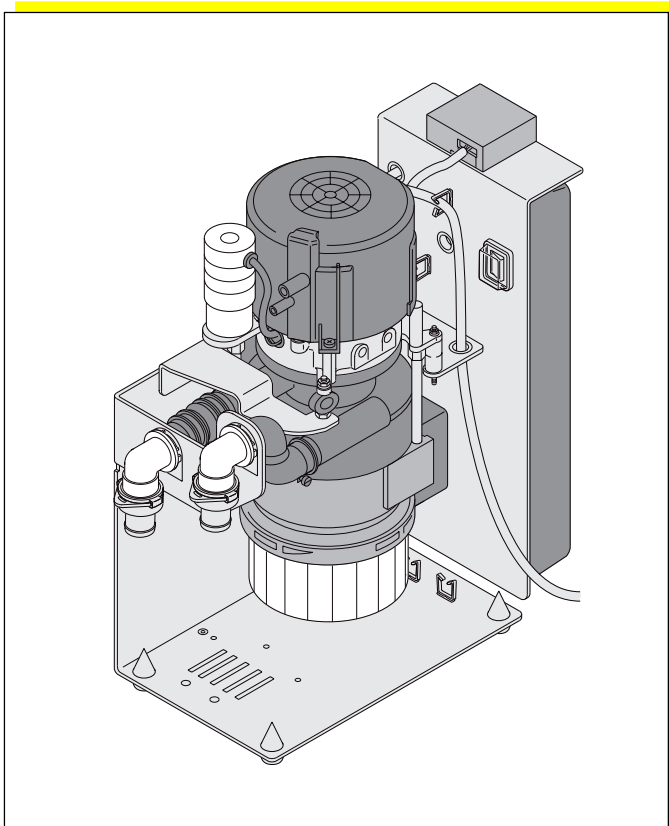


INSTALLATION AND OPERATING INSTRUCTIONS DÜRR AMALGAM SEPARATOR AZ 50



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AZ 50	48-49
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IMPORTANT INFORMATION

1. NOTE

1.1 CE-marking

- CE-marking in accordance with the Machinery Directives.
- The product bears the CE-marking in accordance with the directive governing Machinery Directives 89/392/EEG and conforms to the basic requirements of that Directive.

1.2 General Information

- The Installation and Operating Instructions form an integral part of the machine. They must be kept close to the machine and in readiness whenever required. Precise observance of these instructions is a prior condition for use of the machine for the intended purpose and for its correct operation.
- Safety for the operator as well as trouble-free operation of the machine are only ensured if use is made of original equipment parts. Moreover, use may only be made of those accessories that are specified in the technical documentation or that have been expressly approved and released by Dürr Dental for the intended purpose. If and where use is made of accessories or consumer supplies from outside sources, Dürr Dental are unable to assume any guarantee for safe operation or safe functioning.
- No warranty claims are accepted in respect of damage arising from the use of accessories or consumer supplies from outside sources.
- Dürr Dental only regard themselves as being responsible for the machines regarding safety, reliability and proper functioning if assembly, resettings, changes or modifications, extensions and repairs have been carried out by Dürr Dental or an agency authorised by Dürr Dental and if the machine is used in conformity with the Installation and Operating Instructions.
- The Installation and Operating Instructions conform to the relevant version of the machine and the underlying safety standards valid at the time of going to press. All proprietary rights are reserved in respect

of the specified circuitry, methods, names, software programs and equipment.

- Any reprinting of the technical documentation, in whole or in part, is subject to written prior approval of Dürr Dental.

1.3 Electromagnetic Compatibility

EN 60601-1-2 and IEC 1000-4-3 EN Standards governing Electromagnetic Compatibility - Medico-electrical Equipment are fully complied with.

1.4 General Safety Information

- Dispose of the packaging material in the proper manner, and make sure that it is kept out of the reach of children.
- The product is classified as medico-technical equipment and may only be used by such persons as can guarantee that they will handle it properly on account of their training and/or technical knowledge.
- Each time prior to using the machine the user must check to ensure that it is functionally safe and in proper condition.
- The user must be familiar with how to operate the machine.
- The product is not intended for use in areas of rooms employed for medical purposes that are exposed to risk of explosion. Explosion hazards may result from the use of inflammable anaesthetics, skin cleansing agents, oxygen and skin disinfectants. Moreover the machine is only suitable to a limited extent for operation in a combustion-stimulating atmosphere.

1.5 Electric Safety Instructions

- The AZ 50 must be connected up to a properly installed earthing-contact type socket. For fixed connections please observe points 9 and 10 of these instructions.
- Prior to connecting up the machine a check must be carried out to see whether the mains voltage and mains frequency specified on the machine conform to the data applicable to the supply mains.
- No extension cables or leads must be used for power supply purposes.

- Prior to being put into operation, the machine and the lines need to be inspected for damage. Damaged lines, socket outlets and plugs must be replaced immediately.
- Never touch the patient and non-protected socket outlets or plugs of the machine at the same time!

1.6 Warning Information and Symbols

In the Installation and Operating Instructions use is made of the following terms or symbols to denote data or information of special importance:



Angaben bzw. Ge- und Verbote zur Information and/or mandatory regulations or prohibitions for the prevention of personal injury or substantial property damage.



Warning of dangerous electrical voltage.



Special information regarding the economical use of the machine and other information



Floating Application Part Type BF



CE Marking without Notified Body Number



Observe Instructions for Use



To protect operating personnel working on the AZ 50, protective gloves must be worn.

2. PRODUCT INFORMATION

2.1 Use for the Intended Purpose

The function of the Dürre Amalgam Separator is to separate and intercept heavy metals and amalgam dust drawn off by dental suction equipment in the form of fillings that have been drilled open.

The amalgam separator is intended for installation of a maximum number of two treatment units in dental surgeries or dental clinics. Any other use or use beyond what is specified is deemed to be not for the intended purpose. The manufacturer accepts no liability

for damage resulting therefrom. All risk is borne solely by the user.

