

Boil Out 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.



The unit complies with the relevant EU guidelines.



The unit is subject to the EU guidelines 2012/19/EU (WEEE Directive).

Company address:

Wassermann Dental-Maschinen GmbH

Rudorffweg 15-17

21031 Hamburg, Germany

Phone : +49 (0)40 730 926 -20/ -24 Fax.: +49 (0)40 730 37 24

export@wassermann-dental.com

www.wassermann.hamburg

www.facebook.com/WassermannDentalmaschinen

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1 Features

The approved boil out 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 boiling out 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 boil out 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 boiling out of small parts.

- Compact tabletop automat for scalding up to 8 flask halves
- Touch screen for fast and easy operation
- Integrated timer
- Visual and audible water level indicator
- Thermostat protected, gasketless immersion pump in bronze, maintenance-free
- Counter-sunk spray system inside of the side panels, for easy access to flask baskets
- Integrated hand spray for manual scalding
- Splash protection made of stainless steel
- Easy to clean without tools
- Durable and energy-saving
- High quality construction, most parts made of stainless steel
- Energy saving thermal insulation

2 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.

3 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.

4 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.

5 Application

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

Only use the device for this type of application.

6 Before Starting

6.1 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.

6.2 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.

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.



Install the device in a place where it will not block the working area and the functionality (take the dimensions into account).



Do not install the unit outdoors or in places without proper ventilation.
Before start-up, be sure the device reaches room temperature.



Avoid overfilling and check the overflow system / drainage system. Strong overfilling can damage the electronics in the medium term. For damage caused by improper handling, no liability is assumed.

6.3 Storage

The unit location is very important when it comes to workplace safety, even if it is only to be set up there for a short period. The room should be dry, well ventilated and vibration-free. An even temperature and wooden supports also help. The unit should not be stored or set up outdoors. If the unit is to be stored for an extended period, protect it from moisture and dust.

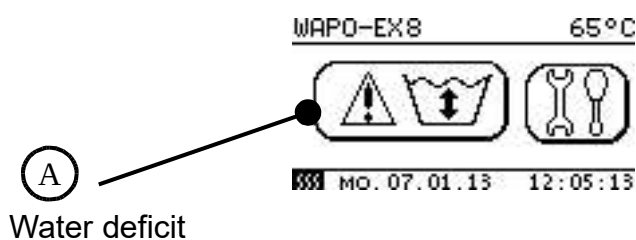
7 Installation/ Commissioning/ Menu Functions



Before commissioning, please install the following connections:

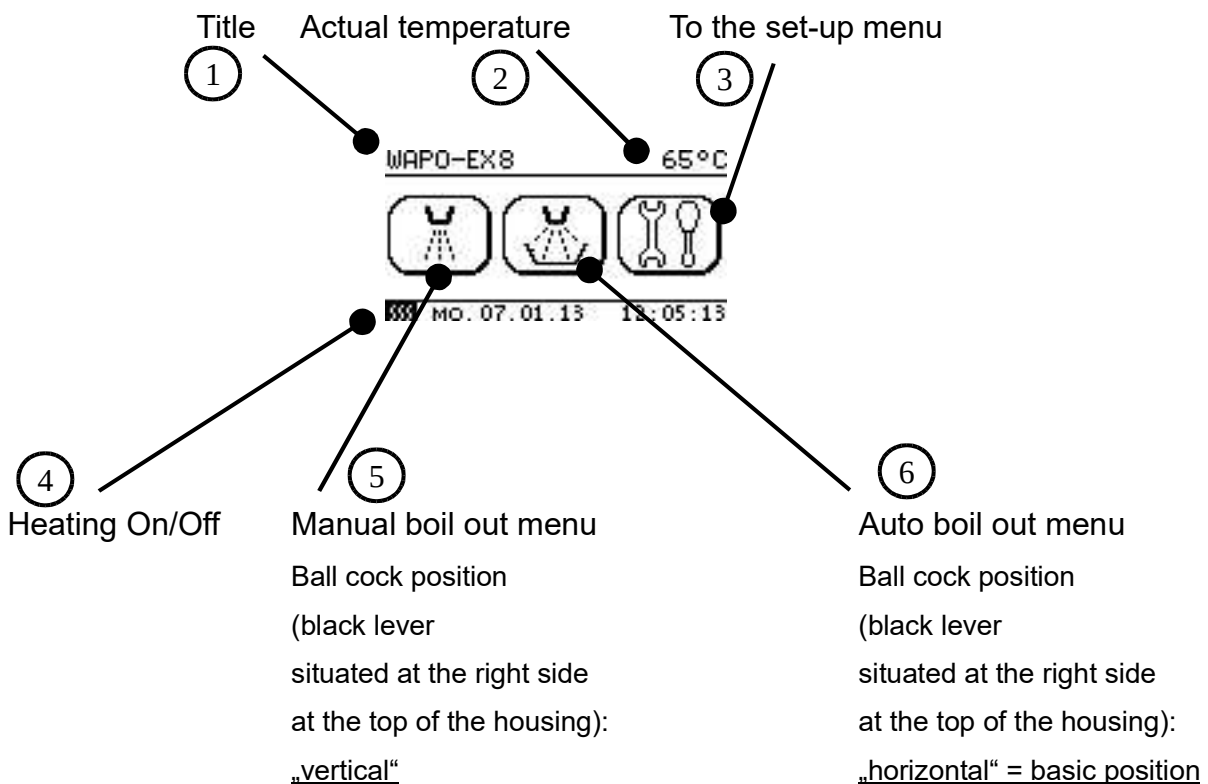
Firmly clamp the supplied drainage hose to the device and ensure there is a suitable drainage facility.

