

• Wax scalding unit
Wapo-Ex 8 III



• SERVICE MANUAL

Dear customer,

Thank you for choosing a product from the Wassermann range. Wassermann Dental-Maschinen incorporates the highest standards of quality and the latest technology. In order to enjoy maximum performance and years of trouble-free operation, please read this service manual carefully before you connect this device and start work, and operate the device according to the recommended guidelines. The operation safety and the functionality of this device can only be guaranteed if you follow both the general safety guidelines and the applying laws to prevent accidents as well as the precautions given in this service manual. We are not liable for any damages which occur due to inappropriate usage or faulty operation of this device.



Make sure that anyone using this device has read and understood this service manual.

Keep this service manual in a safe place where it can be referred to as required at any time.

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1 Features

The approved wax-scalding unit Wapo-Ex 8 III of the WASSERMANN-brand - nowadays equipped with an easy to clean multi-function display - is a very compact table unit designed for wax-scalding of up to 8 flask halves. Its immersed full-conical spray system simplifies handling and prevents accidental erosion. Its longevity is supported by the silent, joint-free bronze pump and a housing and tank made of stainless steel.

To protect the heating element the wax-scalding unit is equipped with a water-shortage protection mechanism. Furthermore it has a low-lying perforated screen cover as well as a hand shower made of non-heat-conducting plastic for manual scalding of small parts.

- compact tabletop unit for scalding up to 8 flask halves
- informative multifunctional touch display for easy operation
- integrated timer
- thermostat-protected, gasketless immersion pump in bronze; maintenance-free
- energy-saving tank thermal insulation
- spray system set into side for easy access to flask baskets
- integrated hand spray and spray protector
- all stainless steel construction
- visual and audible water-level indicator
- easy to clean without tools
- durable and energy-saving

2 Safety guidelines

2.1 Safety symbols used in this manual



Warning!

This is a warning of risk situations and dangers.

Failure to observe this warning could be life-threatening. These warnings has to be observed.



Information!

This symbol draws your attention to specific features that has to be observed.

2.2 Safety guidelines

Configuring and operating this equipment requires **precise knowledge** and **observance** of the instructions in this **service manual**. The equipment is designed only for its intended application.



WARNING:

Servicing and repairs should be carried out only by authorised specialists.

Disconnect the power plug before starting any maintenance work.



Make sure that the equipment is connected to the correct power source.



Attention! Danger of scalding!

Do not touch the hand shower at the nozzle or hose.

Do not point the spraying jet towards humans or animals.

The water, which comes out of the nozzle can reach temperatures of 95°C; therefore only use the hand shower in the area of the screen cover or the hand basin.

2.3 Responsibility for operation or damage

The responsibility for operating the device lies exclusively with the owner or user if said device is incorrectly serviced, maintained or altered by persons not employed by an authorised dealer or if the device is used in a manner contrary to its specified purpose. The unit has to be maintained and operated in accordance with this service manual. Wassermann Dental-Maschinen GmbH is not responsible for damage arising from the **nonobservance** of these instructions.

Warranty and responsibility provisions contained in the sales and supply conditions of Wassermann Dental-Maschinen GmbH are not extended by these instructions.

3 Application

The Wapo-Ex 8 III is suitable for wax-scalding of up to 8 flask-halves as well as for scalding small parts on the low-lying perforated screen cover with the integrated hand shower.

Only use the device for this type of application.

4 Before starting

4.1 Transport

Before transporting the unit, ensure that it has been unplugged from the power socket. Make sure that it is packed correctly in order to avoid accidental damage.



Be sure to check for any transport damage when unpacking the goods. Note down any damage if found.

4.2 Installation

Open the box, remove the packing materials, and carefully lift out the device and accessories. Check the included accessories.

The device has to stand horizontally on a steady and even surface



Install the device in a place where it will not block the working area and the functionality (take the dimensions into account). Make sure that there are about 10 cm of free space on each side to guarantee air circulation (heat dissipation).



Do not install the unit outdoors or in places without proper ventilation.

Before start-up, be sure the device reaches room temperature.



We strongly recommend to install the unit firmly to the discharge system, since it is equipped with an automatic water overflow discharge system, i.e. too much filled water runs out automatically, even when the discharge cock is closed. Furthermore complete emptying for cleaning purposes etc. is thus simplified.

4.3 Storage

If the unit is to be stored for an extended period, protect it from moisture and dust.

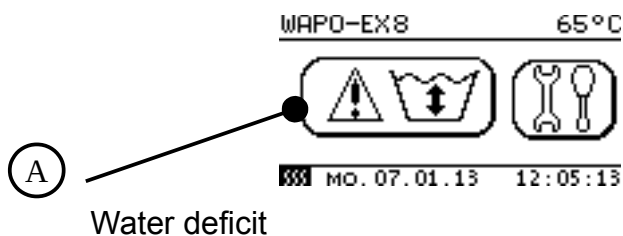
5 Installation / Commissioning / Menu functions



Before commissioning, please install the following connections:

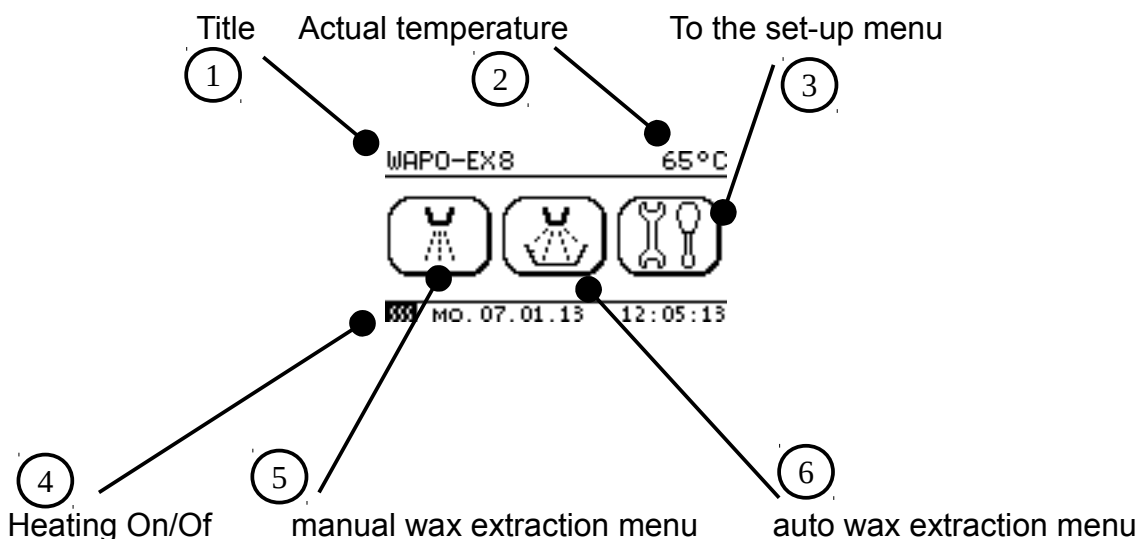
Firmly clamp the supplied drainage hose to the device and ensure there is a suitable drainage facility.