Use for the intended purpose includes observance of the Installation and Operating Instructions as well as the installation, operating and maintenance conditions.



The machine must not be used in operating rooms.

2.2 Use other than that for the Intended Purpose

Any other use or use beyond what is specified is deemed to be not for the intended purpose. The manufacturer accepts no liability for damage resulting therefrom. All risk is borne solely by the user.

2.3 Product Description

Among other substances, heavy metals and amalgam dust accumulate, drawn off by dental suction equipment in the form of fillings that have been drilled out. Biodegradation of amalgam that has found its way into the waste-water system is a difficult undertaking. To reduce contamination in waste water caused by heavy metal stemming from dental treatment equipment, it is essential - in compliance with the General Sewage Administration Regulations (Annex 50, Dental Treatment) in force in Germany - to install amalgam separators ahead of the dental waste-water drain furnished with a seal of approval issued by the German Institute of Structural Engineering in Berlin.

The AZ 50 Amalgam Separator has been designed by Dürre Dental to produce the required separation efficiency factor of over 95% proceeding based on a rate of flow of 8 ltr./min. Amalgam slurry is intercepted in an amalgam collecting vessel underneath the centrifuge drum. Depending on the volume accumulating, the amalgam collecting vessel needs replacing once or twice a year.

The AZ 50 **without** Pump (Model 7112-01) is used in conjunction with a Dürre Suction Unit VS 300.

The AZ 50 **with** Pump (Model 7112-02) is employed in connection with water ring pumps.

3. OVERVIEW OF MODELS

Amalgam Separator AZ 50 <u>without</u> Pump	7112-01
Amalgam Separator AZ 50 <u>with</u> Pump	7112-02

4. SCOPE OF DELIVERY

Amalgam Separator AZ 50 <u>without</u> Pump	7112-01
Amalgam Separator	7112-100-50
Pressure Equalising Pipe	7112-101-00
Accessories, complete	7112-001-00
Installation and Operating Instructions AZ 50	9000-605-95/01
Instructions for Use - Disinfection and Cleaning of Suction Systems	9000-605-10

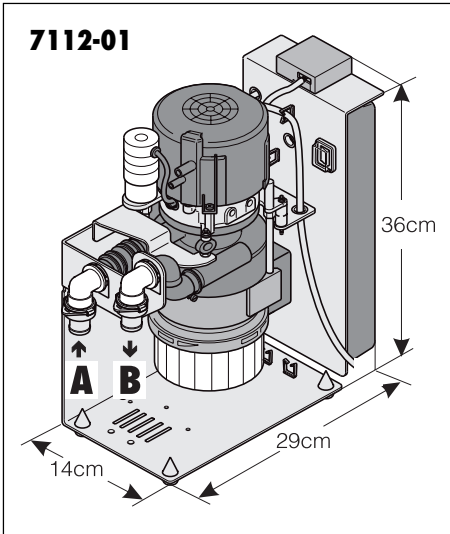
Amalgam Separator AZ 50 <u>with</u> Pump	7112-02
Amalgam Separator	7112-100-51
Accessories, complete	7112-001-00
Installation and Operating Instructions AZ 50	9000-605-95/01
Instructions for Use - Disinfection and Cleaning of Suction Systems	9000-605-10

4.1 Special Accessories

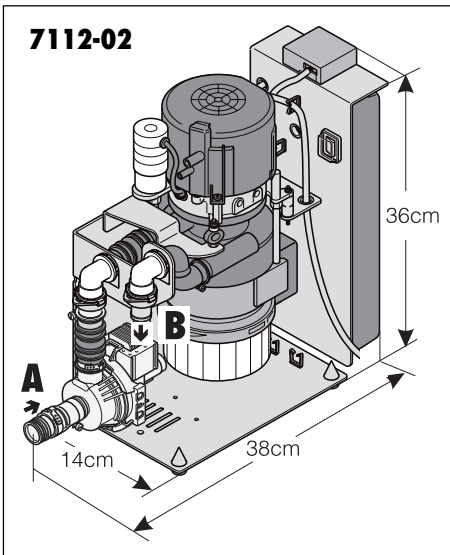
The parts listed below are **not** included in the scope of delivery.
Please order as required.

Base for PAL 14	7112-992-00
Base for PAL 50	7112-993-00
Hood	7112-200-00
Remote Indicator	7110-994-00
Test Set, complete	7110-064-00