- Insert the plug into the socket – make sure that the voltage information between the device and the mains network is identical.
- The filter mat is already placed with the white side facing down.
- Fill the unit with water and **Wachs-Ex** up to the overflow limit (18.5 litres max.)
Dosage: approx. 40 ml / 18,5 litres water.
- Switch on the mains switch (green rocker switch).
- Symbol **(A)** (water deficit) must not appear.
- Also avoid an overflow!



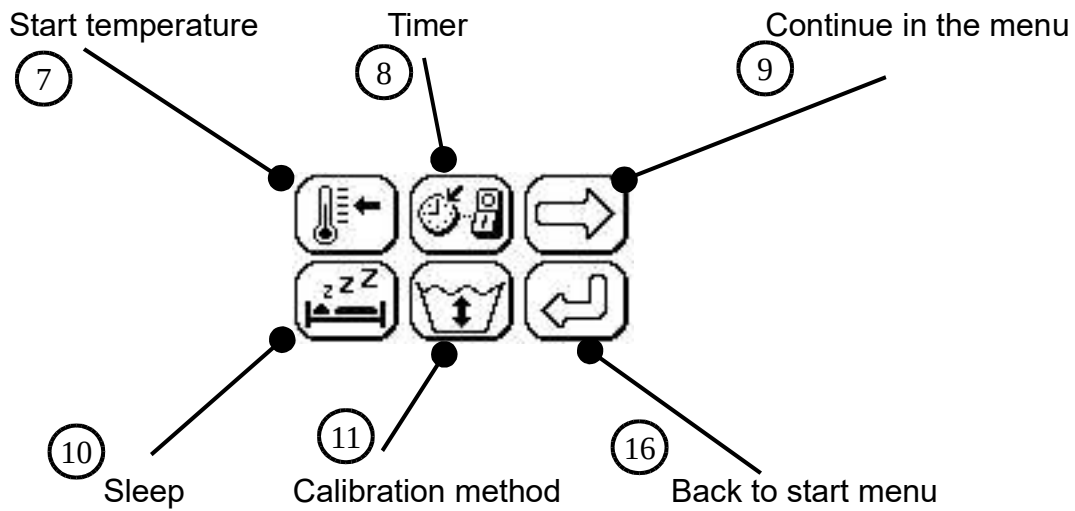
Make sure you define the device's main parameters before switching it on. These settings are performed in the **set-up menu** (3). Familiarise yourself with the many options which the system offers before starting to boil out. This applies in particular to functions (7) **start temperature** and (14)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