Insert the plug into the socket – make sure that the voltage information between the device and the mains network is identical. Fill the device with mains water to above the white plastic ring in the container (max. 18.5 litres). Switch on the mains switch (green rocker switch). Symbol (A) must not appear.



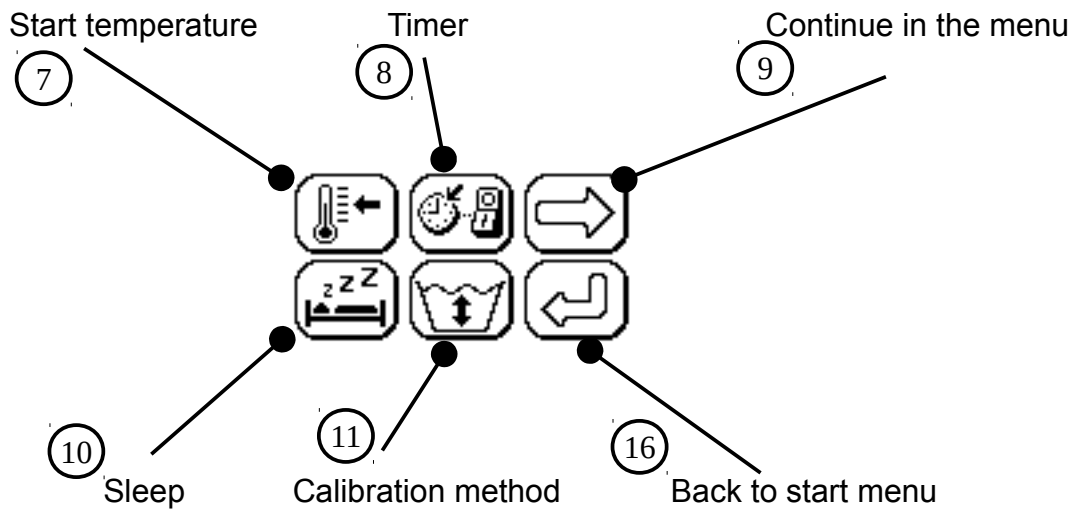
Make sure you define the device's main parameters before switching it on. These settings are performed in the set-up menu (3). Familiarise yourself with the many options which the system offers before starting wax extraction. This applies in particular to functions (7) and (14).

5.1 The Set-Up Menu

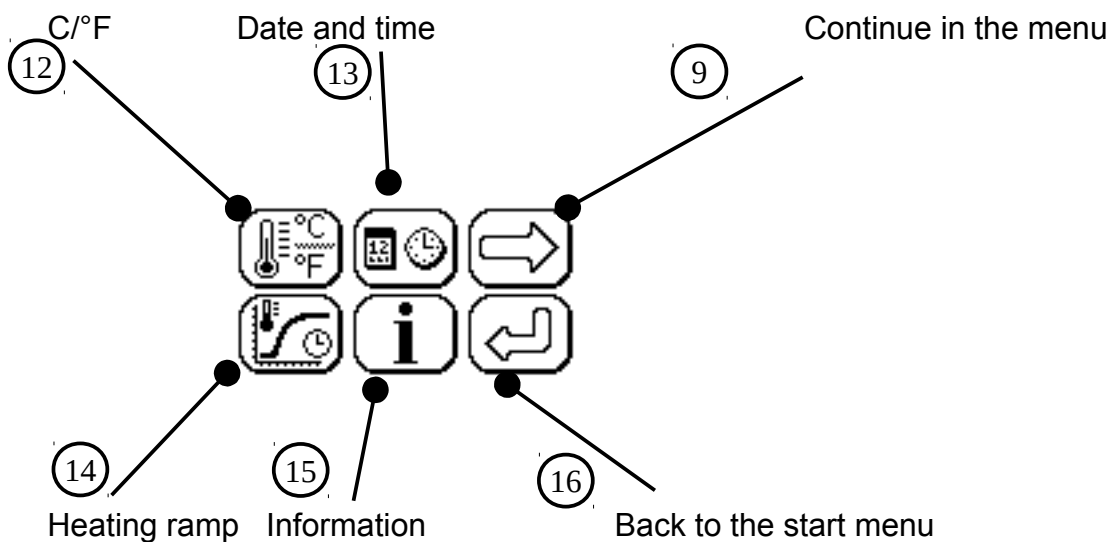


5.2 The Set-Up Menu Page 1

Make the following settings in the set-up menu:

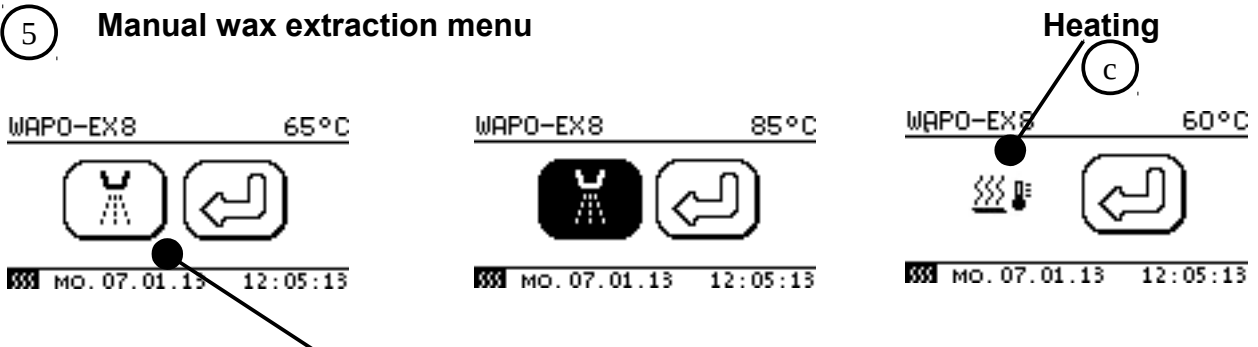


5.3 The Set-Up Menu Page 2



5.4 Description of functions 5 - 14

5 Manual wax extraction menu



The manual wax extraction process is initiated by touching the **wax extraction symbol**.



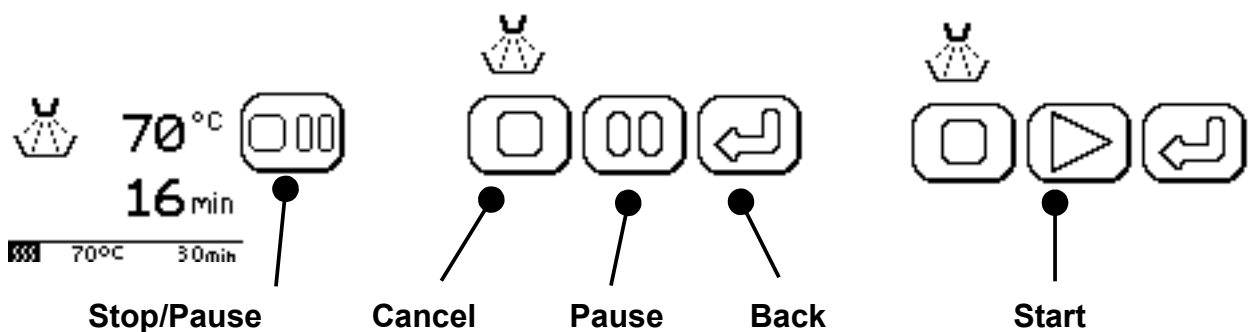
If the temperature falls below 63 °C the process is aborted and the heating symbol appears (C). The process must be manually started in order to continue working.

6 Automatic wax extraction menu

Defines the parameters for the temperature and duration of the wax extraction process. By tapping on the numbers, the parameter selected is enlarged and the values can then be changed.




Touch the arrow to start the program. Interrupt or cancel the program using Start/Stop.



7 Defines the target temperature once the main switch has been activated.

Defines the target temperature once the main switch has been activated.

The pre-heat temperature also applies to waiting times and rest periods. Default: 65°C

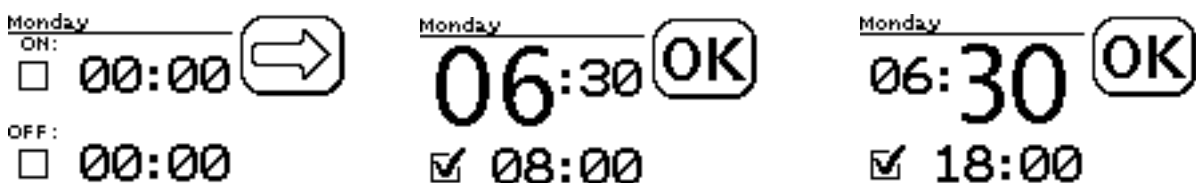
 If the programme temperature selected is higher, the temperature falls back to this value when the programme ends.



After defining the desired mode it may make sense **14** to adjust the pre-heat temperature of the programme temperature. This avoids long heating up or cooling down phases. The pre-heat temperature may be up to 8°C higher than the programme temperature for the programme to start. The control system will then adjust (reduce) the temperature to the programmed value.

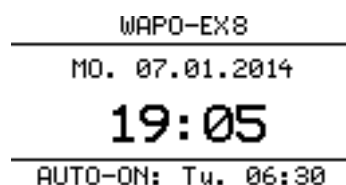
8 Timer

This defines the weekday activation and deactivation times.



Programs running currently have a higher priority; they are not switched off until complete.

10 Display of the sleep function




Press the Sleep button to switch the system to sleep mode.

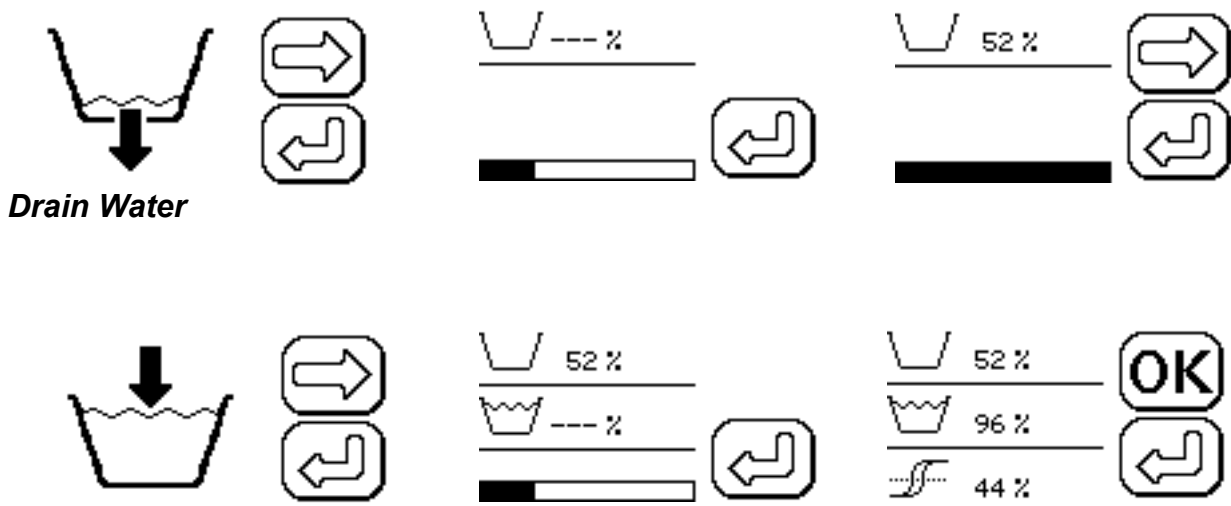
11 Definition of calibration method

DEF 
 CAL 

DEF: Default (calibrated for mains water)


CAL Calibration (only necessary for extreme deviations in water quality)

 This measure defines the conductance of the water!