7112-01



7112-02



- A** Vakuum-Anschluß, Schlauch D=25mm
B Abwasser-Anschluß, Schlauch D=25mm

5. TECHNICAL DATA

Model 7112-01 without Pump

Model 7112-02 with Pump

Electrical Rating

Voltage (V) 230

Frequency (Hz) 50

Max. Current Consumption (A) 1,7

Centrifuge Motor

Voltage (V) 230

Frequency (Hz) 50

Max. Current Consumption (A) 0,95

Rated Speed (1/min) 2780

Rated output (W) 90

Elektronic System

Protective Low Voltage (V) AC/DC24

Current Delivery (A) max.0,7

Rate of Flow

Volume of Secretion (l/min) max. 8

Amalgam Collecting Vessel

Usable Volume (ccm) ca.150

Replacement Interval (Monate) ca. 6-9

Dimensions

7112-01: D = 14cm, L = 32,8cm, H = 36cm

7112-02: D = 14cm, L = 38cm, H = 36cm

Temperature Range

Machine in operation +10 to +40 °C

Storage and transport -25 bis +70 °C

Atmospheric Humidity

Machine in operation max. 80%

Storage and transport max. 95%

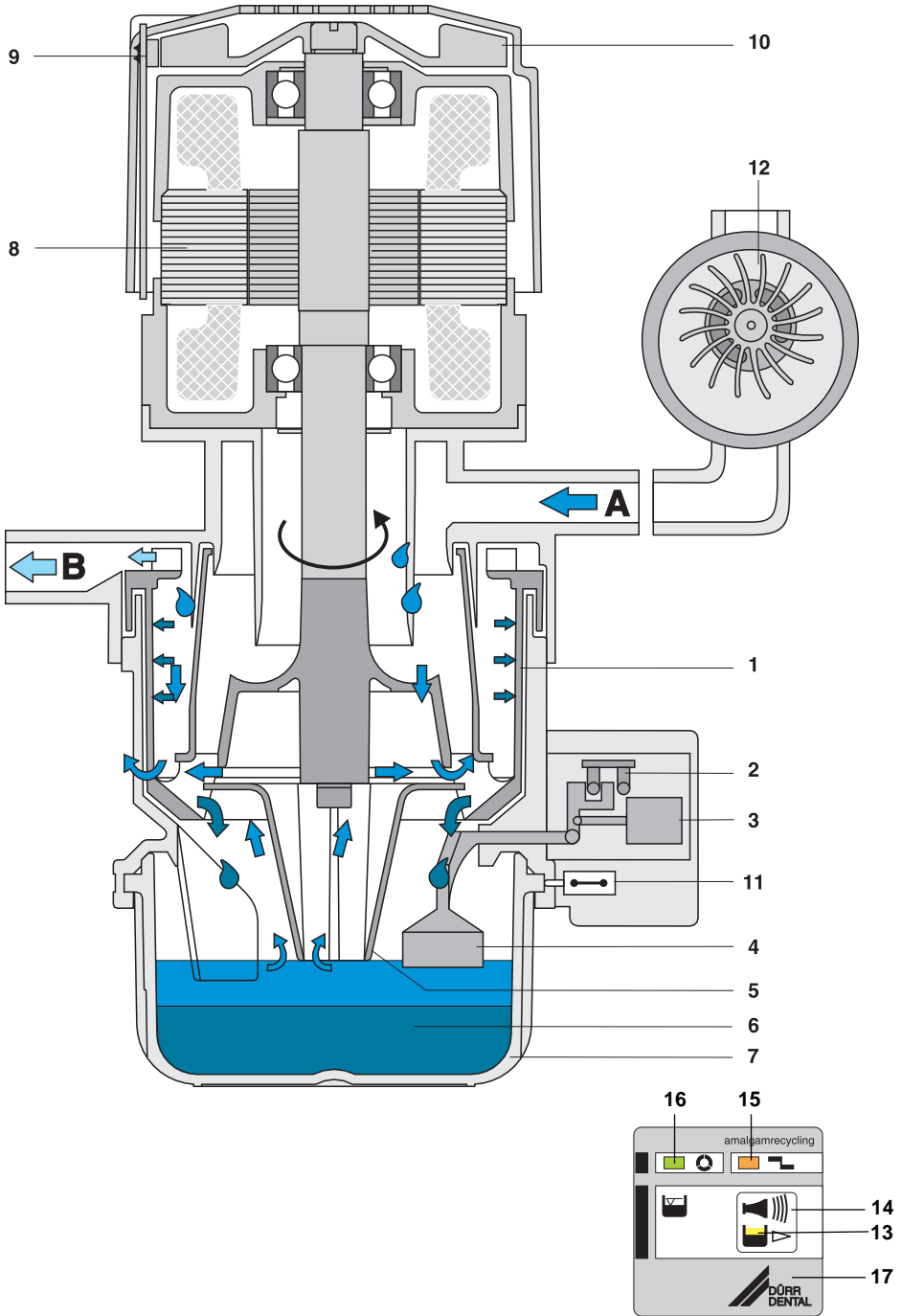
Weight

7112-01 approx. 7.5 kg

Inspection label

- CE-label
- Institut für Bautechnik, Berlin:
General Structural Supervisory Approval
with Inspection label: Z-64.1-13
- Electromagnetic Compatibility Test in
accordance with IEC 1000-4-3 EN V 50 140
regarding high-frequency irradiation 3 V/M
corresponds to EN 60 601-1-2.

6. OVERVIEW OF FUNCTIONS



7. FUNCTIONAL DESCRIPTION

- 1 Centrifuge Drum
- 2 Light Barrier
- 3 Solenoid Coil
- 4 Probe
- 5 Level Pump
- 6 Amalgam Particles
- 7 Collecting Vessel
- 8 Motor
- 9 Speed Monitoring Unit
- 10 Motor Fan
- 11 Safety Switch
- 12 Centrifugal Pump
- 13 Yellow LED Indicator
- 14 Pushbutton
- 15 Orange LED Indicator
- 16 Green LED Indicator
- 17 Display Module

7.1 Method of Functioning

The function of the AZ 50 Amalgam Separator is to provide continuous amalgam separation in all waste water stemming from the treatment units.

During the process of suction removal, the secretion that is drawn off is separated from the suction air in the upstream suction unit.

The secretion that accumulates continuously enters the centrifuge drum (1) in which the particles of amalgam are retained by centrifugal forces.

Mounted below the centrifuge drum (1) is a replaceable collecting vessel (7) into which the separated particles of amalgam (6) are flushed after the motor (8) has been switched off. A probe (4) serves to check the filling level inside the collecting vessel (7) and indicates on the display module (17) when the vessel needs changing. A secure turn-lock fastener serves to facilitate replacement and closure of the collecting vessel (7).

The compact dimensions of the AZ 50 makes it possible to install the separator close to the treatment units, thus resulting in short secretion-flow channels. Sturdy features of design on the amalgam separator serve to warrant reliable functioning. After the centrifuge drum has been switched off, a braking cycle provides a self-cleaning effect. This caters for extremely quiet running combined with a reliable separation efficiency factor exceeding 95% even when subjected to maximum loading.

7.2 Amalgam separation Separation

Microswitches located in the hose manifold or in the spittoon serve to activate the motor (8) (see wiring diagram). The amalgam-contaminated secretion arriving from the suction unit is retained by centrifugal forces in the centrifuge drum (1) of the AZ 50.

