

# Trimmer **HSS-ZA**

Combination Trimmer with additional Polishing Spindle left



**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).

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## Contents

1 Features.....	4
2 Safety Symbols used in this Manual.....	4
3 Safety Guidelines.....	5
3.1 Potential Dangers.....	6
4 Responsibility for Operation or Damage.....	6
5 Application.....	7
6 Before Starting.....	7
6.1 Transport.....	7
6.2 Storage.....	7
7 Installation/ Start-up.....	8
7.1 Installation.....	8
7.2 Location.....	8
7.3 Rinsing Water Hose.....	9
7.4 Drain Hose.....	9
8 Mounting.....	10
8.1 Installing the Angled Mount.....	10
8.2 Installing the Brush Spindle.....	11
9 Supports.....	11
10 Operation.....	12
10.1 General Operating Instructions.....	12
10.2 Water Regulation.....	12
10.3 Brush Spindle.....	12
11 Troubleshooting.....	13
12 Care and Maintenance.....	14
12.1 Cleaning.....	14
12.2 Maintenance.....	15
12.3 Repairs.....	15
12.4 Spare Parts.....	15
12.5 Service Hotline 0049 (0)40 730 926 -20/ -24.....	15
12.6 Spare Grinding Discs.....	15
12.7 Foil Grinding Discs.....	16
12.8 Scope of Delivery/ Accessories.....	17
12.9 Warranty.....	17
13 Technical Data.....	18
14 Disposing of the Unit.....	18
14.1 Information on Disposal for Countries within the EU.....	18
15 EU Declaration of Conformity.....	19
16 Wiring Diagram.....	20
17 Spare Part Diagram.....	21

## 1 Features

- powerful **HSS-ZA** wet trimmer with polishing spindle
- highest cutting and polishing speeds (settings: 1500 and 3000 min<sup>-1</sup>)
- can be used with aggressive foil-grinding disc or segmentally diamonded Dia-Quick grinding disc
- sturdy, oxidation-free bench with longitudinal slots and side openings – no water spills possible
- powerful disc and internal rinsing
- easy to open using rear handle
- splash-protected as per IP 54

## 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.
- Before you carry out any cleaning or maintenance work, disconnect the power plug and prevent the motor from restarting accidentally. You should also disconnect the water line.



- Always wear protective goggles before working on the grinding disc.
- Electric motors have dangerous, high-voltage rotating parts. Incorrect usage or inadequate maintenance could endanger personnel and equipment.
- Any work on the motor should be carried out only by qualified service personnel.
- Allow the condensers time to discharge before opening the unit.
- When working on the unit, wear close-fitting clothing and roll sleeves inward only. Do not wear gloves.
- Wear a hair net (or similar) if you have long hair.
- Do not wear rings, chains, bangles or similar jewelry when working with the **HSS-ZA**.
- Turn off the tap overnight and at weekends.
- Never switch from level “II” (high speed) directly to level “I” (low speed). Always select setting “0” (wait for disc to stop) before making the speed change.



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

### 3.1 Potential Dangers



**Risk of injury: The trimmer's rotating parts and the grinding disc are dangerous.**

**Also the tip of the brush spindle could cause injury.**

## 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.



**Responsibility for the product becomes void if alterations are made to it by third parties or if non-approved parts are installed. Only original WASSERMANN parts should be used. If any damage results from the installation of a non-approved disc, responsibility lies with the person installing that spare disc.**

**If diamond grinding discs are used, serious wear will result from grinding embedded materials and metals. We will be in no way responsible in this case.**

## 5 Application

**HSS-ZA** plaster model trimmer is used in dental laboratories and is designed only for grinding (trimming) and polishing plaster models.

To prevent damage to the trimmer and/or to the blade, it must be used only with plaster.

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 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/ Start-up

### 7.1 Installation

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



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

### 7.2 Location

Because the trimmer operates only with water, we recommend you install it close to a tap. The best place is right next to a washbasin.



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



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



Install the device in a place where it will not block the working area and the functionality (take the dimensions into account). When setting up the unit, ensure that the grinding disc is readily accessible and that the unit is located near a plaster separator.



**Before** starting the unit, connect up the following:

To install the **rinsing water connector**, you'll need a pressure hose with woven liner measuring 0.5 inch (13 mm) in diameter, and for the **drain**, a plastic hose 1 inch (25 mm) in diameter. When installing the drain hose, make sure that the hose end hangs freely in the plaster separator and not beneath the surface of the water.

