

- Model trimmer  
**HSS-88**  
with solenoid valve



•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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## Contents

1 Features.....	4
2 Safety guidelines.....	4
2.1 Safety symbols used in this manual.....	4
2.2 Safety guidelines.....	5
2.3 Dangerous situations.....	5
2.4 Responsibility for operation or damage.....	6
3 Application.....	6
4 Before starting.....	7
4.1 Transport.....	7
4.2 Installation.....	7
4.3 Storage.....	8
5 Installation / Start-up .....	8
5.1 Location.....	8
5.2 Flushing-water connector.....	8
5.3 Drain hose.....	9
6 Assembly.....	10
6.1 Installing the angled mount.....	10
7 Supports.....	10
8 Operation.....	11
8.1 General operating instructions.....	11
8.2 Water regulation.....	11
9 Troubleshooting.....	12
10 Care and maintenance.....	13
10.1 Cleaning.....	13
10.2 Maintenance.....	13
10.3 Repairs.....	14
10.4 Spare parts.....	14
10.5 Spare grinding discs.....	14
10.6 Scope of delivery / Accessories.....	15
10.7 Grinding wheel overhaul.....	15
10.8 Warranty .....	16
11 Technical data.....	16
12 EC Conformity Certificate.....	17
13 Wiring diagram.....	18
14 Spare part diagram.....	19

## 1 Features

- versatile, powerful wet trimmer
- can be used with all Wassermann discs and orthodontic attachments
- multiple expansion options
- the grinding attachment KMS can be delivered also on swiss- and EOS-version
- high speed - 3000 min<sup>-1</sup>
- very powerful, maintenance-free motor, splash protected according to IP 54
- sturdy, oxidation-free bench with longitudinal slots and side openings – no water spills
- supplied with solenoid valve for automatic water supply
- powerful disc and internal rinsing
- easy to open using rear handle
- large work section 14.5 x 10.5 cm

## 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.
- 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 wheel.
- 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-88.
- Turn off the tap overnight and at weekends.



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

## 2.3 Dangerous situations



**Danger of injury from rotating parts and wheel.**

## 2.4 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 wheel, responsibility lies with the person installing that replacement wheel.**

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

## 3 Application

The HSS-88 plaster-cast grinder is used in dental laboratories exclusively for grinding (trimming) plaster models.


To avoid damaging the unit and/or its grinding wheel, it should be used only with plaster. Using it with other materials could fracture the wheel.

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). When setting up the unit, ensure that the grinding wheel is readily accessible and that the unit is located near a sink.

To install the **flushing 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.

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

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

### 4.3 Storage

If the unit is to be stored, even for a short time, its location can have a significant effect on its operation. The location should be dry, well-ventilated and free of vibrations. It is important for the unit to be seated on a wooden base and to be kept at a constant temperature. The unit must not be stored or set up in the open air. If the unit is to be stored for an extended period, protect it from moisture and dust.

## 5 Installation / Start-up

### 5.1 Location

As the unit can only be operated using water, it is recommended that it be set up close to a tap, and preferably with access to a sink. Alternatively, it could be mounted on a wall console above the sink.



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

### 5.2 Flushing-water connector

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.**



### 5.3 Drain hose

The drain hose must be installed in such a way that blockages cannot occur (splash water). Arrange it in a continuous arc (no kinks) and with a permanent fall of at least 1 cm per metre.



**The end of the drain hose must be above the level of the plaster-cast mounting position.**

**The end of the hose must not be under water.**

As supplied, the mount for the drain hose is *angled to the right*. However, it can be altered to be front on. This position is recommended under awkward draining conditions.


If that is the case, simply swap the lock cap and drain mounts.

