

● **Model trimmer**  
**HSS-AZ**

standard 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 Sources of danger.....	6
2.4 Responsibility for operation or damage.....	6
3 Application.....	7
4 Before starting.....	7
4.1 Transport.....	7
4.2 Installation.....	7
4.3 Storage.....	8
5 Start-up / Installation .....	8
5.1 Place of installation.....	8
5.2 Rinsing water hose.....	9
5.3 Drain hose.....	9
6 Assambly.....	10
6.1 Installing the angled mount.....	10
7 Setting-up.....	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.....	13
10.4 Spare parts.....	14
10.5 Spare grinding discs.....	14
10.6 Foil grinding discs.....	15
10.7 Scope of delivery / Accessories.....	16
10.8 Warranty .....	16
11 Technische Daten.....	17
12 EC Conformity Certificate.....	18
13 Spare part diagram.....	19
14 Wiring diagram.....	22

## 1 Features

- powerful wet trimmer
- highest cutting and polishing speed (HSS-AZ: 3.000 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
- standard with solenoid valve for automatic water supply
- powerful disc and internal rinsing
- easy to open using rear handle
- splash-protected as per IP 54
- powerful induction motors

## 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.



### **ACHTUNG:**



- 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 eye protection when working on grinding wheels.
- Electric motors have dangerous electrically conducting and rotating parts when in use. They can cause damage to health and property if operated incorrectly, used for other than their intended purpose or inadequately serviced.
- Only qualified specialists should carry out work on the motor.
- Condensers has to be allowed to discharge completely before you open the unit.
- When working on the unit, wear close-fitting garments and roll sleeves inwards only. Do not wear gloves.
- If you have long hair, wear some form of protection such as a hair net.
- When working with the HSS-AZ, do not wear rings, chains, bracelets or similar jewellery.
- Be sure to shut off the tap at night and over the weekend.



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

## 2.3 Sources of danger



**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-AZ plaster trimmer is used in dental laboratories and is designed exclusively for grinding (trimming) 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.

### 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 you set up the unit, make sure that the grinding wheel is accessible and that the unit is close to the plaster cutter or a sink.

- You will need the high-pressure hose with the woven insert and a diameter of 1/2 inch (13 mm) when installing the **rinsing water hose**. You use the plastic hose with a diameter of 1 inch (25 mm) for the **drain hose**.



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 has not to be stored or set up outdoors. If the unit is to be stored for an extended period, protect it from moisture and dust.

## 5 Start-up / Installation

### 5.1 Place of installation

Because the trimmer operates exclusively with water, we recommend you install it close to a tap. The best place is right next to a washbasin or, using the wall mount, directly above the basin.



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

## 5.2 Rinsing water hose

Locate the rinsing water hose (thinner hose with woven insert) between the tap and the hose connector on the trimmer. This connector is at the rear, under the motor. Use the clamps already on the hose to connect it, tightening them securely.


There should be a stopcock between the tap and the feed hose so the hose is not under continuous pressure when the trimmer is **not** being used.

 **Tighten the hose clamps again about 2 days after installation.**

**The tap must be turned off at night and over the weekend.**

## 5.3 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 wheel 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.**


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

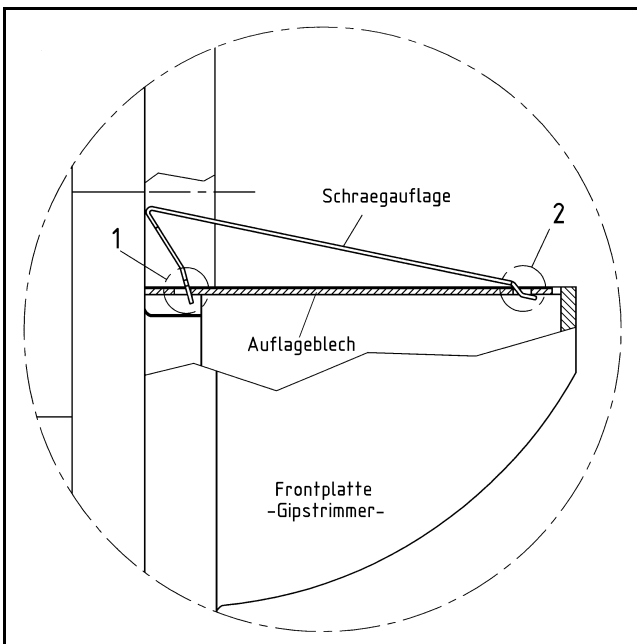
**Finally**, insert the power plug into the socket, making sure that the mains and the unit operate on the same voltage.