### 7.3 Rinsing Water Hose



**Before** the woven hose is connected to the device, please turn on the tap for a little moment, so that any dirt in the water line is flushed out. Otherwise, correct water supply to the unit may be affected.

Subsequently install the flushing-water connector (pressure hose with woven liner) between the tap and the hose connector on the unit. This connector is located at the rear, underneath the motor. Use the clamps already mounted on the hose and tighten them firmly. The tap must have a cut-off valve so that the feeder hose does not remain under constant pressure when the unit is not being used.



**Retighten the hose clamps about 2 days after installation.**  
**Be sure to turn off the tap overnight and at the weekend.**

### 7.4 Drain Hose

The drain hose must be laid out such that water can never back up in the trimmer. This would cause the water to spray out through the grinding disc opening. Always arrange the hose in a smooth bend (not kinked) and with a permanent drop of at least 1 cm per metre.



**The end of the drain hose must be above the water level of a plaster catcher.**  
**The hose end must not be immersed in the water.**  
**If necessary, shorten the hose.**

In its standard configuration, the drain-hose connection is angled off to the right.

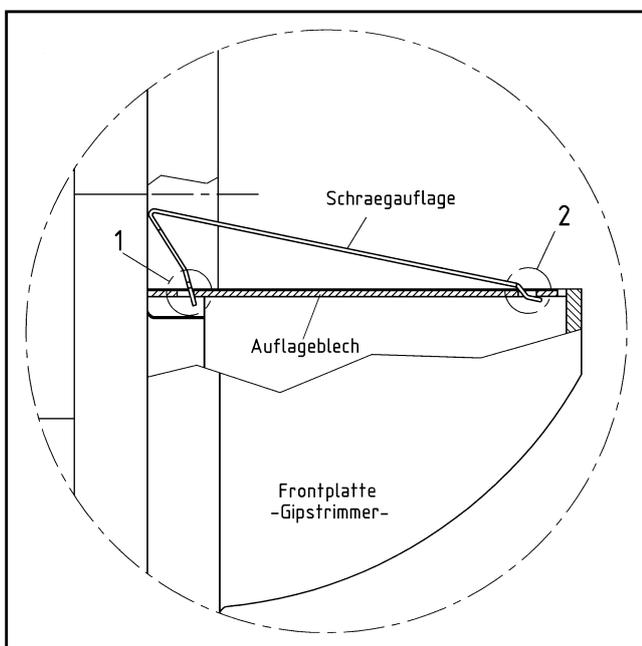
**Finally**, insert the power plug into the socket, making sure that the mains and the unit operate on the same voltage.

## 8 Mounting

### 8.1 Installing the Angled Mount

If required, the angled mount is just clamped in position on the **HSS-ZA**. Please observe the following instructions.

 **Ensure that the mount is placed correctly in position. It should be installed in accordance with the following diagram.**



**When installing the angled mount, ensure that positions 1 and 2 are correctly located on the base.**

Schraegaufgabe – angled mount

Auflageblech – base

Frontplatte – front plate

Gipstrimmer – plaster trimmer

## 8.2 Installing the Brush Spindle

If the **HSS-ZA** is to be used as a polisher, you will need to install the brush spindle. First remove the nut and then use a cloth to degrease (remove corrosion protection) the shaft (taper), before screwing the nut on again.

Next clean the large bore of the brush spindle (inner taper) with compressed air so it is free of dirt and grime. Now install the brush spindle.

Tap the brush spindle lightly with a rubber or plastic hammer to seat it firmly on the tip.



Tap the spindle lightly or you could damage the ball bearings. This could void the warranty.

The brush spindle must run true when the motor is on. If it does not, sit the spindle at an angle on the taper. Repeat the installation procedure after first cleaning the bore and motor shaft again.

## 9 Supports

Aside from the item described in “8.1 Installing the angled mount” and “8.2 Installing the brush spindle” the **HSS-ZA** plaster trimmer does not required any other support mechanisms.

## 10 Operation

### 10.1 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.



After switching on the unit, wait a few seconds for the motor to come up to speed.

The full power of the motor can then be used. Never work the units to the point that the motor labours to keep turning. This could result in overloading and motor damage.

### 10.2 Water Regulation

The water supply is regulated at the tap. The amount of water is sufficient when the disc remains more or less its original colour during grinding.

Grinding requires only light pressure and slight left and right movement of the cast.



It goes without saying that only completely set plaster casts should be ground. Soft plaster could lead to blockages, especially in the hoses.

### 10.3 Brush Spindle

Use only original brush spindles as spare parts as the spindle diameter must match the bore of the protective sleeve (removal nut), while leaving room for cleaning.