Hooking the suction hoses into the hose manifold serves to switch off the motor (8). The motor (8) receives a switch-off signal and immediate braking takes place of the centrifuge drum (1) which is brought to an immediate standstill so that inertia produced by the rotating water ring flushes the separated particles out of the centrifuge drum (1) downwards into the collecting vessel (7). A level pump (5) connected to the centrifuge drum (1) maintains the liquid inside the collecting vessel (7) at a constant level. This prevents any escape of liquid when changing the collecting vessel (7).

7.3 Filling Level Measurement

The filling level in the collecting vessel (7) is checked by a probe (4) each time the main switch is switched on. The filling level is also scanned every 12 hours when the AZ 50 is switched on.

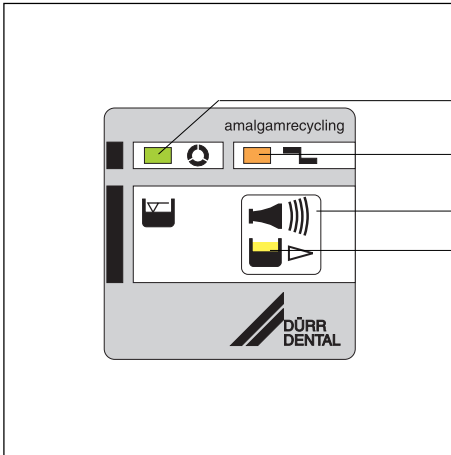
The solenoid coil (3) triggers the scanning process, whereupon the probe (4) attracted by gravity sinks under its own weight. The filling level is measured via a light barrier (2) and indicated on the display module (17) when reaching 95%.

As soon as the collecting vessel (7) has filled up with amalgam slurry to a level of 95 %, the green LED (16) will be accompanied by a permanent yellow LED (13) appearing on the display module (17). In addition a hooter will sound which can be silenced by briefly pressing pushbutton (14). Afterwards the amalgam separator will be "READY FOR OPERATION" once more.

The yellow LED (13) lights up as a reminder to change the vessel.

Each time the main switch is switched on these warnings will continue to be displayed until the vessel has been replaced.

As soon as the filling level has attained 100 % the green LED (16) will go out and the yellow LED (13) will light up permanently, the orange LED (15) will start flashing and the hooter will sound. In this case, the hooter **cannot** be silenced by pushbutton control. The amalgam separator will then be placed out of service



until a **new collecting vessel (7)** has been fitted. After the vessel has been replaced the AZ 50 can be put into normal operation once again.

7.4 Equipment Failure

If failure occurs on the amalgam separator due to a technical defect, a fault alarm will be indicated on the orange LED (15). In addition, a hooter will sound which can be silenced by pressing pushbutton (14).

The "FAULT" indicator is triggered for example by a motor (8) defect via a speed monitoring unit (9), defect on the motor fan (10) or by absence of collecting vessel (7) unleashed by a safety switch (11).

7.5 Service Button

If pushbutton (14) is pressed for longer than 2 seconds, the motor (8) will start up. If the suction unit is activated during this process by lifting up the suction hoses, the hoses can be cleaned and disinfected in this way along with the amalgam separator. To do this, switch on the rinsing basin or place the hoses onto the Orocup filled with disinfectant.

If the orange LED (15) lights up, the amalgam separator can be started up manually by pressing pushbutton (14) for at least 2 sec. If, in response to pressing pushbutton (14) several times, a fault alarm is registered each time or if the amalgam separator fails to start up after pressing pushbutton (14), this is a sign of a technical defect having occurred.



ASSEMBLY

8. INSTALLATION HINTS

8.1 Installation Room

- The room temperature must not be allowed to fall below + 10 °C in winter or rise above + 40 °C in summer.
- Installation in purpose-built rooms, e.g. heating plant room must be clarified beforehand as regards building legislation.
- Installation in wet rooms is not permissible.

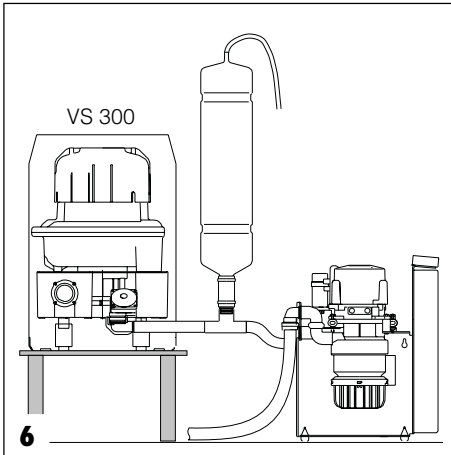
8.2 Installation Site

- The Amalgam Separator AZ 50 must be placed **directly next to or at a distance not exceeding 30 cm** away from the suction unit.

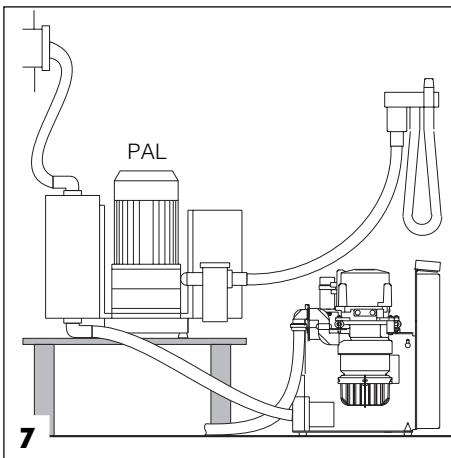


If the spacing distance between the AZ 50 and the suction unit is too great combined with failure to ensure correct hose laying, there is a risk of the secretion not being conveyed as it should.

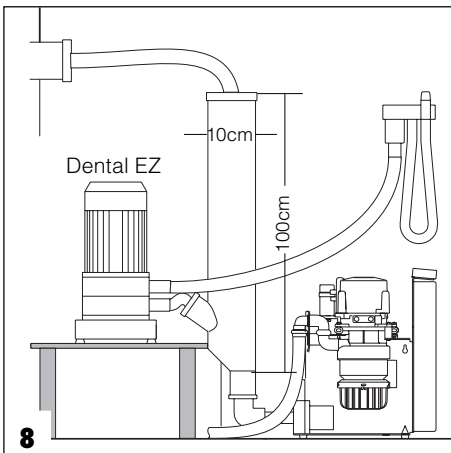
- If installing the amalgam separator in conjunction with a Dürr Suction Unit VS 300 space needs to be provided for the pressure equalising pipe.
- The amalgam separator can be mounted as follows:
Directly on the wall.
Use Mounting Set, Part no. 7801-003-00 (included in accessories).