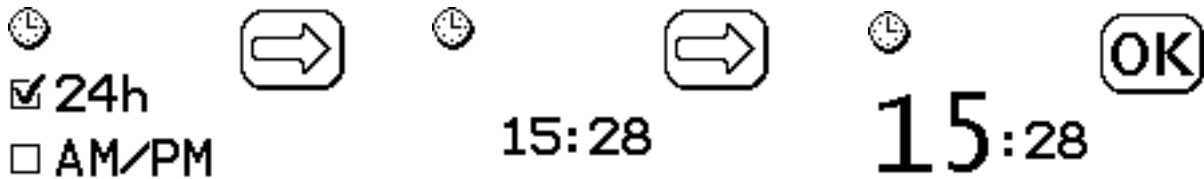


Replenish water

12 Choose between °C Celsius and °F Fahrenheit

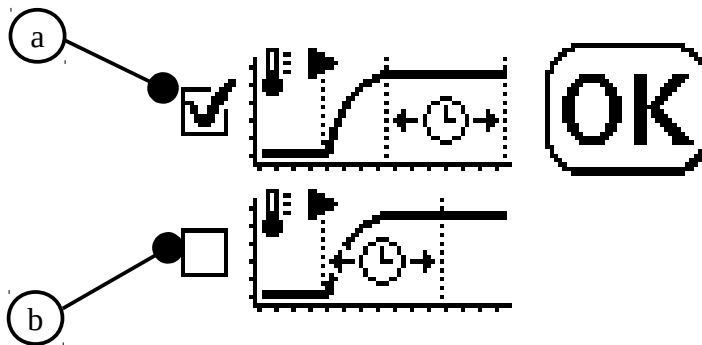
°C 
 °F

13 Pictogram for the sequence in time and date function.



14 Heating ramp

Defines whether the time should start immediately or once the heating value has been reached.



(a) (Default) Unit heats up to the temperature programmed via 6 plus the tolerance to compensate for heat loss from the supply pump. After reaching this value, the result measured is validated by a control cycle. If the value is confirmed, the wax extraction process will start.

(b) The wax extraction process programmed begins immediately but not before reaching 65 °C Celsius. Please select a suitable preset temperature. 7

6 Operation

6.1 General operating instructions

All instructions for using the unit, whether in verbal or written form, are based on our own experience and experimentation and can only be regarded as guidelines.



The Wapo-Ex 8 III is protected against dry running in order to prevent the heating from burning out (flashing symbol). While the program is running, an alarm sounds when there is insufficient water. Take care that the water level is always above the white plastic ring (see in the housing), as the heating and the program will otherwise shut down automatically!

An additional safeguard protects the heating against overheating; it is automatically deactivated at above 97°C.



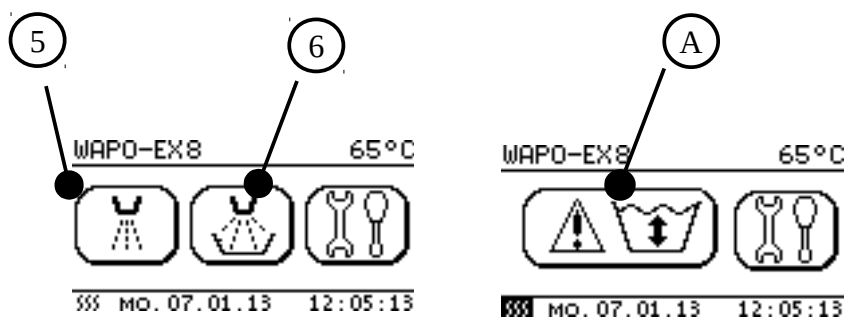
Wear heat-retardant gloves when working with the Wapo-Ex 8 III.



Unplug the device if it is not in use for a longer period.

6.2 Operation

- Fill the work device with mains water to above the white plastic ring in the container (max. 18.5 litres).
- Activate main switch (green rocker switch).
- Check the water level – the low water alarm (A) must not flash.
- Place prepared cuvettes in the device clamp.
- Automatic wax extraction (temperature/time) is started by the (6) symbol. After the wax extraction process has ended, the temperature falls/rises to the preset temperature again. (7)
- For manual wax extraction, touch the (5) symbol. The process must be ended manually.



6.3 Hand shower

In its ready state (> 65 °C) you can activate the hand shower at any time by moving the ball cock. The settings are as described in section 6.2. Always return the ball cock to its base position after use, i.e. in a horizontal position facing back. Please take note of the warning indications.



The Wapo-Ex 8 III is not ready to use until the temperature exceeds 65 °C, i.e. the pump will not start operating until the desired temperature is reached and also the count down of the timer do not start earlier. On addition there is a safety step: the heating stops automatically when the temperature of the heating is higher than 97°C.



Attention! Danger of Scalding!

Do not touch the hand shower at the nozzle or hose.

Do not point the spraying jet towards humans or animals.

The water, which comes out of the nozzle can reach temperatures of 95°C; therefore only use the hand shower in the area of the screen cover or the hand basin.



During scalding with the hand shower you must shift the ball cock (situated at the right side at the top of the housing) to the vertical position.

To relieve the hose and hand shower of pressure when not in use, the ball cock should always be returned to the horizontal position.

