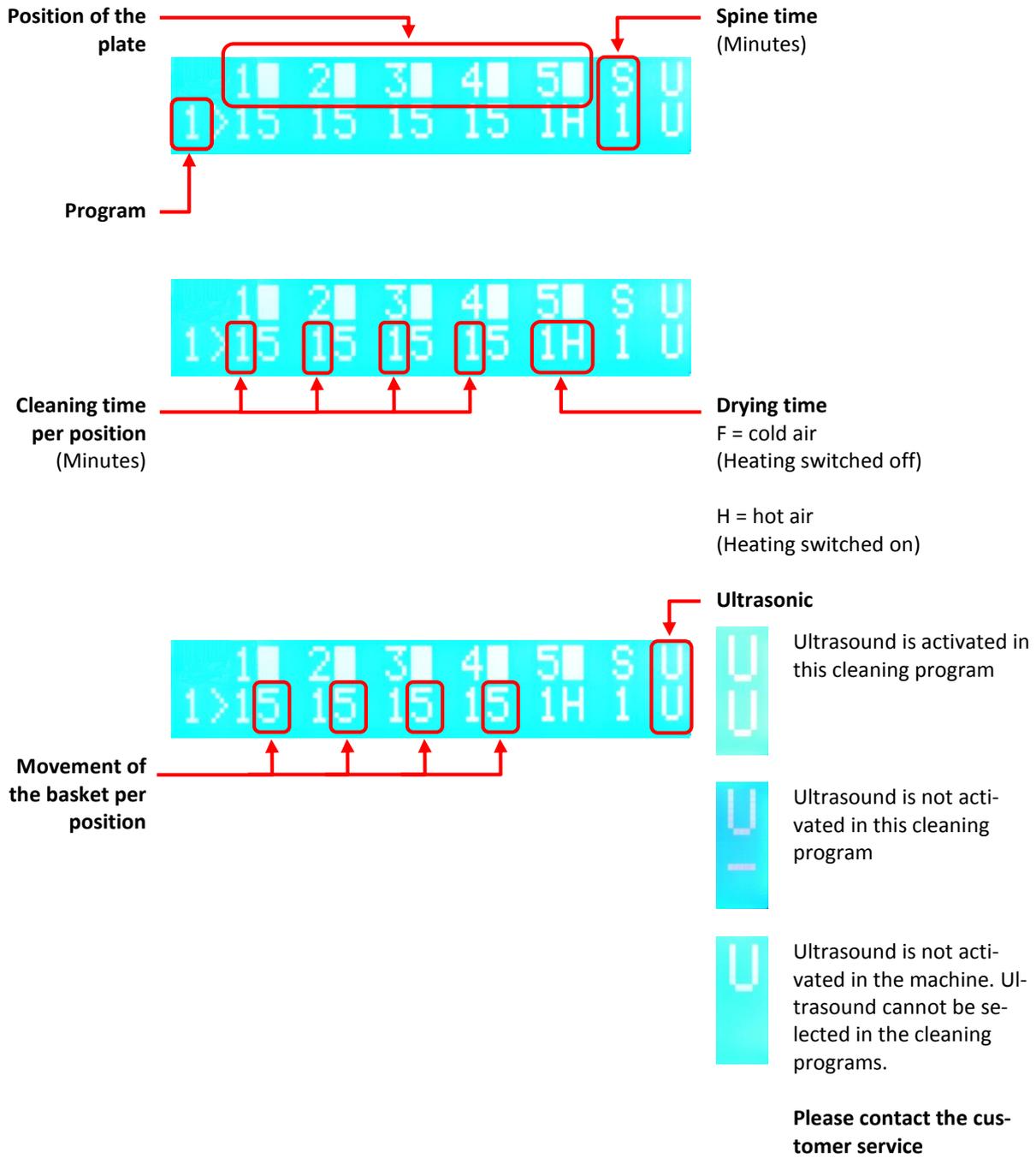


and one of these

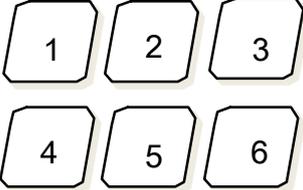


the selected program will be shown on the display.