6



7



8

8.3 Combination Facilities

The Amalgam Separator AZ 50 can be combined with the following suction machines:

- AZ 50 combined with the Dürr Suction Unit. VS 300
- AZ 50 combined with water ring pumps.

8.4 Planning a Pressure Equalising Pipe or Air Demixer

To cater for proper pressure equalisation in the suction system between the amalgam separator and the suction unit, a pressure equalising pipe or air demixer needs to be mounted in conjunction with the following combinations:

- **7112-01** - Pressure equalising pipe from Dürr Dental - to be mounted in conjunction with the Dürr Suction Unit VS 300!
- **7112-02** - Air demixers, **not** supplied by Dürr Dental must be mounted with a water ring pump, e.g. Dental EZ!

8.5 Hose Material

In conjunction with the amalgam separator use may only be made of flexible PVC spiral hoses with integral spiral or equivalent hoses.



The following must not be used:

Hoses not resistant to dental disinfectants and chemicals as well as rubber hoses or solid PVC hoses that are insufficiently flexible.

8.6 Hose Laying

Hose laying **upstream or ahead of the AZ 50**, i.e. between the suction unit or water ring pump and the AZ 50 must proceed observing a slope. The hose length must not be allowed to exceed 30 mm.



On the VS 300 the entrance to the amalgam separator must not be higher than the exit of the suction machine, otherwise there will be a risk of liquid and sediment flowing back into the suction machine.

Hoses positioned **downstream or after the AZ 50** must observe a slope.

8.7 Odour Trap

The drain on the AZ 50 must be connected via an odour trap by the user.

9. INSTALLATION OF AZ 50

Integration of the Amalgam AZ 50 into existing or new suction drawoff systems:

9.1 Fixing the AZ 50 in Place

- If mains connection proceeds via an **earthing-contact type socket** (wired to the equipment or surgery main switch) the **AZ 50 need not be fixed in position**.
- Where **fixed mains connection** of the AZ 50 takes place on terminal strips via the equipment or surgery main switch the **AZ 50 must be fixed in position**. Refer to point 10 "Electrical Connection" for this.
- Fix the amalgam separator in a suitable place **directly next to or at a distance not exceeding 30 cm** from the suction unit or water ring pump with a dowel and screw connection made to a shelf, wall or angle frame.



If the spacing distance between the AZ 50 and the suction unit is too great combined with failure to ensure correct hose laying, there is a risk of the secretion not being conveyed as it should.

9.2 Fixing the Pressure Equalising Pipe in Place

The pressure equalising pipe as supplied needs to be mounted in the connecting hose between the Dürr Suction Unit VS 300 and the Amalgam Separator AZ 50.

10. ELECTRICAL CONNECTION

Electrical connection must proceed via the main switch of the treatment unit or the surgery main switch.



The leads or cables to the machine must be laid without any stress or strain (strain relief clamps).

10.1 Mains Connection via Earthing-Contact Type Socket

Where the mains connection, 230V, proceeds via an **earthing-contact type socket**, this must be wired to the equipment or surgery main switch.

10.2 Fixed Mains Connection

In the case of **fixed mains connection, 230V**, connection proceeds on suitable terminals behind the main switch of the treatment unit via the equipment or surgery main switch.

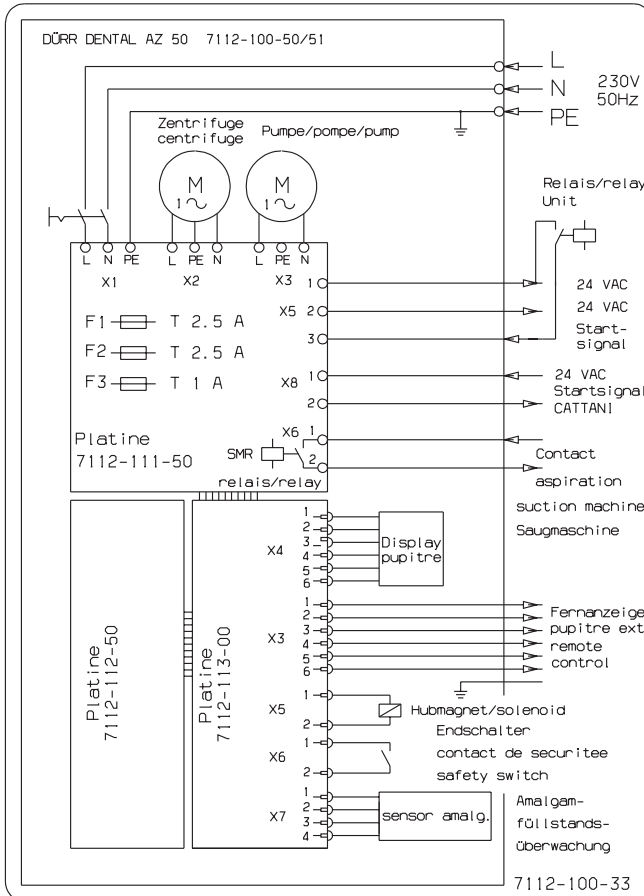
Line cross section: 0.75 mm²

10.3 Electrical Connection in AZ 50

Connection of the control contact on the suction unit or water ring pump takes place on the marked terminals inside the terminal box of the AZ 50.

Connection of the contact in the hose manifold, dental mouth-rinsing basin valve, position selection valve and flushing system (built into the treatment unit) proceeds via the control cable.

1, 2 and 3 in terminal box of AZ 50.