7.1 The Set-Up Menu

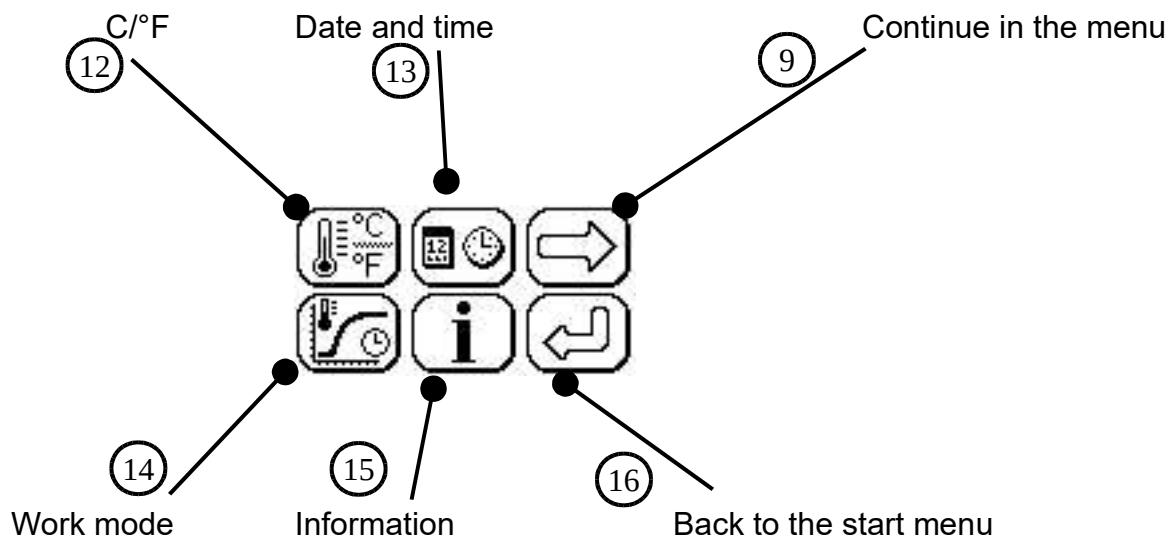


7.2 The Set-Up Menu Page 1

Make the following settings in the set-up menu:



7.3 The Set-Up Menu Page 2



7.4 Description of Functions 5 - 14



The manual boil out process is initiated by touching the **boil out symbol**.

i If the temperature falls below 63 °C the process is aborted and the **heating symbol (C)** appears. In order to continue working the process must be manually started by touching the **boil out symbol** once again.

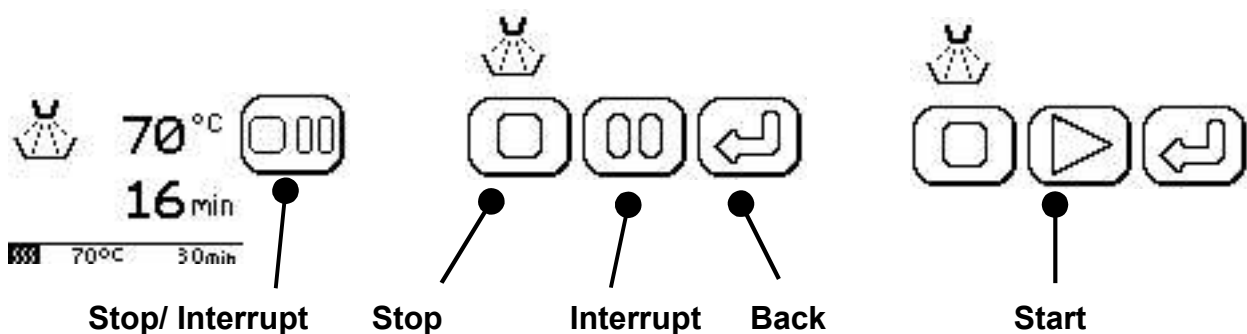
i To relieve the hose and hand shower of pressure when not in use, the ball cock should always be returned to the horizontal basic position.

6 **Automatic Boil Out Menu (Ball cock basic position: „lever horizontal“)**

Here you can set the temperature and the time for the boil out process. By tapping the numbers increases and the values can then be changed.



Press the Start button to start the program. Interrupt or stop the program by using the Stop/ Interrupt button.



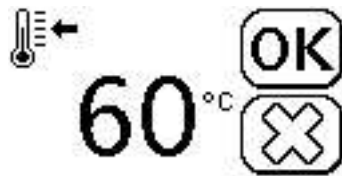
7 Preset temperature

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

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



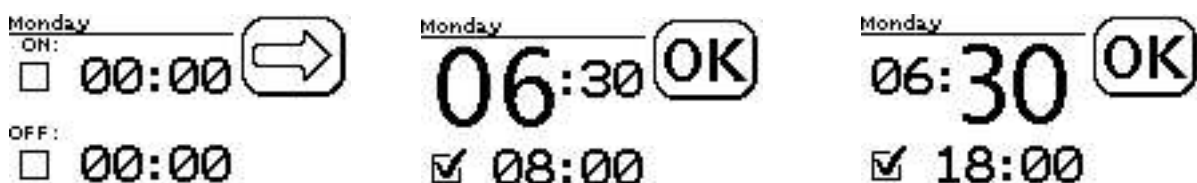
If the programme temperature selected is higher, the temperature falls back to this value when the programme ends.