7 Troubleshooting / Correcting errors

Fault	Likely cause	Likely solution
Wapo-Ex 8 III does not heat up	Dirty level sensor	Clean level sensor
	Water level too low	Add water
Water-level LED comes on and warning tone sounds fig.: 1.	Dirty level sensor	Clean level sensor
	Water level too low	Top up water until control light goes off
Multi-function display not working correctly	Variations in mains voltage (220-240 V / 50/60 Hz)	Turn off main switch and turn on again in about 1 minute.
	Re-calibrating the touch display	Turn the unit on and while the Wassermann logo appears tap the touch display twice. This will take you to the self-explanatory touch panel calibration process. Fig.: 2-3
Programme not starting although set temperature has been reached.	In mode (a) the unit intentionally overheats by 1°C and waits briefly to validate the value.	This is not a fault, please wait roughly 45 sec.



If the above recommendations do not solve the problem, contact your dental depot or our service department.

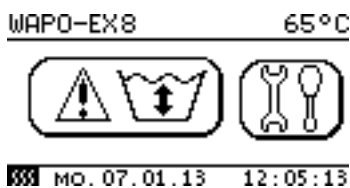


Fig. 1



Fig. 2

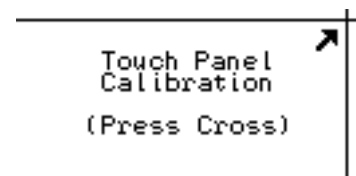


Fig. 3

8 Maintenance

8.1 Cleaning



Remove the plug from the mains before cleaning.

The label must always be clearly legible and may not be removed.



Clean the outside of the unit and any accessories with a sponge and/or a soft cloth and mild detergent.

The equipment should be cleaned regularly (ie, clean every 4 weeks with Kalk-Ex) to guarantee problem-free operation.

Quantity: approx. 300ccm Kalk-Ex per full tank (18.5 litres water).

If there is considerable limescale present, increase the amount of Kalk-Ex appropriately.

The *initial supply* of Kalk-Ex comes with the machine.

Clean the level sensor (white plastic ring) in the tank using a nailbrush, for example.

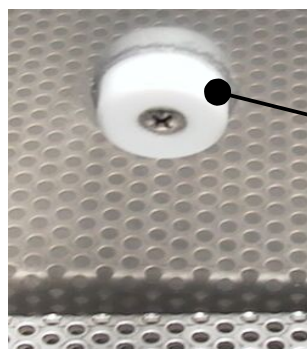


Warning: Leave KALK-EX to work for a maximum 12 hours. Then drain the tank and rinse thoroughly.



Warning!

Please clean the water level sensor every 14 days with a brush.



Water level sensor

8.2 Maintenance

The Wapo-Ex 8 III does not require any servicing. Just make sure that the device is kept clean.

8.3 Repairs



Servicing or repairs to the unit has only to be carried out by qualified technicians. Only original spare parts are to be used. Responsibility for the product is voided if unauthorised persons alter it or if inappropriate components are installed.

8.4 Spare parts

If necessary please contact our service hotline phone.

8.5 Service hotline


0049 (0)40 / 730 926 - 0

8.6 Scope of delivery and accessories

Included in delivery	Item no.:
Service set (filters, lime remover, wax remover)	170021
PVC hose 19 x 4 (3/4") -1.5 m	320030
Hose clamp Ø 20 - 32 x 12.2	322017

Accessories:	Item no.:
Service set (filters, lime remover, wax remover)	170021
Mobile stand	170120
PVC hose 19 x 4 (3/4") - per meter run	320030

8.7 Warranty

 The warranty period for our equipment is 12 months. If faults occur within the warranty period, contact your dental depot or get in touch directly with our service department.

Your equipment should only be operated in perfect condition. If faults occur which could harm operators or third parties, the unit should not be used until it has been fixed.


This warranty does not cover damage caused by improper use, external mechanical causes, transport damage or interference with the unit by unauthorized persons.

9 Technical data

Wapo-Ex 8 III	Item no.: 170981
Voltage*:	220–240 V / 50/60 Hz
Power consumption:	9 A
Output:	2000 W
Overall dimensions: Width x Height x Depth	610 x 540 x 420 mm
Weight:	42,0 kg
Noise emission:	≤ 70 dB (A)
Capacity:	18,5 l

*Other voltages on request.

The noise level of the unit amounts to ≤ 70 dB (A).

 Technical changes reserved.

10 EC Conformity Certificate

in accordance with 2006/95/EG (low-voltage guidelines) and 2004/108/EG (EMV guidelines) and 2006/42/EG (machinery guidelines)

Manufacturer: W A S S E R M A N N Product description: Wax-scalding unit
Dental-Maschinen GmbH for dental
Rudorffweg 15 - 17 application
D-21031 Hamburg

Machine type: Wapo-Ex-8 III Item no. 170981

Applicable standards DIN EN 61010-1
DIN EN 61000-6-3
DIN EN 61000-6-1
DIN 45635-1
DIN EN 60335-1

Hiermit wird bestätigt, dass die oben bezeichnete Maschine den genannten EG-Richtlinien entspricht. Diese Erklärung wird ungültig, falls die Maschine ohne unsere Zustimmung verändert wird.

This is to confirm that the above mentioned machine complies with the described EC rules. This declaration becomes invalid if the machine is modified without our approval.

Cette machine est conforme aux normes en vigueur de la Communauté Européene. Cet avis est nul et non avenant si cette machine est modifiée sans notre accord.

Esta máquina, anteriormente mencionada, cumple con los límites requeridos por el reglamento EC. Ahora bien, esta declaración quedará invalidada en caso de realizar modificaciones al aparato sin nuestra aprobación.

Hiermee wordt bevestigd dat bovengenoemde machine voldoet aan de voorgeschreven EU normen. Deze verklaring verliest geldigheid als er zonder onze uitdrukkelijke toestemming wijzigen aan de machine worden aangebracht.