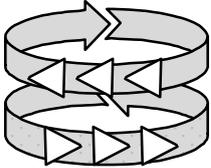
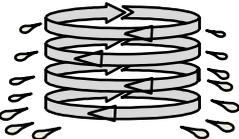
3.3 Information on the display



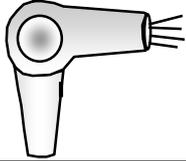
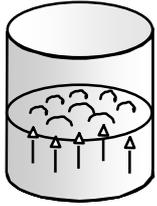
4 Create your own cleaning programs

They keys		<p>Can be used for own cleaning programs</p> <p>Programming is possible, during a cleaning or in Stand-by-Position.</p>
They keys		<p>Are preinstalled programs by the factory. They cannot be changed.</p>

4.1 Explanation of the settings

Marking		Description
Time		<p>Time programming positions 1-5 (0-9 minutes)</p> <p>0 Position will be skipped</p> <p> Only if POS. 4 is activated, the temperature of the hot air will be already reached when the basket comes to the drying process. (pre-heating)</p> <p>1-9 Basket remains in the glass during 1-9 minutes</p>
Acc (type of movement)		<p>Movement type of basket 0-5</p> <p>0 Basket turns slowly in one direction half of the time and in the reverse direction the other half of the selected time.</p> <p>1 Very slow and expansive movement.</p> <p>2 Slow motion but less stretched out.</p> <p>3 Mean movements.</p> <p>4 Short and fast movement</p> <p>5 Very fast and very short movement</p>
Spin		<p>Spin 1 – 5 minutes</p> <ul style="list-style-type: none"> Spin cycle is running at the top of the glass. The time is programmable between 1-5 minutes. The programmed time is valid for all positions.

Create your own cleaning programs

Marking		Description
Heat		<p>Type of drying (hot or cold)</p> <p>H = hot air Turn on or off by using button 1 F = cold air</p>
US		<p>Ultrasonic</p> <p>The cleaning with ultrasonic is programmed for position 1 of the plate. (button 1 activates or deactivated it).</p> <p>The move mode 0 is recommended during the cleaning with ultrasound. (Best effect of ultrasonic).</p>

4.2 Create own cleaning program

Activity	Shown on the display	Remarks
	Which clean program ?	Which program?
	1 > -- -- -- -- 1 -	Example position 1.
	Pos1 > Time: # Acc: #	
 →	Pos1 > Time: 5 Acc: #	Time Pos. 1
		
	Pos1 > Time: 5 Acc: 0	Type of movement
	Pos2 > Time: # Acc: #	

Activity	Shown on the display	Remarks
 	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos2 > Time: 4 Acc: #</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Time Pos. 2</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos2 > Time: 4 Acc: 1</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Type of movement</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos3 > Time: # Acc: #</div>	
 	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos3 > Time: 4 Acc: #</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Time Pos. 3</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos3 > Time: 4 Acc: 2</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Type of movement</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos4 > Time: # Acc: #</div>	
 	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos4 > Time: 6 Acc: #</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Time Pos. 4</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos4 > Time: 6 Acc: 3</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Type of movement</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos5 > Time: 0</div>	
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pos5 > Time: 9</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Time Pos. 5</div>
	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Fan : OFF 1. ON</div>	<p>Pressing button 1 enables or disables the fan to dry.</p> <p>→Activating process of drying</p>

Create your own cleaning programs

Activity	Shown on the display	Remarks
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Heat : OFF 1. ON</div>	Pressing button 1 enables or disables the heater to dry. → Drying with cold or hot air
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Spin btwn stations : #</div>	
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Spin btwn stations : 1</div>	
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">US : OFF 1. ON</div>	Pressing the 1 button enables or disables the ultrasonic.
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">US : ON 1. OFF</div>	
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">>>>>>>>>>>>>>>>></div>	