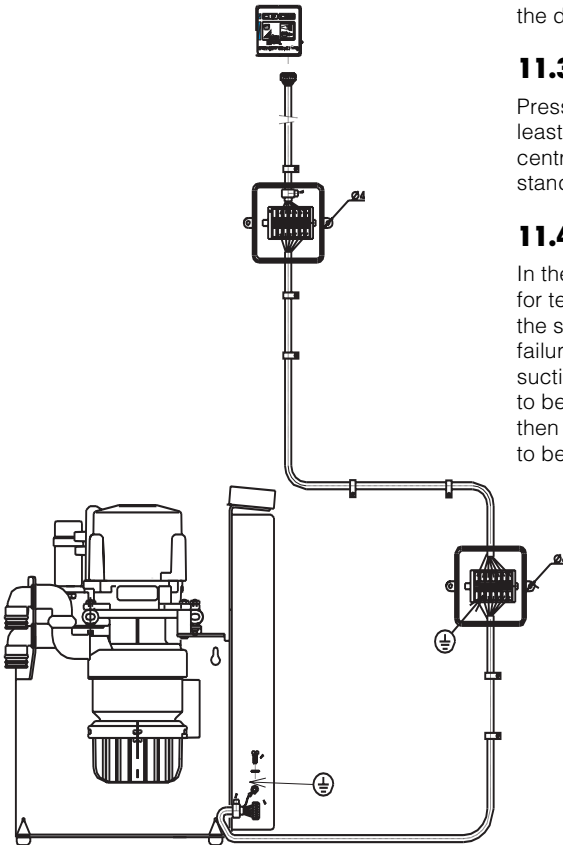


10.4 Display Module

The display module should be visible and audible at all times. For that reason, it needs to be mounted in a place where it can be easily observed.

A display module is mounted to the AZ 50. If the machine is located in a clearly visible place in the surgery, no further display module will be required.

If the separator is not located in the dental surgery, an **additional** display module can be mounted. Again, this should be located in a place where it can be easily observed, e.g. mounted to the treatment unit. Connection to the AZ 50 proceeds via a 6-core cable and distribution box.



11. PUTTING INTO OPERATION

- Switch on equipment or surgery main switch. As soon as the green LED lights up, the AZ 50 will be ready for operation.
- Carry out functional check and also check the connections for tightness.

11.1 Functional Check

- To perform this check, switch on the equipment or surgery main switch. The sensor will be heard to fall as it proceeds to measure the filling level.

11.2 Visual Check

Check connections, hoses and AZ 50 for tightness, sealing if necessary. For this purpose, proceed to lift up the suction hose and switch on the basin flushing system. This starts up the AZ 50 and the liquid is transported to the centrifuge drum from where it flows into the drain.

11.3 Service Button

Press the service button (14, page 8) for at least 2 sec. This serves to start up the centrifuge motor which will be braked to a standstill after approx. 30 sec.

11.4 Emergency Program

In the event of failure occurring on the AZ 50 for technical reasons, short-time operation of the suction unit will be possible despite this failure. In that case, the secretion drawn off by suction from the patient's mouth will continue to be pumped into the AZ 50. The AZ 50 will then act as a sediment separator but will need to be repaired as quickly as possible.

12. TIPS FOR TRACING FAULTS

Faults

Possible Cause

1. No indication on display module, separator not “READY FOR OPERATION”

- Main switch on treatment unit or surgery main switch not switched on.
 - Cable fault or display module defective.
 - Orange LED lights up, safety switch (11, page 30) activated or winding burned out.
 - Mains fuse defective.
-

2. Yellow LED appears on display module, centrifuge motor fails to start up - Fault

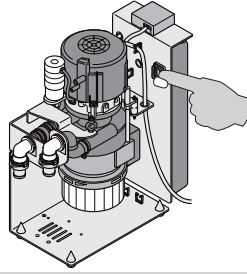
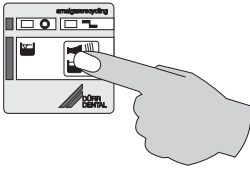
- Motor jammed.

Solution

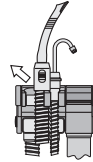
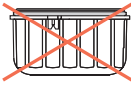
- Switch main switch of treatment unit or surgery main switch to “ON” position.
 - Replace cable or display module.
 - Collecting vessel incorrectly inserted or safety switch defective; if necessary replace switch or AZ 50.
 - Centrifuge motor defective, remove any particles that may be present in the pump area or centrifuge drum. Replace fuse.
-
- Check to ensure that the centrifuge motor is running properly, remove any particles that may be present in the pump area or centrifuge drum.
-

13. SERVICE-PROGRAMM

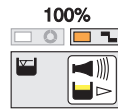
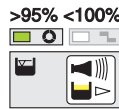
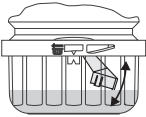
START



2 x



2 x

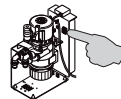
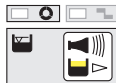


2 x



2 x

STOP



FUNCTIONAL SEQUENCE

In order to be able to check whether the AZ 50 is working properly, a service program can be activated. The various program steps are as follows:

- To effect STARTUP press start button on display module while simultaneously switching the main switch to ON.
- Indicator Test:
Green, orange and yellow LEDs light up.
- Safety limit switch
Switching-on signal for AZ 50.
- Motor run.
- Sediment filling-level measurement.
- Output signal AZ 50 for suction unit:
Yellow LED lights up.
- Stop

Pressing the service button **twice** serves to continue the sequence of program steps. Pressing the service button **once** serves to repeat a program step. Startup of the service program is indicated by an audible signal tone in addition to the 3 LEDs.

13.1 Start

To start the service program, keep the service button pressed down on the display module and switch on the voltage supply to the AZ 50. As soon as the signal tone is heard, let go of the service button.

13.2 Indicator Test

During the indicator test all three LEDs light up in addition to a signal tone being heard.

13.3 Safety Switch

During this program step various input signals undergo evaluation and are visible on the display module. In addition to LED indication a signal tone will sound.