## 6 Assembly

### 6.1 Installing the angled mount

The angled mount is inserted as required in the HSS-AZ support plate. Please follow the guidelines below.

 **When working with the angled mount, make sure that it has been installed correctly. It should be installed as shown in the diagram below.**



**Make sure that items 1 and 2 are inserted correctly in the support plate.**

Schraegaufgabe = inclined support

Auflageblech = support sheet

Frontplatte = front plate




Gipstrimmer = model trimmer

## 7 Setting-up

The HSS-AZ plaster trimmer does not need any other support than the one described in 6.1 installing the angled mount.

## 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 you switch the trimmer on, wait a few seconds for the motor to come up to speed. Only then can you use its full power.  
Never push on the models so hard that the motor labours. This could overload it and cause possible damage.
  
-  You should, of course, always work with fully set plaster models, as wet plaster can cause blockages, especially in drain hoses.

### 8.2 Water regulation

The water supply is regulated at the tap. The flow of water is sufficient if the grinding wheel is close to its natural colour when grinding.

When grinding, use light pressure only while moving the model to the right and left.

## 9 Troubleshooting

Fault	Likely cause	Likely solution
Water spray at wheel opening	Water supply set too high	Reduce water pressure at tap or ball valve (see 8.2 Water regulation)
	Drain hose has been lengthened with a <i>thinner</i> 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 <i>kinks</i>
	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



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.

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

### 10.2 Maintenance

- The HSS-AZ plaster model trimmer does not require any maintenance. However, if you open the wheel chamber for cleaning or to change the wheel, 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.

### 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 a tube of grease for sealing the wheel chamber.

When using a replacement wheel, follow the instructions provided for changing wheels.

We strongly advise against installing a replacement wheel on top of an already installed wheel, regardless of its origin and type.

Warning!

If diamond wheels are used, you will experience extreme wheel wear when grinding embedding materials and metals. We assume no responsibility for this.

Product responsibility lapses if the equipment is altered by third parties or if non-original parts are installed. Use only original Wassermann replacement parts. If damage occurs after a “foreign wheel” has been installed, responsibility lies with the person who installed said replacement wheel.

## 10.6 Foil grinding discs

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

- Loosen the turn locks to take off the front plate.
- Loosen the central screw of the axle turning it in a left direction, whilst holding onto the grinding wheel very firmly.
- As and if required, loosen the push rod by putting a screwdriver behind between the push rod and the grinding wheel and take off together with the PVC wheel.
- Turn the foil grinding disc.
- Set on the push rod with PVC underlay wheel and screw really tightly.
- Clean the contact surfaces of the casing components and seal them with the grease (supplied with every spare-grinding disc and available as accessory) by coating with a line of grease on the casing component and without allowing any time to elapse.
- Put back the front plate and make sure the turn locks are really tight.
- Removing any superfluous grease.

## 10.7 Scope of delivery / Accessories

<b>HSS-AZ incl. Dia-Quick grinding disc (partly diamonded)</b>	<b>Item no.: 162997</b>
<b>HSS-AZ incl. foil grinding disc</b>	<b>Item no.: 162996</b>

<b>Incl. In delivery:</b>	<b>Item no.</b>
Inclined support	168037
Supply hose 1 m	320006
Discharge hose 1 m	310017

<b>Accessories:</b>	<b>Item no.</b>
Wall console	168056
Spare Dia-Quick grinding disc (partly diamonded), incl. grease	162063
Spare-foil grinding disc, 1 set = 4 pieces, incl. grease	162013
Ersatz-foil grinding disc, fine, 1 set = 4 pieces, incl. grease	162023
Sealing grease for trimmer, 25 ml	629002
Puller for grinding disc change	164026

## 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 Technische Daten

<b>HSS-AZ incl. foil grinding disc</b>	<b>Item no.: 162996</b>
Voltage*	220–240 V / 50/60 Hz
Power consumption	3.0 A, 3.5 A*
Output	750 W
W x H x D	290 x 320 x 380 mm
Weight	19.2 kg
Sound level	≤ 70 dB (A)
Speed	3000 min <sup>-1</sup>
Duty	S6 - 40 %
Table dimensions projecting	120 mm

\*Other voltages upon enquiry.