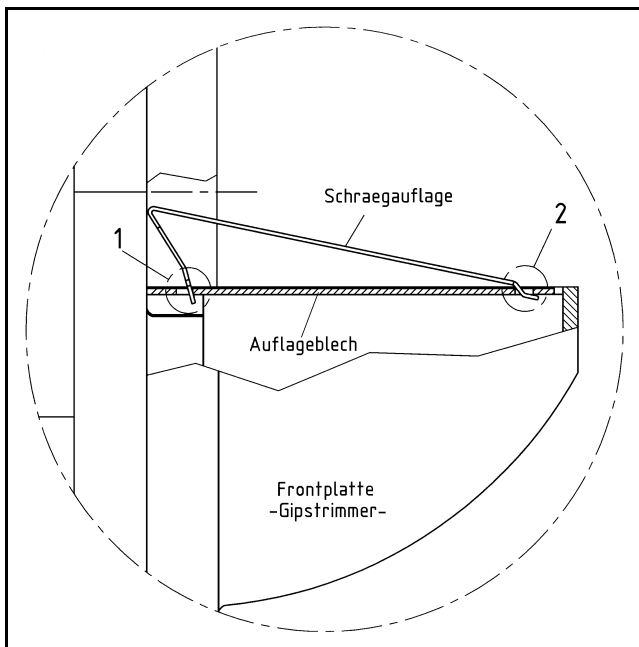
**Finally**, insert the power plug into the socket, making sure that the mains and the unit operate on the same voltage.

## 6 Assembly

### 6.1 Installing the angled mount

If required, the angled mount is just clamped in position on the HSS-88. 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.**

Schraegauflage – angled mount

Auflageblech – base

Frontplatte – front plate

Gipstrimmer – plaster trimmer


## 7 Supports

Aside from the item described in 6.1, Installing the angled mount, the HSS-88 plaster trimmer does not require any other support mechanisms.

## 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.

-  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.

### 8.2 Water regulation

The water supply is regulated at the tap. The amount of water is sufficient when the wheel 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.

## 9 Troubleshooting

<b>Fault</b>	<b>Cause</b>	<b>Remedy</b>
Water spurting from work area	Water pressure too high	Adjust water pressure at tap (see 8.2 Water regulation)
	Drain hose extended with a smaller diameter hose	Ensure that the drain hose diameter is 1 inch (25.4 mm)
	Drain hose kinked	Ensure that the drain hose does not have any kinks in it
	End of drain hose located below level of plaster cast mount	Ensure that the hose end is located above mount level
	Angle of drain hose too shallow	Ensure that there is a fall of at least 1 cm per metre
	Radius (bend) of drain hose too small	Ensure that the drain hose radius is as even as possible
	Pipe bend (causing water back-up) where it meets drain hose	The bend must be enlarged to at least 40 mm diameter



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

## 10 Care and maintenance

### 10.1 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 wheel 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.

### 10.2 Maintenance

The HSS-88 plaster-cast grinder is a low-maintenance unit. However, when opening the wheel chamber for cleaning or to change the wheel, be sure to clean the sealing surfaces and re-coat them with water-insoluble grease.

As a safety measure, check regularly that the hose retainers and water-supply hoses are firmly anchored.

### 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:  
0049 (0)40 / 730 92 6-0

### 10.5 Spare grinding discs

Replacement wheels are always supplied with an extractor for the old wheel and a tube of grease for sealing the wheel chamber.



**Installing a replacement wheel on an existing wheel mounted in the unit, regardless of its origin or model type, is strictly prohibited by Wassermann.**



#### **Warning!**

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



**When using replacement wheels, be sure to follow the instructions supplied when changing wheels.**

## 10.6 Scope of delivery / Accessories

<b>HSS-88 incl. grinding disc</b>	<b>Item no.:</b>
incl. diamond grinding disc	168998
incl. Dia-Quick grinding disc (partly diamonded)	168996
incl. corundum grinding disc	168999
incl. foil grinding disc	168991

<b>Incl. in delivery</b>	<b>Item no.:</b>
Inclined support	168037
Supply hose 1 m	320006
Discharge hose 1 m	320017