After defining the desired mode (14) it will make sense to adjust the preset temperature of the programme temperature. This avoids long heating up or cooling down phases. The preset 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.

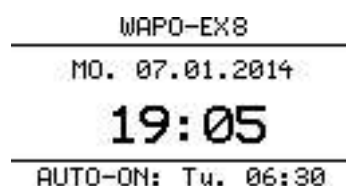
8 Timer

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

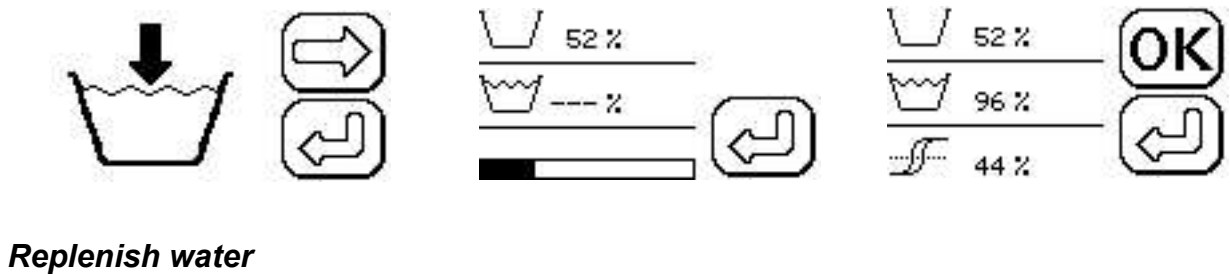
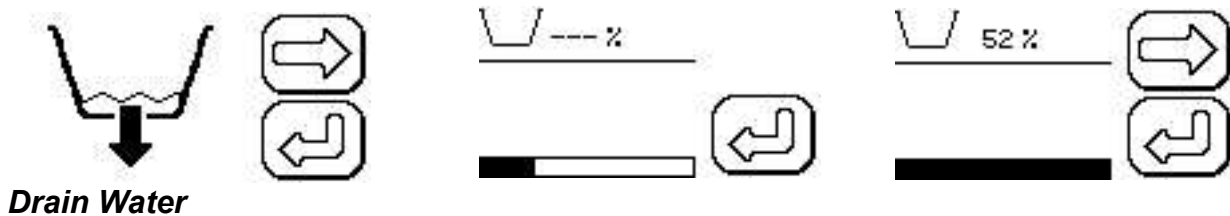


DEF: Default (calibrated for mains water)

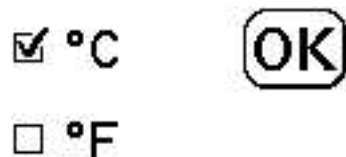
CAL Calibration (only necessary for extreme deviations in water quality)



This measure defines the conductance of the water!



12 Choose between °C Celsius and °F Fahrenheit

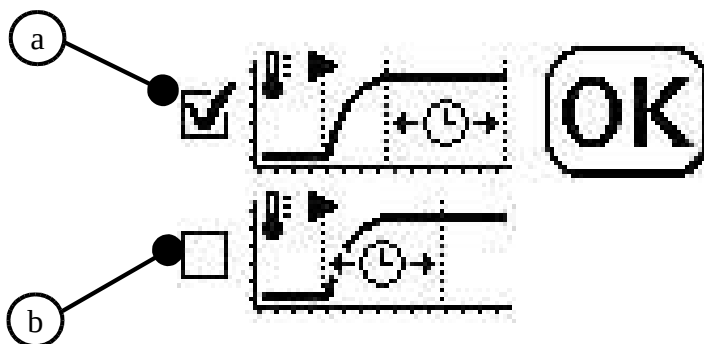


13 Pictogram for the Sequence in Time and Date Function



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 boil out 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 boil out process will start.

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

8 Operation

8.1 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 not ready to use until the temperature exceeds 65 °C, i.e. the pump will not start operating until the desired temperature is reached.



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.



Avoid overfilling and check the overflow system / drainage system. Strong overfilling can damage the electronics in the medium term. For damage caused by improper handling, no liability is assumed.



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



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 boiling out 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.

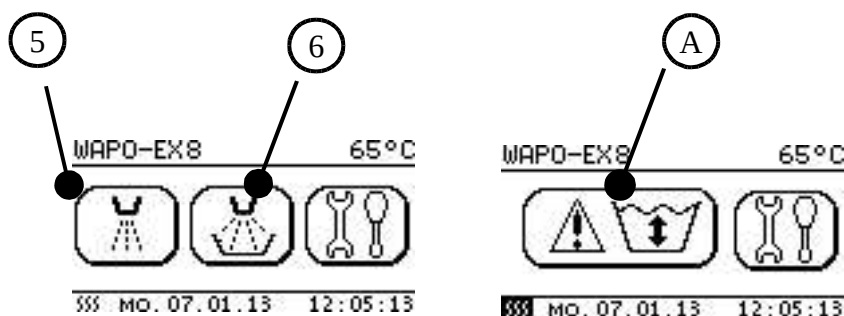
To relieve the hose and hand shower of pressure when not in use, the ball cock should always be returned to the horizontal basic position.