You turn the removal nut to the left when undoing and pushing off the brush spindle.

The brush spindle has a cross hole to make mounting and demounting brushes or polishing discs easier. You insert a pin or suitable tool to hold the spindle and then simply screw the brush or polishing disc in or out.

## 11 Troubleshooting

<b>Fault</b>	<b>Cause</b>	<b>Solution</b>
Water spray at disc opening	Water supply set too high	Reduce water pressure at tap or ball valve (see “10.2 Water regulation”)
	Drain hose has been lengthened with a thinner hose	Make sure that the diameter of the drain hose is 1 inch (25.4 mm)
	Drain hose is kinked	Make sure the hose is laid out without kinks
	Hose end is under the surface of the water in the plaster catcher	Make sure that the hose end is above the surface of the water
	The fall of the hose is insufficient	Ensure that the fall is at least 1 cm per metre
	The radius of the hose is too small	Ensure that the hose is laid out as straight as possible
	There is a tube bend in the hose (causing blow-back)	The bend must be increased to at least $D = 40$ mm
Water supply is affected	Pollution in front of the sieve in the inflow support (below the device at the solenoid valve)	Disassemble supply hose, remove dirt with the help of torch light, tweezers and vacuum cleaner
No water supply, no clicking noise (from the solenoid valve) when switching on the unit	Solenoid valve defective	Please contact a service department for changing the solenoid valve (Item no. 162071)



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

## 12 Care and Maintenance

### 12.1 Cleaning



Before cleaning or servicing the unit, ensure that it is disconnected from the mains power and cannot be switched on again accidentally.

Keep the unit well away from water supply.

Open the unit only after the disc has come to a complete stop.

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



Remove external dirt (plaster leach) from time to time with a damp cloth.

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.

It requires only normal cleaning (sponge, damp cloth, mild detergent) and no further chemical additives.



When mounting the brush spindle and the motor shaft (taper), always make sure that the brush spindle taper itself is clean and free of grease.

## 12.2 Maintenance

- The **HSS-ZA** plaster model trimmer does not require any maintenance. However, if you open the disc chamber for cleaning or to change the disc, be sure to clean the sealing surfaces and coat them with a new application of water-insoluble grease.
- For safety reasons, you should regularly check that the clamps on the water hose are tight.
- Ensure that the bore of the removal nut for the brush spindle stays clean. Check the bore for dirt from time to time and clean if necessary. The brush spindle should be removed and the bore of the nut cleaned, especially after polishing with pumice.

## 12.3 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.

## 12.4 Spare Parts

If necessary please contact our service hotline phone.

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

## 12.6 Spare Grinding Discs



Spare grinding discs are always supplied with a tube of grease for sealing the disc chamber.

When using a spare grinding disc, follow the instructions provided for changing discs.



Installing a spare grinding disc on an existing disc mounted in the unit, regardless of its origin or model type, is strictly prohibited by Wassermann.

#### Warning!

The use of diamond grinding discs to grind embedded material and metals will result in excessive wear on the blade. We assume no responsibility if this occurs.

Responsibility for the product becomes void if alterations are made to it by third parties or if non-approved parts are installed. Only original WASSERMANN parts should be used. If any damage results from the installation of a non-approved disc, responsibility lies with the person installing that spare disc.

## 12.7 Foil Grinding Discs

These discs can be turned around and remounted after one side has been used up, thus allowing you to continue working. This increases disc life considerably.

- Loosen the star handles to take off the front cover.
- Loosen the central screw on the axle counter-clockwise and hold the grinding disc.
- If necessary loosen the thrust piece by sticking a screwdriver between the thrust piece and the grinding disc and take it off together with the PVC washer.
- Turn around the foil grinding disc.
- Put on the thrust piece and the PVC washer and screw on the central screw.
- Clean the contact surfaces of the housing parts and seal them with the grease supplied by applying a line of grease on one part of the housing. Do not spread it.
- Put back the front plate and fasten the star handles tightly.
- Remove any spare grease.