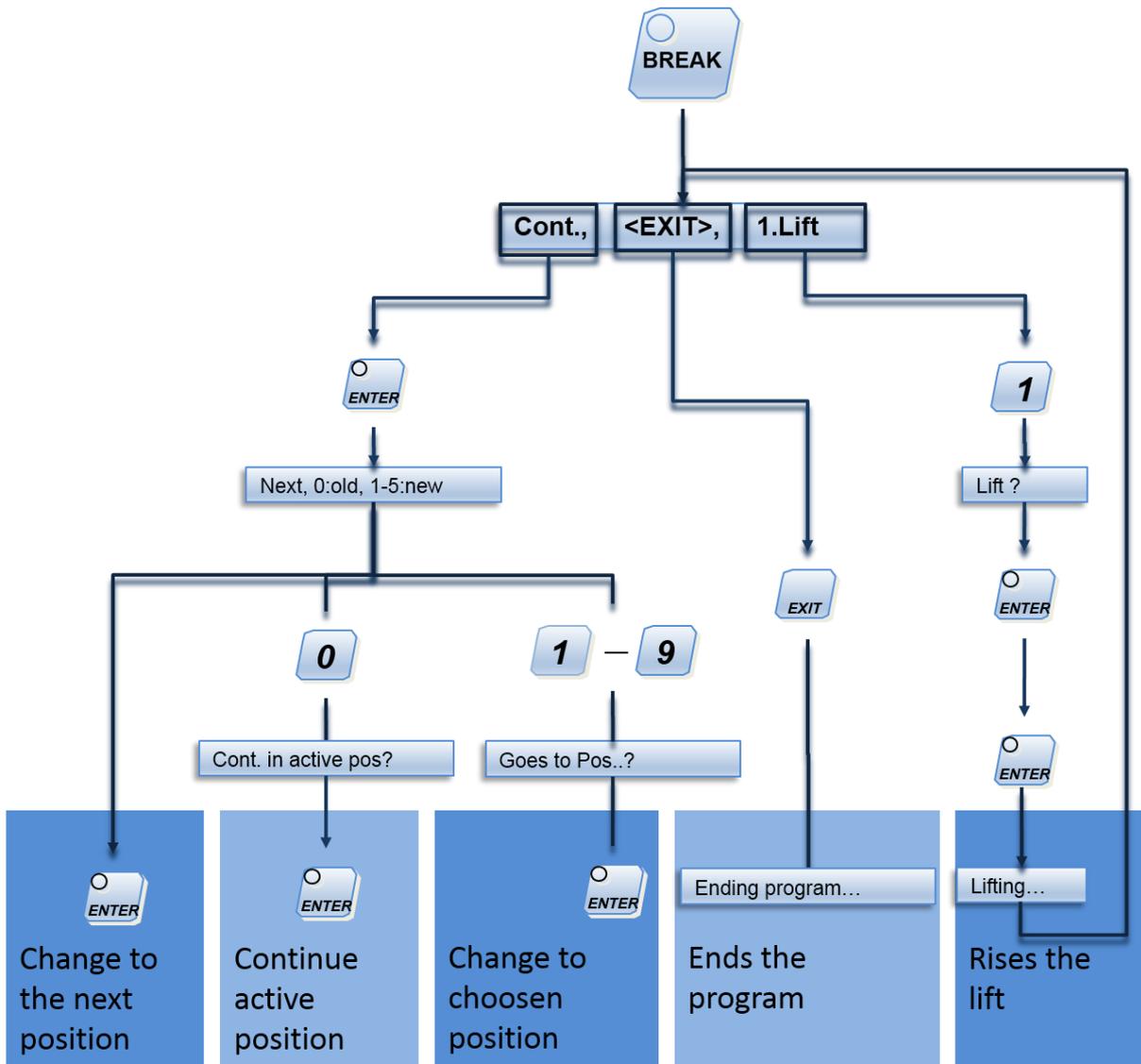
5 Working with the ACS 900

5.1 Start a cleaning program

Activity	Comment	
<ol style="list-style-type: none"> 1. Put the parts to be cleaned into the basket 2. Insert the lower part of the basket-holder in the upper part of the basket holder 3. Close the metal frame. 		
<ol style="list-style-type: none"> 4. Select cleaning 		Which clean program?
<ol style="list-style-type: none"> 5. Choose a cleaning program 		The parameter of the selected program will be shown on the display.
<ol style="list-style-type: none"> 6. Confirm the program 		The cleaning program will start, duration and current position is displayed.

5.2 Break of the cleaning program

With this feature, the active process can be interrupted at any time. The security elements (emergency stop switch and security of the doors) sets the ACS 900 in this status.



The spin is always executed at the corresponding positions. The spin can also be interrupted by using break.

5.3 Using a password

Only the person who knows the password can change the cleaning programme. The installation of the password is optional. The password can be installed during the Standby-Position or during cleaning.

Operation on the keyboard	Shown on the display	Comments
	Which clean program ?	Which program?
	Change password :	
	Enter new pw again	
 — 		Enter your personal password. Code 8 digits maximum
	Enter new pw again :	Repeat personal password
 — 	Difference, new try :	In the case of an incorrect password, enter the correct password
		Now the password is installed and stored

If the password is lost, please contact customer service.

Technical data

6 Technical data



Power consumption	2 Ampere (230V, Standard), 4 Ampere (110V, on request)
Power	450W
Ultrasonic	35 kHz / 60W
Fan performance	175m ³ /h
Temperature of heating	ca. 65 °C
Net weight	28 kg
Weight with glasses	32.9 kg (3 × glasses; 600gr + 3 × ½ l, 1 × US-goblet; 1100gr + 1 × ½ l) Plus baskets