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

8.2 Operation

- Fill the unit with water and **Wachs-Ex** up to the overflow limit (18.5 litres max.)
Dosage: approx. 40 ml / 18,5 litres water.
- Also avoid an overflow!
- 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 boil out (temperature/time) is started by the (6) symbol. After the boil out process has ended, the temperature falls/rises to the preset temperature (7) again.
- For the manual boil out process the ball cock must be returned to the vertical position. Then the manual boil out process is initiated by touching the boil out symbol (5).
- To stop the process touch the boil out symbol once again.



8.3 Hand Shower

In its ready state (> 65 °C) you can activate the hand shower at any time by moving the ball cock to the vertical position. The settings are as described in section 7 **Installation/ Commissioning/ Menu Functions**.

Always return the ball cock to its basic position after use, i.e. in a horizontal position facing back.



Please take note of the warning indications.

9 Troubleshooting

Fault	Cause	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. <i>Fig. 1.</i>	Dirty level sensor	Clean level sensor
	Water level too low	Top up water until control light goes off
	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. <i>Fig.: 2-3</i>
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.

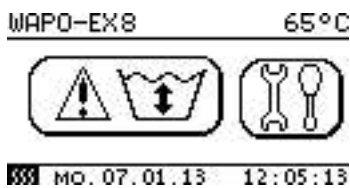


Fig. 1



Fig. 2

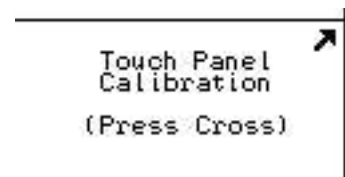


Fig. 3

10 Maintenance

10.1 Cleaning



Disconnect the power plug before starting any maintenance work.

The identification plate has always to be kept in easily legible condition and has not to be removed.



Remove external dirt from time to time with some form of cold cleaner.

Use only cold cleaners to avoid damaging the paintwork or removing the lettering.

The equipment should be cleaned at regular intervals to ensure trouble-free operation.

Once a week

- Change water and add **Wachs-Ex**.
- Dosage: approx. 40 ml / 18,5 litres water
- Clean the level tracer (white plastic ring), i.e. with a nail-brush.

Every 2 weeks

- - Replace the filter mat (white side facing down).

Every 4 weeks

- Clean the unit with **Kalk-Ex**.
- Dosage: 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.



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 at least every 14 days with a brush.



10.2 Maintenance

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

10.3 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.

10.4 Spare Parts

If necessary please contact our service hotline phone.

10.5 Service Hotline 0049 (0)40 730 926 -20/ -24

10.6 Scope of Delivery/ Accessories

Included in delivery:

- Service set (4 filter mats, 1 L lime remover, 2 L wax remover)
- Discharge hose, 1.5 m
- Hose clip Ø 20-32 x 12.2

Accessories:	Item no.:
Mobile stand (W 620 x H 550 x D 430 mm)	170120
Service set (4 filters, 1 l lime remover, 2 l wax remover)	170021
Discharge hose, PVC hose 19 x 4 (3/4"), per meter	320030

10.7 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.

11 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.

12 Disposing of the Unit

The unit has to be disposed by an authorized recycling operation. The selected company has to be informed of all possibly health-hazardous residues in the unit.

12.1 Information on Disposal for Countries within the EU



To conserve and protect the environment, prevent environmental pollution and improve the recycling of raw materials, the European Commission adopted a directive that requires the manufacturer to accept the return of electrical and electronic units for proper disposal or recycling.

Within the European Union units with this symbol should not therefore be disposed of in unsorted domestic waste.

For more information regarding proper disposal please apply at your local authority.

13 EU Declaration of Conformity

in accordance with 2014/35/EU (Low Voltage Directive) and 2014/30/EU (Electromagnetic Compatibility Directive) and 2006/42/EC (Machinery Directive) and 2011/65/EU (RoHS Directive)

Manufacturer: **W A S S E R M A N N** Product description: Boil Out Unit for dental application
Dental-Maschinen GmbH
Rudorffweg 15-17
21031 Hamburg
Germany

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 EU-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 EU guidelines. This declaration becomes invalid if the machine is modified without our approval.