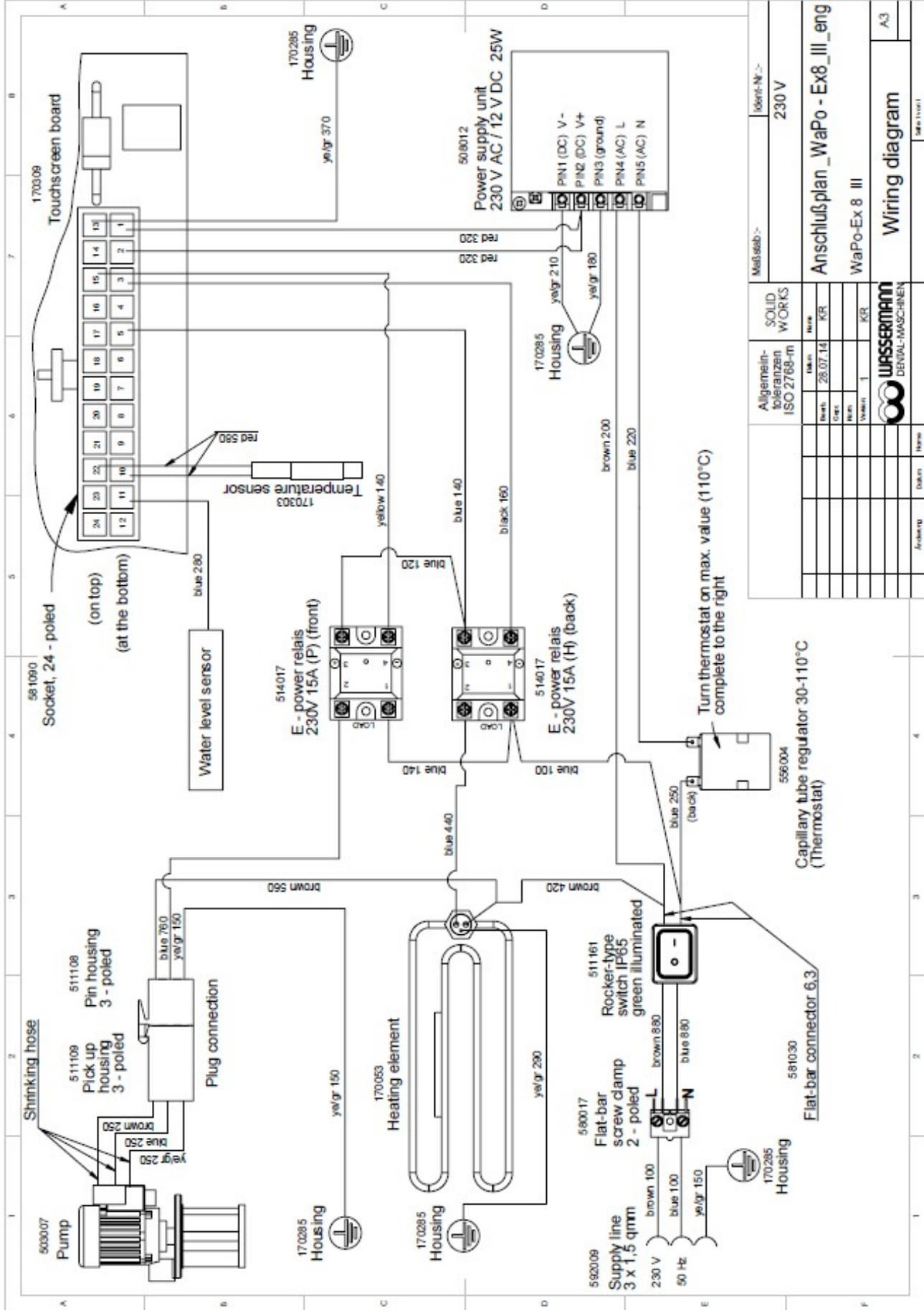
Place, date: Hamburg, 22.01.15

Company stamp:



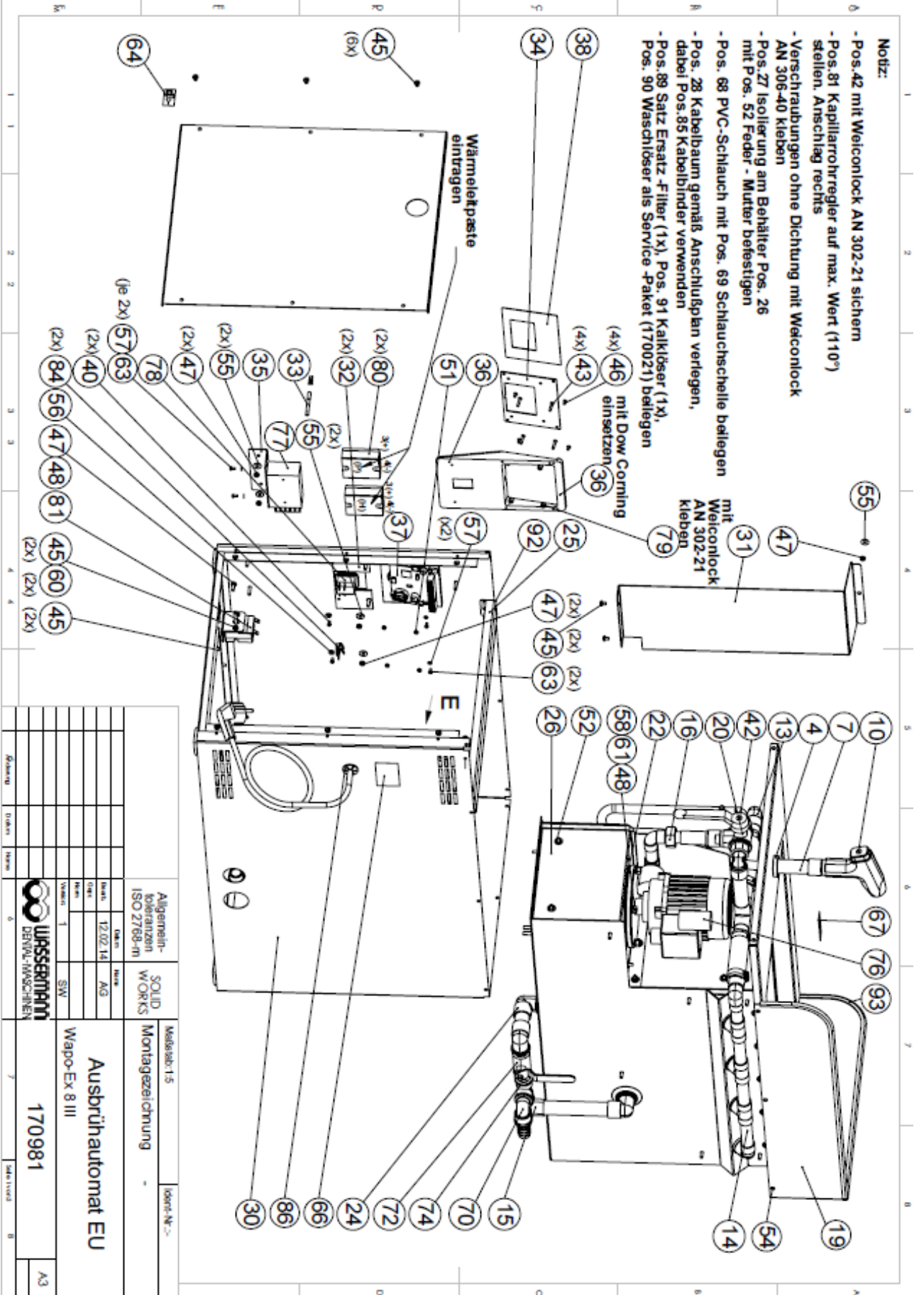
Unterschrift : _____
Wilfried Wassermann
(Managing Director)