## 12.8 Scope of Delivery/ Accessories

<b>HSS-ZA including Dia-Quick grinding disc</b>	<b>Item no.: 161996</b>
<b>HSS-ZA including foil grinding disc</b>	<b>Item no.: 161997</b>

<b>Included in delivery</b>	<b>Item no.:</b>
Inclined support	168037
Supply hose 1m	320006
Discharge hose 1m	320017
Brush spindle left	152025

<b>Accessories</b>	<b>Item no.:</b>
Polishing trough with extractor nozzle	143130
Polishing trough without extractor nozzle	143140
Polishing trough base complete	161115
Brush spindle left	152025
Brush spindle left (long version)	152044
Spare Dia-Quick grinding disc (partly diamonded), incl. grease	162063
Spare foil grinding disc, fine, 1Set = 4 pieces, incl. grease	162013
Spare foil grinding disc, fine, 1Set = 4 pieces, incl. grease	162023
Sealing grease for trimmer , 25 ml	629002
Puller for grinding disc change	164026

## 12.9 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.

## 13 Technical Data

<b>HSS-ZA including foil grinding disc</b>	<b>Item no.: 161997</b>
Voltage*	220–240 V / 50/60 Hz
Power consumption	3.5 A
Output	750 W
W x H x D	300 x 315 x 480 mm
Weight	19.6 kg
Sound level	≤ 70 dB(A)
Speed	1500 / 3000 min <sup>-1</sup>
Duty	S6 - 40 %
Table dimensions projecting	120 mm
Spindle height	170 mm
Depth with spindle	525 mm

\*Other voltages on request.

The noise emission measured in a 1-metre circle around the unit and 1.6 metres high at an average 50% idling, 30% average load and 20% full load was 69 dB(A). This was determined in accordance with DIN 45635 Part 1.



Technical changes reserved.

## 14 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.

### 14.1 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 authorities.

**15 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: Trimmer for dental applications  
Dental-Maschinen GmbH  
Rudorffweg 15-17  
21031 Hamburg  
Germany

Model: HSS-AZ incl. Dia-Quick grinding disc Item no.161996  
HSS-AZ incl. foil grinding disc Item no.161997

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 :