Cette machine est conforme aux normes en vigueur d'Union européenne. 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 UE. 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, 2020-02-28

Company stamp :

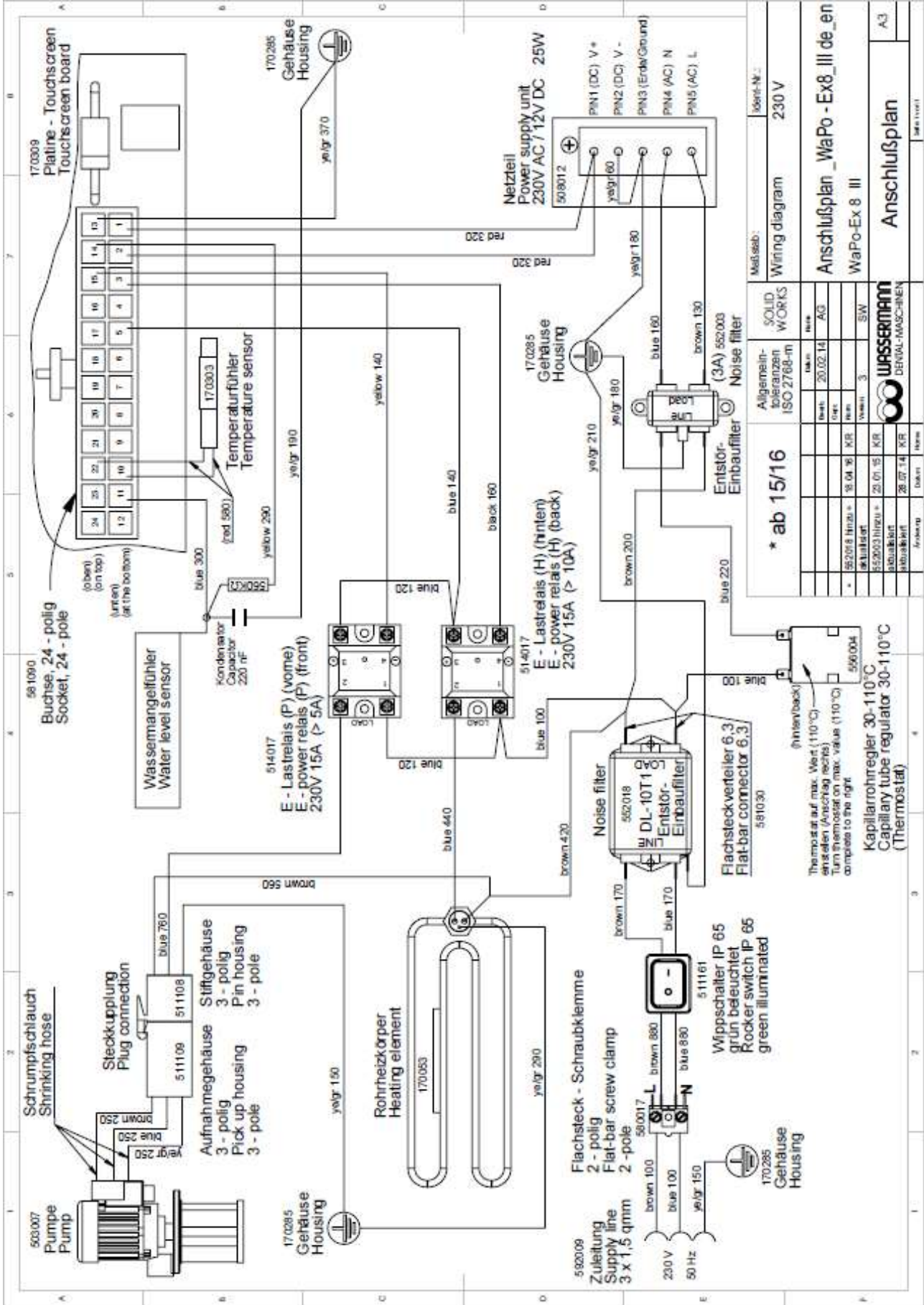


Signature: _____

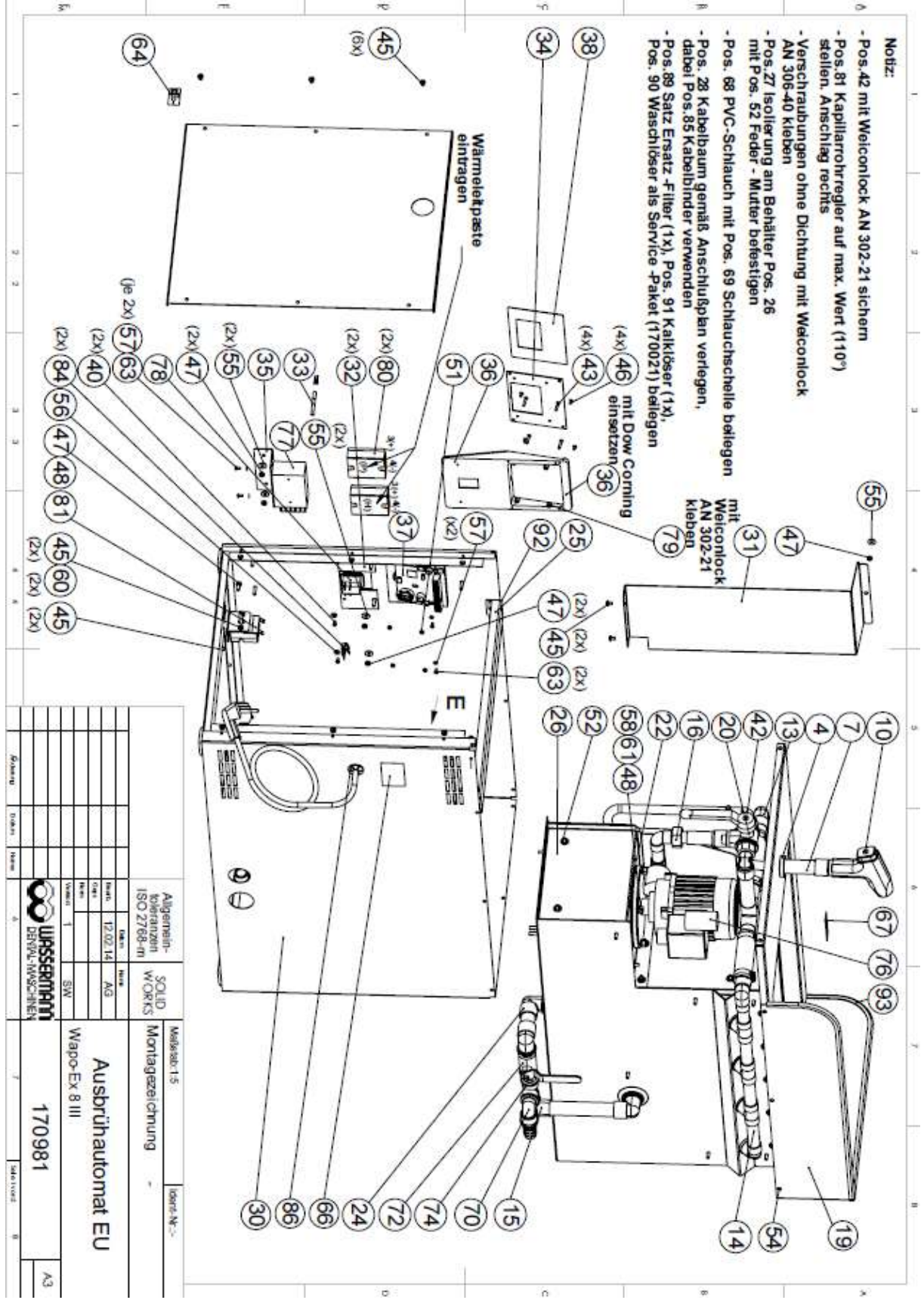
Sven Wassermann
(Managing Director)