Technical data

Transport weight (incl. standard accessories and packaging)	38 kg
Maximum permissible payload for the cleaning (including baskets and basket holder)	400 gr

7 Declaration of conformity



Greiner Vibrograf

CE- Declaration

after EC EMV guideline 2006/42/EG, dated May 17th. , 2006, appendix II A

We hereby declare that the machine specified below corresponds in their conception and design, as well as distributed by us, specified conforms to the essential safety and health requirements of the EU Directive 2006/42/EG. This conformity lose the validity if changes to be made at the product, which were not coordinated with us or were not approved in writing by us.

Manufacturer: **Greiner Vibrograf AG**
Mittelstr. 2
CH – 4900 Langenthal

Description and identification of the product :

Product designation: **Cleaning machine with ultrasound**

Type: **ACS 900**

It's confirmed the accordance with other EC directives / regulations, which also apply to the product:

EC-Low Voltage Directive 2006/95/EG
EC-EMC-Directive 2004/108/EG

The following harmonized standards were used:

DIN EN ISO 12100-1 : 2011-03	Safety of machinery - General principles for design Risk assessment and risk reduction
DIN EN 60204-1 : 2007-06	Safety of machinery – Electrical equipment of machines - Part 1: General requirements
DIN EN 61800-3 : 2012-09	Adjustable speed electrical power drive systems Part 3: EMC-Requirements and specific test methods

Pforzheim, 02.12.2014 **Greiner Vibrograf AG**
Mittelstr. 2
CH – 4900 Langenthal

Roland Klein

Signature of the management

8 Disposal

We do everything possible to keep recycling costs to a minimum, in order to pass the resulting benefits on to our customers and to society in general.

For this reason, we would also ask you, once you reach the point of having to dispose of this device, not to put into the general waste, but to deliver it to the disposal centre responsible for old electrical equipment.