<b>Accessories</b>	<b>Item no.:</b>
Conversion kit for HSS-88, Dia-Quick and foil grinding disc	168071
Grinding device KMS according to B. E. G. G.	168080
Directional light GTE	168081
Template for upper jaw to trim the lower jaw tube level	168082
Wall console	168056
Sealing grease for trimmer, 25 ml	629002
Truing apparatus to roughen corundum grinding disc	710001
Spare diamond grinding disc incl. puller and grease	168063
Spare Dia-Quick grinding disc (partly diamonded), incl. grease	162063
Spare corundum grinding disc, incl. puller and grease	168024
Spare foil grinding disc, fine, 1Set = 4 pieces, incl. grease	162013
Spare foil grinding disc, fine, 1Set = 4 pieces, incl. grease	162023
Puller for grinding disc change	164026


## 10.7 Grinding wheel overhaul

If, after some time, the surface of the corundum grinding wheel becomes smooth or has developed grooves, the wheel may need to be ground back or roughened using a surface grinder. If necessary, used corundum wheels can be returned to the factory for refurbishing.



**If a surface grinder is used, be sure to follow its user's manual and safety instructions.**

## 10.8 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

<b>HSS-88 without grinding disc</b>	<b>Item no.: 168997</b>
Voltage*	220–240 V / 50/60 Hz
Power consumption	4.6 A
Output	1000 W
W x H x D	330 x 335 x 410 mm
Weight	19.8 kg
Sound level	≤ 70 dB (A)
Speed	3000 min <sup>-1</sup>
Duty	S6 - 40 %
Table dimensions projecting	120 mm

\*Other voltages on request.

Noise transmission measured within a circumference of 1 metre around and 1.6 metres above the unit was 69 db (A), averaged over 50% idling, 30% mid-load and 20% full load. This level was determined in accordance with DIN 45635 Part 1.

 The technical data are subject to change without prior notice.



## 12 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 Dental-Maschinen GmbH Rudorffweg 15 - 17 D-21031 Hamburg	Product description:	Model trimmer for dental applications
Model:	HSS-88 incl. diamond grinding disc HSS-88 incl. Dia-Quick grinding disc HSS-88 incl. corundum grinding disc HSS-88 incl. foil grinding disc HSS-88 without grinding disc		Item no.168998 Item no.168996 Item no.168999 Item no.168991 Item no.168997
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 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 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, 07.01.13

Company stamp:

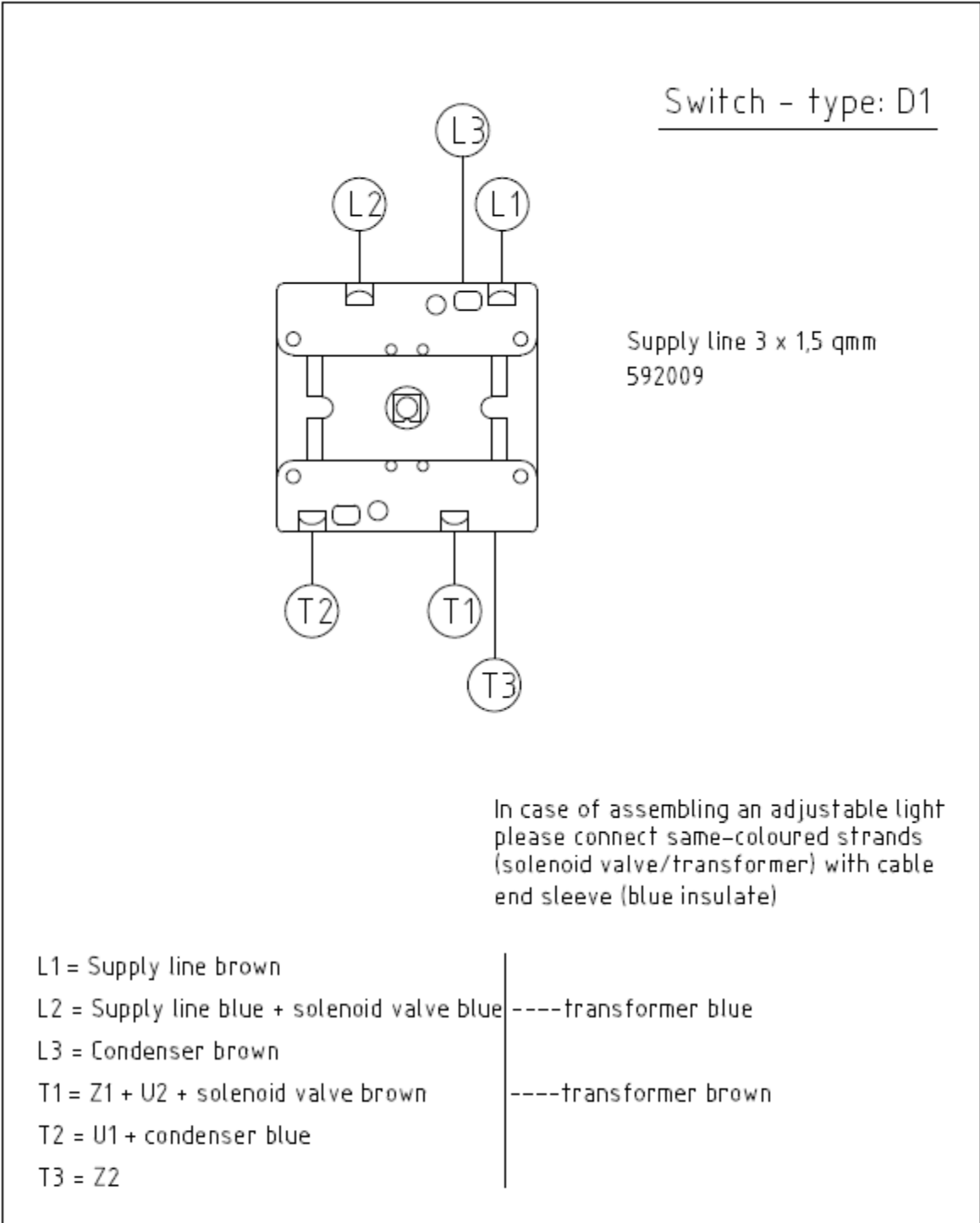


**WASSERMANN**  
DENTAL-MASCHINEN GMBH  
Rudorffweg 15 - 17 • 21031 Hamburg

Signature : \_\_\_\_\_

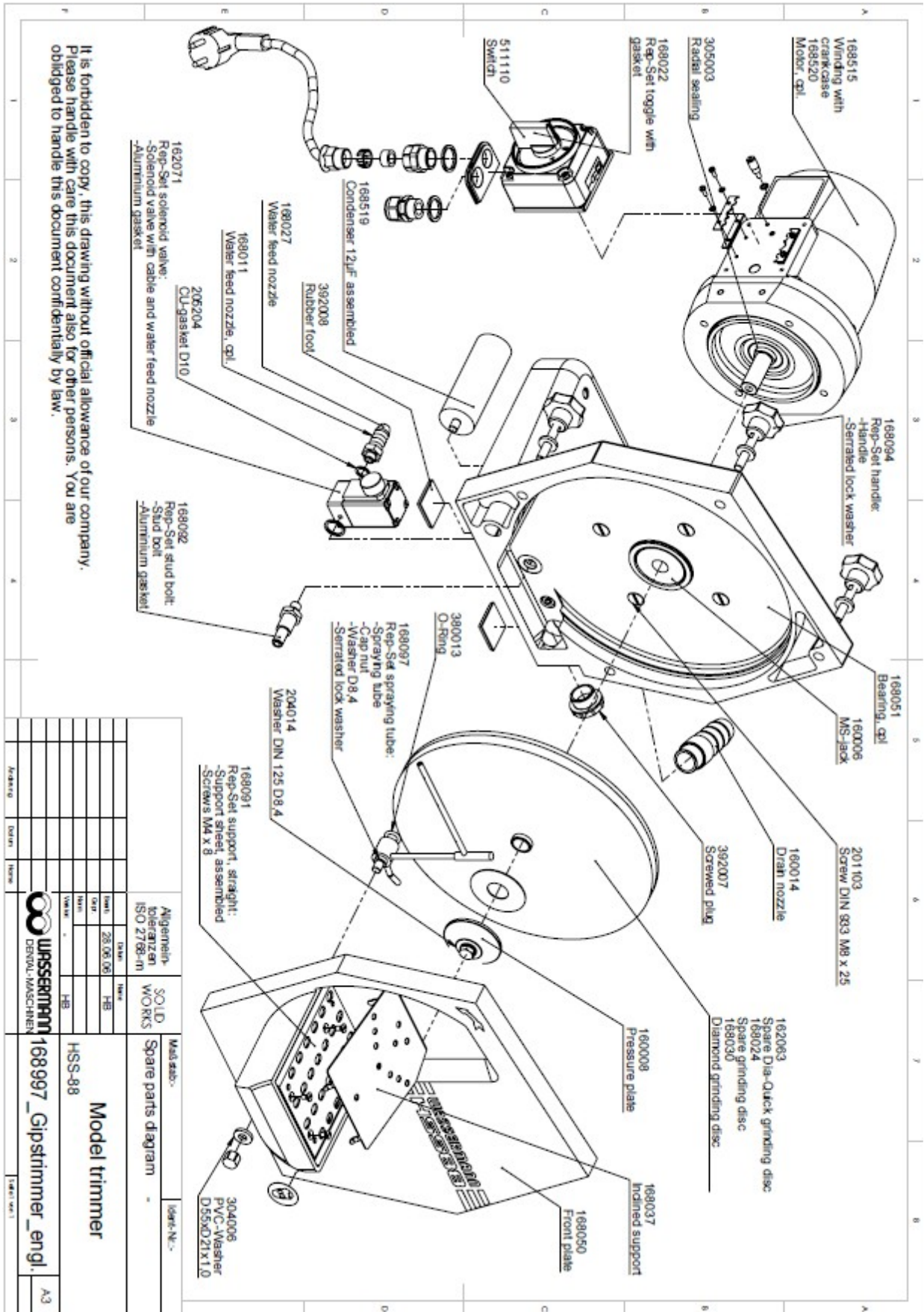
Wilfried Wassermann  
(Managing Director)

**13 Wiring diagram**





				Allgemein- toleranzen DIN 7168-m	CAD	Maßstab	ID.NR.	
				94	Datum	Name		
				Bearb	01.07.	KRO		
				Gepr.				
				Norm				
				Version	2	TH		
	Zg. aktualisiert	22.01.99	KR	<b>WASSERMANN</b> DENTAL-MASCHINEN GMBH				
*	Aend. storniert	13.01.97	HB					
	Anschluss geaen.	18.12.96	HB					
Zust.	Aenderung	Datum	Name	zg\HSS88-2__engl				Blatt
								Bl.

## 14 Spare part diagram



It is forbidden to copy, this drawing without official allowance of our company. Please handle with care this document also for other persons. You are obliged to handle this document confidentially by law.

Allgemein- toleranzen ISO 2768-m		Maßstab: 1:1		Sonder-Nr.:	
HB	HB	Spare parts diagram		Model trimmer	
HB	HB	HSS-88		168997_Gipstrimmer_engl.	
 WASSERMANN DENTAL-MASCHINEN		 WASSERMANN DENTAL-MASCHINEN		 WASSERMANN DENTAL-MASCHINEN	
28.06.06 HB		28.06.06 HB		28.06.06 HB	
A3		A3		A3	

Notes:







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