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

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.



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-AZ incl. Dia-Quick grinding disc HSS-AZ incl. foil grinding disc	Item no.162997 Item no.162996	
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, 11.01.13

Company stamp:



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

Wilfried Wassermann  
(Managing Director)

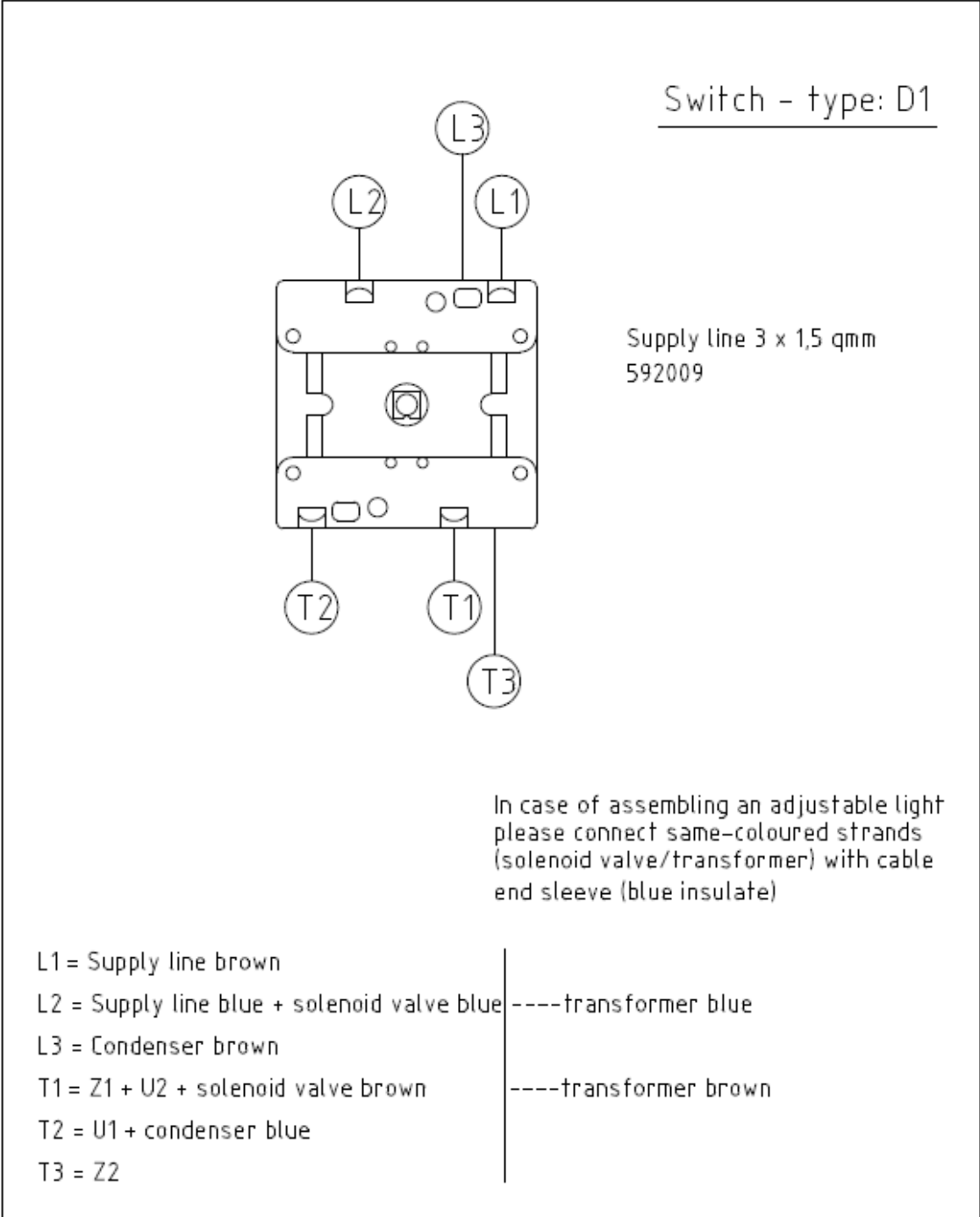





QTY	DESCR	ITEM	MATERIAL	NAME
1	Drain nozzle	1		160014
1	Front plate	2		162001
1	MS-jack	3		162004
1	Pressure plate	4		162005
1	Stud	5		162007
1	Grinding foil support	6		162010
1	Foil grinding disc HSS-AZ	7		162014
1	Bearing assembled with stand	8		162016
4	Handle	9		162033
1	Solenoid valve with cable and port	10		168036
1	Inclined support	11		168037
1	Spraying tube, complete	12		168058
1	Cloth plate	13		168106
1	Position plate	14		168107
1	Cable bushing	15		168108
2	Clamping plate	16		168109
2	Spacer plate	17		168110
1	Condenser 12µF, assembled	18		168519
1	Motor, complete 900W	19		168520
4	Screw DIN 7985 M3x8	20	VA	200005
4	Screw DIN 84 M4x45	21	VA	200070
4	Screw DIN 963 M4x8	22	VA	201009
4	Screw DIN 963 M8x25	23	VA	201019
2	Screw DIN 964 M5x40	24	MsNi	201051
1	Screw DIN 933 M8x25	25	VA	201103
2	Screw nut DIN 934 M5	26	VA	202002
1	Cap nut DIN 917 M8	27	VA	202101
5	Washer D8,4	28	PVC	204001
4	Serrated lock washer DIN 6798 A3,2	29	StCr	204009
2	Washer DIN 125 D8,4	30	VA	204014
2	Washer DIN 9021 D5,3	31	VA	204019
1	Serrated lock washer DIN 6798 J4,3	32	VA	204037