In the normal state, the LEDs are switched off.

- Open collecting vessel, safety switch is actuated => orange LED lights up.
- Remove suction hose for hose manifold => green LED lights up.

13.4 Motor Running and Braking Action

Starting up this program step automatically activates the motor and causes the motor to slow down after approx. 12 sec. This test step can be repeated by pressing the service button once only. In that case the motor running action must be switched off by pressing the service button once more. During the program step Motor Running and Braking Action the various speed ranges are represented on the display module by different LEDs. The no-load speed is set to 2800 RPM.

13.5 Sediment Scanning

This program step serves to check the sediment probe for proper functioning. Each time the service button is pressed, the sediment probe will descend. If use is made of a **test vessel**, the various filling levels can be scanned and rendered visible on the display module.

13.6 Output Signals

In the course of this program step, various output signals are activated simultaneously which can then be measured as a voltage on different connectors.

The specified voltages are optimum values.

- Yellow LED on display module of AZ 50.
- Control signal for suction unit X 6 contact 1 & 2 has connected through (relay responded).

13.7 Stop

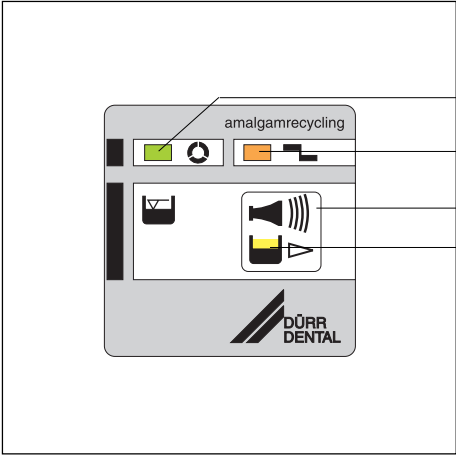
Quit the service program (stop=display off) by switching off the voltage supply on the treatment unit.

Pressing the service button twice at the end of the program will return you to the beginning of the program again.

14. TRANSPORT OF THE AZ 50

Should it be necessary to move the Amalgam Separator AZ 50 to a different place, the following action needs to be taken prior to transporting the unit:

- Clean and disinfect the suction system.
- Remove the contaminated collecting vessel and replace by a new collecting vessel.
- Do not turn the AZ 50 upside down as otherwise dirt will enter the centrifuge drum and cause congestion.




USE

15. OPERATION


15.1 Ready for Operation State

 Green LED (16) lights up.

15.2 Amalgam Collecting Vessel 95% full

 Green LED (16) lights up.
and

 yellow LED (13) lights up.

and
 hooter sounds.

- As soon as the **95% filling level** is attained, the hooter can be switched off by pressing pushbutton (14). Afterwards the


green LED (16) - Amalgam Separator “Ready for Operation” will light up.


- The **yellow LED (13)** lights up as a reminder of the necessity to replace the amalgam collecting vessel.




The amalgam collecting vessel needs to be replaced as soon as a filling level of 95% is attained. Refer to point 17 for this.

15.3 Amalgam Collecting Vessel 100% full

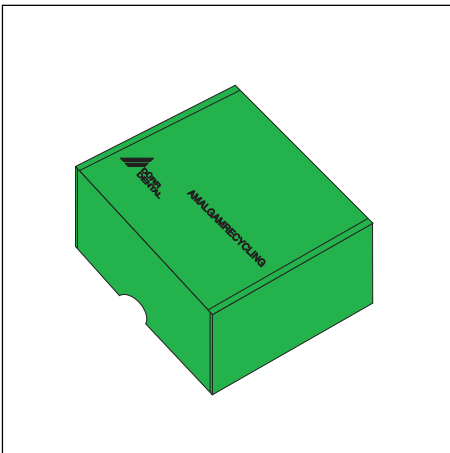
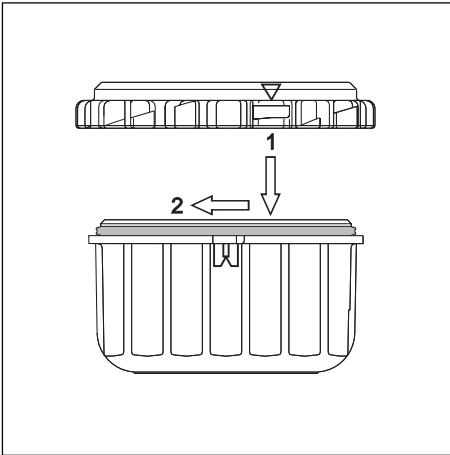
 Yellow LED (13) lights up.
and

 orange LED (15) starts flashing.
and


 hooter sounds.

- Once the **100% filling level** is attained, it will no longer be possible to switch off the hooter by pressing pushbutton (14).


- The AZ 50 will not be **“Ready for Operation”** again until the amalgam collecting vessel has been replaced.



15.4 Fault


-  Orange LED (15) starts flashing and hooter sounds

- The hooter can be silenced by briefly pressing pushbutton (14).
- If pushbutton (14) is held down for **longer than 2 seconds** the amalgam separator can be started up once more.
- Green LED (16) lights up denoting “**Ready for Operation**”.
- If, in response to pressing pushbutton (14) several times, a fault alarm is registered each time, this is a sign of a technical defect having occurred.

 Call technician.
For hints to assist the dental technician in locating the fault, please refer to point 12.

16. CLEANING AND DISINFECTION

A material-compatible, non-foaming disinfectant for suction systems is prescribed for cleaning and disinfecting the entire suction system including the amalgam separator and the water volume linked to the collecting vessel.

 We recommend cleaning and disinfection of the suction system twice a day.
Further information will be gathered from the Instructions for Disinfecting and Cleaning Suction Systems, Part no. 9000-605-10.

17. REPLACING THE AMALGAM COLLECTING VESSEL


17.1 BEFORE replacing the amalgam collecting vessel, please observe the following:

- **Replace the amalgam collecting vessel in the MORNING!**


We recommend that the amalgam collecting vessel **always be replaced in the morning prior to the commencement of work**. This serves to prevent liquid from dripping out of the drum during replacement.