11 Wiring diagram Wapo-Ex-8 III

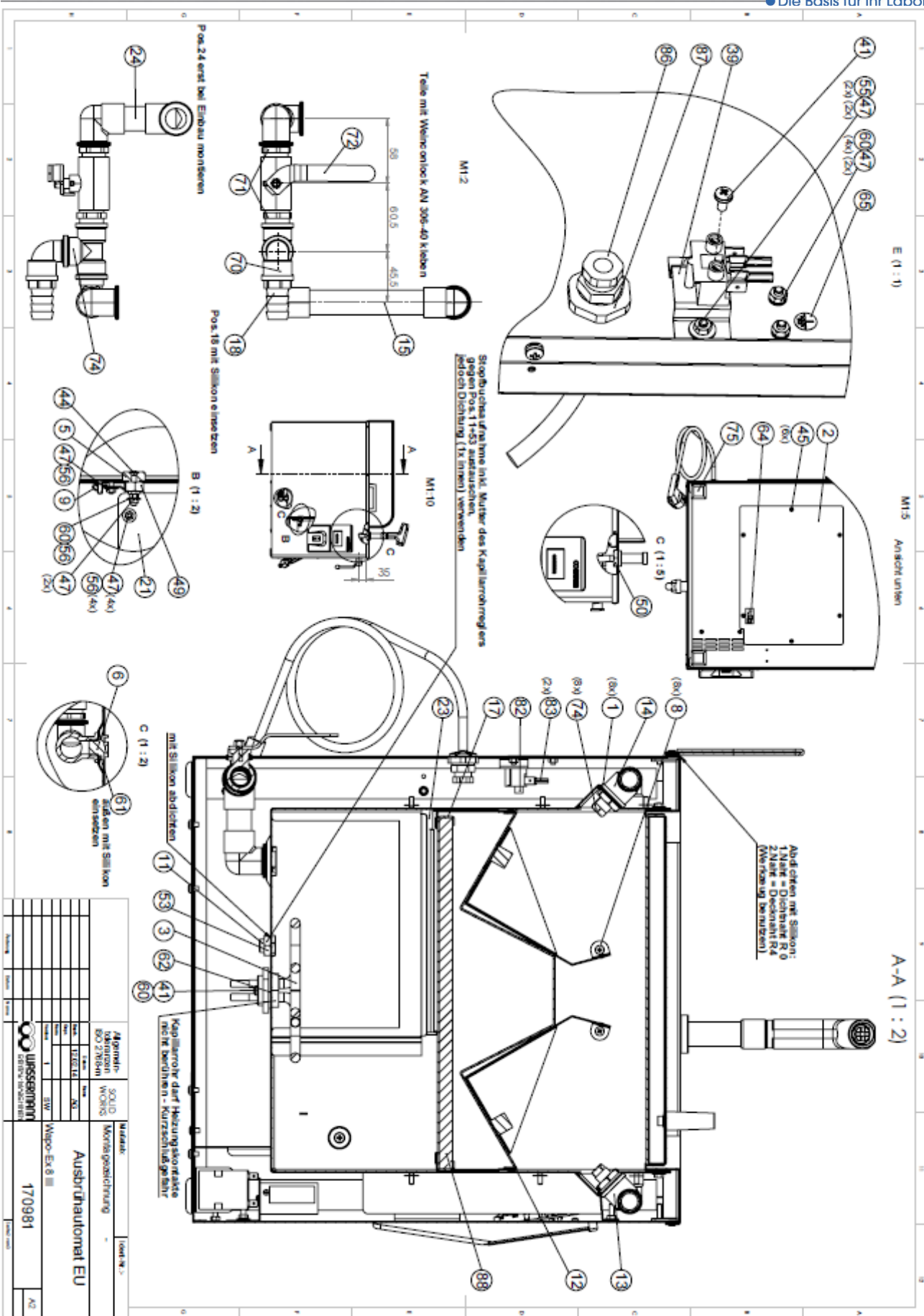


Allgemein-toleranzen ISO 2768-m		SOLID WORKS		Ident-Nr.:-	230 V
Abw.	28.07.14	Rev.	KR	Anschlußplan_WaPo - Ex8 III_eng	
Gez.		Gez.		WaPo-Ex 8 III	
Prüf.		Prüf.		Wiring diagram	
Verf.		Verf.		A3	
				Date: 11.01.11	

12 Spare part diagram Wapo-Ex-8 III



Allgemein- toleranzen ISO 2768-m		Materialeb. 1:5		Ident.-Nr.:-	
SOLID WORKS		Montagezeichnung			
Ausbrühautomat EU					
Wapo-Ex 8 III					
170981					
A3					