1	Aluminium-gasket DIN 7603 A-D16	33		205205
1	PVC-washer D55xD21x1.0	34		304006
1	Gasket Pg 11	35		304210
1	Gasket Pg 13,5	36		304211
1	Rotating direction arrow left, black	37		310003
1	Sticker "Wear Safety Goggles"	38		310004
1	Adhesive label "Disconnect power plug"	39		310009
1	Type plate foil 52x52 neutral	40		310035
1	Script name plate -WASSERMANN- HSS-AZ	41		310044
1	Water feed hose 1/2 inch	42	-1 metre-	320006
1	Drain hose 1 inch	43	-1 metre-	320017
2	Pad D52 - H19	44		392005
2	Pad 32x32-H6 SW	45		392008
1	Switch cap HSS-88/AZ	46		510050
1	Switch for HSS with toggle	47		511110
1	Grounding clamp	48		580004
1	Cable end sleeve 1,5qmm	49		581039
2	Cable end sleeve 1,5qmm black insulate	50		581052
1	Jackscrew IZP 11	51		584004
1	Clamp cage without gasket KK11	52		584005

QTY	DESCR	ITEM	MATERIAL	NAME
1	Beneficiaton Type RED 13/11	53		584007
1	Cable connexion Pg11 2x6	54		584009
1	Rubber gasket for clamp KK11	55		584018
1	Plastics connector 3x1,5qmm	56		592009
1	Pottant E8704 white	57	108g	633001
1	Accelerator W	58	32g	633002
1	Packing	59		673002

**14 Wiring diagram**



				Allgemein- toleranzen DIN 7168-m	CAD	Maßstab	ID.NR.
				94	Datum	Terminal connection diagramm for switch with solenoid valve HSS 88 / AZ	
				Beerb.	01.07.	Name	
				Gep.		KRO	
				Norm			
				Version	2	TH	
*	Zg. aktualisiert	22.01.99	KR	 DENTAL-MASCHINEN GMBH		zg\HSS88-2__engl	
	Aend. storniert	13.01.97	HB			Blatt	
	Anschluss geaen.	18.12.96	HB			Bl.	
Zust.	Aenderung	Datum	Name				

Notes:



**WASSERMANN**  
DENTAL-MASCHINEN

● Die Basis für Ihr Labor

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