14 Wiring Diagram Wapo-Ex-8 III



15 Spare Part Diagram Wapo-Ex-8 III

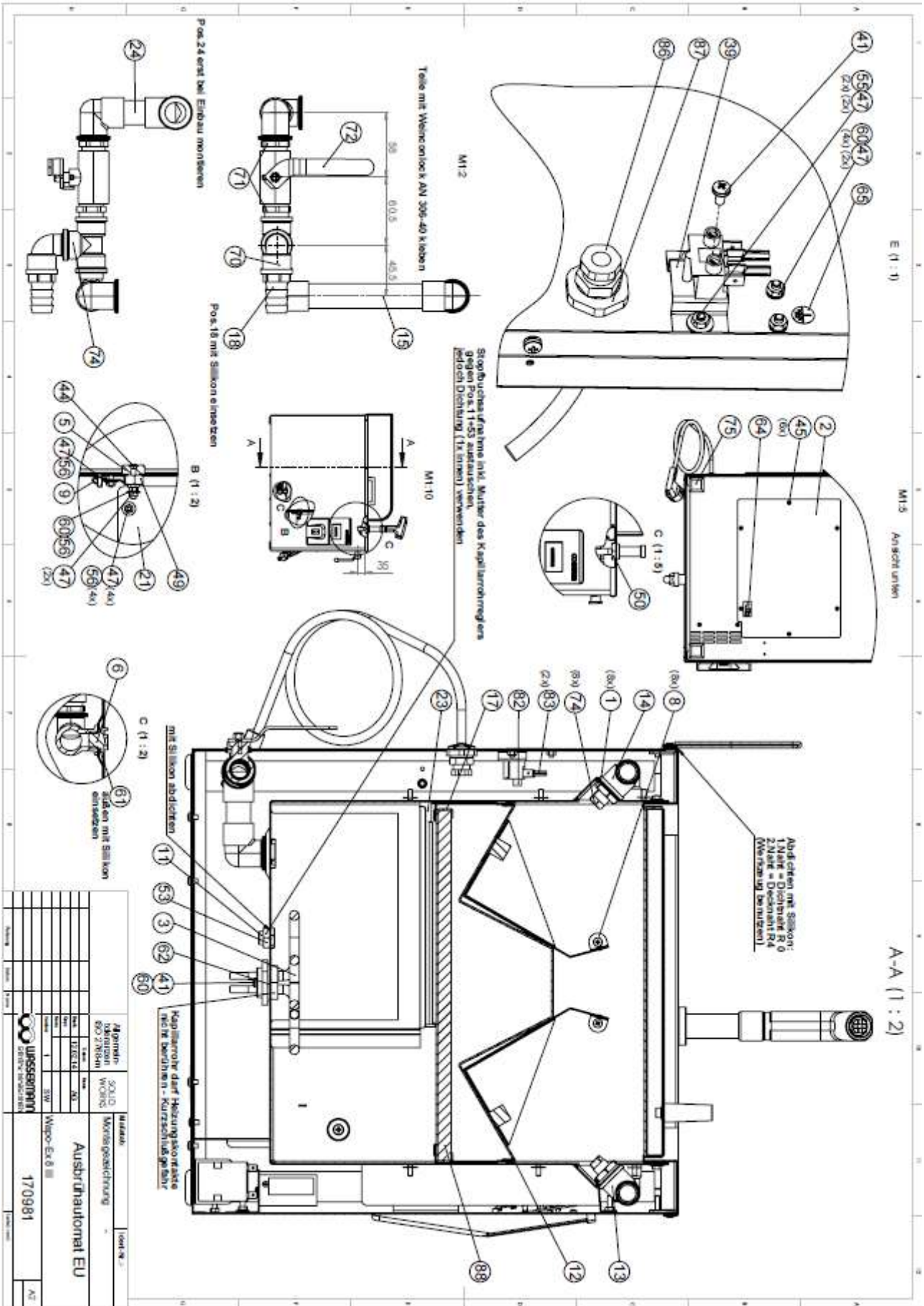


- Notiz:**
- Pos. 42 mit Welconlock AN 302-21 sichern
 - Pos. 81 Kapillarrohregler auf max. Wert (110°) stellen, Anschlag rechts
 - Verschraubungen ohne Dichtung mit Welconlock AN 306-40 kleben
 - Pos. 27 Isolierung am Behälter Pos. 26 mit Pos. 52 Feder - Mutter befestigen
 - Pos. 68 PVC-Schlauch mit Pos. 69 Schlauchschelle belegen
 - Pos. 28 Kabelbaum gemäß Anschlussplan verlegen, dabei Pos. 85 Kabelbinder verwenden
 - Pos. 89 Satz Ersatz-Filter (1x), Pos. 91 Kalklöser (1x), Pos. 90 Waschlöser als Service-Paket (170021) belegen

mit Welconlock AN 302-21 kleben

Wärmeleitpaste eintragen

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



Aggregat SOLID Schnitzwerk 500 Ziffern		Modell W30	
Hersteller WASSERMANN		Wago-Ex 8 III	
Ausdriftautomat EU		170981	
170981		AZ	

1	Luftpolsterfolie N3/ 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	Schlauchschele 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	Temperaturferrblech	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	Siebgeritter, 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:



Wassermann Dental-Maschinen GmbH
Rudorffweg 15–17 · 21031 Hamburg · Germany
Phone: +49 (0)40 730 926-20/ -24 · Fax: +49 (0)40 730 37 24
export@wassermann-dental.com · www.wassermann.hamburg



/WassermannDentalmaschinen