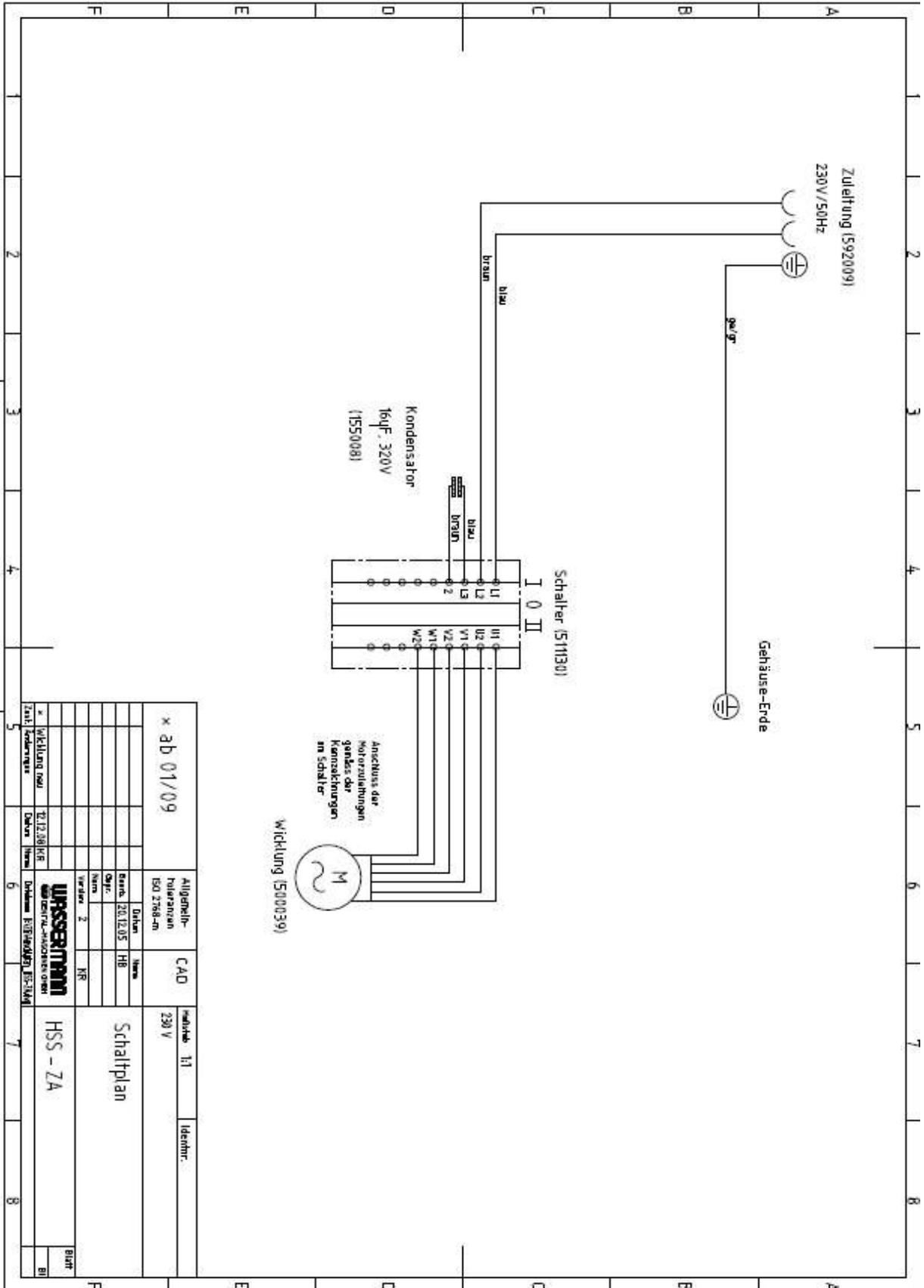


Signature: \_\_\_\_\_  
Sven Wassermann  
(Managing Director)



**WASSERMANN**  
DENTAL-MASCHINEN GMBH  
Rudorffweg 15-17 · 21031 Hamburg

**16 Wiring Diagram**







lfd.Nr.	Menge	Zeichn. Nr.	Beschreibung	Material
1	1	152025	Brush spindle, left	
2	1	153007	Screw nut, left side	
3	1	155008	Capacitor, cpl.	
4	1	160014	Drain nozzle for HSS	
5	1	160022	Water feed nozzle, cpl.	
6	1	161105	Storage area	
7	1	161107	Setting plate I – 0 – II	
8	1	161108	Switch cap, arranged	
9	1	161112	Motor	
10	1	162001	Front plate	
11	1	162004	MS-jack	
12	1	162005	Pressure plate	
13	1	162007	Stud	
14	1	162010	Grinding foil support	
15	1	162016	Bearing assembled with stand	
16	4	162033	Handle HSS-AZ	
17	1	164023	Storage angle	
18	1	168037	Inclined support	
19	1	168058	Spraying tube	
20	1	168106	Cloth plate	
21	1	168108	Cable bushing	
22	4	200073	Screw DIN 84 M4 x 60	VA
23	8	201009	Screw DIN 963 M4 x 8	VA
24	4	201019	Screw DIN 963 M8 x 25	VA
25	2	201051	Screw DIN 964 M5x 40	Ms Ni
26	1	201103	Screw DIN 933 M8 x 25	VA
27	2	202002	Screw nut DIN 934 M5	VA
28	1	202101	Cap nut DIN 917 M8	VA
29	3	202111	Cap nut DIN 1587 M4	VA
30	5	204001	Washer D8,4	PVC
31	3	204004	Washer DIN 125 A4,3	VA
32	2	204014	Washer DIN 125 D8,4	VA
33	2	204019	Washer DIN 9021 D5,3	VA
34	1	204037	Serrated lock washer DIN 6798 J4,3	VA
35	1	205205	Aluminium gasket DIN 7603 A - D16	
36	1	304006	PVC washer D55 x D21 x 1,0	
37	1	304210	Gasket Pg 11	
38	1	304211	Gasket Pg 13,5	
39	1	310003	Rotating direction arrow left -black-	
40	1	310004	Sticker „Wear safety goggles“	
41	1	310009	Sticker „Disconnect power plug“	
42	1	310035	Type plate foil 52 x 52 neutral	
43	1	310044	Script name plate – WASSERMANN – HSS-ZA	
44	1	320006	Water feed hose ½ inch	-1 Meter-
45	1	320017	Drain hose 1 inch	-1 Meter-
46	2	392005	Pad D52 - H19	
47	2	392008	Pad 32 x 32 H6 SW	
48	1	511130	Switch for WP-Ex Motor I – 0 – II	
49	1	511132	Gasket washer for motor switch	
50	1	511133	Toggle control for motor switch	
51	1	580004	Grounding clamp DF	
52	1	580005	Tension relief HV 2101	
53	1	581039	Cable end sleeve 1,50qmm	
54	2	581052	Cable end sleeve 1,5qmm black iso.	
55	1	584001	Cable connexion POZB 11	
56	1	584004	Jackscrew TZP 11	
57	1	584005	Clamp cage without gasket KK11	
58	1	584007	Beneficatio type Red 13/11	
59	1	584018	Rubber gasket for clamp cage KK11	
60	1	592009	Plastics connector 3x 1,5qmm	
61	1	633001	Pottant E8704 white	108g
62	1	633002	Accelerator W	32g
63	1	671009	Poly pouch 100 x 200 x 0,05	
64	1	673082	Packing HSS-ZA	



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