17.2 Replacement of Amalgam Collecting Vessel


- Switch off the main switch of the treatment unit.

 If the collecting vessel is unscrewed without the treatment unit having been switched off, the orange LED will start flashing and the hooter will sound.

- Remove the empty collecting vessel from the carton and screw off the lid.

 To reduce the risk of infection, we recommend that liquid-proof gloves be worn while replacing the collecting vessel.

- Hold the collecting vessel attached to the AZ 50 from underneath, turn in direction of arrow and remove downwards.
- Cut the disinfectant bag open at one of the corners and pour the contents into the full collecting vessel.

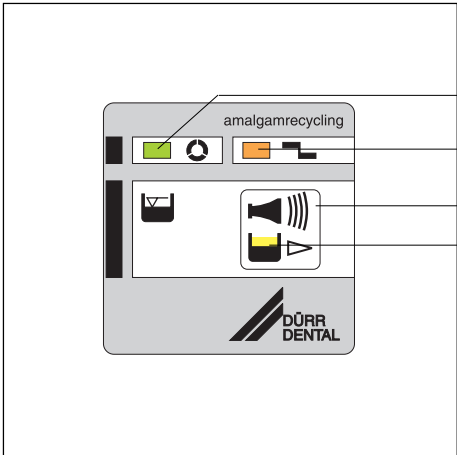
 **The disinfectant causes acid burns. If coming into contact with the eyes, rinse thoroughly with water and seek medical advice. If coming into contact with the skin, wash off with soap and water.**

- Seal the lid on the **full** collecting vessel, paying careful attention to the markings on the lid. If the lid is properly sealed, these markings should face one another.
- Place the sealed collecting vessel in the transport carton, seal and secure with adhesive tape to prevent accidental opening.
- Insert the **empty** collecting vessel in the AZ 50 from underneath and turn in the direction of the arrow as far as it will go.
The AZ 50 is now “Ready for Operation” once more.

17.3 Disposal of Amalgam Collecting Vessel

Write the name and address of the recycling enterprise on the transport carton and send to authorised disposal company by post or by other means.

Relevant national regulations must be observed.



18. MAINTENANCE

- Depending on the volume accumulating, the amalgam collecting vessel will need replacing once or twice a year.



To reduce the risk of infection, we recommend that liquid-proof gloves be worn while replacing the collecting vessel.

18.1 Annual Testing of Indicators on Display Module

This test must be carried out by suitably trained personnel.

Accessories needed for testing

1 Test vessel

- **Testing the green LED (16)**

After the main switch is switched on, the green LED should light up denoting that the machine is “Ready for Operation”.

- **Testing the orange LED (15) and pushbutton (14)**

- Remove collecting vessel. The orange LED (15) should now light up and the hooter should sound as well.

Pressing pushbutton (14) should silence the hooter, while the orange LED will continue to flash.

To reduce the risk of infection, we recommend that liquid-proof gloves be worn while replacing the collecting vessel.

- **Testing the yellow LED (13)**

- Position main switch to OFF
- Remove collecting vessel, insert test vessel, close and set to 100% filling level.
- Position main switch to ON

After sediment querying has been carried out, the yellow LED should now light up, the orange LED will respond by flashing and the hooter will sound.

- Position main switch to OFF
- Remove test vessel.
- Insert collecting vessel (7) and close. Remember to record the results of the test in operating log book!

18.2 Testing for Proper Working Order - Every 5 Years

This test should be carried out by an inspector every 5 years observing national statutory regulations (in accordance with the General Sewage Handling Regulations, Annex 50, Dental Treatment).

Required tools and equipment:

1 Phillips screwdriver

1 Test vessel

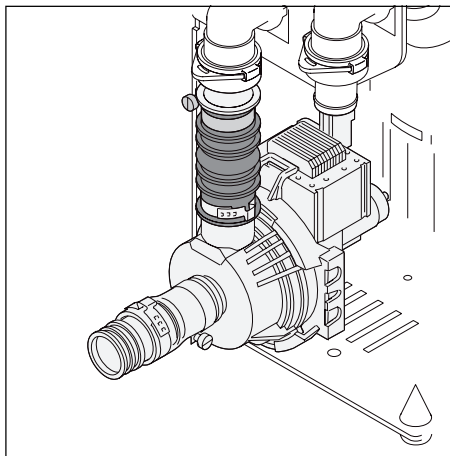
1 Measuring cup

- Remove collecting vessel. During this process the orange LED on the display module should respond by flashing and the hooter should sound as well. The hooter can be silenced by pressing pushbutton (14, page 23) on the display module.
- Insert test vessel.
- Press pushbutton (14) on the display module and the green LED denoting "READY FOR OPERATION" should light up once more.
- Turn on dental mouth-rinsing basin and draw off at least 200 ml water via suction hose. Hook suction hose back in place.
- After the AZ 50 has switched off, remove the test vessel and pour the water contained in the vessel into a measuring cup.

If contents exceed 70 ml this denotes that the AZ 50 is in proper working order.



An operating log book must be kept by the user covering all maintenance work. See "OPERATING LOG BOOK FOR DÜRR AMALGAM SEPARATOR", Part no. 9000-605-72



18.3 Inspection of the Centrifugal Pump - Every 2 Years

Part no. 7112-991-00. Test and clean, replacing if necessary.

19. DISPOSAL OF THE MACHINE

Substances including heavy metals and amalgam dust in the form of fillings that have been drilled open are drawn off via the suction hoses. To reduce heavy metal contamination in sewage stemming from dental treatment equipment, the waste water accumulating must be disposed of observing the valid general sewage handling regulations in force in the country of use.

Components contaminated with amalgam, such as strainers, filters and hoses, etc. must likewise be disposed of in accordance with the respective national regulations.

The AZ 50 can be disposed of in the normal way.

The built-in control unit, electronics board and electronic components must be disposed of as electronic scrap.