		Allgemein: SOLID Wachs 60/2 (NHN)	Material: Werkstoff: Ausbrühautomat EU	Teil-Nr.: 170981
Zeichnung: 170981	Datum: 170981	Zeichnung: 170981	Datum: 170981	Blatt: 1/2

1	Luftpolsterfolie N37 1200 mm breit	99	200 mm	670150
1	Bodenpolster, geklebt	98		670129
1	Instamate-Folie 2 x 900mm breit	97	5m	670122
1	Instapak-Schaumstoff Component B-FFS	96	310g	670121
1	Instapak-Schaumstoff Component A-FFS	95	360g	670120
1	WP-Faltkarton D2.5 750 x 550 x 650	94		670009
1	Kantenschutzprofil klein	93	950 mm	660024
1	Tesa-Moll 9x3	92	820 mm	660004
1	Kalklöser in PVC - Flasche 1000 CCM	91		655002
1	Wachslöser in PVC - Flasche 2 Liter	90		655001
1	Satz Ersatz-Filter für WAPO -Ex 8	89		611007
1	Filter WAPO-Ex 8	88		610010
1	Gegenmutter GM 13	87		584015
1	Kabelverschraubung MZI 9	86		584006
1	Kabelbinder KB 102	85		582006
2	Flachsteckverteiler 6,3-0,8	84		581030
2	Isolierhülse f. Flachstecker 2,8	83		581017
1	Flachsteck-Schraubklemme 2-polig	82		580017
1	Kapillarrohrröhrer 30-110°C	81		556004
2	Elek. Lastrelais 230 V 15A	80		514017
4	Abstandsbolzen M3 x 6 6-Kt	79		511201
1	Wippschalter, grün IP 65	78		511161
1	Netzteil 100-240 V AC/ 12V DC 25 W	77		508012
1	Pumpe	76		503007
4	Gummifuss 32 x 32 - H6 SW 65 26 016	75		392008
8	Sprühdüsengehäuse, klein	74		326002
1	T-Stück G1/2 I	74		325122
1	Kugelhahn mit vollen Durchgang	72		325051
2	Doppelnippel G1/2	71		325048
1	Winkel G1/2 - G1/2 A-I Gewinde	70		325046
1	Schlauchschelle D 20-32 x 12,2	69		322017
1	PVC Schlauch 19 x 4 (3/4")	68	1500 mm	320030
1	Aufkleber Überfüllung vermeiden	67	50 mm	310201
1	Schriftbandkassette SW b = 36 mm	66	55 mm	310200
1	Erdungszeichen, selbstklebend	65		310057
2	Klebeschild "NETZSTECKER ZIEHEN"	64		310009
4	Schraube DIN 7985 M3 x 6	63	VA	208208
1	KFC - Ring 26 x 32 x 2 (3/4) DIN 7603	62		205223
2	CU-Dichtring DIN 7603 A - R1/2	61		205202
4	Fächerscheibe DIN 6798 J6,4	60	VA	204038
8	Fächerscheibe DIN 6798 J4,3	60	VA	204037
4	Scheibe DIN 125 A6,4	58	VA	204035
4	Fächerscheibe DIN 6798 A3,2	57	VA	204009
2	Scheibe DIN 9021 B3,2	56	VA	204007
13	Scheibe DIN 9021 A4,3	55	VA	204005
11	Blindniet D4 x 6	54	Va	203105
1	Mutter DIN 439 M12 x 1	53	VA	202095
25	Feder - Mutter M4	52		202067
4	Mutter DIN 934 M3	51	VA	202065
1	Mutter DIN 431 R3/4 - A	50	VA	202063
1	Mutter DIN 934 M10	49	VA	202024
4	Mutter DIN 934 M6	48	VA	202020
17	Mutter DIN 934 M4	47	VA	202019
4	Schraube DIN 965 M3 x 6	46	VA	201514
16	Schraube DIN 7985 M4 x 6	45	VA	201111
Stck	Beschreibung	lfd. Nr	Material	Zeichnungsnr.

1	Schraube DIN 966 M4 x 30	44	VA	201110
4	Schraube DIN 963 M3 x 16	43	VA	201018
1	Becherschraube M4 x 10	42	VA	200150
2	Schraube DIN 7985 M4 x 8	41	VA	200040
2	Schraube DIN 7985 M3 x 12	40	VA	200034
1	E-Winkel	39		170614
1	Tastfolie (Touchscreen)	38		170350
1	Platine-Touchscreen	37		170309
1	Displaygehäuse	36		170308
1	Winkel für Netzteil	35		170307
1	Displayblech	34		170304
1	Thermofühler - Behälter aussen -	33		170303
2	Temperaturleitblech	32		170291
1	Spritzschutz WAPO EX 8 III	31		170289
1	Gehäuse, kpl. WAPO -EX 8 III	30		170285
1	Seitenwand	29		170283
1	Kabelbaum	28		170282
1	Isolierung	27		170276
1	Behälter, komplett	26		170275
1	Stützschiene	25		170268
1	Rohrsystem -Abfluss-	24		170261
1	Siebgitter, kpl	23		170254
1	Flachdichtring	22		170252
1	Führungsblech	21		170244
1	Dreiwegehahn-Sprühsystem	20		170243
1	Spritzschutz	19		170231
1	Schlauchanschluss - Abfluss	18		170229
2	Filterlochblech	17		170218
1	Rohrsystem -Pumpe-	16		170216
1	Rohrsystem -Wasserüberlauf-	15		170215
1	Verteiler hinten	14		170213
1	Verteiler vorne	13		170212
2	Lochblecheinsatz	12		170210
1	Stopfbuchsaufnahme	11		170119
1	Handbrause, kpl	10		170113
1	Schelle Teil 1	9		170094
4	Küvettenkorb	8		170074
1	Handbrausenschlauch, kpl	7		170072
2	Hahnverlängerung G 1/2	6		170060
1	Isolierhülse	5		170057
1	Handbrausenaufnahme	4		170055
1	Rohrheizkörper	3		170053
1	Abdeckung	2		170024
8	Reduziernippel, gedreht G1/2a - G1/4i	1		170001
Stck	Beschreibung	lfd. Nr	Material	Zeichnungsnr.

Notes:

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